CHRISTIAN COUNTY ZONING NOTICE

Notice is given that a public hearing will be held on June 27, 2023, at the Christian County Courthouse, 101 South Main Street, Second Floor, Taylorville, Illinois, before the Christian County Zoning Board of Appeals, concerning an application filed by Hickory Point Solar Energy Center LLC, a Delaware limited liability company, for a special use for a Solar Energy Facility consisting of arrays of solar photovoltaic panels, electrical inverters, electrical collection system, substation, access roads, fencing, operations and maintenance center, battery storage and other ancillary facilities or structures, on approximately 2,000 acres located in the Agriculture zoning district. The application also requests that the time period to complete construction and commence operations for the Solar Energy Facility be extended to December 31, 2027, rather than two years as provided by the Christian County Solar Energy Ordinance.

Invenergy Solar Development North America LLC is the sole member and manager of Hickory Point Solar Energy Center LLC. The officers of Invenergy Solar Development North America LLC are: Michael Polsky, James T. Murphy, Bryan E. Schueler, James Shield, James J. Murphy, Andrea Hoffman, Meghan Schultz, Michael Kaplan, Michael Baird, William S. Bradley, and William A. Borders III. The corporate address is 1 South Wacker Drive, Suite 1800, Chicago, IL 60606.

All parcels for which the special use is sought are legally described below. The Solar Energy Facility is proposed to be generally located in Sections 28, 31, 32, 33, and 36 of South Fork Township, Sections 3, 4, 5, 6, 7, 8, 9, and 12 of Bear Creek Township and Section 12 of King Township. The proposed special use is generally located west of the City of Taylorville, and bounded on the north by E 1350 North Rd., on the west by N 200 East Rd., on the south by E 990 North Rd., on the east by N 700 East Rd.

As this will be an opportunity for public input on this application, all interested persons are encouraged to attend and be heard. The application is available for review at the Christian County Zoning Department Office, 214 W Market St, Taylorville, Illinois. The phone number for the Christian County Zoning Department is 217-287-2334.

APN	Landowner Name	Infrastructure	Legal Description
15-12-31-300-001-00	Joseph A. Bloome and Phyllis Bloome, husband and wife as tenants in common, and Phyllis F. Bloome as Trustee according to the Revocable Trust No. 061338, and Joseph A. Bloome as Trustee to the Revocable Trust Agreement No. 082638	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	The fractional Southwest Quarter of Section 31, Township 13 North, Range 3 West of the Third Principal Meridian, in Southeast part of South Fork Township, Christian County, Illinois.
15-12-29-400-004-00	Joseph A. Bloome and Phyllis Bloome, husband and wife as tenants in common, and Phyllis F. Bloome as Trustee according to the Revocable Trust No. 061338, and Joseph A. Bloome as Trustee to the Revocable Trust Agreement No. 082638	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	The East Half of the Southeast Quarter of Section 29, Township 13 North, Range 3 West of the Third Principal Meridian, Christian County, Illinois, more particularly described as follows. Beginning at an· iron pm set at the Northwest corner of said East Half, thence South 89°41 '02" East, on the North line of said East Half, 1324.46 feet to an iron pin found at the Northeast comer of said East Half, thence South 00°01 '59" West, on the East line of said East Half, 2645 95 feet to an iron pin set at the Southeast corner of said East Half, thence North 89°44'01" West, on the South line of said East Half, 1325 22 feet to an iron pin set at the Southwest comer of said East Half, thence North 00°02'59" East on the West line of said East Half, 2647 10 feet to the point of beginning, all m Southeast Part, South Fork Township, Christian County, Illinois.
02-17-06-100-002-00	Joseph A. Bloome and Phyllis Bloome, husband and wife as tenants in common, and Phyllis F. Bloome as Trustee according to the Revocable Trust No. 061338, and Joseph A. Bloome as Trustee to the Revocable Trust Agreement No. 082638	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	The East 80 acres of the Northwest Quarter, Section 6, Township 12 North, Range 3 West of the Third Principal Meridian, Christian County, Illinois; and 46 acres off the West side of the Northwest Quarter, Section 6, Township 12 North, Range 3 West of the Third Principal Meridian, Christian County, Illinois, EXCEPT the West 100 feet of the North 340 feet of the East 80 acres of the fractional Northwest Quarter in Section 6 and the East 290 feet of the North 340 feet of that part of the fractional Northwest Quarter lying West of the West line of the East 80 acres of said fractional Northwest Quarter in Section 6, all in Township 12 North, Range 3 West of the Third Principal Meridian, Bear Creek Township, Christian County, Illinois.

15-12-32-200-002-00	Joseph A. Bloome and Phyllis Bloome, husband and wife as tenants in common, and Phyllis F. Bloome as Trustee according to the Revocable Trust No. 061338, and Joseph A. Bloome as Trustee to the Revocable Trust Agreement No. 082638	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	The Northeast Quarter of the Northeast Quarter of Section 32, Township 13 North, Range 3 West of the Third Principal Meridian, Christian County, Illinois, more particularly described as follows: Beginning at an iron pin set at the Northwest corner of said Northeast Quarter of the Northeast Quarter, thence South 89°44101" East, on the North line of said Northeast Quarter of the Northeast Quarter, 1325 22 feet to an iron pin set at the Northeast corner of said Northeast Quarter of the Northeast Quarter; thence South 00°07'44" West on the East line of said Northeast Quarter of the Northeast Quarter, 1322.82 feet to an iron pin found at the Southeast corner of said Northeast Quarter of the Northeast Quarter; thence North 89°45'14" West on the South line of said Northeast Quarter of the Northeast Quarter 1327 .89 feet to an iron pin set at the Southwest corner of said Northeast Quarter of the Northeast Quarter; thence North 00°14'40" East on the West line of said Northeast Quarter of the Northeast Quarter 1323.29 feet to -the point of beginning, all m Southeast Part South Fork Township, Christian County, Illinois.
15-12-32-300-003-00	Joseph A. Bloome and Phyllis Bloome, husband and wife as tenants in common, and Phyllis F. Bloome as Trustee according to the Revocable Trust No. 061338, and Joseph A. Bloome as Trustee to the Revocable Trust Agreement No. 082638	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	The North 11/16ths of the East half of the Southwest Quarter of Section 32, Township 13 North, Range 3 West of the Third Principal Meridian, EXCEPT the West 361 1/2 feet of the South 361 1/2 feet of the North 11/16 of the East half of the Southwest Quarter of Section 32, Township 13 North, Range 3 West of the Third Principal Meridian.
15-12-29-300-003-00 15-12-32-100-002-00	Bloome Farms, Inc., a Missouri corporation	Collection system, access road, fencing and other ancillary facilities.	That part of the South half of the South half of the Southwest Quarter of Section 29 and that part of the North half of the Northwest Quarter of Section 32 lying West of a line described as commencing on the South line of the NE1/4 of the NW1/4 of Section 32 at a 5/8 inch bar at a point 496.94 feet West of the Southeast corner of the NE1/4 of the NW1/4 of Section 32 and thence North 0 degrees 15 minutes 22 seconds East 1323.89 feet to the North line of Section 32; thence North 0 degrees 15 minutes 23 seconds East 661.43 feet to a 5/8 inch bar on the North line of the South one-fourth of the SW1/4 at a point 499.72 feet West of the East line of the SW1/4 of Section 29, Except the West 1094.30 feet thereof (measured on the North line of the South one-fourth of the SW1/4 of Section 29 and the South line of the N1/2 of NW1/4 of Section 32), all in Township 13 North, Range 3 West of 3rd P.M., in Christian County, Illinois.
02-17-05-300-001-00 02-17-06-400-002-00	Bloome Farms, Inc., a Missouri corporation	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	The Northwest Quarter of the Southwest Quarter of Section 5 and the Northeast Quarter of the Southeast Quarter of Section 6, Township 12 North, Range 3 West of the Third Principal Meridian, Christian County, Illinois.
15-11-36-200-001-00	Bloome Farms, Inc., a Missouri corporation	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	The Northeast Quarter of the Northeast Quarter and the West half of the Northeast Quarter of Section 36, Township 13 North, Range 4 West of the Third Principal Meridian.
15-12-31-100-001-00	Bloome Farms, Inc., a Missouri corporation	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	The Northwest Quarter of Section 31, Township 13 North, Range 3 West of the Third Principal Meridian situated in Christian County, Illinois.
15-12-29-300-002-0015-12-32-100-001-00	Bloome Farms, Inc., a Missouri corporation	Collection system, access road, fencing and other ancillary facilities.	Part of the South half of the South half of the Southwest Quarter of Section 29 and the North half of the Northwest Quarter of Section 32, Township 13 North, Range 3 West of the Third Principal Meridian, described more particularly as follows: Beginning at a stone marking the Southwest corner of Section 29, thence North 00 degrees 08 minutes 25 seconds West along the west line of Section 29 a distance of 60.47 feet to an iron pipe marking the Northwest corner of the South half of the South half of the Southwest Quarter of Section 29, thence North 89 degrees 58 minutes 10 seconds East along the Northerly line of the South half of the South half of the Southwest Quarter of Section 29 a distance of 1094.30 feet to an iron pipe, thence South 00 degrees 05 minutes 22 seconds East a distance of 1990.33 feet to an iron pipe on the South line of the North half of the Northwest Quarter of Section 32, thence South 89 degrees 54 minutes 52 seconds West along said South line a distance of 1094.30 feet to an iron pipe marking the Southwest corner of the North half of the Northwest Quarter of Section 32, thence North 00 degrees 03 minutes 51 seconds West along the West line of Section 32 a distance of 1330.90 feet to the point of beginning.

15-12-31-200-001-00	Bloome Farms, Inc., a Missouri corporation	Collection system, access road, fencing and other ancillary facilities.	The North half of the Northeast Quarter of Section 31, Township 13 North, Range 3 West of the Third Principal Meridian, Christian County, Illinois.
02-17-06-200-001-00	Bloome Farms, Inc., a Missouri corporation	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	The West half of the Northeast Quarter of Section 6, Township 12 North, Range 3 West of the Third Principal Meridian, situated in Christian County, Illinois.
15-11-36-200-002-00	Bloome Farms, Inc., a Missouri corporation	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	the southeast quarter of the northeast quarter of section 36, township 13 north, range 4 west of the third principal meridian, South Fork Township, Christian County, Illinois.
15-11-36-400-002-00	Bloome Farms, Inc., a Missouri corporation	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	The east half of the southeast quarter of section 36, township 13 north, range 4 west of the third principal meridian, South Fork Township, Christian County, Illinois.
15-12-28-300-001-00	Bloome Farms, Inc., a Missouri corporation	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	The Southwest quarter of Section 28, Township 13 North, Range 3 West of the Third Principal Meridian, Christian County, Illinois, more particularly described as follows: Beginning at an iron pin found at the Northwest corner of said Southwest quarter of Section 28, thence South 89° 23' 08" East, on the North line of said Southwest quarter, 2705.09 feet to a mag nail set at the Northeast corner of said Southwest quarter; thence South 00° 13' 23" West, on the East line of said Southwest quarter, 2651.38 feet to an iron pin set at the Southeast corner of said Southwest quarter; thence North 89° 16' 07" West, on the South line of said Southwest quarter 2696.36 feet to an iron pin set at the Southwest corner of said Southwest quarter; thence North 00° 01' 59" East, on the West line of said Southwest quarter, 2645.95 feet to the point of beginning. Situated in Christian County, Illinois
15-12-33-100-001-00	Bloome Farms, Inc., a Missouri corporation	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	Part of the North half of the Northwest quarter of Section 33, Township 13 North, Range 3 West of the Third Principal Meridian, Christian County, Illinois, more particularly described as follows:Beginning at an iron pin set at the Northwest corner of said North half thence South 89° 16' 07" East, on the North line of said North half, 1314.25 feet to point in the centerline of Clear Creek; thence meandering Southwest, on the centerline of Clear Creek, to the point of intersection with the South line of said North half, said point bears South 31° 56' 56" West, 1546.33 feet from the initial centerline intersection point; thence North 89° 18' 18" West, on the South line of said North half, 498.90 feet to an iron pin found at the Southwest corner of said North half; thence North 00° 07' 44" East, on the West line of said North half, 1322.82 feet to the point of beginning. Situated in Christian County, Illinois
15-12-33-200-001-00	Bloome Farms, Inc., a Missouri corporation	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	The North half of the Northeast quarter of Section 33, Township 13 North, Range 3 West of the Third Principal Meridian, Christian County, Illinois, more particularly described as follows: Beginning at an iron pin set at the Northwest corner of said North half, thence South 89° 16' 07" East, on the North line of said North half, 2694.00 feet to a mag nail set at the Northeast corner of said North half; thence South 00° 15' 59" West, on the East line of said North half, 1319.38 feet to a mag nail set at the Southeast corner of said North half; thence North 89° 18' 18" West, on the South line of said North half, 2692.98 feet to a mag nail set at the Southwest corner of said North half; thence North 00° 13' 23" East, on the West line of said North half, 1321.09 feet to the point of beginning. Situated in Christian County, Illinois

15-12-28-300-001-00	Bloome Farms, Inc., a Missouri corporation	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	The Southwest quarter of Section 28, Township 13 North, Range 3 West of the Third Principal Meridian, Christian County, Illinois, more particularly described as follows: Beginning at an iron pin found at the Northwest corner of said Southwest quarter of Section 28, thence South 89° 23' 08" East, on the North line of said Southwest quarter, 2705.09 feet to a mag nail set at the Northeast corner of said Southwest quarter; thence South 00° 13' 23" West, on the East line of said Southwest quarter, 2651.38 feet to an iron pin set at the Southeast corner of said Southwest quarter; thence North 89° 16' 07" West, on the South line of said Southwest quarter 2696.36 feet to an iron pin set at the Southwest corner of said Southwest quarter; thence North 00° 01' 59" East, on the West line of said Southwest quarter, 2645.95 feet to the point of beginning. Situated in Christian County, Illinois
15-12-28-400-001-00	Bloome Farms, Inc., a Missouri corporation	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	The Southeast quarter of Section 28, Township 13 North, Range 3 West of the Third Principal Meridian, Christian County, Illinois, more particularly described as follows: Beginning at a mag nail set at the Northwest corner of said Southeast quarter of Section 28, thence South 89° 22' 48" East, on the North line of said Southeast quarter, 2696.12 feet to a mag nail set at the Northeast corner of said Southeast quarter; thence South 00° 16' 11" West, on the East line of said Southeast quarter, 2656.60 feet to a mag nail set at the Southeast corner of said Southeast quarter; thence North 89° 16' 07" West, on the South line of said Southeast quarter, 2694.00 feet to an iron pin set at the Southwest corner of said Southeast quarter; thence North 00° 13' 23" East, on the West line of said Southeast quarter, 2651.38 feet to the point of beginning, containing 164.20 acres, more or less. Situated in Christian County, Illinois
15-12-32-300-002-01	Dale L. Himstedt, as trustee of the Dale L. Himstedt Revocable Trust, created by that trust agreement dated August 21, 2008; and Sandra L. Himstedt, as trustee of the Sandra L. Himstedt Revocable Trust, created by that trust agreement dated August 21, 2008each as to an undivided 1/2 interest	Collection system, access road, fencing and other ancillary facilities.	The east half of the west half of the southwest quarter of section 32, township 13 north, range 3 west of the third principal meridian, Christian County, Illinois;EXCEPT that part of the west 1/2 of the southwest 1/4 of section 32, township 13 north, range 3 west of the third principal meridian, Christian County, Illinois, described as follows:beginning at a point on the east line of the west 1/2, of the southwest 1/4, of said section 32, lying 1313.20 feet north of the southeast corner of the west 1/2, of the southwest 1/4, of said section 32; thence south 89 degrees 48 minutes 50 seconds west, 334.00 feet; thence north 0 degrees 11 minutes 10 seconds west, 430.00 feet; thence north 89 degrees 48 minutes 50 seconds east, 334.00 feet to a point on the east line of the west 1/2, of the southwest 1/4, of said section 32; thence south 0 degrees 11 minutes 10 seconds east, 430.00 feet along said east line to the point of beginning, containing 3.30 acres, more or less.
15-12-31-400-001-00	Dale L. Himstedt, as trustee of the Dale L. Himstedt Revocable Trust, created by that trust agreement dated August 21, 2008; and Sandra L. Himstedt, as trustee of the Sandra L. Himstedt Revocable Trust, created by that trust agreement dated August 21, 2008 each as to an undivided 1/2 interest	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	The southeast quarter of section 31, except the east half of the east half thereof all in township 13 north, range 3 west of the third principal meridian, in Christian County, Illinois.
15-12-31-200-003-00 15-12-32-100-005-00	Dale L. Himstedt, as trustee of the Dale L. Himstedt Revocable Trust, created by that trust agreement dated August 21, 2008; and Sandra L. Himstedt, as trustee of the Sandra L. Himstedt Revocable Trust, created by that trust agreement dated August 21, 2008 each as to an undivided 1/2 interest	Collection system, access road, fencing and other ancillary facilities.	The southwest quarter of the northwest quarter of section 32, and the east 12.50 acres of the south half of the northeast quarter of section 31, all in township 13 north, range 3 west of the third principal meridian.

15-12-31-200-002-00	Dale L. Himstedt, as trustee of the Dale L. Himstedt Revocable Trust, created by that trust agreement dated August 21, 2008; and Sandra L. Himstedt, as trustee of the Sandra L. Himstedt Revocable Trust, created by that trust agreement dated August 21, 2008 each as to an undivided 1/2 interest	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	THE SOUTH HALF OF THE NORTHEAST QUARTER OF SECTION 31, EXCEPT THE EAST 12.50 ACRES THEREOF IN CHRISTIAN COUNTY, ILLINOIS. AN EASEMENT FOR THE PURPOSES OF INGRESS AND EGRESS OVER THE PROPERTY DESCRIBED BELOW: THE NORTH 30 FEET OF EVEN WIDTH OF THE EAST 12.50 ACRES OF THE SOUTH HALF OF THE NORTHEAST QUARTER OF SECTION 31 AND THE NORTH 45 FEET OF EVEN WIDTH OF THE WEST 250 FEET OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 32.
15-12-31-400-002-00 15-12-32-300-001-00	Mary Louise Himstedt, by her power of attorney, Dale L. Himstedt (as life estate interest), and Sharon Meachum, Edward L. Stone (Formerly Edward L. Himstedt), Glenn E. Himstedt, Kris K. Himstedt, and Dale L. Himstedt, in equal shares (as remainder interest)	Collection system, access road, fencing and other ancillary facilities.	The east half of the east half of the southeast quarter of section 31 and the west half of the west half of the southwest quarter of section 32, all in township 13 north, range 3 west of the third principal meridian, in Christian County, Illinois.
02-17-05-100-001-00	Linda K. Tryon and Karen D. Skinner, as co-trustees of the Linda K. Tryon 2014 Revocable Trust	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	The west half of the northwest quarter of section 5, township 12 north, range 3 west of the Third Principal Meridian, Christian County, Illinois;Except that part conveyed to Linda Tryon by warranty deed recorded September 25, 1990 as document number 90-04485, more particularly described as follows:the south 550 feet of the east 330 feet, except the south 300 feet thereof, in the west half of the northwest quarter of section 5, Township 12 North Range 3 west of the Third Principal Meridian, Christian County, Illinois.
02-17-07-200-001-00	Nancy Marie Stokes Veit, as trustee under the Nancy Marie Stokes Veit Trust dated January 10, 2011; and Philip F. Stokes, as trustee of the Phillip F. Stokes Living Trust dated March 27, 2006	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	THE NORTHEAST 1/4 OF SECTION 7, TOWNSHIP 12 NORTH, RANGE 3 WEST OF THE THIRD PRINCIPAL MERIDIAN.
02-17-04-100-002-00	John R. Holmes and Darla J. Holmes, husband and wife, as joint tenants	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	All that part of the North Half of Lot 2 of the fractional Northeast Quarter of the Northwest Quarter lying North of the public road in Section 4, Township 12 North, Range 3 West of the Third Principal Meridian. Situated in Christian County, Illinois
02-17-04-200-001-00 02-17-04-400-001-00	John R. Holmes and Darla J. Holmes, husband and wife, as joint tenants	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	The Northeast Quarter; and the North Half of the Southeast Quarter; and the Southeast Quarter of the Southeast Quarter All being in Section 4, Township 12 North, Range 3 West of the Third Principal Meridian. Situated in Christian County, Illinois
15-12-33-300-003-00	John R. Holmes and Darla J. Holmes, husband and wife, as joint tenants	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	The South Half of the Southeast Quarter of the Southwest Quarter of Section 33, Township 13, North, Range 3 West of the Third Principal Meridian. Situated in Christian County, Illinois
02-17-05-100-002-01	John R. Holmes and Darla J. Holmes, husband and wife, as joint tenants	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	THAT PART OF THE NORTH ONE-HALF OF THE NORTHEAST QUARTER OF THE FRACTIONAL NORTHWEST QUARTER OF SECTION 5, TOWNSHIP 12 NORTH, RANGE 3 WEST OF THE THIRD PRINCIPAL MERIDIAN LYING EASTERLY AND SOUTHERLY OF A LINE DRAWN 44 FEET WESTERLY AND NORTHERLY OF THE CENTER LINE OF A CREEK (SOMETIMES DESIGNATED CLEAR CREEK) WHICH CROSSES THE NORTH ONE-HALF OF THE NORTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 5, TOWNSHIP 12 NORTH, RANGE 3 WEST OF THE THIRD PRINCIPAL MERIDIAN.
02-17-05-200-001-00	John R. Holmes and Darla J. Holmes, husband and wife, as joint tenants	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	THE NORTH 40 ACRES OF THE FRACTIONAL NORTHEAST QUARTER OF SECTION 5, TOWNSHIP 12 NORTH, RANGE 3 WEST OF THE THIRD PRINCIPAL MERIDIAN.

15-12-32-200-003-00	John R. Holmes and Darla J. Holmes, husband and wife, as joint tenants	Solar panels, inverters, collection system, access road, fencing, substations, storage area, O&M building, and other ancillary facilities.	THE SOUTH HALF OF THE NORTHEAST QUARTER OF SECTION 32, TOWNSHIP 13 NORTH, RANGE 3 WEST OF THE THIRD PRINCIPAL MERIDIAN.
15-12-32-400-001-00	John R. Holmes and Darla J. Holmes, husband and wife, as joint tenants	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	THE SOUTHEAST QUARTER OF SECTION 32, TOWNSHIP 13 NORTH, RANGE 3 WEST OF THE THIRD PRINCIPALMERIDIAN. ALL SITUATED IN CHRISTIAN COUNTY, ILLINOIS.
15-12-32-100-006-00	John R. Holmes and Darla J. Holmes, husband and wife, as joint tenants	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 32, TOWNSHIP 13 NORTH, RANGE 3 WEST OF THE THIRD PRINCIPAL MERIDIAN, CHRISTIAN COUNTY, ILLINOIS, MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT AN IRON PIN FOUND AT THE NORTHWEST CORNER OF AID SOUTHEAST QUARTER OF THE NORTHWEST QUARTER, THENCE SOUTH 89 DEGREES 45 MINUTES 18 SECONDS EAT, ON THE NORTH LINE OF SAID SOUTHEAST QUARTER OF THE NORTHWEST QUARTER, 1327.71 FEET TO AN IRON PIN FOUND AT THE NORTHEAST CORNER OF SAID SOUTHEAST QUARTER OF THE NORTHWEST QUARTER; THENCE SOUTH 00 DEGREES 21 MINUTES 35 SECONDS WEST, ON THE EAST LINE OF SAID SOUTHEAST QUARTER OF THE NORTHWEST QUARTER, 1323.76 FEET TO AN IRON PIN SET AT THE SOUTHEAST CORNER OF SAID SOUTHEAST QUARTER OF THE NORTHWEST QUARTER; THENCE NORTH 89 DEGREES 46 MINUTES 27 SECONDS WEST, ON THE SOUTH LINE OF SAID SOUTHEAST QUARTER OF THE NORTHWEST QUARTER, 1320.05 FEET TO A MAG NAIL SET AT THE SOUTHWEST CORNER OF SAID SOUTHEAST QUARTER OF THE NORTHWEST QUARTER; THENCE NORTH 00 01 MINUTES 42 SECONDS EAST, ON THE WEST LINE OF SAID SOUTHEAST QUARTER OF THE NORTHWEST QUARTER, 1324.20 FEET TO THE POINT OF BEGINNING, CONTAINING 40.24 ACRES, MORE OR LESS.
02-17-03-300-001-00	Estate of Helen Beckmier, deceased; Dennis Beckmier, independent executor, as to an undivided 1/2 interest; and The successor trustee to Helen L. Beckmier (deceased), as Trustee of the Lyle C. Beckmier Testamentary Trust created April 11, 2015, as to an undivided 1/2 interest.	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 3, TOWNSHIP 12 NORTH, RANGE 3 WEST OF THE THIRD PRINCIPAL MERIDIAN.
02-17-03-300-002-00	Estate of Helen Beckmier, deceased; Dennis Beckmier, independent executor, as to an undivided 1/2 interest; and The successor trustee to Helen L. Beckmier (deceased), as Trustee of the Lyle C. Beckmier Testamentary Trust created April 11, 2015, as to an undivided 1/2 interest.	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	THE WEST 48.73 CHAINS OF THAT PART OF SECTION 3 LYING SOUTH OF THE CENTER THREAD OF THE STREAM RUNNING EAST AND WEST ACROSS THE SOUTH ONE FOURTH OF SECTION 3, EXCEPT THAT PART LYING IN THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER, IN SECTION 3, TOWNSHIP 12 NORTH, RANGE 3 WEST OF THE THIRD PRINCIPAL MERIDIAN.
02-17-03-400-001-00	Estate of Helen Beckmier, deceased; Dennis Beckmier, independent executor, as to an undivided 1/2 interest; and The successor trustee to Helen L. Beckmier (deceased), as Trustee of the Lyle C. Beckmier Testamentary Trust created April 11, 2015, as to an undivided 1/2 interest.	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	PART OF THE SOUTH HALF OF SECTION 3, TOWNSHIP 12 NORTH, RANGE 3 WEST OF THE THIRD PRINCIPALMERIDIAN.COMMENCING AT THE NORTHWEST CORNER OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 3, AND RUNNING THENCE NORTH TO A STONE AT THE WEST QUARTER SECTION CORNER, THENCE EAST ALONG THE EAST-WEST HALF SECTION LINE 44.15 CHAINS TO A STONE; THENCE SOUTH 10.07 CHAINS TO A STONE; THENCE EAST 4.26 CHAINS TO A STONE; THENCE SOUTH TO THE CENTER THREAD OF A STREAM RUNNING EAST AND WEST ACROSS THE SOUTH ONE FOURTH OF SECTION 3; THENCE WEST ALONG THE CENTER THREAD OF SAID STREAM TO THE EAST LINE OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 3; THENCE NORTH TO THE NORTHEAST CORNER OF THE SOUTHWEST QUARTER OF THE SAID SOUTHWEST QUARTER; THENCE WEST TO THE PLACE OF BEGINNING.

02-17-04-100-004-00 02-17-04-300-001-00	Gloria Colean Lamb, as Successor Trustee under Trust Agreement dated September 30th, 1984 (But effective as of September 10, 1965), known as the Brenda Dee Colean Trust	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	The South half (S½) of the Northwest Quarter (NW¼) of Section four (4); the South half (S½) of the Northwest Quarter (NW¼) of the Northwest Quarter (NW¼) of Section four (4); the Southwest Quarter (SW¼) of Section four (4), except the East Quarter (E¼) of the Southeast Quarter (SE¼) thereof, containing exclusive of same exceptions, 250 acres, more or less; all in Township twelve (12) North, Range three (3) West of the Third Principal Meridian (Bear Creek Township), Christian County, Illinois.
02-17-05-200-005-00	Gloria Colean Lamb, as Successor Trustee under Trust Agreement dated September 30th, 1984 (But effective as of September 10, 1965), known as the Brenda Dee Colean Trust	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	The South one-half (S½) of the Southeast Quarter (SE¼) of the Northeast Quarter (NE¼) of Section 5; all in Township twelve (12) North, Range three (3) West of the Third Principal Meridian (Bear Creek Township), Christian County, Illinois.
02-17-05-400-002-00	Gloria Colean Lamb, as Successor Trustee under Trust Agreement dated September 30th, 1984 (But effective as of September 10, 1965), known as the Brenda Dee Colean Trust	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	The Northeast Quarter (NE¼) of the Southeast Quarter (SE¼) of Section five (5) in Township twelve (12) North, Range three (3) West of the Third Principal Meridian (Bear Creek Township), Christian County, Illinois.
02-17-08-400-002-00	Colean L. Cody, as Trustee of the Gloria Colean Lamb Descendants Trust dated December 14, 2020	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	The North half of the Southeast Quarter of Section eight (8), excepting therefrom the West thirteen (13) acres of the South twenty-five (25) acres of the West forty (40) acres of said North half of the Southeast Quarter of said Section eight (8) in Township twelve (12) North, Range three (3) West of the Third Principal Meridian. Situated in Christian County, Illinois
02-17-09-300-001-00	Colean L. Cody, as Trustee of the Gloria Colean Lamb Descendants Trust dated December 14, 2020	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	The Northwest Quarter of the Southwest Quarter of Section nine (9) in Township twelve (12) North, Range three (3) West of the Third Principal Meridian. Situated in Christian County, Illinois
02-17-09-100-002-00	Lyle A Tryon, Vicki M Tryon, Joint Tenants with right of survivorship	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	The Northeast Quarter of the Northwest Quarter and the South Half of the Northwest Quarter of Section 9, Township 12 North, Range 3 West of the 3rd Principal Meridian. Christian County, Illinois
02-17-05-200-004-00	Lyle A Tryon, Vicki M Tryon, Joint Tenants with right of survivorship	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	The South Half of the Northeast Quarter of the Northeast Quarter, and the North Half of the Southeast Quarter of the Northeast Quarter of Section 5, Township 12 North, Range 3 West of the 3rd Principal Meridian. Christian County, Illinois
02-17-09-200-001-00	Douglas V. Bell and Gale L. Bell, as co-trustees of Douglas V. Bell and Gale L. Bell Joint Trust created by trust agreement dated August 2, 2019	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 9, TOWNSHIP 12 NORTH, RANGE 3 WEST OF THE THIRD PRINCIPAL MERIDIAN, IN CHRISTIAN COUNTY, ILLINOIS.
15-12-29-400-003-00	Robert O. Curvey and Betty B. Curvey, trustees, or their successors in trust, under the Robert and Betty Curvey Living Trust, dated July 29, 2015	Collection system, access road, fencing and other ancillary facilities.	The South Twenty acres of the Southwest Quarter of the Southeast Quarter, and the East Twenty-six and Two Thirds rods of the South Half of the South Half of the Southwest Quarter of Section 29, and the Northwest Quarter of the Northeast Quarter, and the East Twenty Six and Two-Thirds rods of the North half of the Northwest Quarter of Section 32, all in Township 13 North, Range 3 West of the Third Principal Meridian, containing 80 acres more or less, in Christian County, Illinois, together with a 1.2793 acre tract and a 0.9038 acre tract located west of a certain survey line A-A as described in a survey of Ronald D. Barnes T.L.S. 2095 P.E. dated August 17, 1981, and recorded September 9, 1981, in the Recorder's Office Christian County, Illinois, as Document No. 81-38284; EXCEPT Commencing from the 5/8 bar at the North Quarter Corner of Section 32, Township 13 North, Range 3 West of the Third Principal Meridian; thence 1323. 76 feet at South 0 degree 21 '35" West Southerly along with East line of the Northwest Quarter of said Section 32 to a 5/8 bar at the East Sixteenth Corner of the Northwest Quarter of said Section 32; thence 440.00 feet at North 89 degree 45' 14" West Westerly along the South Line of the Northeast Quarter of the Northwest Quarter of said Section 32 to a 5/8 bar from the point of beginning; thence 54.26 feet at North 89 degree 45' 14" West Westerly along the South line of the Northeast Quarter of the Northwest quarter of Section 32 to a 5/8 bar from the point of beginning; thence 54.26 feet North 89 degrees 45' 14" West Westerly along the South line of the Northwest Quarter of the Northwest Quarter of Section 32 to a 5/8 bar; thence; 370.89 feet at North 0 degree 09' 28" West to a 5/8 bar; thence 343.25 feet at South 89 degree 45' 14" East to a 5/8 bar; thence 370.88 feet at South 0 degree 21' 35" West to an iron bar on the South line of the Northeast Quarter of the Northwest Quarter of Section 32; thence 285.64 feet at North 89 degree 45' 14" West Westerly along the South line of the Northeast Quarter of the Northwest

			Quarter of said Section 32 to the point of beginning , said excepted tract comprising 2,9082 acres more or less including the public road right of way along the south boundary of the tract and all lying within portions of the Northeast Quarter of the Northwest Quarter of Section 32, Township 13 North, Range 3 West of the Third Principal Meridian, Christian County, Illinois.
15-12-32-200-001-00	Robert O. Curvey and Betty B. Curvey, trustees, or their successors in trust, under the Robert and Betty Curvey Living Trust, dated July 29, 2015	Collection system, access road, fencing and other ancillary facilities.	The South Twenty acres of the Southwest Quarter of the Southeast Quarter, and the East Twenty-six and Two Thirds rods of the South Half of the South Half of the Southwest Quarter of Section 29, and the Northwest Quarter of the Northeast Quarter, and the East Twenty Six and Two-Thirds rods of the North half of the Northwest Quarter of Section 32, all in Township 13 North, Range 3 West of the Third Principal Meridian, containing 80 acres more or less, in Christian County, Illinois, together with a 1.2793 acre tract and a 0.9038 acre tract located west of a certain survey line A-A as described in a survey of Ronald D. Barnes T.L.S. 2095 P.E. dated August 17, 1981, and recorded September 9, 1981, in the Recorder's Office Christian County, Illinois, as Document No. 81-38284; EXCEPT Commencing from the 5/8 bar at the North Quarter Corner of Section 32, Township 13 North, Range 3 West of the Third Principal Meridian; thence 1323. 76 feet at South 0 degree 21 '35" West Southerly along with East line of the Northwest Quarter of said Section 32 to a 5/8 bar at the East Sixteenth Corner of the Northwest Quarter of said Section 32; thence 440.00 feet at North 89 degree 45' 14" West Westerly along the South Line of the Northeast Quarter of the Northwest Quarter of said Section 32 to a 5/8 bar from the point of beginning; thence 54.26 feet at North 89 degree 45' 14" West Westerly along the South line of the Northeast Quarter of the Northwest quarter of Section 32 to a 5/8 bar from the point of beginning; thence 54.26 feet North 89 degrees 45' 14" West Westerly along the South line of the Northwest Quarter of the Northwest Quarter of Section 32 to a 5/8 bar; thence; 370.89 feet at North 0 degree 09' 28" West to a 5/8 bar; thence 343.25 feet at South 89 degree 45' 14" East to a 5/8 bar; thence 370.88 feet at South 0 degree 21' 35" West to an iron bar on the South line of the Northeast Quarter of the Northwest Quarter of Section 32; thence 285.64 feet at North 89 degree 45' 14" West Westerly along the South line of the Northeast Quarter of the Northwest Quarter of said Section 32 to the point of beginning , said excepted tract comprising 2,9082 acres more or less including the public road right of way along the south boundary of the tract and all lying within portions of the Northeast Quarter of the Northwest Quarter of Section 32, Township 13 North, Range 3 West of the Third Principal Meridian, Christian County, Illinois.
15-12-29-300-004-00	Robert O. Curvey and Betty B. Curvey, trustees, or their successors in trust, under the Robert and Betty Curvey Living Trust, dated July 29, 2015	Collection system, access road, fencing and other ancillary facilities.	The South Twenty acres of the Southwest Quarter of the Southeast Quarter, and the East Twenty-six and Two Thirds rods of the South Half of the South Half of the Southwest Quarter of Section 29, and the Northwest Quarter of the Northeast Quarter, and the East Twenty Six and Two-Thirds rods of the North half of the Northwest Quarter of Section 32, all in Township 13 North, Range 3 West of the Third Principal Meridian, containing 80 acres more or less, in Christian County, Illinois, together with a 1.2793 acre tract and a 0.9038 acre tract located west of a certain survey line A-A as described in a survey of Ronald D. Barnes T.L.S. 2095 P.E. dated August 17, 1981, and recorded September 9, 1981, in the Recorder's Office Christian County, Illinois, as Document No. 81-38284; EXCEPT Commencing from the 5/8 bar at the North Quarter Corner of Section 32, Township 13 North, Range 3 West of the Third Principal Meridian; thence 1323. 76 feet at South 0 degree 21 '35" West Southerly along with East line of the Northwest Quarter of said Section 32 to a 5/8 bar at the East Sixteenth Corner of the Northwest Quarter of said Section 32; thence 440.00 feet at North 89 degree 45' 14" West Westerly along the South Line of the Northeast Quarter of the Northwest Quarter of said Section 32 to a 5/8 bar from the point of beginning; thence 54.26 feet at North 89 degree 45' 14" West Westerly along the South line of the Northeast Quarter of the Northwest quarter of Section 32 to a 5/8 bar from the point of beginning; thence 54.26 feet North 89 degrees 45' 14" West Westerly along the South line of the Northwest Quarter of the Northwest Quarter of Section 32 to a 5/8 bar; thence; 370.89 feet at North 0 degree 09' 28" West to a 5/8 bar; thence 343.25 feet at South 89 degree 45' 14" East to a 5/8 bar; thence 370.88 feet at South 0 degree 21' 35" West to an iron bar on the South line of the Northeast Quarter of the Northwest Quarter of Section 32; thence 285.64 feet at North 89 degree 45' 14" West Westerly along the South line of the Northeast Quarter of the Northwest Quarter of said Section 32 to the point of beginning , said excepted tract comprising 2,9082 acres more or less including the public road right of way along the south boundary of the tract and all lying within portions of the Northeast Quarter of the Northwest Quarter of Section 32, Township 13 North, Range 3 West of the Third Principal Meridian, Christian County, Illinois.

15-12-32-100-003-00	Robert O. Curvey and Betty B. Curvey, trustees, or their successors in trust, under the Robert and Betty Curvey Living Trust, dated July 29, 2015	Collection system, access road, fencing and other ancillary facilities.	The South Twenty acres of the Southwest Quarter of the Southeast Quarter, and the East Twenty-six and Two Thirds rods of the South Half of the South Half of the Southwest Quarter of Section 29, and the Northwest Quarter of the Northeast Quarter, and the East Twenty Six and Two-Thirds rods of the North half of the Northwest Quarter of Section 32, all in Township 13 North, Range 3 West of the Third Principal Meridian, containing 80 acres more or less, in Christian County, Illinois, together with a 1.2793 acre tract and a 0.9038 acre tract located west of a certain survey line A-A as described in a survey of Ronald D. Barnes T.L.S. 2095 P.E. dated August 17, 1981, and recorded September 9, 1981, in the Recorder's Office Christian County, Illinois, as Document No. 81-38284; EXCEPT Commencing from the 5/8 bar at the North Quarter Corner of Section 32, Township 13 North, Range 3 West of the Third Principal Meridian; thence 1323. 76 feet at South 0 degree 21 '35" West Southerly along with East line of the Northwest Quarter of said Section 32 to a 5/8 bar at the East Sixteenth Corner of the Northwest Quarter of said Section 32; thence 440.00 feet at North 89 degree 45' 14" West Westerly along the South Line of the Northeast Quarter of the Northwest Quarter of said Section 32 to a 5/8 bar from the point of beginning; thence 54.26 feet at North 89 degree 45' 14" West Westerly along the South line of the Northeast Quarter of the Northwest quarter of Section 32 to a 5/8 bar from the point of beginning; thence 54.26 feet North 89 degrees 45' 14" West Westerly along the South line of the Northwest Quarter of the Northwest Quarter of Section 32 to a 5/8 bar; thence; 370.89 feet at North 0 degree 09' 28" West to a 5/8 bar; thence 343.25 feet at South 89 degree 45' 14" East to a 5/8 bar; thence 370.88 feet at South 0 degree 21' 35" West to an iron bar on the South line of the Northeast Quarter of the Northwest Quarter of Section 32; thence 285.64 feet at North 89 degree 45' 14" West Westerly along the South line of the Northeast Quarter of the Northwest Quarter of said Section 32 to the point of beginning , said excepted tract comprising 2,9082 acres more or less including the public road right of way along the south boundary of the tract and all lying within portions of the Northeast Quarter of the Northwest Quarter of Section 32, Township 13 North, Range 3 West of the Third Principal Meridian, Christian County, Illinois.
02-17-09-300-002-00	Donna M Wilcox, Bruce L Wilcox, trustees, and acting successors under the Bruce L. and Donna M. Wilcox trust.	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 9, TOWNSHIP 12 NORTH, RANGE 3 WEST OF THE THIRD PRINCIPAL MERIDIAN, IN CHRISTIAN COUNTY, ILLINOIS.
02-17-09-400-001-00	Donna M Wilcox, Bruce L Wilcox, trustees, and acting successors under the Bruce L. and Donna M. Wilcox trust.	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER AND THE NORTH 25 ACRES OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 9, TOWNSHIP 12 NORTH, RANGE 3 WEST OF THE THIRD PRINCIPAL MERIDIAN, IN CHRISTIAN COUNTY, ILLINOIS.
02-17-09-400-002-00	Donna M Wilcox, Bruce L Wilcox, trustees, and acting successors under the Bruce L. and Donna M. Wilcox trust.	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 9, TOWNSHIP 12 NORTH, RANGE 3 WEST OF THE THIRD PRINCIPAL MERIDIAN, IN CHRISTIAN COUNTY, ILLINOIS.
02-17-04-400-002-00	Lynn D. Tryon, an unmarried person	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	The East Quarter of the Southeast Quarter of the Southwest Quarter, and the Southwest Quarter of the Southeast Quarter of Section 4 All in Township 12 North, Range 3 West of the Third Principal Meridian, Christian County, Illinois.
02-17-04-300-002-00	Lynn D. Tryon, an unmarried person	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	The East Quarter of the Southeast Quarter of the Southwest Quarter, and the Southwest Quarter of the Southeast Quarter of Section 4All in Township 12 North, Range 3 West of the Third Principal Meridian, Christian County, Illinois.
02-17-04-400-003-00	Lynn D. Tryon, an unmarried person	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	The East Quarter of the Southeast Quarter of the Southwest Quarter, and the Southwest Quarter of the Southeast Quarter of Section 4 All in Township 12 North, Range 3 West of the Third Principal Meridian, Christian County, Illinois.
02-17-06-300-001-00	Gloria Colean Lamb, as trustee under the provisions of a Declaration of Trust dated September 10, 2001 (Deal Farm Trusts).	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	The West Forty-Seven (47) acres of the Southwest Quarter of Section Six (6), Township Twelve (12) North, Range Three (3) West of the Third Principal Meridian, containing 47 acres, more or less, in Bear Creek Township. All in Christian County, Illinois.

06-16-12-200-001-00	Gloria Colean Lamb, as trustee under the provisions of a Declaration of Trust dated September 10, 2001 (Deal Farm Trusts).	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	The West Half of the Northeast Quarter of Section Twelve (12), containing 80 acres, more or less; All in Township Twelve (12) North, Range Four (4) West of the Third Principal Meridian in King Township; All in Christian County, Illinois.
06-16-12-200-002-00	Gloria Colean Lamb, as trustee under the provisions of a Declaration of Trust dated September 10, 2001 (Deal Farm Trusts).	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	The Northeast Quarter of the Northeast Quarter of Section Twelve (12), containing 40 acres, more or less; All in Township Twelve (!2) North, Range Four (4) West of the Third Principal Meridian in King Township; All in Christian County, Illinois
15-12-33-100-001-01	Dale L Himstedt, as Trustee of The Dale L. Himstedt Revocable Trust	Collection system, access road, fencing and other ancillary facilities.	Parcel 1:PART OF THE NORTH HALF OF THE NORTHWEST QUARTER OF SECTION 33, TOWNSHIP 13 NORTH, RANGE 3WEST OF THE THIRD PRINCIPAL MERIDIAN, CHRISTIAN COUNTY, ILLINOIS, MORE PARTICULARLY DESCRIBEDAS FOLLOWS:BEGINNING AT A MAG NAIL AT THE SOUTHEAST CORNER OF SAID NORTH HALF OF THE NORTHWEST QUARTER OF SECTION 33; THENCE NORTH 89° 18’ 18" WEST, ON THE SOUTH LINE OF SAID NORTH HALF OF THE NORTHWEST QUARTER, 517.70 FEET TO THE MAG NAIL SET; THENCE NORTH 00° 41' 42" EAST, 236.00 FEET TO AN IRON PIN SET; THENCE NORTH 89° 18' 18" WEST, PARALLEL WITH SAID SOUTH LINE, 922.88 FEET TO AN IRON PIN SET; THENCE SOUTH 00° 41' 42" WEST, 236.00 FEET TO A MAG NAIL ON SAID SOUTH LINE; THENCE NORTH 89° 18' 18" WEST, ON SAID SOUTH LINE OF THE NORTH HALF OF THE NORTHWEST QUARTER, 754.69 FEET TO THE INTERSECTION OF THE CENTERLINE OF CLEAR CREEK WITH SAID SOUTH LINE; THENCE MEANDERING NORTHEASTERLY ON THE CENTERLINE OF SAID CLEAR CREEK TO THE INTERSECTION OF SAID CENTERLINE WITH THE NORTH LINE OF SAID NORTH HALF OF THE NORTHWEST QUARTER; SAID INTERSECTION POINT BEARING NORTH 31° 56' 56" EAST, 1546.33 FEET FROM PREVIOUSLY DESCRIBED INTERSECTION POINT; THENCE SOUTH 89° 16' 07" EAST, ON SAID NORTH LINE OF THE NORTH HALF OF THE NORTHWEST QUARTER, 1382.11 FEET TO AN IRON PIN SET AT THE NORTHEAST CORNER OF SAID NORTH HALF OF THE NORTHWEST QUARTER; THENCE SOUTH 00° 13' 23" WEST, ON THE EAST LINE OF SAID NORTH HALF OF THE NORTHWEST QUARTER, 1321.09 FEET TO THE POINT OF BEGINNING, CONTAINING 43.86 ACRES, MORE OR LESS.Parcel 2:PART OF THE NORTH HALF OF THE NORTHWEST QUARTER OF SECTION 33, TOWNSHIP 13 NORTH, RANGE 3WEST OF THE THIRD PRINCIPAL MERIDIAN, CHRISTIAN COUNTY, ILLINOIS, MORE PARTICULARLY DESCRIBEDAS FOLLOWS:COMMENCING AT A MAG NAIL AT THE SOUTHEAST CORNER OF SAID NORTH HALF OF THE NORTHWEST QUARTER OF SECTION 33; THENCE NORTH 89° 18’ 18” WEST, ON THE SOUTH LINE OF SAID NORTH HALF OF THE NORTHWEST QUARTER, 517.70 FEET TO THE MAG NAIL SET AT THE POINT OF BEGINNING; THENCE CONTINUING NORTH 89° 18’ 18" WEST, ON SAID SOUTH LINE, 922.88 FEET TO A MAG NAIL, THENCE NORTH 00° 41’ 42" EAST, 236.00 FEET TO AN IRON PIN SET; THENCE SOUTH 89° 18’ 18” EAST, PARALLEL WITH SAID SOUTH LINE, 922.88 FEET TO AN IRON PIN SET; THENCE SOUTH 00° 41’ 42” WEST, 236.00 FEET TO THE POINT OF BEGINNING, CONTAINING 5.00 ACRES, MORE OR LESS.
02-17-07-100-001-00	Alvin Schober, Ronald Lynn Schober, and Cynthia Ann Schober-Strauch, as tenants in common, an undivided 4/24 interest; and Heather M. Pierce and Christopher A. Pierce, each to an undivided 6/24 interest.	Collection system	The Northwest Fractional Quarter, Section Seven (7), Township Twelve (12) North, Range Three (3) West of the Third Principal Meridian, containing 128.9 acres, more or less All of said property located in Christian County, Illinois.
02-17-09-400-004-00	Successor Trustee or trustees to Helen L. Beckmier, deceased, as trustee of the Lyle C. Beckmier Testamentary Trust created April 11, 2015, to an undivided 1/2 interest; and Tucker Beckmier, to an undivided 1/2 interest.	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	THE SOUTH 3/8 OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 9 and the North Half of the North Half of the Northeast Quarter of the Northeast Quarter of Section 16 all in Township 12 North Range 3 West of the Third Principal Meridian in Christian County, Illinois
02-17-16-200-002-00	Successor Trustee or trustees to Helen L. Beckmier, deceased, as trustee of the Lyle C. Beckmier Testamentary Trust created April 11, 2015, to an undivided 1/2 interest; and Tucker Beckmier, to an undivided 1/2 interest.	Solar panels, inverters, collection system, access road, fencing and other ancillary facilities.	THE SOUTH 3/8 OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 9 and the North Half of the North Half of the Northeast Quarter of the Northeast Quarter of Section 16 all in Township 12 North Range 3 West of the Third Principal Meridian in Christian County, Illinois
02-17-06-200-002-00	Donna Marie Schober	Collection system	EAST HALF (E 1/2) OF THE NORTHEAST QUARTER (NE 1/4) OF SECTION SIX (6), TOWNSHIP 12 NORTH, RANGE 3 WEST OF THE THIRD PRINCIPAL MERIDIAN, IN CHRISTIAN COUNTY, ILLINOIS.

Invenergy

One South Wacker Drive | Suite 1800 | Chicago, Illinois 60606
T 312-224-1400 | F 312-224-1444

Christian County Board
Christian County Zoning Department
214 W Market St
Taylorville, IL 62568
Attention: Blake Tarr, Zoning Administrator

May 15, 2023

Re: Amended Special Use Application for Hickory Point Solar Energy Center

Mr. Tarr,

Enclosed is Hickory Point Solar Energy Center LLC's (Hickory Point) amended special use application for the Hickory Point Solar Energy Center. This application is submitted in accordance with Section 1-11-21 of the Christian County Zoning Ordinance.

The Hickory Point Solar Energy Center is a Solar Energy Facility as defined under the Christian County Zoning Ordinance. The parcels subject to this application are identified in the attached application materials. All parcels are zoned in the Christian County AG-1 Agriculture Zoning District. Christian County previously approved a special use application for Hickory Point under Ordinance 02019 ZN 006. Since that special use approval was granted in 2019, Hickory Point has performed further engineering studies, and as a result, Hickory Point has adjusted the project area eastward to avoid historic undermining. Accordingly, Hickory Point requests an amendment to its special use permit to utilize this new project area.

The appropriate filing fee is also being submitted to Christian County with this application.

Contact information for Hickory Point, and the landowners and parcel numbers for the subject parcels are set forth in the attached application materials.

Pursuant to the Christian County Zoning Ordinance, Hickory Point respectfully requests that Christian County Board approve this amendment application for special use for a Solar Energy Facility.

We look forward to presenting this amendment to Christian County, and please contact me with any questions.

Sincerely,

Greg Vasilion
Renewable Development

Name and Address of the Applicant/Owner:

Hickory Point Energy Center LLC
One South Wacker Drive, Suite 1800, Chicago IL 60606

Contact information:

Greg Vasilion
Renewable Development
312-550-7678 | gvasilion@invenergy.com

Invenergy

Hickory Point Solar Energy Center Special Use Amendment Application

Prepared for:

Christian County

Christian County Board
Christian County Zoning Department
Attention: Blake Tarr, Zoning Administrator

Prepared By:

Invenergy

Hickory Point Solar Energy Center LLC
Greg Vasilion
Renewable Development
312-550-7678 | gvasilion@invenergy.com

Table of Contents

Executive Summary

The Hickory Point Solar Energy Center (Hickory Point Solar or the Project) is a 250 MW solar photovoltaic generation facility. The Project is being developed by Hickory Point Solar Energy Center LLC, an affiliate of Invenergy LLC (Invenergy) and is qualified to do business in Illinois. The design of the Hickory Point Solar Energy Center complies with Christian County's Solar Energy Ordinance. Hickory Point previously obtained a special use permit from Christian County for the Project 2019. Many project fundamentals remain the same, but the location of the project has shifted due to retired coal mines present in the original location, and the Project has therefore incorporated new parcels into the Project area.

Christian County is an excellent place for a solar project because it contains plentiful access to existing transmission facilities, has a strong solar resource, and has many interested landowners with flat, buildable ground.

1.0
Invenergy's Development Experience

1.1
Invenergy's Background and Experience

Invenergy was founded in 2001 and is the largest privately held global developer, owner, and operator of sustainable energy solutions, across the America's, Europe, and Asia.

Invenergy's expertise includes a complete range of fully integrated in-house capabilities, including: Project Development, Permitting, Interconnection, Energy Marketing, Finance, Engineering, Project Construction, Operations and Maintenance.

To date, the Company has successfully developed more than 30,000 megawatts (MW) of large-scale wind, solar, natural gas and energy storage facilities. This includes more than 23,000 MW of projects in operation, and more than 2,000 MW currently in construction.

Invenergy's senior executives - each with more than 25 years in the energy generation industry - have worked together for more than two decades. Invenergy values integrity, commitment to business partners and host communities, and environmental responsibility. Invenergy is headquartered in Chicago with regional development offices in the United States, Canada, Mexico, Spain, Japan, Poland, and Scotland.

1.2
Invenergy's Solar Portfolio

Invenergy has been applying its diverse energy experience and innovation toward expanding the Company's portfolio to include solar power generation since 2012. To date, Invenergy has developed more than 6,400 MW of solar projects that are either operating, contracted, and/or in construction.

1.3
Invenergy's Experience in Illinois

Since 2008, Invenergy has developed 14 projects across Illinois totaling approximately 3,000 megawatts. Together, these projects generate enough electricity to power the equivalent of 1 million American homes per year. Invenergy employs 49 full-time operations and maintenance staff and more than 650 employees at its Chicago headquarters in the state of Illinois. Invenergy's operations in the state contribute to growing local economies across Illinois, including contributing more than $8.1 million in local taxes, more than $14 million in annual landowner payments and $6.9 million in annual wages and benefits.

1.4
Invenergy's Financial Ability

Invenergy is North America's largest independently, privately held company that develops, owns, and operates large-scale renewable and other clean energy generation and energy storage facilities across North America, Latin America, Japan and Europe. The company was founded in 2001 and has achieved more than $50 billion in transactions completed to date.

Invenergy's in-house finance team of more than 30 professionals have broad capital markets, project finance and portfolio finance experience. The team's finance expertise combined with strong financial partnerships has led Invenergy to secure financing and successfully execute on its robust portfolio of nearly 200 projects and over 30,000 Megawatts. This same strategy will position Invenergy to secure financing to support the construction of Hickory Point Solar. This Project is expected to qualify for partial tax reduction incentives provided by the federal Inflation Reduction Act and Illinois's High Impact Business Act, but will not receive any public funding or subsidies. The Project will produce significant new federal, state and local tax dollars.

Invenergy's financial capability is demonstrated by its recent development activity as well as its notable investments. In 2022, Invenergy received one of the largest renewable investments in North American history from Blackstone, totaling approximately 3 billion dollars. Additionally, in early 2023, Invenergy agreed to purchase its largest ever acquisition from AEP, including 14 projects in 11 states totaling over 1,300 megawatts of renewable energy generation.

2.0
Hickory Point Solar Energy Center Development

2.1
Project Overview

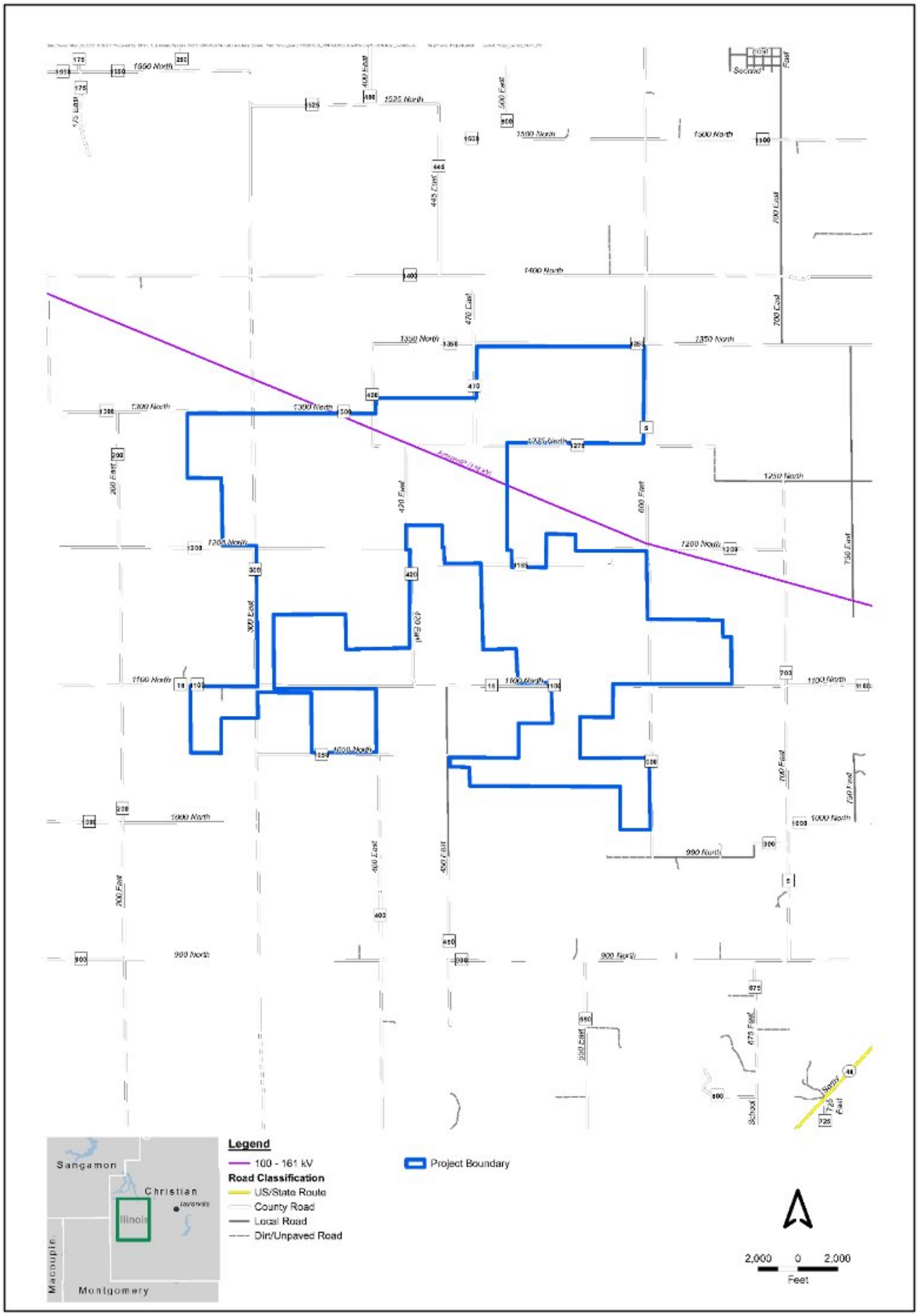
Hickory Point Solar is a 250 MW solar photovoltaic generation facility. It plans to use bifacial photovoltaic solar panels on a single axis tracking system. The Project is located in western Christian County, within the townships of South Fork, Bear Creek, and King; about 7 miles west of Taylorville, IL and 3 miles south of Tovey, IL. The proposed fenced area of the Project encompasses approximately 2,000 acres. Figure 1 is a map of the Project boundary. There are no future expansion plans.

Invenergy takes into consideration a number of factors when considering site location, including proximity to transmission infrastructure with available capacity, land use in the area (e.g. farmland versus forested), environmental and topographic features, and solar resource assessment.

Invenergy has been actively developing Hickory Point Solar for the past 5 years and has spent significant time understanding local characteristics. A variety of studies were commissioned, including environmental studies, cultural heritage studies, geotechnical work, resource analysis, hydrology analysis, engineering work and interconnection analysis. This project has an approved permit for a previous footprint. Although many site fundamentals are the same, the project layout has changed due to the presence of historic coal mining in the original project area. Through many visits to the site, Invenergy's development team sought consultations with stakeholders, including local area landowners, representatives of local government, and community members.

The Project signed agreements with 13 participating landowners totaling approximately 3,500 acres. The Hickory Point Solar Energy Center Site Plan **(Exhibit 1 – Site Plan)** includes a fenced in area of about 2,000 acres, where approximately 1,400 acres are located in Bear Creek township, 500 in South Fork township, and less than 100 in King township.

Figure 1: Project Area



2.2
Interconnection to the Grid

Hickory Point Solar is located within Midcontinent Independent System Operator (MISO) in Christian County, Illinois. The Project will connect to the MISO market by tapping the Taylorville - Austin 138 kV line that runs through the Project area. Invenergy has secured access to the proposed point of interconnection. The Project has been assigned interconnection queue position J815 and has a fully executed Interconnection Agreement **(Exhibit 10 – Interconnection Agreement)**.

2.3
Environmental Diligence

Hickory Point Solar conducted a comprehensive review of the environmental features in and near the Project area following a tiered approach recommended by the United States Fish and Wildlife Service (USFWS). Hickory Point Solar also consulted with the Illinois Department of Natural Resources (IDNR) on environmentally sensitive resources and the potential for threatened or endangered species to occur in the Project area.

Hickory Point Solar utilized publicly available resources, such as the USFWS's Information for Planning and Consultation (IPaC) tool, to site the Project in a location that minimized its impact on sensitive resources and species. After its initial review, Hickory Point Solar engaged Stantec Consulting Services Inc., an experienced and highly qualified environmental consultant, to perform a Site Characterization Study **(Exhibit 4 - Site Characterization Study)** and Wetlands Delineation **(Exhibit 5 - Wetland and Waterbody Delineation Report)** in and near the Project area. Invenergy's Environmental Compliance and Strategy, Development, and Engineering teams worked together to ensure the information collected during these studies was incorporated into the Project design, minimizing impacts to environmentally sensitive resources.

2.3.1
Site Characterization Study

The primary land cover type is cultivated crops (96.1%), with a few developed areas (2.8%) and forests (0.5%) **(Exhibit 4- Site characterization study)**. Wetlands and waterbodies comprise a small percentage of the land cover (0.6%) **(Exhibit 4- Site characterization study)**. Accordingly, the Project avoids sensitive environmental features and habitats. Hickory Point engaged in the environmental consultation process with IDNR, and the IDNR concluded that the Project is unlikely to cause adverse effects upon any natural resources **(Exhibit 6 - EcoCAT)**. The IDNR consultation letter stated that an INAI site called Berry's Woods was located in the vicinity of the Project, but concluded the Project would not have adverse impacts upon Berry's Woods **(Exhibit 6 - EcoCAT)**. In addition, the Project was sited to avoid impacts to the Sangchris Lake State Resource Area, which extends slightly into the northern edge of the Project area. IDNR did not identify the Sangchris Lake State Resource Area as a potential natural resource that may be adversely affected by the Project. Neither USFWS nor the IDNR indicated that there were sensitive areas or species of concern in the Project area. There are two federally listed bat species that may occur in Christian County, but the Project was sited to avoid their habitats and therefore no adverse impacts are expected **(Exhibit 4- Site characterization study)**.

2.3.2

Consultation with USFWS

Hickory Point Solar has been in consultation with the Rock Island Field Office of the USFWS. There are no federally managed lands in the Project area. Although the federally protected Indiana and northern long-eared bats may occur in the wooded areas of the Project, the summer foraging/roosting habitats for these species will be avoided in the seasons in which they may be occupied.

2.3.3

Consultation with IDNR

Hickory Point Solar engaged in consultation with IDNR through its Ecological Compliance Assessment Tool (EcoCAT). The EcoCAT response concluded that there are no records of state-listed threatened or endangered species, dedicated Illinois Natural Preserves, or registered Land and Water Reserves in the vicinity of the Project area. Consultation with IDNR revealed an INAI site, Berry's Woods, located approximately 0.76 miles from the Project site. Upon review, the IDNR confirmed that the Project is unlikely to have adverse effects on Berry's Woods **(Exhibit 6 - EcoCAT)**.

2.3.4

Conclusions of Environmental Diligence

The Hickory Point Solar Project area was carefully evaluated in coordination with the USFWS, IDNR and an expert environmental consultant. There are limited sensitive resources. Wooded areas and waterways comprise approximately 1% of the total land cover. There are no major waterways or natural resource areas near the Project area that would be expected to attract wildlife to into the Project. Accordingly, the Project is expected to have a minimal impact on the environment, habitat, and wildlife, and is compatible with the surrounding land use.

2.3.5

Geotechnical Studies

Terracon has completed preliminary geotechnical engineering services for Hickory Point Solar. These services included a field exploration program, preliminary engineering evaluation of the subsurface conditions and foundation recommendations. The purpose of the geotechnical services was to explore and evaluate the existing subsurface conditions at the Project site and develop conclusions and limited geotechnical recommendations. Geotechnical studies performed after the original Hickory Point special use permit was approved in 2019 resulted in the determination that due to past mining activity in the original project area, the Project location should be shifted away from such mining areas, to its current location.

Further studies concluded the current site is suitable for the proposed solar development. Additional soil test borings will be performed as part of a design-level study in advance of full construction. Terracon may provide observation and testing services during grading, excavation, foundation construction and other earth-related construction phases of the Project.

2.4
Project Design and Engineering

2.4.1
Proposed Site Plan

Invenergy has a large team of in-house engineers specializing in project design, substations, transmission, construction and operations. Invenergy's in-house team also works with consultants to design projects. Westwood Professional Services has been our partner on the Hickory Point Solar design process.

Using data from our environmental studies, cultural heritage studies, publicly available data, ordinance requirements and other sources, Invenergy refined the Project area to ensure compliance with all regulations. Using this Project area, the Site Plan was created with the assistance and input of consultants and subject-matter experts. The Site Plan development has been iterative and involved feedback from landowners, other stakeholders, engineers, environmental specialists and developers. The Project design will be refined further as we get closer to construction, select the technology and undertake detailed design engineering.

The Site Plan **(Exhibit 1 – Site Plan)** shows the Project's proposed design. It includes the location of all structures, dimensions of parcels, preliminary design of the array and proposed location of substation, including a potential storage area. It also shows setback distances and interconnection facilities. Additionally, residential adjacent uses are identified **(Exhibit 2 – Existing Conditions)** as well as existing topographic contours **(Exhibit 2 – Existing Conditions)**. Also included is a map addressing surface drainage patterns **(Exhibit 3 – Hydrology Study)**.

The final plans for construction will be prepared in accordance with the Christian County Solar Ordinance. The final design will remain within the limits of the approved Site Plan area and comply with the Christian County Solar Ordinance. Finalized design plans will be submitted to the County for the Building Permits and will include all the required details. Hickory Point intends to submit a Building Permit Application in advance of construction parcel-by-parcel, structure-by-structure, or in a batched submission if Hickory Point and the County decide it would reduce administrative burden.

2.4.2
Site Infrastructure

Panels: The site proposes to use bifacial photovoltaic solar panels on a single axis tracking system. At maximum tilt, the panel tips will not reach over 15' above ground level.

Inverters: The site will utilize central inverters from Tier 1 manufacturers.

Collection System: The proposed 34.5 kV medium voltage underground collector circuits from the substation low side bus will be daisy chained up to the inverter stations. Properly sized surge arrestors will be placed at the end of each medium voltage circuit. The Project requests a condition to be able to alter the collection corridors within participating parcels.

Substation: The proposed step-up substation for Hickory Point Solar shall be built to connect the solar inverters to the required voltage of the interconnecting grid via one or more main power transformers. The fenced substation will consist of electrical switches, breakers and other high voltage equipment to allow injection of power on to the grid, including a control enclosure to house all protection and communication equipment. Adjacent to the substation will be a storage area, should the Project be outfitted with battery storage units.

Access Roads: Access roads for the site would be within the fenced area and are approximately 14'-20' wide, including shoulders. The Project requests a condition to be able to alter the access roads locations within participating parcels.

Fencing: A 7' game fence will surround the site. The substation will also have this same proposed fence.

Operation & Maintenance (O&M) Building: The O&M area will host a permanent O&M building, parking area, and other associated facilities such as a security gate, lighting, signage, and flagpoles. The permanent O&M building will host administrative, operation and maintenance equipment and the anticipated 4 operations employees.

2.4.3
Setbacks

The following minimum setbacks for panels are used by Hickory Point Solar:

Feature	Setback (Ft.)
Non-participating property lines	50 ft
Road right of ways	50 ft
Houses	200 ft

2.4.4
Public Safety & Public Services

Site Access: A fence in compliance with safety requirements will provide security around the perimeter of the facility. Furthermore, to allow access for emergency service personnel, Hickory Point Solar plans to maintain lock boxes at the entrances or something that would similarly provide access. Such access and protocols will comply with all local and state regulations.

Security & Lighting: A fence is planned to be installed around facilities as they are constructed, and access will be controlled by gates. Access to the site for the general public will generally be denied for security and safety reasons. High voltage equipment will be separately fenced with warning signage.

Safety and general security lighting will be installed but will be limited to the minimum illumination needed to achieve safety and security objectives to avoid unnecessary light pollution. The Project will not be lit for regular activities, as these will mostly occur during daylight hours. Motion-activated lighting are planned to be installed on the control house, on the access gates, and throughout the solar arrays at inverters for access during non-daylight hours. A motion-activated security camera system is planned to be installed with the lighting to monitor the Project's substation, control house, and solar arrays. Lighting will be shielded and directed downwards towards Project components to limit area light pollution.

Safety / Fire Safety: The site is designed to meet all safety standards. Photovoltaic generating panels and related facilities are safe to operate and do not present unique or unusual fire or other safety hazards. Fire and EMS provider cooperation and periodic meetings can be planned to maintain familiarity with site facilities.

Solar Panel Materials: Solar panels are safe to touch during operation and are primarily made of glass, aluminum, copper and other common materials. The tempered glass on panels is designed to withstand severe weather and passes hail and extreme weather tests. Solar farms also utilize steel racks to position panels, electrical cable and a small number of inverters and electric transformers to deliver power to the grid. All of this equipment is safe and contains the same materials that are found in many household appliances. Invenergy mostly uses c-Si technology (crystalline silicon) panels and they are non-hazardous. Compounds are completely sealed within the glass and coatings of the panels. Furthermore, Invenergy follows safety procedures to ensure all panels are compliant with the Environmental Protection Agency's Toxicity Characteristic Leaching Procedure testing which categorizes them as non-hazardous. By weight, more than 80 percent of what goes into PV panels is glass and aluminum – both common and easy-to-recycle materials. Disposal of solar panels is federally regulated by the Federal Resource Conservation and Recovery Act.

Signage: Invenergy anticipates having security signs at regular intervals (estimated at every 100-200') along the project fencing. Similar signs will be placed on the substation fence. These will be placed at an estimated height of around 5 feet from the ground. Hickory Point also anticipates having signs on the fence at the Project entrances with emergency information.

Public Services: The Project does not expect to require unusual local public services. Normal local fire and EMS service will be relied upon during construction and during facility operation. The Project will cooperate fully with local emergency providers. The O&M building will require water, electricity, and other normal utility services. Invenergy will submit all required permitting documents prior to construction.

Traffic: Vehicular trips during operations are expected to be minimal, as the site is serviced by lightweight Operations and Maintenance (O&M) trucks.

Hickory Point Solar will procure all required permits and agreements for traffic control related to construction. Invenergy will also secure necessary Road Use Agreements regarding use of roads for construction. As part of the Road Use Agreement, Invenergy will agree to inspect and repair roads used during construction.

During the construction phase, several types of light and medium construction vehicles will travel to and from the site. Private vehicles will also be used by the construction personnel. At this time, Invenergy estimates that there will be approximately 200 truck trips per day in the area during peak construction periods when pile installation, racking, and module assembly are taking place concurrently. The only oversized load expected during construction is for the delivery of the Main Power Transformer, during which the appropriate traffic control procedures will be followed.

During the operations phase, routine maintenance will require one or two light-duty trucks.

2.4.5
Noise and Interference

The Project will comply with the noise standards set by the Illinois Pollution Control Board. During construction activities, there will be noise from vehicles, earth movement, and post driving. The sound emitted during Project installation will be typical of construction activities. During operations, the Project will produce low levels of noise in the immediate vicinity of the power conversion stations, tracking system motors and main transformer. Hickory Point Solar has applied best practices to the site design to further limit the potential for noise impacts beyond the Project site. With the setbacks applied from houses, rights-of-ways and non-participating property lines, there are no anticipated operational sound impacts above ambient noise.

2.4.6
Communication Interference

No interference with broadcasting patterns is anticipated to result from construction or operation of the Project. Hickory Point Solar will consist of photovoltaic panel arrays installed on a low-profile racking system, which is not anticipated to disturb or block any line-of-sight communication system or communication infrastructure.

2.4.7
Stray Voltage

No stray voltage is expected to result from the collection lines. The collection lines for the Project are significantly different than those typically seen in local distribution systems or in low-voltage wiring in sheds, barns and dairy facilities. Electric collection lines will be buried according to AIMA requirements and have thick insulation around the conductors. Outside of the conductors and insulation, there is copper shielding that can collect any stray voltage that might come from a damaged or defective wire. A thick copper grounding line will also be placed within the trench as a backup to the copper shielding. Additionally, the facility will have a sophisticated control system to recognize any fault current into the grounding system and protect as needed, shutting down the affected portion of inverters.

2.4.8
Drain Tile

Hickory Point has mapped and set back from all drainage district facilities overlapping its project boundary. This includes facilities managed by districts #98 (Union No. 1 Bear Creek and King) and #99 (South Fork No. 1).

Hickory Point has also coordinated with the participating landowners in the Project area to identify drainage tile lines traversing the Project area **(Exhibit 12 – Drainage Tile Maps)**. Prior to construction of the Project, all identified drainage tile lines shall be marked on the construction plans. The location of the drainage tile lines shall be recorded using Global Positioning System (GPS) technology. If drainage tile lines are damaged during construction, operation or decommissioning of the Project, Hickory Point shall promptly repair the lines, or install new drainage tile lines of comparable quality and of sufficient size and appropriate slope. Hickory Point shall maintain adequate outlets for adjacent drain tiles that flow through the Project area. After decommissioning of the Project, Hickory Point shall restore the underground drainage capacity that existed on the Project parcels prior to construction of the Project. All state drainage laws will be followed.

2.4.9
Landscaping Screening & Ground Cover

Hickory Point Solar proposes to install a double row of shrub species at certain locations around the perimeter of the Project **(See also Exhibit 8 – Solar Screening Plan)**. The proposed plan will use a diverse variety of regionally appropriate shrubs species that will provide a visual buffer across multiple seasons. The shrubs will be planted in rows on the exterior of the fence line. As the shrubs mature, they will grow closer together, adding additional vegetation and habitat benefits.

Hickory Point Solar's vegetation strategy is to establish regionally appropriate, perennial, low growing, native and naturalized grasses, and legumes in all areas underneath the arrays. The use of low-growing species is critical for not interfering with solar energy production. Additionally, the established vegetation will maintain or improve soil health, reduce topsoil erosion, improve stormwater management and quality, and can support local wildlife. The vegetation strategy will be implemented through the creation of a Vegetation and Soil Management Plan (VSMP) which will be finalized before the start of construction.

A significant component of the VSMP will be a control plan for weeds that occur inside and outside of the fenced-in project area, per the Christian County Ordinance. An onsite evaluation will occur prior to construction to inform weed management actions that will be needed to control and minimize the proliferation of noxious and invasive species. Primary treatment methods will be mowing, and targeted spot-spraying of selective herbicides as needed.

2.4.10
Complementary to Agricultural Land Use

The Project provides participating local landowners with a way to earn annual, long-term returns representing a new source of income that can diversify and stabilize their earnings. Additionally, the solar facility would economically benefit the surrounding communities through property tax payments and salaries and wages paid for construction and full-time jobs.

Hickory Point Solar will preserve and enhance the future agricultural potential of the lands within the Project. The soil within Project will be preserved and enhanced through the establishment and maintenance of regionally appropriate perennial plant species. The perennial vegetation will protect soils from erosion, increase rainfall infiltration into the soil, and significantly reduce stormwater runoff from the Project. The vegetation will also build soil carbon, accumulate soil nutrients, and improve soil health over the life of the Project. Additionally, the planned vegetation will require significantly less, if any, fertilizer and pesticide inputs when compared to common agricultural practices. Limited and targeted herbicide applications will be conducted to control weeds as required by the Christian County Ordinance.

At the end of the project's useful life, Invenergy will decommission the site. Agricultural lands that have become compacted due to facility operation or decommissioning activities (e.g., where access roads are located) will be de-compacted using suitable equipment and returned to preconstruction conditions. Following decommissioning, the improved soils are expected to support increased crop yields due to the soil health improvements anticipated to occur over the life of the Project.

2.5
Project Economic Benefits

The economic impacts of Hickory Point Solar Energy Center have been analyzed by Dr. David G. Loomis, Professor of Economics at Illinois State University and Co-Founder of the Center for Renewable Energy. The Economic Impact and Land Use Analysis report **(Exhibit 9 - Economic Impact and Land Use Analysis)** outlines economic benefits of the Project to the townships, the County and the state of Illinois.

The Project represents an investment in excess of $380 million, bringing positive economic impacts to the community in terms of jobs, earnings, property taxes and output. It is anticipated at current local tax rates, the Project will pay over $33 million in property taxes in total for all taxing districts over its life, benefiting local school districts, townships, fire and ambulance districts as well as the County. As Christian County is a PTELL jurisdiction, County taxing bodies may also utilize the increased assessed value created by the Project to lower tax rates for all property taxpayers in their jurisdictions.

In terms of jobs, it is anticipated the Project will create more than 475 direct construction jobs in Christian County. When estimating indirect jobs that will be created as a result of the Project construction, the projection expects to provide more than 200 additional jobs in the County during construction. Hickory Point will create more than 1,200 jobs in the state of Illinois, directly and indirectly, during construction. The operations stage of the Project is expected to create 18 direct and indirect local long-term jobs in Christian County, including 4 full-time staff to operate the project, representing a steady source of income to 18 families who live in the area for the expected 30-year life of the Project.

The analysis also expands to understanding the economic results of leasing agricultural land for the new solar farm. Using a real-option analysis and running several simulations, it is shown that the value of using the land for solar exceeds the value of using the land for agriculture in 100% of the scenarios analyzed, which represents a steady and significant revenue stream to the residents participating in the project.

2.6
Neighboring Property Owner Communication

2.6.1
All Adjacent Parcels

Continued on proceeding 5 pages.

06-16-12-300-002-00
BLOUNT LOREN
951 N 200 EAST RD
MORRISONVILLE, IL 62546-6326

06-16-12-400-001-00
BLOUNT LOREN
951 N 200 EAST RD
MORRISONVILLE, IL 62546-6326

02-17-05-300-004-01
CLEAR CREEK LAND CO KEITH W
FUNDERBURK PRESIDENT
417 E 1100 NORTH RD
MORRISONVILLE, IL 62546

15-12-33-400-001-00
3D FAMILY FARMS
C/O JOHN R & DARLA HOLMES
7549 PARKTRACE LN SE
OWENS X RDS, AL 35763-8020

15-12-33-200-003-00
3D FAMILY FARMS
C/O JOHN R & DARLA HOLMES
7549 PARKTRACE LN SE
OWENS X RDS, AL 35763-8020

15-12-33-100-003-00
3D FAMILY FARMS
C/O JOHN R & DARLA HOLMES
7549 PARKTRACE LN SE
OWENS X RDS, AL 35763-8020

15-11-25-400-002-02
DUNN ELAINE REV TRUST
C/O KELLY R DUNN
N6086 GRAYHAWK RD
ONALASKA, WI 54650-2696

02-17-10-300-002-00
ACHENBACH ALAN T
601 LAKESIDE DR
TAYLORVILLE, IL 62568-7750

02-17-09-200-003-00
ACHENBACH ALAN T
601 LAKESIDE DR
TAYLORVILLE, IL 62568-7750

02-17-09-200-002-00
ACHENBACH ALAN T
601 LAKESIDE DR
TAYLORVILLE, IL 62568-7750

02-17-10-100-001-00
ACHENBACH ALAN T
601 LAKESIDE DR
TAYLORVILLE, IL 62568-7750

02-17-03-200-001-00
ACHENBACH ALAN T
601 LAKESIDE DR
TAYLORVILLE, IL 62568-7750

02-17-03-100-002-00
ACHENBACH ALAN T
601 LAKESIDE DR
TAYLORVILLE, IL 62568-7750

15-11-36-400-003-01
FRANKLIN ALANA S
226 E 1200 NORTH RD
MORRISONVILLE, IL 62546-6329

06-16-01-300-003-00
BOURNE AVERY
245 E 1100 NORTH RD
MORRISONVILLE, IL 62546-6312

02-17-05-100-002-00
ALLISON BARBARA BETH &
LESTER TRUSTEE
7 BRADEN CT
VIRDEN, IL 62690-1054

15-12-32-300-005-00
ALLISON BARBARA BETH &
LESTER TRUSTEE
7 BRADEN CT
VIRDEN, IL 62690-1054

15-12-32-100-004-00
JONES BARRY & DIANE
437 E 1275 NORTH RD
MORRISONVILLE, IL 62546-6334

02-17-15-100-001-00
STEPHENS BETTY A & JOHN H
603 N 990 NORTH RD
MORRISONVILLE, IL 62546

15-12-29-400-001-00
BKM REALTY LLC
1007 N MAIN ST
COLUMBIA, IL 62236-1113

15-12-29-300-001-00
BKM REALTY LLC
1007 N MAIN ST
COLUMBIA, IL 62236-1113

15-12-29-300-005-00
BKM REALTY LLC
1007 N MAIN ST
COLUMBIA, IL 62236-1113

15-11-36-300-001-00
BLOOME FARMS INC
308 E 1200 NORTH RD
MORRISONVILLE, IL 62546-6330

15-11-36-100-002-00
BLOOME FARMS INC
308 E 1200 NORTH RD
MORRISONVILLE, IL 62546-6330

15-12-30-300-003-00
BLOOME FARMS INC
308 E 1200 NORTH RD
MORRISONVILLE, IL 62546-6330

02-17-06-100-001-00
BLOOME FARMS INC
308 E 1200 NORTH RD
MORRISONVILLE, IL 62546-6330

15-12-29-300-001-01
BRAEUNINGER DENNIS D &
JULIANN CO TRUSTEES 1
397 N 470 EAST RD PAWNEE, IL
62558-5032

02-17-05-400-003-01
SAND STONE CREEK LLC
795 E 1350 NORTH RD
TAYLORVILLE, IL 62568-7816

02-17-05-400-003-00
SAND STONE CREEK LLC
795 E 1350 NORTH RD
TAYLORVILLE, IL 62568-7816

02-17-05-400-003-01
SAND STONE CREEK LLC
795 E 1350 NORTH RD
TAYLORVILLE, IL 62568-7816

02-17-05-300-005-00
SAND STONE CREEK LLC
795 E 1350 NORTH RD
TAYLORVILLE, IL 62568-7816

06-16-12-100-001-00
ABSHIRE CAROLYN D
CO TRUSTEE
319 E 1400 NORTH RD
PAWNEE, IL 62558-5027

15-12-29-200-004-00
STEFFEN CHARLES & P DIANE
505 E 1350 NORTH RD
PAWNEE, IL 62558-5030

15-12-28-100-004-00
STEFFEN CHARLES & P DIANE
505 E 1350 NORTH RD PAWNEE, IL
62558-5030

15-12-28-100-003-00
STEFFEN CHARLES
505 E 1350 NORTH RD
PAWNEE, IL 62558-5030

15-12-29-200-003-00
STEFFEN CHARLES
505 E 1350 NORTH RD
PAWNEE, IL 62558-5030

06-16-12-100-003-00
DUNKIRK GARY D CO TRUSTEE
944 N 200 EAST RD
MORRISONVILLE, IL 62546-6325

15-11-25-400-002-01
BLOOME CLAYTON T & CHRISTY
4395 E DIVERNON RD
PAWNEE, IL 62558-4140

15-12-27-100-001-00
BURTON DEBRA JEAN
3913 LEAR DR
SPRINGFIELD, IL 62711-4062

15-12-29-200-001-00
BRAEUNINGER DENNIS D &
JULIANN
1397 N 470 EAST RD
PAWNEE, IL 62558-5032

15-11-36-400-003-02
SEIZ DENNIS L & JANNA
15400 S PAWNEE RD
PAWNEE, IL 62558-9134

15-11-36-400-001-00
SEIZ DENNIS L
15400 S PAWNEE RD
PAWNEE, IL 62558-9134

06-16-12-100-003-01
DUNKIRK DEREKE ALAN
PRES DEREKE FARMS INC
1066 N 200 EAST RD
MORRISONVILLE, IL 62546-6327

06-16-01-400-002-01
CIMARUSTI DOMENIK &
MARSHA
1141 N 300 EAST RD
MORRISONVILLE, IL 62546-6328

15-11-36-100-001-04
ORLANDINI DOMINIC G &
CAROL L AS TRUSTEES
9320 FREEDOM WAY NE
ALBUQUERQUE, NM 87109

15-12-33-400-003-00
VANZANT DON M & NINA L
1009 FORREST CT
VERSAILLES, KY 40383-8788

15-12-33-400-002-00
VANZANT DON M & NINA L
1009 FORREST CT
VERSAILLES, KY 40383-8788

02-17-06-300-003-00
VANZANT DON M & NINA L
1009 FORREST CT
VERSAILLES, KY 40383-8788

02-17-06-300-002-00
VANZANT DON M & NINA L
1009 FORREST CT
VERSAILLES, KY 40383-8788

02-17-06-400-001-01
VANZANT DON M & NINA L
1009 FORREST CT
VERSAILLES, KY 40383-8788

15-12-33-100-002-01
BUESINGER DONNA
797 E 1250 NORTH RD
TAYLORVILLE, IL 62568-832

15-12-33-300-001-01
BIGGS DONNA M
2512 CHICORY DR
SPRINGFIELD, IL 62711-7050

15-12-33-300-001-00
BIGGS DONNA M
2512 CHICORY DR
SPRINGFIELD, IL 62711-7050

02-17-04-100-001-00
BIGGS DONNA M
2512 CHICORY DR
SPRINGFIELD, IL 62711-7050

02-17-07-300-001-00
BIGGS DONNA M
2512 CHICORY DR
SPRINGFIELD, IL 62711-7050

15-11-25-400-002-00
DUNN ELAINE REV TRUST
C/O KELLY R DUNN N
6086 GRAYHAWK RD
ONALASKA, WI 54650-2696

02-17-08-300-001-00
O BRIEN ERIC F & BECKY A
TRUSTEE
396 E 750 NORTH RD
MORRISONVILLE, IL 62546-6618

06-16-01-400-002-00
DEAL RONALD TRUST 84-116
C/O PHILLIP DEAL CO TRUSTEE
736 N 400 EAST RD
MORRISONVILLE, IL 62546-6611

02-17-05-100-003-00
OYLER GAYLA A
614 W WASHINGTON ST
AUBURN, IL 62615-1155

02-17-08-100-002-00
MOORE BRIAN E & KRIS L
428 E 1050 NORTH RD
MORRISONVILLE, IL 62546-6350

15-12-30-400-001-00
ORLANDINI GINO TRUST
C/O DOMINIC ORLANDINI
9320 FREEDOM WAY NE
ALBUQUERQUE, NM 87109-6309

02-17-03-100-001-00
BUESINGER HENRY A
610 W PAULINE ST
TAYLORVILLE, IL 62568-1119

02-17-08-200-002-00
JOHN T BUESINGER
610 W PAULINE ST
TAYLORVILLE, IL 62568-1119

02-17-09-100-001-00
BUESINGER JOHN T
610 W PAULINE ST
TAYLORVILLE, IL 62568-1119

15-11-25-300-003-00
LAMB GLORIA C
6 TURNBERRY PL
SPRINGFIELD, IL 62704-3173

06-16-01-400-001-00
LAMB GLORIA C
6 TURNBERRY PL
SPRINGFIELD, IL 62704-3173

02-17-10-200-001-00
BECKMIER CRAIG
694 E 1100 NORTH RD
MORRISONVILLE, IL 62546-6340

15-12-34-100-001-00
BECKMIER CRAIG
694 E 1100 NORTH RD
MORRISONVILLE, IL 62546-6340

15-12-27-300-003-00
BECKMIER CRAIG
694 E 1100 NORTH RD
MORRISONVILLE, IL 62546-6340

02-17-10-200-002-00
BECKMIER HELEN L (LSR) FOR
CRAIG BECKMIER (LSE)
PO BOX 11
HUMBOLDT, IL 61931-0011

02-17-16-200-001-00
HI TECH FARMS INC
ATTN JOSEPH L BLOOME PRESIDENT
1530 N 100 EAST RD
PAWNEE, IL 62558-500

02-17-09-300-003-00
HI TECH FARMS INC
ATTN JOSEPH L BLOOME PRESIDENT
1530 N 100 EAST RD
PAWNEE, IL 62558-500

02-17-09-400-003-00
HI TECH FARMS INC
ATTN JOSEPH L BLOOME PRESIDENT
1530 N 100 EAST RD
PAWNEE, IL 62558-500

15-12-33-100-002-00
BUESINGER JAMES P
797 E 1250 NORTH RD
TAYLORVILLE, IL 62568-832

02-17-05-300-004-00
FUNDERBURK JANICE E
811 VIRGINIA AVE
TAYLORVILLE, IL 62568-1352

02-17-06-400-003-00
FUNDERBURK JANICE E
811 VIRGINIA AVE
TAYLORVILLE, IL 62568-1352

15-12-28-100-002-00
HUGGINS CHERYL & SHERYL TOLLY
613 VIRGINIA AVE
TAYLORVILLE, IL 62568-1348

15-12-28-100-005-00
HUGGINS CHERYL & SHERYL TOLLY
613 VIRGINIA AVE
TAYLORVILLE, IL 62568-1348

15-11-36-400-003-00
ABSHIRE JOHN H
288 E 1200 NORTH RD
MORRISONVILLE, IL 62546

15-12-33-300-002-00
BUESINGER JOHN T
735 E 1250 NORTH RD
TAYLORVILLE, IL 62568-8323

02-17-04-100-003-00
BUESINGER JOHN T
735 E 1250 NORTH RD
TAYLORVILLE, IL 62568-8323

02-17-08-200-001-00
HERMAN KAREN E
456 E 1100 NORTH RD
MORRISONVILLE, IL 62546

02-17-08-100-001-00
FUNDERBURK KEITH W & STACEY R
417 E 1100 NORTH RD
MORRISONVILLE, IL 62546-6349

06-16-12-200-003-00
RFDA OBRIEN TRT NO 111034
405 W NORTH ST
MORRISONVILLE, IL 62546-6753

15-12-34-300-001-00
BUESINGER HENRY A
610 W PAULINE ST
TAYLORVILLE, IL 62568-1119

02-17-05-100-001-02
TRYON LINDA K
616 HEATHROW LN
ROCHESTER, IL 62563-872

02-17-05-100-004-00
KERN LOUIS R
7375 MACKAY AVE
RAYMOND, IL 62560-5200

02-17-05-200-002-00
KERN LOUIS R
7375 MACKAY AVE
RAYMOND, IL 62560-5200

06-16-01-300-002-00
SKINNER LYNDA E
28 BRENDA DR
PAWNEE, IL 62558-9653

15-12-32-300-002-00
HIMSTEDT DALE L & SANDRA
533 E 1275 NORTH RD
MORRISONVILLE, IL 62546-6336

02-17-03-100-003-00
BUESINGER HENRY A TRUSTEE
643 E 1200 NORTH RD
MORRISONVILLE, IL 62546

15-12-27-300-001-00
NATION FARMS INC
795 E 1350 NORTH RD
TAYLORVILLE, IL 62568-7816

02-17-03-400-002-00
NATION FARMS INC
795 E 1350 NORTH RD
TAYLORVILLE, IL 62568-7816

02-17-03-200-002-00
NATION FARMS INC
795 E 1350 NORTH RD
TAYLORVILLE, IL 62568-7816

02-17-08-200-003-00
NATION FARMS INC
795 E 1350 NORTH RD
TAYLORVILLE, IL 62568-7816

02-17-08-200-003-01
NATION FARMS INC
795 E 1350 NORTH RD
TAYLORVILLE, IL 62568-7816

02-17-06-400-001-00
VANZANT NINA L
1009 FORREST CT
VERSAILLES, KY 40383-8788

15-12-34-100-002-00
OLYMPUS FARMS LLC
C/O AGVEST ADVISORS
PO BOX 167
BETHALTO, IL 62010-0167

06-16-01-200-003-00
CREVISTON PATRICIA J
704 CR 1350N
SULLIVAN, IL 61951-6337

06-16-01-200-002-00
CREVISTON PATRICIA J
704 CR 1350N
SULLIVAN, IL 61951-6337

06-16-01-200-001-00
BOEKER DAVID L
21 BLACKBERRY LN
MORTON, IL 61550-9527

06-16-12-400-002-00
OBRIEN RAYMOND F &
DARLENE A TRUSTEES
405 W NORTH ST
MORRISONVILLE, IL 62546-6753

02-17-08-400-003-00
OBRIEN RAYMOND F &
DARLENE A TRUSTEES
405 W NORTH ST
MORRISONVILLE, IL 62546-6753

02-17-08-400-001-00
OBRIEN RAYMOND F & DARLENE
A TRUSTEES
405 W NORTH ST MORRISONVILLE, IL
62546-6753

15-12-33-200-004-00
WAKE RICHARD S & VALORIE
582 E 1275 NORTH RD
MORRISONVILLE, IL 62546-6335

02-17-10-300-001-00
REED RICHARD W SR & JANET
1016 N 600 EAST RD
MORRISONVILLE, IL 62546

02-17-10-300-001-00
REED RICHARD W SR & JANET
1016 N 600 EAST RD
MORRISONVILLE, IL 62546

02-17-07-400-001-00
CURVEY ROBERT O & BETTY C/O U S
BANK FARM MANAGEMENT
205 S 5TH ST S
PRINGFIELD, IL 62701-1490

06-16-01-400-002-02 BOURNE RODNEY E & KIMBERLY L 35243 BLACK DIAMOND TRL PAWNEE, IL 62558-8216	15-12-28-200-003-00 GESELL ROY A 1387 N 600 EAST RD TAYLORVILLE, IL 62568-7810	15-12-28-200-001-00 GESELL ROY A 1387 N 600 EAST RD TAYLORVILLE, IL 62568-7810
15-12-32-300-004-00 BETHARD SAMUEL WM 1228 N 420 EAST RD MORRISONVILLE, IL 62546	02-17-05-100-001-01 MCTAGGART MARK 1155 N 420 EAST RD MORRISONVILLE, IL 62546-6331	02-17-16-200-001-01 AUVENSHINE WILLIAM F & PATRICIA L 1007 N 600 EAST RD MORRISONVILLE, IL 62546-6412
15-11-36-100-001-03 SMITH WILLIAM J & NATALIE 201 HICKORY CT TAYLORVILLE, IL 62568-9623	15-12-29-400-001-01 REINHOLD GARY M & LEANNE TTEES 18501 E PARADA CIR RIO VERDE, AZ 85263-7130	02-17-08-100-002-00 MOORE BRIAN E & KRIS L 428 E 1050 NORTH RD MORRISONVILLE, IL 62546-6350

2.6.2
Notification and Neighbor Communications

Representatives of Hickory Point knocked on the doors of every residence adjacent to the Project to provide information and answer questions about the Project. For residents not at home, Hickory Point left a door hanger pamphlet including a project hotline email (HickoryHotline@invenergy.com) and the contact information for the Project's lead developer. Ahead of the zoning hearing, adjacent landowners will receive public notice of the public hearing pursuant to the Christian County zoning ordinance

3.0 Construction

3.1 Construction Practices

Invenergy has contracted for construction work on its renewable energy projects in a variety of manners ranging from executing full EPC contracts to executing individual specialty contracts with engineering, construction, and supply firms. Most typical for Invenergy renewable projects is to execute separate major component procurement contracts, electrical engineering contracts, balance of plant type construction contracts, and high voltage substation and transmission line contracts. These contracts are generally executed and managed by Invenergy project management teams based in Chicago and Invenergy site management teams based in the field.

The construction team will have considerable experience in project engineering, procurement, and construction management. While the key contractors for Hickory Point have not yet been chosen, Invenergy will choose such contractors based on RFP responses received from the pool of experienced contractors that Invenergy has utilized in the past. Any construction contractors chosen for this work are first evaluated for relevant experience, current safety records, and current financial strength prior to award of any contract. Development and construction of the proposed Project will provide multiple job opportunities for Illinois residents.

Pursuant to the approved permit application in 2019, the Project executed a Road Use Agreement (RUA) with the County and will coordinate with the County Engineer to update it accordingly.

3.2 Construction Timeline

The average construction time for a Solar Project this size is between 1.5 and 2 years. This construction time follows months of previous negotiations to secure all the material necessary to build the Project, such as solar panels, inverters, cables, as well as labor and supply chain support. The Engineering and Construction teams at Invenergy work towards securing quality reliably sourced material as well as adequately skilled labor to reduce potential supply chain delays and to deliver the Project in the best way possible.

Furthermore, as already noted in the Interconnection section, Invenergy has completed the MISO interconnection queue process and has secured an executed Interconnection Agreement. Such Agreement is a requirement to interconnect to the grid and following the study cycles and steps required by MISO.

Due to the factors abovementioned and based on our work undertaken to date in preparation for potential deployment of the Project according to an achievable schedule, Invenergy requests that the two-year time limit to install solar projects, set forth in the Solar Energy Ordinance, be extended. Hickory Solar requests that the County Board, as part of the approval of the special use, extend the deadline for the project to be fully constructed and operational until December 31, 2027.

4.0 Operations and Maintenance Property

Invenergy develops projects with a view toward long-term ownership, performance, profitability and operations. Invenergy has built its core competencies around power plant operations and maintenance (“O&M”). Invenergy operates its power plant fleet through the wholly owned subsidiary, Invenergy Services. Invenergy Services is staffed with experienced industry personnel and currently operates more than 19,000 MW of natural gas and renewable generating capacity in North America. Combining asset management, operations, maintenance, and commercial execution functions allows Invenergy Services to provide a single, comprehensive solution to overall management of the asset.

Invenergy is committed to developing positive relationships with communities where projects are located. Invenergy has hired approximately 70% of O&M personnel locally and has given back to the community through contributions of volunteer time and charitable donations to local organizations and events.

Invenergy operates the entire renewable energy portfolio from a state-of-the-art Invenergy Control Center (“ICC”) located in Chicago. The ICC runs 24 hours a day, seven days a week to maintain the fleet at its high availability. This centralized location manages the monitoring, dispatch and control of the Company’s North American wind, solar and battery storage generation facilities. The ICC has enabled Invenergy Services to improve year over year by maintaining constant communication between generation facilities, power markets, off-takers and transmission providers as required in real-time as well as for future planning as regulatory and market requirements demand.

Invenergy Services adheres to a preventative maintenance philosophy consisting of four parts:

- Inspection: Scheduled observation of equipment to record operating conditions using a time-preventative work order system.
- Data Recording: Registering the inspection information to a relational database to be used for historical analysis and performance trending.
- Prediction: Decisions regarding repair/replacement of equipment or parts are more accurately determined due to an increased awareness of operating conditions.
- Action: Allowing the site to take actions that are necessary to accomplish goals based on the inspection, data recording and prediction.

For solar, a preventative maintenance schedule has been developed internally to help ensure all components of the solar facility are operating efficiently. Invenergy Services performs maintenance in the required intervals. For the panels and racks, this includes inspections on the panels, harnesses, racks, combiner boxes and even the property. For the inverters, operational checks of specific components are checked on routine maintenance, and physical inspections of the interior components are checked when the project is de-energized.

5.0
Decommissioning

At the end of commercial operation, the Project will be decommissioned and solar arrays and associated facilities will be removed in accordance with the County's Solar Energy Ordinance and the requirements of the Agricultural Impact Mitigation Agreement (AIMA) with the Illinois Department of Agriculture. The Project previously entered into an AIMA and is coordinating with the Department of Agriculture to update the document to accommodate the new footprint. Hickory Point Solar is required by State law to enter into the AIMA.

Pursuant to the County's Solar Energy Ordinance, the Project will present a decommissioning plan **(Exhibit 13 – Decommissioning Plan)** and financial security for review and acceptance by the County Board prior to the issuance of a building permit. The financial security will provide sufficient funds for the County's use to decommission the Project, in the highly implausible event that it is necessary for the County to take action itself to decommission the Project.

Decommissioning of the Project at the end of its useful life would include removing the solar arrays, inverters, transformers, above-ground portions of the electrical collection system, fencing access roads and lighting from the Project Area. The substation and the O&M facility might be sold or decommissioned. Standard decommissioning practices will be utilized, including dismantling and repurposing, salvaging/recycling, or disposing of the solar energy improvements, followed by restoration of the site. This includes de-compacting agricultural lands where necessary and adding topsoil, if required, to improve nutrient content of the existing soil for agricultural purposes.

6.0
Compliance

6.1
Compliance with Christian County Ordinance for Solar Energy Facilities

Requirement	Section	Addressed in Application
Proposed ingress and egress	(c)	Exhibit 1: Site Plan
Proximity to transmission lines to link the system to the electric power grid	(d)	Exhibit 2: Existing Conditions
Number of solar panels and their location	(e)	Exhibit 1: Site Plan
Location of other energy systems in surrounding area.	(g)	Exhibit 2: Existing Conditions
Surrounding topography.	(h)	Exhibit 2: Existing Conditions
Proximity to residential structures, residential zoning districts, or areas identified for future residential use.	(i)	Exhibit 1: Site Plan, Exhibit 2: Existing Conditions
Design characteristics that may reduce or eliminate visual obtrusiveness.	(j)	Section 2.4.9: Landscaping Screening & Ground Cover, Exhibit 8: Solar Screening Plan
Possible adverse effects on animals and wildlife.	(k)	Exhibit 4: Site Characterization Study, Exhibit 5: Wetland and Waterbody Delineation Report, Exhibit 6: EcoCAT
Possible adverse effects of stray voltage, interference with broadcast signals, and noise.	(l)	Section 3.4.7: Stray Voltage
Impact on the orderly development, property values, and aesthetic conditions within the county.	(m)	Exhibit 11: Property Value Assessment
Map of surface drainage patterns.	(n)	Exhibit 3: Hydrology Report

Drainage tile map.	(o)	Exhibit 12: Drainage Tile Maps
All state drainage laws must be followed.	(p)	Section 2.4.8: Drain Tile
Any other factors relevant to proposed system.	(q)	n/a
Recommendations of any aggrieved parties that may be affected by the solar energy facility.	(1)	Section 2.6.2: Notification and Neighbor Communication. *The Project will meet all County requirements and will not aggrieve any party.*
If any damage is done to any existing field tile with installation of panels or fencing, it is to be repaired immediately.	(2)	Section 2.4.8: Drain Tile
There would be a weed control plan for inside and outside of the fenced-in property.	(3)	Section 2.4.9: Landscaping Screening & Ground Cover, Exhibit 7: Vegetation Establishment & Management Plan

6.2
Compliance with Christian County Special Use Standards

Section 1-11-23(A): Whether the proposed design, location, and manner of operation of the proposed special use will adequately protect the public health, safety and welfare, and the physical environment.

As mentioned, the Project previously received approval from the Christian County Board. The Project is designed and will meet all of the requirements of the Christian County Solar Energy Ordinance and the Christian County Zoning Ordinance. The Project is located in an agricultural area, and the Project area is surrounded by other agricultural uses with some scattered residential uses. This area is appropriate for a utility-scale solar energy project. The Project will not produce significant noise and will not produce fumes or other emissions. The solar panels absorb the sun's rays and do not create harmful glare. The Project operations require only periodic maintenance and will not create any traffic burdens on the surrounding roadways. The site will be secured with fencing and a gate. The environmental studies completed for the Project demonstrate that there will be no negative impact upon wildlife or environmentally sensitive areas.

The solar panels do not contain toxic materials and are primarily composed of glass and aluminum or steel. After the Project life is completed, the Project will be decommissioned and the land restored for future agricultural use. Accordingly, the Project satisfies Standard A for a special use.

Section 1-11-23(B): The effect the proposed special use would have on the value of neighboring properties and on the County's overall tax base.

The Project will not have any detrimental effect upon the value of neighboring properties. The Project has a low visual profile, and incorporates landscape buffering at appropriate locations around the Project area. The Project will produce very little noise emission during operations. The noise will not be audible from nearby residential properties. The Project does not produce any harmful glare or other negative impacts. Accordingly, the Project will not have any negative impact on the value of neighboring properties. Pursuant to the economic impact report submitted with the application, the Project will yield substantial property tax and economic benefits to the County and will greatly increase the assessed value of the subject property above its current agriculture assessment. Accordingly, the Project satisfies Standard B for a special use.

Section 1-11-23(C): Whether there are any facilities near the proposed special use (e.g., schools, hospitals, etc.) that require special protection or consideration.

The Project will meet the setback requirements and other standards set forth in the County's Solar Energy Ordinance. Due to the low-intensity nature of the project, the Project should not have any impact upon surrounding facilities. The Project does not require any special protection for schools, hospitals and other uses. Accordingly, the Project satisfies Standard C for a special use.

6.3
Applicant's Proposed Conditions for Amended SUP

6.3.1

Notwithstanding any other provision of the Christian County Zoning Ordinance, the Hickory Point Solar Energy Project shall be constructed and operational on or before December 31, 2027, or this SUP shall become null and void.

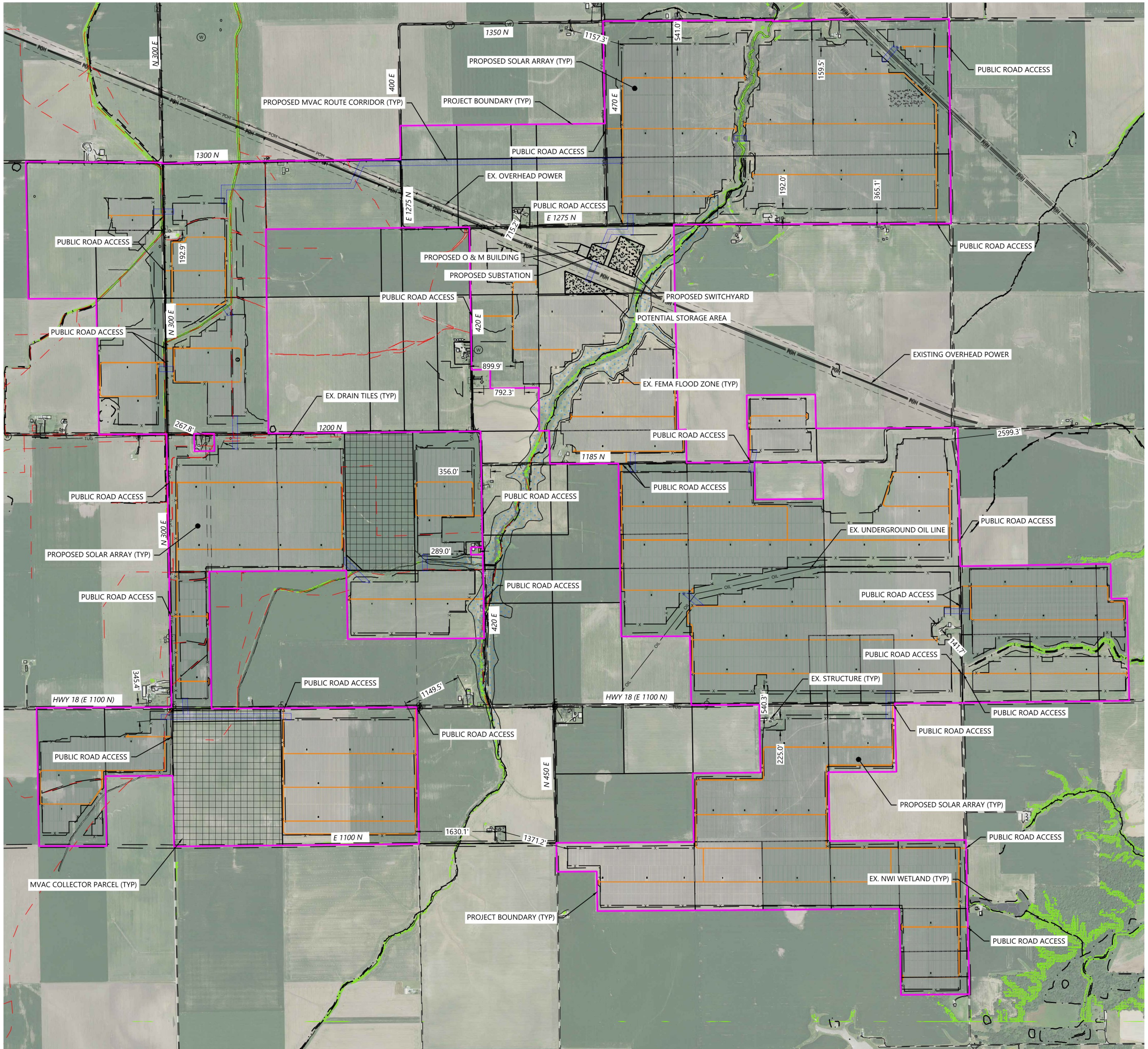
6.3.2

Hickory Point Solar Energy Project may adjust the location of underground electrical collector lines and access roads, so long as such underground collector lines and access roads are installed upon parcels participating in the Hickory Point Solar Energy Project and included in the SUP application, and so long as the access roads are approved by the appropriate road authority.

7.0
Conclusion

Accordingly, as demonstrated above, the Project will comply with all ordinance requirements and Special Use Standards. The Project has also been designed and developed to ensure compatibility with the local environment and neighboring properties. We therefore respectfully request re-approval of a Special Use Permit for Hickory Point Solar.

Exhibit 1:
Site Plan



LEGEND:

- PROJECT BOUNDARY
- SECTION LINES
- RIGHT-OF-WAY LINES
- EASEMENT LINES
- EX. PAVED ROAD
- EX. GRAVEL ROAD
- EX. FENCE
- EX. OVERHEAD POWER
- EX. UNDERGROUND OIL
- EX. DRAIN TILE
- EX. STREAM CHANNEL
- EX. NWI WETLAND
- EX. FEMA FLOOD ZONE
- MVAC COLLECTION PARCEL
- 15%+ SLOPE AVOIDANCE AREAS
- PROPOSED ARRAY BUILDABLE AREA
BUILDABLE AREA = 2,394 AC
- PROPOSED SOLAR ARRAY
- PROPOSED ACCESS ROAD
- PROPOSED SECURITY FENCE
- PROPOSED FACILITIES
- PROPOSED MVAC ROUTE CORRIDOR

0' 1000' 2000' 3000'

Westwood

Phone (608) 821-6600 8401 Greenway Blvd., Suite 400
Middleton, WI 53562
westwoodps.com

Westwood Professional Services, Inc.

Electrical, Civil, Structural & Geotechnical Engineers

PREPARED FOR:

Invenergy

One South Wacker Drive, Suite 1800
Chicago, IL 60606

REVISIONS:

#	DATE	COMMENT	BY	CHK	APR
A	05/10/2023	ISSUED FOR REVIEW	BB	KA	KA

Hickory Point Solar Project

Christian County, Illinois

Preliminary Site Plan

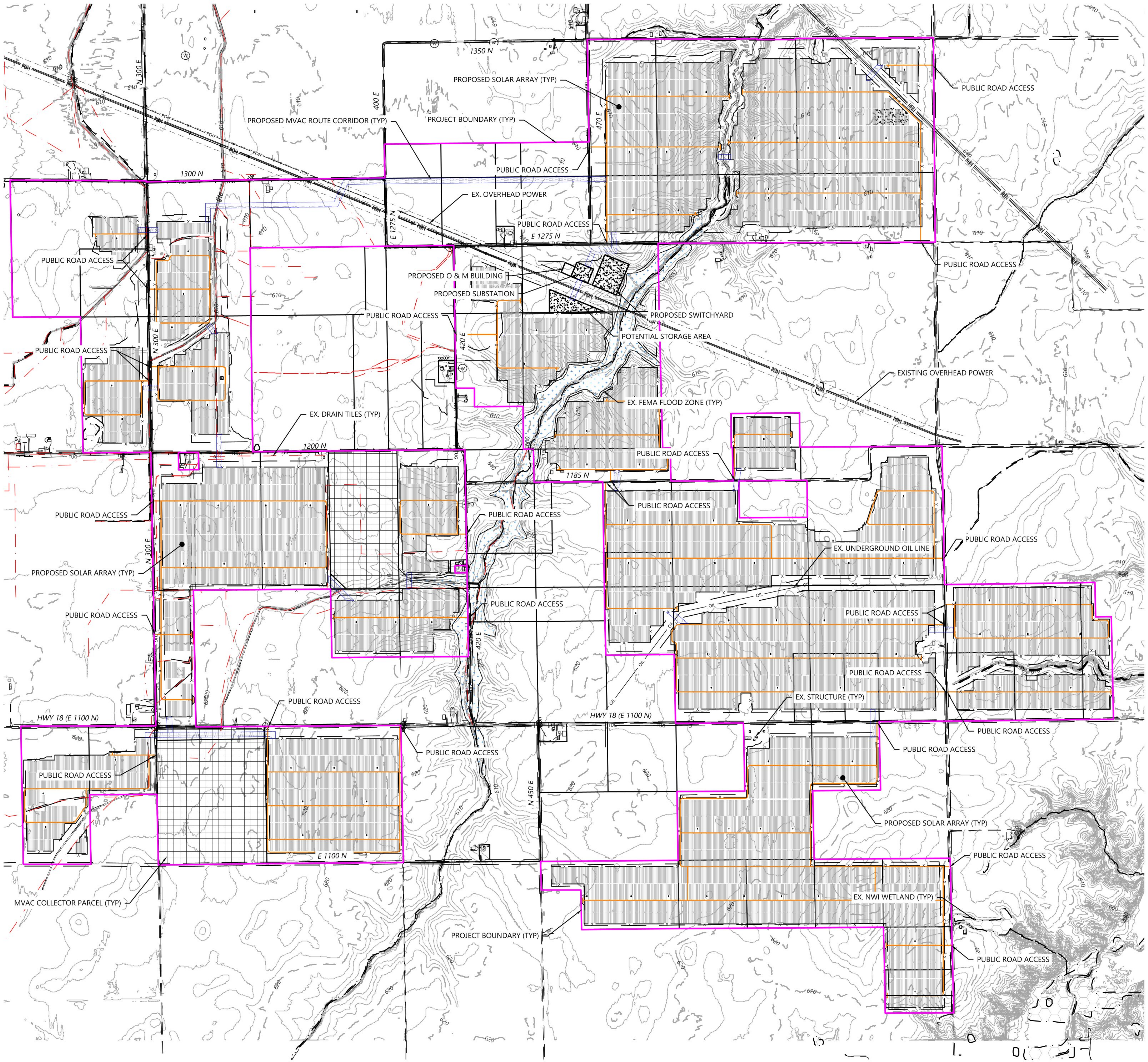
NOT FOR CONSTRUCTION

DATE: 05/10/2023

SHEET: C300

REV: A

Exhibit 2:
Existing Conditions



LEGEND:

- PROJECT BOUNDARY
- SECTION LINES
- RIGHT-OF-WAY LINES
- EASEMENT LINES
- EX. PAVED ROAD
- EX. GRAVEL ROAD
- EX. FENCE
- EX. OVERHEAD POWER
- EX. UNDERGROUND OIL
- EX. DRAIN TILE
- EX. STREAM CHANNEL
- EX. NWI WETLAND
- EX. FEMA FLOOD ZONE
- EX. INDEX CONTOUR
- EX. INTERVAL CONTOUR
- PROPOSED ARRAY BUILDABLE AREA BUILDABLE AREA = 2,394 AC
- PROPOSED SOLAR ARRAY
- PROPOSED ELECTRICAL EQUIPMENT
- PROPOSED ACCESS ROAD
- PROPOSED SECURITY FENCE
- PROPOSED FACILITIES

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Invenergy

One South Wacker Drive, Suite 1800
Chicago, IL 60606

REVISIONS:

#	DATE	COMMENT	BY	CHK	APR
A	05/10/2023	ISSUED FOR REVIEW	BB	KA	KA

Hickory Point Solar Project

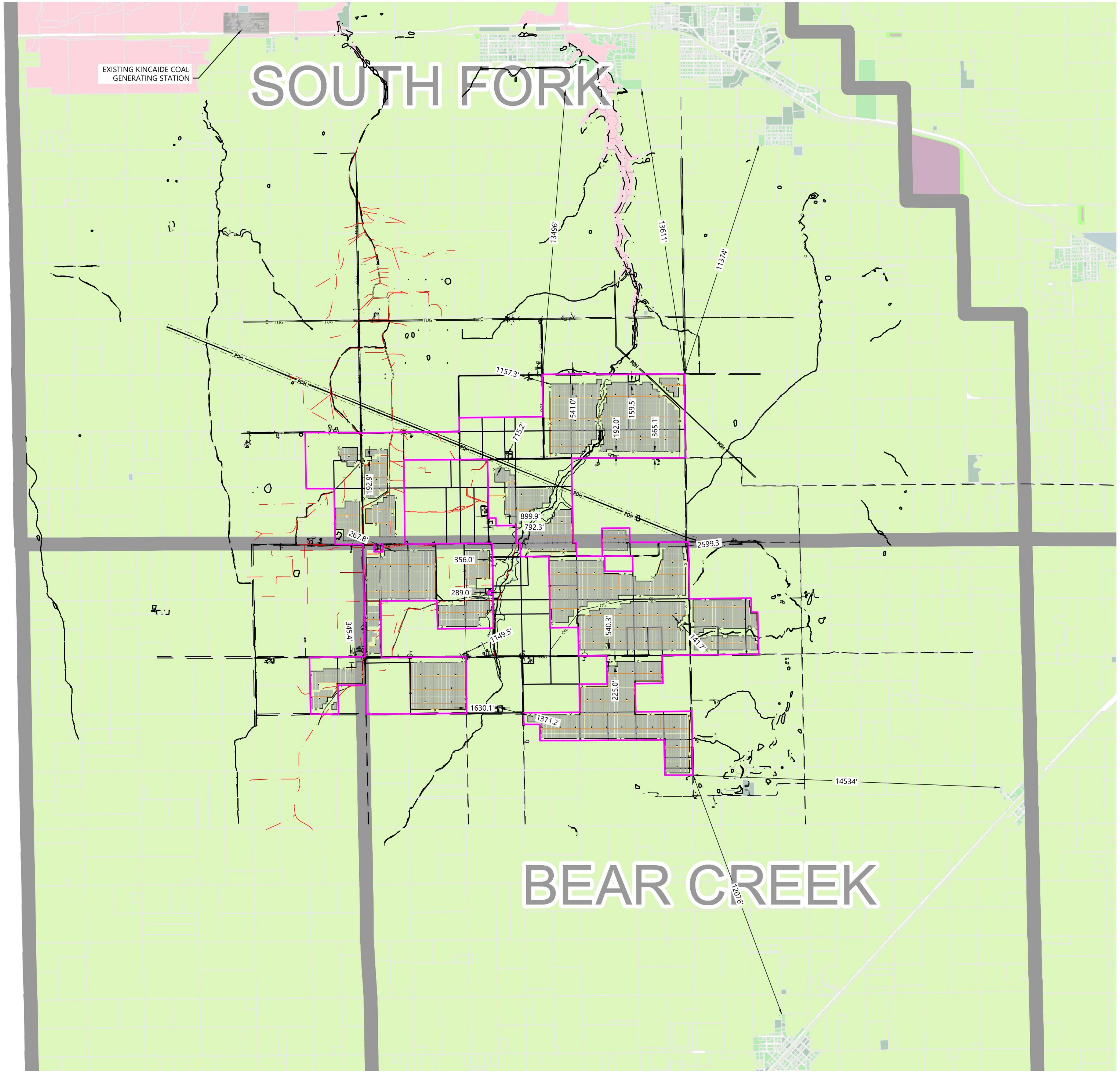
Christian County, Illinois

Overall Topo Plan

NOT FOR CONSTRUCTION

DATE: 05/10/2023

SHEET: C301 REV: A



LEGEND:

PROJECT BOUNDARY
SECTION LINES
RIGHT-OF-WAY LINES
EASEMENT LINES
EX. PAVED ROAD
EX. GRAVEL ROAD
EX. FENCE
EX. OVERHEAD POWER
EX. UNDERGROUND OIL
EX. DRAIN TILE
EX. STREAM CHANNEL
EX. NWI WETLAND
EX. FEMA FLOOD ZONE
PROPOSED SOLAR ARRAY
PROPOSED ELECTRICAL EQUIPMENT
PROPOSED ACCESS ROAD
PROPOSED SECURITY FENCE

*BELOW LEGEND AND ZONING INFORMATION PROVIDED BY OTHERS

Legend

Christian County

Parcel outline

Zoning Type

Not known
AG-1
AG-1 & R-1
AG-2
AG-2 & R-1
C-1
C-1 & C-2
C-1 & I-1
C-1 & R-1
C-1 & R-2
C-2
C-2 & I-2
C-2 & R-1
I-1
I-1 & I-2
I-2
I-3
R-1
R-1 & I-2
R-1 & R-2
R-2
R-3

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One South Wacker Drive, Suite 1800
Chicago, IL 60606

REVISIONS:

#	DATE	COMMENT	BY	CHK	APR
A	05/10/2023	ISSUED FOR REVIEW	BB	KA	KA

0' 2500' 5000' 7500'

Hickory Point Solar Project

Christian County, Illinois

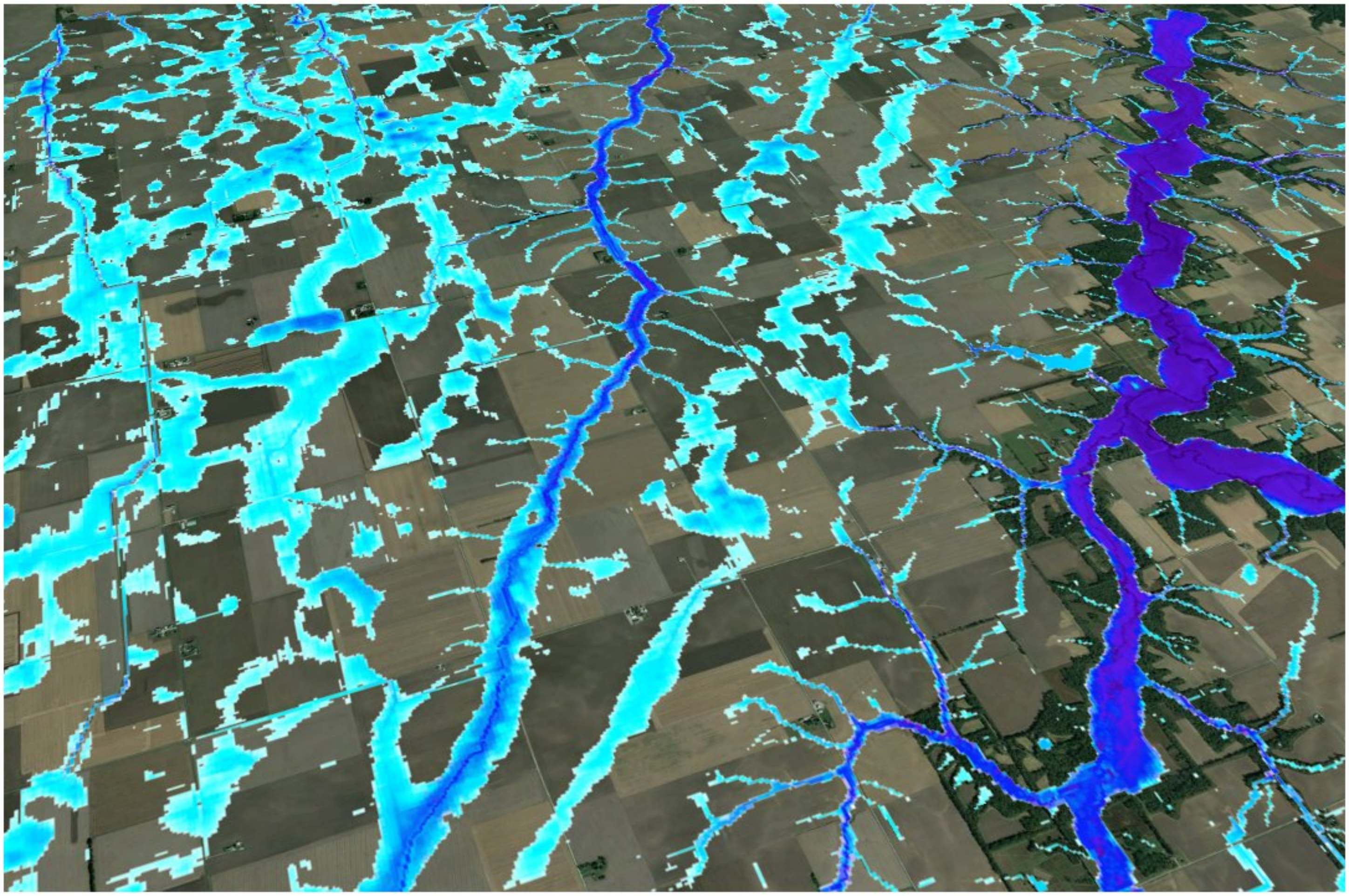
Overall Zoning Plan

NOT FOR CONSTRUCTION

DATE: 05/10/2023

SHEET: C302 REV: A

Exhibit 3:
Hydrology Report



PRELIMINARY HYDROLOGY STUDY

Hickory Point Solar Project

Christian County, Illinois

MARCH 7, 2023

PREPARED FOR:

Invenergy

PREPARED BY:

Westwood

Westwood

Preliminary Hydrology Study

Hickory Point Solar Project

Christian County, Illinois

Prepared For:

Invenergy LLC
One South Wacker Drive, Suite 2000
Chicago, IL 60606

Prepared By:

Westwood
12701 Whitewater Drive, Suite 300
Minnetonka, MN 55343
(952) 937-5150

Project Number: R0042455.00
Date: March 7, 2023
Updated: May 2, 2023

Table of Contents

Tables

Exhibits

Appendices

Executive Summary

The purpose of this study is to analyze and review the existing hydrology of the Hickory Point Solar Project (Project or Site) and any impacts that the hydrology may play in the design of the proposed solar array. This report was prepared to be used by the Project Team in the design and layout of the Project and not intended for submittal to reviewing agencies for stormwater permitting.

The Study Area is proposed on approximately 5,100 acres and the Project Area is approximately 2,000 acres. The Project is located within Christian County, Illinois, approximately 7 miles west of Taylorville, Illinois. The Site is located on relatively flat land that generally slopes to the north. The modeled watershed area encompasses approximately 135 square miles and generally slopes north.

The analysis shows low water depths and low velocities (Exhibits 8 through 7A) across the majority of the Site. Higher flood depths exist within the creeks and their surrounding areas located within and adjacent to the Site. There are also scattered low-lying areas with localized ponding. Minimal velocities and scour are expected on site due to the flat terrain except within and around channelized flow paths where values can be elevated.

Based on experience with similar projects, the majority of the Site is suitable for the planned development by avoiding or designing to areas of high flood depths.

1.0 Data Sources

Table 1 – Data Sources

Task	Format	Source	Use
Elevation	1m DEM	The National Map	FLO-2D Model Elevations
Crop Data	Shapefile	USDA 2021 Cropland Data Layer	Landcover
Soils	Shapefile	USGS SSURGO Dataset	Curve Numbers
Precipitation	PDF File	Atlas 14	Design Storms
HUC-12 Drainage Boundary	Shapefile	USGS	Define Model Extents
Site Boundary	Hickory Max Project Boundary 010423.kmz lamb parcels.kmz	Invenergy LLC	Define Model Extents
2014 Aerial Photography	ArcGIS Map Service	USDA FSA	Reference
FEMA Flood Zones	PDF; Shapefile	FEMA	Reference
Culvert Locating and Sizing	Aerial Imagery	Google Earth	Culvert Modeling

2.0 Coordinate System

Table 2 – Coordinate System Used

Projection	State Plane Coordinate System
Zone	Illinois West (FIPS 1202)
Datum	NAD83
Planar Units	Feet (U.S. Survey)

3.0 Existing Conditions

3.1 Project Location

The Study Area covers approximately 5,100 acres and is located within Christian County, Illinois (Exhibit 1). The Project Site is located approximately 20 miles southeast of Springfield, Illinois, and is located near Taylorville, Illinois. Taylorville is located 7 miles east of the Project Area (Exhibit 1).

3.2 Watershed Hydrology

The modeled watershed area encompasses approximately 135 square miles that generally slopes to the north. The modeled watershed contains Bear Creek that flows north to the east of the project area. Bear creek empties into South Fork Sangamon River that is directly adjacent to the east of the modeled watershed. Clear Creek flows north through the middle of the modeled watershed through the project boundary.

3.3 Onsite Conditions

The Project is located on Town of Tovey-Clear Creek, Panther Creek-South Fork Sangamon River, Trulock Lake-Bear Creek, Trulock Lake-Bear Creek HUC-12 boundaries. The Site generally drains north with Clear Creek flowing north through the center. The Site also has several unnamed ditches throughout it that either drain to the north of the Project or drain into Clear Creek. In general, the Site is relatively flat with slopes of less than 0.5% though there are locations especially within and around creeks where the slopes can exceed 3%.

US Fish and Wildlife Service National Wetlands Inventory (NWI Wetlands) provides information on the distribution of US wetlands and are shown in Exhibit 2. The NWI Wetlands dataset is not all-inclusive and other wetlands not shown may exist. The landcover on the Project area is primarily cultivated (Exhibit 4) and has soils that are primarily belonging to dual Hydrologic Soil Group (HSG) C/D (Exhibit 3). Dual Hydrologic Soil Group C/D behaves as a C soil when drained and a D soil when undrained. Soils belonging to Hydrologic Soil Group D exhibit very low infiltration rates; therefore, standing water will be slow to infiltrate during and after storm events when compared to soils belonging to Hydrologic Soil Groups A, B, or C.

The main potential hydrologic issues on Site are flooding and erosive velocities.

3.4 FEMA Flood Zones

FEMA has completed a study to determine flood hazards for the selected location; the project area is covered by FIRM panels 17021C0250D and 17021C0375D (Appendix C). The Project contains areas of FEMA Zone A flood hazards (Exhibits 2 and 6). FEMA Zone A is situated around Clear Creek within the middle of the

Project boundary. A FEMA Zone A flood hazard is a 100-year flood hazard with no defined base flood elevation. No preliminary or pending FEMA changes are proposed within the project area.

4.0 Proposed Conditions

4.1 Proposed Conditions

The majority of the proposed solar facility will consist of above ground mounted solar modules. A small amount of impervious surface will be added from the gravel access roads and electrical equipment pads. The Project should be designed to minimize grading and maintain existing drainage patterns. A flood analysis of pre-development and post development depths may need to be completed once civil design is finalized for permitting purposes.

4.2 Post-Construction Stormwater Management

A desktop review of Christian County Stormwater Management and Drainage Requirements did not reveal any solar-specific regional or county requirements. The Project therefore should comply with all state stormwater management requirements, as applicable. As the Project design progresses, local stormwater management requirements should be reviewed to confirm that all applicable requirements have been identified and met.

The typical solar project's low-impact development technique of converting the land cover from a row crop field to a meadow grass will provide post-construction stormwater management to meet most agency requirements. The proposed meadow grass will act as a vegetated filter providing both runoff treatment and reduction when compared to existing conditions. As the Project design advances, the post-construction stormwater management should be reviewed in further detail with the County Engineer.

5.0 FLO-2D Modeling

5.1 FLO-2D Modeling Overview

FLO-2D is a physical process model that routes rainfall runoff and flood hydrographs over flow surfaces or in channels using the dynamic wave approximation to the momentum equation. FLO-2D offers advantages over 1-D models and unit hydrograph methods by allowing for breakout flows and visualization of flows across a potential site. The primary inputs are a DTM (elevation data), curve numbers, and precipitation. Major culverts impacting the site were modeled based on aerial imagery provided by Google Earth (Exhibit 6).

A FLO-2D model with 50-foot grid cells was utilized to model the watershed within and directly impacting the Project Site.

5.2 Elevation Data

The elevation data input into the FLO-2D model was 1m DEM data from The National Map (Exhibit 5). This data was exported as a single digital terrain model (DTM), which is read directly into FLO-2D.

5.3 Watershed Soils and Land Cover

USDA-NRCS SSURGO soil data provides soil types within the Project boundary and full coverage of the contributing watershed. Soils are primarily classified as dual Hydrologic Soil Group (HSG) C/D within the Project boundary (Exhibit 3). Land cover was obtained from the USDA 2021 Cropland Data Layer. Exhibit 4 displays the land cover classes for the entire watershed. Curve numbers were applied to each grid cell in the FLO-2D model based on intersecting the grid with the curve numbers (Exhibit 5).

5.4 Precipitation

Precipitation data was downloaded from Atlas 14 (Appendix A) and used for the FLO-2D analysis for the 100-Year, 24-Hour storm event. Using the 100-Year rainfall depth of 6.49 inches for this location allows for the best initial analysis in order to determine the worst areas of flooding and erosion. Rainfall inputs were distributed based on a site-specific nested Atlas 14 distribution pattern.

6.0 Flood Analysis Results

6.1 Existing Conditions Flood Analysis

The analysis shows low water depths and low velocities (Exhibits 6 through 7A) across the majority of the Site. During a 100-year storm, the flood depths across the majority of the Project Area are less than 0.5 feet with velocities less than 1 foot/second, with the exception of within creeks and ditches where the depths can exceed 4 feet. Areas along and within Clear Creek can also see elevated velocities during the storm event. Due to the presence of C/D soils, standing water will be slow to infiltrate and may remain on site for extended durations during and following storm events. There are also scattered low lying areas that can have shallow flooding occur. See Table 3 below for a breakdown of flood depths within the Project Site.

Table 3 – Flood Depths Onsite

Peak Flow Depth (ft)	Percentage of Project Area Covered by Peak Flow Depths
0.00 - 0.49	67.5%
0.50 - 1.00	17.4%
1.01 - 1.50	9.1%
1.51 - 2.00	2.8%
2.01 - 2.50	1.2%
2.51 - 3.00	0.6%
3.01 - 4.00	0.8%
4.01 - 6.00	0.5%
6.01+	0.1%

See Exhibits 6 through 7A for areas within the Project with higher flood depths and velocities.

6.2 Scour

Minimal scour is expected onsite, however higher scour values can be seen within and along Clear Creek (Exhibit 8). The scour depths calculated for this Project are based on HEC-18 Pier Scour Equations of a 6-inch-wide pile perpendicular to flow. Scour calculations consist of local scour only with unarmored soils and pile bases to provide the conservative local scour results. These scour results do not account for general, rill, or gully scour.

7.0 Recommendations

Based on experience on similar projects, the Site is suitable for the planned development and hydrologic concerns can be addressed by either avoiding areas of high flood depths or through detailed engineering design.

8.0 Next Steps

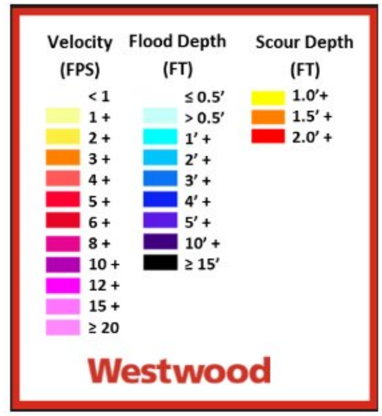
1. Final engineering design should account for the flood depths and velocities presented in Exhibits 6-7A.
2. Facilities to be elevated 1’ above the 100-year, 24-hour peak flood elevations.
3. Proposed facilities should avoid FEMA Flood Zones located onsite.
4. Stormwater management should be revisited to ensure the final design meets the local and state requirements.

9.0 Included Output Files

1. *Shapefile of 100-Year Rain Event Flow Depth*
   2023-03-07_HickoryPoint_PrelimFlowDepthatCell_100yr.shp
   Attribute "ID" = Grid Cell Number
   Attribute "VAR" = Max Flow Depth (Feet)

2. *Shapefile of 100-Year Rain Event Velocity*
   2023-03-07_ HickoryPoint_PrelimVelocityatCell_100yr.shp
   Attribute "ID" = Grid Cell Number
   Attribute "VAR" = Max Velocity (Feet)

3. *KMZ of FLO-2D Results*
   2023-03-07_ HickoryPoint_PrelimFLO-2D.kmz
   Overlay in Google Earth for graphical representation.



10.0 References Cited

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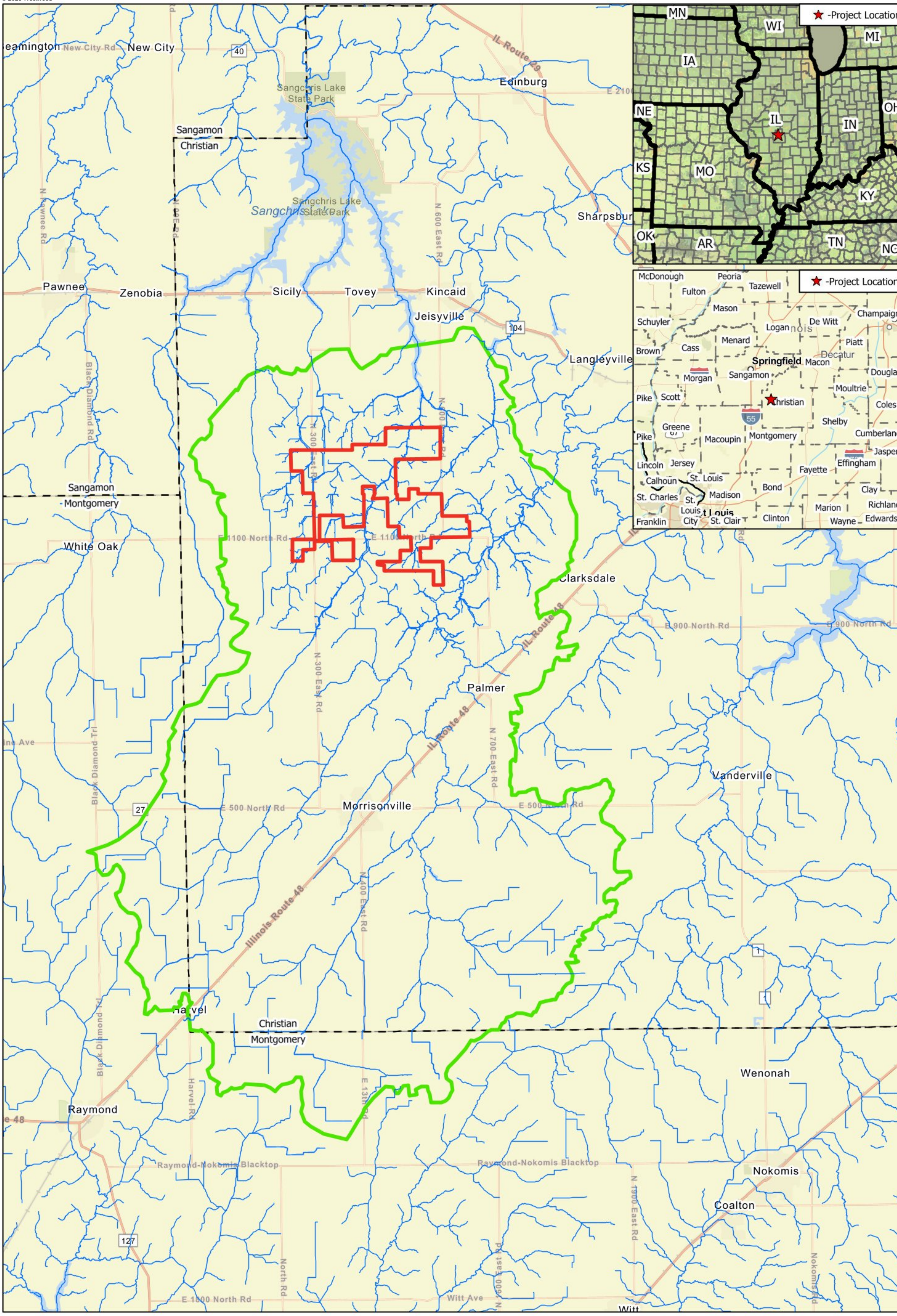
USDA 2021 Cropland Data Layer, Landcover data, retrieved March 2023, from https://www.nass.usda.gov/Research_and_Science/Cropland/Release/

FEMA Flood Insurance Rate Maps, retrieved March 2023, from https://msc.fema.gov/portal/advanceSearch#searchresultsanchor

Exhibits

N:\0042455.00_GIS\R0042455.00_HydroExhibits_2023-02-14\2023-02-14_AuburnSolarProject\2023-02-14_AuburnSolarProject.aprx
01-Location Map - Location Map | 5/2/2023 12:05 PM | ZJMaier



Data Source(s): Westwood (2023); Esri WMS Basemap Imagery (Accessed 2023); USGS (2023); FEMA (2023); USDA (2023)

Legend

- Project Area
- FLO-2D Model Boundary
- County Boundary
- Flow Paths

Westwood

Toll Free (888) 937-5150 westwoodps.com

N

0 2 Miles

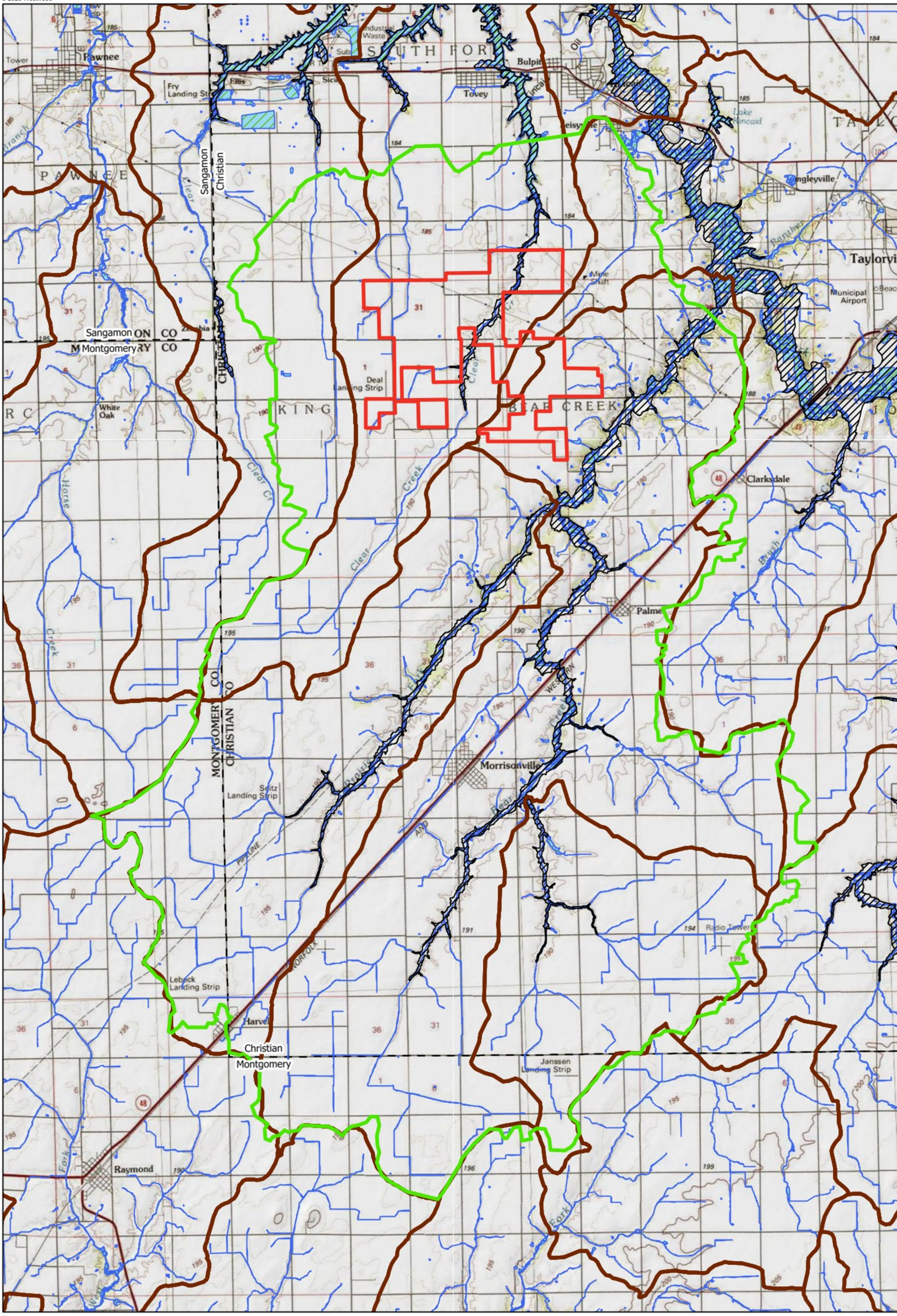
Hickory Point Solar Project

Christian County, Illinois

Exhibit 1: Location Map

March 7, 2023

N:\0042455.00_GIS\R0042455.00_HydroExhibits_2023-02-14\2023-02-14_AuburnSolarProject\2023-02-14_AuburnSolarProject.aprx
02-Base Hydrologic Map - USGS, FEMA, and NWI Wetlands Map | 5/2/2023 12:06 PM | ZJMaier



Data Source(s): Westwood (2023); Esri WMS Basemap Imagery (Accessed 2023); USGS (2023); FEMA (2023); USDA (2023)

Legend

- Project Area
- FLO-2D Model Boundary
- HUC-12 Boundary
- County Boundary
- FEMA Zone A
- FEMA Zone AE
- NWI Wetlands
- NHD Flowlines

N

0 — 1.5 Miles

Westwood

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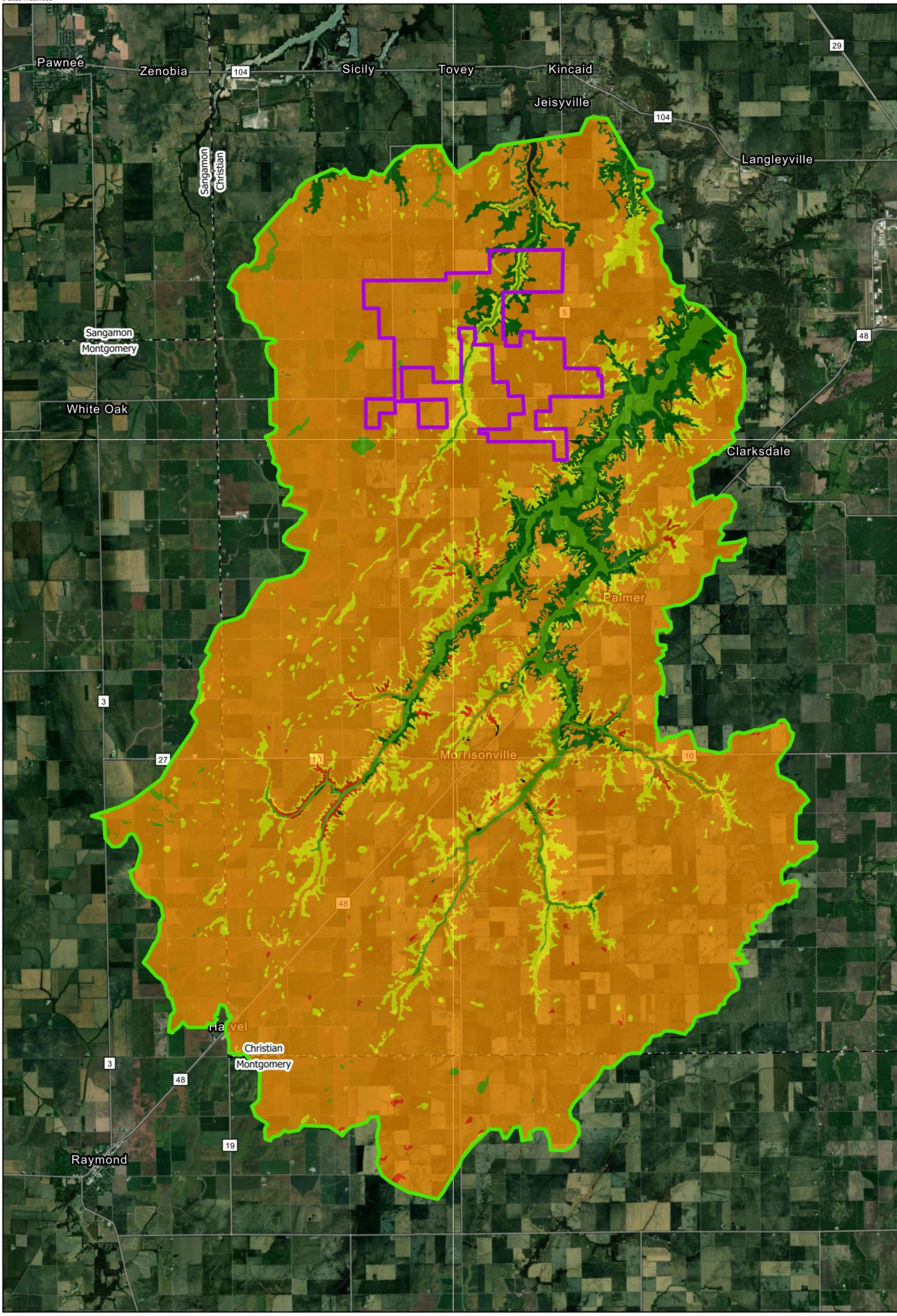
Hickory Point Solar Project

Christian County, Illinois

Exhibit 2: Base Hydrologic Map

March 7, 2023

N:\0042455.00_GIS\R0042455.00_HydroExhibits_2023-02-14\2023-02-14_AuburnSolarProject\2023-02-14_AuburnSolarProject.aprx
03-Soils Map - Soils Map | 5/2/2023 12:07 PM | ZJMaier



Data Source(s): Westwood (2023); Esri WMS Basemap Imagery (Accessed 2023); USGS (2023); FEMA (2023); USDA (2023)

Legend

- Project Area
- FLO-2D Model Boundary
- County Boundary

Hydrologic Soil Group

- B
- B/D
- C
- C/D
- D

Westwood

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N

0 1.5 Miles

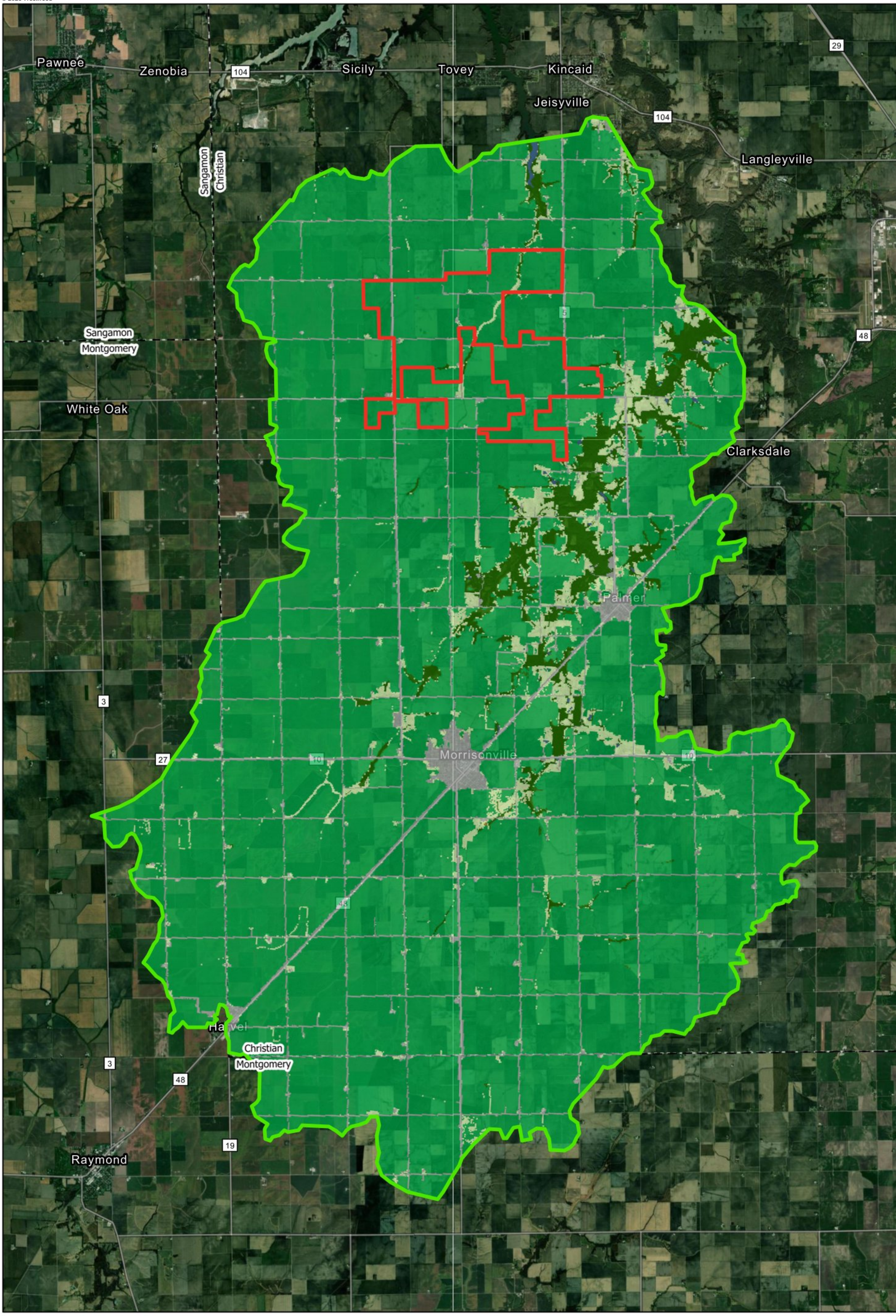
Hickory Point Solar Project

Christian County, Illinois

Exhibit 3: Soils Map

March 7, 2023

N:\0042455.00_GIS\R0042455.00_HydroExhibits_2023-02-14\2023-02-14_AuburnSolarProject\2023-02-14_AuburnSolarProject.aprx
04-Landcover Map - Landcover | 5/2/2023 12:07 PM | ZJMaier



Data Source(s): Westwood (2023); Esri WMS Basemap Imagery (Accessed 2023); USGS (2023); FEMA (2023); USDA (2023)

Westwood

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Legend

- Project Area
- FLO-2D Model Boundary
- County Boundary

Landcover

- Barren
- Cultivated
- Developed
- Woods
- Pastureland
- Water

N

0 1.5 Miles

Hickory Point Solar Project

Christian County, Illinois

Exhibit 4: Landcover Map

March 7, 2023

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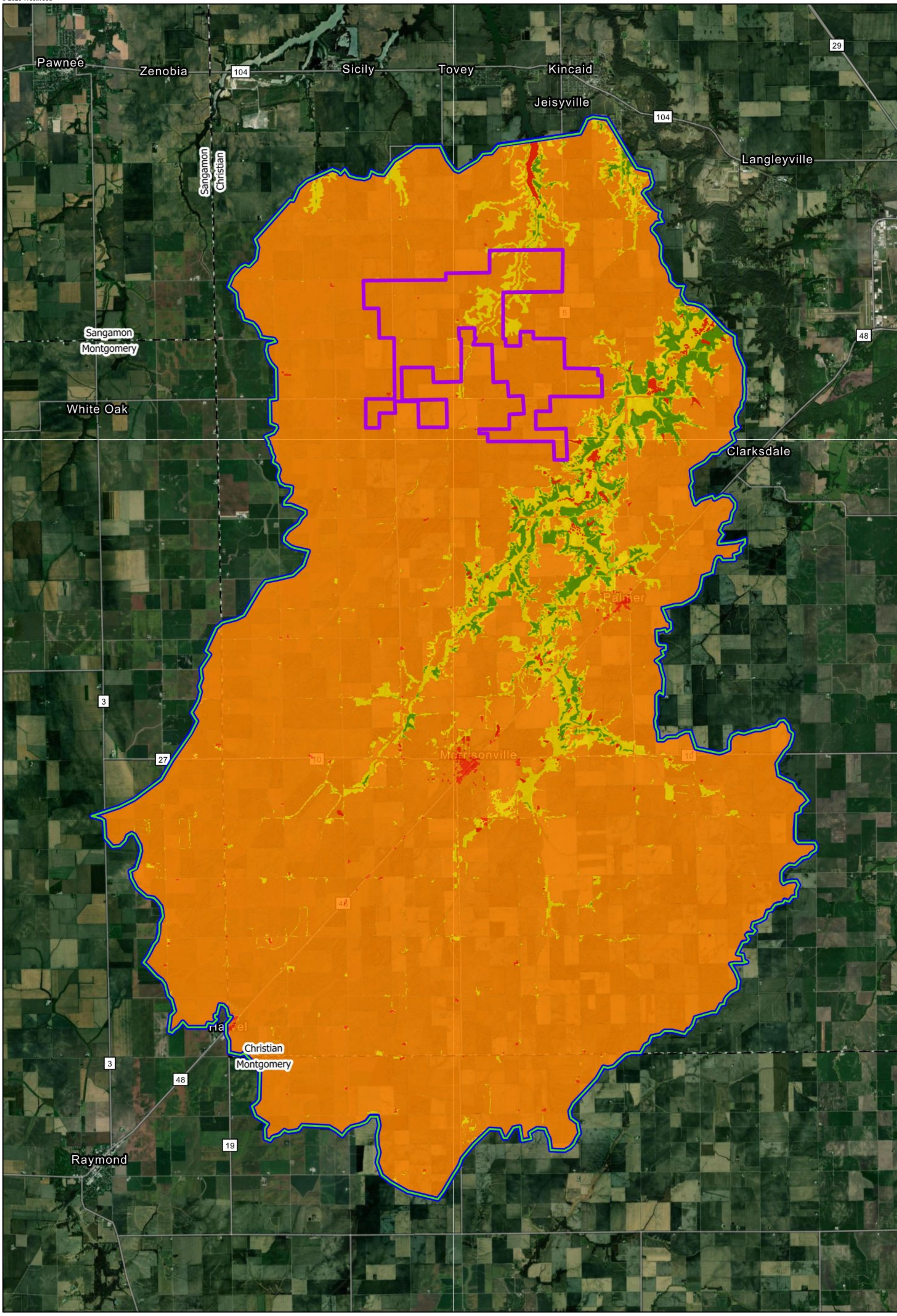
05-CN And Topo Sources - CN and Topo Sources | 5/2/2023 12:07 PM | ZJMaier



Data Source(s): Westwood (2023); Esri WMS Basemap Imagery (Accessed 2023); USGS (2023); FEMA (2023); USDA (2023)

Westwood

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Legend

- Project Area
- FLO-2D Model Boundary
- 1-meter Topography
- County Boundary

Curve Number

- 40 - 49
- 50 - 59
- 60 - 69
- 70 - 79
- 80 - 89
- 90 - 99

N

0 1.5 Miles

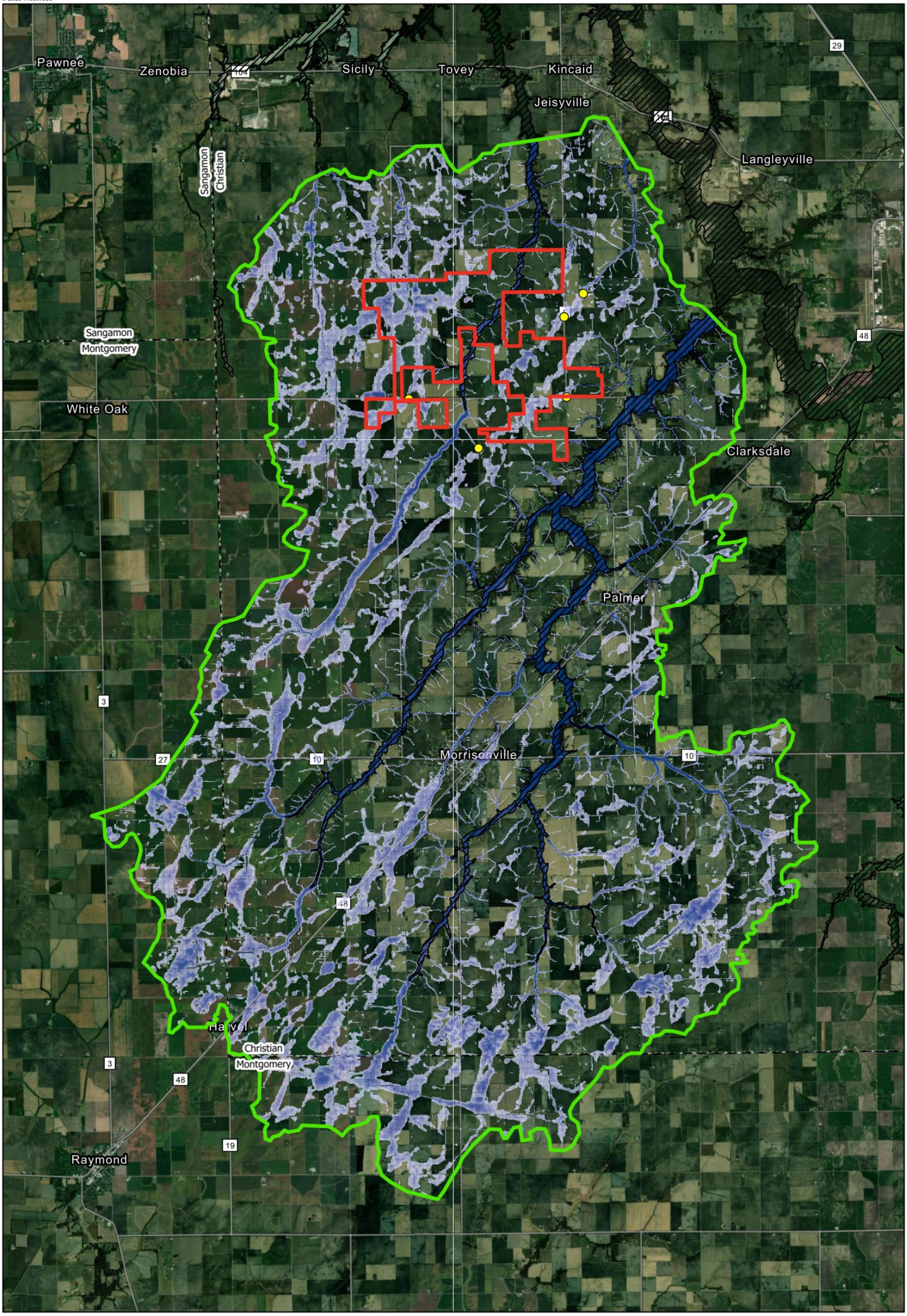
Hickory Point Solar Project

Christian County, Illinois

Exhibit 5: Curve Number and Topographic Source Map

March 7, 2023

N:\0042455.00_GIS\R0042455.00_HydroExhibits_2023-02-14\2023-02-14_AuburnSolarProject\2023-02-14_AuburnSolarProject.aprx
06-100 Yr Max Water Depth Map - 100 Yr Max Water Depth | 5/2/2023 12:08 PM | ZJMaier



Data Source(s): Westwood (2023); Esri WMS Basemap Imagery (Accessed 2023); USGS (2023); FEMA (2023); USDA (2023)

Westwood

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Legend

Project Area
FLO-2D Model Boundary
County Boundary
Modeled Culverts
FEMA Zone A
FEMA Zone AE

Max Water Depth (ft)

0.50 - 1.00
1.01 - 1.50
1.51 - 2.00
2.01 - 2.50
2.51 - 3.00
3.01 - 4.00
4.01 - 6.00
6.01 +

N

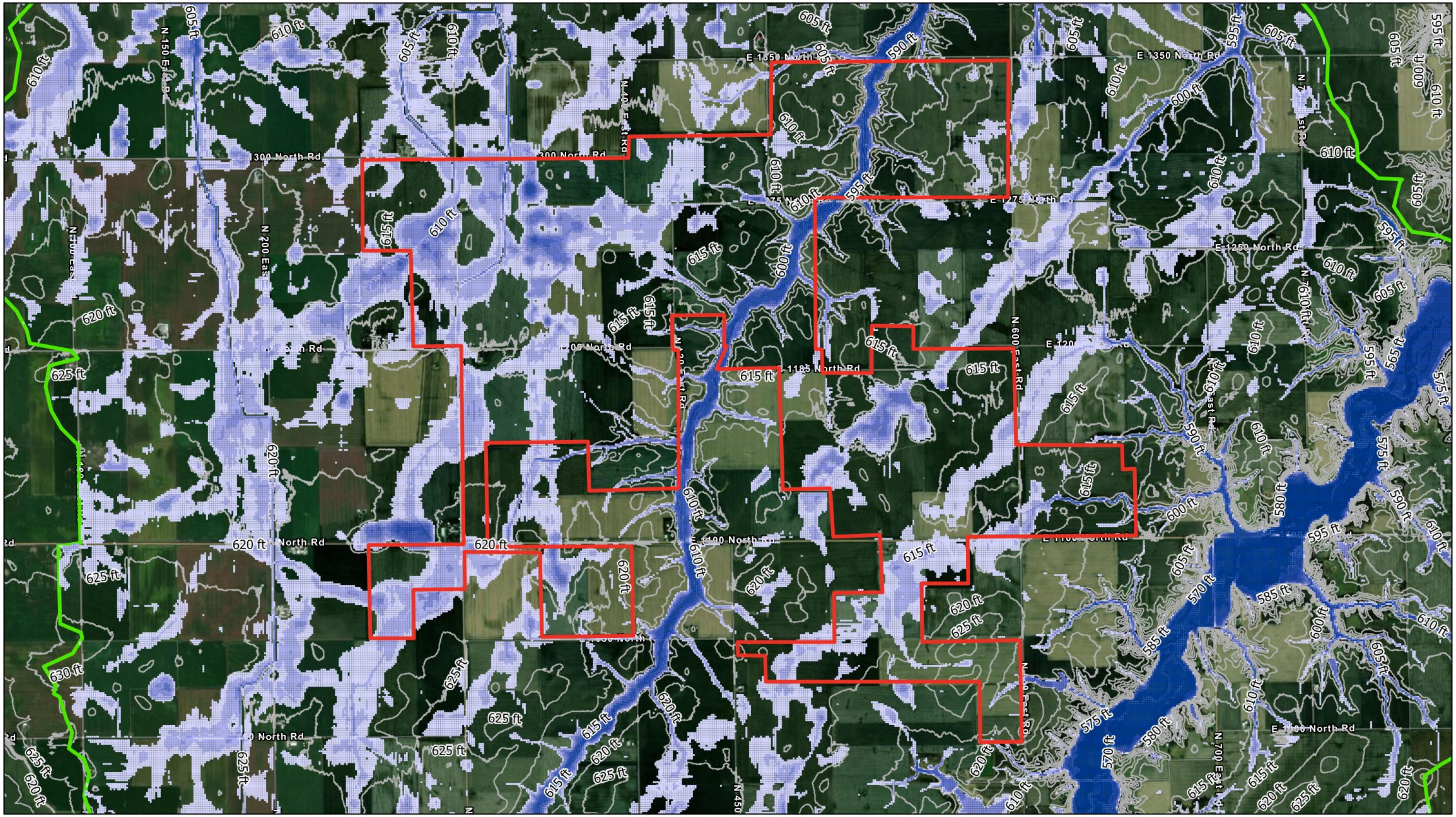
0 1.5 Miles

Hickory Point Solar Project

Christian County, Illinois

Exhibit 6: 100-Year Max Water Depth Map

March 7, 2023



Hickory Point Solar Project

Christian County, Illinois

Exhibit 6A: 100-Year Max Water Depth Project Area Map

March 7, 2023

Legend

- Project Area
- FLO-2D Model Boundary
- County Boundary
- 5-foot Contours

Max Water Depth (ft)

- 0.50 - 1.00
- 1.01 - 1.50
- 1.51 - 2.00
- 2.01 - 2.50
- 2.51 - 3.00
- 3.01 - 4.00
- 4.01 - 6.00
- 6.01 +

N

0 2,500 Feet

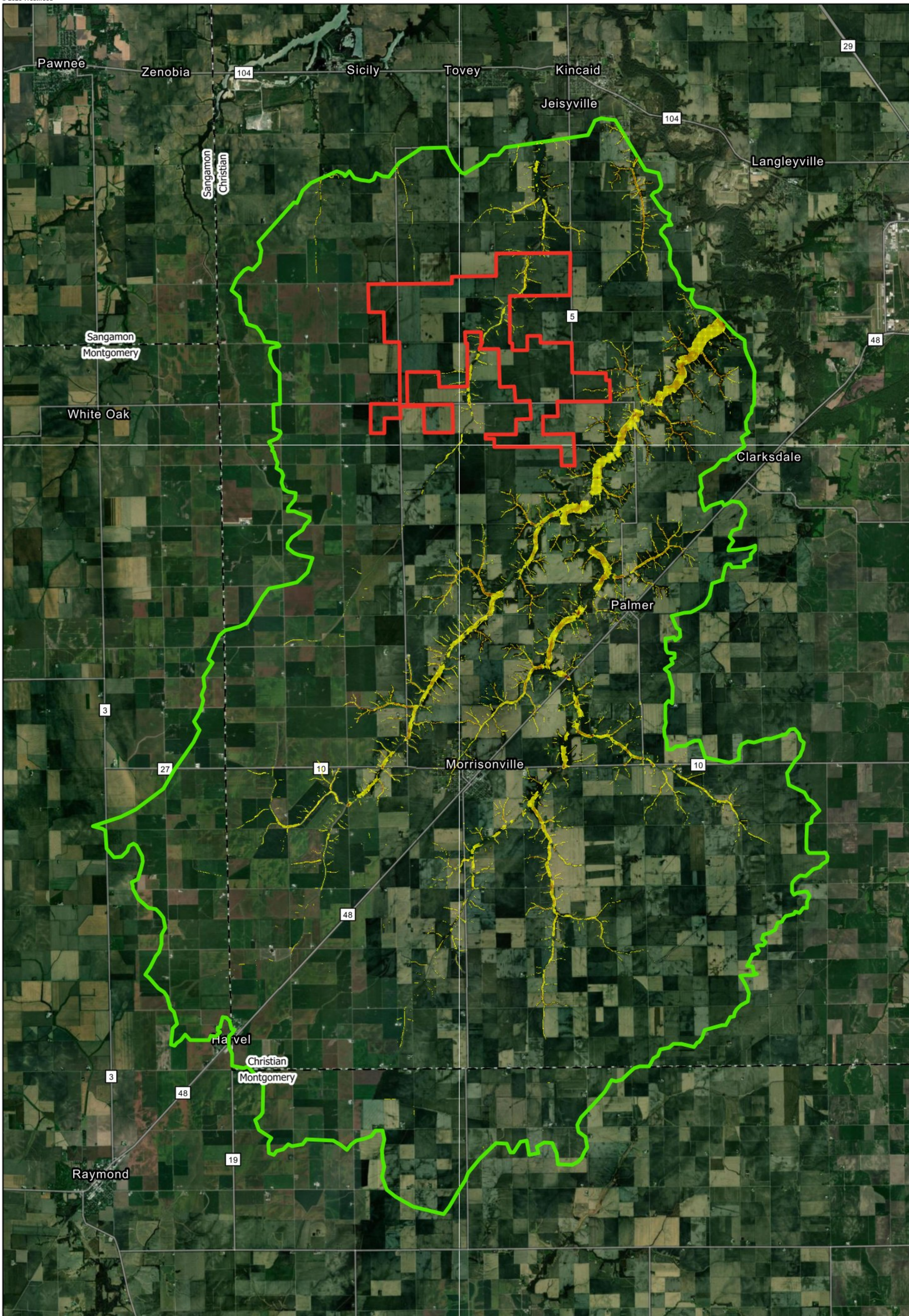
Data Source(s): Westwood (2023); Esri WMS Basemap Imagery (Accessed 2023); USGS (2023); FEMA (2023); USDA (2023)

Westwood

Toll Free (888) 937-5150 westwoodps.com

N:\0042455.00_GIS\R0042455.00_HydroExhibits_2023-02-14\2023-02-14_AuburnSolarProject\2023-02-14_AuburnSolarProject.aprx
06A-100 Yr Max Water Depth Project Area Map - 100 Yr Max Water Depth Project Area | 5/2/2023 12:09 PM | ZJMaier

N:\0042455.00_GIS\R0042455.00_HydroExhibits_2023-02-14\2023-02-14_AuburnSolarProject\2023-02-14_AuburnSolarProject.aprx
07-100 Yr Peak Velocity Map - 100 Yr Peak Velocity | 5/2/2023 12:10 PM | ZJMaier



Data Source(s): Westwood (2023); Esri WMS Basemap Imagery (Accessed 2023); USGS (2023); FEMA (2023); USDA (2023)

Westwood

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Legend

- Project Area
- FLO-2D Model Boundary
- County Boundary

Peak Velocity (fps)

- 1.00 - 1.50
- 1.51 - 2.00
- 2.01 - 2.50
- 2.51 - 3.00
- 3.01 - 4.00
- 4.01 +

N

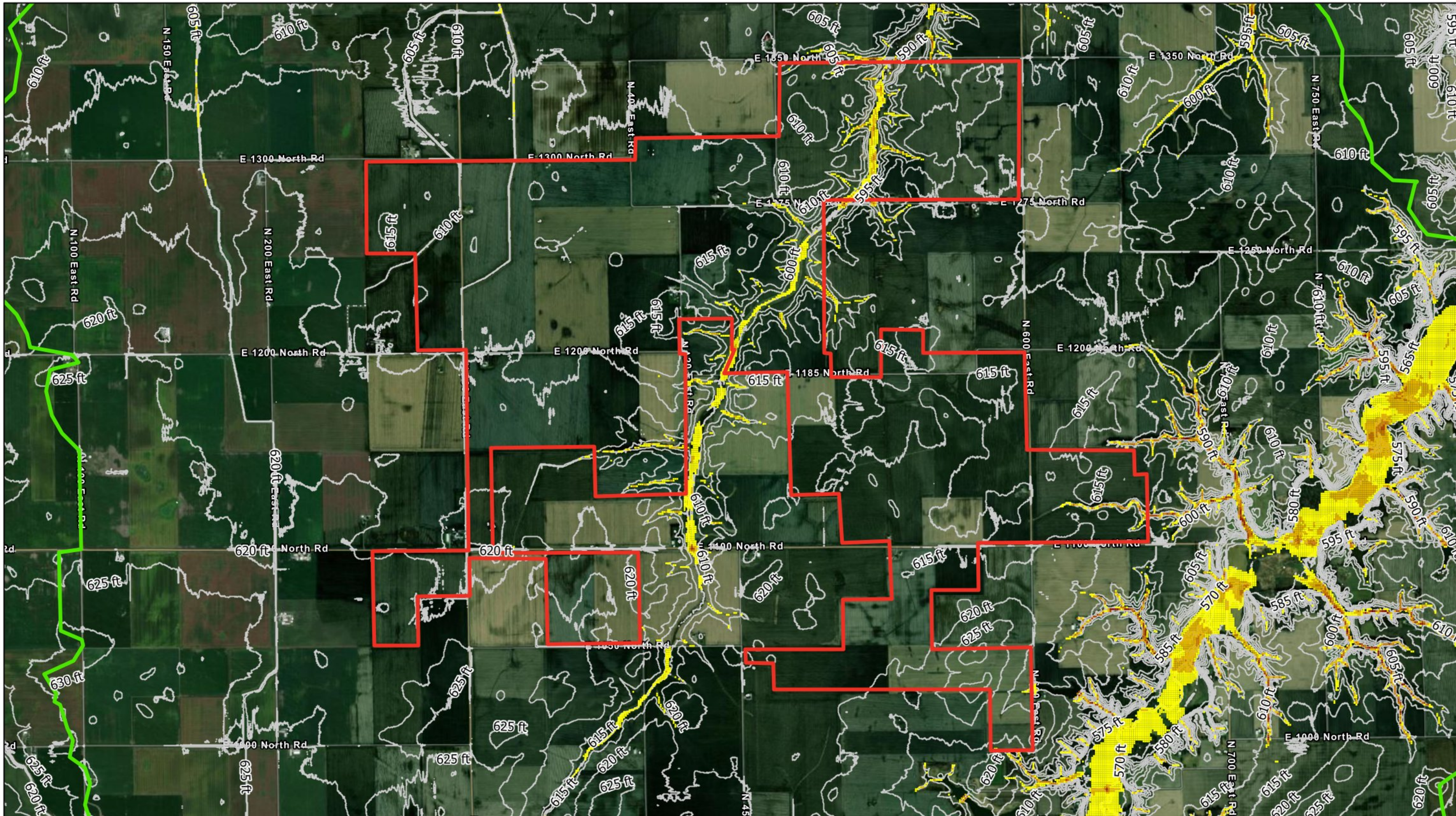
0 1.5 Miles

Hickory Point Solar Project

Christian County, Illinois

Exhibit 7: 100-Year Peak Velocity Map

March 7, 2023



Data Source(s): Westwood (2023); Esri WMS Basemap Imagery (Accessed 2023); USGS (2023); FEMA (2023); USDA (2023)

Westwood

Toll Free (888) 937-5150 westwoodps.com

Legend

- Project Area
- FLO-2D Model Boundary
- County Boundary
- 5-foot Contours

Peak Velocity (fps)

- 1.00 - 1.50
- 1.51 - 2.00
- 2.01 - 2.50
- 2.51 - 3.00
- 3.01 - 4.00
- 4.01 +

N

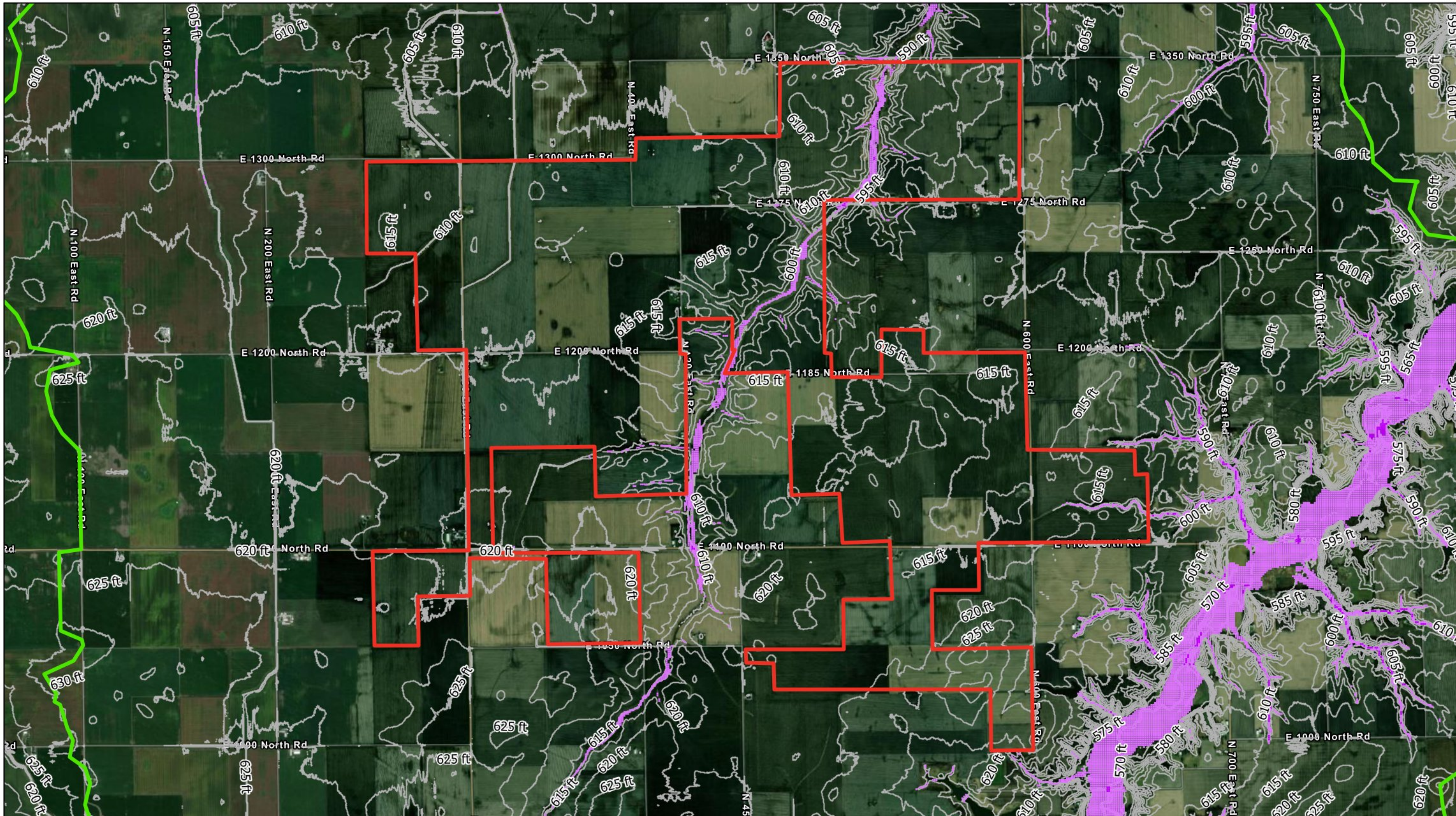
0 2,500 Feet

Hickory Point Solar Project

Christian County, Illinois

Exhibit 7A: 100-Year Peak Velocity Project Area Map

March 7, 2023



Data Source(s): Westwood (2023); Esri WMS Basemap Imagery (Accessed 2023); USGS (2023); FEMA (2023); USDA (2023)

Westwood

Toll Free (888) 937-5150 westwoodps.com

Legend

- Project Area
- FLO-2D Model Boundary
- County Boundary
- 5-foot Contours

Scour (ft)

- 1.00 - 1.50
- 1.51 - 2.00
- 2.01 +

N

0 2,500 Feet

Hickory Point Solar Project

Christian County, Illinois

Exhibit 8: 100-Year Scour Map

March 7, 2023

N:\0042455.00_GIS\R0042455.00_HydroExhibits_2023-02-14\2023-02-14_AuburnSolarProject\2023-02-14_AuburnSolarProject.aprx
08-100 Yr Scour Map - 100 Yr Scour | 5/2/2023 12:11 PM | ZJMaier

Appendix A

Atlas 14 Precipitation Data

NOAA Atlas 14, Volume 2, Version 3
Location name: Morrisonville, Illinois, USA*
Latitude: 39.5289°, Longitude: -89.4496°
Elevation: 609.71 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M.Yekta, and D. Riley

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.402 (0.366-0.443)	0.479 (0.437-0.528)	0.568 (0.519-0.626)	0.640 (0.582-0.704)	0.731 (0.662-0.803)	0.803 (0.725-0.882)	0.874 (0.785-0.960)	0.950 (0.849-1.04)	1.06 (0.936-1.16)	1.14 (1.00-1.25)
10-min	0.625 (0.569-0.689)	0.747 (0.682-0.824)	0.883 (0.806-0.974)	0.988 (0.898-1.09)	1.12 (1.01-1.23)	1.22 (1.10-1.34)	1.32 (1.18-1.45)	1.42 (1.27-1.56)	1.55 (1.38-1.70)	1.65 (1.46-1.82)
15-min	0.766 (0.698-0.844)	0.914 (0.834-1.01)	1.08 (0.989-1.20)	1.22 (1.11-1.34)	1.38 (1.25-1.52)	1.51 (1.36-1.66)	1.64 (1.47-1.80)	1.76 (1.58-1.94)	1.94 (1.72-2.13)	2.07 (1.82-2.27)
30-min	1.01 (0.923-1.12)	1.22 (1.12-1.35)	1.48 (1.36-1.64)	1.69 (1.53-1.86)	1.95 (1.77-2.14)	2.15 (1.94-2.37)	2.36 (2.12-2.59)	2.57 (2.30-2.83)	2.87 (2.54-3.15)	3.10 (2.73-3.41)
60-min	1.24 (1.13-1.36)	1.50 (1.37-1.65)	1.86 (1.70-2.05)	2.15 (1.95-2.36)	2.53 (2.29-2.78)	2.84 (2.56-3.12)	3.16 (2.83-3.47)	3.49 (3.12-3.84)	3.97 (3.52-4.36)	4.35 (3.84-4.79)
2-hr	1.47 (1.34-1.63)	1.78 (1.62-1.97)	2.23 (2.02-2.46)	2.58 (2.34-2.84)	3.07 (2.77-3.37)	3.46 (3.11-3.80)	3.88 (3.47-4.25)	4.32 (3.84-4.74)	4.96 (4.37-5.44)	5.49 (4.80-6.02)
3-hr	1.56 (1.42-1.73)	1.89 (1.72-2.09)	2.37 (2.15-2.62)	2.75 (2.49-3.04)	3.30 (2.96-3.63)	3.74 (3.35-4.12)	4.21 (3.75-4.64)	4.73 (4.18-5.21)	5.47 (4.78-6.03)	6.09 (5.28-6.72)
6-hr	1.84 (1.68-2.03)	2.22 (2.03-2.45)	2.77 (2.53-3.05)	3.23 (2.93-3.55)	3.86 (3.48-4.24)	4.39 (3.94-4.81)	4.95 (4.42-5.42)	5.56 (4.92-6.08)	6.44 (5.64-7.04)	7.18 (6.23-7.86)
12-hr	2.17 (1.99-2.36)	2.61 (2.40-2.85)	3.24 (2.98-3.54)	3.75 (3.44-4.09)	4.47 (4.08-4.86)	5.06 (4.59-5.50)	5.68 (5.13-6.17)	6.36 (5.70-6.91)	7.33 (6.51-7.96)	8.15 (7.17-8.85)
24-hr	2.51 (2.33-2.71)	3.03 (2.81-3.27)	3.78 (3.51-4.09)	4.38 (4.05-4.72)	5.18 (4.79-5.59)	5.83 (5.37-6.27)	6.49 (5.97-6.98)	7.18 (6.59-7.73)	8.15 (7.44-8.78)	8.94 (8.12-9.62)
2-day	2.89 (2.68-3.12)	3.49 (3.25-3.77)	4.35 (4.04-4.69)	5.01 (4.65-5.40)	5.91 (5.47-6.37)	6.63 (6.12-7.14)	7.37 (6.78-7.94)	8.13 (7.47-8.76)	9.20 (8.41-9.90)	10.1 (9.16-10.8)
3-day	3.09 (2.88-3.32)	3.73 (3.48-4.01)	4.64 (4.33-4.99)	5.34 (4.97-5.74)	6.28 (5.83-6.74)	7.02 (6.51-7.54)	7.78 (7.19-8.35)	8.56 (7.89-9.18)	9.62 (8.84-10.3)	10.5 (9.58-11.2)
4-day	3.30 (3.08-3.53)	3.97 (3.71-4.26)	4.93 (4.61-5.29)	5.67 (5.28-6.08)	6.65 (6.18-7.12)	7.42 (6.89-7.94)	8.19 (7.59-8.77)	8.98 (8.31-9.61)	10.0 (9.26-10.8)	10.9 (10.0-11.6)
7-day	3.89 (3.65-4.15)	4.67 (4.39-4.99)	5.73 (5.37-6.11)	6.51 (6.10-6.95)	7.54 (7.06-8.04)	8.33 (7.78-8.87)	9.12 (8.51-9.71)	9.90 (9.22-10.6)	11.0 (10.2-11.7)	11.8 (10.9-12.5)
10-day	4.42 (4.16-4.69)	5.30 (4.99-5.63)	6.45 (6.07-6.86)	7.31 (6.87-7.76)	8.43 (7.91-8.95)	9.28 (8.70-9.86)	10.1 (9.48-10.8)	11.0 (10.3-11.6)	12.1 (11.3-12.9)	13.0 (12.1-13.8)
20-day	6.04 (5.72-6.38)	7.23 (6.84-7.65)	8.71 (8.23-9.21)	9.78 (9.24-10.3)	11.2 (10.5-11.8)	12.2 (11.5-12.9)	13.2 (12.4-14.0)	14.3 (13.4-15.1)	15.6 (14.6-16.5)	16.6 (15.6-17.6)
30-day	7.43 (7.06-7.82)	8.87 (8.43-9.35)	10.6 (10.1-11.2)	11.8 (11.2-12.4)	13.4 (12.7-14.1)	14.5 (13.7-15.3)	15.7 (14.8-16.5)	16.8 (15.8-17.7)	18.2 (17.1-19.2)	19.3 (18.1-20.4)
45-day	9.30 (8.86-9.77)	11.1 (10.5-11.6)	13.1 (12.5-13.8)	14.5 (13.8-15.2)	16.3 (15.5-17.1)	17.7 (16.7-18.5)	18.9 (17.9-19.9)	20.2 (19.1-21.2)	21.8 (20.6-22.9)	23.0 (21.7-24.1)
60-day	11.0 (10.4-11.5)	13.0 (12.4-13.7)	15.3 (14.6-16.1)	16.9 (16.1-17.8)	19.0 (18.0-19.9)	20.5 (19.4-21.5)	21.9 (20.7-23.0)	23.3 (22.0-24.4)	25.1 (23.7-26.3)	26.4 (24.9-27.8)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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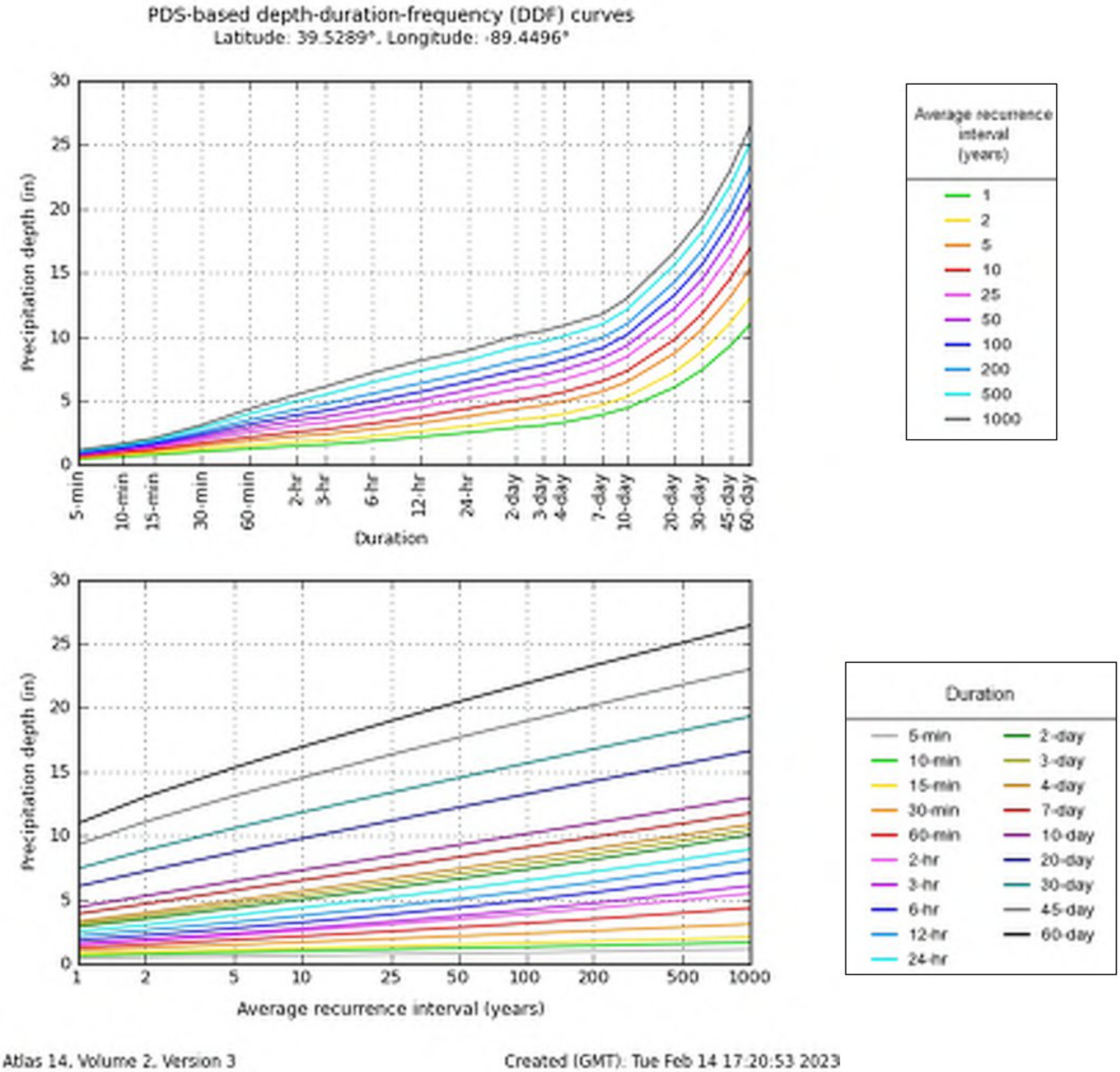
PF graphical



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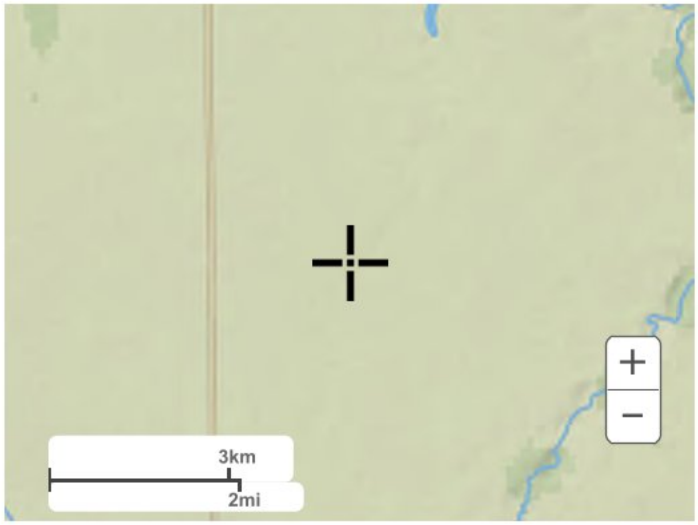
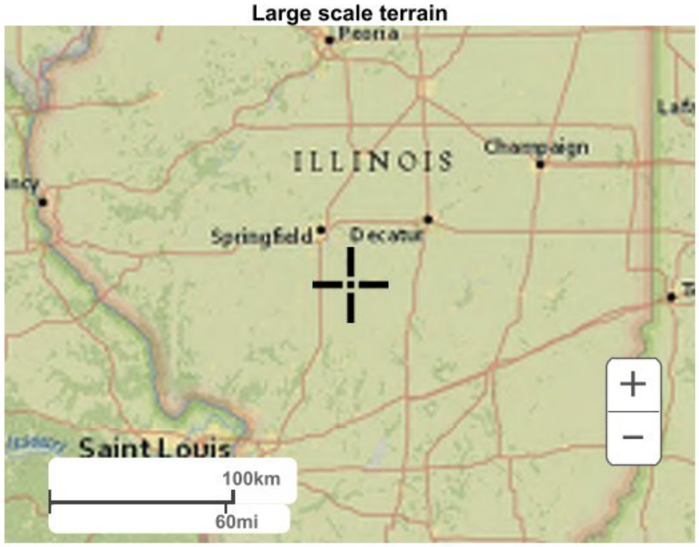
Maps & aerials

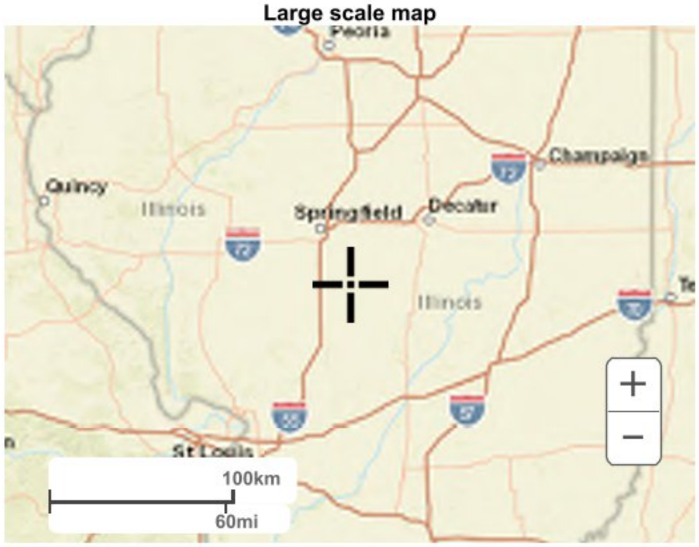
Small scale terrain



Large scale terrain



Large scale map



Large scale aerial

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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

Appendix B

Curve Number Table

Table 1. Standard Curve Numbers

Class	Value	Classification Description [NLCD 2006]	Curve Number Soil Type* A	B	C	D	W
Water	11	**Open Water** - areas of open water, generally with less than 25% cover of vegetation or soil.	98	98	98	98	100
Water	12	**Perennial Ice/Snow** - areas characterized by a perennial cover of ice and/or snow, generally greater than 25% of total cover.	98	98	98	98	100
Developed	21	**Developed, Open Space** - areas with a mixture of some constructed materials, but mostly vegetation in the form of lawn grasses. Impervious surfaces account for less than 20% of total cover. These areas most commonly include large-lot single-family housing units, parks, golf courses, and vegetation planted in developed settings for recreation, erosion control, or aesthetic purposes.	46	65	77	82	100
Developed	22	**Developed, Low Intensity** - areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 20% to 49% percent of total cover. These areas most commonly include single-family housing units.	61	75	83	87	100
Developed	23	**Developed, Medium Intensity** – areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 50% to 79% of the total cover. These areas most commonly include single-family housing units.	77	85	90	95	100
Developed	24	**Developed High Intensity** -highly developed areas where people reside or work in high numbers. Examples include apartment complexes, row houses and commercial/industrial. Impervious surfaces account for 80% to 100% of the total cover.	89	92	94	95	100
Barren	31	**Barren Land (Rock/Sand/Clay)** - areas of bedrock, desert pavement, scarps, talus, slides, volcanic material, glacial debris, sand dunes, strip mines, gravel pits and other accumulations of earthen material. Generally, vegetation accounts for less than 15% of total cover.	77	86	91	94	100
Forest	41	**Deciduous Forest** - areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. More than 75% of the tree species shed foliage simultaneously in response to seasonal change.	43	55	70	77	100
Forest	42	**Evergreen Forest** - areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. More than 75% of the tree species maintain their leaves all year. Canopy is never without green foliage.	43	55	70	77	100
Forest	43	**Mixed Forest** - areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. Neither deciduous nor evergreen species are greater than 75% of total tree cover.	43	55	70	77	100
Shrubland	51	**Dwarf Scrub** - Alaska only areas dominated by shrubs less than 20 centimeters tall with shrub canopy typically greater than 20% of total vegetation. This type is often co-associated with grasses, sedges, herbs, and non-vascular vegetation.	43	48	65	73	100
Shrubland	52	**Shrub/Scrub** - areas dominated by shrubs; less than 5 meters tall with shrub canopy typically greater than 20% of total vegetation. This class includes true shrubs, young trees in an early successional stage or trees stunted from environmental conditions.	43	48	65	73	100
Herbaceous	71	**Grassland/Herbaceous** - areas dominated by gramanoid or herbaceous vegetation, generally greater than 80% of total vegetation. These areas are not subject to intensive management such as tilling, but can be utilized for grazing.	43	58	71	78	100
Herbaceous	72	**Sedge/Herbaceous** - Alaska only areas dominated by sedges and forbs, generally greater than 80% of total vegetation. This type can occur with significant other grasses or other grass like plants, and includes sedge tundra, and sedge tussock tundra.	43	58	71	78	100
Herbaceous	73	**Lichens** - Alaska only areas dominated by fruticose or foliose lichens generally greater than 80% of total vegetation.	43	48	65	73	100
Herbaceous	74	**Moss** - Alaska only areas dominated by mosses, generally greater than 80% of total vegetation.	43	48	65	73	100
Planted/Cultivated	81	**Pasture/Hay** – areas of grasses, legumes, or grass-legume mixtures planted for livestock grazing or the production of seed or hay crops, typically on a perennial cycle. Pasture/hay vegetation accounts for greater than 20% of total vegetation.	43	58	71	78	100
Planted/Cultivated	82	**Cultivated Crops** – areas used for the production of annual crops, such as corn, soybeans, vegetables, tobacco, and cotton, and also perennial woody crops such as orchards and vineyards. Crop vegetation accounts for greater than 20% of total vegetation. This class also includes all land being actively tilled.	67	78	85	89	100
Planted/Cultivated	83	**Small Grains**	63	75	83	87	100
Wetlands	91	**Woody Wetlands** - areas where forest or shrubland vegetation accounts for greater than 20% of vegetative cover and the soil or substrate is periodically saturated with or covered with water.	45	66	77	83	100
Wetlands	92	**Emergent Herbaceous Wetlands** - Areas where perennial herbaceous vegetation accounts for greater than 80% of vegetative cover and the soil or substrate is periodically saturated with or covered with water.	45	66	77	83	100

*A/D, B/D and C/D soils lumped as D soils, W denotes water

**Curve Numbers for NLCD Codes 41-81 have been increased from 30 to 43 as many of these areas are partially grazed Woods-grass combination.

Appendix C

FEMA Flood Insurance Rate Map (FIRM)

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or flood plain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or flood plain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

In the State of Illinois, any portion of a stream or watercourse that lies within the **floodway fringe** of a studied (AE) stream may have a state regulated floodway. The FIRM may not depict these state regulated floodways.

Floodways restricted by anthropogenic features such as bridges and culverts are drawn to reflect natural conditions and may not agree with the model computed widths listed in the Floodway Data table in the Flood Insurance Study report.

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Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures.** Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 16. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services, NOAA, N/NGS12
National Geodetic Survey SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

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Base map information shown on this FIRM was provided in digital format by the United States Geological Survey. Digital orthoimagery with a spatial resolution of 0.5 meter ground sample distance were photogrammetrically compiled from aerial photography acquired during the leaf-off period of spring 2005.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The Special Flood Hazard Areas and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

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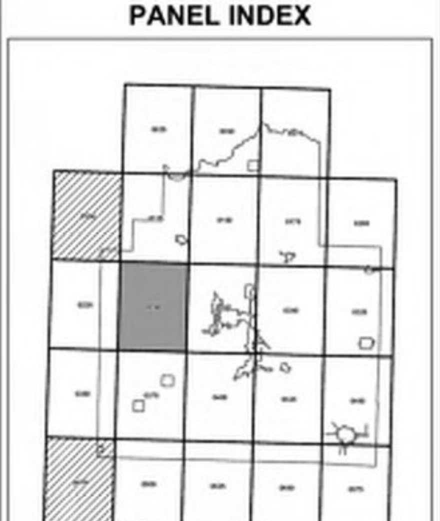
PANEL INDEX



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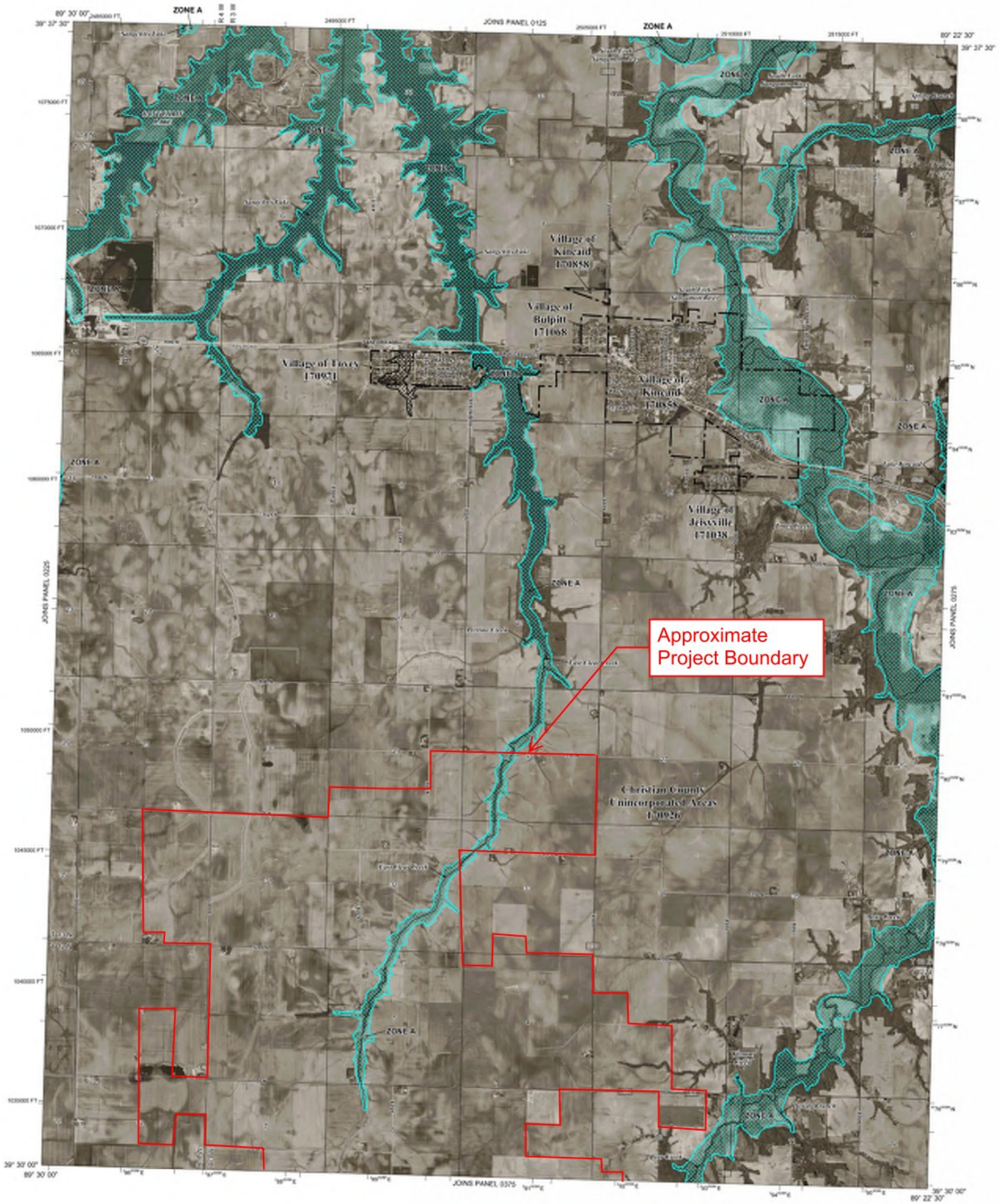

LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary

0.2% annual chance floodplain boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundary

Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.

513 — Base Flood Elevation line and value; elevation in feet*

(EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

A — A: Cross section line

23 - - - 23: Transect line

45° 02' 08", 93° 02' 12": Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)

[illegible]N: 1000-meter Universal Transverse Mercator grid values, zone 16

1065000 FT: 5000-foot grid ticks: Illinois State Plane West Coordinate System, 3601 zone (FIPSZONE 1202), Transverse Mercator

DX5510: Bench mark (see explanation in Notes to Users section of this FIRM panel)

• M1.5: River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
JUNE 16, 2011

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 2000'

1000 0 2000 4000 FEET

500 0 600 1200 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0250D

FIRM
FLOOD INSURANCE RATE MAP
CHRISTIAN COUNTY, ILLINOIS
AND INCORPORATED AREAS

PANEL 250 OF 575

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BULPITT, VILLAGE OF	[illegible]	0250	D
CHRISTIAN COUNTY	[illegible]	0250	D
JEISYVILLE, VILLAGE OF	[illegible]	0250	D
KINCAID, VILLAGE OF	[illegible]	0250	D
TOVEY, VILLAGE OF	[illegible]	0250	D

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
17021C0250D

EFFECTIVE DATE
JUNE 16, 2011

Federal Emergency Management Agency

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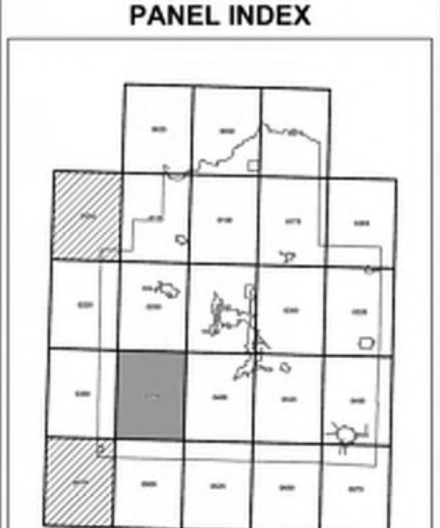
PANEL INDEX



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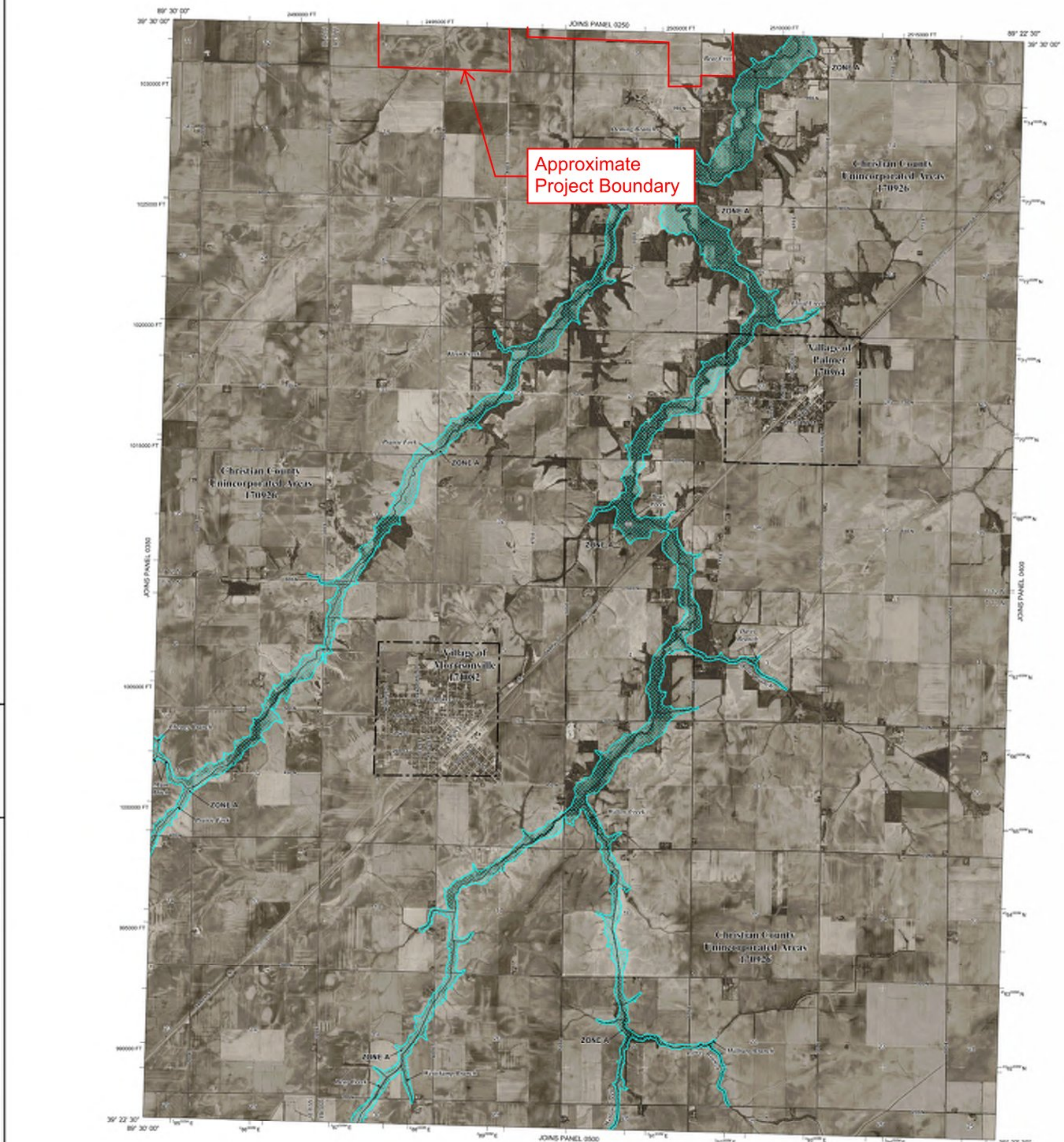

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CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary
0.2% annual chance floodplain boundary
Floodway boundary
Zone D boundary
CBRS and OPA boundary
Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
513 — Base Flood Elevation line and value; elevation in feet*
(EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

A — A Cross section line
23 - - - 23 Transect line
45° 02' 08", 93° 02' 12" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
1000-meter Universal Transverse Mercator grid values, zone 16
1565000 FT — 5000-foot grid ticks: Illinois State Plane West Coordinate System, 3805 zone (FIPSZONE 1202) Transverse Mercator
DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
• M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
JUNE 16, 2011

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 2000'

1000 0 2000 4000 FEET
600 0 600 1200 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0375D

FIRM
FLOOD INSURANCE RATE MAP
CHRISTIAN COUNTY, ILLINOIS
AND INCORPORATED AREAS

PANEL 375 OF 575

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CHRISTIAN COUNTY	170926	0375	D
MORRISONVILLE, VILLAGE OF	171082	0375	D
PALMER, VILLAGE OF	170664	0375	D

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
17021C0375D

EFFECTIVE DATE
JUNE 16, 2011

Federal Emergency Management Agency

Exhibit 4:
Site Characterization Study

SITE CHARACTERIZATION STUDY

Hickory Point Solar Energy Project
Christian County, Illinois

May 5, 2023

Prepared for:
Hickory Point Solar Energy Center LLC
One South Wacker Drive Suite 1900 Chicago,
IL 60606

Prepared by:
Stantec Consulting Services Inc.
One Carson Parkway, Suite 100
Plymouth, MN 55447

Project Number:
227705744

Table of Contents

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APPENDICES

Executive Summary

The proposed Hickory Point Solar Energy Project (Project) is located west of the city of Taylorville, Christian County, Illinois. The overall Study Area encompasses approximately 4,170 acres, however, Project development that will include the solar panels, substation, and electric transmission line would be encompass approximately 2,000 acres with a generating capacity of about 250 megawatts. The objective of this report was to evaluate the Study Area using Tier 1 and Tier 2 Site Characterization Study based on the U.S. Fish and Wildlife Service's (USFWS) Land-based Wind Energy Guidelines (WEG). The Study Area and a two-mile buffer were assessed for potential species of concern, their habitats, wetlands, and waterbodies. A Study Area Vicinity Map is presented as Figure 1.

The Project is located in the townships of Bear Creek, King and South Fork, Christian County, Illinois, indicated on Table 1. The Study Area exhibits consistent land use throughout, with predominantly agricultural land with interspersed riparian and woodland communities. A total of four land cover types were detected within the Study Area: cultivated crops, forest, developed, and wetlands/water. Agricultural including cultivated cropland and hay/pasture land occupies most of the land within the Study Area at 96.1 percent cover.

Topography of the site is flat, ranging from 609 to 628 feet in elevation. Based on aerial photographs and a review of the National Wetlands Inventory (NWI), National Hydrography Dataset (NHD), several waterbodies, wetlands, and constructed drainages are present throughout the Study Area. A total of 11 wetlands and eight waterbodies were mapped within the Study Area during the wetlands/waterbodies delineation conducted in April 2023.

1 Introduction

1.1 Overview

The Project is located in the townships of Bear Creek, King, and South Fork, Christian County, Illinois, on parcels indicated in Table 1, Figure 1 and Figure 2. Hickory Point Energy Center LLC (Hickory Point) is planning to construct and install solar arrays, access roads, buried electrical collection lines, an operations and maintenance building, and related facilities as part of the Project.

Table 1: Project Location

State	County	Township
IL	Christian	Bear Creek
IL	Christian	King
IL	Christian	South Fork

1.2 Study Area Landscape Description

The Project is located in the Illinois/Indiana Prairies (54a), Central Corn Belt Plains, and Eastern Temperate Forest Ecoregion per the U.S. Environmental Protection Agency (EPA; EPA 2006). The EPA characterizes the Central Corn Belt Plains as previously covered by prairies but now dominated by agriculture, with an extensive network of drainage to facilitate crop growth in the fertile, poorly drained soils common throughout the Ecoregion. Much of the poorly drained land has been ditched and tiled throughout the region to support agriculture. Typical crops include corn and soybeans, with poultry, sheep and hogs as the primary livestock (EPA 2006).

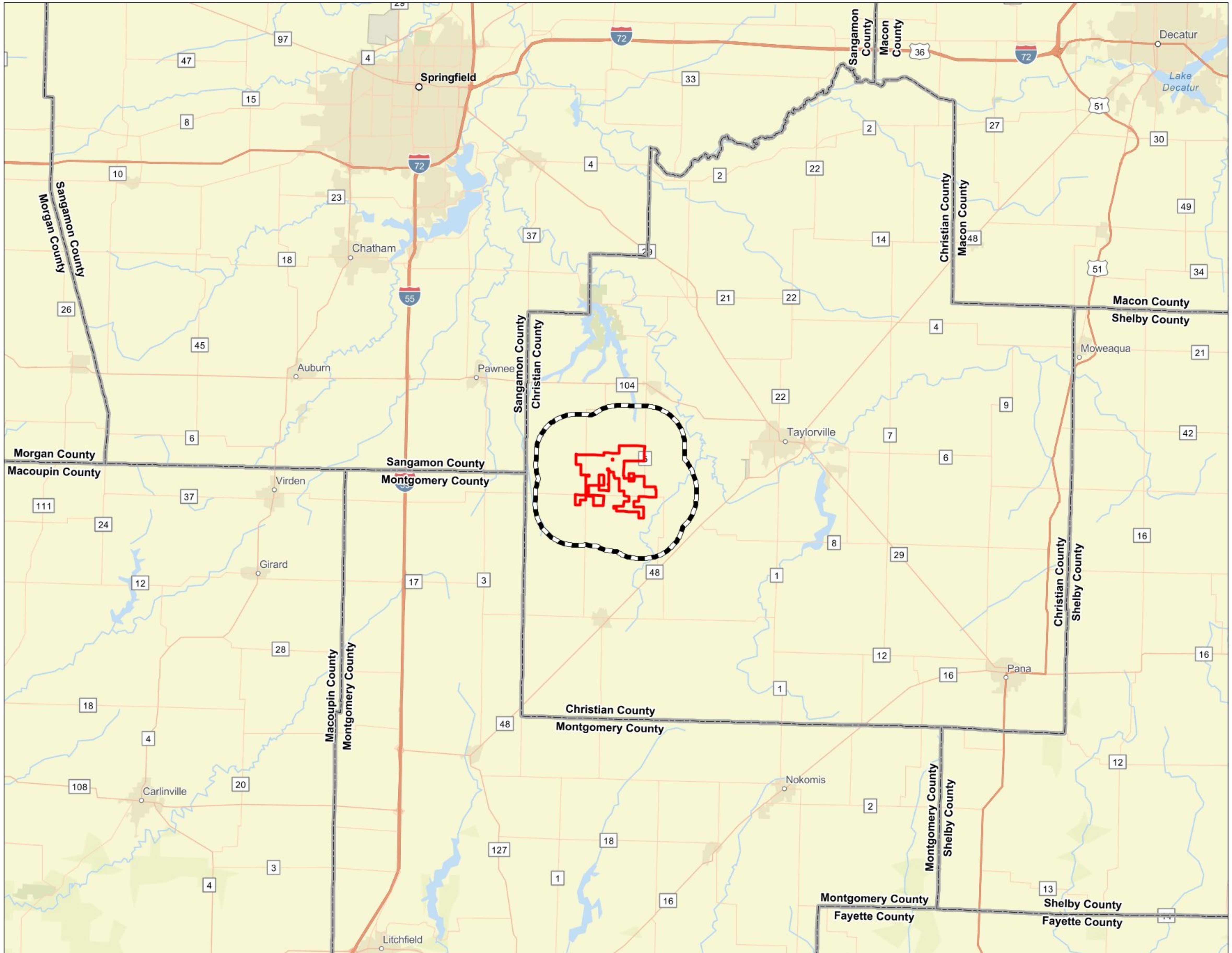
Topography in the Central Lowland Province is characterized by a low-relief surface formed by glacial till, outwash plains, and glacial-lake plains as shown on Figure 3. Long, low, arcuate ridges, formed by recessional moraines and generally concave to the north, are common features on these plains. Elevations within the Study Area gradually decline from south (around 628 feet above sea level) to north (around 609 feet above sea level), with occasional draws and areas of steeper relief formed by area waterbodies including Clear Creek and various agricultural drainage ditches. Clear Creek traverses the center of the Study Area and encompasses several tributaries. Clear Creek and the drainage ditches feed into Lake Lou Yaeger.

Figure No.
1

Title
Study Area Vicinity Map

Client/Project 227705744
Hickory Point Solar Energy Center LLC
Hickory Point Solar
Site Characterization Study

Project Location Prepared by KJM on 2023-05-04
Christian Co., IL



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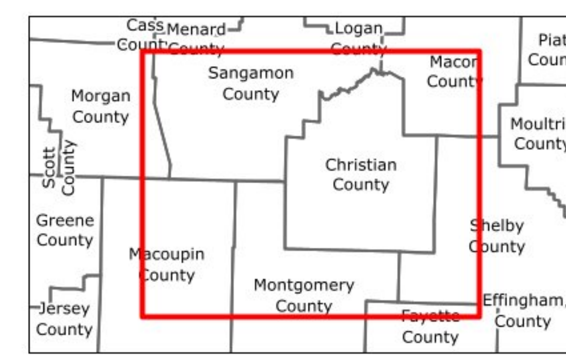
(At original document size of 11x17)
1:316,800

Legend
- 2 Mile Buffer Area
- Study Area
- County Boundary



Notes
1. Coordinate System: NAD 1983 UTM Zone 16N
2. Data Sources: Invenergy, Stantec, US Census
3. Background: ESRI Street Map

Stantec

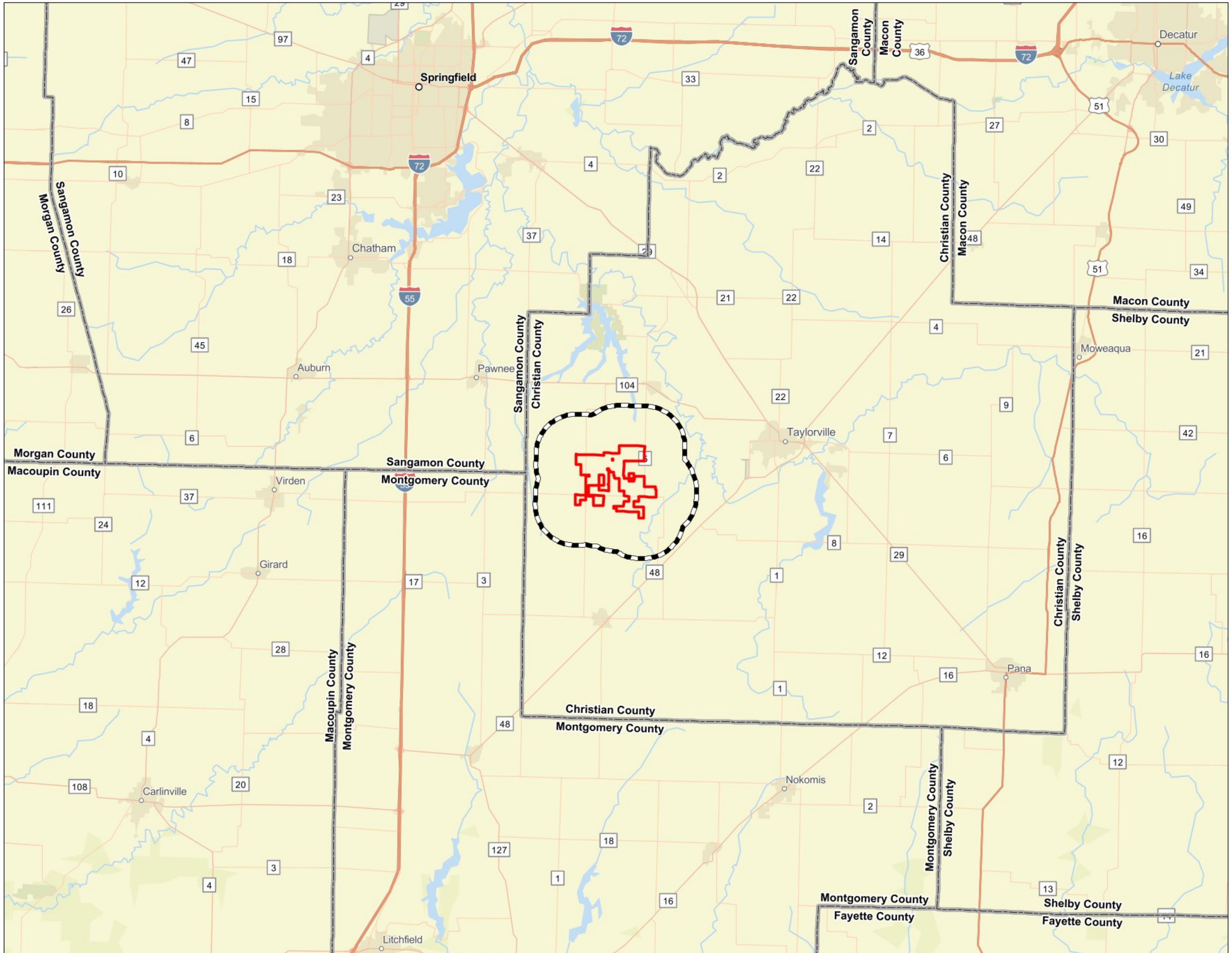


Figure No.
1

Title
Study Area Vicinity Map

Client/Project 227705744
Hickory Point Solar Energy Center LLC
Hickory Point Solar
Site Characterization Study

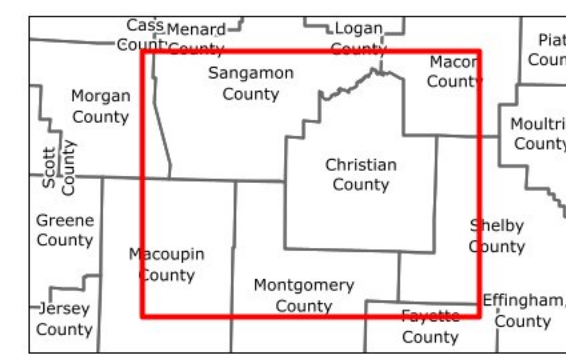
Project Location
Christian Co., IL

Prepared by KJM on 2023-05-04

N

0 2.5 5 Miles
(At original document size of 11x17)
1:316,800

Legend
- 2 Mile Buffer Area
- Study Area
- County Boundary



Notes
1. Coordinate System: NAD 1983 UTM Zone 16N
2. Data Sources: Invenergy, Stantec, US Census
3. Background: ESRI Street Map

Stantec

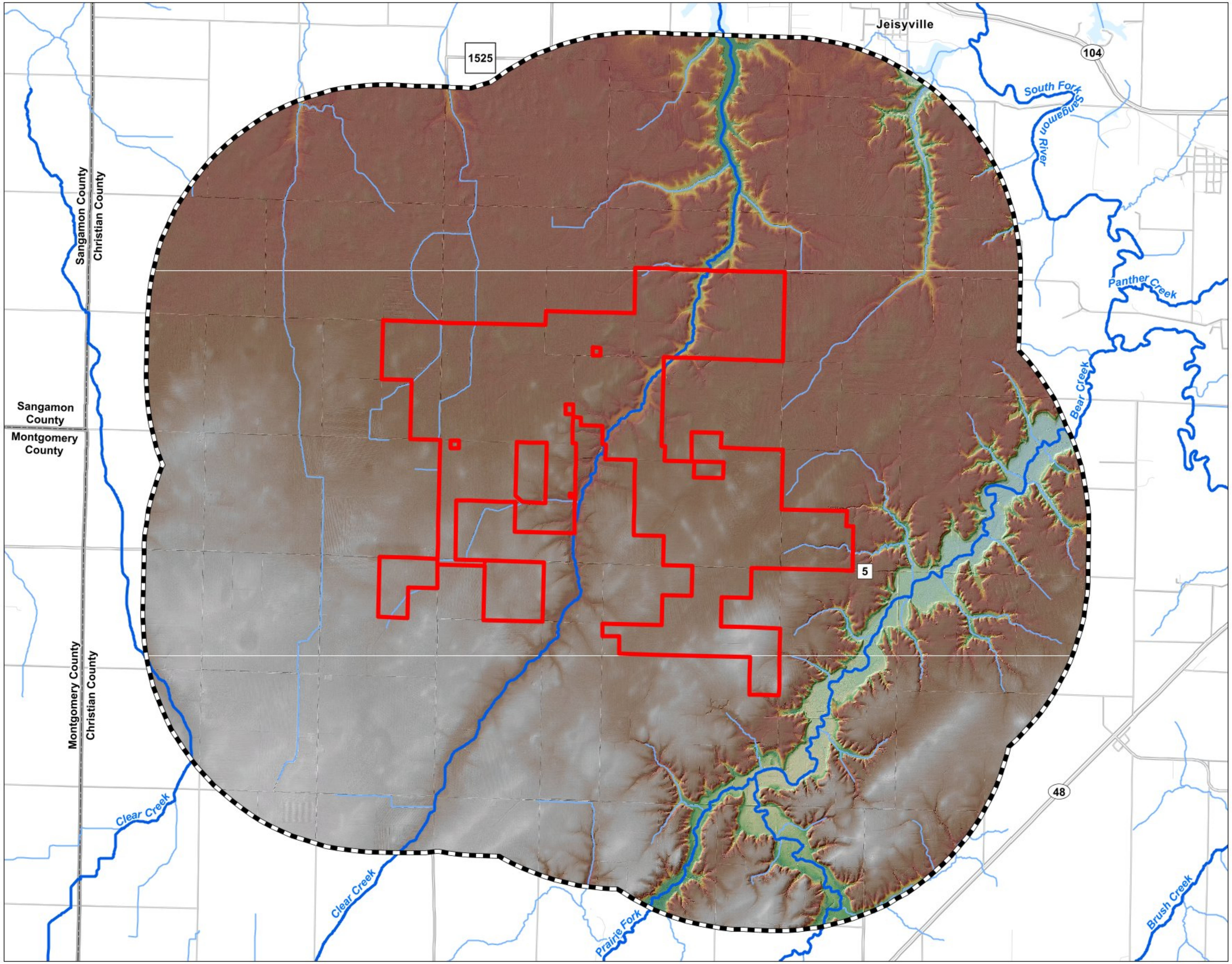


Figure No.

3

Title

Topography and Major Drainage Features

Client/Project 227705744

Hickory Point Solar Energy Center LLC
Hickory Point Solar
Site Characterization Study

Project Location Prepared by KJM on 2023-05-04

Christian Co., IL

N

0 2,250 4,500 Feet
(At original document size of 11x17)
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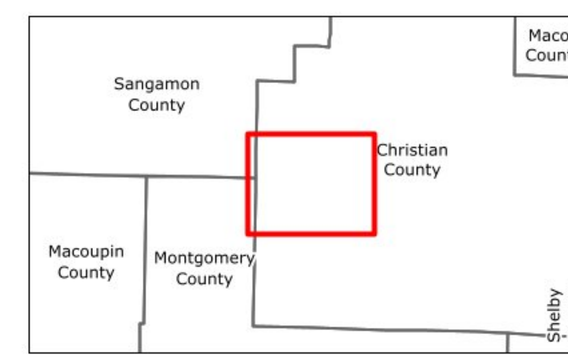
Legend

- Minor Drainage Feature
- Major Drainage Feature
- 2 Mile Buffer Area
- Study Area
- County Boundary

Elevation Range

- 642 ft
- 559 ft



Notes

1. Coordinate System: NAD 1983 UTM Zone 16N
2. Data Sources: Invenergy, Stantec, US Census, NADS, ILHMP
3. Background: World Terrain Base

Stantec

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2 Methods

2.1 Existing Information from Publicly Available Sources

Information for the Tier 1 Preliminary Site Evaluation was gathered from publicly available resources to characterize the Study Area and Buffer Area. The Tier 1 Preliminary Site Evaluation serves as a landscape level review utilizing land use and environmental resource data to establish a baseline and identify sensitive resources within the Study Area. The Buffer Area was established as per Table 2 below:

Table 2: Resources Assessed and Associated Buffer Area Distances.

Resource	Buffer Area Distance
Land cover and wetlands/waters	2 miles
Species of concern and their habitats	2 miles
Eagle nests	5 miles
Eagle and non-eagle raptor nests (ground survey)	1 mile
Bat maternity colonies	5 miles and nearest known
Bat hibernacula	Nearest known
Protected and federal and state managed lands	10 miles

The following list of resources were queried and are included in Section 4 – References:

National Datasets

- Federal Emergency Management Agency (FEMA) Map Service Center National Flood Hazard Data;
- USFWS National Wetland Inventory (NWI);
- U.S. Geologic Survey (USGS) National Hydrography Dataset (NHD);
- U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Soil Survey Data (Hydric Rating and Farmland Classification);
- USFWS Information for Planning and Consultation (IPaC) species lists and critical habitat data;
- USGS National Land Cover Database (NLCD);
- USGS Landfire (Vegetation) data;
- USGS Breeding Bird Survey;
- National Conservation Easement Database (NCED);
- National Agriculture Imagery Program (NAIP) aerial photographs;
- National Audubon Society (Audubon) Important Bird Areas (IBA); and
- Protected Areas of the United States (PADUS).

State Datasets

- ILDNR EcoCAT query;
- IILDNR Protected Lands;
- ILDNR Natural Divisions of Illinois;
- ILDNR Conservation Opportunity Areas;
- Illinois Regional Trails and Bikeways (PADUS via USGS undated-b);
- ILDNR Illinois County Boundaries and Public Land Survey System (PLSS);
- Illinois Statewide Lidar and Digital Elevation Model (DEM); and
- Illinois State Geological Survey (ILSGS) Water and Related Wells.

Stantec utilized the USFWS IPaC and ILDNR EcoCAT online tools to generate a list of federal and state threatened and endangered species that have the potential to occur in within the Study Area. This data along with the information gathered from the national and state datasets listed above were then plugged into an Esri ArcGIS platform to analyze and identify habitats that the federally and state listed species may use within the Study Area. Such examples include contiguous forested habitats for bats, large trees and snags for eagle or raptor nests, livestock operations for scavengers, ridgelines and windbreaks for diurnal raptors, shrubs and tree lines for miscellaneous bird species, and water resources for aquatic species, reptiles and amphibians. The land cover information was used to determine where within the Study Area potentially suitable habitat for federally and/or state listed species may occur, and ultimately informed the field reconnaissance surveys.

2.2 Field Reconnaissance

As part of the WEG Tier 2 Site Characterization, a field reconnaissance survey was conducted by Stantec from April 13-15, 2019 and again on April 3-5, 2023. Field reconnaissance surveys were conducted within the Study Area, and within the 2-mile Buffer Area along public roads and vantage points where the field crews were able to see the landscape without trespassing on private lands. Stantec staff collected the following data:

- Potential habitats for federally or state listed threatened or endangered species;
- Wildlife observations;
- Land cover for verification of NLCD data;
- Protected lands;
- Eagle and raptor nests;
- Delineation of wetlands and waterbodies, including verification of NWI and NHD data.

Land cover within the Study Area was initially analyzed during the Tier 1 desktop review and mapped using data from the NLCD Landcover dataset paired with USGS Landfire vegetation mapping data (USGS 2020). Prior to field reconnaissance surveys, NWI and NHD data were used in combination with NAIP aerial imagery to identify potential water resources to be field verified during field reconnaissance surveys. Aerial photographs and NLCD data collectively showed that much of the Study Area consisted of active cropland with riparian corridors and low density, rural farmsteads. Landcover and water resources data were verified during field reconnaissance surveys within the Study Area by meander surveys, and from public roads within the Buffer Area. Land cover was verified in the field and finalized using current aerial imagery.

3 Results

3.1 Land Cover Types

Five field-verified land cover types were detected within the Study Area: cultivated crops, forest, developed land, and wetlands/water (Table 3, Figure 4[1]). Percentages for each type of land were gathered from the NLCD and then field-verified within the Study Area by Stantec biologists, and to the extent practicable within the Buffer Area using public access points (e.g., roads). One notable discrepancy between the NLCD data and the field-verified data was the grassland/herbaceous layer per NLCD; field-verification did not indicate such land cover. Otherwise, there were no major discrepancies between NLCD data and field-verified data, however, minor differences between the NLCD and field verified data is noted in Table 3. As the field-verified land cover data is more accurate, it will be used throughout this SCS Report.

Within the Study Area, cultivated cropland is the most predominant land type, comprising 4,008.9acres or 96.1percent of the land in the Study Area (Table 3). Corn and soybeans account for the majority of the cultivated crops in the Study Area. The remaining land within the Study Area is made up of developed land (2.6 percent), potential wetlands or water bodies (0.06 percent), and forest (0.5 percent). Developed land mostly consists of roads and farmsteads, while potential wetlands and waterbodies consist of farmed wetlands, as well as several streams and ditches. Discrepancies between field-verified land cover estimates and the original NLCD estimates, although not major, were due to the NLCD inclusion of areas such as roadside swales and residential lawns as developed land.

Table 3: Land cover types within the Hickory Point Study Area.

Land Cover Type	NLCD		Field-Verified Data	
	Area (acres)	Percent of Study Area	Area (acres)	Percent Study Area
Cultivated Crops	3,998.5	95.8	4,008.9	96.1
Forest	15.2	0.4	21.7	0.5
Developed	152.3	3.6	114.5	2.8
Grassland/Herbaceous	3.3	0.1	--	--
Wetlands/Water	0.7	0.02	24.8	0.6
Total	4,170	**100**	4,170	**100**

[1] Note: The differences between percentages in Table 3 and Figure 4 are due to Table 3 being limited to the Study Area whereas Figure 4 represents the percentages within the Buffer Area and Study Area combined.

Native vegetation is limited to riparian corridors along streams within the Study Area and Buffer Area. Typical vegetation in these features consisted of pin oak (*Quercus palustris*), hackberry (*Celtis occidentalis*), and maple species (*Acer spp.*). The understory was often dominated by shrub species such as multi-flora rose (*Rosa multiflora*), and Missouri gooseberry (*Ribes missouriense*). Herbaceous sedges (*Carex spp.*) and grasses (smooth brome [*Bromus inermis*], couch grass [*Elymus repens*], Kentucky bluegrass [*Poa pratensis*], and reed canary grass [*Phalaris arundinacea*]) were also present in the understory. Within wetlands and stream corridors, barnyard grass (*Echinochloa crus-galli*), giant foxtail (*Setaria faberi*), and reed canary grass were the most prevalent species. Because the surveys were conducted in early spring, other herbaceous species may be present in the understory that had not yet emerged from winter senescence at the time of the survey.

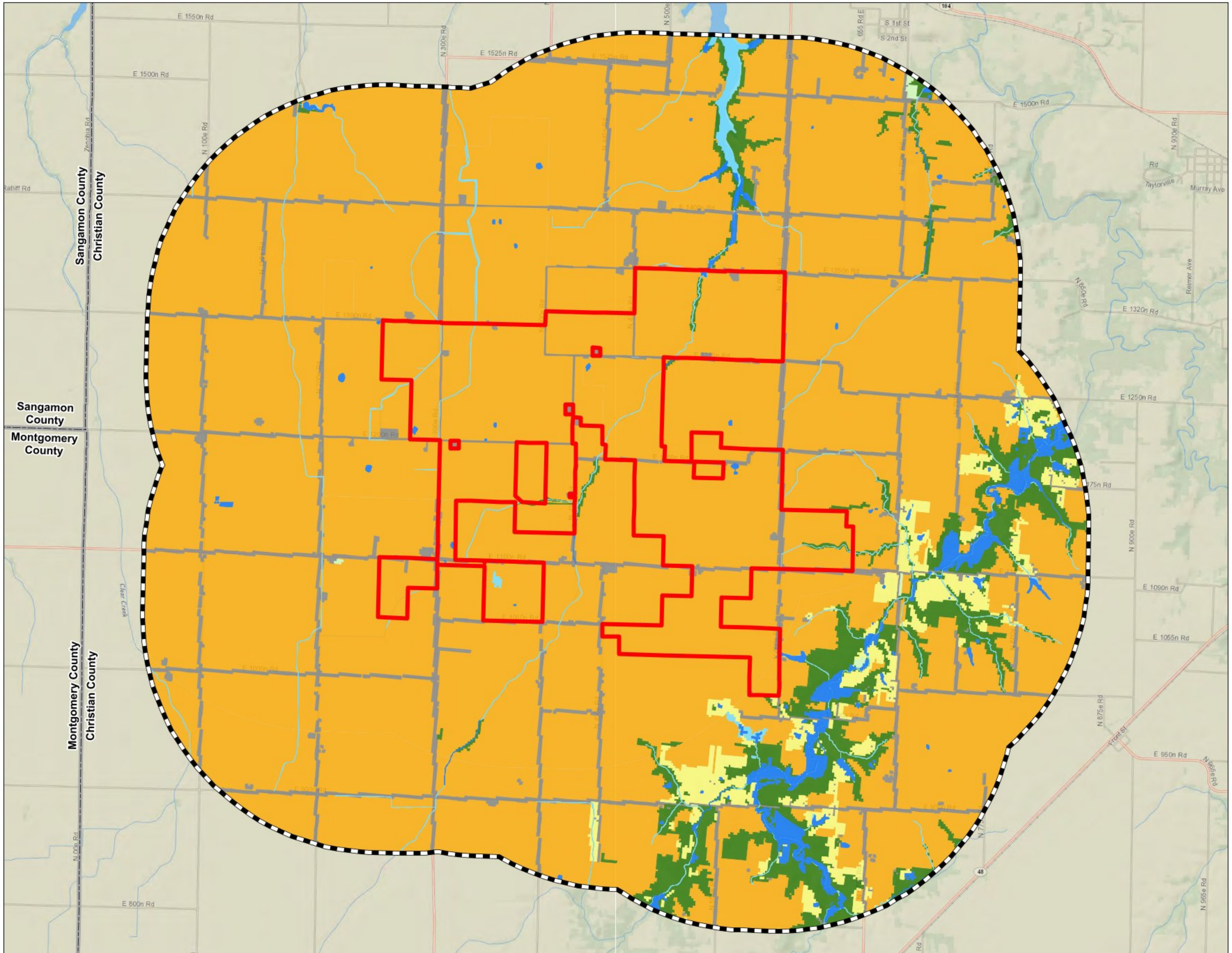

Figure No.
4

Title
Land Cover Types

Client/Project 227705744
Hickory Point Solar Energy Center LLC
Hickory Point Solar
Site Characterization Study

Project Location
Christian Co., IL

Prepared by KJM on 2023-05-04

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(At original document size of 11x17)
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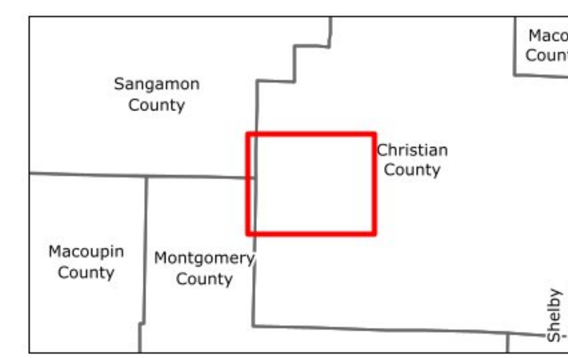
Legend
- 2 Mile Buffer Area
- Study Area
- County Boundary

Land Cover Type (Ground-Truthed)
- Cultivated Crops (96.14%)
- Developed (2.75%)
- Forest (0.52%)
- Grassland/Herbaceous (0.0%)
- Pasture/Hay (0.0%)
- Waterbody (0.41%)
- Wetland (0.19%)

*Land Cover Percentages are Based on the Project Area



Notes
1. Coordinate System: NAD 1983 UTM Zone 16N
2. Data Sources: Invenergy, Stantec, US Census, NADS, USGS
3. Background: National Geographic World Map

Stantec

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3.2 Wetlands and Waterbodies

Stantec completed a desktop review of potential wetlands and waterbodies within the Buffer Area and field reconnaissance surveys within the Study Area.

Stantec performed a desktop review of NRCS NAIP imagery, the USFWS NWI, USGS NHD, NRCS soil survey data, and site topography data to determine areas of potential wetlands and waterbodies within the Buffer Area. The desktop review of potential wetlands and waterbodies served to inform areas that required verifications during field reconnaissance surveys within the Study Area. A total of 378.2 acres of wetlands, 76.1 acres of lakes, and 308,453 linear feet of streams were desktop delineated within the Buffer Area (Table 4 and Figure 5). The majority of wetlands and streams within the Buffer Area are associated with Bear Creek, Clear Creek, and Prairie Fork.

Table 4: Summary of Desktop Delineated Wetlands and Waterbodies within the Buffer Area

Type	Acres	Linear Feet
Freshwater Emergent Wetland	48.2	--
Freshwater Pond	62.5	--
Freshwater Forested/Shrub Wetland	267.5	--
Lake	76.1	--
Riverine	--	308,453

Field reconnaissance surveys for wetlands and waterbodies were conducted within the Study Area and used the methodology described in the 1987 U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual (USACE 1987) and the 2010 USACE Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (USACE 2010). Streams, ditches, and waterways were identified pursuant to the 2005 Regulatory Guidance Letter 05-05, on Ordinary High-Water Mark (OHWM) Identification, if they exhibited physical evidence of an OHWM but lacked wetland characteristics.

Field reconnaissance surveys identified 11 wetlands (7.8 acres) and eight waterbodies (30,966 linear feet) within the Study Area (Table 5 and Figure 5). A full inventory of field delineated wetlands and waterbodies is included in the Hickory Point Solar Energy Project Wetland and Waterbody Delineation Report.

Table 5: Summary of Field Delineated Wetlands and Waterbodies within the Study Area

Unique ID	Cowardin/ Flow Regime[1]	Wetland Area (acre)	Stream Length (feet)	Stream Width (feet)	Latitude	Longitude
WA-01	PEM	0.01	--	--	39.494533	-89.426578
WA-02	PEM	0.01	--	--	39.498903	-89.422836
WA-03	PEM	1.79	--	--	39.525593	-89.430167
WB-01	PEM	1.57	--	--	39.525593	-89.481356
WB-02	PEM	1.04	--	--	39.511600	-89.474672

Unique ID	Cowardin/ Flow Regime[1]	Wetland Area (acre)	Stream Length (feet)	Stream Width (feet)	Latitude	Longitude
WB-03	PEM	0.14	--	--	39.509540	-89.475843
WB-04	PEM	0.16	--	--	39.504451	-89.464574
WB-05	PEM	0.23	--	--	39.524670	-89.469933
WB-06	PEM	0.57	--	--	39.526541	-89.468497
WB-07	PEM	0.97	--	--	39.533981	-89.453978
WB-08	PEM	1.31	--	--	39.545926	-89.435916
S01	Perennial	--	11,295.05	32	39.541237	-89.437335
S02	Perennial	--	6,023.08	20	39.536824	-89.472579
S03	Perennial	--	3,290.65	23	39.537326	-89.477539
S04	Ephemeral	--	396.49	7	39.533246	-89.480551
S05	Ephemeral	--	2,519.01	20	39.517516	-89.458714
S06	Intermittent	--	2,659.64	15	39.502475	-89.464990
S07	Perennial		4,456.41	5	39.512671	-89.419675
S08	Intermittent		325.67	8	39.535335	-89.446594

[1] PEM = Palustrine Emergent Wetland (wetlands consisting of emergent vegetation such as grasses, sedges, rushes, and herbaceous species; Cowardian et al 1979)
Perennial Stream = Water generally flows year-round where flow is connected to ground water and precipitation. (Cowardian et al 1979)
Intermittent Stream = Water flows during certain times of the year where flow is connected to ground water and precipitation. (Cowardian et al 1979)
Ephemeral Stream = Water is absent from the channel most of the year and the channel is not associated with groundwater; rather flow is limited to precipitation and snow melt. (Cowardian et al 1979)

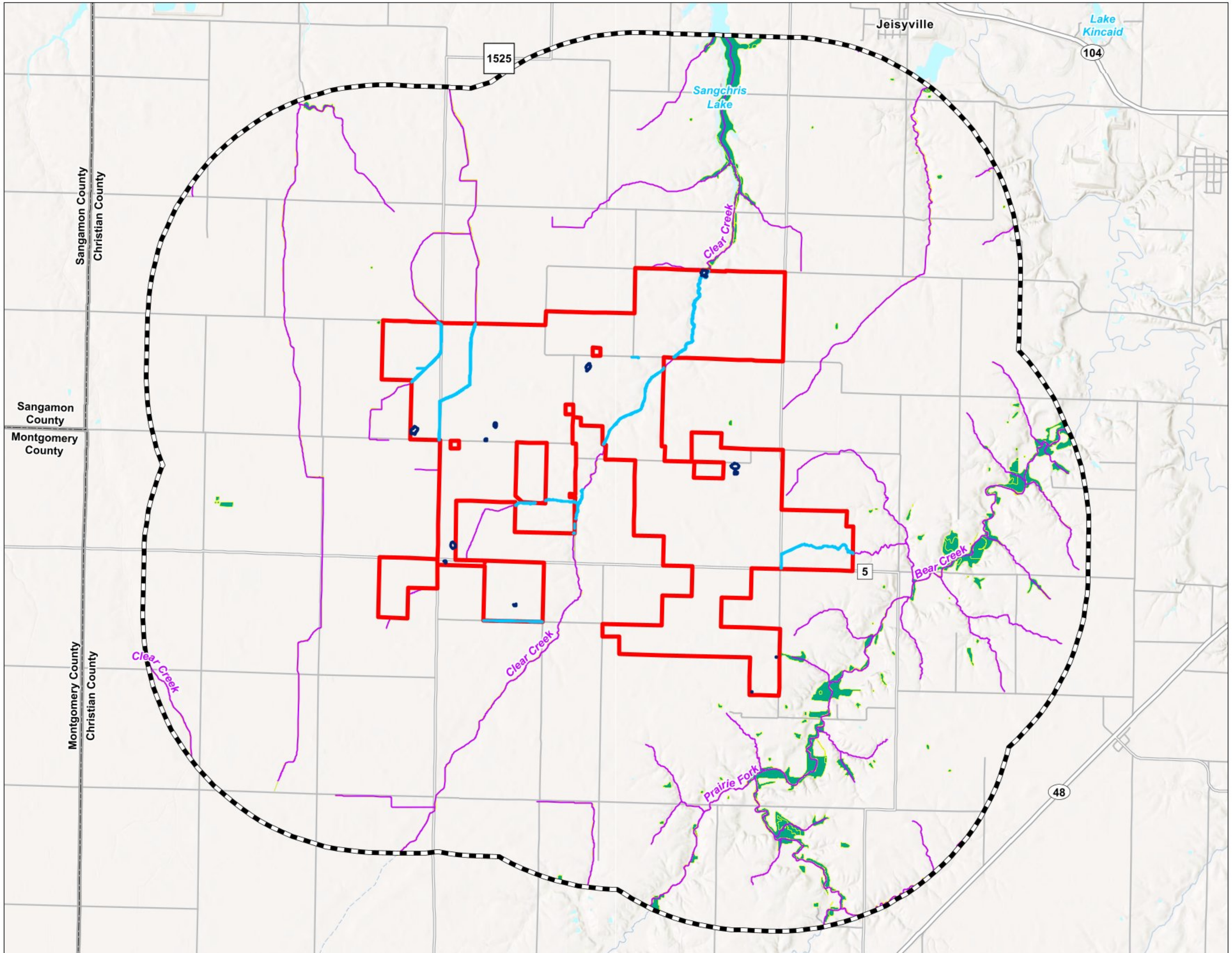


Figure No.
5

Title
Surface Waters and Wetlands

Client/Project 227705744
Hickory Point Solar Energy Center LLC
Hickory Point Solar
Site Characterization Study

Project Location
Christian Co., IL

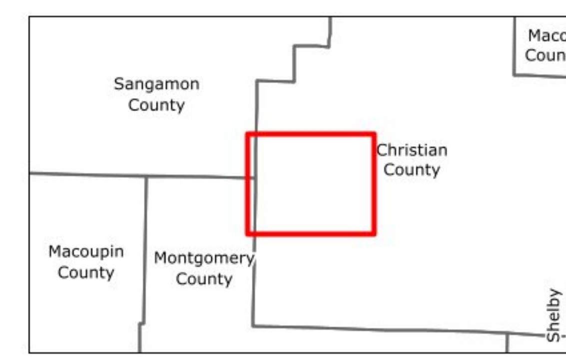
Prepared by KJM on 2023-05-04

N

0 2,250 4,500 Feet
(At original document size of 11x17)
1:54,000

Legend
- 2 Mile Buffer Area
- Study Area
- NHD River/Stream
- National Wetland Inventory

Field Delineated Data
- Waterbody
- Wetland



Notes
1. Coordinate System: NAD 1983 UTM Zone 16N
2. Data Sources: Invenergy, Stantec, US Census, NADS, USGS, USFWS
3. Background: World Terrain Base

Stantec

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3.3 Federal and State Listed Species

Pursuant to the USFWS WEG, "species of concern" are defined as follows:

> "*For a particular wind energy project, any species which 1) is either a) listed as an endangered, threatened or candidate species under the Endangered Species Act, subject to the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act; b) is designated by law, regulation, or other formal process for protection and/ or management by the relevant agency or other authority; or c) has been shown to be significantly adversely affected by wind energy development, and 2) is determined to be possibly affected by the project*."

To understand species of concern using the USFWS WEG definition, Stantec utilized the USFWS IPaC and ILDNR EcoCAT online tools to generate a list of federal and state threatened and endangered species that have the potential to occur in within the Study Area. Details pertaining the Bald and Golden Eagle Protection Act and Migratory Bird Treaty Act are included in subsequent sections.

The USFWS IPaC tool was used to identify federally listed threatened, endangered, and species of concern which have the potential to occur within the Study Area, and Buffer Area, as well as critical habitat Study Area. Three federal listed endangered species (Indiana bat, northern long-eared bat, and tricolored bat [proposed endangered]) and one federal threatened species (eastern prairie fringed orchid), on experimental population (whooping crane), and one candidate species (Monarch butterfly) have the potential to occur (Table 6). No critical habitat was identified per the USFWS IPaC query.

The EcoCAT tool was used to identify state listed species within the Study and Buffer Areas. EcoCAT did not identify any species within the Study Area or Buffer Area.

Habitat assessments pursuant to the USFWS Tier 2 Site Characterization were conducted for federally listed species simultaneously with wetland and waterbody delineations in April 2019 and April 2023. Stantec linked the land use data and results from the field reconnaissance to categorize the likelihood for occurrence rankings for listed species using none, low, medium, and high,

- None = Potentially suitable habitat does not occur within the Study Area.
- Low = Low quality or non-preferred habitat, or a small amount of potentially suitable habitat may occur within the Study Area.
- Medium = Potentially suitable habitat is present within the Study Area,
- High = High quality preferred habitat is present within the Study Area.

Limited habitat for Indiana bat, northern long-eared bat, tricolored bat was identified within the Study Area (Figure 6). While there is low potential for potentially suitable habitat for the Monarch butterfly, the species is currently listed as candidate and not regulate by the Endangered Species Act.

Table 6: Federally Listed Threatened and Endangered Species.

Common Name (Scientific Name)	Status Federal/ State[1]	Habitat Requirements and Range	Seasons of Potential Occurrence				Likelihood for Occurrence[2]
			Spring	Summer	Fall	Winter	
Indiana bat (*Myotis sodalis*)	*FE*	During spring, summer, and fall, Indiana bats roost in tree species with peeling bark (i.e., *Carya ovata* and others) as well as dead and dying trees in riparian and upland habitats. During winter months, they hibernate in caves or abandoned mines. (USFWS 2023c)	X	X	X		Low to Medium. Although the Study Area is within this species' range and there is potential habitat within the Study Area, the amount of potential habitat is limited to large trees with peeling bark or cavities in woody areas, which cover 0.01% of the Study Area.
Northern long-eared bat (*Myotis septentrionalis*)	*FE*	During spring, summer, and fall months, NLEB prefer a wide variety of forested/ wooded habitats for roosting and foraging. During winter months, they hibernate in caves or abandoned mines. (USFWS 2023; USFWS 2023d)	X	X	X		Low to Medium. Although the Study Area is within this species' range and there is potential habitat within the Study Area, the amount of potential habitat is limited to large trees within connected forest and riparian habitats, which cover approximately 0.01% of the Study Area.
Tricolored Bat (*Perimyotis subflavus*)	*PE*	During spring, summer, and fall, tricolored bats roost among live and dead leaf clusters of live or recently dead deciduous hardwood trees. During the winter, they will hibernate in caves and mines. In the southern states they may use culverts and abandoned water wells. (USFWS 2022)	X	X	X		Low to Medium. Although the Study Area is within this species' range and there is potential habitat within the Study Area, the amount of potential habitat is limited to large trees within connected forest and riparian habitats, which cover approximately 0.01% of the Study Area.
Whooping crane (*Grus americana*)	*EXPN*	Habitat for the whooping crane consists of swamps lakes and ponds. Winter habitat consists of coastal marshes (e.g., Texas, Louisiana, and Florida) (Audubon 2023b)	X		X		None to Low. While agricultural fields may provide potential stopover habitat during migration there are no marshes, lakes or ponds to support the species within the Study Area.

Common Name (Scientific Name)	Status Federal/ State[1]	Habitat Requirements and Range	Seasons of Potential Occurrence				Likelihood for Occurrence[2]
			Spring	Summer	Fall	Winter	
Eastern prairie fringed orchid (*Platanthera leucophaea*)	*FT*	The eastern prairie fringed orchid is found in mesic prairies and wetlands like sedge meadows, marsh edges, and bogs. This species requires full sun with no encroachment from woody species, as well as mycorrhizae for growth and flowering to be successful. (USFWS 2023e)	X	X			None to Low. While the species range extends to Christian County there are no native grasslands or mesic prairie marshes that would support this species within the Study Area.
Monarch Butterfly (*Danaus plexippus*)	*C*	The monarch butterfly habitat may include roadside ditch areas, open areas, wet areas, and or urban gardens. Monarch butterflies depend on milkweed (*Asclepias syriaca*) and flowering plants. The eastern North American population will migrate and winter in oyamel fir tree roosts within central Mexico. (USFWS 2023f)	X	X	X		None to Low. While the species range extends to Christian County there are no native grasslands or mesic prairie marshes that would support this species within the Study Area.

FE = Federally endangered
FT = Federally threatened
EXPN = Experimental Population
C = Candidate

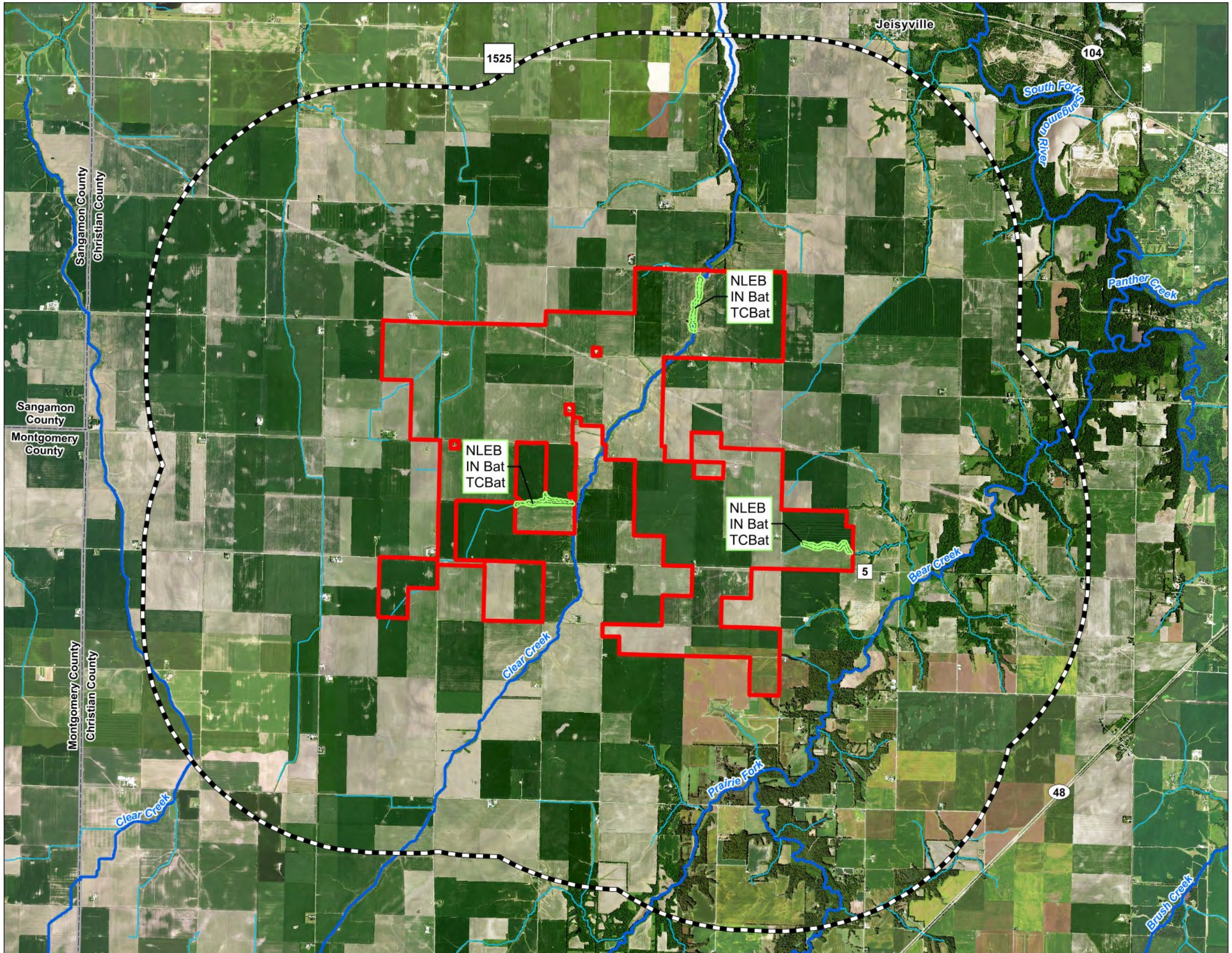


Figure No.
6

Title
Potential Habitat Map

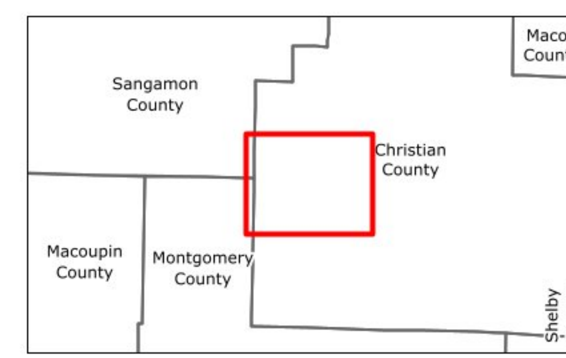
Client/Project 227705744
Hickory Point Solar Energy Center LLC
Hickory Point Solar
Site Characterization Study

Project Location Prepared by KJM on 2023-05-04
Christian Co., IL

N

0 2,250 4,500 Feet
(At original document size of 11x17)
1:54,000

Legend
- Major Drainage Feature
- Minor Drainage Feature
- Potential Habitat
- 2 Mile Buffer Area
- Study Area
- County Boundary



Notes
1. Coordinate System: NAD 1983 UTM Zone 16N
2. Data Sources: Invenergy, Stantec, US Census, NADS
3. Background: USGS Imagery Service

3.3.1 FEDERALLY LISTED & PROTECTED SPECIES

Indiana Bat

During the winter months the Indiana Bat is restricted to suitable underground hibernacula, often in karst areas of the east-central United States, using caves and abandoned mines for hibernation. In the summer, the Indiana bat roosts underneath exfoliating bark of various tree species at least five inches at diameter breast height such as (but not limited to) shagbark hickory (*Carya ovata*) and silver maple (*Acer saccharinum*), as well as dead or dying trees that have peeling bark (USFWS 2007; USFWS 2021; USFWS 2023c). Indiana bats prefer contiguous forested areas, riparian forests, and wooded corridors, however, they may use individual trees within 1,000 feet of contiguous forested areas in undeveloped areas (USFWS 2021; USFWS 2023c).

EcoCAT did not indicate that any known hibernacula exist within the Study Area or Buffer Area. There is no potentially suitable winter habitat, however, the limited forested habitat within the Study Area may provide potentially suitable (feeding and roosting habitat) in spring, summer, and early fall months (Figure 6). The amount of potentially suitable forest habitat is approximately 0.01% (21.7 acres) of the Study Area. As such, the likelihood of occurrence within the Study Area for the Indiana bat is considered low to medium.

Northern Long-Eared Bat

Suitable roosting, forage, and travel habitat for northern long-eared bat (NLEB) in the summer consists of a wide variety of contiguous forested and wooded habitats. While roosting, NLEB is generally found in deep crevices in areas such as forests and woodlots (i.e., live trees and/or snags greater than or equal to three inches diameter at breast height that have exfoliating bark, cracks, crevices, and/or cavities) as well as linear features such as fence rows, riparian forests, and other wooded corridors. NLEB roosts in both live trees or snags and may use individual trees within 1,000 feet of contiguous forested habitats greater than 12 acres. (USFWS, 2023c; Sasse and Perkins 1996; Foster and Kurta 1999; Owen et al. 2003). During winter months, NLEB hibernate in caves or abandoned mines (Foster and Kurta 1999).

There are no known NLEB hibernacula in the Study Area or surrounding region per EcoCAT. NLEB presence is not expected during winter, however, the forested habitat within the Study Area may provide suitable summer feeding and roosting habitat (Figure 6). The amount of suitable forest habitat is approximately 0.01% (21.7) of the Study Area, as such the likelihood of occurrence within the Study Area for NLEB is considered low to medium.

Tricolored Bat

During the non-hibernating seasons, tricolored bats will roost in live or dead leaf clusters of live or dead deciduous hardwood trees. Tricolored bats have also been observed roosting in artificial structures such as barns, bridges, roofs, and other concrete structures. During the winter, tricolored bats hibernate in caves and mines. If mines or caves are not present within the region, they have been observed hibernating in road associated culverts, tree cavities, and abandoned water wells (USFWS 2022).

EcoCAT did not indicate that any known hibernacula exist within the Study Area or Buffer Area. The likelihood of occurrence within the Study Area for the tricolored bat is considered low to medium, as there are areas of forested habitat that Indiana bats may use in spring, summer, and early fall months (no habitat exists within the Study Area during winter months), see Figure 6. However, this type of habitat covers 0.01% (21.7 acres) of the Study Area.

Whooping Crane

The whooping crane is a migratory bird species that once nested in northern prairies, but now breeds in remote northern forests in Canada as well as in an experimental population in Wisconsin, preferably within coniferous habitat containing swamps and nearby lakes or ponds. Winter habitat consists of coastal marshes (e.g., Texas, Louisiana, and Florida). The diet of the whooping crane in not well known in summer months, but it is thought to be similar to their wintering diet of shellfish, frogs, snakes, insects, small fish, and plant matter like roots and berries (Audubon 2023b).

The known migratory corridor for the whooping crane does not intersect Illinois (USFWS undated), therefore the likelihood of occurrence for the whooping crane in the Study Area is none to low as the Study Area does not contain suitable habitat such as swamps, lakes and ponds.

Eastern Prairie Fringed Orchid

Suitable habitat for eastern prairie fringed orchid includes mesic prairie, sedge meadows, marsh edges, and bogs. Eastern prairie fringed orchid is restricted to grass- and sedge-dominated plant communities with little or no encroachment of woody vegetation. Furthermore, eastern prairie fringed orchid requires associations with soil mycorrhizae for seedling to become established. The eastern prairie fringed orchid is federally listed as threatened. Declines in eastern prairie fringed orchid are the result of the conversion of natural habitats to cropland and pasture and the development of wetlands (USFWS 2023e).

The likelihood of occurrence for eastern prairie fringed orchid in the Study Area is none to low as the Study Area does not contain native prairie habitat and is farmed with row crops. Row crops are regularly tilled and tilling disturbs the native seed bank and associated mycorrhizae that are required for this species to survive.

Monarch Butterfly

The monarch butterfly is a migratory butterfly that exists in two main populations within the United States divided by the Rocky Mountains: the eastern population that overwinters in the mountains of Mexico, and the western population that overwinters along the southern pacific coast of California (USDA – Forest Service undated). This species generally occurs in areas with high densities of nectar sources, preferably native prairies with nectar species such as black-eyed Susan (*Rudbeckia hirta*), narrow-leaved coneflower (*Echinacea angustifolia*), and rough blazing star (*Lastris aspera*) that are utilized for feeding by adults (MDNR 2022). However, the presence of Milkweed (*Asclepias* spp.) is required for breeding habitat as it is the only plant on which the larvae can feed (National Wildlife Federation undated). The monarch butterfly is a candidate for federal listing due to habitat loss, relating mainly to the loss of milkweeds and native prairies.

High concentrations of milkweed were not observed during field surveys in April 2019 or April 2023, therefore the likelihood of occurrence for the monarch butterfly within the Study Area is none to low.

Bald Eagle

While the bald eagle (*Haliaeetus leucocephalus*) has been delisted from the Endangered Species Act, they remain protected under the USFWS Bald and Golden Eagle Protection Act (16 United States Code 668-668d). Traditionally, bald eagles are found near rivers, lakes, marshes, estuaries, and reservoirs, as well as in farmland, urban and suburban environments. In winter, bald eagles congregate in forested or riparian areas near open water to spot prey (artificial dams or rivers, tributaries, reservoirs in urban environments). Large trees adjacent to open water in winter also provide night roosts. (USFWS 2023g).

Golden Eagle

While the golden eagle (*Aquila chrysaetos*) has been delisted from the Endangered Species Act, they remain protected under the USFWS Bald and Golden Eagle Protection Act (16 United States Code 668-668d). Golden eagles have a wide range of suitable habitat including tundras, grasslands, intermittent forested habitat, and woodland-brushlands, as well as arid deserts and canyonlands. They're typically found in open country in the vicinity of hills, cliffs and bluffs, and are known to be sensitive to human activity. Golden eagles are visual predators and hunt both while flying and from perches preying small to mid-sized birds and mammals, and will scavenge or eat carrion. (USFWS 2023h).

3.3.2 STATE LISTED SPECIES

The Illinois Endangered Species Protection Act [520 Illinois Compiled Statutes 10/11(b)] was enacted in 1972 to utilize a consultation process to protect species of the state that are listed as threatened or endangered that are at risk by an action for jeopardy, and the protect listed species native to Illinois which are in danger of being lost from the wild in Illinois. The Endangered Species Protection Board which is responsible for producing and maintaining the list of Illinois-specific protected species where they may list a species within the state where there is scientific evidence that the species qualify as endangered or threatened; conversely, they may delist a state listed species if satisfactory scientific evidence shows that its wild or natural populations are no longer endangered or threatened.

The Illinois EcoCAT automated tool was accessed on March 7, 2023, to identify state-listed species and habitats within the Project and buffer area. No state-listed species were identified within the Study Area or Buffer Area. The Berry Woods Illinois Natural Areas Inventory (INAI) site was identified approximately 0.75 miles south of the Study Area. The initial EcoCAT submittal was then passed onto review by ILDNR staff, and it was determined that adverse effects are unlikely (Appendix A).

3.3.3 BIRDS

A wide variety of birds were present within the Study Area and Buffer Area including raptors, waterfowl, wading birds, songbirds, and game species. Common raptor species that were identified during the field survey included turkey vultures (*Cathartes aura*), and red-tailed hawks (*Buteo jamaicensis*); waterfowl species included mallards (*Anas platyrhynchos*) Canada geese (*Branta canadensis*), and trumpeter swans (*Cygnus buccinator*); wading birds included herons and egrets (*Ardea spp.*) double-crested cormorants (*Phalacrocorax auritus*) ; game species included wild turkeys (*Meleagris gallopavo*) and ring-necked pheasants (*Phasinanus colchicus*); other bird species identified were crows *(Corvidae),* mourning doves (*Zenaida macroura),* woodpeckers (*Picidae*), flycatchers (*Tyrannidae),* swallows (*Hirundinidae*), and sparrows (*Passeridae*).

Bird Migration

The Study Area falls broadly within the Mississippi Flyway, a major bird migration route that stretches from the Gulf of Mexico to Hudson Bay and follows the Mississippi River. It is estimated that more than 325 bird species use the Mississippi Flyway each year to migrate between summer breeding grounds in Canada to wintering grounds along the Gulf of Mexico or farther south (Audubon 2023c).

Little is known about which, if any, species use land within the Study Area as a stopover site during migration. Considering the Study Area is not close to major waterways, it is unlikely that large numbers of waterfowl, shorebirds, or passerine species would use it as a stopover site (the Study Area is about 70 miles east of the Illinois River and 120 miles east of the Mississippi River). However, not all migratory birds follow waterways, and even those that do can be blown off their migratory course by strong winds or storms, making it possible that migratory birds will use land within the Study Area during migration. Further, topographic features such as wetlands and streams with vegetated riparian zones can attract migratory birds, and these features make up a small portion of the land within the Study Area. The following two sections identify bird species that may be found within the Study Area.

Important Bird Areas

IBAs are identified by the National Audubon Society as areas that provide essential habitat for the conservation of one or more bird species. The only IBA near to the Study Area is the American Golden-Plover Stopover-Dalton City (AGPS) site. AGPS is located approximately 28 miles northeast of the Study Area and is 22,875 acres (Figure 7). Survey data suggest that this area receives intense use from American golden plovers (*Pluvialis dominica*) and pectoral sandpipers (*Calidris melanotos*) throughout a month-long staging period and appears to be important as a shorebird stopover site (Audubon 2023c).

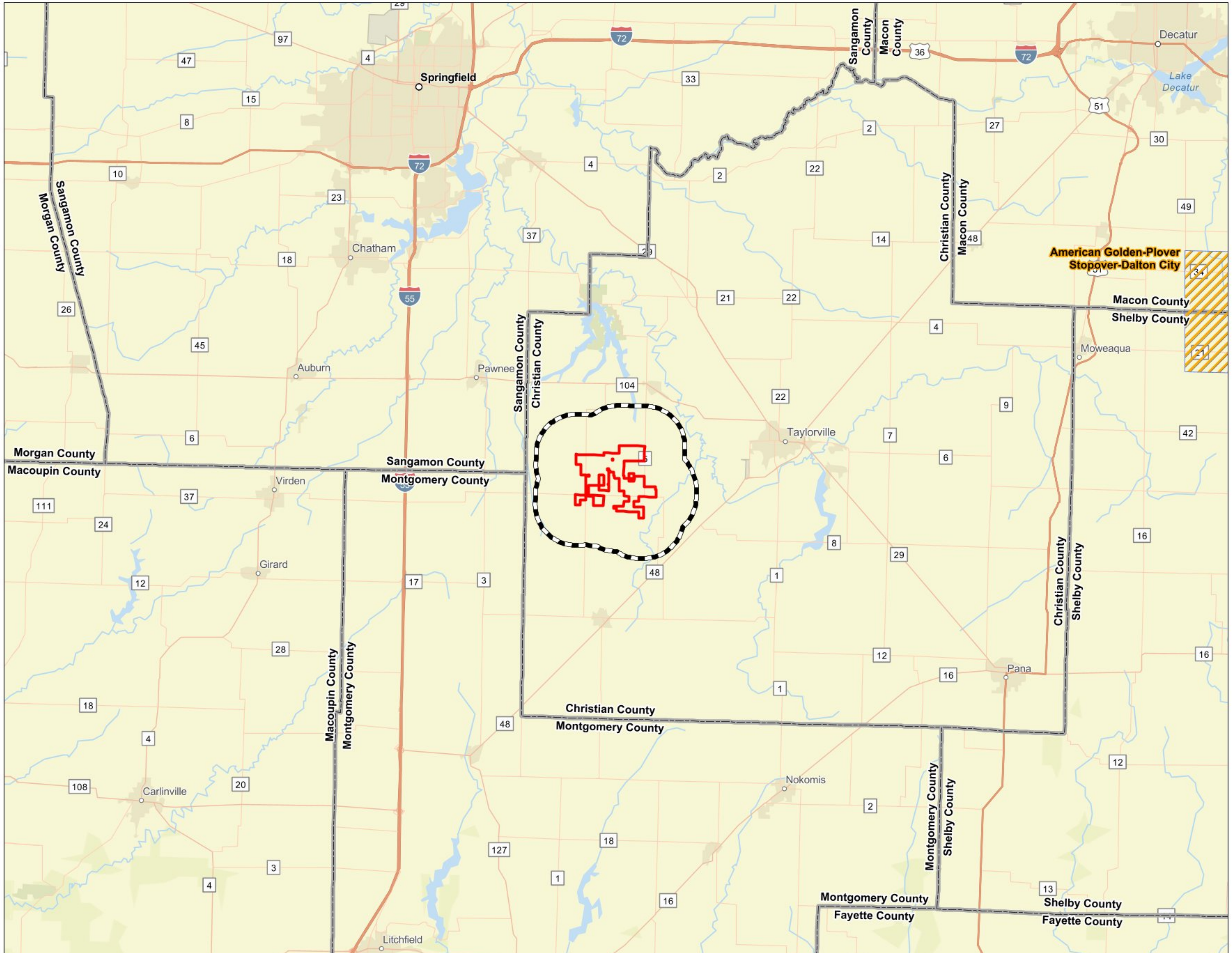


Figure No.
7
Title
Important Bird Areas

Client/Project 227705744
Hickory Point Solar Energy Center LLC
Hickory Point Solar
Site Characterization Study

Project Location
Christian Co., IL
Prepared by KJM on 2023-05-04

N
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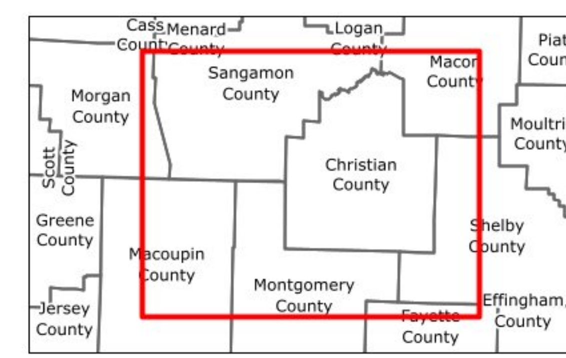
(At original document size of 11x17)
1:316,800

Legend
- Important Bird Areas
- 2 Mile Buffer Area
- Study Area
- County Boundary



Notes
1. Coordinate System: NAD 1983 UTM Zone 16N
2. Data Sources: Invenergy, Stantec, US Census, Audubon Society
3. Background: ESRI World Street Map

Stantec

Breeding Bird Survey Routes

The Breeding Bird Survey (BBS) is a multinational, long-term, continental avian monitoring program, led by the USGS. It is designed to track the status and trends of North American bird populations. Each year, during the height of avian breeding season, scientists skilled in avian identification collect bird population data along roadside survey routes. Two of these BBS routes are cross the 2-mile Buffer Area: Humphrey (0.56 miles northeast) which includes data from 1972 – 2021, and Clarksdale (0.94 miles south) which includes data from 1968 - 2019; Figure 8). (Figure 8; USGS 2023b).

A total of 106 bird species have been recorded along the two routes during Breeding Bird Surveys. Table 7 includes a summary of the total number of species that have been detected at each route; Appendix B outlines species details for each BBS route. No federally listed bird species have been detected at the two BBS routes; however five birds of conservation concern (BCC) were noted within the BBS routes (Appendix B).

Table 7: Number of Species Observations Along BBS Routes

BBS Route	BBS Route Number	Miles from Study Area	Total Number of Species Observed
Humphrey (1972 – 2021)	34043	0.56	91
Clarksdale (1968 – 2019)	34041	0.94	98

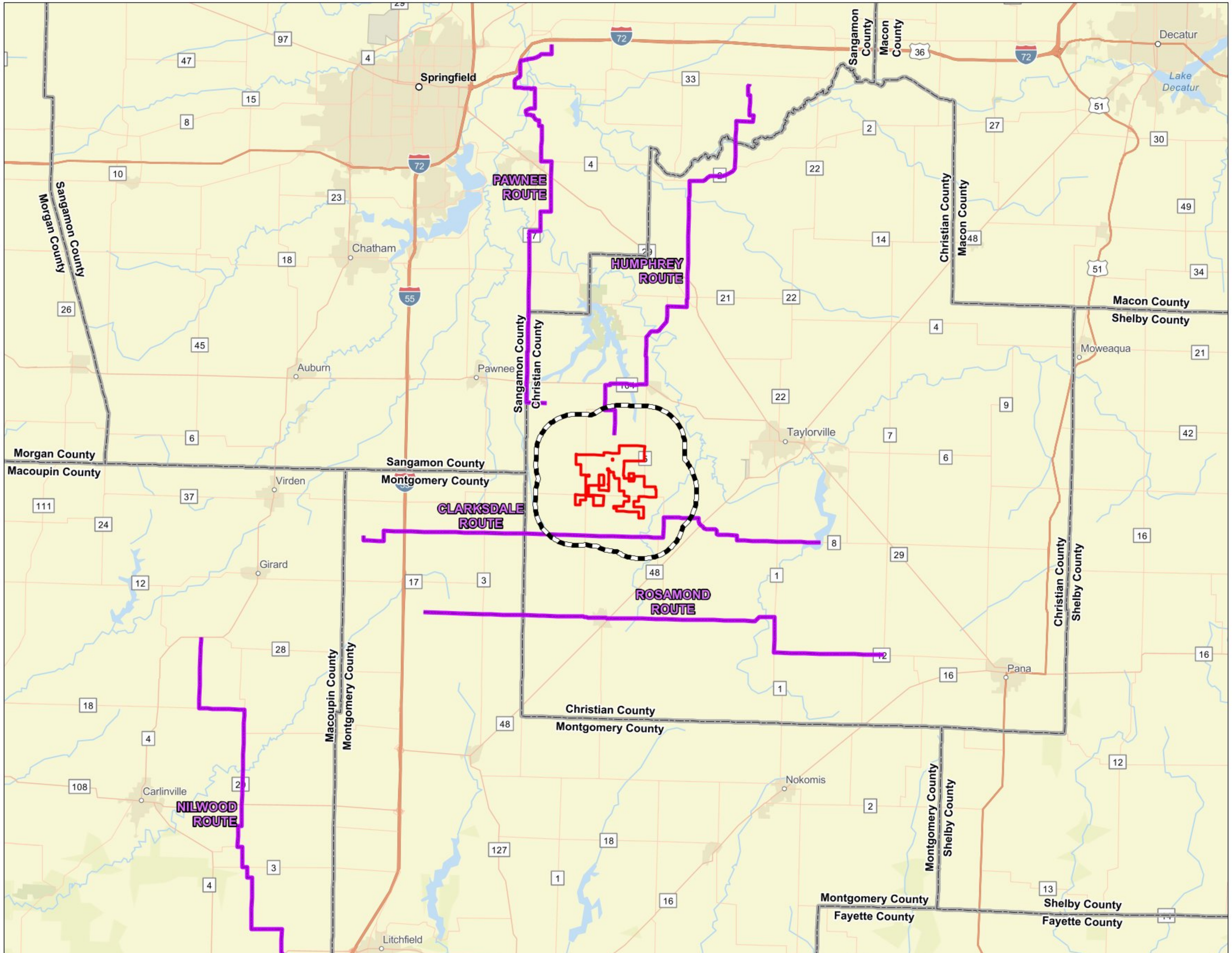
Figure No.
8

Title
Breeding Bird Survey Routes

Client/Project 227705744
Hickory Point Solar Energy Center LLC
Hickory Point Solar
Site Characterization Study

Project Location
Christian Co., IL

Prepared by KJM on 2023-05-04



N

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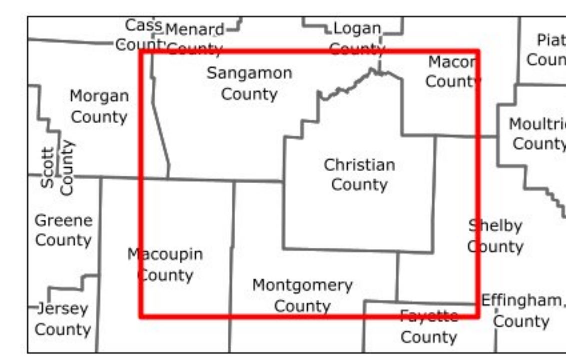
(At original document size of 11x17)
1:316,800

Legend
- North American Breeding Bird Survey Route (BBS)
- 2 Mile Buffer Area
- Study Area
- County Boundary



Notes
1. Coordinate System: NAD 1983 UTM Zone 16N
2. Data Sources: Invenergy, Stantec, US Census, USGS
3. Background: ESRI World Street Map

Stantec

U.S. Fish and Wildlife Service Birds of Conservation Concern

The Study Area is located within Bird Conservation Region (BCR) 22, eastern tallgrass prairie (North American Bird Conservation Initiative [NABCI]; NABCI 2021). The USFWS lists seven species of BCC (Table 7; USFWS 2023), five of which have been recorded on BBS routes within the vicinity of the Project (Appendix B).

Table 8: Birds of Conservation Concern that may Occur within the Study Area

Common Name	Scientific Name
Bald Eagle	*Haliaeetus leucocephalus*
Black-billed Cuckoo	*Coccyzus erythropthalmus*
Chimney Swift	*Chaetura pelagica*
Kentucky Warbler	*Oporornis formosus*
Red-headed Woodpecker	*Melanerpes erythrocephalus*
Rusty Blackbird	*Euphagus carolinus*
Wood Thrush	*Hylocichla mustelina*

3.4 Special Management Areas

PADUS (USGS undated-b) and ILNAI (ILDNR – Natural Heritage Database 2023) were reviewed to determine any protected federal and state managed lands within the Study Area and 10-mile Buffer Area (Appendix C). No federal special management areas occur within the Study Area; one is located within the 10-mile buffer (a Wetland Reserve Program easement, approximately eight miles from the Study Area).

The IDNR EcoCAT letter identified one INAI site, Berry's Woods, located about 0.76 mile from the Study Area and concluded that adverse effects are unlikely (Appendix A and Figure 9).

One state special management area intersects the Study Area, the Sangchris Lake State Resource Area per ILDNR – Natural Heritage Database 2023, however, the EcoCAT that was queried specifically for the Project did not list the Sangchris Lake State Resource Area (Appendix A and Figure 9). Stantec (formerly Wenck Associates, Inc.) prepared a Site Characterization Report for the Project in 2019, where the limits of the Sangchris Lake State Resource Area were restricted to the lake boundary and was not intersected by the Study Area. It appears that since 2019 the ILDNR has extended the boundary of the Sangchris Lake State Resource Area, with some caveats noted such as, "Covers the Lake. There was no actual legal description for this area, only a map that had been colored in" and "Covers the greater of 590 elevation or 50 feet from lake” (ILDNR undated). As per the IDNR EcoCAT letter, the project is unlikely to adversely affect the Sangchris Lake State Resource Area.

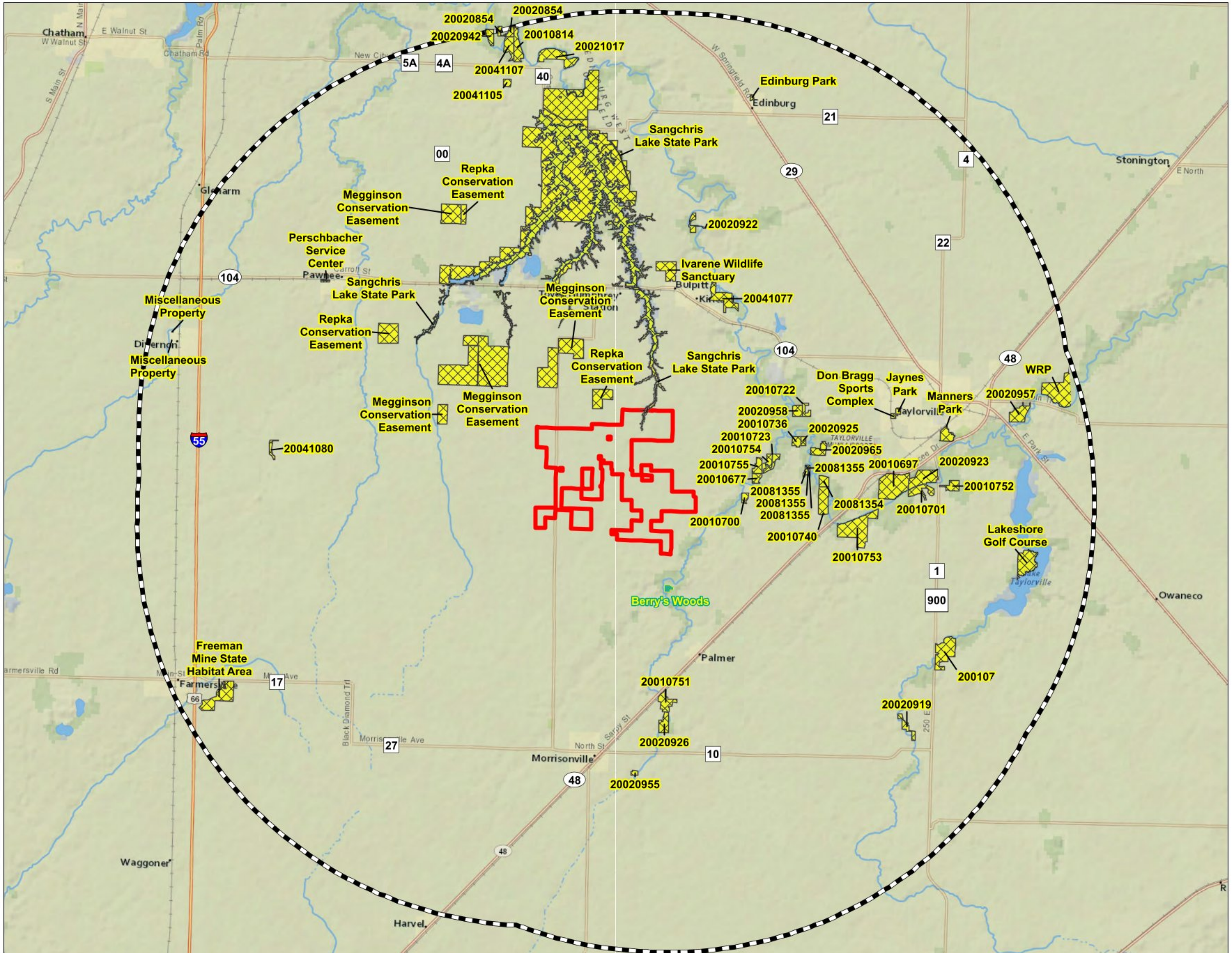
The Megginson Conservation Easement (1,240 acres) and the Repka Conservation Easement (317 acres) are agricultural conservation easement owned by the Sangamon Conservancy Trust, which aims to preserve both agricultural land and natural areas through conservation easements. They are split into several parcels, but none of the parcels intersect the Study Area (Figure 9; Sangamon Conservancy Trust undated). The Megginson Conservation Easement and Repka Conservation Easement are actively farmed.

Figure No.
9
Title
Protected Federal and State Managed Lands

Client/Project 227705744
Hickory Point Solar Energy Center LLC
Hickory Point Solar
Site Characterization Study

Project Location
Christian Co., IL

Prepared by KJM on 2023-05-04



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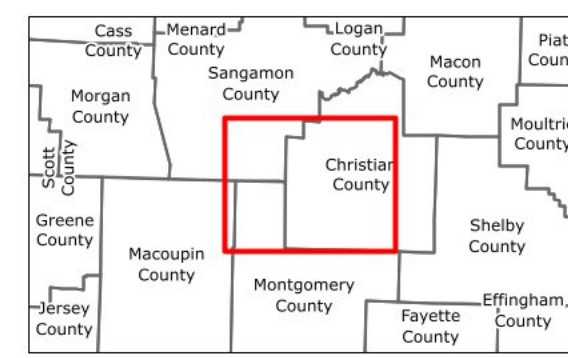
(At original document size of 11x17)
1:159,667

Legend
Illinois Protected Lands
Illinois Natural Areas Inventory
10 Mile Buffer Area
Study Area



Notes
1. Coordinate System: NAD 1983 UTM Zone 16N
2. Data Sources: Invenergy, Stantec, US Census, IDNR, Prairie Research Institute
3. Background: ESRI World Street Map

Stantec

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The conclusions in the Report titled Site Characterization Study are Stantec's professional opinion, as of the time of the Report, and concerning the scope described in the Report. The opinions in the document are based on conditions and information existing at the time the scope of work was conducted and do not take into account any subsequent changes. The Report relates solely to the specific project for which Stantec was retained and the stated purpose for which the Report was prepared. The Report is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

Stantec has assumed all information received from Hickory Point Solar Energy Center LLC (the "Client") and third parties in the preparation of the Report to be correct. While Stantec has exercised a customary level of judgment or due diligence in the use of such information, Stantec assumes no responsibility for the consequences of any error or omission contained therein.

This Report is intended solely for use by the Client in accordance with Stantec's contract with the Client. While the Report may be provided by the Client to applicable authorities having jurisdiction and to other third parties in connection with the project, Stantec disclaims any legal duty based upon warranty, reliance or any other theory to any third party, and will not be liable to such third party for any damages or losses of any kind that may result.

Prepared by: Anna Varian, Tim Paquin, and Kevin Mueller

Reviewed by: Erin Sejkora

Approved by:

Kristina DeName,
Associate, Project Manager
Invenergy Client Manager

Appendix A

March 08, 2023

Tim Paquin, Stantec
Invenergy LLC
One South Wacker Drive
Suite 1900
Chicago, IL 60606

RE: Hickory Point Solar
Project Number(s): 2311132
County: Christian

Dear Applicant:

This letter is in reference to the project you recently submitted for consultation. The natural resource review provided by EcoCAT identified protected resources that may be in the vicinity of the proposed action. The Department has evaluated this information and concluded that adverse effects are unlikely. Therefore, consultation under 17 Ill. Adm. Code Part 1075 is terminated.

The Department encourages all new and existing solar energy facilities to participate in the Pollinator Scorecard Program. More information can be found here:
https://www2.illinois.gov/dnr/conservation/pollinatorscorecard/pages/default.aspx

This consultation is valid for two years unless new information becomes available that was not previously considered; the proposed action is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the project has not been implemented within two years of the date of this letter, or any of the above listed conditions develop, a new consultation is necessary.

The natural resource review reflects the information existing in the Illinois Natural Heritage Database at the time of the project submittal, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, you must comply with the applicable statutes and regulations. Also, note that termination does not imply IDNR's authorization or endorsement of the proposed action.

Please contact me if you have questions regarding this review.

Kyle Burkwald
Division of Ecosystems and Environment
217-785-5500

Appendix B

Humphry BBS Route Species	Clarksdale BBS Route Species
Canada Goose	Canada Goose
Wood Duck	Wood Duck
	Blue-winged Teal
Mallard	Mallard
Northern Bobwhite	Northern Bobwhite
Wild Turkey	Wild Turkey
Ring-necked Pheasant	Ring-necked Pheasant
Rock Pigeon	Rock Pigeon
Eurasian Collared-Dove	Eurasian Collared-Dove
Mourning Dove	Mourning Dove
Yellow-billed Cuckoo	Yellow-billed Cuckoo
Black-billed Cuckoo[1]	Black-billed Cuckoo[1]
Common Nighthawk	Common Nighthawk
Eastern Whip-poor-will	Eastern Whip-poor-will
Chimney Swift[1]	Chimney Swift[1]
Ruby-throated Hummingbird	Ruby-throated Hummingbird
	Sora
Killdeer	Killdeer
Double-crested Cormorant	
	Upland Sandpiper[2]
	Ring-billed Gull
	American Bittern
Great Blue Heron	Great Blue Heron
Green Heron	Green Heron
Turkey Vulture	Turkey Vulture
	Northern Harrier
Red-tailed Hawk	Red-tailed Hawk
Cooper's Hawk	
	Great Horned Owl
unid. Buteo hawk	
	Barred Owl
Belted Kingfisher	
Red-headed Woodpecker[1]	Red-headed Woodpecker[1]
Red-bellied Woodpecker	Red-bellied Woodpecker
Downy Woodpecker	Downy Woodpecker
	Hairy Woodpecker
(Yellow-shafted Flicker) Northern Flicker	(Yellow-shafted Flicker) Northern Flicker
Pileated Woodpecker	Pileated Woodpecker
American Kestrel	American Kestrel
Great Crested Flycatcher	Great Crested Flycatcher
Eastern Kingbird	Eastern Kingbird
Eastern Wood-Pewee	Eastern Wood-Pewee
Acadian Flycatcher	Acadian Flycatcher

Humphry BBS Route Species	Clarksdale BBS Route Species
Willow Flycatcher	Willow Flycatcher
unid. Empidonax flycatcher	
Eastern Phoebe	Eastern Phoebe
	Loggerhead Shrike[2]
White-eyed Vireo	White-eyed Vireo
Bell's Vireo	Bell's Vireo
	Yellow-throated Vireo
Warbling Vireo	Warbling Vireo
Red-eyed Vireo	Red-eyed Vireo
Blue Jay	Blue Jay
American Crow	American Crow
Horned Lark	Horned Lark
Tree Swallow	Tree Swallow
Northern Rough-winged Swallow	Northern Rough-winged Swallow
Purple Martin	Purple Martin
Barn Swallow	Barn Swallow
Black-capped Chickadee	Black-capped Chickadee
Tufted Titmouse	Tufted Titmouse
White-breasted Nuthatch	White-breasted Nuthatch
House Wren	House Wren
Sedge Wren	Carolina Wren
Carolina Wren	Blue-gray Gnatcatcher
Blue-gray Gnatcatcher	
Eastern Bluebird	Eastern Bluebird
Wood Thrush[1]	Wood Thrush[1]
American Robin	American Robin
Gray Catbird	Gray Catbird
Brown Thrasher	Brown Thrasher
Northern Mockingbird	Northern Mockingbird
European Starling	European Starling
Cedar Waxwing	Cedar Waxwing
House Sparrow	House Sparrow
Eurasian Tree Sparrow	Eurasian Tree Sparrow
House Finch	House Finch
American Goldfinch	American Goldfinch
Grasshopper Sparrow	Grasshopper Sparrow
Lark Sparrow	Lark Sparrow
Chipping Sparrow	Chipping Sparrow
Field Sparrow	Field Sparrow
Vesper Sparrow	Vesper Sparrow
	Savannah Sparrow
Song Sparrow	Song Sparrow
Eastern Towhee	Eastern Towhee
Yellow-breasted Chat	Yellow-breasted Chat

Humphry BBS Route Species	Clarksdale BBS Route Species
Eastern Meadowlark	Eastern Meadowlark
Western Meadowlark	Western Meadowlark
Orchard Oriole	Orchard Oriole
Baltimore Oriole	Baltimore Oriole
Red-winged Blackbird	Red-winged Blackbird
Brown-headed Cowbird	Brown-headed Cowbird
Common Grackle	Common Grackle
	Ovenbird
	Louisiana Waterthrush
	Kentucky Warbler[1]
Common Yellowthroat	Common Yellowthroat
Northern Parula	
Yellow Warbler	Yellow Warbler
Scarlet Tanager	Scarlet Tanager
Northern Cardinal	Northern Cardinal
Rose-breasted Grosbeak	Rose-breasted Grosbeak
Blue Grosbeak	
Indigo Bunting	Indigo Bunting
Dickcissel	Dickcissel

[1] Birds identified within IPaC as Birds of Conservation Concern that have potential to occur within the Project Area

[2] Species listed as State Endangered (however, not noted in the Project EcoCAT)

Appendix C

Name	Owner	Type	Size (Acres)	Distance from Project Area (Feet)
Sangchris Lake State Park [1]	ILDNR	State	783	0
Sangchris Lake State Park [1]	ILDNR	State	2,250	0
Berry's Woods [2]	ILNAI, ILDNR	State	21	4,059
Repka Conservation Easement	Sangamon Conservation Trust	NGO	317	1,848
Megginson Conservation Easement	Sangamon Conservation Trust	NGO	1,240	5,287
20010700	Christian County Soil and Water Conservation District	County	25	6,048
20010677	Christian County Soil and Water Conservation District	County	35	7,610
20010755	Christian County Soil and Water Conservation District	County	46	8,054
Megginson Conservation Easement	Sangamon Conservation Trust	NGO	384	8,505
20010723	Christian County Soil and Water Conservation District	County	38	9,262
20010754	Christian County Soil and Water Conservation District	County	32	9,463
20010736	Christian County Soil and Water Conservation District	County	33	14,415
20081355	Christian County Soil and Water Conservation District	County	22	14,449
20041077	Sangamon County Soil and Water Conservation District	County	130	14,669
20020925	Christian County Soil and Water Conservation District	County	19	15,420

Name	Owner	Type	Size (Acres)	Distance from Project Area (Feet)
20020958	Christian County Soil and Water Conservation District	County	42	15,872
20020965	Christian County Soil and Water Conservation District	County	59	16,163
20010740	Christian County Soil and Water Conservation District	County	109	16,209
20081354	Christian County Soil and Water Conservation District	County	43	16,339
20010722	Christian County Soil and Water Conservation District	County	31	17,121
Ivarene Wildlife Sanctuary	Friends of the Sangamon Valley	NGO	114	17,197
20010751	Christian County Soil and Water Conservation District	County	76	18,045
Sangchris Lake State Park	ILDNR	State	3,070	18,357
20010753	Christian County Soil and Water Conservation District	County	283	18,842
20020926	Christian County Soil and Water Conservation District	County	67	20,963
20020922	Christian County Soil and Water Conservation District	County	35	23,788
20010697	Christian County Soil and Water Conservation District	County	267	24,189
Don Bragg Sports Complex	--	Municipal	11	27,824
20010701	Christian County Soil and Water Conservation District	County	82	28,147

Name	Owner	Type	Size (Acres)	Distance from Project Area (Feet)
20020923	Christian County Soil and Water Conservation District	County	147	28,180
Jaynes Park	--	Municipal	10	28,674
20020955	Christian County Soil and Water Conservation District	County	12	28,933
20010752	Christian County Soil and Water Conservation District	County	49	32,325
20041080	Sangamon County Soil and Water Conservation District	County	24	34,282
20010721	Christian County Soil and Water Conservation District	County	178	36,255
20020919	Christian County Soil and Water Conservation District	County	46	36,805
20010668	Christian County Soil and Water Conservation District	County	42	41,935
20020921	Christian County Soil and Water Conservation District	County	31	42058
20111407	Christian County Soil and Water Conservation District	County	24	42,308
Edinburg	--	Municipal	7	42,381
20020957	Christian County Soil and Water Conservation District	County	99	42,715
Lakeshore Golf Course	--	Municipal	157	43,075
Freeman Mine State Habitat Area	ILDNR	State	178	44,900
Perschbacher Service Center	ILDNR	State	7	33,572
20041105	Sangamon County Soil and Water Conservation District	County	22	45,315
20021017	Sangamon County Soil and Water Conservation District	County	155	45,807

Name	Owner	Type	Size (Acres)	Distance from Project Area (Feet)
20010678	Christian County Soil and Water Conservation District	County	22	45,854
WRP	Sangamon County Soil and Water Conservation District	Federal	347	47,762
20010814	Sangamon County Soil and Water Conservation District	County	90	47,994
20041107	Sangamon County Soil and Water Conservation District	County	71	48,549
Miscellaneous Property	ILDNR	State	0.2	49,753
Miscellaneous Property	ILDNR	State	0.4	49,882
20020942	Sangamon County Soil and Water Conservation District	County	43	50,884
20020854	Sangamon County Soil and Water Conservation District	County	40	51,502

[1] Sangchris Lake State Park did not come up in the EcoCAT query

[2] Berry's Woods did show up in the EcoCAT query but was cleared by ILDNR staff as no impact

Exhibit 5:
Wetland and Waterbody Delineation Report

Hickory Point Solar Energy Project

Wetland and Waterbody Delineation Report

Hickory Point Solar Energy Project
Christian County, Illinois

May 2023

Prepared for:

Hickory Point Solar Energy Center LLC
One South Wacker Drive, Suite 1800
Chicago, IL, 60606

Prepared by:

Stantec Consulting Services Inc.
One Carlson Parkway
Suite 100
Plymouth, MN 55447

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APPENDICES

1.0 INTRODUCTION

On behalf of Hickory Point Solar Energy Center LLC (Hickory Point), Stantec Consulting Services Inc. (Stantec) staff performed a wetland and waterbody field delineation for the Hickory Point Solar Energy Project (Project) in April 2023. The Project is located in Christian County, Illinois, throughout several townships (Study Area; **Table 1** and **Figure 1**). The Study Area includes approximately 4,250 acres of primarily row-crop agricultural land, however, the Project development acreage will be limited to approximately 2,000 acres. The objective of the wetland and waterbody delineation was to field identify location and areal extent of wetlands and waterbodies within the Study Area.

Table 1: Townships, Ranges and Sections Intersected by the Study Area

State	County	Township	Township, Range	Sections
Illinois	Christian	Bear Creek Township	13N, 3W	*3-10, 15-16*
		King Township	12N, 4W	*1, 12*
		South Fork Township	13N, 3W	*28-33*
			13N, 4W	*36*

Activities which affect or potentially affect wetlands may be regulated by the U.S. Army Corps of Engineers (USACE) Rock Island District (under Section 404 of the Clean Water Act) as well as the Illinois Department of Natural Resources (IDNR; under the Rivers, Lakes and Streams Act; 615 Illinois Compiled Statutes 5), and the Illinois Environmental Protection Agency (IEPA; under Section 401 of the Clean Water Act).

Land use within the Study Area is predominantly agricultural, the majority of which is used for cultivated crops such as corn and soybeans with interspersed pasture, hay, and non-native grassland. Forested habitats include riparian corridors and windbreaks.

2.0 METHODS

Stantec conducted both a desktop review and field delineations of wetland and waterbody resources for the Project. First, a desktop review was done using publicly available data sources, as described in **Section 2.1**. Following the desktop review, field delineations of wetlands and waterbodies were performed in the Study Area from April 3 to 5, 2023, to map the presence and extent of wetlands and waterbodies as described in **Section 2.2**.

2.1 DESKTOP REVIEW

Preliminary wetland presence and boundaries were delineated via routine offsite methodology based on the *Wetland Mapping Conventions for Agricultural Lands* (NRCS et al 2016; Offsite Manual). Stantec utilized desktop resources to identify hydrology indicators including crop stress, drowned out crops, inundation, saturation, set aside or not-cropped areas, altered cropping patterns, or other visual indicators that wetness had affected crop growth or land management decisions. Potential wetland features were field investigated and wetland boundaries were mapped in the field and were finalized using aerial imagery as needed.

U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Web Soil Survey data (USDA - NRCS 2023) were used to identify soil types and hydric soils in the Study Area that may indicate wetland features. The United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI; USFWS 2023) and United States Geologic Survey (USGS) National Hydrography Dataset (NHD; USGS 2023) data were reviewed for to inform field crews of possible wetland and waterbody locations and types to investigate during the field delineations.

Precipitation conditions were assessed prior to the site visit, using the USDA – NRCS Three-Prior-Month Method (USDA – NRCS 2020) and the USACE Antecedent Precipitation Tool (APT; USACE 2020a) for evaluating antecedent precipitation. Precipitation conditions were used to assist with field determinations, specifically to understand whether normal climactic and precipitation conditions were present during field surveys, and to guide delineators to make informed decisions where and how hydrology may be altered (e.g., perched water tables, wet season water tables, etc.). The APT utilized data from the Morrisonville and Morrisonville 0.5 SSE weather stations in Christian County, Illinois. The antecedent precipitation conditions for the field investigation are provided in **Section 3.1**.

2.2 FIELD INVESTIGATION

2.2.1 Wetlands

The wetland investigation was conducted by Stantec from April 3 to 5, 2023, using methodology set forth by the USACE 1987 *Wetlands Delineation Manual* (1987 Manual; USACE 1987) and the USACE's 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region* (2010

Regional Supplement). The 1987 Manual and 2010 Regional Supplement require all three parameters of hydrophytic vegetation, wetland hydrology, and hydric soil to be present for an area to be considered a wetland. USACE Wetland Determination Forms were prepared to collect this information.

If an area was determined to be wetland by encompassing all three parameters, then the wetland was further characterized using the Classification of Wetlands and Deepwater Habitats of the United States (Cowardin *et al* 1979). In Illinois, freshwater wetlands are described as palustrine features and the most common wetland type of farmed wetlands in the Study Area were palustrine emergent wetlands (PEM) dominated by grasses and forbs.

Plant species were identified by Stantec at wetland data points and were assigned a percent cover. The *National Wetland Plant List* (NWPL; USACE 2020b) assigns each species an indicator status of obligate (OBL), facultative wet (FACW), facultative (FAC), facultative upland (FACU) or upland (UPL) and are used in calculations to determine whether vegetation is hydrophytic (water-loving) or upland (2020b). The dominance test, prevalence index, and rapid test encompass the plant's indicator status and percent cover and are used to determine if the vegetation meets the wetland vegetation criteria, along with qualitative factors like morphological adaptations and problematic/disturbed vegetation. The calculation methods are described in the 1987 Manual and 2010 Regional Supplement.

The presence of wetland hydrology was determined through routine offsite methodology described in the Offsite Manual as well as direct observation of primary and/or secondary wetland hydrology indicators per the 1987 Manual and the 2010 Regional Supplement at wetland data points. Alternatively, the direct observation of two or more secondary wetland hydrology indicators could be used to meet the wetland hydrology criteria.

Soils were characterized by Dutch auger observations at each wetland data point, where soil pits were dug up to 24 inches. If the soils exhibited indicators of hydric soils (redox dark surface, depleted matrix, etc.) per *Field Indicators of Hydric Soil in the United States Version 8.2* (USDA - NRCS 2018) or were otherwise determined to meet the definition of a hydric soil, the soils were determined to be hydric. Soil colors described herein follow Munsell Soil Color Charts.

In addition to delineating wetlands, all areas where NWI and aerial imagery indicated that a wetland was potentially present were field verified. In some cases, wetlands do not actually exist where NWI or aerial signatures suggest due to landscape changes, mapping error, hydrological alterations, climactic conditions, or otherwise. In these cases, Stantec collected upland points and/or took photos to capture the upland nature of these areas.

Data collection for wetlands (including wetland and upland data points) was completed using sub-meter global positioning system (GPS) equipment. Wetland Determination Forms, photographs, and detailed notes of field conditions, wetlands, vegetation, hydrology, soils, surrounding habitat, and other ecological characteristics were kept documenting the wetland and waterbody delineations.

Determinations on the potential jurisdiction of the USACE and IDNR for field delineated wetlands were made via follow-up desktop analysis after the collection of field data per the Environmental Protection Agency's (EPA) Revised Definition of Waters of the United States (WOTUS; 33 Code of Federal

Regulations Part 328). This definition relies on the use of a significant nexus analysis and relatively permanent standard.

A wetland or waterbody is subject to federal regulations if a feature meets the definition of a WOTUS, defined as: "traditional navigable waters (TNWs); interstate waters, and the territorial seas, and their adjacent wetlands; most impoundments of WOTUS; tributaries to traditional navigable waters, interstate waters, the territorial seas, and impoundments that meet either the relatively permanent standard or the significant nexus standard; wetlands adjacent to impoundments and tributaries, that meet either the relatively permanent standard or the significant nexus standard; and "other waters" that meet either the relatively permanent standard or the significant nexus standard."

If there is a possible hydrological connection of a wetland to a larger water resource system, the feature is considered potentially jurisdictional by the USACE and IDNR; if there is no apparent hydrological connection then the feature is not defined as a WOTUS and it is considered non-jurisdictional. Note that this evaluation is based on Stantec's best professional judgement and that only the USACE can confirm the jurisdictional status of water resources through the Jurisdictional Determination Process.

The State of Illinois has jurisdiction over waters in the state through the Rivers, Lakes and Streams Act (615 Illinois Compiled Statutes 5), Public Waters per 17 Illinois Administrative Code Section 3704, and the IEPA (via Section 401 of the Clean Water Act). State of Illinois water resources are subject to applicable statewide, regional, and general permits.

2.2.2 Waterbodies

Waterbodies (streams, channels, rivers, ditches, etc.) were identified separately from wetlands if they exhibited physical evidence of an Ordinary High-Water Mark (OHWM) per the characteristics outlined in the *Regulatory Guidance Letter Number 05-05; OHWM Identification* (USACE 2005), but lacked wetland characteristics (hydric soil, hydrology, and hydrophytic vegetation). If an area exhibits an OHWM, then the waterbody is further characterized by using the Classification of Wetlands and Deepwater Habitats of the United States (Cowardin *et al* 1979).

During the field delineation, care was taken to differentiate natural streams upland drainage swales (lacking a defined bed-and-bank). Upland drainage swales were common features in the Study Area. These features were typically swales which may carry water but lacked indicators of an OHWM and often contained upland vegetation. An example of an upland drainage swale is shown below in **Photo 1**. However, if a roadside ditch or other human-made ditch exhibited wetland characteristics, it was delineated as a wetland; if bed-and-bank were present then it was delineated as a waterbody.

Photo 1. An upland drainage swale feature present in an agricultural field. Upland vegetation is present and there was no bed and bank or evidence of an OHWM present. The three wetland parameters for hydrology, hydrophytic vegetation, or hydric soils were not present.

In addition to delineating waterbodies, all areas where NHD and aerial imagery indicated that a waterbody may be present were field verified. In some cases, waterbodies do not actually exist where NHD or aerial signatures suggest due to landscape changes, hydrological alterations, climactic conditions, or otherwise. In these cases, Stantec took photos to document the upland nature of these areas.

Data collection for waterbodies was completed using sub-meter GPS equipment and Waterbody Data Sheets. Photographs were taken of each feature and detailed notes of field conditions, OHWM indicators, vegetation, hydrology, soils, surrounding habitat, and other ecological characteristics were kept to aid in the waterbody delineations.

Determinations on the potential jurisdiction of the USACE and IDNR for field delineated waterbodies were made via follow-up desktop analysis after the collection of field data per the EPA's Revised Definition of WOTUS (33 Code of Federal Regulations Part 328). A wetland or waterbody is subject to federal regulations if a feature meets the definition of WOTUS, defined as: "TNW's; interstate waters, and the territorial seas, and their adjacent wetlands; most impoundments of WOTUS; tributaries to traditional navigable waters, interstate waters, the territorial seas, and impoundments that meet either the relatively permanent standard or the significant nexus standard; wetlands adjacent to impoundments and tributaries, that meet either the relatively permanent standard or the significant nexus standard; and "other waters" that meet either the relatively permanent standard or the significant nexus standard."

If a feature is not defined as WOTUS, it is considered potentially non-jurisdictional. Note that this information is estimated by Stantec and that only the USACE can confirm the jurisdictional status of water resources through the Jurisdictional Determination Process.

The State of Illinois has jurisdiction over waters in the state through the Rivers, Lakes and Streams Act (615 Illinois Compiled Statutes 5), Public Waters per 17 Illinois Administrative Code Section 3704, and the IEPA (via Section 401 of the Clean Water Act). State of Illinois water resources are subject to applicable statewide, regional, and general permits.

3.0 RESULTS

3.1 DESKTOP REVIEW

The desktop review consisted of compiling data from the sources listed in **Section 2.1**. The NWI and NHD mapping are shown in **Figure 2**. Web Soil Survey soil map units and hydric ratings are shown in **Figure 3**. A summary of Web Soil Survey map unit hydric ratings is provided in **Table 2**.

Table 2: NRCS Hydric Soil Acreages within the Study Area

Map Unit Hydric Rating	Project Area Acreage
Hydric Rating 100%	20.06
Hydric Rating 66-99%	2,280.62
Hydric Rating 33-65%	0
Hydric Rating 1-32%	1,915.09
Hydric Rating 0%	34.68
TOTAL[1]	**4,250.46**

[1]Sum of addends may not add up to project acreage due to rounding.

Precipitation was analyzed using the USACE APT which calculates a three-month rolling precipitation total. Precipitation was considered *wetter than normal* prior to the April 2023 site visit, as shown in **Table 3**, below.

Table 3: Antecedent Precipitation Tool Data

30 Days Ending	< 30% chance (in)	> 30% chance (in)	Observed Precipitation (in)	Wetness Condition Dry, Wet, Normal	Condition Value[1]	Month Weight Value	Product of Previous 2 Columns
03-29-2023	1.75	3.08	3.80	Wet	3	3	9
02-27-2023	1.37	2.28	2.03	Normal	2	2	4
01-28-2023	1.0	2.30	2.28	Normal	2	1	2
Conclusions[2]	**Prior period has been *wetter than normal***					**Sum**	**15**

[1] Condition Values are as follows: Dry=1, Normal=2, Wet=3
[2] Conclusions are as follows: If the sum is 6-9 than the period has been drier than normal; if the sum is 10-14 then that period has been normal; if the sum is 15-18 then the period has been wetter than normal.

3.2 FIELD INVESTIGATION

Parcels within the Study Area were visited during the field investigation to determine the presence or absence of wetlands and waterbodies. A total of 11 wetlands (7.80 acres) and eight waterbodies (30,966 linear feet) were identified during the 2023 field delineation, which are summarized in **Table 4,** and are shown in **Figure 4** and **Attachment A**. Field data sheets for wetlands and waterbodies are provided in **Appendix A.** Photographs of wetland and waterbodies are provided in **Appendix B**.

. The majority of the Study Area is disturbed by farming practices including tilling, drain tiling and use of fertilizer. Drain tiles and inlets were observed throughout the Study Area draining excess water from crops to roadside ditches and waterbodies, altering the hydrology of streams and wetlands within the Study Area. Many of the potential wetland areas visited during the field investigation were found to be effectively drained by tile and are potentially non-jurisdictional. Clear Creek runs northeast through the middle of the Study Area and several of the waterbodies are tributaries to Clear Creek (**Figure 2** and **Figure 4**).

PEM Wetlands

The field investigation identified 11 wetlands, all of which are characterized as PEM wetlands (**Table 4**). The wetlands are located within or adjacent to active agricultural fields with the exception of wetland 8 which is located adjacent to Clear Creek (Stream 1) in the creek floodplain. Wetland boundaries were field delineated; some wetland boundaries were confirmed using time-lapsed aerial imagery when farmed wetland boundaries were difficult to determine in the field.

Dominant wetland vegetation consisted of barnyard grass (*Echinochloa crus-galli*), giant foxtail (*Setaria faberi*), and reed canary grass (*Phalaris arundinacea*). Common dominant upland vegetation included common henbit (*Lamium amplexicaule*), field pennycress (*Thlaspi arvense*), smooth brome (*Bromus inermis*) and shepherd's purse (*Capsella bursa-pastoris*).

Clay was the most common soil type within the wetlands and the wetland sample points met hydric soil indicators of Redox Dark Surface (F6) and Depleted Below Dark Surface (A11). Primary hydrology indicators found in the delineated wetlands were Surface Water (A1), High Water Table (A2), Saturation (A3), Drift Deposits (B3), Algal Mat or Crust (B4), and Sparsely Vegetated Concave Surface (B8). Because of the clay soils present, many of the wetlands were episaturated with water sitting on or near the surface but without a near surface water table present underneath the top layer of saturated soil. Secondary hydrology indicators found in delineated wetlands included Surface Soil Cracks (B6), Drainage Patterns (B10), Saturation Visible on Aerial Imagery (C9), Stunted or stressed plants (D1), Geomorphic position (D2), and FAC-Neutral Test (D5).

Waterbodies

Eight waterbodies were present within the Study Area investigated during the 2023 field delineation. Clear Creek (Stream 1) flows through the center of the Study Area. In addition, there are several tributaries and other streams present in the Study Area. Many of the waterbodies have been altered, ditched, or excavated.

Perennial streams have flow year-round and are fed by groundwater and precipitation. Perennial streams present within the Study Area include Streams 1, 2, 3, and 7. Intermittent streams have flow part of the year and are fed by groundwater and precipitation which include Streams 6 and 8. Ephemeral streams are fed primarily by precipitation and typically flow only in response to precipitation and include Streams 4 and 5.

Table 4: Summary of Field Delineated Wetlands and Waterbodies

Unique ID	Cowardin/ Flow Regime	Wetland Area (acres)	Stream Length (feet)	Stream Width (feet)	Latitude	Longitude	Potentially Jurisdictional or Isolated [1]
WA-01	PEM	0.01	--	--	39.49453335	-89.42657806	Potentially Non-Jurisdictional
WA-02	PEM	0.01	--	--	39.49890364	-89.42283628	Potentially Non-Jurisdictional
WA-03	PEM	1.79	--	--	39.52559390	-89.43016737	Potentially Non-Jurisdictional
WB-01	PEM	1.57	--	--	39.52559391	-89.48135607	Potentially Non-Jurisdictional
WB-02	PEM	1.04	--	--	39.51160019	-89.47467247	Potentially Non-Jurisdictional
WB-03	PEM	0.14	--	--	39.50954021	-89.47584343	Potentially Non-Jurisdictional
WB-04	PEM	0.16	--	--	39.50445185	-89.46457466	Potentially Non-Jurisdictional
WB-05	PEM	0.23	--	--	39.5246705	-89.46993319	Potentially Non-Jurisdictional
WB-06	PEM	0.57	--	--	39.52654171	-89.46849781	Potentially Non-Jurisdictional
WB-07	PEM	0.97	--	--	39.53398169	-89.45397885	Potentially Non-Jurisdictional
WB-08	PEM	1.31	--	--	39.54592688	-89.43591697	Potentially Jurisdictional
S01	Perennial	--	11,295.05	32	39.54123706	-89.43733559	Potentially Jurisdictional
S02	Perennial	--	6,023.08	20	39.53682423	-89.47257973	Potentially Jurisdictional
S03	Perennial	--	3,290.65	23	39.53732607	-89.47753937	Potentially Jurisdictional
S04	Ephemeral	--	396.49	7	39.53324655	-89.48055123	Potentially Jurisdictional
S05	Ephemeral	--	2,519.01	20	39.51751677	-89.45871484	Potentially Jurisdictional
S06	Intermittent	--	2,659.64	15	39.50247503	-89.46499018	Potentially Jurisdictional
S07	Perennial	--	4,456.41	5	39.51267182	-89.41967575	Potentially Jurisdictional
S08	Intermittent	--	325.67	8	39.53533503	-89.44659412	Potentially Non-jurisdictional

[1] Jurisdictional status is estimated by Stantec based on the EPA's Definition of WOTUS. Only the USACE can confirm jurisdictional status through the Jurisdictional Determination process.

4.0 CONCLUSION

The boundaries of 11 wetlands (7.80 acres) and eight waterbodies (30,966 feet) were identified during the 2023 field delineations within the Study Area. This wetland and waterbody delineation field survey meets the standards described in the 1987 Manual, 2010 Regional Supplement, Offsite Manual, and waterbodies meet the criteria of RGL 05-05.

5.0 REFERENCES

Cowardin, L.M., V. Carter V., F.C. Golet, E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service Report No. FWS/OBS/-79/31.Washington, D.C.

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USDA – NRCS. 2018. Field Indicators of Hydric Soil in the United States, version 8.2. Available at: Field Indicators of Hydric Soils in the United States; A Guide for Identifying and Delineating Hydric Soils; Version 8.2, 2018 (usda.gov). Accessed April 2023.

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The conclusions in the Report titled Wetland and Waterbody Delineation Report are Stantec's professional opinion, as of the time of the Report, and concerning the scope described in the Report. The opinions in the document are based on conditions and information existing at the time the scope of work was conducted and do not take into account any subsequent changes. The Report relates solely to the specific project for which Stantec was retained and the stated purpose for which the Report was prepared. The Report is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

Stantec has assumed all information received from Hickory Point Solar Energy Center LLC, LLC (the "Client") and third parties in the preparation of the Report to be correct. While Stantec has exercised a customary level of judgment or due diligence in the use of such information, Stantec assumes no responsibility for the consequences of any error or omission contained therein.

This Report is intended solely for use by the Client in accordance with Stantec's contract with the Client. While the Report may be provided by the Client to applicable authorities having jurisdiction and to other third parties in connection with the project, Stantec disclaims any legal duty based upon warranty, reliance or any other theory to any third party, and will not be liable to such third party for any damages or losses of any kind that may result.

Prepared by:

Kathryn Keller-Miller, Environmental Scientist

Dan Jasperson, Environmental Scientist

Kevin Mueller, Senior GIS Analyst

Approved by:

Kristina DeName,
Associate, Project Manager
Invenergy Client Manager

FIGURES

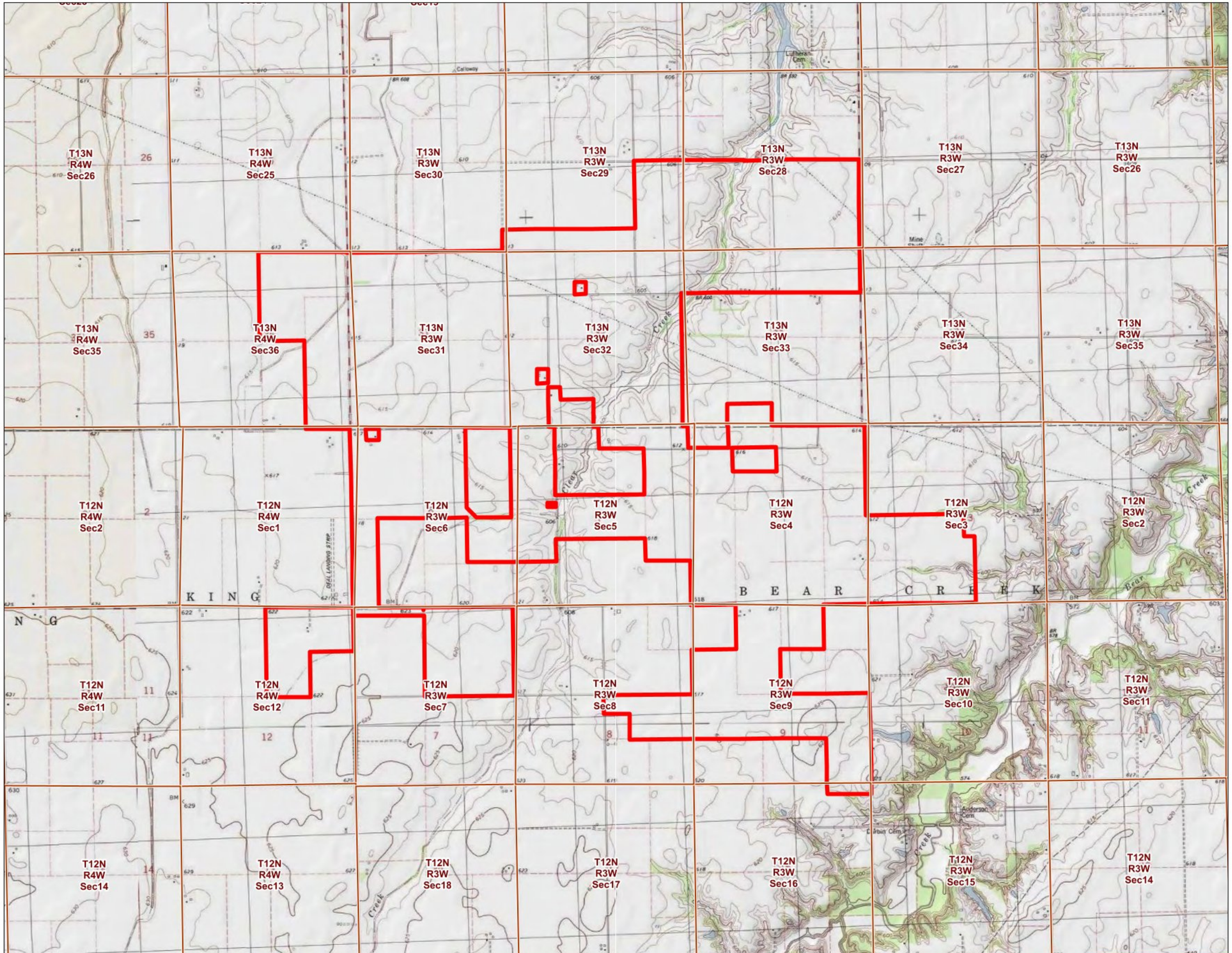

Figure No.
1

Title
Project Overview

Client/Project 227705744
Hickory Point Solar Energy Center LLC
Hickory Point Solar
Wetland and Waterbody Delineation Report

Project Location Prepared by KJM on 2023-05-04
Christian Co., IL

N

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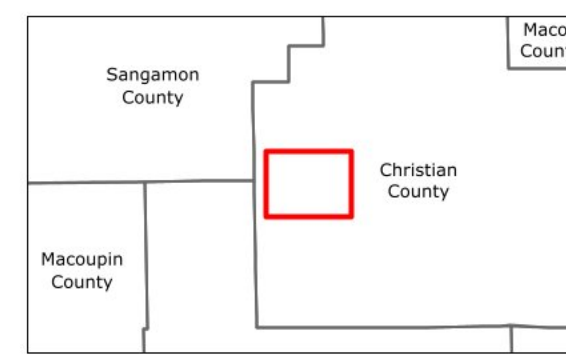
Legend
- Study Area
- PLSS Section Boundary
- County Boundary



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2. Data Sources: USGS, Invenergy, ISGS
3. Background: USGS 7.5 Minute Quadrangle

Stantec

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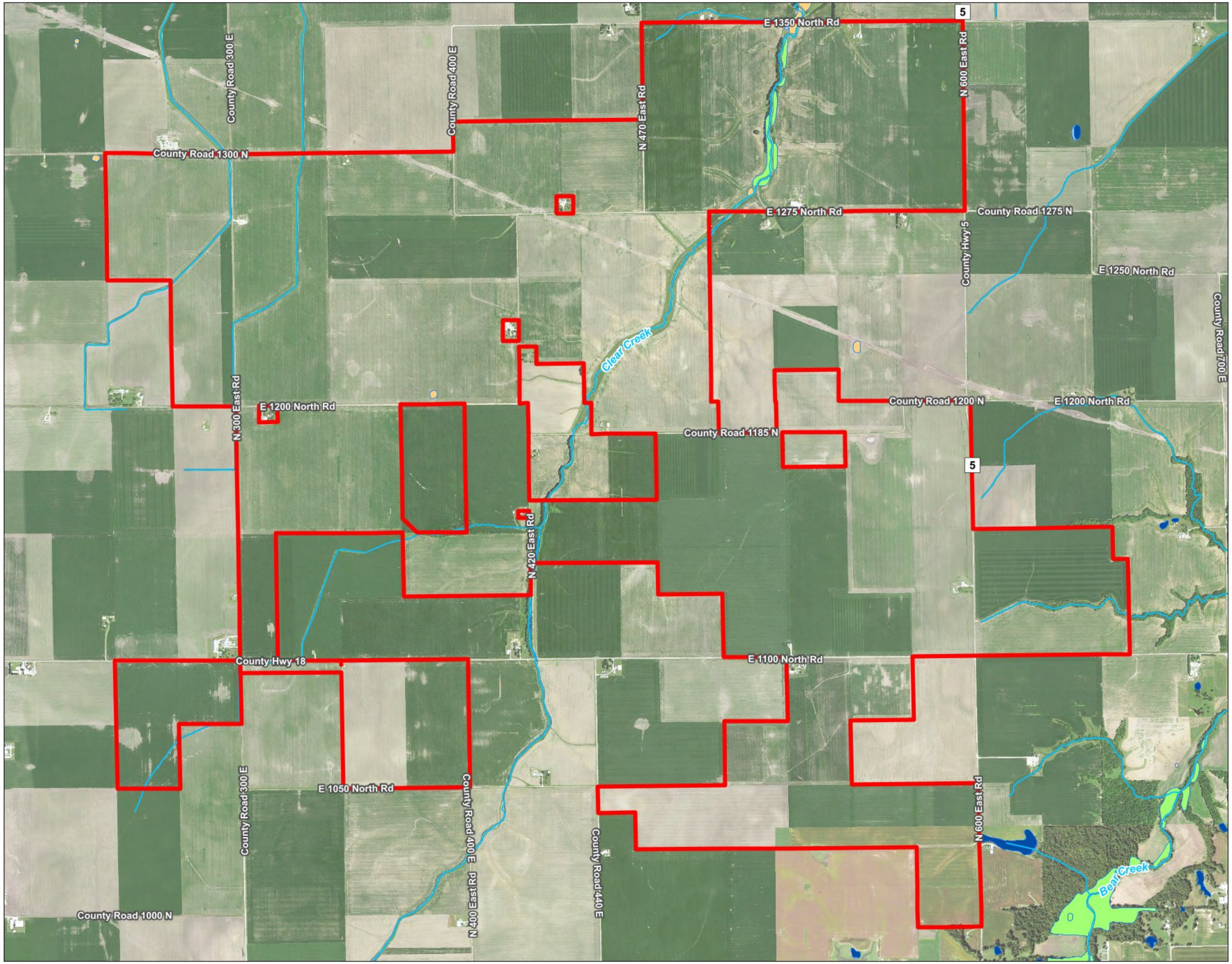

Figure No.
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Title
NWI and NHD Map

Client/Project 227705744
Hickory Point Solar Energy Center LLC
Hickory Point Solar
Wetland and Waterbody Delineation Report

Project Location
Christian Co., IL
Prepared by KJM on 2023-05-04

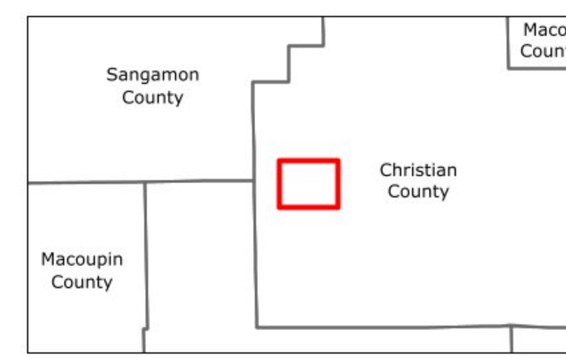
N

0 1,000 2,000
Feet
(At original document size of 11x17)
1:25,200

Legend
- Study Area

National Hydrography Dataset
- River/Stream
- Lake/Pond

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



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2. Data Sources: Invenergy, USGS, USFWS, NADS
3. Background: USGS NAIP Imagery

Stantec

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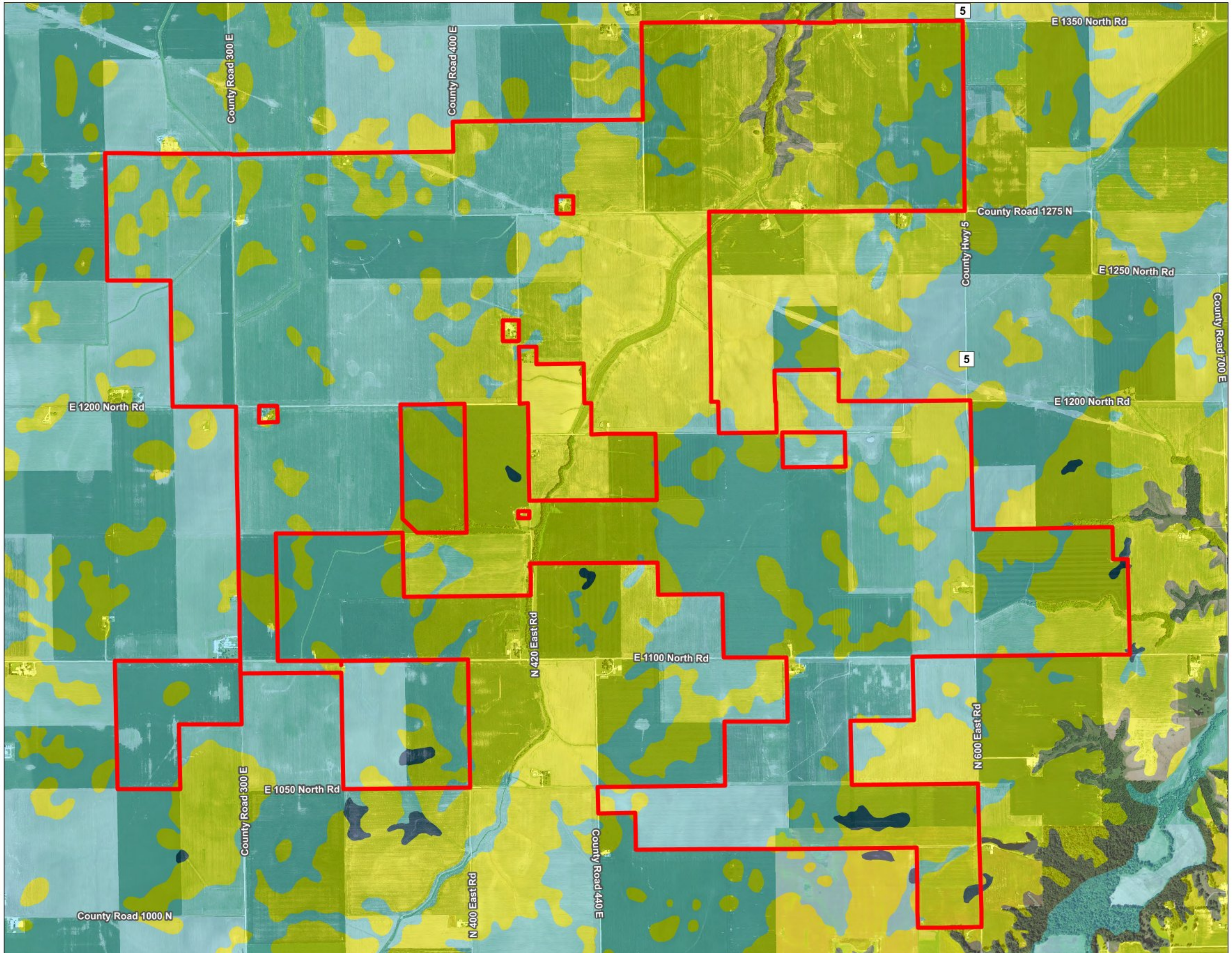


Figure No.
3

Title
Hydric Soils Map

Client/Project 227705744
Hickory Point Solar Energy Center LLC
Hickory Point Solar
Wetland and Waterbody Delineation Report

Project Location
Christian Co., IL

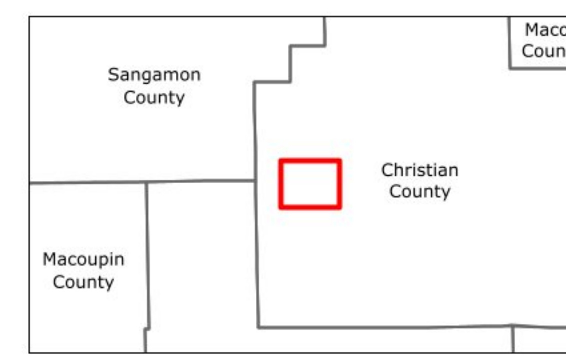
Prepared by KJM on 2023-05-04

N

0 1,000 2,000 Feet
(At original document size of 11x17)
1:25,200

Legend
- Study Area

Hydric Soil Rating
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)



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3. Background: USGS NAIP Imagery

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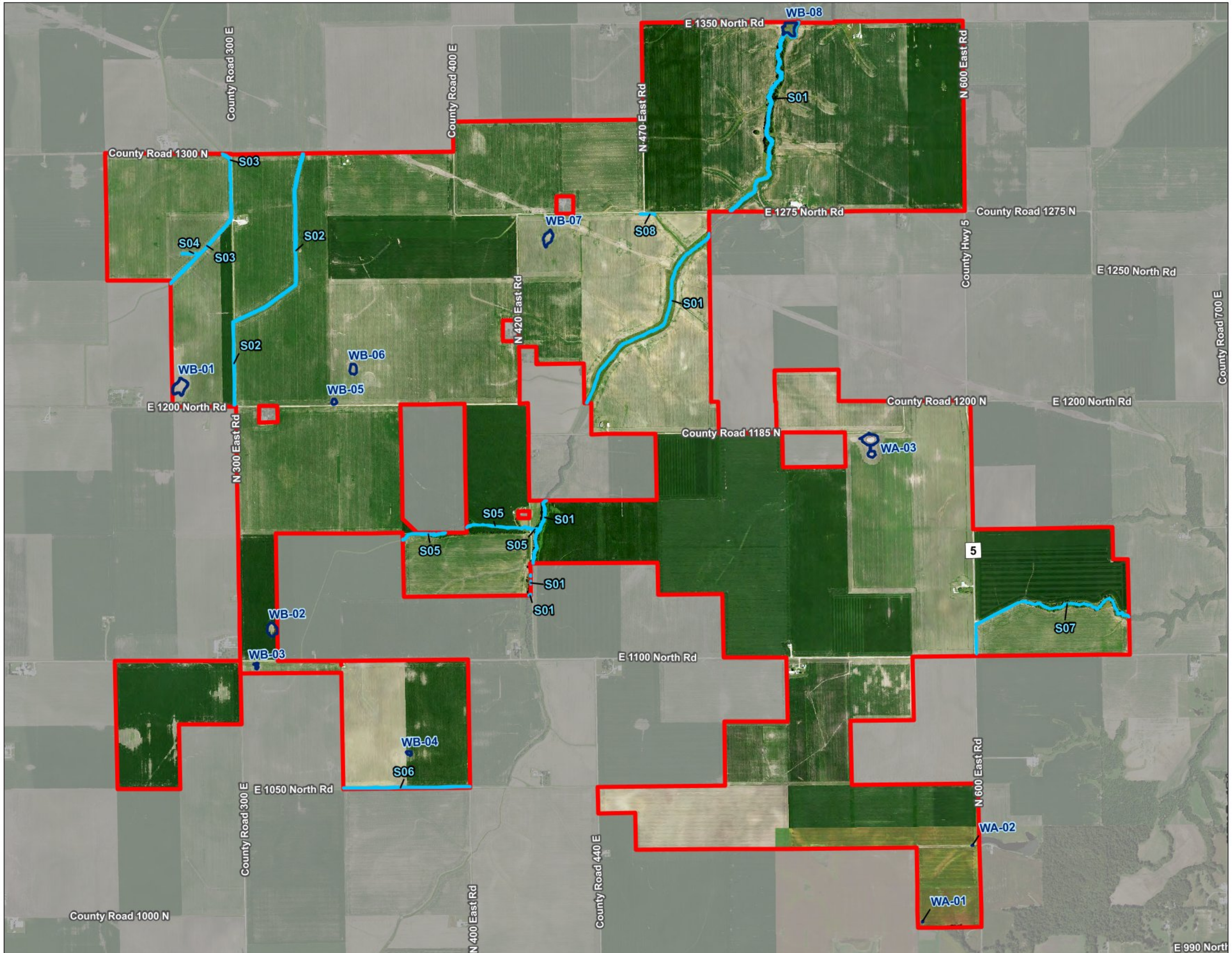

Figure No.
4

Title
Delineated Features Overview

Client/Project 227705744
Hickory Point Solar Energy Center LLC
Hickory Point Solar
Wetland and Waterbody Delineation Report

Project Location
Christian Co., IL

Prepared by KJM on 2023-05-04

N

0 1,000 2,000 Feet
(At original document size of 11x17)
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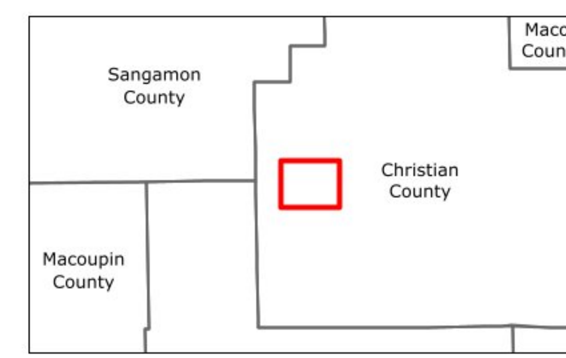
Legend
Study Area
Field Delineated Data
Waterbody
Wetland



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2. Data Sources: Invenergy, Stantec, NADS
3. Background: USGS NAIP Imagery

Stantec

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ATTACHMENT A (MAPBOOK)

Delineated Features Maps

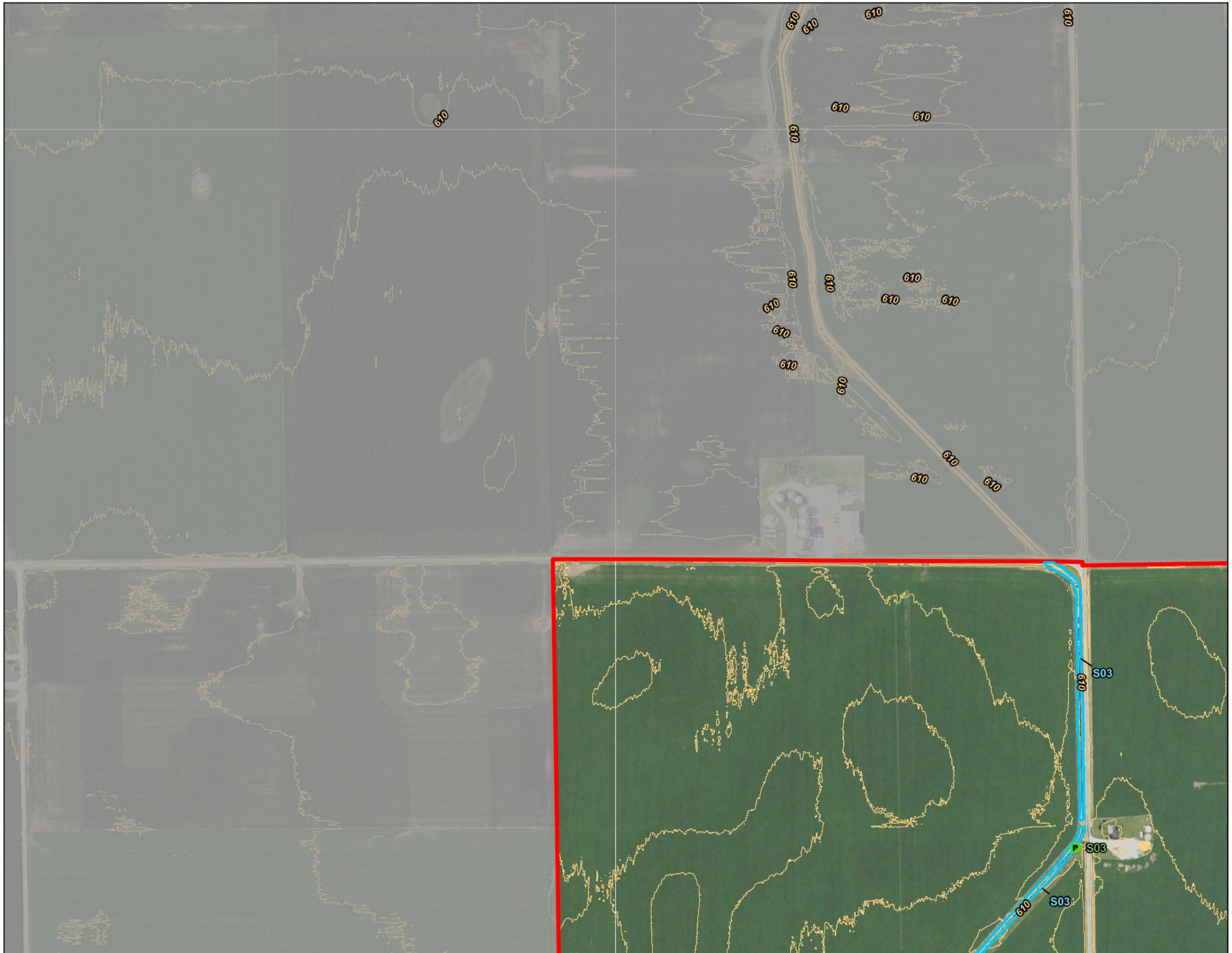


Figure No.
5-1

Title
Delineated Features Mapbook

Client/Project 227705744
Hickory Point Solar Energy Center LLC
Hickory Point Solar
Wetland and Waterbody Delineation Report

Project Location
Christian Co., IL

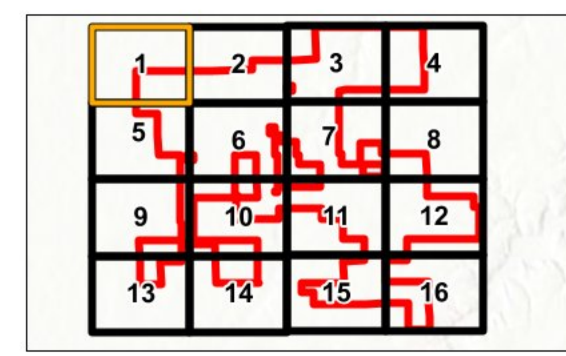
Prepared by KJM on 2023-05-04

N

0 250 500 Feet
(At original document size of 11x17)
1:6,000

Legend
- Photo Location
- Sample Point
- Contours (2ft)
- Study Area

Field Delineated Data
- Waterbody
- Wetland



Notes
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2. Data Sources: Invenergy, Stantec, NADS
3. Background: USGS NAIP Imagery

Stantec

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Figure No.
5-2

Title
Delineated Features Mapbook

Client/Project 227705744
Hickory Point Solar Energy Center LLC
Hickory Point Solar
Wetland and Waterbody Delineation Report

Project Location
Christian Co., IL

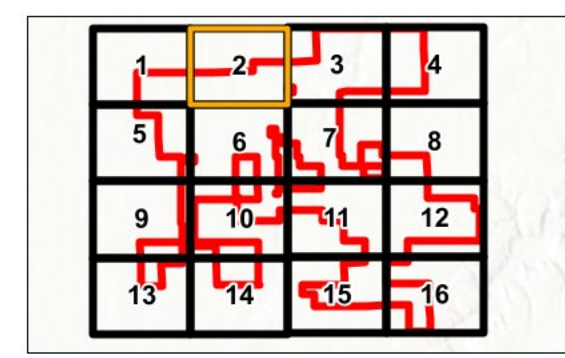
Prepared by KJM on 2023-05-04

N

0 250 500 Feet
(At original document size of 11x17)
1:6,000

Legend
- Photo Location
- Sample Point
- Contours (2ft)
- Study Area

Field Delineated Data
- Waterbody
- Wetland



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2. Data Sources: Invenergy, Stantec, NADS
3. Background: USGS NAIP Imagery

Stantec

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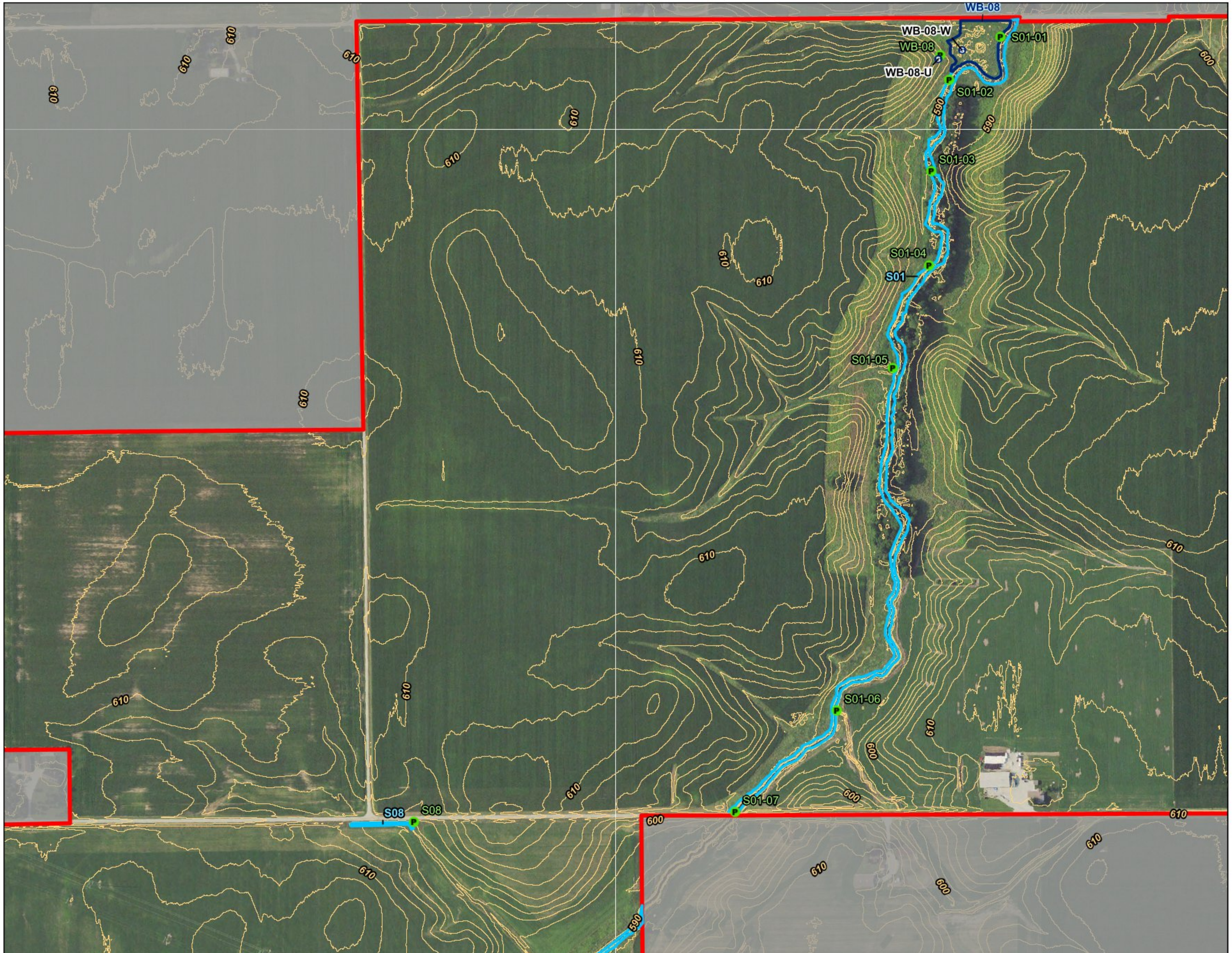


Figure No.
5-3

Title
Delineated Features Mapbook

Client/Project 227705744
Hickory Point Solar Energy Center LLC
Hickory Point Solar
Wetland and Waterbody Delineation Report

Project Location
Christian Co., IL

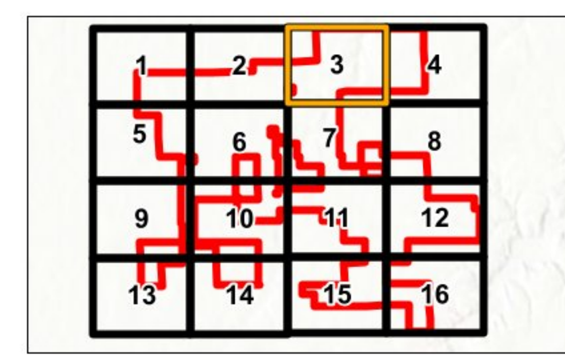
Prepared by KJM on 2023-05-04

N

0 250 500 Feet
(At original document size of 11x17)
1:6,000

Legend
- Photo Location
- Sample Point
- Contours (2ft)
- Study Area

Field Delineated Data
- Waterbody
- Wetland



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3. Background: USGS NAIP Imagery

Stantec

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Figure No.
5-4

Title
Delineated Features Mapbook

Client/Project 227705744
Hickory Point Solar Energy Center LLC
Hickory Point Solar
Wetland and Waterbody Delineation Report

Project Location
Christian Co., IL
Prepared by KJM on 2023-05-04

N

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(At original document size of 11x17)
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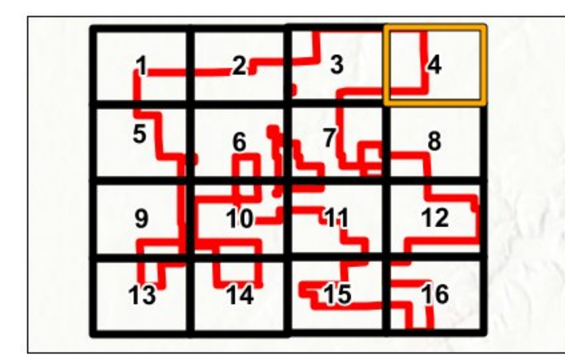
Legend
- Photo Location
- Sample Point
- Contours (2ft)
- Study Area

Field Delineated Data
- Waterbody
- Wetland



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2. Data Sources: Invenergy, Stantec, NADS
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Stantec

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Figure No.
5-5

Title
Delineated Features Mapbook

Client/Project 227705744
Hickory Point Solar Energy Center LLC
Hickory Point Solar
Wetland and Waterbody Delineation Report

Project Location
Christian Co., IL

Prepared by KJM on 2023-05-04

N

0 250 500
Feet
(At original document size of 11x17)
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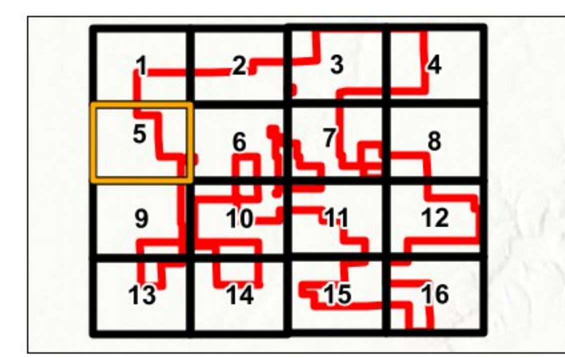
Legend
- Photo Location
- Sample Point
- Contours (2ft)
- Study Area

Field Delineated Data
- Waterbody
- Wetland



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2. Data Sources: Invenergy, Stantec, NADS
3. Background: USGS NAIP Imagery

Stantec

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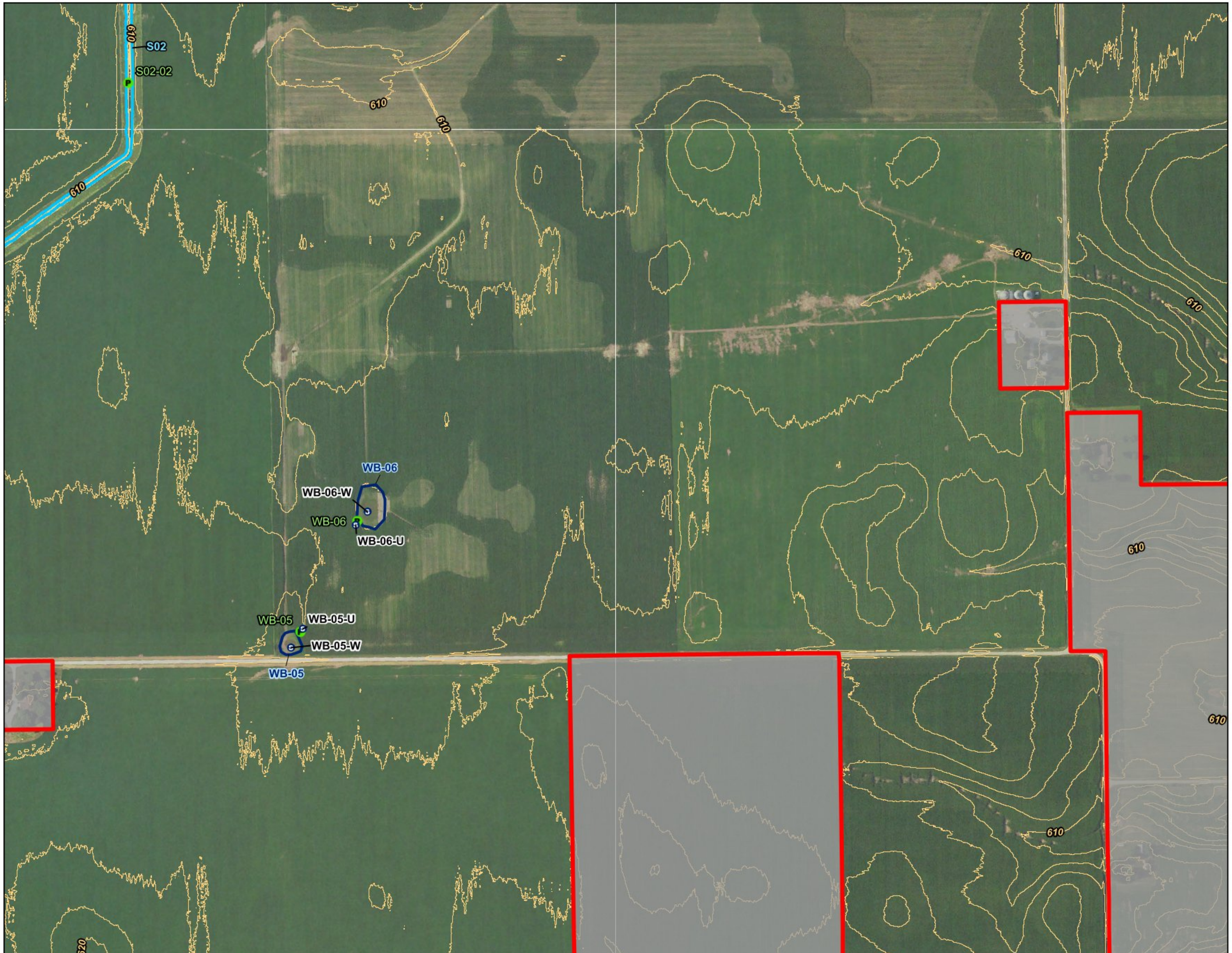


Figure No.
5-6

Title
Delineated Features Mapbook

Client/Project 227705744
Hickory Point Solar Energy Center LLC
Hickory Point Solar
Wetland and Waterbody Delineation Report

Project Location
Christian Co., IL

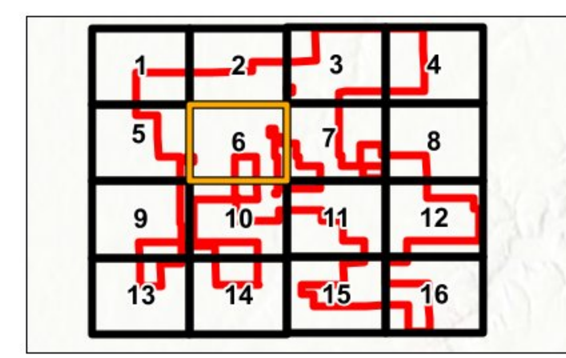
Prepared by KJM on 2023-05-04

N

0 250 500 Feet
(At original document size of 11x17)
1:6,000

Legend
- Photo Location
- Sample Point
- Contours (2ft)
- Study Area

Field Delineated Data
- Waterbody
- Wetland



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Stantec

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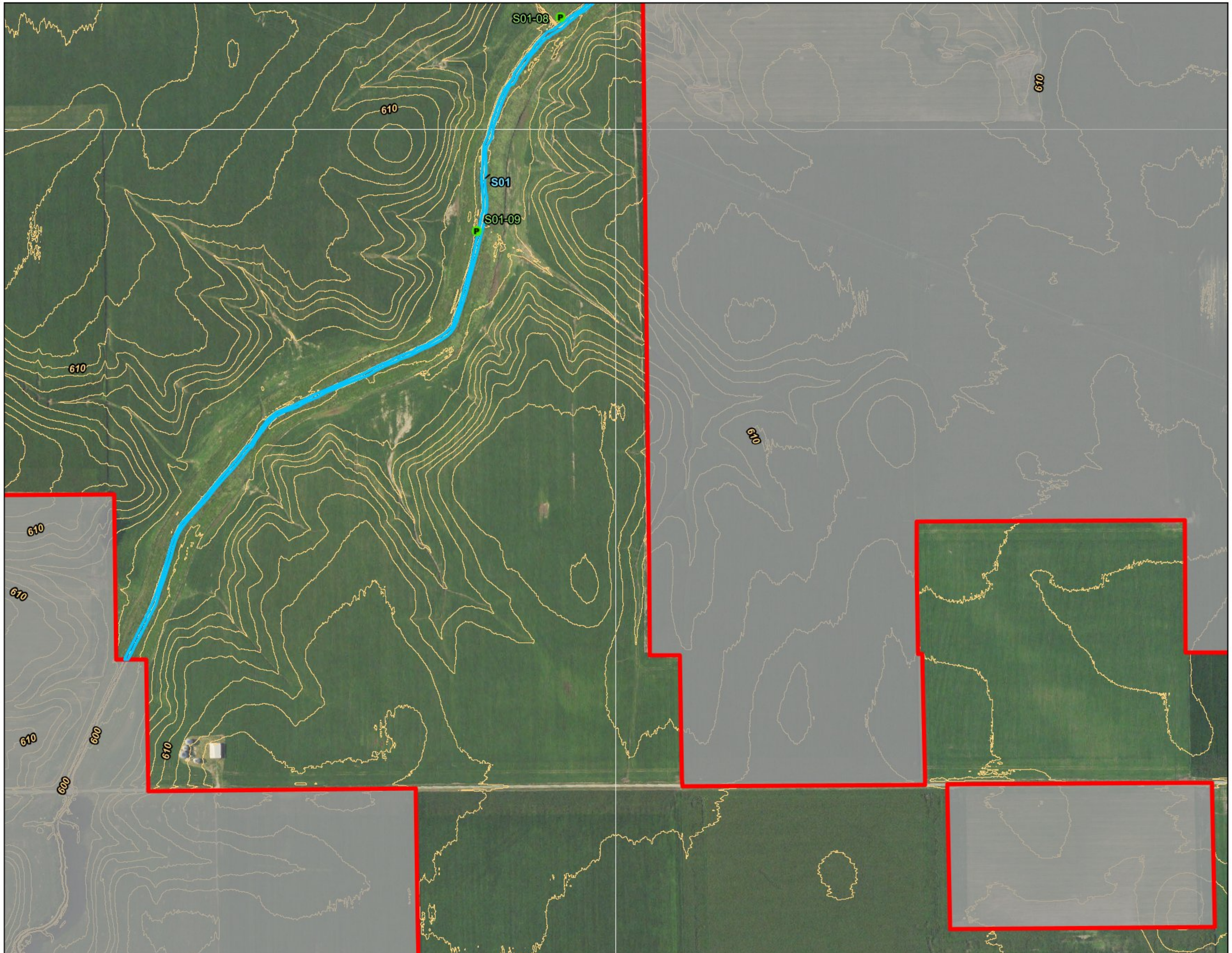

Figure No.
5-7

Title
Delineated Features Mapbook

Client/Project 227705744
Hickory Point Solar Energy Center LLC
Hickory Point Solar
Wetland and Waterbody Delineation Report

Project Location
Christian Co., IL

Prepared by KJM on 2023-05-04

N

0 250 500 Feet
(At original document size of 11x17)
1:6,000

Legend
- Photo Location
- Sample Point
- Contours (2ft)
- Study Area

Field Delineated Data
- Waterbody
- Wetland

Notes
1. Coordinate System: NAD 1983 StatePlane Illinois West FIPS 1202 Feet
2. Data Sources: Invenergy, Stantec, NADS
3. Background: USGS NAIP Imagery

Stantec

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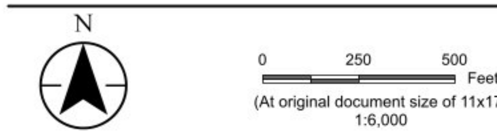
Figure No.
5-8

Title
Delineated Features Mapbook

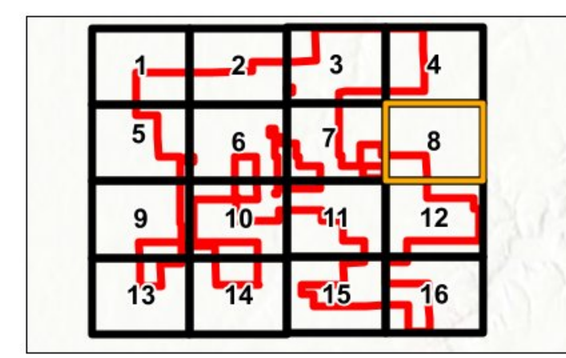
Client/Project 227705744
Hickory Point Solar Energy Center LLC
Hickory Point Solar
Wetland and Waterbody Delineation Report

Project Location Prepared by KJM on 2023-05-04
Christian Co., IL



Legend
- Photo Location
- Sample Point
- Contours (2ft)
- Study Area

Field Delineated Data
- Waterbody
- Wetland



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2. Data Sources: Invenergy, Stantec, NADS
3. Background: USGS NAIP Imagery

Stantec

Figure No.
5-9
Title
Delineated Features Mapbook

Client/Project 227705744
Hickory Point Solar Energy Center LLC
Hickory Point Solar
Wetland and Waterbody Delineation Report

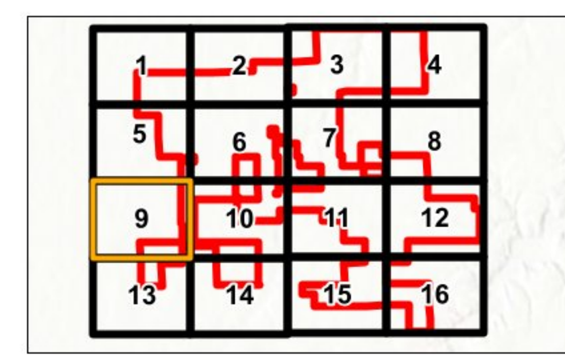
Project Location Prepared by KJM on 2023-05-04
Christian Co., IL

N

0 250 500 Feet
(At original document size of 11x17)
1:6,000

Legend
- Photo Location
- Sample Point
- Contours (2ft)
- Study Area

Field Delineated Data
- Waterbody
- Wetland



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2. Data Sources: Invenergy, Stantec, NADS
3. Background: USGS NAIP Imagery

Stantec

V:\2277\active\227705744\03_data\gis_cad\gis\pro\wetland_delineation\wetland_delineation.aprx Revised: 2023-05-04 By: kjmueller

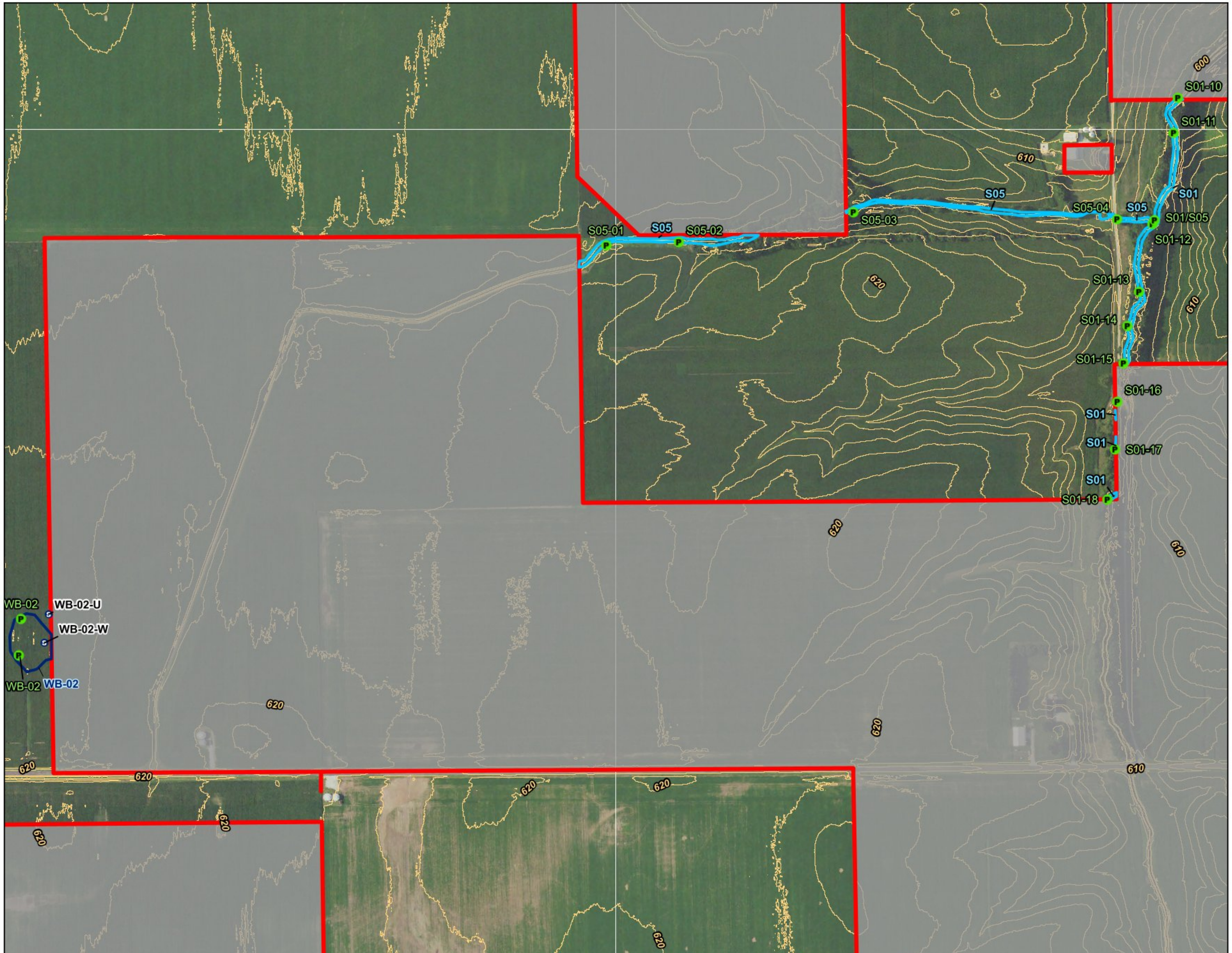


Figure No.
5-10

Title
Delineated Features Mapbook

Client/Project 227705744
Hickory Point Solar Energy Center LLC
Hickory Point Solar
Wetland and Waterbody Delineation Report

Project Location
Christian Co., IL

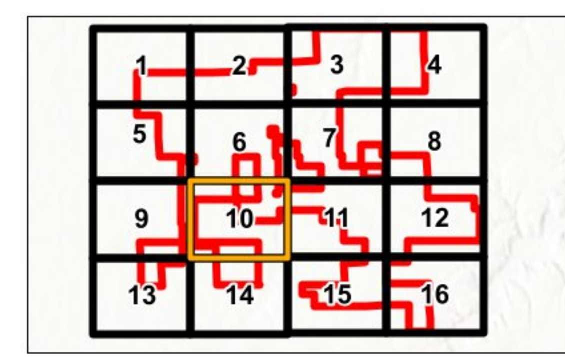
Prepared by KJM on 2023-05-04

N

0 250 500 Feet
(At original document size of 11x17)
1:6,000

Legend
- Photo Location
- Sample Point
- Contours (2ft)
- Study Area

Field Delineated Data
- Waterbody
- Wetland



Notes
1. Coordinate System: NAD 1983 StatePlane Illinois West FIPS 1202 Feet
2. Data Sources: Invenergy, Stantec, NADS
3. Background: USGS NAIP Imagery

Stantec

Figure No.

5-11

Title

Delineated Features Mapbook

Client/Project 227705744

Hickory Point Solar Energy Center LLC
Hickory Point Solar
Wetland and Waterbody Delineation Report

Project Location
Christian Co., IL

Prepared by KJM on 2023-05-04

N

0 250 500 Feet

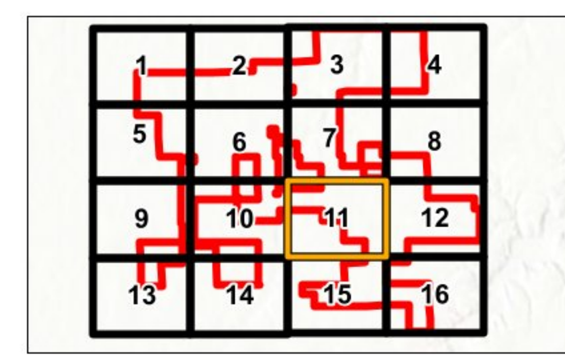
(At original document size of 11x17)
1:6,000

Legend

- Photo Location
- Sample Point
- Contours (2ft)
- Study Area

Field Delineated Data

- Waterbody
- Wetland



Notes
1. Coordinate System: NAD 1983 StatePlane Illinois West FIPS 1202 Feet
2. Data Sources: Invenergy, Stantec, NADS
3. Background: USGS NAIP Imagery

Stantec

V:\2277\active\227705744\03_data\gis_cad\gis\pro\wetland_delineation\wetland_delineation.aprx Revised: 2023-05-04 By: kjmueller

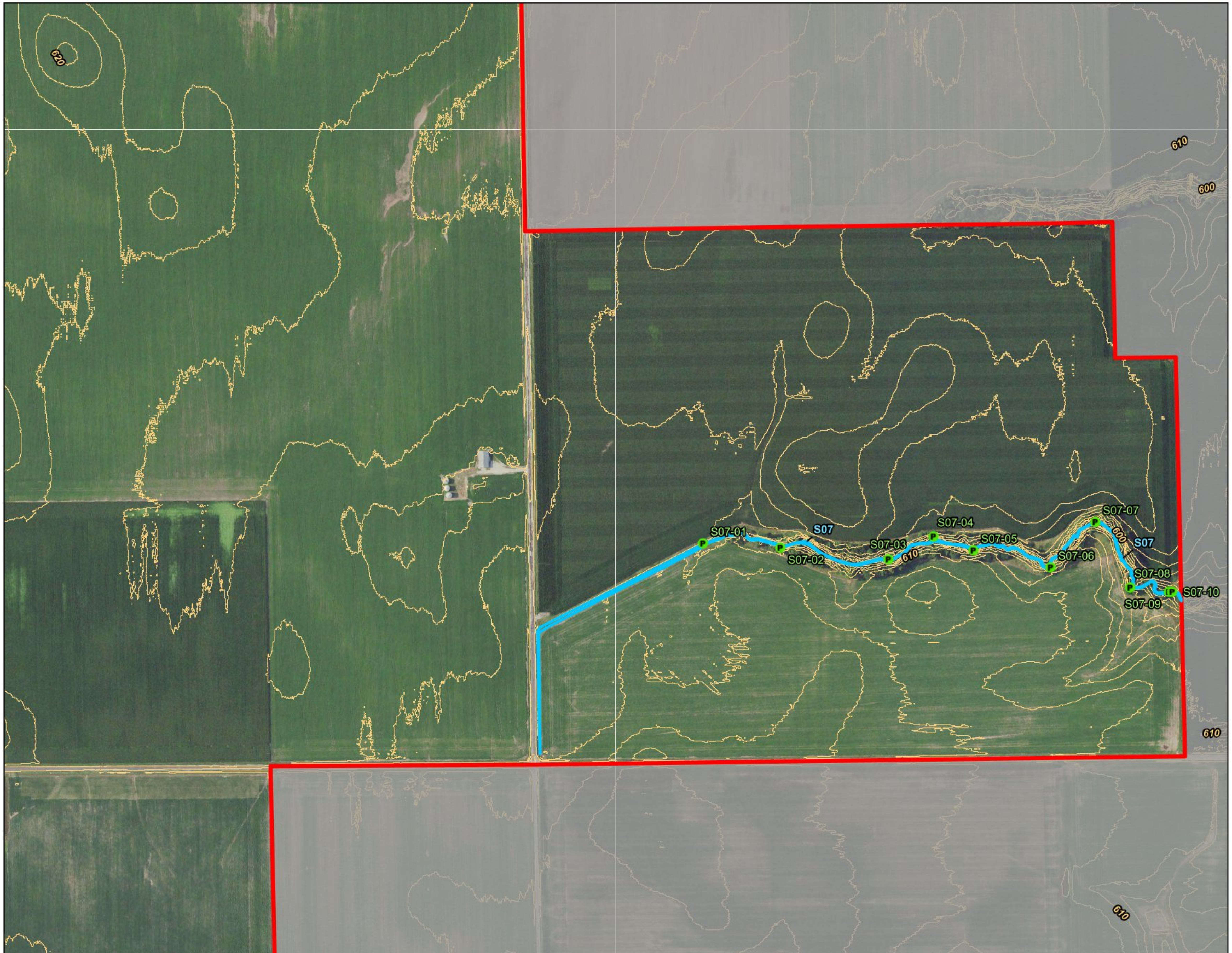


Figure No.
5-12

Title
Delineated Features Mapbook

Client/Project 227705744
Hickory Point Solar Energy Center LLC
Hickory Point Solar
Wetland and Waterbody Delineation Report

Project Location
Christian Co., IL

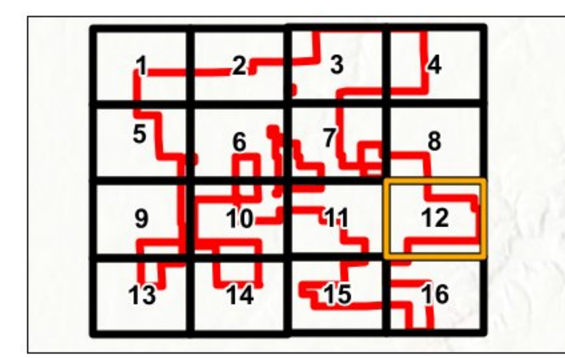
Prepared by KJM on 2023-05-04

N

0 250 500 Feet
(At original document size of 11x17)
1:6,000

Legend
- Photo Location
- Sample Point
- Contours (2ft)
- Study Area

Field Delineated Data
- Waterbody
- Wetland



Notes
1. Coordinate System: NAD 1983 StatePlane Illinois West FIPS 1202 Feet
2. Data Sources: Invenergy, Stantec, NADS
3. Background: USGS NAIP Imagery

Stantec

V:\2277\active\227705744\03_data\gis_cad\gis\pro\wetland_delineation\wetland_delineation.aprx Revised: 2023-05-04 By: kjmueller

Figure No.
5-13

Title
Delineated Features Mapbook

Client/Project 227705744
Hickory Point Solar Energy Center LLC
Hickory Point Solar
Wetland and Waterbody Delineation Report

Project Location
Christian Co., IL

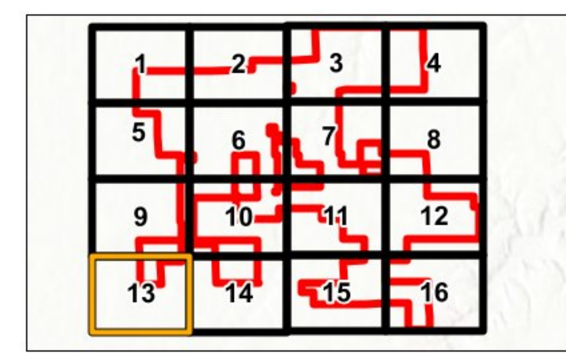
Prepared by KJM on 2023-05-04

N

0 250 500 Feet
(At original document size of 11x17)
1:6,000

Legend
- Photo Location
- Sample Point
- Contours (2ft)
- Study Area

Field Delineated Data
- Waterbody
- Wetland



Notes
1. Coordinate System: NAD 1983 StatePlane Illinois West FIPS 1202 Feet
2. Data Sources: Invenergy, Stantec, NADS
3. Background: USGS NAIP Imagery

Stantec

V:\2277\active\227705744\03_data\gis_cad\gis\pro\wetland_delineation\wetland_delineation.aprx Revised: 2023-05-04 By: kjmueller

Figure No.
5-14

Title
Delineated Features Mapbook

Client/Project 227705744
Hickory Point Solar Energy Center LLC
Hickory Point Solar
Wetland and Waterbody Delineation Report

Project Location
Christian Co., IL

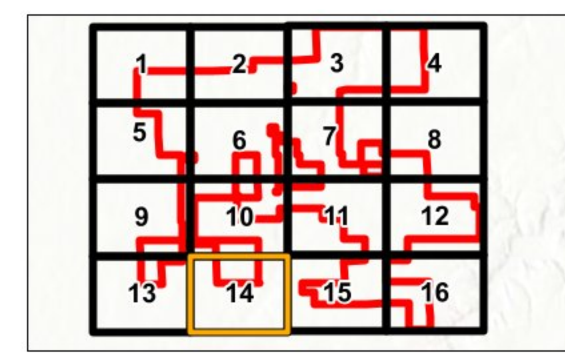
Prepared by KJM on 2023-05-04

N

0 250 500 Feet
(At original document size of 11x17)
1:6,000

Legend
- Photo Location
- Sample Point
- Contours (2ft)
- Study Area

Field Delineated Data
- Waterbody
- Wetland



Notes
1. Coordinate System: NAD 1983 StatePlane Illinois West FIPS 1202 Feet
2. Data Sources: Invenergy, Stantec, NADS
3. Background: USGS NAIP Imagery

Stantec

V:\2277\active\227705744\03_data\gis_cad\gis\pro\wetland_delineation\wetland_delineation.aprx Revised: 2023-05-04 By: kjmueller

Figure No.
5-15

Title
Delineated Features Mapbook

Client/Project 227705744
Hickory Point Solar Energy Center LLC
Hickory Point Solar
Wetland and Waterbody Delineation Report

Project Location
Christian Co., IL

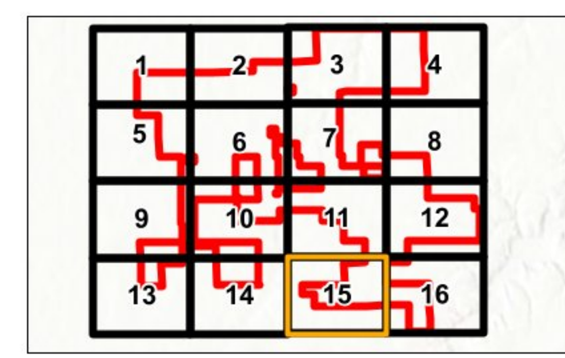
Prepared by KJM on 2023-05-04

N

0 250 500 Feet
(At original document size of 11x17)
1:6,000

Legend
- Photo Location
- Sample Point
- Contours (2ft)
- Study Area

Field Delineated Data
- Waterbody
- Wetland



Notes
1. Coordinate System: NAD 1983 StatePlane Illinois West FIPS 1202 Feet
2. Data Sources: Invenergy, Stantec, NADS
3. Background: USGS NAIP Imagery

Stantec

V:\2277\active\227705744\03_data\gis_cad\gis\pro\wetland_delineation\wetland_delineation.aprx Revised: 2023-05-04 By: kjmueller

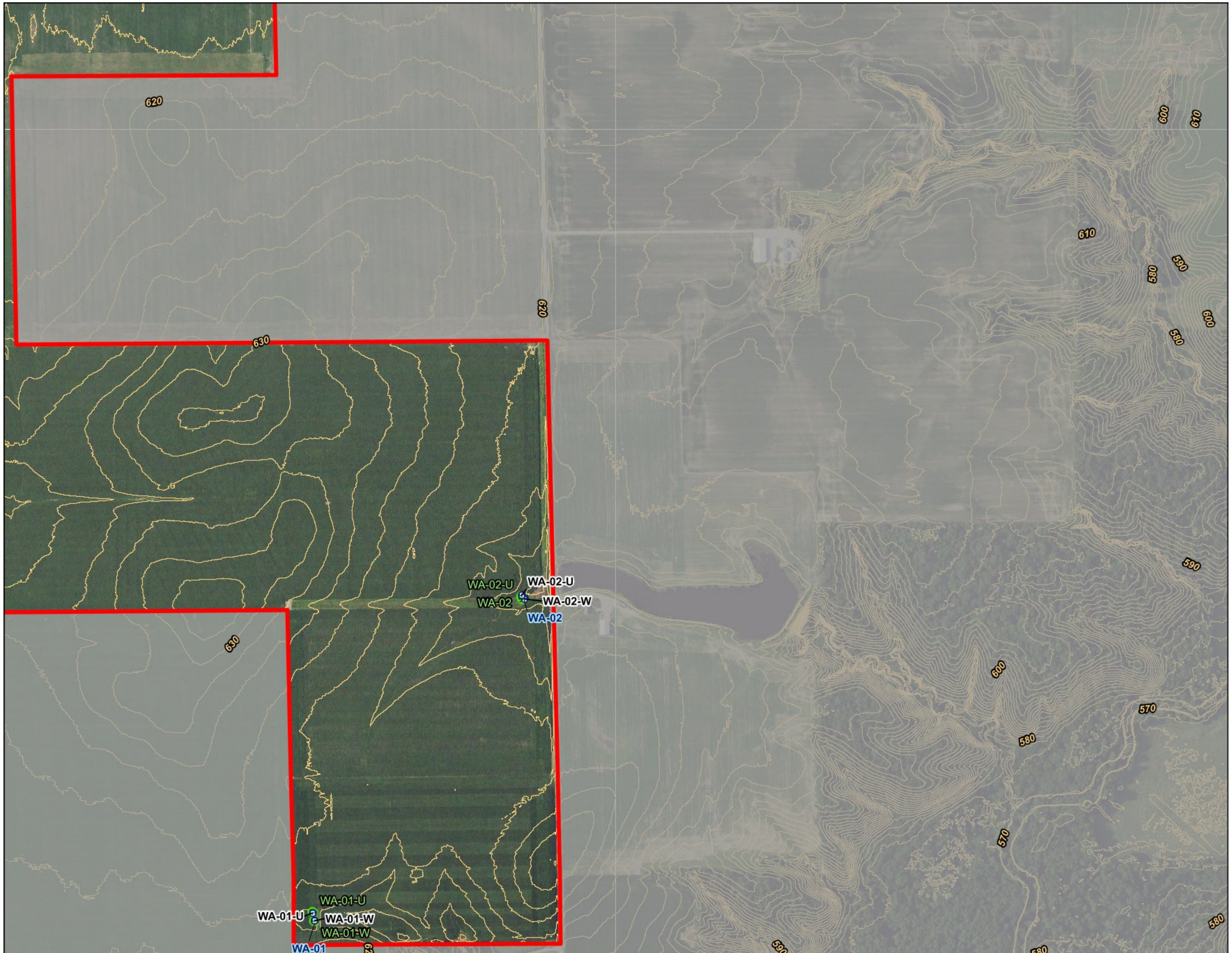


Figure No.
5-16

Title
Delineated Features Mapbook

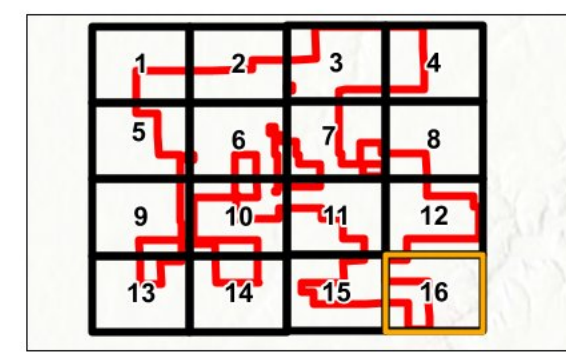
Client/Project 227705744
Hickory Point Solar Energy Center LLC
Hickory Point Solar
Wetland and Waterbody Delineation Report

Project Location Prepared by KJM on 2023-05-04
Christian Co., IL

N

0 250 500 Feet
(At original document size of 11x17)
1:6,000

Legend
Photo Location
Sample Point
Contours (2ft)
Study Area
Field Delineated Data
Waterbody
Wetland



Notes
1. Coordinate System: NAD 1983 StatePlane Illinois West FIPS 1202 Feet
2. Data Sources: Invenergy, Stantec, NADS
3. Background: USGS NAIP Imagery

Stantec

APPENDIX A

Wetland Determination Forms
Waterbody Data Sheets

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hickory Point City/County: Christian Sampling Date: 04/03/2023

Applicant/Owner: Invenergy, LLC State: IL Sampling Point: WA-01-U

Investigator(s): DJ, TP Section, Township, Range: T012N, R003W, S16

Landform (hillside, terrace, etc.): Side slope Local relief (concave, convex, none): Linear Slope %: 1-3

Subregion (LRR or MLRA): LRR M, MLRA Lat: 39.494623 Long: -89.426611 Datum: WGS84

Soil Map Unit Name: Virden silty clay loam, 0 to 2 percent slopes NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation X , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	

Remarks: (Explain alternative procedures here or in a separate report.)
Wetter than normal. Cultivated farm field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	____	x 1 = ____
FACW species	____	x 2 = ____
FAC species	____	x 3 = ____
FACU species	____	x 4 = ____
UPL species	____	x 5 = ____
Column Totals:	____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- \- 1 - Rapid Test for Hydrophytic Vegetation
- \- 2 - Dominance Test is >50%
- \- 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)
No living vegetation, soybean stubble present.

SOIL

Sampling Point: WA-01-U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/1	100					Silty Clay Loam	
8-14	10YR 3/1	97	10YR 5/1	3	D	M	Silty Clay Loam	
14-20	10YR 3/1	95	10YR 5/6	5	C	M	Clay	
20-24	10YR 4/1	80	10YR 5/6	20	C	M	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ 2 cm Muck (A10)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 5 cm Mucky Peat or Peat (S3)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ Coast Prairie Redox (A16)
___ Iron-Manganese Masses (F12)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Gauge or Well Data (D9)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present Yes ___ No X Depth (inches): ___
Water Table Present Yes ___ No X Depth (inches): ___
Saturation Present (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hickory Point City/County: Christian Sampling Date: 04/03/2023

Applicant/Owner: Invenergy, LLC State: IL Sampling Point: WA-01-W

Investigator(s): DJ, TP Section, Township, Range: T012N, R003W, S16

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 1-2

Subregion (LRR or MLRA): LRR M, MLRA Lat: 39.49452 Long: -89.42658 Datum: WGS84

Soil Map Unit Name: Harrison silt loam, 2 to 5 percent slopes NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No X (If no, explain in Remarks.)

Are Vegetation X , Soil ___ , or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	**Is the Sampled Area within a Wetland?** **Yes** X **No** ___
Hydric Soil Present?	Yes X No ___	
Wetland Hydrology Present?	Yes X No ___	

Remarks: (Explain alternative procedures here or in a separate report.)
Wetter than normal. Basin is a farmed impoundment behind a human-made berm. Tile inlet present but does not appear to effectively drain the entire basin.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- \- 1 - Rapid Test for Hydrophytic Vegetation
- \- 2 - Dominance Test is >50%
- \- 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- X Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Ag field, sample point had no vegetation, adjacent areas of higher elevation had soybean stubble.

SOIL

Sampling Point: WA-01-W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/1	100					Silty Clay Loam	
6-17	10YR 3/1	95	10YR 5/8	5	C	M	Silty Clay Loam	
17-24	10YR 4/2	85	10YR 5/8	15	C	M	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- X Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- X Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

	Yes	No	Depth (inches)
Surface Water Present	___	X	___
Water Table Present	___	X	___
Saturation Present (includes capillary fringe)	___	X	___

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hickory Point City/County: Christian Sampling Date: 04/03/2023

Applicant/Owner: Invenergy, LLC State: IL Sampling Point: WA-02-U

Investigator(s): DJ,TP Section, Township, Range: T012N, R003W, S09

Landform (hillside, terrace, etc.): Side slope Local relief (concave, convex, none): Linear Slope %: 1-3

Subregion (LRR or MLRA): LRR M, MLRA Lat: 39.498952 Long: -89.422874 Datum: WGS84

Soil Map Unit Name: Herrick silt loam, 0 to 2 percent slopes NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	

Remarks: (Explain alternative procedures here or in a separate report.)
Wetter than normal.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. Lamium amplexicaule	60	Yes	UPL
2. Capsella bursa-pastoris	25	Yes	FACU
3. Rumex crispus	15	No	FAC
4. Poa pratensis	15	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
	115	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	30	x 3 =	90
FACU species	25	x 4 =	100
UPL species	60	x 5 =	300
Column Totals:	115 (A)		490 (B)

Prevalence Index = B/A = 4.26

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: WA-02-U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/1	100					Silty Clay Loam	
12-24	10YR 3/1	93	10YR 3/4	7	C	M	Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ 2 cm Muck (A10)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 5 cm Mucky Peat or Peat (S3)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ Coast Prairie Redox (A16)
___ Iron-Manganese Masses (F12)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Gauge or Well Data (D9)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present	Yes ___	No X	Depth (inches): ___
Water Table Present	Yes ___	No X	Depth (inches): ___
Saturation Present (includes capillary fringe)	Yes X	No ___	Depth (inches): 16

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hickory Point City/County: Christian Sampling Date: 04/03/2023

Applicant/Owner: Invenergy, LLC State: IL Sampling Point: WA-02-W

Investigator(s): TP, DJ Section, Township, Range: T012N, R003W, S09

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 0-2

Subregion (LRR or MLRA): LRR M, MLRA Lat: 39.498897 Long: -89.422826 Datum: WGS84

Soil Map Unit Name: Herrick silt loam, 0 to 2 percent slopes NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No X (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	Is the Sampled Area within a Wetland? Yes X No ___
Hydric Soil Present?	Yes X No ___	
Wetland Hydrology Present?	Yes X No ___	

Remarks: (Explain alternative procedures here or in a separate report.)
Wetter than normal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
= Total Cover	0		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
= Total Cover	0		
Herb Stratum (Plot size: 5 ft)			
1. Echinochloa crusgalli	85	Yes	FACW
2. Setaria pumila	10	No	FAC
3. Rumex crispus	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
= Total Cover	100		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
= Total Cover	0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

\- 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: WA-02-W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/1	98	10YR 3/4	2	C	M	Silty Clay Loam	
4-8	10YR 3/1	98	10YR 5/8	2	C	M	Silty Clay Loam	
8-12	10YR 3/1	98	10YR 3/4	2	C	M	Silty Clay Loam	
12-24	10YR 3/1	95	10YR 3/4	5	C	M	Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ 2 cm Muck (A10)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 5 cm Mucky Peat or Peat (S3)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
X Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ Coast Prairie Redox (A16)
___ Iron-Manganese Masses (F12)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: ____________

Depth (inches): ____________

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
X Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
X Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Gauge or Well Data (D9)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
X Geomorphic Position (D2)
X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present	Yes ___	No X	Depth (inches): ___
Water Table Present	Yes ___	No X	Depth (inches): 16
Saturation Present (includes capillary fringe)	Yes X	No ___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hickory Point City/County: Christian Sampling Date: 04/04/2023

Applicant/Owner: Invenergy, LLC State: IL Sampling Point: WA-03-U

Investigator(s): TP, DJ Section, Township, Range: T012N, R003W, S04

Landform (hillside, terrace, etc.): Rise Local relief (concave, convex, none): Linear Slope %: 0-2

Subregion (LRR or MLRA): LRR M, MLRA Lat: 39.521889 Long: -89.429873 Datum: WGS84

Soil Map Unit Name: Virden silty clay loam, 0 to 2 percent slopes NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No X (If no, explain in Remarks.)

Are Vegetation X , Soil ___ , or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___	No X
Hydric Soil Present?	Yes X	No ___
Wetland Hydrology Present?	Yes ___	No X

Is the Sampled Area within a Wetland? **Yes** ___ **No** X

Remarks: (Explain alternative procedures here or in a separate report.)
Wetter than normal. Cultivated farm field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Thlaspi arvense	20	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	20 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	___	x 1 = ___
FACW species	___	x 2 = ___
FAC species	___	x 3 = ___
FACU species	___	x 4 = ___
UPL species	___	x 5 = ___
Column Totals:	___ (A)	___ (B)

Prevalence Index = B/A = ___

Hydrophytic Vegetation Indicators:

- \- 1 - Rapid Test for Hydrophytic Vegetation
- \- 2 - Dominance Test is >50%
- \- 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
Corn stubble present. Field not planted yet. Minimal living vegetation present.

SOIL

Sampling Point: WA-03-U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/1	100					Clay Loam	
4-20	10YR 3/1	98	10YR 3/4	2	C	M	Clay Loam	
20-24	10YR 3/1	95	10YR 6/6	5	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: ______________________

Depth (inches): ______________________

Hydric Soil Present? **Yes** X **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

	Yes	No	Depth (inches)
Surface Water Present	___	X	_______
Water Table Present	___	X	_______
Saturation Present (includes capillary fringe)	___	X	_______

Wetland Hydrology Present? **Yes** _____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hickory Point City/County: Christian Sampling Date: 04/04/2023

Applicant/Owner: Invenergy, LLC State: IL Sampling Point: WA-03-W

Investigator(s): TP, DJ Section, Township, Range: T012N, R003W, S04

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 0-2

Subregion (LRR or MLRA): LRR M, MLRA Lat: 39.522027 Long: -89.430077 Datum: WGS84

Soil Map Unit Name: Virden silty clay loam, 0 to 2 percent slopes NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No X (If no, explain in Remarks.)

Are Vegetation X , Soil ___ , or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	Is the Sampled Area within a Wetland? Yes X No ___
Hydric Soil Present?	Yes X No ___	
Wetland Hydrology Present?	Yes X No ___	

Remarks: (Explain alternative procedures here or in a separate report.)
Wetter than normal. Vegetation washed out.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- \- 1 - Rapid Test for Hydrophytic Vegetation
- \- 2 - Dominance Test is >50%
- \- 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- X Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (Include photo numbers here or on a separate sheet.)
No vegetation present. Based on soils, hydrology, and professional judgement, this basin would support hydrophytic vegetation if not farmed.

SOIL

Sampling Point: WA-03-W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/1	100					Clay Loam	
6-14	10YR 3/1	95	10YR 4/4	5	C	M	Clay Loam	
14-24	10YR 3/1	93	10YR 6/6	7	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- X Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present	Yes X	No ___	Depth (inches): 6
Water Table Present	Yes ___	No X	Depth (inches): ___
Saturation Present (includes capillary fringe)	Yes X	No ___	Depth (inches): 0-20

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Sample point was taken outside of the surface water. Soil saturated 0-20". Episaturated.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hickory Point City/County: Christian Sampling Date: 04/03/2023

Applicant/Owner: Invenergy, LLC State: IL Sampling Point: WB-01-U

Investigator(s): KKM, MTS Section, Township, Range: T013N, R004W, S36

Landform (hillside, terrace, etc.): Backslope Local relief (concave, convex, none): Linear Slope %: 0-1

Subregion (LRR or MLRA): LRR M, MLRA Lat: 39.525304 Long: -89.480818 Datum: WGS84

Soil Map Unit Name: Virden silty clay loam, 0 to 2 percent slopes NWI classification: ______

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation X , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks: (Explain alternative procedures here or in a separate report.)
Wetter than normal. Cultivated farm field

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	____	x 1 = ____
FACW species	____	x 2 = ____
FAC species	____	x 3 = ____
FACU species	____	x 4 = ____
UPL species	____	x 5 = ____
Column Totals:	____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- \- 1 - Rapid Test for Hydrophytic Vegetation
- \- 2 - Dominance Test is >50%
- \- 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- X Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
Cultivated field, planted to corn last season. No current vegetation.

SOIL

Sampling Point: WB-01-U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 3/1	100					Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

Borderline hydric or non-hydric profile. Location lacks wetland landscape position or hydrology.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present	Yes ___	No X	Depth (inches): ___
Water Table Present	Yes ___	No X	Depth (inches): ___
Saturation Present (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hickory Point City/County: Christian Sampling Date: 04/03/2023

Applicant/Owner: Invenergy, LLC State: IL Sampling Point: WB-01-W

Investigator(s): KKM, MTS Section, Township, Range: T013N, R004W, S36

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 0-2

Subregion (LRR or MLRA): LRR M, MLRA Lat: 39.525299 Long: -89.481258 Datum: WGS84

Soil Map Unit Name: Virden silty clay loam, 0 to 2 percent slopes NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No X (If no, explain in Remarks.)

Are Vegetation X , Soil ___ , or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	Is the Sampled Area within a Wetland? Yes X No ___
Hydric Soil Present?	Yes X No ___	
Wetland Hydrology Present?	Yes X No ___	

Remarks: (Explain alternative procedures here or in a separate report.)
Wetter than normal. Cultivated farm field. Drain in field may impact wetland hydrology.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- \- 1 - Rapid Test for Hydrophytic Vegetation
- \- 2 - Dominance Test is >50%
- \- 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (Include photo numbers here or on a separate sheet.)
Unvegetated cultivated field, corn stubble present. Based on soils, hydrology, and professional judgement, this basin would support hydrophytic vegetation if not farmed.

SOIL

Sampling Point: WB-01-W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 3/1	95	7.5YR 5/6	5	C	M	Silty Clay	
9-18	10YR 4/2	98	7.5YR 5/6	2	C	M	Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ 2 cm Muck (A10)
X Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 5 cm Mucky Peat or Peat (S3)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
X Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ Coast Prairie Redox (A16)
___ Iron-Manganese Masses (F12)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
X Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Gauge or Well Data (D9)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
X Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
X Geomorphic Position (D2)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present	Yes ___	No X	Depth (inches): ___
Water Table Present	Yes ___	No X	Depth (inches): ___
Saturation Present (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hickory Point City/County: Christian Sampling Date: 04/03/2023

Applicant/Owner: Invenergy, LLC State: IL Sampling Point: WB-02-U

Investigator(s): KKM MS Section, Township, Range: T012N, R003W, S06

Landform (hillside, terrace, etc.): Rise Local relief (concave, convex, none): Convex Slope %: 0-2

Subregion (LRR or MLRA): LRR M, MLRA Lat: 39.51198 Long: -89.474346 Datum: WGS84

Soil Map Unit Name: Herrick silt loam, 0 to 2 percent slopes NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No X (If no, explain in Remarks.)

Are Vegetation X , Soil ___ , or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___	No X
Hydric Soil Present?	Yes ___	No X
Wetland Hydrology Present?	Yes ___	No X

Is the Sampled Area within a Wetland? **Yes** ___ **No** X

Remarks: (Explain alternative procedures here or in a separate report.)
Wetter than normal. Cultivated field with soybean stubble.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Lamium amplexicaule	50	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	50 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	___	x 1 = ___
FACW species	___	x 2 = ___
FAC species	___	x 3 = ___
FACU species	___	x 4 = ___
UPL species	___	x 5 = ___
Column Totals:	___ (A)	___ (B)

Prevalence Index = B/A = ___

Hydrophytic Vegetation Indicators:

- \- 1 - Rapid Test for Hydrophytic Vegetation
- \- 2 - Dominance Test is >50%
- \- 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
Planted to soybeans last year, not planted yet this year.

SOIL

Sampling Point: WB-02-U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	100					Clay Loam	
16-20	10YR 4/2	80	10YR 5/6	20	C	M	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ 2 cm Muck (A10)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 5 cm Mucky Peat or Peat (S3)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ Coast Prairie Redox (A16)
___ Iron-Manganese Masses (F12)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Gauge or Well Data (D9)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present Yes ___ No X Depth (inches): ___
Water Table Present Yes ___ No X Depth (inches): ___
Saturation Present (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hickory Point City/County: Christian Sampling Date: 04/03/2023

Applicant/Owner: Invenergy, LLC State: IL Sampling Point: WB-02-W

Investigator(s): KKM MTS Section, Township, Range: T012N, R003W, S06

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 0-2

Subregion (LRR or MLRA): LRR M, MLRA Lat: 39.511592 Long: -89.474427 Datum: WGS84

Soil Map Unit Name: Virden silty clay loam, 0 to 2 percent slopes NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No X (If no, explain in Remarks.)

Are Vegetation X , Soil ___ , or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	Is the Sampled Area within a Wetland? Yes X No ___
Hydric Soil Present?	Yes X No ___	
Wetland Hydrology Present?	Yes X No ___	

Remarks: (Explain alternative procedures here or in a separate report.)
Wetter than normal. Cultivated farm field

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- \- 1 - Rapid Test for Hydrophytic Vegetation
- \- 2 - Dominance Test is >50%
- \- 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- X Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (Include photo numbers here or on a separate sheet.)
Planted in soybeans last year, volunteer cocklebur was also present last year. Based on soils, hydrology, and professional judgement, this basin would support hydrophytic vegetation if not farmed.

SOIL

Sampling Point: WB-02-W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 3/1	95	7.5YR 5/8	5	C	M	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

	Yes	No	Depth (inches)
Surface Water Present	___	X	___
Water Table Present	___	X	___
Saturation Present (includes capillary fringe)	___	X	___

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Surface is wetter than surrounding area but no standing water

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hickory Point City/County: Christian Sampling Date: 04/03/2023

Applicant/Owner: Invenergy, LLC State: IL Sampling Point: WB-03-U

Investigator(s): KKM MTS Section, Township, Range: T012N, R003W, S07

Landform (hillside, terrace, etc.): Backslope Local relief (concave, convex, none): Linear Slope %: 0-2

Subregion (LRR or MLRA): LRR M, MLRA Lat: 39.509482 Long: -89.476024 Datum: WGS84

Soil Map Unit Name: Virden silty clay loam, 0 to 2 percent slopes NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation X , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	Is the Sampled Area within a Wetland?	Yes ____ No X
Hydric Soil Present?	Yes ____ No X		
Wetland Hydrology Present?	Yes ____ No X		

Remarks: (Explain alternative procedures here or in a separate report.)
Wetter than normal, farm field planted in soybeans last year

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Lamium amplexicaule	2	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	2 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- \- 1 - Rapid Test for Hydrophytic Vegetation
- \- 2 - Dominance Test is >50%
- \- 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- X Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)
Last year soybeans were planted.

SOIL

Sampling Point: WB-03-U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-6	10YR 3/2	100					Clay Loam	
6-20	10YR 3/1	100					Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ 2 cm Muck (A10)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 5 cm Mucky Peat or Peat (S3)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ Coast Prairie Redox (A16)
___ Iron-Manganese Masses (F12)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Gauge or Well Data (D9)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present Yes ___ No X Depth (inches): ___
Water Table Present Yes ___ No X Depth (inches): ___
Saturation Present (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hickory Point City/County: Christian Sampling Date: 04/03/2023

Applicant/Owner: Invenergy, LLC State: IL Sampling Point: WB-03-W

Investigator(s): KKM MTS Section, Township, Range: T012N, R003W, S07

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 0-2

Subregion (LRR or MLRA): LRR M, MLRA Lat: 39.509518 Long: -89.475822 Datum: WGS84

Soil Map Unit Name: Virden silty clay loam, 0 to 2 percent slopes NWI classification: ______

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation X , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____
Hydric Soil Present?	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____

Is the Sampled Area within a Wetland? **Yes** X **No** ____

Remarks: (Explain alternative procedures here or in a separate report.)
Wetter than normal. Cultivated farmed field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	______	x 1 = ______
FACW species	______	x 2 = ______
FAC species	______	x 3 = ______
FACU species	______	x 4 = ______
UPL species	______	x 5 = ______
Column Totals:	______ (A)	______ (B)

Prevalence Index = B/A = ______

Hydrophytic Vegetation Indicators:

- \- 1 - Rapid Test for Hydrophytic Vegetation
- \- 2 - Dominance Test is >50%
- \- 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Little stubble from last year, may have partially drowned out soybeans last year. Based on soils, hydrology, and professional judgement, this basin would support hydrophytic vegetation if not farmed.

SOIL

Sampling Point: WB-03-W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 3/1	95	7.5R 4/6	5	C	M	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present	Yes ___	No X	Depth (inches): ___
Water Table Present	Yes ___	No X	Depth (inches): ___
Saturation Present (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No standing water but surface is wet.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hickory Point   City/County: Christian   Sampling Date: 04/05/2023

Applicant/Owner: Invenergy, LLC   State: IL   Sampling Point: WB-04-U

Investigator(s): KKM MTS   Section, Township, Range: T012N, R003W, S07

Landform (hillside, terrace, etc.): Backslope   Local relief (concave, convex, none): Linear   Slope %: 0-2

Subregion (LRR or MLRA): LRR M, MLRA   Lat: 39.504736   Long: -89.464633   Datum: WGS84

Soil Map Unit Name: Herrick silt loam, 0 to 2 percent slopes   NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation X , Soil ____ , or Hydrology ____ significantly disturbed?   Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks: (Explain alternative procedures here or in a separate report.)
Wetter than normal. Cultivated farm field

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- _-_ 1 - Rapid Test for Hydrophytic Vegetation
- _-_ 2 - Dominance Test is >50%
- _-_ 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)
Field planted in corn last year, no living vegetation present.

SOIL

Sampling Point: WB-04-U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/1	100					Clay	
16-22	10YR 4/2	90	7.5YR 5/6	10	C	M	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ 2 cm Muck (A10)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 5 cm Mucky Peat or Peat (S3)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ Coast Prairie Redox (A16)
___ Iron-Manganese Masses (F12)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? **Yes** ___ **No** X

Remarks: Borderline hydric/non-hydric. Other wetland criteria not met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Gauge or Well Data (D9)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present	Yes ___	No X	Depth (inches): ___
Water Table Present	Yes ___	No X	Depth (inches): ___
Saturation Present (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hickory Point City/County: Christian Sampling Date: 04/05/2023

Applicant/Owner: Invenergy, LLC State: IL Sampling Point: WB-04-W

Investigator(s): KKM MTS Section, Township, Range: T012N, R003W, S07

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 0-2

Subregion (LRR or MLRA): LRR M, MLRA Lat: 39.504472 Long: -89.464655 Datum: WGS84

Soil Map Unit Name: Cowden silt loam, 0 to 2 percent slopes NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No X (If no, explain in Remarks.)

Are Vegetation X , Soil ___ , or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	Is the Sampled Area within a Wetland? Yes X No ___
Hydric Soil Present?	Yes X No ___	
Wetland Hydrology Present?	Yes X No ___	

Remarks: (Explain alternative procedures here or in a separate report.)
Wetter than normal. Cultivated farmed field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Setaria faberi	30	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	30 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	30 (A)		120 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

- \- 1 - Rapid Test for Hydrophytic Vegetation
- \- 2 - Dominance Test is >50%
- \- 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- X Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Field planted in corn last year, dead corn stalkst from last year present. Based on soils, hydrology, and professional judgement, this basin would support hydrophytic vegetation if not farmed.

SOIL

Sampling Point: WB-04-W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 3/1	95	7.5YR 5/6	5	C	M	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present	Yes X	No ___	Depth (inches): 1
Water Table Present	Yes ___	No X	Depth (inches): ___
Saturation Present (includes capillary fringe)	Yes X	No ___	Depth (inches): 0-12

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Standing water in lowest parts of depression. Episaturated soil saturated from 0-12".

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hickory Point City/County: Christian Sampling Date: 04/05/2023

Applicant/Owner: Invenergy, LLC State: IL Sampling Point: WB-05-U

Investigator(s): KKM MTS Section, Township, Range: T013N, R003W, S31

Landform (hillside, terrace, etc.): Backslope Local relief (concave, convex, none): Convex Slope %: 0-2

Subregion (LRR or MLRA): LRR M, MLRA Lat: 39.524879 Long: -89.469724 Datum: WGS84

Soil Map Unit Name: Virden silty clay loam, 0 to 2 percent slopes NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation X , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	**Is the Sampled Area within a Wetland?**	**Yes** ____ **No** X
Hydric Soil Present?	Yes ____ No X		
Wetland Hydrology Present?	Yes ____ No X		

Remarks: (Explain alternative procedures here or in a separate report.)
Wetter than normal. Cultivated farm field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- \- 1 - Rapid Test for Hydrophytic Vegetation
- \- 2 - Dominance Test is >50%
- \- 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
No vegetation present, field planted in soybeans last year

SOIL

Sampling Point: WB-05-U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 3/1	100					Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ 2 cm Muck (A10)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 5 cm Mucky Peat or Peat (S3)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ Coast Prairie Redox (A16)
___ Iron-Manganese Masses (F12)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? **Yes** ___ **No** X

Remarks:
Borderline hydric/non-hydric soil. Location does not meet hydrology requirements and is in a convex landscape position.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Gauge or Well Data (D9)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present	Yes ___	No X	Depth (inches): ___
Water Table Present	Yes ___	No X	Depth (inches): ___
Saturation Present (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hickory Point City/County: Christian Sampling Date: 04/05/2023

Applicant/Owner: Invenergy, LLC State: IL Sampling Point: WB-05-W

Investigator(s): KKM MTS Section, Township, Range: T013N, R003W, S31

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 0-2

Subregion (LRR or MLRA): LRR M, MLRA Lat: 39.524623 Long: -89.469935 Datum: WGS84

Soil Map Unit Name: Virden silty clay loam, 0 to 2 percent slopes NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation X , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	Is the Sampled Area within a Wetland? Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks: (Explain alternative procedures here or in a separate report.)
Wetter than normal. Cultivated farmed field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- \- 1 - Rapid Test for Hydrophytic Vegetation
- \- 2 - Dominance Test is >50%
- \- 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)
No vegetation present, planted in soybeans last year, most of stubble had washed away. Based on soils, hydrology, and professional judgement, this basin would support hydrophytic vegetation if not farmed.

SOIL

Sampling Point: WB-05-W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 3/1	95	7.5YR 5/6	5	C	M	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present	Yes ___	No X	Depth (inches): ___
Water Table Present	Yes ___	No X	Depth (inches): ___
Saturation Present (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Much wetter than surrounding surrounding area

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hickory Point City/County: Christian Sampling Date: 04/05/2023

Applicant/Owner: Invenergy, LLC State: IL Sampling Point: WB-06-U

Investigator(s): KKM MTS Section, Township, Range: T013N, R003W, S31

Landform (hillside, terrace, etc.): Backslope Local relief (concave, convex, none): Convex Slope %: 0-2

Subregion (LRR or MLRA): LRR M, MLRA Lat: 39.526294 Long: -89.468777 Datum: WGS84

Soil Map Unit Name: Virden silty clay loam, 0 to 2 percent slopes NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No X (If no, explain in Remarks.)

Are Vegetation X , Soil ___ , or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___ No X	Is the Sampled Area within a Wetland? Yes ___ No X
Hydric Soil Present?	Yes ___ No X	
Wetland Hydrology Present?	Yes ___ No X	

Remarks: (Explain alternative procedures here or in a separate report.)
Wetter than normal. Cultivated farm field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- \- 1 - Rapid Test for Hydrophytic Vegetation
- \- 2 - Dominance Test is >50%
- \- 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (Include photo numbers here or on a separate sheet.)
No vegetation yet. Planted to soybeans last year.

SOIL

Sampling Point: WB-06-U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 3/1	100					Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ 2 cm Muck (A10)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 5 cm Mucky Peat or Peat (S3)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ Coast Prairie Redox (A16)
___ Iron-Manganese Masses (F12)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** X

Remarks:
Borderline hydric soil. Other wetland criteria not met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Gauge or Well Data (D9)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present Yes ___ No X Depth (inches): ___
Water Table Present Yes ___ No X Depth (inches): ___
Saturation Present (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hickory Point City/County: Christian Sampling Date: 04/05/2023

Applicant/Owner: Invenergy, LLC State: IL Sampling Point: WB-06-W

Investigator(s): KKM MTS Section, Township, Range: T013N, R003W, S31

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 0-2

Subregion (LRR or MLRA): LRR M, MLRA Lat: 39.526475 Long: -89.468566 Datum: WGS84

Soil Map Unit Name: Virden silty clay loam, 0 to 2 percent slopes NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No X (If no, explain in Remarks.)

Are Vegetation X , Soil ___ , or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	Is the Sampled Area within a Wetland? Yes X No ___
Hydric Soil Present?	Yes X No ___	
Wetland Hydrology Present?	Yes X No ___	

Remarks: (Explain alternative procedures here or in a separate report.)
Wetter than normal. Cultivated field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- \- 1 - Rapid Test for Hydrophytic Vegetation
- \- 2 - Dominance Test is >50%
- \- 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- X Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (Include photo numbers here or on a separate sheet.)
Farm field. Only vegetation is last year's soybean residue. Based on soils, hydrology, and professional judgement, this basin would support hydrophytic vegetation if not farmed.

SOIL

Sampling Point: WB-06-W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 3/1	95	7.5R 5/8	5	C	M	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ 2 cm Muck (A10)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 5 cm Mucky Peat or Peat (S3)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
X Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ Coast Prairie Redox (A16)
___ Iron-Manganese Masses (F12)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
X Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Gauge or Well Data (D9)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
X Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
X Geomorphic Position (D2)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present Yes ___ No X Depth (inches): ______
Water Table Present Yes ___ No X Depth (inches): ______
Saturation Present (includes capillary fringe) Yes ___ No X Depth (inches): ______

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hickory Point City/County: Christian Sampling Date: 04/05/2023

Applicant/Owner: Invenergy, LLC State: IL Sampling Point: WB-07-U

Investigator(s): KKM MTS Section, Township, Range: T013N, R003W, S32

Landform (hillside, terrace, etc.): Backslope Local relief (concave, convex, none): Linear Slope %: 0-2

Subregion (LRR or MLRA): LRR M, MLRA Lat: 39.534194 Long: -89.454455 Datum: WGS84

Soil Map Unit Name: Ipava silt loam, 0 to 2 percent slopes NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation X , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X
Hydric Soil Present?	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks: (Explain alternative procedures here or in a separate report.)
Wetter than normal. Cultivated farm field

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- \- 1 - Rapid Test for Hydrophytic Vegetation
- \- 2 - Dominance Test is >50%
- \- 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)
No vegetation present, field planted in corn last year

SOIL

Sampling Point: WB-07-U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-15	10YR 3/1	100					Clay	
15-20	10YR 3/1	95	10YR 3/1	5	C	M	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ 2 cm Muck (A10)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 5 cm Mucky Peat or Peat (S3)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ Coast Prairie Redox (A16)
___ Iron-Manganese Masses (F12)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Gauge or Well Data (D9)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present	Yes ___	No X	Depth (inches): ___
Water Table Present	Yes ___	No X	Depth (inches): ___
Saturation Present (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hickory Point City/County: Christian Sampling Date: 04/05/2023

Applicant/Owner: Invenergy, LLC State: IL Sampling Point: WB-07-W

Investigator(s): KKM MTS Section, Township, Range: T013N, R003W, S32

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 0-2

Subregion (LRR or MLRA): LRR M, MLRA Lat: 39.534171 Long: -89.454051 Datum: WGS84

Soil Map Unit Name: Ipava silt loam, 0 to 2 percent slopes NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation X , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	Is the Sampled Area within a Wetland? Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks: (Explain alternative procedures here or in a separate report.)
Wetter than normal. Cultivated farm field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- \- 1 - Rapid Test for Hydrophytic Vegetation
- \- 2 - Dominance Test is >50%
- \- 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- X Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)
No vegetation present, field planted in corn last year. Based on soils, hydrology, and professional judgement, this basin would support hydrophytic vegetation if not farmed.

SOIL

Sampling Point: WB-07-W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color (moist)	%	Color (moist)	%	Type¹	Loc²		
0-18	10YR 3/1	95	7.5YR 5/6	5	C	M	Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present	Yes X	No ___	Depth (inches): 3
Water Table Present	Yes ___	No X	Depth (inches): ___
Saturation Present (includes capillary fringe)	Yes X	No ___	Depth (inches): 0-12

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Area is wet, especially compared to surrounding area. Soils is episaturated with 2-3" of surface water and saturated from 0-12".

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hickory Point City/County: Christian Sampling Date: 04/04/2023

Applicant/Owner: Invenergy, LLC State: IL Sampling Point: WB-08-U

Investigator(s): KKM MTS Section, Township, Range: T013N, R003W, S28

Landform (hillside, terrace, etc.): Backslope Local relief (concave, convex, none): Convex Slope %: 10

Subregion (LRR or MLRA): LRR M, MLRA Lat: 39.545743 Long: -89.436647 Datum: WGS84

Soil Map Unit Name: Hickory silt loam, cool mesic, 10 to 18 percent slopes, eroded NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No X (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___ No X	**Is the Sampled Area within a Wetland?**	**Yes** ___ **No** X
Hydric Soil Present?	Yes ___ No X		
Wetland Hydrology Present?	Yes ___ No X		

Remarks: (Explain alternative procedures here or in a separate report.)
Wetter than normal.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
= Total Cover	0		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
= Total Cover	0		
Herb Stratum (Plot size: 5 ft)			
1. Bromus inermis	80	Yes	FACU
2. Taraxacum officinale	5	No	FACU
3. Setaria viridis	5	No	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
= Total Cover	90		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
= Total Cover	0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	85	x 4 =	340
UPL species	5	x 5 =	25
Column Totals:	90 (A)		365 (B)

Prevalence Index = B/A = 4.06

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: WB-08-U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/3	100					Clay	
10-20	10YR 5/2	85	7.5R 5/6	15	C	M	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ 2 cm Muck (A10)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 5 cm Mucky Peat or Peat (S3)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ Coast Prairie Redox (A16)
___ Iron-Manganese Masses (F12)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Gauge or Well Data (D9)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present Yes ___ No X Depth (inches): ___
Water Table Present Yes ___ No X Depth (inches): ___
Saturation Present (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hickory Point City/County: Christian Sampling Date: 04/04/2023

Applicant/Owner: Invenergy, LLC State: IL Sampling Point: WB-08-W

Investigator(s): KKM MTS Section, Township, Range: T013N, R003W, S28

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 0-2

Subregion (LRR or MLRA): LRR M, MLRA Lat: 39.545863 Long: -89.436224 Datum: WGS84

Soil Map Unit Name: Radford silt loam, 0 to 2 percent slopes, frequently flooded NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____ , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	Is the Sampled Area within a Wetland? Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks: (Explain alternative procedures here or in a separate report.)
Wetter than normal

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Phalaris arundinacea	100	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	1	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	0	x 1 = 0
FACW species	100	x 2 = 200
FAC species	0	x 3 = 0
FACU species	0	x 4 = 0
UPL species	0	x 5 = 0
Column Totals:	100 (A)	200 (B)

Prevalence Index = B/A = 2

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: WB-08-W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 3/1	95	7.5R 5/6	5	C	M	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

	Yes	No	Depth (inches)
Surface Water Present		X	
Water Table Present	X		0
Saturation Present (includes capillary fringe)	X		0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Some spots with 1-2" surface water present

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hickory Point City/County: Christian Sampling Date: 04/04/2023

Applicant/Owner: Invenergy, LLC State: IL Sampling Point: SPA-01

Investigator(s): TP, DJ Section, Township, Range: T012N, R003W, S08

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 0-2

Subregion (LRR or MLRA): LRR M, MLRA Lat: 39.501601 Long: -89.449291 Datum: WGS84

Soil Map Unit Name: Virden silty clay loam, 0 to 2 percent slopes NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation X , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes ____ No X	

Remarks: (Explain alternative procedures here or in a separate report.)
Wetter than normal conditions. Cultivated farm field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		

Herb Stratum (Plot size: 5 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		

Woody Vine Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
	0 = Total Cover		

Remarks: (Include photo numbers here or on a separate sheet.)

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- \- 1 - Rapid Test for Hydrophytic Vegetation
- \- 2 - Dominance Test is >50%
- \- 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

SOIL

Sampling Point: SPA-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/1	98	10YR 3/4	2	C	M	Silty Clay Loam	
12-24	10YR 3/1	93	10YR 5/6	7	C	M	Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present	Yes ___	No X	Depth (inches): ___
Water Table Present	Yes ___	No X	Depth (inches): ___
Saturation Present (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hickory Point City/County: Christian Sampling Date: 04/04/2023

Applicant/Owner: Invenergy, LLC State: IL Sampling Point: SPA-02

Investigator(s): TP, DJ Section, Township, Range: T012N, R003W, S09

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 0-2

Subregion (LRR or MLRA): LRR M, MLRA Lat: 39.503394 Long: -89.437631 Datum: WGS84

Soil Map Unit Name: Edinburg silty clay loam, 0 to 2 percent slopes NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation X , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X
Hydric Soil Present?	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X

Is the Sampled Area within a Wetland? **Yes** ____ **No** X

Remarks: (Explain alternative procedures here or in a separate report.)
Wetter than normal conditions. Cultivated farm field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	____	x 1 =	____
FACW species	____	x 2 =	____
FAC species	____	x 3 =	____
FACU species	____	x 4 =	____
UPL species	____	x 5 =	____
Column Totals:	____ (A)		____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- \- 1 - Rapid Test for Hydrophytic Vegetation
- \- 2 - Dominance Test is >50%
- \- 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SPA-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 3/1	100					Silty Clay Loam	
9-19	10YR 3/1	97	10YR 4/6	3	C	M	Silty Clay Loam	
19-24	10YR 3/1	95	10YR 4/6	5	C	M	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ 2 cm Muck (A10)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 5 cm Mucky Peat or Peat (S3)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ Coast Prairie Redox (A16)
___ Iron-Manganese Masses (F12)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** X

Remarks:
Borderline hydric/non-hydric

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Gauge or Well Data (D9)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
X Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present	Yes ___	No X	Depth (inches): ___
Water Table Present	Yes ___	No X	Depth (inches): ___
Saturation Present (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hickory Point City/County: Christian Sampling Date: 04/04/2023

Applicant/Owner: Invenergy, LLC State: IL Sampling Point: SPA-03

Investigator(s): DJ, TP Section, Township, Range: T012N, R003W, S09

Landform (hillside, terrace, etc.): Dip Local relief (concave, convex, none): Linear Slope %: 1-2

Subregion (LRR or MLRA): LRR M, MLRA Lat: 39.498933 Long: -89.434065 Datum: WGS84

Soil Map Unit Name: Edinburg silty clay loam, 0 to 2 percent slopes NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation X , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.) X

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X
Hydric Soil Present?	Yes X	No ____
Wetland Hydrology Present?	Yes ____	No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks: (Explain alternative procedures here or in a separate report.)
Wetter than normal. Cultivated farm field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: NaN (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- \- 1 - Rapid Test for Hydrophytic Vegetation
- \- 2 - Dominance Test is >50%
- \- 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)
Ag Field no vegetation

SOIL

Sampling Point: SPA-03

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/1	100					Clay Loam	
4-8	10YR 3/1	98	10YR 3/4	2	C	M	Clay Loam	
8-12	10YR 3/1	90	10YR 3/6	10	C	M	Clay Loam	
12-24	10YR 3/1	85	10YR 3/6	15	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ 2 cm Muck (A10)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 5 cm Mucky Peat or Peat (S3)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
X Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ Coast Prairie Redox (A16)
___ Iron-Manganese Masses (F12)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: ______

Depth (inches): ______

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Gauge or Well Data (D9)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present Yes ___ No X Depth (inches): ______
Water Table Present Yes ___ No X Depth (inches): ______
Saturation Present (includes capillary fringe) Yes ___ No X Depth (inches): ______

Wetland Hydrology Present? **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Stream/Waterbody Name (if known): Clear Creek

Waterbody ID #: S01

Associated Wetland #: N/A

Date: 04/05/2023	**Project Name & No.:** Hickory Point Solar	**Reference pt.:**
Investigators: TP, DJ, MS, KKM	**State/County:** Christian	**Quad Name:**

PHYSICAL ATTRIBUTES

Waterbody Type	Lake ☐ Pond ☐ Borrow Pit ☐ River ☐ Stream ☑ Other:
Subsurface Flow?	Yes ☐ No ☑ Unknown ☐
Flow type	Perennial (Flows year round) ☑ Intermittent (Flows <3 months) ☐ Seasonal (Continuous flow ≥ 3 months) ☐ Ephemeral (Flows only in response to rainfall) ☐
Stream Width @ OHWM (ft.)	0 - 1 ☐ 1 - 3 ☐ 3 - 6 ☐ 6 - 9 ☑ 9+ ☐
Water Depth - Current (ft.)	0 - 1 ☐ 1 - 3 ☑ 3 - 6 ☐ 6 - 9 ☐ 9+ ☐
OHWM Indicator (check all applicable)	Natural Line Impress on bank ☑ Sediment Sorting ☐ Shelving ☑ Litter disturbed or washed away ☐ Changes in character of soil ☐ Scour ☐ Destruction of terrestrial vegetation ☐ Deposition ☐ Presence of litter or debris ☐ Multiple observed flow events ☐ Wracking ☐ Bed and bank ☑ Vegetation matted down, bent or absent ☑ Water staining ☐ Change in plant community ☐
Channel Height (ft.) (OHWM to channel bottom looking downstream)	Left: 0 - 2 ☐ 2 - 4 ☑ 4+ ☐ Right: 0 - 2 ☐ 2 – 4 ☑ 4+ ☐

QUALITATIVE ATTRIBUTES

Stream Substrate %	Silts 90, Cobbles, Bedrock, Sands, Gravel, Concrete, Muck, Vegetation 5, Other - Explain:
Aquatic Habitats	Sand Bar ☐ Gravel Riffles ☐ In-stream emergent plants ☑ Gravel Bar ☐ Deep Pools ☐ In-stream submerged plants ☑ Mud Bar ☑ Bank root systems ☐ Undercut Banks ☐ Overhanging trees/shrubs ☑ Fringing Wetlands ☐
Stream is:	Natural ☑ Artificial (Man-Made) ☐ Manipulated

LAKES AND OTHER DEEPWATER HABITAT

Shoreline Type: Silts ☑ Cobbles ☐ Bedrock ☐ Concrete ☐ Muck ☐ Vegetation ☑

Other (explain):

Stream/Waterbody Name (if known): Clear Creek

Waterbody ID #: S01

Associated Wetland #: N/A

Date: 04/05/2023	**Project Name & No.:** Hickory Point Solar	**Reference pt.:**
Investigators: TP, DJ, MS, KKM	**State/County:** Christian	**Quad Name:**

PHYSICAL ATTRIBUTES

Waterbody Type	Lake ☐ Pond ☐ Borrow Pit ☐ River ☐ Stream ☑ Other:
Subsurface Flow?	Yes ☐ No ☑ Unknown ☐
Flow type	Perennial (Flows year round) ☑ Intermittent (Flows <3 months) ☐ Seasonal (Continuous flow ≥ 3 months) ☐ Ephemeral (Flows only in response to rainfall) ☐
Stream Width @ OHWM (ft.)	0 - 1 ☐ 1 - 3 ☐ 3 - 6 ☐ 6 - 9 ☑ 9+ ☐
Water Depth - Current (ft.)	0 - 1 ☐ 1 - 3 ☑ 3 - 6 ☐ 6 - 9 ☐ 9+ ☐
OHWM Indicator (check all applicable)	Natural Line Impress on bank ☑ Sediment Sorting ☐ Shelving ☑ Litter disturbed or washed away ☐ Changes in character of soil ☐ Scour ☐ Destruction of terrestrial vegetation ☐ Deposition ☐ Presence of litter or debris ☐ Multiple observed flow events ☐ Wracking ☐ Bed and bank ☑ Vegetation matted down, bent or absent ☑ Water staining ☐ Change in plant community ☐
Channel Height (ft.) (OHWM to channel bottom looking downstream)	Left: 0 - 2 ☐ 2 - 4 ☑ 4+ ☐ Right: 0 - 2 ☐ 2 – 4 ☑ 4+ ☐

QUALITATIVE ATTRIBUTES

Stream Substrate %	Silts 90 Cobbles Bedrock Sands Gravel Concrete Muck Vegetation 5 Other - Explain:
Aquatic Habitats	Sand Bar ☐ Gravel Riffles ☐ In-stream emergent plants ☑ Gravel Bar ☐ Deep Pools ☐ In-stream submerged plants ☑ Mud Bar ☑ Bank root systems ☐ Undercut Banks ☐ Overhanging trees/shrubs ☑ Fringing Wetlands ☐
Stream is:	Natural ☑ Artificial (Man-Made) ☐ Manipulated

LAKES AND OTHER DEEPWATER HABITAT

Shoreline Type: Silts ☑ Cobbles ☐ Bedrock ☐ Concrete ☐ Muck ☐ Vegetation ☑

Other (explain):

Stream/Waterbody Name (if known): Clear Creek

Waterbody ID #: S01

Associated Wetland #: N/A

Date: 04/05/2023	**Project Name & No.:** Hickory Point Solar	**Reference pt.:**
Investigators: TP, DJ, MS, KKM	**State/County:** Christian	**Quad Name:**

PHYSICAL ATTRIBUTES

Waterbody Type	Lake ☐ Pond ☐ Borrow Pit ☐ River ☐ Stream ☑ Other:
Subsurface Flow?	Yes ☐ No ☑ Unknown ☐
Flow type	Perennial (Flows year round) ☑ Intermittent (Flows <3 months) ☐ Seasonal (Continuous flow ≥ 3 months) ☐ Ephemeral (Flows only in response to rainfall) ☐
Stream Width @ OHWM (ft.)	0 - 1 ☐ 1 - 3 ☐ 3 - 6 ☐ 6 - 9 ☑ 9+ ☐
Water Depth - Current (ft.)	0 - 1 ☐ 1 - 3 ☑ 3 - 6 ☐ 6 - 9 ☐ 9+ ☐
OHWM Indicator (check all applicable)	Natural Line Impress on bank ☑ Sediment Sorting ☐ Shelving ☑ Litter disturbed or washed away ☐ Changes in character of soil ☐ Scour ☐ Destruction of terrestrial vegetation ☐ Deposition ☐ Presence of litter or debris ☐ Multiple observed flow events ☐ Wracking ☐ Bed and bank ☑ Vegetation matted down, bent or absent ☑ Water staining ☐ Change in plant community ☐
Channel Height (ft.) (OHWM to channel bottom looking downstream)	Left: 0 - 2 ☐ 2 - 4 ☑ 4+ ☐ Right: 0 - 2 ☐ 2 – 4 ☑ 4+ ☐

QUALITATIVE ATTRIBUTES

Stream Substrate %	Silts 90 Cobbles Bedrock Sands Gravel Concrete Muck Vegetation 5 Other - Explain:
Aquatic Habitats	Sand Bar ☐ Gravel Riffles ☐ In-stream emergent plants ☑ Gravel Bar ☐ Deep Pools ☐ In-stream submerged plants ☑ Mud Bar ☑ Bank root systems ☐ Undercut Banks ☐ Overhanging trees/shrubs ☑ Fringing Wetlands ☐
Stream is:	Natural ☑ Artificial (Man-Made) ☐ Manipulated

LAKES AND OTHER DEEPWATER HABITAT

Shoreline Type: Silts ☑ Cobbles ☐ Bedrock ☐ Concrete ☐ Muck ☐ Vegetation ☑

Other (explain):

Stream/Waterbody Name (if known): Clear Creek

Waterbody ID #: S01

Associated Wetland #: N/A

Date: 04/05/2023	**Project Name & No.:** Hickory Point Solar	**Reference pt.:**
Investigators: TP, DJ, MS, KKM	**State/County:** Christian	**Quad Name:**

PHYSICAL ATTRIBUTES

Waterbody Type	Lake ☐ Pond ☐ Borrow Pit ☐ River ☐ Stream ☑ Other:
Subsurface Flow?	Yes ☐ No ☑ Unknown ☐
Flow type	Perennial (Flows year round) ☑ Intermittent (Flows <3 months) ☐ Seasonal (Continuous flow ≥ 3 months) ☐ Ephemeral (Flows only in response to rainfall) ☐
Stream Width @ OHWM (ft.)	0 - 1 ☐ 1 - 3 ☐ 3 - 6 ☐ 6 - 9 ☑ 9+ ☐
Water Depth - Current (ft.)	0 - 1 ☐ 1 - 3 ☑ 3 - 6 ☐ 6 - 9 ☐ 9+ ☐
OHWM Indicator (check all applicable)	Natural Line Impress on bank ☑ Sediment Sorting ☐ Shelving ☑ Litter disturbed or washed away ☐ Changes in character of soil ☐ Scour ☐ Destruction of terrestrial vegetation ☐ Deposition ☐ Presence of litter or debris ☐ Multiple observed flow events ☐ Wracking ☐ Bed and bank ☑ Vegetation matted down, bent or absent ☑ Water staining ☐ Change in plant community ☐
Channel Height (ft.) (OHWM to channel bottom looking downstream)	Left: 0 - 2 ☐ 2 - 4 ☑ 4+ ☐ Right: 0 - 2 ☐ 2 – 4 ☑ 4+ ☐

QUALITATIVE ATTRIBUTES

Stream Substrate %	Silts 90 Cobbles Bedrock Sands Gravel Concrete Muck Vegetation 5 Other - Explain:
Aquatic Habitats	Sand Bar ☐ Gravel Riffles ☐ In-stream emergent plants ☑ Gravel Bar ☐ Deep Pools ☐ In-stream submerged plants ☑ Mud Bar ☑ Bank root systems ☐ Undercut Banks ☐ Overhanging trees/shrubs ☑ Fringing Wetlands ☐
Stream is:	Natural ☑ Artificial (Man-Made) ☐ Manipulated

LAKES AND OTHER DEEPWATER HABITAT

Shoreline Type: Silts ☑ Cobbles ☐ Bedrock ☐ Concrete ☐ Muck ☐ Vegetation ☑

Other (explain):

Stream/Waterbody Name (if known): Clear Creek

Waterbody ID #: S01

Associated Wetland #: N/A

Date: 04/05/2023	**Project Name & No.:** Hickory Point Solar	**Reference pt.:**
Investigators: TP, DJ, MS, KKM	**State/County:** Christian	**Quad Name:**

PHYSICAL ATTRIBUTES

Waterbody Type	Lake ☐ Pond ☐ Borrow Pit ☐ River ☐ Stream ☑ Other:
Subsurface Flow?	Yes ☐ No ☑ Unknown ☐
Flow type	Perennial (Flows year round) ☑ Intermittent (Flows <3 months) ☐ Seasonal (Continuous flow ≥ 3 months) ☐ Ephemeral (Flows only in response to rainfall) ☐
Stream Width @ OHWM (ft.)	0 - 1 ☐ 1 - 3 ☐ 3 - 6 ☐ 6 - 9 ☑ 9+ ☐
Water Depth - Current (ft.)	0 - 1 ☐ 1 - 3 ☑ 3 - 6 ☐ 6 - 9 ☐ 9+ ☐
OHWM Indicator (check all applicable)	Natural Line Impress on bank ☑ Sediment Sorting ☐ Shelving ☑ Litter disturbed or washed away ☐ Changes in character of soil ☐ Scour ☐ Destruction of terrestrial vegetation ☐ Deposition ☐ Presence of litter or debris ☐ Multiple observed flow events ☐ Wracking ☐ Bed and bank ☑ Vegetation matted down, bent or absent ☑ Water staining ☐ Change in plant community ☐
Channel Height (ft.) (OHWM to channel bottom looking downstream)	Left: 0 - 2 ☐ 2 - 4 ☑ 4+ ☐ Right: 0 - 2 ☐ 2 – 4 ☑ 4+ ☐

QUALITATIVE ATTRIBUTES

Stream Substrate %	Silts 90 Cobbles Bedrock Sands Gravel Concrete Muck Vegetation 5 Other - Explain:
Aquatic Habitats	Sand Bar ☐ Gravel Bar ☐ Mud Bar ☑ Undercut Banks ☐ Gravel Riffles ☐ Deep Pools ☐ Bank root systems ☐ Overhanging trees/shrubs ☑ In-stream emergent plants ☑ In-stream submerged plants ☑ Fringing Wetlands ☐
Stream is:	Natural ☑ Artificial (Man-Made) ☐ Manipulated

LAKES AND OTHER DEEPWATER HABITAT

Shoreline Type: Silts ☑ Cobbles ☐ Bedrock ☐ Concrete ☐ Muck ☐ Vegetation ☑

Other (explain):

Stream/Waterbody Name (if known): Clear Creek

Waterbody ID #: S01

Associated Wetland #: N/A

Date: 04/05/2023	**Project Name & No.:** Hickory Point Solar	**Reference pt.:**
Investigators: TP, DJ, MS, KKM	**State/County:** Christian	**Quad Name:**

PHYSICAL ATTRIBUTES

Waterbody Type	Lake ☐ Pond ☐ Borrow Pit ☐ River ☐ Stream ☑ Other:
Subsurface Flow?	Yes ☐ No ☑ Unknown ☐
Flow type	Perennial (Flows year round) ☑ Intermittent (Flows <3 months) ☐ Seasonal (Continuous flow ≥ 3 months) ☐ Ephemeral (Flows only in response to rainfall) ☐
Stream Width @ OHWM (ft.)	0 - 1 ☐ 1 - 3 ☐ 3 - 6 ☐ 6 - 9 ☑ 9+ ☐
Water Depth - Current (ft.)	0 - 1 ☐ 1 - 3 ☑ 3 - 6 ☐ 6 - 9 ☐ 9+ ☐
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Channel Height (ft.) (OHWM to channel bottom looking downstream)	Left: 0 - 2 ☐ 2 - 4 ☑ 4+ ☐ Right: 0 - 2 ☐ 2 – 4 ☑ 4+ ☐

QUALITATIVE ATTRIBUTES

Stream Substrate %	Silts 90 Cobbles Bedrock Sands Gravel Concrete Muck Vegetation 5 Other - Explain:
Aquatic Habitats	Sand Bar ☐ Gravel Riffles ☐ In-stream emergent plants ☑ Gravel Bar ☐ Deep Pools ☐ In-stream submerged plants ☑ Mud Bar ☑ Bank root systems ☐ Undercut Banks ☐ Overhanging trees/shrubs ☑ Fringing Wetlands ☐
Stream is:	Natural ☑ Artificial (Man-Made) ☐ Manipulated

LAKES AND OTHER DEEPWATER HABITAT

Shoreline Type: Silts ☑ Cobbles ☐ Bedrock ☐ Concrete ☐ Muck ☐ Vegetation ☑

Other (explain):

Stream/Waterbody Name (if known): Clear Creek

Waterbody ID #: S01

Associated Wetland #: N/A

Date: 04/05/2023	**Project Name & No.:** Hickory Point Solar	**Reference pt.:**
Investigators: TP, DJ, MS, KKM	**State/County:** Christian	**Quad Name:**

PHYSICAL ATTRIBUTES

Waterbody Type	Lake ☐ Pond ☐ Borrow Pit ☐ River ☐ Stream ☑ Other:
Subsurface Flow?	Yes ☐ No ☑ Unknown ☐
Flow type	Perennial (Flows year round) ☑ Intermittent (Flows <3 months) ☐ Seasonal (Continuous flow ≥ 3 months) ☐ Ephemeral (Flows only in response to rainfall) ☐
Stream Width @ OHWM (ft.)	0 - 1 ☐ 1 - 3 ☐ 3 - 6 ☐ 6 - 9 ☑ 9+ ☐
Water Depth - Current (ft.)	0 - 1 ☐ 1 - 3 ☑ 3 - 6 ☐ 6 - 9 ☐ 9+ ☐
OHWM Indicator (check all applicable)	Natural Line Impress on bank ☑ Sediment Sorting ☐ Shelving ☑ Litter disturbed or washed away ☐ Changes in character of soil ☐ Scour ☐ Destruction of terrestrial vegetation ☐ Deposition ☐ Presence of litter or debris ☐ Multiple observed flow events ☐ Wracking ☐ Bed and bank ☑ Vegetation matted down, bent or absent ☑ Water staining ☐ Change in plant community ☐
Channel Height (ft.) (OHWM to channel bottom looking downstream)	Left: 0 - 2 ☐ 2 - 4 ☑ 4+ ☐ Right: 0 - 2 ☐ 2 – 4 ☑ 4+ ☐

QUALITATIVE ATTRIBUTES

Stream Substrate %	Silts 90, Cobbles, Bedrock, Sands, Gravel Concrete, Muck, Vegetation 5 Other - Explain:
Aquatic Habitats	Sand Bar ☐ Gravel Bar ☐ Mud Bar ☑ Undercut Banks ☐ Gravel Riffles ☐ Deep Pools ☐ Bank root systems ☐ Overhanging trees/shrubs ☑ In-stream emergent plants ☑ In-stream submerged plants ☑ Fringing Wetlands ☐
Stream is:	Natural ☑ Artificial (Man-Made) ☐ Manipulated

LAKES AND OTHER DEEPWATER HABITAT

Shoreline Type: Silts ☑ Cobbles ☐ Bedrock ☐ Concrete ☐ Muck ☐ Vegetation ☑

Other (explain):

Stream/Waterbody Name (if known): Clear Creek

Waterbody ID #: S01

Associated Wetland #: N/A

Date: 04/05/2023	**Project Name & No.:** Hickory Point Solar	**Reference pt.:**
Investigators: TP, DJ, MS, KKM	**State/County:** Christian	**Quad Name:**

PHYSICAL ATTRIBUTES

Waterbody Type	Lake [ ] Pond [ ] Borrow Pit [ ] River [ ] Stream [x] Other:
Subsurface Flow?	Yes [ ] No [x] Unknown [ ]
Flow type	Perennial (Flows year round) [x] Intermittent (Flows <3 months) [ ] Seasonal (Continuous flow ≥ 3 months) [ ] Ephemeral (Flows only in response to rainfall) [ ]
Stream Width @ OHWM (ft.)	0 - 1 [ ] 1 - 3 [ ] 3 - 6 [ ] 6 - 9 [x] 9+ [ ]
Water Depth - Current (ft.)	0 - 1 [ ] 1 - 3 [x] 3 - 6 [ ] 6 - 9 [ ] 9+ [ ]
OHWM Indicator (check all applicable)	Natural Line Impress on bank [x] Sediment Sorting [ ] Shelving [x] Litter disturbed or washed away [ ] Changes in character of soil [ ] Scour [ ] Destruction of terrestrial vegetation [ ] Deposition [ ] Presence of litter or debris [ ] Multiple observed flow events [ ] Wracking [ ] Bed and bank [x] Vegetation matted down, bent or absent [x] Water staining [ ] Change in plant community [ ]
Channel Height (ft.) (OHWM to channel bottom looking downstream)	Left: 0 - 2 [ ] 2 - 4 [x] 4+ [ ] Right: 0 - 2 [ ] 2 – 4 [x] 4+ [ ]

QUALITATIVE ATTRIBUTES

Stream Substrate %	Silts 90 Cobbles Bedrock Sands Gravel Concrete Muck Vegetation 5 Other - Explain:
Aquatic Habitats	Sand Bar [ ] Gravel Riffles [ ] In-stream emergent plants [x] Gravel Bar [ ] Deep Pools [ ] In-stream submerged plants [x] Mud Bar [x] Bank root systems [ ] Undercut Banks [ ] Overhanging trees/shrubs [x] Fringing Wetlands [ ]
Stream is:	Natural [x] Artificial (Man-Made) [ ] Manipulated

LAKES AND OTHER DEEPWATER HABITAT

Shoreline Type: Silts [x] Cobbles [ ] Bedrock [ ] Concrete [ ] Muck [ ] Vegetation [x]

Other (explain):

APPENDIX B

Site Photographs

	**Photo ID:** S01-01 Direction Photo is Taken: N Photo Description: Latitude: 39.54603913 Longitude: -89.43554853

	**Photo ID:** S01-02 Direction Photo is Taken: NE Photo Description: Stream 1 Latitude: 39.54545653 Longitude: -89.43645919

	**Photo ID:** S01-03 Direction Photo is Taken: E Photo Description: Honeysuckle in understory on far side of creek Latitude: 39.54421014 Longitude: -89.43678919

	**Photo ID:** S01-04 Direction Photo is Taken: NE Photo Description: Tile outlet Latitude: 39.54291914 Longitude: -89.43684217

	**Photo ID:** S01-05 Direction Photo is Taken: S Photo Description: Latitude: 39.54151999 Longitude: -89.43749772

	**Photo ID:** S01-06 Direction Photo is Taken: W Photo Description: Homemade riprap erosion control attempt where gully hits creek Latitude: 39.53683956 Longitude: -89.43853676

Photo ID: S01-07

Direction Photo is Taken: NE

Photo Description: S01

Latitude: 39.53546347

Longitude: -89.44034648

Photo ID: S01-08

Direction Photo is Taken: NE

Photo Description: S01 Looking NE

Latitude: 39.53323363

Longitude: -89.44345525

Photo ID: S01-09

Direction Photo is Taken: N

Photo Description:

Latitude: 39.53031771

Longitude: -89.44496817

Photo ID: S01-10

Direction Photo is Taken: N

Photo Description:

Latitude: 39.5189254

Longitude: -89.45432843

Photo ID: S01-11

Direction Photo is Taken: N

Photo Description:

Latitude: 39.51844635

Longitude: -89.45440839

Photo ID: S01-12

Direction Photo is Taken: N

Photo Description:

Latitude: 39.51720224

Longitude: -89.4547953

	**Photo ID:** S01-13 Direction Photo is Taken: N Photo Description: Latitude: 39.51627485 Longitude: -89.45504325
	**Photo ID:** S01-14 Direction Photo is Taken: N Photo Description: Latitude: 39.51580919 Longitude: -89.45525164
	**Photo ID:** S01-15 Direction Photo is Taken: N Photo Description: Latitude: 39.51529873 Longitude: -89.45532584

Photo ID: S01-16

Direction Photo is Taken: Ground

Photo Description:

Latitude: 39.5147734

Longitude: -89.45544102

Photo ID: S01-17

Direction Photo is Taken: N

Photo Description:

Latitude: 39.51412292

Longitude: -89.45548746

Photo ID: S01-18

Direction Photo is Taken: NE

Photo Description:

Latitude: 39.51343614

Longitude: -89.45563001

	**Photo ID:** S02-01 Direction Photo is Taken: S Photo Description: Looking south at S02 from road bridge. Latitude: 39.53896036 Longitude: -89.47208511

	**Photo ID:** S02-02 Direction Photo is Taken: N Photo Description: S02 Latitude: 39.53236624 Longitude: -89.4727344

	**Photo ID:** S02-03 Direction Photo is Taken: NE Photo Description: Latitude: 39.52985852 Longitude: -89.47585807

	**Photo ID:** S02-04 Direction Photo is Taken: N Photo Description: stream 2 (ditched) Latitude: 39.52601713 Longitude: -89.47730038

	**Photo ID:** S03 Direction Photo is Taken: SW Photo Description: Looking SW at Stream S03 Latitude: 39.53505161 Longitude: -89.47760068

	**Photo ID:** S05-01 Direction Photo is Taken: SW Photo Description: Upstream Latitude: 39.51696875 Longitude: -89.46444528

	**Photo ID:** S05-02 Direction Photo is Taken: W Photo Description: Upstream Latitude: 39.51700508 Longitude: -89.46316521

	**Photo ID:** S05-03 Direction Photo is Taken: W Photo Description: Upstream Latitude: 39.51739549 Longitude: -89.46007619

	**Photo ID:** S05-04 Direction Photo is Taken: E Photo Description: Latitude: 39.51727145 Longitude: -89.45542069

Photo ID: S06-01

Direction Photo is Taken: E

Photo Description: shallow flow in stream

Latitude: 39.50251743

Longitude: -89.46472541

Photo ID: S06-02

Direction Photo is Taken: E

Photo Description: S01

Latitude: 39.50248114

Longitude: -89.46945619

Photo ID: S07-01

Direction Photo is Taken: W

Photo Description: Upstream

Latitude: 39.51276043

Longitude: -89.41953071

	**Photo ID:** S07-02 Direction Photo is Taken: W Photo Description: Latitude: 39.51269201 Longitude: -89.4181651

	**Photo ID:** S07-03 Direction Photo is Taken: W Photo Description: Latitude: 39.51252022 Longitude: -89.41625845

	**Photo ID:** S07-04 Direction Photo is Taken: E Photo Description: Upstream Latitude: 39.5128279 Longitude: -89.41545967

	**Photo ID:** S07-05 Direction Photo is Taken: W Photo Description: Latitude: 39.51263367 Longitude: -89.41475483

	**Photo ID:** S07-06 Direction Photo is Taken: W Photo Description: Latitude: 39.5123924 Longitude: -89.41339552

	**Photo ID:** S07-07 Direction Photo is Taken: W Photo Description: Latitude: 39.51300859 Longitude: -89.41259816

	**Photo ID:** S07-08 Direction Photo is Taken: N Photo Description: Latitude: 39.51210714 Longitude: -89.41199235

	**Photo ID:** S07-09 Direction Photo is Taken: W Photo Description: View of S07 west Latitude: 39.51204464 Longitude: -89.41131006

	**Photo ID:** S07-10 Direction Photo is Taken: E Photo Description: View of S07 east Latitude: 39.51204407 Longitude: -89.41125098

	**Photo ID:** S08 Direction Photo is Taken: W Photo Description: S08. Flowing east from two culverts. Depth of ditch prevents it from fully draining into the grassed waterway Latitude: 39.53536316 Longitude: -89.44602386

	**Photo ID:** WA-01-U Direction Photo is Taken: S Photo Description: Latitude: 39.49463578 Longitude: -89.42661899

	**Photo ID:** WA-01-W Direction Photo is Taken: E Photo Description: Latitude: 39.49451735 Longitude: -89.42659237

	**Photo ID:** WA-02 Direction Photo is Taken: E Photo Description: Latitude: 39.49889898 Longitude: -89.42287133
	**Photo ID:** WA-02-U Direction Photo is Taken: W Photo Description: Latitude: 39.49893486 Longitude: -89.42288713
	**Photo ID:** WA-03 Direction Photo is Taken: NW Photo Description: Latitude: 39.52199235 Longitude: -89.42991397

	**Photo ID:** WA-03-U Direction Photo is Taken: N Photo Description: Latitude: 39.52188873 Longitude: -89.42987656

	**Photo ID:** WA-03-W Direction Photo is Taken: N Photo Description: Latitude: 39.5219979 Longitude: -89.43004503

	**Photo ID:** WB-01 Direction Photo is Taken: N Photo Description: Latitude: 39.52528801 Longitude: -89.48123248

	**Photo ID:** WB-01-U Direction Photo is Taken: N Photo Description: Latitude: 39.52529357 Longitude: -89.48082059

	**Photo ID:** WB-02 Direction Photo is Taken: NE Photo Description: Latitude: 39.51142045 Longitude: -89.47488162

	**Photo ID:** WB-02 Direction Photo is Taken: SE Photo Description: Latitude: 39.51191912 Longitude: -89.47483687

	**Photo ID:** WB-03 Direction Photo is Taken: E Photo Description: Looking east at wetland WB-03 Latitude: 39.50950429 Longitude: -89.47597607

	**Photo ID:** WB-04 Direction Photo is Taken: NE Photo Description: WB-04 Latitude: 39.5044647 Longitude: -89.46462739

	**Photo ID:** WB-05 Direction Photo is Taken: SW Photo Description: WB-05 Latitude: 39.52483588 Longitude: -89.46976835

	**Photo ID:** WB-06 Direction Photo is Taken: NE Photo Description: WB-06 Latitude: 39.52634459 Longitude: -89.46874829

	**Photo ID:** WB-07 Direction Photo is Taken: SW Photo Description: Latitude: 39.5342907 Longitude: -89.45407413

	**Photo ID:** WB-08 Direction Photo is Taken: E Photo Description: WB-08 Latitude: 39.54579552 Longitude: -89.43661353

Exhibit 6:
EcoCAT

Applicant: Invenergy LLC
Contact: Tim Paquin, Stantec
Address: One South Wacker Drive
Suite 1900
Chicago, IL 60606

IDNR Project Number: 2311132
Date: 03/07/2023

Project: Hickory Point Solar
Address: County Road 1300 North, South Fork

Description: Invenergy has proposed to develop Hickory Point Solar which is a 250 megawatt solar facility in Christian County, Illinois. The Project Area will include solar panels, collector lines, substation, and an electric transmission line.

Natural Resource Review Results

Consultation for Endangered Species Protection and Natural Areas Preservation (Part 1075)

The Illinois Natural Heritage Database shows the following protected resources may be in the vicinity of the project location:

Berry's Woods INAI Site

An IDNR staff member will evaluate this information and contact you to request additional information or to terminate consultation if adverse effects are unlikely.

Location

The applicant is responsible for the accuracy of the location submitted for the project.

County: Christian

Township, Range, Section:
12N, 3W, 3
12N, 3W, 4
12N, 3W, 5
12N, 3W, 6
12N, 3W, 7
12N, 3W, 8
12N, 3W, 9
12N, 3W, 10
12N, 3W, 15
12N, 3W, 16
12N, 3W, 17
12N, 3W, 18
12N, 4W, 1
12N, 4W, 12
13N, 3W, 28
13N, 3W, 29
13N, 3W, 30
13N, 3W, 31
13N, 3W, 32
13N, 3W, 33
13N, 4W, 36

IL Department of Natural Resources Contact
Kyle Burkwald
217-785-5500
Division of Ecosystems & Environment

Government Jurisdiction
Christian County Zoning Office
Blake Tarr
214 W Market St
Taylorville, Illinois 62568

Disclaimer

The Illinois Natural Heritage Database cannot provide a conclusive statement on the presence, absence, or condition of natural resources in Illinois. This review reflects the information existing in the Database at the time of this inquiry, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, compliance with applicable statutes and regulations is required.

Terms of Use

By using this website, you acknowledge that you have read and agree to these terms. These terms may be revised by IDNR as necessary. If you continue to use the EcoCAT application after we post changes to these terms, it will mean that you accept such changes. If at any time you do not accept the Terms of Use, you may not continue to use the website.

1. The IDNR EcoCAT website was developed so that units of local government, state agencies and the public could request information or begin natural resource consultations on-line for the Illinois Endangered Species Protection Act, Illinois Natural Areas Preservation Act, and Illinois Interagency Wetland Policy Act. EcoCAT uses databases, Geographic Information System mapping, and a set of programmed decision rules to determine if proposed actions are in the vicinity of protected natural resources. By indicating your agreement to the Terms of Use for this application, you warrant that you will not use this web site for any other purpose.

2. Unauthorized attempts to upload, download, or change information on this website are strictly prohibited and may be punishable under the Computer Fraud and Abuse Act of 1986 and/or the National Information Infrastructure Protection Act.

3. IDNR reserves the right to enhance, modify, alter, or suspend the website at any time without notice, or to terminate or restrict access.

Security

EcoCAT operates on a state of Illinois computer system. We may use software to monitor traffic and to identify unauthorized attempts to upload, download, or change information, to cause harm or otherwise to damage this site. Unauthorized attempts to upload, download, or change information on this server is strictly prohibited by law.

Unauthorized use, tampering with or modification of this system, including supporting hardware or software, may subject the violator to criminal and civil penalties. In the event of unauthorized intrusion, all relevant information regarding possible violation of law may be provided to law enforcement officials.

Privacy

EcoCAT generates a public record subject to disclosure under the Freedom of Information Act. Otherwise, IDNR uses the information submitted to EcoCAT solely for internal tracking purposes.

EcoCAT Receipt

Project Code 2311132

APPLICANT	DATE
Invenergy LLC Tim Paquin, Stantec One South Wacker Drive Suite 1900 Chicago, IL 60606	3/7/2023

DESCRIPTION	FEE	CONVENIENCE FEE	TOTAL PAID
EcoCAT Consultation	$ 125.00	$ 2.81	$ 127.81

TOTAL PAID $ 127.81

Illinois Department of Natural Resources
One Natural Resources Way
Springfield, IL 62702
217-785-5500
dnr.ecocat@illinois.gov

March 08, 2023

Tim Paquin, Stantec
Invenergy LLC
One South Wacker Drive
Suite 1900
Chicago, IL 60606

RE: Hickory Point Solar
Project Number(s): 2311132
County: Christian

Dear Applicant:

This letter is in reference to the project you recently submitted for consultation. The natural resource review provided by EcoCAT identified protected resources that may be in the vicinity of the proposed action. The Department has evaluated this information and concluded that adverse effects are unlikely. Therefore, consultation under 17 Ill. Adm. Code Part 1075 is terminated.

The Department encourages all new and existing solar energy facilities to participate in the Pollinator Scorecard Program. More information can be found here:
https://www2.illinois.gov/dnr/conservation/pollinatorscorecard/pages/default.aspx

This consultation is valid for two years unless new information becomes available that was not previously considered; the proposed action is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the project has not been implemented within two years of the date of this letter, or any of the above listed conditions develop, a new consultation is necessary.

The natural resource review reflects the information existing in the Illinois Natural Heritage Database at the time of the project submittal, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, you must comply with the applicable statutes and regulations. Also, note that termination does not imply IDNR's authorization or endorsement of the proposed action.

Please contact me if you have questions regarding this review.

Kyle Burkwald
Division of Ecosystems and Environment
217-785-5500

Exhibit 7:
Vegetation Establishment & Management Plan

Vegetation Establishment & Management Plan

Hickory Point Solar Energy Center

Invenergy’s Vegetation Goal

Invenergy’s goal for vegetation management is to establish and maintain low-growing, regionally appropriate grass-dominated vegetation within the Project. This vegetation will stabilize soils, reduce erosion and sedimentation, build soil health, and protect water resources. Invenergy also strives to minimize the presence and proliferation of invasive species and noxious weeds during construction and the operational phase of the Project.

Approach

Invenergy will stabilize the Project area in accordance with the Project’s Stormwater Pollution Prevention Plan (SWPPP) and the guidelines outlined in the Project’s Vegetation and Soil Management Plan (VSMP). The VSMP is an Invenergy developed Project specific document that provides a narrative and direction on how to implement each step of the revegetation process including subsoil decompaction, topsoil return, soil amendment application, invasive species and weed control, seedbed preparation, seeding, and mulching, as applicable. Additionally, the VSMP will also describe the monitoring and maintenance efforts that will occur to ensure vegetation is successfully established and that invasive species and weeds are being effectively controlled. The VSMP will provide the above described direction for all lands within the Project including inside and outside the permanent Project fence line.

Seeding Strategy

Temporary seeding will be conducted by planting cover crop species on portions of the Project that are scheduled for later ground disturbance activities (i.e. clearing and grading). The temporary species will establish quickly, stabilize the soil surface, promote infiltration of stormwater and prevent erosion, discourage the proliferation of invasive and noxious weeds, and maintain soil health during initial civil construction activities. After ground disturbing activities are complete, the Project areas receiving temporary seeding will then be permanently seeded.

The permanent seeding will be conducted by planting perennial plant species that will persist for the life of the Project. Permanent seeding will occur prior to or at the start of construction activities in Project locations where ground disturbance activities are not planned. As described above, permanent seeding will also occur following ground disturbance activities in Project locations where applicable. The permanent vegetation will for the life of the Project, stabilize the soil surface, promote infiltration and prevent erosion, discourage the proliferation of invasive and noxious weeds, and maintain soil health after civil construction has been completed.

All temporary and permanent seeding will be conducted in optimal seeding windows (spring, fall, winter) to achieve the best germination success. Additionally, all seeding will occur at the application rate prescribed in the VSMP.

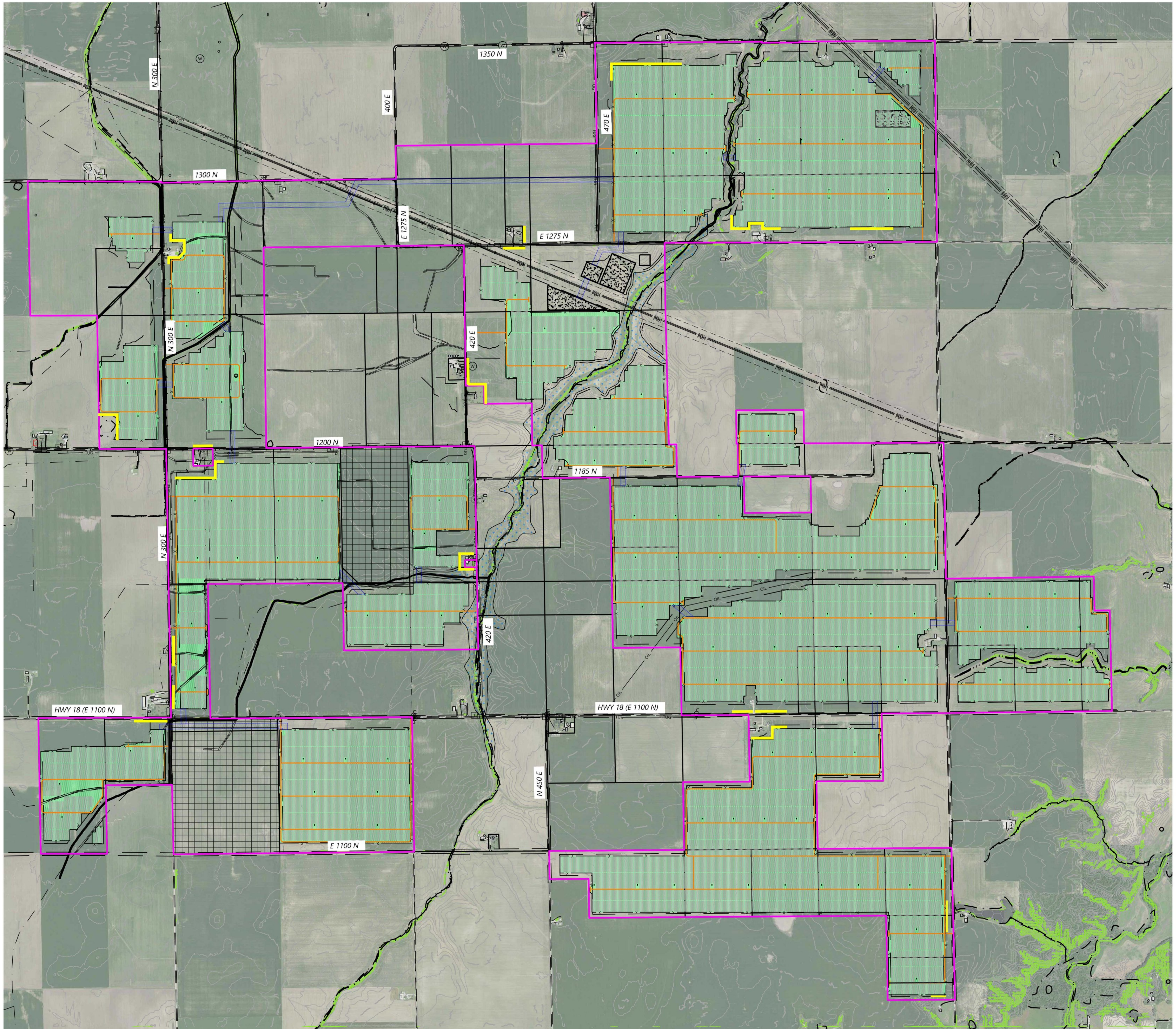
Weed Control

Noxious, invasive, and undesirable species that may impact the safe operation of the facility will be controlled during Project construction and long-term operations. Additionally, these species will be controlled in all Project areas including inside the fence and in areas outside of the fence that is to be maintained by the Project owner.

The primary weed control tool will be the successful establishment of the seeded temporary and permanent vegetation. The successful establishment of the desired vegetation will discourage the proliferation of invasive species and noxious weeds. Mowing will also be a significant weed control tool and will occur as a routine vegetation maintenance activity. The timing of mowing will be targeted to prevent seed production and the spreading of invasive species and noxious weeds. Another control tool will be targeted application of selective herbicides on species that are not effectively controlled by mowing. The contractor or Project personnel who apply herbicides, will have appropriate state herbicide applicator licenses, and comply with all federal, state, and local regulations regarding herbicide use. Herbicides will be mixed and applied in conformance with the manufacturer’s direction.

Invenergy

Exhibit 8:
Solar Screening Plan



LEGEND:

- PROJECT BOUNDARY
- SECTION LINES
- RIGHT-OF-WAY LINES
- EASEMENT LINES
- EX. PAVED ROAD
- EX. GRAVEL ROAD
- EX. FENCE
- EX. OVERHEAD POWER
- EX. UNDERGROUND OIL
- EX. DRAIN TILE
- EX. STREAM CHANNEL
- EX. NWI WETLAND
- EX. FEMA FLOOD ZONE
- MVAC COLLECTION PARCEL
- 15%+ SLOPE AVOIDANCE AREAS
- PROPOSED ARRAY BUILDABLE AREA BUILDABLE AREA = 2,400 AC
- PROPOSED SOLAR ARRAY
- PROPOSED ELECTRICAL EQUIPMENT
- PROPOSED ACCESS ROAD
- PROPOSED SECURITY FENCE
- PROPOSED SUBSTATION
- PROPOSED MVAC ROUTE CORRIDOR
- PROPOSED SCREENING
- PROPOSED LOW-GROWING ARRAY GRASS MIX

Westwood

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Westwood Professional Services, Inc.

Electrical, Civil, Structural & Geotechnical Engineers

PREPARED FOR:

Invenergy

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Chicago, IL 60606

REVISIONS:

#	DATE	COMMENT
A	04/26/2023	ISSUED FOR REVIEW
B	05/04/2023	POI REVISIONS

0' 1000' 2000' 3000'

Hickory Point Solar Project

Christian County, Illinois

Overall Screening Plan

NOT FOR CONSTRUCTION

DATE: 05/04/2023

SHEET: L100 REV: B

VEGETATIVE SCREENING SELECTION AND INTENT

THE PROPOSED PLANS INCLUDE VEGETATIVE SCREENING WHICH UTILIZES NATIVE SHRUBS AT STRATEGIC LOCATIONS ACROSS THE PROJECT SITE TO LIMIT DIRECT VIEWS OF THE ARRAY. ONE BENEFIT TO USING NATIVE PLANTS IS THAT THEY ARE ACCLIMATED TO THE PARTICULAR CLIMATE AND ENVIRONMENTAL CONDITIONS, THUS ALLOWING FOR A QUICKER ESTABLISHMENT AND INCREASED SURVIVAL RATES. THE PROPOSED VEGETATIVE SCREEN IS COMPOSED OF DECIDUOUS SHRUBS THAT CAN HELP PROVIDE ADDITIONAL SCREENING AND BE VISUALLY APPEALING ACROSS MULTIPLE SEASONS. SOME OF THE CHARACTERISTICS THAT THESE NATIVE SHRUBS HAVE BEEN SELECTED FOR INCLUDE FOLIAGE AND STEM COLOR, FLOWERS AND FRUIT PRODUCTION. THE SHRUBS ARE PROPOSED TO BE PLANTED IN SMALL MASSES SO THAT AT ANY ONE TIME IN THE YEAR ONE SPECIES MIGHT DISPLAY SOME OF THESE AESTHETIC CHARACTERISTICS. BEYOND THE AESTHETIC VALUE, THE PROPOSED PLANTS CAN PROVIDE ADDITIONAL WILDLIFE BENEFITS THAT INCLUDE A SOURCE FOR POLLINATORS, SHELTER, FORAGE AND WINTER HABITAT. AS THE PLANTS MATURE THEY WILL GROW CLOSER TOGETHER CREATING A TYPE OF NATURAL HEDGE.

PLANTING NOTES

1. CONTRACTOR SHALL CONTACT ILLINOIS DIG SAFE SYSTEM (811) or (800) 892-0123 TO VERIFY LOCATIONS OF ALL UNDERGROUND UTILITIES PRIOR TO INSTALLATION OF ANY PLANTS OR LANDSCAPE MATERIAL.
2. ACTUAL LOCATION OF PLANT MATERIAL IS SUBJECT TO FIELD AND SITE CONDITIONS.
3. NO PLANTING WILL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA.
4. ALL PLANTS TO BE SPECIMEN GRADE, ILLINOIS-GROWN AND/OR HARDY. SPECIMEN GRADE SHALL ADHERE TO, BUT IS NOT LIMITED BY, THE FOLLOWING STANDARDS:
   ALL PLANTS SHALL BE FREE FROM DISEASE, PESTS, WOUNDS, SCARS, ETC.
   ALL PLANTS SHALL BE FREE FROM NOTICEABLE GAPS, HOLES, OR DEFORMITIES.
   ALL PLANTS SHALL BE FREE FROM BROKEN OR DEAD BRANCHES.
   ALL PLANTS SHALL HAVE HEAVY, HEALTHY BRANCHING AND LEAFING.
5. PLANTS TO MEET AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1-2004 OR MOST CURRENT VERSION) REQUIREMENTS FOR SIZE AND TYPE SPECIFIED.
6. PLANTS TO BE INSTALLED AS PER ILLA & ANSI STANDARD PLANTING PRACTICES.
7. PLANTS SHALL BE IMMEDIATELY PLANTED UPON ARRIVAL AT SITE. PROPERLY HEEL-IN MATERIALS IF NECESSARY; TEMPORARY ONLY.
8. REMOVE POT ON POTTED PLANTS; SPLIT AND BREAK APART PEAT POTS.
9. PRUNE PLANTS AS NECESSARY - PER STANDARD NURSERY PRACTICE AND TO CORRECT POOR BRANCHING OF EXISTING AND PROPOSED TREES.
10. THE NEED FOR SOIL AMENDMENTS SHALL BE DETERMINED UPON SITE SOIL CONDITIONS PRIOR TO PLANTING. LANDSCAPE CONTRACTOR SHALL NOTIFY OWNER FOR THE NEED OF ANY SOIL AMENDMENTS.
11. BACKFILL SOIL AND TOPSOIL TO BE EXISTING TOP SOIL FROM SITE FREE OF ROOTS, ROCKS LARGER THAN ONE INCH, SUBSOIL DEBRIS, AND LARGE WEEDS UNLESS SPECIFIED OTHERWISE. MINIMUM 12" DEPTH TOPSOIL FOR TREE, SHRUBS, AND PERENNIALS.
12. PROVIDE MULCH FOR ALL TREE AND SHRUB PLANTINGS PER DETAIL. MULCH TO BE SHREDDED HARDWOOD AND FREE OF DELETERIOUS MATERIAL. MULCH 3' DIAMETER RING AROUND ALL TREES AND SHRUBS TO A DEPTH OF 4". KEEP MULCH OFF TRUNK.
13. REPAIR, REPLACE, OR PROVIDE SOD/SEED AS REQUIRED FOR ANY ROADWAY BOULEVARD AREAS ADJACENT TO THE SITE DISTURBED DURING CONSTRUCTION.
14. REPAIR ALL DAMAGE TO PROPERTY FROM PLANTING OPERATIONS AT NO COST TO OWNER.

SCREENING PLANTING SCHEDULE

	SYMBOL	COMMON/BOTANICAL NAME	SIZE (AT INSTALLATION)	SPACING O.C.	MATURE SIZE
DECIDUOUS SHRUBS (SHB)		SHRUBS (SHB)			
		Viburnum / Viburnum spp.	#5 CONT.	8'-0" O.C. TYP.	H 5'-7' W 5'-7'
		Ninebark / Physocarpus spp.	#5 CONT.	8'-0" O.C. TYP.	H 6'-8' W 6'-8'
		Dogwood / Cornus spp.	#5 CONT.	8'-0" O.C. TYP.	H 8'-10' W 8'-10'
		Elderberry / Sambucus spp.	#5 CONT.	8'-0" O.C. TYP.	H 5'-12' W 6'-12'

NOTES: 1. QUANTITIES ON PLAN SUPERSEDE LIST QUANTITIES IN THE EVENT OF A DISCREPANCY.
2. #5 CONT. TO MEET MINIMUM SIZE FOR DECIDUOUS SHRUBS UPON INSTALLATION. IF PLANT SIZE UNAVAILABLE AT #5 CONT. UPSIZE CONTAINER UNTIL MINIMUM PLANT SIZE REQUIREMENT IS MET.
3. PLANT SPECIES SUBJECT TO CHANGE BASED UPON AVAILABILITY AT TIME OF PLANTING

VEGETATIVE SCREENING PLANT MATERIALS

Viburnum (Viburnum spp.)

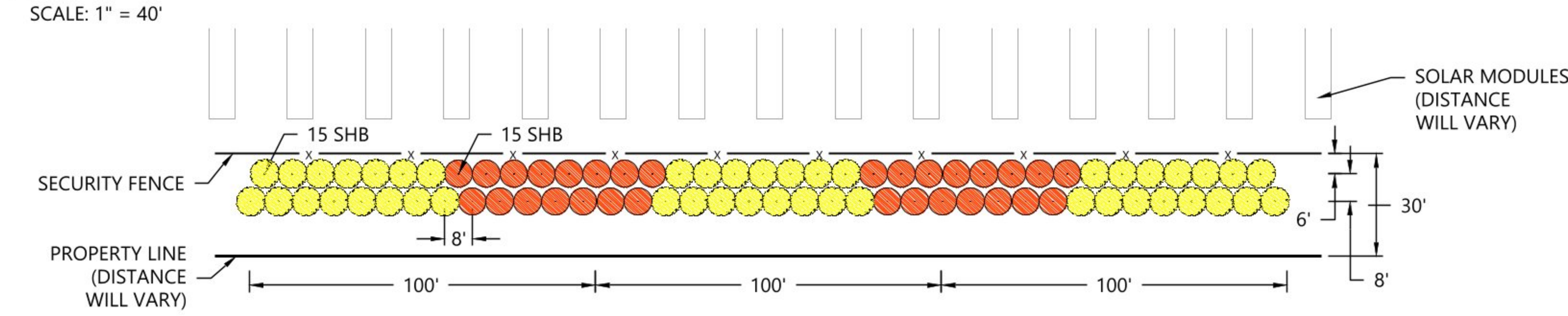
Ninebark (Physocarpus spp.)

Dogwood (Cornus spp.)

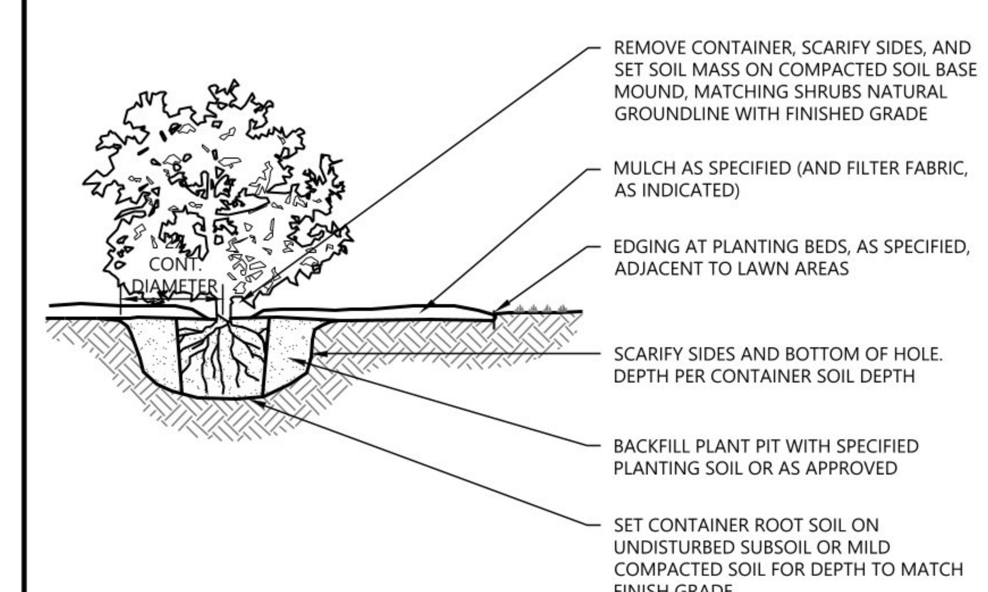
Elderberry (Sambucus spp.)

PLANTING DETAIL - DOUBLE ROW SHRUBS

SCALE: 1" = 40'



PLANTING DETAILS



N.T.S.

Westwood	SHRUB & PERENNIAL CONTAINER PLANTING	LAST REVISED: 10/23/18 / LA27-C

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Hickory Point Solar Project

Christian County, Illinois

Screening Details & Notes

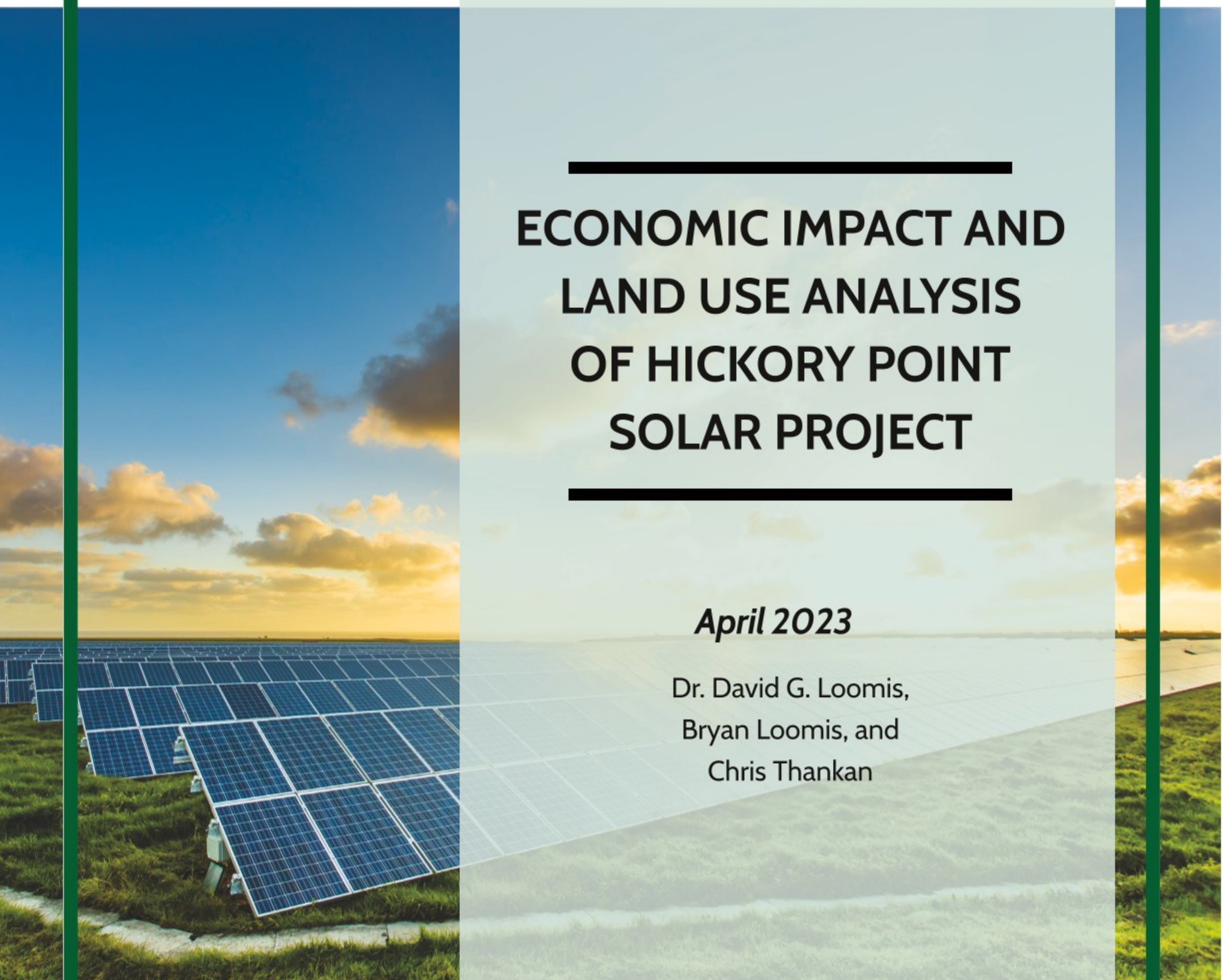
NOT FOR CONSTRUCTION

DATE: 05/04/2023

SHEET: L200 REV: B

Exhibit 9:
Economic Impact and Land Use Analysis

Strategic Economic Research, LLC



ECONOMIC IMPACT AND LAND USE ANALYSIS OF HICKORY POINT SOLAR PROJECT

April 2023

Dr. David G. Loomis,
Bryan Loomis, and
Chris Thankan

Strategic Economic Research, LLC
strategiceconomic.com
815-905-2750

About the Authors

Dr. David G. Loomis, PhD

Professor of Economics, Illinois State University
Co-Founder of the Center for Renewable Energy
President of Strategic Economic Research, LLC

Dr. David G. Loomis is Professor of Economics at Illinois State University and Co-Founder of the Center for Renewable Energy. He has over 20 years of experience in the renewable energy field. He has served as a consultant for 43 renewable energy development companies. He has testified on the economic impacts of energy projects before the Illinois Commerce Commission, Iowa Utilities Board, Missouri Public Service Commission, Illinois Senate Energy and Environment Committee, the Wisconsin Public Service Commission, Kentucky Public Service Commission, Ohio Public Siting Board, and numerous county boards. Dr. Loomis is a widely recognized expert and has been quoted in the Wall Street Journal, Forbes Magazine, Associated Press, and Chicago Tribune as well as appearing on CNN.

Dr. Loomis has published over 38 peer-reviewed articles in leading energy policy and economics journals. He has raised and managed over $7 million in grants and contracts from government, corporate and foundation sources. He received the 2011 Department of Energy's Midwestern Regional Wind Advocacy Award and the 2006 Best Wind Working Group Award. Dr. Loomis received his Ph.D. in economics from Temple University in 1995.

Bryan Loomis, MBA

Vice President of Strategic Economic Research, LLC

Bryan Loomis has three years of experience in economic impact, property tax, and land use analysis at Strategic Economic Research. He has performed over 50 wind and solar analyses in the last three years. He improved the property tax analysis methodology by researching various state taxing laws and implementing depreciation, taxing jurisdiction millage rates, and other factors into the tax analysis tool. Before working for SER, Bryan mentored and worked with over 30 startups to help them grow their businesses as CEO and Founder of his own marketing agency. Bryan received his MBA in Marketing from Belmont University in 2016.

Chris Thankan

Economic Analyst

Christopher Thankan assists with the production of the economic impact studies, including sourcing, analyzing, and graphing government data, and performing economic and property tax analysis for wind, solar and transmission projects. Thankan has a Bachelor of Science degree in Sustainable & Renewable Energy and minored in economics.

Strategic Economic Research, LLC (SER) provides economic consulting for renewable energy projects across the US. We have produced over 200 economic impact reports in 30 states. Research Associates who performed work on this project include Ethan Loomis, Madison Schneider, Zoe Calio, Patrick Chen, Kathryn Keithley, Morgan Stong, Mandi Mitchell, Paige Afram, Tim Roberts, and Coryell Birchfield.

SER Strategic Economic Research, LLC

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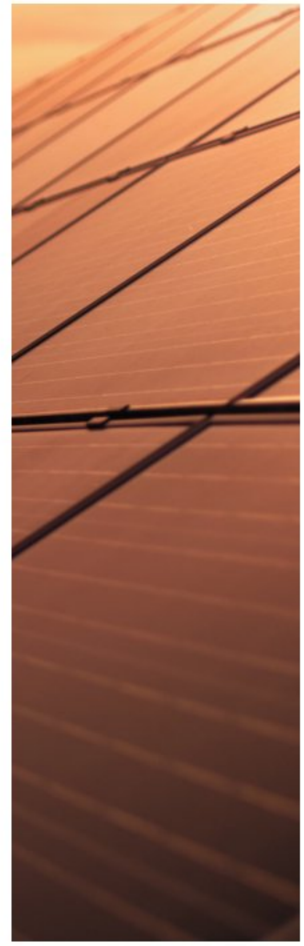


Table of Contents - Figures

Table of Contents - Tables

I. Executive Summary

Invenergy is developing the Hickory Point Solar Project in Christian County, Illinois. The purpose of this report is to aid decision makers in evaluating the economic impact of this project on Christian County and the State of Illinois. The basis of this analysis is to study the direct, indirect, and induced impacts on job creation, wages, and total economic output.

Hickory Point Solar Project is a 250-megawatt alternating current (MWac) utility-scale solar powered-electric generation facility that will utilize photovoltaic (PV) panels installed on a single-axis tracking system. The total Project represents an investment in excess of $429 million. The total development is anticipated to result in the following:

Jobs – all numbers are full-time equivalents

- 692 new local jobs during construction for Christian County
- 1,229 new local jobs during construction for the State of Illinois
- 18.2 new local long-term jobs for Christian County
- 28.1 new local long-term jobs for the State of Illinois

Earnings

- Over $55.9 million in new local earnings during construction for Christian County
- Over $115 million in new local earnings during construction for the State of Illinois
- Over $820 thousand in new local long-term earnings for Christian County annually
- Over $2.0 million in new local long-term earnings for the State of Illinois annually

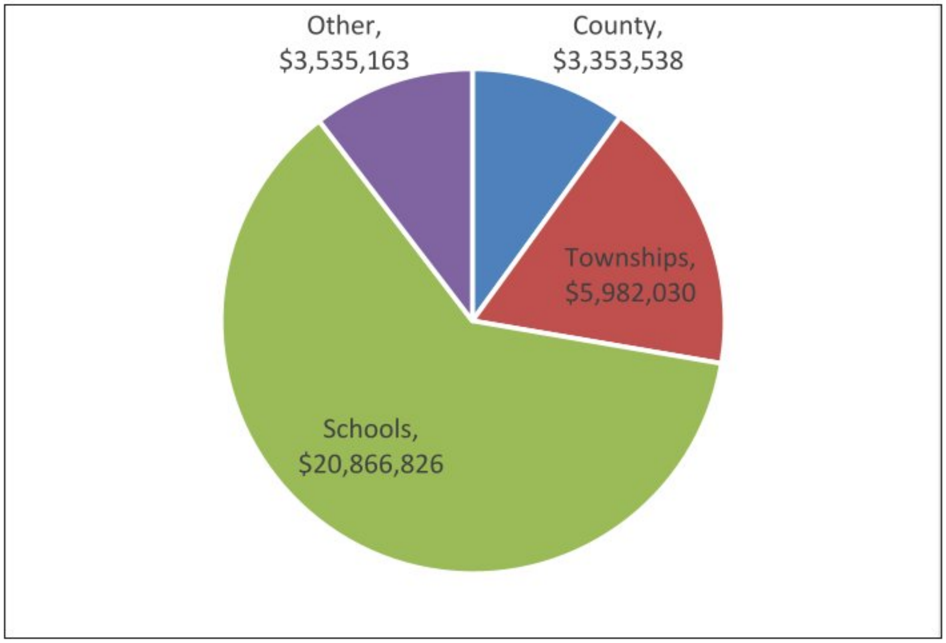
Output

- Over $78.6 million in new local output during construction for Christian County
- Over $179 million in new local output during construction for the State of Illinois
- Over $3.1 million in new local long-term output for Christian County annually
- Over $6.1 million in new local long-term output for the State of Illinois annually

Property Taxes

- Over $20.8 million in total school district revenue over the life of the Project
- Over $3.3 million in total county property taxes for Christian County over the life of the Project
- Over $33.7 million in property taxes in total for all taxing districts over the life of the Project

Figure 1 – Total Property Taxes Paid by Hickory Point Solar Project



This report also performs an economic land use analysis regarding the leasing of agricultural land for the new solar farm. That analysis yields the following results:

Land Use

Using a real-options analysis, the land use value of solar leasing far exceeds the value for agricultural use.

Christian County:

- The price of corn would need to rise to $15.92 per bushel by the year 2050 or yields for corn would need to rise to 363.1 bushels per acre by the year 2026 for corn farming to generate more income for the landowner and local community than the solar lease.
- Alternatively, the price of soybeans would need to rise to $41.57 per bushel by the year 2050 or yields for soybeans would need to rise to 133.6 bushels per acre by the year 2026 for soybean farming to generate more income for the landowner and local community than the solar lease.
- At the time of this report, corn and soybean prices are $5.96 and $13.50 per bushel respectively and yields are 218.6 and 69.8 bushels per acre respectively.

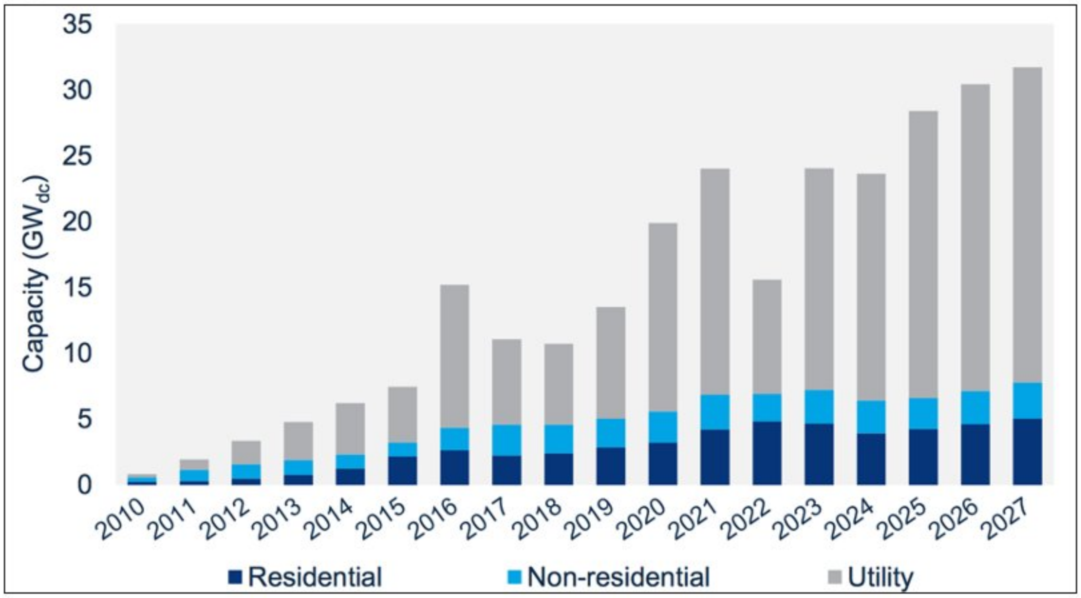
II. U.S. Solar PV Industry Growth and Economic Development

a. U.S. Solar PV Industry Growth

The U.S. solar industry is growing at a rapid but uneven pace. Solar energy systems are installed for onsite use, including residential, commercial and industrial properties, and utility-scale solar powered-electric generation facilities intended for wholesale distribution. Hickory Point Solar is a utility-scale solar PV project intended for wholesale markets through the transmission grid. From 2013 to 2018, the amount of electricity generated from solar had more than quadrupled, increasing 444% (SEIA, 2020). The industry has continued to add increasing numbers of PV systems to the grid. In the first half of 2021, the U.S. installed over 11,000 MW direct current (MWdc) of solar PV driven mostly by utility-scale PV which exceeds most of the annual installations in the last decade. Figure 2 shows the historical capacity additions as well as the forecasted additions into 2027. The primary driver of this overall sharp pace of growth is large price declines in solar equipment. The overall price of solar PV has declined from $5.79/watt in 2010 to $1.33/watt in 2020 (SEIA, 2020). According to Figure 3, utility-scale solar fixed tilt and single-axis tracking have declined from $1.50/watt at the beginning of 2015 to near $1.00/watt by the first quarter of 2021. Solar PV also benefits from the Federal Investment Tax Credit (ITC) which provides a tax credit for residential and commercial properties.

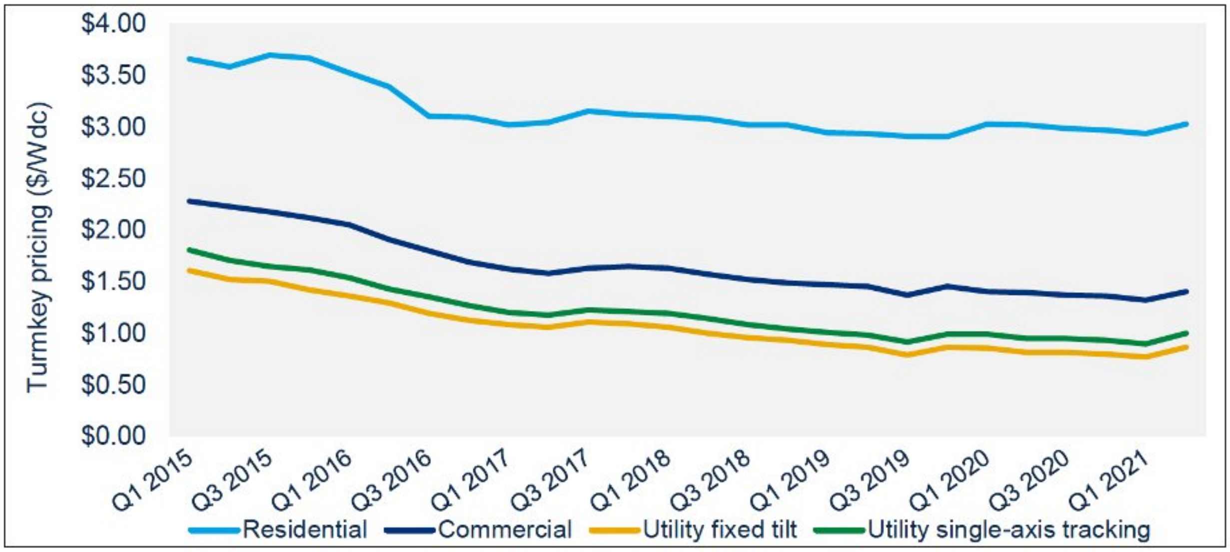
Utility-scale PV leads the installation growth in the U.S. Just under 14 GWdc of utility PV projects were completed in 2020. According to Figure 4, there are 85,000 MWdc of contracted utility-scale installations that have not been built yet.

Figure 2 – Annual U.S. Solar PV Installations, 2010 – 2027E



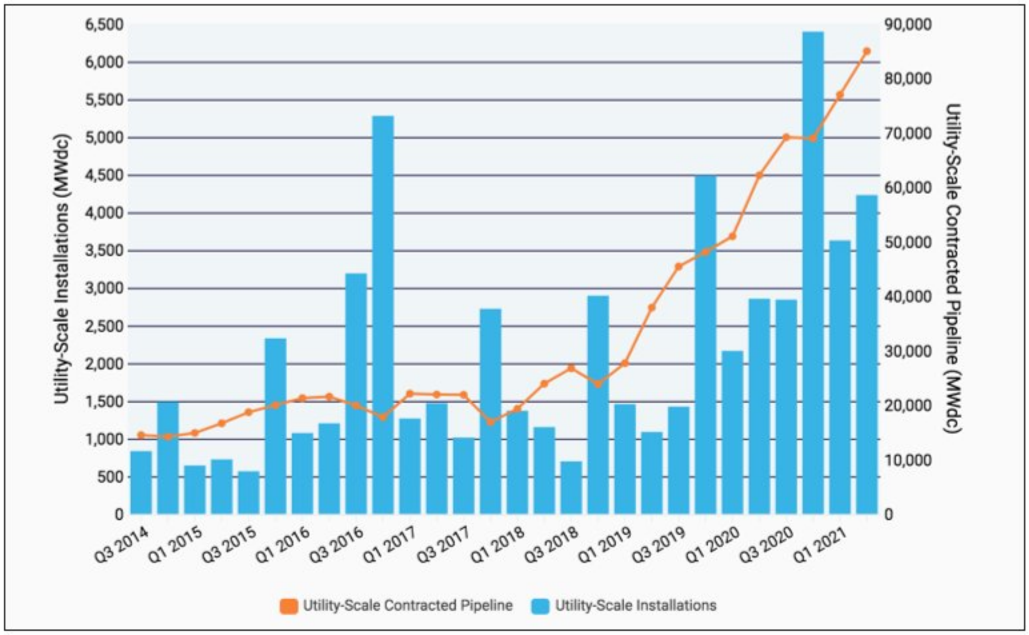
Source: Solar Energy Industries Association, Solar Market Insight Report Q2 2022

Figure 3 – U.S. Annual Solar PV Installed Price Trends Over Time



Source: Solar Energy Industries Association, Solar Market Insight Report Q3 2021

Figure 4 – U.S. Utility PV Installations vs. Contracted Pipeline



Solar Energy Industries Association, Solar Market Insight Report Q2 2021

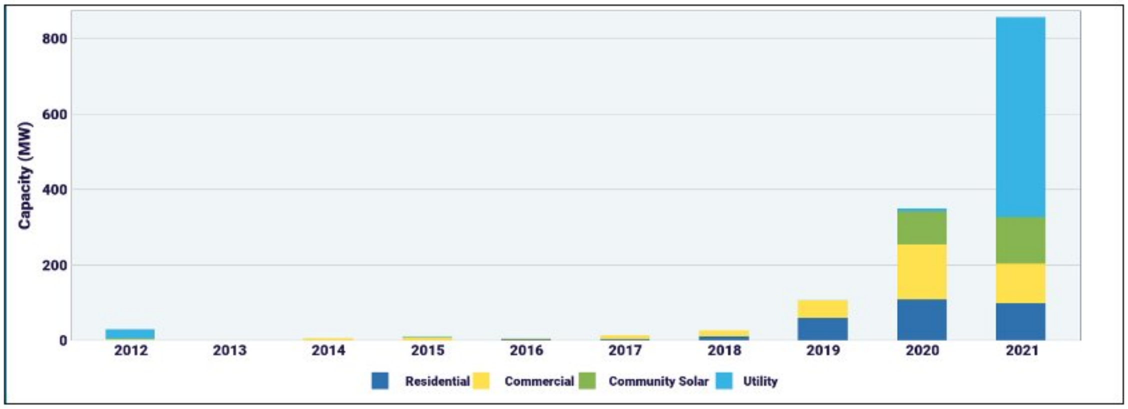
b. Illinois Solar PV Industry

According to SEIA, Illinois is ranked 15th in the U.S. in cumulative installations of solar PV. California, Texas, and Florida are the top 3 states for solar PV which may not be surprising because of the high solar irradiation that they receive. However, other states with similar solar irradiation to Illinois rank highly including New Jersey (8th), New York (9th), Massachusetts (10th), and Virginia (11th). In 2021, Illinois installed 876.2 MW of solar electric capacity bringing its cumulative capacity to 1,909.3 MW.

Illinois has great potential to expand its solar installations. Illinois has several utility-scale solar farms in operation: Prairie Wolf Solar (200 MW) in Coles County; Big River Solar (149 MW) in White County; Amazon Solar (100 MW) in Lee County; Dressor Plains Solar (99 MW) in Fayette County; Prairie State Solar (99 MW) in Perry County; Mulligan Solar (70 MW) in Logan County; and Grand Ridge Solar (20 MW) in LaSalle County.

Figure 5 shows the Illinois historical installed capacity by year according to the SEIA. Huge growth was seen in 2021 and is forecasted to continue to grow in 2022 and beyond. Over the next five years, solar in Illinois is projected to grow by 4,943 MW.

Figure 5 – Illinois Annual Solar Installations

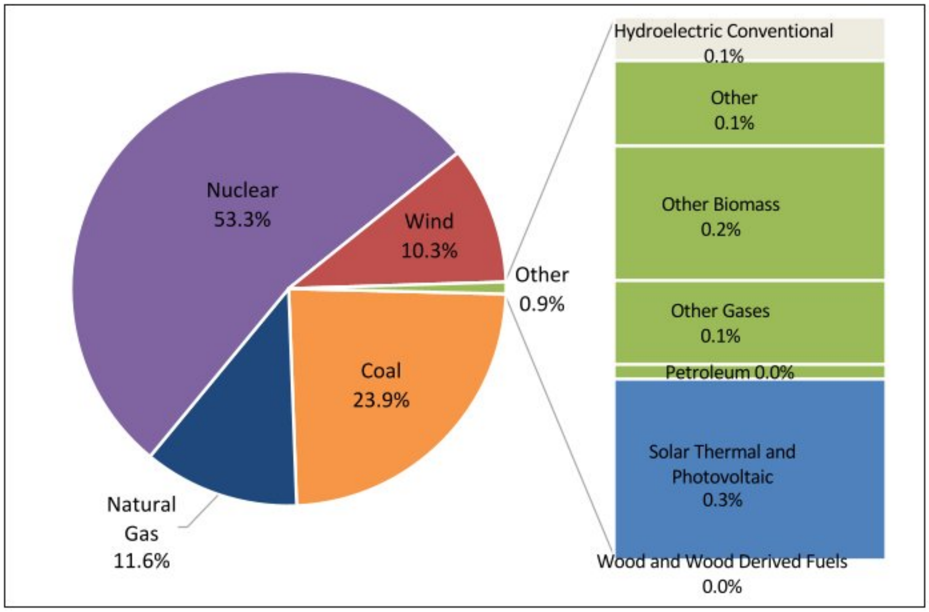


Source: Solar Energy Industries Association, Solar Spotlight: Illinois, Q3 2022

The Energy Information Administration (EIA) calculated the number of megawatt-hours generated from different energy sources in 2021. As shown in Figure 6, the greatest percentage of electricity generated in Illinois comes from nuclear energy with 53.3% followed by coal with 23.9% and natural gas with 11.6%. Approximately 0.3% of the total electricity power generated in Illinois came from solar thermal and solar PV in 2021.

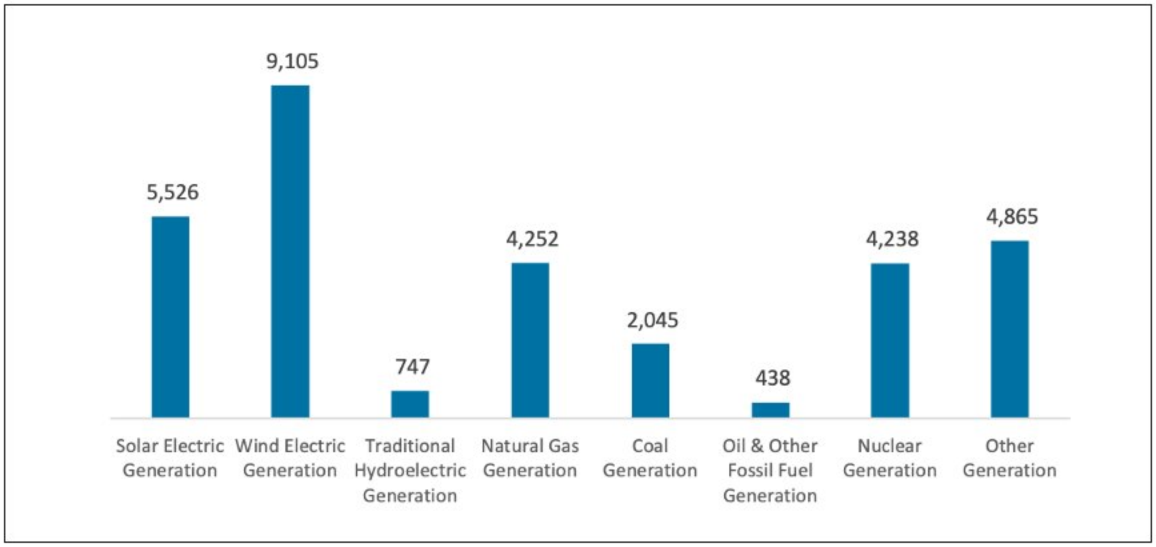
The U.S. Department of Energy sponsors the U.S. Energy and Employment Report each year. Electric Power Generation covers all utility and non-utility employment across electric generating technologies, including fossil fuels, nuclear, and renewable technologies. It also includes employees engaged in facility construction, turbine and other generation equipment manufacturing, operations and maintenance, and wholesale parts distribution for all electric generation technologies. According to Figure 7, employment in the solar energy industry (5,526) trails behind wind electric generation (9,105) but is larger than natural gas generation (4,252) and nuclear generation (4,238).

Figure 6 – Electric Generation by Fuel Type for Illinois in 2021



Source: U.S. Energy Information Association (EIA): Illinois, 2021

Figure 7 – Electric Generation Employment by Technology



Source: US Energy and Employment Report 2021: Illinois

Utility-scale solar powered-electric generation facilities have numerous economic benefits. Solar PV installations create job opportunities in the local area during both the short-term construction phase and the long-term operational phase. In addition to the workers directly involved in the construction and maintenance of the solar energy project, numerous other jobs are supported through indirect supply chain purchases and the higher spending that is induced by these workers. Solar PV projects strengthen the local tax base and help improve county services, and local infrastructure, such as public roads.

Numerous studies have quantified the economic benefits of solar PV projects across the United States and have been published in peer-reviewed academic journals using the same methodology as this report. Some of these studies examine smaller-scale solar systems, and some examine utility-scale solar energy. Croucher (2012) uses NREL's Jobs and Economic Development Impacts ("JEDI") modeling methodology to find which state will receive the greatest economic impact from installing one hundred 2.5 kW residential systems. He shows that Pennsylvania ranked first supporting 28.98 jobs during installation and 0.20 jobs during operations. Illinois ranked second supporting 27.65 jobs during construction and 0.18 jobs during operations.

Jo et. al. (2016) analyzes the financing options and economic impact of solar PV systems in Normal, IL and uses the JEDI model to determine the county and state economic impact. The study examines the effect of 100 residential retrofit fixed-mount crystalline-silicone systems having a nameplate capacity of 5kW. Eight JEDI models estimated the economic impacts using different input assumptions. They found that county employment impacts varied from 377 to 1,059 job-years during construction and 18.8 to 40.5 job-years during the operating years. Each job-year is a full-time equivalent job of 2,080 hours for a year.

More recently, Michaud et. al (2020) performed an analysis of the economic impact of utility-scale solar energy projects in the State of Illinois. They detail three scenarios: low (2.5 GW), moderate (5 GW) and high (7.5 GW). Using the JEDI model, they find that between 18,039 and 54,113 jobs would be supported during construction and between 207 and 618 jobs would be supported annually during operations. In addition, between $22.5 million and $67.5 million annually in tax revenues would come from these projects.

Loomis et. al. (2016) estimates the economic impact for the State of Illinois if the state were to reach its maximum potential for solar PV. The study estimates the economic impact of three different scenarios for Illinois – building new solar installations of either 2,292 MW, 2,714 MW or 11,265 MW. The study assumes that 60% of the capacity is utility-scale solar, 30% of the capacity is commercial, and 10% of the capacity is residential. It was found that employment impacts vary from 26,753 to 131,779 job years during construction and from 1,223 to 6,010 job years during operating years.

Several other reports quantify the economic impact of solar energy. Bezdek (2006) estimates the economic impact for the State of Illinois and finds the potential for PV market in Illinois to be $25 million with 200 direct jobs and 460 total jobs. The Center for Competitive Florida (2009) estimates the impact if the state were to install 1,500 MW of solar and finds that 45,000 direct jobs and 50,000 indirect jobs could be created. The Solar Foundation (2013) uses the JEDI modeling methodology to show that Colorado's solar PV installation to date created 10,790 job-years. They also analyze what would happen if the state were to install 2,750 MW of solar PV from 2013 to 2030 and find that it would result in nearly 32,500 job years. Berkman et. al (2011) estimates the economic and fiscal impacts of the 550 MWac Desert Sunlight Solar Farm. The project creates approximately 440 construction jobs over a 26-month period, $15 million in new sales tax revenues, $12 million in new property revenues for Riverside County, CA, and $336 million in indirect benefits to local businesses in the county.

Finally, Jenniches (2018) performed a review of the literature assessing the regional economic impacts of renewable energy sources. After reviewing all of the different techniques for analyzing the economic impacts, he concludes "for assessment of current renewable energy developments, beyond employment in larger regions, IO [Input-Output] tables are the most suitable approach" (Jenniches, 2018, 48). Input-Output analysis is the basis for the methodology used in the economic impact analysis of this report.

III. Project Description and Location

a. Hickory Point Solar Project

Invenergy is developing the Hickory Point Solar Project in Christian County, Illinois. The Project consists of an estimated 250-megawatt alternative current (MWac) utility-scale solar powered-electric generation facility that will utilize photovoltaic (PV) panels installed on a single-axis tracking system. The total Project represents an investment in excess of $429 million.

b. Christian County, Illinois

Christian County is located in the central part of Illinois (see Figure 8). It has a total area of 716 square miles and the U.S. Census estimates that the 2020 population was 34,032 with 15,184 housing units. The county has a population density of 49 (persons per square mile) compared to 232 for the State of Illinois. Median household income in the county was $53,188 (U.S. Census Bureau).

Figure 8 – Location of Christian County, Illinois

i. Economic and Demographic Statistics

As shown in Table 1, the largest industries in the county are "Health Care and Social Assistance" followed by "Administrative Government," "Retail Trade," and "Other Services (except Public Administration)." These data for Table 1 come from IMPLAN covering the year 2021 (the latest year available).

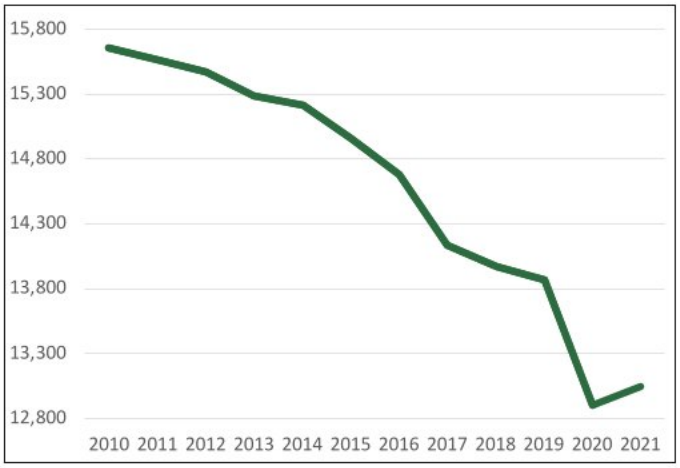
Table 1 provides the most recent snapshot of total employment but does not examine the historical trends within the county. Figure 9 shows employment from 2010 to 2021. Total employment in Christian County was at its highest at 15,654 in 2010 and its lowest at 12,903 in 2020 (BEA, 2023).

Table 1 – Employment by Industry in Christian County

Industry	Number	Percent
Health Care and Social Assistance	2,073	15.7%
Administrative Government	1,382	10.5%
Retail Trade	1,339	10.2%
Other Services (except Public Administration)	1,229	9.3%
Manufacturing	1,216	9.2%
Accommodation and Food Services	784	6.0%
Agriculture, Forestry, Fishing and Hunting	764	5.8%
Construction	747	5.7%
Professional, Scientific, and Technical Services	686	5.2%
Wholesale Trade	643	4.9%
Finance and Insurance	585	4.4%
Administrative and Support and Waste Management and Remediation Services	368	2.8%
Real Estate and Rental and Leasing	325	2.5%
Transportation and Warehousing	301	2.3%
Utilities	194	1.5%
Government Enterprises	129	1.0%
Arts, Entertainment, and Recreation	129	1.0%
Educational Services	128	1.0%
Information	109	0.8%
Management of Companies and Enterprises	22	0.2%
Mining, Quarrying, and Oil and Gas Extraction	18	0.1%

Source: Impact Analysis for Planning (IMPLAN), County Employment by Industry, 2021

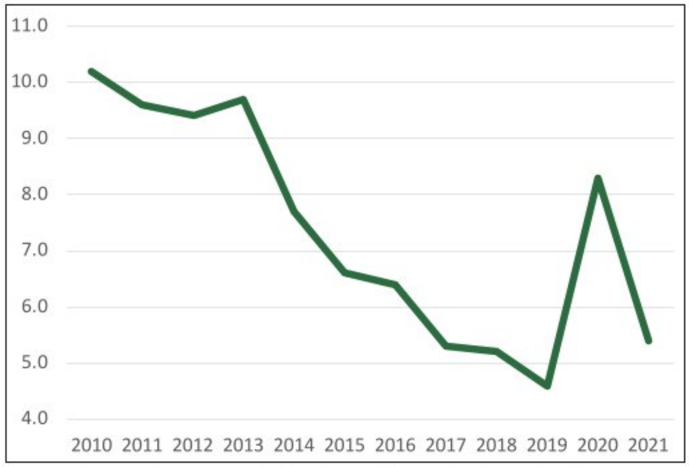
Figure 9 – Total Employment in Christian County from 2010 to 2021



Source: Bureau of Economic Analysis, Regional Data, GDP and Personal Income, 2010-2021

The unemployment rate signifies the percent of the labor force without employment in the county. Figure 10 shows the unemployment rates from 2010 to 2021. Unemployment in Christian County was at its highest at 10.2% in 2010 and its lowest at 4.6% in 2019 (FRED, 2023).

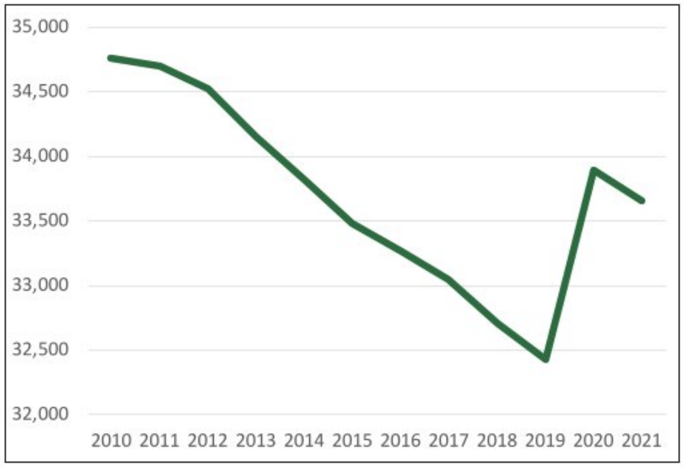
Figure 10 – Unemployment Rate in Christian County from 2010 to 2021



Source: Federal Reserve Bank of St. Louis Economic Data, U.S. Census Bureau, Unemployment Rates, 2010-2021

Similar to the unemployment trend, the overall population in the county has fluctuated, as shown in Figure 11. Christian County population was 34,767 in 2010 and 32,427 in 2019, a loss of 2,340 (FRED, 2023). The population then increased by 1,235 from 2019 to 2021.

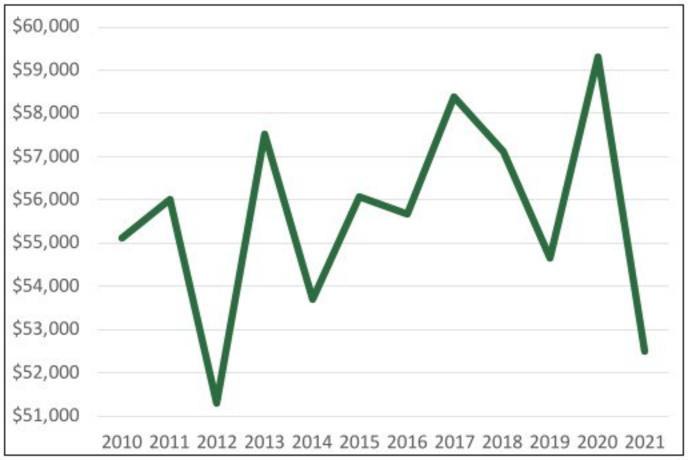
Figure 11 – Population in Christian County from 2010 to 2021



Source: Federal Reserve Bank of St. Louis Economic Data, U.S. Census Bureau, Population Estimates, 2010-2021

Household income has fluctuated greatly in the county as well. Figure 12 shows the real median household income in Christian County from 2010 to 2021. Using the national Consumer Price Index (CPI), the nominal median household income for each year was adjusted to 2021 dollars. Household income was at its lowest at $51,300 in 2012 and its highest at $59,302 in 2020 (FRED, 2023).

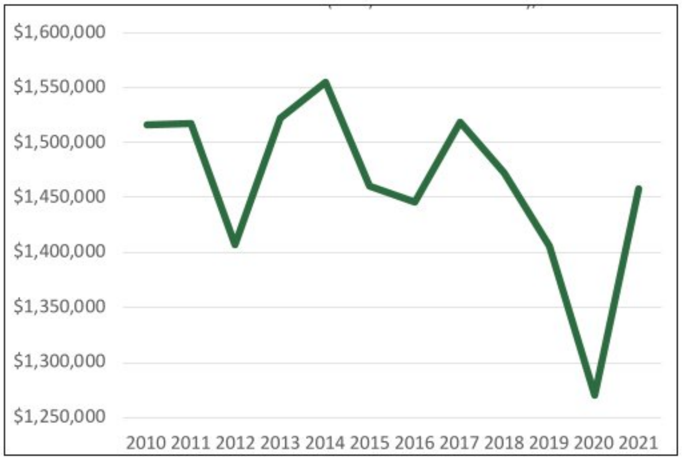
Figure 12 – Real Median Household Income in Christian County from 2010 to 2021



Source: Federal Reserve Bank of St. Louis Economic Data, U.S. Census Bureau, Estimate of Median Household Income, 2010-2021

Real Gross Domestic Product (GDP) is a measure of the value of goods and services produced in an area and adjusted for inflation over time. The Real GDP for Christian County has been fluctuating since 2010, as shown in Figure 13 (BEA, 2023).

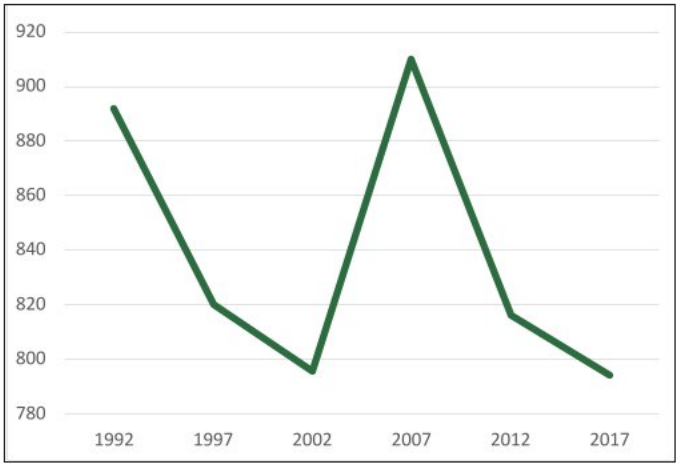
Figure 13 – Real Gross Domestic Product (GDP) in Christian County from 2010 to 2021



Source: Bureau of Economic Analysis, Regional Data, GDP and Personal Income, 2010-2021

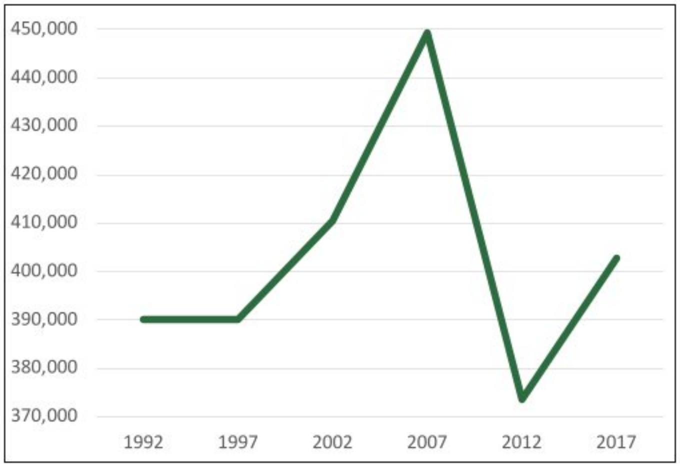
The farming industry has declined recently in Christian County. As shown in Figure 14, the number of farms hit a high of 910 in 2007 and a low of 794 in 2017. The amount of land in farms has fluctuated greatly. The county farmland hit a high of 449,512 acres in 2007 and a low of 373,631 acres in 2012 according to Figure 15.

Figure 14 – Number of Farms in Christian County from 1992 to 2017



Source: Census of Agriculture, 1992-2017

Figure 15 – Land in Farms in Christian County from 1992 to 2017



Source: Census of Agriculture, 1992-2017

ii. Agricultural Statistics

Illinois is ranked seventh among U.S. states in total value of agricultural products sold (Census, 2017). It is ranked twenty-fourth in the value of livestock and second in the value of crops (Census, 2017). In 2021, Illinois had 70,900 farms and 27 million acres in operation with the average farm being 381 acres (State Agricultural Overview, 2021). Illinois had 82 thousand cattle and produced 1.77 billion pounds of milk (State Agricultural Overview, 2021). In 2021, Illinois yields averaged 202 bushels per acre for corn with a total market value of $11.8 billion (State Agricultural Overview, 2021). Soybean yields averaged 65 bushels per acre with a total market value of $8.87 million (State Agricultural Overview, 2021). The average net cash farm income per farm is $69,418 (Census, 2017).

In 2017, Christian County had 794 farms covering 402,703 acres for an average farm size of 507 acres (Census, 2017). The total market value of products sold was $278 million, with 9 percent coming from livestock sales and 91 percent coming from crop sales (Census, 2017). The average net cash farm income of operations was $140,155 (Census, 2017).

The 2,500 acres planned to be used by the Hickory Point Solar Project represents just 0.62% of the acres used for farming in Christian County. As we will show in the next section, solar farming is a better land use on a purely economic basis than livestock or crops for the particular land in this Project.

IV. Land Use Methodology

To analyze the specific economic land use decision for a solar energy facility, this section uses a methodology first proposed by Gazheli and Di Corato (2013). A "real options" model is used to look at the critical factors affecting the decision to lease agricultural land to a company installing a solar powered electric generating facility. According to their model, the landowner will look at his expected returns from the land that include the following: the price that they can get for the crop (typically corn or soybeans); the average yields from the land that will depend on amount and timing of rainfall, temperature and farming practices; and the cost of inputs including seed, fuel, herbicide, pesticide and fertilizer. Not considered is the fact that the landowner faces annual uncertainty on all these items and must be compensated for the risk involved in each of these parameters changing in the future. In a competitive world with perfect information, the returns to the land for its productivity should relate to the cash rent for the land.

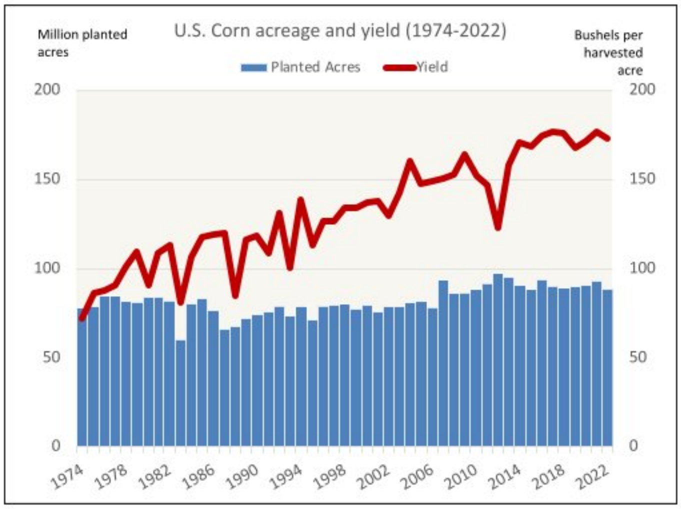
For the landowner, the key analysis will be comparing the net present value of the annual solar lease payments to expected profits from farming. The farmer will choose the solar farm lease if:

$$NPV\ (Solar\ Lease\ Payment_t) > NPV\ (P_t * Yield_t - Cost_t)$$

Where NPV is the net present value; Solar Lease Payment$_t$ is the lease payment the owner receives in year t; P_t is the price that the farmer receives for the crop (corn or soybeans) in year t; Yield$_t$ is the yield based on the number of acres and historical average of county-specific productivity in year t; Cost$_t$ is the total cost of farming in year t and will include the cost of seed, fertilizer, the opportunity cost of the farmer's time. Farming profit is the difference between revenue (price times yield) and cost. The model will use historical agricultural data from the county (or state when the county data is not available).

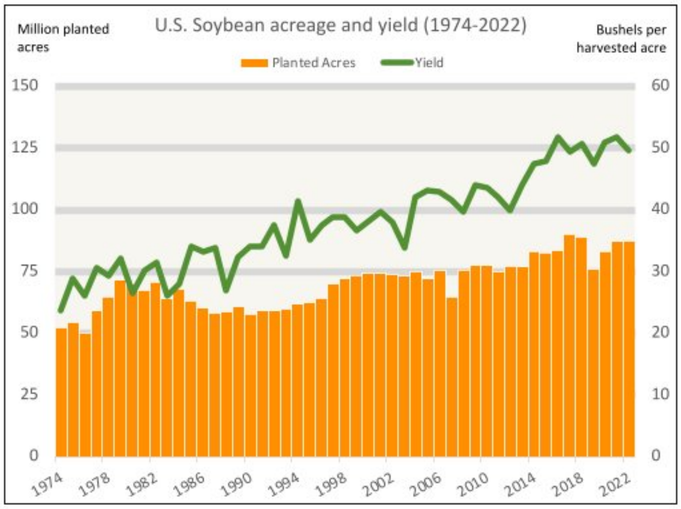
Figure 16 shows the dramatic increase in U.S. corn yields since 1974. Soybean yields have also increased though not as dramatically. Figure 17 displays the soybean yields in the U.S. since 1974.

Figure 16 – U.S. Corn Acreage and Yield



Source: USDA, Economic Research Service, https://www.ers.usda.gov/topics/crops/soybeans-oil-crops/oil-crops-sector-at-a-glance/

Figure 17 – U.S. Soybean Acreage and Yield



Source: USDA National Agricultural Statistics Service, Crop Production, November, 2018

The standard net present value calculation presented above, uses the expected value of many of the variables that are stochastic (have some randomness to them). In order to forecast returns from agriculture in future years, we use a linear regression using an intercept and time trend on historical data to predict future profits.

$$\pi_t = \propto + \beta * time$$

Where π_t is the farming profit in year t; α is intercept; β is the trend and time is a simple time trend starting at 1 and increasing by 1 each time period.

In order to analyze future returns from farming the land, we will use historical data from Christian County to examine the local context for this analysis. The United States Department of Agriculture's National Agricultural Statistics Service publishes county-level statistics every five years. Table 2 shows the historical data from 1992 to 2017 for total farm income, production expenses, average farm size, net cash income, and average market value of machinery per farm. These statistics are the most authoritative data that provide the granularity needed to do the analysis. They provide details on the income and expenses specific to Christian County. The Census of Agriculture is performed every five years but the 2022 statistics will not be available until spring/summer 2024. Therefore, the 2017 data is the most recent data available for Christian County with the detail necessary to do the analysis.

Table 2 – Agricultural Statistics for Christian County, Illinois

	1992	1997	2002	2007	2012	2017
Total Farm Income Per Farm	NA	NA	$6,192	$9,963	$34,346	$21,703
Total Farm Production Expenses (average/farm)	$76,536	$82,569	$99,365	$137,980	$216,414	$235,387
Average Farm Size (acres)	437	476	516	494	458	507
Net Cash Income per Farm[1]	$55,638	$59,873	$51,463	$126,387	$163,625	$140,155
Average Market Value of Machinery Per Farm	$89,075	$112,806	$129,646	$171,450	$240,299	$311,771

Source: United States Department of Agriculture's National Agricultural Statistics Service (NASS), Census of Agriculture

The production expenses listed in Table 2 include all direct expenses like seed, fertilizer, fuel, etc. but do not include the depreciation of equipment and the opportunity cost of the farmer's own time in farming. To estimate these last two items, we can use the average market value of machinery per farm and use straight-line depreciation for 30 years with no salvage value. This is a very conservative estimate of the depreciation since the machinery will likely qualify for a shorter life and accelerated or bonus depreciation. To calculate the opportunity cost of the farmers time, we obtained the mean hourly wage for farming in each of these years from the Bureau of Labor Statistics. Again, to be conservative, we estimate that the farmer spends a total of 16 weeks @ 40 hours/week farming in a year. It seems quite likely that a farmer spends many more hours than this including direct and administrative time on the farm. These statistics and calculations are shown in Table 3.

[1] Net Cash Income per farm is reported by the NASS and does not exactly equal income minus expenses. NASS definition for this item is, "Net cash farm income of the operators. This value is the operators' total revenue (fees for producing under a production contract, total sales not under a production contract, government payments, and farm-related income) minus total expenses paid by the operators. Net cash farm income of the operator includes the payments received for producing under a production contract and does not include value of commodities produced under production contract by the contract growers. Depreciation is not used in the calculation of net cash farm income."

Table 3 – Machinery Depreciation and Opportunity Cost of Farmer's Time for Christian County, Illinois

	1992	1997	2002	2007	2012	2017
Average Market Value Machinery Per Farm	$89,075	$112,806	$129,646	$171,450	$240,299	$311,771
Annual Machinery Depreciation over 30 years - Straight Line (Market Value divided by 30)	$2,969	$3,760	$4,322	$5,715	$8,010	$10,392
Mean Hourly Wage in IL for Farming (Bureau of Labor Statistics)	$5.76	$6.55	$9.31	$11.09	$12.10	$13.79
Annual Opportunity Cost of Farmer's Time (Wage times 16 weeks times 40 Hours/Week)	$3,688	$4,192	$5,958	$7,098	$7,744	$8,826

To get the total profitability of the land, we take the net cash income per farm and subtract depreciation expenses and the opportunity cost of the farmer's time. To get the profit per acre, we divide by the average farm size. Finally, to account for inflation, we use the Consumer Price Index (CPI) to convert all profit into 2017 dollars (i.e. current dollars).[2] These calculations and results are shown in Table 4.

Table 4 – Profit Per Farm Calculations for Christian County, Illinois

	1992	1997	2002	2007	2012	2017
Net Cash Income per Farm	$55,638	$59,873	$51,463	$126,387	$163,625	$140,155
Machinery Depreciation	($2,969)	($3,760)	($4,322)	($5,715)	($8,010)	($10,392)
Opportunity Cost of Farmer's Time	($3,688)	($4,192)	($5,958)	($7,098)	($7,744)	($8,826)
Profit	$48,981	$51,921	$41,183	$113,574	$147,871	$120,937
Average Farm Size (Acres)	437	476	516	494	458	507
Profit Per Acre	$112.08	$109.08	$79.81	$229.91	$322.86	$238.53
CPI	141.9	161.3	180.9	210.036	229.601	246.524
Profit Per Acre in 2017 Dollars	$194.73	$166.71	$108.77	$269.85	$346.66	$238.53

[2] We will use the Consumer Price Index for All Urban Consumers (CPI-U) which is the most common CPI used in calculations. For simplicity, we will just use the CPI abbreviation.

Using an unsophisticated static analysis, the farmer would be better off using his land for solar if the solar lease rental per acre exceeds the 2017 profit per acre of $238.53 which adjusts to $289.47 after accounting for inflation in Christian County. Yet this static analysis fails to capture the dynamics of the agricultural market and the farmer's hope for future prices and crop yields to exceed the current level. To account for this dynamic, we use the real options model discussed in the previous section. Recall that the net returns from agriculture fluctuates according to the following equation:

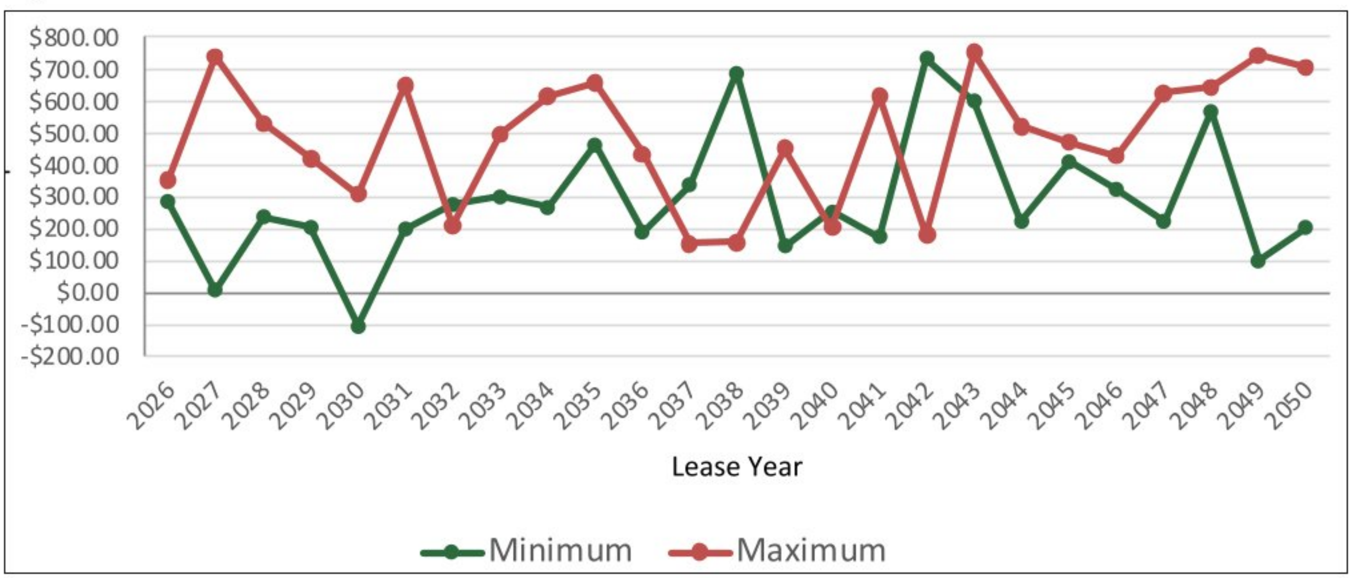
$$\pi_t = \propto + \beta * time$$

Where π_t is the farming profit in year t; α is intercept; β is the trend and time is a simple time trend starting at 1 and increasing by 1 each time period.

Using the Census of Agriculture data from 1992 to the present, the intercept is $149.90 with a standard error of $57.44. The time trend is $5.26 with a standard error of 3.6. This means that agriculture profits are expected to rise by $5.26. Both the intercept and the coefficient on the time trend have a wide variation as measured by the standard error. The wide variation means that there will be a lot of variability in agricultural profits from year to year.

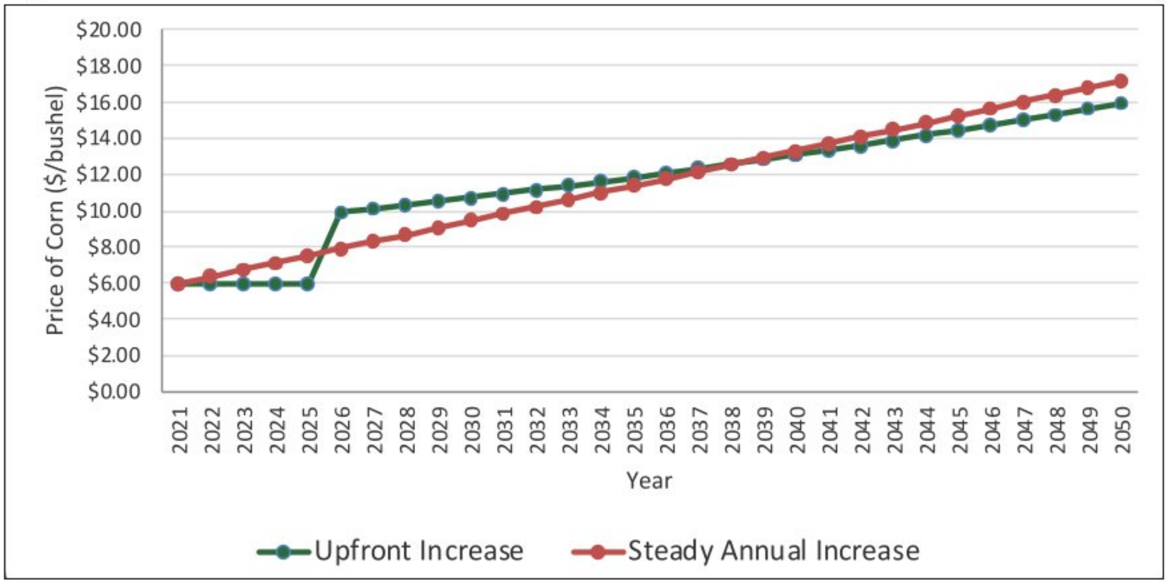
Over the period from 2017 to 2050, we assume that the profit per acre follows the equation above but allows for the random fluctuations. Because of this randomness, we can simulate multiple futures using a Monte Carlo simulation. We assume that the solar farm will begin operation in 2026 and operate through 2050. Using 500 different simulations, the real profit per acre never exceeds $1,306 in any single year. Overall, the maximum average annual profit over the 25 years is $531 and the minimum average annual profit is $439. Figure 18 is a graph of the highest and lowest real profit per acre simulations. <u>When comparing the average annual payment projected in the maximum simulation by 2050 to the solar lease per acre payment, the solar lease provides higher returns than farming in all of the 500 simulations. This means the farmer is financially better off under the solar lease in 100% of the 500 scenarios analyzed.</u>

Figure 18 – Simulations of Real Profits Per Acre Based on Data from 1992



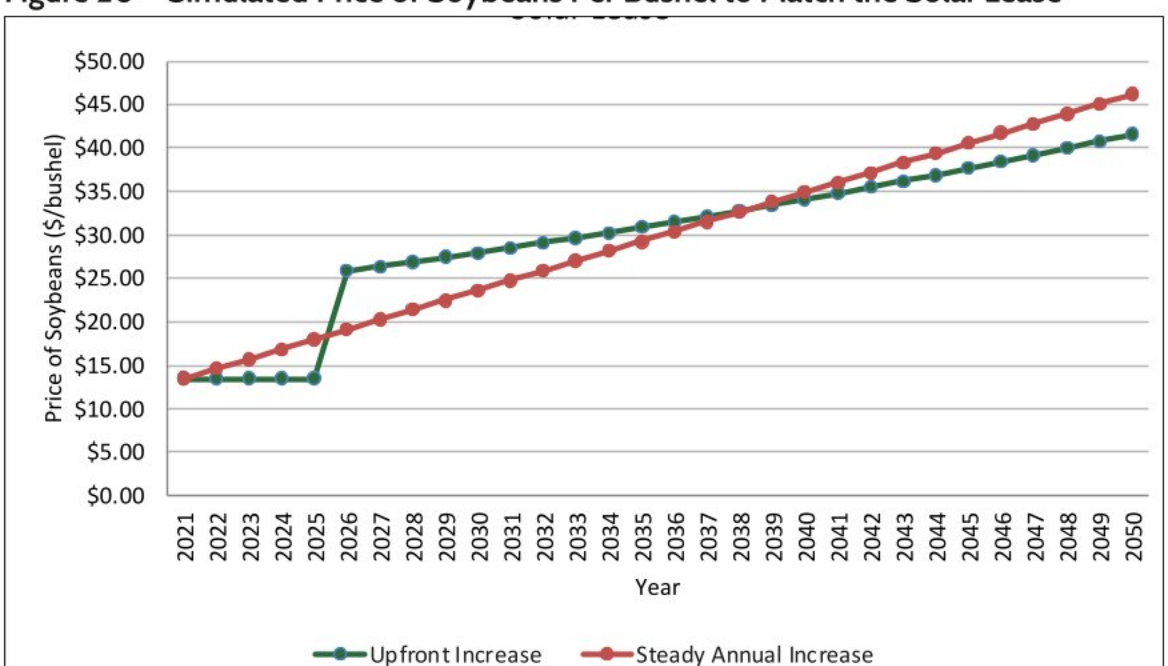
Another way to look at this problem would be to ask: How high would the price of corn have to rise to make farming more profitable than the solar lease? Below we assume that the yields on the land and all other input costs stay the same. In this case, the price of corn would have to rise from $5.96 per bushel in 2021 to $9.90 in 2026 and rise to $15.92 per bushel by 2050 as shown in Figure 19. Alternatively, the price of corn would need to rise by $0.39 per bushel each year from 2021 to 2050 when it would reach $17.17 per bushel.

Figure 19 – Simulated Price of Corn Per Bushel to Match the Solar Lease



Now let's turn our attention to soybeans. If we assume the yields and input costs stay the same, the price of soybeans would have to rise from $13.50 per bushel in 2021 to $25.84 per bushel in 2026 and rise to $41.57 by 2050 as shown in Figure 20. For a linear increase, the price of soybeans would need to rise by $1.13 per bushel each year from 2021 to 2050 when it would reach $46.18 per bushel.

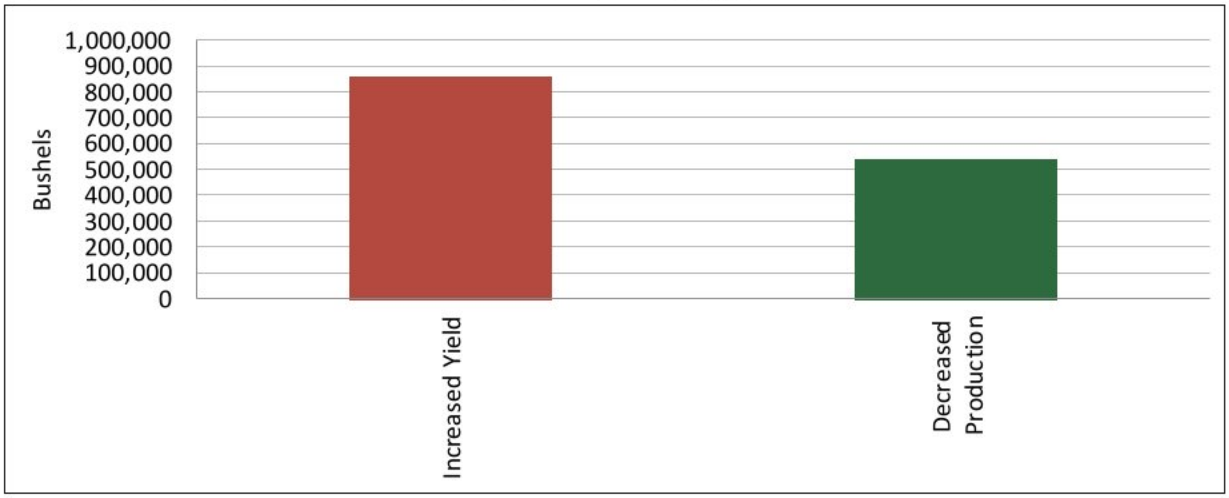
Figure 20 – Simulated Price of Soybeans Per Bushel to Match the Solar Lease



If we assume that the price of corn stays the same, the yields for corn would need to increase from 218.6 bushels per acre in 2021 to 363.1 bushels per acre in 2026 and stay at that level until 2050. The yields for soybeans would need to rise from 69.8 bushels per acre in 2021 to 133.6 bushels per acre in 2026 and stay there until 2050.

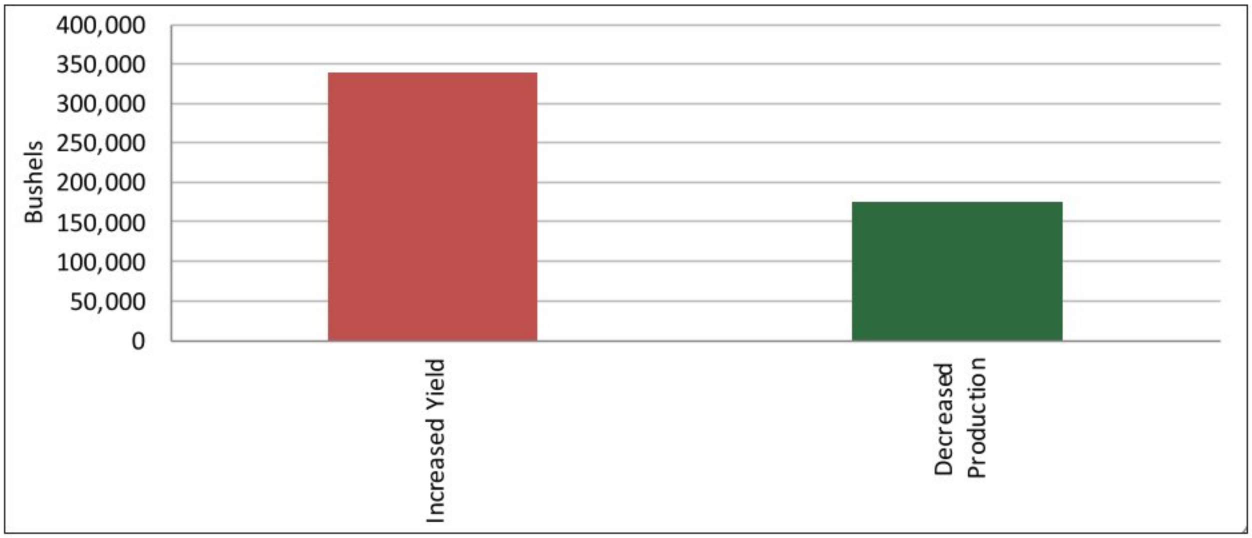
Statewide, over the past 20 years, corn yields have increased by 2.16 bushels per year. If 2,500 acres are taken out of production of the county's 402,703, the remaining 400,203 acres would be expected to produce 866,084 bushels more annually just by being more productive on-trend. At 198.1 bushels per year (2021 State Agriculture Overview yield), the 2,500 acres would reduce production by 546,500 bushels. Thus, the increased yields would take just 0.57 years to make up for the acreage taken out of production from the solar project.

Figure 21 – Expected Annual Increase in Production Due to Higher Yields from Corn Versus Expected Decrease in Production from Acreage



Likewise, over the past 20 years, soybean yields have increased by 0.85 bushels per year. If 2,500 acres are taken out of production of the county's 402,703, the remaining 400,203 acres would be expected to produce 338,802 bushels more annually just by being more productive on-trend. At 65.9 bushels per year (2021 State Agriculture Overview yield), the 2,500 acres would reduce production by 174,500 bushels. Thus, the increased yields would take just 0.48 years to make up for the acreage taken out of production from the solar project.

Figure 22 – Expected Annual Increase in Production Due to Higher Yields from Soybeans Versus Expected Decrease in Production from Acreage



Solar energy projects are compatible with agricultural land use by benefiting the land while solar farms are in operation. Some of these benefits include increased pollination, improved soil quality, and increased future production from soil fallowing.

Recent research has shown that pollinating insects can help soybean yields and improvement in pollinator habitats has been shown to boost soybean production (Garibaldi et. al. 2021; de O. Milfant, 2013). Walston, et. al. (2018) shows the potential for agricultural benefits from pollinator habitats in the United States. Using native plant species in the land around solar projects can improve pollinator habitats which leads to increased yields, and the partial shading caused by solar panels can be quite beneficial to pollinators (Graham, et. al. 2021). Additionally, BRE (2014) shows that utility-scale solar can increase biodiversity.

Solar energy projects built on agricultural lands will allow the soil to rest for around 30 years. The U.S. Department of Energy (2022) states that "land can be reverted back to agricultural uses at the end of the operational life for solar installations. A life of a solar installation is roughly 20-25 years and can provide a recovery period, increasing the value of that land for agriculture in the future. Giving soil rest can also maintain soil quality and contribute to the biodiversity of agricultural land. Planting crops such as legumes underneath the solar installation can increase nutrient levels in the soil."

Several studies have shown that leaving the soil fallow for an extended period of time increases the productivity of the land when it is returned to crop production. Cusimano et. al. (2014) found that the use of land fallowing can induce significant improvements to soil quality and crop production in California. Kozak and Pudelko (2021) studied abandoned land in Poland and showed that fallowed land could be restored to agricultural production.

VI. Economic Impact Methodology

The economic analysis of the solar PV project presented uses NREL's Jobs and Economic Development Impacts (JEDI) PV Model (PV12.23.16). The JEDI PV Model is an input-output model that measures the spending patterns and location-specific economic structures that reflect expenditures supporting varying levels of employment, income, and output. That is, the JEDI Model takes into account that the output of one industry can be used as an input for another. For example, when a PV system is installed, there are both soft costs consisting of permitting, installation and customer acquisition costs, and hardware costs, of which the PV module is the largest component. The purchase of a module not only increases demand for manufactured components and raw materials, but also supports labor to build and install a module. When a module is purchased from a manufacturing facility, the manufacturer uses some of that money to pay employees. The employees use a portion of their compensation to purchase goods and services within their community. Likewise, when a developer pays workers to install the systems, those workers spend money in the local economy that boosts economic activity and employment in other sectors. The goal of economic impact analysis is to quantify all of those reverberations throughout the local and state economy.

The first JEDI Model was developed in 2002 to demonstrate the economic benefits associated with developing wind farms in the United States. Since then, JEDI models have been developed for biofuels, natural gas, coal, transmission lines and many other forms of energy. These models were created by Marshall Goldberg of MRG & Associates, under contract with the National Renewable Energy Laboratory. The JEDI model utilizes state-specific industry multipliers obtained from IMPLAN (IMpact analysis for PLANning). IMPLAN software and data are managed and updated by the Minnesota IMPLAN Group, Inc., using data collected at federal, state, and local levels. This study analyzes the gross jobs that the new solar energy project development supports and does not analyze the potential loss of jobs due to declines in other forms of electric generation.

The total economic impact can be broken down into three distinct types: direct impacts, indirect impacts, and induced impacts. **Direct impacts** during the construction period refer to the changes that occur in the onsite construction industries in which the direct final demand (i.e., spending on construction labor and services) change is made. Onsite construction-related services include installation labor, engineering, design, and other professional services. Direct impacts during operating years refer to the final demand changes that occur in the onsite spending for the solar operations and maintenance workers.

The initial spending on the construction and operation of the solar PV installation will create a second layer of impacts, referred to as "supply chain impacts" or "indirect impacts." **Indirect impacts** during the construction period consist of changes in inter-industry purchases resulting from the direct final demand changes and include construction spending on materials and PV equipment, as well as other purchases of goods and offsite services. Utility-scale solar PV indirect impacts include PV modules, invertors, tracking systems, cabling, and foundations.

Induced impacts during construction refer to the changes that occur in household spending as household income increases or decreases as a result of the direct and indirect effects of final demand changes. Local spending by employees working directly or indirectly on the Project that receive their paychecks and then spend money in the community is included. The model includes additional local jobs and economic activity that are supported by the purchases of these goods and services.

VII. Economic Impact Results

The economic impact results were derived from detailed project cost estimates supplied by Invenergy. In addition, Invenergy also estimated the percentages of project materials and labor that will be coming from within Christian County and the State of Illinois.

Two separate JEDI models were produced to show the economic impact of Hickory Point Solar Project. The first JEDI model used the 2021 Christian County multipliers from IMPLAN. The second JEDI model used the 2021 IMPLAN multipliers for the State of Illinois and the same project costs. Because all new multipliers from IMPLAN and specific project cost data from Hickory Point Solar Project are used, the JEDI model serves only to translate the project costs into IMPLAN sectors.

Tables 5-7 show the output from these models. Table 5 lists the total employment impact from Hickory Point Solar Project for Christian County and the State of Illinois. Table 6 shows the impact on total earnings and Table 7 contains the impact on total output.

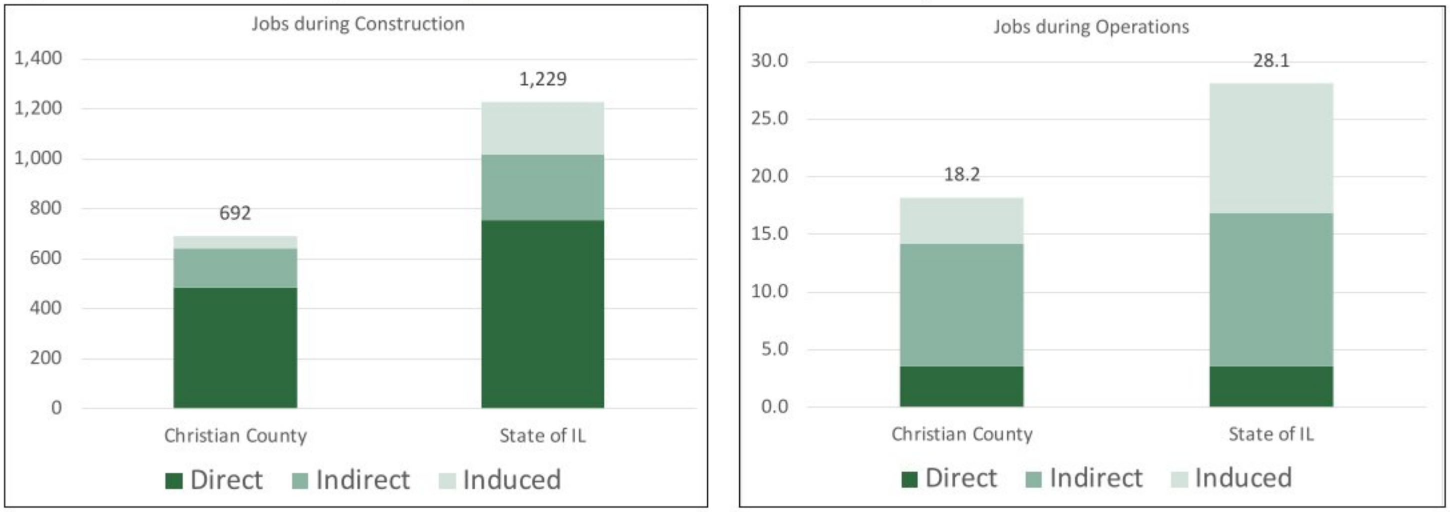
Table 5 – Total Employment Impact from Hickory Point Solar Project

	Christian County Jobs	State of Illinois Jobs
Construction		
Project Development and Onsite Labor Impacts (direct)	486	757
Module and Supply Chain Impacts (indirect)	156	262
Induced Impacts	50	210
New Local Jobs during Construction	692	1,229
Operations		
Onsite Labor Impacts (direct)	3.6	3.6
Local Revenue and Supply Chain Impacts (indirect)	10.6	13.3
Induced Impacts	4.0	11.2
New Local Long-Term Jobs	18.2	28.1

The results from the JEDI model show significant employment impacts from Hickory Point Solar Project. Employment impacts can be broken down into several different components. Direct jobs created during the construction phase typically last anywhere from 12 to 18 months depending on the size of the project; however, the direct job numbers present in Table 5 from the JEDI model are based on a full time equivalent (FTE) basis for a year. In other words, 1 job = 1 FTE = 2,080 hours worked in a year. A part time or temporary job would constitute only a fraction of a job according to the JEDI model. For example, the JEDI model results show 486 new direct jobs during construction in Christian County, though the construction of the solar center could involve closer to 972 workers working half-time for a year. Thus, due to the short-term nature of construction projects, the JEDI model often significantly understates the actual number of people hired to work on the project. It is important to keep this fact in mind when looking at the numbers or when reporting the numbers.

As shown in Table 5, new local jobs created or retained during construction total 692 for Christian County and 1,229 for the State of Illinois. New local long-term jobs created from Hickory Point Solar Project total 18.2 for Christian County and 28.1 for the State of Illinois.

Figure 23 – Total Employment Impact from Hickory Point Solar Project



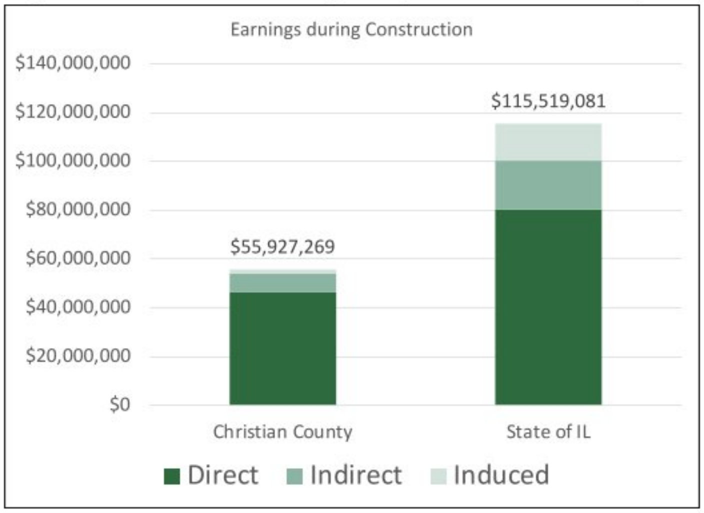
Direct jobs created during the operational phase last the life of the solar PV project, typically 20-30 years. Both direct construction jobs and operations and maintenance jobs require highly-skilled workers in the fields of construction, management, and engineering. These well-paid professionals boost economic development in rural communities where new employment opportunities are often welcome due to economic downturns.

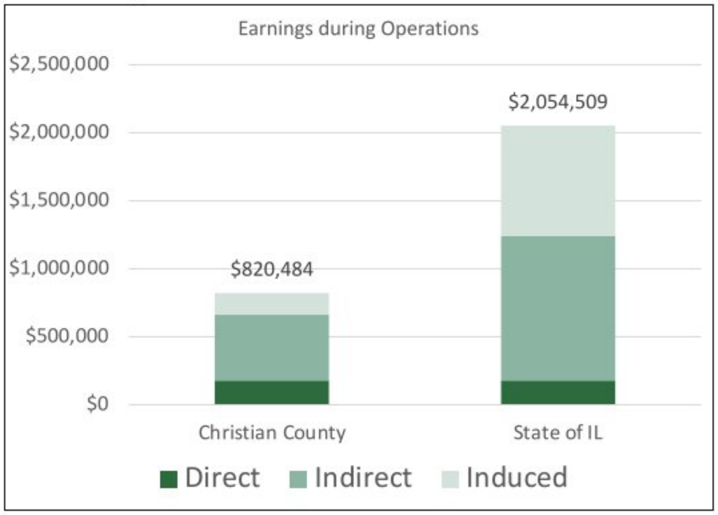
Accordingly, it is important to not just look at the number of jobs but also the earnings that they produce. Table 6 shows the earnings impacts from Hickory Point Solar Project, which are categorized by construction impacts and operations impacts. The new local earnings during construction totals over $55.9 million for Christian County and over $115 million for the State of Illinois. The new local long-term earnings total over $820 thousand for Christian County and over $2.0 million for the State of Illinois.

Table 6 – Total Earnings Impact from Hickory Point Solar Project

	Christian County	State of Illinois
Construction		
Project Development and Onsite Earnings Impacts	$46,538,979	$80,342,435
Module and Supply Chain Impacts	$7,348,995	$19,995,543
Induced Impacts	$2,039,295	$15,181,103
New Local Earnings during Construction	$55,927,269	$115,519,081
Operations (Annual)		
Onsite Labor Impacts	$176,904	$176,904
Local Revenue and Supply Chain Impacts	$481,126	$1,066,280
Induced Impacts	$162,454	$811,325
New Local Long-Term Earnings	$820,484	$2,054,509

Figure 24 – Total Earnings Impact from Hickory Point Solar Project



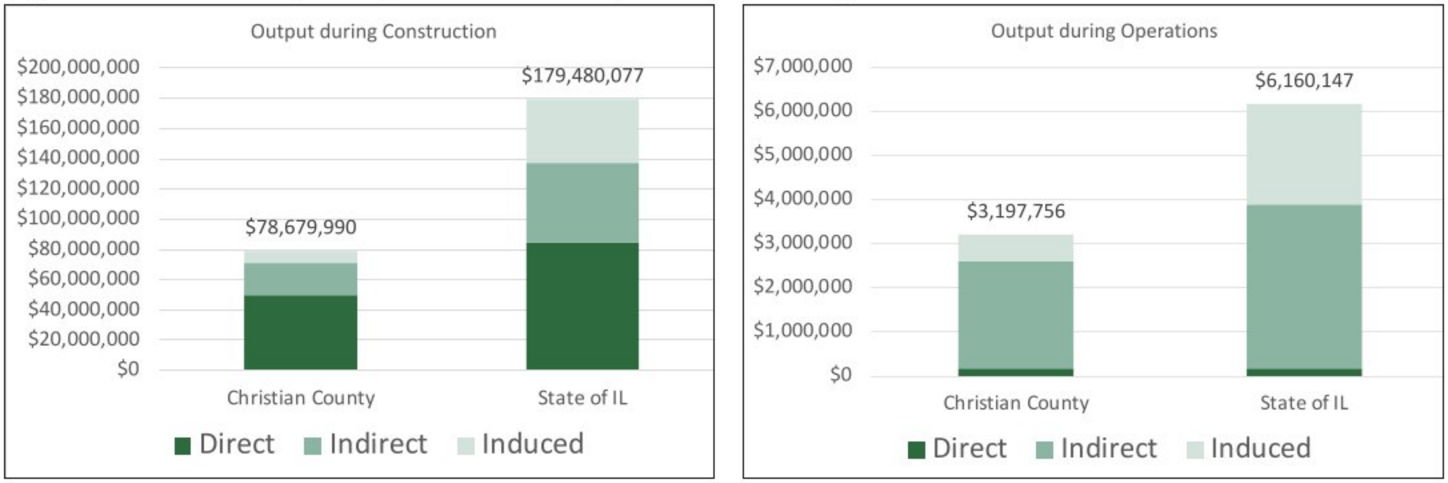


Output refers to economic activity or the value of production in the state or local economy. It is an equivalent measure to the Gross Domestic Product, which measures output on a national basis. According to Table 7, the new local output during construction totals over $78.6 million for Christian County and over $179 million for the State of Illinois. The new local long-term output totals over $3.1 million for Christian County and over $6.1 million for the State of Illinois.

Table 7 – Total Output Impact from Hickory Point Solar Project

	Christian County	State of Illinois
Construction		
Project Development and Onsite Jobs Impacts on Output	$49,847,653	$84,424,419
Module and Supply Chain Impacts	$21,307,277	$52,570,949
Induced Impacts	$7,525,060	$42,484,709
New Local Output during Construction	$78,679,990	$179,480,077
Operations (Annual)		
Onsite Labor Impacts	$176,824	$176,824
Local Revenue and Supply Chain Impacts	$2,423,571	$3,713,985
Induced Impacts	$597,361	$2,269,338
New Local Long-Term Output	$3,197,756	$6,160,147

Figure 25 – Total Output Impact from Hickory Point Solar Project



VIII. Tax Revenue

Solar energy projects increase the property tax base of a county, creating a new revenue source for education and other local government services, such as fire protection, park districts, and road maintenance. New legislation, Public Act 100-0781, sets a uniform formula for the fair cash value of a solar farm that would be similar to the uniform formula used for wind farms. This bill was signed into law by Governor Rauner in August, 2018. According to this law, the fair cash value for a utility-scale solar farm in Illinois is $218,000 per megawatt of nameplate capacity beginning in 2018 and is annually adjusted for inflation and depreciation. The inflation adjustment, also known as the Trending Factor, increases each year according to the Bureau of Labor Statistics' Consumer Price Index for all cities for all items. Depreciation is allowed at 4% per year up to a maximum total depreciation of 70% of the trended real property cost basis (calculated by taking the fair cash value of the solar project and multiplying by the Trending Factor).

Tables 8-11 detail the tax implications of The Hickory Point Solar Project. There are several important assumptions built into the analysis in these tables.

- First, the analysis assumes that the fair cash value of the solar farm is $218,000/MW on January 1, 2017 and adjusted annually for inflation.
- Second, the tables assume inflation is constant at 2.95% and the depreciation is 4% until it reaches the maximum of 70%.
- Third, all tax rates are assumed to stay constant at their 2022 rates. For example, the Christian County tax rate is assumed to stay constant at 0.75141% through 2050.
- Fourth, the analysis assumes that the Project is placed in service on January 1, 2026 at a fair cash value of $72.2 million and that the taxable value is 1/3 of the fair cash value.
- Fifth, it assumes that the Project is decommissioned in 25 years and pays no more taxes after that date.
- Sixth, no comprehensive tax payment was calculated, and these calculations are only to be used to illustrate the economic impact of the Project.

Figure 26 – Property Taxes Paid by Hickory Point Solar Project

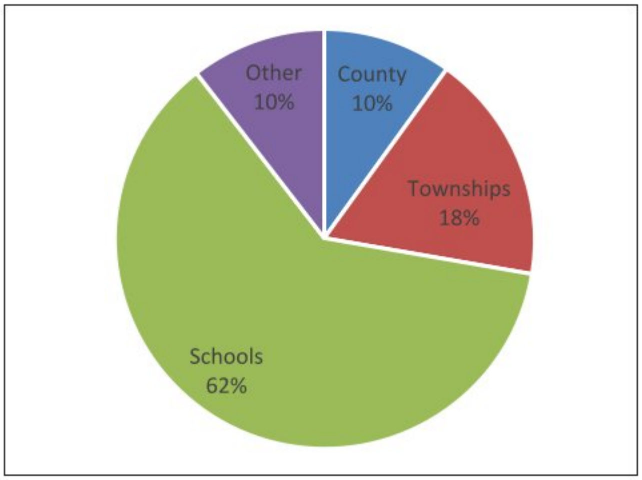


Table 8 – Total Property Taxes Paid by Hickory Point Solar Project

Year	Total Property Taxes
2026	$1,820,578
2027	$1,799,314
2028	$1,775,211
2029	$1,748,119
2030	$1,717,885
2031	$1,684,345
2032	$1,647,332
2033	$1,606,669
2034	$1,562,173
2035	$1,513,654
2036	$1,460,912
2037	$1,403,742
2038	$1,341,927
2039	$1,275,244
2040	$1,203,458
2041	$1,126,327
2042	$1,043,599
2043	$955,009
2044	$921,733
2045	$948,924
2046	$976,917
2047	$1,005,736
2048	$1,035,405
2049	$1,065,950
2050	$1,097,395
TOTAL	**$33,737,557**
AVG ANNUAL	**$1,349,502**

As shown in Table 8, a conservative estimate of the total property taxes paid by the Project starts out at over $1.8 million the first year and declines due to depreciation (and offset by the trending factor) until it reaches the maximum depreciation in 2044. After that, the Project is fully depreciated, and the trending factor causes the taxable value and taxes to increase. The expected total property taxes paid over the 25-year lifetime of the Project are over $33.7 million, and the average annual property taxes paid will be over $1.3 million.

Table 9 shows an estimate of the likely taxes paid to Christian County, South Fork Township, South Fork Road District, Bear Creek Township, Bear Creek Road District, King Township, and King Road District. This table assumes that 34% of the project area is in South Fork Township, 62% in Bear Creek Township, and 4% in King Township.

According to Table 9, the total amounts paid over 25 years are over $3.3 million for Christian County, over $660 thousand for South Fork Township, over $874 thousand for South Fork Road District, over $1.5 million for Bear Creek Township, over $2.6 million for Bear Creek Road District, over $47.9 thousand for King Township, and over $158 thousand for King Road District over the life of the Project.

Table 9 – Tax Revenue from Hickory Point Solar Project for the County and Townships[3]

Year	Christian County	South Fork Township	South Fork Road District	Bear Creek Township	Bear Creek Road District	King Township	King Road District
2026	$180,967	$35,668	$47,216	$83,767	$144,994	$2,587	$8,577
2027	$178,853	$35,251	$46,664	$82,789	$143,300	$2,557	$8,477
2028	$176,457	$34,779	$46,039	$81,680	$141,381	$2,522	$8,363
2029	$173,764	$34,248	$45,336	$80,433	$139,223	$2,484	$8,236
2030	$170,759	$33,656	$44,552	$79,042	$136,815	$2,441	$8,093
2031	$167,425	$32,999	$43,682	$77,499	$134,144	$2,393	$7,935
2032	$163,746	$32,274	$42,722	$75,796	$131,196	$2,341	$7,761
2033	$159,704	$31,477	$41,668	$73,925	$127,958	$2,283	$7,569
2034	$155,281	$30,605	$40,514	$71,878	$124,414	$2,220	$7,360
2035	$150,458	$29,655	$39,256	$69,645	$120,550	$2,151	$7,131
2036	$145,216	$28,621	$37,888	$67,218	$116,349	$2,076	$6,883
2037	$139,533	$27,501	$36,405	$64,588	$111,796	$1,995	$6,613
2038	$133,389	$26,290	$34,802	$61,744	$106,873	$1,907	$6,322
2039	$126,760	$24,984	$33,073	$58,676	$101,562	$1,812	$6,008
2040	$119,625	$23,577	$31,211	$55,373	$95,845	$1,710	$5,670
2041	$111,958	$22,066	$29,211	$51,824	$89,702	$1,600	$5,306
2042	$103,734	$20,446	$27,065	$48,017	$83,114	$1,483	$4,917
2043	$94,929	$18,710	$24,768	$43,941	$76,058	$1,357	$4,499
2044	$91,621	$18,058	$23,905	$42,410	$73,408	$1,310	$4,342
2045	$94,324	$18,591	$24,610	$43,661	$75,574	$1,348	$4,471
2046	$97,106	$19,139	$25,336	$44,949	$77,803	$1,388	$4,602
2047	$99,971	$19,704	$26,083	$46,275	$80,098	$1,429	$4,738
2048	$102,920	$20,285	$26,853	$47,640	$82,461	$1,471	$4,878
2049	$105,956	$20,883	$27,645	$49,046	$84,894	$1,515	$5,022
2050	$109,082	$21,500	$28,460	$50,493	$87,398	$1,559	$5,170
TOTAL	**$3,353,538**	**$660,967**	**$874,962**	**$1,552,307**	**$2,686,912**	**$47,939**	**$158,942**
AVG ANNUAL	**$134,142**	**$26,439**	**$34,998**	**$62,092**	**$107,476**	**$1,918**	**$6,358**

[3] The assumed tax rates are 0.75141% for Christian County, 0.43103% for South Fork Township, 0.57058% for South Fork Road District, 0.5583% for Bear Creek Township, 0.96637% for Bear Creek Road District, 0.32149% for King Township, and 1.0659% for King Road District.

Table 10 shows an estimate of the likely taxes paid to Lincoln Land Community College, Multi Township District #3, Morrisonville-Palmer Ambulance District, Midland Fire Protection District, and Morrisonville-Palmer Fire Protection District.

As shown in Table 10, the total amounts paid are over $2.0 million for Lincoln Land Community College, over $47.2 thousand for Multi Township District #3, over $436 thousand for Morrisonville-Palmer Ambulance District, over $448 thousand for Midland Fire Protection District, and over $519 thousand for Morrisonville-Palmer Fire Protection District over the life of the Project.

Table 10 – Tax Revenue from Hickory Point Solar Project for Other Taxing Bodies[4]

Year	Lincoln Land Community College	Multi Township District #3	Morrisonville-Palmer Ambulance District	Midland Fire Protection District	Morrisonville-Palmer Fire Protection District
2026	$112,401	$2,550	$23,550	$24,211	$28,056
2027	$111,088	$2,521	$23,275	$23,928	$27,728
2028	$109,600	$2,487	$22,963	$23,608	$27,356
2029	$107,927	$2,449	$22,613	$23,247	$26,939
2030	$106,061	$2,407	$22,222	$22,845	$26,473
2031	$103,990	$2,360	$21,788	$22,399	$25,956
2032	$101,705	$2,308	$21,309	$21,907	$25,386
2033	$99,194	$2,251	$20,783	$21,366	$24,759
2034	$96,447	$2,188	$20,208	$20,775	$24,073
2035	$93,451	$2,120	$19,580	$20,129	$23,326
2036	$90,195	$2,047	$18,898	$19,428	$22,513
2037	$86,666	$1,967	$18,158	$18,668	$21,632
2038	$82,849	$1,880	$17,359	$17,846	$20,679
2039	$78,732	$1,786	$16,496	$16,959	$19,652
2040	$74,300	$1,686	$15,567	$16,004	$18,546
2041	$69,538	$1,578	$14,570	$14,978	$17,357
2042	$64,431	$1,462	$13,499	$13,878	$16,082
2043	$58,961	$1,338	$12,354	$12,700	$14,717
2044	$56,907	$1,291	$11,923	$12,258	$14,204
2045	$58,586	$1,329	$12,275	$12,619	$14,623
2046	$60,314	$1,369	$12,637	$12,992	$15,055
2047	$62,093	$1,409	$13,010	$13,375	$15,499
2048	$63,925	$1,451	$13,393	$13,769	$15,956
2049	$65,811	$1,493	$13,789	$14,176	$16,427
2050	$67,752	$1,537	$14,195	$14,594	$16,911
TOTAL	**$2,082,924**	**$47,263**	**$436,413**	**$448,660**	**$519,904**
AVG ANNUAL	**$83,317**	**$1,891**	**$17,457**	**$17,946**	**$20,796**

[4] The assumed tax rates are 0.46671% for Lincoln Land Community College, 0.01059% for Multi Township District #3, 0.14897% for Morrisonville-Palmer Ambulance District, 0.29258% for Midland Fire Protection District, and 0.17747% for Morrisonville-Palmer Fire Protection District.

Table 11 – Tax Revenue from Hickory Point Solar Project for the School Districts[5]

Year	Morrisonville CUSD #1	Taylorville CUSD #3	Pawnee CUSD #11
2026	$946,830	$154,702	$24,504
2027	$935,771	$152,895	$24,217
2028	$923,235	$150,847	$23,893
2029	$909,146	$148,545	$23,528
2030	$893,422	$145,976	$23,121
2031	$875,979	$143,126	$22,670
2032	$856,729	$139,981	$22,172
2033	$835,582	$136,526	$21,625
2034	$812,441	$132,745	$21,026
2035	$787,207	$128,622	$20,373
2036	$759,778	$124,140	$19,663
2037	$730,045	$119,282	$18,893
2038	$697,897	$114,029	$18,061
2039	$663,217	$108,363	$17,164
2040	$625,883	$102,263	$16,198
2041	$585,770	$95,709	$15,160
2042	$542,745	$88,679	$14,046
2043	$496,672	$81,151	$12,854
2044	$479,366	$78,324	$12,406
2045	$493,508	$80,634	$12,772
2046	$508,066	$83,013	$13,149
2047	$523,054	$85,462	$13,536
2048	$538,484	$87,983	$13,936
2049	$554,369	$90,578	$14,347
2050	$570,723	$93,250	$14,770
TOTAL	**$17,545,919**	**$2,866,825**	**$454,082**
AVG ANNUAL	**$701,837**	**$114,673**	**$18,163**

The largest taxing jurisdictions for property taxes are local school districts. However, the tax implications for school districts are more complicated than for other taxing bodies. School districts receive state aid based on the assessed value of the taxable property within its district. As assessed value increases, the state aid to the school district is decreased.

Although the exact amount of the reduction in state aid to the school districts is uncertain, local project tax revenue is superior to relying on state aid for the following reasons: (1) the solar project can't relocate – it is a permanent structure that will be within the school district's footprint for the life of the Project; (2) the school district can raise the tax rate and increase its revenues as needed; (3) the school district does not have to deal with the year-to-year uncertainty of state aid amounts; (4) the school district does not have to wait for months (or even into the next Fiscal Year for payment; (5) the Project does not increase the overall cost of education in the way that a new residential development would.

Table 11 shows the direct property tax revenue coming from the Project to Morrisonville CUSD #1, Taylorville CUSD #3, and Pawnee CUSD #11. This tax revenue uses the assumptions outlined earlier to calculate the other tax revenue and assumes that 82% of the project area is in Morrisonville CUSD #1, 15% in Taylorville CUSD #3, and 3% in Pawnee CUSD #11. Over the 25-year life of the Project, the school districts are expected to receive over $20.8 million in tax revenue.

[6] The assumed tax rates are 4.78828% for Morrisonville CUSD #1, 4.18917% for Taylorville CUSD #3, and 3.97257% for Pawnee CUSD #11.

Having considered all these benefits, it is still important to determine the net impact of the solar energy project after taking into account the reduction in school funding from the State of Illinois. Determining the reduction in state aid is complicated by the fact that there is a new law for distributing state funds to education.

On August 31, 2017, Governor Rauner signed into law PA 100-0465 that fundamentally changes the way that the state distributes state aid to school districts. The "Evidence Based Funding" (EBF) consists of two parts – a Base Funding Minimum and a Tier Funding. The Base Funding Minimum is based on what the district received in the previous fiscal year. Some call this the "Hold Harmless" provision and ensures that there were no "losing" districts in the transition to the new funding formula. The Tier Funding is additional money and goes in higher portion to the districts that demonstrate a higher need under the new formula. Because of the "Hold Harmless" provision, no school district will see a reduction in their GSA from what they received in the year before the solar farm was installed. However, the higher EAV caused by the solar farm will reduce its eligibility for new money allocated in the state budget.

There are several sources of uncertainty with the new school funding formula concerning this new money. First, the total amount of new funding to be distributed over the ten years from the passage of the law is unknown at this point. It will be determined year-by-year in the state budget passed by the legislature and signed by the governor. For FY21, no new money was allocated for the school funding formula in the state budget. For FY 22, new money was restored in the state budget. Second, data for the formula funding changes each year based on the school's student population and its "need" and it is difficult to forecast its school's student population over time. Third, each school district is competing with all other school districts for this new funding and so the EAV and student population for all other school districts in the state will impact what a single school district receives. Fourth, the school district's EAV could also change due to other property changes in the district.

For FY23, Morrisonville CUSD #1 had 89% adequacy and was assigned Tier 2 status and will receive $7,914 in "new money," Taylorville CUSD #3 had 72% adequacy and was assigned Tier 1 status and will receive $266,344 in "new money.", and Pawnee CUSD #11 had 107% adequacy and was assigned Tier 4 status and will receive $537 in "new money". If new money is allocated in the future, it is unlikely that these districts will lose all of the "new money" and their EBF funding cannot go down from the previous year. Thus, the school districts will receive a net positive flow of funds because of the solar project if "new money" remains the same.

IX. Glossary

Bb

Battery Energy Storage Systems (BESS)

An array of hundreds or thousands of small batteries that enable energy from renewables, like solar and wind, to be stored and released at a later time.

Cc

Consumer Price Index (CPI)

An index of the changes in the cost of goods and services to a typical consumer, based on the costs of the same goods and services at a base period.

Dd

Direct impacts

During the construction period: the changes that occur in the onsite construction industries in which the direct final demand change is made.

During operating years: the final demand changes that occur in the onsite spending for the solar operations and maintenance workers.

Ee

Equalized Assessed Value (EAV)

The product of the assessed value of property and the state equalization factor. This is typically used as the basis for the value of property in a property tax calculation.

Ff

Farming profit

The difference between total revenue (price multiplied by yield) and total cost regarding farmland.

Full-time equivalent (FTE)

A unit that indicates the workload of an employed person. One FTE is equivalent to one worker working 2,080 hours in a year. One half FTE is equivalent to a half-time worker or someone working 1,040 hours in a year.

Hh

HV line extension

High-voltage electric power transmission links used to connect generators to the electric transmission grid.

Ii

IMPLAN (IMpact analysis for PLANning)

A business who is the leading provider of economic impact data and analytic applications. IMPLAN data is collected at the federal, state, and local levels and used to create state-specific and county-specific industry multipliers.

Indirect impacts

Impacts that occur in industries that make up the supply chain for that industry.

During the construction period: the changes in inter- industry purchases resulting from the direct final demand changes, including construction spending on materials and wind farm equipment and other purchases of good and offsite services.

During operating years: the changes in inter-industry purchases resulting from the direct final demand changes.

Induced impacts

The changes that occur in household spending as household income increases or decreases as a result of the direct and indirect effects of final demand changes.

Inflation

A persistent rise in the general level of prices related to an increase in the volume of money and resulting in the loss of value of currency. Inflation is typically measured by the CPI.

Mm

Median Household Income (MHI)

The income amount that divides a population into two equal groups, half having an income above that amount, and half having an income below that amount.

Millage rate

The tax rate, as for property, assessed in mills per dollar.

Multiplier

A factor of proportionality that measures how much a variable changes in response to a change in another variable.

MW

A unit of power, equal to one million watts or one thousand kilowatts.

MWac (megawatt alternating current)

The power capacity of a utility-scale solar PV system after its direct current output has been fed through an inverter to create an alternating current (AC). A solar system's rated MWac will always be lower than its rated MWdc due to inverter losses. AC is the form in which electric energy is delivered to businesses and residences and that consumers typically use when plugging electric appliances into a wall socket.

MWdc (megawatt direct current)

The power capacity of a utility-scale solar PV system before its direct current output has been fed through an inverter to create an alternating current. A solar system's rated MWdc will always be higher than its rated MWac.

Nn

Net economic impact

Total change in economic activity in a specific region, caused by a specific economic event.

Net Present Value (NPV)

Cash flow determined by calculating the costs and benefits for each period of investment.

NREL's Jobs and Economic Development Impacts (JEDI) Model

An input-output model that measures the spending patterns and location-specific economic structures that reflect expenditures supporting varying levels of employment, income, and output.

Oo

Output

Economic output measures the value of goods and services produced in a given area. Gross Domestic Product is the economic output of the United States as a whole.

Pp

PV (photovoltaic) system

Solar modules, each comprising a number of solar cells, which generate electrical power.

Rr

Real Gross Domestic Product (GDP)

A measure of the value of goods and services produced in an area and adjusted for inflation over time.

Real-options analysis

A model used to look at the critical factors affecting the decision to lease agricultural land to a company installing a solar powered electric generating facility.

Ss

Stochastic

To have some randomness.

Tt

Tax rate

The percentage (or millage) of the value of a property to be paid as a tax.

Total economic output

The quantity of goods or services produced in a given time period by a firm, industry, county, or country.

Uu

Utility-scale solar

Solar powered-electric generation facilities intended for wholesale distribution typically over 5MW in capacity.

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XI. Curriculum Vitae (Abbreviated)

David G. Loomis
Illinois State University
Department of Economics
Campus Box 4200
Normal, IL 61790-4200
(815) 905-2750
dloomis@ilstu.edu

Education

Doctor of Philosophy, Economics, Temple University, Philadelphia, Pennsylvania, May 1995.

Bachelor of Arts, Mathematics and Honors Economics, Temple University, Magna Cum Laude, May 1985.

Experience

1996-present Illinois State University, Normal, IL
Full Professor – Department of Economics (2010-present)
Associate Professor - Department of Economics (2002-2009)
Assistant Professor - Department of Economics (1996-2002)

- Taught Regulatory Economics, Telecommunications Economics and Public Policy, Industrial Organization and Pricing, Individual and Social Choice, Economics of Energy and Public Policy and a Graduate Seminar Course in Electricity, Natural Gas and Telecommunications Issues.
- Supervised as many as 5 graduate students in research projects each semester.
- Served on numerous departmental committees.

1997-present Institute for Regulatory Policy Studies, Normal, IL
Executive Director (2005-present)
Co-Director (1997-2005)

- Grew contributing membership from 5 companies to 16 organizations.
- Doubled the number of workshop/training events annually.
- Supervised 2 Directors, Administrative Staff and internship program.
- Developed and implemented state-level workshops concerning regulatory issues related to the electric, natural gas, and telecommunications industries.

2006-2018 Illinois Wind Working Group, Normal, IL
Director

- Founded the organization and grew the organizing committee to over 200 key wind stakeholders
- Organized annual wind energy conference with over 400 attendees
- Organized strategic conferences to address critical wind energy issues
- Initiated monthly conference calls to stakeholders
- Devised organizational structure and bylaws

2007-2018 Center for Renewable Energy, Normal, IL
Director

- Created founding document approved by the Illinois State University Board of Trustees and Illinois Board of Higher Education.
- Secured over $150,000 in funding from private companies.
- Hired and supervised 4 professional staff members and supervised 3 faculty members as Associate Directors.
- Reviewed renewable energy manufacturing grant applications for Illinois Department of Commerce and Economic Opportunity for a $30 million program.
- Created technical "Due Diligence" documents for the Illinois Finance Authority loan program for wind farm projects in Illinois.

2011-present Strategic Economic Research, LLC
President

- Performed economic impact analyses on policy initiatives and energy projects such as wind energy, solar energy, natural gas plants and transmission lines at the county and state level.
- Provided expert testimony before state legislative bodies, state public utility commissions, and county boards.
- Wrote telecommunications policy impact report comparing Illinois to other Midwestern states.
- Published 38 articles in leading journals such as AIMS Energy, Renewable Energy, National Renewable Energy Laboratory Technical Report, Electricity Journal, Energy Economics, Energy Policy, and many others
- Testified over 57 times in formal proceedings regarding wind, solar and transmission projects
- Raised over $7.7 million in grants
- Raised over $2.7 million in external funding

Bryan A. Loomis
Strategic Economic Research, LLC
Vice President

Education

Master of Business Administration (M.B.A.), Marketing and Healthcare, Belmont University, Nashville, Tennessee, 2017.

Experience

2019-present Strategic Economic Research, LLC, Bloomington, IL
Vice President
(2021-present)
Property Tax Analysis and Land Use Director
(2019-2021)

- Directed the property tax analysis by training other associates on the methodology and overseeing the process for over twenty states
- Improved the property tax analysis methodology by researching various state taxing laws and implementing depreciation, taxing jurisdiction millage rates, and other factors into the tax analysis tool
- Executed land use analyses by running Monte Carlo simulations of expected future profits from farming and comparing that to the solar lease
- Performed economic impact modeling using JEDI and IMPLAN tools
- Improved workflow processes by capturing all tasks associated with economic modeling and report-writing, and created automated templates in Asana workplace management software

2019-2021 Viral Healthcare Founders LLC, Nashville, TN
CEO and Founder

- Founded and directed marketing agency for healthcare startups
- Managed three employees
- Mentored and worked with over 30 startups to help them grow their businesses
- Grew an email list to more than 2,000 and LinkedIn following to 3,500
- Created a Slack community and grew to 450 members
- Created weekly video content for distribution on Slack, LinkedIn and Email

Christopher Thankan
Strategic Economic Research, LLC
Economic Analyst

Education

Bachelor of Science in Sustainable & Renewable Energy (B.A.), Minor in Economics, Illinois State University, Normal, IL, 2021

Experience

2021-present Strategic Economic Research, LLC, Bloomington, IL
Economic Analyst

- Create economic impact results on numerous renewable energy projects Feb 2021-Present
- Utilize IMPLAN multipliers along with NREL's JEDI model for analyses
- Review project cost Excel sheets
- Conduct property tax analysis for different US states
- Research taxation in states outside research portfolio
- Complete ad hoc research requests given by the president
- Hosted a webinar on how to run successful permitting hearings
- Research school funding and the impact of renewable energy on state aid to school districts
- Quality check coworkers JEDI models
- Started more accurate methodology for determining property taxes that became the main process used

Strategic Economic Research, LLC

by Dr. David G. Loomis,
Bryan Loomis, and Chris Thankan
Strategic Economic Research, LLC
strategiceconomic.com
815-905-2750

Exhibit 10:
Interconnection Agreement

GENERATOR INTERCONNECTION AGREEMENT (GIA)

THIS AMENDED AND RESTATED GENERATOR INTERCONNECTION AGREEMENT ("GIA") is made and entered into this 8th day of December, 2021, by and among **Hickory Point Solar Energy Center LLC**, a limited liability company organized and existing under the laws of the State of Delaware ("Interconnection Customer" with a Generating Facility), and **Ameren Services Company** as agent for **Ameren Illinois Company** d/b/a **Ameren Illinois**, a corporation organized and existing under the laws of the State of Illinois ("Transmission Owner"), and the **Midcontinent Independent System Operator, Inc**., a non-profit, non-stock corporation organized and existing under the laws of the State of Delaware ("Transmission Provider"). Interconnection Customer, Transmission Owner, and Transmission Provider each may be referred to as a "Party", or collectively as the "Parties". This GIA replaces and supersedes the Generator Interconnection Agreement executed on April 2, 2020, by and between the Parties filed under FERC Docket No. ER20-1574-001.

RECITALS

WHEREAS, Transmission Provider has functional control of the operations of the Transmission System, as defined herein, and is responsible for providing Transmission Service and Interconnection Service on the transmission facilities under its control; and

WHEREAS, Interconnection Customer intends to own, lease and/or control and operate the Generating Facility identified as a Generating Facility in Appendix A to this GIA; and

WHEREAS, Transmission Owner owns or operates the Transmission System, whose operations are subject to the functional control of Transmission Provider, to which Interconnection Customer desires to connect the Generating Facility, and may therefore be required to construct certain Interconnection Facilities and Network Upgrades, as set forth in this GIA; and

WHEREAS, Interconnection Customer, Transmission Owner and Transmission Provider have agreed to enter into this GIA, and where applicable subject to Appendix H for a provisional GIA, for the purpose of interconnecting the Generating Facility with the Transmission System; and

WHEREAS, a revised Affected System Study by PJM has determined that Interconnection Customer is no longer jointly responsible for Affected System Upgrades at American Electric Power's Eugene substation in Indiana, but is now instead jointly responsible for a Common Use Upgrade of Transmission Owner's section of the Casey West-Sullivan 345 kV transmission line jointly owned by Transmission Owner and American Electric Power; and

WHEREAS, this GIA is being amended to reflect the revised milestone schedule due to unforeseen geotechnical mitigations;

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein, it is agreed:

IN WITNESS WHEREOF, the Parties have executed this GIA in multiple originals; each of which shall constitute and be an original GIA among the Parties.

Transmission Provider
Midcontinent Independent System Operator, Inc.

By: Jennifer Curran 12/8/2021 kkh
Name: Jennifer Curran
Title: Vice President, System Planning & Chief Compliance Officer

Transmission Owner
Ameren Services Company, as agent for
Ameren Illinois Company d/b/a **Ameren Illinois**

By: Shawn E. Schukar
Name: Shawn E. Schukar
Title: Senior Vice President - Transmission

Interconnection Customer
Hickory Point Solar Energy Center LLC

DocuSigned by:
By: Jonathan Saxon
8DC0BE86A50F4EA
Name: Jonathan Saxon
Title: Vice President

LEGAL REVIEWED SRS

APPENDICES TO GIA

Exhibit 11:
Property Value Assessment

MARKET IMPACT ANALYSIS

HICKORY POINT SOLAR
CHRISTIAN COUNTY, ILLINOIS

May 4, 2023

Hickory Point Solar
c/o Invenergy LLC
One South Wacker Drive - Suite 1800
Chicago, Illinois 60606

Attention: Greg Vasilion - Renewable Development Manager

Subject: Market Impact Analysis
Hickory Point Solar
Christian County, Illinois

In accordance with your request, the proposed development of the Hickory Point Solar in Christian County, Illinois, has been analyzed and this market impact analysis has been prepared.

MaRous & Company has conducted similar market impact studies for a variety of clients and for a number of different proposed developments over the last 40 years. Clients have ranged from municipalities, counties, and school districts, to corporations, developers, and citizen's groups. The types of proposals analyzed include commercial developments such as shopping centers and big-box retail facilities; religious facilities such as mosques and mega-churches; residential developments such as high-density multifamily and congregate-care buildings and large single-family subdivisions; recreational uses such as skate parks and lighted high school athletic fields; and industrial uses such as waste transfer stations, landfills, and quarries.

MaRous & Company has conducted numerous market studies of energy-related projects. The solar-related projects include the following by state:

- **Illinois** - Hickory Point Solar Energy Center in Christian County, Mulligan Solar in Logan County, Black Diamond Solar in Christian County, South Dixon Solar in Lee County, Pleasant Grove Solar in Boone County and McHenry County, Double Black Diamond Solar in Sangamon County and Morgan County, Osagrove Flats Solar in LaSalle County, Pleasant Grove Solar in McHenry and Boone County, and Blue Violet Energy Facility in Stephenson County.
- **Iowa** – Duane Arnold Solar I & II in Linn County, Creston Solar in Union County, and Weaver Solar in Lee County.
- **Indiana** - Lone Oak Solar Farm in Madison County, Hardy Hills Solar in Clinton County, and Mammoth Solar in Pulaski County and Starke County.
- **Wisconsin** - Badger Hollow Solar Farm in Iowa County, Paris Solar Energy Center in Kenosha County, Darien Solar Energy Center in Rock County and Walworth County, Grant County Solar in Grant County, Koshkonong Solar in Dane County, St. Croix Solar in St. Croix County, and High Noon Solar in Columbia County.
- **Maryland** - Dorchester County Solar Farms in Dorchester County.
- **Solar Projects of the Western Regions of the United States of America** - Arizona, Colorado, Nevada, New Mexico, and Utah in the Southwest Region; Idaho and Oregon in the Northwest Region; Texas in the Southern Great Plains Region; General Research in the Northern Great Plains Region.

The wind-related projects include the following by state:

- **Illinois** - Grand Ridge V and Otter Creek wind farms in LaSalle County, Pleasant Ridge Wind Farm in Livingston County, Walnut Ridge Wind Farm in Bureau County, McLean County Wind Farm in McLean County, Radford's Run Wind Farm in Macon County, Midland Wind Project in Henry County, Harvest Ridge Wind Project in Douglas County, Lincoln Land Wind in Morgan County, Bennington Wind Project in Marshall County, Goose Creek Wind in Piatt County, Shady Oaks II in Lee County, Osagrove Flats Wind Project in LaSalle County, Crescent Ridge Wind Farm in McLean County, and Blue Violet Energy Facility in Stephenson County.
- **Iowa** - Ida County Wind Farm in Ida County, Palo Alto County Wind Farm in Palo Alto County, Worthwhile Wind in Worth County, Three Waters Wind in Dickinson County, and Shenandoah Hills Wind in Page County and Fremont County.
- **Michigan** - Crescent Wind in Hillsdale County and Heartland Farms Wind Farm in Gratiot County.
- **Indiana** - Tippecanoe County Wind Farm in Tippecanoe County and Roaming Bison Wind Farm in Montgomery County.
- **Ohio** - Seneca Wind in Seneca County, Republic Wind in Seneca County and Sandusky County, and Emerson Creek Wind Farm in Erie County, Huron County, and Seneca County.
- **Minnesota** - Freeborn County Wind Farm in Freeborn County, Three Waters Wind in Jackson County, Dodge County Wind in Dodge County and Steele County.
- **New York** - Orangeville Wind Farm in Wyoming County and Alle-Catt Wind Farm in Allegany County, Cattaraugus County, and Wyoming County.
- **South Dakota** - Dakota Range Wind Project I, II, & III, in Codington County, Grant County, and Roberts County, Deuel Harvest Wind Farm in Deuel County, Crocker Wind Farm in Clark County, Prevailing Wind Park in Charles Mix County, Bon Homme County, and Hutchinson County, Triple-H Wind Project in Hyde County, Crowned Ridge Wind II in Codington County, Deuel County, and Grant County, Tatanka Ridge Wind Farm in Deuel County, and Sweetland Wind Farm in Hand County.
- **Kansas** - Neosho Ridge Wind Farm in Neosho County and Jayhawk Wind in Bourbon County and Crawford County.

We also have analyzed the impact of transmission lines on adjacent residential uses and a number of proposed natural gas-fired electric plants in various locations.

Table of Contents

Project Summary

Project Information	
Project Name	Hickory Point Solar
Location	Christian County, Illinois
Townships	Bear Creek, South Fork
Property Type	Solar Farm
Project Developer	Invenergy LLC
Solar Farm Description	
Footprint Land	≈ 3,500 Acres
Actual Land Acreage Used by Panels	≈ 2,000 Acres
Panel Height (Min/Max)	Max: ≈ 15 Feet Min: ≈ 12 Feet
Total Capacity	Up to 260 Megawatts
Setbacks	⁘ 200 feet from residences ⁘ 50 feet from property lines, roads, and right of ways
Participant Acreage	≈ 3,500 Acres
Project Area Population Density	< 25 Persons Per Square Mile
Ancillary Construction	
Substation	Gravel access roads
Security fencing	Transmission line
Native plants	
Total Cost	≈ $250,000,000 up to $429,000,000*

* Projection according to the report prepared by Strategic Economic Research, LLC

Purpose and Intended Use of the Study

The purpose of this appraisal assignment is to analyze the potential impact, if any, on the value of the surrounding residential properties of the development of a solar farm. The report is intended specifically for the use of the client for a proposed solar farm in Christian County, Illinois. Any other use or user of this report is considered to be unintended.

Executive Summary

As a result of the market impact analysis undertaken, the conclusion made is that there is no market data indicating the project will have a negative impact on either rural residential or agricultural property values in the surrounding area. Further, market data from Illinois, specifically, also supports the conclusion that the project will not have a negative impact on rural residential or agricultural property values in the surrounding area. For agricultural properties that host photovoltaic panels, the additional income from the solar lease may increase the value and marketability of those properties. These conclusions are based on the following:

- The use will meet or exceed all the required development and operating standards.
- Controls are in place to ensure on-going compliance.
- The project area will experience significant financial benefits to the local economy and to the local taxing bodies from the development of the solar farm.
- The solar farm will create well-paid jobs in the area which will benefit overall market demand.
- The finding of fact provided by the Public Service Commission of Wisconsin for the application for a Certificate of Public Convenience and Necessity of Koshkonong Solar Energy Center, LLC in Dane County, Wisconsin on property value impacts expressed that negative impact concerns cannot be substantiated.
- The finding of fact provided by the Public Service Commission of Wisconsin for the application for a Certificate of Public Convenience and Necessity of Badger Hollow Solar Farm LLC in Iowa County, Wisconsin on property value impacts expressed that negative impact concerns cannot be substantiated.
- The finding of fact provided by the Public Service Commission of Wisconsin for the application for a Certificate of Public Convenience and Necessity of Darien Solar Energy Center, LLC in Walworth County, Wisconsin on property value impacts expressed that negative impact concerns cannot be substantiated.
- The finding of fact provided by the Public Service Commission of Wisconsin for the application for a Certificate of Public Convenience and Necessity of Grant County Solar, LLC in Grant County, Wisconsin on property value impacts expressed that negative impact concerns cannot be substantiated.

- The finding of fact provided by the Public Service Commission of Wisconsin for the application for a Certificate of Public Convenience and Necessity of Paris Solar Farm LLC in Kenosha County, Wisconsin on property value impacts expressed that negative impact concerns cannot be substantiated.
- The finding of fact provided by the Public Service Commission of Wisconsin for the application for a Certificate of Public Convenience and Necessity of Two Creeks Solar LLC in Manitowoc County, Wisconsin on property value impacts expressed that there are no negative impacts anticipated.
- An analysis of recent residential sales proximate to existing solar farms in Illinois and other states, which includes residential sales as close as 165 feet, to photovoltaic panels, did not support any finding that proximity to a photovoltaic panel had any impact on property values.
- An in-depth analysis of recent residential sales proximate to the existing solar farms in North Branch, Minnesota; in Elizabeth City, North Carolina; and in Goldsboro, North Carolina; which includes residential sales within approximately 5,500 feet, and as close as 165 feet, to photovoltaic panels, did not support any finding that proximity to a photovoltaic panel had any impact on property values.
- An analysis of agricultural land values in the area and in other areas of Illinois with solar farms did not support any finding that the agricultural land values are negatively impacted by the proximity to photovoltaic panels.
- Studies indicate that solar farm leases add value to agricultural land.
- A survey of County Assessors in 6 counties within Illinois in which solar farms are located determined that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a solar farm, and that there were no reductions in assessed valuations.
- A survey of County Assessors in 7 counties within Iowa in which solar farms are located determined that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a solar farm, and that there were no reductions in assessed valuations.
- A survey of Township Assessors within 20 counties in Michigan in which solar farms are located determined that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a solar farm, and that there were no reductions in assessed valuations.
- A survey of County Assessors in 11 counties within Wisconsin in which solar farms are located determined that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a solar farm, and that there were no reductions in assessed valuations.
- A survey of County Assessors in 9 counties within Indiana in which solar farms are located determined that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a solar farm, and that there were no reductions in assessed valuations.

- A survey of County Assessors in 5 counties within North Carolina in which solar farms are located determined that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a solar farm, and that there were no reductions in assessed valuations.
- A survey of County Assessors in 13 counties within Maryland in which solar farms are located determined that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a solar farm, and that there were no reductions in assessed valuations.
- An analysis and comparison of solar energy production facilities to wind energy production facilities describing the similarities in economic benefits and similarities in lack of any support for finding that residential or agricultural land values are negatively impacted by the proximity to photovoltaic panels and wind turbines.

Definition of Market Value

When discussing market value, the following definition is used:

The most probable price a property should bring in a competitive and open market under all condition's requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

- Buyer and seller are typically motivated.
- Both parties are well informed or well advised and acting in what they consider their own best interests.
- A reasonable time is allowed for exposure in the open market.
- Payment is made in terms of cash in U.S. dollars or in terms of financial arrangements comparable thereto.
- The price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.[1]

[1] *(12 C.F.R. Part 34.42(g); 55 Federal Register 34696, August 24, 1990, as amended at 57 Federal Register 12202, April 9, 1992; 59 Federal Register 29499, June 7, 1994)*

Scope of Work and Reporting Process

Information was gathered concerning the real estate market generally and the market of the area surrounding the project specifically. The uses in the surrounding area were considered. The following summarizes the actions taken:

- Review of the Christian County Public Documents and map.
- Review of the project's supporting documents provided by Hickory Point Solar.
- Review of the demographics in the area of the proposed solar farm.
- Data on the general market area of the solar farm, and on the other areas in Illinois and/or Christian County in which existing solar farms are located.
- Data on the market for single-family houses in the immediate area of the proposed solar farm and from other areas in the county from private sources, public sources, and sources from the Christian County and/or Illinois public records.
- Illinois and other Midwestern real estate professionals were interviewed concerning recent sales in their area, local market conditions, and the impact of solar farms on property values in the area.
- Properties used for development of the matched pairs were physically inspected by MaRous & Company on the exterior, and photographs of the interiors were reviewed where available.
- Inspections were performed of the subject area and the areas in nearby counties with existing solar farms by Michael S. MaRous on March 12, 2023.

This document is considered to conform to the requirements of the *Uniform Standards of Professional Appraisal Practice and Advisory Opinions* (USPAP). This letter is a brief recapitulation of the appraisal data, analyses, and conclusions; additional supporting documentation is retained in the MaRous & Company office file. There are no extraordinary assumptions or hypothetical conditions included in the market study.

In order to form a judgment concerning the potential impact, if any, on the value of the surrounding residential properties of the approval of the conditional use for the solar farm, the following have been considered:

- The character and the value of the residential and agricultural properties in the general area of the existing solar farm.
- Agricultural land values in Christian County, and in other Illinois counties in which solar farms are located.
- Market trends for both residential and agricultural land within the market area up to the past 5 years.
- The economic impact on the larger community by the proposed solar farm.
- The impact on the value of the surrounding residential and agricultural properties by the proposed solar farm.

Description of Area Demographics and Development Area Analysis

Hickory Point Solar Location	
Taylorville, Illinois	
2010 Population	11,296 Persons
2022 Population	10,262 Persons
Median Home Value in 2022	$97,895
Median Household Income in 2022	$47,656
Number of Households in 2022	4,776
Number of Housing Units in 2022	5,285
Number of Vacant Housing Units in 2022	509
Unemployment Rate in 2022	2.0%
Kincaid, Illinois	
2010 Population	1,489 Persons
2022 Population	1,368 Persons
Median Home Value in 2022	$95,118
Median Household Income in 2022	$54,002
Number of Households in 2022	609
Number of Housing Units in 2022	680
Number of Vacant Housing Units in 2022	71
Unemployment Rate in 2022	3.9%
Palmer, Illinois	
2010 Population	223 Persons
2022 Population	210 Persons
Median Home Value in 2022	$112,500
Median Household Income in 2022	$70,346
Number of Households in 2022	88
Number of Housing Units in 2022	103
Number of Vacant Housing Units in 2022	15
Unemployment Rate in 2022	2.1%
Townships ***- Bear Creek, King, South Fork***	
2010 Population	3,539 Persons
2022 Population	3,241 Persons
Christian County, Illinois	
2010 Population	34,800 Persons
2022 Population	33,413 Persons
Median Home Value in 2022	$103,692
Median Household Income in 2022	$55,111
Number of Households in 2022	13,537
Number of Housing Units in 2022	15,099
Number of Vacant Housing Units in 2022	1,562
Unemployment Rate in 2022	2.1%
Main Roadway Arterials	
North/South	Interstate 55 extends west of the footprint
East/West	County Route 104 extends north of the footprint

Nearest Cities to the Hickory Point Solar	
Tovey, Illinois ≈ 3 Miles North of the Footprint	
2010 Population	507 Persons
2022 Population	448 Persons
Langleyville, Illinois ≈ 3 Miles East of the Footprint	
2010 Population	412 Persons
2022 Population	377 Persons
Morrisonville, Illinois ≈ 5 Miles South of the Footprint	
2010 Population	1,041 Persons
2022 Population	997 Persons
Pawnee, Illinois ≈ 6 Miles Northwest of the Footprint	
2010 Population	2,764 Persons
2022 Population	2,671 Persons
Edinburg, Illinois ≈ 8 Miles Northeast of the Footprint	
2010 Population	1,083 Persons
2022 Population	1,083 Persons
Owaneco, Illinois ≈ 12 Miles East of the Footprint	
2010 Population	126 Persons
2022 Population	205 Persons
Springfield, Illinois ≈ 13 Miles Northwest of the Footprint	
2010 Population	117,637 Persons
2022 Population	113,944 Persons

Site to do Business - https://www.stdb.com/

Top Major Industry Employers Near Christian County

Name of Company	Industry Type
Memorial Health	Health, Medical
Hospital Sisters Health System	Health, Medical
Springfield Clinic, LLP	Health, Medical
Horace Mann Educators Corp	Insurance
Blue Cross/Blue Shield	Insurance
BUNN	Manufacturing
Wells Fargo Home Mortgage	Finance
Hope Institute For Children	Non-Profit
First Transit Inc.	Transportation
Levi, Ray & Shoup, Inc.	Technology

PRIVATE SECTOR - *https://www.thriveinspi.org/doing-business-in-spi/major-employers/*

Operational Solar Farms in Proximity to Christian County

The closest operating solar farms to the proposed project include Mulligan Solar in Logan County. The project has a total capacity of approximately 92.4 megawatts and came online in approximately 2022. Dressor Plains Solar in Fayette County has a total capacity of approximately 99.0 megawatts and came online in 2021. Prairie Wolf Solar in Coles County has a total capacity of approximately 200.0 megawatts and came online in 2021. Long John CSG in Dekalb County has a total capacity of approximately 2.0 megawatts and came online in approximately 2022. Pine Road Solar in Dekalb County has a total capacity of approximately 2.0 megawatts and came online in approximately 2021. Somonauk Road Solar 1 in Dekalb County has a total capacity of approximately 2.0 megawatts and came online in approximately 2022. Tower Road Solar in Dekalb County has a total capacity of approximately 2.0 megawatts and came online in approximately 2021.

There are two large proximate solar projects that are currently under construction and are projected to come online by 2024. The closest proposed project is Double Black Diamond Solar Project in Morgan County and Sangamon County. The project is planned to have a total capacity of approximately 600 megawatts and will come online by 2024. Steward Creek Solar Phase 1 in Lee County is planned to have a total capacity of approximately 600 megawatts and will come online by 2024. Owens Creek Solar in Dekalb County is planned to have a total capacity of approximately 500 megawatts and will come online by 2024.

Residential Sales Nearest to the Project Area

Like many areas of Illinois, this area is primarily rural in nature. In addition to farms, there are single-family houses situated on either smaller lots or larger farmsteads adjacent to the project. The following table summarizes a sample of recent sales of these types of residences in the general area of the proposed Hickory Point Solar which consisted of sales that had consistent data across private and public sources. A map illustrating the location of each of these sales is included in the addenda to this market impact study.

MOST RECENT SINGLE-FAMILY RESIDENTIAL SALES SUMMARY IN THE AREA NEAREST TO THE PROPOSED HICKORY POINT SOLAR

No.	Location	Sale Price	Sale Date	Site Size (Acres)	Year Built	Building Size (Sq. Ft.)	Sale Price Per Sq. Ft. of Bldg. Area Incl. Land
1	837 E. 1175 North Rd. Taylorville, IL 62568	$184,900	8/5/20	5.90	1978	1,672	$110.59
2	428 E. 1050 North Rd. Morrisonville, IL 62546	$230,000	5/17/21	1.59	1900	2,444	$94.11
3	6372 N. 35th Ave. Pawnee, IL 62558	$235,000	10/12/21	4.00	1986	1,728	$136.00
4	677 E. 990 North Rd. Morrisonville, IL 62546	$270,000	12/9/22	22.70	2000	896	$301.34
5	1571 N. 175 East Rd. Pawnee, IL 62558	$275,000	12/3/20	6.59	2010	2,200	$125.00

The above table outlines the recent single-family residential sales in and around the project area that were performed under the definition of market value. Some of the remaining single-family residential sales discovered in the project area were bought and sold between related parties and cannot be considered to be sold at arm's length; and therefore, do not conform to the definition of market value.

Project Description

The project currently proposes to generate up to 260 megawatts within approximately 3,500 acres of leased land. The solar panels will be 12 feet to 15 feet tall. The proposed project will consist of one irregular-shaped site within Christian County, Illinois. The proposed project area is described in a map in the addenda to this market study. All photovoltaic panels will be new, and none will be experimental or prototype equipment.

Total project cost is estimated to be approximately $250,000,000. Ancillary construction includes gravel-covered access roads, a substation, site security and approximately 7-foot-tall fencing, transmission line, native site vegetation with grass/forbs/pollinators, and tree buffers. Agreements with Christian County and with townships impacted will identify roads to be used, and to repair any damage caused by the project. All standard Christian County building setback requirements will be met.

Project Benefits

Taxes	
Property	Property taxes are currently estimated to be approximately $33,737,557 over the life of the project.
Benefitting School Districts	Taylorville, Pawnee, and Morrisonville School Districts
Land Agreements	
Participating Landowner Lease Payments	Annual payments will be made to participating landowners
Job Creation	
Temporary/Construction	≈ 486 Construction Jobs
Permanent	≈ 3-4 Permanent Jobs
Induced Impacts due to Construction	
Indirect Impacts	Permit payments to the county and anticipated increase in household spending to local businesses, as well as spending from the construction workers who will require services and supplies

Factors that Affect Property Values Considered

Appearance

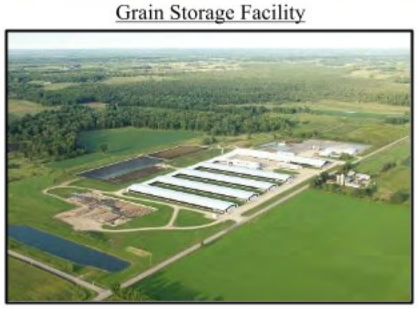
- Utility-grade solar farms have a passive use of the land they occupy and are compatible with rural or agricultural uses in their immediate area. Solar panels, typically, have a low-profile with a height of up to 15 feet causing the visual impact from street level to be minimal. Fencing is commonly utilized around a solar facility. Below you will see photographs of other common agricultural structures, such as ethanol plants, grain storage facilities, commercial greenhouses, hog farms, dairy farms, poultry farms, wind farms, and solar farms.


Ethanol Plant


Grain Storage Facility


Commercial Greenhouse


Hog Farm


Dairy Farm


Poultry Farm


Quarry


Wind Farm


Solar Farm

Environment & Sustainability[2]

- "Solar technologies offer a number of environmental benefits, including the reduction of greenhouse gas emissions and waste in comparison to fuel-based energy sources. [Environmental conditions], sustainability, and recycling are all concerns of the solar industry, which is taking steps to address environmental issues through the lifecycle of solar products."

[2] *Environment & Sustainability.* https://www.seia.org/initiative-topics/environment

- “Solar energy plays an important role in transitioning the U.S. to a low-carbon, sustainable future. Solar energy technologies can provide innovative, cost-effective solutions to reduce emissions in a number of sectors of the economy.”

Noise and Odor

- Photovoltaic panels do not emit sound. However, the Power Conversion Stations, tracking system motors, and main transformer are audible, yet produce a very low sound output. Solar farms do not produce any odor.

Traffic

- Due to the low maintenance requirements of solar farms, there is an insignificant amount of traffic that is associated with solar farms.

Hazardous Materials

- Solar farms are reported to not produce any hazardous materials, toxins, or associated odors.

Public Services

- Infrastructure Benefits
  - Development of solar farms positively impacts the resiliency of the power grid. Further, building utility scale solar farms increases the need for local construction workers. Solar farms also pay significant real estate taxes that go to the surrounding community to improve existing infrastructure.
- Schools
  - Real estate taxes paid by solar farms benefit schools with greater funding. As well as funding, they do not add extra students to the classrooms causing overcrowding, such as a residential development that would add new families and students.
- Public Safety
  - The real estate taxes paid by solar farms also benefit public safety concerns by adding funding to first responder departments. This funding could add benefit by giving more opportunities for training, allow for better equipment, upgrade existing departments, and create higher salaries.

Market Impact Analysis

A market impact analysis is undertaken to develop an opinion as to whether the proposed solar farm will have an effect on the value of residential uses and/or agricultural land in proximity to the turbines. This analysis includes:

- A matched pair analyzing the impact on value of residential properties proximate to a solar farm nearest Christian County, Illinois, as well as matched pairs developed in counties with similar demographics, land use, and economic characteristics of other states with a presence of solar energy, specifically, Wisconsin, Iowa, Indiana, Michigan, Minnesota, Arizona, and North Carolina.
- The value of agricultural land near Christian County.
- The results of a survey of assessors in Illinois, Wisconsin, Iowa, Michigan, Indiana, North Carolina, and Maryland with existing solar farms with a capacity over 1 megawatt in their respective jurisdictions.
- Interviews of local real estate professionals concerning solar farms.
- The results of a survey of assessors in Illinois, Wisconsin, Iowa, Michigan, South Dakota, Minnesota, and Indiana with existing wind farms with over 25 turbines in their respective jurisdictions.
- The results of several academic and peer-reviewed studies of the impact of solar panels and wind turbines on residential property values.

Matched Pair Analysis

A matched pair analysis is a methodology which analyzes the importance of a selected characteristic, in this instance proximity to a photovoltaic panel, to the value of a property.[3] This technique compares the sale of a property in proximity to the selected characteristic to the sale of a similar property in the same market area and under similar market conditions but without the proximity to the selected characteristic.

Due to the lack of larger solar farms in Illinois, an analysis of properties proximate to established solar farms in other states, specifically Wisconsin, Iowa, Indiana, Michigan, Minnesota, Arizona, and North Carolina, was conducted to further analyze any potential impact on value to residential properties proximate to solar farms. The additional analysis of Minnesota and North Carolina solar farms is in the section following the matched pair analysis.

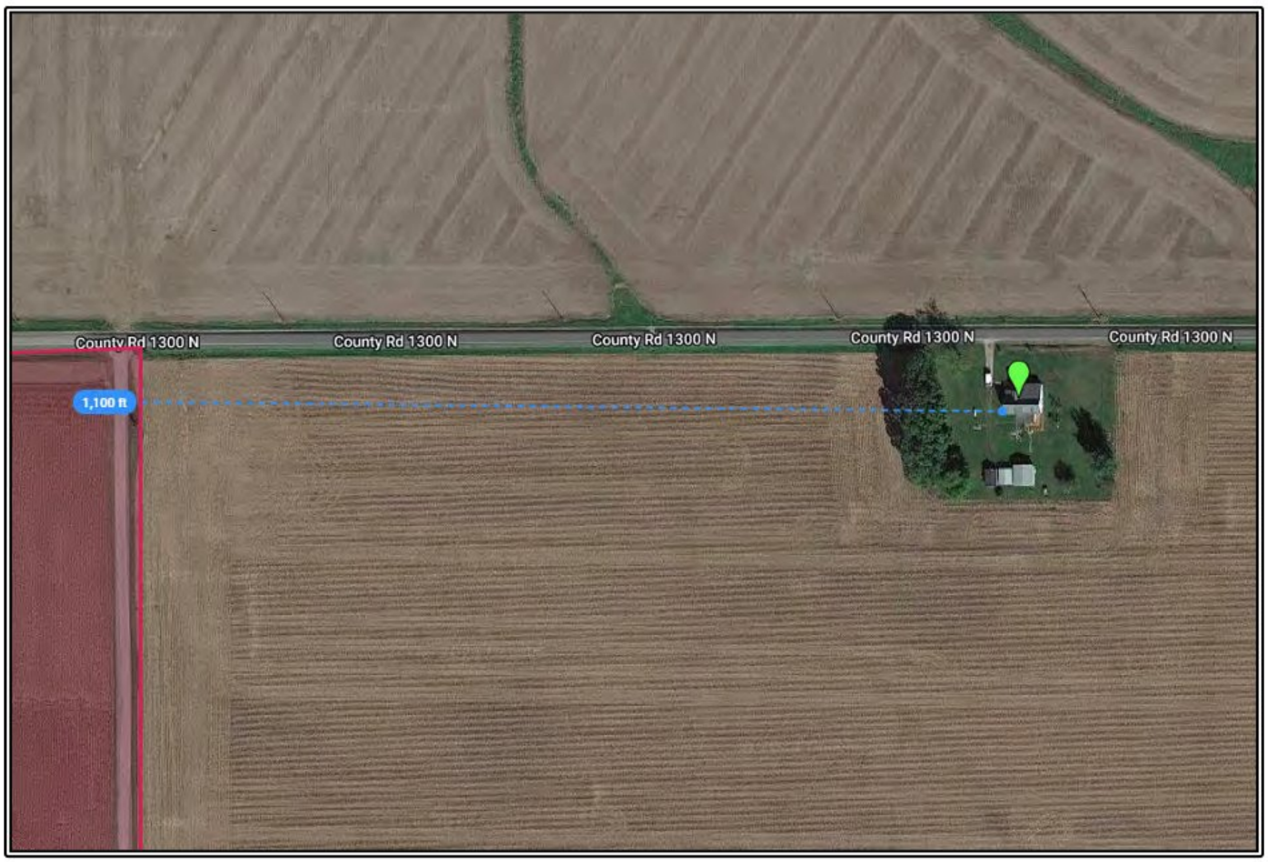
[3] *See the discussion "Paired Sales Analysis" and "Sale/Resale Analysis" in Bell, Randall, MAI, Real Estate Damages, Applied Economics and Detrimental Conditions, Second Edition, Appraisal Institute, 2008, pages 25-27. The ideal is to review a sale and resale of a property in proximity to a selected characteristic, to compare it to a sale and resale of a similar property without such proximity, and to then analyze whether the proximity to the selected characteristic influenced the change in value. However, in rural areas it usually is not possible to find data for this type of "pure pair" analysis.*

Illinois Analysis - Logan County Matched Pair No. 1

Logan County, Illinois, is located in the central region of Illinois. Matched Pair #1 considers the sale of a property near the footprint of the Mulligan Solar in Logan County, which has been operational since 2022 and generates approximately 92 megawatts of power. A house located at 869 County Road 1300 N, Lincoln, Illinois, was sold in July 2020. This house is approximately 1,100 feet from the Mulligan Solar, and the existence of the project footprint was known at the time of the sale.

This sale is compared with a similar property located at 615 1200th Street, Middletown, Illinois, that sold in October 2021. It is not located near photovoltaic panels. The salient details of these two properties are summarized in the table below.

The following aerial map illustrates the relationship of the 869 County Road 1300 N property to the closest solar farm footprint.



LOGAN COUNTY MATCHED PAIR NO. 1		
	1A - Proximate to a Solar Farm	**1B - Not Proximate to a Solar Farm**
Address	869 County Rd. 1300 N Lincoln, IL 62656	615 1200th St. Middletown, IL 62666
Distance from Solar Farm (Ft.)	1,100	N/A
Sale Date	July 21, 2020	October 4, 2021
Sale Price	$140,000	$138,500
Sale Price/Sq. Ft. (A.G.)	$65.18	$44.68
Year Built	1900	1969
Building Size (Sq. Ft.)	2,148	3,100
Lot Size (Acres)	1.00	1.46
Style	Two-story; frame (vinyl) 3 bedrooms, 2 bath	One-story; frame (stucco/metal/brick) 4 bedrooms, 3 bath
Basement	Partial, unfinished	N/A
Utilities	Central air Forced-air heat Well & septic	Central air, solar cooling Radiant, forced-air heat Well & septic
Other	2-car detached garage 1-car detached garage Carport Deck, 3-season porch	2-car attached garage Porch, patio

869 County Road 1300 N

615 1200th Street

Both properties have similar lot sizes, are similar in location, and have similar building styles. The 869 County Road 1300 N property is superior to the 615 1200th Street property in basement and outbuildings, yet the 615 1200th Street property has slightly superior market conditions, vintage, building size, and utilities to the 869 County Road 1300 N property.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B	615 1200th St. Middletown, IL 62666	-	-	-	o	o	o	+	-	+

+ Positive adjustment based on comparable being inferior in comparison to property #1A
- Negative adjustment based on comparable being superior in comparison to property #1A
o No adjustment necessary

Upward adjustments are made to the 615 1200th Street property for superior basement and outbuildings of the 869 County Road 1300 N property. Downward adjustments are made for the superior market condition, vintage, building size, and utilities of the 615 1200th Street property compared to those features of the 869 County Road 1300 N property. The two properties are essentially similar lot sizes, are located in a similar area, and have similar building styles. Although the 615 1200th Street property gives the impression of being superior, the per square foot sale price for the 869 County Road 1300 N property appears to be higher than the per square foot sale of the 615 1200th Street property, therefore does not support a finding that there is a negative impact on value resulting from the proximity of the 869 County Road 1300 N property to a solar farm.

Illinois Analysis - LaSalle County Matched Pair No. 1

LaSalle County, Illinois, is located in the northeast region of Illinois. Matched Pair #1 considers the sale of a property in the footprint of the Grand Ridge Solar Farm in LaSalle County, which has been operational since 2012 and generates approximately 20 megawatts of power. A house located at 2098 North 15th Road, Streator, Illinois, sold in October 2016. This house is approximately 485 feet from the nearest photovoltaic panel.

This sale is compared with a similar property located at 1794 East 1391st Road, Streator, Illinois, that sold in October 2010. It is not located near photovoltaic panels. The salient details of these two properties are summarized in the table below.

The following aerial map illustrates the relationship of the 2098 North 15th Road property to the closest photovoltaic panels.

LaSALLE COUNTY MATCHED PAIR NO. 1		
	1A - Proximate to a Photovoltaic Panel	**1B - Not Proximate to a Photovoltaic Panel**
Address	2098 N. 15th Rd. Streator, IL 61364	1794 E. 1391st Rd. Streator, IL 61365
Distance from P.V. Panel (Ft.)	485	N/A
Sale Date	October 31, 2016	October 21, 2010
Sale Price	$186,000	$151,000
Sale Price/Sq. Ft. (A.G.)	$79.90	$85.31
Year Built	1997	1994
Building Size (Sq. Ft.)	2,328	1,770
Lot Size (Acres)	2.00	0.76
Style	One-story; frame (vinyl) 3 bedrooms, 4 bath	One-story; frame (vinyl/metal/brick) 3 bedrooms, 2.5 bath
Basement	Full, unfinished, walkout	Crawlspace
Utilities	Central air forced-air heat well & septic	Central air propane, forced-air heat well & septic
Other	3-car attached garage three-season room corner lot	2-car attached garage above-ground pool deck

2098 North 15th Road

1794 East 1391st Road

Both the 15th Road property and the 1391st Road property are one-story ranch style houses however, the 15th Road property is superior to the 1391st Road property because it has a full, walkout basement. In the case of the outbuildings, the 15th Road property is superior with a three-car attached garage and a three-season room compared to the 1391st Road property with a two-car attached garage and an above-ground pool. The superiority of the 15th Road outbuildings requires an upward adjustment to the 1391st Road property. Both properties are considered to be of similar vintage, and both are considered to be in normal condition by the LaSalle County Assessor. An upward adjustment of 1391st Road is required for the superior market conditions of the 15th Road property. The 15th Road property is situated on a larger lot than that of the 1391st Road property requiring an upward adjustment; however, both lots are surrounded by agricultural and pastureland, which mitigates the size differential to some degree.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B	1794 E. 1391st Road Streator, Illinois	+	o	+	+	o	o	+	o	+
+	Positive adjustment based on comparable being inferior in comparison to property #1A									
-	Negative adjustment based on comparable being superior in comparison to property #1A									
o	No adjustment necessary									

Considering the adjustments noted in the above table for the inferior market conditions and outbuildings of the 1391st Road property, the difference in the sale price does not support the conclusion that proximity to the photovoltaic panels had a negative impact on the value of the 15th Road property.

Illinois Analysis - Perry County Matched Pair No. 1

Perry County, Illinois, is located in the southwest region of Illinois. Matched Pair #1 considers the sale of a property near the footprint of the Prairie State Solar Farm in Perry County, which has been operational since 2021 and generates approximately 99 megawatts of power. A house located at 955 Violet Road, Coulterville, Illinois, was sold in June 2020. This house is approximately 2,530 feet from the nearest photovoltaic panel of the Prairie State Solar Farm, and the existence of the project footprint was known at the time of the sale.

This sale is compared with a similar property located at 4632 Swanwick-Rice Road, Pinckneyville, Illinois, that was sold in July 2020. It is not located near photovoltaic panels. The salient details of these two properties are summarized in the table below.

The following aerial map illustrates the relationship of the 955 Violet Road property to the closest photovoltaic panels.

PERRY COUNTY MATCHED PAIR NO. 1		
	1A - Proximate to a Photovoltaic Panel	**1B - Not Proximate to a Photovoltaic Panel**
Address	955 Violet Rd. Coulterville, IL 62237	4632 Swanwick-Rice Rd. Pinckneyville, IL 62274
Distance from P.V. Panel (Ft.)	2,530	N/A
Sale Date	June 30, 2020	July 24, 2020
Sale Price	$240,000	$230,000
Sale Price/Sq. Ft. (A.G.)	$84.54	$59.90
Year Built	1980	2004
Building Size (Sq. Ft.)	2,839	3,840
Lot Size (Acres)	2.01	7.00
Style	1.5-story; frame (vinyl) 4 bedrooms, 2.1 bath	One-story; frame (vinyl) 4 bedrooms, 2.2 bath
Basement	N/A	Full, partially finished, walkout
Utilities	Central air Forced-air heat Public water & septic	Central air Forced-air heat Well & septic
Other	4-car attached garage Machine shed, shed In-ground pool, pool house Patio, porch	2-car detached garage Machine shed Pond frontage, above-ground pool Porch, deck, patio

955 Violet Road

4632 Swanwick-Rice Road

Both properties were sold in similar market conditions, similar in location, similar building styles, and have similar utilities. The 4632 Swanwick-Rice Road property is superior to the 955 Violet Road property in vintage, in building size, lot size, and basement, yet the 955 Violet Road property has slightly superior outbuildings to the 4632 Swanwick-Rice Road property.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B	4632 Swanwick-Rice Rd. Pinckneyville, IL 62274	o	-	-	-	o	o	-	o	+
+	Positive adjustment based on comparable being inferior in comparison to property #1A									
-	Negative adjustment based on comparable being superior in comparison to property #1A									
o	No adjustment necessary									

Upward adjustments are made to the 4632 Swanwick-Rice Road property for superior outbuildings of the 955 Violet Road property. Downward adjustments are made for the superior vintage, building size, lot size, and basement of the 4632 Swanwick-Rice Road property compared to those features of the 955 Violet Road property. The two properties are essentially similar in market conditions, location, building style, and utilities. Although the 4632 Swanwick-Rice Road property gives the impression of being superior, the per square foot sale price for the 955 Violet Road property appears to be higher than the per square foot sale of the 4632 Swanwick-Rice Road property, therefore does not support a finding that there is a negative impact on value resulting from the proximity of the 955 Violet Road property to a photovoltaic panel.

Matched Pair Analysis- Iowa, Wisconsin, Indiana, Michigan, Minnesota, and Arizona

In addition to analyzing sales in the subject project area, we have researched sales in proximity to several existing solar farms in rural areas of Wisconsin, Iowa, Indiana, Michigan, Minnesota, and Arizona in order to discover whether residential property values in these areas were impacted by their locations. The following are the results of the most recent of these studies.

As with the research from Illinois, details of these sales are retained in our office files; maps in the addenda to this report illustrate the location of these matched pairs. Unless otherwise indicated, none of the purchasers in these transactions appear to own any other property in proximity, and none of the transactions appear to have a solar panel lease associated with the property.

Wisconsin Analysis - Iowa County Matched Pair No. 1

Matched Pair #1 considers the sale of a property near the footprint of Badger Hollow Solar in Iowa County, which has been operational since 2021 and generates approximately 300 megawatts of power. A house located at 2450 County Road G, Montfort, was sold in June 2021. This house is approximately 270 feet from the nearest photovoltaic panel.

This sale is compared to two prior sales of the property, that were sold in June 2018 and April 2010. The property was not located near photovoltaic panels at the time of either sales. The salient details of these three sales of the property are summarized in the table below.

The following aerial map illustrates the relationship of the 2450 County Road G property to the closest photovoltaic panels.

IOWA COUNTY MATCHED PAIR NO. 1			
	1A - Proximate to a Photovoltaic Panel	**1B – Prior Sale**	**1C – Prior Sale**
Address	2450 County Road G Montfort, WI 53569	2450 County Road G Montfort, WI 53569	2450 County Road G Montfort, WI 53569
Distance from P.V. Panel (Ft.)	270	N/A	N/A
Sale Date	June 11, 2021	June 6, 2018	April 8, 2010
Sale Price	$493,000	$400,000	$255,000
Sale Price/Sq. Ft. (A.G.)	$152.35	$123.61	$78.80
Year Built	1962	1962	1962
Building Size (Sq. Ft.)	3,236	3,236	3,236
Lot Size (Acres)	52.25	52.25	52.25
Style	One-story; frame (vinyl) 3 bedrooms, 2.1 bath	One-story; frame (vinyl) 3 bedrooms, 2.1 bath	One-story; frame (vinyl) 3 bedrooms, 2.1 bath
Basement	Partial, partially finished, walkout	Partial, partially finished, walkout	Partial, partially finished, walkout
Utilities	Forced-air heat Propane heat Well and Septic	Forced-air heat Propane heat Well and Septic	Forced-air heat Propane heat Well and Septic
Other	2-Car Attached Garage Barns, Machine Shed, Silo Riverfront and Horse Pasture	2-Car Attached Garage Barns, Machine Shed, Silo Riverfront and Horse Pasture	2-Car Attached Garage Barns, Machine Shed, Silo Riverfront and Horse Pasture

2450 County Road G

The property is similar throughout each sale year in vintage, building size, lot size, location, building style, basement, utilities, and outbuildings. The 2021 sale was performed in superior market conditions to the 2018 and 2010 sales.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B/1C	2450 County Road G Montfort, WI 53569	+	o	o	o	o	o	o	o	o
+	Positive adjustment based on comparable being inferior in comparison to property #1A									
-	Negative adjustment based on comparable being superior in comparison to property #1A									
o	No adjustment necessary									

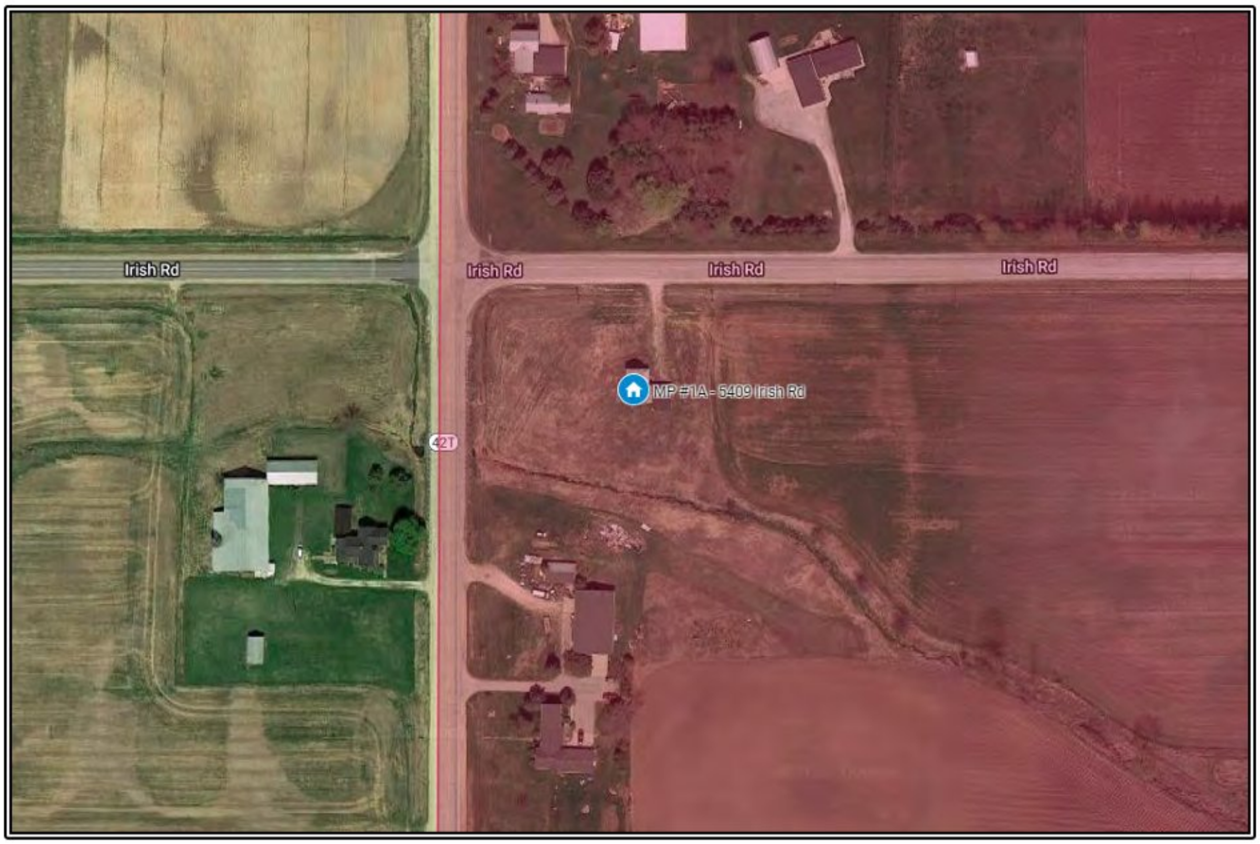
Upward adjustments are made to the 2018 and 2010 sales of the 2450 County Road G property for the slightly superior market conditions of the 2021 sale of the 2450 County Road G property. The three sales of the property have essentially the same sale date, building size, lot size, location, building style, basement, utilities, and outbuildings. The 2021 sale of the 2450 County Road G property gives the impression of being only slightly superior to the 2018 and 2010 sales of the 2450 County Road G property, however, the per square foot sale price for the 2021 sale of the 2450 County Road G property appears to be significantly higher than the per square foot sale price of the 2018 and 2010 sales of the 2450 County Road G property, therefore does not support a finding that there is a negative impact on value resulting from the proximity of the 2450 County Road G property to a photovoltaic panel.

Wisconsin Analysis - Manitowoc County Matched Pair No. 1

Matched Pair #1 considers the sale of a property within the footprint of Two Creeks Solar in Manitowoc County, which has been operational since 2020 and generates approximately 150 megawatts of power. A house located at 5409 Irish Road, Mishicot, sold in January 2021. This house is approximately 575 feet from the nearest photovoltaic panel.

This property is compared with a similar property located at 311 Cherokee Court, Mishicot, that was sold in July 2019, which is not located proximate to any photovoltaic panels. The salient details of these two properties are summarized in the following table.

The following aerial map illustrates the relationship of the 5409 Irish Road property to the closest photovoltaic panels.



MANITOWOC COUNTY MATCHED PAIR NO. 1		
	1A - Proximate to a Photovoltaic Panel	**1B - Not Proximate to a Photovoltaic Panel**
Address	5409 Irish Rd. Mishicot, WI 54228	311 Cherokee Ct. Mishicot, WI 54228
Distance from P.V. Panel (Ft.)	575	N/A
Sale Date	January 29, 2021	July 8, 2019
Sale Price	$220,000	$210,000
Sale Price/Sq. Ft. (A.G.)	$110.00	$80.58
Year Built	1900	1999
Building Size (Sq. Ft.)	2,000	2,606
Lot Size (Acres)	1.30	0.34
Style	Two-story; frame (vinyl) 3 bedrooms, 2 bath	Two-story; frame (vinyl) 3 bedrooms, 3.1 bath
Basement	Full	Full, finished
Utilities	Central air Forced-air heat Well and Septic	Well and Septic
Other	4-car detached garage Porch, deck, and creek/stream Recently renovated	2-car attached garage Porch and Patio

5409 Irish Road

311 Cherokee Court

Both properties are similar in building size, similar in location, and have similar basements. The 311 Cherokee Court property is superior to the 5409 Irish Road property in vintage, and building style, yet the 5409 Irish Road property was sold in slightly superior market conditions, has a superior lot size, has central air making utilities superior, and superior outbuildings to the 311 Cherokee Court property.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B	311 Cherokee Ct. Mishicot, WI 54228	+	-	-	+	o	-	o	+	+
+	Positive adjustment based on comparable being inferior in comparison to property #1A									
-	Negative adjustment based on comparable being superior in comparison to property #1A									
o	No adjustment necessary									

Upward adjustments are made to the 311 Cherokee Court property for superior market conditions, lot size, utilities, and outbuildings of the 5409 Irish Road property. Downward adjustments are made for the superior vintage, building size, and building style of the 311 Cherokee Court property compared to those features of the 5409 Irish Road property. The two properties are essentially similar in location, and basement. Although the two properties give the impression of being similar, the per square foot sale price for the 5409 Irish Road property appears to be higher than the per square foot sale of the 311 Cherokee Court property, therefore does not support a finding that there is a negative impact on value resulting from the proximity of the 5409 Irish Road property to a photovoltaic panel.

Wisconsin Analysis - Manitowoc County Matched Pair No. 2

Matched Pair #2 considers the sale of a property within the footprint of Two Creeks Solar in Manitowoc County, which has been operational since 2020 and generates approximately 150 megawatts of power. A house located at 11916 Meyer Road, Two Rivers, was sold in July 2020. This house is approximately 325 feet from the nearest photovoltaic panel.

This property is compared with a similar property located at 311 Cherokee Court, Mishicot, that was sold in July 2019, which is not located proximate to any photovoltaic panels. The salient details of these two properties are summarized in the following table.

The following aerial map illustrates the relationship of the 11916 Meyer Road property to the closest photovoltaic panels.

MANITOWOC COUNTY MATCHED PAIR NO. 2		
	2A - Proximate to a Photovoltaic Panel	**2B - Not Proximate to a Photovoltaic Panel**
Address	11916 Meyer Rd. Two Rivers, WI 54241	311 Cherokee Ct. Mishicot, WI 54228
Distance from P.V. Panel (Ft.)	325	N/A
Sale Date	July 28, 2020	July 8, 2019
Sale Price	$215,000	$210,000
Sale Price/Sq. Ft. (A.G.)	$97.73	$80.58
Year Built	2000	1999
Building Size (Sq. Ft.)	2,200	2,606
Lot Size (Acres)	9.00	0.34
Style	Two-story; frame (vinyl) 4 bedrooms, 2 bath	Two-story; frame (vinyl) 3 bedrooms, 3.1 bath
Basement	Full, unfinished	Full, finished
Utilities	Forced-air heat Propane/Butane heat Well and Septic	Well and Septic
Other	Machine Shed Deck and Patio	2-car attached garage Porch and Patio

11916 Meyer Road

311 Cherokee Court

Both properties are of similar vintage, similar in location, have similar building style, and have similar outbuildings. The 311 Cherokee Court property is superior to the 11916 Meyer Road property in market conditions, superior in building size, and has a superior basement, yet the 11916 Meyer Road property has a superior lot size and superior utilities to the 311 Cherokee Court property.

ADJUSTMENT GRID MATCHED PAIR NO. 2

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
2B	311 Cherokee Ct. Mishicot, WI 54228	-	o	-	+	o	o	-	+	o
+	Positive adjustment based on comparable being inferior in comparison to property #2A									
-	Negative adjustment based on comparable being superior in comparison to property #2A									
o	No adjustment necessary									

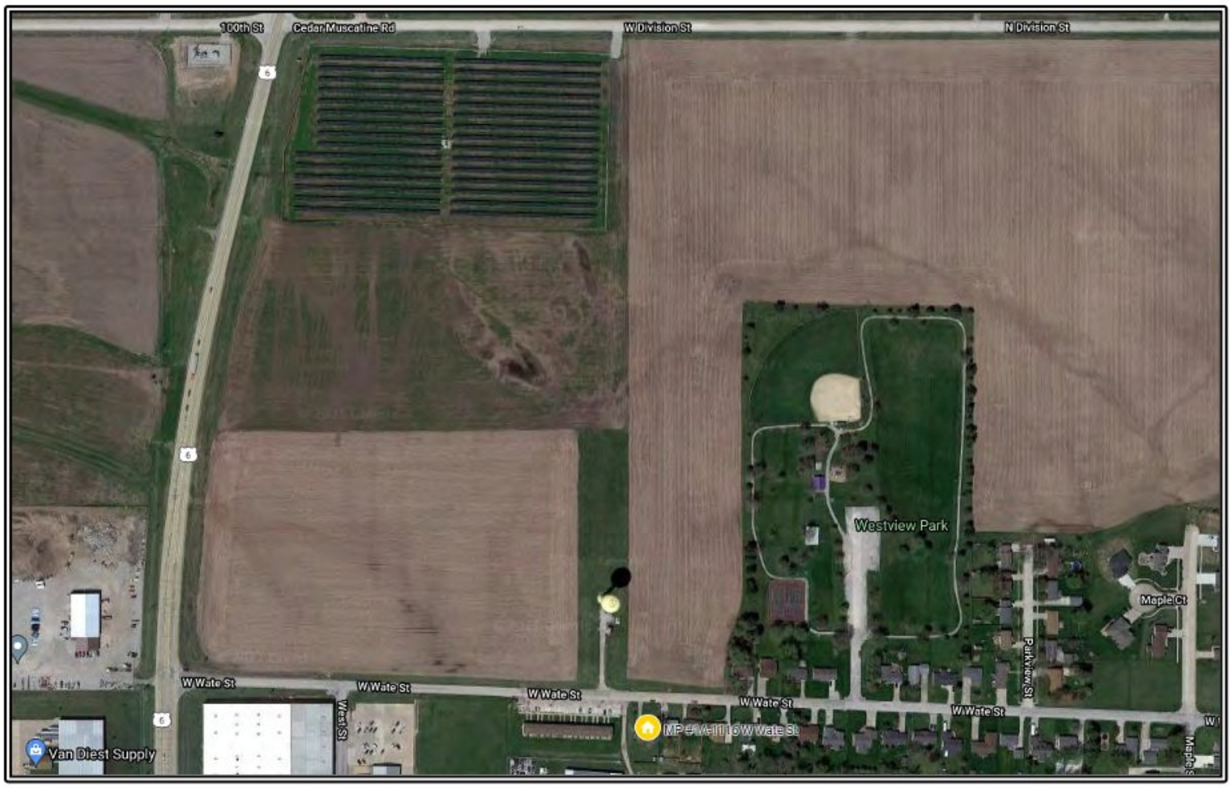
Upward adjustments are made to the 311 Cherokee Court property for the superior lot size and utilities of the 11916 Meyer Road property. Downward adjustments are made for the superior market conditions, building size, and basement of the 11916 Meyer Road property compared to those features of the 311 Cherokee Court property. The two properties are essentially similar vintage, location, building style, and similar outbuildings. Although the two properties give the impression of being somewhat similar, the per square foot sale price for the 11916 Meyer Road property appears to be higher than the per square foot sale of the 311 Cherokee Court property, therefore does not support a finding that there is a negative impact on value resulting from the proximity of the 11916 Meyer Road property to a photovoltaic panel.

Iowa Analysis - Muscatine County Matched Pair No. 1

Matched Pair #1 considers the sale of a property near the footprint of Eastern Iowa Solar in Muscatine County, which has been operational since 2016 and generates approximately 1.8 megawatts of power. A house located at 1116 West Wate Street, Wilton, Iowa, sold in June 2020. This house is approximately 1,450 feet from the nearest photovoltaic panel.

This sale is compared with a similar property located at 1007 East Street, Wilton, Iowa, that sold in December 2020. It is not located near photovoltaic panels. The salient details of these two properties are summarized in the table below.

The following aerial map illustrates the relationship of the 1116 West Wate Street property to the closest photovoltaic panels.



MUSCATINE COUNTY MATCHED PAIR NO. 1		
	1A - Proximate to a Photovoltaic Panel	**1B - Not Proximate to a Photovoltaic Panel**
Address	1116 W Wate St. Wilton, IA 52778	1007 East St. Wilton, IA 52778
Distance from P.V. Panel (Ft.)	1,450	N/A
Sale Date	June 19, 2020	December 1, 2020
Sale Price	$170,000	$150,000
Sale Price/Sq. Ft. (A.G.)	$89.10	$80.39
Year Built	1982	1971
Building Size (Sq. Ft.)	1,908	1,866
Lot Size (Acres)	0.24	0.19
Style	One-story; frame (vinyl) 3 bedrooms, 1.1 bath	One-story; frame (vinyl) 3 bedrooms, 2.1 bath
Basement	Full, finished	Full, finished
Utilities	Central air Forced-air heat Public sewer & water	Central air Electric heat Public sewer & water
Other	2-car detached garage Porch and patio	1-car attached garage Patio

1116 West Wate Street

1007 East Street

Both properties are similar in market conditions, building size, lot size, location, building style basements, and utilities. The 1116 West Wate Street property has slightly superior outbuildings to the 1007 East Street property. The 1007 East Street property has slightly superior vintage to the 1116 West Wate Street property.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B	1007 East St. Wilton, IA 52778	o	–	o	o	o	o	o	o	+
+	Positive adjustment based on comparable being inferior in comparison to property #1A									
-	Negative adjustment based on comparable being superior in comparison to property #1A									
o	No adjustment necessary									

Upward adjustments are made to the 1007 East Street property for the slightly superior outbuildings of the 1116 West Wate Street property. Downward adjustments are made for the superior vintage of the 1007 East Street property compared to those features of the 1116 West Wate Street property. The two properties have essentially the same sale date, building size, lot size, location, building style, basements, and utilities. The 1116 West Wate Street property gives the impression of being only slightly superior to the 1007 East Street property, however, the per square foot sale price for the 1116 West Wate Street property appears to be significantly higher than the per square foot sale of the 1007 East Street property, therefore does not support a finding that there is a negative impact on value resulting from the proximity of the 1116 West Wate Street property to a photovoltaic panel.

Iowa Analysis - Dubuque County Matched Pair No. 1

Matched Pair #1 considers the sale of a property near the footprint of West Dubuque Solar in Dubuque County, which has been operational since 2017 and generates approximately 3.8 megawatts of power. A house located at 16032 Humke Road, Dubuque, Iowa, was sold in October 2020. This house is approximately 1,900 feet from the nearest photovoltaic panel.

This sale is compared with a similar property located at 16575 Asbury Road, Dubuque, Iowa, that sold in September 2018. It is not located near photovoltaic panels. The salient details of these two properties are summarized in the table below.

The following aerial map illustrates the relationship of the 16032 Humke Road property to the closest photovoltaic panels.

DUBUQUE COUNTY MATCHED PAIR NO. 1		
	1A - Proximate to a Photovoltaic Panel	**1B - Not Proximate to a Photovoltaic Panel**
Address	16032 Humke Rd. Dubuque, IA 52002	16575 Asbury Rd. Dubuque, IA 52002
Distance from P.V. Panel (Ft.)	1,900	N/A
Sale Date	September 15, 2020	September 6, 2018
Sale Price	$352,000	$354,000
Sale Price/Sq. Ft. (A.G.)	$89.98	$105.67
Year Built	2002	2006
Building Size (Sq. Ft.)	3,912	3,350
Lot Size (Acres)	1.33	1.02
Style	One-story; frame (brick) 4 bedrooms, 3 bath	One-story; frame (brick, vaulted ceilings) 4 bedrooms, 3.1 bath
Basement	Full, finished	Full, finished, walkout
Utilities	Central air Forced-air heat Public sewer & water	Central air Forced-air heat Public sewer & water
Other	3-car detached garage Deck and patio	3-car attached garage 2-car attached garage Patio, porch Wet bar, theater

16032 Humke Road

16575 Asbury Road

Both properties are similar in building size, lot size, location, and utilities. The 16032 Humke Road property has superior market conditions outbuildings to the 16575 Asbury Road property. The 16575 Asbury Road property has superior vintage, building style, basement, and outbuildings to the 16032 Humke Road property.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B	16575 Asbury Rd. Dubuque, IA 52002	+	–	o	o	o	–	–	o	–
+	Positive adjustment based on comparable being inferior in comparison to property #1A									
-	Negative adjustment based on comparable being superior in comparison to property #1A									
o	No adjustment necessary									

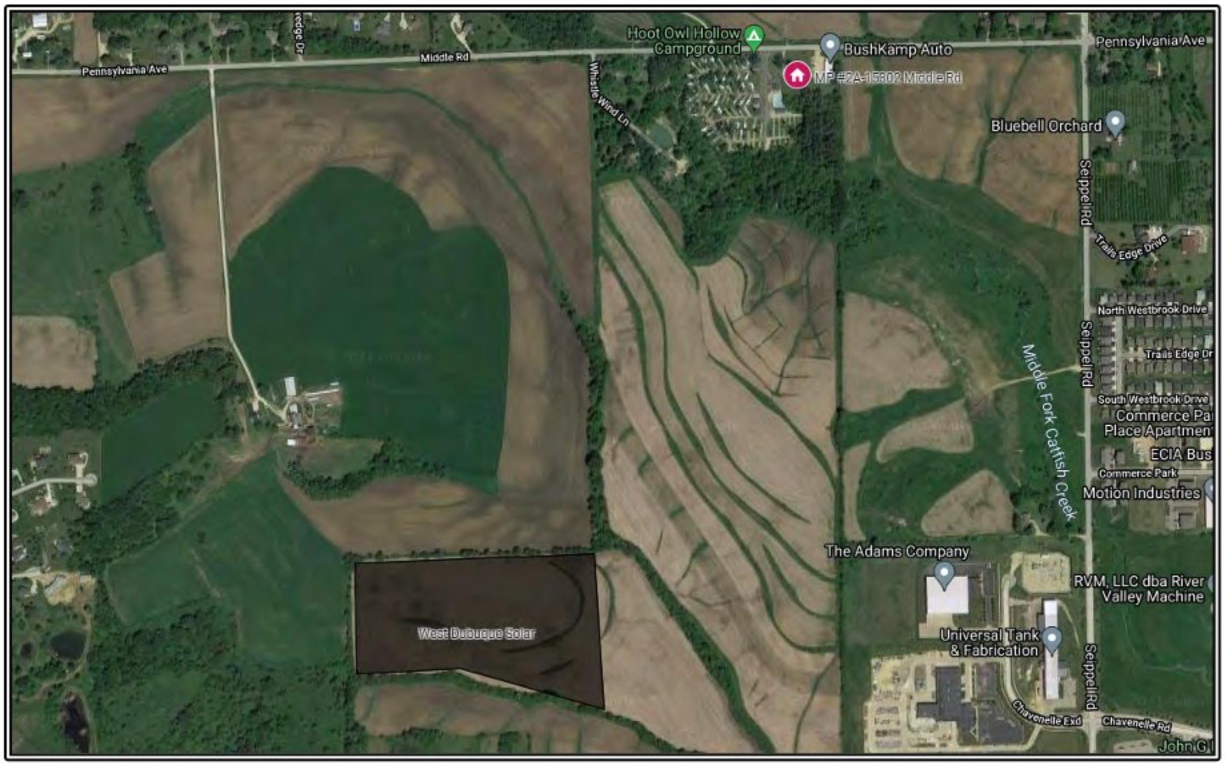
Upward adjustments are made to the 16575 Asbury Road property for the superior sale date of the 16032 Humke Road property. Downward adjustments are made for the superior vintage, building style, basement, and outbuildings of the 16575 Asbury Road property compared to those features of the 16032 Humke Road property. The two properties have essentially the same, building size, lot size, location, and utilities. The 16575 Asbury Road property gives the impression of being superior to the 16032 Humke Road property, therefore, the per square foot sale price for the 16575 Asbury Road property appears to be significantly higher than the per square foot sale of the 16032 Humke Road property, the result is that the adjusted sale does not support a finding that there is a negative impact on value resulting from the proximity of the 16032 Humke Road property to a photovoltaic panel.

Iowa Analysis - Dubuque County Matched Pair No. 2

Matched Pair #2 considers the sale of a property near the footprint of West Dubuque Solar in Dubuque County, which has been operational since 2017 and generates approximately 3.8 megawatts of power. A house located at 15302 Middle Road, Dubuque, Iowa, sold in June 2019. This house is approximately 2,750 feet from the nearest photovoltaic panel.

This sale is compared with a similar property located at 6066 Seven Springs Drive, Asbury, Iowa, that sold in December 2018. It is not located near photovoltaic panels. The salient details of these two properties are summarized in the table below.

The following aerial map illustrates the relationship of the 15302 Middle Road property to the closest photovoltaic panels.



DUBUQUE COUNTY MATCHED PAIR NO. 2		
	2A - Proximate to a Photovoltaic Panel	**2B - Not Proximate to a Photovoltaic Panel**
Address	15302 Middle Rd. Dubuque, IA 52002	6066 Seven Springs Dr. Asbury, IA 52002
Distance from P.V. Panel (Ft.)	2,750	N/A
Sale Date	June 6, 2019	December 1, 2018
Sale Price	$225,000	$228,000
Sale Price/Sq. Ft. (A.G.)	$121.75	$105.67
Year Built	1985	2018
Building Size (Sq. Ft.)	1,848	1,443
Lot Size (Acres)	0.84	1.02
Style	One-story; frame (vinyl) 3 bedrooms, 2 bath	One-story; frame (stone/vinyl, vaulted ceilings, new build) 4 bedrooms, 3.1 bath
Basement	Full, finished	Full, finished
Utilities	Central air Forced-air heat Public sewer & water	Central air Forced-air heat Public sewer & water
Other	2-car attached garage Deck	4-car attached garage Patio

15302 Middle Road

6066 Seven Springs Drive

Both properties are similar in building size, lot size, location, basements, and utilities. The 15302 Middle Road property has superior market conditions outbuildings to the 6066 Seven Springs Drive property. The 6066 Seven Springs Drive property has superior vintage, building style, and outbuildings to the 15302 Middle Road property.

ADJUSTMENT GRID MATCHED PAIR NO. 2

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
2B	6066 Seven Springs Dr. Asbury, IA 52002	+	–	o	o	o	–	o	o	–
+	Positive adjustment based on comparable being inferior in comparison to property #2A									
-	Negative adjustment based on comparable being superior in comparison to property #2A									
o	No adjustment necessary									

Upward adjustments are made to the 6066 Seven Springs Drive property for the superior sale date of the 15302 Middle Road property. Downward adjustments are made for the superior vintage, building style, and outbuildings of the 6066 Seven Springs Drive property compared to those features of the 15302 Middle Road property. The two properties have essentially the same, building size, lot size, location, basements, and utilities. The 6066 Seven Springs Drive property gives the impression of being superior to the 15302 Middle Road property, however, the per square foot sale price for the 15302 Middle Road property appears to be significantly higher than the per square foot sale of the 6066 Seven Springs Drive property, therefore does not support a finding that there is a negative impact on value resulting from the proximity of the 15302 Middle Road property to a photovoltaic panel.

Indiana Analysis - Madison County Matched Pair No. 1

IMPA Frankton Solar Park is located in Madison County in Frankton, Indiana. The solar farm was installed in 2014 and generates approximately 1 megawatt of power. A property located at 711 South Lafayette Street, Frankton, Indiana, sold in June 2018, for $112,725. The nearest photovoltaic panel is approximately 425 feet to the west of this property.

This property is compared with a similar property located at 1006 Madison Street, Frankton, Indiana, that was sold in November 2016, which is not located proximate to any photovoltaic panels. The salient details of these two properties are summarized in the following table.

The following aerial map illustrates the relationship of the 711 South Lafayette Street property to the closest photovoltaic panels.

MADISON COUNTY MATCHED PAIR NO. 1		
	1A - Proximate to a Photovoltaic Panel	**1B - Not Proximate to a Photovoltaic Panel**
Address	711 S. Lafayette St. Frankton, IN 46044	1006 Madison St. Frankton, IN 46044
Distance from P.V. Panel (Ft.)	425	N/A
Sale Date	June 1, 2018	November 15, 2016
Sale Price	$112,725	$74,900
Sale Price/Sq. Ft. (A.G.)	$77.42	$53.12
Year Built	1992	1960
Building Size (Sq. Ft.)	1,456	1,410
Lot Size (Acres)	1.30	0.15
Style	One-story manufactured (vinyl) 3 bedrooms, 2.1 bath	One-story; frame (vinyl) 3 bedrooms, 1.1 bath
Basement	Crawlspace	Crawlspace
Utilities	Central electric air electric forced-air heat public sewer & water connections	Central air other heat well & septic
Other	2-car attached garage porch and patio	1-car attached garage porch

711 South Lafayette Street

1006 Madison Street

Both properties are similar in building size, outbuildings, and both have crawlspace style basements. The 711 South Lafayette Street property is superior to the 1006 Madison Street property in vintage, lot size, utilities, and market conditions. The 1006 Madison Street property has a substantially superior building style to the 711 South Lafayette Street property, which is a manufactured residence.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B	1006 Madison St. Frankton, IN 46044	+	+	o	+	o	-	o	+	o
+	Positive adjustment based on comparable being inferior in comparison to property #1A									
-	Negative adjustment based on comparable being superior in comparison to property #1A									
o	No adjustment necessary									

Upward adjustments are made to the 1006 Madison Street property for the superior sale date, vintage, lot size, and utilities of the 711 South Lafayette Street property. Downward adjustments are made for the superior building style of the 1006 Madison Street property compared to those features of the 711 South Lafayette Street property. The two properties have essentially the same building size, location, and similar basements. The 711 South Lafayette Street property gives the impression of being only slightly superior to the 1006 Madison Street property, however, the per square foot sale price for the 711 South Lafayette Street property appears to be significantly higher than the per square foot sale of the 1006 Madison Street property, therefore does not support a finding that there is a negative impact on value resulting from the proximity of the 711 South Lafayette Street property to a photovoltaic panel.

Indiana Analysis - Madison County Matched Pair No. 2

IMPA Frankton Solar Park is located in Madison County in Frankton, Indiana. The solar farm was installed in 2014 and generates approximately 1 megawatt of power. A property located at 713 South Lafayette Street, Frankton, Indiana, sold in October 2016, for $131,000. The nearest photovoltaic panel is approximately 415 feet to the west of this property.

This property is compared with a similar property located at 201 North Park Street, Frankton, Indiana, that sold in February 2018, which is not located proximate to any photovoltaic panels. The salient details of these two properties are summarized in the following table.

The following aerial map illustrates the relationship of the 713 South Lafayette Street property to the closest photovoltaic panels.

MADISON COUNTY MATCHED PAIR NO. 2		
	2A - Proximate to a Photovoltaic Panel	**2B - Not Proximate to a Photovoltaic Panel**
Address	713 S. Lafayette St. Frankton, IN 46044	201 N. Park St. Frankton, IN 46044
Distance from P.V. Panel (Ft.)	415	N/A
Sale Date	October 27, 2016	February 27, 2018
Sale Price	$131,000	$85,000
Sale Price/Sq. Ft. (A.G.)	$52.51	$40.48
Year Built	2003	1960
Building Size (Sq. Ft.)	2,495	2,100
Lot Size (Acres)	3.03	0.15
Style	One-story; manufactured (vinyl) 4 bedrooms, 2 bath	One-story; frame (vinyl) 4 bedrooms, 2 bath
Basement	Crawlspace	Crawlspace
Utilities	Central air forced-air heat public sewer & water connections	Central air other heat well & septic
Other	Pole Barn	N/A

713 South Lafayette Street

201 North Park Street

Both properties are similar in building size, location, utilities, and both have raised foundation crawlspace style basements. The 713 South Lafayette Street property is superior to the 201 North Park Street property in vintage, lot size, and outbuildings. The 201 North Park Street property is superior in market conditions and has a substantially superior building style to the 713 South Lafayette Street property, which is a manufactured residence.

ADJUSTMENT GRID MATCHED PAIR NO. 2

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
2B	201 N. Park St. Frankton, IN 46044	-	+	o	+	o	-	o	o	+
+	Positive adjustment based on comparable being inferior in comparison to property #2A									
-	Negative adjustment based on comparable being superior in comparison to property #2A									
o	No adjustment necessary									

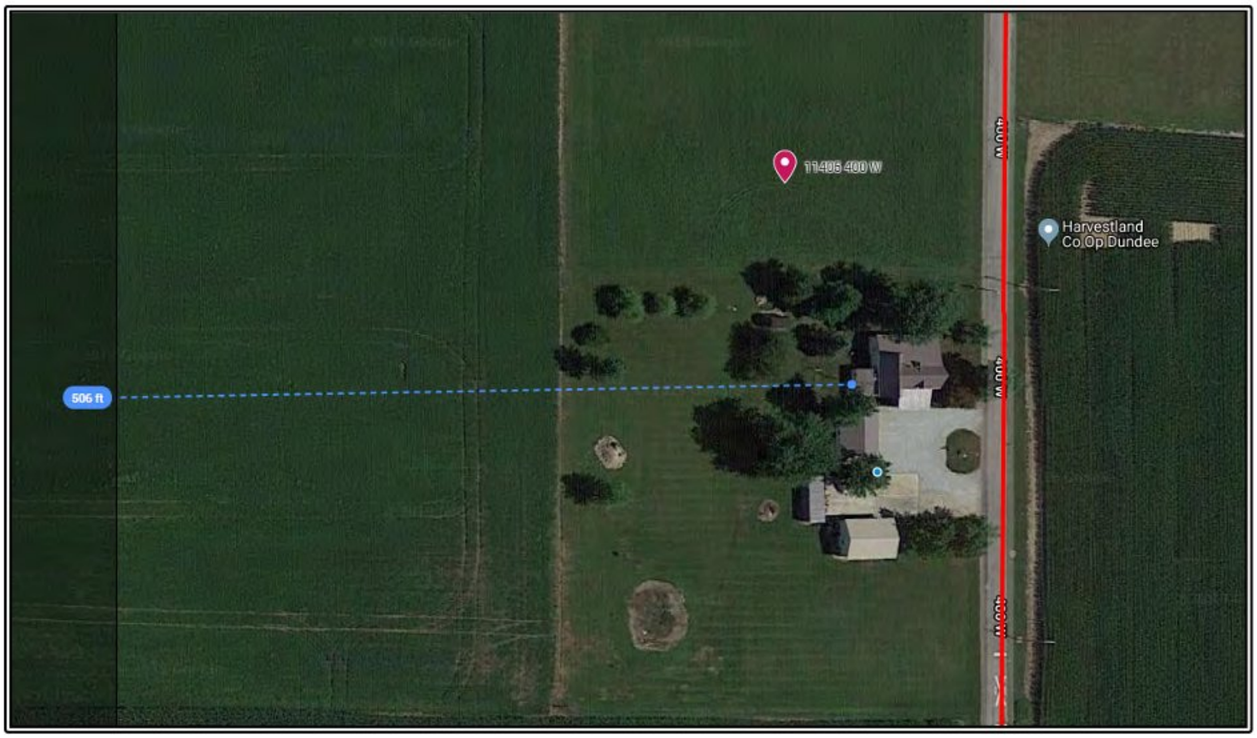
Upward adjustments are made to the 201 North Park Street property for the superior vintage, lot size, and outbuildings of the 713 South Lafayette Street property. Downward adjustments are made for the superior market conditions and building style of the 201 North Park Street property compared to those features of the 713 South Lafayette Street property. The two properties have essentially the same building size, location, utilities, and basements. The 713 South Lafayette Street property gives the impression of being only slightly superior to the 201 North Park Street property, however, the per square foot sale price for the 713 South Lafayette Street property appears to be significantly higher than the per square foot sale of the 201 North Park Street property, therefore does not support a finding that there is a negative impact on value resulting from the proximity of the 713 South Lafayette Street property to a photovoltaic panel.

Indiana Analysis - Madison County Matched Pair No. 3

Lone Oak Solar is located in Madison County in Alexandria, Indiana. The solar farm is currently under development and will generate approximately 120 megawatts of power. A property located at 11405 North 400 West, Alexandria, Indiana, sold in February 2019, for $199,000. The property sits within the footprint of the solar project; however, the nearest photovoltaic panel is approximately 500 feet to the west of this property.

This property is compared with a similar property located at 4950 East 700 North, Alexandria, Indiana, that sold in February 2019, which is not located proximate to any photovoltaic panels. The salient details of these two properties are summarized in the following table.

The following aerial map illustrates the relationship of the 11405 North 400 West property to the closest photovoltaic panels.



MADISON COUNTY MATCHED PAIR NO. 3		
	3A - Proximate to a Photovoltaic Panel	**3B - Not Proximate to a Photovoltaic Panel**
Address	11405 N 400 W Alexandria, IN 46001	4950 E 700 N Alexandria, IN 46001
Distance from P.V. Panel (Ft.)	500	N/A
Sale Date	February 12, 2019	February 15, 2019
Sale Price	$199,000	$180,000
Sale Price/Sq. Ft. (A.G.)	$92.17	$60.89
Year Built	1915	1972
Building Size (Sq. Ft.)	2,159	2,956
Lot Size (Acres)	5.15	4.00
Style	1.5-story; frame (vinyl) 4 bedrooms, 2 bath	One-story; frame (brick) 3 bedrooms, 2 bath
Basement	Crawlspace	Crawlspace
Utilities	Central air baseboard heat well & septic	Central air forced-air heat well & septic
Other	2-car attached garage pole barn, utility shed porch	2-car attached garage utility shed, patio above ground pool

11405 North 400 West

4950 East 700 North

Both properties have similar sale dates, lot size, location, basements, and outbuildings. The 11405 North 400 West property is superior to the 4950 East 700 North property in building style. The 4950 East 700 North is superior in vintage, building size, and utilities to the 11405 North 400 West property.

ADJUSTMENT GRID MATCHED PAIR NO. 3

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
3B	4950 E 700 N Alexandria, IN 46001	o	-	-	o	o	+	o	-	o
+	Positive adjustment based on comparable being inferior in comparison to property #3A									
-	Negative adjustment based on comparable being superior in comparison to property #3A									
o	No adjustment necessary									

An Upward adjustment is made to the 4950 East 700 North property for the superior style of the 11405 North 400 West property. Downward adjustments are made for the superior vintage, building size, and utilities of the 4950 East 700 North property compared to those features of the 11405 North 400 West property. The two properties have essentially the same sale date, lot size, location, basements, and outbuildings. The 4950 East 700 North property gives the impression of being superior to the 11405 North 400 West property, however, the per square foot sale price for the 11405 North 400 West property appears to be significantly higher than the per square foot sale of the 4950 East 700 North property, therefore does not support a finding that there is a negative impact on value resulting from the proximity of the 11405 North 400 West property to the development of a solar farm.

Indiana Analysis - Grant County Matched Pair No. 1

Deer Creek P.V. is located in Grant County in Marion, Indiana. The solar farm was installed in 2016 and generates approximately 2.5 megawatts of power. A property located at 1211 East 49th Street, Marion, Indiana, sold in March 2017, for $77,000. The nearest photovoltaic panel is approximately 415 feet to the west of this property.

This property is compared with a similar property located at 5510 South Lincoln Boulevard, Marion, Indiana, that was sold in May 2017, which is not located proximate to any photovoltaic panels. The salient details of these two properties are summarized in the following table.

The following aerial map illustrates the relationship of the 1211 East 49th Street property to the closest photovoltaic panels.

GRANT COUNTY MATCHED PAIR NO. 1		
	1A - Proximate to a Photovoltaic Panel	**1B - Not Proximate to a Photovoltaic Panel**
Address	1211 E. 49th St. Marion, IN 46953	5510 S. Lincoln Blvd. Marion, IN 46953
Distance from P.V. Panel (Ft.)	915	N/A
Sale Date	March 24, 2017	May 31, 2017
Sale Price	$77,000	$70,000
Sale Price/Sq. Ft. (A.G.)	$52.88	$52.63
Year Built	1973	1931
Building Size (Sq. Ft.)	1,456	1,330
Lot Size (Acres)	0.47	4.79
Style	One-story; frame (brick) 3 bedrooms, 2 bath	Two-story; frame (wood) 3 bedrooms, 2 bath
Basement	Full, unfinished	Full, unfinished
Utilities	Central air heat pump well & septic	Central air forced-air heat well & septic
Other	2-car attached garage	3-car detached garage wrap around porch

1211 East 49th Street

5510 South Lincoln Boulevard

Both properties are similar in market conditions, building size, location, utilities, and basements. The 1211 East 49th Street property is superior to the 5510 South Lincoln Boulevard property in vintage, lot size, and outbuildings. The 5510 South Lincoln Boulevard property is superior in market conditions, building style, lot size, and outbuildings to the 1211 East 49th Street property.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
2B	5510 S. Lincoln Blvd. Marion, IN 46953	o	+	o	-	o	-	o	o	-
+	Positive adjustment based on comparable being inferior in comparison to property #1A									
-	Negative adjustment based on comparable being superior in comparison to property #1A									
o	No adjustment necessary									

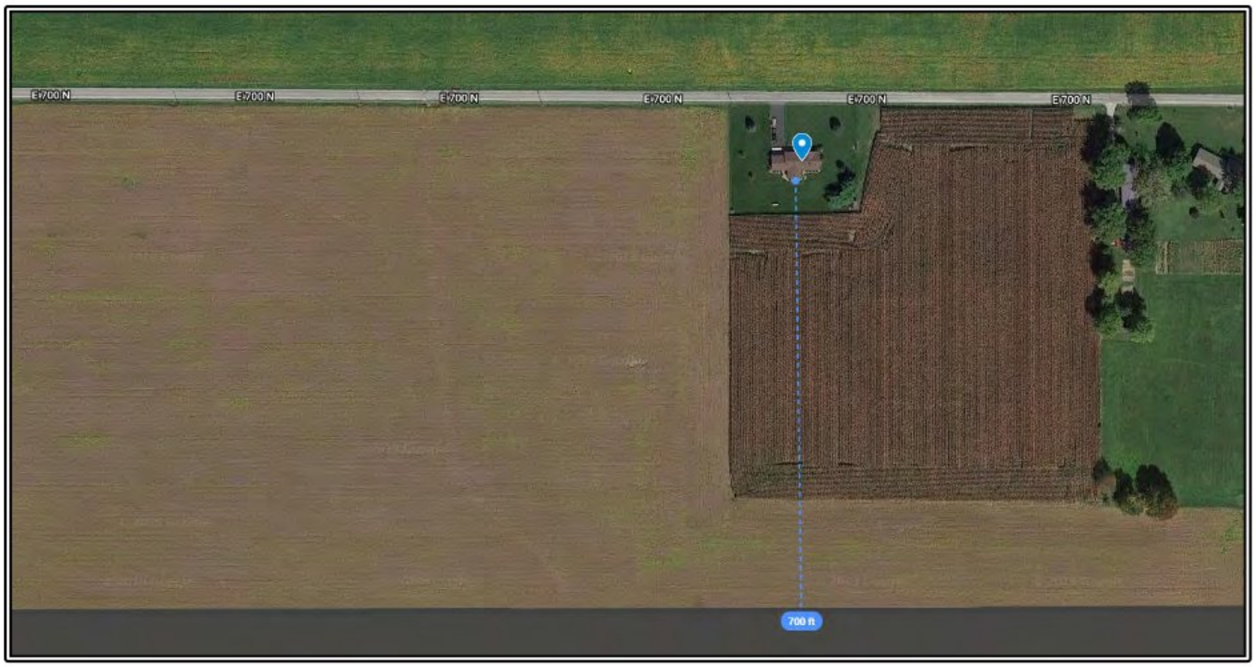
Upward adjustments are made to the 5510 South Lincoln Boulevard property for the superior market conditions of the 1211 East 49th Street property. Downward adjustments are made for the superior lot size, building style, and outbuildings of the 5510 South Lincoln Boulevard property compared to those features of the 1211 East 49th Street property. The two properties have essentially the same market conditions, building size, location, utilities, and basements. Although the 5510 South Lincoln Boulevard property gives the impression of being superior, the per square foot sale price for the two properties appears to be similar, therefore does not support a finding that there is a negative impact on value resulting from the proximity of the 1211 East 49th Street property to a photovoltaic panel.

Indiana Analysis - Shelby County Matched Pair No. 1

Speedway Solar is located in Shelby County adjacent to Shelbyville, Indiana. The solar farm is currently under development and will generate approximately 199 megawatts of power. A property located at 7351 East 700 North, Morristown, Indiana, sold in February 2019, for $246,000. The nearest future photovoltaic panel will be approximately 700 feet to the south of this property.

This property is compared with a similar property located at 7179 East 550 South, Morristown, Indiana, that was sold in May 2017, which is not located proximate to any photovoltaic panels. The salient details of these two properties are summarized in the following table.

The following aerial map illustrates the relationship of the 7351 East 700 North property to the solar farm under development.



SHELBY COUNTY MATCHED PAIR NO. 1		
	1A - Proximate to a Future Photovoltaic Panel	**1B - Not Proximate to a Photovoltaic Panel**
Address	7351 E 700 N Morristown, IN 46161	7179 E 550 S Morristown, IN 46161
Distance from P.V. Panel (Ft.)	700	N/A
Sale Date	February 28, 2019	May 16, 2017
Sale Price	$246,000	$265,000
Sale Price/Sq. Ft. (A.G.)	$131.48	$120.24
Year Built	1992	2005
Building Size (Sq. Ft.)	1,871	2,204
Lot Size (Acres)	9.25	4.87
Style	One-story; frame (vinyl) 3 bedrooms, 2 bath	One-story; frame (brick) 3 bedrooms, 2 bath
Basement	Crawlspace	Crawlspace
Utilities	Central air forced-air heat well & septic	Central air forced-air heat well & septic
Other	2-car attached garage	1-car attached garage porch covered deck

7351 East 700 North

7179 East 550 South

Both properties are similar in building style outbuildings, crawlspace style basements, utilities, and outbuildings. The 7351 East 700 North property is superior to the 7179 East 550 South property in lot size and market conditions. The 7179 East 550 South property is of superior vintage and building size to the 711 South Lafayette Street property.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B	7179 E 550 S Morristown, IN 46161	+	-	-	+	o	o	o	o	o
+	Positive adjustment based on comparable being inferior in comparison to property #1A									
-	Negative adjustment based on comparable being superior in comparison to property #1A									
o	No adjustment necessary									

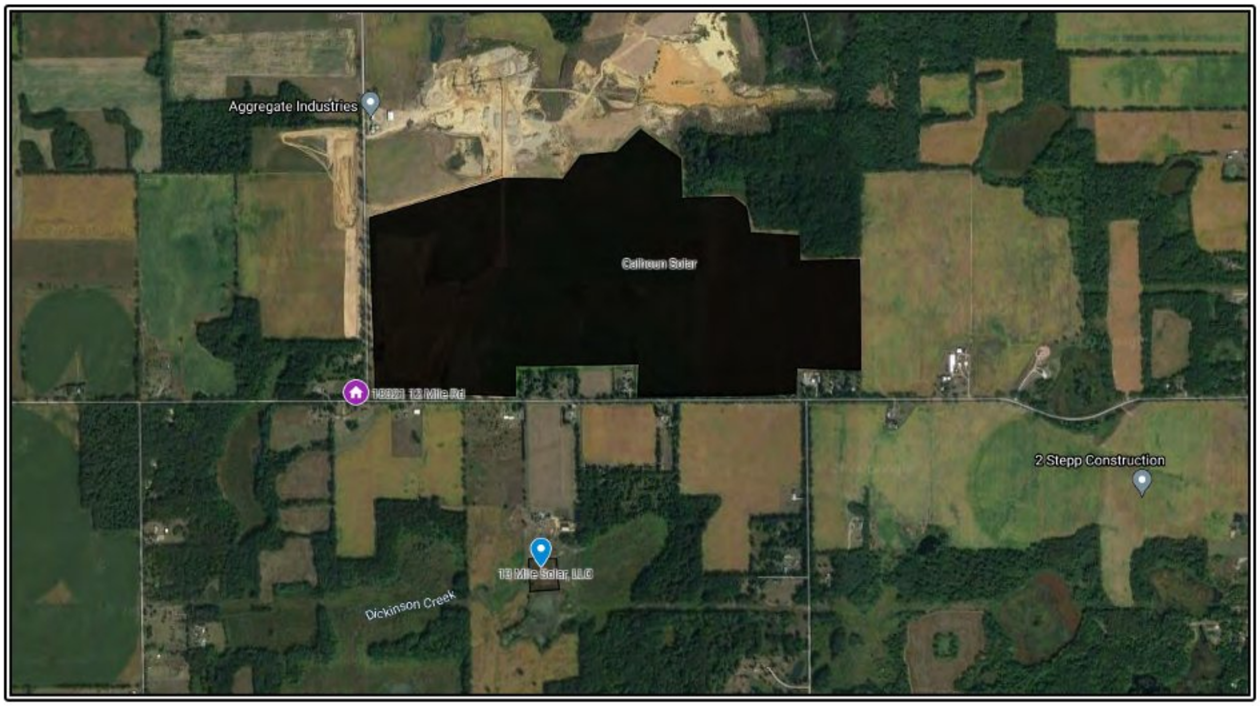
Upward adjustments are made to the 7179 East 550 South property for the superior sale date and lot size of the 7351 East 700 North property. Downward adjustments are made for the superior vintage and building size of the 7179 East 550 South property compared to those features of the 7351 East 700 North property. The two properties have essentially the same location, building style, basements, utilities, and outbuildings. The two properties give the impression of being overall similar, however, the per square foot sale price for the 7351 East 700 North property appears to be higher than the per square foot sale of the 7179 East 550 South property, therefore does not support a finding that there is a negative impact on value resulting from the proximity of the 7351 East 700 North property to the development of a solar farm.

Michigan Analysis – Calhoun County Matched Pair No. 1

A property located at 18021 12 Mile Road, Battle Creek, Michigan, sold in August 2021, for $225,000. The property sits between the operating 13 Mile Solar, LLC, and the under-construction Calhoun Solar. 13 Mile Solar, LLC was installed in 2020, generates approximately 2 megawatts of power and is located in Calhoun County. Calhoun Solar was announced to the public in 2019, is to be operational in 2022, will generate approximately 200 megawatts of power and is located in Calhoun County. The nearest photovoltaic panel is sited at approximately 185 feet to the east of this property.

This sale is compared with the sale of the same property that sold in January 2014 for $108,400 and is not located proximate to any photovoltaic panels. The salient details of these two sales are summarized in the following table.

The following aerial map illustrates the relationship of the 18021 12 Mile Road property to the closest photovoltaic panels.



CALHOUN COUNTY MATCHED PAIR NO. 1		
	1A - Proximate to a Photovoltaic Panel	**1B - Not Proximate to a Photovoltaic Panel**
Address	18021 12 Mile Rd. Battle Creek, MI 49014	18021 12 Mile Rd. Battle Creek, MI 49014
Distance from P.V. Panel (Ft.)	185	N/A
Sale Date	August 24, 2021	January 21, 2014
Sale Price	$225,000	$108,400
Sale Price/Sq. Ft. (A.G.)	$144.60	$69.67
Year Built	1901	1901
Building Size (Sq. Ft.)	1,556	1,556
Lot Size (Acres)	1.37	1.37
Style	Two-story; frame (vinyl) 3 bedrooms, 2 bath	Two-story; frame (vinyl) 3 bedrooms, 2 bath
Basement	N/A	N/A
Utilities	Well and Septic	Well and Septic
Other	Machine Shed Shed Porch	Machine Shed Shed Porch

18021 12 Mile Road

Both sales consider the same house in every physical aspect. The 2021 sale is slightly superior to the 2014 sale in market conditions.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B	18021 12 Mile Rd. Battle Creek, MI 49014	-	o	o	o	o	o	o	o	o
+	Positive adjustment based on comparable being inferior in comparison to property #1A									
-	Negative adjustment based on comparable being superior in comparison to property #1A									
o	No adjustment necessary									

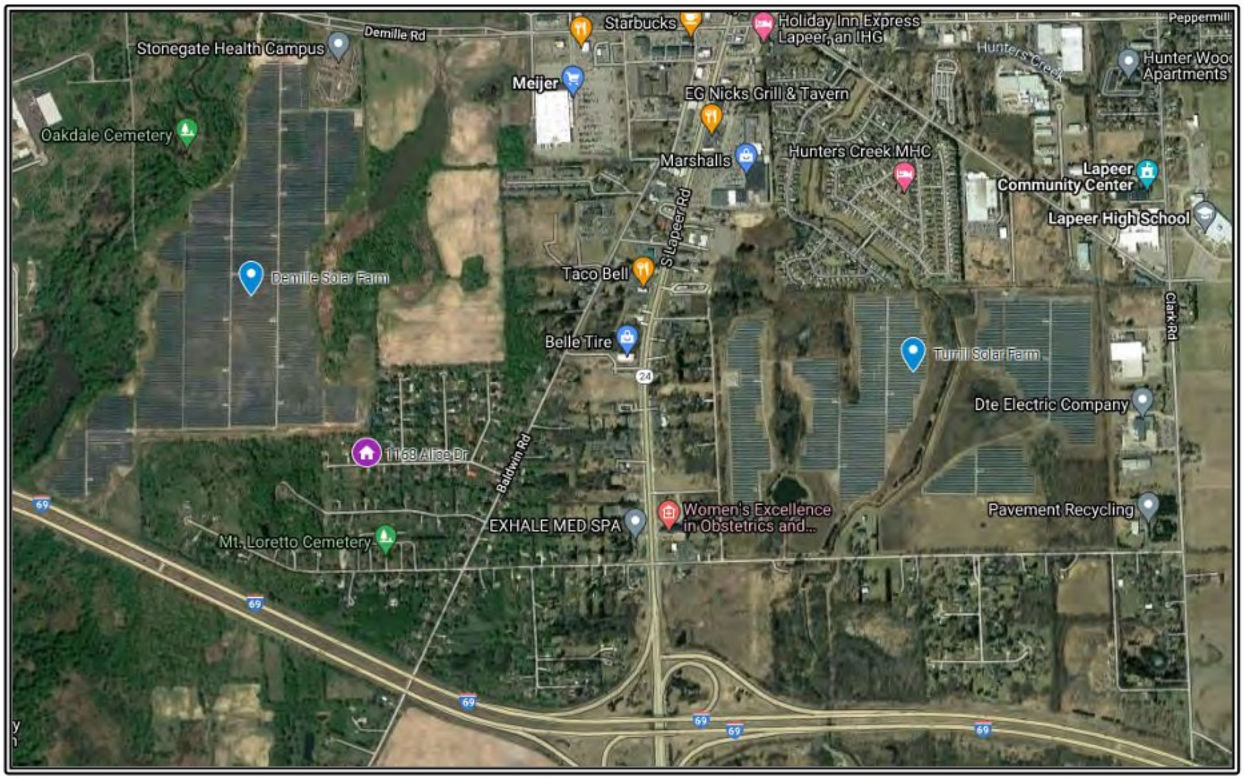
Downward adjustments are made for the superior market conditions of the 2021 sale of the 18021 12 Mile Road property compared to those features of the 2014 sale. The two properties have a similar vintage, the same building size, lot size, location, building style, basements, utilities, and outbuildings. Therefore, although the property was identical at the time of both sales except for the two solar farms in the area, the per square foot sale price for the 2021 sale appears to be significantly higher than the per square foot sale of the 2014 sale, therefore does not support a finding that there is a negative impact on value resulting from the proximity of the 18021 12 Mile Road property to a photovoltaic panel.

Michigan Analysis – Lapeer County Matched Pair No. 1

A property located at 1168 Alice Drive, Lapeer, Michigan, sold in October 2019, for $176,000. The property sits between the Demille Solar Farm, and the Turrill Solar Farm. The Demille Solar Farm came online in 2017, generates approximately 28.4 megawatts of power and is located in Lapeer County. The Turrill Solar Farm came online in 2017, generates approximately 19.6 megawatts of power and is located in Lapeer County. The nearest photovoltaic panel is approximately 275 feet to the west of this property.

This sale is compared with two sales of the same property. The first sold in December 2017 for $144,000 and is approximately 275 feet from the nearest panel. The second sold in August 2008 for $116,875 and is not located proximate to any photovoltaic panels. The salient details of these three sales are summarized in the following table.

The following aerial map illustrates the relationship of the 1168 Alice Drive property to the closest photovoltaic panels.



LAPEER COUNTY MATCHED PAIR NO. 1			
	1A - Proximate to a Photovoltaic Panel	**1B - Proximate to a Photovoltaic Panel**	**1C - Not Proximate to a Photovoltaic Panel**
Address	1168 Alice Dr. Lapeer, MI 48446	1168 Alice Dr. Lapeer, MI 48446	1168 Alice Dr. Lapeer, MI 48446
Distance from P.V. Panel (Ft.)	275	275	275
Sale Date	October 9, 2021	December 19, 2017	January 21, 2014
Sale Price	$176,000	$144,000	$116,875
Sale Price/Sq. Ft. (A.G.)	$144.60	$86.12	$69.90
Year Built	1975	1975	1975
Building Size (Sq. Ft.)	1,672	1,672	1,672
Lot Size (Acres)	0.46	0.46	0.46
Style	Two-story; frame (vinyl/brick) 3 bedrooms, 1.1 bath	Two-story; frame (vinyl/brick) 3 bedrooms, 1.1 bath	Two-story; frame (vinyl/brick) 3 bedrooms, 1.1 bath
Basement	Full, unfinished	Full, unfinished	Full, unfinished
Utilities	Central air Forced-air heat Well and Septic	Central air Forced-air heat Well and Septic	Central air Forced-air heat Well and Septic
Other	Attached Garage Deck, Porch Remodeled in 2018	Attached Garage Deck, Porch	Attached Garage Deck, Porch

1168 Alice Drive

All three sales consider the house similar in every physical aspect. The 2019 sale is slightly superior to the 2017 and 2008 sales in market conditions.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B/1C	1168 Alice Dr. Lapeer, MI 48446	-	o	o	o	o	o	o	o	o
+	Positive adjustment based on comparable being inferior in comparison to property #1A									
-	Negative adjustment based on comparable being superior in comparison to property #1A									
o	No adjustment necessary									

Downward adjustments are made for the superior market conditions of the 2019 sale of the 1168 Alice Drive property compared to that of the 2017 and 2008 sales. The three sales have a similar vintage, the same building size, lot size, location, building style, basements, utilities, and outbuildings. Therefore, although the property was similar at the time of each sales except for the two solar farms in the area, the per square foot sale price for the 2019 sale appears to be significantly higher than the per square foot sale of both, the 2017 and 2008, sales, therefore does not support a finding that there is a negative impact on value resulting from the proximity of the 1168 Alice Drive property to a photovoltaic panel.

Minnesota Analysis - Wabasha County Matched Pair No. 1

Wabasha County is located in the southeast region of Minnesota. The county has one solar farm, the Wabasha Holdco Solar Farm.

Matched Pair No.1 considers the sale of a property in the footprint of the Wabasha Holdco Solar Farm in Wabasha County, which has been operational since 2017 and generates approximately 3 megawatts of power. A house located at 943 Freedom Avenue, Wabasha, Minnesota, was sold in August 2017. This house is approximately 634 feet from the nearest photovoltaic panel.

This property is compared with a similar property located at 108 Skyline Drive, Wabasha, Minnesota, that was sold in June 2015, which is not located proximate to any photovoltaic panels. The salient details of these two properties are summarized in the table below.

The following aerial map illustrates the relationship of the 943 Freedom Avenue property to the closest photovoltaic panels.

WABASHA COUNTY MATCHED PAIR NO. 1		
	1A - Proximate to a Photovoltaic Panel	**1B - Not Proximate to a Photovoltaic Panel**
Address	943 Freedom Ave. Wabasha, MN 55981	108 Skyline Dr. Wabasha, MN 55981
Distance from P.V. Panel (Ft.)	634	N/A
Sale Date	August 28, 2017	June 8, 2015
Sale Price	$193,000	$185,000
Sale Price/Sq. Ft. (A.G.)	$71.48	$80.43
Year Built	2008	1992
Building Size (Sq. Ft.)	2,700	2,300
Lot Size (Acres)	0.16	0.78
Style	One-story; frame (vinyl) 4 bedrooms, 3 bath	Two-story; frame (metal) 3 bedrooms, 3 bath
Basement	Full, finished	Full, finished
Utilities	Central air/fresh-air exchange forced-air heat public water & sewer	Central air forced-air heat public water & sewer
Other	2-car attached garage Porch	2-car attached garage deck and patio

943 Freedom Avenue

108 Skyline Drive

Both properties have similar basements and similar amenities. The 943 Freedom Avenue property is superior to the 108 Skyline Drive property in vintage, building size, utilities, and was sold during a superior market condition. The Skyline house offsets this by having a superior building style and a larger lot.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B	108 Skyline Drive Wabasha, Minnesota	+	+	+	-	o	-	o	+	o

+ Positive adjustment based on comparable being inferior in comparison to property #1A
- Negative adjustment based on comparable being superior in comparison to property #1A
o No adjustment necessary

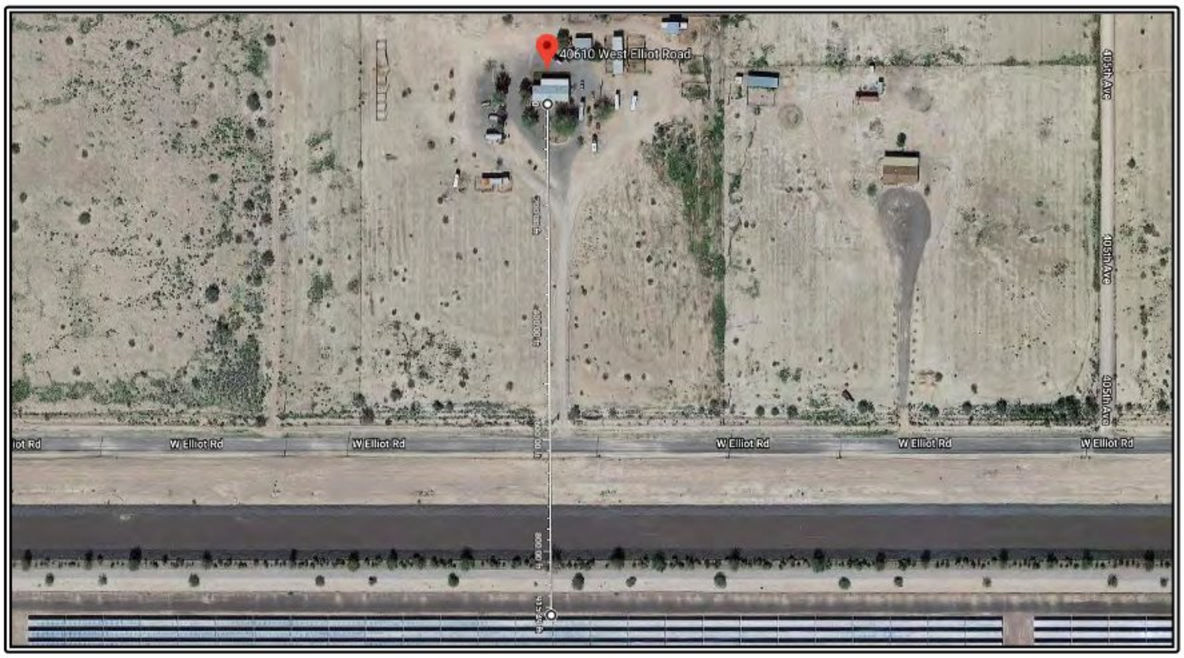
Upward adjustments are made to the 108 Skyline Drive property for the superior market conditions, vintage, building, and utilities of the 943 Freedom Avenue property. Downward adjustments were made for the superior lot size and building style of the 108 Skyline Drive property compared to the 943 Freedom Avenue property. The two properties have essentially the same location, basement, and outbuildings. Therefore, the comparison of the two properties the 943 Freedom Avenue property appears to support the conclusion that there is not any viable impact in value resulting from the proximity of the 943 Freedom Avenue property to a photovoltaic panel.

Arizona Analysis - Matched Pair No. 1

Mesquite Solar 3, LLC, a subset of the overall Mesquite Solar Project, is located in Arlington, Arizona. The solar farm was installed in December 2016 and generates approximately 154 megawatts of power. A property located at 40610 West Elliot Road, Tonopah, Arizona, sold in October 2018 for $300,000. The nearest solar panel is approximately 915 feet to the south of this property. The residence appears to have a direct view of the solar panels at the time of the sale without any obstruction from buildings, landscape, or natural screening.

This property is compared with a similar property located at 4621 South 357th Avenue, Tonopah, Arizona, that sold in March 2019 for $278,000, and is not located proximate to any solar panels. The salient details of these two properties are summarized in the following table.

The following aerial map illustrates the relationship of the 40610 West Elliot Road property to the closest solar panels.



ARIZONA MATCHED PAIR NO. 1		
	1A - Proximate to a Solar Panel	**1B - Not Proximate to a Solar Panel**
Address	40610 W. Elliot Rd. Tonopah, AZ 85354	4621 S. 357th Ave. Tonopah, AZ 85354
Distance from P.V. Panel (Ft.)	915	N/A
Sale Date	October 30, 2018	March 15, 2019
Sale Price	$300,000	$278,000
Sale Price/Sq. Ft. (A.G.)	$151.21	$148.82
Year Built	1996	2007
Building Size (Sq. Ft.)	1,984	1,868
Lot Size (Acres)	19.95	5.27
Style	One-story; manufactured (steel) 3 bedrooms, 2 bath	One-story; frame (stucco) 4 bedrooms, 2 bath
Basement	N/A	N/A
Utilities	Refrigeration cooling Electric heat Well & septic	Refrigeration cooling Electric heat Well & septic
Other	Patio Porch	2-car attached garage Patio

40610 West Elliot Road

4621 South 357th Avenue

The house at 40610 West Elliot Road, is located approximately 915 feet away from the nearest solar panel, in a rural area. Both houses are of similar building size, are located in a similar rural location with paved roads, have similar basements, and have similar utilities. The 40610 West Elliot Road property has a superior lot size. The 4621 South 357th Avenue property was sold in superior market conditions, is of a superior vintage, is superior in building style, and has superior outbuildings.

ADJUSTMENT GRID - ARIZONA MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B	4621 S. 357th Ave. Tonopah, AZ 85354	-	-	o	+	o	-	o	o	-
+	Positive adjustment based on comparable being inferior in comparison to property #1A									
-	Negative adjustment based on comparable being superior in comparison to property #1A									
o	No adjustment necessary									

Upward adjustments are made to the 4621 South 357th Avenue property for the superior lot size of the 40610 West Elliot Road property. Downward adjustments are made for the superior market conditions, vintage, style, and outbuildings of the 4621 South 357th Avenue property compared to those features of the 40610 West Elliot Road property. The two properties have essentially the same building size, location, basement, and utilities. Therefore, although the 4621 South 357th Avenue property gives the impression of being superior in many categories, the per square foot sale price for the 40610 West Elliot Road property appears to be higher than the per square foot sale price of the 4621 South 357th Avenue property, thus does not support a finding that there is a negative impact on value resulting from the proximity of the 40610 West Elliot Road property to a solar panel.

Arizona Analysis - Matched Pair No. 2

Mesquite Solar 3, LLC, a subset of the overall Mesquite Solar Project, is located in Arlington, Arizona. The solar farm was installed in December 2016 and generates approximately 154 megawatts of power. A property located at 40512 West Elliot Road, Tonopah, Arizona, sold in March 2019 for $192,000. The property was previously sold in January 2012 for $198,000. The nearest solar panel is approximately 775 feet to the south of this property. The residence appears to have a direct view of the solar panels at the time of the sale without any obstruction from buildings, landscape, or natural screening.

This property is compared with a similar property located at 1309 South 393rd Avenue, Tonopah, Arizona, that sold in April 2019 for $215,000, and is not located proximate to any solar panels. The salient details of these two properties are summarized in the following table.

The following aerial map illustrates the relationship of the 40512 West Elliot Road property to the closest solar panels.

ARIZONA MATCHED PAIR NO. 2			
	2A - Proximate to a Solar Panel	**2A - Prior Sale**	**2B - Not Proximate to a Solar Panel**
Address	40512 W. Elliot Rd. Tonopah, AZ 85354	40512 W. Elliot Rd. Tonopah, AZ 85354	1309 S. 393rd Ave. Tonopah, AZ 85354
Distance from P.V. Panel (Ft.)	775	N/A	N/A
Sale Date	March 8, 2019	January 31, 2012	April 23, 2019
Sale Price	$192,000	198,000	$215,000
Sale Price/Sq. Ft. (A.G.)	$122.45	$126.28	$126.47
Year Built	1999	1999	2001
Building Size (Sq. Ft.)	1,568	1,568	1,700
Lot Size (Acres)	5.00	5.00	4.00
Style	One-story; manufactured (steel) 3 bedrooms, 2 bath	One-story; manufactured (steel) 3 bedrooms, 2 bath	One-story; manufactured (steel) 4 bedrooms, 2 bath
Basement	N/A	N/A	N/A
Utilities	Refrigeration cooling Electric heat Well & septic	Refrigeration cooling Electric heat Well & septic	Refrigeration cooling Electric heat Well & septic
Other	Porch	Porch	Corral Tack room, barn, and stall Horse arena

40512 West Elliot Road

1309 South 393rd Avenue

The house at 40512 West Elliot Road, is located approximately 775 feet away from the nearest solar panel, in a rural area. Both houses sold during similar market conditions, are of similar vintage, have a similar lot size, are located in a similar rural location, have similar basements, and have similar utilities. The 1309 South 393rd Avenue property is of superior building size, has superior style, and has superior outbuildings.

ADJUSTMENT GRID - ARIZONA MATCHED PAIR NO. 2

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
2B	1309 S. 393rd Ave. Tonopah, AZ 85354	o	o	-	o	o	-	o	o	-

+ Positive adjustment based on comparable being inferior in comparison to property #2A
- Negative adjustment based on comparable being superior in comparison to property #2A
o No adjustment necessary

Downward adjustments are made for the superior building size, style, and outbuildings of the 1309 South 393rd Avenue property compared to those features of the 40512 West Elliot Road property. The two properties sold during essentially the same market conditions, and have similar vintage, lot size, location, basement, and utilities. Therefore, although the 1309 South 393rd Avenue property gives the impression of being superior in many categories, the per square foot sale price for the 40512 West Elliot Road property appears to have sold slightly lower than the per square foot sale price of the 1309 South 393rd Avenue property. An interview with the listing real estate broker stated that the adjacent solar farm was not a factor in the sale, therefore does not support a finding that there is a negative impact on value resulting from the proximity of the 40512 West Elliot Road property to a solar panel.

Matched Pair Analysis Conclusions

Studies in Illinois counties, as well as studies in similar market areas of other states, comparing the sale of properties proximate to photovoltaic panels to similar properties selling under similar market conditions without proximity to photovoltaic panels have not discovered any sales in which proximity to photovoltaic panels appears to have had a negative impact on property values. Therefore, the conclusion is that there does not appear to have been any measurable negative impact on surrounding residential property values due to the proximity of a solar farm.

Property Value Analysis Near Solar Energy in other States

In addition to analyzing recent single-family residential sales in the area of the Hickory Point Solar, other areas in Iowa, Illinois, Indiana, Minnesota, and Arizona, research has been conducted on improved residential sales in proximity to other separate solar projects in various states in order to discover whether residential property values in these areas were impacted by their location.

The solar projects being discussed start with the Badger Hollow Solar Farm in Iowa County, Wisconsin, which is proposed to have a total capacity of approximately 300 megawatts and was made known to the public in 2018. Phase one is planned to be completed and come online in 2021. Two Creeks Solar in Manitowoc County, Wisconsin which is proposed to have a total capacity of approximately 150 megawatts and came online in 2020. The North Star Solar Project in North Branch, Minnesota, which went online in 2017 with a capacity of 100 megawatts. Morgan's Corner Solar Farm in Elizabeth City, North Carolina, which went online in 2015 with a capacity of 20 megawatts. The AM Best Solar Farm in Goldsboro, North Carolina, which went online in 2013 with a capacity of 6.7 megawatts. The research performed around Goldsboro, North Carolina was based on the *Edgecombe Solar Impact Study* conducted by Richard C. Kirkland, Jr., MAI of Kirkland Appraisal, LLC. The recent single-family residential sales and the matched pairs that follow are recreations of Kirkland Appraisal, LLC's Matched Pair #1 with updated information provided by MaRous & Company. The following are the results of this research.[4]

[4] *As with the Illinois research, details of these sales are retained in my office files; maps in the addenda to this report illustrate the location of these matched pairs. Unless otherwise indicated, none of the purchasers in these transactions appear to own any other property in proximity, and none of the transactions appear to have a photovoltaic panel lease associated with the property.*

**RECENT SINGLE-FAMILY RESIDENTIAL SALES SUMMARY
IN THE AREA NEAREST TO THE PROPOSED BADGER HOLLOW SOLAR FARM
IN IOWA COUNTY, WISCONSIN**
ONLINE IN 2021

No.	Location	Sale Price	Sale Date	Proposed Distance from Solar Farm (Ft.)	Site Size (Acres)	Year Built	Building Size (Sq. Ft.)	Sale Price Per Sq. Ft. of Bldg. Area Incl. Land
1	891 County Road Ig Livingston, Wisconsin	$166,500	5/29/20	498	N/A	N/A	1,500	$111.00
2	2450 County Road G Montfort, Wisconsin	$400,000	6/5/18	544	53.60	2015	2,000	$200.00
3	514 Marilyn Drive Cobb, Wisconsin	$267,500	12/30/18	2,000	0.60	2015	2,258	$118.47
4	12227 Laplatte Road Montfort, Wisconsin	$260,000	10/1/19	10,000	2.00	2000	2,434	$106.82
5	11117 Hickory Grove Road Livingston, Wisconsin	$220,000	10/9/19	20,031	5.76	N/A	2,334	$94.26

The table above illustrates the relationship between proximity to a solar panel and the sale price per square foot of building area including land for the properties nearest to the proposed Badger Hollow Solar Farm. The price per square foot appears to become larger as the properties grow closer to the project border, although, accounting for an adjustment made for the lot size, outbuildings, and other property factors the 2450 County Road G property possesses, the price per square foot can be assumed to be only slightly lower than the price per square foot of the 514 Marilyn Drive property. Therefore, the properties nearest to the proposed Badger Hollow Solar Farm provide evidence of no negative impact.

**RECENT SINGLE-FAMILY RESIDENTIAL SALES SUMMARY
IN THE AREA NEAREST TO THE PROPOSED TWO CREEKS
SOLAR
IN MANITOWOC COUNTY, WISCONSIN**
ONLINE IN 2020

No.	Location	Sale Price	Sale Date	Proposed Distance from Solar Farm (Ft.)	Site Size (Acres)	Year Built	Building Size (Sq. Ft.)	Sale Price Per Sq. Ft. of Bldg. Area Incl. Land
1[A*]	6506 County Road V Two Rivers, Wisconsin	$145,000	4/30/19	370	5.00	2009	1,280	$113.28
1[B*]	6506 County Road V Two Rivers, Wisconsin	$33,000	6/9/17	Prior to Project Announcement	5.00	2009	1,280	$25.78
2	5409 Irish Road Mishicot, Wisconsin	$220,000	1/29/21	970	1.30	1900	2,000	$110.00
3	13504 Lakeshore Road Two Rivers, Wisconsin	$102,500	7/15/18	1,230	1.70	2007	1,821	$56.29
4	12395 Sandy Bay Road Two Rivers, Wisconsin	$179,900	7/22/19	2,090	2.75	1967	1,352	$133.06
5	5701 Two Creeks Road Two Rivers, Wisconsin	$99,400	9/10/17	12,000	1.21	N/A	1,440	$69.03

*Manufactured Home

The table above illustrates the relationship between proximity to a solar panel and the sale price per square foot of building area including land for the properties nearest to the proposed Two Creeks Solar. The prices per square foot appear to have no pattern in relation to their proximation to the project border. However, when comparing the most recent sale and the prior sale of the 6506 County Road V property, it appears that the only differing factor upon the sale was the announcement of the Two Creeks Solar project, and the sale price of the property substantially grew in value. Therefore, the properties nearest to the proposed Two Creeks Solar provide evidence of no negative impact.

RECENT SINGLE-FAMILY RESIDENTIAL SALES SUMMARY IN THE AREA NEAREST TO THE NORTH STAR SOLAR FARM IN NORTH BRANCH, MINNESOTA
ONLINE IN 2017

No.	Location	Sale Price	Sale Date	Distance from Solar Farm (Ft.)	Site Size (Acres)	Year Built	Building Size (Sq. Ft.)	Sale Price Per Sq. Ft. of Bldg. Area Incl. Land
1	10270 380th St. North Branch, Minnesota	$163,800	11/29/18	230	3.00	2004	2,200	$74.45
2	10009 375th St. North Branch, Minnesota	$260,000	7/12/19	200	5.05	1980	1,548	$167.96
3	37096 Little Oak Ln. North Branch, Minnesota	$289,000	4/17/17	230	2.07	2001	2,684	$107.68
4	37056 Little Oak Ln. North Branch, Minnesota	$208,000	7/8/13	280	2.40	2001	2,196	$94.72
5	10505 367th St. North Branch, Minnesota	$260,500	9/8/16	360	5.00	1999	1,930	$134.97
6	10132 367th St. North Branch, Minnesota	$415,000	12/23/20	320	9.31	2001	2,376	$174.66
7	11210 367th St. North Branch, Minnesota	$430,000	4/30/21	400	5.34	2004	3,756	$114.48
8	10655 367th St. North Branch, Minnesota	$304,900	10/1/18	290	5.00	1998	1,560	$195.45
9	37081 Little Oak Ln. North Branch, Minnesota	$310,000	5/24/17	540	2.71	2003	2,790	$111.11
10	36438 July Ave. North Branch, Minnesota	$225,000	10/1/15	910	10.00	1985	2,130	$105.63
11	37101 Kost Trl. North Branch, Minnesota	$154,900	11/23/16	2,350	8.95	1970	1,044	$148.37
12	10000 Saint Croix Trl. North Branch, Minnesota	$210,000	7/28/17	4,675	9.91	1988	1,272	$165.09
13	10467 Saint Croix Trl. North Branch, Minnesota	$250,000	1/2/18	5,544	5.55	1980	2,132	$117.26

Based on the data shown in the above improved sales table, and the location to photovoltaic panels at 230 feet to 5,544 feet, there does not appear to have been any measurable negative impact on surrounding property values due to the proximity of a solar farm. The sales furthest from the photovoltaic panels do show a higher price per square foot, however, these superior prices can be attributed significantly to the larger land sizes of the properties.

Before and After Sales Comparison Analysis – North Branch, Minnesota

Along with research of sales near the footprint, a study was performed on some homes that were purchased within the footprint during the development of the North Star project. These sales were not purchased at arm's length, or in a way that the buyers and sellers act independently and do not have any relationship or influence with each other, but then were subsequently sold at market value. What follows is an analysis of those second sales. The sales information for the non-arm's length transactions is maintained in our files.

NORTH STAR SOLAR FARM SALE COMPARISON NO. 1

	Proximate to a Photovoltaic Panel	Prior Sale
Address	10090 367th St. North Branch, MN 55056	10090 367th St. North Branch, MN 55056
Distance from P.V. Panel (Ft.)	165	N/A
Sale Date	March 22, 2018	May 14, 2010
Sale Price	$302,500	$219,900
Sale Price/Sq. Ft. (A.G.)	$108.42	$78.82
Year Built	2000	2000
Building Size (Sq. Ft.)	2,790	2,790
Lot Size (Acres)	10.00	10.00
Style	Two-story; frame (vinyl) 4 bedrooms, 3 bath	Two-story; frame (vinyl) 4 bedrooms, 3 bath
Basement	Full, finished	Full, finished
Utilities	Central air other heat well & septic	Central air other heat well & septic
Other	2.5-car attached garage patio renovated in 2008	2.5-car attached garage patio renovated in 2008

Based on the data shown in the above comparison sales table, and the location to photovoltaic panels at 165 feet to the proximate property, there does not appear to have been any measurable negative impact on property values due to the proximity of a solar farm.

NORTH STAR SOLAR FARM SALE COMPARISON NO. 2		
	Proximate to a Photovoltaic Panel	**Prior Sale**
Address	10095 367th St. North Branch, MN 55056	10095 367th St. North Branch, MN 55056
Distance from P.V. Panel (Ft.)	175	N/A
Sale Date	June 16, 2017	July 9, 2010
Sale Price	$336,667	$299,000
Sale Price/Sq. Ft. (A.G.)	$125.76	$111.69
Year Built	2002	2002
Building Size (Sq. Ft.)	2,677	2,677
Lot Size (Acres)	10.00	10.00
Style	Two-story; frame (vinyl) 4 bedrooms, 2.1 bath	Two-story; frame (vinyl) 4 bedrooms, 2.1 bath
Basement	Full, finished	Full, finished
Utilities	Central air other heat well & septic	Central air other heat well & septic
Other	2-car attached & 2-car detached garage deck, patio renovated in 2010	2-car attached & 2-car detached garage deck, patio renovated in 2010

Based on the data shown in the above comparison sales table, and the location to photovoltaic panels at 175 feet to the proximate property, there does not appear to have been any measurable negative impact on property values due to the proximity of a solar farm.

NORTH STAR SOLAR FARM SALE COMPARISON NO. 3		
	Proximate to a Photovoltaic Panel	**Prior Sale**
Address	37083 Keystone Ave. North Branch, MN 55056	37083 Keystone Ave. North Branch, MN 55056
Distance from P.V. Panel (Ft.)	300	N/A
Sale Date	August 28, 2017	August 8, 2000
Sale Price	$252,290	$100,000
Sale Price/Sq. Ft. (A.G.)	$151.07	$59.88
Year Built	1964	1964
Building Size (Sq. Ft.)	1,670	1,670
Lot Size (Acres)	6.00	6.00
Style	One-story; frame (wood) 3 bedrooms, 2.0 bath	One-story; frame (wood) 3 bedrooms, 2.0 bath
Basement	N/A	N/A
Utilities	Central air forced-air heat well & septic	Central air forced-air heat well & septic
Other	2 pole barns, shed, and lean-to covered patio renovated in 1984	2 pole barns, shed, and lean-to covered patio renovated in 1984

Based on the data shown in the above comparison sales table, and the location to photovoltaic panels at 300 feet to the proximate property, there does not appear to have been any measurable negative impact on property values due to the proximity of a solar farm.

NORTH STAR SOLAR FARM SALE COMPARISON NO. 4		
	Proximate to a Photovoltaic Panel	**Prior Sale**
Address	10254 367th St. North Branch, MN 55056	10254 367th St. North Branch, MN 55056
Distance from P.V. Panel (Ft.)	330	N/A
Sale Date	October 27, 2017	December 16, 2005
Sale Price	$335,000	$373,000
Sale Price/Sq. Ft. (A.G.)	$144.02	$160.36
Year Built	2005	2005
Building Size (Sq. Ft.)	2,326	2,326
Lot Size (Acres)	9.28	9.28
Style	Two-story; frame (vinyl) 3 bedrooms, 3.0 bath	Two-story; frame (vinyl) 3 bedrooms, 3.0 bath
Basement	N/A	N/A
Utilities	Central air forced-air heat well & septic	Central air forced-air heat well & septic
Other	3-car attached garage 48x72 aluminum workshop renovated in 2009	3-car attached garage 48x72 aluminum workshop

Based on the data shown in the above comparison sales table, and the location to photovoltaic panels at 330 feet to the proximate property, there does not appear to have been any measurable negative impact on surrounding property values due to the proximity of a solar farm. The prior sale does show a higher price per square foot; however, these superior prices can be significantly attributed to the superior market conditions in which the year 2005 reflected prices at the top of the residential market. A downward market condition adjustment is necessary for the December 16, 2005, sale.

NORTH STAR SOLAR FARM SALE COMPARISON NO. 5			
	Proximate to a Photovoltaic Panel	**Prior Sale - Proximate to a Photovoltaic Panel**	**Prior Sale**
Address	10132 367th St. North Branch, MN 55056	10132 367th St. North Branch, MN 55056	10132 367th St. North Branch, MN 55056
Distance from P.V. Panel (Ft.)	340	340	N/A
Sale Date	December 23, 2020	October 20, 2017	July 3, 2001
Sale Price	$415,000	$333,000	$226,800
Sale Price/Sq. Ft. (A.G.)	$193.02	$154.88	$105.49
Year Built	2001	2001	2001
Building Size (Sq. Ft.)	2,150	2,150	2,150
Lot Size (Acres)	10.00	10.00	10.00
Style	Two-story; frame (vinyl) 4 bedrooms, 2.5 bath	Two-story; frame (vinyl) 4 bedrooms, 2.5 bath	Two-story; frame (vinyl) 4 bedrooms, 2.5 bath
Basement	Full, finished, walkout	Full, finished, walkout	Full, finished, walkout
Utilities	Central air forced-air heat well & septic	Central air forced-air heat well & septic	Central air forced-air heat well & septic
Other	3-car attached garage 48x28 pole barn renovated in 2008	3-car attached garage 48x28 pole barn renovated in 2008	3-car attached garage 48x28 pole barn

Based on the data shown in the above comparison sales table, and the location to photovoltaic panels at 340 feet to the proximate property, there does not appear to have been any measurable negative impact on property values due to the proximity of a solar farm.

NORTH STAR SOLAR FARM SALE COMPARISON NO. 6		
	Proximate to a Photovoltaic Panel	**Prior Sale**
Address	10200 367th St. North Branch, MN 55056	10200 367th St. North Branch, MN 55056
Distance from P.V. Panel (Ft.)	400	N/A
Sale Date	November 28, 2017	November 8, 2004
Sale Price	$322,938	$309,900
Sale Price/Sq. Ft. (A.G.)	$137.42	$131.87
Year Built	2003	2003
Building Size (Sq. Ft.)	2,350	2,350
Lot Size (Acres)	9.30	9.30
Style	Two-story; frame (vinyl) 4 bedrooms, 2.5 bath	Two-story; frame (vinyl) 4 bedrooms, 2.5 bath
Basement	Full, finished, walkout	Full, finished, walkout
Utilities	Central air forced-air heat well & septic	Central air forced-air heat well & septic
Other	2.5-car attached garage 42x60 pole barn, porch, deck renovated in 2009	2.5-car attached garage porch, deck 42x60 pole barn

Based on the data shown in the above comparison sales table, and the location to photovoltaic panels at 400 feet to the proximate property, there does not appear to have been any measurable negative impact on property values due to the proximity of a solar farm.

RECENT SINGLE-FAMILY RESIDENTIAL SALES SUMMARY IN THE AREA NEAREST TO THE MORGAN'S CORNER SOLAR FARM IN ELIZABETH CITY, NORTH CAROLINA
ONLINE IN 2015

No.	Location	Sale Price	Sale Date	Distance from Solar Farm (Ft.)	Site Size (Acres)	Year Built	Building Size (Sq. Ft.)	Sale Price Per Sq. Ft. of Bldg. Area Incl. Land
1	1364 Blindman Rd. Elizabeth City, North Carolina	$175,000	2/28/17	640	1.00	2013	1,762	$99.32
2	1363 Blindman Rd. Elizabeth City, North Carolina	$160,900	5/4/18	830	10.01	2004	1,820	$88.41
3	1493 Millpond Rd. Elizabeth City, North Carolina	$204,000	10/19/21	1,720	2.20	2004	2,110	$96.68
4[A]	1461 Millpond Rd. Elizabeth City, North Carolina	$180,000	6/25/15	1,893	0.99	1994	2,517	$71.51
4[B]	1461 Millpond Rd. Elizabeth City, North Carolina	$216,900	9/1/20	1,893	0.99	1994	2,517	$86.17
5	974 U.S Hwy. 158 Elizabeth City, North Carolina	$162,000	9/28/16	1,955	0.96	2001	1,848	$87.66
6	740 Firetower Rd. Elizabeth City, North Carolina	$144,000	6/26/15	3,770	0.89	1976	1,701	$84.66
7	214 Linwood Dr. Elizabeth City, North Carolina	$197,250	4/9/18	4,400	0.69	2006	2,100	$93.93
8	773 U.S Hwy. 158 Elizabeth City, North Carolina	$290,000	2/26/16	4,645	4.41	2008	2,460	$117.89
9	1401 Brothers Ln. Elizabeth City, North Carolina	$100,000	12/4/15	5,597	0.30	2012	1,344	$74.40

Based on the data shown in the above improved sales table, and the location to photovoltaic panels at 640 feet to 5,597 feet, there does not appear to have been any measurable negative impact on surrounding property values due to the proximity of a solar farm. The sale of the 773 U.S. Highway 158 property does show a higher price per square foot; however, these superior prices can be significantly attributed to the larger land size of the property. Also, in comparison, the 1401 Brothers Lane sale is furthest from the solar farm and sold at the second lowest price per square foot.

SINGLE-FAMILY RESIDENTIAL SALES SUMMARY IN THE AREA NEAREST TO THE AM BEST SOLAR FARM IN GOLDSBORO, NORTH CAROLINA
ONLINE IN 2013
(BASED ON MATCHED PAIR #1 FROM KIRKLAND APPRAISAL, LLC)

No.	Location	Sale Price	Sale Date	Distance from Solar Farm (Ft.)	Site Size (Acres)	Year Built	Building Size (Sq. Ft.)	Sale Price Per Sq. Ft. of Bldg. Area Incl. Land
1	103 Erin Pl. Goldsboro, North Carolina	$250,000	3/31/14	450	0.93	2014	3,492	$71.59
2	2400 Granville Dr. Goldsboro, North Carolina	$224,000	6/19/14	560	0.81	2014	2,464	$90.91
3	2311 Granville Dr. Goldsboro, North Carolina	$248,000	10/22/13	630	1.12	2013	3,400	$72.94
4	2309 Granville Dr. Goldsboro, North Carolina	$238,000	10/25/13	635	1.12	2013	3,194	$75.51
4A	2309 Granville Dr.* Goldsboro, North Carolina	$258,000	6/8/17	635	1.12	2013	3,194	$80.78
4B	2309 Granville Dr.* Goldsboro, North Carolina	$279,900	2/7/20	635	1.12	2013	3,194	$87.63
5	2401 Granville Dr. Goldsboro, North Carolina	$258,000	4/7/14	650	0.91	2013	3,511	$73.48
5A	2401 Granville Dr. Goldsboro, North Carolina	$292,000	12/17/20	650	0.91	2013	3,511	$83.17
6	2402 Granville Dr. Goldsboro, North Carolina	$253,000	12/3/13	715	0.95	2013	3,400	$74.41
7	2403 Granville Dr. Goldsboro, North Carolina	$242,000	6/3/14	845	0.67	2014	2,388	$101.34
7A	2403 Granville Dr.* Goldsboro, North Carolina	$265,000	4/24/19	845	0.67	2014	2,388	$110.97
8	2404 Granville Dr. Goldsboro, North Carolina	$255,000	4/17/14	875	0.73	2014	3,643	$70.00
	RECENT SINGLE-FAMILY RESIDENTIAL SALES *(NOT FROM REPORT BY KIRKLAND APPRAISAL, LLC)*							
9	2312 Granville Dr. Goldsboro, North Carolina	$357,000	9/24/21	400	0.75	2013	3,453	$103.39
10	2310 Granville Dr. Goldsboro, North Carolina	$280,000	5/15/19	410	0.76	2013	3,292	$85.05
11	2308 Granville Dr. Goldsboro, North Carolina	$345,000	4/1/21	420	1.49	2013	3,596	$95.94
12	2304 Granville Dr. Goldsboro, North Carolina	$277,000	5/5/21	465	1.61	2012	2,434	$113.80

** - Updated resale of the property found in Kirland Appraisals, LLC's Matched Pair #1*

The data used is based on the Matched Pair #1 from the report *Edgecombe Solar Impact Study* performed by Richard C. Kirkland, Jr., MAI of Kirkland Appraisals, LLC. The data in the above improved sales table, and the location to photovoltaic panels at 450 feet to 875 feet, shows there does not appear to have been any measurable negative impact on surrounding property values due to the proximity of a solar farm. The table shows that the 2404 Granville Drive sale is furthest from the solar farm and sold at the lowest price per square foot.

Before and After Sales Comparison Analysis – Goldsboro, North Carolina

Along with research of sales near the footprint a before and after sales comparison analysis was performed on the homes that were most proximate and were originally analyzed by Richard C. Kirkland, Jr., MAI of Kirkland Appraisals, LLC. These sales comparisons include the sales research performed by Kirkland Appraisals, LLC, and the updated sales information of their research.

AM BEST SOLAR FARM SALE COMPARISON NO. 1

	Proximate to a Photovoltaic Panel	Prior Sale (Kirkland Appraisals, LLC)
Address	102 Erin Pl. Goldsboro, NC 27530	102 Erin Pl. Goldsboro, NC 27530
Distance from P.V. Panel (Ft.)	300	300
Sale Date	November 28, 2016	August 12, 2014
Sale Price	$270,000	$253,000
Sale Price/Sq. Ft. (A.G.)	$79.41	$74.41
Year Built	2014	2014
Building Size (Sq. Ft.)	3,400	3,400
Lot Size (Acres)	1.13	1.13
Style	Two-story; frame (vinyl) 4 bedrooms, 3 bath	Two-story; frame (vinyl) 4 bedrooms, 3 bath
Basement	N/A	N/A
Utilities	Central air electric/forced-air heat well & septic	Central air electric/forced-air heat well & septic
Other	2-car attached garage shed pool	2-car attached garage shed pool

The more current sale reflects a superior price per square foot than the previous sale. Based on the data shown in the above comparison sales table, and the location to photovoltaic panels at 300 feet to the proximate property, there does not appear to have been any measurable negative impact on property values due to the proximity of a solar farm.

AM BEST SOLAR FARM SALE COMPARISON NO. 2		
	Proximate to a Photovoltaic Panel	**Prior Sale (Kirkland Appraisals, LLC)**
Address	104 Erin Pl. Goldsboro, NC 27530	104 Erin Pl. Goldsboro, NC 27530
Distance from P.V. Panel (Ft.)	300	300
Sale Date	June 19, 2017	July 30, 2014
Sale Price	$280,000	$250,000
Sale Price/Sq. Ft. (A.G.)	$82.35	$73.53
Year Built	2014	2014
Building Size (Sq. Ft.)	3,400	3,400
Lot Size (Acres)	2.24	2.24
Style	Two-story; frame (vinyl) 5 bedrooms, 3.5 bath	Two-story; frame (vinyl) 5 bedrooms, 3.5 bath
Basement	N/A	N/A
Utilities	Central air heat pump well & septic	Central air heat pump well & septic
Other	2-car attached garage	2-car attached garage

The more current sale reflects a superior price per square foot than the previous sale. Based on the data shown in the above comparison sales table, and the location to photovoltaic panels at 300 feet to the proximate property, there does not appear to have been any measurable negative impact on property values due to the proximity of a solar farm.

AM BEST SOLAR FARM SALE COMPARISON NO. 3		
	Proximate to a Photovoltaic Panel	**Prior Sale (Kirkland Appraisals, LLC)**
Address	2312 Granville Dr. Goldsboro, NC 27530	2312 Granville Dr. Goldsboro, NC 27530
Distance from P.V. Panel (Ft.)	400	400
Sale Date	May 1, 2018	December 16, 2013
Sale Price	$285,000	$255,000
Sale Price/Sq. Ft. (A.G.)	$82.54	$73.85
Year Built	2013	2013
Building Size (Sq. Ft.)	3,453	3,453
Lot Size (Acres)	0.75	0.75
Style	Two-story; frame (vinyl) 5 bedrooms, 4 bath	Two-story; frame (vinyl) 5 bedrooms, 4 bath
Basement	N/A	N/A
Utilities	Central air heat pump well & septic	Central air heat pump well & septic
Other	2-car attached garage above-ground pool	2-car attached garage

The more current sale reflects a superior price per square foot than the previous sale. Based on the data shown in the above before and after sales table, and the location to photovoltaic panels at 400 feet to the proximate property, there does not appear to have been any measurable negative impact on property values due to the proximity of a solar farm.

AM BEST SOLAR FARM SALE COMPARISON NO. 4		
	Proximate to a Photovoltaic Panel	**Prior Sale (Kirkland Appraisals, LLC)**
Address	2308 Granville Dr. Goldsboro, NC 27530	2308 Granville Dr. Goldsboro, NC 27530
Distance from P.V. Panel (Ft.)	415	415
Sale Date	November 15, 2015	September 15, 2013
Sale Price	$267,500	$260,000
Sale Price/Sq. Ft. (A.G.)	$74.39	$72.30
Year Built	2013	2013
Building Size (Sq. Ft.)	3,596	3,596
Lot Size (Acres)	1.49	1.49
Style	Two-story; frame (vinyl) 6 bedrooms, 4 bath	Two-story; frame (vinyl) 6 bedrooms, 4 bath
Basement	N/A	N/A
Utilities	Central air heat pump well & septic	Central air heat pump well & septic
Other	2-car attached garage covered patio	2-car attached garage covered patio

The more current sale reflects a superior price per square foot than the previous sale. Based on the data shown in the above before and after sales table, and the location to photovoltaic panels at 415 feet to the proximate property, there does not appear to have been any measurable negative impact on property values due to the proximity of a solar farm.

Overall, the improved sales of properties, the before and after sales comparisons, and the proximation to photovoltaic panels at 165 feet to 5,597 feet from each property, shows that there does not appear to have been any measurable negative impact on surrounding property values due to the proximity of a solar farm. This conclusion is based on proximity to the photovoltaic panels, price per square foot, condition based on year built, and if the property was sold before or after the construction of the solar farm.

Solar Farm Assessor Surveys

Surveys and interviews with supervisors of assessments or staff members of counties that host solar farms that include a total capacity of 5 megawatts or more. The surveys and interviews were intended to allow the assessment officials to share their experience regarding the solar farm(s) impact upon the market values and/or assessed values of surrounding properties. The surveys and interviews were intended to be conversational, however they thoroughly discussed residential and agricultural values and impacts. The following sections summarize each of the surveys and interviews performed.

Illinois Assessors Survey – July 2019

In July 2019, MaRous & Company conducted a survey of the supervisor of assessments or a staff member in 6 counties in Illinois in which solar farms with more than 1.0 megawatts of capacity are currently in operation. As of the date of this report, there are more than 10 utility-scale solar farms with a total capacity of greater than 50.7 megawatts within these counties, with additional farms being added each year. An updated study performed by the Solar Energy Industries Association (SEIA) in Q1 of 2019 states that, in total, Illinois has 119.7 megawatts of solar energy installed. The total capacity reported in the study includes utility, residential, and nonresidential scale solar farms. The interviews were intended to allow the assessment officials to share their experience regarding the solar farm(s) impact upon the market values and/or assessed values of surrounding properties. The following is a summary of the results of that survey:

- Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a solar farm facility. In some counties, this results from the very rural nature of the area in which the projects are located.
- In the past 18 months, the assessor's offices have not experienced a real estate tax appeal based upon solar farm-related concerns. There have been no reductions in assessed valuations related to photovoltaic panels.
- As the available market data does not support the claim of a negative impact upon residential values, residential assessed values have fluctuated consistently within counties as influenced by market conditions, with no regard for proximity to a solar farm.
- Agricultural properties are taxed based upon a productivity formula that is not impacted by market data and external influences.

Wisconsin Assessors Solar Farm Survey - April 2018

In April 2018, MaRous & Company conducted a survey of the supervisor of assessments or a staff member in 11 counties in Wisconsin in which solar farms with more than 0.9 megawatt of capacity are currently in operation. As of the date of this report, there are more than 13 solar farms with a total capacity of greater than 18 megawatts within these counties, with additional farms being added each year. An updated study performed by the Solar Energy Industries Association (SEIA) in June 2018 states that, in total, Wisconsin has 52.2 megawatts of solar energy installed. The total capacity reported in the study includes utility, residential, and nonresidential scale solar farms. The interviews were intended to allow the assessment officials to share their experience regarding the solar farm(s) impact upon the market values and/or assessed values of surrounding properties. The following is a summary of the results of that survey:

- Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of, and the proximity to, a solar farm facility. In some counties, this results from the very rural nature of the area in which the projects are located.
- There have been no tax appeals in any county based upon solar farm-related concerns.
- In the past 18 months, the assessor's offices have not experienced a real estate tax appeal based upon solar farm-related concerns. There have been no reductions in assessed valuations related to solar panels.
- Residential assessed values have fluctuated consistently countywide as influenced by market conditions, with no regard for proximity to a solar farm.
- Agricultural property assessed values have fluctuated consistently countywide as influenced by market conditions, with no regard for proximity to a solar farm.

Iowa Assessors Survey – July 2021

In July 2021, MaRous & Company conducted a survey of the supervisor of assessments or a staff member in 7 counties in Iowa in which solar farms with more than 1.0 megawatts of capacity are currently in operation. As of the date of this report, there are approximately 8 utility-scale solar farms with a total capacity of approximately 18.0 megawatts within these counties, with additional farms being added each year. A study performed by the Solar Energy Industries Association (SEIA) on June 15, 2021, states that, in total, Iowa has 423.71 megawatts of solar energy installed. The total capacity reported in the study includes utility, residential, and nonresidential scale solar farms. The interviews were intended to allow the assessment officials to share their experience regarding the solar farm(s) impact upon the market values and/or assessed values of surrounding properties. The following is a summary of the results of that survey:

- Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a solar farm facility. In some counties, this results from the very rural nature of the area in which the projects are located.
- In the past 18 months, the assessor's offices have not experienced a real estate tax appeal based upon solar farm-related concerns. There have been no reductions in assessed valuations related to photovoltaic panels.
- As the available market data does not support the claim of a negative impact upon residential values, residential assessed values have fluctuated consistently within counties as influenced by market

conditions, with no regard for proximity to a solar farm.

- Agricultural properties are taxed based upon a productivity formula that is not impacted by market data and external influences.

Michigan Assessors Survey - December 2021

In December 2021, MaRous & Company conducted a survey of the township supervisor of assessments or a staff member in 20 counties in Michigan in which solar farms with more than 10 megawatts of capacity are currently in operation. As of the date of this report, there are more than 30 solar farms with a total capacity of greater than 173 megawatts within these counties, with additional farms being added each year. An updated study performed by the Solar Energy Industries Association (SEIA) in March 2021 states that, in total, Michigan has 599.4 megawatts of solar energy installed. The total capacity reported in the study includes utility, residential, and nonresidential scale solar farms. The interviews were intended to allow the assessment officials to share their experience regarding the solar farm(s) impact upon the market values and/or assessed values of surrounding properties. The following is a summary of the results of that survey:

- Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of, and the proximity to, a solar farm facility. In some counties, this results from the very rural nature of the area in which the projects are located.
- There have been no tax appeals in any county based upon solar farm-related concerns.
- In the past 18 months, the assessor's offices have not experienced a real estate tax appeal based upon solar farm-related concerns. There have been no reductions in assessed valuations related to solar panels.
- Residential assessed values have fluctuated consistently countywide as influenced by market conditions, with no regard for proximity to a solar farm.
- Agricultural property assessed values have fluctuated consistently countywide as influenced by market conditions, with no regard for proximity to a solar farm.

Indiana Assessors Survey – February & March 2019

In February & March 2019, MaRous & Company conducted a survey of the supervisor of assessments or a staff member in 9 counties in Indiana in which solar farms with more than 3 megawatts of capacity are currently in operation. As of the date of this report, there are more than 16 solar farms with a total capacity of greater than 111 megawatts within these counties, with additional farms being added each year. An updated study performed by the Solar Energy Industries Association (SEIA) in Q4 of 2018 states that, in total, Indiana has 331.19 megawatts of solar energy installed. The total capacity reported in the study includes utility, residential, and nonresidential scale solar farms. The interviews were intended to allow the assessment officials to share their experience regarding the solar farm(s) impact upon the market values and/or assessed values of surrounding properties. The following is a summary of the results of that survey:

- Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a solar farm facility. In some counties, this results from the very rural nature of the area in which the projects are located.
- In the past 18 months, the assessor's offices have not experienced a real estate tax appeal based upon solar farm-related concerns. There have been no reductions in assessed valuations related to photovoltaic panels.
- As the available market data does not support the claim of a negative impact upon residential values, residential assessed values have fluctuated consistently within counties as influenced by market conditions, with no regard for proximity to a solar farm.
- Agricultural properties are taxed based upon a productivity formula that is not impacted by market data and external influences.

North Carolina Assessors Solar Farm Survey (Partial) - July 2018

In July 2018, MaRous & Company conducted a partial survey of the supervisor of assessments or a staff member in 5 counties in North Carolina that, as of the date of this report, have more than 44 solar farms with a total capacity of over 645 megawatts within those solar farms. A study performed by the Solar Energy Industries Association (SEIA) in June 2018 states that, in total, North Carolina has 4,411.65 megawatts of solar energy installed within 7,527 installations and is ranked second in the country for solar generation. The total capacity reported in the study includes utility, residential, and nonresidential scale solar farms. The interviews were intended to allow the assessment officials to share their experience regarding the solar farm(s) impact upon the market values and/or assessed values of surrounding properties. The following is a summary of the results of that survey:

- Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of, and the proximity to, a solar farm facility. In some counties, this results from the very rural nature of the area in which the projects are located.
- There have been no tax appeals in any county based upon solar farm-related concerns.
- In the past 18 months, the assessor's offices have not experienced a real estate tax appeal based upon solar farm-related concerns. There have been no reductions in assessed valuations related to solar panels.
- Residential assessed values have fluctuated consistently countywide as influenced by market conditions, with no regard for proximity to a solar farm.
- Agricultural property assessed values have fluctuated consistently countywide as influenced by market conditions, with no regard for proximity to a solar farm.

Maryland Assessors Solar Farm Survey - October 2017

In October 2017, MaRous & Company conducted a survey of the supervisor of assessments or a staff member in 13 counties in Maryland in which solar farms with more than 0.9 megawatts currently in operation. As of the date of this report, there are more than 25 solar farms with a total capacity of greater than 60 megawatts within these counties, with additional farms being added each year. An updated study performed by the Solar Energy Industries Association (SEIA) in June 2018 states that, in total, Maryland has 932.7 megawatts of solar energy installed. The total capacity reported in the study includes utility, residential, and nonresidential scale solar farms. The interviews were intended to allow the assessment officials to share their experience regarding the solar farm(s) impact upon the market values and/or assessed values of surrounding properties. The following is a summary of the results of that survey:

- Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of, and the proximity to, a solar farm facility. In some counties, this results from the very rural nature of the area in which the projects are located.
- There have been no tax appeals in any county based upon solar farm-related concerns.
- In the past 18 months, the assessor's offices have not experienced a real estate tax appeal based upon solar farm-related concerns. There have been no reductions in assessed valuations related to solar panels.
- Residential assessed values have fluctuated consistently countywide as influenced by market conditions, with no regard for proximity to a solar farm.
- Agricultural property assessed values have fluctuated consistently countywide as influenced by market conditions, with no regard for proximity to a solar farm.

Real Estate Professionals

Midwestern real estate professionals were contacted to discuss market conditions, specific market transactions, and to investigate whether they had experience with, or knowledge of any impact of solar farms on residential property values.

Some interviews have been conducted with market participants, real estate brokers, and real estate professionals in the Midwest that have had experience with residential properties proximate to solar farms, however, they wish to remain anonymous. The interviewees indicated that there have not been any negative impacts to residential property values due to the proximity to solar farms.

Andrew Kida, the City Administrator for the City of Comanche, stated that the proposed Rock Creek Solar is expected to be a very positive economic addition to their community, which has not had strong economic growth in the past decade.

Joy Boyd, a local Illinois licensed broker in Christian County, has observed rural residential property values near existing energy facilities, such as wind farms, have not been negatively impacted due to the proximity to a wind turbine. Ms. Boyd also states that during peak farming season, systems such as solar panels essentially disappear behind the crops on the land. Ms. Boyd also reported that rural residential properties in the general area are overall accepting of alternative uses for the land due to the proximity of existing intense agricultural uses, agricultural and industrial type buildings, gravel roads, and other intrusive uses of the land. It has been observed that the residents within Christian County and the general project area have consistently agree that the only negative land use possibly impacting property values and buyers' decisions are the existing hog containment facilities within the county.

Dustin Dolezalek of Scott Appraisal in Madison, Wisconsin, has observed positive feedback from residents proximate to other solar farms throughout southern Wisconsin. He also notes that the solar farms he has witnessed have a somewhat rolling topography in which the land acts as a natural view shield to any major road.

Jeff Thomas of Mineral Point Real Estate, the highest selling broker in Iowa County, Wisconsin. He states that he is very cognizant of all of the activity in the Iowa County market. He is aware that the Montfort housing market is stable, however, it is not in strong demand because the purchasing trend is typically between family members and parties looking to get housing from $100,000 up to $200,000. Mr. Thomas has observed patterns of no impact or no negative impact from alternative energy in the area, however, there is more of a concern from the nearby power lines developed by American Transmission Company.

Anne Larson of True-Blue Real Estate located near Barneveld, Wisconsin, states that in her opinion, minimal transactional activity is happening in or around Montfort, Wisconsin. Typical buyers are interested in properties that have values under $200,000. Basically, purchasing demand for the area is only driven by affordability. In her opinion, there is no negative impact based on the proposed solar farm.

Prior to the approval of the Badger Hollow Solar Farm in Iowa County, Wisconsin, interveners, Brenda and Casey Kite, requested appraisal services for their property at 2680 County Road G #80, from Kurt Kielisch of Forensic Appraisal Group. The residence is a 1,987-square-foot farmhouse with a 5,040-square-foot pole barn and grain bin that sits on 3.73 acres of land. The Kite property is located in an area that is surrounded by tall crops, such as corn, and Badger Hollow Solar Farm agreed to an appropriate 500-foot setback from the residence. Within the immediate view of the property is a small wind farm, the Montfort Wind that came online in 2001, in which the Kites were aware of at the time that they purchased the property in 2005.

The Kites purchased the property December 5, 2005, for $179,999, which is understood to be near the top of the local residential real estate market up to the year 2015. There is limited information that indicate that significant improvements were made between 2005 and the eventual 2019 sale.

The Kites listed the property as "For Sale by Owner", which implies that the sale was substantially under exposed to the market. Due to the Kites not using a broker for the listing, the sale price did not factor in the market broker commission. Also, throughout the marketing period the Kites had a large anti-solar sign posted on the front of their property which used tactical scare verbiage in an attempt to persuade their neighbors, however, the sign acted as a disservice to them by deterring potential buyers from their "property. The property sold on August 1, 2019, for $253,700. Therefore, by adding a market commission of 5.5%, the sale price of the property is adjusted to $267,600. Another adjustment of 5% should be added to the property's selling price for the lack of market exposure and the anti-solar sign, to create a final adjusted sale price of $281,000.

Kurt Kielisch appraised the property with an effective date of November 14, 2019, with a *before solar development* value of $298,500 and an *after solar development* value of $179,000. The adjusted August 1, 2019, sale price of $281,000, which occurred with the knowledge of the solar development, which reflects a difference of $102,000 or a 57% increase compared to Kielisch's *after solar development* value estimate of $179,000. Utilizing the unadjusted Kite sale price of $253,700 with the Kielisch after solar value of $179,000, reflects an overall price increase of $74,700 or 41.7% price increase.

Other interviews have been conducted with market participants, real estate brokers, and real estate professionals in Iowa, Illinois, Wisconsin, and Indiana that have had experience with residential properties proximate to solar farms.[5] The interviewees indicated that there have not been any negative impacts to residential property values due to the proximity to solar farms, however, feel that the information could be too sensitive and wish to remain anonymous.[6]

[5] *Certain areas were not contacted due to lack of experience with sales near solar farms.*
[6] *In areas of potential sensitive local issues due to solar farms, professionals were not contacted.*

Agricultural Land Values

Agricultural land values are typically tied to the productivity of the land and to the commodity prices of crops like corn and soybeans. Other factors include favorable interest rates and the supply of land compared to the number of buyers. The May 2022 edition of the *AgLetter,* published by the Federal Reserve Bank of Chicago from the Federal Reserve 7th District[7], which includes Christian County, stated that "[a]gricultural land values for the Seventh Federal Reserve District shot up 23 percent in the first quarter of 2022 from a year ago, continuing the recent streak of sharp year-over-year gains. Furthermore, 'good' farmland values in the District increased 4 percent from the fourth quarter of 2021 to the first quarter of 2022, according to the survey responses of 136 District agricultural bankers."

"With demand to purchase agricultural land up yet again this year, there was a larger amount of farmland for sale in the three- to six-month period ending with March 2022 than in the same period ending with March 2021. In addition, the number of farms and the amount of acreage sold were up during the winter and early spring of 2022 compared with a year earlier. Given these upward trends, 48 percent of the responding bankers forecasted District farmland values to be higher during the second quarter of 2022, 51 percent forecasted them to be stable, and only 1 percent forecasted them to be lower."

"The District saw a year-over-year gain of 23 percent in its farmland values in the first quarter of 2022—which just exceeded the previous quarter's large year-over-year gain. Farmland values rose 4 percent in the first quarter of 2022 from the fourth quarter of 2021. Even after being adjusted for inflation with the Personal Consumption Expenditures Price Index (PCEPI), the year-over-year gain in District farmland values for the first quarter of 2022 was higher than that for any quarter since the first one of 2012 (the gain for the first quarter of 2022 also marked the eighth consecutive quarter of positive changes in real terms)."

The following charts from the 2022 edition of the annual publication of *Illinois Land Values and Lease Trends* illustrate the prices of agricultural land sold in the central region of Illinois, or Region 6, and includes Christian County. In 2021, average-productivity agricultural land sales were typically between $5,148 per acre and $11,200 per acre. These values were an increase from 2020 by 23.7%. The average prices of excellent-productivity agricultural land sold in 2021 were typically between $10,550 per acre and $17,825 per acre. These values were an increase from 2020 by 31.9%. "Overall, the market is up significantly overall with varying levels of change seen in the values and price ranges across the land classes. The "Excellent" category is the headliner and makes up the largest portion of sales in the area. Excellent farmland is up 31.9 percent overall when comparing year over year. With several sales occurring in December with later closings, the committee expects that the overall increase is likely higher."[8]

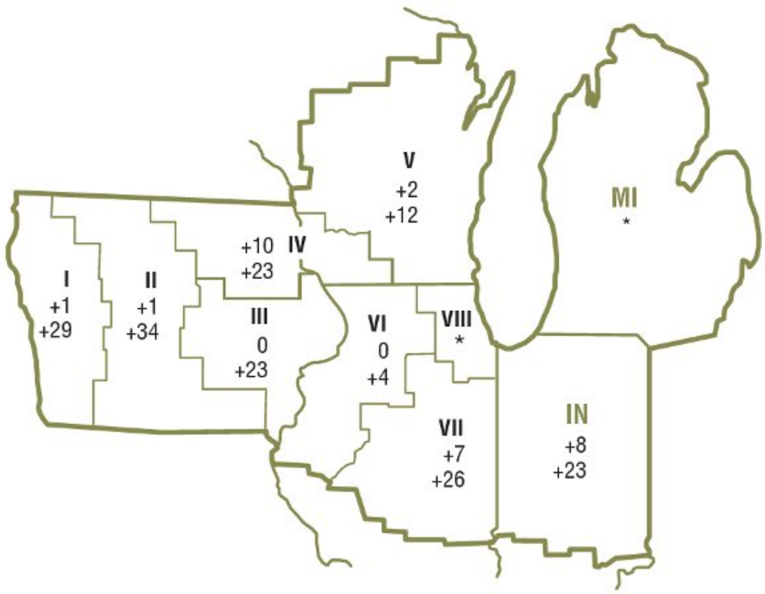
[7] *https://www.chicagofed.org/publications/agletter/2020-2024/may-2022*
[8] *Region 6 – Central. (2022). 2022 Illinois Land Values and Lease Trends. https://ispfmra.org/category/land-values/2022*

Percent change in dollar value of "good" farmland

Top: January 1, 2022 to April 1, 2022
Bottom: April 1, 2021 to April 1, 2022

	January 1, 2022 to April 1, 2022	April 1, 2021 to April 1, 2022
Illinois	+4	+18
Indiana	+8	+23
Iowa	+3	+28
Michigan	*	*
Wisconsin	+4	+13
Seventh District	+4	+23

*Insufficient response.



Land Value and Cash Rent Trends
Overall Summary

Farm Classification	Total Value Per Acre (Typical)	% Change in $/Acre from prior year	Change in rate of land turnover	Avg. Cash Rent Per Acre typical in region	% Change from prior year	Avg. Cash Rent/Ac. on recently negotiated leases
Excellent Productivity	$10,550-$17,825	up 31.9%	significantly higher	$350-$400	20%	$375-$450
Good Productivity	$8,050-$13,400	up 13.4%	higher	$275-$350	20%	$300-$375
Average Productivity	$5,148-$11,200	up 23.7%	higher	$220-$300	20%	$250-$300
Fair Productivity	$7,050-$8,500	up 30.0%	steady	$175-$225	15%	$200-$250
Recreational Land	$3,650-$8,400	up 14.2%	steady	NA	0%	NA
Transitional Tracts	None noted	N/A	steady, limited	NA	NA	NA

The following table summarizes a sample of recent agricultural land sales nearest to the footprint of the proposed Hickory Point Solar in Christian County.

SUMMARY OF RECENT LAND SALES NEAREST TO HICKORY POINT SOLAR						
No.	**Owner Mailing Address* & Parcel Location and Identification**	**Sale Price**	**Sale Date**	**Land Area (Acres)**	**Productivity Index**	**Sale Price Per Acre**
1**	1108 N. 3rd St. Coolidge, AZ 85128 Christian County, IL 12N 3W – 22 APN: 02-17-22-300-002-00					
	Land Sale #1 – 1 Field	$286,000	11/22/21	78.10	110.3	$3,661.97
2	P.O. Box 6055 Springfield, IL 62708 Christian County, IL 13N 3W – 2, 3 APN: 17-12-02-100-001-00					
	Land Sale #2 – 1 Field	$415,000	11/19/21	78.65	127.3	$5,276.54
3	360 E. 900 North Rd. Morrisonville, IL 62546 Christian County, IL 12N 3W – 32, 33 APN: 02-17-32-400-002-00, -33-300-001-00					
	Land Sale #3 – 2 Fields	$594,500	7/22/21	90.94	113.5	$6,537.28
4	4533 E. 1275 North Rd. Morrisonville, IL 62546 Christian County, IL 12N 3W – 5, 6, 13N 3W – 31, 32 APN: 15-12-31-400-002-00, -32-300-001-00					
	Land Sale #4 – 2 Fields	$832,000	10/7/22	79.56	140.2	$10,457.52
5	108 Garrison St. Bulpitt, IL 62517 Christian County, IL 13N 3W – 26, 27 APN: 15-12-26-100-001-00					
	Land Sale #5 – 1 Field	$850,000	3/25/22	69.79	127.4	$12,179.40
6	P.O. Box 6055 Springfield, IL 62708 Christian County, IL 13N 3W – 4, 14N 3W – 33 APN: 15-07-33-400-003-00					
	Land Sale #6 – 1 Field	$1,338,000	12/1/22	86.37	136.7	$15,491.49
	Summary of Recent Land Sales Averages:				**125.9**	**$8,934.03**
	Christian County Average:				**130.0**	**$8,211.00**

*Owner mailing address is not to be considered parcel address, in some cases.
**Includes significant forestation

The above sample of agricultural land sales reveal that the productivity of the majority of agricultural land nearest to the area of the proposed project footprint in Christian County appears to be below average for the county with an average Productivity Index of 124.9, where the average Productivity Index for Christian County is 130.0. The productivity potential in the area is mixed between below average and above average. The land value of the above summary of land sales is above average with an average value of $,934.03 per acre compared to the county's average value of $8,211.00 per acre. The plots of land with lower crop productivity nearest to the proposed solar farm should only benefit from the potential to counter-balance any farm revenue lost from the lower crop productivity of the land by adding photovoltaic panels and land leases to the overall revenue of the agricultural land, and the above average plots will benefit from adding a diversified income that is not productivity reliant.

Agricultural Land Sales: Solar Farms and Wind Farms

Over the past 10-20 years, wind energy has grown rapidly across the Midwest in agricultural communities similar to the project area. Solar energy is increasingly being installed in this region as well. This is driven by several factors, including steep cost declines primarily from decreases in inverter and module prices, and utility and other customers' interest in affordable, low-carbon energy. Although wind and solar energy projects have varying reasons for being placed in the Midwest and other similar locations, their sites have notable attributes in common, including access to an available energy resource, access to the electrical grid, and predominantly agricultural economies in which solar or wind can be located along with other productive uses of the land.

MaRous and Company has extensively researched the question of property value impacts by wind farms and our findings show that responsibly sited wind farms do not have any negative impacts on neighboring property values. Solar farms are significantly lower profile, thus have reduced if not eliminated, visual concerns with negligible, if any, sound emissions. Therefore, it is our observation that if wind farms do not negatively impact property values, solar farms will not either. This is confirmed by the market research presented earlier in this report. The following is a brief summary of a portion of our research into wind farm property values, along with the summaries of the county assessors' surveys conducted in 60 counties within the states of Indiana, South Dakota, Iowa, Minnesota, Kansas, and Illinois in which wind farms are located.

We have compiled research for wind farms and have summarized our findings. The research was not exhaustive, however, in Illinois there was one reported sale of agricultural land close to wind turbines located in McLean County, Illinois, in March 2013. The farm, comprised of two tracts, was considered "highly desirable" with a productivity rating of 135 and 132 respectively (the low end of the excellent range.) The report commented, "...the wind turbine lanes were not a nuisance as they ran the same direction as the farm is planted (north–south.)" In 2014, there were three sales of farms with wind turbines in region 4, which includes the counties of Marshall, Woodford, Mason, Putnam, Livingston, McLean, and Tazewell. The report stated, "In general, investors may have paid a premium for the wind turbine. High quality farmland with wind turbines is stable."

Another reported sale in November 2017 was to be associated with wind turbines within Jerauld County, South Dakota, which is home to the Wessington Springs Wind Farm and has similar demographics as the project area. The property is situated on pastureland of poor quality with significant topography issues, which would reflect a lower price per acre than the region's average price of $2,011 per acre. However, the sale included multiple wind turbine leases, and sold with an above average price per acre of $2,800, which signifies a direct correlation to the benefit associated with the turbines on the land.

Overall, it appears that there is little or no relationship between agricultural land values and the location of wind farms, with productivity being the driving force behind land values. However, wind farm lease revenue appears to add to the marketability and value.

An article titled *Solar and Wind Contracts Add to Land Value: Illinois Survey*[9], published in the *Illinois Farmer Today*, describes the benefits wind turbines had given to land prices in the area of two land sales in Macon County, Illinois with and without turbines on the land. The article used a report published in the *2019 Illinois Land Values and Lease Trends*[10]; the report stated "Both tracts brought a premium to farms in the market without wind towers. The estimated increase was roughly $750 per acre for each tract when factoring out all the other variables. Both properties were on highly productive Macon County land. The larger tract, with 97.6 percent tillable acres, sold for $11,000 per acre. The 114-acre tract, with 87.1 percent tillable acres and some CRP land, sold for $10,721."

Wind turbines typically are considered to be of significant benefit to farmers; Iowa farmers interviewed by the *Omaha World Herald*, were positive about the stable income as opposed to the vicissitudes of commodity prices.[11] Franklin County, Iowa, reported lowering real estate taxes for the county as a whole because of the taxes generated by the wind turbines in that county. Support for good prices comes from the lack of land for sale, stable commodity prices, and low interest rates. Marginal land in areas where wind turbines are located or proposed is popular with investors.[12]

A report in the *2016 Illinois Land Values and Lease Trends*, indicated that the impact of wind turbine leases is being felt in McLean, Livingston, and Woodford counties, where turbine leases have provided "income diversification, beyond agriculture, which makes these tracts more attractive to an outside investor."[13] Further, they noted that "investors are still paying a little more of a premium for the wind turbines just as they had in the past few years."[14] The report notes that the premium is related directly to the number of years left on the lease.

[9] *Solar and Wind Contracts Add to Land Value: Illinois Survey.* *https://www.agupdate.com/illinoisfarmertoday/news/state-and-regional/solar-and-wind-contracts-add-to-land-value-illinois-survey/article_61f2d45c-5643-11e9-a283-c78a49e3fa2e.html*

[10] *Klein, David E., 2019 Illinois Land Values and Lease Trends, Illinois Society of Professional Farm Managers and Rural Appraisers*

[11] *http://www.omaha.com/money/turning-to-turbines-as-commodity-prices-remain-low-wind-energy/article_2814e2cf-83a3-5 47d-a09e-f039e935f399.html Accessed September 18, 2107.*

[12] *http://www.agriculture.com/farm-management/farm-land/farmland-sales-hard-to-find-as-growers-hold-tight-keeping-land-value Accessed September 18, 2017.*

[13] *Klein, David E., and Schnitkey, Gary, 2016 Illinois Land Values and Lease Trends, Illinois Society of Professional Farm Managers and Rural Appraisers*

[14] *Ibid.*

Overall, it appears that there is little or no relationship between agricultural land values and the location of wind farms, with productivity being the driving force behind land values. Wind farm lease revenue, however, does appear to add to the marketability and value.

Solar Energy Peer-Reviewed Literature Review

MaRous & Company is familiar with one academic and peer-reviewed study on the impact of solar energy facilities on residential property values. There are no peer-reviewed studies specific to the state of Illinois. However, the following study is consistent with our findings in Illinois. This study is summarized below:

The University of Texas at Austin, 2018

Nationwide

This study's purpose was to investigate any possible amenities, disamenities, or potential impact a residential property may acquire from the presence of a proximate utility-scale solar facility. To analyze these factors, the study anticipated to understand the scope in which residential properties could potentially be impacted, the scale of the potential impact, and if the value of the potential impact were to be positive or negative by analyzing 956 unique solar sites completed in 2016 or prior across the United States. The conclusions of the study are based on surveys of residential home assessors and an in-depth regression analysis. "Results from [the] survey of residential home assessors show that the majority of respondents believe that proximity to a solar installation has *either no impact or a positive impact on home values*." (Conclusion, Page 23) However, some of these results varied due some assessors' previous experience with solar installations, size of the solar facilities, and distances from homes. "Regression analyses *suggest* that closer proximity to an installation is associated with more negative estimates of property value impacts, as is larger installation size. Prior experience assessing near a solar installation, by contrast, was associated with more conservative estimates of impact. Meanwhile, *the median and mode of all estimates of impact was zero, suggesting negative estimates from a few respondents were pulling down the [average].*" (Conclusion, Page 23)

University of Rhode Island, 2020
Rhode Island and Massachusetts
While utility-scale solar energy is important for reducing dependence on fossil fuels, solar arrays use significant amounts of land (about 5 acres per MW of capacity) and may create local land use disamenities. This paper seeks to quantify the externalities from nearby solar arrays using the hedonic method. This paper study the states of Massachusetts and Rhode Island, which have high population densities and ambitious renewable energy goals. Over 400,000 transactions within three miles of a solar site are observe. Using a difference-in-differences, repeat sales identification strategy, results suggest that houses within one mile depreciate 1.7% following construction of a solar array, which translates into an annual willingness to pay of $279. Additional results indicate that the negative externalities are primarily driven by solar developments on farm and forest lands in non-rural areas. For these states, our findings indicate that the global benefits of solar energy in terms of abated carbon emissions are outweighed by the local disamenities.[15]

This study focuses primarily on residential properties within suburban areas. Therefore, these results are skewed negatively due to the populated nature of the areas. The focus was on populated areas with a density of over 850 persons per square mile, and states that no impact was studied for rural impacts similar to the subject. The subject density is far less than 100 persons per square mile, as a result it is the opinion of MaRous & Company that this study does not effectively show the benefits that solar energy provides the properties and municipalities in rural area and is not relevant to the proposed subject solar farm.

[15] *Gaur, V. and C. Lang. (2020). Property Value Impacts of Commercial-Scale Solar Energy in Massachusetts and Rhode Island. Submitted to University of Rhode Island Cooperative Extension on September 29, 2020. Accessed at https://web.uri.edu/coopext/valuing-siting-options-for-commercial-scale-solar-energy-in-rhode-island/.*

Wind Energy Peer-Reviewed Literature Review

Due to the lack of peer-reviewed literature regarding solar farms. MaRous & Company is familiar with several academic and peer-reviewed studies on the impact of wind turbines on residential property values. There are no peer-reviewed studies specific to the state of Illinois. However, the following studies are consistent with our findings in Illinois. These are summarized below:

Municipal Property Assessment Corporation (MPAC) Study, 2008, 2012, and 2016

Ontario, Canada

This study originally was conducted in 2008 and was updated in 2012 and 2016. The conclusions in all three studies are similar: "there is *no statistically significant impact on sale prices* of residential properties in these market areas resulting from proximity to an IWT [Industrial Wind Turbine] when analyzing sale prices." (2012 Study, Page 5; emphasis in original) Using 2,051 properties and generally accepted time adjustment techniques, MPAC "cannot conclude any loss in price due to the proximity of an IWT." (2012 Study, Page 29) Further, Appendix G of the 2012 MPAC report "Re-sale Analysis" states in the "Summary of Findings" "MPAC's own re-sale analysis using a generally accepted methodology for time adjustment factors indicates no loss in price based on proximity to the nearest IWT [Industrial Wind Turbine]."

Lawrence Berkeley National Laboratory (LBNL) Studies, 2009, 2010, 2013, and 2014

Nationwide

The 2009 LBNL study included analysis of 7,489 sales within 10 miles of 11 wind farms and 125 post-construction sales within 1 mile of a wind turbine. The study used rural settings and wind farms of more than 50 turbines, and considered area stigma, scenic vista sigma, and nuisance stigma in varying distances from a wind turbine. The 2010 LBNL study included 7,500 single-family residential sales located in nine states and proximate to 24 wind farms, and 4,937 post-construction sales within 10 miles of a wind turbine. The 2013 LBNL study included 51,276 sales located in nine states and proximate to 67 wind farms, and 376 post-construction sales within 1 mile of a wind turbine. The 2014 LBNL study included over 50,000 sales located in nine states and proximate to 67 wind farms, and 1,198 post-construction sales within 1 mile of a wind turbine. All were located in rural settings and near wind farms of more than 0.5 megawatts. Theses study concentrated on nuisance stigma in varying distances from a wind turbine. The study found no statistically significant evidence that turbines affect sale prices. Neither study found statistical evidence that home values near turbines were affected.

University of Rhode Island, 2013

Rhode Island

Structured similarly to the LBNL studies, this study included 48,554 total sales proximate to 10 wind farms, and 412 post-construction sales within 1 mile of a turbine. These wind farms were mostly small facilities in urban settings. The study included nuisance and scenic vista stigmas. Page 421 of the report stated, "Both the whole sample analysis and the repeat sales analysis indicate that houses within a half mile had essentially no price change ..." after the turbines were erected.

The University of Guelph, Melancthon Township, 2013

Ontario, Canada

This study analyzed two wind farms in the township, using 5,414 total sales and 18 post-construction sales within 1 kilometer of a wind turbine. The study included nuisance and scenic vista stigmas. Page 365 of the study stated that "These results do not corroborate the concerns regarding potential negative impacts of turbines on property values."

University of Connecticut/LBNL, 2014

Massachusetts

This study included 312,677 total sales proximate to 26 wind farms, and 1,503 post-construction sales within 1 mile of a wind turbine. These wind farms were located in urban settings and primarily were proximate to small wind farms. The study included wind turbines and other environmental amenities/disamenities (including beaches and open spaces/landfills, prisons, highways, major road, and transmission lines) together, for nuisance stigma. "Although the study found the effects from a variety of negative features ... and positive features ... the study found no net effects due to the arrival of turbines."

Wichita State University, 2019

Kansas

This study strived to decipher and develop a better understanding of wind projects and their effect on rural properties in Kansas. The study's data is based on 23 operational wind projects in Kansas which came online between 2005 to 2015. The properties and their values, which were appraised at the county level, have sale dates ranging from 2002 to 2018. The study and its results suggest that property values do not spike once the project is completed. Rather, it was noted that they have a more "modest" growth, and that the three-year average for property value growth was 0.3 % after a project had been completed and operational.

These studies had a combined number of over 3,700 transactions within 1 mile of operating turbines and found no evidence of value impact. [16]

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[16] *Although I have read these studies, the substance of these summaries was taken from a seminar conducted by the Appraisal Institute on March 5, 2015.*

Conclusions

As a result of the market impact analysis undertaken, MaRous & Company concluded that there is no market data indicating the project will have a negative impact on either rural residential or agricultural property values in the surrounding area. Further, market data from Illinois, as well as from other states, supports the conclusion that the project will not have a negative impact on rural residential or agricultural property values in the surrounding area. Finally, for agricultural properties that host photovoltaic panels, the additional income from the solar lease may increase the value and marketability of those properties. These conclusions are based on the following:

- There are significant financial benefits to the local economy and to the local taxing bodies from the development of the solar farm.
- The solar farm will create well-paid jobs in the area which will benefit overall market demand.
- An analysis of recent residential sales proximate to existing solar farms did not support any finding that proximity to a photovoltaic panel had a negative impact on property values.
- An analysis of agricultural land values in Illinois did not support any finding that agricultural land values are negatively impacted by the proximity to photovoltaic panels.
- Reports from Illinois, Iowa, Indiana, Wisconsin, Minnesota, and North Carolina indicate that photovoltaic panels leases add value to agricultural land.
- A survey of County Assessors in 6 Illinois counties, 11 Wisconsin counties, 7 Iowa counties, 9 Indiana counties, 5 North Carolina counties, and 13 Maryland counties in which solar farms with more than 1.0 megawatt of nameplate capacity are located determined that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a solar farm, and that there were no reductions in assessed valuation.

This report is based on market conditions existing as of March 12, 2023. This market impact study has been prepared specifically for the use of the client to gain information in relation to the development of the proposed Hickory Point Solar, in Christian County, Illinois. Any other use or user of this report is considered to be unintended.

Respectfully submitted,

MaRous & Company

Michael S. MaRous, MAI, CRE
Illinois Certified General - #553.000141 (9/23 expiration)

CERTIFICATE OF REPORT

I do hereby certify that:

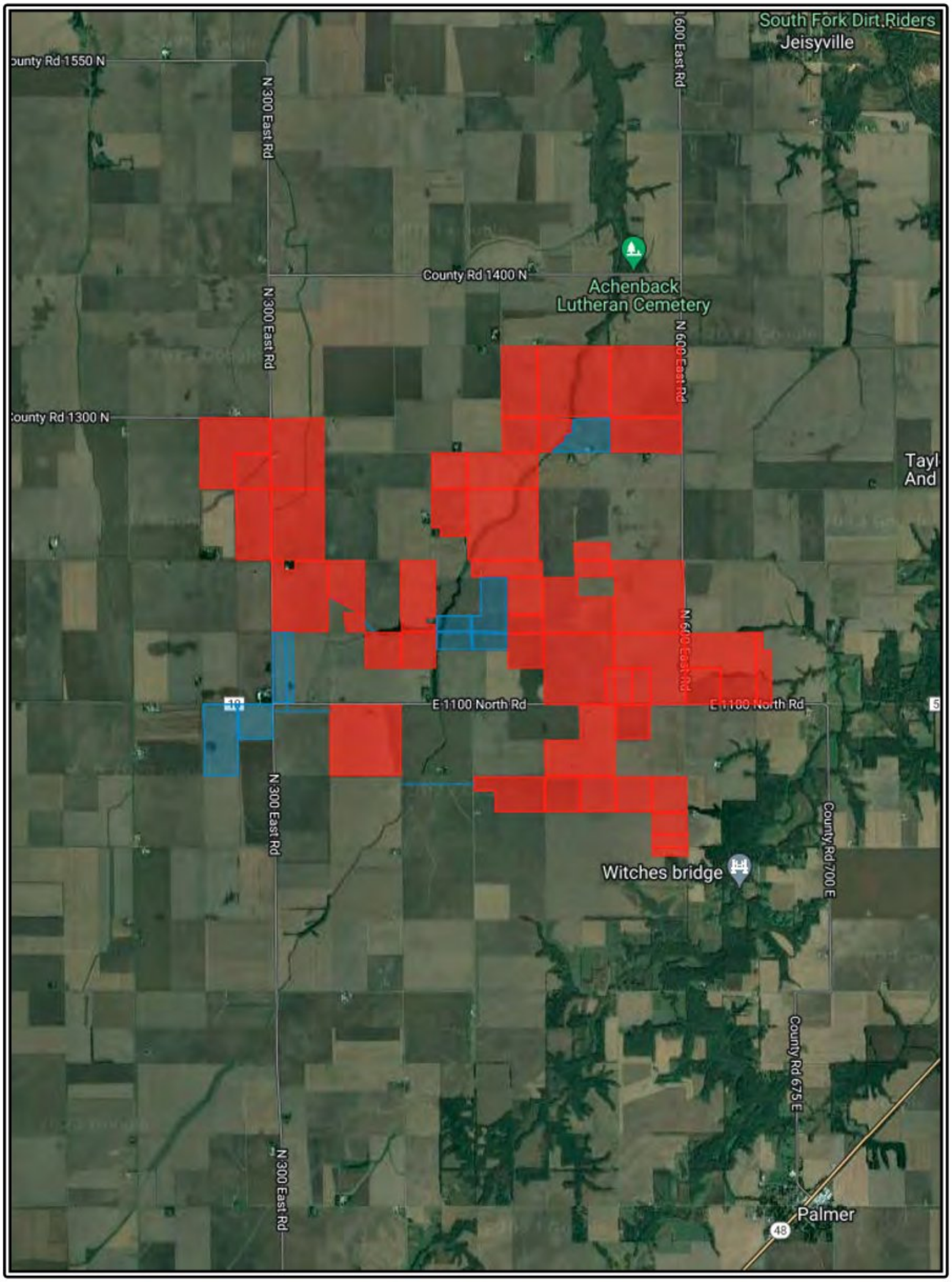
1. The statements of fact contained in this report are true and correct.
2. The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal, impartial, and unbiased professional analyses, opinions, conclusions, and recommendations:
3. I have no present or prospective personal interest in the property that is the subject of this report and no personal interest with respect to the parties involved.
4. I have performed no services, as an appraiser or in any other capacity, regarding the property that is the subject of this report within the three-year period immediately preceding acceptance of this assignment.
5. I have performed impact related services as an appraiser regarding the property that is the subject of this report over three years before the date of this report. The original work was completed on July 17, 2019.
6. I have no bias with respect to the property that is the subject of the work under review or to the parties involved with this assignment.
7. My engagement in this assignment was not contingent upon developing or reporting predetermined results.
8. My compensation for completing this assignment is not contingent upon the development or reporting of predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal consulting assignment.
9. My analyses, opinions, and conclusions were developed, and this report has been prepared in conformity with the *Uniform Standards of Professional Appraisal Practice.*
10. I have made a personal inspection of the subject of the work under review.
11. Joseph M. MaRous provided significant appraisal research assistance to the person signing this certification.
12. The reported analysis, opinions, and conclusions were developed, and this report has been prepared in conformity with the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Foundation.

12. The use of the report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.
13. As of the date of this report, Michael S. MaRous, MAI, CRE, has completed the continuing education requirements for Designated Members of the Appraisal Institute.

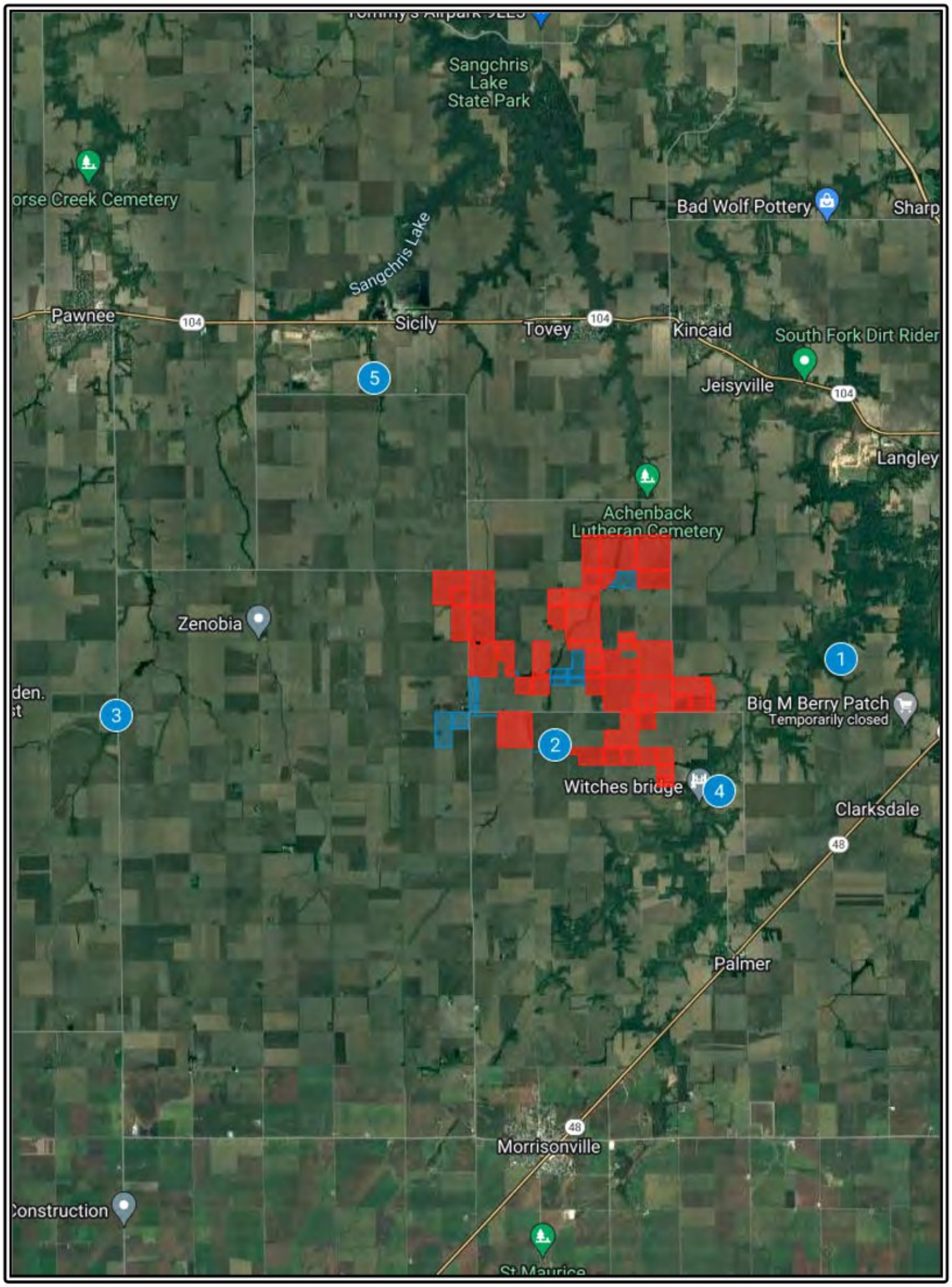
Respectfully submitted,
MaRous & Company

Michael S. MaRous, MAI, CRE
Illinois Certified General - #553.000141 (9/23 expiration)

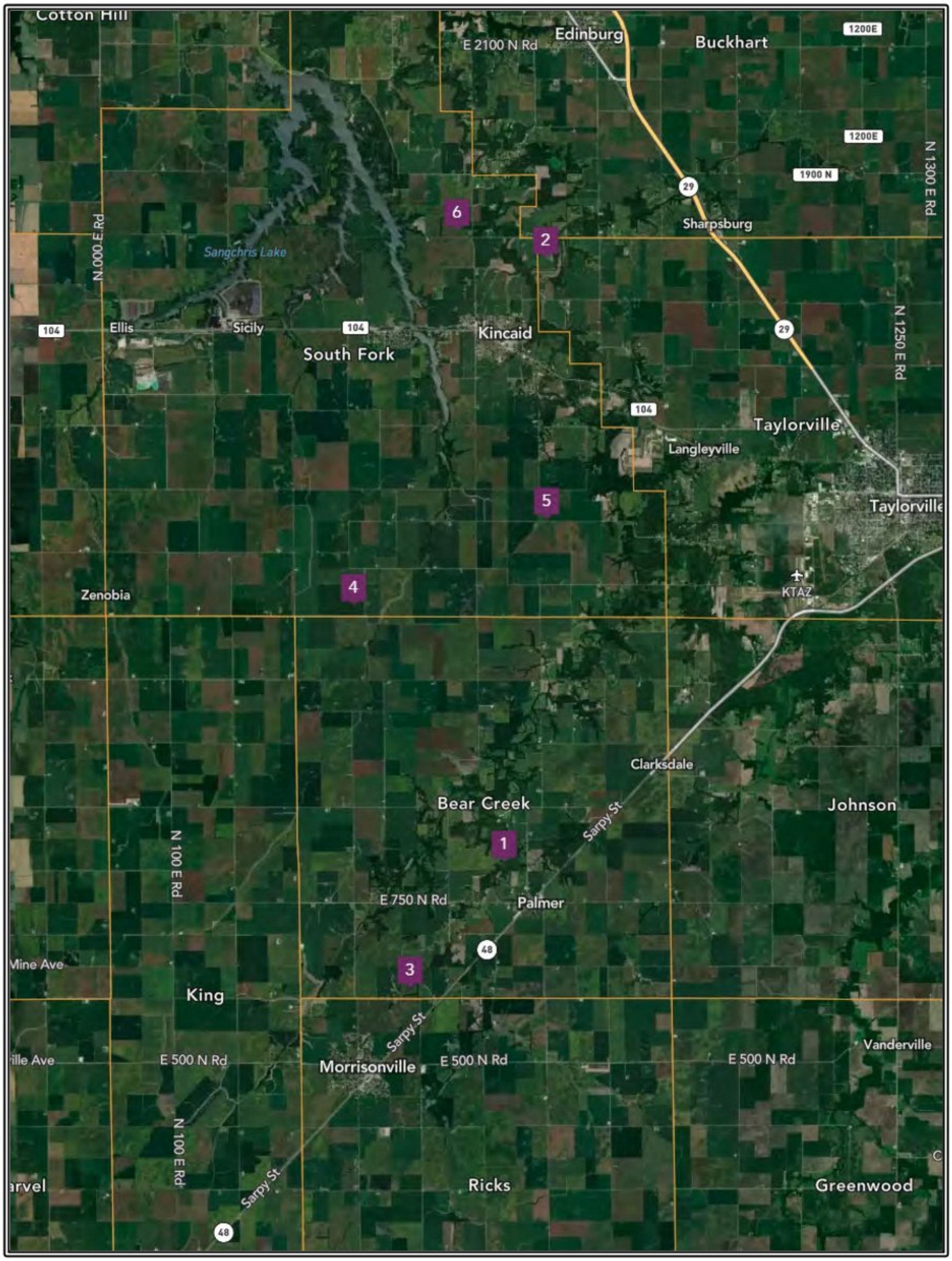
ADDENDA



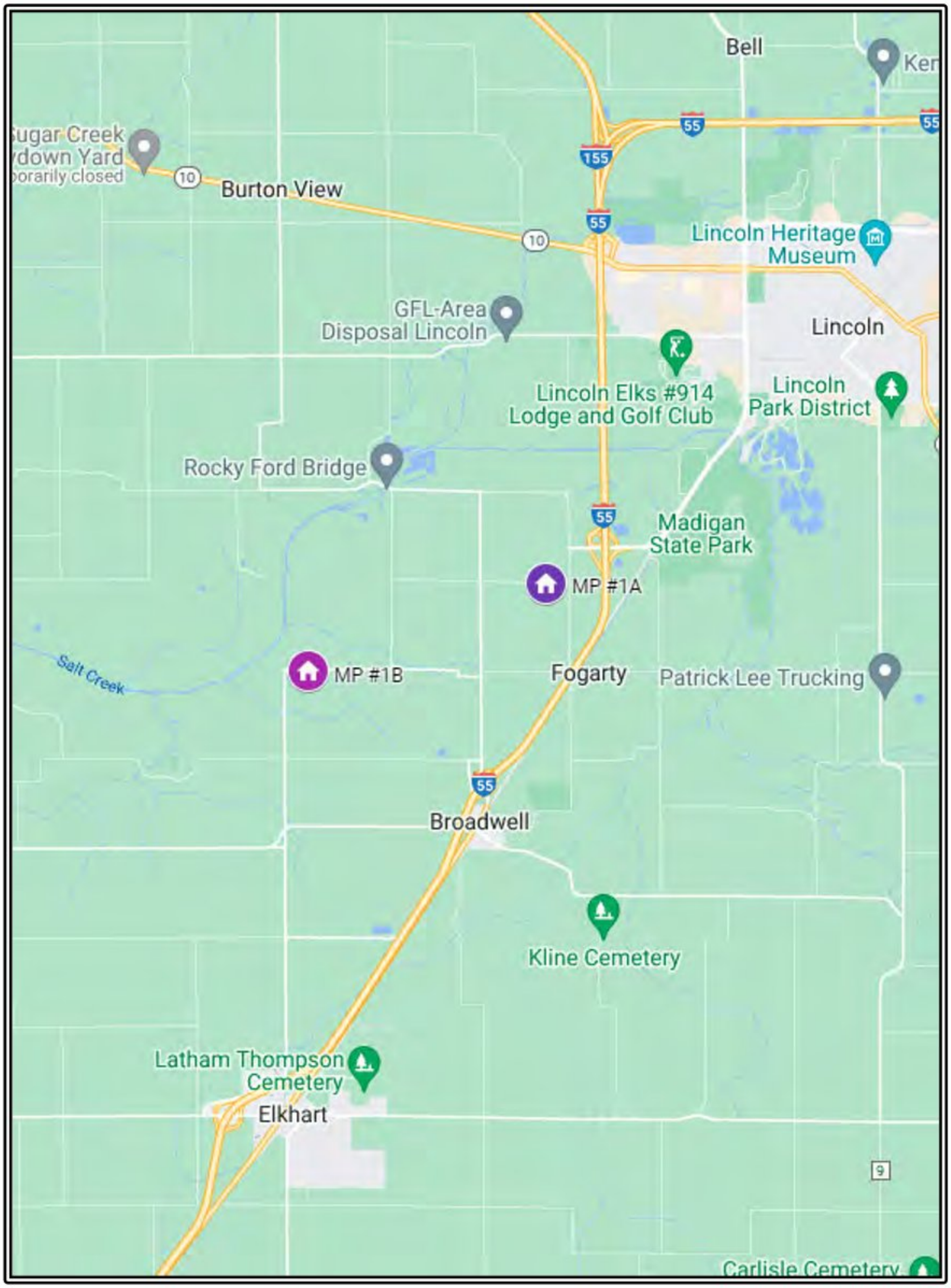
HICKORY POINT SOLAR FOOTPRINT



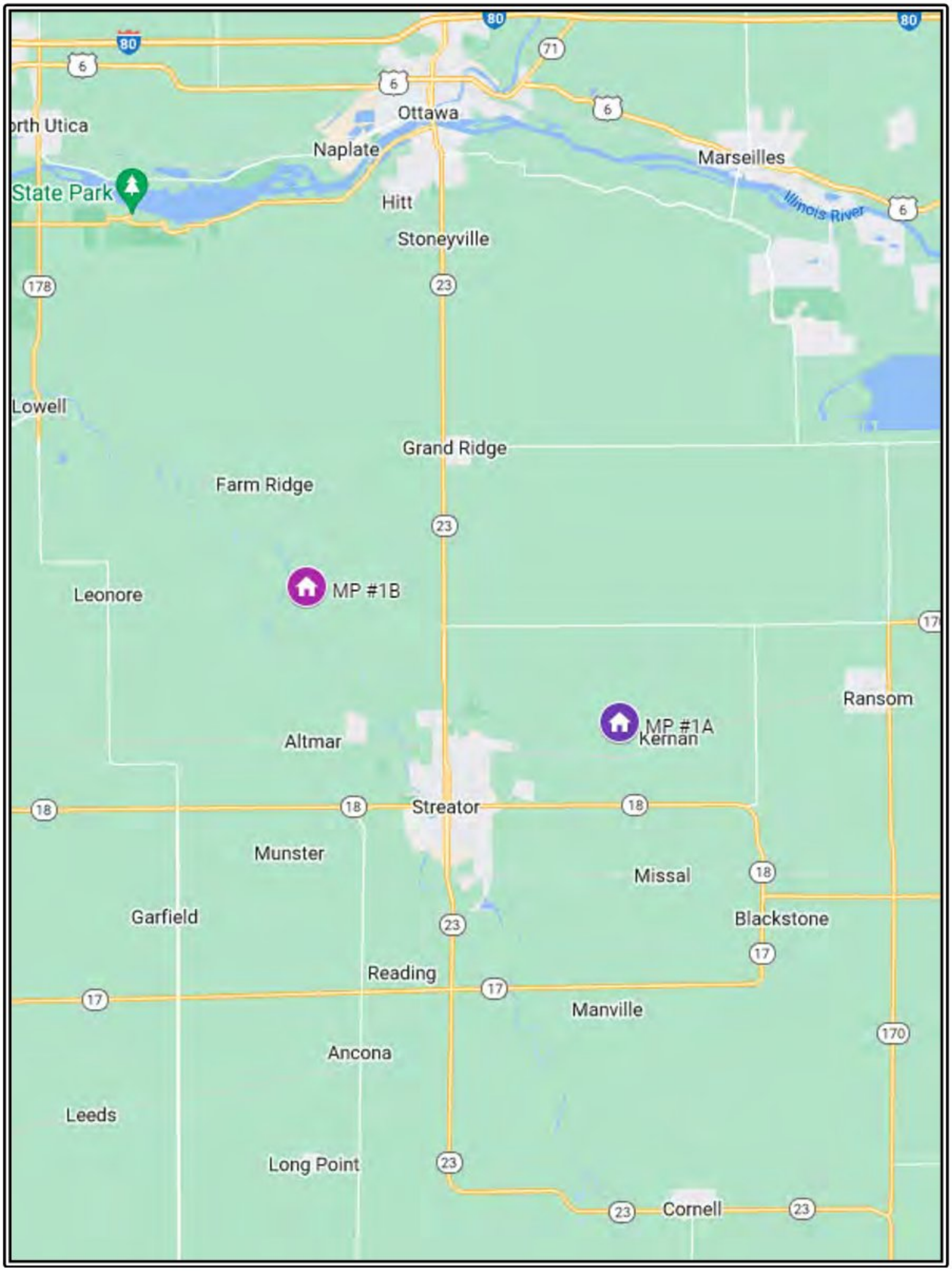
RECENT SINGLE-FAMILY HOUSE SALES LOCATION MAP



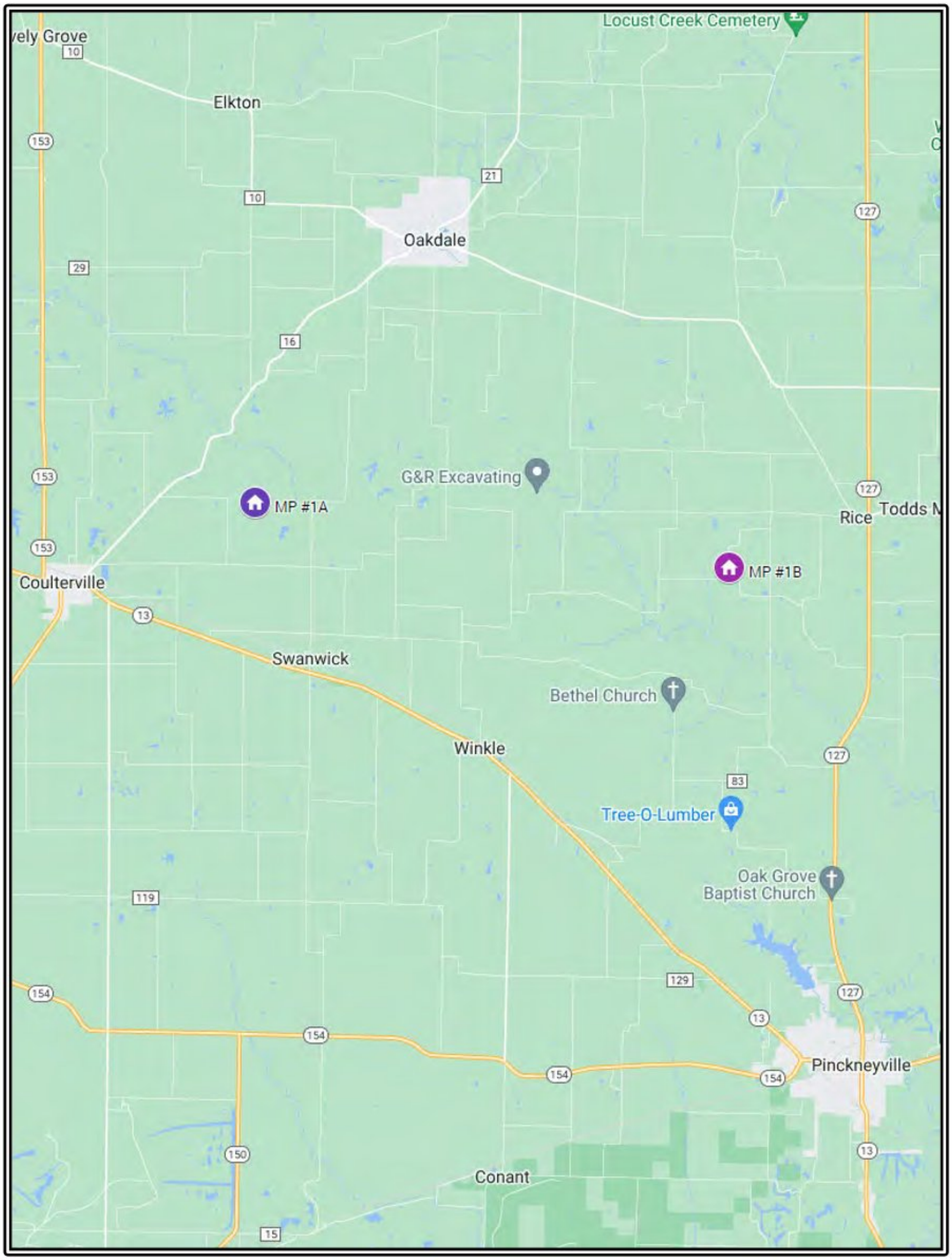
LAND SALES LOCATION MAP



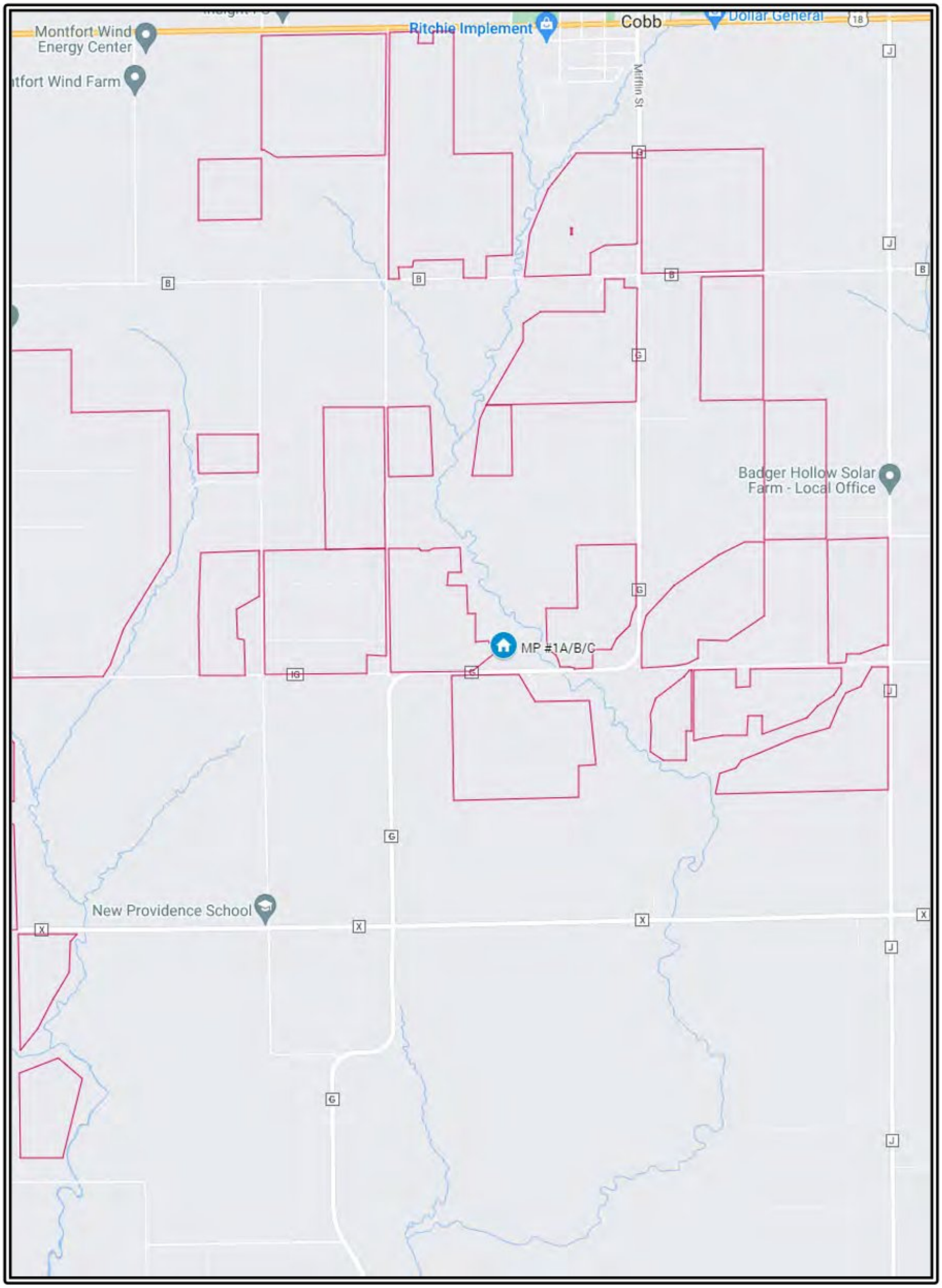
LOGAN COUNTY, ILLINOIS MATCHED PAIR LOCATION MAP



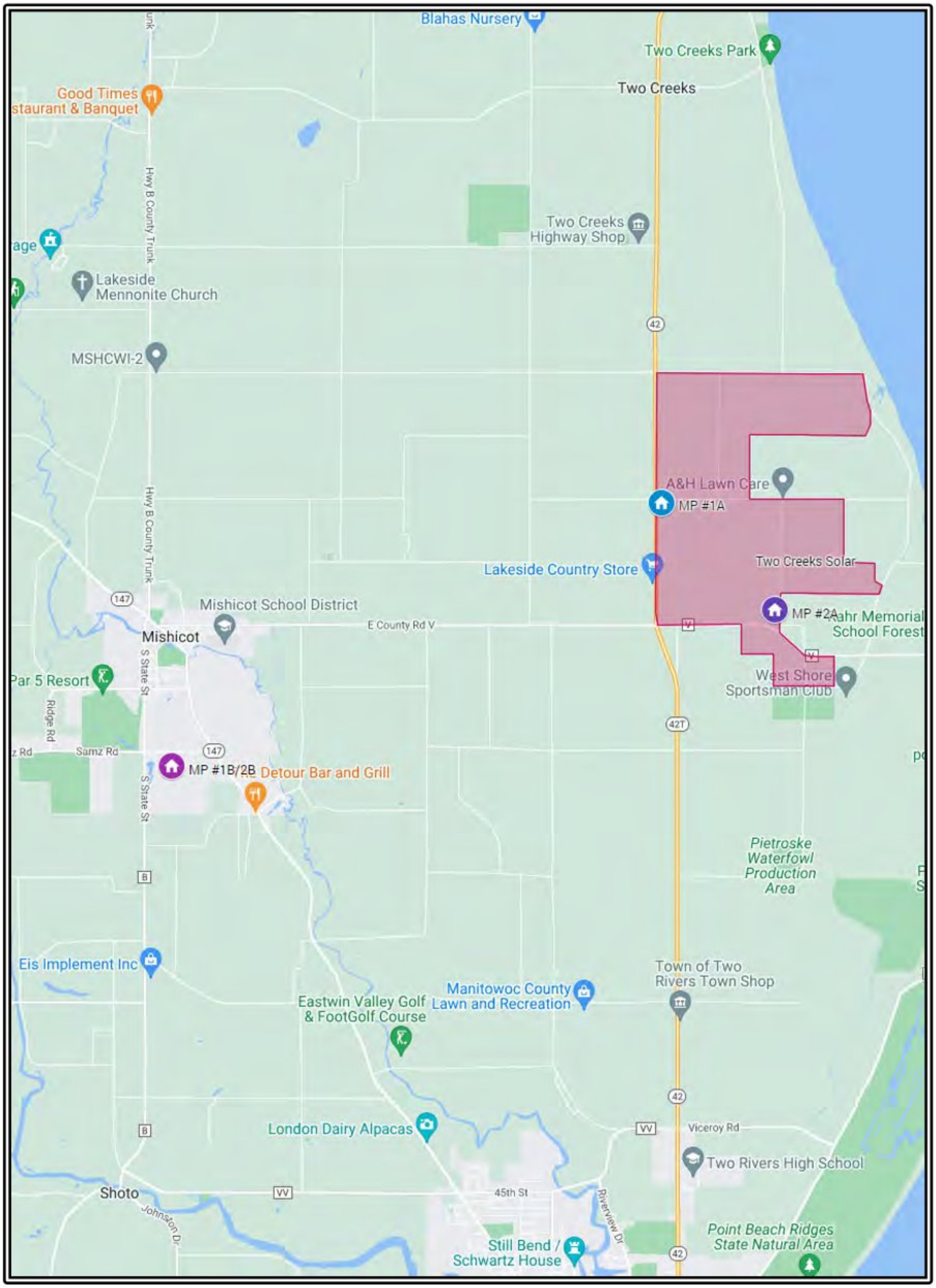
LASALLE COUNTY, ILLINOIS MATCHED PAIR LOCATION MAP



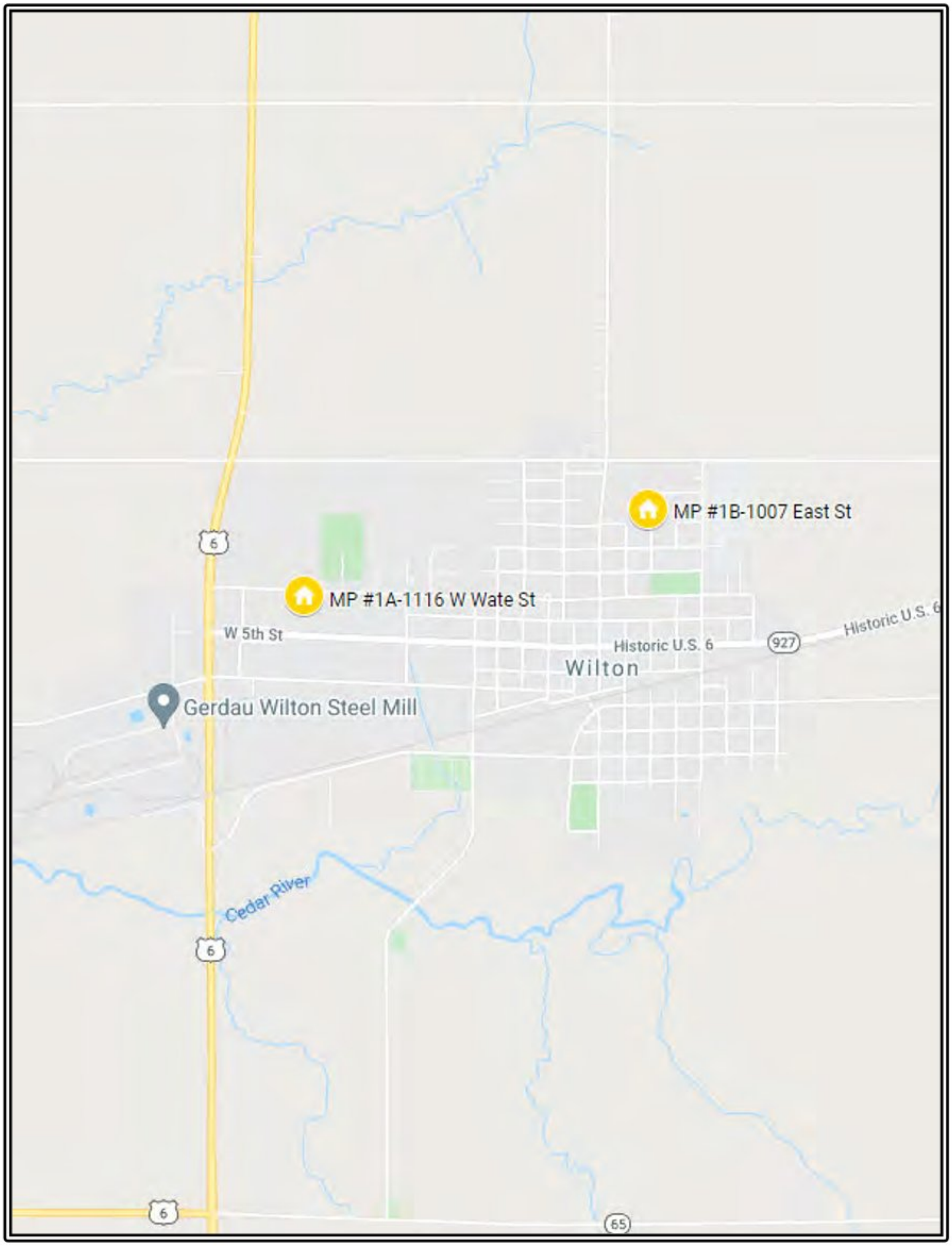
PERRY COUNTY, ILLINOIS MATCHED PAIR LOCATION MAP



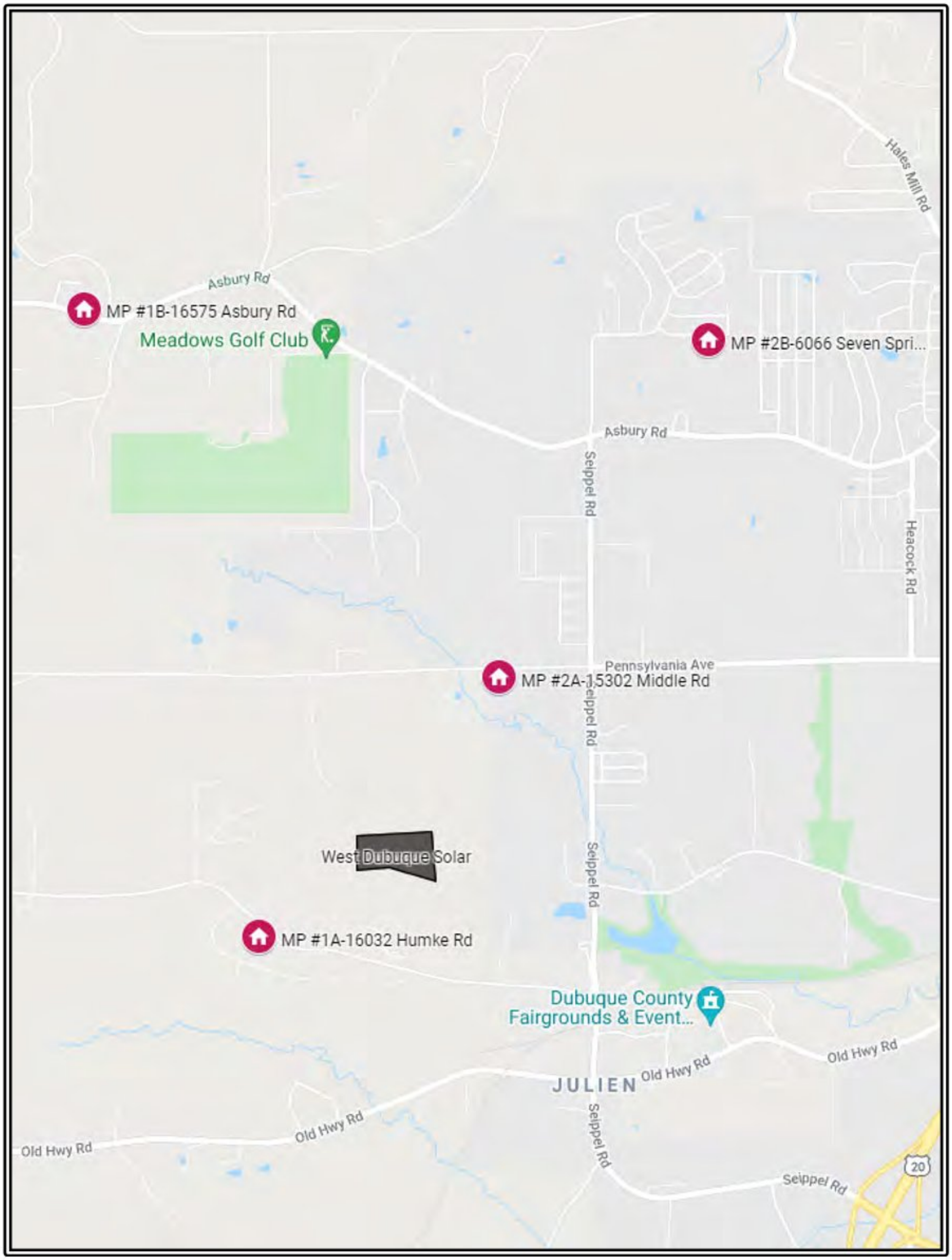
IOWA COUNTY, WISCONSIN MATCHED PAIR LOCATION MAP



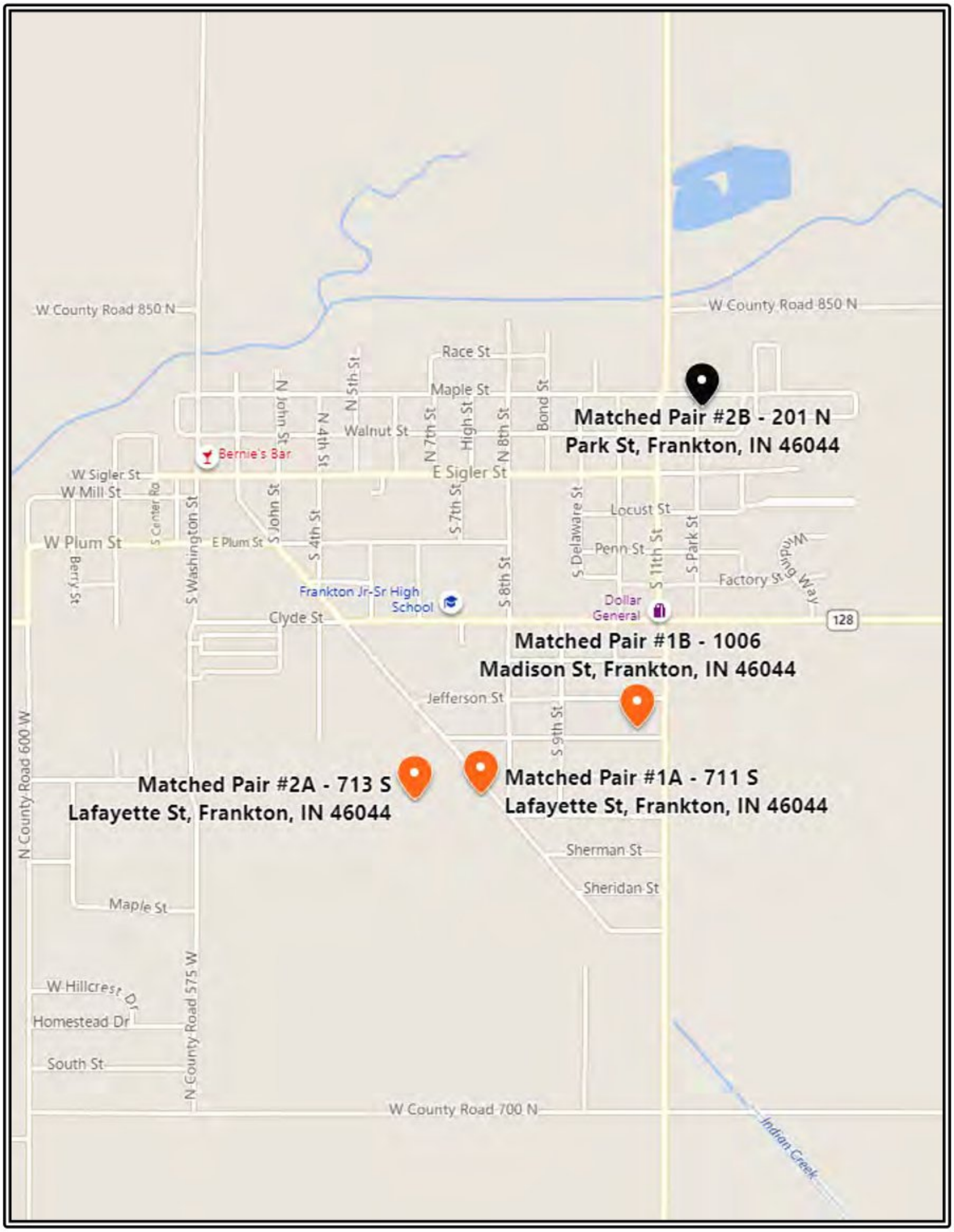
MANITOWOC COUNTY, WISCONSIN MATCHED PAIR LOCATION MAP



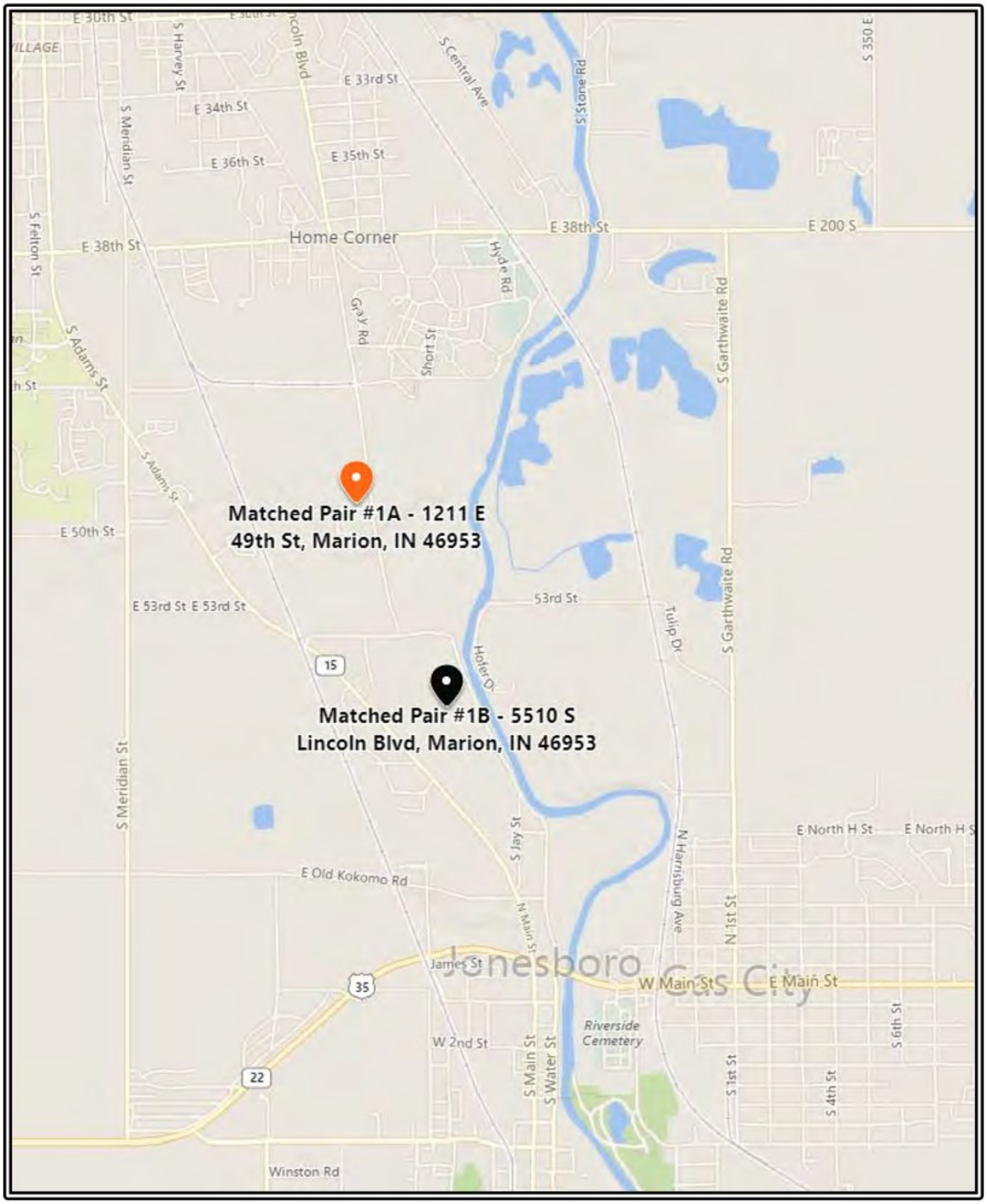
MUSCATINE COUNTY, IOWA MATCHED PAIR LOCATION MAP



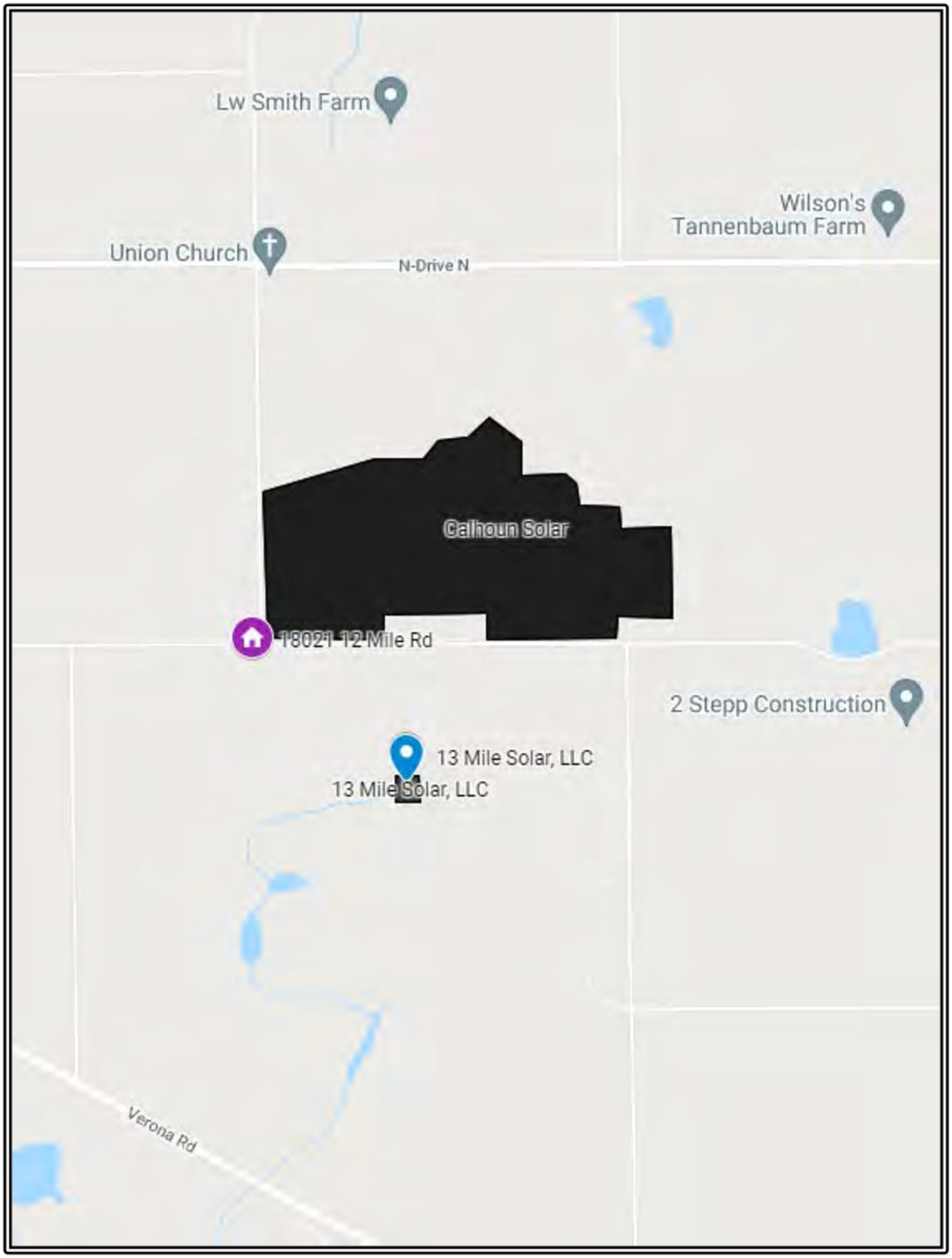
DUBUQUE COUNTY, IOWA MATCHED PAIR LOCATION MAP



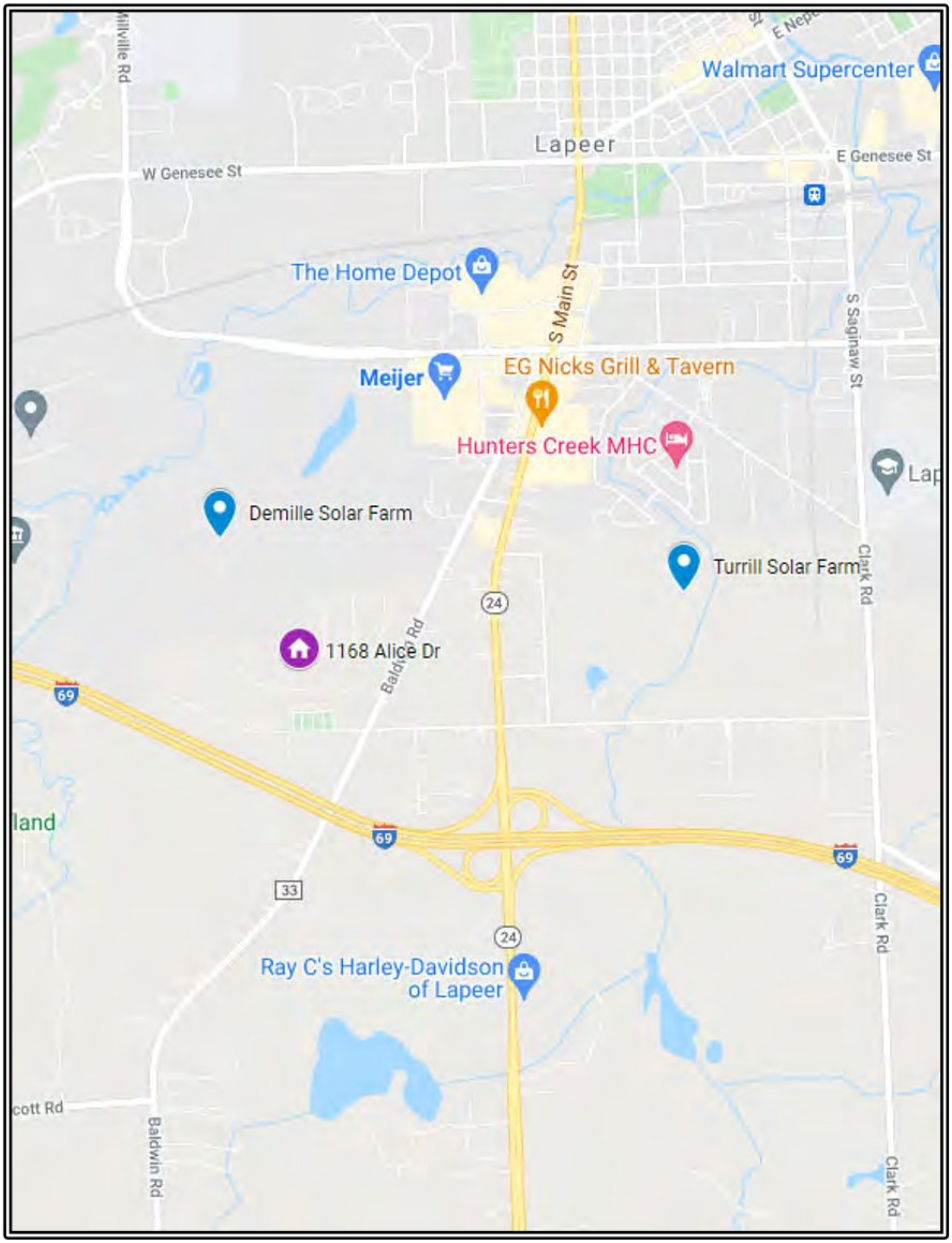
MADISON COUNTY, INDIANA MATCHED PAIR LOCATION MAP



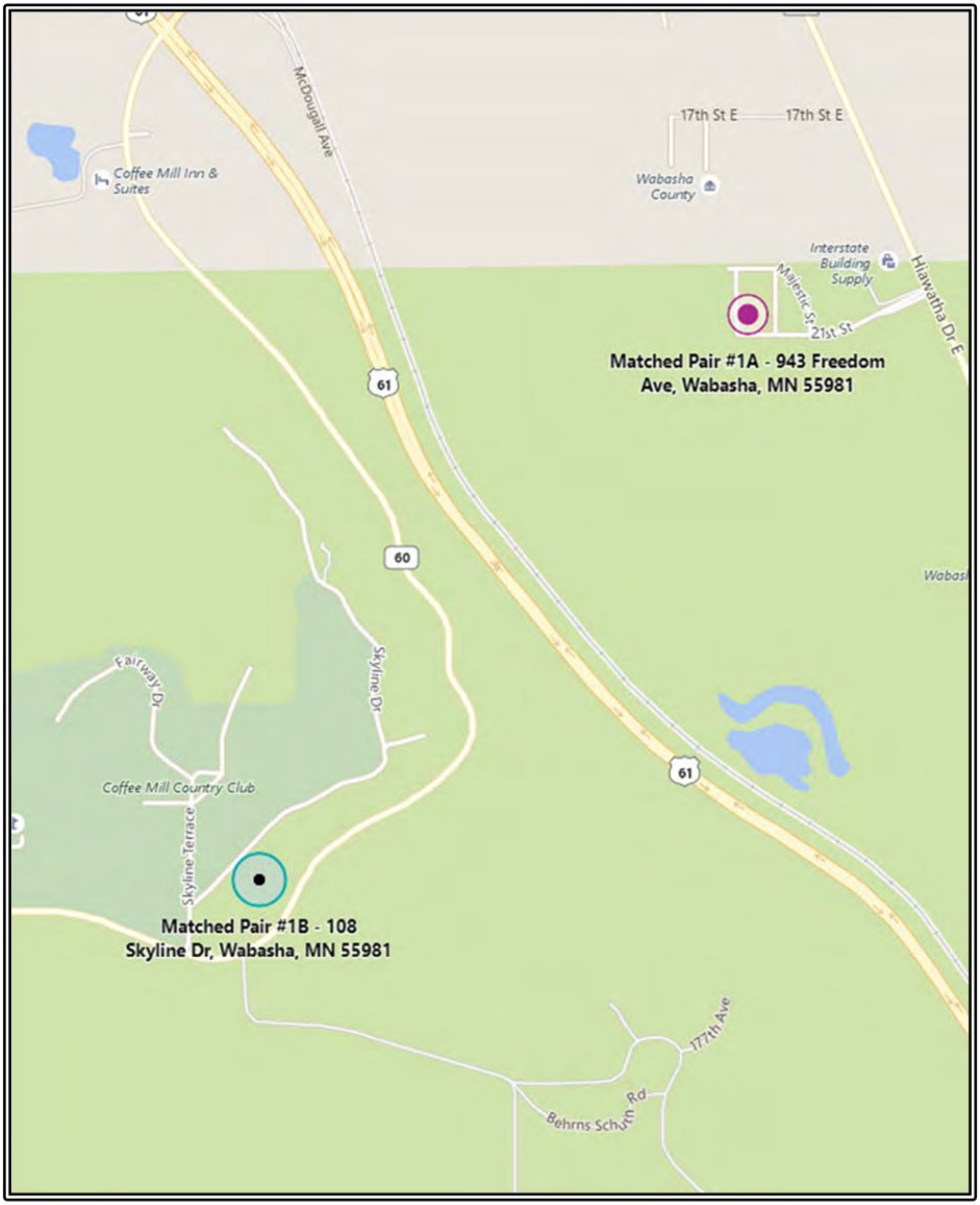
GRANT COUNTY, INDIANA MATCHED PAIR LOCATION MAP



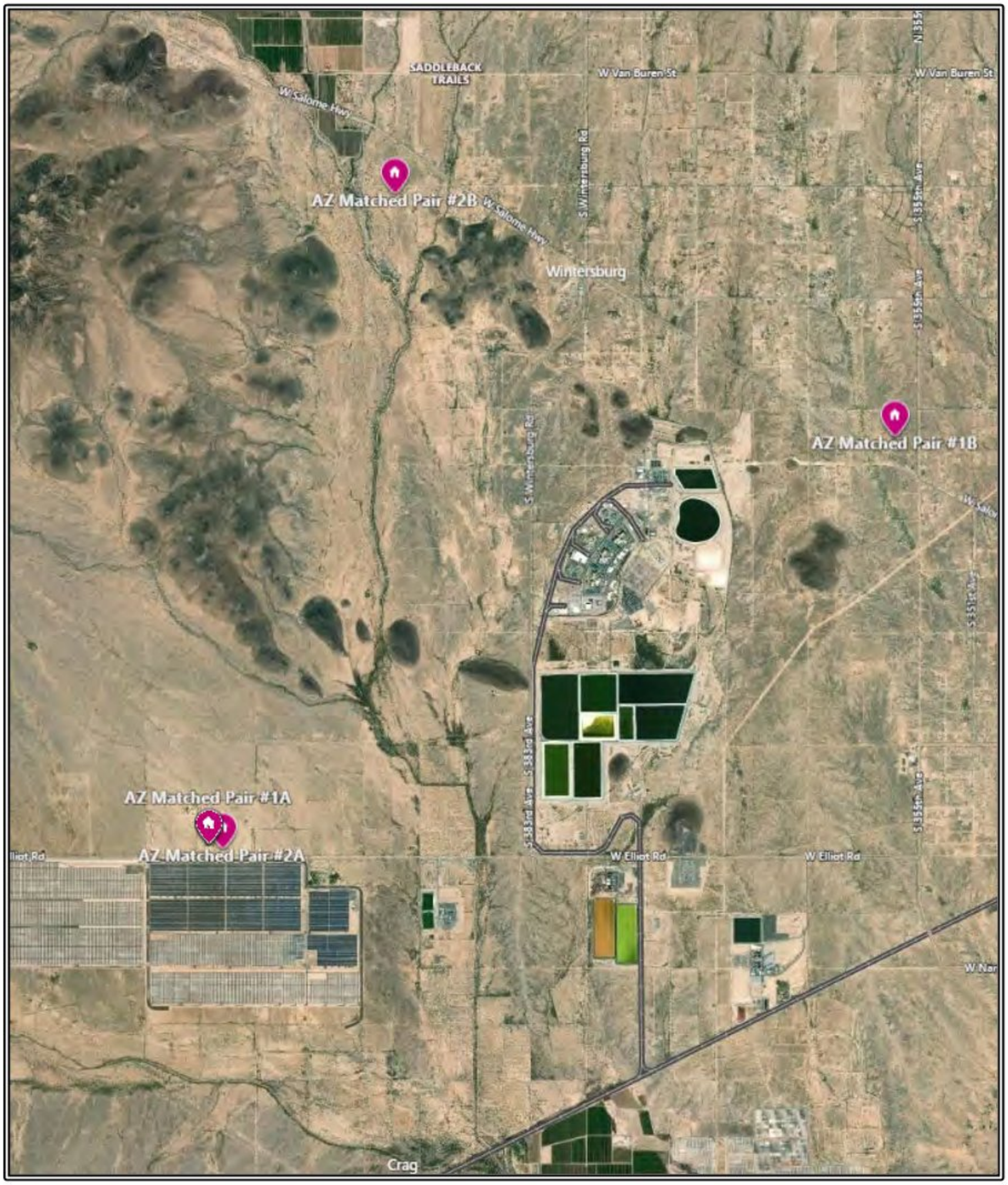
CALHOUN COUNTY, MICHIGAN MATCHED PAIR LOCATION MAP



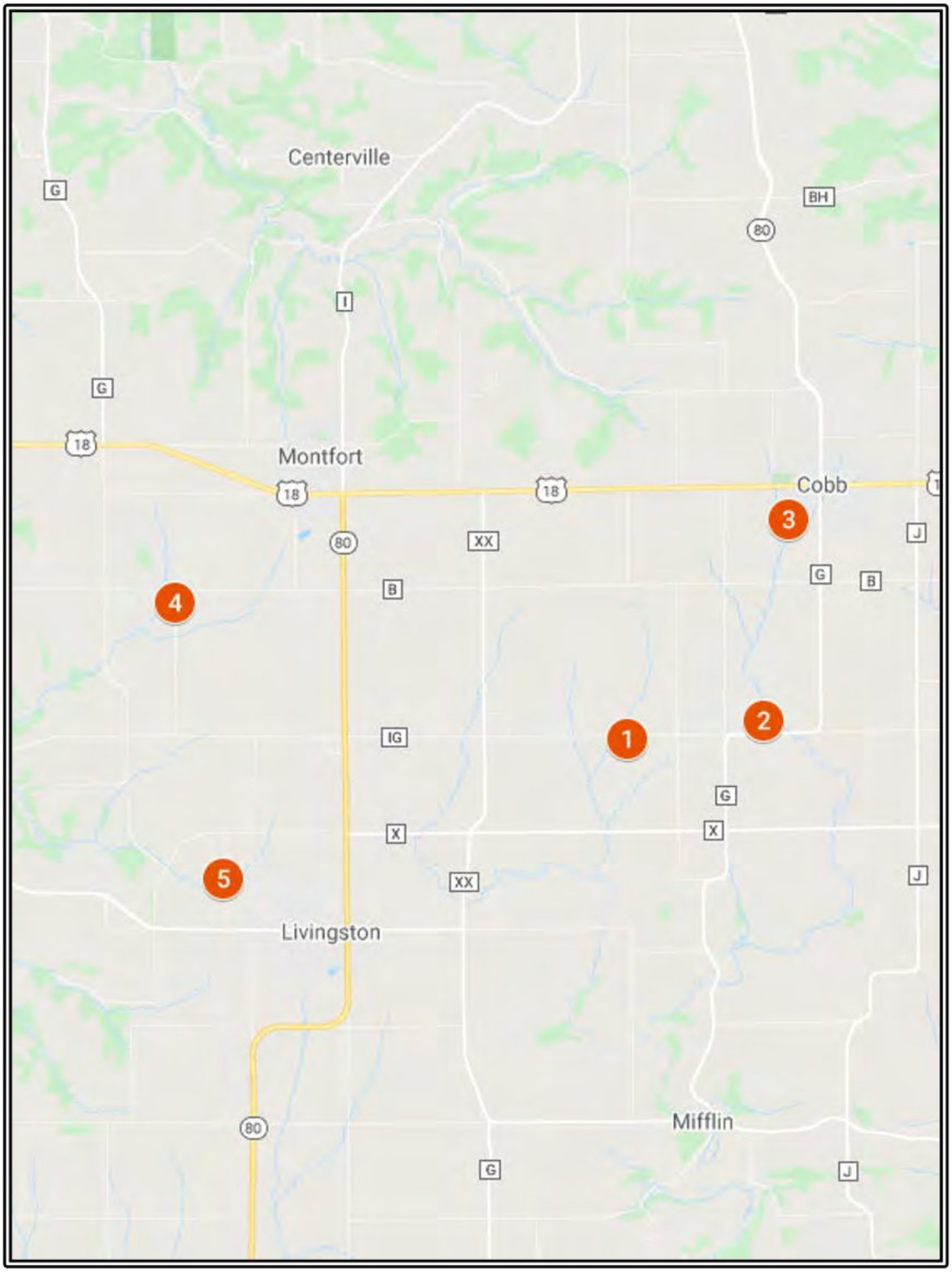
LAPEER COUNTY, MICHIGAN MATCHED PAIR LOCATION MAP



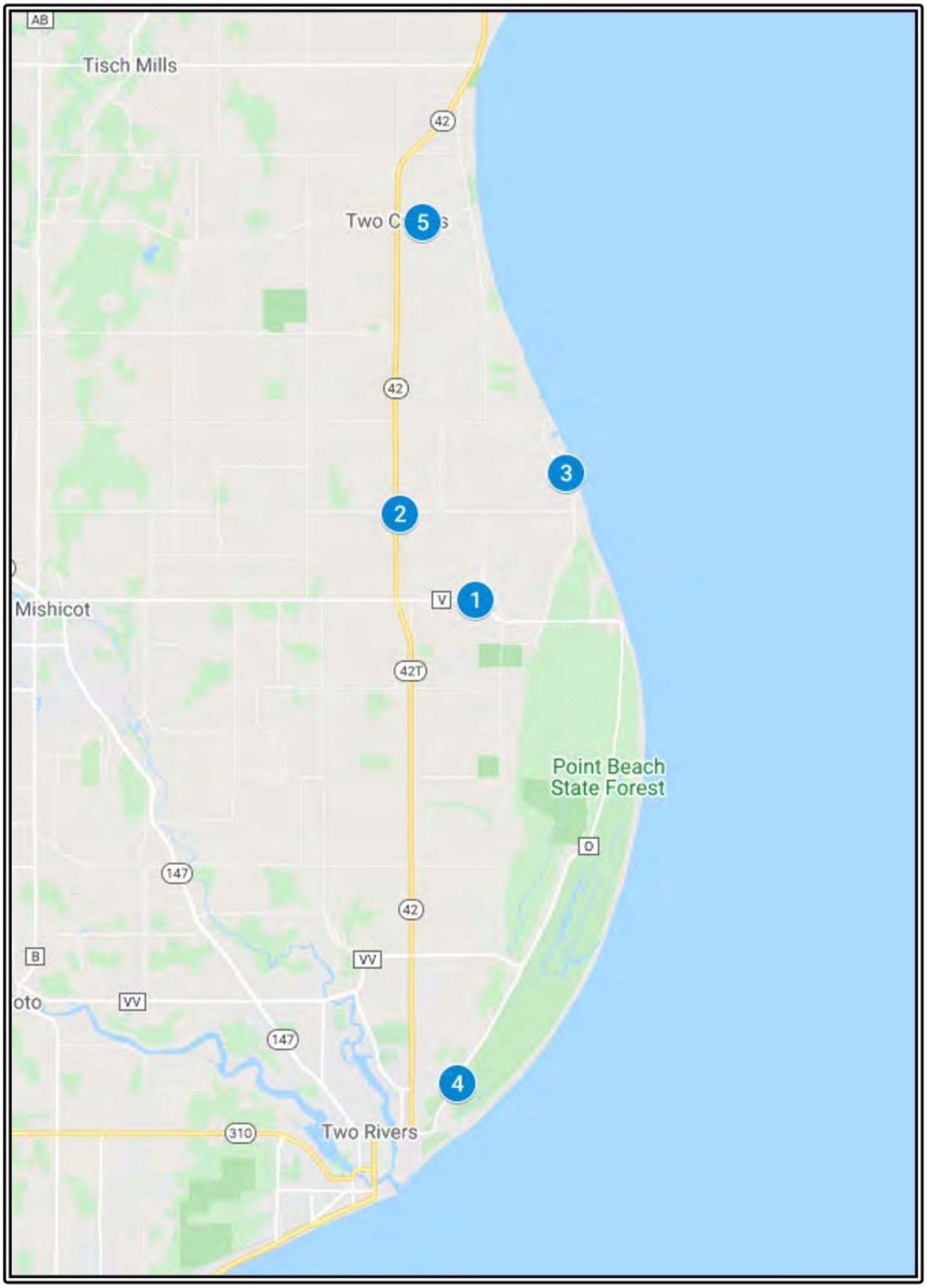
WABASHA COUNTY, MINNESOTA MATCHED PAIR LOCATION MAP



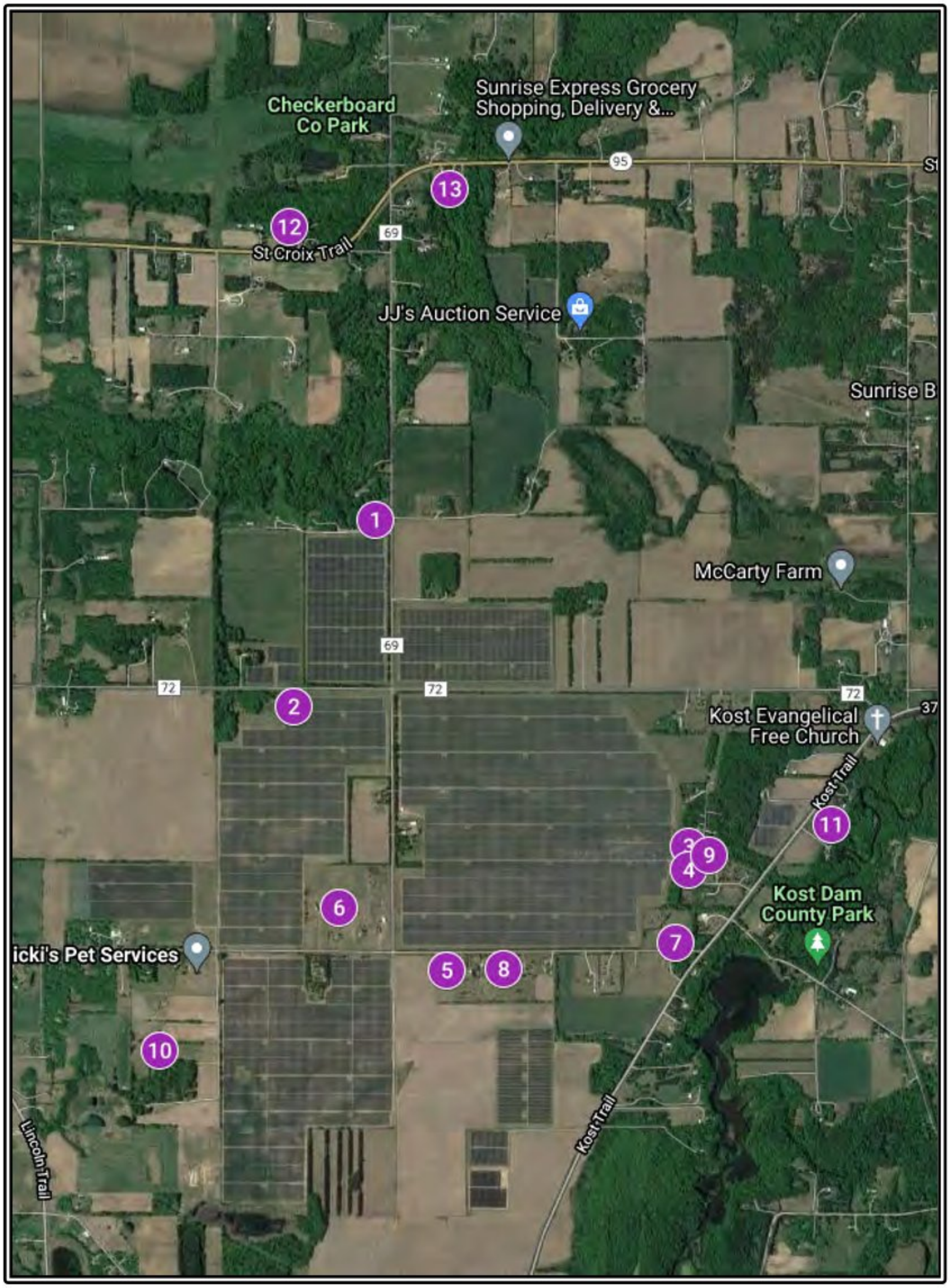
ARIZONA MATCHED PAIR LOCATION MAP



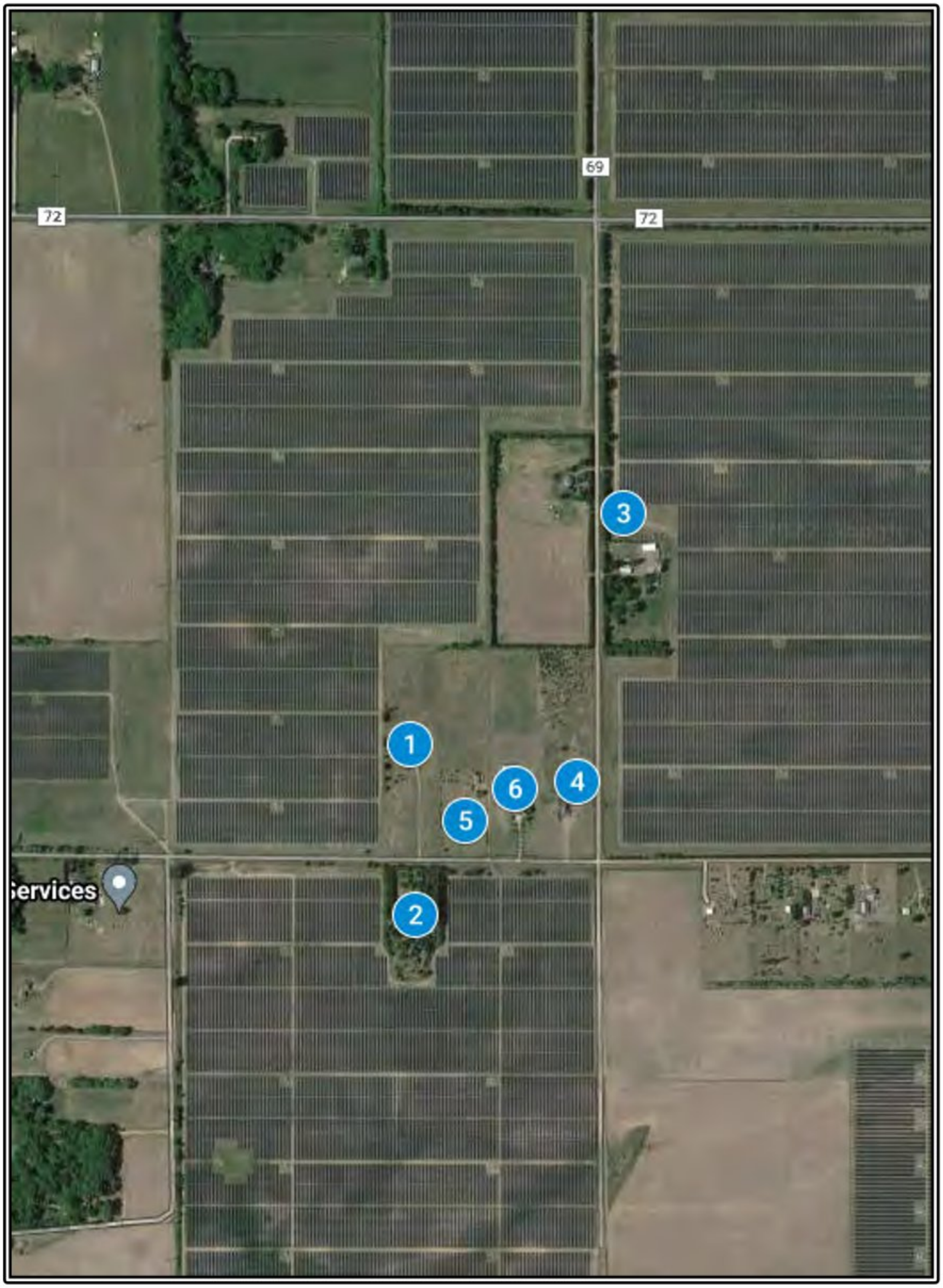
BADGER HOLLOW SOLAR FARM RECENT RESIDENTIAL SALES LOCATION MAP



TWO CREEKS SOLAR RECENT RESIDENTIAL SALES LOCATION MAP



NORTH BRANCH, MINNESOTA RECENT RESIDENTIAL SALES LOCATION MAP



NORTH BRANCH, MINNESOTA BEFORE AND AFTER SALES LOCATION MAP

ELIZABETH CITY, NORTH CAROLINA RECENT RESIDENTIAL SALES LOCATION MAP

GOLDSBORO, NORTH CAROLINA RECENT RESIDENTIAL SALES LOCATION MAP

GOLDSBORO, NORTH CAROLINA BEFORE AND AFTER SALES LOCATION MAP

IMPROVED SALE PHOTOGRAPHS

837 East 1175 North Road

428 East 1050 North Road

6372 North 35th Avenue

677 East 990 North Road

1571 North 175 East Road

ILLINOIS COUNTY ASSESSOR SURVEY ANALYSIS

A survey of the Supervisors of Assessments or the Deputy Assessors of 6 counties in Illinois which solar farms currently are operational has been undertaken. The supervisors of assessments or a qualified staff member were interviewed. The interviews were intended to allow the assessment officials to share their experiences regarding the impact of the solar farm(s) upon the market values and/or the assessed values of surrounding properties. The interviews were conversational, but thoroughly discussed residential and agricultural values and impacts. The interviews were conducted in July 2019.

Conclusions of the Study

Based on these interviews:

- Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of, and the proximity to, a solar farm facility. In some counties, this results from the very rural nature of the area in which the projects are located.
- There have been no tax appeals in any county based upon solar farm-related concerns.
- In the past 18 months, the assessor's offices have not experienced a real estate tax appeal based upon solar farm-related concerns. As of the date of this report, there are more than 13 solar farms with more than 18 megawatts within these counties. There have been no reductions in assessed valuations related to photovoltaic panels.
- Residential assessed values have fluctuated consistently countywide as influenced by market conditions, with no regard for proximity to a solar farm.
- Agricultural properties are taxed based upon a productivity formula that is not impacted by market data and by external influences.

Scope of Project

The supervisors of assessments or a qualified staff member were interviewed. Each of the interviewees was familiar with the solar farm(s) located within each respective county. A map indicating the total capacity of the solar farms in each of these counties is included in this memorandum. A second map illustrates the number of the solar farms located in each of these counties. The following is the list of County Supervisors of Assessments contacted, county population, and the solar farms in their counties:

County	Population	Assessor	CA Phone #	Solar Farm Project Name	Capacity (MW)	Year Installed
Champaign	209,983	Paula Bates	(217) 384-3760	Brookfield Properties Retail	1.28	2018
				Rantoul Solar	1.00	2016
Cook	5,180,493	Fritz Kaegi	(312) 443-7550	Exelon Solar Chicago	9.00	2009
				West Pullman Industrial Redevelopment Area	10.00	2010
Henry	49,090	Tracey Vinavich	(309) 937-3570	Geneseo	1.20	2015
				Macy's	2.00	2017
LaSalle	109,430	Stephanie R. Kennedy	(815) 434-8233	Grand Ridge Solar Farm	20.00	2012
Will	692,310	Rhonda Novak	(815) 740-4648	IKEA	1.12	2012
				IKEA Joliet Rooftop PV System	2.00	2017
Winnebago	284,081	Thomas R. Hodges	(815) 319-4460	Rockford Solar Farm	3.06	2012

Residential Market Values

Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of, and the proximity to, a solar farm facility. Either as a request by a county board, in an attempt to appropriately assess newly constructed residences, or to support current assessed values, the supervisors of assessments have been particularly attentive to market activity in the area of the solar farms.

Residential Assessed Values, Complaints/Tax Appeal Filings

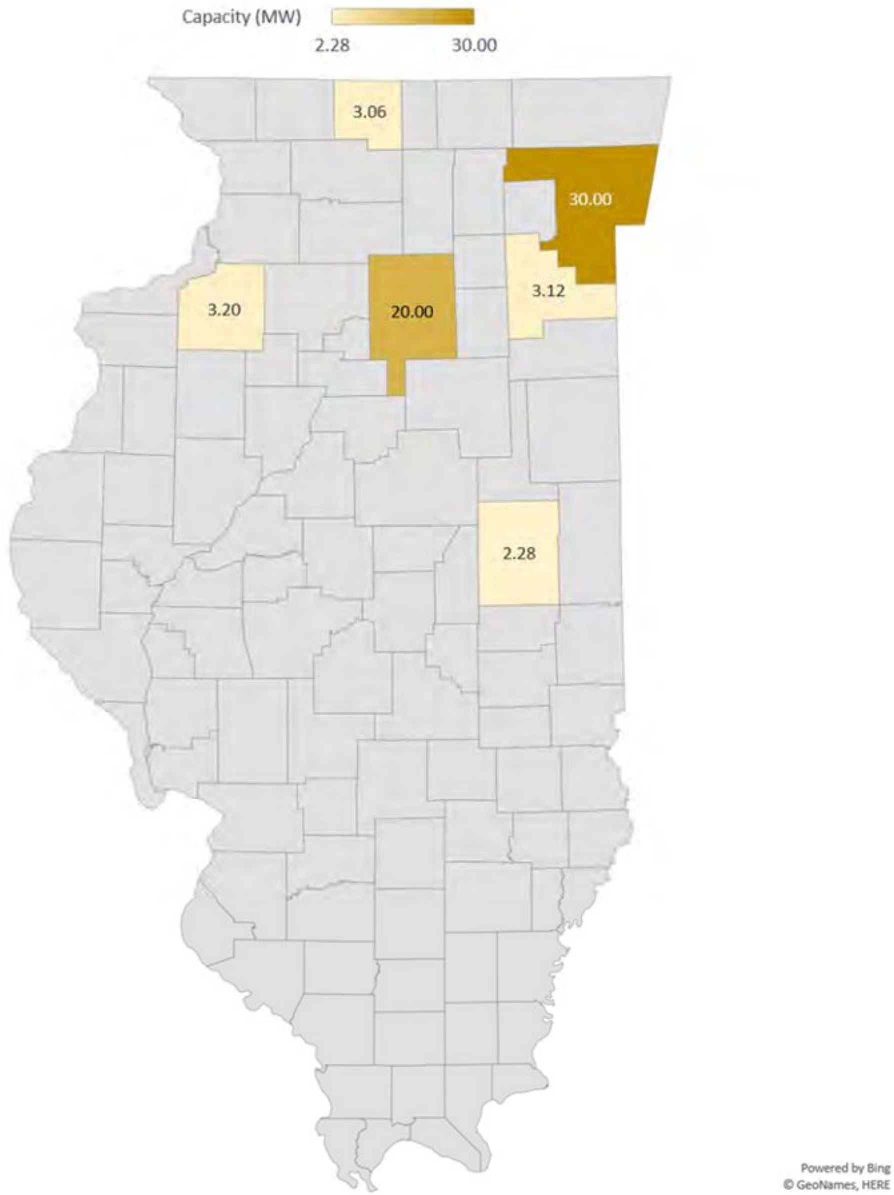
The assessors reported that there have been no tax appeal filings based upon solar farm issues. The deputy assessor of Champaign County, Zebo Zebe, stated that although there have not been any complaints or appeals on existing solar farms, there have been a number of unofficial complaints due to a proposed solar farm that is currently in the development stage.

Consistently, the assessors reported that whatever initial concern there may have been regarding property values during the planning and approval stages of the various solar farms had dissipated once the solar farm was constructed. Repeatedly, the assessors would state that the revenue that would come into the county and to each individual farmer would outweigh any initial concern that the residents would have about the solar farms joining their communities.

Agricultural Values/Assessed Values

The assessed values of agricultural properties are established based upon a productivity formula and are not driven by market data. Reportedly, assessed values of agricultural properties have been steady or increasing in recent years and are projected to continue increasing for the near future. The assessors reported that no major complaints have been received and/or no tax appeal filings have been filed for agricultural properties within a solar farm footprint.

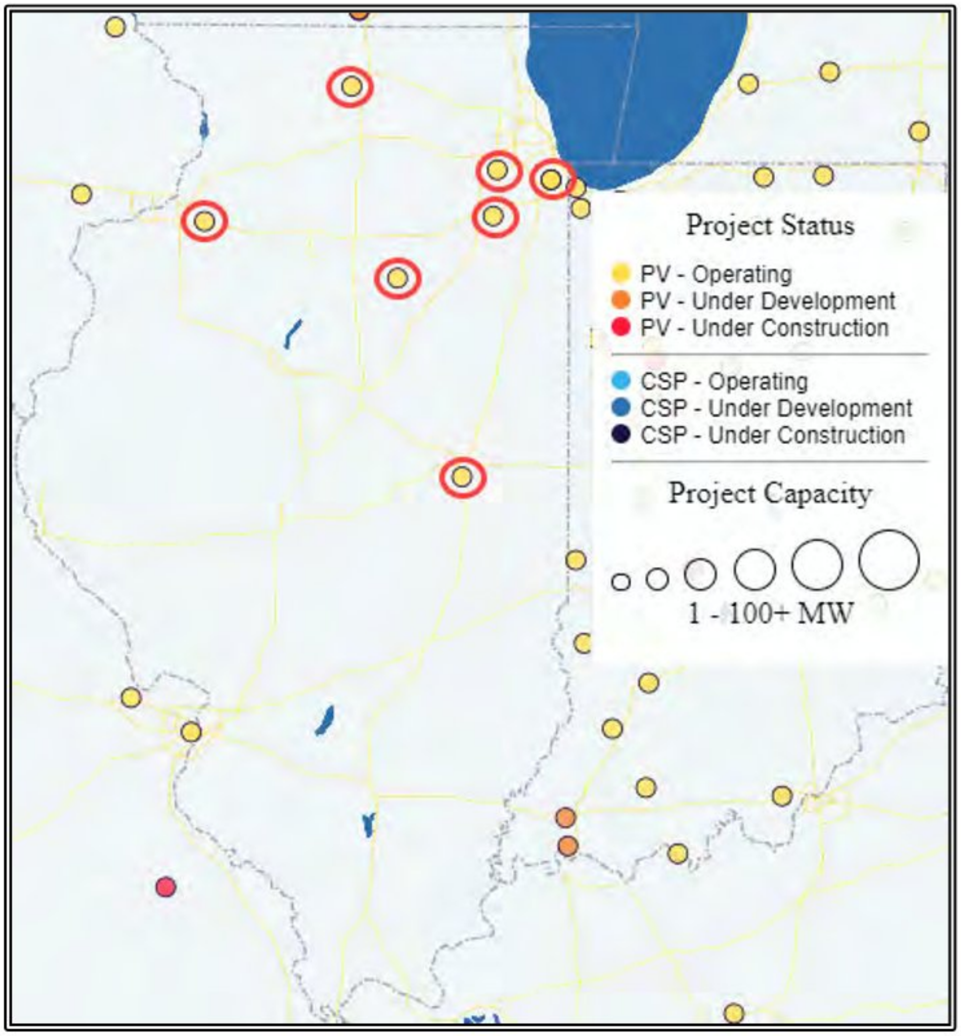
Based on this survey, it does not appear that the Supervisors of Assessments in the surveyed counties in Illinois have reason to believe that the location of photovoltaic panels in their county has had a negative impact on property values.



Map of Illinois Counties Surveyed

Solar Farm Capacity by County

Solar Farms with 1.00-Megawatt Capacity or Higher



Note: As depicted on this map, the locations of certain solar farms are approximations. In some instances, the solar farms are incorrectly shown to be located in adjacent counties. This map, as of the date of this survey, also shows the locations of smaller solar farms, but for the accuracy of this study we have only focused on the farms with a capacity of 1.00 megawatt or higher.

MICHAEL S. MAROUS
STATEMENT OF QUALIFICATIONS

Michael S. MaRous, MAI, CRE, is president and owner of MaRous and Company. He has appraised more than $15 billion worth of primarily investment-grade real estate in more than 25 states. In addition to providing documented appraisals, he has served as an expert witness in litigation proceedings for many law firms; financial institutions; corporations; builders and developers; architects; local, state, county, and federal governments, and agencies; and school districts in the Chicago metropolitan area. His experience in partial interest, condemnation, damage impact, easement (including aerial and subsurface), marital dissolutions, bankruptcy proceedings, and other valuation issues is extensive. He has provided highest and best use, marketability, and feasibility studies for a variety of properties. Many of the largest redevelopment areas and public projects, including Interstate 355, the Chicago O'Hare International Airport expansion, the Chicago Midway International Airport expansion, and the McCormick Place expansion, are part of Mr. MaRous' experience. Mr. MaRous also has experience in regard to mediation and arbitration proceedings. Also, he has purchased and developed real estate for his own account.

APPRAISAL AND CONSULTATION EXPERIENCE

Industrial Properties

Business Parks
Distribution Centers
Manufacturing Facilities
Research Facilities
Self-storage Facilities
Warehouses

Commercial Properties

Auto Sales/Service Facilities
Banquet Halls
Big Box Stores
Gasoline Stations
Hotels and Motels
Office Buildings
Restaurants
Shopping Centers
Theaters

Special-Purpose Properties

Bowling Alleys
Cemeteries
Farms
Golf Courses
Lumber Yards
Nurseries
Riverboat Gambling Facilities
Schools
Stadium Expansion Issues
Solar Farms
Tank Farms
Underground Gas Aquifers
Utility Corridors
Waste Transfer Facilities
Wind Farms

Residential Properties

Apartment Complexes
Condominium Conversions
Condominium Developments
Single-family Residences
Subdivision Developments
Townhouse Developments

Vacant Land

Agricultural
Alleys
Commercial
Easements
Industrial
Residential
Rights of Way
Streets
Vacations

Clients

Corporations
Financial Institutions
Law Firms
Not-for-profit Associations
Private Parties
Public Entities

EDUCATION

B.S., Urban Land Economics, University of Illinois, Urbana-Champaign
Continuing education seminars and programs through the Appraisal Institute
and the American Society of Real Estate Counselors, and real estate brokerage classes

PUBLIC SERVICE

Mayor, City of Park Ridge, Illinois (2003-2005)
Alderman, City of Park Ridge, including Liaison to the Zoning Board of Appeals and Planning and Zoning and Chairman of the Finance and Public Safety Committees (1997-2005)

PROFESSIONAL AFFILIATIONS AND LICENSES

Appraisal Institute, MAI designation, Number 6159
Counselors of Real Estate, CRE designation
Illinois Certified General Real Estate Appraiser, License Number 553.000141 (9/23)
Indiana Certified General Real Estate Appraiser, License Number CG41600008 (6/24)
Wisconsin Certified General Real Estate Appraiser, License Number 1874-10 (12/23)
Minnesota Certified General Real Estate Appraiser, License Number 40330656 (8/24)
Iowa Certified General Real Estate Appraiser, License Number CG03468 (6/24)
Licensed Real Estate Broker (Illinois)

PROFESSIONAL ACTIVITIES

Mr. MaRous is past president of the Chicago Chapter of the Appraisal Institute. He is former chair and vice chair of the National Publications Committee and has sat on the board of The Appraisal Journal. In addition, he has served on and/or chaired more than 15 other committees of the Appraisal Institute, the Society of Real Estate Appraisers, and the American Institute of Real Estate Appraisers.

Mr. MaRous served as chair of the Midwest Chapter of the Counselors of Real Estate in 2006 and 2007 and has served on the National CRE Board since 2011. He sat on the Midwest Chapter Board of Directors, the Editorial Board of Real Estate Issues, and on various other committees.

Mr. MaRous also is past president of the Illinois Coalition of Appraisal Professionals. He also has been involved with many other professional associations, including the Real Estate Counseling Group of America, the Northwest Suburban Real Estate Board, the National Association of Real Estate Boards, and the Northern Illinois Commercial Association of Realtors.

PUBLICATIONS AND PROFESSIONAL RECOGNITION

Mr. MaRous has spoken at more than 20 programs and seminars related to real estate appraisal and valuation.

Author

"Low-income Housing in Our Backyards," *The Appraisal Journal*, January 1996
"The Appraisal Institute Moves Forward," *Illinois Real Estate Magazine*, December 1993
"Chicago Chapter, Appraisal Institute," *Northern Illinois Real Estate Magazine*, February 1993
"Independent Appraisals Can Help Protect Your Financial Base," *Illinois School Board Journal*, November-December 1990
"What Real Estate Appraisals Can Do for School Districts,"
School Business Affairs, October 1990

Awards

Appraisal Institute - George L. Schmutz Memorial Award, 2001
Chicago Chapter of the Appraisal Institute – Heritage Award,
2000
Chicago Chapter of the Appraisal Institute - Herman O. Walther, 1987 (Distinguished Chapter Member)

Reviewer or Citation in the Following Books
Rural Property Valuation, 2017
Real Estate Damages, 1999, 2008, and 2016
Golf Property Analysis and Valuation, 2016
Dictionary of Real Estate Appraisal, Fourth Edition, 2002 and Sixth Edition, 2015
Market Analysis for Real Estate, 2005 and 2014
Appraisal of Real Estate, Twelfth Edition, 2001, Thirteenth Edition, 2008, Fourteenth Edition, 2013
Shopping Center Appraisal and Analysis, 2009
Subdivision Valuation, 2008
Valuation of Apartment Properties, 2007
Valuation of Billboards, 2006
Appraising Industrial Properties, 2005
Valuation of Market Studies for Affordable Housing, 2005
Valuing Undivided Interest in Real Property: Partnerships and Cotenancies, 2004
Analysis and Valuation of Golf Courses and Country Clubs, 2003
Valuing Contaminated Properties: An Appraisal Institute Anthology, 2002
Hotels and Motels: Valuation and Market Studies, 2001
Land Valuation: Adjustment Procedures and Assignments, 2001
Appraisal of Rural Property, Second Edition, 2000
Capitalization Theory and Techniques, Study Guide, Second Edition, 2000
Guide to Appraisal Valuation Modeling Land, 2000
Appraising Residential Properties, Third Edition, 1999
Business of Show Business: The Valuation of Movie Theaters, 1999
GIS in Real Estate: Integrating, Analyzing and Presenting Locational Information, 1998
Market Analysis for Valuation Appraisals, 1995

REPRESENTATIVE WORK OF MICHAEL S. MAROUS

Headquarters/Corporate Office Facilities in Illinois
Fortune 500 corporation facility, 200,000 sq. ft., Libertyville
Corporate headquarters, 300,000 sq. ft. and 500,000 sq. ft., Chicago
Fortune 500 corporation facility, 450,000 sq. ft., Northfield
Major airline headquarters, 1,100,000 million sq. ft. on 47 acres, Elk Grove Village
Former communications facility, 1,400,000 million sq. ft. on 62 acres, Skokie and Niles
Corporate Headquarters, 1,500,000+ sq. ft., Lake County
Former Sears Headquarters Redevelopment Project, Chicago

Office Buildings in Chicago
401 South LaSalle Street, 140,000 sq. ft.
134 North LaSalle Street, 260,000 sq. ft.
333 North Michigan Avenue, 260,000 sq. ft.
171 West Randolph Street, 360,000 sq. ft.
20 West Kinzie Street, 405,000 sq. ft.
55 East Washington Street, 500,000 sq. ft.
10 South LaSalle Street, 870,000 sq. ft.
222 West Adams Street, 1,000,000 sq. ft.
141 West Jackson Boulevard, 1,065,000 sq. ft.
333 South Wabash Avenue, 1,125,000 sq. ft.
155 North Wacker Drive, 1,406,000 sq. ft.
70 West Madison Street, 1,430,000 sq. ft.
111 South Wacker Drive, 1,454,000 sq. ft.
175 West Jackson Boulevard, 1,450,000 sq. ft.
227 West Monroe Street, 1,800,000 sq. ft.
10 South Dearborn Street, 1,900,000 sq. ft.

Hotels in Chicago
One West Wacker Drive (Renaissance Chicago Hotel)
10 East Grand Avenue (Hilton Garden Inn)
106 East Superior Street (Peninsula Hotel)
120 East Delaware Place (Four Seasons)
140 East Walton Place (The Drake Hotel)
160 East Pearson Street (Ritz Carlton)
301 East North Water Street (Sheraton Hotel)
320 North Dearborn Street (Westin Chicago River North)
401 North Wabash Avenue (Trump Tower)
505 North Michigan Avenue (Hotel InterContinental)
676 North Michigan Avenue (Omni Chicago Hotel)
800 North Michigan Avenue (The Park Hyatt)

Large Industrial Properties in Illinois
Large industrial complexes, 400,000 sq. ft., 87th Street and Greenwood Avenue, Chicago
Distribution warehouse, 580,000 sq. ft. on 62 acres, Champaign
Publishing house, 700,000 sq. ft. on 195 acres, U.S. Route 45, Mattoon
AM Chicago International, 700,000± sq. ft. on 41 acres, 1800 West Central Road, Mount Prospect
Nestlé distribution center, 860,000 sq. ft. on 153 acres, DeKalb
U.S. Government Services Administration distribution facility, 860,000 sq. ft., 76th Street and Kostner Avenue,
Chicago Fortune 500 company distribution center, 1,000,000 sq. ft., Elk Grove Village
Caterpillar Distribution Facility, 2,231,000 sq. ft., Morton
Self-storage facilities, various Chicago metropolitan locations

Airport Related Properties
Mr. MaRous has performed valuations on more than 100 parcels in and around Chicago O'Hare International Airport, Chicago Midway International Airport, Palwaukee Municipal Airport, Chicago Aurora Airport, DuPage Airport, and Lambert-St. Louis International Airport

Vacant Land in Illinois

15 acres, office, Northbrook
20 acres, residential, Glenview
25 acres, Hinsdale
55 acres, mixed-use, Darien
68 acres, Roosevelt Road and the Chicago River
75 acres, I-88 at I-355, Downers Grove
100± acres, various uses, Lake County
100 acres, Western Springs
140 acres, Flossmoor
142 acres, residential, Lake County
160 acres, residential, Cary
200 acres, mixed-use, Bartlett
250 acres, Island Lake
450 acres, residential, Wauconda
475± acres, various uses, Lake County
650 acres, Hawthorne Woods
650 acres, Waukegan/Libertyville
800 acres, Woodridge
900 acres, Matteson
1,000± acres, Batavia area
2,000± acres, Northern Lake County
5,000 acres, southwest suburban Chicago area
Landfill expansion, Lake County

Retail Facilities

20 Community shopping centers, various Chicago metropolitan locations
Big box uses, various Chicago metropolitan locations and the Midwest
Gasoline Stations, various Chicago metropolitan locations
More than 50 single-tenant retail facilities larger than 80,000 sq. ft., various Midwest metropolitan locations

Residential Projects

Federal Square townhouse development project, 118 units, $15,000,000+ sq. ft. project, Dearborn Place, Chicago
Marketability and feasibility study, 219 East Lake Shore Drive, Chicago
Riverview II, Chicago; Old Town East and West, Chicago; Museum Park Lofts II, Museum Park Tower 4, University Commons, Two River Place, River Place on the Park, Chicago,
Timber Trails, Western Springs, Illinois

Market Impact Studies

Land-fill projects in various locations
Quarry expansions in Boone and Kendall counties
Commercial development and/or parking lots in various communities
Zoning changes in various communities
Waste transfer stations in various communities

Business and Industrial Parks

Chevy Chase Business Park, 30 acres, Buffalo Grove
Carol Point Business Center, 300-acre industrial park, Carol Stream, $125,000,000+ project
Internationale Centre, approximately 1,000 acre-multiuse business park, Woodridge

Properties in Other States

330,000 sq. ft., Newport Beach, California
Former government depot/warehouse and distribution center, 2,500,000 sq. ft. on 100+ acres, Ohio
Shopping Center, St. Louis, Missouri, Office Building, Clayton, Missouri
Condominium Development, South Dakota, South Dakota
Hormel Foods, various Midwest locations
Wisconsin Properties including Lowes, Menards, Milwaukee Zoo, CVS Pharmacy's in Milwaukee, Dairyland Racetrack, Major Industrial Property in Manawa, Class A Office Buildings and Vacant Land

Energy Related Projects

Oakwood Hills Energy Center, McHenry County, Illinois
Lackawanna Power Plant, Lackawanna County, Pennsylvania
Commonwealth Edison, high tension lines

Wind Projects

Illinois

Alta Farms Wind Project II, Dewitt County
Bennington Wind Project, Marshall County
Goose Creek Wind, Piatt County
Harvest Ridge Wind Farm, Douglas County
Lincoln Land Wind Farm, Morgan County
Midland Wind Farm, Henry County
McLean County Wind Farm, McLean County
Otter Creek Wind Farm, LaSalle County
Pleasant Ridge Wind Farm, Livingston County
Radford's Run Wind Farm, Macon County
Shady Oaks II, Lee County
Twin Groves Wind Farm, McLean County
Walnut Ridge Wind Farm, Bureau County

Indiana

Roaming Bison Wind Farm, Montgomery County
Tippecanoe County Wind Farm, Tippecanoe County

Iowa

Great Pathfinder Wind Project, *Boone & Hamilton County*
Ida Grove II Wind Farm, *Ida County*

Kansas

Neosho Ridge Wind Farm, Neosho County
Jayhawk Wind, Bourbon County & Crawford County

New York

Alle-Catt Wind, Allegany County, Cattaraugus County, & Wyoming County
Orangeville Wind Farm, Wyoming County

Ohio

Seneca Wind, Seneca County
Republic Wind, Seneca County & Sandusky County

South Dakota

Deuel Harvest Wind Farm, Deuel County
Dakota Range Wind Project I-III, Codington County, Grant County, & Roberts County
Crocker Wind Farm, Clark County
Crowned Ridge Wind II, Deuel County
Prevailing Wind Park, Bon Homme County, Charles Mix County, & Hutchinson County
Sweet Land Wind Farm, Hand County
Triple H Wind Farm, Hyde County
Tatanka Ridge Wind Project, Deuel County

Solar Projects

Illinois

Hickory Point Solar Energy Center, Christian County
Mulligan Solar, Logan County

Indiana

Lone Oak Solar Farm, Madison County

Maryland

Dorchester County Solar Farm, Dorchester County

Wisconsin

Badger Hollow Solar Farm, Iowa County
Darien Solar Energy Center, Rock County & Walworth County
Grant County Solar, Grant County
Paris Solar Energy Center, Kenosha County

South Dakota

Brookhaven Solar Energy Production Facility, Brookings County

Western Regions of the United States of America

Southwest Region – Arizona, Colorado, Nevada, New Mexico, & Utah
Northwest Region – Idaho and Oregon
Southern Great Plains Region – Texas
Northern Great Plains Region – General Research

REPRESENTATIVE CLIENT LISTING OF MICHAEL S. MAROUS

Law Firms

Alschuler, Simantz & Hem LLC Ancel, Glink, Diamond, Bush, DiClanni & Krafthefer
Arnstein & Lehr LLP
Berger, Newmark & Fenchel P.C.
Berger Schatz
Botti Law Firm, P.C.
Carmody MacDonald P.C.
Carr Law Firm
Crane, Heyman, Simon, Welch & Clar
Daley & Georges, Ltd.
Day, Robert & Morrison, P.C. Dentons US LLP
DiMonte & Lizak LLC
DLA Piper
Dreyer, Foote, Streit, Furgason & Slocum, P.A.
Drinker, Biddle & Reath LLP Figliulo & Silverman, P.C.
Foran, O'Toole & Burke LLC Franczek Radelet P.C.
Fredrikson & Byron, P.A.
Freeborn & Peters LLP
Gould & Ratner LLP
Greenberg Traurig LLP
Helm & Wagner
Robert Hill Law, Ltd.
Hinshaw & Culbertson LLP
Holland & Knight LLP
Ice Miller LLP
Jenner & Block
Katz & Stefani, LLC
Kinnally, Flaherty, Krentz, Loran, Hodge & Mazur PC
Kirkland & Ellis LLP
Klein, Thorpe & Jenkins, Ltd.
McDermott, Will & Emery
Mayer Brown
Michael Best & Friedrich LLP
Morrison & Morrison, Ltd.
Bryan E. Mraz & Associates
Neal, Gerber & Eisenberg, LLP
Neal & Leroy LLC
O'Donnell Haddad LLC
Prendergast & DelPrincipe
Rathje & Woodward, LLC
Righeimer, Martin & Cinquino, P.C.
Robbins, Salomon & Patt, Ltd.
Rosenfeld Hafron Shapiro & Farmer
Rosenthal, Murphey, Coblentz & Donahue Rubin & Associates, P.C.
Ryan and Ryan, P.C.
Reed Smith LLP
Sarnoff & Baccash
Scariano, Himes & Petrarca, Chtd.
Schiff Hardin LLP
Schiller, DuCanto & Fleck LLP
Schirott, Luetkehans & Garner, LLC
Schuyler, Roche & Crisham, P.C.
Sidley Austin LLP
Storino, Ramello & Durkin
Thomas M. Tully & Associates
Thompson Coburn, LLP
Tuttle, Vedral & Collins, P.C.
Vedder Price
von Briesen & Roper, SC
Winston & Strawn LLP
Worsek & Vihon LLP

Financial Institutions

AmericaUnited Bank Trust
BMO Harris Bank
Charter One
Citibank
Cole Taylor Bank
First Bank of Highland Park
First Financial Northwest Bank
First Midwest Bank
First State Financial
Glenview State Bank
Itasca Bank & Trust Co.
Lake Forest Bank & Trust Co.
MB Financial Bank
Midwest Bank
Northern Trust
Northview Bank & Trust
The Private Bank
Wintrust

Corporations

Advocate Health Care System
Alliance Property Consultants
American Stores Company
Archdiocese of Chicago
Arthur J. Rogers and Company
Avangrid Renewables, LLC
BHE Renewables
BP Amoco Oil Company
Christopher B. Burke Engineering, Ltd. Cambridge Homes
Canadian National Railroad
Capital Realty Services, Inc.
Chicago Cubs
Children's Memorial Hospital
Chrysler Realty Corporation
Citgo Petroleum Corporation
CorLands
CVS
Edward R. James Partners, LLC
Enterprise Development Corporation
Enterprise Leasing Company
Exxon Mobil Corporation
Hamilton Partners
Hollister Corporation
Imperial Realty Company
Invenergy LLC
Kimco Realty Corporation
Kinder Morgan, Inc.
Lakewood Homes
Lowe's Companies, Inc.
Loyola University Health System
Marathon Oil Corporation
Meijer, Inc.
Menards
Mesirow Stein Real Estate, Inc.
Paradigm Tax Group
Prime Group Realty Trust
Public Storage Corporation
RREEF Corporation
Shell Oil Company
Union Pacific Railroad Company
United Airlines, Inc.

Public Entities

Illinois Local Governments and Agencies

Village of Arlington Heights
Village of Barrington
Village of Bartlett
Village of Bellwood
Village of Brookfield
Village of Burr Ridge
City of Canton
Village of Cary
City of Chicago
Village of Deer Park
City of Des Plaines
Des Plaines Park District
Downers Grove Park District
City of Elgin
Elk Grove Village
City of Elmhurst
Village of Elmwood Park
City of Evanston
Village of Forest Park
Village of Franklin Park
Village of Glenview
Glenview Park District
Village of Harwood Heights
City of Highland Park
Village of Hinsdale
Village of Inverness
Village of Kenilworth
Village of Kildeer
Village of Lake Zurich
Leyden Township
Village of Lincolnshire
Village of Lincolnwood
Village of Morton Grove
Village of Mount Prospect
Village of North Aurora
Village of Northbrook
City of North Chicago
Village of Northfield
Northfield Township
Village of Oak Brook
Village of Orland Park
City of Palos Hills
City of Peoria
City of Prospect Heights
City of Rolling Meadows
Village of Rosemont
City of St. Charles
Village of Schaumburg
Village of Schiller Park
Village of Skokie
Village of South Barrington
Village of Streamwood
Metropolitan Water Reclamation District of Greater Chicago
City of Waukegan
Village of Wheeling
Village of Wilmette
Village of Willowbrook
Village of Winnetka
Village of Woodridge

County Governments and Agencies

Boone County State's Attorney's Office
Forest Preserve of Cook County
Cook County State's Attorney's Office
DuPage County Board of Review
Forest Preserve District of DuPage County
Kane County
Kendall County Board of Review
Lake County
Lake County Forest Preserve District
Lake County State's Attorney's Office
Morton Township
Peoria County

State and Federal Government Agencies

Federal Deposit Insurance Corporation
U.S. General Services Administration
Illinois Housing Development Authority
Illinois State Toll Highway Authority
Internal Revenue Service
The U.S. Postal Service

Schools

Argo Community High School District No. 217
Arlington Heights District No. 25
Township High School District No. 214, Arlington Heights
Barrington Community Unit District No. 220
Chicago Board of Education
Chicago Ridge District No. 127½
College of Lake County
Community Consolidated School District No. 15
Community Consolidated School District No. 146
Community School District No. 200
Consolidated High School District No. 230
Darien District No. 61
DePaul University
Elk Grove Community Consolidated District No. 59
Elmhurst Community Unit School District No. 205
Glen Ellyn School District No. 41
Glenbard High School District No. 87
Indian Springs School District No. 109
LaGrange School District No. 105
Lake Forest Academy
Leyden Community High School District No. 212
Loyola University
Lyons Township High School District No. 204
Maine Township High School District No. 207
Niles Elementary District No. 71
North Shore District No. 112, Highland Park
Northwestern University
Orland Park School District No. 135
Palatine High School District #211
Rhodes School District No. 84-1/2
Riverside-Brookfield High School District No. 208
Rosalind Franklin University
Roselle School District No. 12
Schaumburg Community Consolidated District No. 54
Sunset Ridge School District No. 29
Township High School District No. 211
Township High School District No. 214
Triton College
University of Illinois
Wheeling Community Consolidated District No. 21
Wilmette District No. 39

JOSEPH M. MaROUS
STATEMENT OF QUALIFICATIONS

Joseph M. MaRous is an Energy Consultant with MaRous and Company, with a focus on the renewable and alternative energy industry.
For more details visit: linkedin.com/in/joemarous

EDUCATION

Purdue University - West Lafayette, Indiana
Bachelor of Science – Building Construction Management
Focus in residential and green build construction

CERTIFICATIONS

OSHA Safety Certified
Certified Green Build Professional
USPAP Qualified

CONSTRUCTION

Professional in the construction industry for 10 years

- Residential
- Commercial
- Industrial
- Municipal
- Tenant Improvement
- Schools
- Media Studios
- Automobile Dealerships

MaROUS & COMPANY

Appraisal Assistance

- Vacant Land
- Industrial
- Commercial
- Office
- Retail
- Residential
- Auto Dealerships
- Religious Facilities
- Hotel/Motel

Wind Projects

- Illinois
  - Alta Farms Wind Project II, *Dewitt County*
  - Bennington Wind Project, *Marshall County*
  - Crescent Ridge Wind Farm, McLean County
  - Goose Creek Wind, *Piatt County*
  - Harvest Ridge Wind Farm, *Douglas County*
  - Lincoln Land Wind Farm, *Morgan County*
  - Midland Wind Farm, *Henry County*
  - McLean County Wind Farm, *McLean County*
  - Osagrove Flats Wind Project, *LaSalle County*
  - Radford's Run Wind Farm, *Macon County*
  - Shady Oaks II, *Lee County*
- Indiana
  - Roaming Bison Wind Farm, *Montgomery County*
  - Tippecanoe County Wind Farm, *Tippecanoe County*
- Iowa
  - Great Pathfinder Wind Project, *Boone & Hamilton County*
  - Ida Grove II Wind Farm, *Ida County*
  - Three Waters Wind, *Dickinson County*
  - Worthwhile Wind, *Worth County*
- Kansas
  - Jayhawk Wind, *Bourbon & Crawford County*
  - Neosho Ridge Wind Farm, *Neosho County*
- Minnesota
  - Dodge County Wind, *Dodge & Steele County*
  - Three Waters Wind, Jackson County
- New York
  - Alle-Catt Wind, *Allegany, Cattaraugus, & Wyoming County*
  - Orangeville Wind Farm, *Wyoming County*
- Ohio
  - Emerson Creek Wind Farm, Erie, Huron &Seneca County
  - Republic Wind, *Seneca & Sandusky County*
  - Seneca Wind, *Seneca County*
- South Dakota
  - Crocker Wind Farm, *Clark County*
  - Crowned Ridge Wind II, *Codington, Deuel, & Grant County*
  - Dakota Range Wind Project I-III, *Codington, Grant, & Roberts County*
  - Deuel Harvest Wind Farm, *Deuel County*
  - Prevailing Wind Park, *Bon Homme, Charles Mix, & Hutchinson County*
  - Sweet Land Wind Farm*, Hand County*
  - Triple H Wind Farm, *Hyde County*
  - Tatanka Ridge Wind Project, *Deuel County*

Solar Projects

- Illinois
  - Black Diamond Solar, *Christian County*
  - Double Black Diamond Solar, *Sangamon & Morgan County*
  - Hickory Point Solar Energy Center, *Christian County*
  - Mulligan Solar, *Logan County*
  - Osagrove Flats Solar, *LaSalle County*
  - Pleasant Grove Solar, *Boone & McHenry County*
  - South Dixon Solar, *Lee County*
- Indiana
  - Hardy Hills Solar, *Clinton County*
  - Lone Oak Solar Farm, *Madison County*
  - Mammoth Solar, Pulaski & Starke County
- Maryland
  - Dorchester County Solar Farm, *Dorchester County*
- Wisconsin
  - Badger Hollow Solar Farm*, Iowa County*
  - Darien Solar Energy Center, *Rock & Walworth County*
  - Grant County Solar, *Grant County*
  - Koshkonong Solar, *Dane County*
  - Paris Solar Energy Center, *Kenosha County*
  - St. Croix Solar, *St. Croix County*
- Western Regions of the United States of America
  - Southwest Region – *Arizona, Colorado, Nevada, New Mexico, & Utah*
  - Northwest Region – *Idaho and Oregon*
  - Southern Great Plains Region – *Texas*
  - Northern Great Plains Region – *General Research*

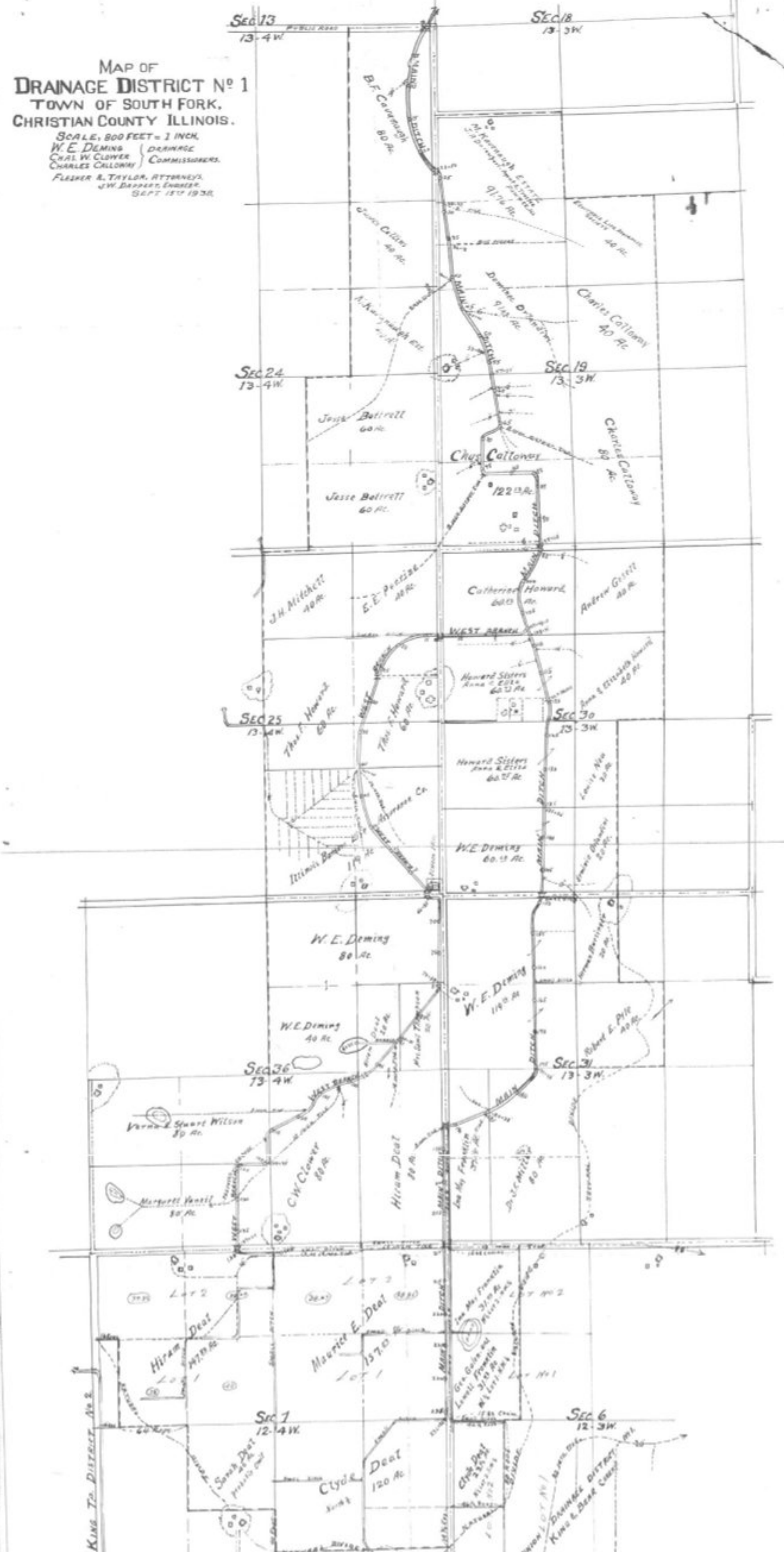
Transmission Lines

- Iowa
  - Heartland Divide, *Adair, Audubon & County*

Data Centers

- Illinois
  - Itasca Country Club Data Center*, Itasca*
  - United Airlines Data Center – CloudHQ O'Hare Campus, *Mount Prospect*

Exhibit 12:
Drainage Tile Maps

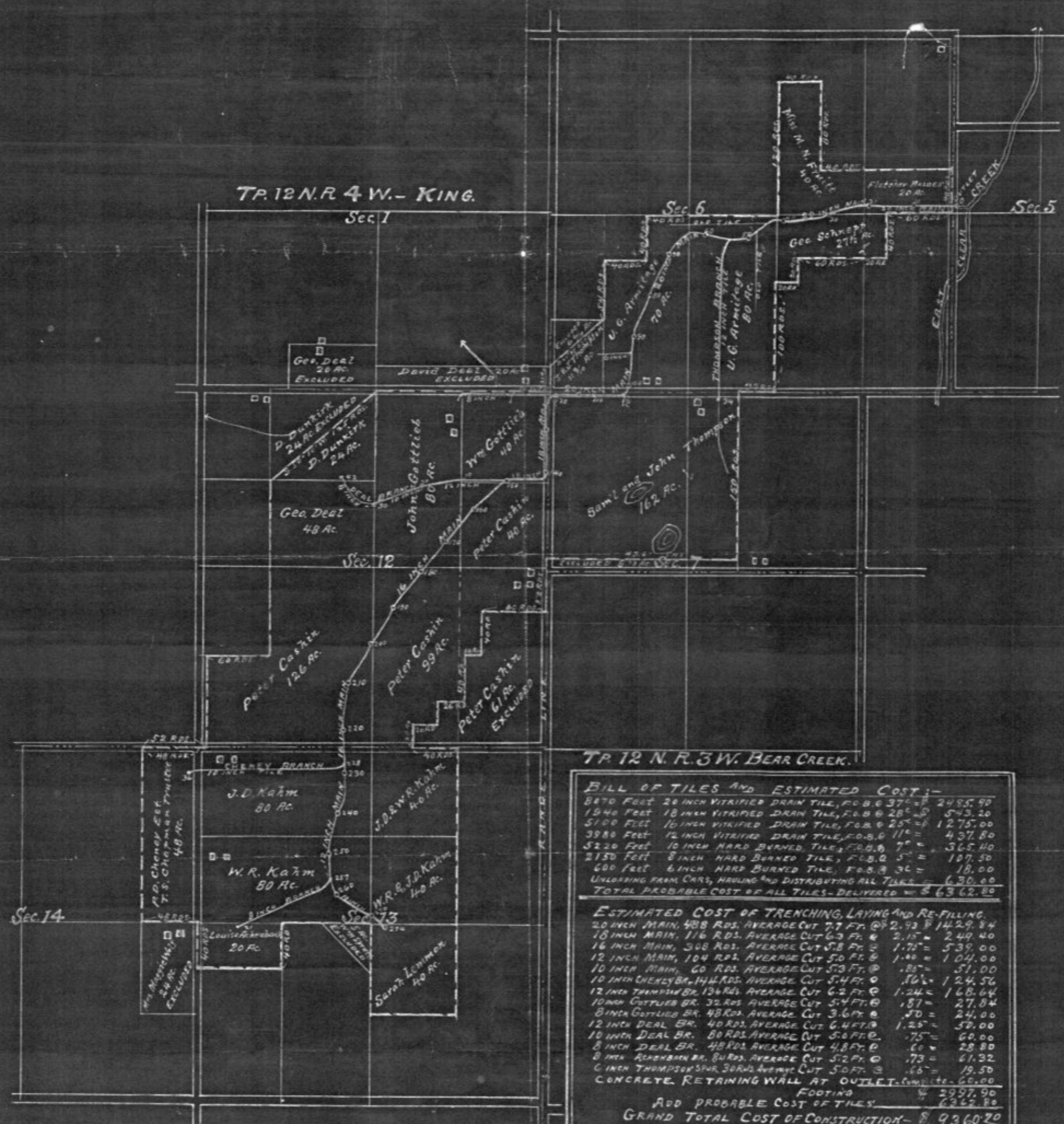


MAP OF
DRAINAGE DISTRICT Nº 1
TOWN OF SOUTH FORK,
CHRISTIAN COUNTY ILLINOIS.
SCALE, 800 FEET = 1 INCH,
W. E. DEMING
CHAS. W. CLOWER
CHARLES CALLOWAY
DRAINAGE COMMISSIONERS.
FLESHER & TAYLOR, ATTORNEYS.
J.W. DAPPERT, ENGINEER.
SEPT 15TH 1938.
SEC 13
13-4W.
SEC 18
13-3W.
B.F. Cavanaugh
80 Ac.
Charles Calloway
40 Ac.
SEC 24
13-4W.
SEC 19
13-3W.
Jesse Bottrell
60 Ac.
Chas. Calloway
Charles Calloway
80 Ac.
WEST BRANCH
SEC 25
13-4W.
SEC 30
13-3W.
W.E. Deming
W. E. Deming
80 Ac.
W.E. Deming
40 Ac.
SEC 36
13-4W.
SEC 31
13-3W.
C.W. Clower
80 Ac.
Hiram Deal
Maurice E. Deal
LOT 1
LOT 2
SEC 1
12-4W.
SEC 6
12-3W.
Clyde Deal
120 Ac.
KING TP. DISTRICT No. 2

MAP OF
UNION DRAINAGE DISTRICT N° 1.

KING AND BEAR CREEK

CHRISTIAN COUNTY ILLINOIS.



BILL OF TILES AND ESTIMATED COST:-

8870 Feet 20 inch Vitrified Drain Tile, F.O.B. @ 37¢ = $	2485.90
1940 Feet 18 inch Vitrified Drain Tile, F.O.B. @ 28¢ = $	543.20
5100 Feet 16 inch Vitrified Drain Tile, F.O.B. @ 25¢ = $	1275.00
3980 Feet 12 inch Vitrified Drain Tile, F.O.B. @ 11¢ =	437.80
5220 Feet 10 inch Hard Burned Tile, F.O.B. @ 7¢ =	365.40
2150 Feet 8 inch Hard Burned Tile, F.O.B. @ 5¢ =	107.50
600 Feet 6 inch Hard Burned Tile, F.O.B. @ 3¢ =	18.00
Unloading from Cars, Hauling and Distributing all Tiles =	630.00
Total Probable Cost of all Tiles - Delivered = $	6362.80

ESTIMATED COST OF TRENCHING, LAYING AND RE-FILLING.

20 inch Main, 488 Rds. Average Cut 7.7 Ft. @ $2.93 $	1429.84
18 inch Main, 116 Rds. Average Cut 6.3 Ft. @ 2.15 =	249.40
16 inch Main, 308 Rds. Average Cut 5.8 Ft. @ 1.75 =	539.00
12 inch Main, 104 Rds. Average Cut 5.0 Ft. @ 1.00 =	104.00
10 inch Main, 60 Rds. Average Cut 5.3 Ft. @ .85 =	51.00
10 inch Cheney Br. 144 Rds. Average Cut 5.4 Ft. @ .86½ =	124.56
12 inch Thompson Br. 136 Rds. Average Cut 6.2 Ft. @ 1.24 =	168.64
10 inch Gottlieb Br. 32 Rds. Average Cut 5.4 Ft. @ .87 =	27.84
8 inch Gottlieb Br. 48 Rds. Average Cut 3.6 Ft. @ .50 =	24.00
12 inch Deal Br. 40 Rds. Average Cut 6.4 Ft. @ 1.25 =	50.00
10 inch Deal Br. 80 Rds. Average Cut 5.0 Ft. @ .75 =	60.00
8 inch Deal Br. 48 Rds. Average Cut 4.8 Ft. @ .60 =	28.80
8 inch Achenbach Br. 84 Rds. Average Cut 5.2 Ft. @ .73 =	61.32
6 inch Thompson Spur 30 Rds. Average Cut 5.0 Ft. @ .65 =	19.50
Concrete Retaining Wall at Outlet - Complete - Footing	60.00
	$ 2997.90
Add Probable Cost of Tiles	6362.80
Grand Total Cost of Construction -	$ 9360.70

State of Illinois } ss.
County of Christian }

I hereby certify that the accompanying Map is a true and correct delineation of UNION DRAINAGE DISTRICT No. ONE of the Towns of BEAR CREEK and KING, County of CHRISTIAN and State of ILLINOIS; that it correctly shows the boundaries of the said District, and of the several and various tracts of land comprised within the same.

I further certify that said Map correctly shows the areas of the various tracts, their various owners, and the tracts excluded therefrom. It also shows the plan of improvement as adopted by the DRAINAGE COMMISSIONERS, and the probable cost thereof, together with the figures of the Classification upon the GRADUATED SCALE of BENEFITS, as fixed and finally confirmed by them.

James W. Dappert,
Civil Engineer.

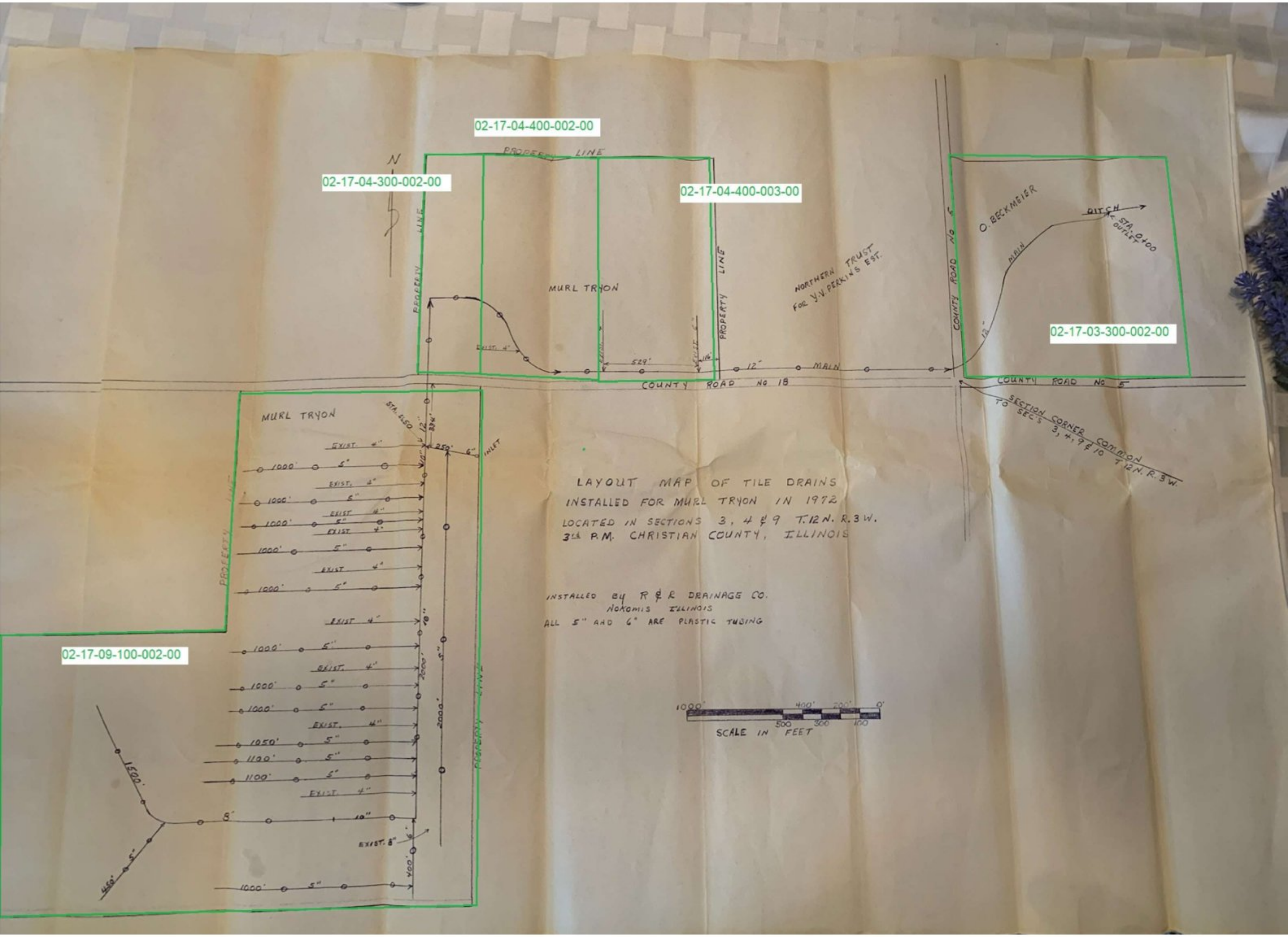
State of Illinois } ss.
County of Christian }

We the undersigned Drainage Commissioners of said District, do hereby certify that the above and foregoing Map is a correct delineation of said Drainage District, and that it correctly shows all the matters and things as set forth in the Certificate of the Engineer, attached thereto; that the same was made by him under our direction and by our authority, and we hereby approve the same and order the same to be recorded in the DRAINAGE RECORD of the TOWN OF KING.

Dated this ______ day of ______ A.D. 1906.

______
______
______

DRAINAGE COMMISSIONERS OF UNION DRAINAGE DISTRICT No. ONE, TOWNS OF BEAR CREEK and KING - CHRISTIAN COUNTY ILLINOIS.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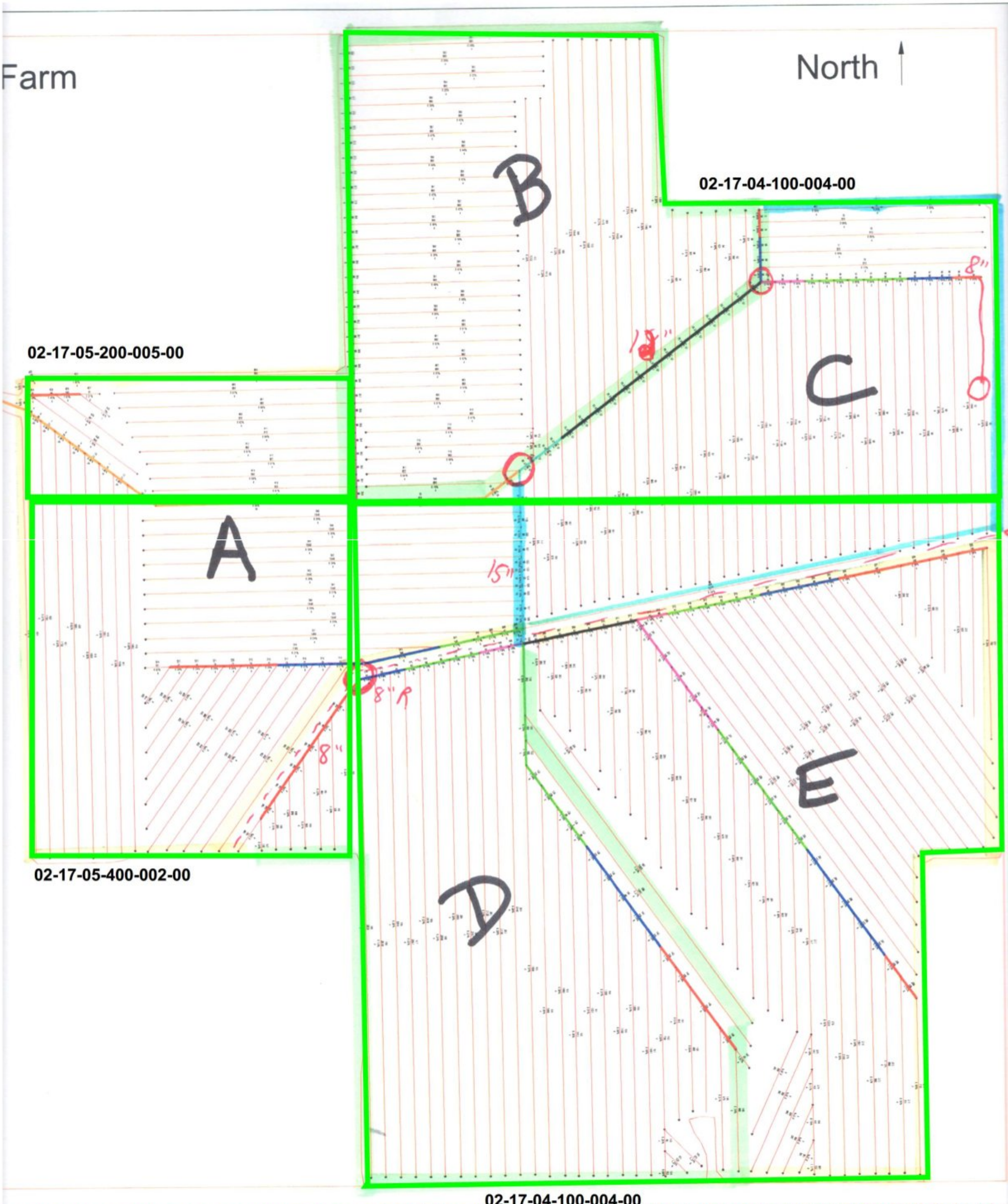
02-17-04-300-002-00
02-17-04-400-003-00
02-17-03-300-002-00
02-17-09-100-002-00
PROPERTY LINE
MURL TRYON
NORTHERN TRUST FOR Y.V. PERKINS EST.
O. BECKMEIER
DITCH
STA. 0+00 OUTLET
MAIN
COUNTY ROAD NO 18
COUNTY ROAD NO 5
SECTION CORNER COMMON TO SEC'S 3, 4, 9 & 10 T.12N. R.3W.
INLET
LAYOUT MAP OF TILE DRAINS
INSTALLED FOR MURL TRYON IN 1972
LOCATED IN SECTIONS 3, 4 & 9 T.12N. R.3W.
3rd P.M. CHRISTIAN COUNTY, ILLINOIS
INSTALLED BY R & R DRAINAGE CO.
NOKOMIS ILLINOIS
ALL 5" AND 6" ARE PLASTIC TUBING
SCALE IN FEET

Legend
Drainage Tile
Parcel Boundary

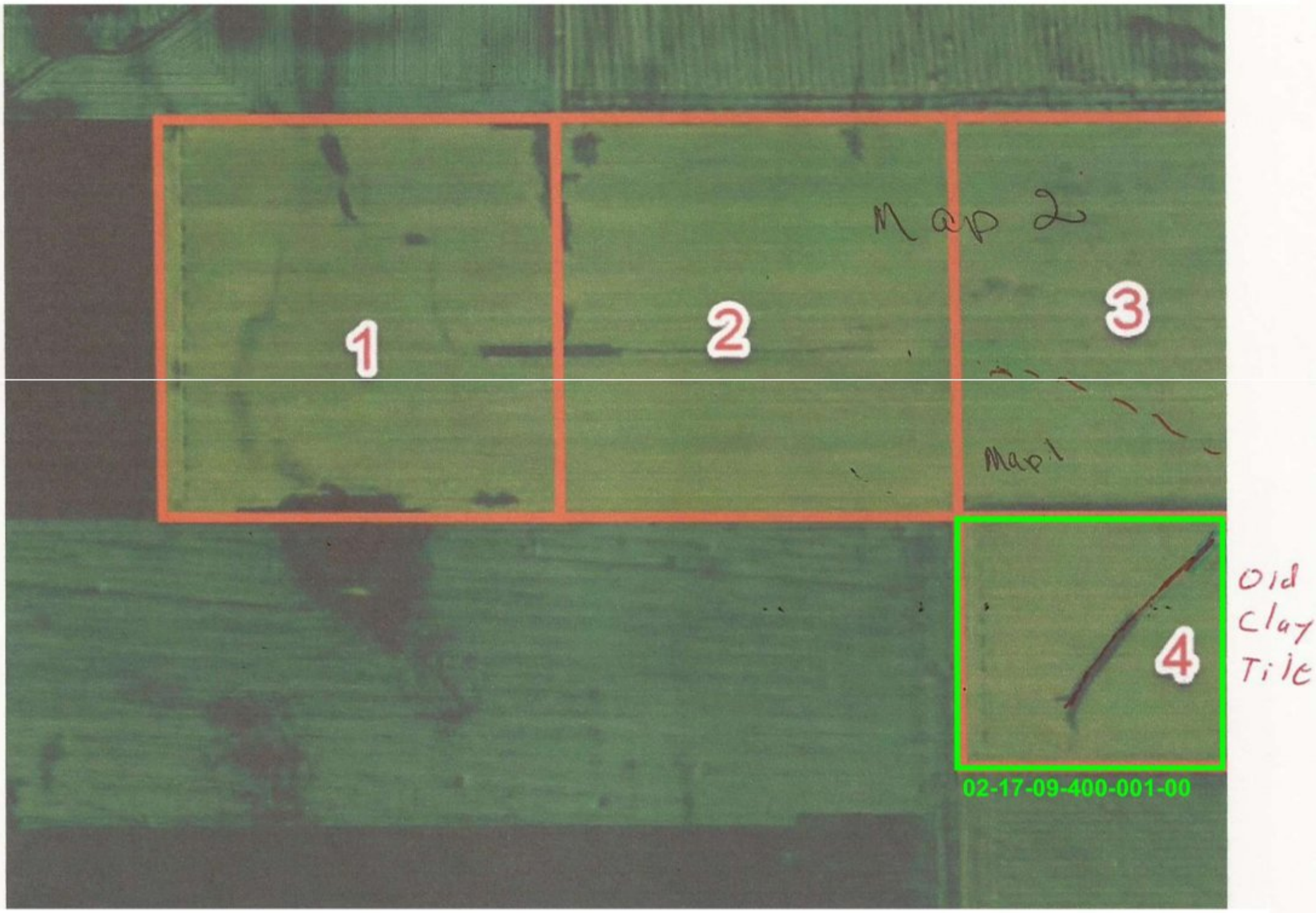
370 0 370
Feet

Rev. 00

Invenergy



SPRINGFIELD PLASTICS, INC.	DRAWN BY	SCALE	DATE
	MB	NONE	6/15/11


Map 2
1
2
3
Map 1
4
Old Clay Tile
02-17-09-400-001-00

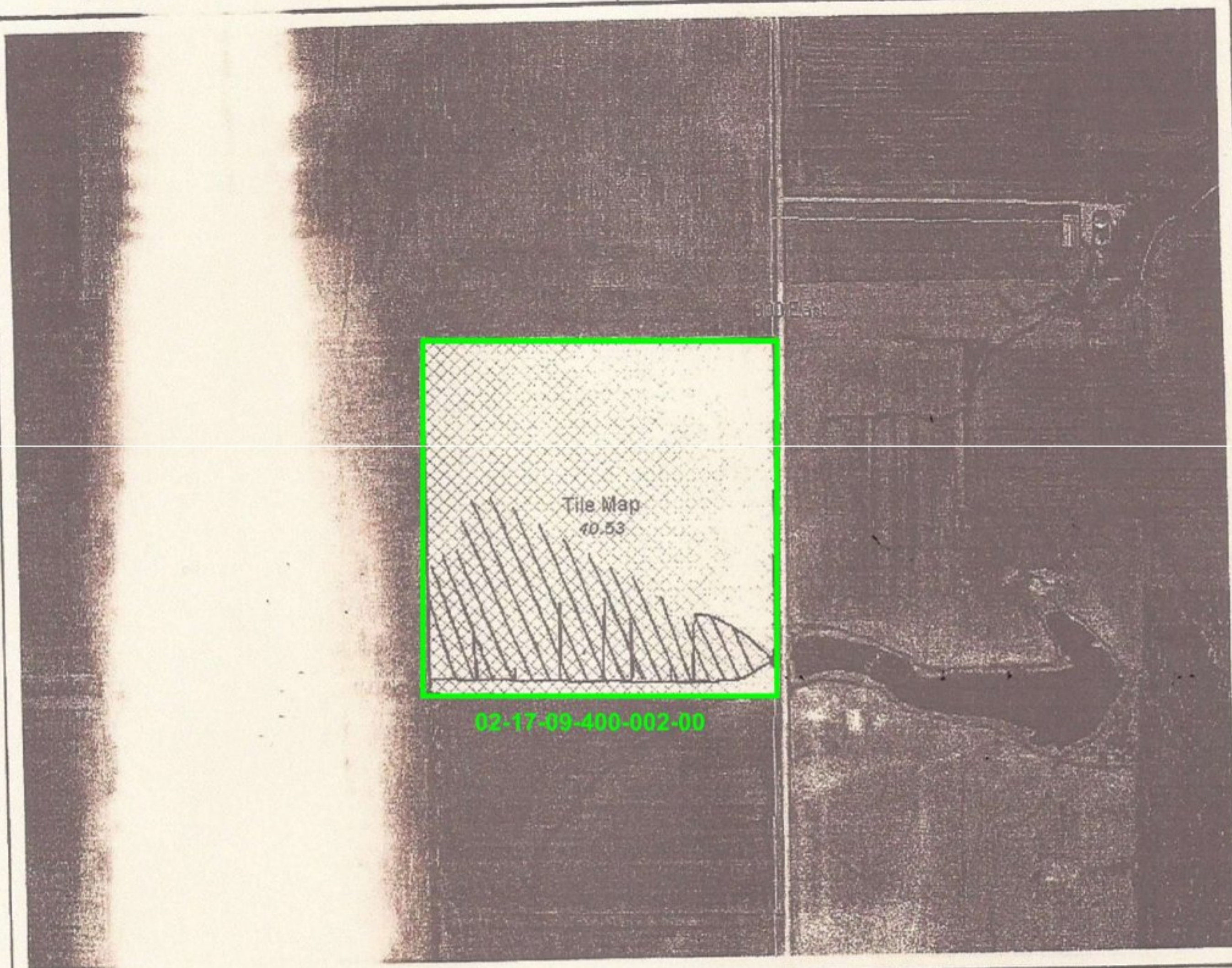
Map 1

This map is a triangle in field 3 on your e-mail

WILCOX, BRUCE

Layer Map

Prepared For: BRUCE **Farm:** **Field:** ZAUMSELL FRONT 40 **County:** IL	**Crop Zone:** **Crop Year:** **Prepared By:**

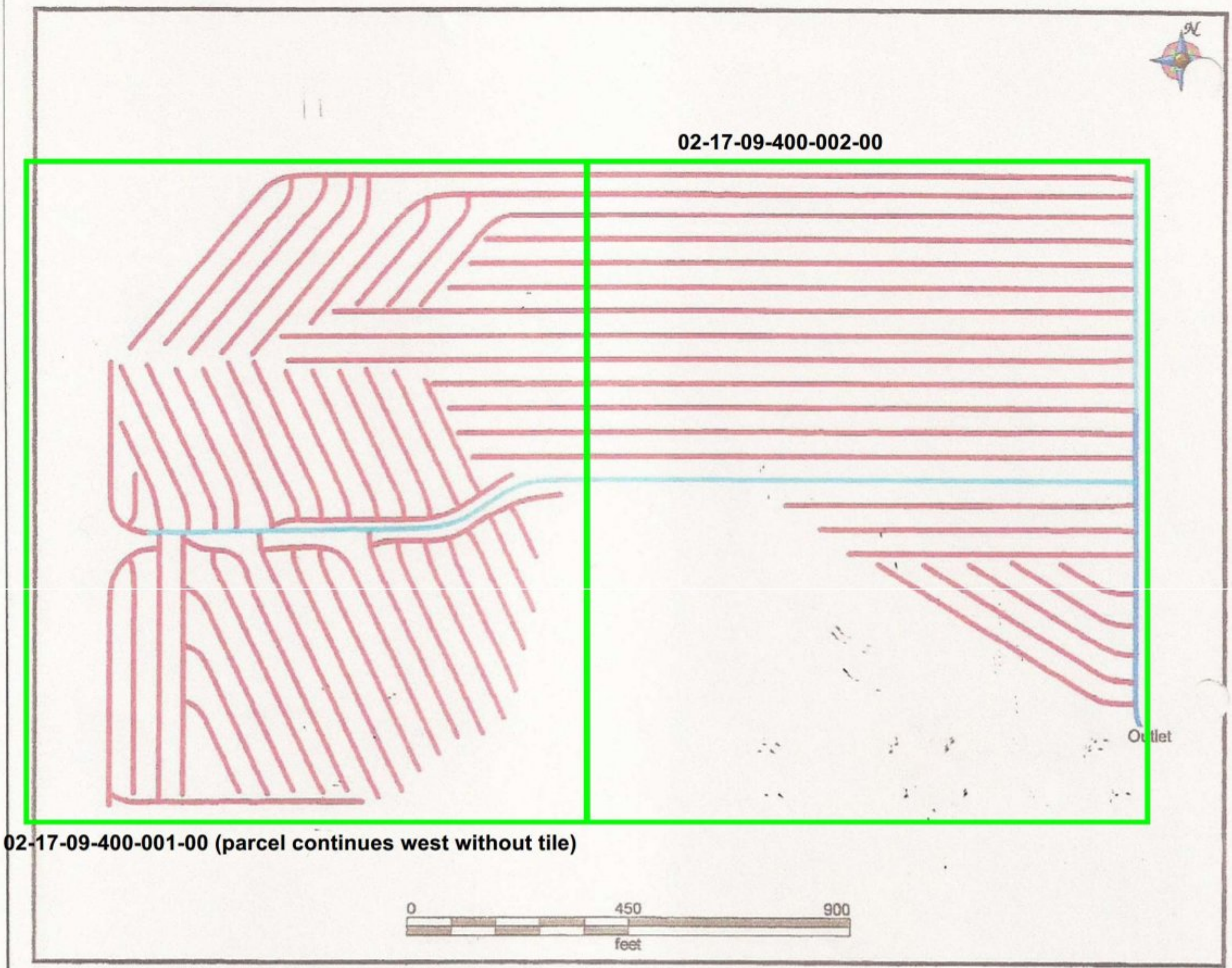


Attribut[illegible] el Record[illegible] 28 Empty 0 Averag[illegible] Min Max Length	label	

Map 2

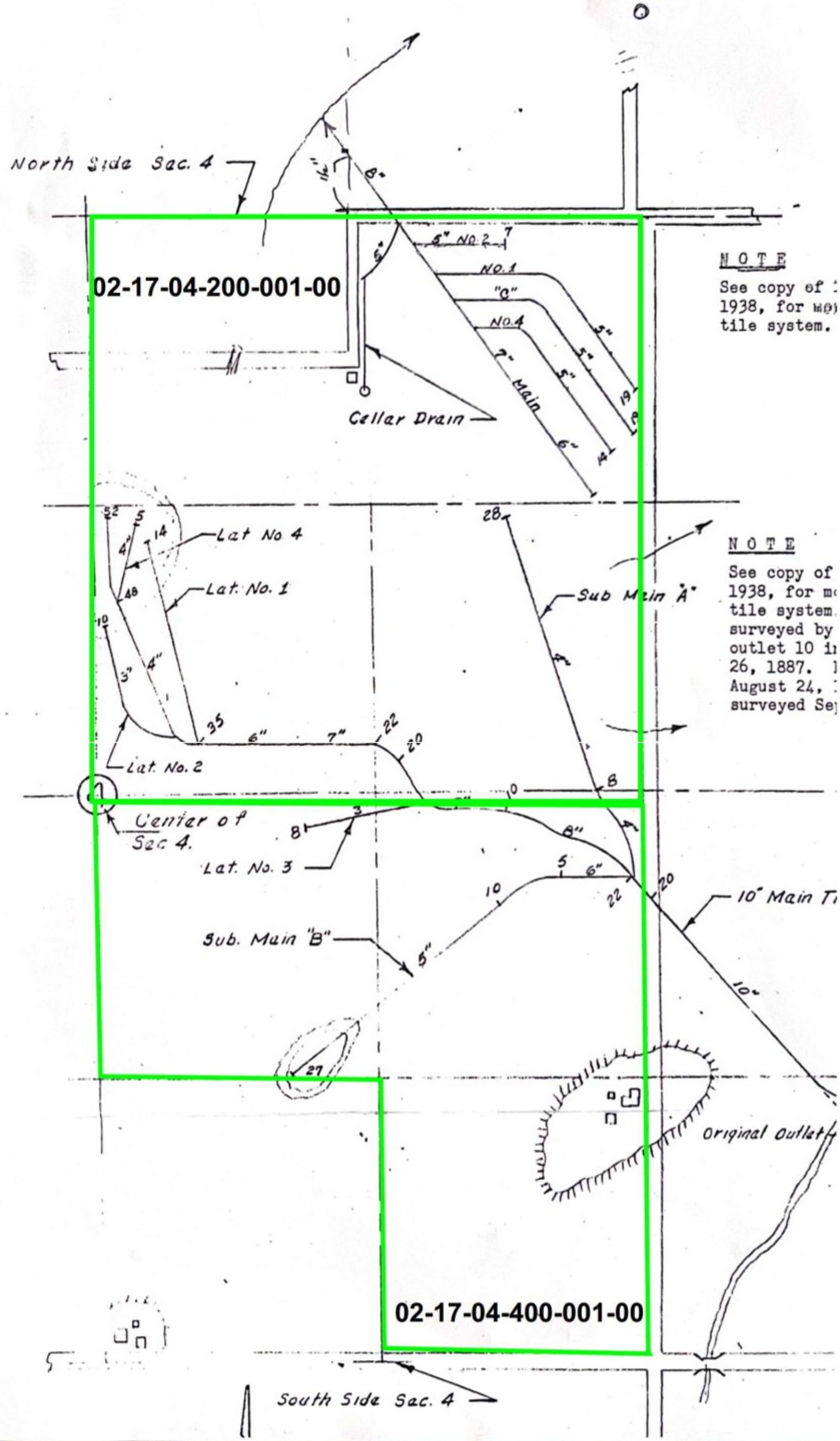
ZAUMSEIL FARM

Rest of 3 on your map plus East 1/2 of 2



4 in	41571.08 ft
6 in	2524.14 ft
8 in	680.67 ft

In Section 4, Township 12 North, Range 3 West of the Third Prinicipal Meridian, Bear C...
Christian County, Illinois.

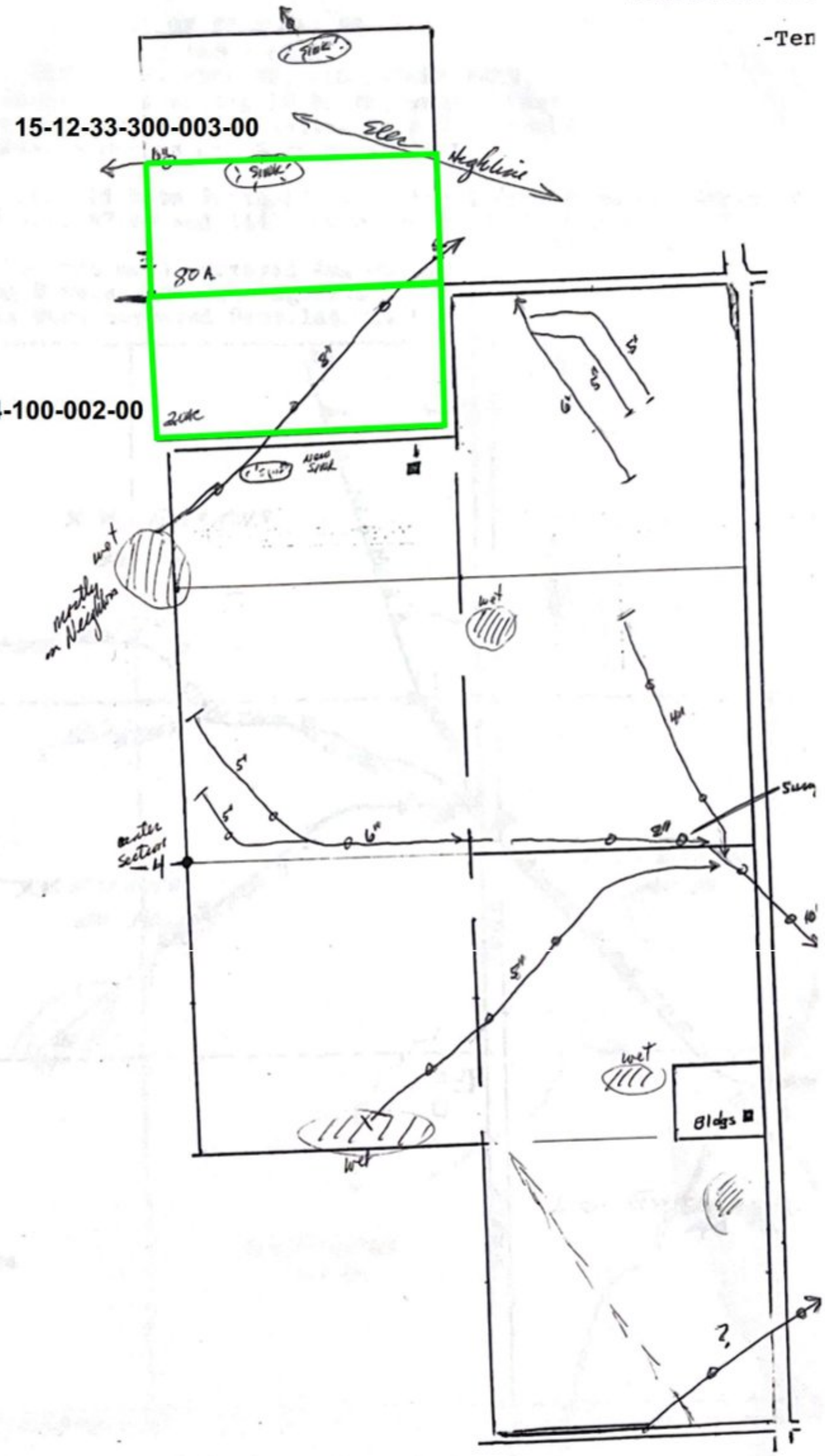


Jan Branham-Own
Christian Cou

.-Ten

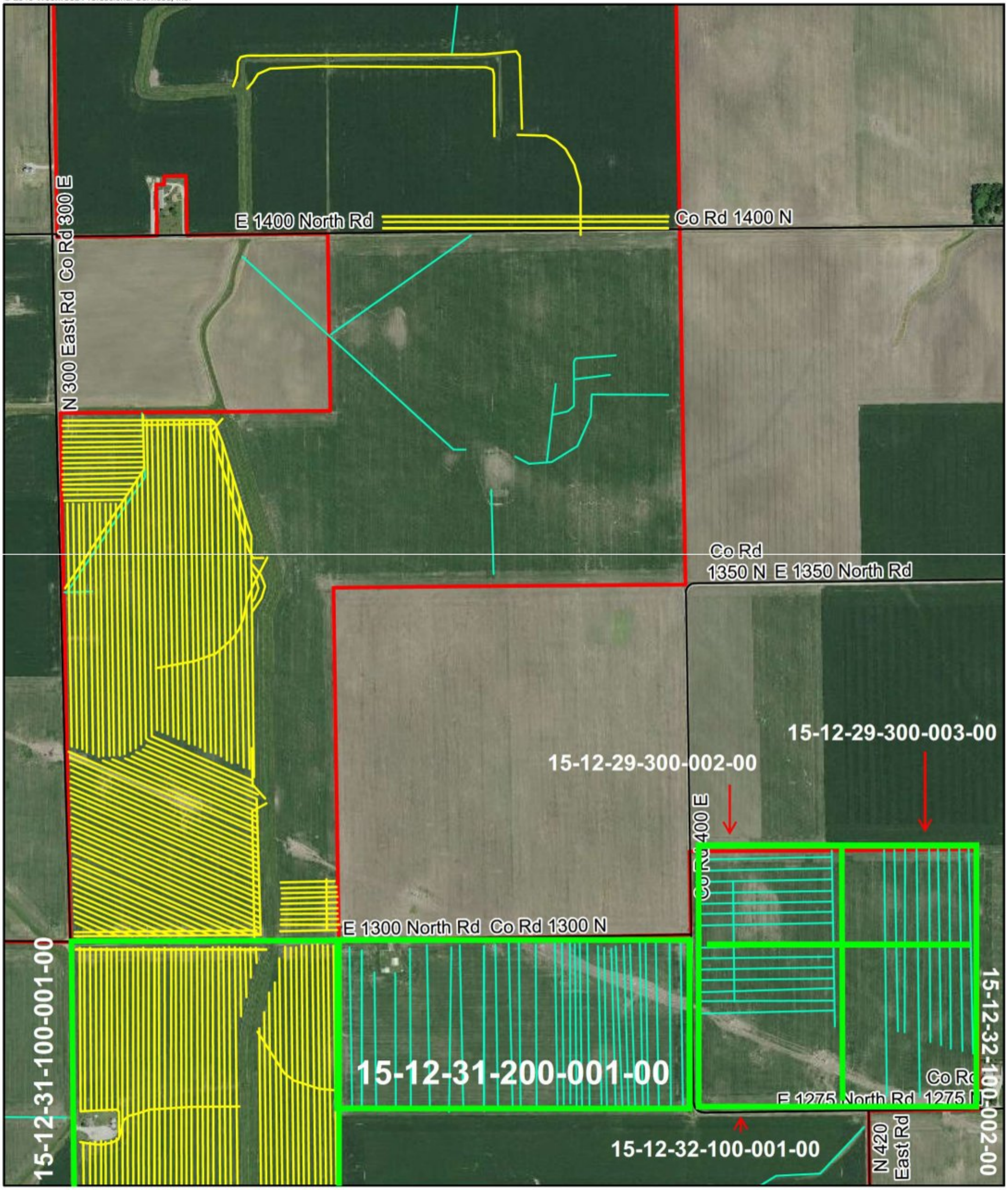
19 CROPS	ACRES
CORN	
BEANS	
WHEAT	
DIVERT	
OTHER	
TOTAL	

FERTILIZER PROGRAM



CHEMICAL PROGRAM

SEED



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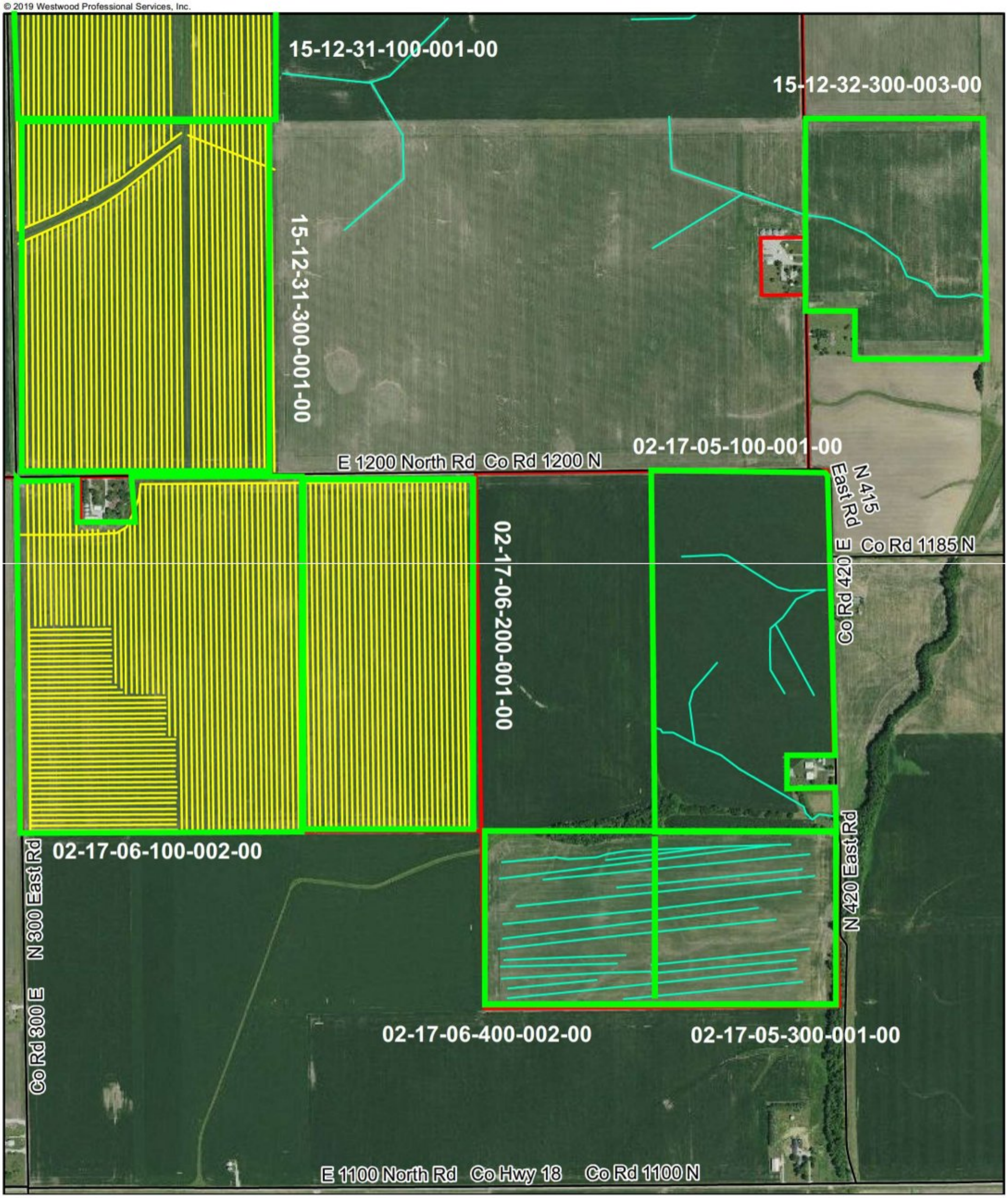
190614_JWB_Tiles\HickoryPoint_DrainTileMapbook_190703.mxd 7/8/2019 10:46:44 AM JWBelvedere



190614_JWB_Tiles\HickoryPoint_DrainTileMapbook_190703.mxd 7/8/2019 10:46:50 AM JWBelvedere

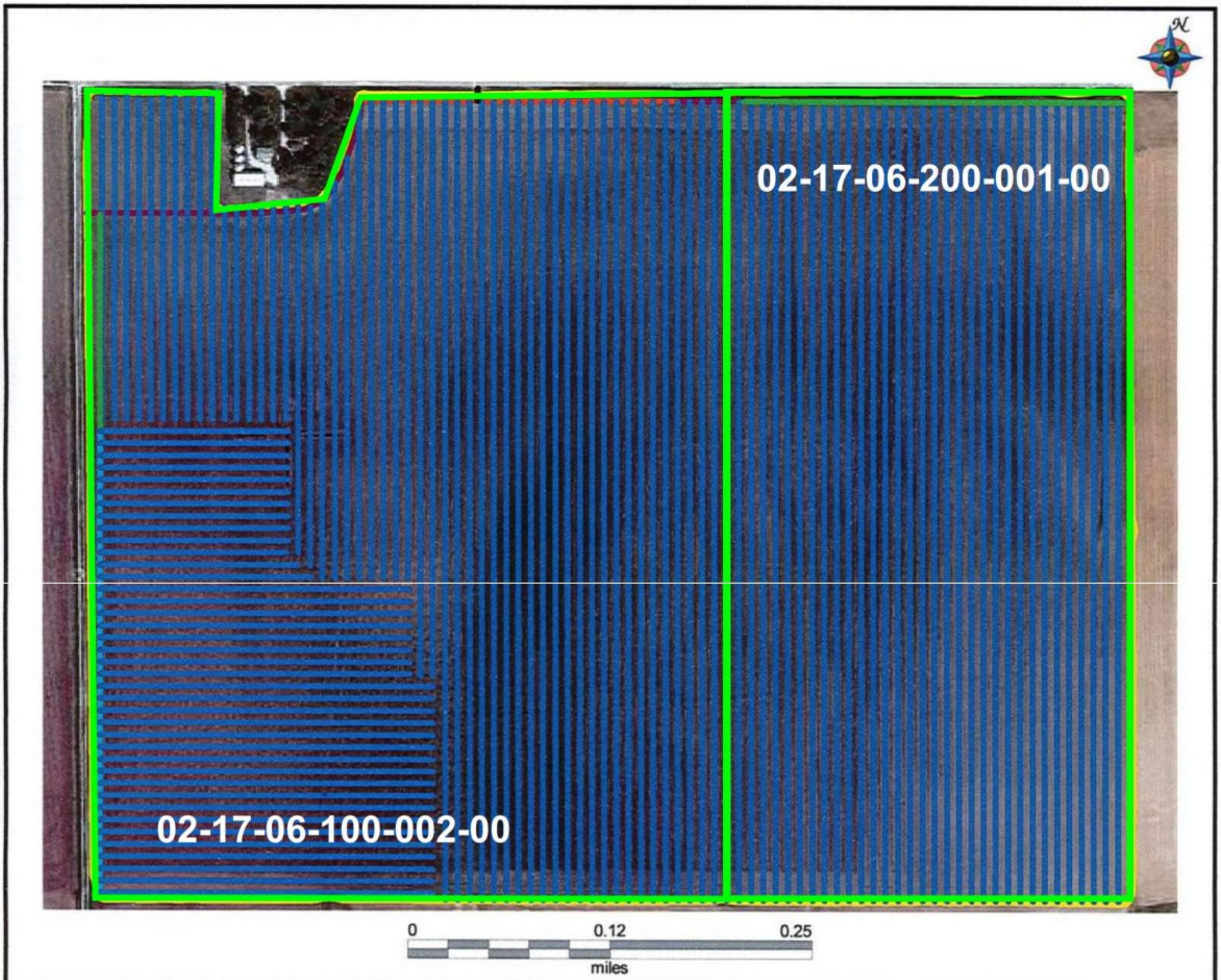
Bloome Farms

Ag Drainage Inc.

Office Field
224 Acres
40' Centers

3" Tile Total Length = 246400'
6" Tile Total Length = 2145'
8" Tile Total Length = 4890'
10" Tile Total Length = 2190'
12" Tile Total Length = 470'
18" DW Tile Total Length = 2810'

Bloome Farms



ADI
Ag Drainage Inc.

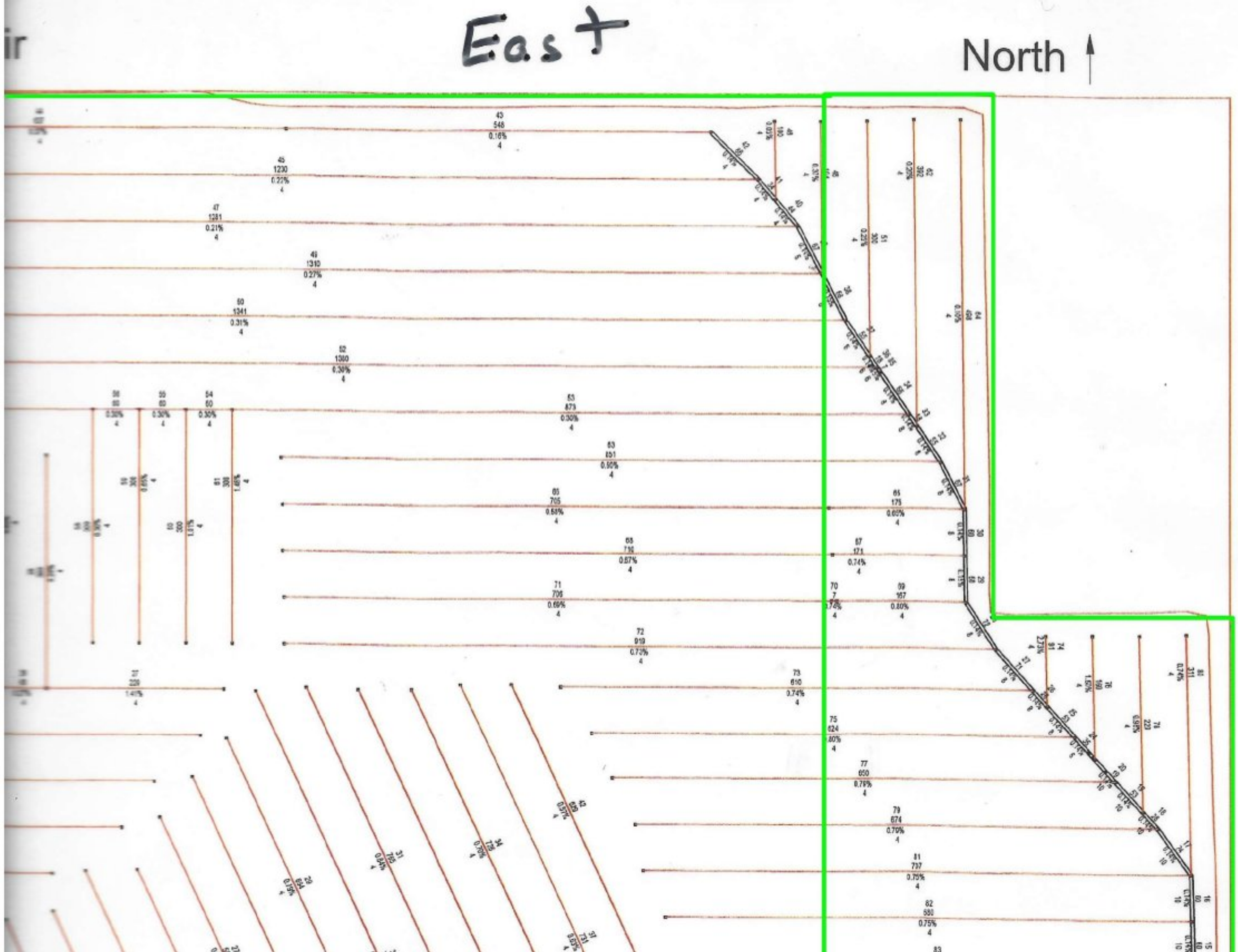
Home Field
202 Acres
40' Centers

3" Tile Total Length = 246400'
6" Tile Total Length = 2145'
8" Tile Total Length = 4890'
10" Tile Total Length = 2190'
12" Tile Total Length = 470'
18" DW Tile Total Length = 2810'

Beckmier 25

4" SWP 8809.13 ft

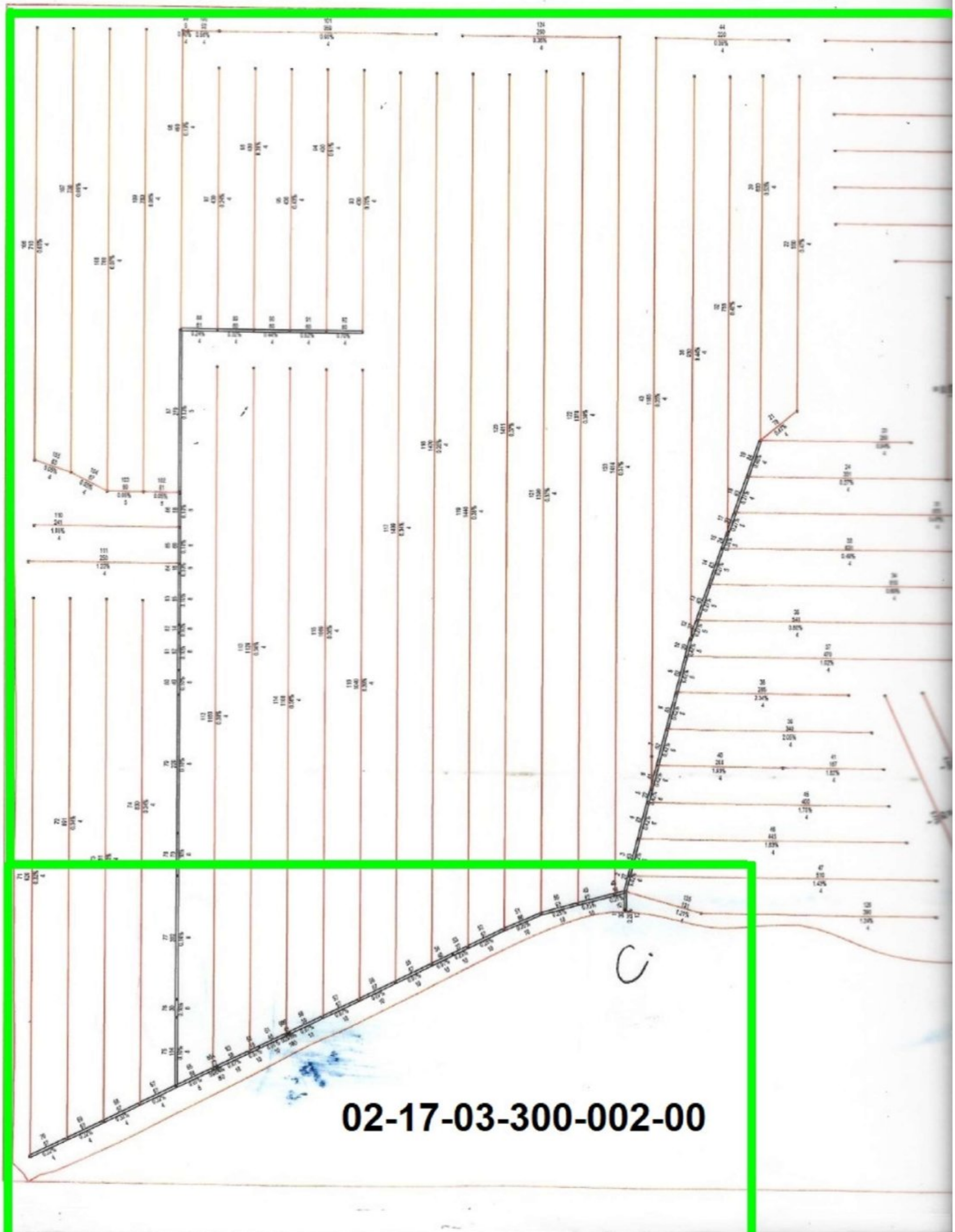
Trimble


East
North
B
02-17-03-300-001-00
02-17-03-400-001-00
A

West

02-17-03-300-001-00

Lyle Beckr



HICKORY POINT SOLAR ENERGY CENTER LLC
250 MW (AC) SOLAR FACILITY
DECOMMISSIONING PLAN

Christian County

Prepared For:
Hickory Point Solar Energy
Center LLC
One South Wacker Dr
Suite 1800
Chicago, IL 60606

Prepared By:
TRC
230 West Monroe Street
Suite 1840
Chicago, IL 60606

P/N: 536365.0000.0000

May 2023

LICENSED PROFESSIONAL ENGINEER
MICHAEL C. BUTLER
062-057467
STATE OF ILLINOIS

Table of Contents

BACKGROUND

On behalf of Hickory Point Solar Energy Center LLC (Developer/Owner), TRC has prepared this decommissioning plan and cost estimate (the Plan) for the Hickory Point Solar Energy facility (Facility), a photovoltaic (PV) facility, Solar Energy System (SES) or Commercial Solar Farm located near the city of Taylorville in Christian County, Illinois. The planned facility will consist of a 250-megawatt (MW) alternating current (AC) solar electrical array covering a total area of approximately 2,000 acres. The Facility will include ground-mounted, solar arrays, perimeter security fencing, concrete pads for transformers and switch gears, a project substation, and a gravel access road. The Solar Farm will produce power using PV panels, mounted on ground support galvanized piles.

The purpose of this Plan is to provide the general scope of decommissioning work as well as a construction cost estimate for a decommissioning assurance mechanism of the Facility as described herein and subject to the Christian County Solar Energy System Ordinance. This document outlines the decommissioning activities required to remove above-ground structures, debris, underground foundations, and cables and restore soil and vegetation after termination of operations of the solar farm. This decommissioning plan and cost estimate has been prepared in accordance with the Christian County Solar Energy System Ordinance for approval of the solar farm.

An attached estimate of decommissioning cost estimate was prepared under the supervision of a professional engineer licensed in Illinois. The opinion of probable costs is based on estimated quantities of site features, panels, racking, and electrical equipment from the conceptual layout and experience in the design and construction of energy facilities and are subject to final engineering. Costs generally include contractor fees, sitework removal & restoration, racking & module removal, power conditioning equipment removal, and corresponding salvage, which reflect the overall decommissioning process. The reported costs include labor, materials, taxes, insurance, transport costs, disposal fees, equipment rental, contractor's overhead, and contractor's profit; the labor costs have been estimated using regional labor rates and labor efficiencies from the Bureau of Labor statistics along with previous decommission plan estimates completed for other similar projects.

Owner/Operator

Hickory Point Solar Energy Center LLC will be responsible for the ensuring completion of final civil and electrical engineering plans. TRC is the consultant responsible for the preparation of this independent decommissioning plan and cost estimate based on preliminary design quantities and anticipated required infrastructure and equipment.

Facility Description

The Facility is expected to consist of a 250 MW AC solar electricity generating facility with associated equipment which covers a total area of approximately 1,935 acres of 2,390-acres of agricultural land. The Facility will be secured within a security fence surrounding the solar panels and electrical equipment. The site can be accessed via lock-controlled gates located on the proposed gravel access road. The Facility will include the following site features:

- Total site development area with solar panels, associated electrical equipment, racking, and gravel access road of approximately 1,935 acres (fenced area with approximately 590,720 solar panels);
- Concrete electrical pads with transformers, mounted inverter boxes, and switchgears;
- 20-foot wide gravel access road and turnaround;
- Chain-link Security fencing (encasing entire project area);
- Above-ground electrical wire conduits; and
- Underground electrical wire conduits.
- Operations and Maintenance (O&M) Building
- Project Substation

DECOMMISSIONING ACTIVITIES

The Facility will be decommissioned by completing the following major steps:

1. Reinforce access roads, if needed, and prepare site for component removal
2. Removal of modules, racking, and piles;
3. Removal of cabling, trays, and electrical equipment;
4. Removal of concrete pads, foundations, and debris;
5. Removal of the gravel access roads (if required by the landowner);
6. Remove O&M building;
7. Remove substation, if decommissioned;
8. Site stabilization by placing soil and reseeding; and
9. Removal and Disposal or Recycling of materials

The procedures for decommissioning of the project will involve restoring soils and vegetation to agricultural productivity.

Schedule

The decommissioning process is estimated to take approximately eleven (11) months but may change depending on weather and soil moisture conditions and is intended to occur outside of the winter season. All of the activities will be conducted simultaneously when possible. It is expected that finally seeding with require 2 to 4 months to establish adequate coverage and erosion control.

Decommissioning During Construction (Abandonment of Project)

If construction or operation activities cease prior to facility completion, with no expectation to restart for more than twelve (12) months, the project would be decommissioned as follows in this plan. Any installed components will be removed and managed, as per the following sections, and the site will be restored to a vegetated condition.

Decommissioning After Ceasing Operation

Properly maintained photovoltaic (PV) panels have an expected lifespan of thirty-five (35) years or more. At this time or if the facility has not been in operation and stops producing energy for a period of 12 consecutive months, it shall be considered a “cessation or abandonment of operations.” Installed components will be removed and reused/recycled where possible, and the site restored in accordance with the activities discussed below.

Christian County shall have access to the project and to the funds to effect or complete decommissioning in the event an applicant, owner, or operator fails to complete decommissioning activities as directed by the Ordinance which may result in the referral to the Christian County’s Zoning Administration. Christian County shall have the right to transfer applicable solar development material, if abandoned by the owner, to a salvage firm.

Dismantlement and Demolition

Decommissioning shall include removal of all solar electric systems, buildings, ballasts, cabling, electrical components, roads, foundations, pilings, project substation, and any other associated facilities. This will include removal of all items identified in the decommissioning activities above.

A significant amount of the components of the PV system at the Facility will include recyclable or re-saleable components, including copper, aluminum, galvanized steel, and panels. Due to their resale monetary value, these components will be dismantled and disassembled rather than being demolished and disposed of.

The project substation will require significant attention in the decommissioning process. The substation will have an approximately 490 ft by 490 ft footprint. Contained within its perimeter will be a gravel pad, power transformer and footings, electrical control house, and concrete foundations, as needed. The substation transformer may be sold for re-use or salvage. Components that cannot be salvaged will be disposed of at an approved waste management facility.

The owner or operator shall notify the Christian County Board of the proposed date of discontinued operations and plans for removal at least six (6) months prior to beginning decommissioning activities. The owner shall complete decommissioning activities within twelve (12) months.

Following coordination with the local utility company regarding timing and required procedures for disconnecting the Facility from the utility, all electrical connections to the system will be disconnected and all connections will be tested locally to confirm that no electric current is running through them before proceeding. All electrical connections to the panels will be cut at the panel and then removed from their framework by cutting or dismantling the connections to the supports. Then panels, inverters, transformers, meters, fans, lighting fixtures, and other electrical structures will be removed. Disposal of these materials at a landfill will be governed by state and local laws, including the Code of Illinois Regulations governing waste disposal at local area landfills, which may be amended from time to time. Any materials deemed to be hazardous at the time of disposal will be handled and disposed according to applicable laws and regulations.

The PV mounting system framework will be dismantled and recycled. The galvanized support piles will be completely removed and recycled.

Finally, all associated structures will be demolished and removed from the site for recycling or disposal. This will include the site fence, gates, access roads, equipment foundations, and underground cables; which will likely be removed or recycled.

Consultation with the landowner will determine if the access roads should be left in place for their continued use. If the access road is deemed unnecessary, the contractor will remove the access roads and all non-adaptable parts of the project to a minimum depth of 60" and restore this area with native soils and seeding. All concrete associated with the Facility on-site will be broken and removed in its entirety, and clean concrete will be crushed and disposed of or recycled off-site. Final stabilization thresholds on the entire site shall be met prior to approval of site decommissioning. Underground conduits and raceways are to be removed. Above ground lines and poles that are not owned by the utility will be removed, along with associated equipment (isolation switches, fuses, metering) and holes will be filled with clean topsoil. Temporary sanitary facilities will be provided on-site for the workers conducting the decommissioning of the Facility.

Erosion and sediment control measures are required during the decommissioning process. These measures include construction access, silt fence, concrete washout stations, and land stabilization. The owner/operator will restore the project location to a vegetated condition consistent with pre-construction conditions.

Disposal or Recycle

During the decommissioning phase, a variety of excess materials can be salvaged. A significant amount of the materials used in a solar facility are reusable, including copper, aluminum, galvanized steel, and the PV panels. Due to their resale monetary value, these components will be dismantled and disassembled rather than being demolished and disposed. Any remaining materials will be removed and disposed of off-site at an appropriate facility. The project general contractor will maximize recycling and reuse and will work with manufacturers, local subcontractors, and waste firms to segregate material to be recycled, reused and/or disposed of properly.

The project developer will be responsible for arranging the collection or recycling of fence, racking piles, PV panels, panel tracker equipment, AC and DC wiring, inverters, and miscellaneous equipment for salvage value.

Gravel may be reused as general fill on site with landowner approval. Remaining gravel, geotextile fabric, concrete, and debris need to be separated and transported off-site by truck to the appropriate facilities for recycling and disposal in accordance with federal, state, and local waste management regulations.

A final site walkthrough with the appropriate local authorities will be conducted to verify removal of debris and/or trash generated within the site during the decommissioning process and will include removal and proper disposal of any debris that may have been wind-blown to areas outside the immediate footprint of the facility being removed.

Removal of Landscape Materials and Site Stabilization:
The areas of the Facility that are disturbed (during decommissioning) will be subject to minor re-grading (no imported soil is anticipated), to establish a uniform slope and stabilization, including application of a selected grass seed mix to surfaces disturbed (estimated to be less than 50% of the site) during the decommissioning process. The seed mix is expected to be a blend of various fescue and/or rye grass seeds. The actual seed blend will depend on factors including availability and time of year that planting would occur.

It is expected that soil and vegetation will be restored to pre-decommissioning conditions. Details will be discussed with the property owner, the Christian County Board, and the Christian County Soil and Water Conservation District. Planting trees, shrubs, and other woodsy vegetation (re-forestation) or other beautification are not expected to be required and are not included in the costs. It is assumed that major site grading activities are not proposed as part of the project. Imported fill will be provided, if necessary, to restore to original conditions. Only minor grading is anticipated with regards to site restoration (from construction, demolition, and traffic damage) and access drives removal. All site stabilization activities will be completed in accordance with regulatory requirements and the approved Storm Water Pollution Prevention Plan (SWPPP) and NPDES Construction General Permit.

PERMITTING REQUIREMENTS FOR DECOMMISSIONING

Approvals are currently required prior to initiation of ground-disturbing activity. This cost estimate assumes the same approvals are required when decommissioning occurs in the future. The permitting requirements listed below will be reviewed and might be subject to revisions based on local, state, and federal regulations at the time of decommissioning.

National Pollutant Discharge Elimination System (NPDES) Construction General Permit
U.S. Environmental Protection Agency - Ground disturbance of greater than 1 acre requires preparation of a Storm Water Pollution Prevention Plan, including erosion and sedimentation controls.

Building Permit
A building permit is required to construct the facility. A building permit must also be obtained for any construction, alteration, repair, demolition, or change to the use or occupancy of a building.

Permit Requirement Assumptions
No significant ground disturbance or grading associated with decommissioning, including temporary laydown areas, are required within areas subject to additional local, state, or federal permitting.

SOLAR DECOMMISSIONING ESTIMATE

The following items can be salvaged and recycled: fence material, racking piles, PV panels, miscellaneous tracker equipment, AC and DC wiring, combiner boxes, inverters, transformers, medium voltage equipment, electrical equipment posts, and customer owned utility poles.

The decommissioning cost estimate is based on 2023 Christian County prevailing labor rates equipment rates and credits for salvaging project material in 2023. The salvage value and equipment rates have been estimated using publicly available data from FEMA published Schedule of Equipment Rates. The salvage value rates have been estimated using publicly available data (e.g., http://www.scrapmonster.com), as well as industry provided actual salvage values and previous experience with similar projects.

The estimated costs utilize hourly and monthly rates listed below:

2023 Wages

- Labor at $31.23/hr;
- Operating engineer at $41.02/hr;
- Truck driver at $45.36/hr;
- Electrician at $41.00/hr;
- Skid steer rental at $2,350.00/month;
- Excavator rental at $4,925.00/month; and
- Dump truck rental at $52.96/hr

2023 Salvage Values

- Steel (e.g., fence, racking, posts) at $0.15/lb.;
- PV panels at $5/panel;
- Electrical components (e.g., combiner boxes, inverters, transformer) at $0.28/lb.;
- DC wiring (copper) at $1.50/lb.; and
- AC wiring (copper and aluminum) at $1.31/lb.

The estimated cost of construction activities associated with decommissioning using current wages is $15,528,881. The material salvage value is $7,065,952 for a net decommissioning cost of $8,462,929,679 The detailed costs are attached.

The attached preliminary decommissioning cost estimate is based on the design parameters and estimated quantities provided to TRC by Hickory Point Energy Center LLC, and the Decommissioning agreement created by Stantec. Changes to the plans and construction may affect the scope and costs of Facility decommissioning. If required by the County, final decommissioning costs should be revised based on “As-Built” plans. The attached decommissioning cost estimate was prepared under the supervision of a registered professional engineer in the state of Illinois. The opinion of probable costs is based on experience in the design and construction of energy facilities and are subject to final engineering/construction.

If at any time in the future, the prevailing professionally accepted standards of economic feasibility of recycling and or environmental implications of hazardous waste changes to increase the costs associated with decommissioning, the cost estimate will be revised, and the bonds will need to be modified accordingly to cover said cost.

This opinion assumes a third-party contractor, experienced in the construction and decommissioning of photovoltaic facilities will lead the effort. The reported costs include labor materials, taxes, insurance, transport costs, equipment rental, contractor’s overhead, and contractor’s profit; the labor costs have been estimated using regional labor rates and labor efficiencies from the United States Department of Agriculture (USDA) /the US Bureau of labor statistics for construction workers in 2023 along with previous decommissioning plan estimates completed for other similar projects.

Hickory Point Solar Energy Center LLC by its duly authorized representative, hereby acknowledges that it has reviewed this Decommissioning Plan, and approves of the same, and agrees to be bound by the terms and conditions contained therein.

Hickory Point Solar

Decommissioning Cost Estimate

Preliminary Decommissioning Cost Estimate
Hickory Point Solar Energy Center, LLC

Task	Unit	Estimated Quantity	Cost per Unit 2023	Total Gross Cost 2023	Salvage Value 2023	Net Costs 2023
Engineering & Permitting	LS	1	$ 11,250.00	$ 11,250.00	$ -	$ 11,250.00
Mobilization	LS	1	$ 218,527.30	$ 218,527.30	$ -	$ 218,527.30
Silt Fence	LF	112,370	$ 2.70	$ 303,399.00	$ -	$ 303,399.00
Access Road Removal & Restoration	SF	62,860	$ 5.20	$ 326,872.00	$ -	$ 326,872.00
Equipment Pad & Restoration	EA	1	$ 800.00	$ 800.00	$ -	$ 800.00
Seed Disturbed Areas (50% disturbed area)	AC	1,007	$ 871.00	$ 876,661.50	$ -	$ 876,661.50
Fence Removal	LF	112,370	$ 2.20	$ 247,214.00	$ (83,603.28)	$ 163,610.72
Site Clean Up	AC	2,013	$ 260.00	$ 523,380.00	$ -	$ 523,380.00
Rack and Post Removal	EA	101,300	$ 70.00	$ 7,091,000.00	$ (3,798,750.00)	$ 3,292,250.00
Remove Panels	EA	590,720	$ 2.60	$ 1,535,872.00	$ (2,805,920.00)	$ (1,270,048.00)
AC Wiring-Direct Burial and Overhead	LF	110,400	$ 0.21	$ 23,689.35	$ (12,966.48)	$ 10,722.87
DC Wire Removal	LF	4,114,100	$ 0.40	$ 1,645,640.00	$ (246,846.00)	$ 1,398,794.00
Electrical Disconnect	EA	1	$ 170.00	$ 170.00	$ -	$ 170.00
Combiner Box	EA	946	$ 190.00	$ 179,740.00	$ (11,654.72)	$ 168,085.28
Inverter	EA	64	$ 190.00	$ 12,160.00	$ (1,734.66)	$ 10,425.34
Transformer	EA	64	$ 500.00	$ 32,000.00	$ (54,476.80)	$ (22,476.80)
Substation	EA	1	$ 300,000.00	$ 300,000.00	$ (50,000.00)	$ 250,000.00
O&M Building	EA	1	$ 175,000.00	$ 175,000.00	$ -	$ 175,000.00
SUBTOTAL				**$ 13,503,375.15**	**$ (7,065,951.94)**	**$ 6,437,423.21**
Other Costs						
Contractor Profit	%	8%		$ 1,080,270.01		$ 1,080,270.01
Contractor Overhead & Management	%	5%		$ 675,168.76		$ 675,168.76
Contractor Insurance	%	2%		$ 270,067.50		$ 270,067.50
SUBTOTAL				**$ 2,025,506.27**		**$ 2,025,506.27**
DECOMMISSIONING TOTAL				**$ 15,528,881.42**		**$ 8,462,929.48**

**Material labor cost estimated utilizing labor rates using the posted March 1, 2023 Christian County prevailing wage (Foreman Hourly Rate) and FEMA 2019 schedule.

Exhibit 14:
Cultural Evaluation Letter

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May 2, 2023

Greg Vasilion
Invenergy
One South Wacker Drive, Suite 1800
Chicago, IL 60606

Re: Preliminary Cultural Resource Survey Update: Proposed Hickory Point Solar Farm Project, Christian County, Illinois
SHPO Log 003083019

Dear Mr. Vasilion,

On behalf of Hickory Point Solar Energy Center LLC (Hickory Point) and Stantec Consulting Services Inc. (Stantec), this letter presents the results of preliminary cultural resource investigations conducted by In Situ Archaeological Consulting, LLC (In Situ) for the proposed Hickory Point Solar Energy Project (Project). The Project is located in Christian County, IL and within the legal locations listed in Table 1 (Project Area).

Table 1: Legal Locations of the Additional Proposed Project Area

Township (T)	Range (R)	Section(s)
12 North	3 West	3, 4, 5, 6, 7, 8, 9, 10, 16
12 North	4 West	1, 12
13 North	3 West	19, 28, 29, 30, 31, 32, 33
13 North	4 West	25, 36

This cultural resourcve investigation expands on the previous investigation by In Situ for the Project, which was originally documented in their 2020 report "*Phase I Cultural Resource Investigation for the Hickory Point Solar Energy Project, Christian County, Illinois; SHPO Log #003083019*." The additional Project Area is located adjacent and southeast of the original assessment area for the Project. The Project consists of an additional area encompassing approximately 3,595 acres. In Situ provided Hickory Point with an updated literature review on March 9, 2023. The literature review revealed no previously recorded resources are located within the proposed additional Project Area. However, multiple historic plat map features and areas of cultural resource potential are within the additional Project Area.

The Project is not subject to Section 106 review, as the Project will not require nor will seek any federal assistance, permitting, or authorization. Thus, the Project is only subject to Illinois State Agency Historic Resources Preservation Act (20 ILCS 3420, as amended, 17 IAC 4180), therefore a cultural resource investigation has been initiated and the proposed Project is subject to review by the Illinois State Historic Preservation Office (SHPO). This cultural resource update letter was completed as an

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act of due diligence for planning purposes for the Project and is not meant for submittal to any state or federal agencies as a formal cultural resource assessment for the Project.

The cultural resource investigation for the Project consists of the systematic survey in an attempt to record and evaluate historic properties that may be affected by the above described undertaking. Prior to initiating field survey of cultural resources for the Project, In Situ reviewed SHPO records of the Project area. As a result of the file review and proposed Project activities, aftrer consultation with SHPO, there are two areas within the Project area that are subject to survey: 1) portions of the Project area that are within established high-probability areas; and, 2) locations of known archaeological sites (which includes features depicted on historic plat maps). There were no previously recorded archaeological sites identified in SHPO records; however, there are multiple historic plat map features that were subject to the survey of 2.5 acres surrounding the location where each feature is located. In total, approximately 436.7 acres are subject to survey for the additional Project Area.

The archaeological field survey for the additional Project Area began the week of April 3rd, 2023 with In Situ cultural resource staff. For the Project, all potential areas of impact have been identified and the cultural resource survey targeted all areas of high cultural resource potential. The Project footprint/areas of impact will take place within established agricultural fields. Therefore, a pedestrian survey was used to investigate these survey areas. Field conditions varied throughout the survey areas. There was ample ground surface visibility (GSV) (25-90%) within the majority of the agricultural fields. The archaeological survey was completed within these areas. During the April 2023 survey, 19 archaeological find spots/sites were recorded within the areas that were successfully surveyed. All 19 archaeological resources are small lithic scatters or isolated finds and due to the paucity of artifacts, pending concurrence from SHPO, these sites are likely *not eligible* for the NRHP, and no further work would be necessary for these resources. There were fields where there were harvested soybeans and/or corn that had plant debris from the prior year or there were fields that were left fallow, that inhibited GSV (0-15%). These areas will be assessed at a later date using pedestrian survey and shovel testing methods, likely in May or June 2023. Approximately 53 acres of survey areas remain to be assessed for the Project. The remainder of the survey areas are still subject to archaeological survey and all of the survey areas and findings are to be documented in a final report to be submitted to SHPO at a later date. The previous cultural survey and continued cultural survey will cover the areas of high resource potential within all potential areas of impact that have been identified for the Project to ensure no significant cultural resources are located within the proposed Project footprint.

Please let me know if you have any questions or concerns regarding this ongoing project.

Sincerely,

Craig Picka, M.S., RPA
Principal Investigator, Archaeology

cc: Kristina DeName, Stantec

Invenergy