



WELCOME

EPA Public Meeting
Former Koppers Wood-Treating Plant
May 22, 2013
7:00 pm to 8:30 pm



EPA Representatives

Land and Chemicals Division, Region 5

Chicago

Carolyn Bury, Project Manager

Rafael Gonzalez, Public Affairs Specialist

Bhooma Sundar, Toxicologist

Mario Mangino, Toxicologist

Tammy Moore, Section Chief, RRB



This evening's topics:

- 1) Results of 2012 Neighborhood Soil Testing
Carolyn Bury, US EPA

- 2) Crab Orchard Creek Fish Advisory
Dr. Tom Hornshaw, IL EPA

- 3) Potential Solar Redevelopment at Koppers
Mike Slenska, Beazer East, Inc.
Marjorie Buckholz, Brightfields Development, LLC
Pete Pederson, Brightfields Development, LLC

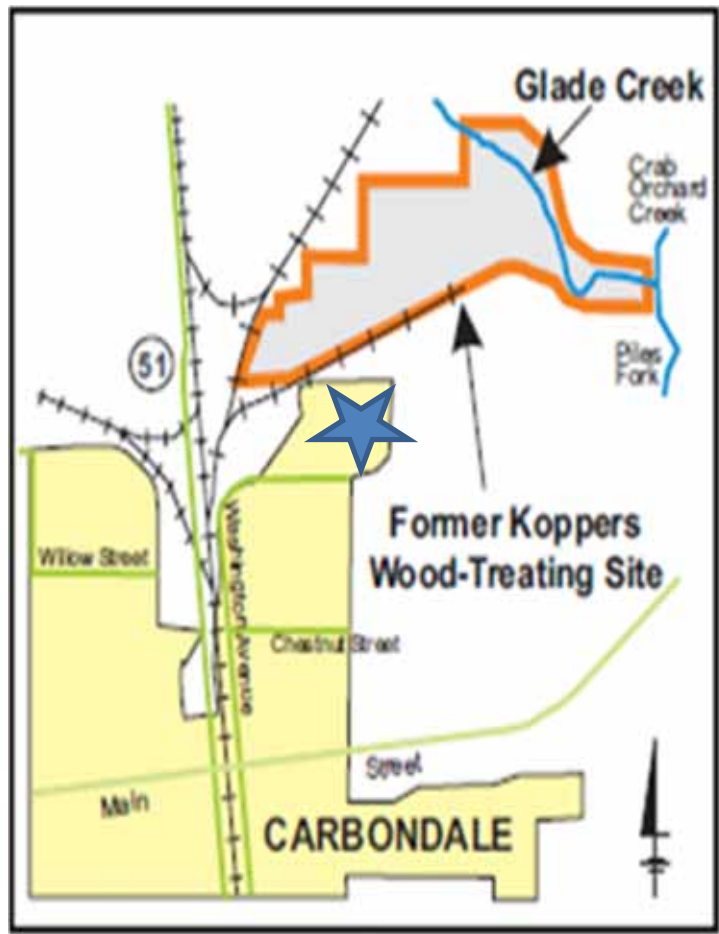



Koppers Wood-Treating Facility

Results of 2012 Soil Testing for Dioxin in the Neighborhood

Carolyn Bury, USEPA

Koppers Location Carbondale, IL



 Neighborhood where soil was tested

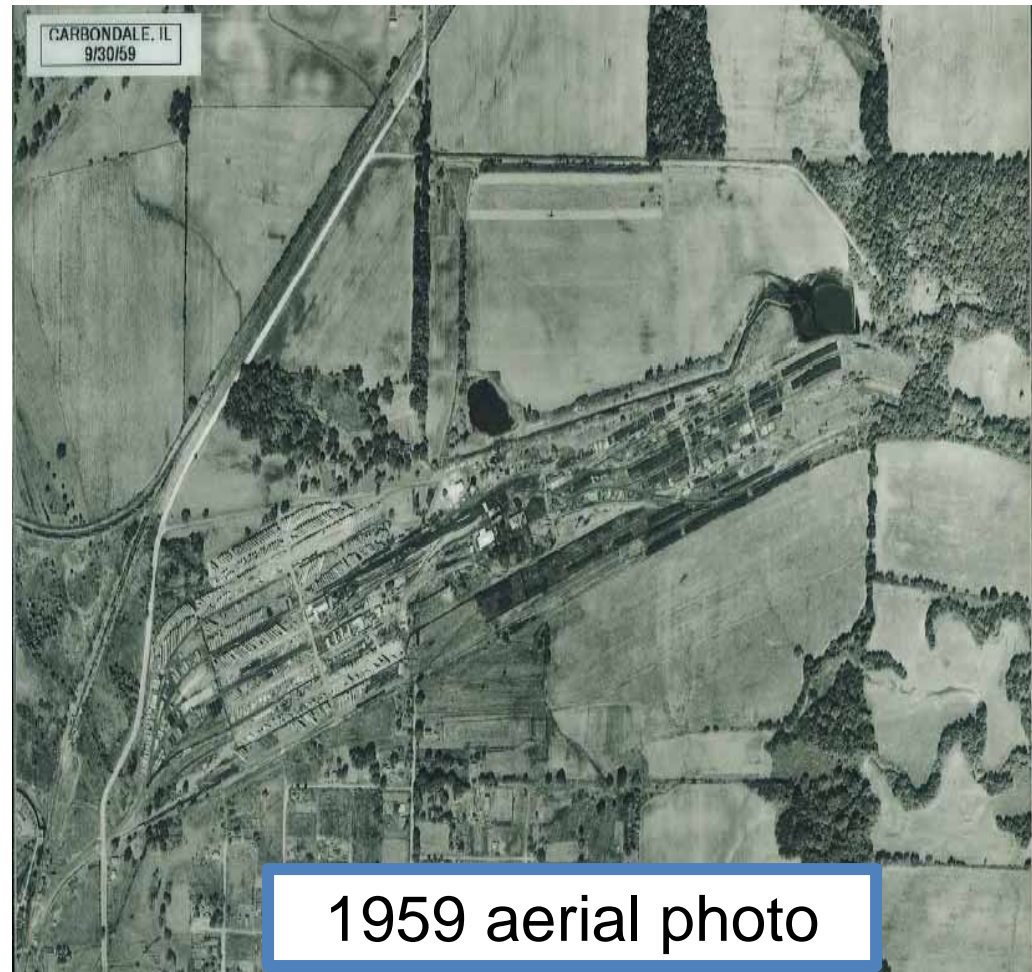


Koppers History

Wood-Treating plant from 1901 to 1991

Chemicals Used:

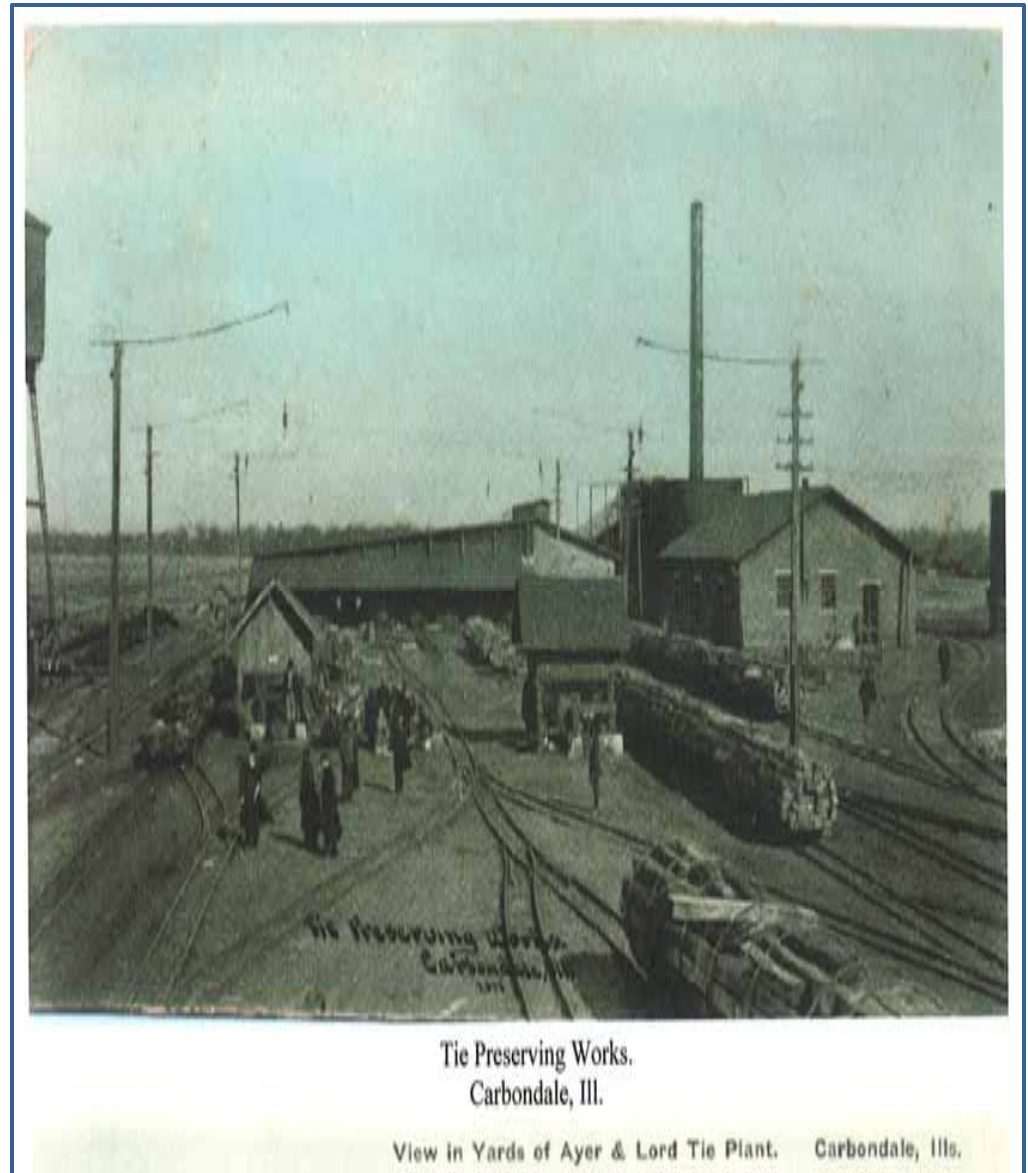
- Creosote (PAHs)
- Pentachlorophenol (source of dioxin)
- Fluoro-chrome-arsenate phenol
- Chromated zinc-chloride



Koppers Regulatory Context



- Releases of chemicals led to IEPA enforcement actions
- EPA and IEPA ordered Beazer to take action
- Beazer signed on to agreements with agencies to investigate and clean up the site
- Several clean-up measures from 2004 to 2010; two public meetings





Most Remediation based on creosote, metals, PAH contamination; some dioxin-related

- Containment unit to lock up 30,000 cubic yards of contaminants
- Glade Creek:
 - 4,000 feet excavated
 - 1,500 feet relocated
- Creosote collection from below ground (24,000 gallons to-date):
 - Trench
 - Recovery well extraction pump
- Contaminated Soil
 - Excavation
 - 38 acres of covers
- Water treatment plant constructed

Glade Creek Relocation and DNAPL barrier trench construction (northeast end of Site)



(2005)

Soil Testing in Neighborhood 2005 -2006

Why?

On-site levels of metals, creosote, and PAHs were high enough to require remediation. But the neighborhood was never sampled/evaluated during RFI phase probably due to physical barriers.

EPA test the neighborhood soil in response to request from residents -- an appropriate request.

Soil samples were tested for metals -- PAHs -- pentachlorophenol.

Beazer also performed independent analysis – obtained nearly identical results.

City of Carbondale -- completed independent study for same contaminants in response to request from residents.

Results: The neighborhood was not contaminated with Koppers pollutants.

2012 Neighborhood Soil Testing for Dioxin

Why?

- Koppers Site was re-evaluated for dioxin levels from 2006 to 2010.
- The Site had levels of dioxin high enough to require on-site remediation – remediation is on-going.
- Dioxin exposure is a health concern and EPA wanted to know if contamination might have spread to the neighborhood.

2012 Neighborhood Soil Testing for Dioxin Plan

- EPA and Beazer agreed to soil sampling locations and quality assurance plan.
- Used composite approach, 0.0 to 0.5 feet deep.
- Beazer sampled in yards with permission from property owners or in City property along road rights-of-way in front of yards.
- Neighborhood soil testing was based on an updated EPA dioxin soil screening level of 50 ppt (2012).

What is a Screening Level?



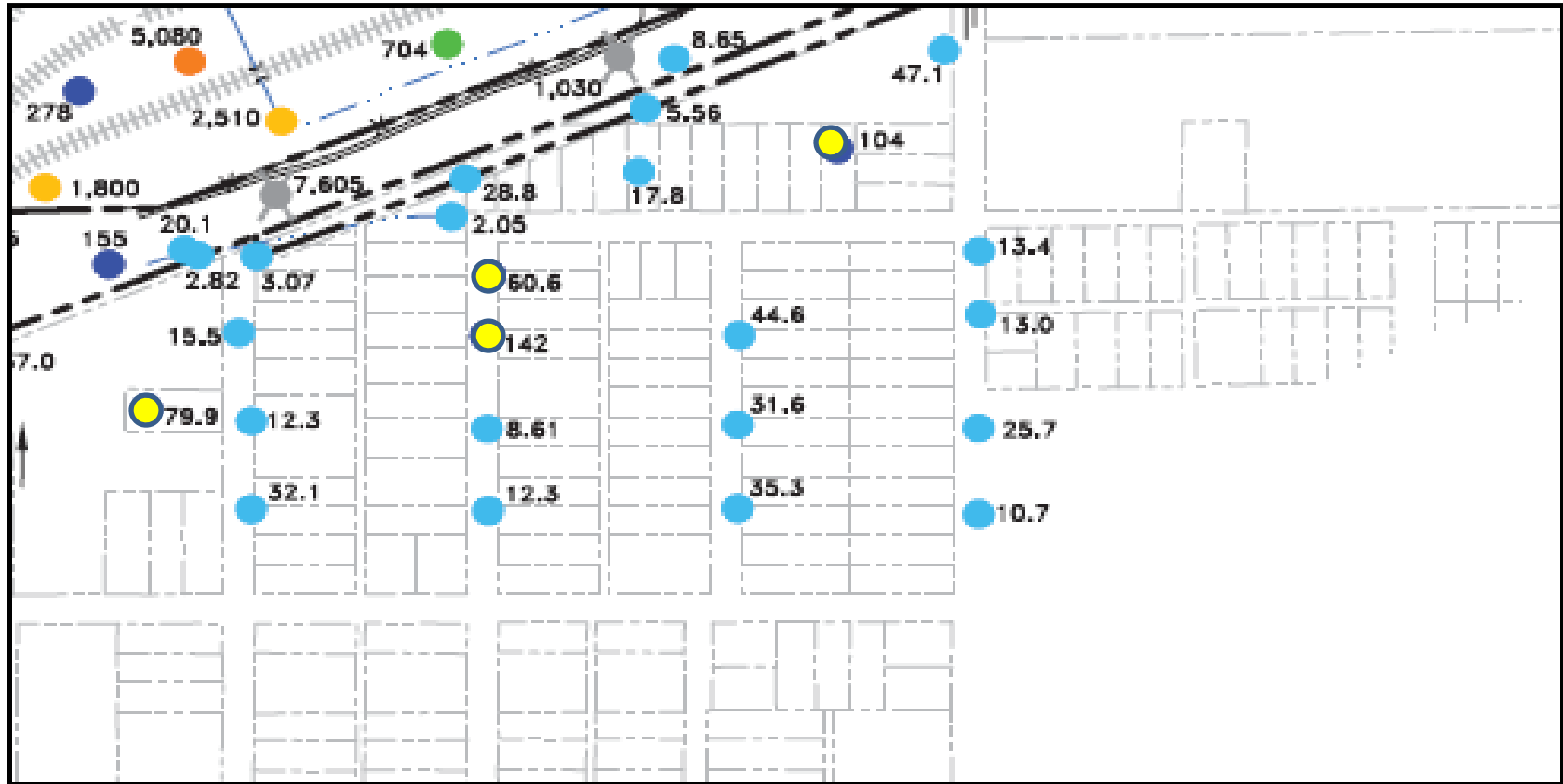
Whenever a measurement is made of contamination in the environment, a point of reference is needed to interpret the result.

A screening level is a very conservative, low level with many degrees of protection going into the calculation that produced the number.

When a measurement is at or below the screening level, no effects to people are expected.

A screening level is well below a value where any effects are expected.

For residential areas, the screening level for dioxin is 50 ppt.¹³



21 soil samples were taken in the neighborhood. Results ranged from 10.7 parts per trillion (ppt) to 142 ppt. Only four samples were over 50 ppt. ●

2012 Neighborhood Dioxin Soil Testing

Interpreting Results:

Based on lab results of 2005, 2006 and 2012 soil tests EPA concluded that the neighborhood was not contaminated with Koppers' pollutants. *Regarding dioxin:*

- Irregular pattern of the four samples greater than 50 ppt.
- Low frequency of elevated concentrations -- 4/21.
- EPA concluded that the dioxin present could be from a source other than Koppers (typical urban background range is to 2.0 ppt to 115 ppt).

-- For example -- backyard burning or barbeques and combustion sources like coal-fired power plants



Anticipated Re-use of Site

- Site will be cleaned up to industrial standards
- Ecological concerns within habitat areas are being evaluated
- Currently a solar development company is interested in using the Site
- The City is interested in using a portion of the site for a bike path – this area would be cleaned up to recreational standards

FISH CONSUMPTION ADVISORY FOR CRAB ORCHARD CREEK

TOM HORNSHAW
TOXICOLOGIST, ILLINOIS EPA
CHAIR, ILLINOIS FCMP

FCMP BACKGROUND

- 1ST advisories issued mid-70s
- 1989 Agreement: IDNR, IEPA, & IDPH duties, procedures
- 1997 Great Lakes Protocol: advisory groups (unlimited, 1 meal/wk, 1 meal/mo, 6 meals/yr, none), toxicity criteria
- Target species: carp, channel cats, bass initially, others as needed for follow-ups
- Analyses for old pesticides & PCBs for all samples, and mercury for predators

USEPA RISK ASSESSMENT

- USEPA requested IEPA to review fish consumption portion of HHRA, IEPA found it acceptable
- Assessments: PAHs, arsenic, & dioxin in catfish and forage fish, using several consumption scenarios
- Some unlimited scenarios had dioxin cancer risks >1 in 10,000 and HIs >1
- Worst case scenario for 1 meal/wk had child's HI=0.9
- USEPA determined catfish should be limited to 1 meal/wk

FCMP ADVISORY ISSUES

- Very limited database (4 catfish, 4 forage fish)
- Forage fish not filet samples
- Sampling and analysis not done by FCMP
- USEPA hasn't issued cancer toxicity criteria
- Can creek provide enough fish for 1 meal/wk?
- UNCERTAINTY

ADVISORY ISSUED

- In light of (in spite of?) uncertainties, FCMP decided to err on side of caution, issued 1 meal/wk advisory
- FCMP has offered 2008 samples in tissue bank and 2013 samples to be collected for dioxin analysis
- FCMP will collect follow-up samples in 2-3 years



Potential Future Site Use

Mike Slenska, P.E.

Beazer East, Inc.

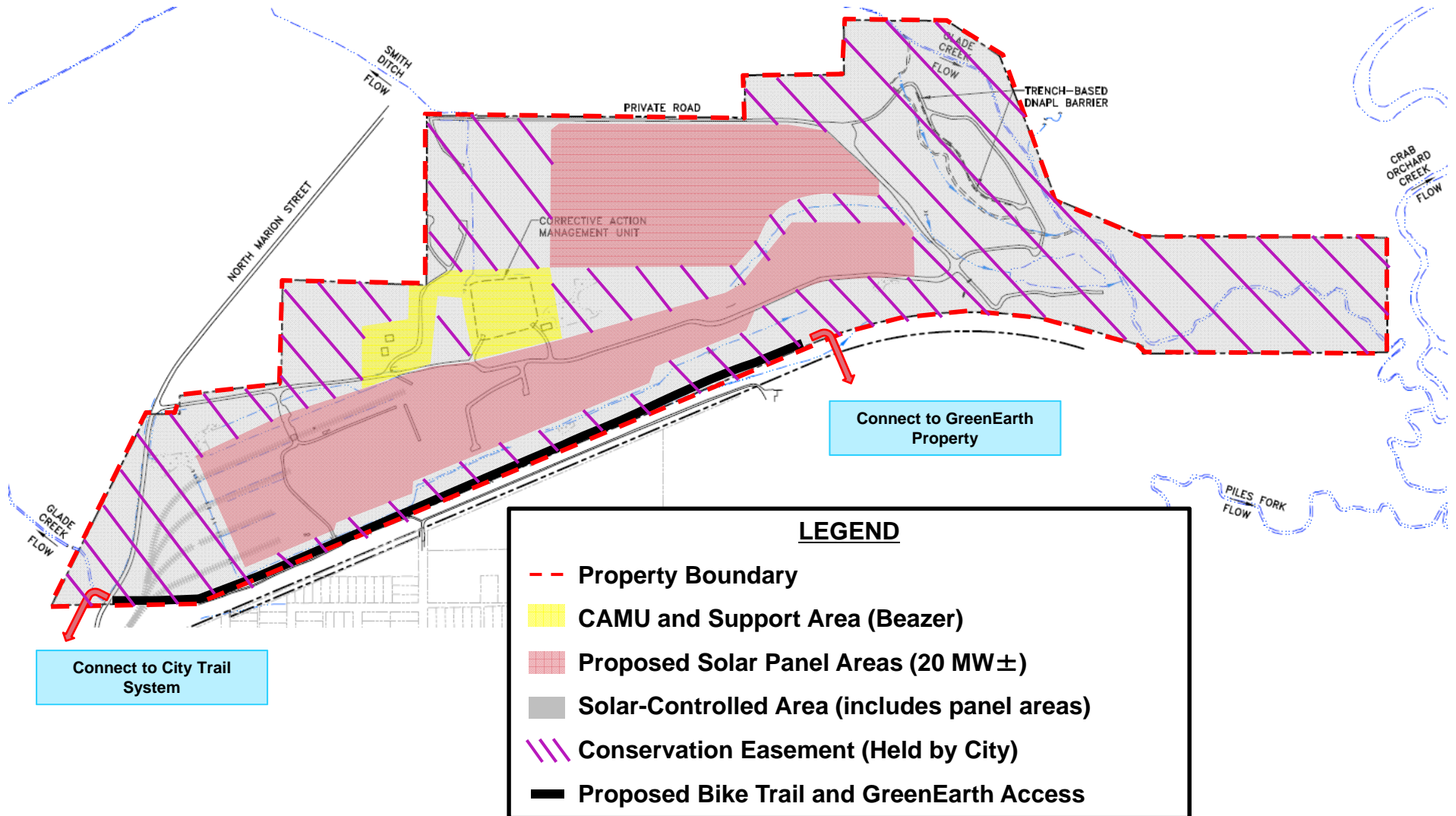
Marjorie Buckholtz

Brightfields

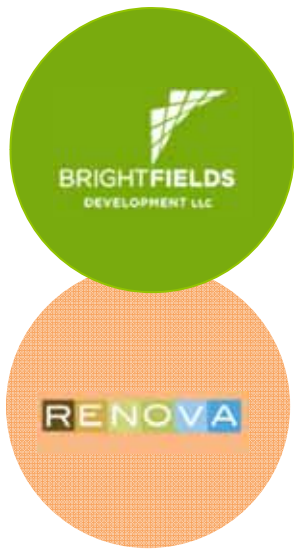
Pete Pedersen

Brightfields/Renova

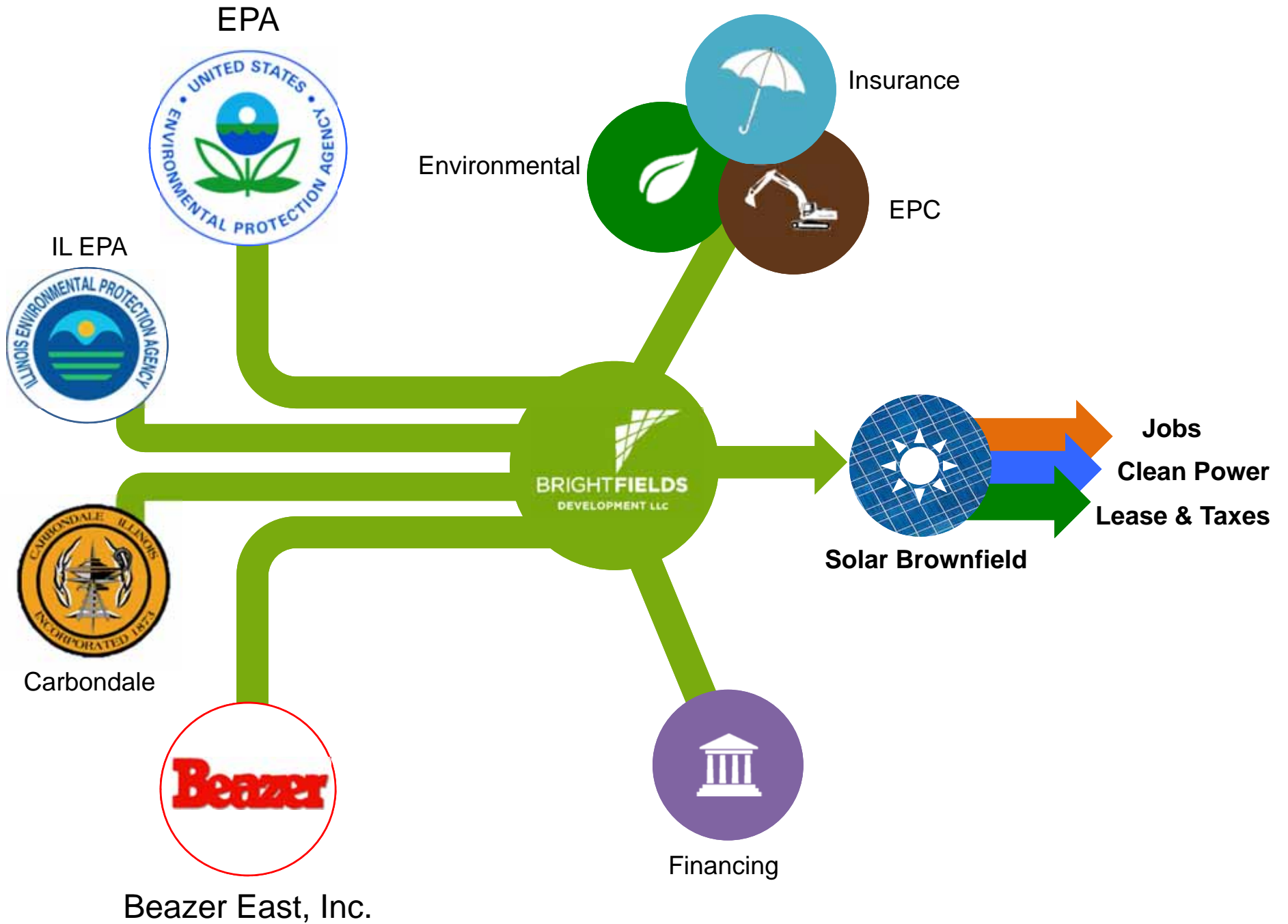
Conceptual Site Use Approach



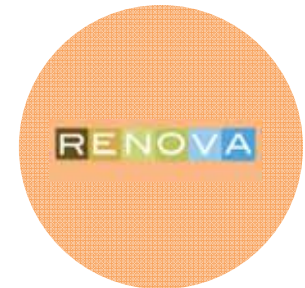
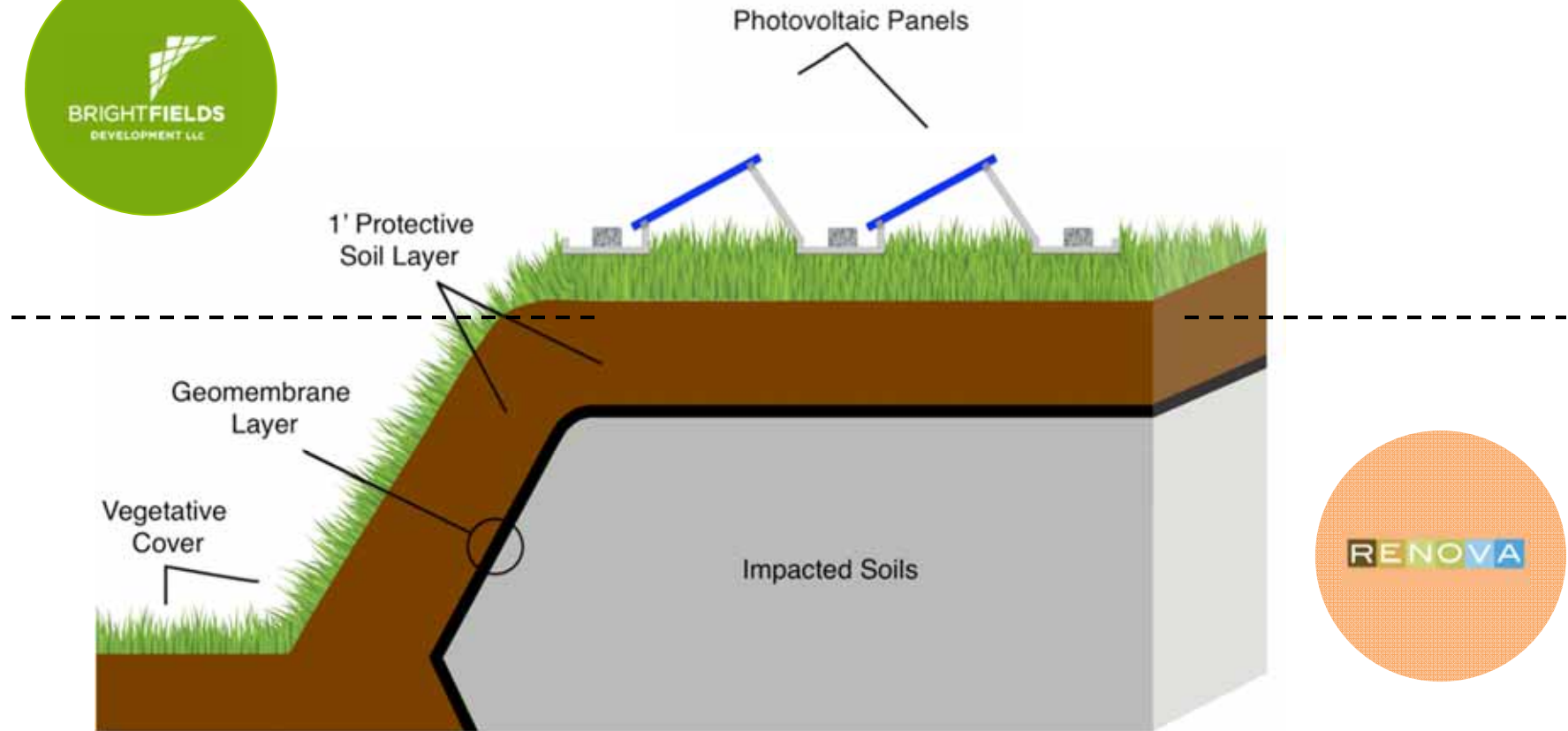
The Renova and Brightfields Partnership



- Renova has over two decades of Brownfields experience with money center investment partners
- Brightfields specializes in repurposing contaminated land with solar photovoltaic panels
- Together, Renova and Brightfields redevelop brownfield sites as solar energy facilities
- We are working with municipalities and Fortune 100 companies to develop over 115 MW of solar power on brownfields in several states nationwide



How Our Solar Brownfields Work



Benefits of One Project

- 20 MW of clean power on grid
- \$60 MM local investment
- Local jobs
- Workforce development

Impact on State RPS

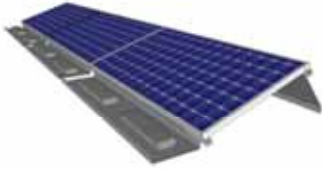
- 1,500 MW of clean power on grid
- \$4.5 BN local investment
- Local jobs
- Workforce development

Carbondale, IL



PRELIMINARY SYSTEM SIZE
 23,8078 MWDC
 87,175 SUNTECH 245W MODULES
 4,225 STRINGS OF 23 MODULES PER STRING

SOLSTICES GRAPHIC SCHEMATIC



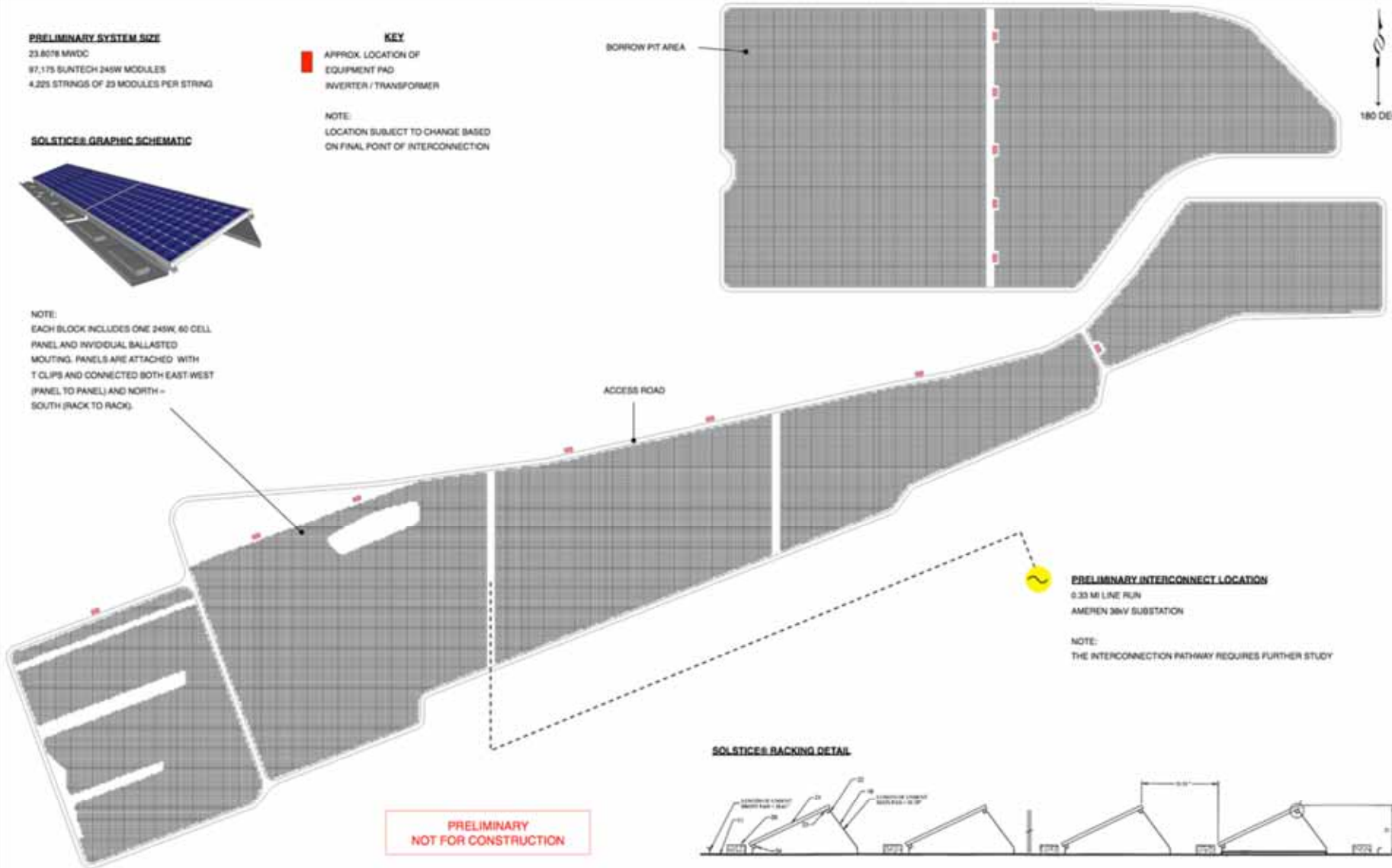
NOTE:
 EACH BLOCK INCLUDES ONE 245W, 60 CELL
 PANEL AND INDIVIDUAL BALLASTED
 MOUNTING. PANELS ARE ATTACHED WITH
 T CLIPS AND CONNECTED BOTH EAST-WEST
 (PANEL TO PANEL) AND NORTH-SOUTH
 (RACK TO RACK).

KEY
 APPROX. LOCATION OF
 EQUIPMENT PAD
 INVERTER / TRANSFORMER

NOTE:
 LOCATION SUBJECT TO CHANGE BASED
 ON FINAL POINT OF INTERCONNECTION

BORROW PIT AREA

ACCESS ROAD



PRELIMINARY INTERCONNECT LOCATION
 0.33 MI LINE RUN
 AMEREN 38KV SUBSTATION

NOTE:
 THE INTERCONNECTION PATHWAY REQUIRES FURTHER STUDY

**PRELIMINARY
 NOT FOR CONSTRUCTION**

SOLSTICES RACKING DETAIL



ZONE	REV	DESCRIPTION	REVISIONS	DATE	DWG BY	APP BY
	A	PRELIMINARY PV ARRAY LAYOUT, NOT FOR CONSTRUCTION		11-28-2012	NC	JR

BEAZER EAST CARBONDALE
 1358 NORTH MARION STREET
 CARBONDALE, ILLINOIS 62901

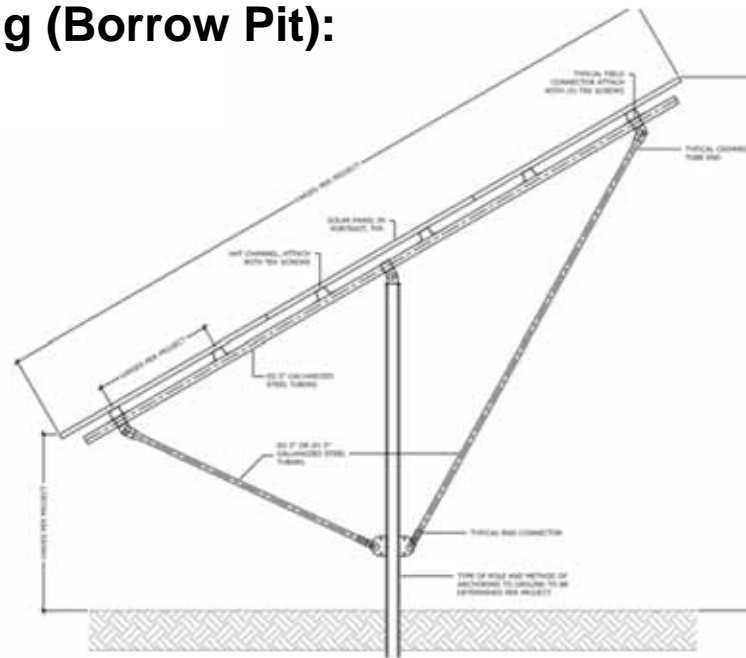
40 WILSON STREET, SUITE 201
 WELLSVILLE, MA 01891
 781-455-9233
 INFO@BRIGHTFIELDSLLC.COM

ARRAY LAYOUT
 SOLSTICES GROUND MOUNTED ARRAY
 SHEET 1 OF 1

Solar Project Layout



Pole Driven Mounting (Borrow Pit):



Solstice® Ballast Mounting:



Solar Project Profile

- 20 MW (AC) system size
- \$60 Million project capital cost
- 32,442 MWh produced in year one
- 811,000 MWh produced over the 25 year life of the project
- 4,165 households powered every year
- 32,130 tons of carbon offsets every year



Questions?



Thank you!