

March 24, 2026

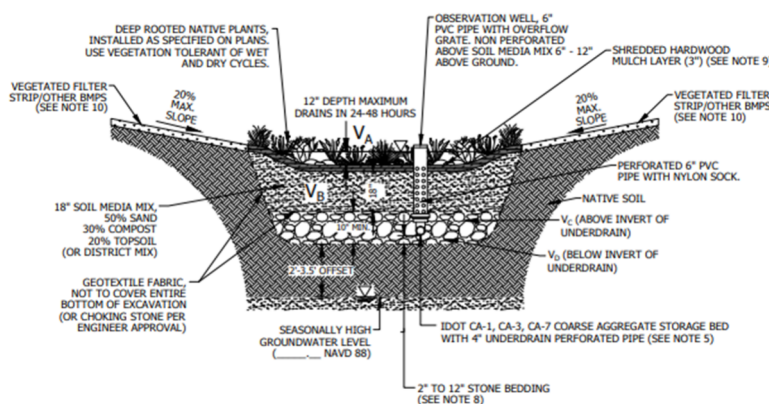
Anne Wilford
 Kane County Stormwater Management Committee
 Phone: (630) 232-3496
 WilfordAnne@kanecountyil.gov

**RE: Stormwater Management Memorandum
 Douglas Family Butterfly Garden and Solar Farm LLC
 Kane County, Illinois**

Dear Ms. Wilford,

Kimley-Horn has been requested to prepare a Special Use Permit application for Douglas Family Butterfly Garden and Solar Farm LLC Commercial Solar Energy Facility (**Project**) in Kane County, IL. The site is located south of Norris Road near the Village of Sugar Grove in unincorporated Kane County, Illinois. The Project is a proposed 5.00 MW_{AC} Commercial Solar Energy Facility that will connect into ComEd electrical at the northwest corner of PIN 11-34-200-019. As part of the Kane County Solar Ordinance 25-5-4-9 Section F.5, an application to Kane County for a Stormwater permit is required to be included in the application package for Special Use Permit.

Per the Kane County Stormwater Management Ordinance Table 9-107, Development or Redevelopment with greater than 5,000 sq. ft. of new impervious area will be required to provide volume reduction and water quality treatment for one inch (1") of rainfall over the new impervious area. This reduction and treatment requirement can be achieved using a volumetric best management practice (BMP), such as a rain garden, shown below:



The proposed access road for the Project will utilize a pervious material, such as GrassPave2, and therefore will not contribute to the new impervious area for the Project. From previous discussions with the Kane County Environmental and Water Resources, it is our understanding that Kane County categorizes solar panels as *disconnected impervious* surfaces. The total new impervious area,

accounting for the disconnected impervious area of the solar panels, the proposed inverters, and the proposed structural piles was calculated using the Minnesota Pollution Control Agency Calculator, show in the table below:

Total Limits of Disturbance	Water Quality - Total	
		ac
Inverter Area	1,076.82	sf
Diameter of Solar Pile	0.50	ft
Area of Solar Pile	0.20	sf
# of Piles (Approx 500/1 MWac)	2,500.00	ea
Pile Area	490.63	sf
<i>Subtotal (Inverter Area + Pile Area)</i>	1,567.45	sf
# of Panels (modules)	10,152.00	#
<i>WQV/panel (based on Solar Panel Calc. Sprdsh. *)</i>	2.14	cf
Required Volume:		
1.0" over new impervious areas	130.62	cf
Panel impervious areas	21,752.28	cf
Water Quality Volume Required (CF)	21,855.90	cf
Water Quality Volume Required (AC-FT)	0.502	ac-ft

*Solar Panel Calculation Spreadsheet include as **Attachment A**

Given the above calculations, the Project will provide retention for 0.502 ac-ft of rainfall runoff, utilizing a structural BMP, such as a rain garden. Please see **Attachment B** for the Stie Plan with preliminary locations and sizing of proposed rain gardens. Prior to submitting a Building Permit Application, the Project will provide a field-verified Drain Tile Survey. The Project will protect in place existing drain tile or reroute any existing drain tile.


Sincerely,

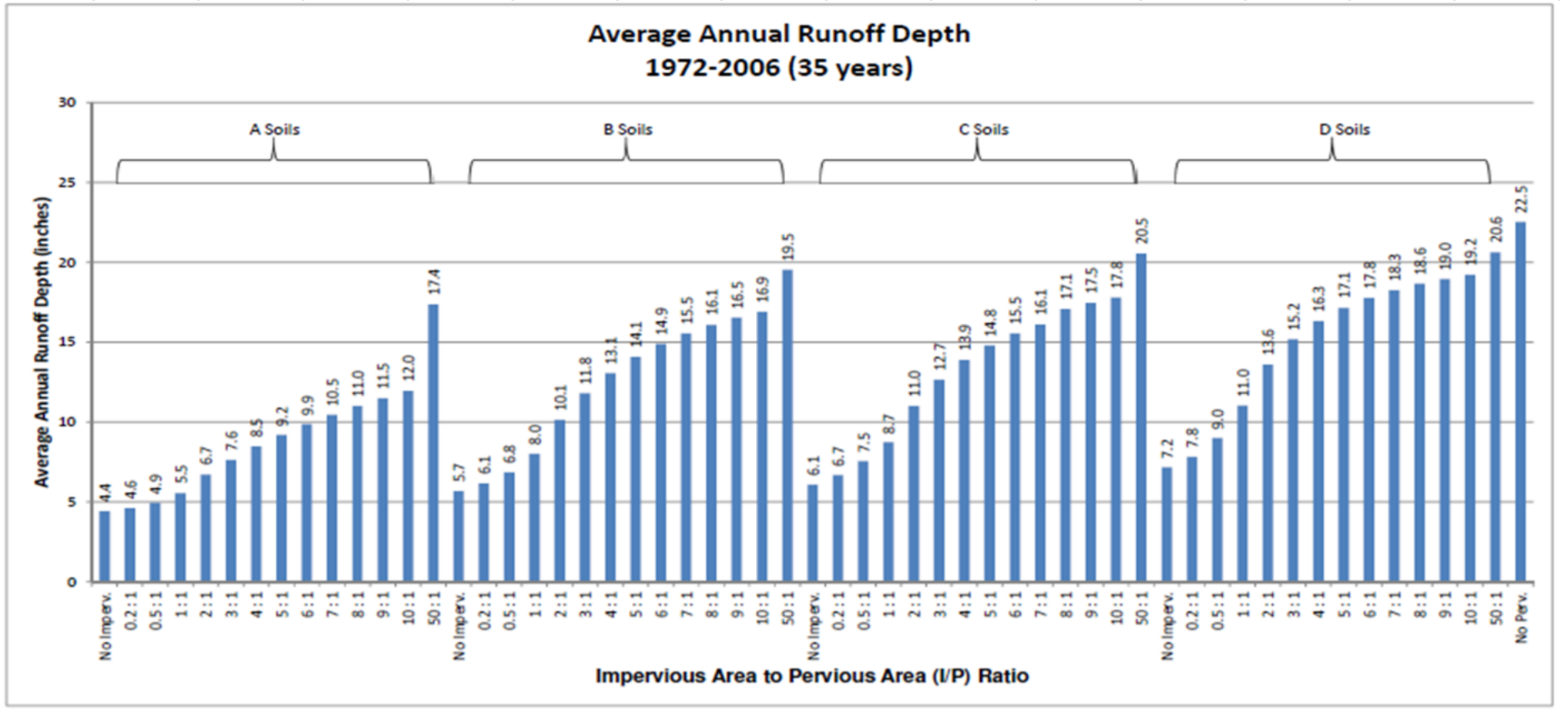
Hanna London, P.E.
 Kimley-Horn and Associates, Inc.
 Phone: (331) 234-9565
 Email: hanna.london@kimley-horn.com

Attachment A: Solar Panel Calculation Spreadsheet

This spreadsheet makes calculations for an individual solar panel.

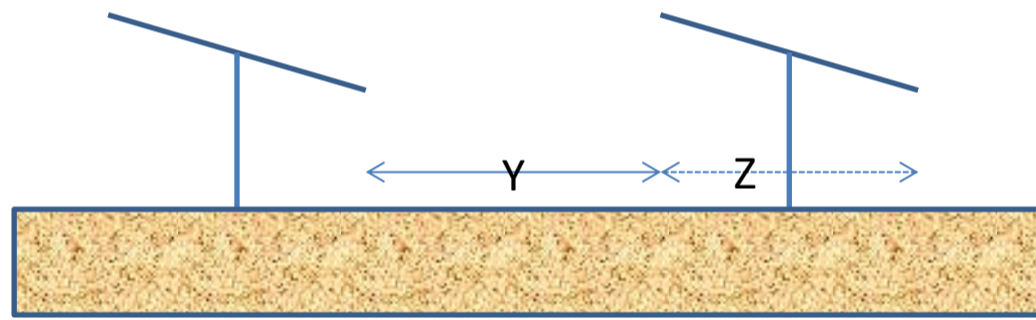
Enter values in blue cells

Soil	C		select from dropdown; determine soil on site
I/P ratio	0.401		calculated
Term	Value	Units	
Pervious area	140.25	square feet	user entered; determine on site
Impervious area (area of solar panel)	56.25	square feet	user entered; determine on site
Runoff depth from pervious areas	6.10	inches	default = 4.4 for A soil, 5.7 for B, 6.1 for C, 7.2 for D
Redirected runoff depth from solar panel (called average annual runoff depth)	7.30	inches	determine from plot called <i>Average annual runoff depth</i> 
Runoff depth from solar panel	22.50	inches	default = 22.5 inches
Performance goal	1.00	inches	
SUMMARY			
Pre-disconnection			
Runoff from impervious	105	ft3	calculated
Runoff from pervious	71	ft3	calculated
Total runoff	177	ft3	calculated
Post-disconnection			
Total runoff	120	ft3	calculated
Total runoff reduced	57	ft3	calculated
Runoff from pervious	71	ft3	calculated
Runoff from impervious	48	ft3	calculated
Adjusted impervious	25.730	square feet	calculated
Performance Goal Summary			
Performance goal	4.69	ft3	calculated
BMP volume credit (BMP _{volume credit})	2.54	ft3	calculated
% of performance goal achieved	54.3	%	calculated
Remaining water quality volume to be treated (per panel)	2.14	ft3	calculated

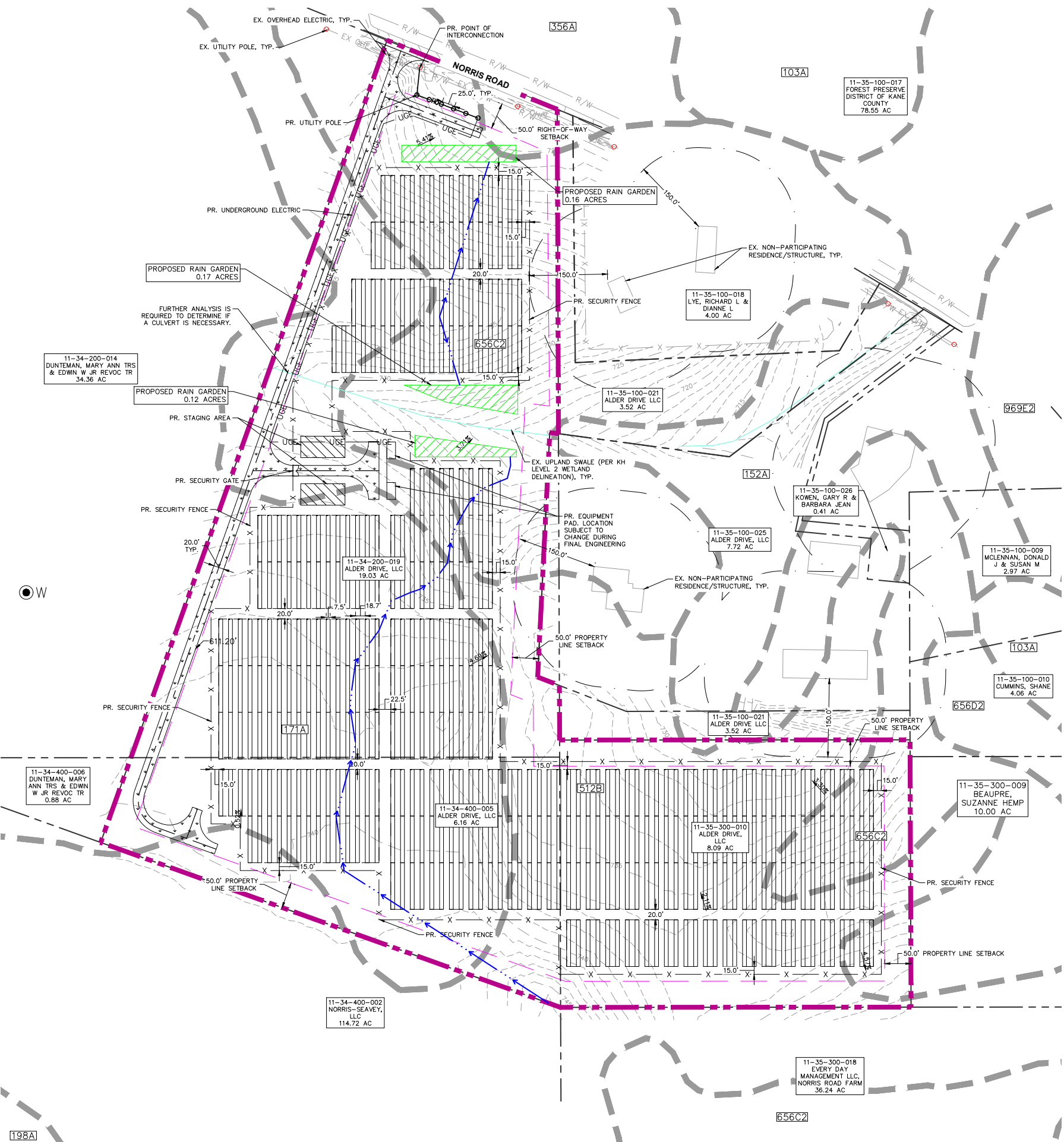
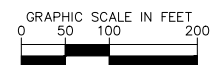


Pervious area = (Y + Z) * W; where W is the width of the solar panel and Z is the average horizontal distance of the panel

Impervious area = Z * W; where W is the width of the solar panel and Z is the average horizontal distance of the panel



Attachment B: Preliminary Site Plan with Preliminary Rain Gardens



LEGEND	
ROAD LABEL	NORRIS ROAD
PROPERTY LINE	---
PROJECT BOUNDARY	---
PROPERTY LINE/RIGHT-OF-WAY SETBACK	---
RIGHT-OF-WAY	R/W
ROAD CENTERLINE	---
EX. OVERHEAD ELECTRIC	EX OHE
EX. UTILITY POLE	○
EX. RESIDENCE/STRUCTURE	□
EX. FENCE	X
EX. FLOW (DIRECTION AND SLOPE)	XXX
EX. CONTOURS	---
EX. LINEAR DRAINAGE FEATURE (PER KIMLEY-HORN LEVEL 2 WETLAND DELINEATION DATED MARCH 2026)	---
EX. RESIDENCE/LINEAR DRAINAGE FEATURE BUFFER	---
EX. SOILS	---
EX. ASPHALT ROAD CURB	---
EX. GRAVEL ROAD CURB	---
PR. SECURITY FENCE	X X
PR. SOLAR ARRAY	---
PR. PANEL EXTENTS	---
PR. EQUIPMENT PAD	□
PR. STAGING AREA	▨
PR. UNDERGROUND ELECTRIC	UG
PR. OVERHEAD ELECTRIC	OH
PR. UTILITY POLE	○
PR. GRAVEL ACCESS ROAD	---
TIME OF CONCENTRATION	---
PROPOSED RAIN GARDEN	▨

SunCode Energy
SUNCODE LLC
SAMUEL DIONNE
(603) 686-1750
DIONNE.SAMUEL@SUNCODEENERGY.COM

Kimley-Horn
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KIMLEY-HORN AND ASSOCIATES, INC.
(330) 214-9565
570 LAKE COOK RD SUITE 200
DEERFIELD, IL 60015
WWW.KIMLEY-HORN.COM

PRELIMINARY - NOT FOR CONSTRUCTION

KHA PROJECT	180124002
DATE	4/3/2026
SCALE	AS SHOWN
DESIGNED BY	MAB
DRAWN BY	MAB
CHECKED BY	SMH

NOT FOR CONSTRUCTION

PRELIMINARY SITE PLAN

DOUGLAS FAMILY BUTTERFLY GARDEN AND SOLAR FARM LLC

SHEET NUMBER EXH



Drawing name: K:\GIS_LBA\180124002_SunCode_Douglas Family Butterfly Garden Site Plan\STROMWATER MEADOW SITE PLAN.dwg Layout1 Apr 03, 2026 11:10am by: HemaLandon
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