

# CONDITIONAL USE PERMIT PLANS

## FOR

# WOODSTOCK COMMUNITY ENERGY INITIATIVE, LLC

LOCATED AT  
US HIGHWAY 14,  
WOODSTOCK, IL 60098  
42.336900, -88.486695

### PROJECT TEAM

**APPLICANT/PROJECT OWNER**  
WOODSTOCK COMMUNITY ENERGY INITIATIVE LLC  
203 CRESCENT STREET #106  
WALTHAM, MA 02453  
CONTACT: BEN DYKEMA, P.E.  
PHONE: (630) 209-5270  
EMAIL: BD@ECASOLAR.COM

**DEVELOPER**  
ECA SOLAR  
203 CRESCENT STREET #106  
WALTHAM, MA 02453  
CONTACT: BEN DYKEMA, P.E.  
PHONE: (630) 209-5270  
EMAIL: BD@ECASOLAR.COM

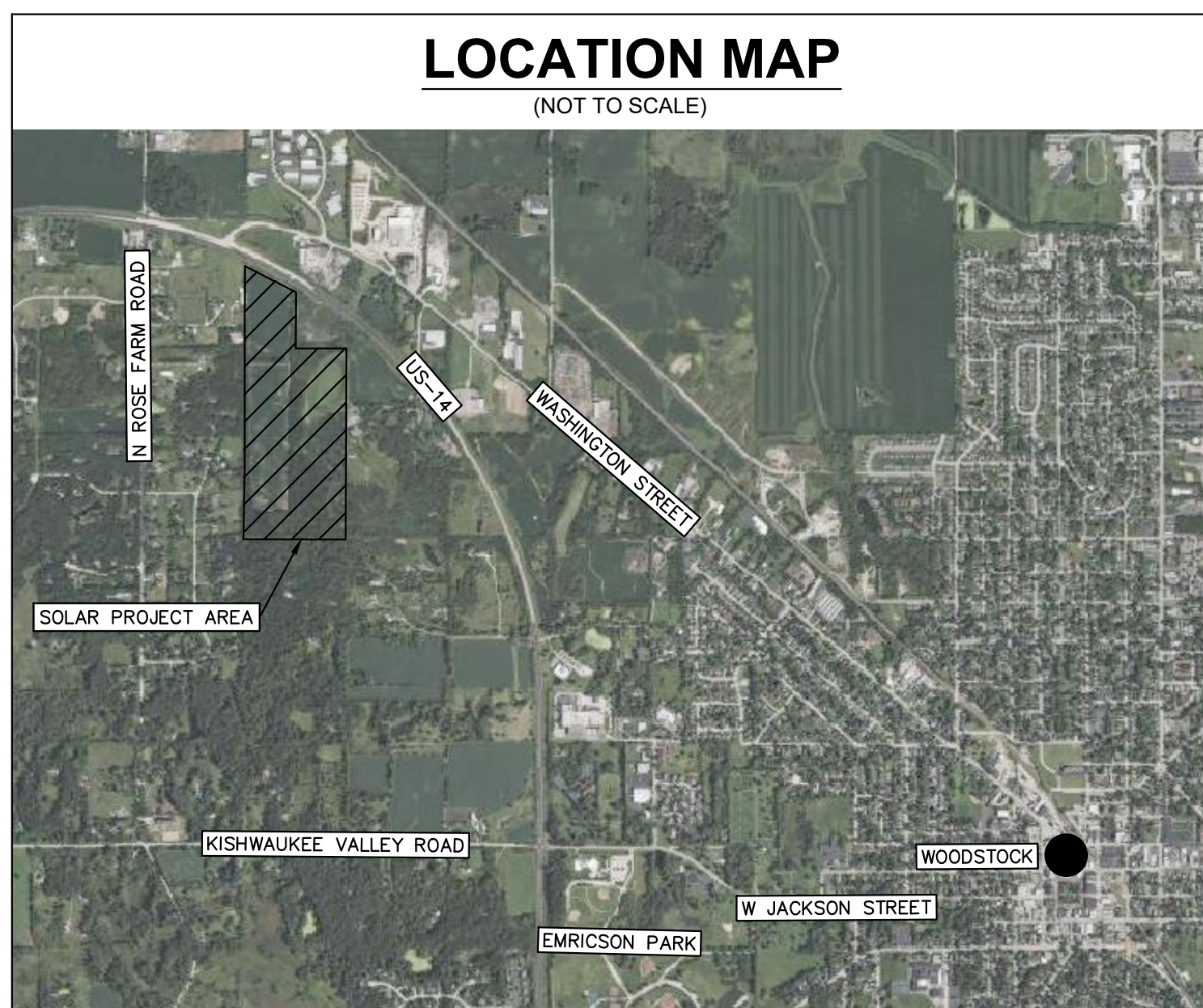
**CIVIL ENGINEER**  
KIMLEY-HORN AND ASSOCIATES, INC.  
570 LAKE COOK ROAD, SUITE 200  
DEERFIELD, IL 60015  
CONTACT: ANDREW CLICK, P.E.  
EMAIL: ANDREW.CLICK@KIMLEY-HORN.COM  
PHONE: (629) 278-4026  
ENGINEER OF RECORD: ANDREW CLICK, P.E.

**SURVEYOR**  
COMPASS SURVEYING, LTD.  
2631 GINGER WOODS PARKWAY, STE. 100  
AURORA, IL 60502  
EMAIL: ADMIN@CLSURVEYING.COM  
PHONE: (630) 820-9100

**ELECTRIC UTILITY COMPANY**  
COMED  
1950 DUNCAN PL  
WOODSTOCK, IL 60098  
PHONE: (877) 426-6331

**AUTHORITY HAVING JURISDICTION (AHJ)**  
MCHENRY COUNTY  
667 WARE RD  
WOODSTOCK, IL 60098  
CONTACT: KIM SCHARLOW  
PHONE: (815) 334-4560  
EMAIL: KBSCHARLOW@MCHENRYCOUNTYIL.GOV

**IDOT**  
201 WEST CENTER COURT  
SCHAUMBURG, IL 60196  
CONTACT: YELEINA HAYDEL  
EMAIL: YELEINA.HAYDEL@ILLINOIS.GOV



Sheet List Table	
Sheet Number	Sheet Title
C-100	COVER SHEET
C-200	SITE LAYOUT
C-300	GRADING AND DRAINAGE PLAN
C-400	LANDSCAPE PLAN
C-500	CONSTRUCTION DETAILS
C-501	CONSTRUCTION DETAILS

### SURVEY NOTE

ALTA/TOPO: COMPASS SURVEYING LTD DATED MAY 5, 2025  
BASIS OF BEARINGS: ILLINOIS STATE PLANE COORDINATES, EAST ZONE, US FOOT

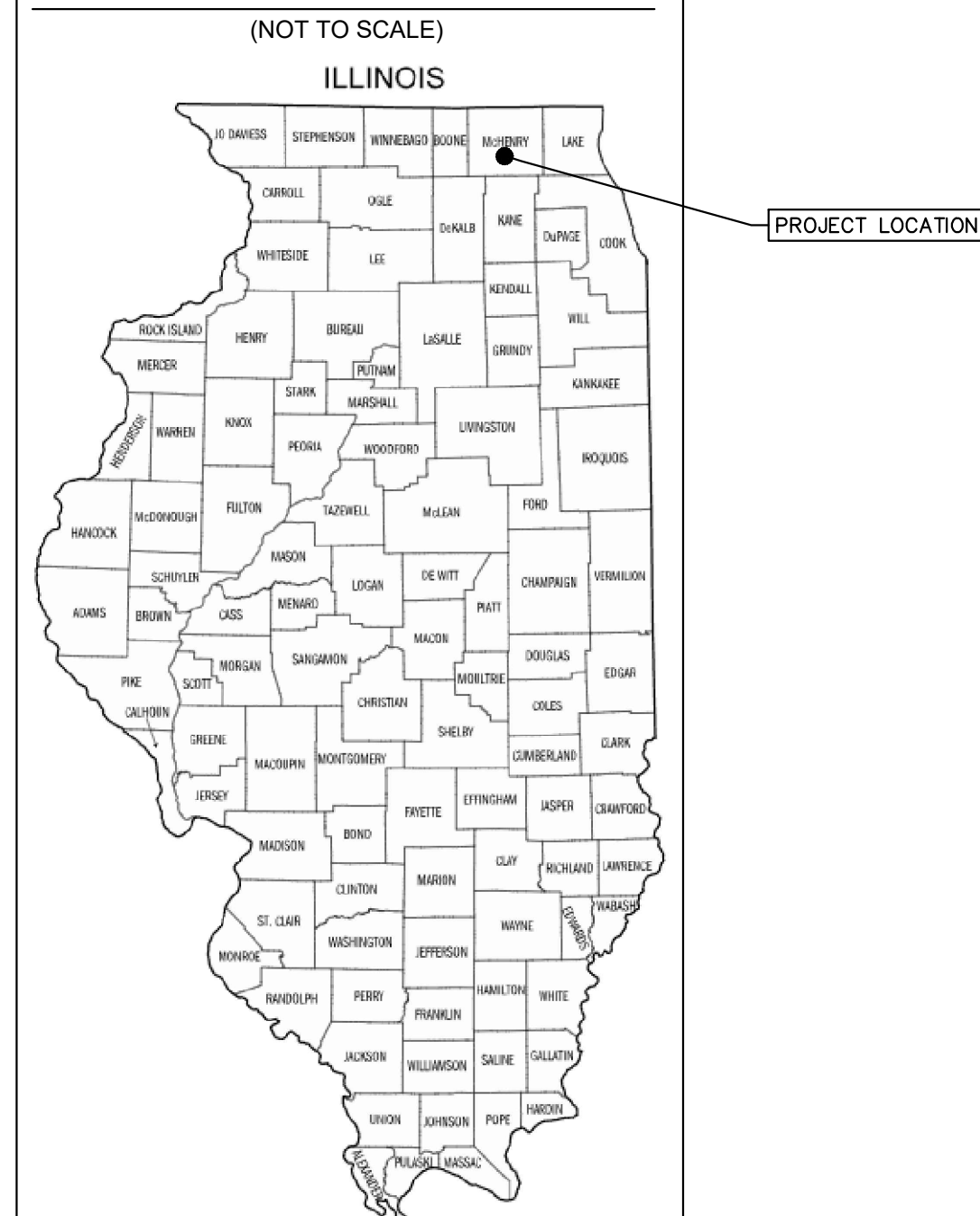
### FLOOD ZONE NOTE:

PER FEMA FIRM MAP 17111C0178J EFFECTIVE DATE 11/16/2006, NO FLOOD PLAINS ARE PRESENT WITHIN THE PROJECT AREA. THE AREA IS DESIGNATED AS ZONE 'X', AREA OF MINIMAL FLOOD HAZARD.

### SITE INFORMATION

**PARCEL ZONING**  
AGRICULTURAL (A-1)  
**PARCEL SIZE**  
88.075 ACRES  
**PROJECT DESCRIPTION**  
5.00MWAC SINGLE AXIS TRACKER SOLAR ARRAY PROJECT

### STATE COUNTY MAP (NOT TO SCALE)



SETBACK TABLE	
OCCUPIED COMMUNITY BUILDINGS AND DWELLINGS ON NON-PARTICIPATING PROPERTIES	150'
BOUNDARY LINES OF PARTICIPATING PROPERTY	NONE
PUBLIC ROAD RIGHTS OF WAY	50'
BOUNDARY LINES OF NON-PARTICIPATING PROPERTY	50'
*SETBACKS PER MCHENRY COUNTY UNIFIED DEVELOPMENT ORDINANCE PRINCIPAL USE STANDARDS OUTLINED IN §16.56.030.PP	

No.	REVISIONS	DATE

**WOODSTOCK COMMUNITY ENERGY INITIATIVE LLC**  
203 CRESCENT STREET #106  
WALTHAM, MA 02453  
(508) 460-2088

**Kimley-Horn**  
© 2025 KIMLEY-HORN AND ASSOCIATES, INC.  
570 LAKE COOK ROAD, SUITE 200  
DEERFIELD, IL 60015 (847) 260-7804  
WWW.KIMLEY-HORN.COM  
IDFPR DESIGN FIRM LICENSE: 184.002012-0006 062.045338

KHA PROJECT	118935000
DATE	7/25/2025
SCALE	AS SHOWN
DESIGNED BY	AMC
DRAWN BY	NBY
CHECKED BY	AMC

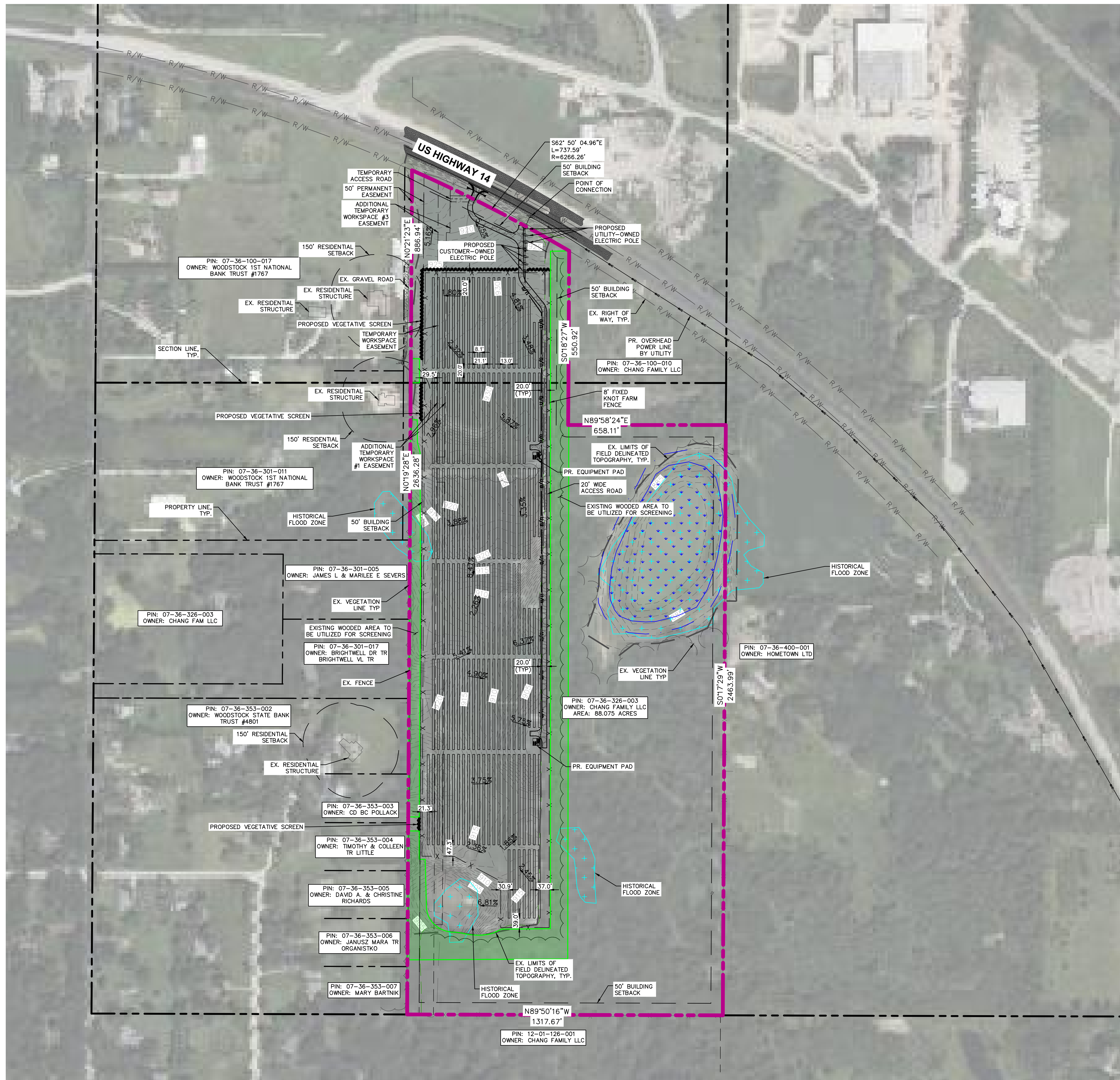
**COVER SHEET**

**WOODSTOCK COMMUNITY ENERGY INITIATIVE LLC**  
MCHENRY COUNTY, IL

SHEET NUMBER  
**C-100**

Drawing name: K:\NSU\_Energy\118935000 - ECA US Hwy 14 Woodstock\_IL\CAD\PlanSheet\CUP Plan Set\C-100 COVER SHEET.dwg C-100 COVER SHEET Aug 08, 2025 9:40am by: Ethan Horst

Drawing name: K:\NSP\_Energy\119335000 - ECA US Hwy 14 Woodstock IL\CAD\Plansets\CUP Plan Set\C-200 SITE LAYOUT PLAN.dwg C-200 SITE LAYOUT Aug 08, 2025 9:41am by: Elnahorst

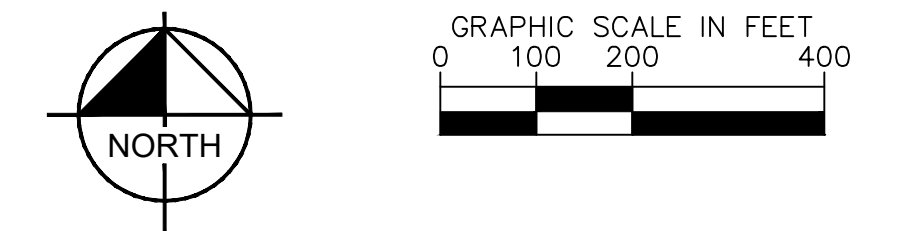


LEGEND	
	PROJECT BOUNDARY
	PROPERTY LINE
	PROPERTY SETBACK
	ROAD CENTERLINE
	EX OVERHEAD ELECTRIC
	EX RIGHT-OF-WAY
	EXISTING RESIDENCE/STRUCTURE
	EX. WETLAND AREA
	EX. WETLAND BUFFER
	EX. TREELINE
	EX. EXISTING TREELINE
	EX. FENCE
	EX. UTILITY EASEMENT
	EX. HISTORICAL FLOOD ZONE
	EX. WOODED AREA TO BE UTILIZED FOR SCREENING
	PR. SECURITY FENCE
	PR. TREELINE
	PR. UTILITY POLE
	PR. ELECTRICAL EQUIPMENT AREA
	PR. SOLAR ARRAY
	PR. OVERHEAD ELECTRIC
	PR. UNDERGROUND ELECTRIC (AC)
	PR. SITE ACCESS
	PR. SITE ACCESS SHOULDER
	PR. ACCESS ROAD
	PR. GRADING LIMITS
	PR. CULVERT OUTLET
	PR. CULVERT
	PR. VEGETATIVE SCREENING

- ### NOTES
- SETBACKS PER MCHENRY COUNTY UNIFIED DEVELOPMENT ORDINANCE, PRINCIPAL USE STANDARDS OUTLINES IN §16.56.030.PP (ACCESSED ON 06/18/2025):
    - OCCUPIED COMMUNITY BUILDINGS AND DWELLINGS ON NON-PARTICIPATING PROPERTIES: 150'
    - BOUNDARY LINES OF PARTICIPATING PROPERTY: NONE
    - PUBLIC ROAD RIGHTS OF WAY: 50'
    - BOUNDARY LINES OF NON-PARTICIPATING PROPERTY: 50'
  - ALL EXISTING PARCEL INFORMATION WAS OBTAINED FROM THE ALTA/NSPS LAND TITLE SURVEY COMPLETED BY COMPASS SURVEYING LTD, DATED 05/05/2025.
  - PER THE UNIVERSITY OF ILLINOIS WATER GIS MAP ACCESSED ON 07/02/2025, ONE WATER WELL EXISTS WITHIN THE SUBJECT PARCEL, WELL API: 12113207300. KIMLEY-HORN SUBMITTED A FREEDOM OF INFORMATION ACT REQUEST ON 07/03/2025 WHICH TURNED UP NO EVIDENCE OF WELLS ON THE SUBJECT PARCEL. THE FIELD SURVEY DID NOT RETURN EVIDENCE OF THE EXISTENCE OF WELLS ON THE SUBJECT PARCEL. PER THE PHASE I ESA BY SCI ENGINEERING, DATED 03/13/2025, NO WELLS WERE IDENTIFIED. STATEMENTS FROM THE PARCEL LANDOWNER INCLUDED IN THE PHASE I ESA ALSO EXHIBIT NO KNOWLEDGE OF THE EXISTENCE OF SUCH WELLS. IT IS ASSUMED THAT THERE ARE NO WATER WELLS ON THE SUBJECT PARCEL.
  - PER THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), NO FEMA FLOODPLAINS EXIST WITHIN THE SUBJECT PARCEL. THE SITE RESIDES ON FEMA PANEL 17111C0178J, DATED 11/16/2006.
  - PER THE DELINEATED WETLAND REPORT BY SCI DATED 07/10/2025, THERE ARE WETLAND AND/OR WATERBODY FEATURES WITHIN THE SITE. THE PROPOSED IMPROVEMENTS WILL NOT DISTURB ANY DELINEATED WETLANDS OR WATERBODIES.
  - ALL TOPOGRAPHIC INFORMATION WITHIN THE PROJECT BOUNDARY LINE WERE OBTAINED FROM THE ALTA/NSPS LAND TITLE SURVEY BY COMPASS SURVEYING LTD, DATED 05/05/2025.
  - HISTORICAL FLOOD ZONE DATA WAS PROVIDED BY THE MCHENRY COUNTY GIS DEPARTMENT ON 08/06/2025.

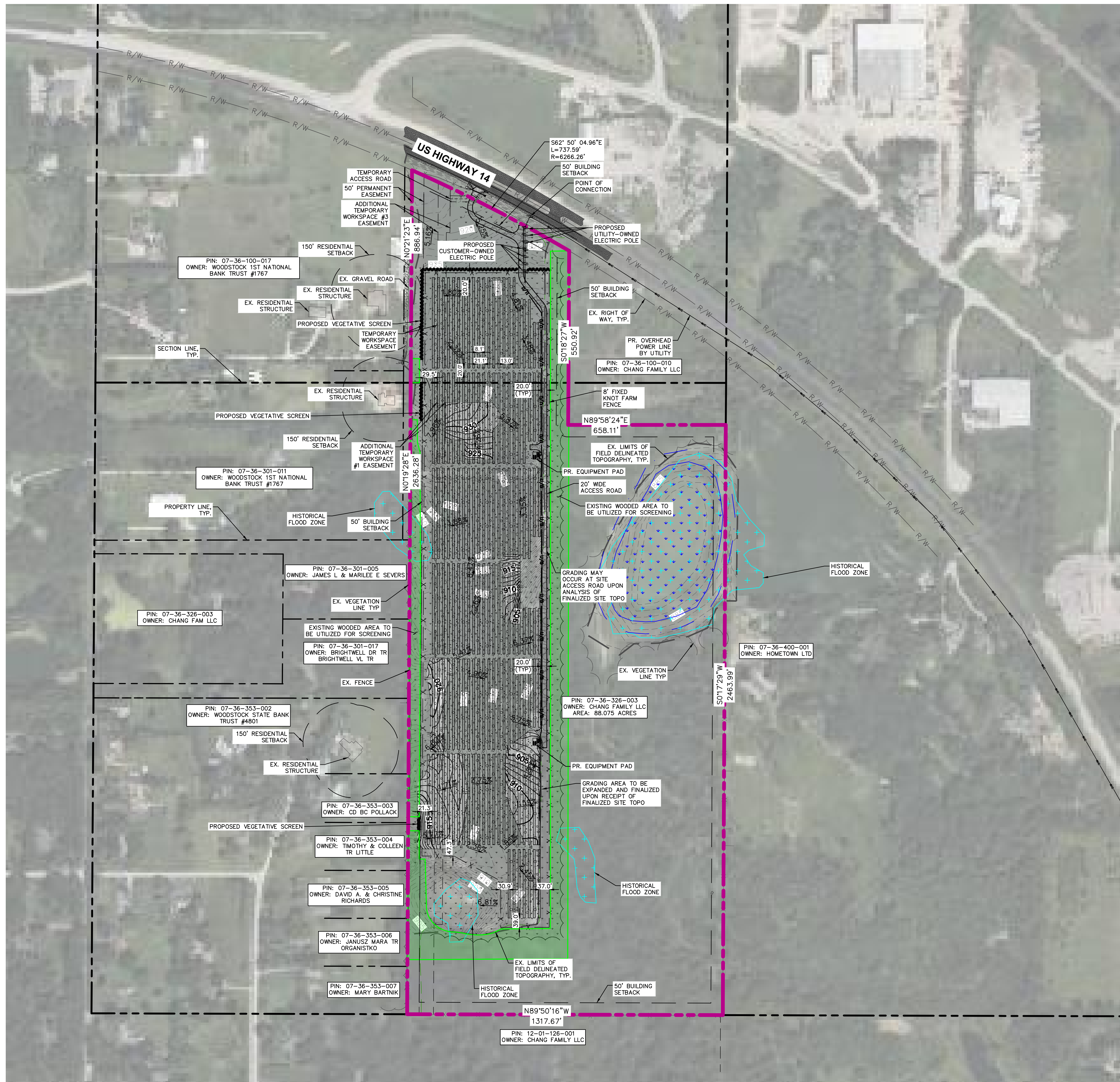
SITE DATA TABLE	
PIN #	07-36-326-003
APPLICANT	WOODSTOCK COMMUNITY ENERGY INITIATIVE LLC
PROPERTY OWNER	CHANG FAMILY LLC
SITE ADDRESS	S OF US HIGHWAY 14, E OF NORTH ROSE FARM ROAD MCHENRY COUNTY IL, 60098
ZONING JURISDICTION	MCHENRY COUNTY
CURRENT LAND USE	AGRICULTURAL USE
PROPOSED AREA	SOLAR ENERGY FACILITY
TOTAL PARCEL AREA	88.075 ± AC
PRELIMINARY DISTURBED AREA	30.92 ± AC (AREA WITHIN FENCE)
PRELIMINARY SOLAR AREA	25.13 ± AC
PROPERTY LINE SETBACK	50' FRONT, 50' REAR, 50' SIDE, 50' R-O-W
OCCUPIED RESIDENCE BUFFER	150'
TOTAL POWER OUTPUT (AC)	5.00 MW
GROUND COVER RATIO (GCR)	38.30%

\*THE PURPOSE OF THIS PLAN IS FOR CONDITIONAL USE PERMIT REVIEW AND APPROVAL BY MCHENRY COUNTY.



WOODSTOCK COMMUNITY ENERGY INITIATIVE LLC		WOODSTOCK COMMUNITY ENERGY INITIATIVE LLC	
© 2025 KIMLEY-HORN AND ASSOCIATES, INC. 570 LAKE COOK ROAD SUITE 200 DEERFIELD, IL 60015 (847) 260-7804 WWW.KIMLEY-HORN.COM IDFPR DESIGN FIRM LICENSE: 184.002012-0006 062.045338		203 CRESCENT STREET #106 WALTHAM, MA 02453 (508) 460-2088	
<b>Kimley-Horn</b>		No. _____	
KHA PROJECT 119335000		REVISIONS	
DATE 7/25/2025		No. _____	
SCALE AS SHOWN		No. _____	
DESIGNED BY AMC		No. _____	
DRAWN BY NEW		No. _____	
CHECKED BY AMC		No. _____	
SITE LAYOUT		DATE	
WOODSTOCK COMMUNITY ENERGY INITIATIVE LLC		MCHENRY COUNTY, IL	
SHEET NUMBER		No. _____	
C-200		No. _____	

Drawing name: K:\NSL\_Energy\119335000 - ECA US Hwy 14 Woodstock, IL\CAD\Plan\Plan\Grading and Drainage Plan.dwg C-300 GRADING AND DRAINAGE PLAN Aug 08, 2025 9:41am by: Ethan Hest



**LEGEND**

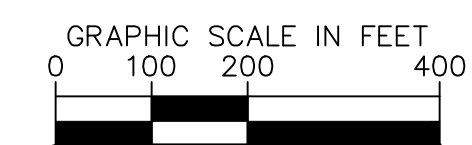
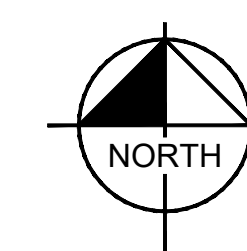
- PROJECT BOUNDARY
- PROPERTY LINE
- PROPERTY SETBACK
- ROAD CENTERLINE
- EX OHE
- EX OHE
- EX RIGHT-OF-WAY
- EXISTING RESIDENCE/STRUCTURE
- EX. WETLAND AREA
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- EX. TREELINE
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- PR. ACCESS ROAD
- PR. GRADING LIMITS
- PR. CULVERT OUTLET
- PR. CULVERT
- PR. VEGETATIVE SCREENING

**GENERAL NOTES**

1. PHOTOVOLTAIC PANELS, INVERTERS, AND INTERCONNECTION EQUIPMENT LOCATIONS SHOWN FOR REFERENCE ONLY. DESIGN AND FINAL LAYOUT PER DRAWINGS BY ELECTRICAL AND STRUCTURAL ENGINEER.
2. PROJECT ENTRANCE DESIGN TO BE DESIGNED AND PERMITTED THROUGH IDOT REGION 1, DISTRICT 1. SEE SEPARATE PERMIT SET FOR DESIGN INFORMATION.
3. DESIGN PARAMETERS FOR GRADING WERE 0.75' DEFLECTION, 5% NORTH FACING SLOPES AND 10% EAST/WEST/SOUTH FACING SLOPES AND A +/- 12.0" TOLERANCE (1.0' REVEAL RANGE FOR PILES). DESIGN PARAMETERS USED AS BASIS OF DESIGN - REFER TO MANUFACTURERS SPECS FOR FINAL DESIGN CRITERIA.

**CUT/FILL VOLUMES**

CUT	4790 CY
FILL	4530 CY
NET	260 CY <CUT>
ASSUMED FILL FACTOR	1.200



WOODSTOCK  
COMMUNITY ENERGY  
INITIATIVE LLC

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KHA PROJECT	119335000
DATE	7/25/2025
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DRAWN BY	NEW
CHECKED BY	AMC

**GRADING AND  
DRAINAGE PLAN**

WOODSTOCK  
COMMUNITY ENERGY  
INITIATIVE LLC  
M'CHENRY COUNTY, IL

SHEET NUMBER  
**C-300**

WOODSTOCK  
COMMUNITY ENERGY  
INITIATIVE LLC  
203 CRESCENT STREET #106  
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(508) 460-2088

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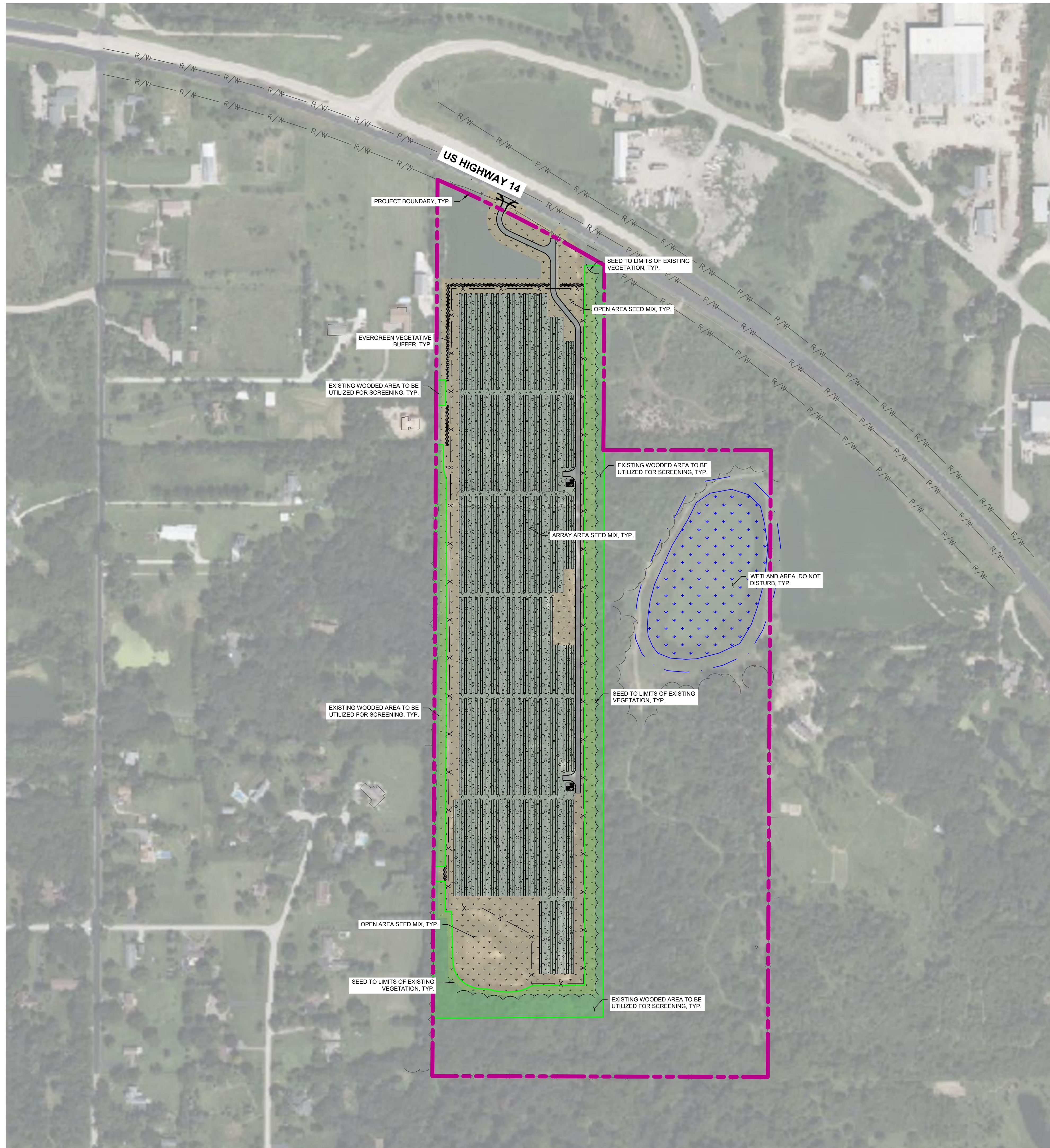
KHA PROJECT	119335000
DATE	7/25/2025
SCALE	AS SHOWN
DESIGNED BY	AMC
DRAWN BY	NEW
CHECKED BY	AMC

**GRADING AND  
DRAINAGE PLAN**

WOODSTOCK  
COMMUNITY ENERGY  
INITIATIVE LLC  
M'CHENRY COUNTY, IL

SHEET NUMBER  
**C-300**

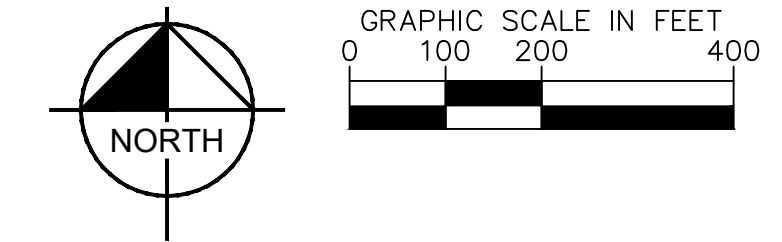
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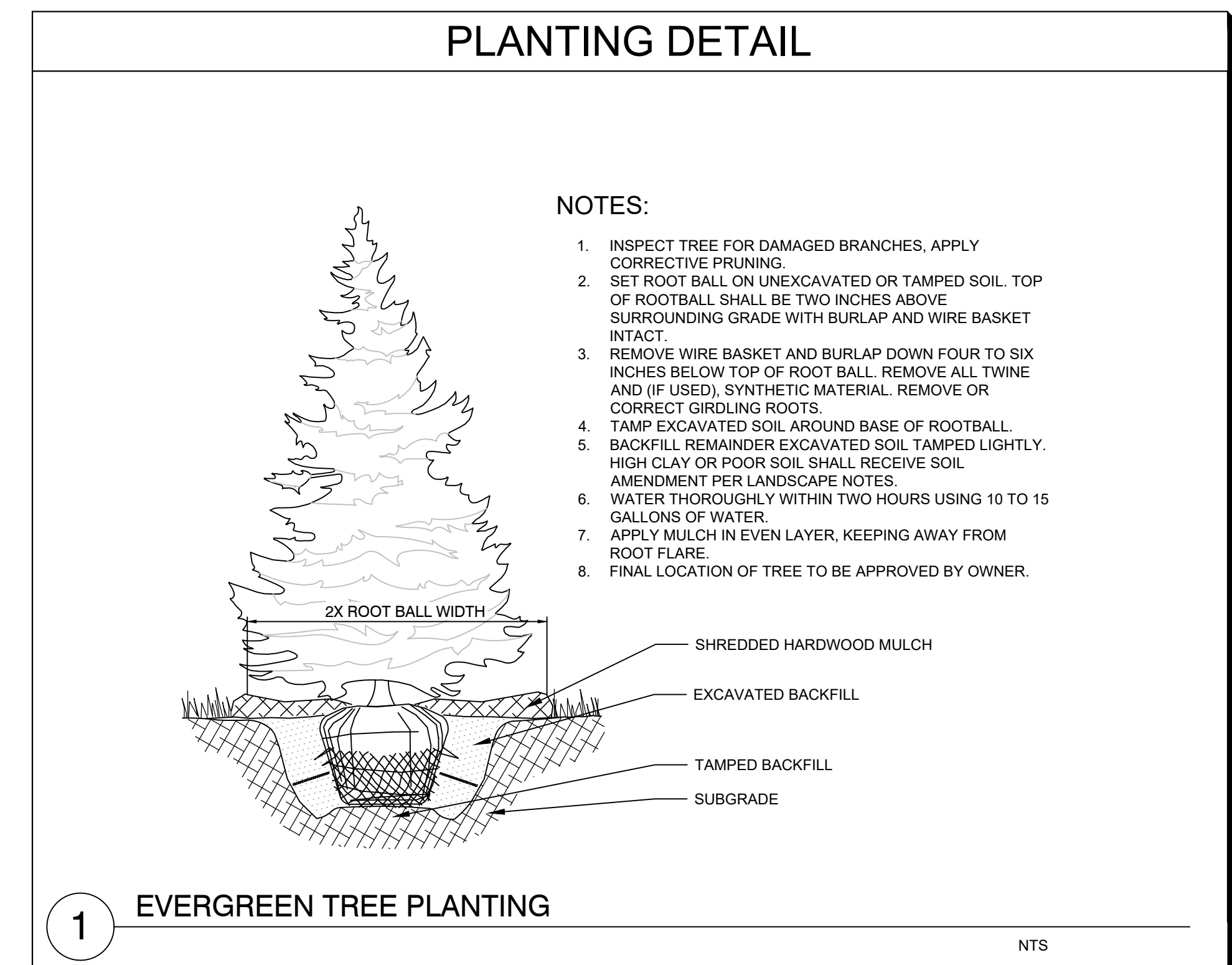
### PLANT SCHEDULE

	EVERGREEN TREES	144
	OPEN AREA SEED MIX	
	ARRAY AREA SEED MIX	
	EXISTING WOODED AREA TO BE UTILIZED FOR SCREENING	

NOTE: SEED MIX SPECIFICATIONS TO FOLLOW AT A LATER DATE AFTER FINAL SITE LAYOUT DETERMINED. SEED MIX WILL ADHERE TO ILLINOIS STATE POLLINATOR PROGRAM PARAMETERS. FINAL TREE SPECIES AND SPECIFICATIONS TO COMPLY WITH LOCAL AND COUNTY ORDINANCES.



- ### GENERAL LANDSCAPE NOTES
1. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING MATERIALS AND PLANTS SHOWN ON THE LANDSCAPE PLAN. THE CONTRACTOR IS RESPONSIBLE FOR THE COST TO REPAIR UTILITIES, ADJACENT LANDSCAPE, PUBLIC AND PRIVATE PROPERTY THAT IS DAMAGED BY THE CONTRACTOR OR THEIR SUBCONTRACTOR'S OPERATIONS DURING INSTALLATION OR DURING THE SPECIFIED MAINTENANCE PERIOD. CALL FOR UTILITY LOCATIONS PRIOR TO ANY EXCAVATION.
  2. THE CONTRACTOR SHALL REPORT ANY DISCREPANCY IN PLAN VS. FIELD CONDITIONS IMMEDIATELY TO THE LANDSCAPE ARCHITECT, PRIOR TO CONTINUING WITH THAT PORTION OF WORK.
  3. NO PLANTING WILL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA.
  4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY OF THEIR TRENCHES OR EXCAVATIONS THAT SETTLE.
  5. DO NOT DISTURB THE EXISTING PAVING, LIGHTING, OR LANDSCAPING THAT EXISTS ADJACENT TO THE SITE UNLESS OTHERWISE NOTED ON PLAN.
  6. PLANT QUANTITIES SHOWN ARE FOR THE CONVENIENCE OF THE OWNER AND JURISDICTIONAL REVIEW AGENCIES. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL PLANT QUANTITIES AS DRAWN.
  7. THE CONTINUED MAINTENANCE OF ALL REQUIRED LANDSCAPING SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY ON WHICH SAID MATERIALS ARE REQUIRED. ALL PLANT MATERIALS REQUIRED BY THIS SECTION SHALL BE MAINTAINED AS LIVING VEGETATION AND SHALL BE PROMPTLY REPLACED IF THE PLANT MATERIAL HAS DIED PRIOR TO FINAL ACCEPTANCE.
  8. NO GENERAL SPRAY OF HERBICIDES IS TO BE USED FOR ANY SEEDED AREAS.
  9. ONLY HERBICIDES FORMULATED FOR ANIMAL SAFETY SHALL BE USED.
  10. ALL WORK DEEMED NATURAL AREA TO BE SEEDED OR PLANTED SHALL BE PERFORMED BY A QUALIFIED LANDSCAPE CONTRACTOR.
  11. SEED SHALL BE OBTAINED FROM SOURCE SPECIALIZING IN NATIVE SPECIES, WHERE AVAILABLE OR AS APPROVED BY CLIENT OR CLIENT'S REPRESENTATIVE.
  12. ALL SEED MIXES SHALL BE INSTALLED WITH A COVER CROP DEPENDENT ON SEASON AND REQUIREMENTS SPECIFIED PER SEED MIX / SEED SUPPLIER.



<p style="font-size: small;">© 2025 KIMLEY-HORN AND ASSOCIATES, INC. 570 LAKE COOK ROAD SUITE 200 DEERFIELD, IL 60015 (847) 260-7804 WWW.KIMLEY-HORN.COM IDFPR DESIGN FIRM LICENSE: 184.002012-0006 062.045338</p>	<p><b>WOODSTOCK COMMUNITY ENERGY INITIATIVE LLC</b></p> <p style="font-size: x-small;">203 CRESCENT STREET #106 WALTHAM, MA 02453 (508) 460-2068</p>									
<p style="font-size: x-small;">KHA PROJECT 118935000</p> <p style="font-size: x-small;">DATE 7/25/2025</p> <p style="font-size: x-small;">SCALE AS SHOWN</p> <p style="font-size: x-small;">DESIGNED BY AMC</p> <p style="font-size: x-small;">DRAWN BY NBW</p> <p style="font-size: x-small;">CHECKED BY AMC</p>	<p style="font-size: x-small;">REVISIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 5%;">No.</th> <th style="width: 15%;">Description</th> <th style="width: 10%;">Date</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	No.	Description	Date						
No.	Description	Date								
<p><b>WOODSTOCK COMMUNITY ENERGY INITIATIVE LLC</b></p> <p style="font-size: x-small;">M'CHENRY COUNTY, IL</p>	<p><b>LANDSCAPE PLAN</b></p> <p style="font-size: x-small;">SHEET NUMBER <b>C-400</b></p>									

No.	REVISIONS	DATE

WOODSTOCK  
COMMUNITY ENERGY  
INITIATIVE LLC

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**Kimley-Horn**

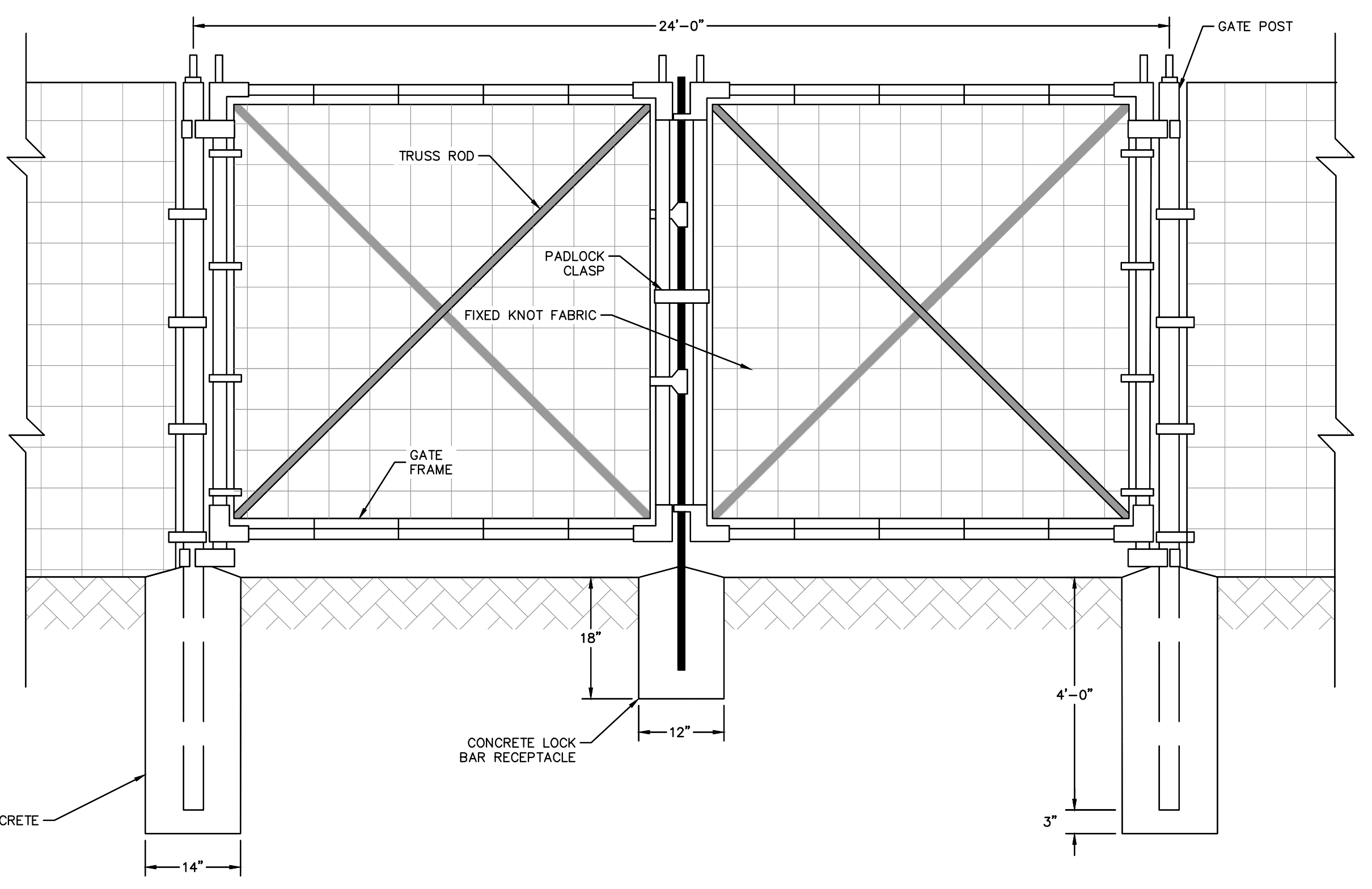
KHA PROJECT 118936000	DATE 7/25/2025
SCALE AS SHOWN	DESIGNED BY AMC
DRAWN BY NEWI	CHECKED BY AMC

CONSTRUCTION  
DETAILS

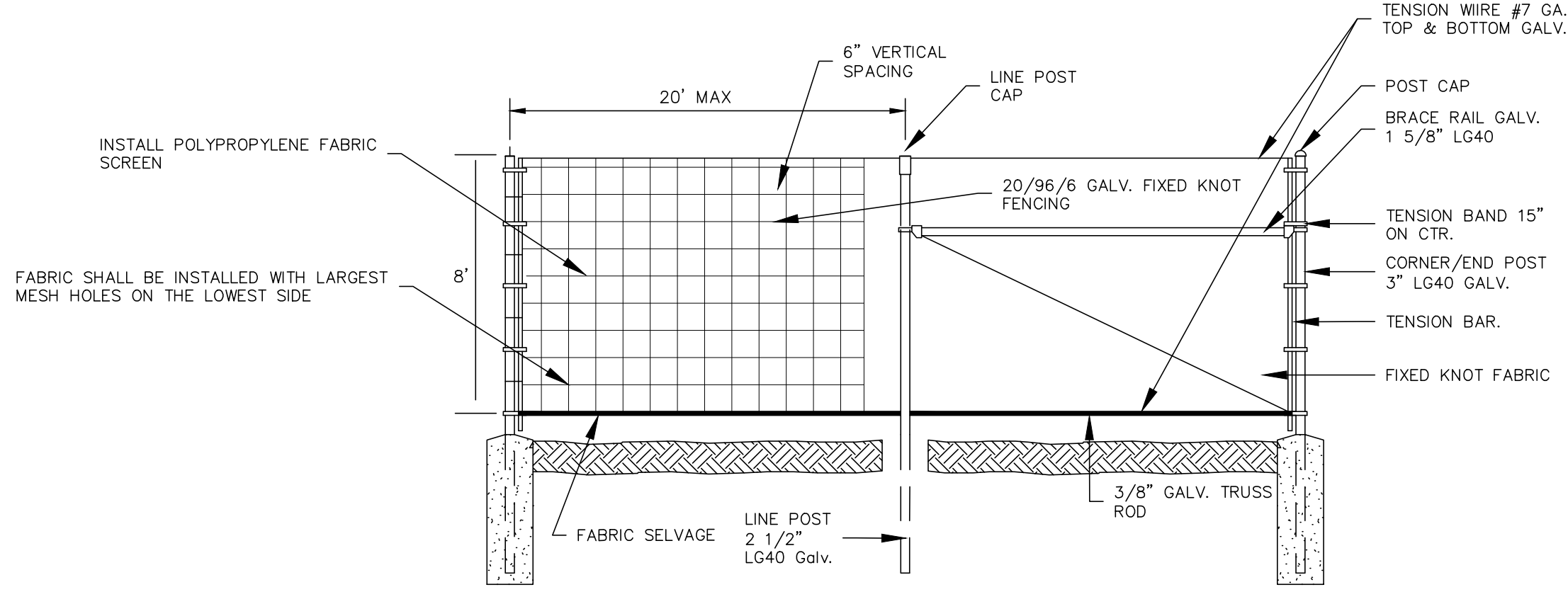
WOODSTOCK  
COMMUNITY ENERGY  
INITIATIVE LLC

MCHENRY COUNTY, IL

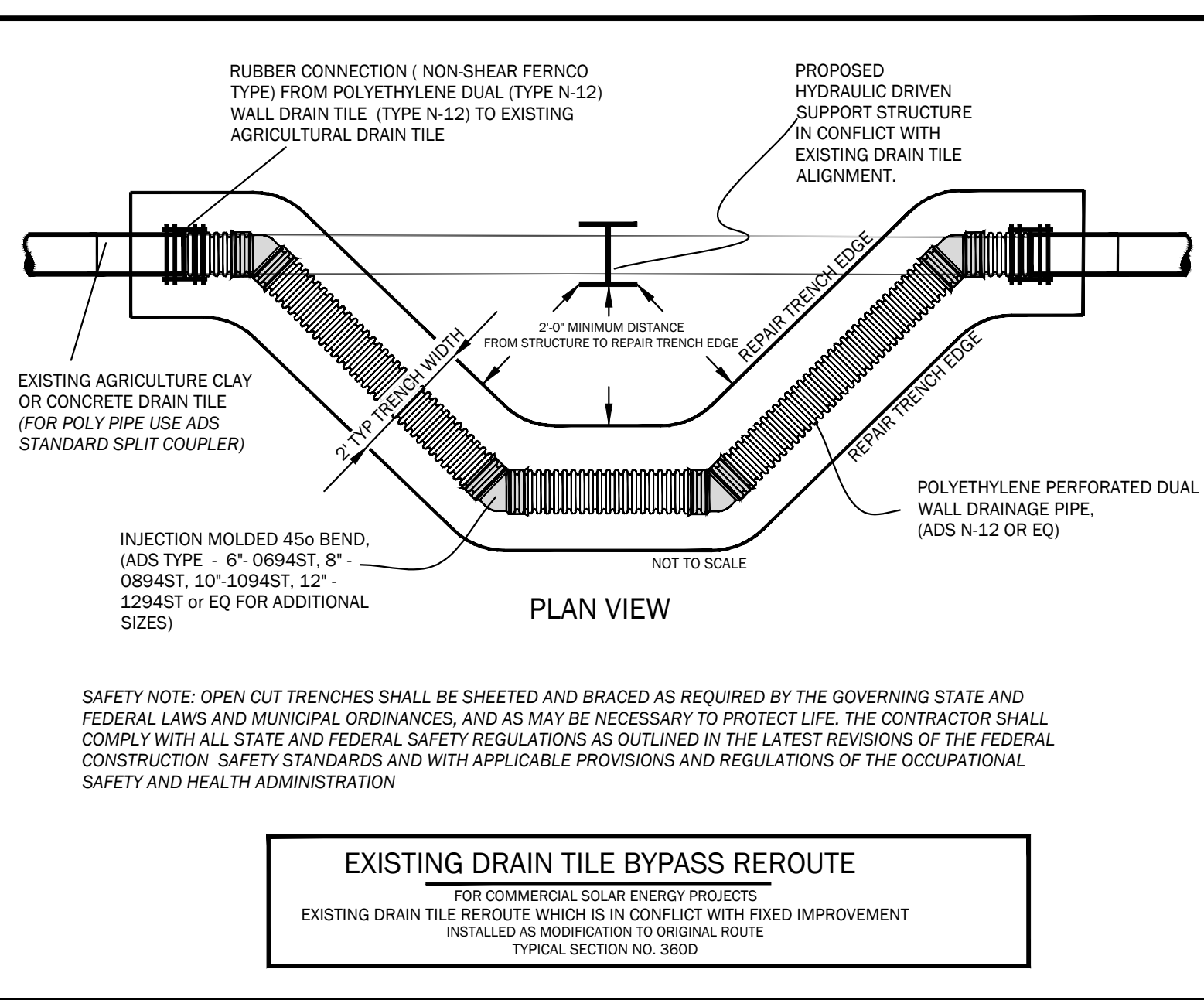
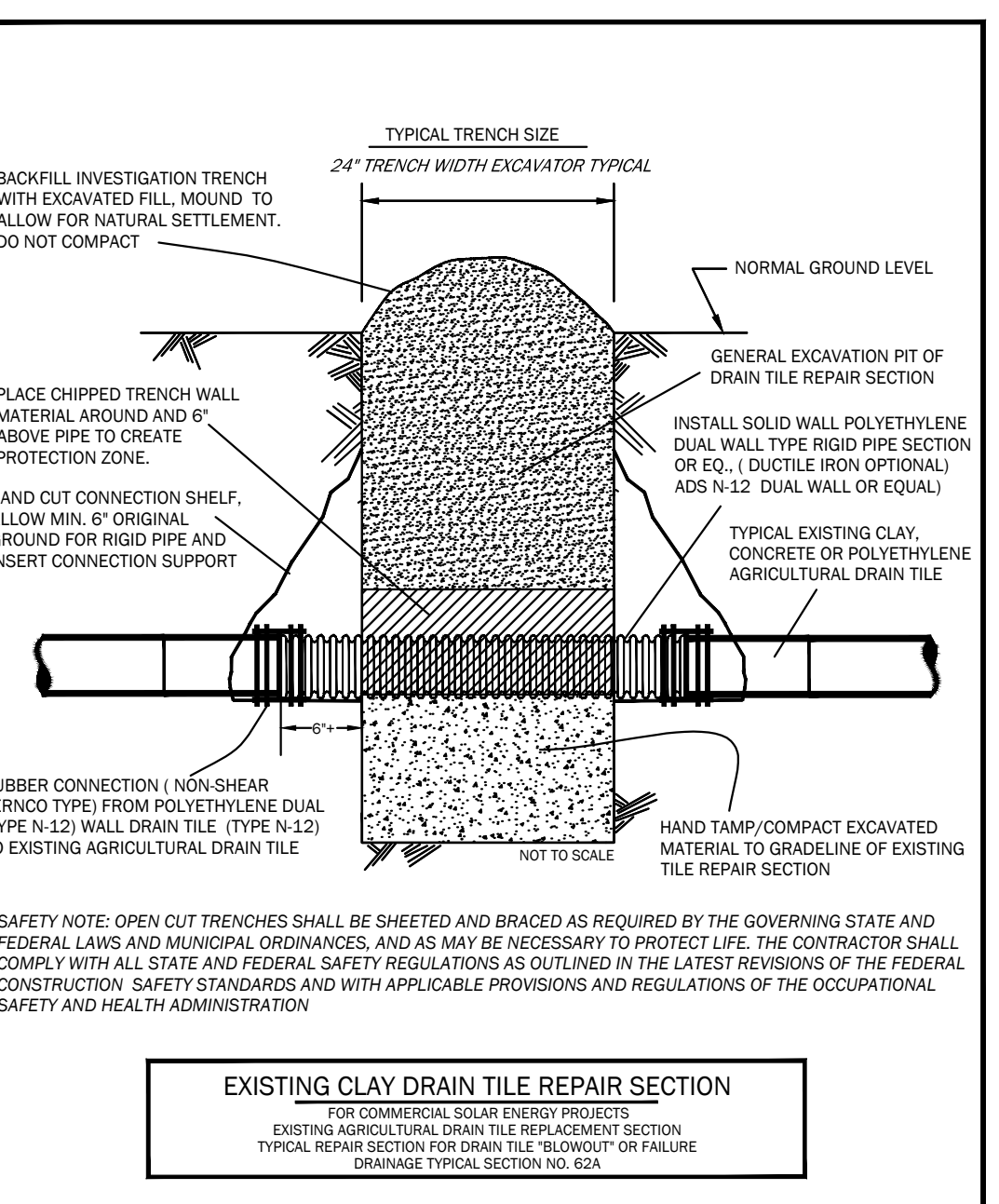
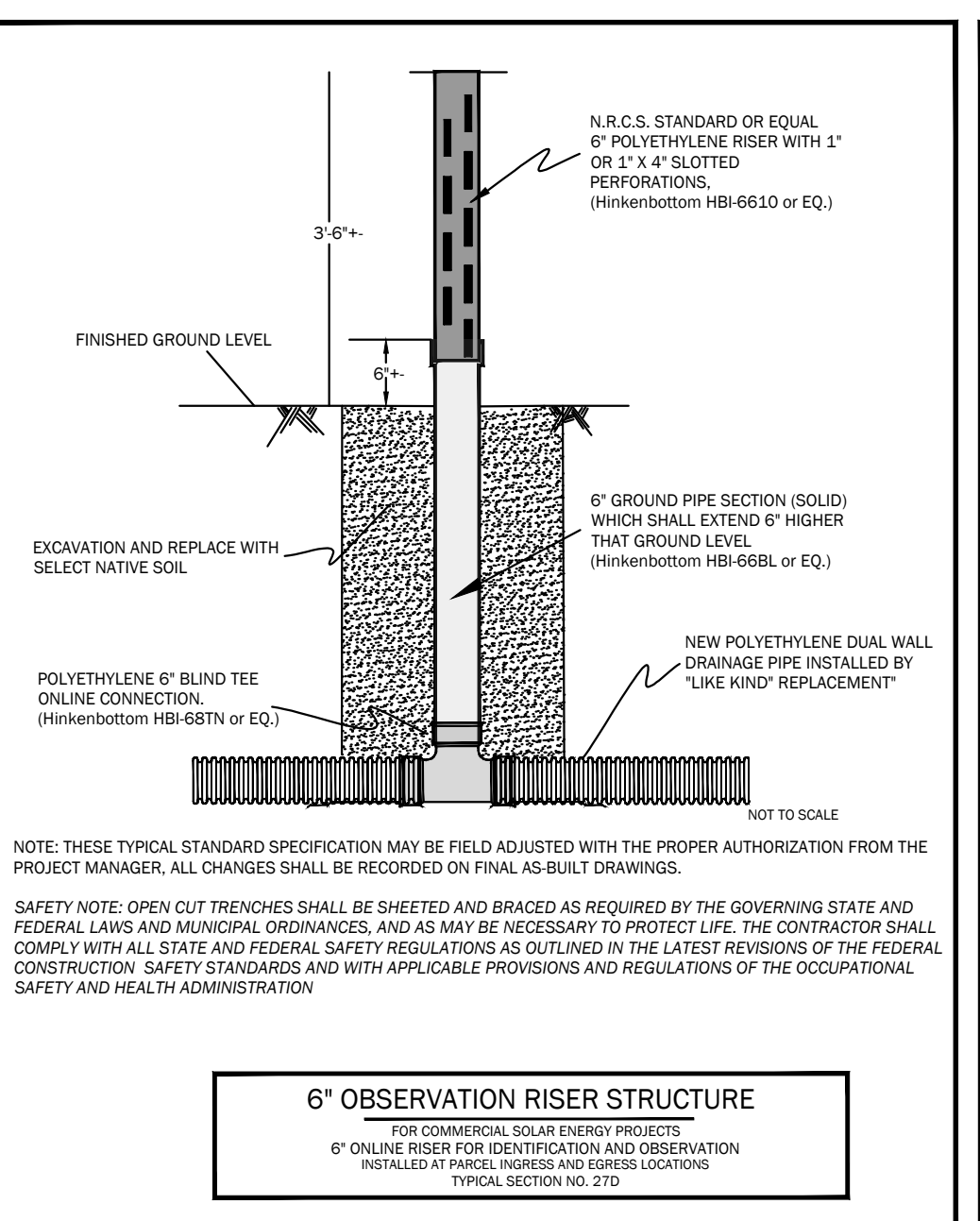
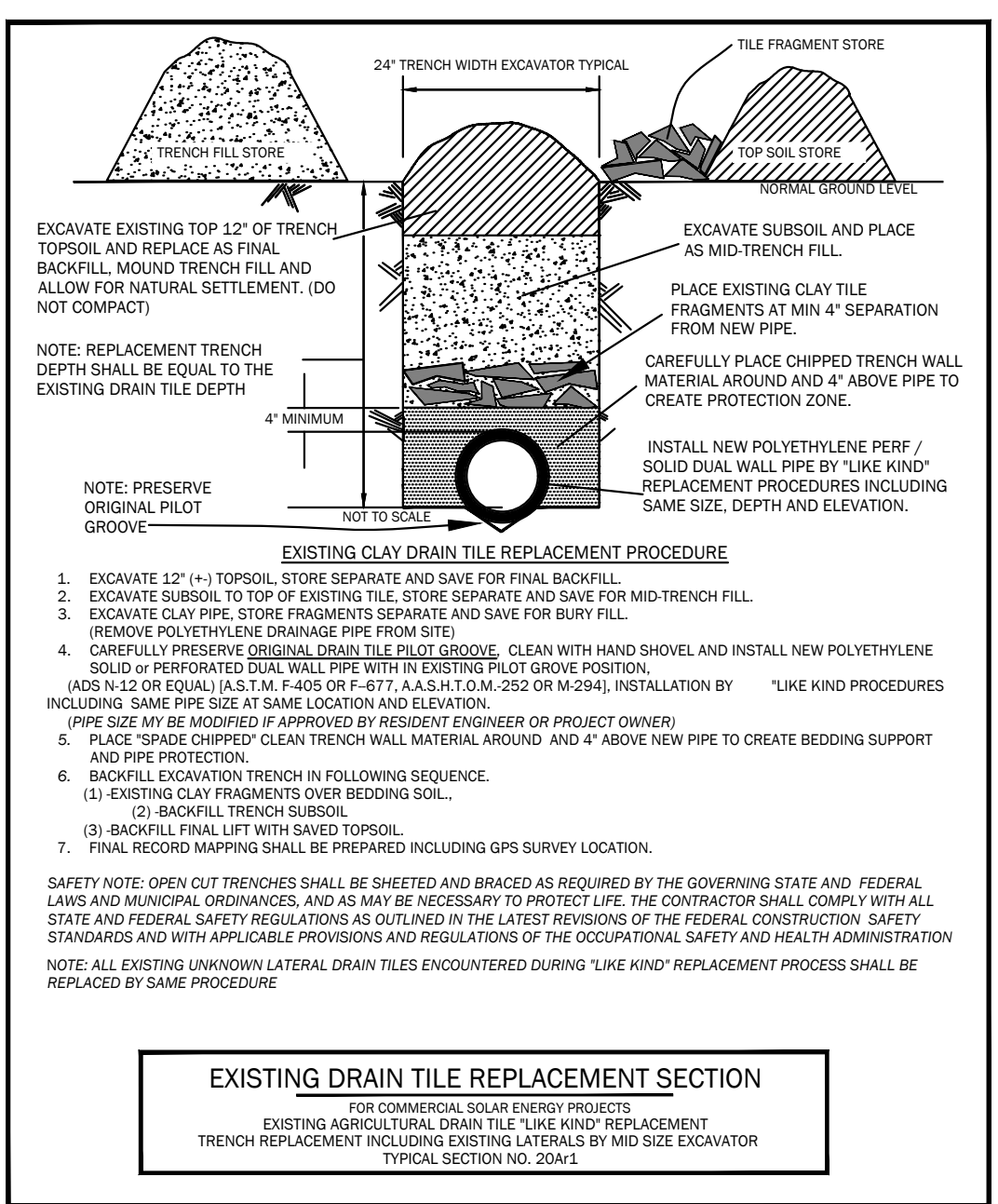
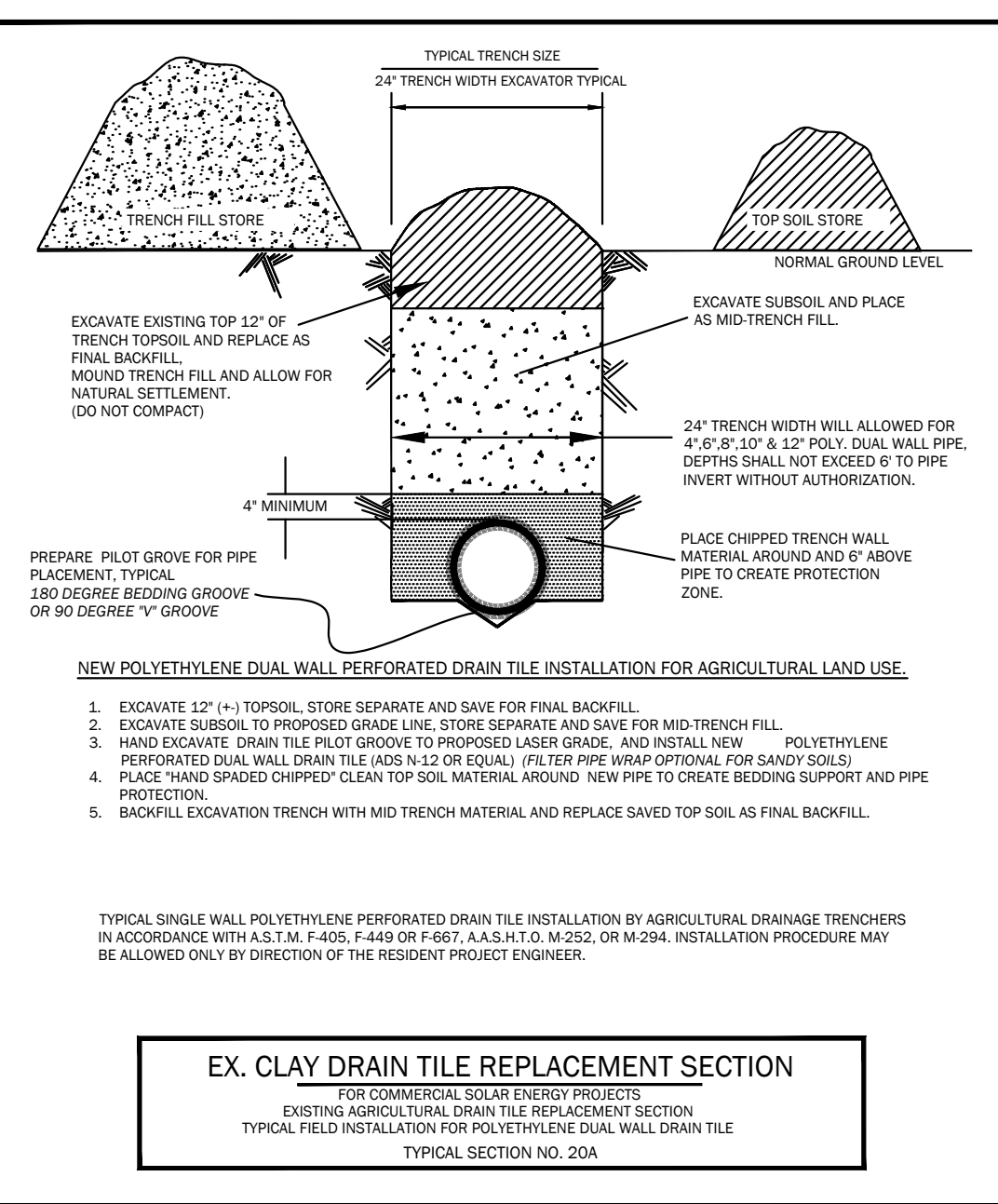
SHEET NUMBER  
**C-500**



2 DOUBLE SWING GATE DETAIL (FIXED KNOT FENCE)  
C-500



1 FIXED KNOT FARM FENCE - STEEL POSTS  
C-500

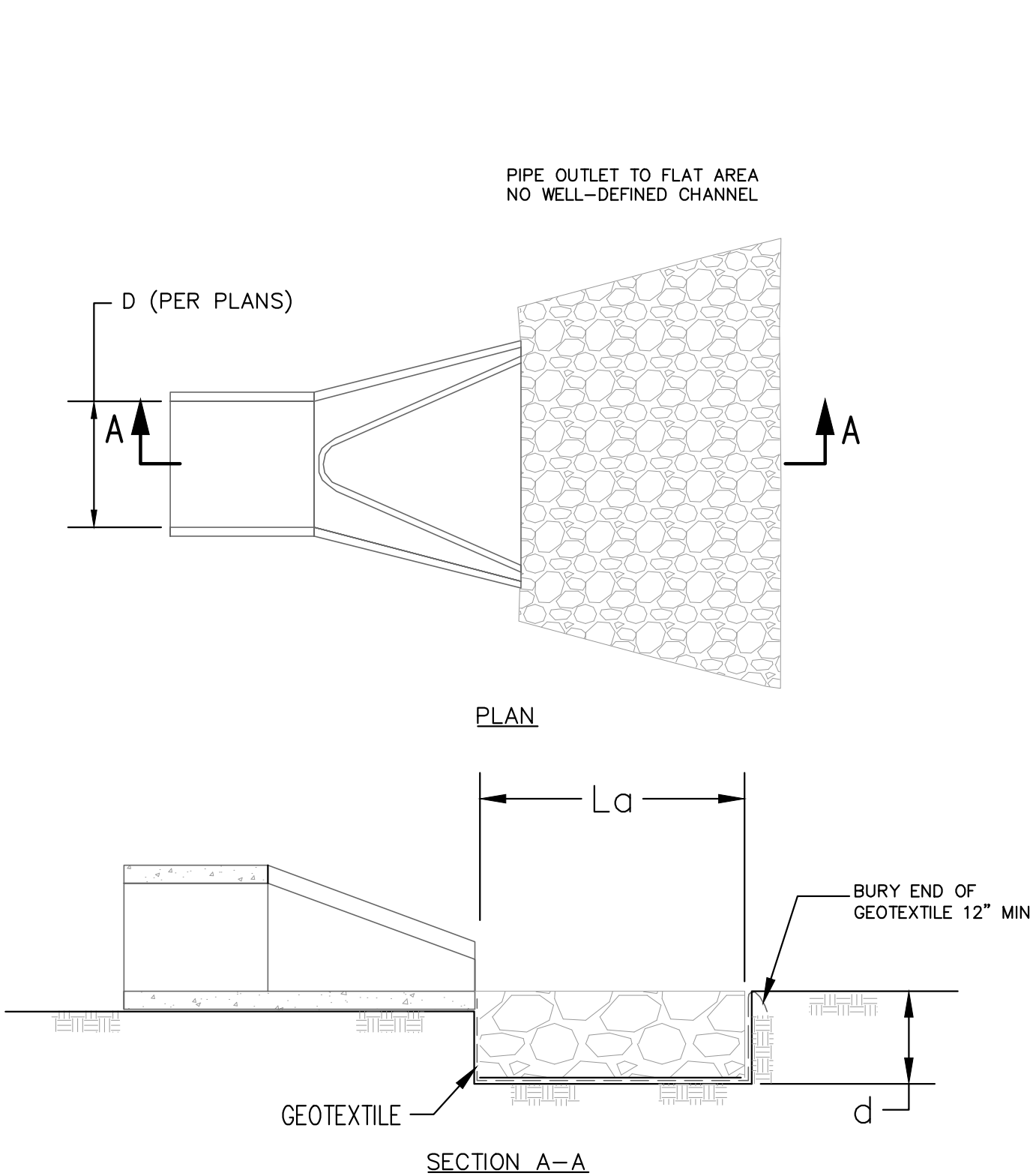


3  
C-500

EXISTING CLAY DRAIN TILE REPAIR SECTION DETAILS (FOR REFERENCE ONLY - CONSULT WITH DRAIN TILE CONSULTANT FOR FINAL DETAILS)  
N.T.S.

Drawing name: K:\NSP\_Energy\118936000 - ECA US Hwy 14 Woodstock, IL\CAD\Drawings\CAD Plan Set\C-500 CONSTRUCTION DETAILS.dwg C-500 CONSTRUCTION DETAILS Aug 08, 2025 9:41am by: Ehantharat

Drawing name: K:\NSU\_Energy\15935000 - ECA US Hwy 14 Woodstock, IL\CAD\Plans\Sheet\C-501 RiprapOutlet\CDP Plan Set\C-500 CONSTRUCTION DETAILS.dwg C-501 CONSTRUCTION DETAILS Aug 08, 2025 9:41am by: Elnahar

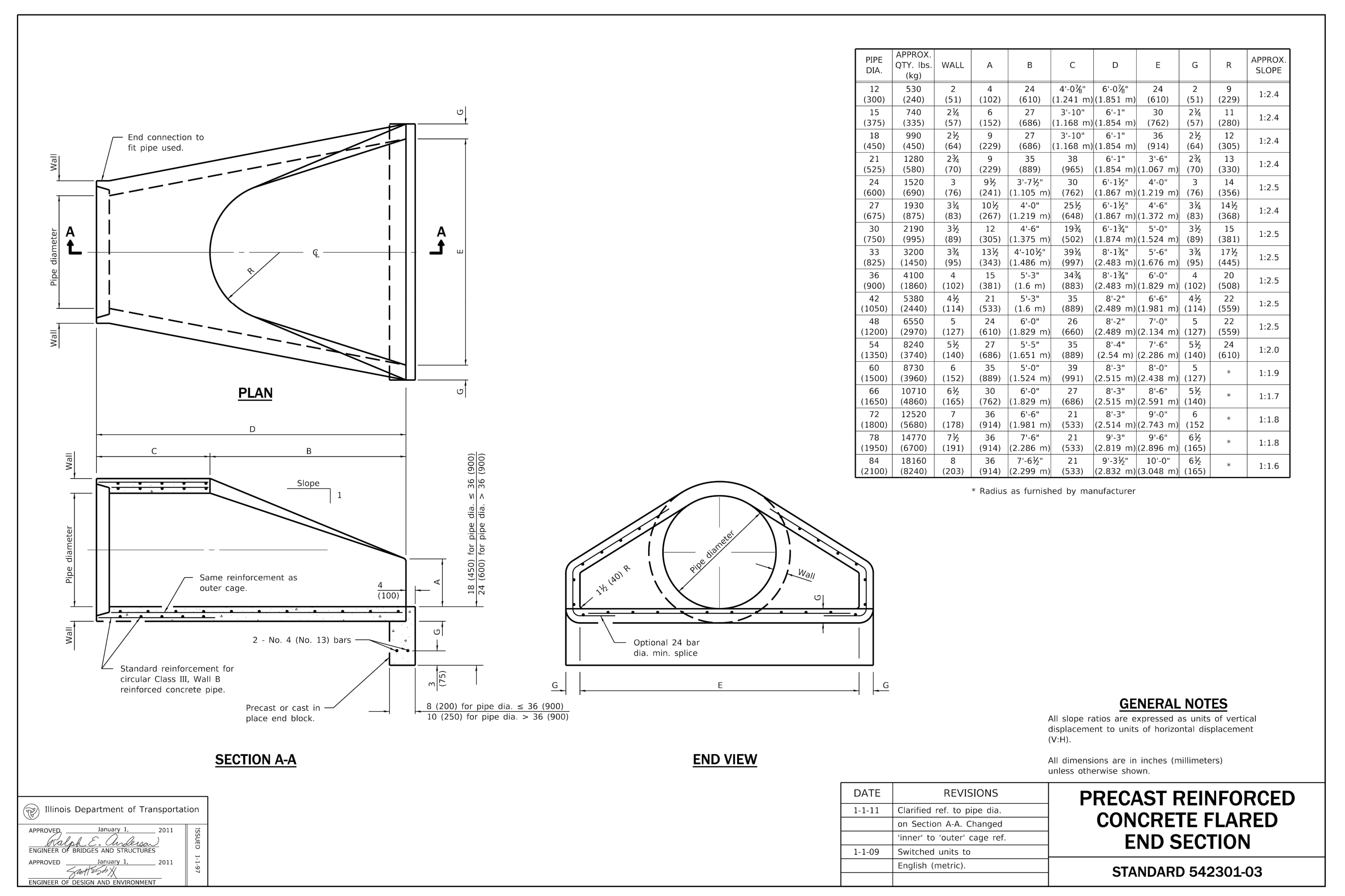


- NOTES:**
- THE ROCK RIPRAP SHALL MEET IDOT REQUIREMENTS FOR GRADATION NO. RR-3 & RR-4, QUALITY DESIGNATION "A".
  - GEOTEXTILE (NON-WOVEN) MINIMUM CRITERIA:
    - WEIGHT OF GEOTEXTILE (OZ/SQ.YD.) 6
    - TENSILE STRENGTH (LB) ASTM D 4632 180
    - ELONGATION AT FAILURE (%) ASTM D 4632  $\geq 50$
    - PUNCTURE (LB) ASTM D 4833 80
    - ULTRAVIOLET LIGHT (% RESIDUAL TENSILE STRENGTH) ASTM D 4355 MIN 70
    - APPARENT OPENING SIZE (AOS) ASTM D 4751 MAX 40 SIEVE MIN 0.70
    - PERMITTIVITY SEC<sup>-1</sup> ASTM D 4491
  - ANY GEOTEXTILE SPLICES SHALL OVERLAP A MINIMUM OF 18 INCHES, WITH UPSTREAM OR UPSLOPE GEOTEXTILE OVERLAPPING THE ABUTTING DOWNSLOPE GEOTEXTILE.
  - REFER TO PLAN FOR RIPRAP DIMENSIONS.
  - ROCK THICKNESS D SHALL BE AT LEAST 1.5 TIMES THE RIPRAP D<sub>100</sub> SIZE.
  - APRON LENGTH L<sub>a</sub> AND ROCK RIPRAP HAS BEEN SIZED ACCORDING TO ILLINOIS URBAN MANUAL ROCK OUTLET PROTECTION STANDARD 910 BASED CALCULATED VELOCITY FOR THIS PROJECT SITE. WIDTH HAS BEEN ADJUSTED TO FIT EXISTING DITCH. PLEASE SEE TABLE 1 FOR DETAILS.

RIPRAP DIMENSION TABLE							
INLET PIPE SIZE d (IN)	LENGTH OF APRON L <sub>a</sub> (FT)	MEDIAN RIPRAP SIZE C (IN)	WIDTH OF APRON U/S FACE W1 (FT)	WIDTH OF APRON D/S FACE W2 (FT)	DEPTH OF RIPRAP d (IN)	AREA OF RIPRAP (SY)	VOLUME OF RIPRAP (CY)
12	10	6	3.00	13.00	15	8.89	3.7
15	10	6	3.75	13.75	15	9.72	4.1
18	15	9	4.50	19.50	20	20.00	11.1
21	15	9	5.25	20.25	20	21.25	11.8
24	18	9	6.00	24.00	20	30.00	16.7
27	18	9	6.75	24.75	20	31.50	17.5
30	20	9	7.50	27.50	20	38.89	21.6
36	24	12	9.00	33.00	28	56.00	43.6
42	27	12	10.50	37.50	30	72.00	60.0
48	27	15	12.00	39.00	32	76.50	68.0
54	27	15	13.50	40.50	32	81.00	72.0
60	36	15	15.00	51.00	32	132.00	118.0
72	44	18	18.00	62.00	32	195.56	174.0

1 RIP RAP OUTLET PROTECTION  
C-501

SCALE: NTS



PIPE DIA.	APPROX. QTY. lbs (kg)	WALL	A	B	C	D	E	G	R	APPROX. SLOPE
12 (300)	530 (240)	2 (51)	4 (102)	24 (610)	4'-0 1/2" (1.241 m)	6'-0 1/2" (1.831 m)	24 (610)	2 (51)	9 (229)	1:2.4
15 (375)	740 (335)	2 1/2 (57)	6 (152)	27 (686)	3'-10" (1.168 m)	6'-1" (1.854 m)	30 (762)	2 1/2 (57)	11 (280)	1:2.4
18 (450)	990 (450)	2 3/4 (64)	9 (229)	27 (686)	3'-10" (1.168 m)	6'-1" (1.854 m)	36 (914)	3 1/2 (89)	12 (305)	1:2.4
21 (525)	1280 (580)	2 3/4 (64)	9 (229)	35 (889)	6'-1" (1.854 m)	3'-6" (1.067 m)	30 (762)	2 1/2 (57)	13 (330)	1:2.4
24 (600)	1520 (690)	3 (76)	9 1/2 (241)	30 (762)	3'-7 1/2" (1.105 m)	6'-1 1/2" (1.867 m)	4'-0" (1.219 m)	3 (76)	14 (356)	1:2.5
27 (675)	1930 (875)	3 1/2 (89)	10 1/2 (267)	25 1/2 (644)	4'-0" (1.219 m)	6'-1 1/2" (1.867 m)	4'-6" (1.372 m)	3 1/2 (89)	14 1/2 (368)	1:2.4
30 (750)	2190 (995)	3 3/4 (93)	12 (305)	12 (305)	4'-6" (1.375 m)	6'-1 1/2" (1.867 m)	5'-0" (1.524 m)	3 3/4 (93)	15 (381)	1:2.5
33 (825)	3200 (1450)	3 3/4 (93)	13 1/2 (343)	39 1/2 (997)	4'-10 1/2" (1.486 m)	6'-1 1/2" (1.867 m)	5'-6" (1.676 m)	3 3/4 (93)	17 1/2 (445)	1:2.5
36 (900)	4100 (1860)	4 (102)	15 (381)	15 (381)	5'-3" (1.6 m)	8'-1 1/2" (2.483 m)	6'-0" (1.829 m)	4 (102)	20 (508)	1:2.5
42 (1050)	5380 (2440)	4 1/2 (114)	21 (533)	21 (533)	5'-3" (1.6 m)	8'-2" (2.489 m)	6'-6" (2.011 m)	4 1/2 (114)	22 (559)	1:2.5
48 (1200)	6550 (2970)	5 (127)	24 (610)	24 (610)	6'-0" (1.829 m)	8'-2" (2.489 m)	7'-0" (2.134 m)	5 (127)	22 (559)	1:2.5
54 (1350)	8240 (3740)	5 1/2 (140)	27 (686)	27 (686)	5'-5" (1.651 m)	8'-4" (2.54 m)	7'-6" (2.286 m)	5 1/2 (140)	24 (610)	1:2.0
60 (1500)	8730 (3960)	6 (152)	30 (762)	30 (762)	5'-0" (1.524 m)	8'-3" (2.515 m)	8'-0" (2.438 m)	5 (127)	*	1:1.9
66 (1650)	10710 (4860)	6 1/2 (165)	30 (762)	27 (686)	6'-0" (1.829 m)	8'-3" (2.515 m)	8'-6" (2.591 m)	5 1/2 (140)	*	1:1.7
72 (1800)	12520 (5680)	7 (178)	36 (914)	36 (914)	6'-6" (2.011 m)	8'-3" (2.515 m)	9'-0" (2.743 m)	6 (152)	*	1:1.8
78 (1950)	14770 (6700)	7 1/2 (191)	36 (914)	36 (914)	7'-6" (2.286 m)	9'-3" (2.819 m)	9'-6" (2.896 m)	6 1/2 (165)	*	1:1.8
84 (2100)	18160 (8240)	8 (203)	36 (914)	36 (914)	7'-6 1/2" (2.299 m)	9'-3 1/2" (2.832 m)	10'-0" (3.048 m)	6 1/2 (165)	*	1:1.6

\* Radius as furnished by manufacturer

**GENERAL NOTES**  
All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).  
All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS	PRECAST REINFORCED CONCRETE FLARED END SECTION
1-1-11	Clarified ref. to pipe dia. on Section A-A. Changed 'inner' to 'outer' cage ref.	STANDARD 542301-03
1-1-09	Switched units to English (metric).	

2 PRECAST REINFORCED CONCRETE FLARED END SECTION  
C-501

SCALE: NTS

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<p>KHA PROJECT 118935000</p> <p>DATE 7/25/2025</p> <p>SCALE AS SHOWN</p> <p>DESIGNED BY AMC</p> <p>DRAWN BY NEW</p> <p>CHECKED BY AMC</p>	<p><b>CONSTRUCTION DETAILS</b></p>
<p><b>WOODSTOCK COMMUNITY ENERGY INITIATIVE LLC</b></p> <p>M'CHENRY COUNTY, IL</p>	<p>SHEET NUMBER</p> <p><b>C-501</b></p>
<p>WOODSTOCK COMMUNITY ENERGY INITIATIVE LLC</p> <p>203 CRESCENT STREET #106 WALTHAM, MA 02453 (508) 460-2088</p>	
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