Preliminary Consultation MONTGOMERY COUNTY HISTORIC PRESERVATION COMMISSION STAFF REPORT

Address: 2410 Spencerville Rd., Spencerville Meeting Date: 4/22/2020

Resource: Individually Listed Master Plan Site **Report Date:** 4/15/2020

Spencer-Carr House

Applicant: Cedar Ridge Community Church **Public Notice:** 4/8/2020

(Bryan Peterson, Agent)

Review: Preliminary Consultation Staff: Dan Bruechert

PROPOSAL: Solar array

STAFF RECOMMENDATION

Staff recommends that the applicant make any revisions based on the HPC's recommendations and return for a Historic Area Work Permit.

ARCHITECTURAL DESCRIPTION

SIGNIFICANCE: Individually Listed Master Plan Site (*Spencer-Carr House - #15/55*)

STYLE: Spencerville Style/Folk Victorian

DATE: c.1855 and c.1871

From *Places from the Past:*

A distinctive three-story, three bay house, the Spencer-Carr House was built c.1855 with a rear addition dating from the 1870s. An illusion of added height is achieved through the incremental decrease in spacing between windows from the bottom level to the top together with decrease of window size. The center passage house is constructed of brick and covered with weatherboard siding. Reputedly building by William Spencer, founder of Spencerville, the house has a strong historical association with the early development of the community and is a significant example of rural antebellum building traditions in the county.



Figure 1: The designated parcel for the Spencer-Carr House. The star marks the location of the historic house.

BACKGROUND

In late 2018, the HPC evaluated a preliminary consultation and HAWP for the partial demolition of the rear addition of the Spencer-Carr House. The addition had degraded due to substantially deferred maintenance and could not be saved. One of the concerns raised at the hearings for the proposed demolition was: what is being done to ensure there are sufficient revenue streams to ensure the rest of the historic building does not suffer the same fate? The proposal under consideration in this preliminary consultation is one of the ways the property owner will be able to maintain the historic resources on the property.

PROPOSAL

The applicant proposes to install a commercial-scale solar array at the north end of the site.

APPLICABLE GUIDELINES

Proposed alterations to individual Master Plan Sites are reviewed under Montgomery County Code Chapter 24A (*Chapter 24A*) and the *Secretary of the Interior's Standards for Rehabilitation*. Rehabilitation is defined as the act or process of making possible a compatible use for a property through

¹ The Preliminary Consultation for the partial demolition was considered at the October 18, 2018 HPC meeting. The Staff Report for that meeting is here: https://montgomeryplanning.org/wp-content/uploads/2018/10/II.A-2420-Spencerville-Road-Spencerville.pdf with the recording of the meeting here: http://mncppc.granicus.com/MediaPlayer.php?publish id=af96f600-d92e-11e8-9302-0050569183fa. The HAWP

http://mncppc.granicus.com/MediaPlayer.php?publish_id=af96f600-d92e-11e8-9302-0050569183fa. The HAWP was approved on December 5, 2018. The HAWP Staff Report can be found here:

https://montgomeryplanning.org/wp-content/uploads/2018/11/I.K-2420-Spencerville-Rd.-Demo-Staff-Report.pdf. The audio recording of that hearing can be found here:

http://mncppc.granicus.com/MediaPlayer.php?publish id=c26b7271-f98c-11e8-9afa-0050569183fa.

repair, alterations, and additions while preserving those portions or features, which convey its historical, cultural, or architectural values.

Montgomery County Code; Chapter 24A-8

- (b) The commission shall instruct the director to issue a permit, or issue a permit subject to such conditions as are found to be necessary to insure conformity with the purposes and requirements of this chapter, if it finds that:
 - (1) The proposal will not substantially alter the exterior features of an historic site or historic resource within an historic district; or
 - (2) The proposal is compatible in character and nature with the historical, archeological, architectural or cultural features of the historic site or the historic district in which an historic resource is located and would not be detrimental thereto or to the achievement of the purposes of this chapter; or
 - (3) The proposal would enhance or aid in the protection, preservation and public or private utilization of the historic site or historic resource located within an historic district in a manner compatible with the historical, archeological, architectural or cultural value of the historic site or historic district in which an historic resource is located; or
 - (4) The proposal is necessary in order that unsafe conditions or health hazards be remedied; or
 - (5) The proposal is necessary in order that the owner of the subject property not be deprived of reasonable use of the property or suffer undue hardship.

Secretary of Interior's Standards for Rehabilitation

- 2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.
- 9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.
- 10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

STAFF DISCUSSION

The Spencer-Carr House (c.1855) was the home to the founder of Spencerville, William Spencer. It consists of the original, side-gable, three-bay wide massing of the house. The site also contains a historic wood accessory structure, tile silo, 20^{th} -century barn building, and a contemporary church. There is an open field between Spencerville Rd. and the buildings. To the north of the church building, there is an open meadow.



Figure 2: Detail aerial of the Spencer-Carr House site (historic house circled in yellow).

The applicant proposes installing an 8.62-acre commercial solar array to the north of the contemporary church and nearly 400' (four hundred feet) to the north of the historic Spencer-Carr House. Aside from the solar panels themselves, there will be two above-ground features to the northeast of the church building: the 'switchgear' and 'electrical equipment pad.' This location was selected because the church building blocks the view of these features from the Spencer-Carr house. All other conduit will be buried and will not have a visual impact on the site.

The solar panels will be installed in south-facing rows. The panels will be installed on metal posts at a fixed angle to maximize collection. Each panel will be approximately $3' \times 6'$. Because of the dimensions of the support posts, the orientation of the panel, and the angle of the panel installation, Staff is unsure of the overall dimensions of the collectors. Drawings with the dimensions of a solar collector need to be included with the HAWP.

Surrounding the solar collector, the applicant proposes to construct a 6' (six-foot) tall chain-link fence. Staff finds that a fence in this location should be as transparent as possible or should maintain an agricultural character. Because of the desired height for the fence for safety, Staff finds that chain link is an appropriate material.

Outside of the fence, the applicant proposes installing a 20' (twenty-foot) vegetative screen. The screen will be made up of a variety of shrubs, evergreen trees, and canopy trees. Landscape plans are attached. While the HPC is supposed to exclude vegetation when evaluating a HAWP, this space will limit views of the solar collector from within the site.

Staff request HPC feedback regarding:

- The appropriateness of installing a commercial-scale solar collector on the historic site;
- Concerns regarding material specifications.
- Any other comments regarding the proposal.

Additional information is required for a complete HAWP application including:

- An accounting of the total number of solar panels;
- Annotated elevation drawings of one solar array (one from the south and an east/west view);
- Dimensions and other details of above-ground features;
- Total number of tree removals proposed (a HAWP is required for any tree removal in excess 6" d.b.h.);
- Any additional request from the HPC.

STAFF RECOMMENDATION

Staff recommends the applicant make revisions based on the guidance and feedback provided by the HPC and return for a second preliminary consultation or HAWP as recommend.



Edit 6/21/99

HISTORIC PRESERVATION COMMISSION 301/563-3400

APPLICATION FOR HISTORIC AREA WORK PERMIT

figuhag@thoint_e com	Contact Person:	ranny Yuhas
contact Fmail: fyuhas@tpoint-e.com		(410)375-9420
Tax Account No.:38-4108909		
Name of Property Owner: Cedar Ridge Community Church	Oavtime Phone No.:	(301) 241-5949
Address: 2410 , Spencerville, Spen	cerville	Road 20868
Su and rectification City	3(887	Δ ρ C000
Contractor: N/A - TBD	Phone No.:	N/A
Contractor Registration No.: N/AW		(702)050 0000
Agent for Owner: Mark Stires	Daytime Phone No.:	(703)850-9982
LOCATION OF BUILDING/PREMISE		
House Number: 2410 Street	Spencerv	ille Road
Town/City: Spencerville Newrest Cross Street: 1	Peach Orc	hard Road
Lot: 20756 Block: Subdivision:		
Liber:Folio:Parcel: N202		
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PART ONE: TYPE OF PERMIT ACTION AND USE		
1A. CHECK ALL APPLICABLE: CHECK ALL A	PPLICABLE:	
•		Addition Porch Deck Shed
☐ Move ☐ Install ☐ Wreck/Raze ☐ Solar ☐	Fireplace	arning Stove Single Family
•	(complete Section 4)	☐ Other:
·I·BII		
18. Construction cost estimate: \$ TBD		
18. Construction cost estimate: \$ 150 10. If this is a revision of a previously approved active permit, see Permit # N/A		
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SEE REVERSE SIDE FOR INSTRUCTIONS

THE FOLLOWING ITEMS MUST BE COMPLETED AND THE REQUIRED DOCUMENTS MUST ACCOMPANY THIS APPLICATION.

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2.

3.

W	RITTEN DESCRIPTION OF PROJECT
8.	Description of existing structure(s) and environmental setting, including their historical features and significance:
	ATTACHED
b.	General description of project and its effect on the historic resource(s), the environmental setting, and, where applicable, the historic district: ATTACHED
SI	TE PLAN
Sit	e and environmental setting, drawn to scale. You may use your plat. Your site plan must include:
a,	the scale, north arrow, and date;
b.	dimensions of all existing and proposed structures; and
C.	site features such as walkways, driveways, fences, ponds, streams, trash dumpsters, mechanical equipment, and landscaping.
<u>PL</u>	ANS AND ELEVATIONS
You	must submit 2 copies of plans and elevations in a format no larger than 11" x 17". Plans on 8 1/2" x 11" paper are preferred.
	Schemetic construction plans, with marked dimensions, indicating location, size and general type of walls, window and door openings, and other fixed features of both the existing resource(s) and the proposed work.
b.	Elevations (facades), with marked dimensions, clearly indicating proposed work in relation to existing construction and, when appropriate, context. All materials and fixtures proposed for the exterior must be noted on the elevations drawings. An existing and a proposed elevation drawing of each facade affected by the proposed work is required.
M	ATERIALS SPECIFICATIONS
Ge	neral description of materials and manufactured items proposed for incorporation in the work of the project. This information may be included on you
PH	OTOGRAPHS
a.	Clearly labeled photographic prints of each facade of existing resource, including details of the affected portions. All labels should be placed on the front of photographs.
b.	Clearly label photographic prints of the resource as viewed from the public right-of-way and of the adjoining properties. All labels should be placed or the front of photographs.
TR	EE SURVEY
lf y	ou are proposing construction adjacent to or within the dripline of any tree 6" or larger in diameter (at approximately 4 feet above the ground), you
mu	of tile an accurate tree survey identifying the size, location, and species of each tree of at least that dimension.

7. ADDRESSES OF ADJACENT AND CONFRONTING PROPERTY OWNERS

For <u>ALL</u> projects, provide an accurate list of adjacent and confronting property owners (not tenants), including names, addresses, and zip codes. This list should include the owners of all lots or parcels which adjoin the parcel in question, as well as the owner(s) of lot(s) or parcel(s) which lie directly across the street/highway from the parcel in question.

HAWP APPLICATION: MAILING ADDRESSES FOR NOTIFING

[Owner, Owner's Agent, Adjacent and Confronting Property Owners]

Owner's mailing address	Owner's Agent's mailing address						
CEDAR RIDGE COMMUNITY CHURCH ATTN:BRYAN PETERSON 2410 SPENCERVILLE ROAD SPENCERVILLE, MD 20868							
Adjacent and confronting	Property Owners mailing addresses						
Adjacent and confronting Property Owners mailing addresses							
DELMIS R. & LUIS R. RODRIGUEZ 2312 SPENCERVILLE ROAD SPENCERVILLE, MD 20868	CHARLES S. STEPHENS, JR. 2214 SPENCERVILLE ROAD SPENCERVILLE, MD 20868						
DENIS S. & C. E. IBBOTT 16505 BATSON ROAD SPENCERVILLE, MD 20868	MARYLAND NATIONAL CAPITAL AND PLANNING COMMISSION 6611 KENILWORTH AVE RIVERDALE, MD 20737						
CHESAPEAKE CONFERENCE ASSOCIATION OF SEVENTH-DAY ADVENTISTS PARCEL B SPENCER FARM 6600 MARTIN ROAD COLUMBIA, MD 20868							



Detail: AERIAL SHOT OF 2410 SPENCERVILLE ROAD (GOOGLE EARTH)



Detail: AERIAL SHOT OF PROPOSED SOLAR ARRAY LOCATION (GOOGLE EARTH)



Detail: PROPOSED SOLAR ARRAY LOCATION (FACING NORTH-WEST)



Detail: PROPOSED SOLAR ARRAY LOCATION (FACING NORTH)



Detail: PROPOSED SOLAR ARRAY LOCATION (FACING NORTH-EAST)



PROPOSED SOLAR ARRAY LOCATION (FACING EAST)

Detail:______



Detail: PROPOSED AREA FOR SOLAR ARRAYS (BEHIND CHURCH)



Detail: STREET-VIEW OF CEDAR RIDGE COMMUNITY
CHURCH(TAKEN FROM SPENCERVILLE ROAD)



Detail: EXISITING PLAYGROUND OFF GRAVEL DRIVEWAY ON WEST SIDE OF PROPOSED SOLAR ARRAYS



Detail: EXISTING BUILDING LOCATED IN FRONT OF COMMUNITY CHURCH

Site Plan



Shade portion to indicate North

Applicant:_____

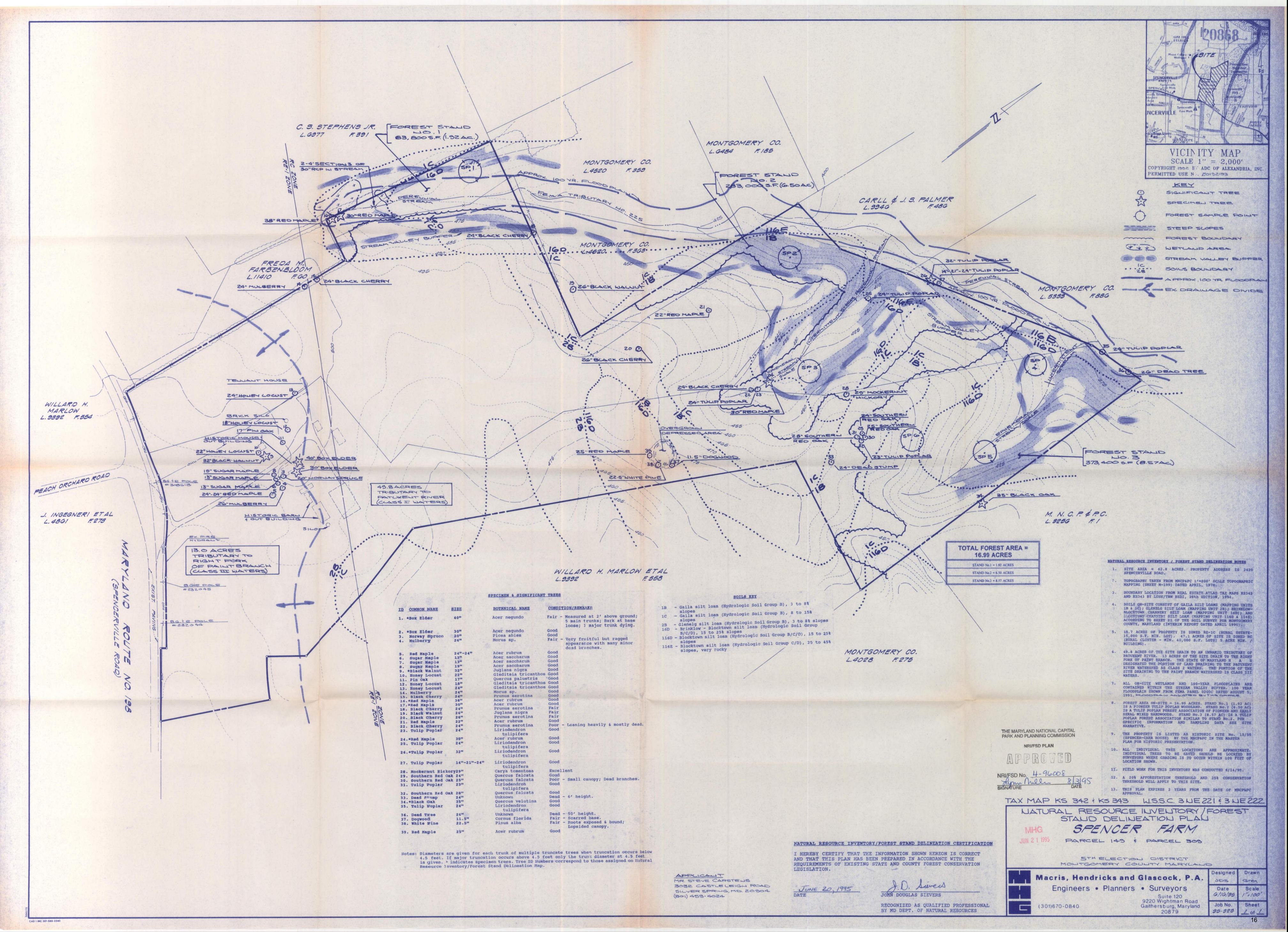
a. Description of Existing Structure Environmental Setting and Historical Features at:

2410 Spencerville Road, Spencerville 20868

The Spencer-Carr Farmhouse was originally constructed circa 1855 on the north side of Spencerville Road (MD 198) in Spencerville, Montgomery County. The farmhouse resides in the Spencerville Historic District containing late nineteenth and early twentieth century properties. The property was deemed eligible for the National Register of Historic Places under meeting the criteria for embodying distinctive characteristics associated with the mid-nineteenth century vernacular farmhouse representing the "Spencerville style." The Spencer-Carr property was purchased by the Cedar Ridge Community Church in 1999 and has been updated with a non-contributing building, gravel roads, and parking lots for the Community Church.

b. General description of project and its effect on the historic resource(s), the environmental setting, and, where applicable, the historic district.

The intended project, owned by Turning Point Energy (TPE MD MO32,LLC), includes the addition of solar arrays in an undeveloped area located to the rear of the existing church. The solar arrays will be constructed along with land developments behind the Cedar Ridge Community Church. The solar arrays will not impact the buildings on the Spencer-Carr property and will have minimal impact to the property and its surroundings. The Project is for solar generation and will be able to operation without any interruptions to the Community Church.



EXISTING

CEDAR RIDGE COMMUNITY SOLAR PARCEL-A SPENCER FARM SOLAR - MO 32

LEGEND DESCRIPTION

PROPOSED

WWW.

INDEX CONTOUR INTERMEDIATE CONTOUR EDGE OF PAVEMENT CURB AND GUTTER PROPOSED HEADER CURB DEPARTING PROPERTY LINE

LOT LINE CENTERLINE FLOOD PLAIN (LIMITS OF DISTURBANCE)

TREE LINE FLOW LINE OF SWALE STREAM OVERLAND RELIEF PATHWAY FENCE LINE

EASEMENT WATER LINE REDUCER STORM SEWER

CABLE TV ELECTRIC SERVICE ELEPHONE SERVICE GAS LINE + 25.32 SPOT ELEVATION UTILITY POLE

SANITARY SEWER IDENTIFIER STORM DRAIN IDENTIFIER $\langle W \rangle$ EASEMENT IDENTIFIER

 \circ \circ

EX 5" 15" OAK

WATER METER FIRE HYDRANT INDICATES THE NUMBER OF TYPICAL PARKING SPACES

> STREET LIGHT VEHICLES PER DAY (TRAFFIC COUNT) TEST PIT LOCATION

RECOMMENDED/REQUIRED

DENOTES CLEAR SIGHT TRIANGLE

BENCHMARK

STREET SIGN

RIP RAP

__________ **PAVERS** __________ CONCRETE SIDEWALK CONCRETE SIDEWALK END WALLS END SECTIONS STOP SIGN

> OVERHEAD ELECTRIC OVERHEAD TELEPHONE HANDICAP PARKING SPACE (VAN)

2<u>55VPD</u>>

CONTACT INFORMATION

APPROVED:

ALTA/ACSM LAND TITLE SURVEY BOWMAN CONSULTING, INC. TITLED: PARCEL-A SPENCER FARM SOLAR-MO 32 PROJECT NO.: 130078-01-001 DATED: JULY 2019

NRI/FSD APPROVAL #_ BOWMAN CONSULTING, INC. TITLED: NATURAL RESOURCES INVENTORY/FOREST STAND DELINEATION "PARCEL-A SPENCER FARM SOLAR-MO 32" 2420 SPENCERVILLE ROAD, SPENCERVILLE, MONTGOMERY COUNTY, MARYLAND 20868 PROJECT NO.: 130078-01-001

STORMWATER MANAGEMENT CONCEPT APPROVAL #284912 BOWMAN CONSULTING INC. TITLED: STORMWATER MANAGEMENT CONCEPT PLAN "PARCEL-A SPENCER FARM SOLAR-MO 32" 2420 SPENCERVILLE ROAD, SPENCERVILLE, MONTGOMERY COUNTY, MARYLAND 20868 PROJECT NO.: 130078-01-001 DATED: SEPTEMBER 4, 2019 APPROVED: SEPTEMBER 4, 2019

SITE PLAN MNCPPC # 820200040

LOCATION OF SITE

2420 SPENCERVILLE ROAD SPENCERVILLE, MONTGOMERY COUNTY, MARYLAND 20868

OWNER

CEDAR RIDGE COMMUNITY CHURCH INC. ATTN: BRYAN PETERSON ADDRESS: 2410 SPENCERVILLE ROAD SPENCERVILLE, MARYLAND 20868 EMAIL: BRYANP@CRCC.ORG PHONE: (301) 421-5949 EXT. 220

DEVELOPER/APPLICANT

TPE MD MO32, LLC ATTN: FRANNY YUHAS ADDRESS: 999 18TH STREET, SUITE 3000 **DENVER, CO 80202** EMAIL: FYUHAS@TPOINT-E.COM PHONE: 410-375-9420

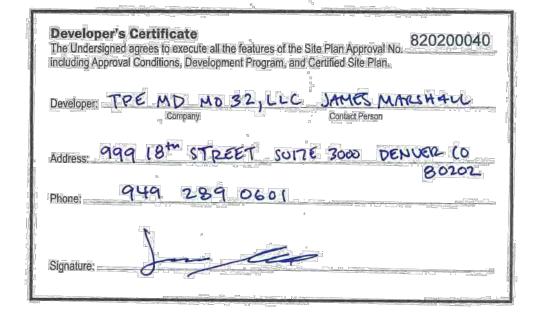
CIVIL ENGINEER

BOWMAN CONSULTING GROUP ADDRESS: 185 ADMIRAL COCHRANE DRIVE, SUITE 215 ANNAPOLIS, MARYLAND 21401 PHONE: 401.224.7590

LOCATION PLAN SCALE: 1" = 2000'

NOTES:

1. M-NCPPC STAFF MUST INSPECT ALL TREE-SAVE AREAS AND PROTECTION DEVICES BEFORE CLEARING AND GRADING. 2. UNLESS SPECIFICALLY NOTED ON THIS PLAN DRAWING OR IN THE PLANNING BOARD CONDITIONS OF APPROVAL, THE BUILDING FOOTPRINTS, BUILDING HEIGHTS, ON-SITE PARKING, SITE CIRCULATION, AND SIDEWALKS SHOWN ON THE PRELIMINARY PLAN ARE ILLUSTRATIVE. THE FINAL LOCATIONS OF BUILDINGS, STRUCTURES, AND HARDSCAPE WILL BE DETERMINED AT THE TIME OF SITE PLAN APPROVAL. PLEASE REFER TO THE ZONING DATA TABLE FOR DEVELOPMENT STANDARDS SUCH AS SETBACKS, BUILDING RESTRICTION LINES, BUILDING HEIGHT, AND LOT COVERAGE FOR EACH LOT. OTHER LIMITATIONS FOR SITE DEVELOPMENT MAY ALSO BE INCLUDED IN THE CONDITIONS OF THE PLANNING BOARD'S APPROVAL.



ABBREVIATIONS AASHTO AMERICAN ASSOCIATION OF STATE HWY & TRANSPORTATION OFFICIALS MECH MECHANICAL ADJACENT MISCELLANEOUS MEDIAN STRIP MEAN SEA LEVEL AMERICAN WATER WORKS ASSOCIATION BASEMENT FLOOR BEST MANAGEMENT PRACTICES EGINNING VERTICAL CURVE STATION PLAN AND PROFILE POINT OF CURVE EDGE OF PAVEMENT POINT OF GRADE LINE PVMT PAVEMENT Q (cfs) AMOUNT OF RUNOFF (FLOW RATE) CENTERLINE RADIUS REINFORCED CONCRETE PIPE DRAINAGE AREA ROAD OR ROOF DRAIN RETAINING DUCTILE IRON PIPE DOMESTIC RIGHT OF WAY SANITARY DOWN SPOUT SBL SOUTH BOUND LANE DWELLING UNITS SCH SCHEDULE DRAWING SIGHT DISTANCE D/W DRIVEWAY SECTION SEW SEWER **FACH** SQUARE FEET EAST BOUND LANE EBL SHOULDER EROSION CONTROL SPACE OR SITE PLAN EDGE OF GUTTER SPECIFICATIONS ELEVATION STA STATION STD STM STANDARD **ELEVATION** ELEV STORM ENGR **ENGINEER** STR STRUCTURE **ENTRANCE** SVC SERVICE EDGE OF PAVEMENT S/W SIDEWALK STORM WATER MANAGEMENT EASEMENT CROSS SLOPE EXISTING TO BE DEMOLISHED SQUARE YARD EXISTING TO REMAIN TANGENT EXISTING TO BE RELOCATED TOP OF BANK OR TEST BORING EXISTING TO BE REPLACED TO BE REMOVED ENDING VERTICAL CURVE ELEVATION TOP OF CURB ENDING VERTICAL CURVE STATION TIME OF CONCENTRATION ΕW TELEPHONE ΕX TEMP TEMPORARY ENVIRONMENTAL QUALITY CORRIDOR EQC TEST HOLE FIRE LINE TEST PIT OR TREE PROTECTION FLOOR AREA RATIO TOP OF WALL OR TAILWATER FACE OF CURB TYPICAL FLOOR DRAIN UNDERGROUND FIRST FLOOR UNDERGROUND ELECTRIC FINISH GRADE UNDERGROUND TELEPHONE FIRE HYDRAN UNDERGROUND CABLE FLOW LINE FOUNDATION UTILITY POLE FLOOD PLAIN USGS US GEOLOGICAL SURVEY FEET PER SECOND V OR VOL VOLUME FIRE SERVICE OR FACTOR OF SAFETY V OR VEL VELOCITY FOOT / FEET HANDICAPPED VAN PARKING SPACE GAS GROSS FLOOR AREA VERTICAL CURVE MSHA MD STATE HIGHWAY ADMINISTRATION GUARD RAIL OR GRATE INLET VERTICAL FOOT WEIGHT OR WIDTH **HANDICAP** HORIZONTAL BEND WEST BOUND LANE HYDRAULIC GRADE LINE WATER LINE WATER METER HORIZONTAL HIGH POINT W/M (WM) WATER MAIN HAND RAII WATER VALVE HEIGHT CROSSING HEADWATER TRANSFORMER RAINFALL INTENSITY INSIDE DIAMETER OR IDENTIFICATION YARD INLET INVERT ELEVATION YR YEAR INV INVERT SIDE SLOPES IRON PIPE

IRON PIPE FOUND

SIGHT DISTANCE COEFFICIENT

LIMITS OF CLEARING & GRADING

CULVERT ENTRANCE LOSS COEFFICIENT

IRON PIPE SET JUNCTION BOX

LATERAL

LINEAR FEET

LOW POINT

LINE OF SIGHT

LOADING SPACE

SHEET INDEX SHEET NO. SHEET TITLE **COVER SHEET** SITE 2 **APPROVALS** SITE 3 **APPROVALS** SITE 4 OVERALL SITE PLAN SITE PLAN, SITE DATA, NOTES & TABLES SITE 6 SITE PLAN DETAILS SITE 7 EXISTING IMPERVIOUS PLAN PROPOSED IMPERVIOUS PLAN SITE 9 SITE PLAN DETAILS **COVER SHEET** LANDSCAPE PLAN LANDSCAPE PLAN LANDSCAPE ENLARGEMENTS LL 5 LANDSCAPE ENLARGEMENTS LANDSCAPE SCHEDULES & DETAILS

TurningPoint

32 SOLAR LAR - MO UNITY IM SOL COVER SHEET COMMUSER FARI

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PLAN STATUS

DATE DESCRIPTION MSS JNC DESIGN DRAWN CHKD SCALE AS SHOWN JOB No. 130078-01-001 DATE: FEBRUARY 2020 FILE No. 130078-D-CP-001

SHEET 1 OF 9

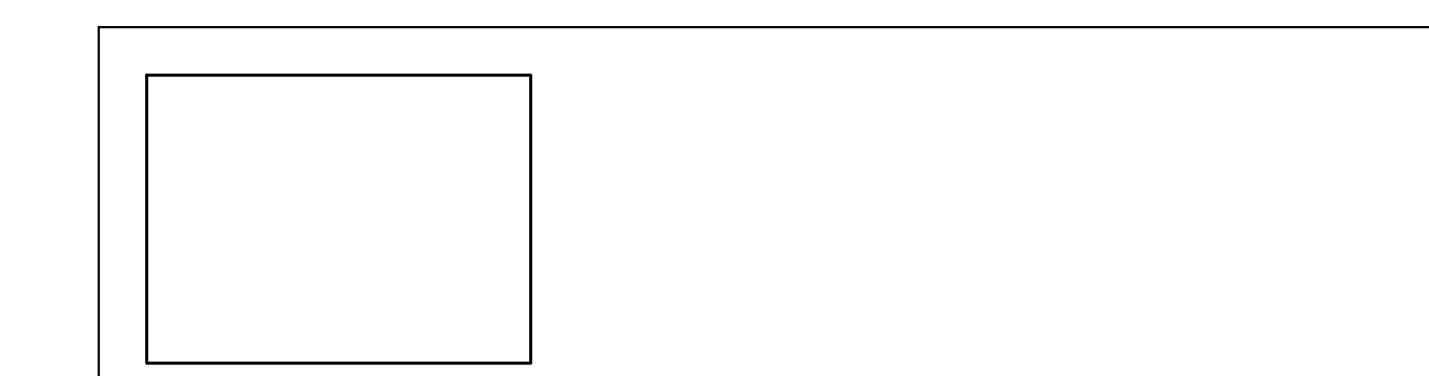
PROFESSIONAL CERTIFICATION

PREPARED OR APPROVED BY ME., AND THAT I AM A DULY

I, MARK S. STIRES, HEREBY CERTIFY THAT THESE DOCUMENTS WERE

LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE

OF MARYLAND, LICENSE NO. 18987, EXPIRATION DATE: 01/13/21.





CEDAR RIDGE COMMUNITY SOLAR
PARCEL A SPENCER FARM SOLAR - MO 32
MAP KS32 PARCEL N202 - ACCT. NO. 05-0323387

PLAN STATUS

DATE DESCRIPTION MC JNC MSS
DESIGN DRAWN CHKD SCALE H:

JOB No. **130078-01-001** DATE: FEBRUARY 2020

SHEET 2 OF 9

Developer's Certificate
The Undersigned agrees to execute all the features of the Site Plan Approval No. including Approval Conditions, Development Program, and Certified Site Plan. Developer TPE MD MO 32, LLC JAMES MACHAU
Company Contact Person Address: 999 [8th STREET SUITE 3000 DENVER (0

PROFESSIONAL CERTIFICATION

I, MARK S. STIRES, HEREBY CERTIFY THAT THESE DOCUMENTS WERE | FILE No. 130078-D-CP-001 PREPARED OR APPROVED BY ME., AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 18987, EXPIRATION DATE: 01/13/21.



Turning Point Energy

CEDAR RIDGE COMMUNITY SOLAR
PARCEL A SPENCER FARM SOLAR - MO 32
MAP KS32 PARCEL N202 - ACCT. NO. 05-0323387

PLAN STATUS

DATE DESCRIPTION MC JNC MSS
DESIGN DRAWN CHKD SCALE H:

JOB No. **130078-01-001**

SHEET 3 OF 9

DATE: FEBRUARY 2020

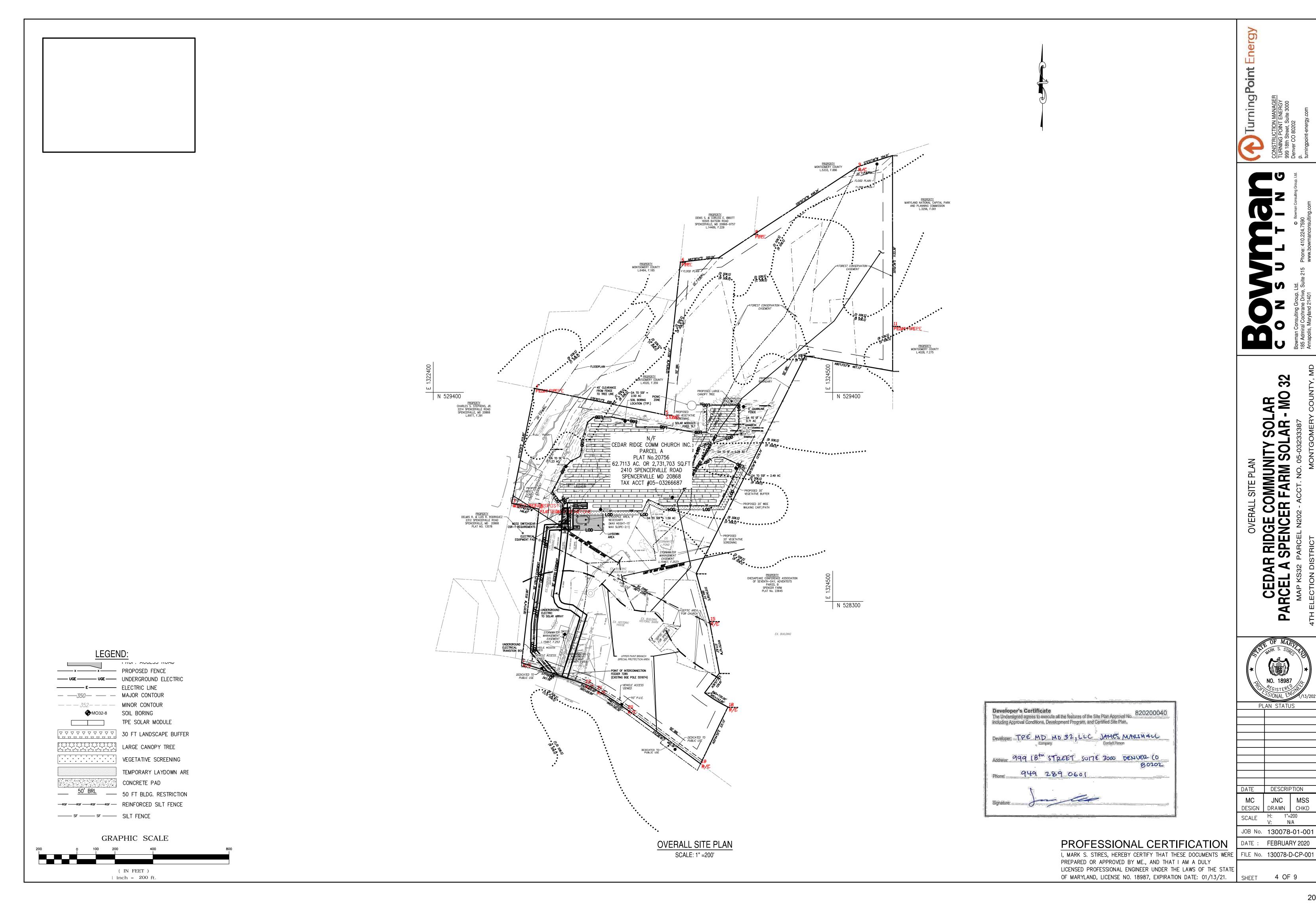
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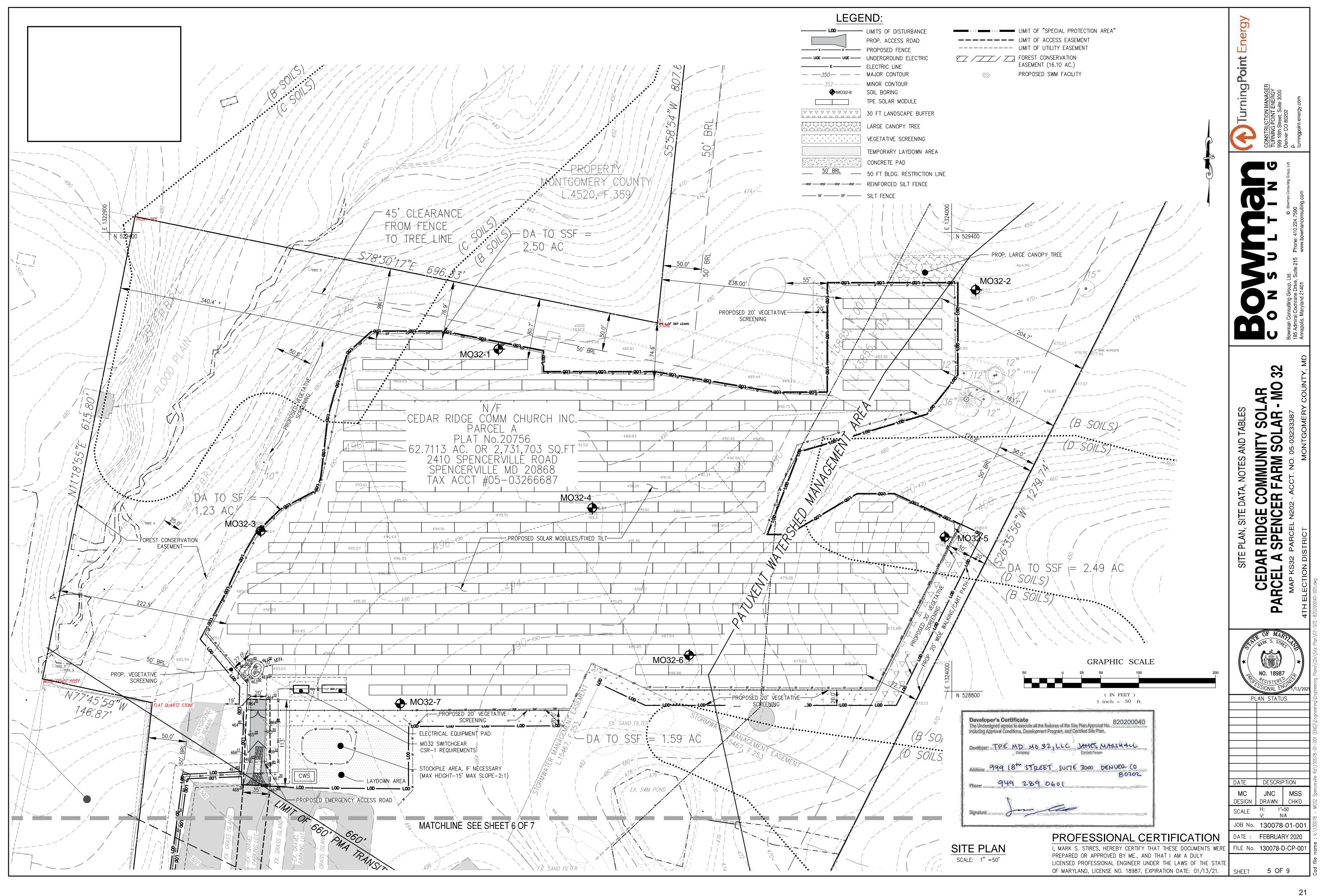
LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 18987, EXPIRATION DATE: 01/13/21.

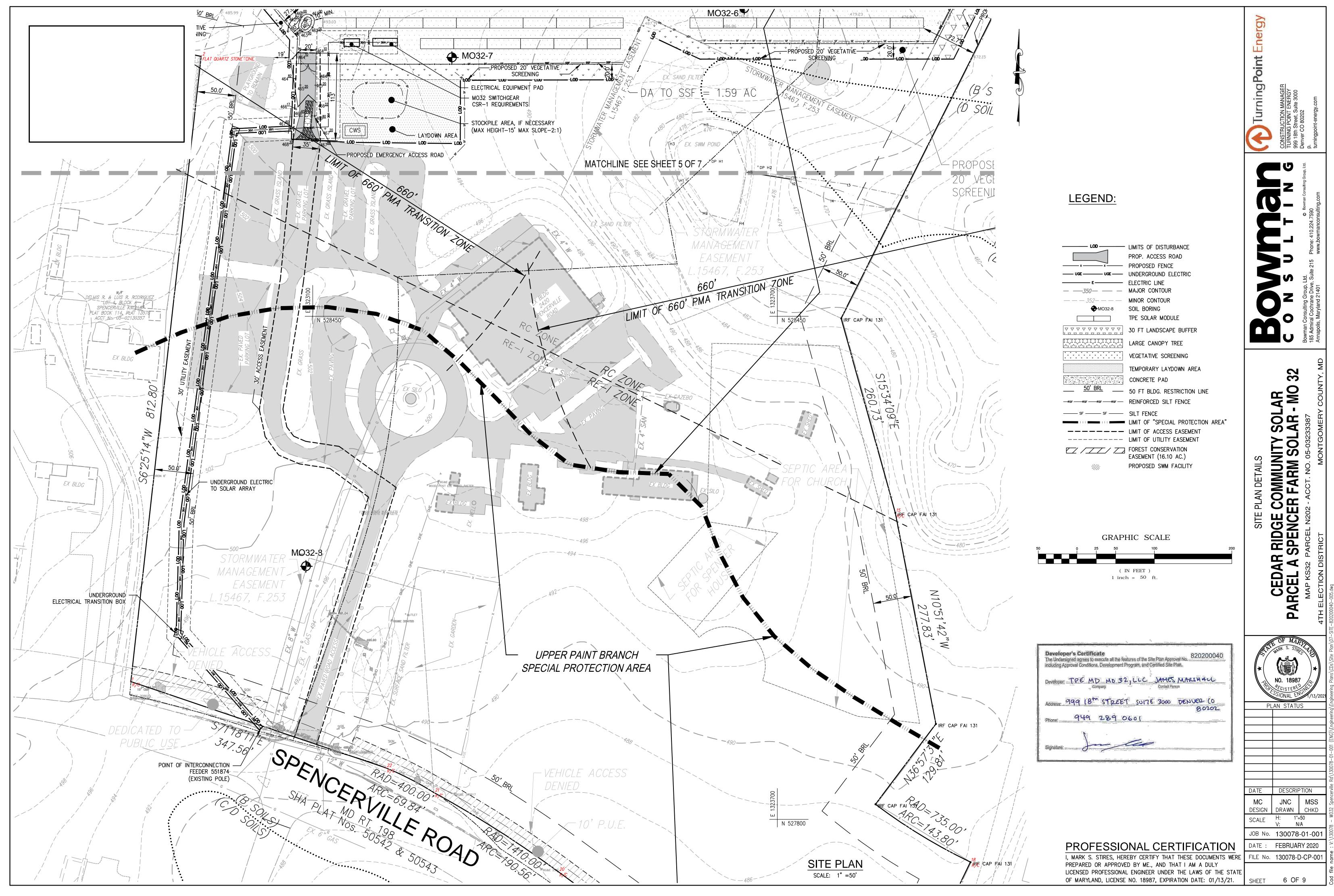
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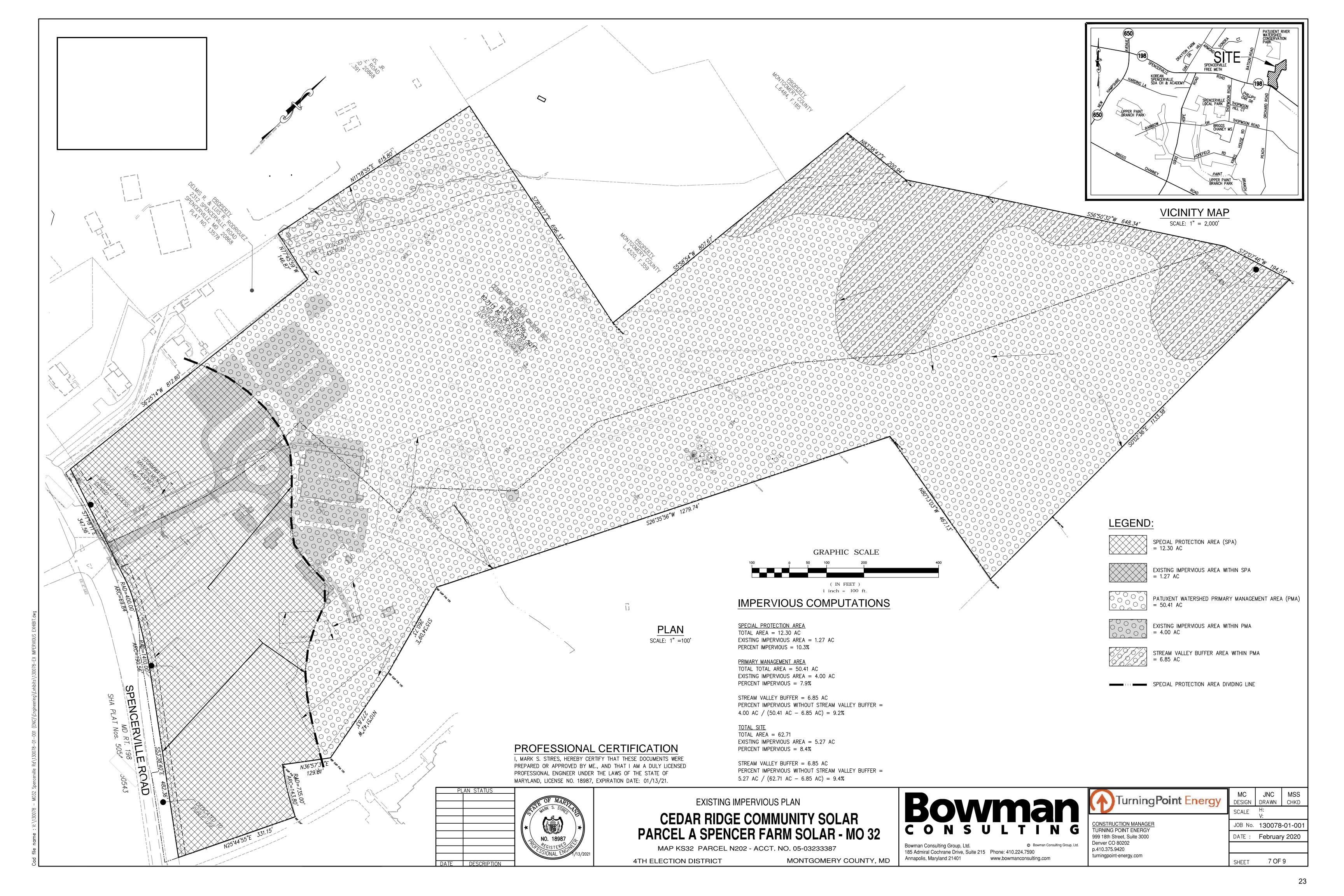
Developer TPE MD MO 32, LLC JAMES MACHAU
Company Contact Person

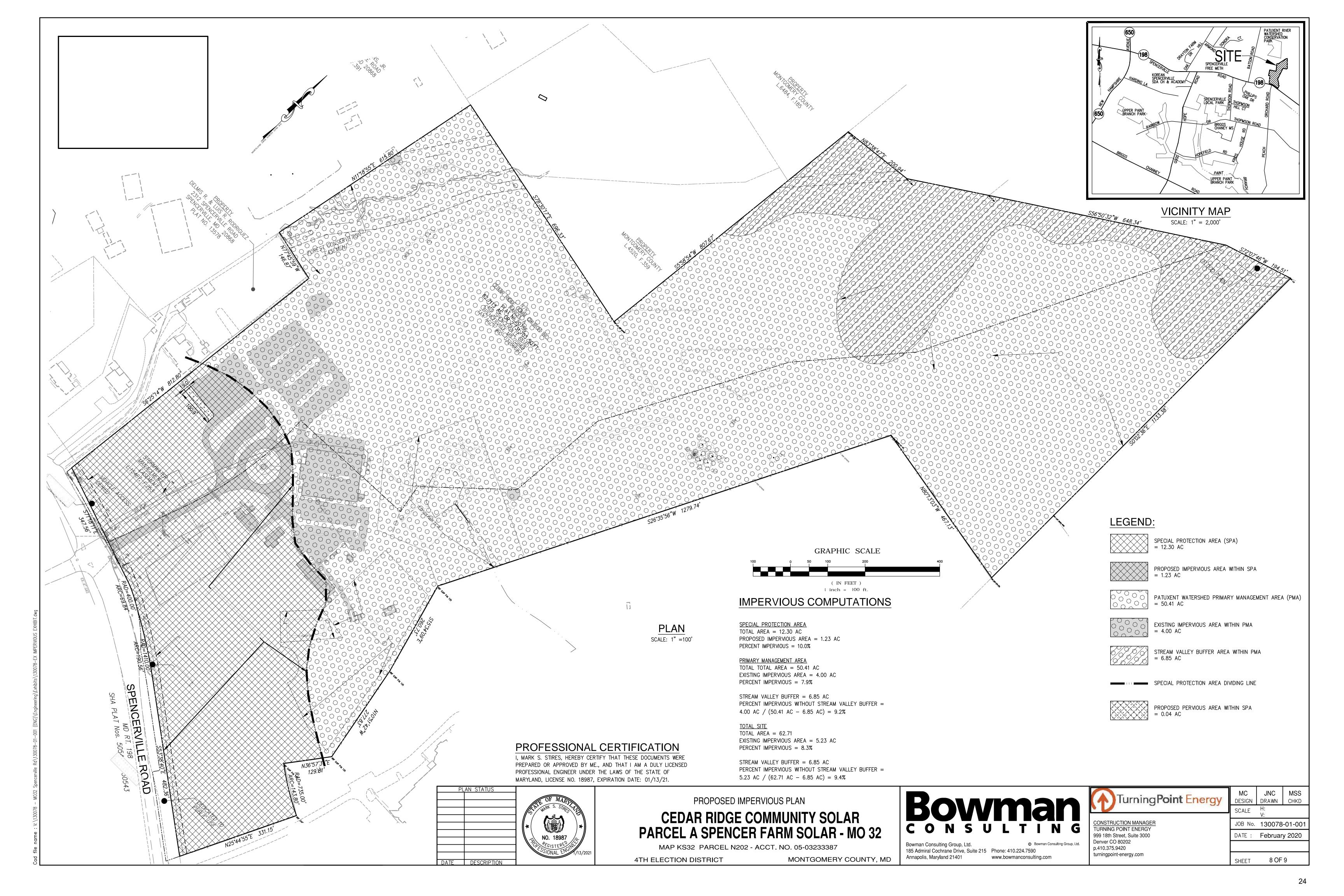
Address: 999 [8th STREET SUITE 3000 DENVER (0











DATE DESCRIPTION MC DESIGN | DRAWN | CHKD SCALE H: AS SHOWN NONE JOB No. **130078-01-001** DATE: FEBRUARY 2020

SHEET 9 OF 9

FRAMED 72 LAYOUT MODULE

TALLMAX prust DIMENSIONS OF PV MODULE(mm

FRAMED 72 LAYOUT MODULE

MONOCRYSTALLINE MODULE

Mono Multi Solutions

PRODUCTS | COLOR OF FRAME | POWER RANGE TSM-DE14H(II) Silver 345-395W TSM-DE14H.08(II) Black 345-395W 345-395W

345-395W POWER OUTPUT RANGE

19.9% MAXIMUM EFFICIENCY

0~+5W POSITIVE POWER TOLERANCE

Founded in 1997, Trina Solar is the world's leading

Comprehensive Products

And System Certificates IEC61215/IEC61730/UL1703/IEC61701/IEC62716 ISO 9001: Quality Management System ISO 14001: Environmental Management System ISO14064: Greenhouse gases Emissions Verification OHSAS 18001: Occupation Health and Safety







Ideal for large scale installations

• Reduce BOS cost with higher power bin and 1500V system voltage

Half-cell design brings higher efficiency • New cell string layout and split J-box location to reduce the energy loss caused by shading between modules • LRF(Light Redirecting Film) integrated to gain more power

 Low thermal coefficients for greater energy production at high operating temperatures • Low cell connection power losses due to half-cell layout(144 monocrystalline)

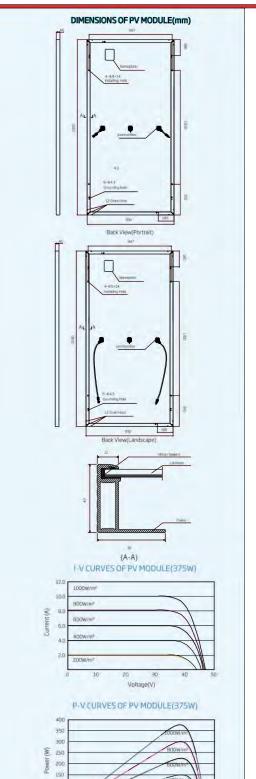
Highly reliable due to stringent quality control Over 30 in-house tests (UV, TC, HF etc) • Internal test requirement of Trina more stringent than certification authority

 100% EL double inspection Certified to withstand the most challenging

environmental conditions 2400 Pa negative load • 5400 Pa positive load

LINEAR PERFORMANCE WARRANTY 10 Year Product Warranty · 25 Year Linear Power Warranty

■ Trina standard Industry standard



WARRANTY				PACK	AGING	CONFI	GURAT	ION			
(DO NOT connect Fuse in Combiner Box with tw	o or more	e strings i	n parallel	connecti	on)						
Temperature Coefficient of Isc		%/°C				Fuse Ra	iting	- 1	20A		
Temperature Coefficient of Voc		9%/°C						- 3	1500V	DC (UL)	
Temperature Coefficient of PMAX	- 0.37	7%/°C		Max	imum S	ystem	Voltage		1500V	DC (IEC)	
NOCT (Nominal Operating Cell Temperature)	44°C	(±2°C)		Ope	rationa	Tempe	erature		-40~+8	35°C	
EMPERATURE RATINGS				MAXI	MUM R	ATING	S				
Connector	TS4										
Cables	Portr	ait: N 1	40mm	/P 285r	nm(5.5	0mm² (0 1/11.22 nm (55.	inches)	V.			
J-Box	7 100 00		2.7.	age hills		2 2 6					
Frame		m (1.5)	inches) Anodi	zea Alu	minium	Alloy				
C. Carlotte Co.	6.75	-	lasta -	\ Ammed	and Al-	mintro	Aller				
Backsheet	White		ranspa	arent)							
Encapsulant Material	2000		Transpa		a PIONIC	, 4.01111	1,0.10	es	Torre	re r-lone	
Glass			-/				and the same			rc Mond	,
Weight			- Contract	Talk Inc.	Day Street	26.5 kg			4.0 mm	nalass	
Module Dimensions	3211			m (78.7	4 x 30	06 × 1.	57 inch	es)			
Cell Orientation		ells (6				150			-1		
ECHANICAL DATA Solar Cells	Monr	ocrysta	lline 15	6.75 × 7	78,375	nm (6.1	7× 3.0	9 inche	25)		
	. ature 20	, C, WIIIU	Specu III	<i>u</i> 3.							
Short Circuit Current-Isc (A) NOCT: Irradiance at 800W/m², Ambient Tempe	7.71 erature 20	7.75 °C. Wind	7.82 Speed 1m	7.86 n/s.	7.94	7.98	8.02	8.07	8.10	8.14	8.17
Open Circuit Voltage-Voc (V)	43.2	43.3	43.7	44.0	7.04	7.00	44.5	44.7	45.2	46.3	46.5
Maximum Power Current-Impp (A)	7.26	7.32	7.38	-	7.49	7.54	7.59	7.64	7.67	7.68	7.74
Maximum Power Current-Iver (A)	-22/0		22000	7.42	10000		F-10-10			2000	
Maximum Power Voltage Vven (V)	257 35.4	261 35.7	265 35.9	36.2	272 36.3	276 36.6	36.9	37.1	287 37.4	291 37.9	295
	252	201	200	200	272	220	200	204	207	201	205
ELECTRICAL DATA (NOCT)											
STC: Irradiance 1000W/m², Cell Temperature 2 *Measuring tolerance: ±3%.	5°C, Air M	lass AM1	5.								
Module Efficiency n _m (%)	17.4	17.6	17.9	18.1	18.4	18.6	18.9	19.2	19.4	19.7	19.9
Short Circuit Current-ls: (A)	9.55	9.60	9.68	9.73	9.83	9.88	9.93	9.99	10.03	10.08	10.13
Open Circuit Voltage-Voc (V)	46.3	46.5	46.9	47.2	47.4	47.6	47.8	48.0	48.5	49.7	50.1
Maximum Power Current-Impp (A)	9.04	9.13	9.21	9.28	9.37	9.44	9.52	9.60	9.61	9.64	9.69
Maximum Power Voltage-VMPP (V)	38.2	38.4	38.6	38.8	39.0	39.2	39.4	39.6	40.1	40.5	40.8
Power Output Tolerance-PMAX (W)						0~+5					
			445	2000		2000	2000		10,80	10000	395

Articulating purlins between tables allows up to 15% east-west terrain slopes

telescoping post bracket to navigate up to 15% terrain slopes

linear actuator drive system has 40 year operating life and is IP 66 rated for operation in harsh environmental conditions

Tel: 212 388 5160

info@gamechangesolar.com

gamechangesolar.com

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT. © 2018 Trina Solar Limited. All rights reserved. Specifications included in this datasheet are subject to change without notice. Version number: TSM_EN_2018_

Modules per 40' container: 594 pieces



Genius Tracker™

Changing the Game for Single Axis Solar Diadkers

*Highest power-density of any single salishacker 39-350 panelidensity on noveme. 9702 shest competito Sail povieted for set principal central divoral overlap unit enumer please culture and panel westing

Max-Span™ Plus POST SYSTEM Features

25 year Linear Power Warranty (Please refer to product warranty for details)

> Supports all double-sided glass thin film & other modules Up to 4 ft. ground clearance eliminates snow & vegetation shading issues

Galvanized Z purlins have integrated trays for easy wire management 5 to 35° tilt with multiple inter-row spacing options

Stamped layout & engineering analysis for every project

GameChange thin film system has 60% fewer foundations than other First Solar racking, enables faster install (typically 300 piles per MW vs over 500 piles per MW for other vendors).

GameChange W6x7 and W6x9 GameChange PlusPile™ MonsterPile™ I-Beam

Foundation **Lateral Resistance Width** I-Beam (W6x7 and W6x9) 13.82" 100% 3.94" 100% PlusPile** 15.6" 113% 4" 102% MonsterPile™ 19" 137% 6" 152%

Genius Tracker™ SINGLE AXIS SOLAR TRACKER **Features**

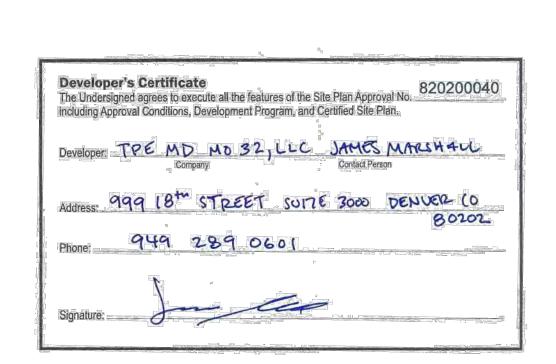
Rotational Range (East/West): 90° standard, 100° and 120° available Tracking Method: Time and location based algorithm (based on NREL) Panel Configuration: Poly modules - portrait 1 up, thin film First Solar Series 4 modules- landscape 3 up

Slope Tolerance: Handles maximum slopes north-south 5% and east-west 13% Remote Communication: Secure monitoring and control tracker array in real-time via an encrypted cloud portal; SCADA solution available System Power Density: Highest power density of any single axis tracker, 99.5% panel density on rows versus 97.0% best competitor

Test & Certification for GameChange Solar Systems

Wind tunnel tested by industry leader CPP Meets IBC and ASME standards for structural loading ETL / UL 2703 tested

Independent assessment by Black & Veatch Warranty 20 years



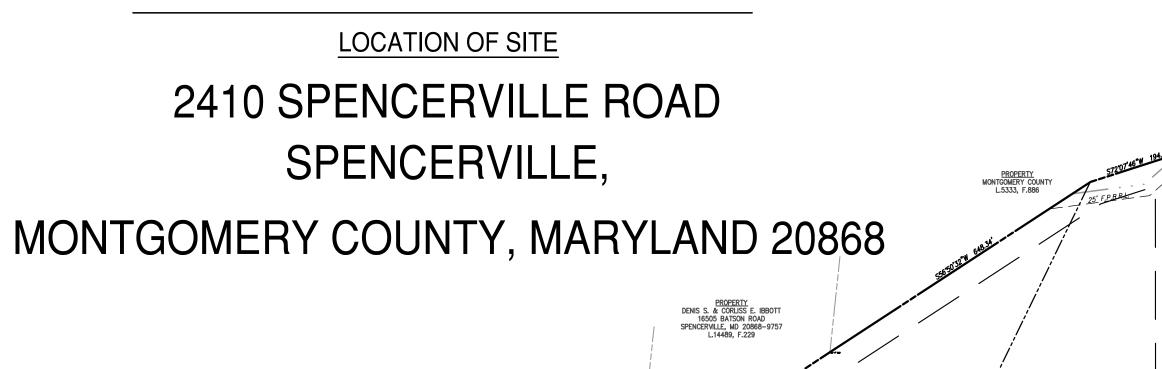
PROFESSIONAL CERTIFICATION

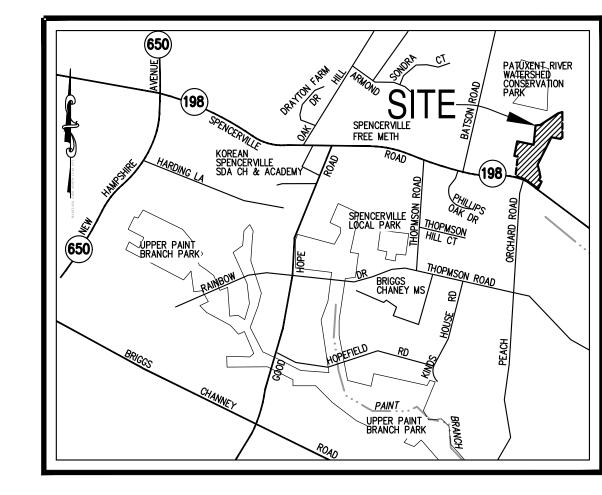
I, MARK S. STIRES, HEREBY CERTIFY THAT THESE DOCUMENTS WERE | FILE No. 130078-D-CP-001 PREPARED OR APPROVED BY ME., AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 18987, EXPIRATION DATE: 01/13/21.

M-NCPPC APPROVAL STAMP PLACEHOLDER

CEDAR RIDGE COMMUNITY SOLAR PARCEL-A SPENCER FARM SOLAR - MO 32

LANDSCAPE PLAN IMPROVEMENT PLAN MNCPPC # 820200040





VICINITY MAP SCALE: 1" = 2000"

SHEET INDEX

Developer's Certificate

GRAPHIC SCALE

1 inch = 200 ft.

LOCATION PLAN

The Undersigned agrees to execute all the features of the Site Plan Approval No.

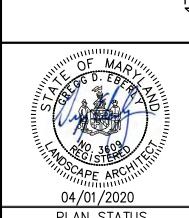
Including Approval Conditions, Development Program, and Certified Site Plan.

Developer TPE MD MO 32, LLC JAMES MARSHALL

Address: 999 18th STREET SUITE 3000 DENVER (0

SHEET NO.	SHEET TITLE
1	COVER SHEET
2	OVERALL LANDSCAPE PLAN (1 OF 2)
3	OVERALL LANDSCAPE PLAN (2 OF 2)
4	LANDSCAPE PLAN ENLARGEMENTS
5	LANDSCAPE SCHEDULES & DETAILS
6	LANDSCAPE NOTES

COVER SHEET
CEDAR RIDGE COMMU
PARCEL A SPENCER FARN



PLAN STATUS 4/01/2020 SUB. TO HPC

DATE DESCRIPTION

JNC MSS DESIGN DRAWN CHKD H: AS SHOWN JOB No. 130078-01-001

SHEET 1.00 OF 6

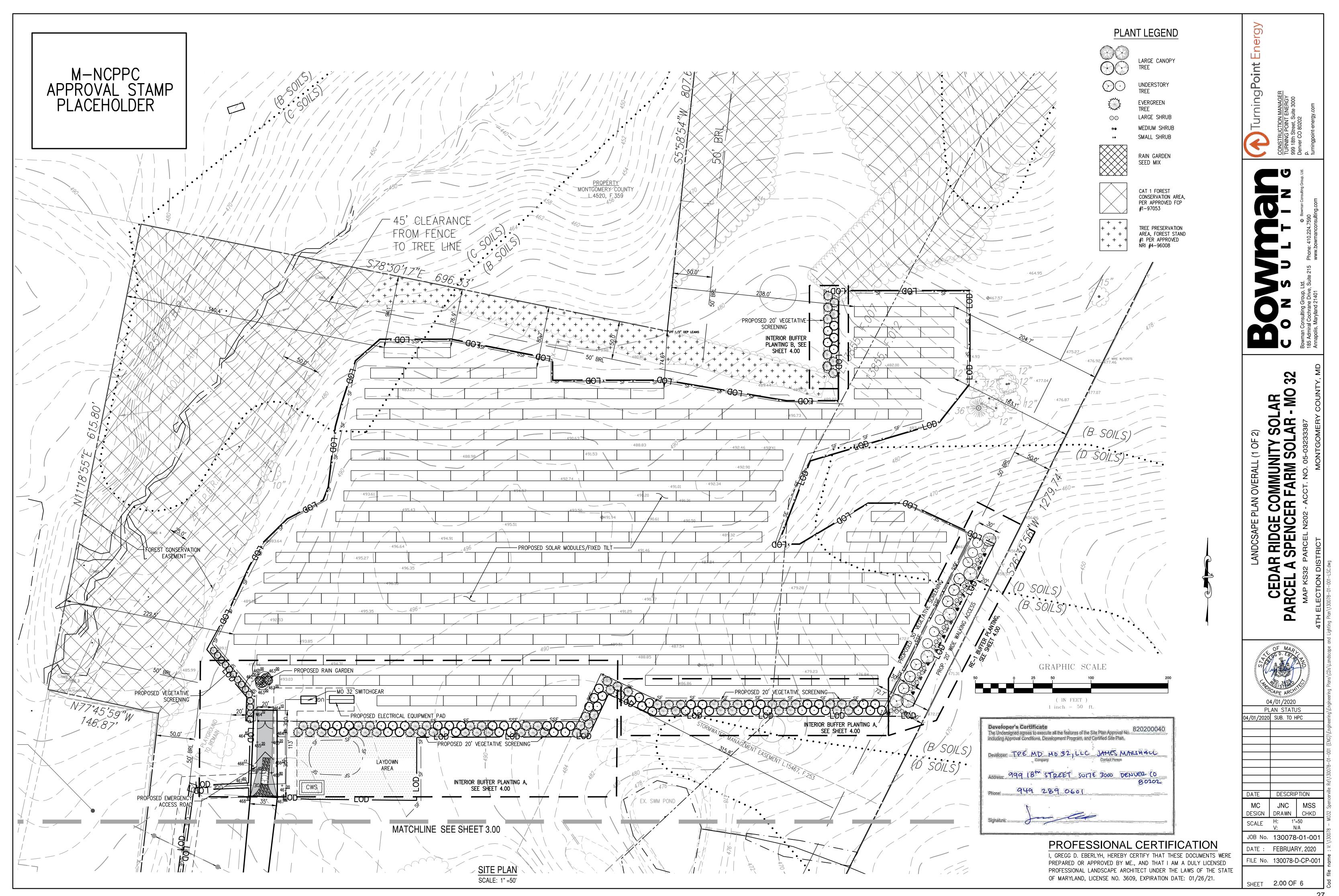
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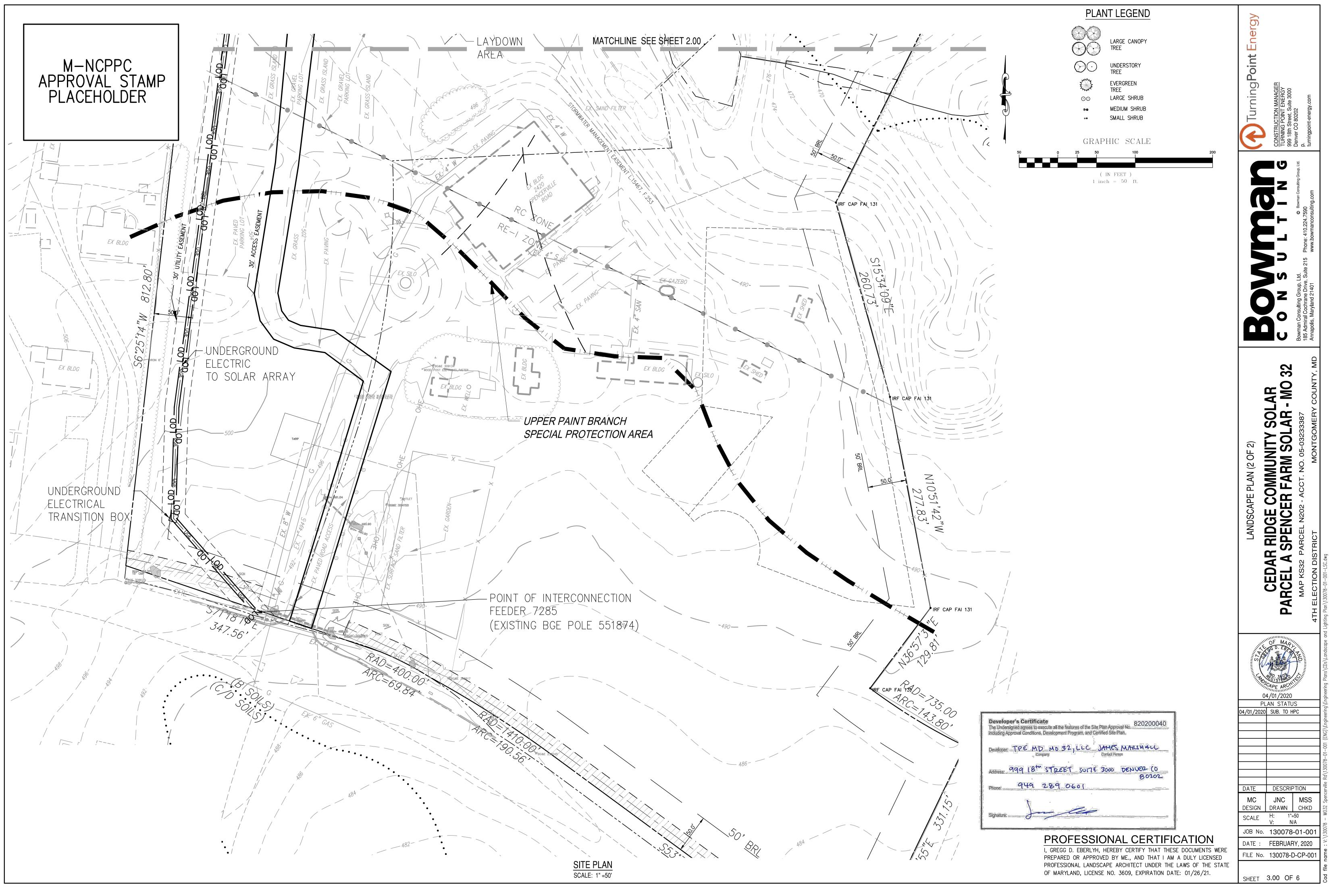
OF MARYLAND, LICENSE NO. 3609, EXPIRATION DATE: 01/26/21.

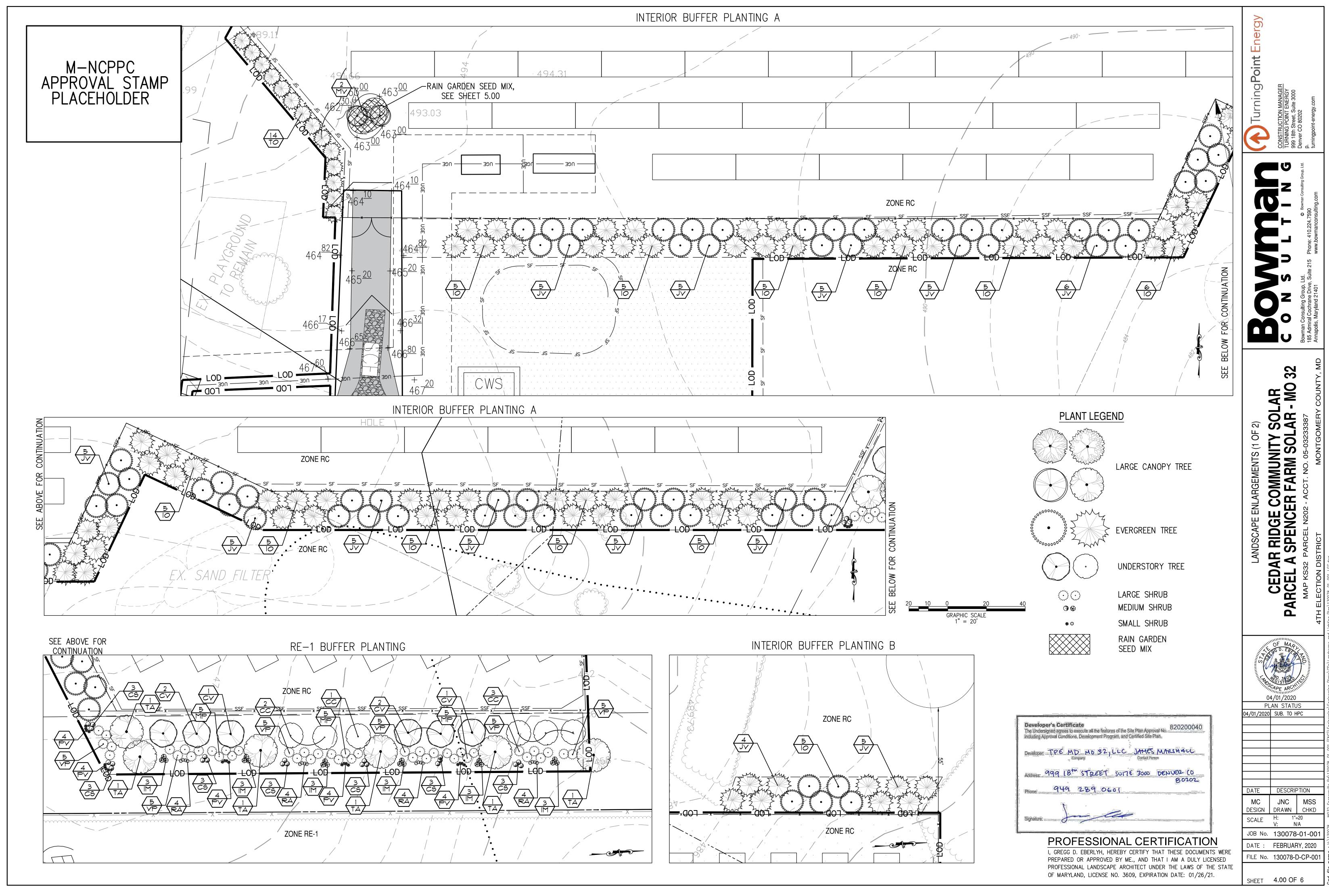
PROFESSIONAL CERTIFICATION

I, GREGG D. EBERLYH, HEREBY CERTIFY THAT THESE DOCUMENTS WERE

PREPARED OR APPROVED BY ME., AND THAT I AM A DULY LICENSED PROFESSIONAL LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE







M-NCPPC APPROVAL STAMP PLACEHOLDER

Developer's Certificate The Undersigned agrees to execute all the features of the Site Plan Approval No. including Approval Conditions, Development Program, and Certified Site Plan.
Developer TPE MD M0 32 LLC JAMES MARSHAUL Confact Person
Address: 999 18th STREET SUITE 3000 DENVER (0
Phone: 949 289 0601
Signature:

KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT/ SPREAD	CONDITION
ARGE DE	CIDUOUS TR	EES				
TA	6	Tilia americana	American Linden	2-2.5" CAL		B&B
EVERGRE	EN TREES					
JV	64	Juniperus virginiana	Eastern Redcedar	+1	8' HT	B&B
Ю	61	llex opaca	American Holly	1	8' HT	B&B
TO	14	Thuja occidentalis	American Arbrovitae	11 1 - 3 1	5-6' HT	B&B
ORNAMEN	ITAL TREES					
CC	6	Cercis cadensis	Eastern Redbud	2-2.5" CAL	-	B&B
CV	6	Cornus flordia	Flowering Dogwood	2-2.5" CAL	-	B&B
SHRUBS						
MP	15	Myrica pensylvanica	Northern Bayberry	5 GAL.	24"-30"	CONT.
VP	27	Viburnum pragense	Prague Vibumum	5 GAL.	24"-30"	CONT.
CS	21	Cornus sericea	Redtwig Dogwood	3 GAL.	24"-30"	CONT.
IM	18	Ilex x meserveae	Blue Holly	3 GAL.	18"-24"	CONT.
RA	16	Rhus aromatica 'Gro-Low'	Fragrant Sumac	1 GAL.	12"-18"	CONT.
PV	20	Panicum virgatum	Switchgrass	1 GAL.	12"-18"	CONT.

KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT/ SPREAD	CONDITION
ORNAMENTA	AL TREES					
MV	2	Magnolia virginiana	Sweetbay Magnolia	2-2.5" CAL	1-1-	B&B
SEED						

INTERIOR BUFFER PLANTING A (MODIFICATION OF BUFFER REQUIREMENT: ZONING CODE— CHAPTER 59 6-31(8) PER AGREEMENT WITH PLANTING & SCREENING- PROVIDED: 826 L.F.

LAND LEASE)

UNDERSTORY / EVERGREEN: 111

INTERIOR BUFFER PLANTING B (MODIFICATION OF BUFFER REQUIREMENT: ZONING CODE- CHAPTER 59 6-31(8) PER AGREEMENT WITH LAND LEASE)

PLANTING & SCREENING- PROVIDED: 100 L.F

UNDERSTORY/ EVERGREEN: 14

RE-1 BUFFER PLANTING (SEE PROPOSED LANDSCAPE BUFFER - OPTION 'A' BELOW)

PLANTING & SCREENING REQUIRED/PROVIDED: 300L.F.

CANOPY:

UNDERSTORY/ EVERGREEN: 12/12

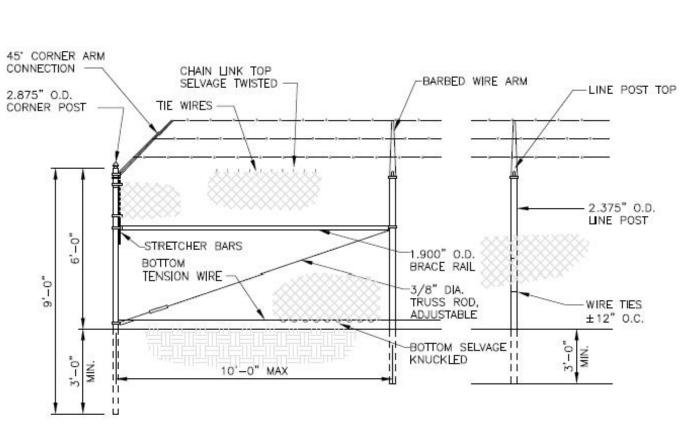
42/40 LARGE: 36/39 MEDIUM: 36/36 SMALL:

TREE CANOPY COVERAGE (CH. 55: TREE CANOPY)

LIMITS OF DISTURBANCE AREA: TOTAL TREES REQUIRED:

15 PER 40,000 S.F. OR 159 TREES TOTAL TREES PROVIDED: 159 TREES

PROPOSED LANDSCAPE BUFFER - OPTION "A"							
DIMENSIONS (MIN.)	"A"						
ER DEPTH FOR ALL ZONES EXCEPT IH ZONE							
DEPTH FOR IH ZONE	50'						
PLANTING AND SCREENING REQUIREMENTS							
TREES (MINIMUM PER 100')							
CANOPY	2						
UNDERSTORY OR EVERGREEN	4						
SHRUBS (MINIMUM PER 100')							
LARGE	14						
MEDIUM	12						
SMALL	12						
WALL, FENCE OR BERM (MIN.)	6' FENCE OR WALL						



ELEVATION (VIEWED FROM INSIDE FENCE)

CHAIN LINK FENCE DETAIL NOT TO SCALE

1. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S

- 2. FINISH SHALL BE BLACK VINYL CLAD OR MATTE BLACK FINISH.
- 3. POST TOPS SHALL BE AS SELECTED BY OWNER.
- 4. REFER TO MANUFACTURER'S SPECIFICATIONS FOR ADDITIONAL INFORMATION.

Price quotes guaranteed for 30 days. All prices are FOB Meadville, PA. Please check our web site at www.ernstseed.com for current pricing when placing orders.

LANDSCAPE NOTES:

PLANTS SHALL CONFORM TO CURRENT "AMERICAN STANDARDS FOR NURSERY STOCK" BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION (ANLA), PARTICULARLY WITH REGARDS TO SITE, AND SIZE OF BALL AND DENSITY OF BRANCH STRUCTURE. CONTRACTOR TO INSURE CONFORMANCE TO NATIONAL AND LOCAL BUILDINGS CODES AND ORDINANCES.

ALL PLANTS (B&B OR CONTAINER) SHALL BE PROPERLY IDENTIFIED BY WEATHERPROOF LABELS SECURELY ATTACHED HERETO BEFORE DELIVERY TO PROJECT SITE. LÁBELS SHALL IDENTIFY PLANTS BY NAME, SPECIES AND SIZE. LABELS SHALL NOT BE REMOVED

UNTIL THE FINAL INSPECTION BY THE OWNERS REPRESENTATIVE. ANY MATERIAL AND/OR WORK MAY BE REJECTED BY THE OWNERS REPRESENTATIVE IF IT DOES NOT MEET THE REQUIREMENTS OF THE SPECIFICATIONS. THE CONTRACTOR SHALL REMOVE ALL REJECTED MATERIALS FROM THE SITE.

4. THE CONTRACTOR SHALL FURNISH ALL PLANTS IN QUANTITIES AND SIZES TO COMPLETE THE WORK AS SPECIFIED THE PLANT SCHEDULE. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ALL PLANT QUANTITIES ON THE PLANS PRIOR TO COMMENCEMENT OF WORK. QUANTITIES IN THE PLANT SCHEDULE ARE FOR THE CONTRACTORS CONVENIENCE ONLY AND DO NOT

5. SUBSTITUTIONS IN PLANT SPECIES OR SIZE SHALL NOT BE PERMITTED EXCEPT WITH THE WRITTEN APPROVAL OF THE OWNERS REPRESENTATIVE. SEE TABLE FOR PERMITTED AND EXCLUDED SPECIES.

6. PLANTS SHALL BE LOCATED AS SHOWN ON THE DRAWINGS AND BY SCALING OR AS DESIGNATED IN THE FIELD BY THE OWNERS REPRESENTATIVE. ALL LOCATIONS ARE TO BE APPROVED BY THE OWNERS REPRESENTATIVE BEFORE EXCAVATION. CONTRACTOR SHALL LOCATE AND MARK ALL UNDERGROUND UTILITY LINES AND IRRIGATION SYSTEMS PRIOR TO EXCAVATING PLANT BEDS OR PITS. ALL UTILITY EASEMENT AREAS WHERE NO PLANTING SHALL TAKE PLACE SHALL ALSO BE MARKED ON THE SITE PRIOR TO LOCATING AND DIGGING THE TREE PITS. IF UTILITY LINES ARE ENCOUNTERED IN EXCAVATION OF THE TREE PITS, OTHER LOCATIONS FOR THE TREE SHALL BE SELECTED BY THE OWNERS REPRESENTATIVE. SUCH CHANGES SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COMPENSATION. NO CHANGES OF LOCATION SHALL BE MADE WITHOUT THE APPROVAL OF THE OWNERS REPRESENTATIVE. 8. ALL EQUIPMENT AND TOOLS SHALL BE PLACED SO AS NOT TO INTERFERE OR HINDER THE PEDESTRIAN AND VEHICULAR TRAFFIC

DURING PLANTING OPERATIONS, EXCESS AND WASTE MATERIALS SHALL BE PROMPTLY AND FREQUENTLY REMOVED FROM THE SITE. 10. ALL PLANT SHRUB BEDS ARE TO BE DUG TO A MINIMUM OF 24" DEEP AND ALL EXISTING SOIL, CONSTRUCTION DEBRIS, ROOTS AND OTHER FOREIGN MATERIAL ARE TO BE REMOVED AND DISCARDED OFF SITE. ALL PLANT AND SHRUB BEDS ARE TO BE EXCAVATED TO THE WIDTH SHOWN ON THE PLANS.

11. ALL TREE PITS ARE TO BE EXCAVATED TO A MINIMUM DEPTH TO ALLOW THE TREE ROOT BALL TO BE A MINIMUM OF 4" HIGHER THAN FINISH GRADE. THE TREE ROOT BALL IS TO REST ON UNDISTURBED SOIL, OR A COMPACTED BED MUST BE PREPARED FOR THE TREE ROOT BALL TO REST ON AND WHICH WILL NOT SUBSIDE CAUSING THE TREE TO SINK BELOW FINISH GRADE. ALL TREE PITS ARE TO

BE A MINIMUM OF 12" LARGER ON EVERY SIDE OF THE TREES ROOT BALL 12. THE PLANTER BEDS ARE TO BE ENTIRELY CLEANED OUT TO THE UNDISTURBED SOIL LEVEL. ALL EXISTING SOIL. CONSTRUCTION DEBRIS, ROOTS AND OTHER FOREIGN MATERIAL ARE TO BE REMOVED AND DISCARDED OFF SITE.

13. THE TOPSOIL TO BE USED TO FILL THE TREE PITS, SHRUB BEDS AND PLANTERS IS TO BE PLANT SPECIFIC. THE TOPSOIL FOR THE TREES, SHRUBS AND PLANTER SHALL CONSIST OF A MAXIMUM 2/3 EXISTING TOPSOIL FROM THE SITE, WHICH IS CLEANED AND FREE OF CLAY, A MINIMUM 1/3 PEAT MOSS, OR OTHER APPROVED ORGANIC MATERIAL OR IMPORTED NEW LOAMY TOPSOIL AND 10% COW MANURE. ALL OF THESE MATERIALS ARE TO BE MIXED PRIOR TO PLACING IN THE PLANTER OR BACKFILLING WHEN PLANTING.

14. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL TREE PITS, SHRUB BEDS AND PLANTERS ARE WELL DRAINED. THE LANDSCAPE CONTRACTOR WITHOUT COST TO THE OWNER WILL REPLACE ALL PLANT MATERIAL, WHICH IS AFFECTED BY POOR DRAINAGE. 15. ALL LAWN AREAS ARE TO BE SEEDED WITH GRASS SEED APPROPRIATE FOR EACH OF THE SUNLIGHT CONDITIONS, WHICH EXIST ON

16. ALL LAWN AREAS ARE TO BE TILLED TO A DEPTH OF 6" AND ALL FOREIGN MATERIAL REMOVED WHICH WILL INHIBIT THE HEALTHY GROWTH OF THE LAWN. ALL OLD GRASS ROOTS ARE TO BE REMOVED FROM THE SITE. NEW TOPSOIL OF A MINIMUM DEPTH OF 4" IS TO BE PLACED OVER THE AREAS TO BE SODDED. THE GRASS AREAS ARE TO BE FINE GRADED TO ENSURE THAT NO UNDULATIONS OCCUR IN THE LAWN. THE LAWNS ARE TO BE GRADED IN SUCH A WAY AS TO APPEAR PERFECTLY WELL TAILORED AND EVEN. THE LAWN TOPSOIL IS TO BE ROLLED AND LIGHTLY IRRIGATED PRIOR TO PLACING OF THE SEED. THE SEED IS NOT TO BE LAID ON FROZEN OR SOAKED SOIL. 17. THE EXISTING TREES ARE TO BE PROTECTED DURING THE PREPARATION OF THE LAWN AREAS. THE ROOTS OF THE TREES ARE TO

BE UNDISTURBED DURING THE CLEANING OF THE TOPSOIL. 18. THE TREES AND SHRUBS ARE TO BE HANDLED WITH THE BEST CARE AND ATTENTION TO ENSURE THAT THE PLANTS ARE NOT BRUISED, BROKEN, TORN, DAMAGED IN ANY WAY WHICH WILL AFFECT THE PLANTS GENERAL APPEARANCE AND WELL BEING. 19. THE TREES AND SHRUBS ARE TO BE PLANTED WITH THE ACCEPTED STANDARDS OF THE AMERICAN ASSOCIATION OF NURSERYMEN. THE PLANTS ARE TO BE PROPERLY WATERED AND BACKFILLED DURING THE PLANTING. ALL CARE MUST BE TAKEN TO ENSURE THAT PLANTS ARE UPRIGHT. A PLANTS BEST SIDE IS EXPOSED TO THE POINT OF THE PLANTS GREATEST VISIBILITY. 20. THE TREES MUST BE STAKED IN ACCORDANCE WITH ACCEPTABLE NURSERY PRACTICE TO ENSURE THAT THEY ARE SECURE IN THE GROUND AND WILL GROW STRAIGHT AND UNIFORM. THE TREES ARE TO BE WRAPPED IF THE CONTRACTOR DEEMS IT NECESSARY TO PROTECT THE TREES FROM SUN SCALD OR INSECT ATTACK. 21. THE LANDSCAPE CONTRACTOR IS TO PROVIDE A 1-YEAR GUARANTEE FOR ALL PLANT MATERIAL AND OTHER WORK DON ON SITE. 22. LARGE GROWING PLANTS ARE NOT TO BE PLANTED IN FRONT OF WINDOWS, UNDER BUILDING OVERHANGS, OR IN THE DRAINAGE SWALES. SHRUBS PLANTED NEAR H.V.A.C. UNITS TO BE LOCATED SO THAT SHRUBS AT MATURITY WILL NOT MAINTAIN 1 FOOT DISTANCE

BETWEEN UNIT AND PLANT. 23. CONTRACTOR TO SLIGHTLY ADJUST PLANT LOCATIONS IN THE FIELD AS NECESSARY TO BE CLEAR OF DRAINAGE SWALES AND UTILITIES. FINISHED PLANTING BEDS SHALL GRADED SO AS NOT TO IMPEDE DRAINAGE AWAY FROM BUILDINGS. 24. TREES SHALL BE LOCATED A MINIMUM OF 3 FEET FROM WALLS AND WALKS.

25. QUANTITIES AS SHOWN ON THE PLAN SHALL GOVERN OVER PLANT LIST QUANTITIES. CONTRACTOR TO VERIFY PLANT LIST TOTALS WITH QUANTITIES SHOWN ON THE PLAN. 26. GROUPS OF SHRUBS SHALL BE PLACED IN A CONTINUOUS MULCH BED WITH SMOOTH CONTINUOUS LINES. ALL MULCHED BED EDGES SHALL BE CURVILINEAR IN SHAPE FOLLOWING THE CONTOUR OF THE PLANT MASS. TREES LOCATED WITHIN 4 FEET OF SHRUB BEDS SHALL 27. TREES SHALL BE LOCATED A MINIMUM OF 10' FROM ANY WATER AND SEWER LINE OR CONNECTION.



Ernst Conservation Seeds 8884 Mercer Pike Meadville, PA 16335 (800) 873-3321 Fax (814) 336-5191

www.ernstseed.com

Date: November 25, 2019

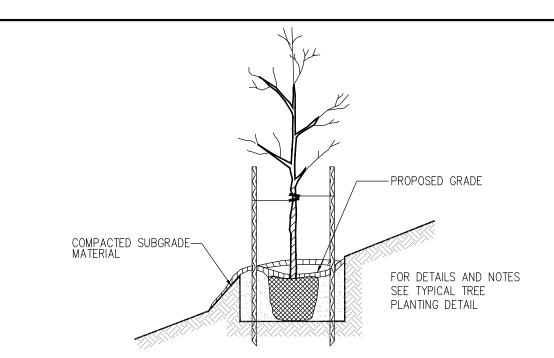
Rain Garden Mix - ERNMX-180

	Botanical Name	Common Name	Price/lb
39.50 %	Schizachyrium scoparium, 'Camper'	Little Bluestem, 'Camper'	11.46
15.00 %	Elymus virginicus, PA Ecotype	Virginia Wildrye, PA Ecotype	6.32
9.30 %	Panicum sphaeroncarpon	Roundseed Panicgrass	31.72
6.40 %	Panicum rigidulum, Coastal Plain NC Ecotype	Redtop Panicgrass, Coastal Plain NC Ecotype	52.80
4.00 %	Chamaecrista fasciculata, PA Ecotype	Partridge Pea, PA Ecotype	6.60
4.00 %	Echinacea purpurea	Purple Coneflower	39.60
3.00 %	Coreopsis lanceolata	Lanceleaf Coreopsis	26.40
3.00 %	Rudbeckia hirta, Coastal Plain NC Ecotype	Blackeyed Susan, Coastal Plain NC Ecotype	22.00
2.50 %	Asclepias incarnata, PA Ecotype	Swamp Milkweed, PA Ecotype	176.00
2.50 %	Verbena hastata, PA Ecotype	Blue Vervain, PA Ecotype	35.20
2.00 %	Carex vulpinoidea, PA Ecotype	Fox Sedge, PA Ecotype	26.40
2.00 %	Heliopsis helianthoides, PA Ecotype	Oxeye Sunflower, PA Ecotype	39.60
1.40 %	Monarda fistulosa, Fort Indiantown Gap-PA Ecotype	Wild Bergamot, Fort Indiantown Gap-PA Ecotype	132.00
1.00 %	Juncus effusus	Soft Rush	44.00
1.00 %	Liatris spicata, PA Ecotype	Marsh Blazing Star, PA Ecotype	231.00
0.80 %	Zizia aurea	Golden Alexanders	264.00
0.50 %	Baptisia australis, Southern WV Ecotype	Blue False Indigo, Southern WV Ecotype	88.00
0.50 %	Carex scoparia, PA Ecotype	Blunt Broom Sedge, PA Ecotype	79.20
0.40 %	Geum canadense, PA Ecotype	White Avens, PA Ecotype	176.00
0.30 %	Aster laevis, MN Ecotype	Smooth Blue Aster, MN Ecotype	396.00
0.30 %	Helenium autumnale, PA Ecotype	Common Sneezeweed, PA Ecotype	198.00
0.20 %	Aster umbellatus, PA Ecotype	Flat Topped White Aster, PA Ecotype	396.00
0.20 %	Solidago patula, PA Ecotype	Roughleaf Goldenrod, PA Ecotype	396.00
0.10 %	Asclepias syriaca	Common Milkweed	215.60
0.10 %	Veronicastrum virginicum, PA Ecotype	Culver's Root, PA Ecotype	704.00
100.00 %		Mix Price/lb Bulk:	\$34.24

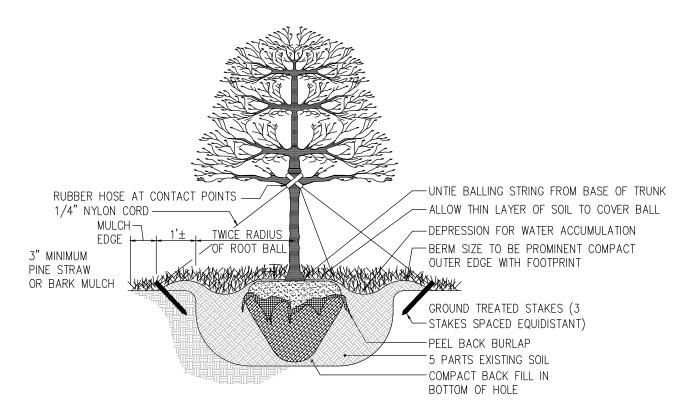
Seeding Rate: 20 lb per acre with a cover crop of grain rye at

30 lb per acre Stormwater Management; Uplands & Meadows

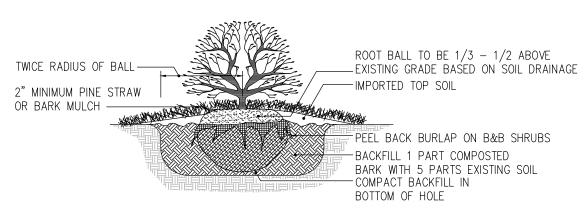
The native perennial forbs and grasses provide food and cover for rain garden biodiversity. Mix formulations are subject to change without notice depending on the availability of existing and new products. While the formula may change, the guiding philosophy and function of the mix will not.



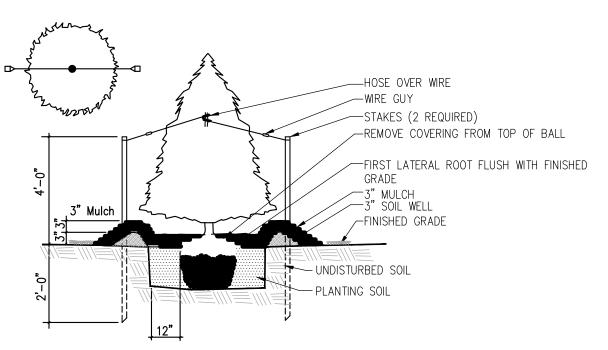
SLOPE PLANTING DETAIL NOT TO SCALE



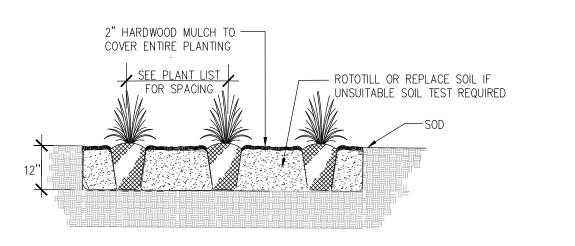
STAKING AND PLANTING TREE DETAIL NOT TO SCALE



SHRUB DETAIL FOR CONTAINER OR B&B NOT TO SCALE



EVERGREEN PLANTING NOT TO SCALE



HERBACEOUS DETAIL FOR CONTAINER PLANTS NOT TO SCALE

PROFESSIONAL CERTIFICATION

I, GREGG D. EBERLYH, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME., AND THAT I AM A DULY LICENSED PROFESSIONAL LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 3609, EXPIRATION DATE: 01/26/21.

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SCHEDULE

AR RIDGE COMMU A SPENCER FARI

RCEL/ PA

04/01/2020 PLAN STATUS

4/01/2020 SUB. TO HPC DATE DESCRIPTION MSS MC JNC DESIGN | DRAWN | CHKD SCALE JOB No. 130078-01-001 DATE: FEBRUARY, 2020 FILE No. 130078-D-CP-001

SHEET 5.00 OF 6

M-NCPPC APPROVAL STAMP PLACEHOLDER

GENERAL LANDSCAPING NOTES:

- 1. THIS PLAN IS INTENDED FOR LANDSCAPE USE ONLY. SEE OTHER PLAN SHEETS FOR MORE
- INFORMATION ON GRADING, SEDIMENT CONTROL, UTILITIES, LAYOUT, ETC. 2. PLANTS, RELATED MATERIAL, AND OPERATIONS SHALL MEET THE DETAILED DESCRIPTION AS GIVEN
- ON THE PLANS AND AS DESCRIBED HEREIN.
- 3. CONTRACTOR SHALL CONTACT "MISS UTILITY" AND SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT PRIOR TO THE INSTALLATION OF PLANT MATERIALS. 4. IF NECESSARY. THE CONTRACTOR MAY SLIGHTLY ADJUST PLANT LOCATIONS IN THE FIELD TO BE

CLEAR OF DRAINAGE SWALES AND UTILITIES. FINISHED PLANTING BEDS SHALL BE GRADED SO AS TO

- NOT IMPEDE DRAINAGE AWAY FROM BUILDINGS. 5. LANDSCAPE CONTRACTOR SHALL MAINTAIN AN EXPERIENCED FULL-TIME SUPERVISOR ON SITE
- DURING LANDSCAPE INSTALLATION PROCEDURES. 6. A PRE-INSTALLATION CONFERENCE TO BE HELD ON SITE PRIOR TO ANY INSTALLATION ACTIVITIES. CONTRACTOR, LANDSCAPE CONTRACTOR, AND ENGINEER TO ATTEND.
- 7. PLANT MATERIAL, UNLESS OTHERWISE SPECIFIED, SHALL BE NURSERY GROWN, UNIFORMLY BRANCHED AND HAVE A VIGOROUS ROOT SYSTEM. PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS PLANTS FREE FROM DEFECTS, DECAY, DISFIGURING ROOTS, SUNSCALD INJURIES, ABRASIONS OF THE BARK, PLANT DISEASE, INSECT PEST EGGS, BOXERS, INFESTATIONS OR OBJECTIONABLE DISFIGUREMENTS. PLANT MATERIAL THAT IS WEAK OR WHICH HAS BEEN CUT BACK FROM LARGER GRADES TO MEET SPECIFIED REQUIREMENTS WILL BE REJECTED. TREES WITH FORKED LEADERS WILL NOT BE ACCEPTED PLANTS SHALL BE FRESHLY DUG; NO HEELED-IN PLANTS OR PLANTS FROM COLD STORAGE WILL BE
- 8. UNLESS OTHERWISE SPECIFIED, GENERAL CONDITIONS, PLANTING OPERATIONS, DETAILS AND PLANTING SPECIFICATIONS SHALL CONFORM TO "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS". (HEREINAFTER "LANDSCAPE GUIDELINES") APPROVED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF METROPOLITAN WASHINGTON AND THE POTOMAC CHAPTER OF THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS, LATEST EDITION, INCLUDING ADDENDA.
- 9. PLANTS SHALL CONFORM TO CURRENT "AMERICAN STANDARDS FOR NURSERY STOCK" BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION (ANLA), PARTICULARLY WITH REGARDS TO SITE. AND SIZE OF BALL AND DENSITY OF BRANCH STRUCTURE. CONTRACTOR TO INSURE CONFORMANCE TO NATIONAL AND LOCAL BUILDINGS CODES AND ORDINANCES.
- 10. ALL PLANTS (B&B OR CONTAINER) SHALL BE PROPERLY IDENTIFIED BY WEATHERPROOF LABELS SECURELY ATTACHED HERETO BEFORE DELIVERY TO PROJECT SITE. LABELS SHALL IDENTIFY PLANTS BY NAME, SPECIES AND SIZE. LABELS SHALL NOT BE REMOVED UNTIL THE FINAL INSPECTION BY THE OWNERS REPRESENTATIVE.
- 11. ANY MATERIAL AND/OR WORK MAY BE REJECTED BY THE OWNERS REPRESENTATIVE IF IT DOES NOT MEET THE REQUIREMENTS OF THE SPECIFICATIONS. THE CONTRACTOR SHALL REMOVE ALL
- REJECTED MATERIALS FROM THE SITE. 12. THE CONTRACTOR SHALL FURNISH ALL PLANTS IN QUANTITIES AND SIZES TO COMPLETE THE WORK AS SPECIFIED IN THE PLANT SCHEDULE. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ALL PLANT QUANTITIES ON THE PLANS PRIOR TO COMMENCEMENT OF WORK. QUANTITIES IN THE PLANT SCHEDULE ARE FOR THE CONTRACTORS CONVENIENCE ONLY AND DO NOT CONSTITUTE A
- FINAL COUNT. 13. SUBSTITUTIONS IN PLANT SPECIES OR SIZE SHALL NOT BE PERMITTED EXCEPT WITH THE WRITTEN APPROVAL OF THE OWNERS REPRESENTATIVE. PLANTS DEEMED INVASIVE BY THE MARYLAND DEPARTMENT OF NATURAL RESOURCES ARE UNACCEPTABLE.
- 14. PLANTS SHALL BE LOCATED AS SHOWN ON THE DRAWINGS AND BY SCALING OR AS DESIGNATED IN THE FIELD BY THE OWNERS REPRESENTATIVE. ALL LOCATIONS ARE TO BE APPROVED BY THE OWNERS REPRESENTATIVE BEFORE EXCAVATION.
- 15. CONTRACTOR SHALL LOCATE AND MARK ALL UNDERGROUND UTILITY LINES AND IRRIGATION SYSTEMS PRIOR TO EXCAVATING PLANT BEDS OR PITS. ALL UTILITY EASEMENT AREAS WHERE NO PLANTING SHALL TAKE PLACE SHALL ALSO BE MARKED ON THE SITE PRIOR TO LOCATING AND DIGGING THE TREE PITS. IF UTILITY LINES ARE ENCOUNTERED IN EXCAVATION OF THE TREE PITS, OTHER LOCATIONS FOR THE TREE SHALL BE SELECTED BY THE OWNERS REPRESENTATIVE. SUCH CHANGES SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COMPENSATION. NO CHANGES OF LOCATION SHALL BE MADE WITHOUT THE APPROVAL OF THE OWNERS REPRESENTATIVE.
- 16. ALL EQUIPMENT AND TOOLS SHALL BE PLACED SO AS NOT TO INTERFERE OR HINDER THE PEDESTRIAN AND VEHICULAR TRAFFIC FLOW.
- 17. DURING PLANTING OPERATIONS, EXCESS AND WASTE MATERIALS SHALL BE PROMPTLY AND
- FREQUENTLY REMOVED FROM THE SITE. 18. ALL PLANT SHRUB BEDS ARE TO BE DUG TO A MINIMUM OF 24" DEEP AND ALL EXISTING SOIL, CONSTRUCTION DEBRIS. ROOTS AND OTHER FOREIGN MATERIAL ARE TO BE REMOVED AND DISCARDED OFF SITE. ALL PLANT AND SHRUB BEDS ARE TO BE EXCAVATED TO THE WIDTH SHOWN
- ON THE PLANS. 19. ALL TREE PITS ARE TO BE EXCAVATED TO A MINIMUM DEPTH TO ALLOW THE TREE ROOT BALL TO BE A MINIMUM OF 4" HIGHER THAN FINISH GRADE. THE TREE ROOT BALL IS TO REST ON UNDISTURBED SOIL, OR A COMPACTED BED MUST BE PREPARED FOR THE TREE ROOT BALL TO REST ON AND WHICH WILL NOT SUBSIDE CAUSING THE TREE TO SINK BELOW FINISH GRADE. ALL
- TREE PITS ARE TO BE A MINIMUM OF 12" LARGER ON EVERY SIDE OF THE TREES ROOT BALL. 20. THE PLANTER BEDS ARE TO BE ENTIRELY CLEANED OUT TO THE UNDISTURBED SOIL LEVEL. ALL EXISTING SOIL, CONSTRUCTION DEBRIS, ROOTS AND OTHER FOREIGN MATERIAL ARE TO BE REMOVED AND DISCARDED OFF SITE.
- 21. THE TOPSOIL TO BE USED TO FILL THE TREE PITS, SHRUB BEDS AND PLANTERS IS TO BE PLANT SPECIFIC. THE TOPSOIL FOR THE TREES, SHRUBS AND PLANTER SHALL CONSIST OF A MAXIMUM 2/3 EXISTING TOPSOIL FROM THE SITE, WHICH IS CLEANED AND FREE OF CLAY, A MINIMUM 1/3 PEAT MOSS, OR OTHER APPROVED ORGANIC MATERIAL OR IMPORTED NEW LOAMY TOPSOIL AND 10% COW MANURE. ALL OF THESE MATERIALS ARE TO BE MIXED PRIOR TO PLACING IN THE PLANTER OR BACKFILLING WHEN PLANTING.
- 22. TOPSOIL TO BE DEPOSITED AND SPREAD USING METHODS THAT WILL PREVENT EXCESSIVE COMPACTION OF TOPSOIL.
- 23. PROVIDE A SMOOTH FINISH GRADE BY BLADING, DRAGGING OR OTHER METHODS ACCEPTABLE TO THE ENGINEER. REMOVE HIGH SPOTS AND FILL DEPRESSIONS. PLACE GRADES, SLOPES AND MOUNDS TO DRAIN AS SHOWN ON THE CONTRACT DRAWINGS.
- A. FINELY FINISH SURFACES BY RAKING SMOOTHLY AND EVENLY, REMOVING ALL EXPOSED, EXTRANEOUS MATTER ONE INCH OR LARGER IN SIZE TO FACILITATE NATURAL RUNOFF. DRAG AREAS FOR SMOOTH SURFACE.
- B. SLOPE FINISH GRADES TO DRAIN WITHOUT WATER POCKETS OR IRREGULARITIES (BUMPS OR HOLLOWS). FINISH GRADES SHALL MEET ALL EXISTING CONTROLS AND SHALL BE 3 INCHES BELOW ADJACENT TOP OF PAVING, CURBS OR SIDEWALKS TO ALLOW FOR TOP DRESSING MULCH OR 5 INCHES BELOW TOP OF PAVING, CURBS OR SIDEWALKS TO ALLOW FOR ROCK MULCH. GRADES SHALL BE OF UNIFORM SLOPE BETWEEN POINTS OF FIXED ELEVATION. ESTABLISH VERTICAL CURVES OR ROUNDINGS AT ABRUPT CHANGES IN SLOPE. C. LANDSCAPE ARCHITECT / ENGINEER TO APPROVE FINAL GRADES PRIOR TO PLANTING
- 23. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL TREE PITS, SHRUB BEDS AND PLANTERS ARE WELL DRAINED. THE LANDSCAPE CONTRACTOR WITHOUT COST TO THE OWNER WILL REPLACE
- 24. ALL LAWN AREAS ARE TO BE SODDED WITH SOD APPROPRIATE FOR EACH OF THE SUNLIGHT CONDITIONS WHICH EXIST ON THE SITE.

ALL PLANT MATERIAL WHICH IS AFFECTED BY POOR DRAINAGE.

25. ALL LAWN AREAS ARE TO BE GRADED TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE BUILDING. 26. THE EXISTING TREES ARE TO BE PROTECTED DURING THE PREPARATION OF THE LAWN AREAS. THE ROOTS OF THE EXISTING TREES ARE TO BE UNDISTURBED DURING THE CLEANING OF THE TOPSOIL.

GENERAL LANDSCAPING NOTES (CONTINUED):

- 27. THE TREES AND SHRUBS ARE TO BE HANDLED WITH THE BEST CARE AND ATTENTION TO ENSURE THAT THE PLANTS ARE NOT BRUISED, BROKEN, TORN, DAMAGED IN ANY WAY WHICH WILL AFFECT THE
- PLANTS GENERAL APPEARANCE AND WELL BEING. 28. THE TREES AND SHRUBS ARE TO BE PLANTED WITH THE ACCEPTED STANDARDS OF THE AMERICAN ASSOCIATION OF NURSERYMEN. THE PLANTS ARE TO BE PROPERLY WATERED AND BACKFILLED DURING THE PLANTING. ALL CARE MUST BE TAKEN TO ENSURE THAT PLANTS ARE UPRIGHT. A
- PLANTS BEST SIDE IS EXPOSED TO THE POINT OF THE PLANTS GREATEST VISIBILITY. 29. THE TREES MUST BE STAKED IN ACCORDANCE WITH ACCEPTABLE NURSERY PRACTICE TO ENSURE THAT THEY ARE SECURE IN THE GROUND AND WILL GROW STRAIGHT AND UNIFORM. THE TREES ARE TO BE WRAPPED IF THE CONTRACTOR DEEMS IT NECESSARY TO PROTECT THE TREES FROM SUN
- SCALD OR INSECT ATTACK. 30. THE LANDSCAPE CONTRACTOR IS TO PROVIDE A 1-YEAR GUARANTEE FOR ALL PLANT MATERIAL AND
- OTHER WORK DONE ON SITE. 31. LARGE GROWING PLANTS ARE NOT TO BE PLANTED IN FRONT OF WINDOWS, UNDER BUILDING OVERHANGS, OR IN THE DRAINAGE SWALES. SHRUBS PLANTED NEAR H.V.A.C. UNITS TO BE LOCATED
- SO THAT SHRUBS AT MATURITY WILL MAINTAIN 1 FOOT DISTANCE BETWEEN UNIT AND PLANT. 32. CONTRACTOR TO SLIGHTLY ADJUST PLANT LOCATIONS IN THE FIELD AS NECESSARY TO BE CLEAR OF DRAINAGE SWALES AND UTILITIES. FINISHED PLANTING BEDS SHALL GRADED SO AS NOT TO IMPEDE
- DRAINAGE AWAY FROM BUILDINGS. 33. TREES SHALL BE LOCATED A MINIMUM OF 3 FEET FROM WALLS AND WALKS.

AND SUITABLE AS A TOP DRESSING OF PLANTING BEDS AND TREE PITS.

- 34. TREES SHALL BE LOCATED A MINIMUM OF 10 FEET FROM ANY WATER AND SEWER LINE OR 35. AT MATURE GROWTH SHRUBS ARE TO BE LOCATED A MINIMUM OF 18" FROM BUILDING WALLS.
- 36. QUANTITIES AS SHOWN ON THE PLAN SHALL GOVERN OVER PLANT LIST QUANTITIES. CONTRACTOR TO VERIFY PLANT LIST TOTALS WITH QUANTITIES SHOWN ON THE PLAN. 37. GROUPS OF SHRUBS SHALL BE PLACED IN A CONTINUOUS MULCH BED WITH SMOOTH CONTINUOUS
- LINES. ALL MULCHED BED EDGES SHALL BE CURVILINEAR IN SHAPE FOLLOWING THE CONTOUR OF THE PLANT MASS. TREES LOCATED WITHIN 4 FEET OF SHRUB BEDS SHALL SHARE SAME MULCH BED. 38. MULCH TO BE ORGANIC SHREDDED HARDWOOD MULCH. MULCH TO BE FREE OF DELETERIOUS MATERIAL
- 39. PLANT MATERIAL SHALL BE MAINTAINED SUCH AS TO NOT INTERFERE WITH SIGHT DISTANCE. 40. WATER FOR LANDSCAPE OPERATIONS TO BE PROVIDED BY CONTRACTOR. CONTRACTOR SHALL VERIFY WATER IS SUITABLE FOR IRRIGATION AND FREE FROM INGREDIENTS HARMFUL TO VEGETATION.

PLANT GUARANTEE

- 1. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE (1) FULL YEAR AFTER THE DATE OF INSTALLATION IN EACH SECTION OR PHASE OF PROJECT AGAINST DEFECTS, UNSATISFACTORY GROWTH, DISEASE OR DEATH. UNSATISFACTORY, UNHEALTHY, DYING OR DEAD PLANT MATERIAL (IN THE OPINION OF THE LANDSCAPE ARCHITECT) SHALL BE REPLACED WITH THE SAME SIZE AND SPECIES. IN NO INSTANCE SHALL THE GUARANTEE PERIOD BE LESS THAN 1 YEAR AFTER LANDSCAPE INSTALLATION.
- 2. DURING WARRANTY PERIOD PLANTS ARE TO BE MAINTAINED PER THE MAINTENANCE SPECIFICATIONS.
- 3. DEAD PLANTS ARE TO BE REMOVED IMMEDIATELY AND REPLACED UNLESS THE PERIOD FOR THE REPLACEMENT PLANT HAS PASSED. IN SUCH A CASE, REPLACEMENT PLANT IS TO BE INSTALLED DURING THE SUCCEEDING PLANTING SEASON.
- 4. IT SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR TO ADEQUATELY AND PROPERLY MAINTAIN THE LANDSCAPED AREAS, WHICH SHALL INCLUDE WATERING, CLEARING OF WEEDS AND DEBRIS, PRUNING, AND TRIMMING, REPLACEMENT OF DEAD OR DISEASED PLANTINGS, AND FERTILIZING TO MAINTAIN HEALTHY GROWTH FOR THE GUARANTEE PERIOD.
- 5. AT THE END OF THE WARRANTY PERIOD PLANTS ARE TO BE INSPECTED BY THE LANDSCAPE CONTRACTOR AND ANY PLANTS THAT ARE MORE THEN 25% DEAD OR ARE IN AN UNHEALTHY CONDITION ARE TO BE REPLACED.

PLANT MATERIAL

- 1. ALL PLANT MATERIAL AND ROOT BALLS SHALL CONFORM TO THE STANDARDS OF NURSERY STOCK OF THE AMERICAN ASSOCIATION OF NURSERYMEN.
- 2. TREES AND SHRUBS SHALL BE TYPICAL OF THEIR SPECIES AND VARIETY, HAVE NORMAL GROWTH HABITS, WELL DEVELOPED, DENSELY FOLIATED BRANCHES, AND VIGOROUS, FIBROUS ROOT SYSTEMS. TREES AND SHRUBS SHALL BE FRESHLY DUG AND NURSERY GROWN. THEY SHALL HAVE BEEN GROWN UNDER CLIMATE CONDITIONS SIMILAR TO THOSE IN THE LOCALITY OF THE PROJECT OR
- PROPERLY ACCLIMATED TO CONDITIONS OF THE LOCALITY OF THE PROJECT 4. TREES AND SHRUBS SHALL BE FREE FROM DEFECTS AND INJURIES AND CERTIFIED BY APPROPRIATE FEDERAL AND STATE AUTHORITIES TO BE FREE OF DISEASE AND INSECT INFESTATIONS.
- 5. ALL CONTAINER GROWN MATERIAL SHALL BE HEALTHY, VIGOROUS, WELL-ROOTED PLANTS AND ESTABLISHED IN THE CONTAINER IN WHICH THEY ARE SOLD. THE PLANTS SHALL HAVE TOPS WHICH ARE GOOD QUALITY AND ARE IN A HEALTHY GROWING CONDITION.
- 6. 48 HOURS PRIOR TO PLANTS BEING SELECTED, LANDSCAPE CONTRACTOR TO NOTIFY LANDSCAPE ARCHITECT. LANDSCAPE ARCHITECT RESERVES THE RIGHT TO WITNESS SELECTION OF PLANTS. PLANTS TO BE SELECTED ARE TO BE TAGGED AT TIME OF SELECTION
- 7. TREES TO BE SELECTED ARE TO BE MEASURED ACCORDING TO THE AFORE MENTIONED LANDSCAPE GUIDELINES. DO NOT PRUNE TREES OR SHRUBS TO MEET DESIRED INSTALLATION SIZES.
- 8. LANDSCAPE CONTRACTOR TO NOTIFY LANDSCAPE ARCHITECT 7 DAYS PRIOR TO DELIVERY OF SELECTED PLANT MATERIAL.
- CONTRACTOR TO PROVIDE REQUIRED NATURAL, FRIABLE, FERTILE, FINE SANDY LOAM POSSESSING THE CHARACTERISTICS OF REPRESENTATIVE TOPSOIL IN THE VICINITY WHICH PRODUCES HEAVY GROWTH OF VEGETATION. TOPSOIL TO BE FREE FROM SUBSOIL, NOXIOUS WEEDS, STONES, LIME CEMENT, ASHES, SLAG, OR OTHER DELETERIOUS MATTER. TOPSOIL SHALL BE WELL DRAINED IN ITS ORIGINAL CONDITION AND FERRET FROM TOXIC QUANTITIES OF ACID OR ALKALINE ELEMENTS. TOPSOIL TO CONTAIN SAND AND CLAY IN APPROXIMATELY EQUAL PROPORTIONS, AND SHALL HAVE AN ORGANIC CONTENT BY WEIGHT OF NOT LESS THAN 2% NOR MORE THAN 20% AS DETERMINED BY LABORATORY TESTS. TOPSOIL pH SHALL BE BETWEEN 6 AND 7.
- 10. CONTRACTOR TO PROVIDE TOPSOIL ANALYSIS BY A QUALIFIED SOIL—TESTING LABORATORY STATING THE PERCENTAGES OF ORGANIC MATTER, GRADATION OF SILT, SAND, AND CLAY CONTENT, CARBON EXCHANGE CAPACITY, DELETERIOUS MATERIAL, AND MINERAL AND PLANT-NUTRIENT CONTENT OF
- 11. TOPSOIL ANALYSIS TO INCLUDE SUITABILITY FOR PLANT GROWTH AND TO RECOMMEND QUANTITIES OF NITROGEN, PHOSPHORUS, POTASH NUTRIENT, AND SOIL AMENDMENTS TO BE ADDED TO PRODUCE SATISFACTORY TOPSOIL.

ORGANIC SOIL AMENDMENTS / FERTILIZER

- COMPOST SOIL AMENDMENT
 - A. TO BE WELL COMPOSTED, STABLE, AND WEED FREE ORGANIC MATTER. AMENDMENT TO HAVE A PH RANGE OF 5.5 TO 8, A MOISTURE CONTENT OF 5 TO 10 DECISIEMENS/M, A MAXIMUM OF 0.5% INERT CONTAMINANTS AND TO BE FREE OF SUBSTANCES TOXIC TO PLANTINGS.
 - 1. ORGANIC MATER CONTENT: 50 TO 60% DRY WEIGHT. 2. FEEDSTOCK: AGRICULTURAL, FOOD, OR INDUSTRIAL RESIDUALS, BIOSOLIDS, YARD
- TRIMMINGS: OR SOURCE-SEPARATED OR COMPOSTABLE MIXED SOLID WASTE. PEAT SOIL AMENDMENT
- A. SPHAGNUM PEAT MOSS, PARTIALLY DECOMPOSED, FINELY DIVIDED OR GRANULAR TEXTURE, WITH A PH RANGE OF 3.4 TO 4.8. MANURE SOIL AMENDMENT
- A. WELL-ROTTED, UNLEACHED, STABLE OR CATTLE MANURE CONTAINING NOT MORE THAN 25 PERCENT BY VOLUME OF STRAW, SAWDUST, OR OTHER BEDDING MATERIALS; FREE OF TOXIC SUBSTANCES, STONES, STICKS, SOIL, WEED SEED AND MATERIAL HARMFUL TO PLANT GROWTH.
- 4. COMMERCIAL FERTILIZER
- A. NITROGEN, PHOSPHOROUS AND POTASSIUM IN AMOUNTS RECOMMENDED IN SOIL REPORTS FROM A QUALIFIED SOIL—TESTING AGENCY. 5. SLOW RELEASE FERTILIZER
- A. STANDARD 10-6-4, NITROGEN 10%, PHOSPHORIC ACID 6%, POTASH 4%, AND SHALL CONTAIN MINOR TRACE ELEMENTS. THE FORMULA SHALL BE IN CONFORMITY TO APPLICABLE STATE FERTILIZER LAWS. FERTILIZER SHALL BE UNIFORM IN COMPOSITION. DRY AND FREE FLOWING, AND SHALL BE DELIVERED TO THE PROJECT SITE IN THE ORIGINAL UNOPENED CONTAINERS, EACH BEARING THE MANUFACTURER'S GUARANTEED ANALYSIS. ANY FERTILIZER WHICH BECOMES WET, CAKED, OR OTHERWISE DAMAGED WILL NOT BE ACCEPTED.
- 6. IF ANY CONFLICTS ARISE BETWEEN THESE SPECIFICATIONS AND THE EROSION SEDIMENT CONTROL SPECIFICATIONS REGARDING SOIL AMENDMENTS THE EROSION CONTROL SPECIFICATIONS SECTION B-4-2-C GOVERNS.

PLANTING

- 1. DELIVER PLANTS AFTER PREPARATIONS FOR PLANTING HAVE BEEN COMPLETED. PLANTS ARE TO BE INSTALLED IMMEDIATELY. IF PLANTING IS DELAYED BY MORE THAN 6 HOURS AFTER DELIVERY, PLANTS ARE TO BE PLACED IN A LOCATION PROTECTED FROM ANY DETRIMENTAL WEATHER.
- 2. PROTECT ANY STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS AND OTHER FACILITIES FROM DAMAGE CAUSED BY PLANTING OPERATIONS.
- 3. INSTALLATION OF PLANT MATERIAL SHALL NOT PROCEED UNTIL THE RETAINING WALL, PRIVACY FENCE AND GRADING OPERATIONS ARE COMPLETE.
- 4. THE LANDSCAPE CONTRACTOR SHALL STAKEOUT PLANT LOCATIONS IN THE FIELD. THE LANDSCAPE ARCHITECT OR OWNER SHALL OBSERVE THESE LOCATIONS PRIOR TO COMMENCING PLANT PIT EXCAVATION. THE LANDSCAPE CONTRACTOR SHALL MAKE ANY ADJUSTMENTS AS
- REQUESTED BY THE LANDSCAPE ARCHITECT OR THE OWNER. 5. PLANTS THAT HAVE NOT INSTALLED IMMEDIATELY ARE TO BE WATERED USING A FINE MIST SPRAY AS OFTEN AS NEEDED BASED ON PLANT SPECIES.
- 6. ALL PLANT MATERIAL TO BE HANDLED BY EITHER ROOT BALL OR CONTAINER. IN NO CASE IS A PLANT TO BE HANDLED BY TRUNK OR LIMBS/BRANCHES. CONTAINER GROWN STOCK IS TO REMAIN IN CONTAINER UNTIL JUST PRIOR TO PLANTING.
- 7. INSTALL PLANTS ONLY WHEN WEATHER CONDITIONS PERMIT AND DURING ACCEPTABLE PLANTING SEASONS..
- 8. TREES AND SHRUBS SHALL BE PLANTED DURING ACCEPTABLE PLANTING SEASONS: BETWEEN MARCH 15 AND MAY 15 AND BETWEEN AUGUST 15 AND NOVEMBER 15 OR AS APPROVED BY
- 9. HERBACEOUS PLANTS TO BE PLANTED DURING ACCEPTABLE PLANTING SEASONS: BETWEEN APRIL 15 AND JUNE 15 AND BETWEEN SEPTEMBER 15 AND OCTOBER 30, OR AS APPROVED BY OWNERS REPRESENTATIVE.
- 10. ALL TREE PITS AND SHRUB BEDS ARE TO BE COMPLETELY EXCAVATED IN COMPLETE ACCORDANCE WITH THE PLANTING DETAILS. REMOVE STONES LARGER THAN ONE INCH IN ANY
- DIMENSION, STICKS, ROOTS, RUBBISH, AND ANY OTHER EXTRANEOUS MATERIAL. 11. LANDSCAPE ARCHITECT TO BE NOTIFIED OF ANY UNEXPECTED ROCK OR OBSTRUCTIONS DETRIMENTAL TO TREES OR SHRUBS WHICH ARE ENCOUNTERED IN TREE PIT EXCAVATION.
- ADJUSTMENTS ARE TO BE MADE IN CONSULTATION WITH LANDSCAPE ARCHITECT. 12. TREE STAKING AND GUYING SHALL BE DONE PER DETAILS. CONTRACTOR SHALL ENSURE THAT TREES REMAIN PLUMB AND UPRIGHT FOR THE DURATION OF THE GUARANTEE PERIOD. STAKING AND GUY WIRES SHALL BE REMOVED BY LANDSCAPE CONTRACTOR NO MORE THAN 18 MONTHS AFTER INSTALLATION OF STAKES AND GUY WIRES.
- 13. TREE STAKES ARE TO BE COMMON LUMBER OR THE SIZE LISTED BELOW. A. TREE SIZE 1"-2" CAL. OR < 8' HT, STAKE SIZE 2"X2"X96"
- B. TREE SIZE 2"-3" CAL OR > 8' HT, STAKE SIZE: 2"X2"X24", 2"X2"X30" FOR CONIFERS 14. WIRE GUYS TO BE GOOD COMMERCIAL QUALITY GALVANIZED WIRE. WIRE USED TO STAKE TREES TO BE NO. 12 GAUGE.
- 15. HOSE COLLARS TO BE NEW 2-PLY FABRIC BEARING GARDEN WITH A MIN. INSIDE DIAMETER OF TWO INCHES.
- 16. TREE/SHRUB PLANTING SOIL: HOLLY PLANTING SOIL TO BE EX. SOIL 20 PERCENT PEAT MOSS BY VOLUME. BASED ON THE SOIL TEST, CORRECT SOIL pH TO A 4.0 TO 5.0 RANGE. OTHER TREES AND SHRUBS: EX. SOIL WITH 20 PERCENT ORGANIC SOIL AMENDMENT.
- 17. FERTILIZER FOR TREES AND SHRUBS TO BE ADDED TO THE PLANTING SOIL PRIOR TO MIXING. FERTILIZER SHALL BE SLOW RELEASE PACKETS OR TABLETS TO BE ADDED DEPENDING ON THE PLANT SIZE AND GROWER'S RECOMMENDATION. THOROUGHLY MIX ALL AMENDMENTS AND EXISTING SOIL PRIOR TO PLACEMENT.
- 18. PACK THE SOIL MIX FIRMLY AROUND THE ROOTS TO ELIMINATE AIR POCKETS. WHEN HOLE IS 3/4 FULL WITH SOIL MIX, FLOOD THE HOLE WITH WATER. AFTER DRAINING, FILL HOLE TO THE SURFACE. INSTALL SHREDDED HARDWOOD MULCH TO A DEPTH OF 3" UNDER AND SURROUNDING ALL NEW PLANTINGS. PROVIDE A CONTINUOUS SURFACE BETWEEN AND AROUND PLANT MATERIAL,
- WALL, AND SIDEWALK. 19. HERBACEOUS PLANTING SOIL SHALL HAVE 2 INCHES COMPOSTED BIOSOLIDS, 15 LB/1000 FT OF 5-10-10 FERTILIZER AND DOLOMITIC AGRICULTURAL LIMESTONE AS DETERMINED BY SOIL TEST. SPREAD SOIL AMENDMENTS EVENLY, ROTOTILL PLANT BED TO 6", RAKE SURFACE SMOOTH, FREE OF DEBRIS/STONES.
- 20. HERBACEOUS PLANTING: REMOVE PLANTS FROM POTS WITHOUT DAMAGING PLANT OR ROOTS. PREMULCH CULTIVATED BEDS WITH 2" SHREDDED HARDWOOD BARK. PLANTS SHALL BE PLANTED THROUGH MULCH, WITH MULCH CAREFULLY PULLED BACK AND REPLACED TO AVOID MIXING PLANTING SOIL AND MULCH. WHEN PLANTED, THE TOP OF THE ROOT MASS SHALL BE AT GROUND LEVEL AND IN VERTICAL POSITION. WATER PLANTS IMMEDIATELY AFTER PLANTING AND PROVIDE FULL AND THOROUGH SATURATION OF THE PLANT BED. USE A SPRINKLER OR BREAKER HOSE TO PREVENT PLANT DAMAGE AND MULCH DISTURBANCE.
- 21. SEE SEDIMENT CONTROL NOTES AND DETAILS SHEET FOR PERMANENT STABILIZATION
- SPECIFICATIONS AND SODDING SPECIFICATIONS FOR TURFGRASS ESTABLISHMENT AREAS. 22. SODDED AREAS THAT WASH OUT MUST BE FILLED AND GRADED AS NECESSARY AND THEN RESODDED. ANCHORING METHOD SHOULD BE USED TO HOLD SOD AND MULCH IN PLACE, FOR EXAMPLE IN SWALES.
- 23. DEBRIS, RUBBISH, AND SUBSOIL, SHALL BE CLEANED AND REMOVED FROM THE SITE UPON
- COMPLETION OF PLANTING 24. FINAL INSPECTION SHALL OCCUR DURING GROWING SEASON, AFTER ONE YEAR. CONTRACTOR MUST CONTACT OWNER OR OWNER'S REPRESENTATIVE TEN WORKING DAYS IN ADVANCE TO SCHEDULE INSPECTION. CONTRACTOR MUST REPLACE ALL DEAD OR UNACCEPTABLE PLANTS IMMEDIATELY
- 25. DO NOT TOP OR SEVERELY PRUNE ANY TREES. TREES TO BE NEATLY PRUNED AFTER PLANTING IN ACCORDANCE WITH THE BEST STANDARD PRACTICE AND AS DIRECTED BY THE LANDSCAPE ARCHITECT. THE TREE'S NATURAL FORM AND CHARACTER TO BE PRESERVED. ALL PRUNING TO BE DONE WITH SHARP, CLEAN TOOLS.
- 26. DO NOT PRUNE SHRUBS INTO BALLS OR SEPARATE SHAPES. ALLOW SHRUBS TO GROW TOGETHER TO FORM CONTINUOUS MASS.
- 27. DO NOT FORM MULCH MOUNDS AROUND ANY TREES. ENSURE THAT MULCH RINGS AROUND TREES ARE CONSISTENT THROUGHOUT PROJECT SITE.
- 28. DURING PLANTING OPERATIONS ADJACENT PAVING AND CONSTRUCTION IS TO BE KEPT CLEAN AND WORK AREAS ARE TO BE ORDERLY. PLANTS ARE TO BE PROTECTED FROM DAMAGE DUE TO LANDSCAPE OPERATIONS, OPERATIONS BY CONTRACTORS AND TRADES, AND ANY OTHER ADJACENT WORK, MAINTAIN SUCH PROTECTION DURING INSTALLATION AND WARRANTY PERIODS. ANY PLANTS DAMAGED ARE TO BE TREATED, REPAIRED, OR REPLACED.

PLANT MAINTENANCE

- 1. PLANTS ARE TO BE MAINTAINED IN A HEALTHY AND VIGOROUS GROWING CONDITION FREE OF DISEASE DURING THE WARRANTY PERIOD.
- 2. TREES AND SHRUBS: MAINTENANCE TO INCLUDE PRUNING, WATERING, WEEDING, FERTILIZING, TIGHTENING AND REPAIRING STAKES, OR ANY OTHER METHOD TO ENSURE PLANT REMAINS
- HEALTHY AND VIABLE. AS NEEDED, APPLY PESTICIDE. 3. HERBACEOUS PLANTS: MAINTENANCE TO INCLUDE WATERING, WEEDING, FERTILIZING AND ANY OTHER METHOD TO ENSURE PLANT REMAINS HEALTHY AND VIABLE. AS NEEDED, APPLY PESTICIDE.

SOD INSTALLATION AND MAINTENANCE

- 1. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO JOB FOREMEN AND INSPECTOR.
- 2. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4 INCH, PLUS OR MINUS 1/4 INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.
- 3. STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION.
- 4. SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY
- DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL 5. SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.
- 6. ALL LAWN AREAS ARE TO BE TILLED TO A DEPTH OF 6" AND ALL FOREIGN MATERIAL REMOVED WHICH WILL INHIBIT THE HEALTHY GROWTH OF THE LAWN. ALL OLD GRASS ROOTS
- ARE TO BE REMOVED FROM THE SITE. 7. NEW TOPSOIL OF A MINIMUM DEPTH OF 4" IS TO BE PLACED OVER THE AREAS TO BE SODDED. THE LAWN TOPSOIL IS TO BE ROLLED AND LIGHTLY IRRIGATED PRIOR TO PLACING OF THE SOD. THE SOD IS NOT TO BE LAID ON FROZEN OR SOAKED SOIL.
- 8. LAWN AREAS TO BE FINE GRADED TO ENSURE THAT NO UNDULATIONS OCCUR IN THE LAWN. LAWNS TO BE GRADED IN SUCH A WAY AS TO APPEAR PERFECTLY WELL TAILORED AND
- 9. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL,
- LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING SOD. 10. BEGIN LAYING SOD ALONG A STRAIGHT EDGE, WHERE, POSSIBLE. LAY SOD SO THAT FRESHLY LAID PIECES ARE NOT WALKED ON. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR
- DRYING OF THE ROOTS. 11. WHERE POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. ROLL AND TAMP. PEG OR OTHERWISE SECURE THE SOD TO PREVENT SLIPPAGE ON SLOPES. ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND
- UNDERLYING SOIL SURFACE. 12. AFTER SOD HAS BEEN LAID SOD TO BE ROLLED USING A HAND ROLLER TO PREVENT AIR
- POCKETS. SODDED AREAS ARE TO BE ROLLED TWICE, IN OPPOSITE DIRECTIONS. 13. WATER SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE
- NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. 14. SOD OPERATIONS (LAYING, TAMPING, IRRIGATING) ARE TO BE COMPLETED WITHIN 8 HOURS OF
- LAYING A STRIP OF SOD. 15. IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND AS SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4".
- WATER SOD DURING THE HEAT OF THE DAY TO PREVENT WILTING. 16. WATER SOD AS NECESSARY, AFTER THE FIRST WEEK, TO MAINTAIN ADEQUATE MOISTURE
- 17. DO NOT MOW UNTIL SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3" UNLESS OTHERWISE SPECIFIED.

- . LANDSCAPING SHOWN WITHIN A SWM EASEMENT ON THE APPROVED LANDSCAPE PLAN AS PART OF THE APPROVED SITE PLAN ARE ILLUSTRATIVE PURPOSE ONLY AND MAY BE CHANGED AT THE TIME OF DETAILED PLAN REVIEW OF THE SEDIMENT CONTROL/STORM WATER MANAGEMENT PLANS BY THE MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES, WATER RESOURCES SECTION.
- 2. SEE LANDSCAPE AND LIGHTING PLAN FOR LANDSCAPE PLANTING OUTSIDE OF SWM AREAS.

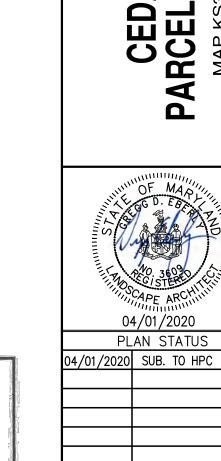
Developer's Certificate

The Undersigned agrees to execute all the features of the Site Plan Approval No.

Developer TRE MD MO 32 LLC JAMES MARCHAUL

Address: 999 18 STREET SUITE 3000 DENUER (O

including Approval Conditions, Development Program, and Certified Site Plan.



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PROFESSIONAL CERTIFICATION I, GREGG D. EBERLYH, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME., AND THAT I AM A DULY LICENSED PROFESSIONAL LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE

OF MARYLAND, LICENSE NO. 3609, EXPIRATION DATE: 01/26/21.

DATE DESCRIPTION MSS MC JNC DESIGN DRAWN CHKD SCALE NONE JOB No. 130078-01-001 DATE: FEBRUARY, 2020 FILE No. 130078-D-CP-001 SHEET 6.00 OF 6

THE



FRAMED 72-CELL MODULE (1500V)



MONOCRYSTALLINE MODULE

340-380W

POWER OUTPUT RANGE

19.5%
MAXIMUM EFFICIENCY

0~+5W

POSITIVE POWER TOLERANCE

Founded Founded in 1997, Trina Solar is the world's leading total solutions provider for solar energy. With local presence around the globe, Trina Solar is able toprovide exceptional service to each customer in each market and deliver our innovative, reliable products with thebacking of Trina as a strong, bankable brand. Trina Solar now distributes its PV products to over 100 countries all over the world. We are committed to building strategic, mutually beneficial collaborations with installers, developers, distributors and other partners in driving smart energy together.

Comprehensive Products And System Certificates

IEC61215/IEC61730/UL1703/IEC61701/IEC62716
ISO 9001: Quality Management System
ISO 14001: Environmental Management System
ISO14064: Greenhouse gases Emissions Verification
OHSAS 18001: Occupation Health and Safety
Management System





















Ideal for large scale installations

- Reduce BOS cost by connecting more modules in a string
- 1500V UL/1500V IEC certified



Maximize limited space with top-end efficiency

- Up to 193 W/m² power density
- Low thermal coefficients for greater energy production at high operating temperatures



Highly reliable due to stringent quality control

- Over 30 in-house tests (UV, TC, HF etc)
- Increased module robustness to minimize micro-cracks
- PID resistant and free of snail trails
- Internal test requirement of Trina more stringent than certification authority



Certified to withstand the most challenging environmental conditions

- 2400 Pa negative load
- 5400 Pa positive load





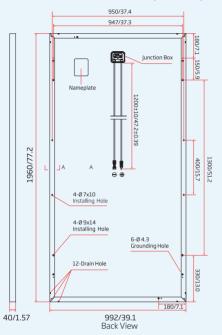


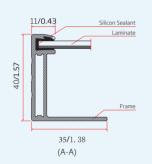
PRODUCTS

POWER RANGE

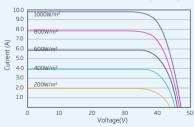
TSM-DE14A(II) STD MONO 340 - 365W TSM-DE14A(II) PERC MONO 370 - 380W

DIMENSIONS OF PV MODULE(mm/inches)

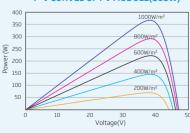




I-V CURVES OF PV MODULE(365W)



P-V CURVES OF PV MODULE(365W)



ELECTRICAL DATA (STC)

Peak Power Watts-P _{MAX} (Wp)*	340	345	350	355	360	365	370	375	380
Power Output Tolerance-P _{MAX} (W)				0 ~ +5	5				
Maximum Power Voltage-V _{MPP} (V)	38.2	38.5	38.7	38.8	39.0	39.3	39.7	40.0	40.3
Maximum Power Current-Impp (A)	8.90	8.96	9.04	9.14	9.24	9.30	9.33	9.37	9.43
Open Circuit Voltage-V∞ (V)	46.2	46.7	47.0	47.4	47.7	48.0	48.3	48.5	48.8
Short Circuit Current-Isc (A)	9.50	9.55	9.60	9.65	9.70	9.77	9.83	9.88	9.94
Module Efficiency η™ (%)	17.5	17.7	18.0	18.3	18.5	18.8	19.0	19.3	19.5

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5.

ELECTRICAL DATA (NOCT)

Maximum Power-PMAX (Wp)	253	257	261	264	268	272	276	279	283		
Maximum Power Voltage-V _{MPP} (V)	35.4	35.7	35.9	36.0	36.2	36.4	36.8	37.1	37.2		
Maximum Power Current-Impp (A)	7.15	7.20	7.26	7.34	7.42	7.47	7.50	7.53	7.60		
Open Circuit Voltage-Voc (V)	42.9	43.4	43.7	44.1	44.3	44.6	44.9	45.1	45.3		
Short Circuit Current-Isc (A)	7.67	7.71	7.75	7.79	7.83	7.89	7.94	7.98	8.03		
NOCT: Irradiance at 800W/m², Ambient Temper	NOCT: Irradiance at 800W/m², Ambient Temperature 20°C, Wind Speed 1m/s.										

MECHANICAL DATA

Solar Cells	Monocrystalline 156.75 × 156.75 mm (6 inches)
Cell Orientation Module	72 cells (6 × 12)
Dimensions	1960 × 992 × 40 mm (77.2 × 39.1 × 1.57 inches)
Weight	22.5 kg (49.6 lb)
Glass	3.2 mm (0.13 inches) , High Transmission, AR Coated Tempered Glass
Encapsulant Material	EVA (White/Transparent)
Backsheet	White
Frame	Silver Anodized Aluminium Alloy
J-Box	IP 67 or IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm² (0.006 inches²)
	1200 mm (47.2 inches)
Connector	Trina TS4
Fire Type	Type 1 or Type 2

TEMPERATURE RATINGS

NOCT (Nominal Operating Cell Temperature)	44°C (±2°C)
Temperature Coefficient of PMAX	- 0.39%/°C
Temperature Coefficient of Voc	- 0.29%/°C
Temperature Coefficient of Isc	0.05%/°C

MAXIMUM RATINGS

Operational Temperature	-40~+85°C
Maximum System Voltage	1500V DC (IEC)
	1500V DC (UL)
Max Series Fuse Rating	15A (Power ≤350W)
	20A (Power ≥355W)

(DO NOT connect Fuse in Combiner Box with two or more strings in parallel connection)

WARRANTY

10 year Product Workmanship Warranty

25 year Linear Power Warranty

(Please refer to product warranty for details)

PACKAGING CONFIGURATION

Modules per box: 27 pieces

Modules per 40' container: 648 pieces

