PLANNING COMMISSION PACKET

August 3, 2023

Hello All,

Enclosed please find your packet for the meeting of August 7, 2023.

For consideration we have:

- 1 resurvey (lot line adjustment)
- 1 solar array

If you receive any citizen inquiries regarding these cases the plans may be viewed by going to:

www.mtnbrook.org

- Calendar (upper right corner)
- Planning Commission (August 7, 2023)
- Meeting Information (for agenda) and Supporting Documents (to view proposed plans select link associated with the case number)

If you have any questions about these cases please don't hesitate to give me a call at 802-3816 or send me an email at hazend@mtnbrook.org.

Looking forward to seeing you on Monday! Dana

MEETING AGENDA CITY OF MOUNTAIN BROOK

PLANNING COMMISSION AUGUST 7, 2023

PRE-MEETING: (ROOM A106) 5:15 P.M. REGULAR MEETING: (ROOM A108) 5:30 P.M. CITY HALL, 56 CHURCH STREET MOUNTAIN BROOK, AL 35213

FOR APPLICANTS AND PERSONS WHO WISH TO SPEAK, THE MEETING IS TO BE HELD IN-PERSON AT CITY HALL.

ZOOM VIDEO CONFERENCING IS PROVIDED MERELY AS A CONVENIENCE FOR MEMBERS OF THE PUBLIC WHO WISH TO FOLLOW ALONG (BUT WILL NOT BE AFFORDED AN OPPORTUNITY TO SPEAK).

ZOOM ACCESS INSTRUCTIONS MAY BE FOUND ON CITY WEBPAGE AT: MTNBROOK.ORG - CALENDAR (UPPER RIGHT CORNER) - PLANNING COMMISSION – AUGUST 7, 2023

- 1. Call To Order
- 2. Approval of Agenda
- 3. Approval of Minutes: June 5, 2023
- 4. **Case P-23-12:** Wiatrak's Resurvey, being a resurvey of Lot 15 Cherokee Bend South Sector First Addition, as recorded in Map Book 175, Page 1, and Lot 10 Blk 5-A Duncan & Gilliam Add to Cherokee Bend 3rd Sector 2nd Phase, as recorded in Map Book 154, Page 36, in the Office of the Judge of Probate Jefferson County, Alabama; situated in the NE ½ of Section 36, Twp-17S, R-2W, Jefferson County, Alabama. **4931 Cold Harbor Drive & 3800 Rock Creek Trail**
- 5. Case P-23-13: Request approval for the installation of an alternative solar energy system consisting of roof mount arrays. 4 Office Park Circle
- 6. Next Meeting: September 5, 2023
- 7. Adjournment



Planning Commission Application PART I

Project Data

Address of Subject Property 4931 cold Harbor Drive
Zoning Classification Residence A
Name of Property Owner(s) Deborah Wenger Wiatrak
Phone NumberEmail
Name of Representative Agent (if applicable)
Ray Weygand
Phone Number 205-947-0087 Email
Name of Engineer or Surveyor <u>Weygand Surveyors</u>
Phone Number 205-942-0086 Email Ray @ weygand Surveyor.
Property owner or representative agent must be present at hearing
<u>Plans</u>
See applicable Section of the Zoning Ordinance for submittal requirements
pertaining to your particular application. Applicable Code Section may be found
in Part II, list of application types. Contact City Planner with any specific
questions as to required plans submittal.

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Zoning



P-23-12

Resurvey in existing Residence A zoning

Resurvey of interior lot line between two existing lots (Lot 10 and Lot 15). Both lots are under the same ownership; Lot 10 contains a single family dwelling, and Lot 15 is undeveloped.

The purpose of this plat is to add more land to lot 10 (from Lot 15) in order to obtain Health Department approval for new field lines for Lot 10. Spire is the beneficiary of the easement noted to be removed by plat (along the common lot line between the two lots). Attached is a letter from Spire relinquishing all interests in the easement.

- \square May be approved as a final plat.
- ✓ Meets the Zoning Regulations for the Res-A district.
- ✓ **Overall layout is acceptable**, with the final plat to fully comply with all applicable requirements of the Mountain Brook Subdivision Regulations.
- ✓ No floodplain present.
- ✓ No relevant history or prior cases.

• Project Data:

NAME: Wiatrak's Resurvey

CURRENT ZONING: Residence A

OWNER: Deborah Wenger Wiatrak

LOCATION: 4931 Cold Harbor Drive & 3800 Rock Creek Trail

WIATRAK'S RESURVEY LEGEND SQ. FT... SQUARE FEET ACRES BEING A RESURVEY OF LOT 15 CHERDIKEE BEND SOUTH SECTOR FIRST ADD, AS RECORDED IN MAP BOOK 175 PAGE 1, AND LOT 10 BLK 5-A DUNCAN & GILLIAM ADD TO CHERDIKEE BEND 3RD SECTOR 2ND PHASE, AS RECORDED IN MAP BOOK 154, PAGE 36, IN THE OFFICE OF THE JUDGE OF PROBATE JEFFERSON COUNTY, ALABAMA SITUATED IN THE NE ½ OF SECTION 36, TOWNSHIP 17 SOUTH, RANGE 2 WEST, JEFFERSON COUNTY, ALABAMA MORE OR LESS 4 DELTA ANGLE DEFLECTION ANGLE TANGENT RADIUS CH... ..CHORD LENGTH SCALE: 1"=20' ESMT. EASEMENT EX.... EXISTING FND #4 REBAR .MAP BOOK PAGE 169.55 a0°00'00" FND FOUND ROW. RIGHT-OF-WAY REBAR SET CENTERLINE DEED BOOK NOT TO SCALE LOT 10-A 30,137 51.24 80°0710× SET #4 REBAR 145.00 SET #4 REBAR 117°20'33" 10 EASEMENT FND #4 REBAR 128.41 30.00 SET #4 REBAR "WEYGAND" 15/EASEMENT HATCHED AREA OF FASEMENT NOTE: THIS PROPERTY IS ZONED: RESIDENCE A TO BE VACATED WITH RECORDING OF THIS PLAT Minimum yards and building setbacks. (1)Minimum front yard setback 40 feet. (2)Minimum rear yard setback 40 feet. (3)Minimum side yard setback 15 feet. LOT 10-B 30.593 VICINITY MAP (NOT TO SCALE) SCALE: 1'=30'

COLD HARBOR DRIVE (50' ROW)

119.01

THIS PROPERTY IS NOT LOCATED IN A SPECIAL FLOOD HAZARD AREA (ZONE "X") AS PER MAP NO. 01073C0414H, DATED SEPTEMBER 24, 2021.

COLD HARBOR DRIVE

SITE

NOTE:

DATE: JUNE 2023



TRAIL ROW CREEK 50, ROCK

The undersigned, Ray Waypand, Registered Land Surveyor, State of Alaborna, and, Debarah Waypar Watrob, Owner, hereby certify that this pist or reason and pursuant to a survey mode by soid surveyor, and that this piet or reay was made at the instruce of acid series, that this piet or reay the surveyor of the thing piet or read of the surveyor of the surveyor, and the thing piet or read or surveyor of the surveyo

By:	By:

State of Alabama) Jefferson County)

		Given	under	my	hand	and	seal	this		day	of		2023.
--	--	-------	-------	----	------	-----	------	------	--	-----	----	--	-------



Given	under	my	hand	and	seal	this	day	of	2023	



	of the Mountain Brook Planning Commission on	, 2023.	
APPROVED FOR RECORDING			
Chairman			
The trial			
Secretary			

BUILDER IS RESPONSIBLE FOR THE DRAINAGE ON EACH LOT AND IN AND AROUND EACH BUILDING AND FOR ALL SOIL CONDITIONS. THIS ENGINEER/LAND SURVEYOR IS NOT RESPONSIBLE FOR EITHER.

BUILDER WILL BE RESPONSIBLE FOR ADJUSTING THE LIDS OR TOP ELEVATION FOR ALL MANHOLES AND YARD INLETS ON EACH LOT

THE LOT OWNER/BUILDER SHALL USE APPROPRIATE METHODS, WHETHER PIPES, UNDERDRAIN, DITCHES GRADING OR OTHER MEANS, TO PROVIDE A BUILDING SITE FREE OF SURFACE OR SUBSURFACE DRAINAGE PROBLEMS WITHOUT ADVERSELY AFFECTING ADJACENT LOTS.

THE LOT OWNER/BUILDER SHALL FIELD VERIFY THE LOCATION AND ELEVATION OF SANITARY SEWER SERVICE LINE OR SEPTIC TANK LOCATION PRIOR TO CONSTRUCTION OF BUILDING FOUNDATION

ELEVATION OF ALL SANITARY SEWER LATERALS TO EACH LOT SHOULD BE VERIFIED BY BUILDER PRIOR TO SETTING LOWEST FLOOR OF RESIDENCE TO BE

NO HOUSE SHALL HAVE A FINISHED FLOOR ELEVATION LESS THAN TWO (2) FEET ABOVE TOP OF ANY ADJACENT STORM SEWER WITHOUT ENGINEER'S

NO FENCE SHALL IMPEDE THE FLOW OF WATER IN ANY DRAINAGE WAY.

WEYGAND SURVEYORS, INC. IS NOT RESPONSIBLE FOR SOIL COMPACTIONS AND DID NOT CONDUCT ANY SURFACE AND SUBSURFACE INVESTIGATIONS. NORTH ARROW SHOWN ON THIS MAP IS NOT TRUE NORTH AND SHOULD ONLY BE CONSIDERED AS APPROXIMATE.



END #4 RERA

Ray Weygand, Reg. L.S. #24973 173 Oxmoor Road, Homewood, AL 35209 Phone: (205) 942-0086

RELEASE OF PLATTED EASEMENT

THIS INSTRUMENT, made this 7th day of March, 2023,

WITNESSETH THAT:

Right of Way Dept. Approval:

WHEREAS, there has heretofore been granted to SPIRE ALABAMA INC., an Alabama corporation, ("GRANTOR"), a platted easement ("Easement") in certain land located upon Lot 15 of Cherokee Bend South Sector First Add recorded in Map Book 175 at Page 1 and Lot 10, BLK 5-A Duncan & Gilliam Add to Cherokee Bend 3rd Sector 2nd Phase recorded in Map Book 154 at Page 36 in the Office of the Judge of Probate of Jefferson County, Alabama Records wherein the nature and extent of the Easement and the lands affected are described; and

WHEREAS the present owner, DEBORAH WIATRAK ("GRANTEE") of the lands so affected, has requested that GRANTOR release the Easement and GRANTOR is willing to do so to the extent hereinafter described.

NOW THEREFORE, in consideration of One Dollar (\$1.00) in hand paid to **GRANTOR** by said **GRANTEE**, the receipt of which is hereby acknowledged, **GRANTOR** hereby RELEASES AND QUITCLAIMS to said **GRANTEE** all of **GRANTOR'S** right, title and interest in and to that Easement as depicted and shown hachured on the attached plat designated as "Exhibit A" and titled 'WIATRAK'S RESURVEY'.

IN WITNESS WHEREOF, **GRANTOR** has caused this instrument to be signed by its Chief Engineer the day and year first above written.

SPIRE ALABAMA INC.

Legal Dept. Approval to Form: MJA

Craig R. Hoeferlin

Vice President, Safety Management Systems

System Planning Approval: 2H

STATE OF M, Souri	
STATE OF Missouri) ss. City of St. Louis) ss.	
On the day of BRILL	, 2023,
before me, (Insert Notary's name)	ý,
a notary public in and for said state, appeared Craig R. Hoefe	rlın, to me personally known, who being by
me duly sworn, did say that he is the Vice President, Operatio	n Services and Safety Management Systems
of SPIRE ALABAMA INC., and that said instrument was signed	and sealed in behalf of said corporation by
authority of its Board of Directors and said Craig R. Hoeferlin	acknowledged said instrument to be the
free act and deed of said corporation. My Commission expires:	
Notary Public Printed Name	JOHN LAIR Notary Public - Notary Seal STATE OF MISSOURI St. Louis County My Commission Expires: Jan. 29, 2026 Commission #18103602

LEGEND WIATRAK'S RESURVEY SQ FT AC SQUARE FEET ACRES BEING A RESURVEY OF LOT 15 CHEROKEE BEND SOUTH SECTOR FIRST ADD, AS RECORDED IN MAP BOOK 175 PAGE 1 AND LOT 10 BLK 5-A DUNCAN & GILLIAM ADD TO CHEROKEE BEND 3RD SECTOR 2ND PHASE, AS RECORDED IN MAP BOOK 154, PAGE 36, IN THE DEFICE OF THE JUDGE OF PROBATE JEFFERSON COUNTY, ALABAMA SITUATED IN THE NE ½ OF SECTION 36, TOWNSHIP 17 SOUTH, RANGE 2 WEST, JEFFERSON COUNTY, ALABAMA MORE OR LESS DELTA ANGLE DEFLECTION ANGLE TANGENT RADIUS CHORD LENGTH ESMT EX. M B PG FND ROW O MIN SCALE 1"=20' DATE JANUARY 2023 EXISTING FND #4 REBAR PAGE 16955 ococoo, FOUND RIGHT-OF-WAY REBAR SET MINIMUM CENTERLINE State of Mabama) Jefferson County) NOT TO SCALE LOT 10-A 30,137 TRAILCREEKSET #4 REBAR 51 24 80°0710x 145 00' 12841 HATCHED AREA OF EASEMENT TO BE VACATED WITH RECORDING OF THIS PLAT THIS PROPERTY IS ZONED RESIDENCE A Minimum yards and building setbacks (1)Minimum front yard setback 40 feet (2)Minimum rear yard setback 40 feet (3)Minimum side yard setback 15 feet LOT 10-B NOTES ALL EXCEMENTS ON THE MAP ARE FOR PUBLIC UTLIFIES SANTARY SEVERS STORM SEVERS STORM DITCHES PRIVATE TILEMSON CARLE SYSTEMS AND MAP ELECTRON OF THE PUBLIC PROPERTY OF THE PUBLIC PROPERTY OF THE PUBLIC PUBLIC PUBLIC PROPERTY OF THE PUBLIC PUBLI 30,593 BUILDER WILL BE RESPONSIBLE FOR ADJUSTING THE LIDS OR TOP ELEVATION FOR ALL MANHOLES AND YARD INLETS ON EACH LOT VICINITY MAP THE LOT OWNER/BUILDER SHALL FIELD VERIFY THE LOCATION AND ELEVATION OF SANITARY SEWER SERVICE LINE OR SEPTIC TANK LOCATION PRIOR TO CONSTRUCTION OF BUILDING FOUNDATION SCALE: 1 =30 ELEVATION OF ALL SANITARY SEWER LATERALS TO EACH LOT SHOULD BE VERIFIED BY BUILDER PRIOR TO SETTING LOWEST FLOOR OF RESIDENCE TO BE NO HOUSE SHALL HAVE A FINISHED FLOOR ELEVATION LESS THAN TWO (2) FEET ABOVE TOP OF ANY ADJACENT STORM SEWER WITHOUT ENGINEERS WEYCAND SURVEYORS INC IS NOT RESPONSIBLE FOR SOIL COMPACTIONS AND DID NOT CONDUCT ANY SURFACE AND SUBSURFACE INVESTIGATIONS COLD HARBOR DRIVE NORTH ARROW SHOWN ON THIS MAP IS NOT TRUE NORTH AND SHOULD ONLY BE CONSIDERED AS APPROXIMATE SITE FND #4 REBAR 11901 COLD HARBOR DRIVE (50' ROW) "EXHIBIT A" NOTE SURVEYORS THIS PROPERTY IS NOT LOCATED IN A SPECIAL FLOOD HAZARD AREA (ZONE "\") AS PER MAP NO 01073C0414H, DATED SEPTEMBER 24, 2021 Ray Weygand, Reg LS #24973 169 Oxmoor Road Homewood, AL 35209 Phone (205) 942-0086

Aerial





Planning Commission Application PART I

Project Data

Address of Subject Property 4 Office Park Circle, Mountain Brook, AL 35223								
Zoning Classification commercial								
Name of Property Owner(s) MTB Office Park , LLC								
Phone Number 205-868-4684 Email Ladd@laddmgt.com								
Name of Representative Agent (if applicable)								
Paul Freeman, Eagle Solar and Light, LLC								
Phone Number 205-202-2208, 205-706-768 1 _{Email} pfreeman@eaglesolarandlight.com								
Name of Engineer or Surveyor								
Phone Number Email								
Property owner or representative agent must be present at hearing								
<u>Plans</u>								
See applicable Section of the Zoning Ordinance for submittal requirements								
pertaining to your particular application. Applicable Code Section may be found								
in Part II, list of application types. Contact City Planner with any specific								

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questions as to required plans submittal.

July 10, 2023

City of Mountain Brook Mountain Brook Planning Commission 56 Church Street Mountain Brook, AL 35213

Request Review of Solar Energy Systems Municipal Code 129-292 Mountain Brook Planning Commission Meeting – August 7, 2023

Enclosed is a request for the City of Mountain Brook Planning Commission to review and approve the installation of Solar Panels as part of a Solar Energy System at the following addresses:

Physical Address: 4 Office Park Circle, Mountain Brook, AL 35223

Owner: MTB Office Park, LLC

Property Mailing address: 6 Office Park Circle STE 111, Birmingham, AL 35223

Scope of Project

Four hundred twenty-four (424) Solar panels will be installed on the flat roof of the existing commercial building at 4 Office Park Circle to generate energy to be consumed on site. Maximum AC output is 200 kW. The building has two wings (4 Office Park Circle and 6 Office Park Circle), but only one address for parcel ID and Alabama Power metering.

The solar panels and racking will be installed at a 5% tilt on the flat roof and will not extend more than 12 inches from the surface of the roof. The height of the building relative to adjacent land will shield the solar panels from public view.

A 4' setback will be mandated from each roof edge.

No part of the roof-mounted Solar Energy System will extend beyond the edge of the roof.

The panels and system are designed to blend into the architecture of the building.

No portion of the Solar Energy System will be visible from any public street or public ROW. Photos attached illustrating that the top of building, where solar will be installed, is not visible.

Any external electrical lines and conduit will be painted or blended to match the color of the adjacent roofing and walls.

The roof-mounted Solar Energy System will not increase the height of the building.

Attached:

Certified copy of Jefferson Co Tax Assessor record of adjoining property owners. Solar panel specification sheet.

Jefferson Co tax map of property and adjoining parcels

Aerial map/ satellite image of property

Aerial view of solar array design on roof top.

Photographs of existing building as viewed from the Office Park Circle.

Paul Freeman, Eagle Solar and Light (205) 202-2208, pfreeman@eaglesolarandlight.com

Zoning



P-23-13

Petition Summary

Request approval for the installation of an alternative solar energy system consisting of a roof mount array.

Background (general)

Section 129-292 (Use Exemptions) of the Zoning Code specifies that the installation of equipment and minor structures and improvements that are incidental to the provision of and distribution of gas, electricity, water and telecommunications including, but not limited to, gas regulators, fogging stations, electric transformer stations without major rotating equipment, *solar panel systems*, poles, cables and towers for the transmission of electricity, water pressure regulator stations, water pumping stations, telephone exchanges, cables, poles, antennas and masts for antennas as may be permitted in any zoning district, subject to Planning Commission approval. In conjunction with any such approval, the Planning Commission may impose conditions which promote the purposes of the zoning ordinance.

On April 4, 2016, the Planning Commission approved "Guidelines for Planning Commission Review of Solar Energy Systems." These guidelines are not regulatory but intended for use by the Planning Commission in the review process for alternative solar energy systems. The applicant in the subject case has included these guidelines in his application and has indicated compliance with each item within said document (see "scope of work" in Applicant Request).

Background (Office Park)

On September 5, 2017, the planning commission approved a similar roof mount array at 115 Office Park Drive (Case P-17-11).

On April 6, 2020, the planning commission approved a similar roof mount array at 400/402 Office Park Circle (Case P-20-06).

On October 5, 2020, the planning commission approved a similar roof mount array at 200 Office Park Drive (Case P-20-27).

Analysis

The subject solar panel array is a rooftop array atop an office building in Office Park. The proposed equipment is in keeping with the guidelines established by the Planning Commission. See attached specifications for the proposed system.

Appends

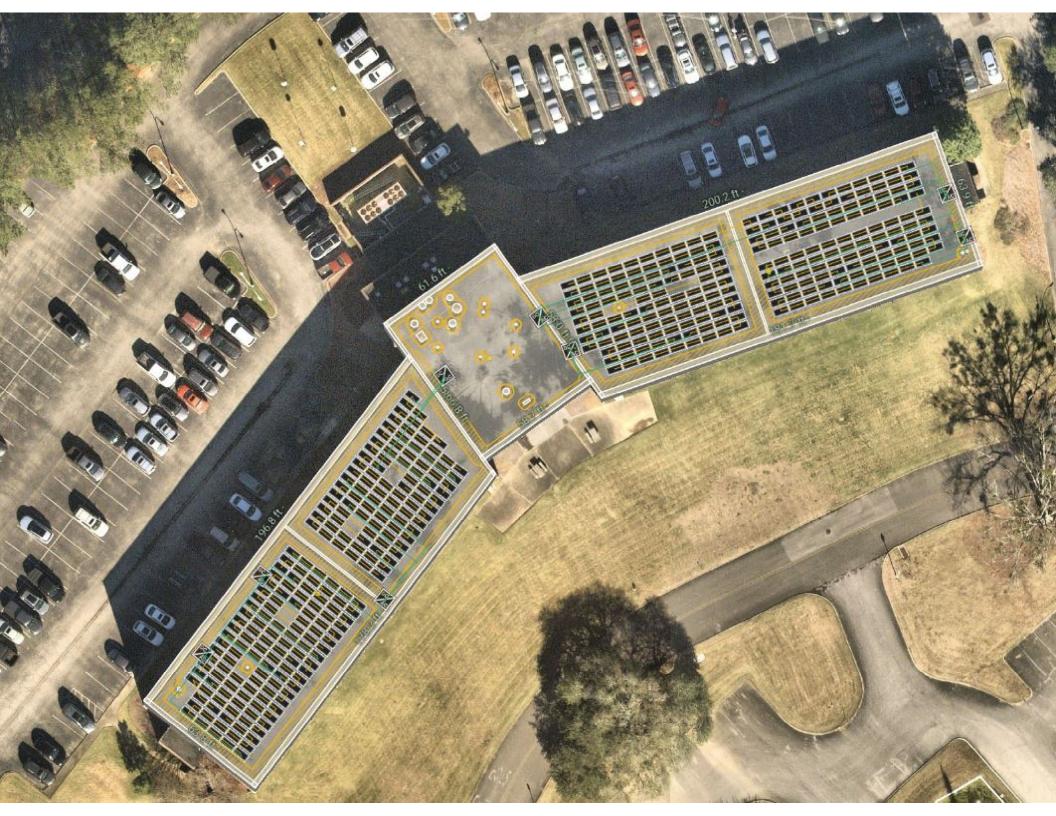
LOCATION: 4 Office Park Circle

ZONING DISTRICT: Office Park District

OWNER: MTB Office Park, LLC

AGENT: Paul Freeman, Eagle Solar & Light, LLC









ZXM7-SHLDD144 Series __ ZNSHINESOLAR



Znshinesolar 10BB HALF-CELL Bifacial Light-Weight Double Glass Monocrystalline PERC PV Module

525W | 530W | 535W | 540W | 545W | 550W



Excellent cells efficiency

MBB technology decreases the distance between busbar and finger grid line which is benefit to power increase.



Better Weak Illumination Response

More power output in weak light condition, such as haze, cloudy, and early morning.



Anti PID

Ensured PID resistance through the quality control of cell manufacturing process and raw materials.



Adapt To Harsh Outdoor Environment

Resistant to harsh environments such as salt, ammonia, sand, high temperature and high humidity environment.



TIER 1

Global, Tier 1 bankable brand, with independently certified state-of-the-art automated manufacturing.



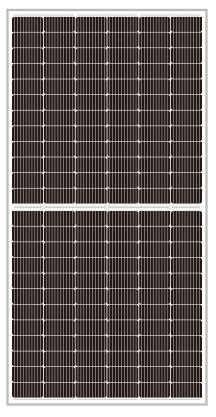
Excellent Quality Managerment System

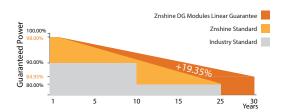
Warranted reliability and stringent quality assurances well beyond certified requirements.



Bifacial Technology

Up to 25% additional power gain from back side depending on albedo.







12 years product guarantee 30 years output guarantee



0.45% annual degradation over 30 years











IEC61215/IEC61730/IEC61701/IEC62716/UL61730

ISO 9001: Quality Management System

ISO 14001: Environmental Management System

ISO45001: Occupational Health and Safety Management System



ELECTRICAL CHARACTERISTICS STC*							
Nominal Power Watt Pmax(W)*	525	530	535	540	545	550	
Power Output Tolerance Pmax(%)	0~+3	0~+3	0~+3	0~+3	0~+3	0~+3	
Maximum Power Voltage Vmp(V)	40.90	41.10	41.30	41.50	41.70	41.90	
Maximum Power Current Imp(A)	12.85	12.91	12.96	13.02	13.07	13.13	
Open Circuit Voltage Voc(V)	49.20	49.40	49.60	49.80	50.00	50.20	
Short Circuit Current Isc(A)	13.59	13.65	13.71	13.77	13.83	13.89	
Module Efficiency (%) 20.32 20.52 20.71 20.90 21.10 21.29 *STC (Standard Test Condition): Irradiance 1000W/m², Module Temperature 25°C, AM 1.5 *Measuring tolerance: ±3%							

ELECTRICAL CHARACTERISTICS NMOT*							
Maximum Power Pmax(Wp)	392.70	396.40	399.90	403.60	406.80	410.80	
Maximum Power Voltage Vmpp(V)	38.00	38.20	38.40	38.50	38.80	38.90	
Maximum Power Current Impp(A)	10.33	10.38	10.42	10.47	10.49	10.56	
Open Circuit Voltage Voc(V)	46.00	46.20	46.30	46.50	46.70	46.90	
Short Circuit Current Isc(A)	10.98	11.02	11.07	11.12	11.17	11.22	

^{*}NMOT(Nominal module operating temperature):Irradiance 800W/m²,Ambient Temperature 20℃,AM 1.5,Wind Speed 1m/s

ELECTRICAL CHARACT	ERISTICS	WITH 25	% REAR	SIDE PO	WER GAII	N
Front power Pmax/W	525	530	535	540	545	550
Total power Pmax/W	656	663	669	675	681	688
Vmp/V(Total)	41.00	41.20	41.40	41.60	41.80	42.00
Imp/A(Total)	16.01	16.08	16.15	16.23	16.30	16.37
Voc/V(Total)	49.30	49.50	49.70	49.90	50.10	50.30
Isc/A(Total)	16.95	17.02	17.10	17.17	17.25	17.32

MECHANICAL DATA

Solar cells	Mono PERC
Cells orientation	144 (6×24)
Module dimension	2278×1134×30 mm(With Frame)
Weight	33.5 kg
Glass	2.0 mm+2.0mm, High Transmission, AR Coated Heat Strengthened Glass
Junction box	IP 68, 3 diodes
Cables	4 mm² ,350 mm
Connectors	MC4-compatible

TEMPERATURE RATING	iS	WORKING CONDITIONS				
NMOT	44°C ±2°C	Maximum system voltage	1500 V DC			
Temperature coefficient of Pmax	-0.35%/℃	Operating temperature	-40°C~+85°C			
Temperature coefficient of Voc	-0.29%/℃	Maximum series fuse	30 A			
Temperature coefficient of Isc	0.05%/℃	Maximum load(snow/wind)	5400 Pa / 2400 Pa			
Refer Rifacial Factor	70+5%					

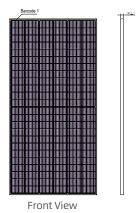
^{*}Do not connect Fuse in Combiner Box with two or more strings in parallel connection

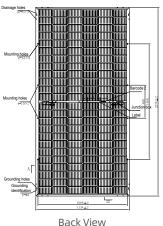
PACKAGING CONFIGURATION

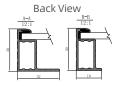
Piece/Box	36	*Please be kindly and installed by and please care before using ou
Piece/Container _(40'HQ)	720	
Piece/Container(with additional small package)	/	

*Please be kindly advised that PV modules should be handled and installed by qualified people who have professional skills and please carefully read the safety and installation instructions before using our PV modules.

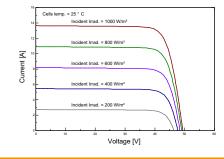
DIMENSIONS(MM)



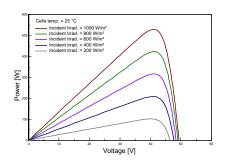




I-V CURVES OF PV MODULE(530W)



P-V CURVES OF PV MODULE(530W)



^{*}Remark: Electrical data in this catalog do not refer to a single module and they are not part of the offer. They only serve for comparison among different module types.

City of Mountain Brook

Guidelines for Planning Commission Review of Solar Energy Systems

Whereas Section 129-292 of the Municipal Code allows the installation in or upon a parcel located within any zoning district, such equipment and minor structures and improvements incidental to the provision and distribution of gas, electricity, water and similar services as may be approved by the planning commission; which approval shall be subject to such conditions, if any, which the planning commission may require to promote the purposes of Chapter 129 of the Municipal Code; and

Whereas the planning commission has determined that it is desirable for the City to permit and regulate the use of solar energy in the City of Mountain Brook; and

Whereas the planning commission has determined that the use and regulation of solar energy systems in the City will reduce the need for additional electrical generation and distribution and tend to reduce atmospheric pollution that are considered harmful to the environment; and

Whereas the planning commission recognizes that the purpose of regulating solar energy systems is to provide for appropriate locations for solar energy systems, to ensure compatibility with surrounding uses, and to promote safe and effective use of solar energy to increase opportunities for generation of renewable energy.

Therefore the following are guidelines to be used by the Planning Commission when approval of an application for a solar energy system has been requested:

Definitions:

Solar Energy System (SES). An energy system which converts solar energy to usable thermal, mechanical, chemical or electrical energy to meet all or a portion of the energy requirements of a principal building or an associated accessory structure.

Solar Energy Equipment (SEE). Items including but not limited to solar panels, lines, pumps, batteries, mounting brackets, framing and/or foundation used for or intended to be used for the collection of solar energy in connection with a building on residential, municipal or commercial properties. Solar energy equipment and its use are accessory to the principal use of the property.

Solar Energy Systems, generally.

- 1) SES shall not be commercial operations and are prohibited as a principal use. The main purpose of the SES may not be to generate energy for sale back to the energy grid rather than being consumed on site.
- 2) Abandoned or inactive SES, within twelve (12) months of the cessation of operations, shall be removed by the property owner.

Roof Mounted Solar Energy Systems

- 1) The placement of SES on roofs of principal buildings is preferred and encouraged.
- 2) For pitched, hipped or gambrel roofs, roof mounted SES shall not be more than twelve (12) inches from the surface of the roof at any point, and may not extend above the ridgeline of the roof. The twelve (12) is measured from the upper side of the solar panel.
- 3) For flat roofs or the horizontal portion of mansard roofs, roof mounted SES may extend up to five (5) feet above the highest point of the roof.
- 4) In no instance shall any part of a roof mounted SES extend beyond the edge of the roof.
- 5) Roof mounted SES shall be designed to blend into the architecture of the building.
- 6) No portion of the SES shall be visible from any public street.
- 7) All exterior plumbing and electrical lines must be painted and/or coated to match the color of adjacent roofing material and walls.
- 8) Roof Mounted SES shall be located so as not to increase the total height of the structure above the maximum allowable height of the structure on which it is located, in accordance with the applicable zoning regulations, and may not exceed the height of the ridge of the roof on which it is located.

Ground Mounted Solar Energy Systems

- 1) Ground mounted SES and SEE shall be considered accessory structures and shall be governed in accordance with Section 129-314 of the Municipal Code of the City of Mountain Brook.
- 2) Ground mounted SES shall be of permanent installation and shall not be portable in nature.
- 3) To the extent possible, without compromising the solar SES's access to sunlight, ground mounted SES shall be screened from view at-grade from all adjacent properties.
- 4) No portion of the SES shall be visible from any public street.