

09-2671



CONSTRUCTION PERMIT APPLICATION

Application Completes: Sections I, II, III (optional), IV, VI, and VII

09-10-3148

1. Proposed Work Site at: 742 TALL OAKS DRIVE
2. Name of Owner in Fee: ROBERT MC MULLEN Tr [REDACTED]
- Address 742 TALL OAKS DRIVE, BRICK, 08724
street municipality zip code
3. Ownership in Fee: Public _____ Private X
4. Principal Contractor: FUTURE SOLUTIONS Tel. (609) 888-3970
- Address 120 ROUTE 156, YARDVILLE, 08620
- License No. OR, if new home, Builder Reg. No. 13 VH 00475500 Exp. Date 12-31-09
- Federal Employee No. 33-1042060 FAX: (609) 888-3971
5. Architect or Engineer _____ Tel. (_____) _____
- Address _____
6. Responsible Person in Charge of Work MATT ALESTRA
- Tel. (609) 858-3233 FAX (609) 888-3971

7/10	Update	Update
------	--------	--------

1. Building
2. Electrical
3. Plumbing
4. Fire Protection
5. Elevator Devices
6. Subtotal
7. Less 20% for
State Plan Review
8. Subtotal
9. DCA Training Fee
10. Subtotal
11. Cert. of Occupancy
12. Other 20
13. TOTAL

1

(office use only)

1. Number of Stories 2
2. Height of Structure 28 ft.
3. Area — Largest Floor 2000 sq. ft.
4. New Building Area _____ sq. ft.
5. Volume of New Structure _____ cu. ft.
6. Construction Classification _____
7. Total Land Area Disturbed _____ sq. ft.
8. Flood Hazard Zone _____
9. Base Flood Elevation _____ ft.
10. Wetlands yes _____
 no _____
11. Max. Live Load _____
12. Max. Occupancy Load _____

Est. Cost

1. ☐ Minor Work
2. ☐ New Building
3. ☒ Addition
4. ☒ Alteration
5. ☐ Fire Protection
6. ☐ Plumbing
7. ☒ Electrical
8. ☐ Elevator Devices
9. ☐ Asbestos Abat. Subch. 8
10. ☐ Lead Hazard Abatement
11. ☐ Demolition

TOTAL COSTS

- ☐ Partial Releases
- ☐ Prototype Processing

OPTIONAL (for office use only)

OF RECORD (for office use only)							
Plans Rec'd by	Date Rec'd	Rejection Date	Approval Date	Re- viewer	Resubmission Dates		Re- viewer
					Approval	Rejection	
9/2/09 B		9/9/09 KA			10/2/09		KR
			3-14-8	AS			

IV. DOES OR WILL YOUR BUILDING CONTAIN ANY OF THE FOLLOWING?

1. ☐ Elevators/Escalators/Lifts/
Dumbwaiters/Moving Walks
2. ☐ High Pressure Boilers
3. ☐ Pressure Vessels
4. ☐ Refrigeration Systems
5. ☐ Cross-Connections/Backflow Preventers
6. ☐ Hazardous Uses/Places of Assembly
7. ☐ Sprinklers
8. ☐ Smoke Control Systems in Open Wells
9. ☐ Underground Storage Tanks

VII. DESCRIPTION OF BUILDING USE

A. RESIDENTIAL

1. ☐ Hotels (R-1)
2. ☐ Multi-Family (R-2)
3. ☐ Two-Family (R-3) BOCA
4. ☐ Two-Family (R-4) CABO
5. ☐ One-Family (R-3) BOCA
6. ☐ One-Family (R-4) CABO

No. of dwelling units:

Before Construction

After Construction

Net Gain or Loss

B. NON-RESIDENTIAL

1. State Specific Use:
2. Use Group:
3. Change in Use Group, Indicate Former:

U.C.C. F100-1 (rev. 3/96)

605/01
Dated

OCCUPANCY LOAD

USE GROUP

P/bq.

Bildg.

elec.

Plan Approval

Bldg.

CERTIFICATION IN LIEU OF OATH

I. OWNER SECTION (to be completed if the applicant is the owner in fee)

I hereby certify that I am the owner in fee of the property listed on Page 1.

Mark the following applicable boxes:

- A. ☐ I further certify that a new home (private residence) will be constructed on this property for my own use and occupancy. This dwelling is to be occupied by myself and is not to be used for any purpose other than single family residential use. I attest that all construction, plumbing, or electrical work will be done, in whole or in part, by me or by subcontractors under my supervision, in accordance with all applicable laws; and, I further acknowledge that said new home is not covered under the New Home Warranty and Builders Registration Act (N.J.S.A. 46:3B-1 et seq.) and that such fact shall be disclosed to any person purchasing this property within ten years of the date of issuance of a certificate of occupancy.

I UNDERSTAND THAT IN MARKING BOX A, I ACKNOWLEDGE THAT I AM ASSUMING RESPONSIBILITY FOR THE WORK DONE ON SAID PROPERTY, THE CONDITION OF THE PROPERTY PRIOR TO, DURING, AND AFTER ANY WORK PERFORMED, AND FOR THE PERFORMANCE OF THE SUBCONTRACTORS I HIRE, EMPLOY, OR OTHERWISE CONTRACT OR WITH WHOM I MAKE AGREEMENTS TO PERFORM WORK. I AM VOLUNTARILY AND KNOWINGLY ASSUMING THIS RESPONSIBILITY.

- B. ☐ I further certify the following as required by the New Jersey Uniform Construction Code, N.J.A.C. 5:23-2.15(e)1.vii:

I personally prepared the plans submitted for: 1) the new home referred to in A.; or, 2) an addition, alteration, renovation, or repair to an existing single family residence owned and occupied by myself and located on the property listed on Page 1; or, 3) a new structure that will be physically separate from, but that will be deemed part of, an existing single family residence that is owned and occupied by myself and located on the property listed on Page 1.

- C. ☐ I further certify that I will perform or supervise the following work:

C.1. ☐ Building C.2. ☐ Fire Protection

I further certify that I will perform the following work:

C.3. ☐ Electrical C.4. ☐ Plumbing

- D. ☐ I agree to advise all contractors on this project that they are required to be registered with the New Jersey Division of Taxation and to comply with all New Jersey tax laws.

I further certify the following as required by the Uniform Construction Code, N.J.A.C. 5:23-2.15(a)5: All required State, county, and local prior approvals have been given, including such certification as the construction official may require.

I understand that if any of the above statements are willfully false, I am subject to punishment.

Signature _____ Date _____

II. AGENT SECTION (to be completed if the applicant is not the owner in fee)

I hereby certify the following as required by the Uniform Construction Code, N.J.A.C. 5:32-2.15(d): the proposed work is authorized by the owner in fee; and I have been authorized by the owner in fee to make this application as his agent.

I further certify the following as required by the Uniform Construction Code, N.J.A.C. 5:23-2.15(a)5: All required State, county, and local prior approvals have been given, including such certification as the construction official may require.

I agree to advise all contractors on this project that they are required to be registered with the New Jersey Division of Taxation and to comply with all New Jersey tax laws.

I understand that if any of the above statements are willfully false, I am subject to punishment.

☒ Check if contractor.

Agent Name FUTURE SOLUTIONS CONTRACTING, LLC - MATT ALESTRA

Address 120 ROUTE 156

YARDVILLE, NJ 08620

Telephone (609) 888-3970

Signature *Matthew Alestra*

III. ☐ LEAD HAZARD ABATEMENT: Include Homeowner or Building Owner Affidavit as per N.J.A.C. 5:17.

OFFICE DATE RECEIVED: _____

VIII. PRIOR APPROVALS CHECKLIST (office use only)	LOCAL APPROVAL		COUNTY APPROVAL		REGIONAL APPROVAL		STATE APPROVAL		COMMENTS
	Prelimin. Initial	Final Date	Prelimin. Initial	Final Date	Prelimin. Initial	Final Date	Prelimin. Initial	Final Date	
☐ Zoning Officer									
☐ Planning Board									
☐ Zoning Board									
☐ Sewer Authority									
☐ Water Authority									
☐ Police Department									
☐ Health Department									
☐ Soil Conservation									
☐ N.J. Department of Community Affairs									
☐ N.J. Department of Transportation									
☐ N.J. Department of Environmental Protection									
☐ Utility Dig No.									
☒ <i>Engineering</i>	<i>NA</i>	<i>July 9/98</i>							

IX. SUBCODES AND SPECIAL REGULATIONS APPLICABLE (office use only—optional)

Name of Code & Edition	Name of Code & Edition	Other
Building _____	Energy _____	
Electrical _____	Barrier Free _____	
Plumbing _____	Flood Hazard _____	
Fire Protection _____	As Built Elevation Cert. _____	
Mechanical _____	Other _____	

X. CERTIFICATES ISSUED (office use only)

	DATE ISSUED	DATE EXPIRED	DATE REISSUED	DATE EXPIRED
☐ Temporary Certificate of Occupancy	No. _____	_____	_____	_____
☐ Temporary Certificate of Compliance	No. _____	_____	_____	_____
☐ Continued Certificate of Occupancy	No. _____	_____	_____	_____
☐ Certificate of Compliance	No. _____	_____	_____	_____
☐ Certificate of Occupancy	No. _____	_____	_____	_____
☐ Certificate of Approval	No. _____	_____	_____	_____
☐ Lead Abatement Clearance Certificate	No. _____	_____	_____	_____

IMPORTANT FORM FOR ISSUING A CERTIFICATE OF OCCUPANCY - RESIDENTIAL AND COMMERCIAL
A.H.B.T. - EXEMPT

DATE SIGN

☐ Application for C of O given when calling for final inspections

☐ All technicals signed by prospective inspectors

☐ Homeowner's Warranty Form with Buyer's name on it

☐ Mercer County Soil Approval, except for land disturbed under 5,000 square feet ☐ Temp. ☐ Clear

Reason _____
Authorized by _____

☐ Public Works Approval (copy sent to Engineering)
☐ Temp. ☐ Clear

Reason _____

Authorized by _____

☐ Septic System and/or water approval from Health Dept.

☐ Final Asbuilt approved by Engineering or memo stating posting of bond

☐ C of O Typed after all approvals are given

☐ Other _____



Brick Township
401 Chambersbridge Rd
Brick, NJ 08723

Date Issued 12/01/2009
Control Number C-09-003148
Permit Number 09-2671
Permit Issue Date 10/27/2009
Certificate Number 09-2671

Certificate
Construction Code Division
(Certificate of Approval)

Identification

Work Site Location: 742 TALL OAKS DR. Brick Township, NJ Block: 1422.07 Lot: 15 Qual: _____
Owner in Fee: MCMULLEN, KIMBERLY & ROBERT
Owner Address: 742 TALL OAKS DR BRICK NJ 08724
Telephone: [REDACTED]
Contractor FUTURE SOLUTIONS
Address 120 ROUTE 156 YARDVILLE NJ 08620
Telephone: (609) 888-3970 Fax: 609-3971
License Number or Builders Registration Number: 13VH00475500 Federal Emp. Number: 33-1042060

Home Warranty Number: _____

Type of Warranty Plan: ☐ State ☐ Private

Use Group: R-5 Construction Classification: _____

Maximum Live Load: 0 Maximum Occupancy Load: 0

Description of Work/Use: SOLAR PANELS INSTALLATION OF 9.8 KW ROOF MOUNTED PV ARRAY

Certificate Comments:

☐ **Certificate of Occupancy**

This serves notice that said building or structure has been constructed in accordance with the New Jersey Uniform Construction Code and is approved for occupancy.

☒ **Certificate of Approval**

This serves notice that the work completed has been constructed or installed in accordance with the New Jersey Uniform Construction Code and is approved. If the permit was issued for minor work, this certificate was based upon what was visible at the time of inspection.

☐ **Certificate of Continued Occupancy**

This serves notice that based on a general inspection of the visible parts of the building there are no imminent hazards and the building is approved for continued occupancy.

☐ **Temporary Certificate of Compliance**

The following conditions must be met no later than or the owner will be subject to fine or order to vacate:

This certificate has an expiration date of:

Conditions to be met:

☐ **Certificate of Clearance - Lead Abatement 5:17**

This serves notice that based on written certification, lead abatement was performed as per NJAC5:17 to the following extent.

- ☐ Total removal of lead-based paint hazards in scope of work
☐ Partial or limited time period (years); see file

☐ **Certificate of Clearance - Asbestos Abatement**

This serves notice that based on written certification, asbestos abatement was performed to the following extent.

- ☐ Total removal of asbestos hazards in scope of work
☐ Partial or limited time period (years); see file

☐ **Certificate of Compliance**

This serves notice that said potentially hazardous equipment has been installed and/or maintained in accordance with the New Jersey Uniform Construction Code and is approved for use until

☐ **Temporary Certificate of Occupancy**

The following conditions must be met no later than: or the owner will be subject to fine or order to vacate:

This certificate has an expiration date of:

Conditions to be met:

Construction Official

Fee: \$0.00

Check Number: _____

Collected By: _____



CONSTRUCTION PERMIT

Date Issued
Control #
Permit #

10/27/09
C-09-003448
09-2671

IDENTIFICATION Block: 1422.07 Lot: 15 Qualifier
Work Site Location: 742 TALL OAKS DR. Brick Township, NJ Contractor: FUTURE SOLUTIONS
Owner in Fee: MCMULLEN, KIMBERLY & ROBERT Address: 120 ROUTE 156 YARDVILLE NJ 08620
742 TALL OAKS DR. BRICK NJ 08724 Telephone: (609) 888-3970
Telephone: [REDACTED] Lic. No. or Bldrs. Reg. No. 13VH00475500
Federal Employee No. 33-1042060

Is hereby granted permission to perform the following work:

- ☒ BUILDING ☐ PLUMBING ☐ LEAD HAZARD ABATEMENT
☒ ELECTRICAL ☐ FIRE PROTECTION ☐ DEMOLITION
☐ ELEVATOR DEVICES ☐ ASBESTOS ABATEMENT (Subchapter 8 only) ☐ OTHER

DESCRIPTION OF WORK:

SOLAR PANELS INSTALLATION OF 9.8 KW ROOF MOUNTED PV ARRAY

Note: If construction does not commence within one (1) year of date of issuance, or if construction ceases for a period of six (6) months, this permit is void.

Estimated Cost of Work \$19,600

Construction Official

Date

10-5-09

U.C.C. F170
equiv (rev 8/03)

1 WHITE - INSPECTOR

2 CANARY - OFFICE

3 PINK - TAX ASSESSOR

4 GOLD - APPLICANT

PAYMENTS (Office Use Only)

Building	\$240
Electrical	\$150
Plumbing	\$0
Fire Protection	\$0
Elevator Devices	\$0
Other	\$0.00
DCA Training Fee	\$33
CO Fee	
Other	\$30
Total	\$453
Check No.	
Cash	\$0
Credit	\$0
Collected By	

REQUIRED INSPECTIONS

Construction work must be inspected in accordance with the State Uniform Construction Code Regulations N.J.A.C. 5:23-2.18. This agency will carry out such periodic inspections during the progress of work as are necessary to insure that the work installed conforms with the requirements of the Uniform Construction Code.

The owner or other responsible person in charge of work must notify this agency when work is ready for any required inspections specified below. Requests for inspections must be made at least 24 hours prior to the time the inspection is desired. Inspections will be performed within three business days of the time for which they are requested. The work must not proceed in a manner which will preclude the inspection until it has been made and approval granted.

- ☐ Required inspections for all subcodes for one- and two-family dwellings are as follows:

- The bottom of footing trenches before placement of footings, except that in cases of pile foundations, inspections shall be made in accordance with the requirements of the building subcode.
- Foundations and all walls up to grade level prior to back filling.
- All structural framing, connections, wall and roof sheathing and insulation; electrical rough wiring, panel and service installation; rough plumbing. The framing inspection shall take place after the rough electrical and plumbing inspections and after the installation of the heating, ventilation and /or air conditioning duct system. The insulation inspection shall be performed after all other subcode rough inspections and prior to the installation of any interior finish material.
- Installation of all finished materials, sealings of exterior joints, plumbing piping, trim and fixtures; electrical wiring, devices and fixtures; mechanical systems equipment.

10/27/09 12:39PM 001558H4266

XX01 SERV.001

BUILDING	\$240.00
ELECTRIC	\$150.00
PLUMBING	\$33.00
OTHER	\$30.00
CHECK	\$453.00

Additional required inspections for all subcodes of construction, for other than one- and two-family dwellings, are fire suppression systems, heat producing devices and Barrier Free subcode accessibility, if applicable.

- ☐ Required special inspections. The applicant by accepting the permit will be deemed to have consented to these requirements:

- ☐ A final inspection is required for each applicable subcode area before a final Certificate of Occupancy or Approval may be issued. The final inspections include the installation of all interior and exterior finish materials, sealing of exterior joints, mechanical system and other required equipment; electrical wiring, devices and fixtures; plumbing pipes, trim and fixtures; tests required by any provision of the adopted subcodes, Barrier Free accessibility, if applicable; and verification of compliance with NJAC 5:23-3.5, "Posting structures".

- ☐ A complete copy of released plans must be kept on the job site.

If you do not understand any of this information, please ask.



BUILDING SUBCODE TECHNICAL SECTION



A. IDENTIFICATION—APPLICANT: COMPLETE ALL APPLICABLE INFORMATION. WHEN CHANGING CONTRACTORS, NOTIFY THIS OFFICE. CALL UTILITY DIG NO: 1-800-272-1000.

Block 1422.07 Lot 15 Qualification Code _____
Work Site Location 742 TAIL OAKS DRIVE
BRICK NJ 08724
Owner in Fee ROBERT McMULLEN
Address 742 TAIL OAKS DRIVE
BRICK NJ 08724
Contractor FUTURE SOLUTIONS CONTRACTING, LLC
Address 120 ROUTE 156
YARDVILLE, NJ 08620
Tel. (609) 888-3970 FAX (609) 888-3971
Contractor License No. or Builder Registration No. 13 VH 00475500
Federal Emp. No. 33-1042060

JOB SUMMARY (Office Use Only)

PLAN REVIEW		Date		INSPECTIONS		Dates (Month/Day)	
		Initial		Type:	Failure	Approval	Initial
☐	No Plans Required			Footings			
☐	All			Footings Bonding			
☐	Footings			Foundation			
☐	Foundation			Slab			
☐	Frame			Truss Sys./Bracing			
☐	Other			Barrier-Free			
Joint Plan Review Required:							
☐	Elec.			Insulation			
☐	Plumb.			Finishes -Base Layer			
☐	Fire			Finishes -Final			
☐	Elevator			Energy			
SUBCODE APPROVAL							
☐	CO			Mechanical			
☐	CCO			TCO			
Date: <u>10/27/09</u>							
Approved by: <u>[Signature]</u>							
Barrier-Free							

B. BUILDING CHARACTERISTICS

Use Group	Present	Proposed	Est. Cost of Bldg. Work:
Constr. Class	Present	Proposed	1. New Bldg. \$
No. of Stories	2	2	2. Rehabilitation \$ <u>10,000</u>
Height of Structure	28	28	3. Total (1+2) \$ <u>10,000</u>
Area — Largest Floor	2000	2000	
New Bldg. Area/All Floors	0	0	
Volume of New Structure	0	0	
Total Land Area Disturbed	0	0	

C. CERTIFICATION IN LIEU OF OATH

I hereby certify that I am the (agent of) owner of record and am authorized to make this application.

Signature _____

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK

INSTALLATION OF 9.8 KW
ROOF MOUNTED PV ARRAY
Roof Framing Reinforcement
Proposed - See Plan

TYPE OF WORK:

- ☐ New Building
- ☐ Addition
- ☐ Rehabilitation
- ☐ Roofing
- ☐ Siding
- ☐ Fence
- ☐ Sign
- ☐ Pool
- ☐ Asbestos Abatement Subchapter 8
- ☐ Lead Haz. Abatement NJAC 5:17
- ☒ Other PV INSTAL
- ☐ Demolition

FEE (Office Use Only)

\$	
\$	
\$	
\$	
\$	
\$	
\$	
\$	

Administrative Surcharge \$
Minimum Fee \$
State Permit Surcharge Fee \$
TOTAL FEE \$

1 White = OFFICE COPY
2 Canary = APPLICANT COPY
3 Tag = INSPECTOR COPY

U.C.C. F110
(rev 1/04)

ELECTRICAL SUBCODE
TECHNICAL SECTION

A. IDENTIFICATION—APPLICANT: COMPLETE ALL APPLICABLE INFORMATION. WHEN CHANGING CONTRACTORS, NOTIFY THIS OFFICE. CALL UTILITY DIG NO: 1-800-272-1000.

Block H22.07 Lot 15 Qualification Code _____
 Work Site Location 742 TAIL OAKS DRIVE
BRICK, NJ 08724
 Owner in Fee ROBERT McMULLEN
 Address 742 TAIL OAKS DRIVE
ROSELV NJ 08724

Contractor FUTURE RQM ELECTRIC LLC
Address 8 LAUREN LANE
NEW EGYPT, NJ 08533
Tel (609) 286-2343 FAX (609) 286-2343
Contractor License No. 15923
Federal Emp. No. 20-8842644

3. ELECTRICAL CHARACTERISTICS

Use Group Present Proposed
☐ Pole/Pad # ☐ Temporary ☐ Other
 Building Occupied as Utility Co. ICPIL
 Est. Cost of Elec. Work \$ \$9600

JOB SUMMARY (Office Use Onlv)

[illegible]

U.C.C. F120 (rev1/04)

1 White = OFFICE COPY
 2 Canary = APPLICANT COPY
 3 Tag = INSPECTOR COPY

C. CERTIFICATION IN LIEU OF OATH

I hereby certify that I am the (agent of) owner of record and am authorized to make this application and perform the work listed on this application.

Applicant's Signature/Contractor's Seal and Signature

D. TECHNICAL SITE DATA

QTY.	SIZE	ITEMS
_____		Lighting Fixtures
_____		Receptacles
_____		Switches
_____		Detectors
_____		Light Poles
_____		Motors—Fract. HP
_____		Emergency & Exit Lights
_____		Communications Points
_____		Alarm Devices/F.A.C. Panel

56

TOTAL NUMBERS	
Pool Permit/with UW Lights	
Storable Pool/Spa/Hot Tub	
KW Elec. Range/Receptacle	
KW Oven/Surface Unit	
KW Elec. Water Heater	
KW Elec. Dryer/Receptacle	
KW Dishwasher	
HP Garbage Disposal	
KW Central A/C Unit	
HP/KW Space Heater/Air Ha	
KW Baseboard Heat	
HP Motors 1/+ HP	
KW Transformer/Generator	
AMP Service	
AMP Subpanels	2 60
AMP Motor Control Center	
KW Elec. Sign/Outline Light	
INVERTERS	1

SUBVERS

Administrative Surcharge	\$
Minimum Fee	\$
State Permit Surcharge	\$
TOTAL FEE	\$

09-2671
10/27/01

Date Received
Control #

Date Issued
Permit #



The seal of the Town of Hamilton is circular. It features an eagle with spread wings perched on a globe. The globe has the word "AMERICA" written across it. The eagle is holding an olive branch in its right talon and arrows in its left. The words "TOWN OF HAMILTON" are written around the top inner edge of the seal, and "1784" is at the bottom.

11/4/09

Need Paper Work For INVERTERS, NO D.C.
FUSES were seen onsite, contractor was not sure
where located in inverter.

Brick Township
Building Department (732) 262-1027



DRIVER # 320-338-565

CUT-IN-CARD

MUNICIPALITY Brick Township

LOCATION 742 TALL OAKS DR.

UTILITY CO _____

Brick Township, NJ

BLK 1422.07

LOT 15

OWNER MCMULLEN, KIMBERLY & ROBERT OCCUPANT MCMULLEN, KIMBERLY & ROBERT

"Installation in the above premises has been inspected and
is in accordance with N.E.C. and DCA requirements."

☒ FINAL

☐ TEMPORARY

This approval void after _____ days

DESCRIPTION OF SERVICE 9.8 k solar system

INSTALLED BY RAM ELECTRIC LLC

LICENSE NO 15923

DATE 11/25/2009

PERMIT # 09-2671

INSPECTOR Donohue

☐ FAXED IN

Lic. No: 8914

**** Transmit Conf. Report ****

P.1

Nov 25 2009 16:47

Telephone Number	Mode	Start	Time	Page	Result	Note
18889149140	NORMAL	25,16:46	0'26"	1	* O K	

U.C.C. Form F3508 equiv. 1 WHITE-UTILITY 2 CANARY-OFFICE/FILE 3 PINK-OFFICE/CONTRACTOR

☒ FINAL ☐ TEMPORARY This approval void after _____ days
 DESCRIPTION OF SERVICE B.R.K. solar system
 INSTALLED BY RAM ELECTRIC LLC
 LICENSE NO. 15923
 INSPECTOR Donohue
 DATE 11/25/2009 PERMIT # 08-2671
 FAXED IN ☐ Lic. No: 8914



B. BUILDING CHARACTERISTICS				Est. Cost of Bldg. Work:	
Use Group	Present	Proposed		1. New Bldg.	\$
Constr. Class	Present	Proposed		2. Rehabilitation	\$
No. of Stories				3. Total (1+2)	\$
Height of Structure					
Area — Largest Floor					
New Bldg. Area/All Floors					
Volume of New Structure					
Total Land Area Disturbed					

Date Received
Control #

C. CERTIFICATION IN LIEU OF OATH

I hereby certify that I am the (agent of) owner of record and am authorized to make this application.

Signature _____

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK

[illegible]

TYPE OF WORK:

- ☐ New Building
☐ Addition
☐ Rehabilitation
☐ Roofing
☐ Siding
☐ Fence _____ Height (exceeds 6')
☐ Sign _____ Sq. Ft.
☐ Pool
☐ Asbestos Abatement Subchapter 8
☐ Lead Haz. Abatement NJAC 5:17
☒ Other DEMOLITION
☐ Demolition

FREE (Office Use Only)

Administrative Surcharge	\$
Minimum Fee	\$
State Permit Surcharge	\$
TOTAL FEE	\$

U.C.C. F110
(rev 1/04)

1 White = OFFICE COPY
2 Canary = APPLICANT COPY
3 Tag = INSPECTOR COPY

PLAN REVIEW AND INSPECTION

DATE _____

JOB CONDITION/COMMENTS[illegible]

Fire Grading:

Maximum Live Load:

Maximum Occupancy Load:



ELECTRICAL SUBCODE TECHNICAL SECTION

A. IDENTIFICATION—APPLICANT: COMPLETE ALL APPLICABLE INFORMATION. WHEN CHANGING CONTRACTORS, NOTIFY THIS OFFICE. CALL UTILITY DIG NO: 1-800-272-1000.

Block _____ Lot _____ Qualification Code _____
Work Site Location _____

Owner in Fee _____
Address _____

Tel () _____
Contractor _____
Address _____

Tel () FAX ()

Contractor License No. 15728

Federal Emp. No. 2-94746

3. ELECTRICAL CHARACTERISTICS

Use Group _____ Present _____ Proposed _____
☐ Pole/Pad # _____ ☐ Temporary ☐ Other _____
 Building Occupied as _____ Utility Co. _____
 Est. Cost of Elec. Work \$ _____

JOB SUMMARY (Office Use Only)

PLAN REVIEW		INSPECTIONS		Dates (Month/Day)		
Date	Initial	Type:	Failure	Failure	Approval	Initial
☐ No Plans Required 						
Joint Plan Review Required:						
☐ Building	☐	Barrier-Free	_____	_____	_____	_____
☐ Fire	☐	Trench	_____	_____	_____	_____
☐ Elevator	☐	Temp. Serv.	_____	_____	_____	_____
☐ Elec. Plans Approved	☐	Constr. Serv.	_____	_____	_____	_____
Date: _____		TCO	_____	_____	_____	_____
Approved by: _____		Other	_____	_____	_____	_____
		Service	_____	_____	_____	_____
		Final	_____	_____	_____	_____
		Barrier-Free	_____	_____	_____	_____
SUBCODE APPROVAL						
☐ CO	☐	Temp. Cut-in-Card Date Issued	_____	_____	_____	_____
☐ CCO	☐	Final Cut-in-Card Date Issued	_____	_____	_____	_____
☐ CA	☐	Annual Pool Inspection	_____	_____	_____	_____
Date: _____		Date of Grounding and Bonding Certification	_____	_____	_____	_____
Approved by: _____			_____	_____	_____	_____

U.C.C. F120 (rev1/04)

C. CERTIFICATION IN LIEU OF OATH

I hereby certify that I am the (agent of) owner of record and am authorized to make this application and perform the work listed on this application.

Applicant's Signature/Contractor's Seal and Signature

☒ Licensed Elec. Contractor ☐ Certif'd Landscape Irrigation Contr'r ☐ Exempt Applicant

D. TECHNICAL SITE DATA

QTY.	SIZE	ITEMS
_____		Lighting Fixtures
_____		Receptacles
_____		Switches
_____		Detectors
_____		Light Poles
_____		Motors—Fract. HP
_____		Emergency & Exit Lights
_____		Communications Points
_____		Alarm Devices/F.A.C. Panel

TOTAL NUMBERS

Pool Permit/with UW Lights	
Storable Pool/Spa/Hot Tub	
KW Elec. Range/Receptacle	
KW Oven/Surface Unit	
KW Elec. Water Heater	
KW Elec. Dryer/Receptacle	
KW Dishwasher	
HP Garbage Disposal	
KW Central A/C Unit	
HP/KW Space Heater/Air Handler	
KW Baseboard Heat	
HP Motors 1/+ HP	
KW Transformer/Generator	
AMP Service	6
AMP Subpanels	600
AMP Motor Control Center	
KW Elec. Sign/Outline Light	

100-40332-1

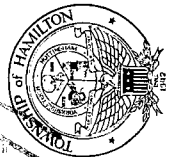
Administrative Surcharge \$	
Minimum Fee \$	
State Permit Surcharge Fee \$	
TOTAL FEE \$	

FEE (Office Use Only)

69

Date Received _____
Control # _____

Date Issued _____
Permit # _____



10/19/76

PLAN REVIEW AND INSPECTION

DATE _____

JOB CONDITION/COMMENTS[illegible]

Fire Grading:

Maximum Live Load:

Maximum Occupancy Load:



GEORGE A. FETT AIA ARCHITECTS, LLC

GEORGE A. FETT, AIA

September 28, 2009

Mr. Daniel Newman Jr.
Construction Official
Brick Township Building Department
401 Chambersbridge Road
Brick, N.J. 08723

Reference: McMullen residence
742 Tall Oaks Drive
Brick Twp., NJ
Control # C-09-003148

Dear Mr. Newman,

Please find attached our calculations for the roof rafters and the basement beam.
The loading is as follows:

Roof Rafters

	<u>Live Load</u>	<u>Dead Load</u>
	20 Snow	7 Framing
	4 Panels	
Total	24	7

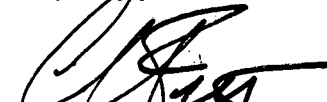
Basement Beam

	<u>Live Load</u>	<u>Dead Load</u>
	20 Snow	7 Framing
	4 Panels	
	25 Attic	7 Framing
	40 Second	10 Framing
	40 First	10 Framing

Total 129 34
Wall 200

If you have any questions, please call this office.

Very truly yours,



George A. Fett AIA

Project: 0991_742 Tall Oaks - Location: Basement Beam

Summary:

(3) 1.75 IN x 11.875 IN x 9.0 FT / 1.9E Microlam - iLevel Trus Joist

Section Adequate By: 1.3% Controlling Factor: Section Modulus / Depth Required 11.8 IN

* Laminations are to be fully connected to provide uniform transfer of loads to all members

Deflections:

Dead Load:	DLD=	0.08	IN
Live Load:	LLD=	0.20	IN = L/539
Total Load:	TLD=	0.28	IN = L/390

Reactions (Each End):

Live Load:	LL-Rxn=	8510	LB
Dead Load:	DL-Rxn=	3231	LB
Total Load:	TL-Rxn=	11741	LB
Bearing Length Required (Beam only, support capacity not checked):	BL=	2.98	IN

Beam Data:

Span:	L=	9.0	FT
Unbraced Length-Top of Beam:	Lu=	0.0	FT
Live Load Deflect. Criteria:	L/	360	
Total Load Deflect. Criteria:	L/	360	

Floor Loading:

Floor Live Load-Side One:	LL1=	129.0	PSF
Floor Dead Load-Side One:	DL1=	34.0	PSF
Tributary Width-Side One:	TW1=	7.33	FT
Floor Live Load-Side Two:	LL2=	129.0	PSF
Floor Dead Load-Side Two:	DL2=	34.0	PSF
Tributary Width-Side Two:	TW2=	7.33	FT
Live Load Duration Factor:	Cd=	1.00	
Wall Load:	WALL=	200	PLF

Beam Loading:

Beam Total Live Load:	wL=	1891	PLF
Beam Self Weight:	BSW=	19	PLF
Beam Total Dead Load:	wD=	718	PLF
Total Maximum Load:	wT=	2609	PLF

Properties For: 1.9E Microlam- iLevel Trus Joist

Bending Stress:	Fb=	2600	PSI
Shear Stress:	Fv=	285	PSI
Modulus of Elasticity:	E=	1900000	PSI
Stress Perpendicular to Grain:	Fc_perp=	750	PSI

Adjusted Properties

Fb' (Tension):	Fb'=	2604	PSI
Adjustment Factors: Cd=1.00 CF=1.00			
Fv':	Fv'=	285	PSI
Adjustment Factors: Cd=1.00			

Design Requirements:

Controlling Moment:	M=	26417	FT-LB
4.5 ft from left support			
Critical moment created by combining all dead and live loads.			
Controlling Shear:	V=	9393	LB
At a distance d from support.			
Critical shear created by combining all dead and live loads.			

Comparisons With Required Sections:

Section Modulus (Moment):	Sreq=	121.75	IN3
	S=	123.39	IN3
Area (Shear):	Areq=	49.43	IN2
	A=	62.34	IN2
Moment of Inertia (Deflection):	Ireq=	675.60	IN4
	I=	732.62	IN4

Project: 0991_742 Tall Oaks - Location: Rafter 9ft

Summary:

(3) 1.75 IN x 11.875 IN x 9.0 FT @ 16 O.C. / 1.9E Microlam - iLevel Trus Joist
 Section Adequate By: 5863.4% Controlling Factor: Moment of Inertia / Depth Required 3.04 In
 * Properly connect sheathing to double joists/rafters or fully laminate to transfer diaphragm forces.

Rafter Span Deflections:

Dead Load:	DLD-Interior=	0.00	IN
Live Load:	LLD-Interior=	0.00	IN = L/28469
Total Load:	TLD-Interior=	0.01	IN = L/21468

Rafter End Loads and Reactions:

	LOADS:	RXNS:	
Upper Live Load:	108 PLF	144 LB	
Upper Dead Load:	35 PLF	47 LB	
Upper Total Load:	143 PLF	191 LB	
Lower Live Load:	108 PLF	144 LB	
Lower Dead Load:	35 PLF	47 LB	
Lower Total Load:	143 PLF	191 LB	
Upper Equiv. Tributary Width:	UTWeq=	5.03	FT
Lower Equiv. Tributary Width:	LTWeq=	5.03	FT

Rafter Data:

Interior Span:	L=	9.0	FT
Eave Span:	L-Eave=	0.0	FT
Rafter Spacing:	Spacing=	16.0	IN O.C.
Rafter Pitch:	RP=	6.0	: 12
Roof sheathing applied to top of joists-Top of rafters fully braced.			
Live Load Deflect. Criteria:	L/	360	
Total Load Deflect. Criteria:	L/	360	

Rafter Loads:

Roof Live Load:	LL=	24.0	PSF
Roof Dead Load:	DL=	7.0	PSF
Roof Duration Factor:	Cd=	1.00	

Slope Adjusted Spans And Loads:

Interior Span:	L-adj=	10.06	FT
Rafter Live Load:	wL-adj=	26	PLF
Rafter Dead Load:	wD-adj=	8	PLF
Rafter Total Load:	wT-adj=	34	PLF

Properties For: 1.9E Microlam- iLevel Trus Joist

Bending Stress:	Fb=	2600	PSI
Shear Stress:	Fv=	285	PSI
Modulus of Elasticity:	E=	1900000	PSI
Stress Perpendicular to Grain:	Fc-perp=	750	PSI

Adjusted Properties

Fb' (Tension):	Fb'=	2604	PSI
Adjustment Factors: Cd=1.00 CF=1.00			
Fv':	Fv'=	285	PSI
Adjustment Factors: Cd=1.00			

Design Requirements:

Controlling Moment:	M=	430	FT-LB
5.031 Ft from left support of span 2 (Center Span)			
Critical moment created by combining all dead loads and live loads on span(s) 2			
Controlling Shear:	V=	140	LB
At a distance d from left support of span 2 (Center Span)			
Critical shear created by combining all dead loads and live loads on span(s) 2			

Comparisons With Required Sections:

Section Modulus (Moment):	Sreq=	1.98	IN3
	S=	123.39	IN3
Area (Shear):	Areq=	0.74	IN2
	A=	62.34	IN2
Moment of Inertia (Deflection):	Ireq=	12.29	IN4
	I=	732.62	IN4



GEORGE A. FETT AIA ARCHITECTS, LLC

GEORGE A. FETT, AIA

September 28, 2009

Mr. Daniel Newman Jr.
Construction Official
Brick Township Building Department
401 Chambersbridge Road
Brick, N.J. 08723

Reference: McMullen residence
742 Tall Oaks Drive
Brick Twp., NJ
Control # C-09-003148

Dear Mr. Newman,

Please find attached our calculations for the roof rafters and the basement beam.
The loading is as follows:

Roof Rafters

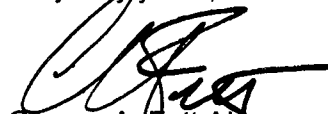
	<u>Live Load</u>	<u>Dead Load</u>
	20 Snow	7 Framing
	4 Panels	
Total	24	7

Basement Beam

	<u>Live Load</u>	<u>Dead Load</u>
	20 Snow	7 Framing
	4 Panels	
	25 Attic	7 Framing
	40 Second	10 Framing
	40 First	10 Framing
Total	129	34
Wall	200	

If you have any questions, please call this office.

Very truly yours,



George A. Fett AIA

Project: 0991_742 Tall Oaks - Location: Basement Beam

Summary:

(3) 1.75 IN x 11.875 IN x 9.0 FT / 1.9E Microlam - iLevel Trus Joist

Section Adequate By: 1.3% Controlling Factor: Section Modulus / Depth Required 11.8 IN

* Laminations are to be fully connected to provide uniform transfer of loads to all members

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Bearing Length Required (Beam only, support capacity not checked):	BL=	2.98	IN

Beam Data:

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Unbraced Length-Top of Beam:	Lu=	0.0	FT
Live Load Deflect. Criteria:	L/	360	
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Floor Loading:

Floor Live Load-Side One:	LL1=	129.0	PSF
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Tributary Width-Side Two:	TW2=	7.33	FT
Live Load Duration Factor:	Cd=	1.00	
Wall Load:	WALL=	200	PLF

Beam Loading:

Beam Total Live Load:	wL=	1891	PLF
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Total Maximum Load:	wT=	2609	PLF

Properties For: 1.9E Microlam- iLevel Trus Joist

Bending Stress:	Fb=	2600	PSI
Shear Stress:	Fv=	285	PSI
Modulus of Elasticity:	E=	1900000	PSI
Stress Perpendicular to Grain:	Fc_perp=	750	PSI

Adjusted Properties

Fb' (Tension):	Fb'=	2604	PSI
Adjustment Factors: Cd=1.00 CF=1.00			
Fv':	Fv'=	285	PSI
Adjustment Factors: Cd=1.00			

Design Requirements:

Controlling Moment:	M=	26417	FT-LB
4.5 ft from left support			
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Project: 0991_742 Tall Oaks - Location: Rafter 9ft

Summary:

(3) 1.75 IN x 11.875 IN x 9.0 FT @ 16 O.C. /-1.9E Microlam - iLevel Trus Joist
 Section Adequate By: 5863.4%. Controlling Factor: Moment of Inertia / Depth Required 3.04 In
 * Properly connect sheathing to double joists/rafters or fully laminate to transfer diaphragm forces.

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Rafter Spacing:	Spacing=	16.0	IN O.C.
Rafter Pitch:	RP=	6.0	: 12
Roof sheathing applied to top of joists-Top of rafters fully braced.			
Live Load Deflect. Criteria:	L/	360	
Total Load Deflect. Criteria:	L/	360	

Rafter Loads:

Roof Live Load:	LL=	24.0	PSF
Roof Dead Load:	DL=	7.0	PSF
Roof Duration Factor:	Cd=	1.00	

Slope Adjusted Spans And Loads:

Interior Span:	L-adj=	10.06	FT
Rafter Live Load:	wL-adj=	26	PLF
Rafter Dead Load:	wD-adj=	8	PLF
Rafter Total Load:	wT-adj=	34	PLF

Properties For: 1.9E Microlam- iLevel Trus Joist

Bending Stress:	Fb=	2600	PSI
Shear Stress:	Fv=	285	PSI
Modulus of Elasticity:	E=	1900000	PSI
Stress Perpendicular to Grain:	Fc-perp=	750	PSI

Adjusted Properties

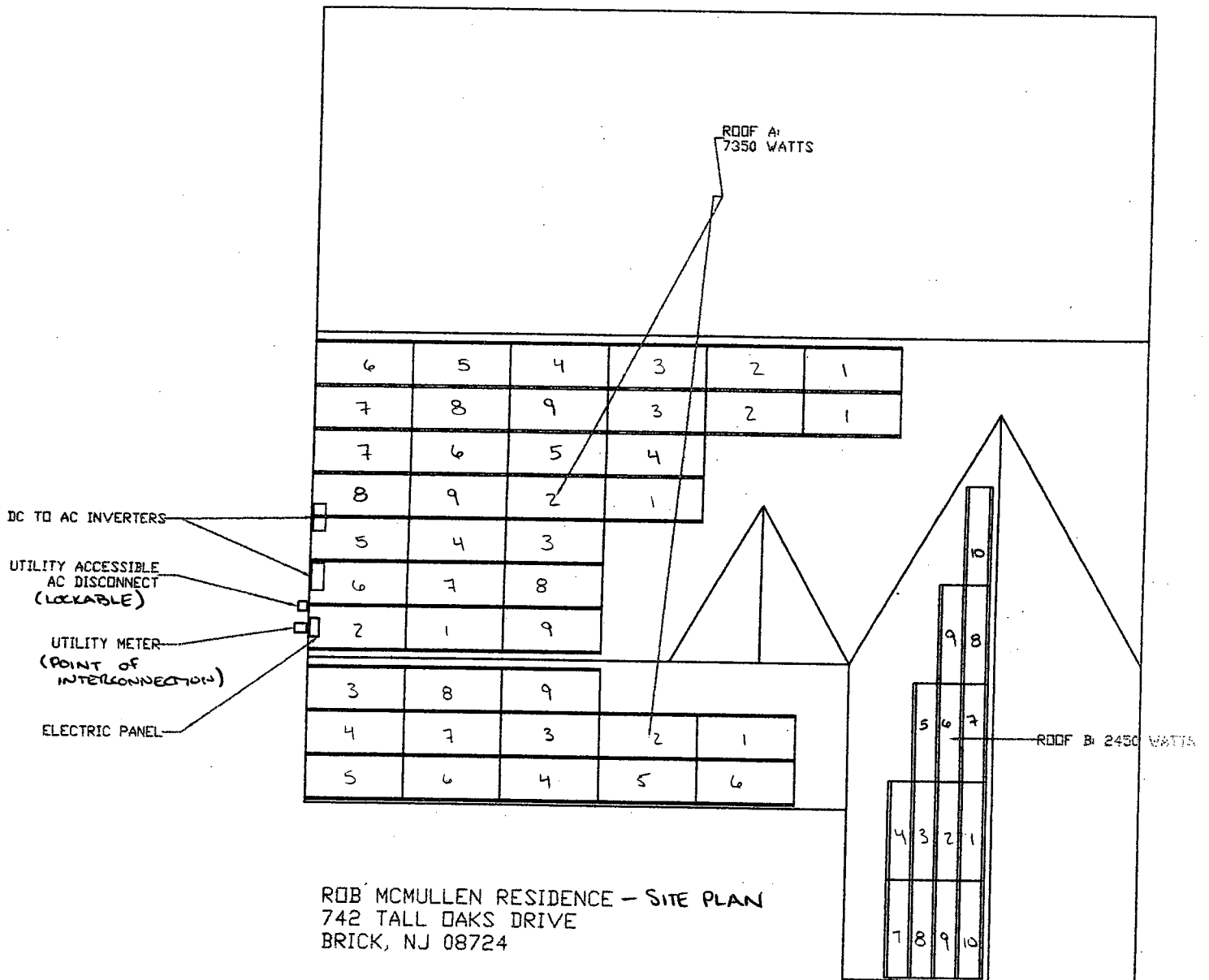
Fb' (Tension):	Fb'=	2604	PSI
Adjustment Factors: Cd=1.00 CF=1.00			
Fv':	Fv'=	285	PSI
Adjustment Factors: Cd=1.00			

Design Requirements:

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Moment of Inertia (Deflection):	Ireq=	12.29	IN4
	I=	732.62	IN4

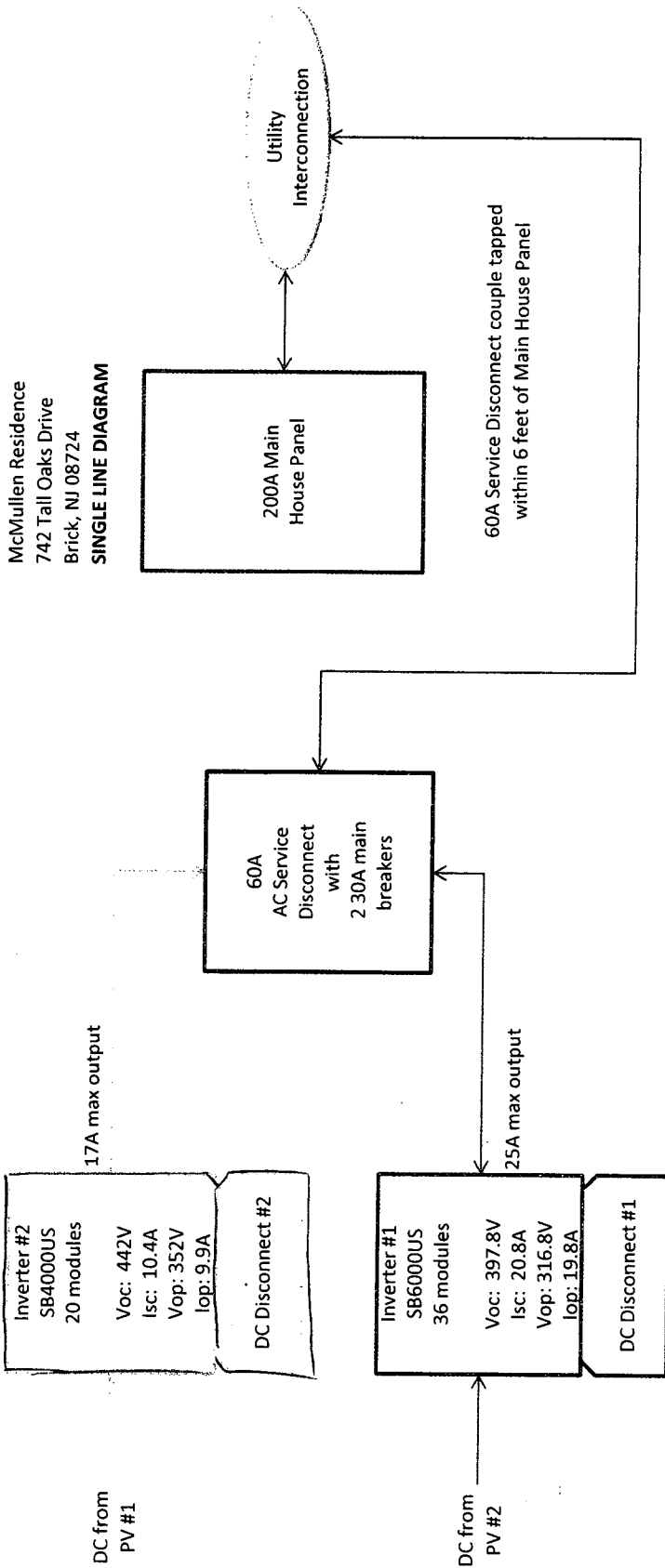


ROB MCMULLEN RESIDENCE - SITE PLAN
 742 TALL OAKS DRIVE
 BRICK, NJ 08724

JCP&L ACCT NO: 100049994641

FUTURE SOLUTIONS
 120 ROUTE 156
 YARDVILLE, NJ 08620
 PHONE: (609) 888-3970
 DRAWN BY: MATT ALESTRA

4000W INVERTER
 6000W INVERTER



Wire and Conduit Notes

1. All panel wiring pre-junction to be 10AWG USE-2
2. All wiring post-junction to be 10AWG THHN housed in conduit
3. All conduit within the structure to be EMT

APPROVED WITH THE FOLLOWING CONDITIONS
ALL ELECTRICAL WORK MUST COMPLY WITH
NATIONAL ELECTRICAL CODE 2008
ADALBERTO SOUTO
ELECTRICAL SUBCODE OFFICIAL



STP170S-24/Ab-1

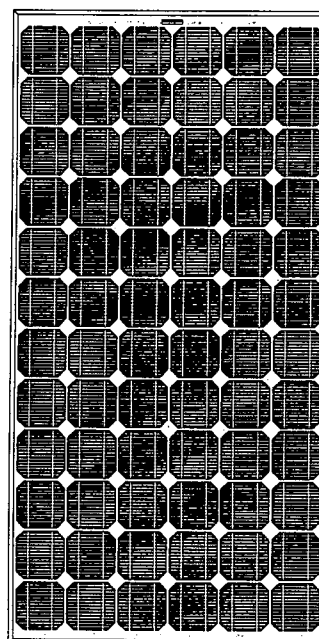
STP165S-24/Ab-1 STP175S-24/Ab-1
STP180S-24/Ab-1

High Efficiency, High Quality
PV Module

Suntech's STPAb-1 is designed and built to deliver highest efficiency and reliable power for on-grid residential and commercial systems worldwide. Relying on Suntech's well-known stringent manufacturing standards and latest PV technology, the module provides the highest possible energy output per Watt with total module efficiency of 14.1%. Superior conversion rate and exceptional low-light performance enable it to deal with the most challenging conditions of military, utility, residential and commercial installations. The module is the perfect choice for those who demand outstanding performance and exceptional uniform appearance.

Features and benefits

- High efficiency
- Nominal 24 V DC for standard output
- Outstanding low-light performance
- High transparent low-iron, tempered glass
- Unique techniques give the panel following features: esthetic appearance, with stands high wind-pressure and snow load, and easy installation
- Unique technology ensure that problems of water freezing and warping do not occur
- Design to meet unique demand of customer
- 25 year module output warranty



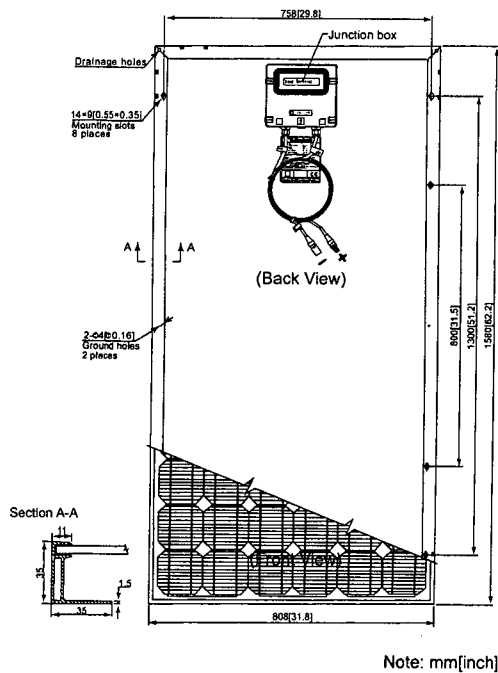
Electrical Characteristics

Model	STP180S-24/Ab-1	STP175S-24/Ab-1	STP170S-24/Ab-1	STP165S-24/Ab-1
Open-circuit voltage (Voc)	44.4V	44.2V	43.8V	43.6V
Optimum operating voltage (Vmp)	35.6V	35.2V	35.2V	34.8V
Short-circuit current (Isc)	5.4A	5.2A	5.14A	5.04A
Optimum operating current (Imp)	5.05A	4.95A	4.83A	4.74A
Maximum power at STC (Pmax)	180Wp	175Wp	170Wp	165Wp
Operating temperature	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C
Maximum system voltage	600V DC	600V DC	600V DC	600V DC

STC: Irradiance 1000W/m², Module temperature 25°C, AM=1.5



Module Diagram



Specifications

Cell	Monocrystalline silicon solar cells 125mm×125mm
No. of cells and connections	72(6×12)
Dimension of module	1580mm×808mm×35mm
Weight	15.5kg

Temperature Coefficients

NOCT	48°C±2°C
Short-circuit current temperature coefficient	0.017 %/K
Open-circuit voltage temperature coefficient	-0.34 %/K
Peak power temperature coefficient	-0.48 %/K
Power tolerance	±3%

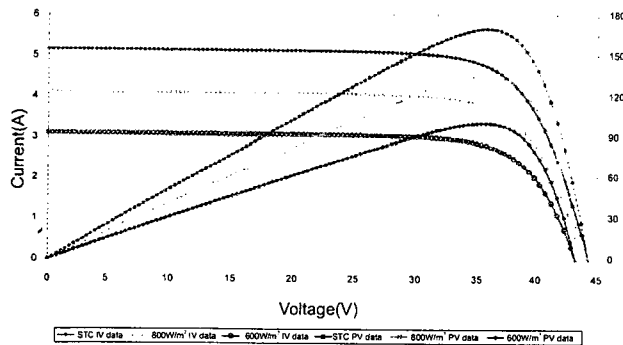
NOCT: Nominal Operating Cell Temperature
(data refer to STP165S)

Output

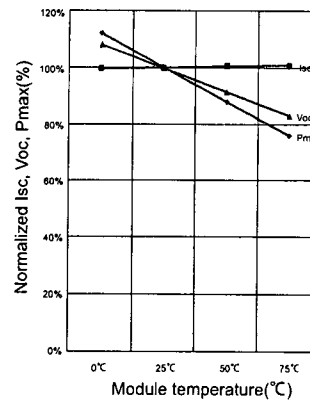
Cable	AIW (12AWG)
Lengths	750mm(-) and 750mm(+)
Connection	MC Plug Type IV

Characteristics

Module IV Graph 170W



Normalized Isc, Voc, Pmax vs. module temperature characteristics



Sold by:

Supplied by:

gr Solar

groSolar.com
800.467.6527
OR CCB Lic #180494

What the World Needs.

Technical Data

SUNNY BOY 3000US / 4000US

Recommended Max. PV Power (Module STC)
Max. DC Voltage
Peak Power Tracking Voltage

DC Max. Input Current
DC Voltage Ripple
Number of Fused String Inputs
PV Start Voltage
AC Nominal Power
AC Maximum Output Power
AC Maximum Output Current
AC Nominal Voltage / Range

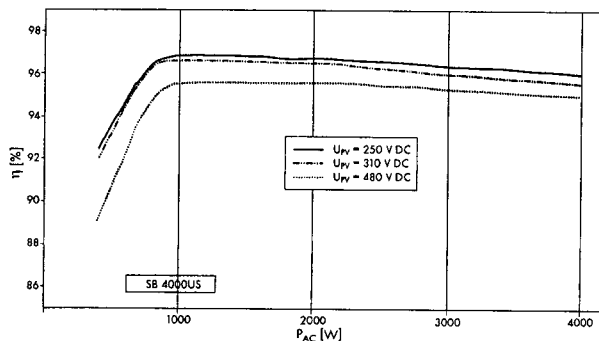
AC Frequency / Range
Power Factor
Peak Inverter Efficiency
CEC weighted Efficiency

Dimensions W x H x D in inches
Weight / Shipping Weight
Ambient temperature range
Power Consumption: standby / nighttime
Topology

Cooling Concept
Mounting Location Indoor / Outdoor (NEMA 3R)
LCD Display
Lid Color: aluminum / red / blue / yellow
Communication: RS485 / Wireless
Warranty: 10-year
Compliance: IEEE-929, IEEE-1547, UL 1741, UL 1998, FCC Part 15 A & B

Specifications for nominal conditions

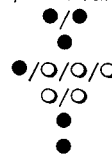
Efficiency Curves



SB 3000US

3750 W
500 V
175 - 400 V @ 208 V
200 - 400 V @ 240 V
17 A
< 5%
2 (inverter), 4 x 15 A (DC disconnect)
228 V
3000 W
3000 W
15 A @ 208 V, 13 A @ 240 V
183 - 229 V @ 208 V
211 - 264 V @ 240 V
60 Hz / 59.3 Hz - 60.5 Hz
0.99 @ nominal power
96.5 %
95.0 % @ 208 V
95.5 % @ 240 V
17.8 x 13.8 x 9.3
84 lbs / 97 lbs
-13 to +113 °F
< 7 W / 0.1 W

Low frequency transformer,
true sinewave,
OptiCool, forced active cooling

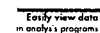
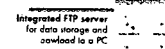
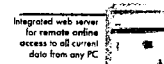
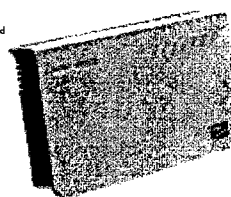
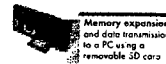
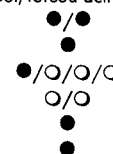


● Included ○ Option — Not available

SB 4000US

4375 W @ 208 V / 5000 W @ 240 V
600 V
220 - 480 V @ 208 V
250 - 480 V @ 240 V
18 A
< 5%
2 (inverter), 4 x 15 A (DC disconnect)
285 V
3500 W @ 208 V / 4000 W @ 240 V
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17 A
183 - 229 V @ 208 V
211 - 264 V @ 240 V
60 Hz / 59.3 Hz - 60.5 Hz
0.99 @ nominal power
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17.8 x 13.8 x 9.3
84 lbs / 97 lbs
-13 to +113 °F
< 7 W / 0.1 W

Low frequency transformer,
true sinewave,
OptiCool, forced active cooling



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STRING SIZING PROGRAM



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Note: For best printing results, please change page format to "landscape".

Results from String Sizing V 6.0

Selected Inverter	Selected PV Manufacturer	Selected PV Module
SB 4000US (240)	SunTech	STP175S-24/Ab-1

Inverter Data

Design Irradiance (W/m ²)	Pacmax	Pdcmax
1000	4000	4500
Idc Max	Vmpt Max	Vmpt Min
18	480	250
Vdc Max		Vmin
600		250

Module Data

Module Pnom	Voc	Isc	Imp
175 W	44,2 V	5,2 A	4,95 A

Temperature Coefficient of Voltage	Temperature Coefficient of Current	Temperature Coefficient of Power
------------------------------------	------------------------------------	----------------------------------

- 0,34 %

+ 0,017 %

- 0,48 %

Mounting Method

Please select the mounting method for the array: Mounted flat against the roof

Temperature Data

Select the **coldest** expected temperature when sunlight will be on the modules

-4 °F

Select the **hottest** expected temperature when sunlight will be on the modules

95 °F

Imperial units

Metric units

Results

1string configurations

9 in series
10 in series
11 in series

2string configurations

9 in series
10 in series
11 in series

3string configurations

9 in series

* Some derating possible

** Some derating likely with out adequate air flow

*** Install a Sunny Breeze Kit to prevent derating

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Note: For best printing results, please change page format to "landscape".

Technical Data

SUNNY BOY 5000US / 6000US / 7000US

Max. Recommended Array Input Power [DC @ STC]
 Max. DC Voltage
 Peak Power Tracking Voltage
 DC Max. Input Current
 DC Voltage Ripple
 Number of Fused String Inputs
 PV Start Voltage
 AC Nominal Power
 AC Maximum Output Power
 AC Maximum Output Current (@ 208, 240, 277 V)
 AC Nominal Voltage / Range

AC Frequency / Range
 Power Factor
 Peak Inverter Efficiency
 CEC weighted Efficiency

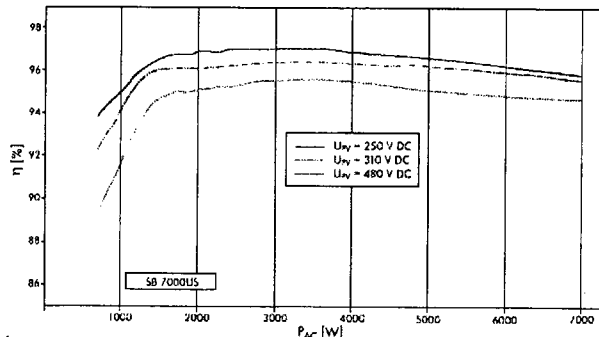
Dimensions W x H x D in inches
 Weight / Shipping Weight
 Ambient temperature range
 Power Consumption: standby / nighttime
 Topology

Cooling Concept

Mounting Location Indoor / Outdoor (NEMA 3R)
 LCD Display
 Lid Color: aluminum / red / blue / yellow
 Communication: RS485 / Wireless
 Warranty: 10-year
 Compliance: IEEE-929, IEEE-1547, UL 1741, UL 1998, FCC Part 15 A & B

Specifications for nominal conditions

Efficiency Curves



SB 5000US

6250 W
 600 V
 250 - 480 V
 21 A
 < 5%
 4
 300 V
 5000 W
 5000 W
 24 A, 20.8 A, 18 A
 183 - 229 V @ 208 V
 211 - 264 V @ 240 V
 244 - 305 V @ 277 V
 60 Hz / 59.3 Hz - 60.5 Hz
 1
 96.8 %
 95.5 % @ 208 V
 95.5 % @ 240 V
 95.5 % @ 277 V
 18.4 x 24.1 x 9.5
 143 lbs / 154 lbs
 -13 to +113 °F
 < 7 W / 0.25 W
 PWM, true sinewave,
 current source
 Convection with
 regulated fan cooling

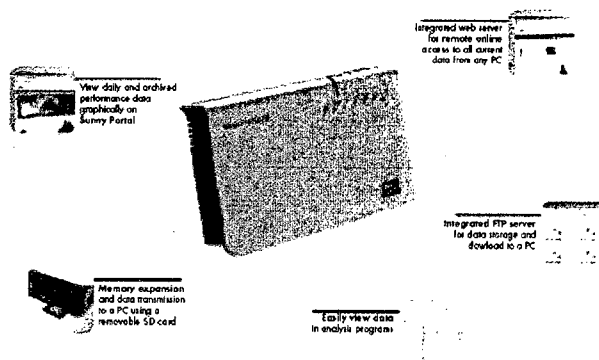
SB 6000US

7500 W
 600 V
 250 - 480 V
 25 A
 < 5%
 4
 300 V
 6000 W
 6000 W
 29 A, 25 A, 21.6 A
 183 - 229 V @ 208 V
 211 - 264 V @ 240 V
 244 - 305 V @ 277 V
 60 Hz / 59.3 Hz - 60.5 Hz
 1
 97.0 %
 95.5 % @ 208 V
 95.5 % @ 240 V
 96.0 % @ 277 V
 18.4 x 24.1 x 9.5
 143 lbs / 154 lbs
 -13 to +113 °F
 < 7 W / 0.25 W
 PWM, true sinewave,
 current source
 Convection with
 regulated fan cooling

SB 7000US

8750 W
 600 V
 250 - 480 V
 30 A
 < 5%
 4
 300 V
 7000 W
 7000 W
 34 A, 29 A, 25.3 A
 183 - 229 V @ 208 V
 211 - 264 V @ 240 V
 244 - 305 V @ 277 V
 60 Hz / 59.3 Hz - 60.5 Hz
 1
 97.1 %
 95.5 % @ 208 V
 96.0 % @ 240 V
 96.0 % @ 277 V
 18.4 x 24.1 x 9.5
 143 lbs / 154 lbs
 -13 to +113 °F
 < 7 W / 0.25 W
 PWM, true sinewave,
 current source
 Convection with
 regulated fan cooling

● Included ○ Option — Not available



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STRING SIZING PROGRAM



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Note: For best printing results, please change page format to "landscape".

Results from String Sizing V 6.0

Selected Inverter SB 6000US (208 & 240)	Selected PV Manufacturer SunTech	Selected PV Module STP175S-24/Ab-1
---	--	--

Inverter Data

Design Irradiance (W/m²) 1000	Pacmax 6000	Pdcmax 6600
Idc Max 25	Vmpt Max 480	Vmpt Min 250
	Vdc Max 600	Vmin 250

Module Data

Module Pnom 175 W	Voc 44,2 V	Vmp 35,2 V	Isc 5,2 A	Imp 4,95 A
-----------------------------	----------------------	----------------------	---------------------	----------------------

Temperature Coefficient of Voltage - 0,34 %	Temperature Coefficient of Current + 0,017 %	Temperature Coefficient of Power - 0,48 %
---	--	---

Mounting Method

Please select the mounting method for the array: Mounted flat against the roof

Temperature Data

Select the coldest expected temperature when sunlight will be on the modules	Select the hottest expected temperature when sunlight will be on the modules	Imperial units	Metric units
-4 °F	95 °F		

Results

<u>1string configurations</u>	<u>2string configurations</u>	<u>3string configurations</u>	<u>4string configurations</u>
9 in series 10 in series 11 in series	9 in series 10 in series 11 in series	9 in series 10 in series 11 in series	9 in series 10 in series

* Some derating possible

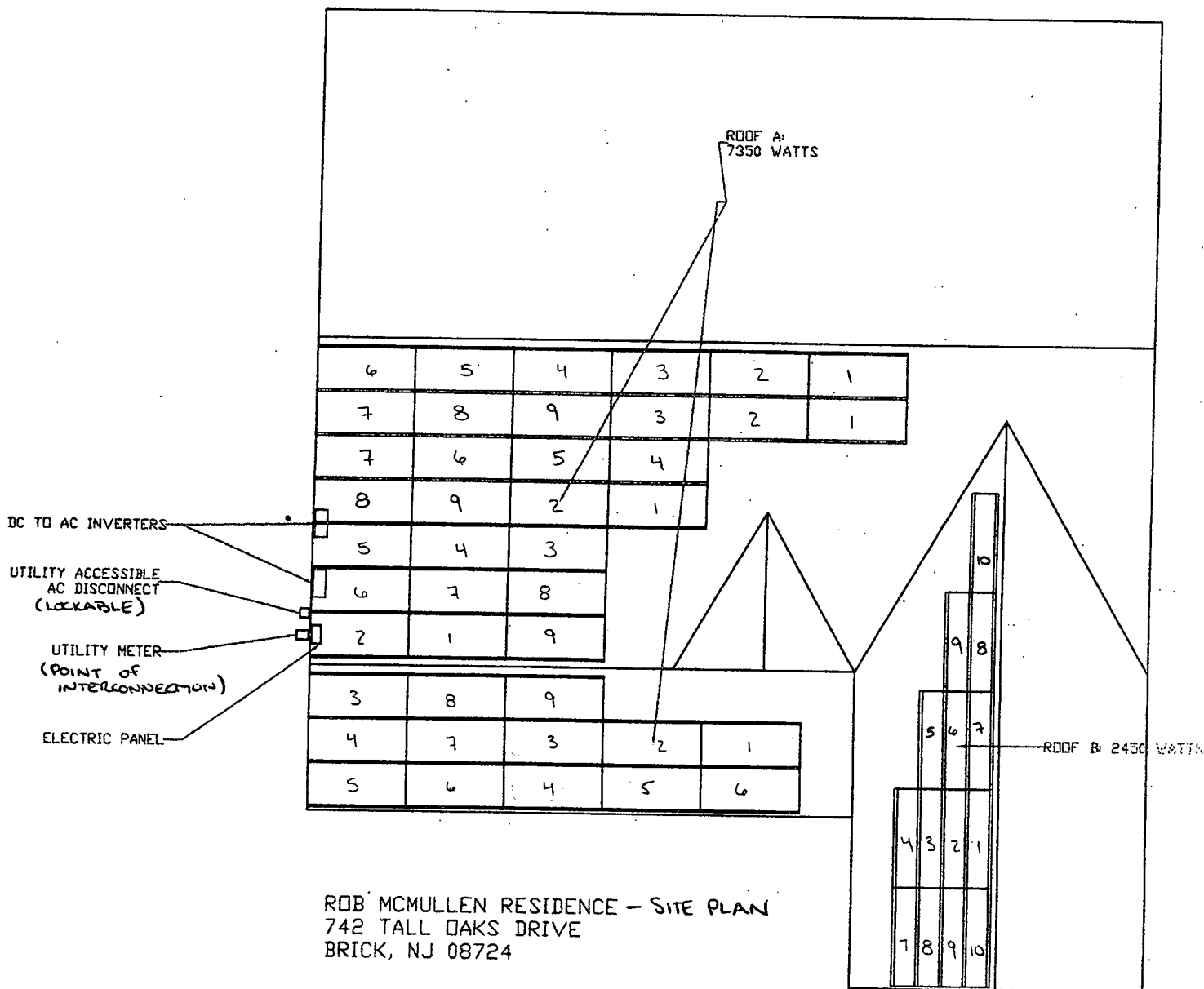
** Some derating likely with out adequate air flow

*** Install a Sunny Breeze Kit to prevent derating

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Note: For best printing results, please change page format to "landscape".



ROB MCMULLEN RESIDENCE - SITE PLAN
 742 TALL OAKS DRIVE
 BRICK, NJ 08724

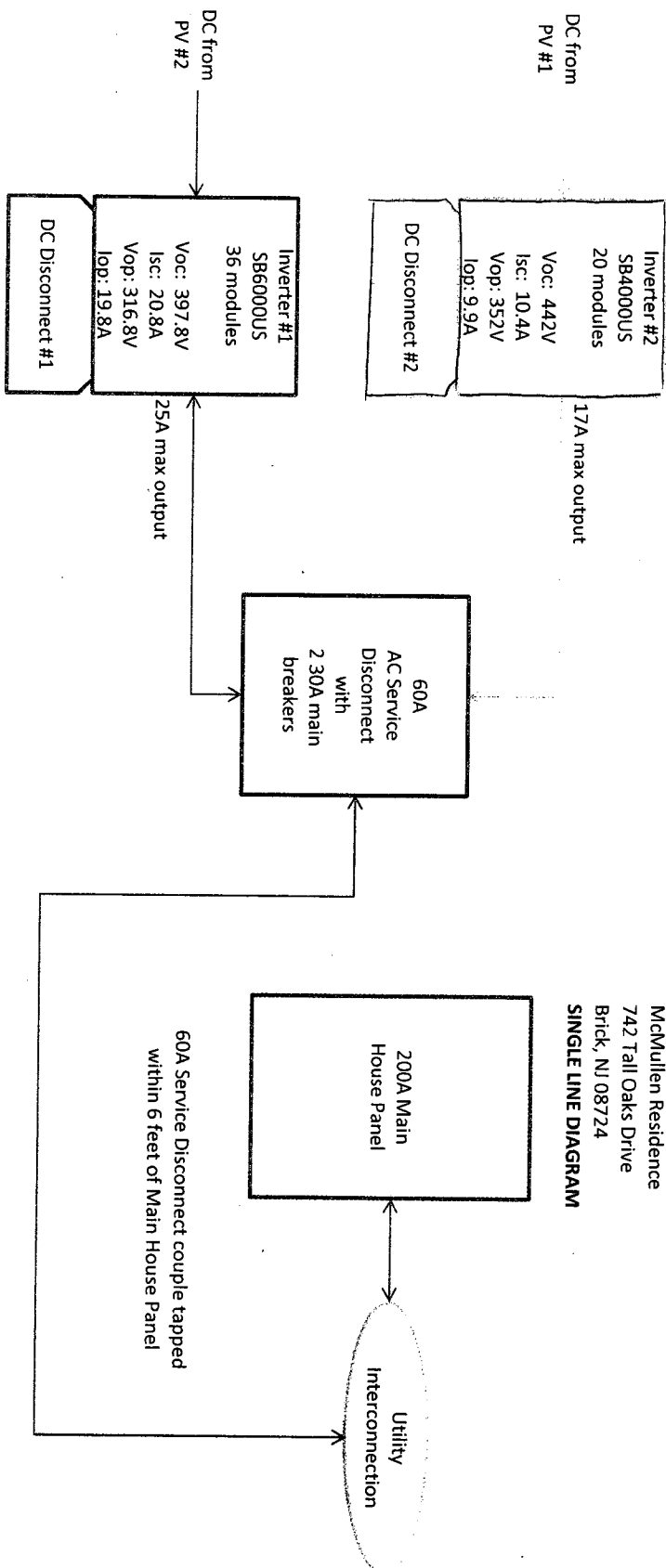
JCP&L ACCT NO: 100049994641

FUTURE SOLUTIONS
 120 ROUTE 156
 YARDVILLE, NJ 08620
 PHONE: (609) 888-3970
 DRAWN BY: MATT ALESTRA

4000W INVERTER
 6000W INVERTER

McMullen Residence
742 Tall Oaks Drive
Brick, NJ 08724

SINGLE LINE DIAGRAM



Wire and Conduit Notes

1. All panel wiring pre-junction to be 10AWG USE-2
2. All wiring post-junction to be 10AWG THHN housed in conduit
3. All conduit within the structure to be EMT

APPROVED WITH THE FOLLOWING CONDITIONS
ALL ELECTRICAL WORK MUST COMPLY WITH
NATIONAL ELECTRICAL CODE 2002
ADALBERTO SOUTO
ELECTRICAL SUBCODE OFFICIAL



STP170S-24/Ab-1

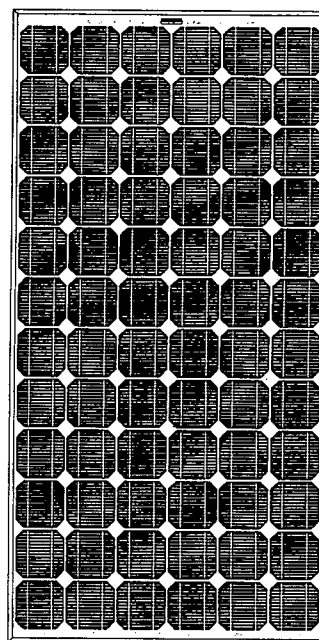
STP165S-24/Ab-1 STP175S-24/Ab-1
STP180S-24/Ab-1

High Efficiency, High Quality
PV Module

Suntech's STPAb-1 is designed and built to deliver highest efficiency and reliable power for on-grid residential and commercial systems worldwide. Relying on Suntech's well-known stringent manufacturing standards and latest PV technology, the module provides the highest possible energy output per Watt with total module efficiency of 14.1%. Superior conversion rate and exceptional low-light performance enable it to deal with the most challenging conditions of military, utility, residential and commercial installations. The module is the perfect choice for those who demand outstanding performance and exceptional uniform appearance.

Features and benefits

- High efficiency
- Nominal 24 V DC for standard output
- Outstanding low-light performance
- High transparent low-iron, tempered glass
- Unique techniques give the panel following features: esthetic appearance, with stands high wind-pressure and snow load, and easy installation
- Unique technology ensure that problems of water freezing and warping do not occur
- Design to meet unique demand of customer
- 25 year module output warranty



Ⓢ Ⓢ Ⓢ

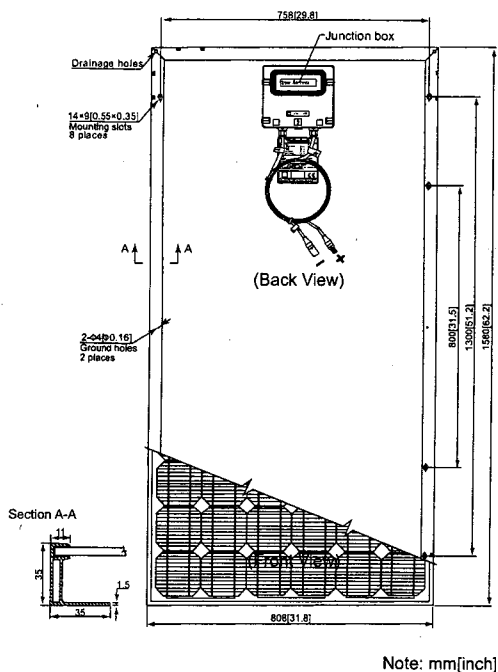
Electrical Characteristics

Model	STP180S-24/Ab-1	STP175S-24/Ab-1	STP170S-24/Ab-1	STP165S-24/Ab-1
Open-circuit voltage (Voc)	44.4V	44.2V	43.8V	43.6V
Optimum operating voltage (Vmp)	35.6V	35.2V	35.2V	34.8V
Short-circuit current (Isc)	5.4A	5.2A	5.14A	5.04A
Optimum operating current (Imp)	5.05A	4.95A	4.83A	4.74A
Maximum power at STC (Pmax)	180Wp	175Wp	170Wp	165Wp
Operating temperature	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C
Maximum system voltage	600V DC	600V DC	600V DC	600V DC

STC: Irradiance 1000W/m² . Module temperature 25°C, AM=1.5



Module Diagram



Specifications

Cell	Monocrystalline silicon solar cells 125mm×125mm
No. of cells and connections	72(6×12)
Dimension of module	1580mm×808mm×35mm
Weight	15.5kg

Temperature Coefficients

NOCT	48°C±2°C
Short-circuit current temperature coefficient	0.017 %/K
Open-circuit voltage temperature coefficient	-0.34 %/K
Peak power temperature coefficient	-0.48 %/K
Power tolerance	±3%

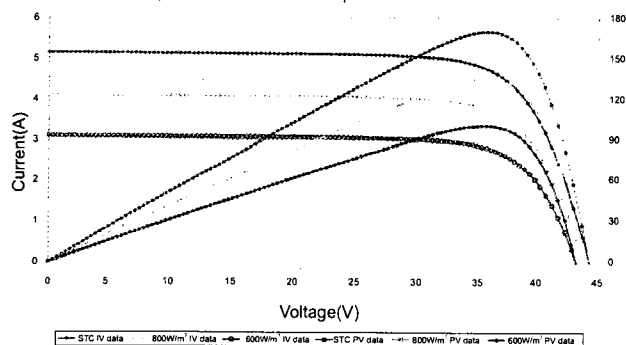
NOCT: Nominal Operating Cell Temperature
(data refer to STP165S)

Output

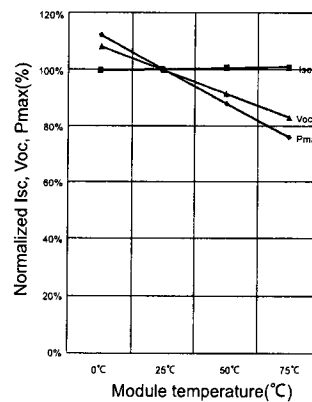
Cable	AIW (12AWG)
Lengths	750mm(-) and 750mm(+)
Connection	MC Plug Type IV

Characteristics

Module IV Graph 170W



Normalized Isc, Voc, Pmax vs. module temperature characteristics



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OR CCB Lic #180494

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Technical Data

SUNNY BOY 3000US / 4000US

Recommended Max. PV Power (Module STC)
Max. DC Voltage
Peak Power Tracking Voltage

DC Max. Input Current
DC Voltage Ripple
Number of Fused String Inputs
PV Start Voltage
AC Nominal Power
AC Maximum Output Power
AC Maximum Output Current
AC Nominal Voltage / Range

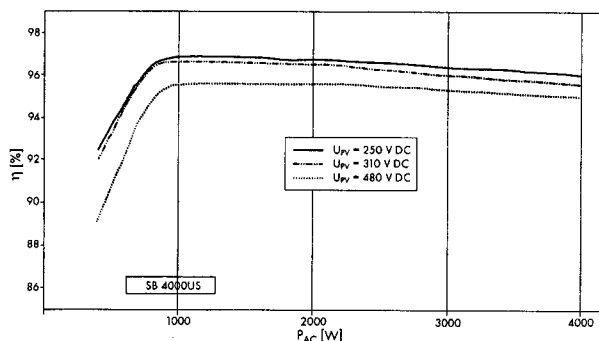
AC Frequency / Range
Power Factor
Peak Inverter Efficiency
CEC weighted Efficiency

Dimensions W x H x D in inches
Weight / Shipping Weight
Ambient temperature range
Power Consumption: standby / nighttime
Topology

Cooling Concept
Mounting Location Indoor / Outdoor (NEMA 3R)
LCD Display
Lid Color: aluminum / red / blue / yellow
Communication: RS485 / Wireless
Warranty: 10-year
Compliance: IEEE-929, IEEE-1547, UL 1741, UL 1998, FCC Part 15 A & B

Specifications for nominal conditions

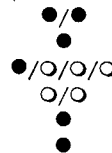
Efficiency Curves



SB 3000US

3750 W
500 V
175 - 400 V @ 208 V
200 - 400 V @ 240 V
17 A
< 5%
2 (inverter), 4 x 15 A (DC disconnect)
228 V
3000 W
3000 W
15 A @ 208 V, 13 A @ 240 V
183 - 229 V @ 208 V
211 - 264 V @ 240 V
60 Hz / 59.3 Hz - 60.5 Hz
0.99 @ nominal power
96.5 %
95.0 % @ 208 V
95.5 % @ 240 V
17.8 x 13.8 x 9.3
84 lbs / 97 lbs
-13 to +113 °F
< 7 W / 0.1 W

Low frequency transformer,
true sinewave,
OptiCool, forced active cooling

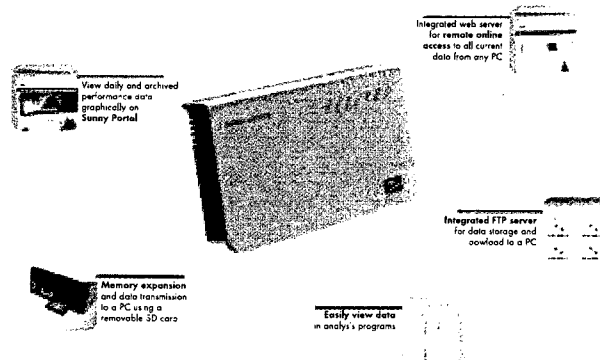
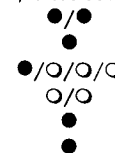


● Included ○ Option — Not available

SB 4000US

4375 W @ 208 V / 5000 W @ 240 V
600 V
220 - 480 V @ 208 V
250 - 480 V @ 240 V
18 A
< 5%
2 (inverter), 4 x 15 A (DC disconnect)
285 V
3500 W @ 208 V / 4000 W @ 240 V
3500 W @ 208 V / 4000 W @ 240 V
17 A
183 - 229 V @ 208 V
211 - 264 V @ 240 V
60 Hz / 59.3 Hz - 60.5 Hz
0.99 @ nominal power
96.8 %
95.5 % @ 208 V
96.0 % @ 240 V
17.8 x 13.8 x 9.3
84 lbs / 97 lbs
-13 to +113 °F
< 7 W / 0.1 W

Low frequency transformer,
true sinewave,
OptiCool, forced active cooling



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STRING SIZING PROGRAM

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Note: For best printing results, please change page format to "landscape".

Results from String Sizing V 6.0

Selected Inverter
SB 4000US (240)

Selected PV Manufacturer
SunTech

Selected PV Module
STP175S-24/Ab-1

Inverter Data

Design Irradiance (W/m²)
1000

Pacmax
4000

Pdcmax
4500

Idc Max
18

Vdc Max
600

Vmpt Max
480

Vmpt Min
250

Vmin
250

Module Data

Module Pnom
175 W

Voc
44,2 V

Vmp
35,2 V

Isc
5,2 A

Imp
4,95 A

Temperature Coefficient of Voltage

Temperature Coefficient of Current

Temperature Coefficient of Power

- 0,48 %

Please select the mounting method for the array: Mounted flat against the roof .

Metric units

Select the **hottest** expected temperature when sunlight will be on the modules

95 of .

9 in series

*** Install a Sunny Breeze Kit
to prevent derating

> Print

Note: For best printing results, please change page format to "landscape".

Technical Data

SUNNY BOY 5000US / 6000US / 7000US

Max. Recommended Array Input Power (DC @ STC)
 Max. DC Voltage
 Peak Power Tracking Voltage
 DC Max. Input Current
 DC Voltage Ripple
 Number of Fused String Inputs
 PV Start Voltage
 AC Nominal Power
 AC Maximum Output Power
 AC Maximum Output Current (@ 208, 240, 277 V)
 AC Nominal Voltage / Range

AC Frequency / Range
 Power Factor
 Peak Inverter Efficiency
 CEC weighted Efficiency

Dimensions W x H x D in inches
 Weight / Shipping Weight
 Ambient temperature range
 Power Consumption: standby / nighttime
 Topology

Cooling Concept

Mounting Location Indoor / Outdoor (NEMA 3R)
 LCD Display
 Lid Color: aluminum / red / blue / yellow
 Communication: RS485 / Wireless
 Warranty: 10-year
 Compliance: IEEE-929, IEEE-1547, UL 1741, UL 1998, FCC Part 15 A & B

Specifications for nominal conditions

SB 5000US

6250 W
 600 V
 250 - 480 V
 21 A
 < 5 %
 4
 300 V
 5000 W
 5000 W
 24 A, 20.8 A, 18 A
 183 - 229 V @ 208 V
 211 - 264 V @ 240 V
 244 - 305 V @ 277 V
 60 Hz / 59.3 Hz - 60.5 Hz
 1
 96.8 %
 95.5 % @ 208 V
 95.5 % @ 240 V
 95.5 % @ 277 V
 18.4 x 24.1 x 9.5
 143 lbs / 154 lbs
 -13 to +113 °F
 < 7 W / 0.25 W
 PWM, true sinewave,
 current source
 Convection with
 regulated fan cooling

SB 6000US

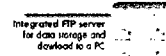
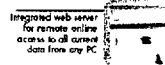
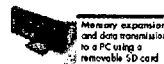
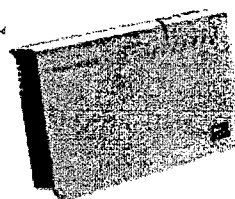
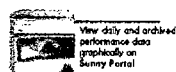
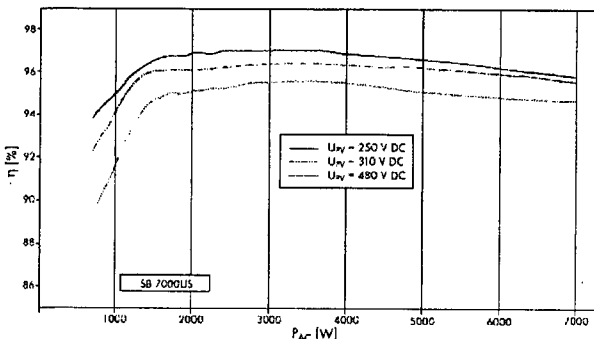
7500 W
 600 V
 250 - 480 V
 25 A
 < 5 %
 4
 300 V
 6000 W
 6000 W
 29 A, 25 A, 21.6 A
 183 - 229 V @ 208 V
 211 - 264 V @ 240 V
 244 - 305 V @ 277 V
 60 Hz / 59.3 Hz - 60.5 Hz
 1
 97.0 %
 95.5 % @ 208 V
 95.5 % @ 240 V
 96.0 % @ 277 V
 18.4 x 24.1 x 9.5
 143 lbs / 154 lbs
 -13 to +113 °F
 < 7 W / 0.25 W
 PWM, true sinewave,
 current source
 Convection with
 regulated fan cooling

SB 7000US

8750 W
 600 V
 250 - 480 V
 30 A
 < 5 %
 4
 300 V
 7000 W
 7000 W
 34 A, 29 A, 25.3 A
 183 - 229 V @ 208 V
 211 - 264 V @ 240 V
 244 - 305 V @ 277 V
 60 Hz / 59.3 Hz - 60.5 Hz
 1
 97.1 %
 95.5 % @ 208 V
 96.0 % @ 240 V
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 18.4 x 24.1 x 9.5
 143 lbs / 154 lbs
 -13 to +113 °F
 < 7 W / 0.25 W
 PWM, true sinewave,
 current source
 Convection with
 regulated fan cooling

● Included ○ Option - Not available

Efficiency Curves



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Supplied by:

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STRING SIZING PROGRAM



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Note: For best printing results, please change page format to "landscape".

Results from String Sizing V 6.0

Selected Inverter
SB 6000US (208 & 240) .

Selected PV Manufacturer
SunTech .

Selected PV Module
STP175S-24/Ab-1 .

Inverter Data

Design Irradiance (W/m²)
1000

Pacmax
6000

Pdcmax
6600

Idc Max
25 Vdc Max
600

Vmpt Max
480 Vmpt Min
250

Vmin
250

Module Data

Module Pnom
175 W Voc
44,2 V

Vmp
35,2 V Isc
5,2 A

Imp
4,95 A

Temperature Coefficient of Voltage
- 0,34 %

Temperature Coefficient of Current
+ 0,017 %

Temperature Coefficient of Power
- 0,48 %

Mounting Method

Please select the mounting method for the array: Mounted flat against the roof .

Temperature Data

Imperial units

Metric units

Select the **coldest** expected temperature when sunlight will be on the modules

Select the **hottest** expected temperature when sunlight will be on the modules

-4 °F

95 °F

Results

<u>1string configurations</u>	<u>2string configurations</u>	<u>3string configurations</u>	<u>4string configurations</u>
9 in series 10 in series 11 in series	9 in series 10 in series 11 in series	9 in series 10 in series 11 in series	9 in series 10 in series

* Some derating possible

** Some derating likely with out adequate air flow

*** Install a Sunny Breeze Kit to prevent derating

< Back

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Note: For best printing results, please change page format to "landscape".

Township of Brick
Zoning Permit

Approved: Thursday, September 03, 2009 **Number:** 2009-668

Block 1422.07 **Lot** 15 **Zone:** R-20

Property Address: 742 Tall Oaks Drive

Applicant: Robert McMullen

Property Owner: Robert McMullen

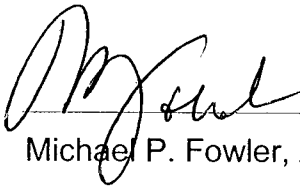
Existing Use: Single Family Residential

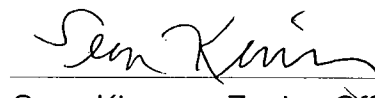
Proposed Use: Single Family Residential

Proposed Construction: Installation of solar panels on the roof, 26' high.

Conditions: An additional zoning permit is required for any additional work.

This permit shall be null, void and of no effect if any of the facts contained in the application upon the basis that this permit was granted are false or untrue in any material respect. This permit shall expire one (1) year after the date of issuance if the use or substantial construction has not been commenced.

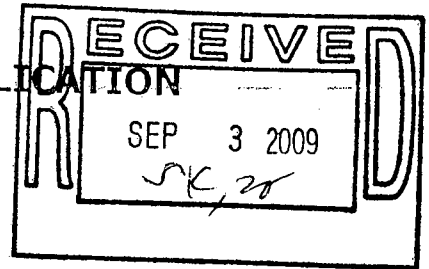

Michael P. Fowler, AICP/PP
Administrative Officer


Sean Kinney, Zoning Officer
Zoning Reviewer

TOWNSHIP OF BRICK ZONING PERMIT APPLICATION

(Please Type or Print Neatly in Ink, Not Pencil)

Applications missing any of the following information
will delay processing and may be returned to you.



BLOCK 1422.07 LOT 15 QUALIFIER _____

PROPERTY ADDRESS 742 TAU OAKS DR

PERSONAL NAME OF APPLICANT ROBERT McMULLEN

BUSINESS NAME OF APPLICANT N/A

MAILING ADDRESS OF APPLICANT 742 TAU OAKS DR

PROPERTY OWNER'S FULL NAME ROBERT McMULLEN

PRESENT USE OF PROPERTY (check all that apply)

- ☐ Vacant Lot ☒ Single-family dwelling ☐ Multi-family dwelling
☐ Commercial (please describe) _____

PROPOSED USE OF PROPERTY (check all that apply)

- ☐ Vacant Lot ☒ Single-family dwelling ☐ Multi-dwelling
☐ Commercial (please describe) _____

PROPOSED CONSTRUCTION (check all that apply)

- ☐ New Building (please describe) _____ Height _____
☐ Addition - Height _____
☒ Alteration ROOF MOUNT SOLAR ARRAY +/- 26'
☐ Porch or deck - Height _____
☐ Shed - Height _____
☐ Fence - Type _____ Height _____
☐ Swimming Pool ☐ in-ground ☐ above-ground
☐ Other (please describe) _____

CHECKLIST

- ☒ All information completed above
☐ Two (2) copies of a plot plan containing:
☐ All existing and proposed structures
☐ All dimensions of the lot and structures
☐ All setbacks from the structures to the property lines
☐ All adjacent streets and waterways

☐ If applicable, include a copy of the Zoning Board of Adjustment Resolution, the date that the map was signed, and/or the date that the subdivision map was filed with the Ocean County Clerk, along with the file map and number.

Note: No partial, taped, faxed,
reduced or enlarged copies
can be accepted.

The applicant certifies that all statements and information made and provided as part of this application are true to the best of the applicant's knowledge, information and belief. The applicant further states that the applicant will comply with all other Municipal approvals and ordinances, and all County, State, and Federal Regulations.

SIGNATURE OF APPLICANT Robert McMullen Date Aug. 31, 2009

Reviewed by Zoning Office SK Date 9/3/9 ☒ Approved ☐ Denied