

CITY OF GROSSE POINTE WOODS, MICHIGAN
20025 Mack Plaza Dr.
Planning Commission Meeting Agenda
March 27, 2012
7:30 p.m.

1. **CALL TO ORDER**
2. **ROLL CALL**
3. **PLEDGE OF ALLEGIANCE**
4. **ACCEPTANCE OF AGENDA**
5. **RECOGNITION OF COUNCIL REPRESENTATIVE/S**
6. **APPROVAL OF MINUTES:**
 - Planning Commission Workshop – 02/29/12
 - Planning Commission – 02/29/12
7. **PUBLIC HEARING UNDER THE PROVISIONS OF MICHIGAN COMPILED LAWS, SECTIONS 125.3101 THROUGH 125.3702 AS AMENDED, TO CONSIDER AMENDMENTS TO CHAPTER 50 ZONING, ARTICLE III DISTRICT REGULATIONS, BY ADDING SECTION 50-185 PROHIBITED USES, TO PROVIDE THAT ANY USE CONTRARY TO STATE, FEDERAL OR LOCAL LAWS IS PROHIBITED**
 - A. PC Excerpt – 02/29/12
 - B. City Council Excerpt – 02/27/12
 - C. COW Excerpt – 02/13/12
 - D. Letter – 01/14/12 – Assistant City Attorney (C. Berschback)
 - E. Proposed Ordinance - Section 50-185 – Prohibited Uses
 - F. Affidavit of Legal Publication – 03/08/12
 - G. Proposed Resolution – 03/27/12 – Asst City Atty (C. Beschback)
8. **CONTINUED DISCUSSION: SOLAR ENERGY**
 - A. PC Excerpt – 10/25/11
 - B. PC Excerpt – 11/22/11
 - C. PC Excerpt – 01/24/12
 - D. PCW Excerpt – 02/29/12
 - E. PC Excerpt – 02/29/12
 - F. Brochure: Homeowner Affidavit and Site Plan (S Graff) – 04/17/11
 - G. Memo – 03/21/12 – Building Official (Tutag)
 - Final DRAFT Solar Ordinance (C. Berschback/Tutag)
9. **BUILDING OFFICIAL'S MONTHLY REPORT:**
 - Building Department Report – February 2012
10. **COUNCIL REPORT:**
 - March - Richardson
11. **INFORMATION ONLY - COUNCIL REPRESENTATIVE FOR NEXT MEETING:**
 - April - Vaughn

12. NEW BUSINESS:

Sub-Committee Reports:

2020 Plan (Hamborsky/Vitale/Fuller/Gilezan)

Special Sign (Vaughn/Evola/Fuller)

13. ADJOURNMENT

Submitted by: Gene Tutag, Building Official

313-343-2426

IN ACCORDANCE WITH PUBLIC ACT 267 (OPEN MEETINGS ACT) POSTED
AND COPIES GIVEN TO NEWSPAPERS

Notice: The City of Grosse Pointe Woods will provide necessary, reasonable auxiliary aids and services, such as signers for the hearing impaired, or audio tapes of printed materials being considered at the meeting to individuals with disabilities. All such requests must be made at least five days prior to said meeting. Individuals with disabilities requiring auxiliary aids or services should contact the City of Grosse Pointe Woods by writing or calling the A.D.A. Coordinator or the City Clerk's office, 20025 Mack Plaza, Grosse Pointe Woods, MI 48236 (313) 343-2445; or Telecommunications Device for the Deaf (TDD) (313) 343-9249.

NOTE TO PETITIONERS:

Please make every effort to be present at the meeting so that public officials
may get the benefit of your input on the matter before them.

PLANNING COMMISSION WORKSHOP
2-29-12 - 001

MINUTES OF THE PLANNING COMMISSION WORKSHOP MEETING HELD ON
FEBRUARY 29, 2012 IN THE COUNCIL CHAMBERS OF THE MUNICIPAL BUILDING,
20025 MACK AVENUE, GROSSE POINTE WOODS, MICHIGAN.

The meeting was called to order at 6:42 p.m. by Chair Gilezan.

Roll Call: Commissioners: Dickinson, Evola, Fuller, Hamborsky,
Vitale (7:22 p.m.)

Absent: Richardson, Vaughn

Also Present: Building Official Tutag
City Attorney C. Berschback
Recording Secretary St. Peter

Also in Attendance: Amy Strutz
Stan Graff, Ann Arbor

Motion by Gilezan, seconded by Evola, that Commissioners Vaughn, Vitale and Richardson be excused from tonight's meeting.

MOTION CARRIED by the following vote:

YES: Dickinson, Evola, Fuller, Gilezan, Hamborsky,

NO: None

ABSENT: Vaughn, Vitale, Richardson

The first item on the agenda was concerning **Presentation: Solar Energy.**

A discussion ensued regarding the use of solar energy in the city and the need for regulation in the community. Ms. Strutz gave a presentation regarding installation of solar panels. Mr. Graff indicated he has 75 solar panels on his roof. The following items were discussed:

- Home should be south facing for solar panels to be installed.
- Solar panels are engineered for each individual roof and are guaranteed for wind load, snow load and the type of roof.
- Solar systems will last upwards of 30 years.

PLANNING COMMISSION WORKSHOP
2-29-12 - 002

- Fire retardation was discussed. Venting of roofs by the fire department is not prevented by solar panels. Panels are cool enough to be touched.
- Roof is not damaged from installation of solar panels.
- Solar panels protect roof shingles from sun damage.
- Panels are UL certified.

Building Official Tutag inquired as to the City of Ann Arbor's regulations. Mr. Graff indicated:

- No identification on the house is required indicating solar energy is being used.
- Application is made to the Ann Arbor building department and was quite costly.

Mr. Graff further indicated:

- Installation of solar panels is simple.
- Installation is mainly on house roofs, carports, pool sheds. Ground mounts are not recommended.
- Reflective properties of solar panels are minimal. Solar panels do not reflect beams of light and project light elsewhere as the panels are meant to absorb light. May get some reflection of a paneled roof from a one-story house to a two-story house.
- Small animals may nest under solar panels. This can be prevented by installing half-inch galvanized wire mesh and attach it around the perimeter of the roof.

There was no **New Business** to report.

The Planning Commission Workshop meeting was unanimously adjourned at 7:28 p.m.

PLANNING COMMISSION
2/29/12 – 005

MINUTES OF THE PLANNING COMMISSION OF THE CITY OF GROSSE POINTE WOODS
HELD ON TUESDAY, FEBRUARY 29, 2012, IN THE COUNCIL-COURT ROOM OF THE
MUNICIPAL BUILDING, 20025 MACK AVENUE, GROSSE POINTE WOODS, MICHIGAN.

The meeting was called to order at 7:40 p.m. by Chair Gilezan.

Roll Call: Chair Gilezan
Dickinson, Evola, Fuller, Hamborsky, Vitale

Absent: Richardson, Vaughn

Also Present: Building Official Tutag
City Attorney C. Berschback
Recording Secretary St. Peter

Attendance: Council Member Ketels, PC Representative
Council Member Koester

Motion by Evola, seconded by Dickinson, that Commissioners Richardson and Vaughn be excused from tonight's meeting.

MOTION CARRIED by the following vote:

YES: Dickinson, Evola, Fuller, Gilezan, Hamborsky, Vitale

NO: None

ABSENT: Richardson, Vaughn

Motion by Fuller, seconded by Vitale, that all items on tonight's agenda be received, placed on file, and taken in order of appearance.

MOTION CARRIED by the following vote:

YES: Dickinson, Evola, Fuller, Gilezan, Hamborsky, Vitale

NO: None

ABSENT: Richardson, Vaughn

Motion by Dickinson, seconded by Vitale, regarding **Approval of Minutes**, that the Planning Commission Meeting minutes dated January 24, 2012 be approved.

PLANNING COMMISSION
2/29/12 - 006

MOTION CARRIED by the following vote:

YES: Dickinson, Evola, Fuller, Gilezan, Hamborsky, Vitale

NO: None

ABSENT: Richardson, Vaughn

The next item on the agenda was **Continued Discussion: Solar Energy**. Building Official Tutag gave a brief overview of this agenda item. There was discussion of the following additions to the proposed ordinance:

- Building plans will be required with permit and application.
- Solar panels cannot be located within four (4) feet of any peak, eave or valley to maintain adequate accessibility by public safety.
- Solar panels should have the seal of a licensed engineer.
- Citations issued to citizens if their solar panels are creating reflective glare to another homeowner.
- Design guidelines for color/finish of solar panels.
- Critter control guidelines.
- Street side installation to be permitted.
- Roofs will be required to be restored to the original condition for abandoned systems or systems that become functionally obsolete.
- Wall and ground solar systems are prohibited.

Building Official Tutag and the City Attorney will look at the design standards of other city's ordinances and bring this information back to the Planning Commission.

The next item on the agenda was concerning **Schedule a Public Hearing: Prohibited Uses (New Section #50-185)**. City Attorney Berschback gave a brief overview.

Motion by Vitale, seconded by Evola, that the Planning Commission will schedule a Public Hearing for purposes of entertaining a proposed ordinance – Prohibited Uses Section 50-185, at the next regularly scheduled meeting of the Planning Commission.

MOTION CARRIED by the following vote:

YES: Dickinson, Evola, Fuller, Gilezan, Hamborsky, Vitale

NO: None

ABSENT: Richardson, Vaughn

PLANNING COMMISSION
2/29/12 – 007

The next item on the agenda was the **Building Official's Monthly Report**. Mr. Tutag reported the following:

- There is a new owner of the service station at Mack and Hawthorne. Mr. Tutag met with the owner regarding his plans for the building, paving needs and repairs to the building. The initial inspection of the building has been done.
- An inquiry was made by the Grosse Pointe Music Academy to move into Grosse Pointe Woods.
- Monthly vacancy report will be completed as soon as possible.
- Some interest has been shown in the old Standard Federal building.
- Mack Avenue Business Association has new officers.

Commission Member Vaughn gave the **February 2012 Council Report**:

- February 6th meeting: PC Annual Report was received by the City Council.

Commission Member Richardson will attend the Council Meetings in March.

Under **New Business**, the following **Subcommittee Reports** were provided:

2020 Plan – Commissioner Hamborsky met with Director of Public Works Ahee regarding some Mack Avenue concepts. A 2020 Subcommittee meeting is scheduled for Wednesday, March 21st at 7:30 a.m. The topic will be Mack Avenue.

Special Sign – Nothing to report.

A Planning Commission Workshop is scheduled at 6:30 p.m., before the March Planning Commission meeting, to address tasks for the Planning Commission in 2012.

Motion by Evola, seconded by Vitale, to adjourn the Planning Commission meeting at 8:30 p.m. Passed unanimously.

PLANNING COMMISSION EXCERPT
2/29/12

The next item on the agenda was concerning **Schedule a Public Hearing: Prohibited Uses (New Section #50-185)**. City Attorney Berschback gave a brief overview.

Motion by Vitale, seconded by Evola, that the Planning Commission will schedule a Public Hearing for purposes of entertaining a proposed ordinance – Prohibited Uses Section 50-185, at the next regularly scheduled meeting of the Planning Commission.

MOTION CARRIED by the following vote:

YES: Dickinson, Evola, Fuller, Gilezan, Hamborsky, Vitale

NO: None

ABSENT: Richardson, Vaughn

COUNCIL
CLIPPING
02-27-12

Motion by Ketels, seconded by Bryant, regarding **Ordinance – Medical Marijuana**, that the City Council forward the Medical Marijuana Ordinance to the Planning Commission to set a Public Hearing.

Motion carried by the following vote:

Yes: Bryant, Granger, Ketels, Koester, McConaghy, Novitke, Shetler
No: None
Absent: None

Motion by Ketels, seconded by Shetler, regarding ordinance – Medical Marijuana, that the previous motion be immediately certified.

Motion carried by the following vote:

Yes: Bryant, Granger, Ketels, Koester, McConaghy, Novitke, Shetler
No: None
Absent: None

cc: File
Planning Commission
S.S.

COMMITTEE-OF-THE-WHOLE EXCERPT
02-13-12

The next item discussed was regarding **Medical Marijuana**. The City Attorney provided an overview of the moratorium and discussed the proposed land use ordinance.

Motion by Granger, seconded by Bryant, regarding **ordinance – Medical Marijuana**, that the Committee-of-the-Whole make a recommendation to City Council to approve this ordinance forward the proposed ordinance to the Planning Commission for scheduling a public hearing.

Motion carried by the following vote:

Yes:	Bryant, Granger, Ketels, Koester, McConaghy, Novitke
No:	None
Absent:	Shetler

Administration was directed to place the ordinance – Medical Marijuana on the City Council Meeting for February 27, 2012, then on the Planning Commission agenda for February 29, 2012.

CHARLES T. BERSCHBACK

ATTORNEY AT LAW

24053 EAST JEFFERSON AVENUE
ST. CLAIR SHORES, MICHIGAN 48080-1E30

(586) 777-0400
FAX (586) 777-0430
blbwlaw@yahoo.com
February 14, 2012

CHARLES T. BERSCHBACK

DON R. BERSCHBACK
OF COUNSEL

Planning Commission
City of Grosse Pointe Woods
20025 Mack Plaza
Grosse Pointe Woods, MI 48236

RE. 2-29-12 Agenda Item / Scheduling of Public Hearing / Zoning Ordinance

Dear Planning Commission:

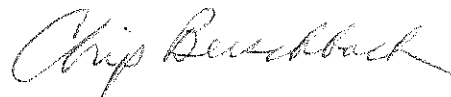
The City Attorney's office has been keeping the Mayor and Council up to date regarding the Michigan Medical Marijuana Act ("MMMA"). For purposes of zoning and land use within the City, a moratorium has been in affect since August 16, 2010. Council has recently granted another extension from February 16, 2012 through August 16, 2012.

I have recommended to the Council that the attached ordinance be enacted which would prohibit any uses in districts "that are contrary to federal, state or local laws or ordinances of Grosse Pointe Woods".

At the Committee of the Whole on February 13th the Council unanimously recommended that this ordinance be forwarded to you for the scheduling of a public hearing.

I will provide an oral report to the planning commission at the February 29th meeting. Thank you.

Very truly yours,



CHIP BERSCHBACK

CTB:gmr
Enclosures

cc: Al Fincham
Lisa Hathaway
Gene Tutag

ORDINANCE # _____

AN ORDINANCE AMENDING CHAPTER 50 ZONING,
ARTICLE III DISTRICT REGULATIONS,
BY ADDING SECTION 50-185 PROHIBITED USES,
TO PROVIDE THAT ANY USE CONTRARY TO
STATE, FEDERAL OR LOCAL LAWS IS PROHIBITED

THE CITY OF GROSSE POINTE WOODS ORDAINS:

Sec. 50-185 Prohibited Uses.

Each District, as created in this Article, shall be subject to the regulations contained in this Ordinance and Chapter 50 Zoning. Uses not expressly permitted are prohibited. Uses in each of the enumerated districts that are contrary to federal, state, or local laws or ordinances of Grosse Pointe Woods, are prohibited.

AFFIDAVIT OF LEGAL PUBLICATION

Grosse Pointe News

96 Kercheval

Grosse Pointe Farms, Michigan 48236

(313) 882-3500

COUNTY OF WAYNE
STATE OF MICHIGAN, SS.

Kathryn Andros

being duly sworn deposes and says that attached

City of Grosse Pointe Woods

was duly published in accordance with instructions
the following date:

March 8, 2012

#7 GPW 3/8 PLANNING COMMISSION

and knows well the facts stated herein, and the
newspaper.

Subscribed and sworn to before me this 8th d

City of ~~Grosse Pointe Woods~~, Michigan

PLANNING COMMISSION NOTICE

NOTICE IS HEREBY GIVEN that the Planning Commission of the City of Grosse Pointe Woods will hold a public hearing under the provisions of Michigan Compiled Laws, Sections 125.3101 through 125.3702 as amended, to consider amendments to Chapter 50, *Zoning*, at a meeting scheduled for Tuesday, March 27, 2012, at 7:30 p.m. in the Council Room of the Municipal Building. The proposed ordinance is available for public inspection at the Municipal Building, 20025 Mack Plaza, between 8:30 a.m. and 5:00 p.m., Monday through Friday. All interested persons are invited to attend and will be given opportunity for public comment. The public may appear in person or be represented by counsel. Written comments will be received in the City Clerk's office, up to the close of business preceding the hearing. A group spokesperson is encouraged on agenda items concerning organized groups. Individuals with disabilities requiring auxiliary aids or services at the meeting should contact the Grosse Pointe Woods Clerk's Office at 313 343-2440 seven days prior to the meeting:

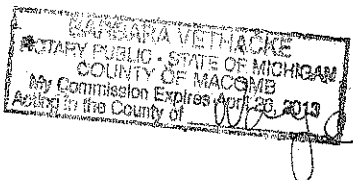
AN ORDINANCE AMENDING CHAPTER 50 ZONING,
ARTICLE III DISTRICT REGULATIONS,
BY ADDING SECTION 50-185 PROHIBITED USES,
TO PROVIDE THAT ANY USE CONTRARY TO
STATE, FEDERAL OR LOCAL LAWS IS PROHIBITED

G.P.N.: 3/8/2012

Lisa Kay Hathaway, MMC
City Clerk

Notary Public, Macomb County, Michigan
Acting in Wayne County

My Commission Expires April 26th, 2013



PLANNING COMMISSION RESOLUTION

Minutes of a regular meeting of the Planning Commission of the City of Grosse Pointe Woods, County of Wayne, State of Michigan, held on Tuesday, March 27, 2012, at 7:30 o'clock p.m., Eastern Standard Time.

PRESENT: Members _____

ABSENT: Member _____

The following preamble and resolution was offered by Member _____ and seconded by Member _____:

WHEREAS, the Grosse Pointe Woods City Council acting as a Committee of the Whole referred a proposed zoning ordinance to the Planning Commission for purposes of scheduling a public hearing, and

WHEREAS, a public hearing occurred in front of the Planning Commission on March 27, 2012, and

WHEREAS, the proposed ordinance would amend Chapter 50 Zoning by adding Sec. 50-185 Prohibited Uses, to provide that any use contrary to state, federal or local law is prohibited, and

NOW THEREFORE, the Planning Commission hereby recommends adoption of the proposed Sec. 50-185 as submitted, and refers this matter back to the City Council for a first reading.

Immediate Certification: This motion is immediately certified.

AYES:

NAYS:

ABSENT:

RESOLUTION DECLARED ADOPTED.

Planning Commission Chairman

CERTIFICATION

I, _____, do hereby certify that the foregoing constitutes a true and complete copy of a resolution adopted by the Planning Commission on March 27, 2012, and that said meeting was conducted and public notice of said meeting was given pursuant to and in full compliance with the Open Meetings Act being Act 267, Public Acts of Michigan, 1976, and that the minutes of said meeting have been kept and will be, or have been, made available as required by said Act.

PLANNING COMMISSION EXCERPT
10/25/11

The first item on the agenda was **Discussion: Solar Panels**. Building Official Tutag provided multiple ordinances relating to the topic from various municipalities. He began the discussion by indicating that small wind and solar renewable energy systems are becoming more prevalent.

To be proactive, it is advisable that the city establish regulations that would accommodate this trend while preserving the aesthetics and safety of the community. Discussion among the Commission Members ensued and it was determined that Building Official Tutag will draft an ordinance for the Commission's review.

PLANNING COMMISSION EXCERPT
11/22/11

The next item on the agenda was **Continued Discussion: Solar Panels**. Building Official Tutag provided a draft Solar Panel / Wind Energy Ordinance. The purpose of the ordinance is to give the City some guidelines to regulate such alternative energy installations. Discussion ensued regarding the content of the draft ordinance. The Planning Commission requested that this item be postponed until the January 2012 meeting with the intent of having an expert in the field make a presentation to the Commission for educational purposes.

PLANNING COMMISSION EXCERPT
01/24/12

The next item on the agenda was **Continued Discussion: Solar Energy**. Building Official Tutag provided a draft of Grosse Pointe Shores' Solar Panels and Shingles Ordinance, which provides a good model. Discussion ensued regarding provisions the Commission wants in a proposed ordinance. Mr. Tutag will amend the Grosse Pointe Shores ordinance to reflect the Commission's discussion and submit it at the February 29th meetings. Additionally, Commission Member Vitale will contact Dow Chemical Co. and inquire about the types of solar products available and possibly have a representative attend the meeting with samples.

PCW EXCERPT
02-29-12

The first item on the agenda was concerning **Presentation: Solar Energy.**

A discussion ensued regarding the use of solar energy in the city and the need for regulation in the community. Ms. Strutz gave a presentation regarding installation of solar panels. Mr. Graff indicated he has 75 solar panels on his roof. The following items were discussed:

- Home should be south facing for solar panels to be installed.
- Solar panels are engineered for each individual roof and are guaranteed for wind load, snow load and the type of roof.
- Solar systems will last upwards of 30 years.
- Fire retardation was discussed. Venting of roofs by the fire department is not prevented by solar panels. Panels are cool enough to be touched.
- Roof is not damaged from installation of solar panels.
- Solar panels protect roof shingles from sun damage.
- Panels are UL certified.

Building Official Tutag inquired as to the City of Ann Arbor's regulations. Mr. Graff indicated:

- No identification on the house is required indicating solar energy is being used.
- Application is made to the Ann Arbor building department and was quite costly.

Mr. Graff further indicated:

- Installation of solar panels is simple.
- Installation is mainly on house roofs, carports, pool sheds. Ground mounts are not recommended.
- Reflective properties of solar panels are minimal. Solar panels do not reflect beams of light and project light elsewhere as the panels are meant to absorb light. May get some reflection of a paneled roof from a one-story house to a two-story house.
- Small animals may nest under solar panels. This can be prevented by installing half-inch galvanized wire mesh and attach it around the perimeter of the roof.

PLANNING COMMISSION EXCERPT
2/29/12

The next item on the agenda was **Continued Discussion: Solar Energy**. Building Official Tutag gave a brief overview of this agenda item. There was discussion of the following additions to the proposed ordinance:

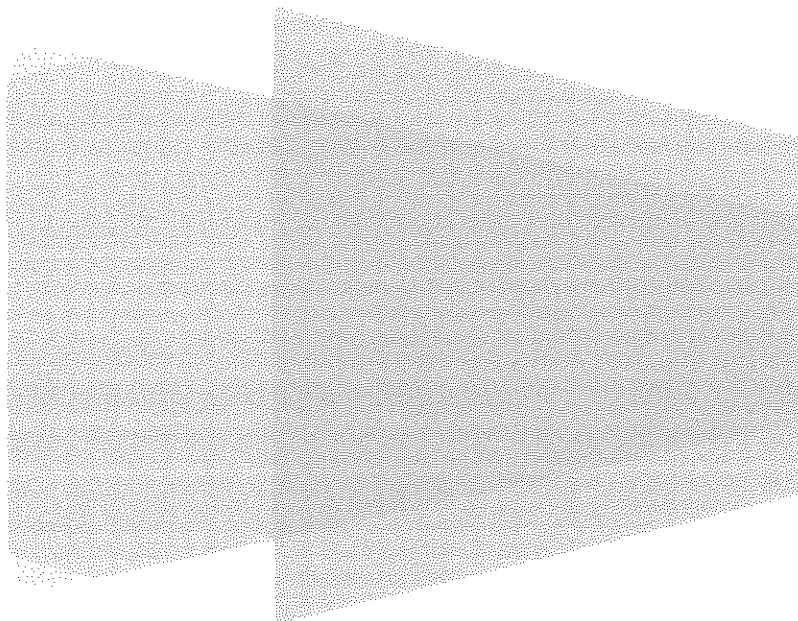
- Building plans will be required with permit and application.
- Solar panels cannot be located within four (4) feet of any peak, eave or valley to maintain adequate accessibility by public safety.
- Solar panels should have the seal of a licensed engineer.
- Citations issued to citizens if their solar panels are creating reflective glare to another homeowner.
- Design guidelines for color/finish of solar panels.
- Critter control guidelines.
- Street side installation to be permitted.
- Roofs will be required to be restored to the original condition for abandoned systems or systems that become functionally obsolete.
- Wall and ground solar systems are prohibited.

Building Official Tutag and the City Attorney will look at the design standards of other city's ordinances and bring this information back to the Planning Commission.

Stan Graff
3638 Wellington Cross
Ann Arbor, MI 48105
Ph: (734) 761-2506

Homeowner Affidavit and Site Plan

For obtaining a Building Permit and Electrical
Permit for the installation of a grid-tied, roof-
mounted solar array within the city of Ann Arbor.



17 April 2011

Solar Array Project—Graff Residence

1. Purpose

This document provides supporting information for obtaining the permits required from the City of Ann Arbor, MI in order to install a grid-tied solar system at the residence located at 3638 Wellington Cross, Ann Arbor, MI 48105. The system includes:

- The proposed system shall be configured to be grid-tied in accordance with the requirements of DTE Energy. Applications and site plans have been submitted.
- Solar panels, three strings of 11 for a total of 33 panels shall be installed on top of the south-facing part of the roof.
- The total wattage of the solar array will be $33 \times 230 \text{ watts} = 7,590 \text{ watts}$.
- All energy produced will be routed to a central inverter located within 5 feet of the main house electrical revenue meter. It will be converted from Direct Current (DC) to Alternating Current (AC) by a single 7.5 kilowatt inverter. The AC current will be synchronized to the DTE power grid and either consumed by the Graff household or redirected to the general DTE grid.

The project is intended to increase the development of alternative green (environmentally-friendly) energy and reduce the reliance of the Ann Arbor community upon carbon-based energy generation

2. Location of the Solar Array and Installation

Location:

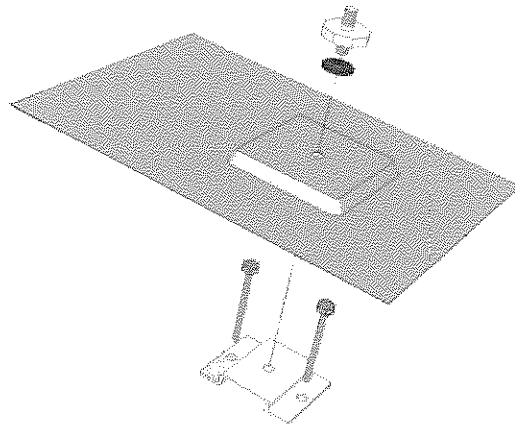
The array will be mounted on the south-facing (due south) upper portion of the roof on the Graff house located on parcel number 09-09-26-100-046, address 3638 Wellington Cross, Ann Arbor, MI 48105. See the property diagram attachments 1, 3 & 4.

- Array consists of 33 solar panels.
- The array will not be visible to the street-side (north side) of the house.
- All array electricity will be converted by an Inverter located on the west side of the house co-located at the DTE electrical service area for the house.
- The solar panel array will be mounted to rack and footings in two main rows of 14 panels with an additional row of four panels topped with a final single panel.
- The panels will be electrically connected in three series strings of 11 panels each.
- All three strings will be connected at a Combiner Box in a parallel configuration, see Attachment 2, One-Line Diagram.
- All mechanical work will be performed by the owner of the property, Stan Graff.
- All electrical work will be supervised and/or performed by Amy Strutz, a licensed electrical contractor in the Ann Arbor area.

3. Installation Plan

Footings:

The footings will be bolted through the 40-year asphalt roof shingles in sufficient numbers to support the entire array as well as the snow load requirement of 20 pounds per square foot. The brand name for the footings is Zilla. Each footing will be secured to an underlying roof rafter by two each 5/16" x 3" stainless steel lag bolt screw. The flashing will be inserted up and underneath the shingles upslope from the anchor plate. A bead of roof shingle caulk will be applied in an upside down "U" shape on the



underside of the flashing. The flashing will then be securely bolted to the anchor plate with a double thread bolt, water proofed with a neoprene washer.

Rack and Mounting:

Each solar panel is mounted to a double row of UniRac brand rails. Each rail is attached to the footings by a serrated "L" bracket. Each L bracket is bolted to the threaded stud sticking up from each footing located every 4 feet across the roof surface using a stainless steel serrated flange nut, torqued to 30 foot pounds.

The UniRac rails will be bolted to the L brackets using 3/8" by 3/4" long stainless steel bolts. The nuts are serrated stainless steel and torqued to 30 foot pounds.

Grounding:

Each rail segment will be joined by a splice which will be solidly fixed to one rail. The rails will be positioned with a 1/8" space which will account for thermal expansion. Each of the main rail runs will be about 47' long. Each splice is interconnected with the respective rail segments in such a way as to maintain rigidity and strength and at the same time allow for lateral thermal expansion.



On the sides of each splice area, a ground lug will be attached to the rail using self-tapping #10 stainless steel screws. The lugs are tin-plated solid copper with a stainless steel screw which clamps a one-foot section of 6 gauge solid copper grounding wire. This will insure that all rails are securely grounded.

Solar panel grounding will be accomplished by inserting a WEEB grounding strips under one of the two clamps used to securely fasten each side of the panels to the rails. When the mid and end clips are torqued down (using 15 foot pounds of torque), the lower edge of the panel frames will be perforated as well as the underlying rails. This will provide for panel grounding to the rail rack system. The reason this is done is because the rails and panel frames are anodized and can potential prevent electrical grounding of the components.

All grounding from the panel frames and the rail racks will be routed down the roof using a single solid 6 gauge copper wire to the south side of the house. The copper wire will terminate to a grounding pole which will consist of a copper-plated iron rod pounded into the ground at least 8' in depth.

It is important to note that the "Ground" wires from the panel frames and rails not be connected to the DC Negative conductors from the solar panels at all. The Fronius Inverter has an internal GFCI circuit that should detect any shorting and immediately break the circuit. If the negative and the ground were connected outside the inverter, the GFDI circuit would not function properly.

Panel Mounting:

Each panel will be mounted perpendicular to a parallel pair of UniRac rails. The rails will be 32" apart. The end panel will be attached with two end clamps which bolt to the top of the respective rails. The next panel will be put down 1" from the side of the end panel. A mid-clamp will be bolted in between the panels, again at each rail. The clamps are bolted to the top of the rails.

Each successive solar panel will be mounted with mid-clamps as described in the previous paragraph. The last panel will have its outer frame attached using two end clamps.

While mounting panels, at least one of the mid clamps will have a WEEB grounding clip placed under the panel frames as previously discussed. As the clamp is torqued down the WEEB will penetrate both the anodized rail and the panel frame. This will insure proper grounding of all panel frames to the rail system.



Each solar panel has two leads capped with Tyco SolarLok plugs. They are configured in such a manner that they cannot be improperly connected to any other panel. The array will be arranged in three strings of 11 panels. All panels in a string will be connected in series, and then combined in parallel in the roof-mounted Combiner Box.

It is desired to minimize the length of cable needed to terminate all strings to the Combiner Box so each panel has been assigned a position on the array that will allow for each string to end in the same

location on the roof. These strings will be joined at the Combiner Box. A single two conductor cable will be routed from the Combiner Box through the attic to the west exterior wall. The exit will be through the wall using exterior conduit leading straight down to the Square D DC Disconnect Box.

Solar panel mounting will follow a sequence that will allow all of the electrical connections to be joined so that the strings are in series. The Tyco connectors are virtually Plug-and-Play which will eliminate the possibility of reversing polarity between panels. Each panel will be mounted with at least four mounting clamps which will be bolted to the underlying rails using ¼" stainless steel bolts as mentioned above. All nuts are serrated stainless steel, torqued to 15 foot pounds.

Inverter

The three strings of solar panels will be routed to a roof-mounted Combiner Box which will combine the strings in parallel. From the Combiner Box a 2-conductor 8 gauge cable will be routed through the attic and out the Westside exterior wall of the house. At this juncture the cable will enter conduit, then head down to the DC Disconnect Box.

The Fronius 7.5 kilowatt inverter will be located 8" to the right of the DC Disconnect Box through a conduit connection. Per manufacturer's instructions the Inverter will be at least 3 feet off the ground. Although the DC disconnect is required by code, the Fronius has an additional DC Disconnect switch immediately inside the access door on the lower portion of the unit. When the DC Disconnect handle is rotated, all DC current is cut off.



The Inverter then connects to the AC Disconnect Box clearly labelled "Solar Disconnect" which allows the utility company or emergency personnel to quickly shut off the AC power supplied to the house service box. The AC Disconnect Box is located 8" to the right of the inverter box per manufacturer's recommendation. From the AC Disconnect Box, conduit leads to the Generation Meter. From the generation meter the cable is routed through the basement wall to the house 200 amp service box. See Attachment 5—The Meter Layout.

General House Revenue Meter

After all inspections from the City of Ann Arbor, as well as DTE, the current house revenue utility meter will be exchanged for a bi-directional house Revenue Meter. This meter will run as before whenever the house is consuming electricity from the Grid. However, when the house is generating more electricity than it is using, the meter will run in reverse.

Customer Name: Stan Graff

Timeline

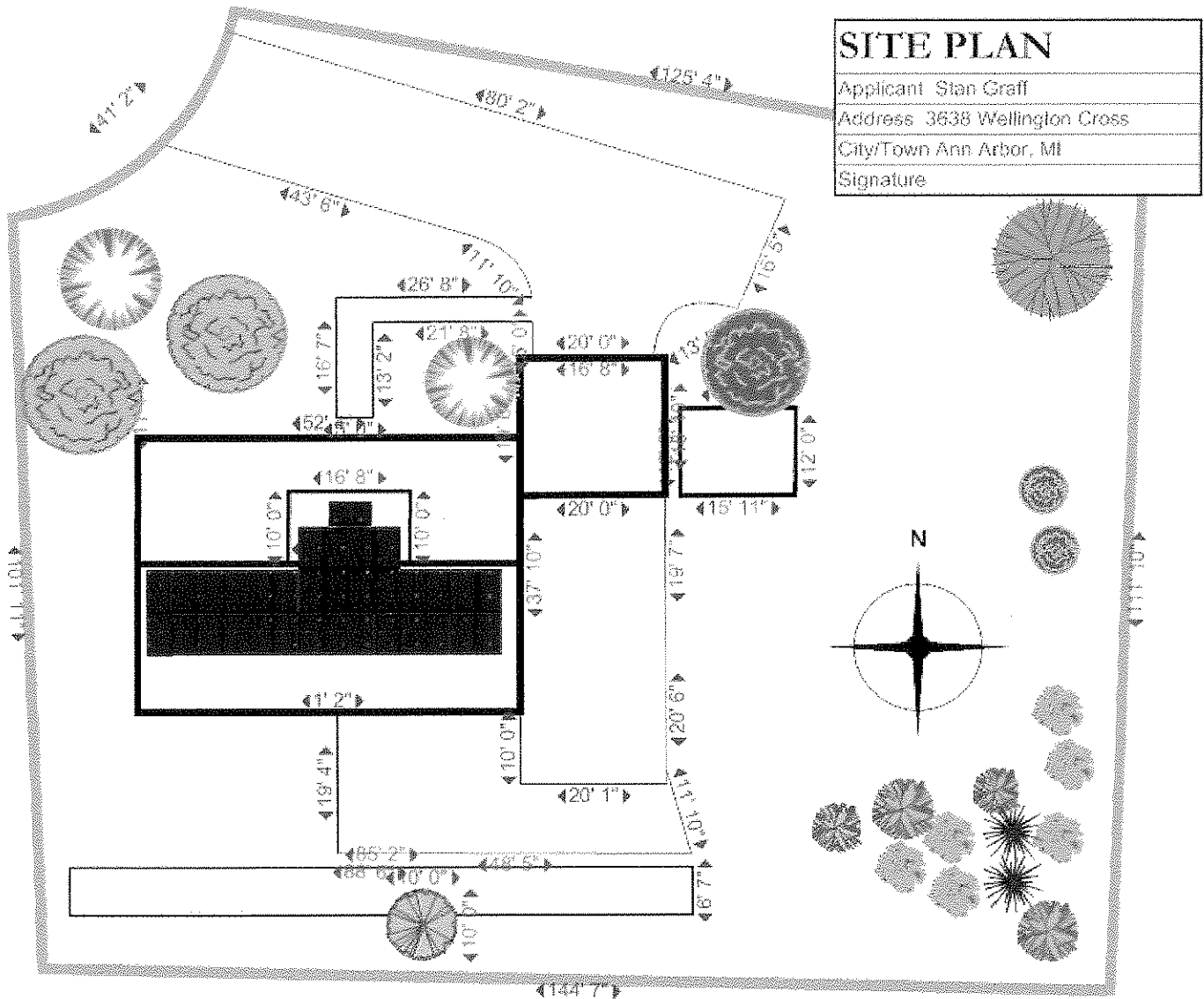
Although the timeline indicates specific dates for inspection by the City of Ann Arbor and DTE Energy, any date after April 23rd would be welcomed. After this day, the system will be sitting idle, but completed.

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4. Document Distribution

Name	Organization	Role
Adam Jacob, P.E. Supervising Engineer	Power Systems Technology DTE Energy 1 Energy Plaza, 323 Service Building Detroit, MI 48226 office: 313-235-5307 cell: 313-410-6904	Engineer in charge of Solar projects involving grid-tied systems in the DTE customer service area.
Amy Strutz Master Electrician 6213971 Electrical Contractor Licensing: 6110841 UC 1524063 Insurances with Michigan Insurance Group, Secura, Inc. cwmiller@mig-ins.com	A J Leo Electric Productive Management, Ltd. Ypsilanti, MI 734-368-6945 Harsens Island, MI 810-748-7525 amy@ajleo.com	Electrical contractor hired by Stan Graff to perform electrical consulting and services for the SolarCurrents project.
SolarCurrents Program Team Teresa-Thao S Tran	SolarCurrents 313-235-4786 solarcurrents@dteenergy.com	Solar Projects organization at DTE Energy.

Attachment 1 House Property Layout



Attachment 2 One-Line Diagram

SITE PLAN

Applicant Stan Graff

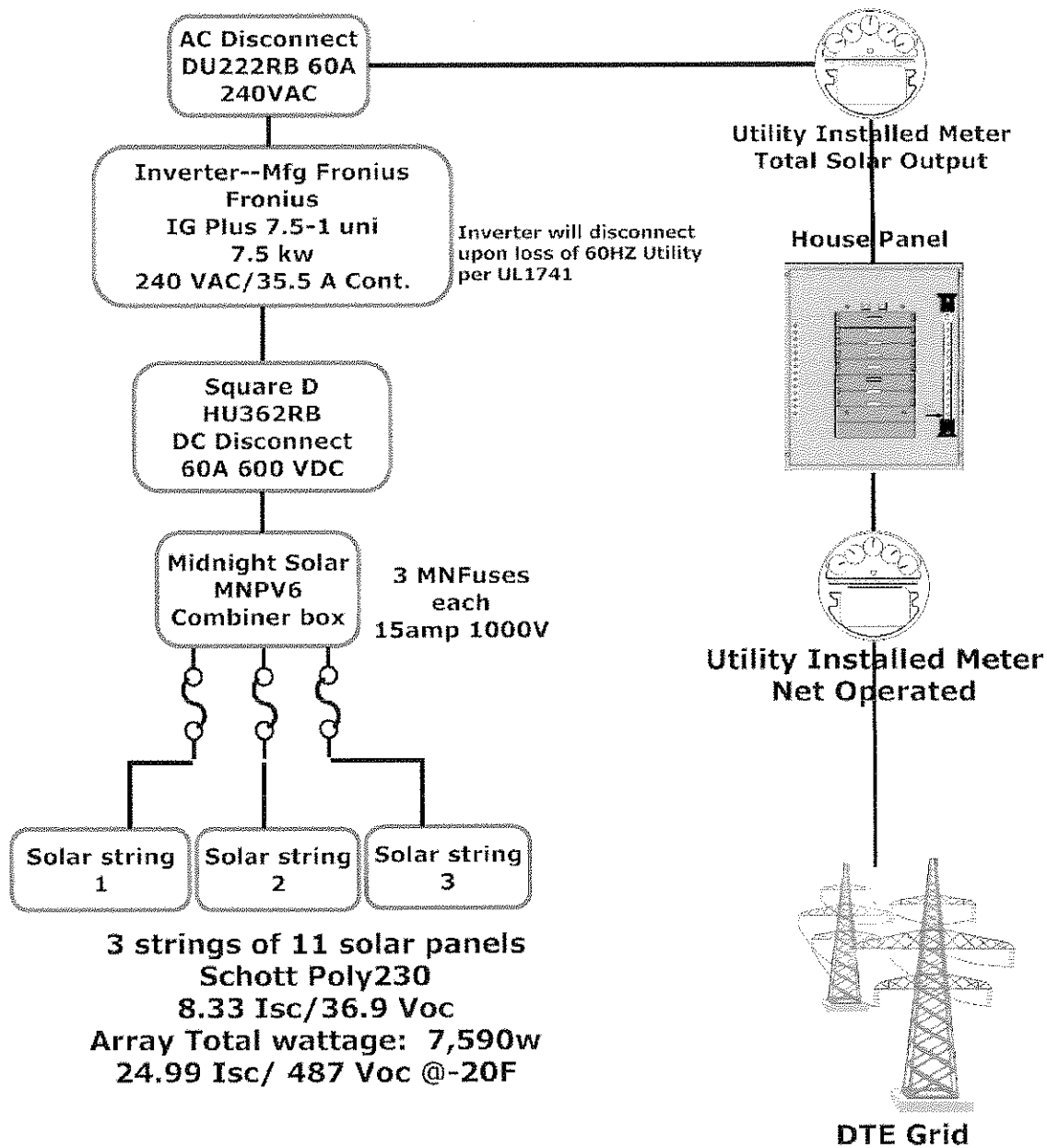
Address 3638 Wellington Cross

City/Town Ann Arbor, MI 48105

Signature

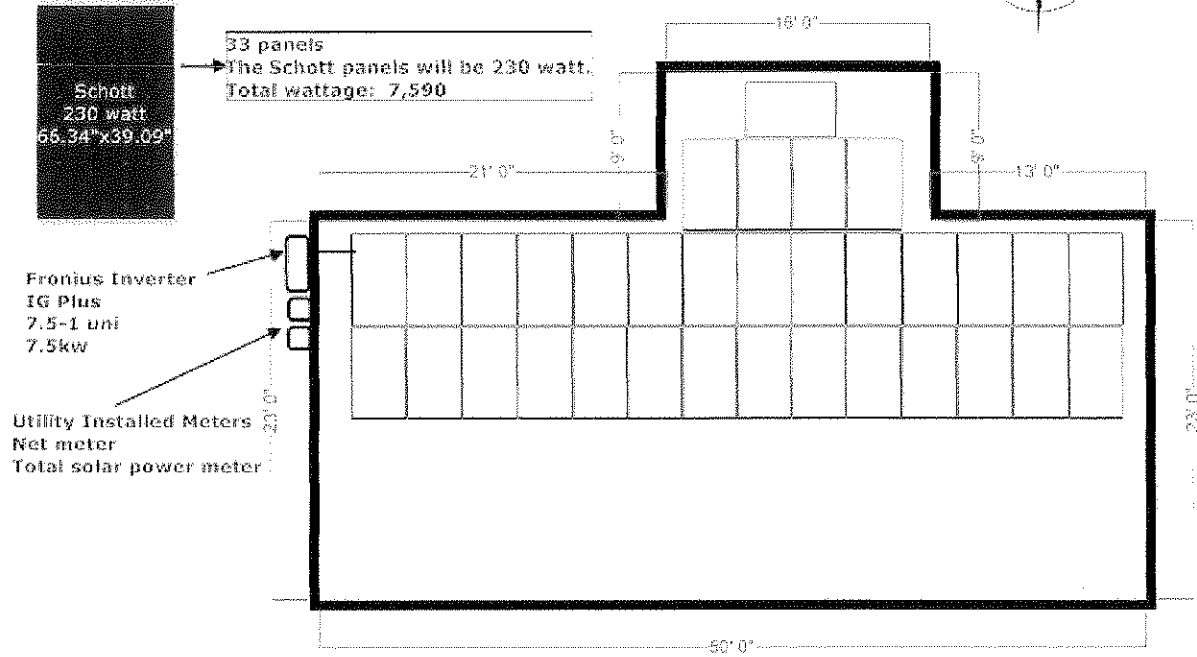
One-Line Drawing

UL 1741 Scope 1.1A Compliant

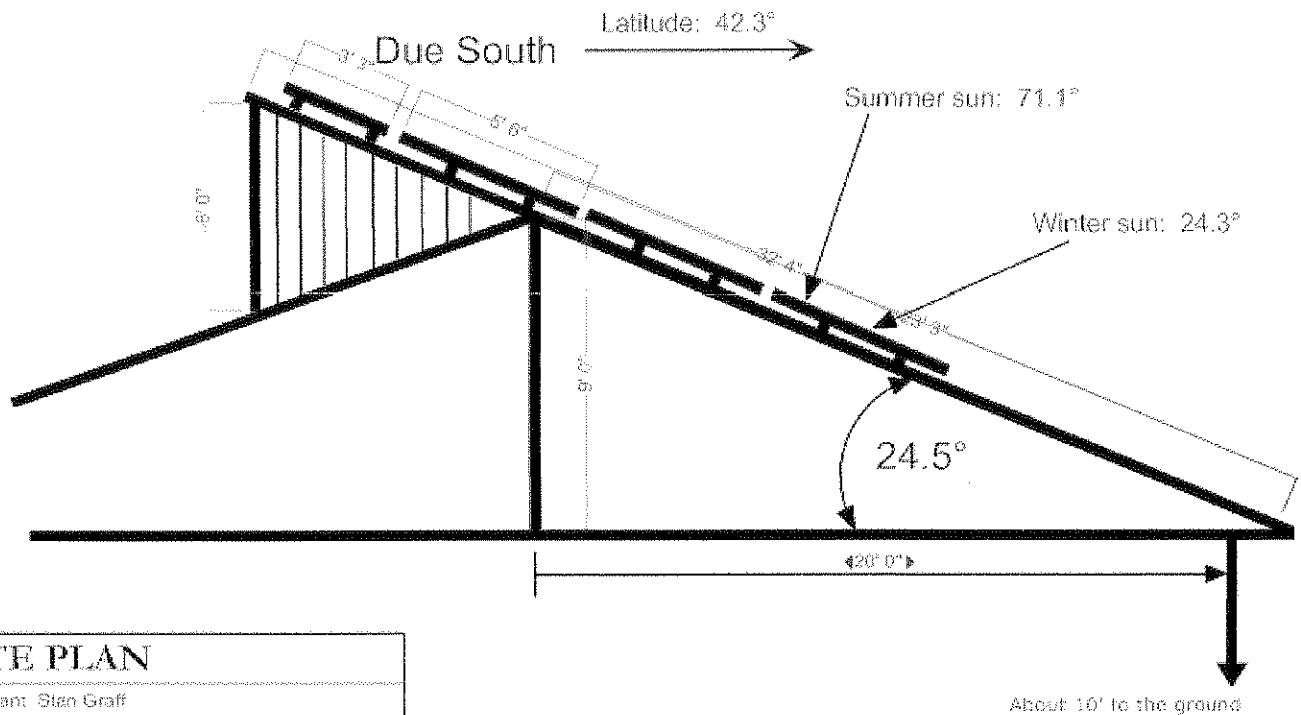


Attachment 3 Solar Array

SITE PLAN
Applicant: Stan Graff
Address: 3636 Wellington Cross
City/Town: Ann Arbor, MI 48106
Signature



Attachment 4 Solar Array Side View



SITE PLAN

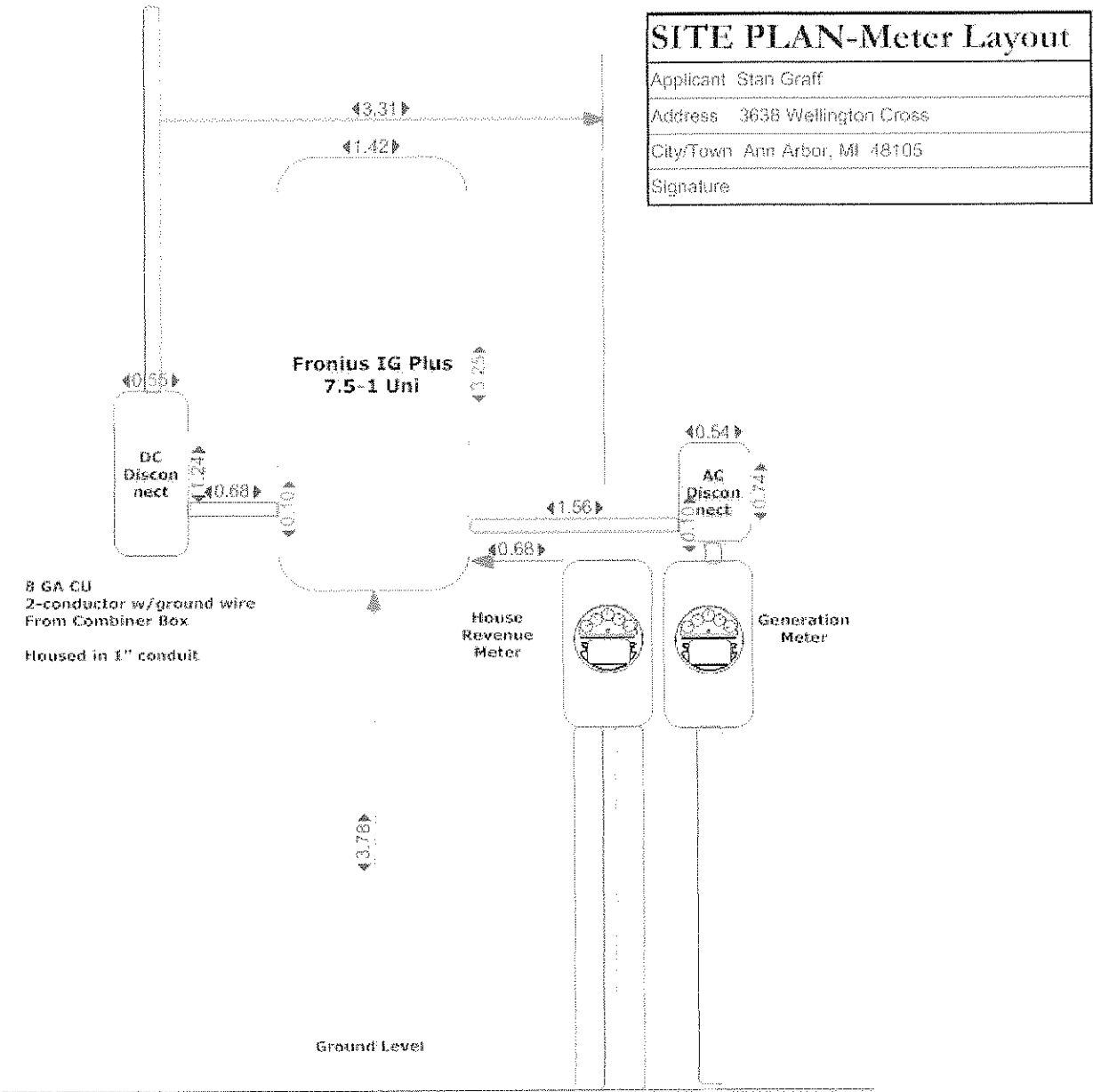
Applicant: Stan Graff

Address: 3638 Wellington Cross

City/Town: Ann Arbor, MI 48105

Signature

Attachment 5 Meter Box Layout



CITY OF GROSSE POINTE WOODS

BUILDING DEPARTMENT

MEMORANDUM

TO: Planning Commission

FROM: Gene Tutag, Building Official

DATE: March 20, 2012

SUBJECT: Final DRAFT of Proposed Solar Ordinance

Attached is the final DRAFT of the proposed Solar Ordinance for your review.

The next step will be to send this proposed ordinance to the Committee of the Whole for their review and subsequent Public Hearing.

Att.

Final DRAFT – Solar Ordinance

ORDINANCE # _____

**AN ORDINANCE TO AMEND CHAPTER 50 ZONING,
ARTICLE VI SUPPLEMENTAL REGULATIONS,
BY ADDING SEC. 50-539 TO REGULATE SOLAR ENERGY SYSTEMS**

THE CITY OF GROSSE POITNE WOODS ORDAINS:

Solar Energy System means an accessory to a main structure or use which is comprised of a combination of solar collector(s) and ancillary solar equipment used to generate electricity primarily for consumption on the property on which the system is located.

Solar Installation means a system such as a photovoltaic or solar thermal system that uses the sun's energy to produce electricity or heat.

Solar Panel means a grouping, module, or array of photovoltaic cells that produce electricity from sunlight.

Sec. 50-539 Solar Energy Systems.

A Solar Energy System is permitted in any City zoning district. However, it shall be unlawful for any person to install or operate a Solar Energy System unless all of the following conditions are met:

- (1) A building permit and any necessary mechanical, plumbing and electrical permits shall be secured prior to the start of the installation of an Solar Energy System. Dimensioned plans are required with the building permit application.
- (2) Only rooftop Solar Energy Systems are permitted. Free standing or wall mounted Solar Energy Systems are not permitted.
- (3) The installation shall be configured to the degree practicable to have a minimal visual impact as seen from the street. Solar installations that are visible from the street must be either composed of building-integrated components (such as solar shingles) that are not readily evident, or be designed and mounted to match the shape, proportions, and slope of the roof.
- (4) Installation of solar equipment, including the rails and panels, are subject to the height limitations of the specific zoning district where they are being installed.
- (5) Solar panels shall not be located within four feet of any peak, eave or valley to maintain adequate accessibility.
- (6) Solar panels shall not project more than (1) one foot above the roof deck.

- (7) The following additional design standards shall apply:
- (a) Solar panels shall be arranged so that the panels do not reflect sunlight or glare onto adjacent buildings, properties or roadways.
 - (b) The System shall use materials and colors that blend into the existing roof design.
 - (c) The System shall provide high quality screening for the space between the roof surface and the solar panels to deter animal nesting.
- (8) If a System is defective or not in operation for a period of 12 months, the System shall be deemed a nuisance. The current owner of the property shall be required to either remove the System or repair it at the owner's expense.

First reading:

Second reading:

Published GPN:

Adopted:

Effective:

**City of Grosse Pointe Woods
BUILDING DEPARTMENT
Monthly Financial Report – February 2012**

Permits Issued:	123		
Rental Certificates:	11	Total Amount:	\$ 17,388
Vacant/Foreclosure:	6		

CODE ENFORCEMENT

Abandoned/Foreclosure Compl. Notices Issued:	0
# of Complaints Investigated by Code Enforcement:	19
Closed Due to Compliance:	10
Open for Longer Compliance Time:	9
Citations Issued:	2
Early Trash Notices:	14
Code Violation Notices to Residents:	28
Tall Grass Notices Issued:	0
Stop Work notices to Contractors (working w/o permit):	9
Outside Storage:	0

NEW BUSINESS

LaJolie Rose & Hannah Bear Boutique, 20155 Mack
Jul'ry Beads & Boutique, 1835 Fleetwood