Meeting Date: 2/21/11
Agenda Item: #13

Mission Statement
Provide quality services in a modern, courteous and cost-efficient manner.

VILLAGE PLAN COMMISSION STAFF REPORT

REPORT TO: President Burt McIntyre & Village Plan Commission **REVIEWED BY**:

REPORT FROM: Dave Wiese, Executive Director of Community Development

AGENDA ITEM: A site plan review for Weyers-Hilliard Library to install solar panels on site. **THE PLAN COMMISSION HAS FINAL REVIEW AUTHORITY ON THIS MATTER**

ACTION REQUESTED: Approve the site plan for the Brown County Library site on Riverview Drive

POLICY ISSUE

Is the site plan consistent with the trend of development in the neighborhood and with the desires of the Village for development along the Riverview Drive corridor?

RECOMMENDED ACTION BY PLAN COMMISSION

Approve the applicant's plan with any conditions as may be necessary to improve aesthetics, preserve the integrity of the neighborhood, and address concerns voiced by staff and Commission members.

POLICY ALTERNATIVE(S)

The Plan Commission could take the following action:

- Approve the request without conditions.
- Approve the request with conditions.
- Deny the request
- Table the request until a later meeting date

BASIC INFORMATION

Project Name	Weyers-Hilliard Library
Applicant	Dan Hanson on behalf of Brown County
Phone/email	920.664.3001 hansondesigngrp@aol.com
Consultant/ Engineer	Hanson Design Group Inc.
Parcel Size	2.25 Acres
Existing Zoning	Business (B-1)
Current Zoning	Business (B-1)
Land Map Designation	Village Center

ADJACENT LAND/ZONING MATRIX

	LAND USE	ZONING
North	Vacant- Village Center	R-2
South	Mixed Use- Montgomery Development	PDD
East	YMCA	R-3 & R-2
West	Bellin Clinic	B-1

BACKGROUND INFORMATION

The applicant is requesting approval to construct three stand-alone solar panel arrays adjacent to the east property line. Plan Commission review is required per Section 50-500(4) of the Zoning Ordinance which requires the following:

> *No building or any improvement shall be erected, placed, or altered on any building site in the Business (B-1) zoning district until the plans for such building or improvement, including the site plan, landscape plan, building plan and specifications, have been submitted for review to the village plan commission. The village plan commission shall approve, conditionally approve or disapprove such plans with respect to conformity with this section and other applicable codes and ordinances of the village and with respect to harmony of external design and land use as it affects property within and adjacent to the Business (B-1) zoning district. Failure on the part of the village plan commission to act within 60 days of submission shall constitute approval of such plans.*

The subject property is currently located on Riverview Drive between Bellin Health and the YMCA. The applicant is requesting site plan approval on behalf of Brown County in order to construct three pedestal-mounted photovoltaic arrays with dual-axis tracking mechanisms. The property is currently zoned Business B-1.

Brown County wishes to install the photovoltaic arrays at the Weyers-Hilliard Library site to further the Governor's goal that Wisconsin's counties produce 25% of their energy from renewable sources by the year 2025. Additionally, installation of photovoltaic arrays is consistent with the goals of Brown County's Energy Oversight Committee.

Financial support for the project is available from the U.S. Department of Energy, Wisconsin's Focus on Energy, and Wisconsin Public Service. The budget for the proposed project at Weyers-Hilliard is $75,250.00.

The proposed pedestal locations were determined through a Solar Site Assessment conducted by Focus on Energy approved site assessor Appleton Solar. The pedestals are proposed to be located within existing grass areas along the east boundary of the existing parking lot. Wiring carrying the output current from the solar panels will be routed underground to the basement of the Library and eventually connected to the building's main distribution panel. The exact location of the property line between the Library and the YMCA must still be defined – as does a potential easement agreement with the YMCA pending the location of the property line. Planting ornamental trees and shrubs about the pedestals can be done as long as they don't conflict with operation of the photovoltaic arrays.

The three proposed pedestal-mounted arrays on dual-axis trackers are expected to generate 14.4 kWh annually. The total financial support available for this project is $76,038.00 ($55,500.00 from DOE; $18,038.00 from FOE; $2,500.00 from BC Library). Based on this level of available financial support the project payback is immediate, and the County will begin realizing a projected reduction in energy costs of $8,579.00 annually.

The proposed location of these photovoltaic arrays outside one of the Howard's most visited public buildings represents an exceptional opportunity for the public to see the benefits of solar power, and its growing popularity as a leading renewable energy source. In fact, a video monitor showing real-time performance and benefit of the installed solar arrays is planned for installation inside the Library to allow the public to view first-hand the solar harvest and production of electricity from sunlight. This installation may also prove to be a catalyst for Howard's businesses and residents to

invest in renewable energy strategies, thereby advancing the goals of Village's Go Green, Save Green Task Force.

EXECUTIVE ANALYSIS

1. **Zoning:** The property is properly zoned for the proposed sign.
2. **Setbacks:** The solar panels need to be on the Brown County Property and not encroach the Parking lot.
3. **Parking:** N/A
4. **Floodplain, Shoreland Zoning & Stormwater Management:** N/A
5. **Land Division:** No land division is being proposed in this request.
6. **Lighting:** No new lighting is being proposed other than that of the sign itself.
7. **Lot and Width Area:** N/A
8. **Driveway Locations:** No new driveways are being proposed with this request.
9. **Signage:** N/A
10. **Garbage:** N/A
11. **Landscape:** No new landscaping is being proposed.

CODE REQUIRED CONDITIONS

1. The panels cannot overhang into the parking lot or across property lines.

STAFF RECOMMENDED CONDITIONS

Trustee Suennen, who represents this area, is unable to attend the Plan Commission meeting. The Plan Commission may decide to table the item until the March meeting to gather his input. If action is taken, staff would recommend the areas around the poles of the solar panels be landscaped to help screen the bases.

ATTACHMENTS

I	Signed Application
II-IV	Site Plan
III	Photo of proposal
IV	Site Assessment

ATTACHMENT I

REQUIRED

(Please label and attach a submittal of listed items which apply to your request)

1. **ATTACHMENT I (please label each attachment) A plat** of survey or the equivalent thereof depicting the location, dimensions, boundaries, uses and size of the site.
2. **ATTACHMENT II (please label each attachment) A site plan** including the following:

    a. Density and floor area ratio
    b. Building heights and setbacks
    c. Size & location of lots
    d. Screening and fencing
    e. Location of sanitary and storm sewer lines
    f. Location of water mains
    g. Site drainage
    h. Location of roads, driveways and walks
    i. Existing and proposed structures, parking, loading areas, ingress/egress points
    j. Location of recreational and open space areas reserved or dedicated for public uses
    k. Percentage of green space & impervious surface

3. **ATTACHMENT III (please label each attachment) Landscape plan** including table depicting quantity, size and name of species.
4. **ATTACHMENT IV (please label each attachment) Lighting plan** showing photometries and a specification sheet of all fixtures to be used.
5. **ATTACHMENT V (please label each attachment) Full-color rendering** of building facades and large samples of colors and building materials that will be used on the project.
6. **ATTACHMENT VI (please label each attachment) Sign plan** with dimensions of sign.

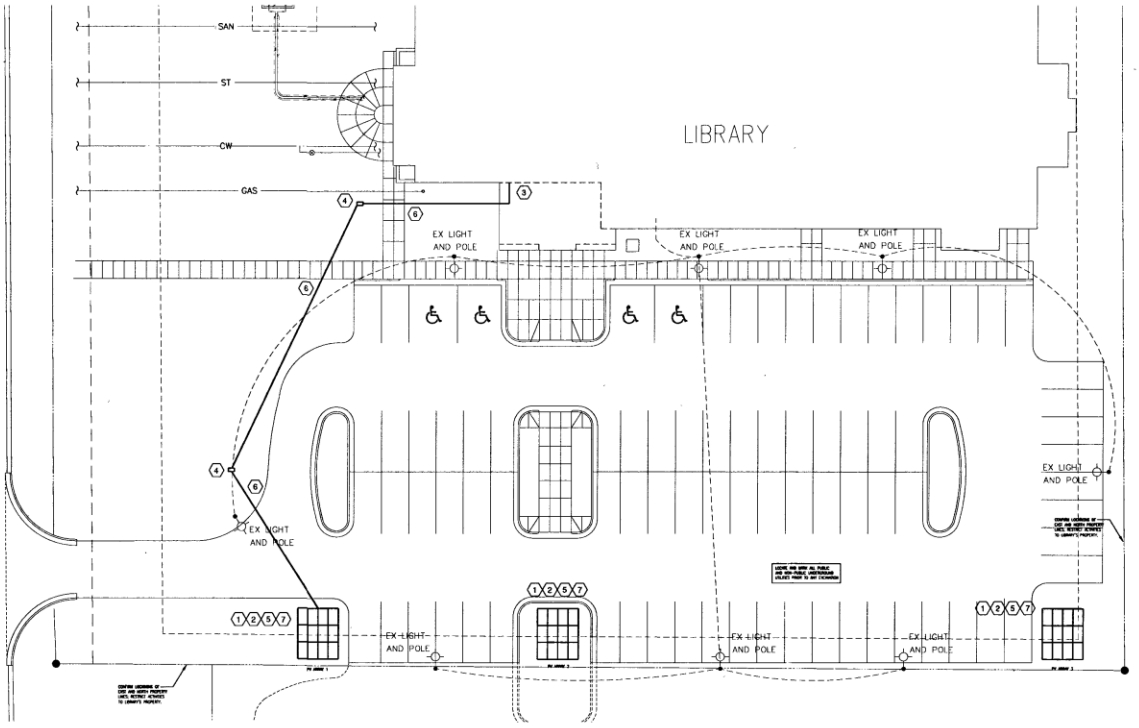
Application Requirements: Please submit this application with all attachments and please properly label each attachment in an electronic format. Microsoft Word is preferred for the application and attachments. It is acceptable to submit the attachments in pdf or Autocad. The Village will need 11 paper copies of all materials for all color documents that are submitted.

With this signature, I certify that all required materials above have been submitted. Furthermore, I understand any required materials not submitted will result in an incomplete application. Incomplete applications will be returned to the applicant until all required materials are submitted.

X Please sign here Daniel J Hamilton **Date: today's date** Feb. 17, 2011
Applicant Signature

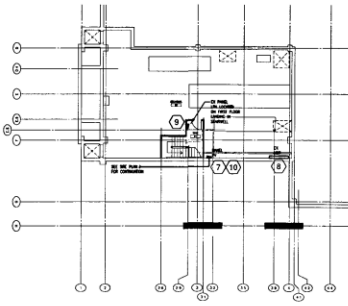
Please direct all questions to Dave Wiese at 434-4640 or dwiese@villageofhoward.com

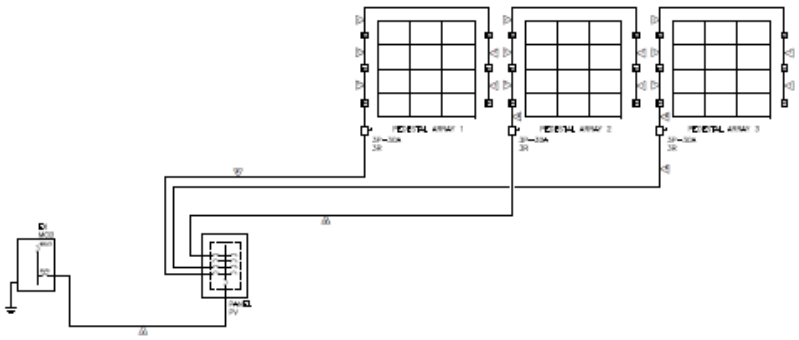
Attachment II



PLAN NOTES:

1. UTILIZE ENPHASE ENERGY D380 TRUNK CABLE TO COLLECT CURRENT F AC MODULE INVERTER. NEATLY MANAGE AND SECURE TRUNK CABLES TO ARRAY RACK. TERMINATE TRUNK CABLE IN DISCONNECT SWITCH UTILIZIN ENPHASE ENERGY AC INTERCONNECTION CABLE.
2. PROVIDE PERMANENT ENGRAVED WARNING LABELS ON COVER OF DISCO LABEL #1 – "PHOTOVOLTAIC SYSTEM DISCONNECT"; LABEL #2 – "WARN ELECTRIC SHOCK HAZARD! DO NOT TOUCH TERMINALS! TERMINALS ON E AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION!"
3. REMOVE CONCRETE SIDEWALK (APPROXIMATELY 40-SQUARE FEET – CO TO DETERMINE) AS NEEDED TO EXCAVATE AT BUILDING TO DEPTH NECE BRING CONDUITS CARRYING PV SOURCE CIRCUITS INTO BASEMENT. CORE FOUNDATION. EXTEND CONDUITS INTO BUILDING, SEAL AROUND CONDUIT BOTH SIDES OF PENETRATION. BACKFILL AND COMPACT – FINAL 6" TO COMPACTED GRANULAR FILL); REPLACE CONCRETE – MATCHING THICKNE EXISTING CONCRETE; PLACE 1/2" FILLER STRIP BETWEEN NEW CONCRET EXISTING BUILDING STRUCTURE.
4. PROVIDE AND INSTALL AN IN-GROUND ENCLOSURE TO FACILITATE PULLI CONDUCTORS. IN-GROUND ENCLOSURE SHALL BE QUAZITE (OR EQUAL) PG1324BA1B WITH PG1324HA0017 ("ELECTRIC" LABEL) COVER AND STA STEEL HARDWARE. PITCH CONDUITS TO IN-GROUND ENCLOSURE.
5. INSTALL A NEMA 4 ENCLOSURE WITH INTEGRAL BACK PANEL AND BUS PEDESTAL. CONNECT PV SOURCE CIRCUIT TO BUS BUAR; EXTEND LARGE CONDUCTOR FROM BUS BAR UNDERGROUND TO PANEL PV AND CONNEC RESPECTIVE CIRCUIT BREAKER; REFERENCE CONDUIT AND CONDUCTOR S FOR SIZE OF LARGER CONDUCTOR.
6. UTILIZE DIRECTIONAL BORE METHOD TO INSTALL CONDUITS BENEATH DR AND SIDEWALKS. BORE DEPTH SHALL BE MINIMUM 24" BENEATH SURFA DRIVEWAY (SIDEWALK, AS APPLICABLE).
7. PROVIDE AND INSTALL PANEL PV. CONNECT EACH PV SOURCE CIRCUIT CIRCUIT BREAKER. PROVIDE PERMANENT ENGRAVED WARNING LABELS: LA "PHOTOVOLTAIC SYSTEM DISCONNECT"; LABEL #2 – "WARNING! ELECTRIC HAZARD! DO NOT TOUCH TERMINALS! TERMINALS ON BOTH LINE AND LO MAY BE ENERGIZED IN THE OPEN POSITION!"
8. PROVIDE AND INSTALL CIRCUIT BREAKER IN AVAILABLE SPACE OF EXISTI EXTEND FEEDER FROM PANEL PV AND CONNECT. PROVIDE PERMANENT E WARNING LABELS AT CIRCUIT BREAKER: LABEL #1 – "PHOTOVOLTAIC SY DISCONNECT"; LABEL #2 – "WARNING! ELECTRIC SHOCK HAZARD! DO NO TERMINALS! TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERG THE OPEN POSITION!"
9. PROVIDE AND INSTALL A 1P-20A CIRCUIT BREAKER IN EXISTING PANEL. 2-#6, 1-#10 GRD IN 1" CONDUIT AND CONNECT TO AZIMUTH AND ELE MOTORS OF EACH TRACKER AT EACH PEDESTAL. UTILIZE SAME TRENCH IN-GROUND ENCLOSURES AS PV SOURCE CIRCUIT FROM PEDESTAL-MOU ARRAYS.
10. INSTALL PHOTOVOLTAIC PERFORMANCE MONITORING GATEWAY COMMUNICA DEVICE IN EXISTING RECEPTACLE ADJACENT TO NEW PANEL PV. COORDIN CONNECTION TO INTERNET WITH COUNTY INFORMATION SERVICES DEPART





1 PARTIAL ONELINE DIAGRAM

PANEL SCHEDULE

DESIGNATION	LOCATION	TYPE	VOLTAGE	PHASE/ WIRE	AMP	MLO	MCB	AIC RATING	QTY.	CKTs EA.	MOUNT	CIRCUIT BREAKER INVENTORY QTY	AMP	POLE	TYPE	QTY	AMP	POLE	TYPE	NOTES
PV	BASEMENT	PNLBD	208Y/120	3 PH 4 W	60	-	30/3	42K FULL	1	6	SURFACE	4	20	3	TM					1
EX MDP	BASEMENT	EXISTING PNLBD	208Y/120	3 PH 4 W	800	-	600/3	42K FULL	1	42	SURFACE	1	30	3	TM					2

NOTES
1. BRANCH CIRCUIT BREAKERS AND MAIN CIRCUIT BREAKER TO BE RATED FOR CURRENT FLOW IN BOTH DIRECTIONS.
2. EXISTING PANEL IS A SQUARE D I-LINE SERIES E1

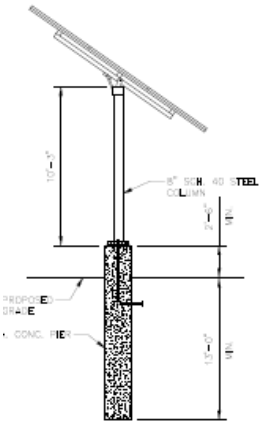
ABBREVIATIONS
LDCTR-LOADCENTER
PNLBD-PANELBOARD
PWR PNL-DISTRIBUTION POWER PANEL
SWTHBD-SWITCHBOARD
SWTHGR-SWITCHGEAR
MDP-MAIN DISTRIBUTION PANEL
TM-THERMAL MAGNETIC
EPCI-GROUND FAULT CONDUIT INTERRUPTING

CONDUIT AND CONDUCTOR SCHEDULE

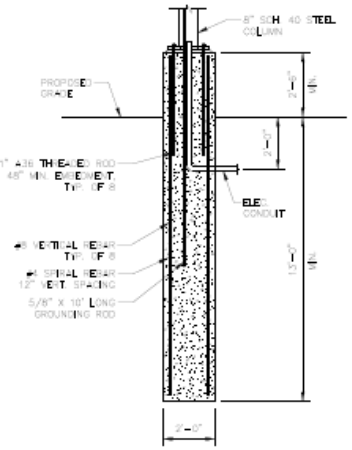
MARK	FEEDER RATING (AMPERES)	PHASE CONDUCTORS SETS	QTY/SET	SIZE	EQUIPMENT GROUND CONDUCTORS SETS	SIZE	CONDUIT QTY	SIZE	TYPE	NOTES
1	20	-	-	-	-	-	-	-	-	1,2
2	20	1	4	6	1	10	1	1"	HDR/PVC	3
3	20	-	-	-	-	-	-	-	-	2,4
4	30	1	4	8	1	10	1	1"	EMT	
5	20	1	4	4	1	10	1	1"	HDR/PVC	3

NOTES
1. TRUNK CABLE SUCH AS ENPHASE ENERGY ETIC-60.
2. QUANTITY AND LENGTHS OF MANUFACTURED CABLES ARE THE RESPONSIBILITY OF THE CONTRACTOR.
3. UTILIZE APPROXIMATELY 1-FOOT OF LFNC AT TERMINATIONS.
4. AC INTERCONNECT CABLE AS MANUFACTURED BY ENPHASE ENERGY.

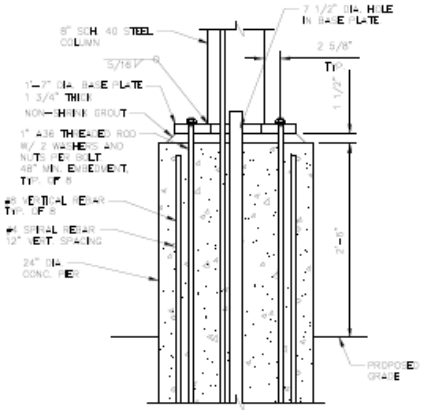
ABBREVIATIONS
EMT-ELECTRICAL METALLIC TUBING
HDR-HEAVEY WALL RIGID CONDUIT
LFNC-LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT
LFNC-LIQUIDTIGHT FLEXIBLE NON-METALLIC CONDUIT



1 ARRAY SECTION
SCALE : N.T.S.



2 PIER SECTION
SCALE : N.T.S.



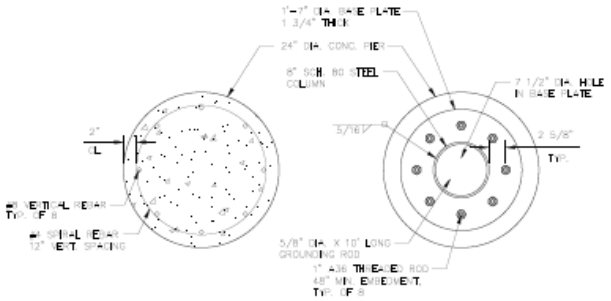
3 BASE PLATE SECTION
SCALE : N.T.S.

NOTE:
ALL EXPOSED STRUCTURAL STEEL SHALL BE SHOP PRIMED AND FIELD PAINTED.

ROUTE CONDUIT WITHIN SCHEDULE 40 STRUCTURAL COLUMNS TO MINIMIZE EXPOSED CONDUIT. CUT A HANDHOLE INTO THE SCHEDULE 40 COLUMN APPROXIMATELY 18" ABOVE THE COLUMN BASE PLATE. WELD WITH HANDHOLE OPENING WELL A GROUNDING LUG TO THE INSIDE WALL OF THE SCHEDULE 40 COLUMN OPPOSITE THE HANDHOLE. WELD FLAT IRON, ANGLE BRACKETS, ETC. AS NEEDED TO SUPPORT ENCLOSURES AND BODIES TO AID TRANSITION OF SYSTEMS ROUTED INSIDE THE COLUMN TO OUTSIDE THE COLUMN.

PILLAR SPECIFICATIONS:
PROVIDE TEMPORARY CASING DURING PIER DRILLING.
REMOVE CASING AFTER PLACING REINFORCING & CONCRETE.

SOILS ENGINEER SHALL VERIFY SUITABLE BEARING SOILS AT FINISHED PIER DEPTH.



4 PIER LAYOUT
SCALE : N.T.S.

5 BASE PLATE PLAN
SCALE : N.T.S.

ATTACHMENT III