

STATE OF UTAH SALT LAKE COMMUNITY COLLEGE SOLAR ARRAY DFCM PROJECT #11018680 BASIS OF DESIGN

MILLER CAMPUS 9750 SOUTH 300 WEST SANDY, UTAH

PROJECT TEAM

OWNER

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SALT LAKE CITY, UT, 84114
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ARCHITECT

VCBO ARCHITECTURE
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STRUCTURAL ENGINEER

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PHONE: 801-328-5151

APPROVALS:

Prime Agency	Date
DFCM	Date

APPROVAL DOES NOT RELIEVE A/E OF DESIGN LIABILITY

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Prime Agency	Date
DFCM	Date

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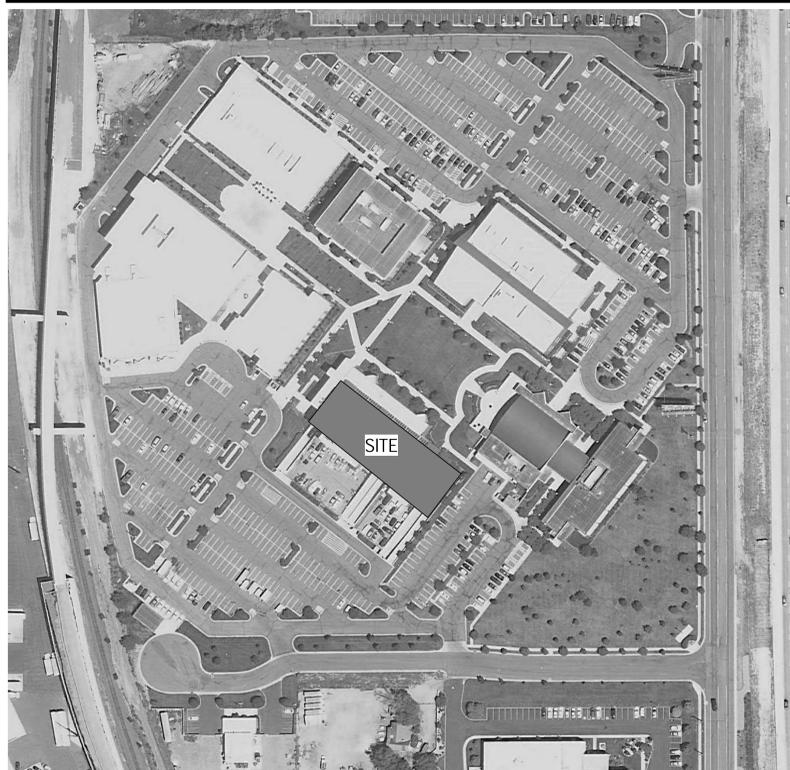


State of Utah - Department of Administrative Services

DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

4110 State Office Building / Salt Lake City, Utah 84114 / 533-5561

VICINITY MAP



CODE ANALYSIS

APPLICABLE CODES			
	Year		Year
International Building Code	2009 IBC	National Electrical Code	NEC 2008
International Mechanical Code	2009 IMC	Uniform Code for Building Conservation	N/A
International Plumbing Code	2009 IPC		
International Fire Code	2009 IFC	ADA Accessibility Guidelines	ANSI A117.1 2008
International Energy Conservation Code	2009 IECC		

A. Occupancy and Group: AUTOMOTIVE SHOP - S1
Change in Use: Yes ___ No ___ Mixed Occupancy ___ No ___

B. Seismic Design Category: D Design Wind Speed: 90 mph

C. Type of Construction: EXISTING BUILDING TYPE IB

D. Existing Building is fully sprinkled

E. Number of Stories:

F. Fire Resistance Rating Requirements for Building Elements (hours) Table 601

Element	Hours	Assembly Listing	Element	Hours	Assembly Listing
Exterior Bearing Walls	2		Floors - Ceiling Floors	2	
Interior Bearing Walls	2		Roofs - Ceiling Roofs	1b	
Exterior Non-Bearing Walls	0		Exterior Doors & Windows	0	
Structural Frame	2		Shaft Enclosures	1	U469
Partitions - Permanent	0		Fire Walls	2	U419
Fire Barriers	—		Fire Partitions	1	U451
			Smoke Partitions	1	U451

b. Except in Group F-1, H, M and S-1 occupancies, fire protection of structural members shall not be required, including protection of roof framing and decking where every part of the roof construction is 20 feet or more above any floor immediately below. Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

FOOTNOTES:

- Additional Code Information shall be provided at the discretion of the Building Official for Complex Buildings, including, but not limited to:
 - High Rise Requirements.
 - Airiums.
 - Performance Based Criteria.
 - Mechanical Egress Analysis.
 - Fire Assembly Locator Sheet.
 - Exterior and Interior Accessibility Route.
 - Fire Stopping, including Tested Design Number.
- Roof not required to be rated in type S-1 occupancy if more than 20' above floor. The roof is more than 20' above the floor, therefore roof and penetrators not required to be rated.

SPECIAL INSPECTIONS

Salt Lake Community College Solar Panel Project

SPECIAL INSPECTION AND TESTING UNDER THE PROVISIONS OF 2009 IBC Section 1704 AND FOR MISCELLANEOUS AREAS

Indicate required Special Inspections for project by checking the appropriate boxes and provide specific instructions as to the inspection requirements and the expectations of the architect, engineer and owner:

FABRICATORS (IBC 1704.2)

Note: All welding to occur in an approved fabricator shop. No on-site welding to occur.

Approved Fabricator	Yes	No	Unapproved Fabricator	Yes	No
<input checked="" type="checkbox"/>			<input type="checkbox"/>		

Fabricator Name: _____
Fabricator plant location: _____
Required In-plant Inspection: Steel Construction Welding Details

STEEL (IBC 1704.3)

High Strength Bolting (1704.3.3) Continuous Periodic 2 inspections, one during installation and one at completion

WELDING (1704.3.1) _____
Details (1704.3.2) _____

Special inspection for seismic resistance (IBC 1707)

Structural Steel (1707.2) Continuous Periodic _____
Electrical items (1707.8) Continuous Periodic _____

MISCELLANEOUS AREAS

These inspections are recommended by the Architect/Engineer and approved by DFCM.

Inspection of seismic resistance (specific locations and frequency) Continuous Periodic _____
Seismic supports for electrical (masonry, cable trays and lights) Continuous Periodic One after racking has been installed.

Special Inspectors Shall:

- Be approved by the Building Official prior to performing any duties.
- Provide proof of licensure as a special inspector by the State of Utah for each type of inspection.
- Inspection reports are to be submitted to the code consultant, architect, DFCM project manager, and the State of Utah Building Official within 48 hrs. of inspection.
- A final inspection report shall be submitted following completion of the project documenting the types of special inspections performed and a statement indicating that the structure is in compliance with the drawings, specifications and applicable codes, IBC 1704.1.2

Updated July 29, 2010

Page 1 of 1

SHEET INDEX

SHEET NUMBER	SHEET NAME
GENERAL	GENERAL INFORMATION AND INDEX
CVR	DFCM COVER
G001	GENERAL INFORMATION AND INDEX
ARCHITECTURAL	ROOF PLAN AND DETAILS
A010	ROOF PLAN AND DETAILS
STRUCTURAL	GENERAL STRUCTURAL NOTES AND DRAWINGS
S101	GENERAL STRUCTURAL NOTES AND DRAWINGS
ELECTRICAL	SHEET INDEX, ABBREVIATIONS, GENERAL ELECTRICAL NOTES
EE101	LEVEL 1 POWER PLAN
EP101	ROOF POWER PLAN
EP103	ONE-LINE DIAGRAM
EP601	ONE-LINE DIAGRAM



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BASIS OF DESIGN

GENERAL NOTES

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW AND COORDINATE THE WORK OF ALL SUB-CONTRACTORS, TRADES AND SUPPLIERS WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS BEFORE COMMENCING CONSTRUCTION, AND TO ASSURE THAT ALL PARTIES ARE AWARE OF ALL REQUIREMENTS, REGARDLESS OF WHERE THE REQUIREMENTS OCCUR IN THE CONTRACT DOCUMENTS, WHICH MIGHT AFFECT THE WORK OF THAT PARTY.
- AS PART OF THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE WORK OF ALL SUB-CONTRACTORS, TRADES AND SUPPLIERS, THE CONTRACTOR SHALL ENDEAVOR TO IDENTIFY AND NOTIFY THE ARCHITECT OF ANY CONFLICTS BETWEEN THE WORK OF DIFFERENT PARTIES AT THE EARLIEST POSSIBLE DATE SO AS TO ALLOW REASONABLE AND ADEQUATE TIME FOR THE CONFLICT TO BE RESOLVED WITHOUT DELAYING THE WORK. ALL DEVIATIONS FROM THAT WHICH IS REQUIRED BY THE CONTRACT DOCUMENTS MUST BE APPROVED IN ADVANCE BY THE ARCHITECT.
- THE FOLLOWING DRAWINGS ARE REPRESENTATIONAL FOR BIDDING PURPOSES. THE PROPOSAL WILL BE FOR A DESIGN/BUILD PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR THE REQUIRED SUBMITTALS LISTED BELOW.
- NO CONSTRUCTION SHALL OCCUR UNTIL THE STRUCTURAL SUPPORT ANALYSIS, CALCULATIONS AND SIZING AND ELECTRICAL SYSTEM DESIGN AND SYSTEMS ARE SUBMITTED TO AND APPROVED BY DFCM.
- THE DFCM DESIGN REQUIREMENTS SHALL BE FOLLOWED. THESE ARE AVAILABLE AT http://dfcm.utah.gov/downloads/design_manual/design_requirements.pdf

REQUIRED SUBMITTALS

CONTRACTOR IS RESPONSIBLE TO SUBMIT SUBMITTALS IN ACCORDANCE WITH THE 2009 IBC. AS PART OF THE SUBMITTAL PROCESS, THE CONTRACTOR IS TO SUBMIT ALL ICCERS REPORTS FOR ITEMS NOTED.

- PHOTOVOLTAIC PANEL SYSTEM DATA, PANEL QUANTITY AND LOCATIONS
- STRUCTURAL STEEL SYSTEM AND STRUCTURAL ANALYSIS
- TOTAL NUMBER OF PANELS AND WEIGHT OF PANEL SYSTEM ON EACH STRUCTURAL SUPPORT
- ELECTRICAL SYSTEMS AND INTEGRATION REQUIREMENTS

NOTES TO BIDDERS

- THIS SHEET CONTAINS A LIST OF DRAWINGS WHICH COMPRISE A FULL SET OF DRAWINGS FOR THIS PROJECT. ANY CONTRACTOR, SUBCONTRACTOR, VENDOR OR ANY OTHER PERSON PARTICIPATING IN OR BIDDING ON THIS PROJECT SHALL BE RESPONSIBLE FOR THE INFORMATION CONTAINED IN ANY AND ALL SHEETS OF DRAWINGS AND SPECIFICATIONS. IF ANY PERSON, PARTY OR ENTITY ELECTS TO SUBMIT BIDS FOR ANY PORTION, OR ALL, OF THIS PROJECT, THAT PERSON, PARTY OR ENTITY SHALL BE RESPONSIBLE FOR ANY AND ALL INFORMATION CONTAINED IN THESE DRAWINGS AND SPECIFICATIONS, INCLUDING, BUT NOT LIMITED TO, ANY SUBSEQUENT ADDENDUMS OR CLARIFICATIONS THAT MAY BE ISSUED.
- THESE DOCUMENTS SHOW THE DESIGN INTENT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE EVERYTHING SHOWN ON THE DRAWINGS OR SPECIFIED REGARDLESS OF WHERE IT IS SHOWN ON THE DRAWINGS OR IN THE SPECIFICATIONS.
- EVERYTHING CALLED FOR IN THESE DOCUMENTS SHALL BE "NEW" AND PROVIDED BY THE CONTRACTOR, SUBCONTRACTOR, VENDOR OR ANY OTHER PERSON PARTICIPATING IN OR BIDDING ON THIS PROJECT UNLESS NOTED OTHERWISE AS EXISTING (EXIST), NOT IN CONTRACT (NIC) OR FOR REFERENCE ONLY.

Rev # Date Description

Job # 11010
CAD File
Drawn Author Checked Checker
Date 16 March, 2011
Owner # 11018680
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GENERAL INFORMATION AND INDEX

G001



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ROOF PLAN AND
DETAILS

A010

DEMOLITION AND MODIFICATION NOTES

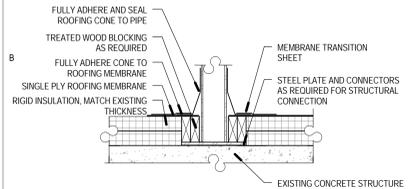
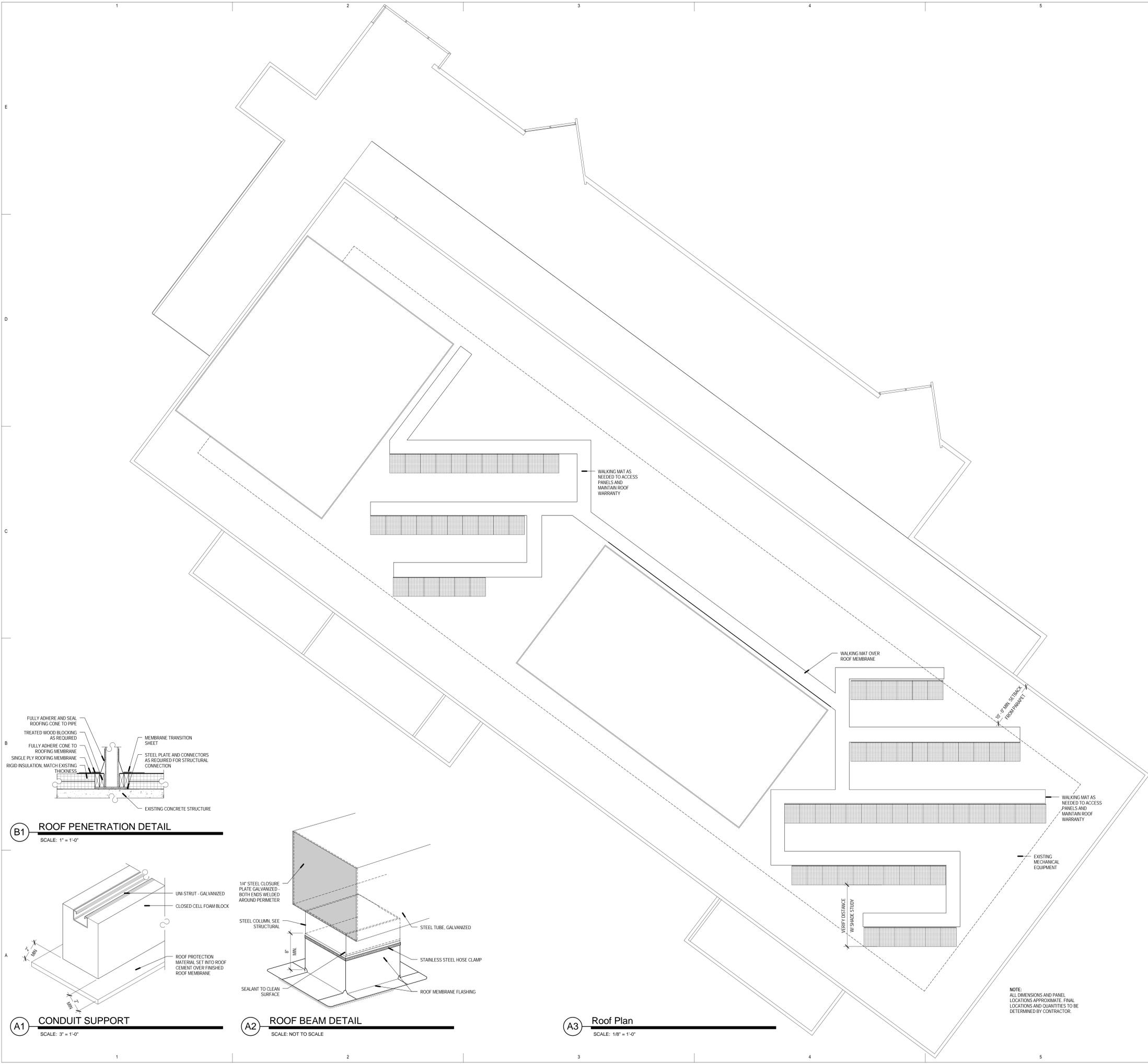
1. ANY WORK THAT REQUIRES MODIFYING OR DEMOLISHING EXISTING BUILDING ELEMENTS SHALL MEET THE REQUIREMENTS STATE IN THE SPECIFICATIONS, SECTION XX XXXX
2. REPAIR AND REPLACE ANY DAMAGED CEILINGS, WALLS OR OTHER ELEMENTS OR FINISHES TO ORIGINAL QUALITY.
3. ANY ACOUSTIC CEILING PANELS THAT ARE REQUIRED TO BE REMOVED DURING THIS PROJECT SHALL BE REPLACED IN THE SAME LOCATION OR REPLACED AS NEEDED TO MAINTAIN ACOUSTIC QUALITY. ANY PANELS THAT ARE DAMAGED SHALL BE REPLACED. ALL TEXTURE PANELS SHALL BE RE-PAINTED AS NECESSARY FOR FINISH AND COLOR MATCH.

GENERAL ROOF NOTES

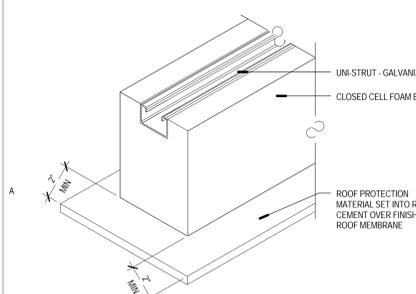
1. ALL ROOF DECK, INSULATION AND MEMBRANE IS EXISTING AND SHALL BE PROTECTED IN PLACE.
2. THE EXISTING ROOF WARRANTY SHALL BE MAINTAINED AS REQUIRED BY MANUFACTURER. CONTACT SUPERIOR ROOFING FOR ADDITIONAL INFORMATION ON EXISTING ROOF MANUFACTURER AND WARRANTY.
3. NOT ALL ROOF PENETRATIONS ARE SHOWN ON THE ARCHITECTURAL ROOF PLAN SHEETS. IN ADDITION TO THE ARCHITECTURAL, THE CONTRACTOR IS RESPONSIBLE FOR LOCATING STRUCTURAL, MECHANICAL AND ELECTRICAL PENETRATIONS. ALL PENETRATIONS OF THE ROOF SHALL MEET WITH THE ROOFING MANUFACTURER'S RECOMMENDATIONS TO MAINTAIN INTEGRITY OF ROOFING SYSTEMS.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A MANUFACTURER'S APPROVED ROOFING DETAIL FOR ALL ROOFING CONDITIONS SO THAT THE SPECIFIED WARRANTY IS OBTAINED. IF A CONDITION SHOWN IN THESE CONSTRUCTION DOCUMENTS DOES NOT MEET THE REQUIREMENTS OF THE ROOFING MANUFACTURER THESE CONDITIONS ARE TO BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO BIDDING AND INSTALLATION OF THE APPROVED DETAIL.
5. THE CONTRACTOR IS TO CONFIRM THE ROOFING SYSTEM THICKNESS, INCLUDING THE RIGID INSULATION PRIOR TO INSTALLING CURB AND PARAPET BLOCKING. BLOCKING AND CURB HEIGHTS ARE TO BE ADJUSTED AS NEEDED TO CONFORM TO THE ROOFING THICKNESS TO MEET REQUIREMENTS FOR WARRANTY.
6. ALL INSULATION REMOVED FOR PENETRATION AND STRUCTURAL INSTALLATION SHALL BE REPLACED TO THE SAME HEIGHT AND QUALITY AS EXISTING INSULATION.
7. PENETRATIONS SHALL AVOID CONFLICTS WITH EXISTING ROOF DRAINS. DRAINAGE SHALL NOT BE OBSTRUCTED BY PENETRATIONS OR ROOF MODIFICATIONS. WALKING MATS ARE REQUIRED TO PROVIDE ACCESS TO ALL ROOFTOP EQUIPMENT, INCLUDING PHOTOVOLTAIC PANELS FROM THE ROOF ACCESS POINTS.

PHOTOVOLTAIC ARRAY NOTES

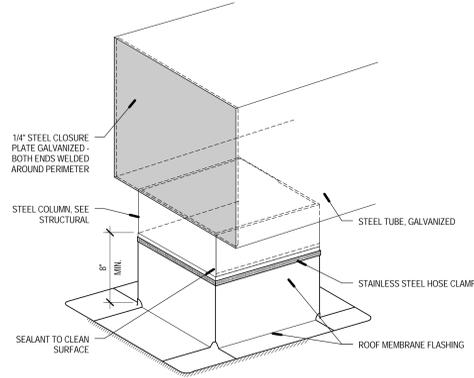
1. THE PHOTOVOLTAIC PANELS SHOWN ARE BASED ON A 210 - 230 WATT PANEL. THE PANELS SIZE, QUANTITY AND SPACING MAY VARY BASED ON THE FINAL PANEL SELECTION.
2. THE PHOTOVOLTAIC ARRAY SHALL BE A MINIMUM OF 16 KW.
3. PHOTOVOLTAIC PANELS SHOULD BE LOCATED ON THE ROOF SUCH THAT THE PANELS ARE NOT IN SHADE BETWEEN 10:00AM AND 3:30PM ON THE WINTER SOLSTICE (DECEMBER 21).
4. THE PANELS SHALL BE PLACED ON A STEEL FRAME. THE TOP OF THE STEEL FRAME SHALL BE A MINIMUM OF 18" FROM THE TOP OF THE ROOF.
5. ALL PANELS AND EQUIPMENT SHALL BE SETBACK A MINIMUM OF 10 FEET FROM THE ROOF PARAPET FOR SAFETY.
6. THE COMPONENTS USED TO ATTACH THE PHOTOVOLTAIC PANELS TO THE STRUCTURE SHALL MEET PANEL MANUFACTURER'S RECOMMENDATIONS. DISSIMILAR METALS SHALL NOT BE IN DIRECT CONTACT.
7. THE RACKING SYSTEM FOR THE PHOTOVOLTAIC PANELS SHALL BE ABLE TO BE ADJUSTED FOR SEASONAL SUN ANGLE VARIATION.
8. THE RACKING SYSTEM FOR THE PHOTOVOLTAIC PANELS SHALL BE BOLTED TO THE STEEL FRAME.
9. PHOTOVOLTAIC PANELS SHALL BE LOCATED TO AVOID CONFLICTS WITH EXISTING EQUIPMENT AND ENSURE ACCESS TO ALL EXISTING EQUIPMENT AND ROOF PENETRATIONS FOR MAINTENANCE AND FUNCTIONALITY.
10. ALL SYSTEMS, INCLUDING THE PHOTOVOLTAIC PANELS, STRUCTURAL SUPPORTS, ELECTRICAL AND OTHER EQUIPMENT SHALL BE PROVIDED, LOCATED AND COORDINATED BY THE CONTRACTOR.
11. THE CONTRACTOR SHALL SUBMIT DRAWINGS THAT ILLUSTRATE THE LOCATION OF ALL COMPONENTS OF THE PROJECT FOR REVIEW AND APPROVAL BY THE DESIGN TEAM.
12. THE CONTRACTOR SHALL ASSUME AN ADDITIONAL EIGHT (8) HOURS, MINIMUM, FOR STUDENT INVOLVEMENT AND EDUCATION TIME DURING THE CONSTRUCTION AND INSTALLATION OF THE SYSTEM.
13. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND ASSISTING THE OWNER WITH THE ROCKY MOUNTAIN POWER NET METERING AGREEMENT.



B1 ROOF PENETRATION DETAIL
SCALE: 1" = 1'-0"



A1 CONDUIT SUPPORT
SCALE: 3" = 1'-0"



A2 ROOF BEAM DETAIL
SCALE: NOT TO SCALE

A3 Roof Plan
SCALE: 1/8" = 1'-0"

NOTE:
ALL DIMENSIONS AND PANEL LOCATIONS APPROXIMATE. FINAL LOCATIONS AND QUANTITIES TO BE DETERMINED BY CONTRACTOR.

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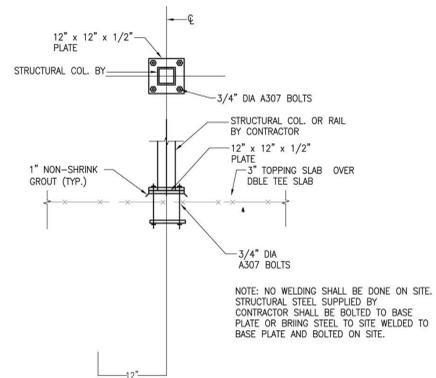
S101

GENERAL STRUCTURAL NOTES

1. ALL STRUCTURAL STEEL SHALL BE ASTM A-36 (EXCEPT FOR TUBE COLUMNS WHICH SHALL BE ASTM A-500-B, Fy = 46 KSI) AND SHALL COMPLY WITH THE "STANDARD SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS" OF THE A.I.S.C. AND WITH THE A.I.S.C. CODE OF STANDARD PRACTICE.
2. ALL BOLTS FOR STEEL TO STEEL SHALL BE A325, TIGHTEN TO SPECIFIED TORQUE AS PER AISC REQUIREMENTS. BOLTS FOR CONCRETE AND STEEL TO WOOD, SHALL BE ASTM A307 UNO.
3. ALL WELDING SHALL CONFORM TO AWS D1.1B REQUIREMENTS AND SHALL BE MADE WITH E60XX ELECTRODES BY WELDERS CERTIFIED FOR THE WELD TO BE DONE. ALL BEARING PLATES FOR BEAMS AND COLUMNS RESTING ON MASONRY OR CONCRETE SHALL BE UNDERLAIN FULLY WITH A HIGH COMPRESSION, NON-SHRINK GROUT.
5. PRIOR TO FABRICATION AND ERECTION, SHOP DRAWINGS FOR ALL STEEL ITEMS SHALL BE REVIEWED BY THE STRUCTURAL ENGINEER.
6. ALL DIMENSIONS AND PANEL LOCATIONS APPROXIMATE. FINAL LOCATIONS AND QUANTITIES TO BE DETERMINED BY CONTRACTOR.
7. ALL STRUCTURAL STEEL SHALL BE FABRICATED OFF-SITE.
8. NO WELDING SHALL OCCUR ON-SITE. ALL ON-SITE CONNECTIONS SHALL BE BOLTED.
9. STEEL FABRICATORS: OFF-SITE FABRICATION OF STRUCTURAL STEEL PRODUCTS AND ELEMENTS SHALL BE PERFORMED BY DFCM APPROVED FABRICATORS WHO ARE ON THE PRE-APPROVED STRUCTURAL STEEL FABRICATORS LIST AS OF THE DATE OF THIS RFP. THE CONTRACTORS BID WILL BE CONSIDERED NON-RESPONSIVE SHOULD THEY UTILIZE A STRUCTURAL STEEL FABRICATOR WHO HAS NOT BEEN PRE-APPROVED BY DFCM. THE FABRICATORS CERTIFICATE OF COMPLIANCE SHALL BE SUBMITTED AT THE APPROPRIATE TIME. FOR ADDITIONAL INFORMATION AND CLARIFICATION PLEASE CONTACT THE DFCM BUILDINGS OFFICIALS OR REFER TO THE BUILDING OFFICIALS LINK ON THE DFCM WEB SITE. APPROVAL OF FABRICATORS AND REQUIREMENTS TO BECOME APPROVED ARE LISTED ON THE BUILDING OFFICIALS WEB SITE.
10. COMPLETE SUBMITTALS AS LISTED ON SHEET G001, INCLUDING STRUCTURAL DESIGN DRAWINGS AND CALCULATIONS ARE REQUIRED TO BE SUBMITTED BY THE CONTRACTOR FOR REVIEW AND APPROVAL BY DFCM.

GENERAL PLAN NOTES

1. SOLAR PANEL SUPPORT SYSTEM IS NOT TO BE BALLASTED.
2. STRUCTURAL SUPPORT POINTS ARE SHOWN SCHEMATICALLY AND ARE TO BE USED FOR CONNECTION OF STRUCTURAL SUPPORT FRAME DESIGNED BY CONTRACTOR.
3. STRUCTURAL SUPPORT POINTS CONSIST OF A 12" X 12" X 1/2" STEEL PLATE, ONE ON TOP OF THE STRUCTURAL SLAB, AND ONE BELOW, CONNECTED WITH (4) 3/4" DIA. THRU BOLTS.
4. SUPPORT POINTS ARE SET 12" FROM CENTERLINE OF EXISTING CONCRETE TEE BEAMS. CONCRETE TEE BEAMS ARE SHOWN SCHEMATICALLY. EXACT POSITION WILL NEED TO BE VERIFIED BY CONTRACTOR.
5. IN SOME CASES, FRAME MAY NEED TO BE EXTENDED SO AS TO REACH CLOSEST SUPPORT POINT POSSIBLE.
7. IN SOME CASES, WHERE FRAME CANNOT EXTEND BEYOND LIMITS, THE FRAME MAY CANTILEVER PAST THE SUPPORT POINT.
8. MAXIMUM LOAD AT ANY SUPPORT POINT IS A MOMENT FORCE OF 11,500 FT. POUNDS, AND A VERTICAL UPLIFT OR DOWNWARD FORCE OF 2,500 POUNDS.
9. STRUCTURAL SUPPORT POINTS SHALL BE SPACED NO FARTHER THAN 12 FT. APART.
10. THE TOP OF THE STEEL STRUCTURE DESIGNED BY THE CONTRACTOR SHALL BE A MINIMUM OF 18" FROM THE TOP OF THE FINISHED ROOF.
11. THE STEEL STRUCTURE DESIGNED BY THE CONTRACTOR SHALL BE ABLE TO ADJUST IN HEIGHT TO ACCOUNT FOR VARIATION IN THE FINISHED ROOF ELEVATION.



STRUCTURAL LOAD POINT
NO SCALE

PLAN
1/8" = 1'-0"



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SYMBOL LEGEND

SYMBOL	DESCRIPTION
REFERENCE AND LINE SYMBOLS	
	DETAIL INDICATOR: A5 INDICATES DETAIL NUMBER, E-501 INDICATES DRAWING SHEET WHERE DETAIL IS SHOWN.
	KEYNOTE INDICATOR.
	REVISION INDICATOR.
	EQUIPMENT INDICATOR.
	BREAK, STRAIGHT. TO BREAK PARTS OF DRAWING.
	BREAK, ROUND.
	NEW LINE: MEDIUM LINE.
	HIDDEN FEATURES LINE: HIDDEN, THIN LINE.
	EXISTING TO REMAIN LINE: THIN LINE.
	DEMOLITION LINE: DASHED, MEDIUM LINE.
WIRING METHODS	
	WIRING.
	WIRING TURNED UP OR TOWARDS OBSERVER.
	BRANCH CIRCUIT HOME RUN TO PANELBOARD; NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS. LETTER AND NUMBER NOTATIONS IDENTIFY PANEL AND CIRCUIT NUMBERS. NUMBER IN BOX REFERS TO THE CONDUCTOR AND CONDUIT SCHEDULE. FOR BRANCH WIRING USE #12 CONDUCTORS, EXCEPT #10 CONDUCTORS SHALL BE INSTALLED IF DISTANCES EXCEED THOSE SPECIFIED IN THE ELECTRICAL SPECIFICATIONS.
	CONDUIT STUB. DIMENSION RECORD DRAWINGS AND MARK.
	JUNCTION BOX.
ELECTRICAL POWER AND DISTRIBUTION	
	CIRCUIT BREAKER, MOLDED CASE (ONE-LINE DIAGRAM).
	PANELBOARD WITH MAIN CIRCUIT BREAKER. SIZE AND PHASE AS SHOWN (ONE-LINE DIAGRAM).
	PANELBOARD WITH MAIN AND SUB FEED CIRCUIT BREAKER (ONE-LINE DIAGRAM).
	METER.
	DISCONNECT SWITCH, FUSED.
	DISCONNECT SWITCH, UNFUSED.
	PANELBOARD CABINET, SURFACE MOUNTED, 1 SECTION.
PV SYSTEM	
	PHOTOVOLTAIC MODULE.
	PHOTOVOLTAIC SYSTEM INVERTER.

ABBREVIATIONS

NOTE: ALL ABBREVIATIONS MAY NOT BE USED.

1P	SINGLE POLE	KV	KILOVOLT
1PH	SINGLE PHASE	KVA	KILOVOLT AMPERE
1WAY	ONE-WAY	KVAR	KILOVOLT AMPERE REACTIVE
2/C	TWO-CONDUCTOR	KW	KILOWATT
2WAY	TWO-WAY	KWH	KILOWATT HOUR
3/C	THREE-CONDUCTOR	LED	LIGHT EMITTING DIODE
3PH	THREE-PHASE	LFMC	LIQUID TIGHT FLEXIBLE METAL CONDUIT
3WAY	THREE-WAY	LFNC	LIQUID TIGHT FLEXIBLE NONMETALLIC CONDUIT
4OUT	QUADRUPLE RECEPTACLE OUTLET	LPS	LOW PRESSURE SODIUM
4PDT	FOUR-POLE DOUBLE THROW	LRA	LOCKED ROTOR AMPS
4PST	FOUR-POLE SINGLE THROW	LTD	LIGHTING
4W	FOUR-WIRE	LV	LOW VOLTAGE
4WAY	FOUR-WAY	MATV	MASTER ANTENNA TELEVISION SYSTEM
A	ABOVE COUNTER	MAX	MAXIMUM
AC	ARMORED CABLE	MC	METAL CLAD
ADA	AMERICANS WITH DISABILITIES ACT	MCA	MINIMUM CIRCUIT AMPS
ADJ	ADJACENT	MCB	MAIN CIRCUIT BREAKER
AFB	ABOVE FINISHED FLOOR	MCC	MOTOR CONTROL CENTER
AFG	ABOVE FINISHED GRADE	MCP	MOTOR CIRCUIT PROTECTION
AIC	AMPERE INTERRUPTING CAPACITY	MOP	MAIN DISTRIBUTION PANEL
ALUM	ALUMINUM	MG	MOTOR GENERATOR
AMP	AMPERE	MH	MANHOLE
ANN	ANNUNCIATOR	MN	MINIMUM
AP	ACCESS POINT (WIRELESS DATA) AS REQUIRED	MLO	MAIN LUGS ONLY
AR	AS REQUIRED	MOC	MAXIMUM OVERCURRENT PROTECTION
ASC	AMPS SHORT CIRCUIT	NA	NOT APPLICABLE
ATS	AUTOMATIC TRANSFER SWITCH	NC	NORMALLY CLOSED
AV	AUDIO VISUAL	NEC	NATIONAL ELECTRICAL CODE
AWG	AMERICAN WIRE GAGE	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
BB XFMR	BUCK-BOOST TRANSFORMER	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
C	CENTRAL MOUNTED COMMUNITY ANTENNA TELEVISION	NFC	NATIONAL FIRE CODE
CATV	COMMUNITY ANTENNA TELEVISION	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
CB	CIRCUIT BREAKER	NIC	NIGHT LIGHT
CCBA	CUSTOM COLOR AS SELECTED BY ARCHITECT	NO	NORMALLY OPEN
CCVT	CLOSED CIRCUIT TELEVISION	NTS	NOT TO SCALE
CFBA	CUSTOM FINISH AS SELECTED BY ARCHITECT	OC	ON CENTER
CF/CI	CONTRACTOR FURNISHED/ CONTRACTOR INSTALLED	OCF	OVER CURRENT PROTECTION
CF/OI	CONTRACTOR FURNISHED/ OWNER INSTALLED	OF/OI	OWNER FURNISHED/ CONTRACTOR INSTALLED
CM	CONSTRUCTION MANAGER	OF/OI	OWNER FURNISHED/ OWNER INSTALLED
CND	CONDUIT	OP	OBTAIN FROM PLANS
CD	CONVENIENCE OUTLET	OH DR	OVERHEAD (COILING) DOOR
COR	CONTRACTING OFFICER'S REPRESENTATIVE	PB	PUSHBUTTON
CP	CONTROL PANEL	PF	POWER FACTOR
CT	CURRENT TRANSFORMER	PH	PHASE
CTV	CABLE TELEVISION	PNL	PANEL
CU	COPPER	PT	POTENTIAL TRANSFORMER
DBA	UNIT OF SOUND LEVEL	PTZ	PANTILT/Zoom
DPDT	DOUBLE POLE DOUBLE THROW DISCONNECT SWITCH	QTY	QUANTITY
DS	DISCONNECT SWITCH	R	REMOVE
EA	EACH	RCP	REFLECTED CEILING PLAN
EM	EMERGENCY	RMC	RIGID METAL CONDUIT
EMT	ELECTRICAL METALLIC TUBING	RNC	RIGID NONMETALLIC CONDUIT
ENT	ELECTRICAL NONMETALLIC TUBING	RPM	REVOLUTIONS PER MINUTE
EPO	EMERGENCY POWER OFF EQUIPMENT	RR	REMOVE AND RELocate
EQIP	EQUIPMENT	SCA	SHORT CIRCUIT AMPS
EX	EXISTING	SCBA	STANDARD COLOR AS SELECTED BY ARCHITECT
F	FURNITURE MOUNTED	SF	SQUARE FOOT (FEET)
FA	FIRE ALARM	SFBA	STANDARD FINISH AS SELECTED BY ARCHITECT
FCP	FIRE ALARM CONTROL PANEL	SPDT	SINGLE POLE DOUBLE THROW SPECIFICATION
FLA	FULL LOAD AMPS	SPST	SINGLE POLE SINGLE THROW
FMC	FLEXIBLE METAL CONDUIT	S/S	START/STOP
FOB	FREIGHT ON BOARD	ST	SINGLE THROW SWITCH
FVNB	FULL VOLTAGE NON-REVERSING	SWBD	SWITCHBOARD
FVR	FULL VOLTAGE REVERSING	SWGR	SWITCHGEAR
G	GROUND	TL	TWIST LOCK
GEN	GENERATOR	TP	TELEPHONE POLE
GF/CI	GROUND FAULT CIRCUIT INTERRUPTER	TP	TWISTED PAIR TELEPHONE
GFP	GROUND FAULT PROTECTION	TTB	TERMINAL BOARD
HD	HEAVY DUTY	TV	TELEVISION
HID	HIGH INTENSITY DISCHARGE	TVP	TRANSIENT VOLTAGE SURGE SUPPRESSER
HDA	HAND-OFF-AUTOMATIC	UF	UNDERFLOOR
HP	HORSE POWER	UGND	UNDERGROUND
HPF	HIGH POWER FACTOR	UPS	UNINTERRUPTIBLE POWER SUPPLY
HPS	HIGH PRESSURE SODIUM	V	VOLTS
HV	HIGH VOLTAGE	VA	VOLT AMPERE
HZ	HERTZ	VFCVFD	VARIABLE FREQUENCY MOTOR CONTROLLER
IG	ISOLATED GROUND	W	WITH
IMC	INTERMEDIATE METAL CONDUIT	W/O	WITHOUT
INIS	INSULATED/ISOLATED	WP	WEATHERPROOF
I/O	INPUT/OUTPUT	XFMR	TRANSFORMER
IR	INFRARED		
J-BOX	JUNCTION BOX		

DEFINITIONS

NOTE: ALL DEFINITIONS MAY NOT BE USED.

INDICATED: THE TERM "INDICATED" REFERS TO GRAPHIC REPRESENTATIONS, NOTES, OR SCHEDULES ON THE DRAWINGS, OTHER PARAGRAPHS OR SCHEDULES IN THE SPECIFICATIONS, AND SIMILAR REQUIREMENTS IN THE CONTRACT DOCUMENTS. WHERE TERMS SUCH AS "SHOWN", "NOTED", "SCHEDULED", AND "SPECIFIED" ARE USED, IT IS TO HELP THE READER LOCATE THE REFERENCE. NO LIMITATION ON LOCATION IS INTENDED.

DIRECTED: TERMS SUCH AS "DIRECTED", "REQUESTED", "AUTHORIZED", "SELECTED", "APPROVED", "REQUIRED", AND "PERMITTED" MEAN "DIRECTED BY THE ENGINEER", "REQUESTED BY THE ENGINEER", AND SIMILAR PHRASES.

APPROVED: THE TERM "APPROVED", WHERE USED IN CONJUNCTION WITH THE ENGINEER'S ACTION ON THE CONTRACTOR'S SUBMITTALS, APPLICATIONS, AND REQUESTS, IS LIMITED TO THE ENGINEER'S DUTIES AND RESPONSIBILITIES AS STATED IN GENERAL AND SUPPLEMENTARY CONDITIONS.

FURNISH: THE TERM "FURNISH" IS USED TO MEAN "SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS."

INSTALL: THE TERM "INSTALL" IS USED TO DESCRIBE OPERATIONS AT PROJECT SITE INCLUDING THE ACTUAL "UNLOADING, UNPACKING, ASSEMBLY, ERECTION, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS."

PROVIDE: THE TERM "PROVIDE" MEANS "TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE."

INSTALLER: AN "INSTALLER" IS THE CONTRACTOR OR AN ENTITY ENGAGED BY THE CONTRACTOR, EITHER AS AN EMPLOYEE, SUBCONTRACTOR, OR SUB-SUBCONTRACTOR, FOR PERFORMANCE OF A PARTICULAR CONSTRUCTION ACTIVITY, INCLUDING INSTALLATION, ERECTION, APPLICATION, AND SIMILAR OPERATIONS. INSTALLERS ARE REQUIRED TO BE EXPERIENCED IN THE OPERATIONS THEY ARE ENGAGED TO PERFORM.

TECHNOLOGY SYSTEMS: THE TERM "TECHNOLOGY SYSTEMS" IS USED TO DESCRIBE ALL LOW VOLTAGE SYSTEMS GENERALLY REFERRED TO AS "SPECIAL SYSTEMS". THESE SYSTEMS INCLUDE BUT ARE NOT NECESSARILY LIMITED TO ALL SYSTEMS WHICH UTILIZE VOLTAGES OF LESS THAN 71 VOLTS SUCH AS SOUND SYSTEMS, VIDEO SYSTEMS, TV SYSTEMS, SECURITY SYSTEMS, VOICE AND DATA CABLING SYSTEMS, ETC.

GENERAL ELECTRICAL NOTES

- CLARIFICATION METHODS: AT THE TIME OF BIDDING, BIDDERS SHALL FAMILIARIZE THEMSELVES WITH THE DRAWINGS AND SPECIFICATIONS. ANY QUESTIONS, MISUNDERSTANDINGS, CONFLICTS, DELETIONS, DISCONTINUED PRODUCTS, CATALOG NUMBER DISCREPANCIES, DISCREPANCIES BETWEEN THE EQUIPMENT SUPPLIED AND THE INTENT OR FUNCTION OF THE EQUIPMENT, ETC. SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER IN WRITING FOR CLARIFICATION PRIOR TO ISSUANCE OF THE FINAL ADDENDUM AND BIDDING OF THE PROJECT. WHERE DISCREPANCIES OR MULTIPLE INTERPRETATIONS OCCUR, THE MOST STRINGENT (WHICH IS GENERALLY RECOGNIZED AS THE MOST COSTLY) THAT MEETS THE INTENT OF THE DOCUMENTS SHALL BE ENFORCED.
- OWNER FURNISHED ITEMS: THE OWNER WILL FURNISH MATERIAL AND EQUIPMENT AS INDICATED IN THE CONTRACT DOCUMENTS TO BE INCORPORATED INTO THE WORK. THESE ITEMS ARE ASSIGNED TO THE INSTALLER AND COSTS FOR RECEIVING, HANDLING, STORAGE, IF REQUIRED, AND INSTALLATION ARE INCLUDED IN THE CONTRACT SUM.
 - THE INSTALLER'S RESPONSIBILITIES ARE THE SAME AS IF THE INSTALLER FURNISHED THE MATERIALS OR EQUIPMENT.
 - THE OWNER WILL ARRANGE AND PAY FOR DELIVERY OF OWNER FURNISHED ITEMS FREIGHT ON BOARD JOB SITE AND THE INSTALLER WILL INSPECT DELIVERIES FOR DAMAGE. IF OWNER FURNISHED ITEMS ARE DAMAGED, DEFECTIVE OR MISSING, DOCUMENT DAMAGED ITEMS WITH THE TRANSPORT COMPANY AND THE OWNER WILL ARRANGE FOR REPLACEMENT. THE OWNER WILL ALSO ARRANGE FOR MANUFACTURER'S FIELD SERVICES, AND THE DELIVERY OF MANUFACTURER'S WARRANTIES AND BONDS TO THE INSTALLER.
 - THE INSTALLER IS RESPONSIBLE FOR DESIGNATING THE DELIVERY DATES OF OWNER FURNISHED ITEMS AND FOR RECEIVING, UNLOADING AND HANDLING OWNER FURNISHED ITEMS AT THE SITE. THE INSTALLER IS RESPONSIBLE FOR PROTECTING OWNER FURNISHED ITEMS FROM DAMAGE, INCLUDING DAMAGES FROM EXPOSURE TO THE ELEMENTS, AND TO REPAIR OR REPLACE ITEMS DAMAGED AS A RESULT OF HIS OPERATIONS.
- EXPOSED STRUCTURE AREAS (EXCLUDING MECHANICAL, ELECTRICAL, AND COMMUNICATION SPACES): INSTALL RACEWAYS BETWEEN DECK AND STRUCTURE WHEREVER POSSIBLE IN EXPOSED STRUCTURE CEILING AREAS. ROUTE RACEWAYS IN CONCEALED AREAS WHEREVER POSSIBLE. REFER ALL CONDITIONS WHERE RACEWAYS MUST BE INSTALLED WHICH CANNOT COMPLY WITH THESE REQUIREMENTS TO THE ARCHITECT.
- SUBMITTALS: PROVIDE SUBMITTALS IN THREE RING BINDERS WITH JOB NAME, SUBCONTRACTOR, AND VOLUME ON THE BINDING. PREPARE TABS FOR EACH SPECIFICATION SECTION REQUIRING SUBMITTALS. PREPARE INDEX OF EQUIPMENT SUBMITTED IN EACH TAB.
- REFLECTED CEILING PLANS: COORDINATE THE LOCATION OF LIGHT FIXTURES WITH THE ARCHITECTURAL REFLECTED CEILING PLANS. REFER ALL DISCREPANCIES TO THE ARCHITECT AND ENGINEER.

ELECTRICAL SHEET INDEX

EE001	SHEET INDEX, ABBREVIATIONS, AND GENERAL NOTES
EP101	LEVEL 1 POWER PLAN
EP103	ROOF POWER PLAN
EP601	ONE-LINE DIAGRAM



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Rev # Date Description

Job # 11010
CAD File
Drawn Author Checked Checker
Date 16 MARK 2011
Owner #
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SHEET INDEX,
ABBREVIATIONS, AND
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EE001



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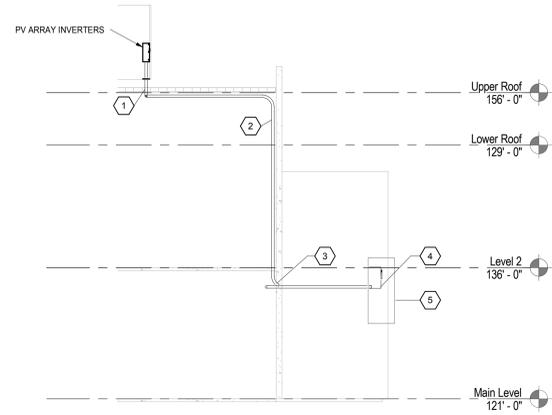
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Drawn Author Checked Checker
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LEVEL 1 POWER PLAN

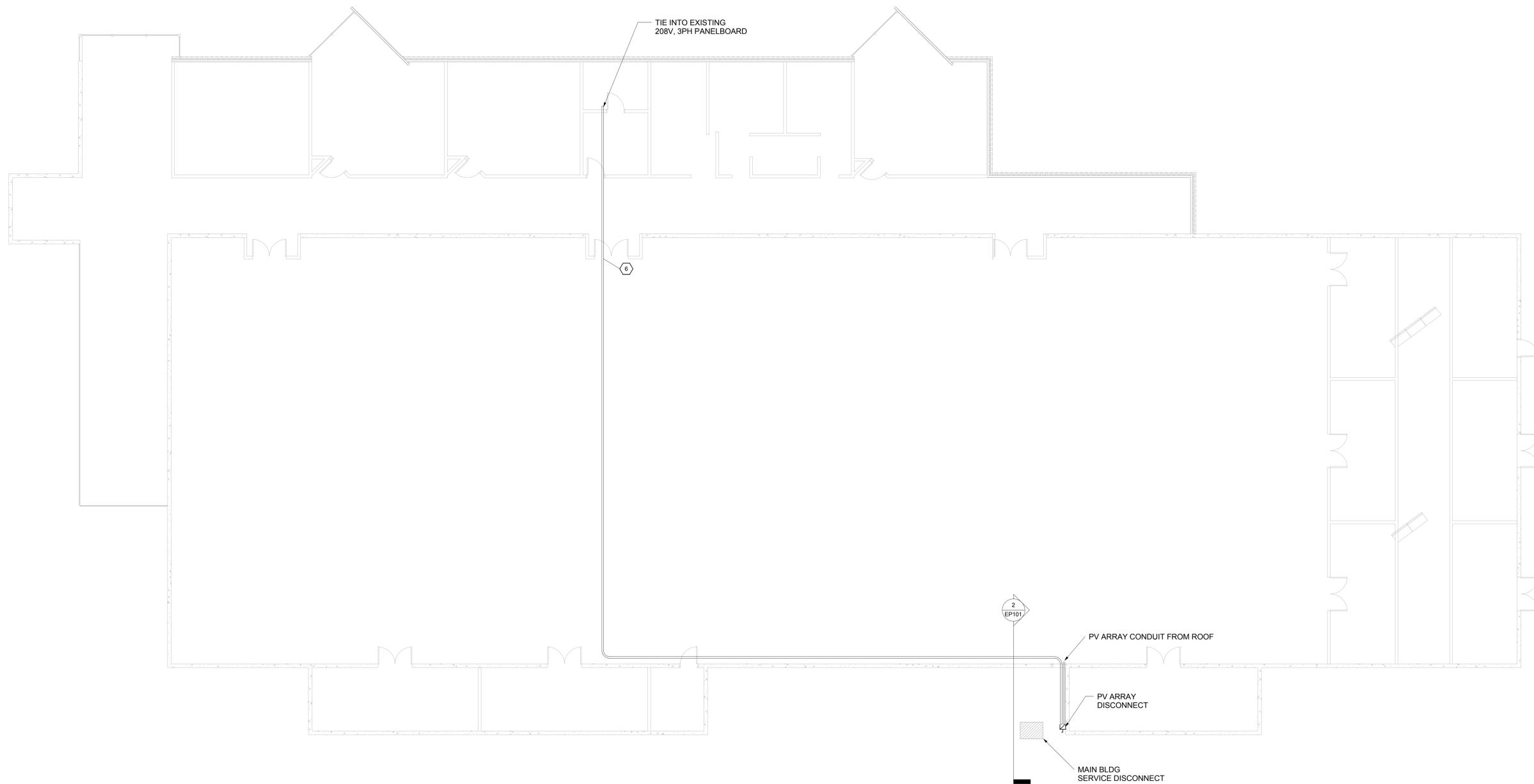
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SHEET KEYNOTES

- 1 CORE DRILL THROUGH ROOF BELOW INVERTERS TO ROUTE CONDUIT INSIDE THE BUILDING ENVELOPE. PATCH AND REPAIR ROOF AS REQUIRED TO MAINTAIN ROOF MEMBRANE INTEGRITY.
- 2 RUN PV ARRAY OUTPUT CIRCUIT IN INSIDE OF THE BUILDING AT THE CEILING AND ALONG THE EXTERIOR WALL AS INDICATED.
- 3 PENETRATE EXTERIOR WALL. PATCH AND REPAIR WALL PENETRATION TO MAINTAIN INTEGRITY OF THE WALL.
- 4 PV ARRAY DISCONNECT BEYOND.
- 5 MAIN SERVICE DISCONNECT CABINET.
- 6 CORE DRILL THROUGH EXISTING CONCRETE WALL AND ROUTE CONDUIT THROUGH CEILING "BRIDGE" TO TIE INTO THE BUILDING ELECTRICAL SYSTEM ON THE NORTH SIDE OF THE CORRIDOR.



2 CONDUIT ROUTING
SCALE: NTS



1 LEVEL 1 POWER PLAN
SCALE: NTS

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SHEET KEYNOTES

- 1 ROUTE CONDUIT ALONG ROOF BY USE OF A SYSTEM THAT IS COMPATIBLE WITH THE ROOF MEMBRANE AND WILL NOT CAUSE DAMAGE OR PENETRATE THE ROOF MEMBRANE. USE PIPE PIER OR APPROVED EQUAL. SUPPORT ALL PV ARRAY SYSTEM CONDUIT AT LEAST 8" ABOVE THE ROOF DECK.
- 2 CORE DRILL THROUGH ROOF BELOW INVERTERS TO ROUTE CONDUIT INSIDE THE BUILDING ENVELOPE. PATCH AND REPAIR ROOF AS REQUIRED TO MAINTAIN ROOF MEMBRANE INTEGRITY.
- 3 RUN PV ARRAY OUTPUT CIRCUIT IN INSIDE OF THE BUILDING AT THE CEILING AND ALONG THE EXTERIOR WALL AS INDICATED.



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1 ROOF POWER PLAN
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ROOF POWER PLAN

GENERAL SHEET NOTES

1. PROVIDE NEMA 3R ENCLOSURES FOR EQUIPMENT LOCATED OUTDOORS. REFER TO PLANS FOR EQUIPMENT LOCATIONS.
2. REFER TO PLANS FOR CONSTRAINTS ON PHYSICAL DIMENSIONS AND CLEARANCE REQUIREMENTS OF EQUIPMENT. PROVIDE EQUIPMENT DIMENSIONS THAT FALL WITHIN THE CONSTRAINTS OF EACH SPECIFIC LOCATION.
3. ALL EQUIPMENT SHALL BE CONSTRUCTED AND BRACED FOR THE SEISMIC CONDITIONS OF THE PROJECT. REFER TO SPECIFICATIONS SECTION 16071 FOR REQUIREMENTS.

GENERAL SYSTEM NOTES

1. PROVIDE 16KW ARRAY.
2. CONTRACTOR TO PROVIDE AND SUBMIT ALL DESIGN DOCUMENTATION FOR FINAL SYSTEM APPROVAL TO THE ARCHITECT/OWNER INCLUDING SHOP DRAWINGS, STRING SIZING CALCULATIONS, VOLTAGE DROP CALCULATIONS AND PRODUCT DATA FOR ALL ELEMENTS OF THE ARRAY.
3. ALL WIRING SHALL BE SIZED IN ACCORDANCE WITH THE NEC AND ACCEPTABLE VOLTAGE DROP CRITERIA.
4. PROVIDE SYSTEM GROUNDING IN ACCORDANCE WITH NEC SECTION 690.
5. CONTRACTOR SHALL COORDINATE NET METERING AGREEMENT FOR OWNER WITH ROCKY MOUNTAIN POWER.
6. CONTRACTOR SHALL PROVIDE PERMANENT LABELING AS REQUIRED BY NEC 690 AND ROCKY MOUNTAIN POWER.
7. THIS DRAWING IS INTENDED TO BE SCHEMATIC IN NATURE. CONTRACTOR IS RESPONSIBLE WITH FINAL ARRAY DESIGN AND LAYOUT.
8. CONTRACTOR SHALL PROVIDE ALL REQUIRED DATA CABLING TO CONNECT INVERTER MONITORING/METERING SYSTEM INTO CAMPUS NETWORK.

CONDUCTOR AND CONDUIT SCHEDULE

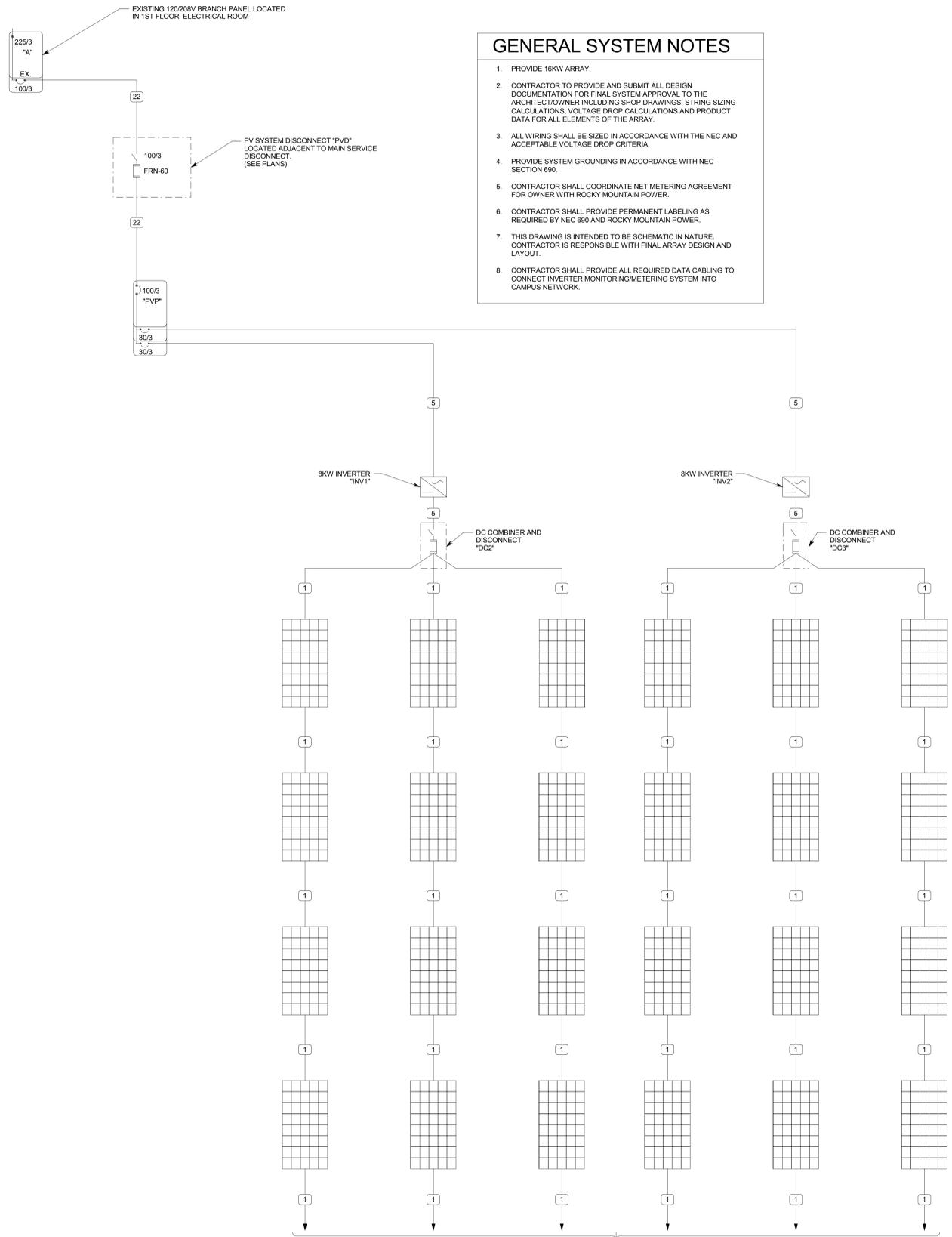
SCHEDULE NUMBER: []

SUBSCRIPT (NOTE 5): (E.G. []_{IG})

SYM	AMP	CONDUIT SIZE	QTY	CONDUCTOR (NOTE 1) SIZE	IG	SE	NOTES
1	20	75	2	12	12	8	2
2	20	75	3	12	12	12	2.3
3	20	75	4	12	12	12	8 2.3
4	30	75	2	10	10	10	8 2
5	30	75	3	10	10	10	8 2
6	30	75	4	10	10	10	8 2
7	40	1	2	8	10	8	6 2
8	40	1	3	8	10	8	6 2
9	40	1	4	8	10	8	6 2
10	55	1	2	6	10	6	4 2
11	55	1	3	6	10	6	4 2
12	55	1.25	4	6	10	8	4 2
13	70	1	2	4	8	4	2 2
14	70	1.25	3	4	8	4	2 2
15	70	1.25	4	4	8	4	2 2
16	85	1.25	2	3	8	3	2 2
17	85	1.25	3	3	8	3	2 2
18	85	1.25	4	3	8	3	2 2
19	95	1.25	3	2	8	2	2 2
20	95	1.50	4	2	8	2	2 2
21	130	1.50	3	1	6	2	2 2
22	130	1.50	4	1	6	2	2 2
23	150	2	3	1/0	6	2	1/0 2
24	150	2	4	1/0	6	2	1/0 2
25	175	2	3	2/0	6	2	2/0 2
26	175	2	4	2/0	6	2	2/0 2
27	200	2	3	3/0	6	2	2/0 2
28	200	2.50	4	3/0	6	2	2/0 2
29	230	2.50	3	4/0	4	2	2/0 2
30	230	2.50	4	4/0	4	2	2/0 2
31	255	2.50	3	250	4	1	2/0 2
32	255	2.50	4	250	4	1	2/0 2
33	310	3	3	350	3	1/0	3/0 2
34	310	3	4	350	3	1/0	3/0 2
35	380	3.50	3	500	3	3/0	3/0 2
36	380	4	4	500	3	3/0	3/0 2
37	400	2 EA 2	3	3/0	3	3/0	3/0 2
38	400	2 EA 2.50	4	3/0	3	3/0	3/0 2
39	510	2 EA 2.50	3	250	1	4/0	3/0 2
40	510	2 EA 3	4	250	1	4/0	3/0 2
41	820	2 EA 3	3	350	1/0	4/0	3/0 2.4
42	820	2 EA 3	4	350	1/0	4/0	3/0 2.4
43	780	2 EA 3.50	3	500	1/0	4/0	3/0 2.4
44	780	2 EA 4	4	500	1/0	4/0	3/0 2.4
45	855	3 EA 3	3	300	2/0	4/0	3/0 2.4
46	855	3 EA 3	4	300	2/0	4/0	3/0 2.4
47	1000	3 EA 3.50	3	400	2/0	4/0	3/0 4
48	1000	3 EA 3.50	4	400	2/0	4/0	3/0 4
49	1140	3 EA 4	3	500	3/0	4/0	3/0 4
50	1140	2 EA 4	4	500	3/0	4/0	3/0 4
51	1240	4 EA 3	3	350	3/0	4/0	3/0 4
52	1240	4 EA 3	4	350	3/0	4/0	3/0 4
53	1675	5 EA 3.50	4	400	4/0	4/0	4/0 4
54	2010	6 EA 3.50	4	400	250	250	4
55	2660	7 EA 4	4	500	350	350	4
56	3040	8 EA 4	4	500	500	500	500 4
57	4180	11 EA 4	4	500	500	500	500 4
58		5 EA 4					6
59		5					6
60		10 EA 4					6

CONDUCTOR AND CONDUIT SCHEDULE NOTES

1. CONDUCTORS SHOWN ARE SHOWN FOR EACH CONDUIT WITH MODIFICATIONS AS NOTED IN NOTE 5. ALL CONDUCTORS SHOWN ARE THWN UNLESS OTHERWISE NOTED.
2. PROVIDE EQUIPMENT GROUND CONDUCTORS PER TABLE 250-122 WHEN CIRCUIT BREAKERS ARE SIZED GREATER THAN AMPERE RATING SHOWN IN TABLE.
3. PROVIDE #10 NEUTRALS FOR MULTIWIRED BRANCH CIRCUITS SERVING COMPUTERS.
4. GROUND (G) CONDUCTOR MAY BE DELETED ON SERVICE ENTRANCE CONDUCTORS.
5. WHEN SYMBOL SUBSCRIPT INDICATES "IG" INCLUDE "IG" OR INSULATED GROUND CONDUCTOR SCHEDULED ALONG WITH GROUND OR EQUIPMENT GROUND CONDUCTOR. WHEN SYMBOL SUBSCRIPT INDICATES "SE", SUBSTITUTE "SE" CONDUCTOR FOR "G" CONDUCTOR SHOWN WHICH IS SIZED FOR THE GROUNDING OF THE SECONDARY OF THE SEPARATELY DERIVED SYSTEMS.
6. RACEWAY ONLY. CONDUCTORS PROVIDED BY UTILITY.



SIZE STRINGS PER INVERTER MANUFACTURERS INSTRUCTIONS.
PROVIDE 16KW ARRAY.

1 ONE-LINE DIAGRAM

SCALE: NTS