

# CODE ANALYSIS

## APPLICABLE CODES

	Year		Year
International Building Code	2006	National Electrical Code	2008
International Mechanical Code	2006	Uniform Code for Building Conservation	N/A
International Plumbing Code	2006	ADA Accessibility Guidelines	2003
International Fire Code	2006		
International Energy Conservation Code	2006		

A. Occupancy and Group: B (BUSINESS)  
 Change in Use: Yes  No  Mixed Occupancy: Yes  No   
 Special Use and Occupancy (e.g. High Rise, Covered Mall): N/A

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

C. Type of Construction (circle one):  
 $\frac{I}{A}$   $\frac{I}{B}$   $\frac{II}{A}$   $\frac{II}{B}$   $\frac{III}{A}$   $\frac{III}{B}$   $\frac{IV}{HT}$   $\frac{V}{A}$   $\frac{V}{B}$

D. Fire Resistance Rating Requirements for the Exterior Walls based on the fire separation distance (in hours):  
 North: 0 South: 0 East: 0 West: 0

E. Mixed Occupancies: NA Nonseparated Uses: NA

F. Sprinklers:  
 Required: YES Provided: YES Type of Sprinkler System: WET

G. Number of Stories: 1 Building Height: NA

H. Actual Area per Floor (square feet): EXISTING NA..

I. Tabular Area: EXISTING NA..

J. Area Modifications:  

$$a) A_a = A_t + \left[ \frac{A_t I_t}{100} \right] + \left[ \frac{A_t I_s}{100} \right] \quad I_t = 100 \left[ \frac{F}{P} - 0.25 \right] \frac{W}{30}$$

b) Sum of the Ratio Calculations for Mixed Occupancies:  

$$\frac{\text{Actual Area}}{\text{Allowable Area}} \leq 1$$

c) Total Allowable Area for:  
 1) One Story: NA  
 2) Two Story: A<sub>a</sub>(2)  
 3) Three Story: A<sub>a</sub>(3)

d) Unlimited Area Building: Yes  No  Code Section: N/A

K. Fire Resistance Rating Requirements for Building Elements (hours).

Element	Hours	Assembly Listing	Element	Hours	Assembly Listing
Exterior Bearing Walls	0		Floors - Ceiling Floors	N/A	
Interior Bearing Walls	0		Roofs - Ceiling Roofs	N/A	
Exterior Non-Bearing Walls	0		Exterior Doors and Windows	0	
Structural Frame	0		Shaft Enclosures	NA	
Partitions - Permanent	0		Fire Walls	N/A	
Fire Barriers	N/A		Fire Partitions	N/A	
			Smoke Partitions	N/A	

L. Design Occupant Load: 9 FOR PHOTO LAB  
 Exit Width Required: 1.35" Exit Width Provided: 72"

M. Minimum Number of Required Plumbing Facilities: EXISTING CONDITION N.A.  
 a) Water Closets - Required (m) NA (f) NA Provided (m) NA (f) NA  
 b) Lavatories - Required (m) NA (f) NA Provided (m) NA (f) NA  
 c) Bath Tubs or Showers: PROVIDED  
 d) Drinking Fountains: PROVIDED Service Sinks: PROVIDED

- FOOTNOTES:
- In case of conflict with the U.S. Department of Justice Federal Registers Parts I through V - ADA Guidelines and specific reference to the International Building Code Accessibility Chapters, the more restrictive requirement shall govern.
  - Additional Code Information shall be provided at the discretion of the Building Official for Complex Buildings. Including, but not limited to:
    - High Rise Requirements.
    - Atriums.
    - Performance Based Criteria.
    - Means or Egress Analysis.
    - Fire Assembly Locator Sheet.
    - Exterior and Interior Accessibility Route.
    - Fire Stopping, Including Tested Design Number.

# NORTH PHOTO LAB RELOCATION

## D.S.C. N.I.B.

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State of Utah  
 Department of Administrative Services

Division of Facilities  
 Construction & Management  
 4110 State Office Building  
 Salt Lake City, Utah 84114  
 Phone: (801) 538 - 3018  
 Fax: (801) 538 - 3267

Internet: <http://www.dfc.state.ut.us>

CREATED BY:

**CAMPBELL & ASSOCIATES**  
 ARCHITECTS  
 48 NORTH 200 EAST STREET, ST. GEORGE, UTAH 84770  
 PHONE: (435) 628-5975 FAX: (435) 628-5975



BUILDING NAME:

**DIXIE STATE  
 COLLEGE  
 N.I.B.**

PROJECT TITLE:

**NORTH PHOTO LAB  
 RELOCATION**

MARK	DATE	DESCRIPTION
△	10/06/09	PLAN CHECK

ISSUE TYPE: CHECK SET

ISSUE DATE: ??/??/????

DFCM PROJECT NO: 09113640

CAD PROJECT NO:

CAD DWG FILE: 09007

DRAWN BY: GT

CHK'D BY: K.C.

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SHEET TITLE

**COVER**

SHEET NUMBER

**G0.00**

### ARCHITECT:

**CAMPBELL & ASSOCIATES**  
 46 NORTH 200 EAST  
 ST. GEORGE UT 84770  
 435/628-5969  
 435/628-5975 fax  
 ATTN: KIM O. CAMPBELL

### MECHANICAL:

**VAN BOERUM & FRANK ASSOCIATES**  
 1070 WEST 1600 SOUTH  
 SUITE #104  
 ST. GEORGE UT 84770  
 435/674-4800  
 435/674-2708 fax  
 ATTN: LADD BIRCH

### ELECTRICAL:

**VAN BOERUM & FRANK ASSOCIATES**  
 1070 WEST 1600 SOUTH  
 SUITE #104  
 ST. GEORGE UT 84770  
 435/674-4800  
 435/674-2708 fax  
 ATTN: LAWRENCE REMBER



BUILDING NAME:

DIXIE STATE  
COLLEGE  
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SHEET TITLE

**SIESEMIC**

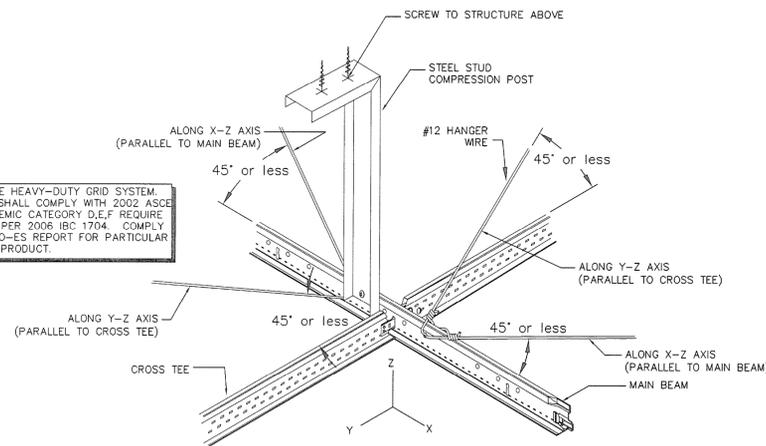
SHEET NUMBER

G0.01

SIESEMIC  
CATEGORY D,E,F  
DETAILS

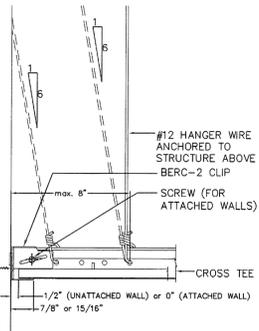
D

GENERAL NOTE: USE HEAVY-DUTY GRID SYSTEM. SUSPENDED CEILINGS SHALL COMPLY WITH 2002 ASCE 7, SECTION 9.6. SEISMIC CATEGORY D,E,F REQUIRE SPECIAL INSPECTION PER 2006 IBC 1704. COMPLY WITH APPLICABLE ICBO-ES REPORT FOR PARTICULAR PRODUCT.

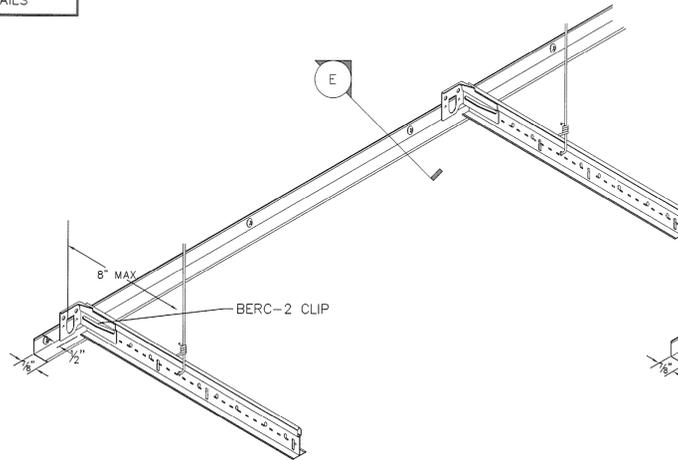


LATERAL FORCE BRACING

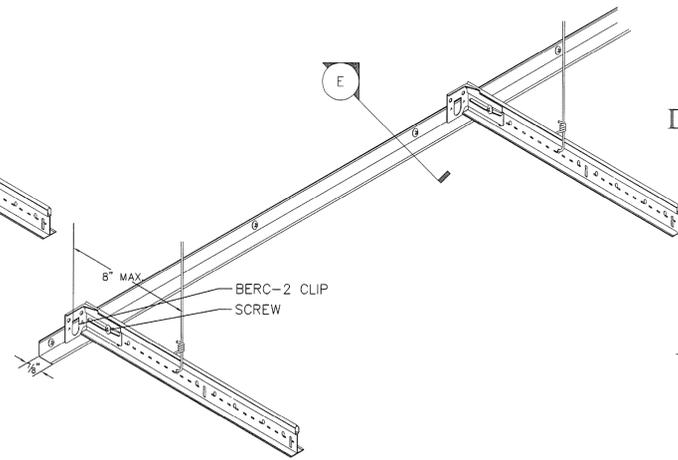
B LATERAL FORCE BRACING  
NO SCALE



E PERIMETER DETAIL  
NO SCALE

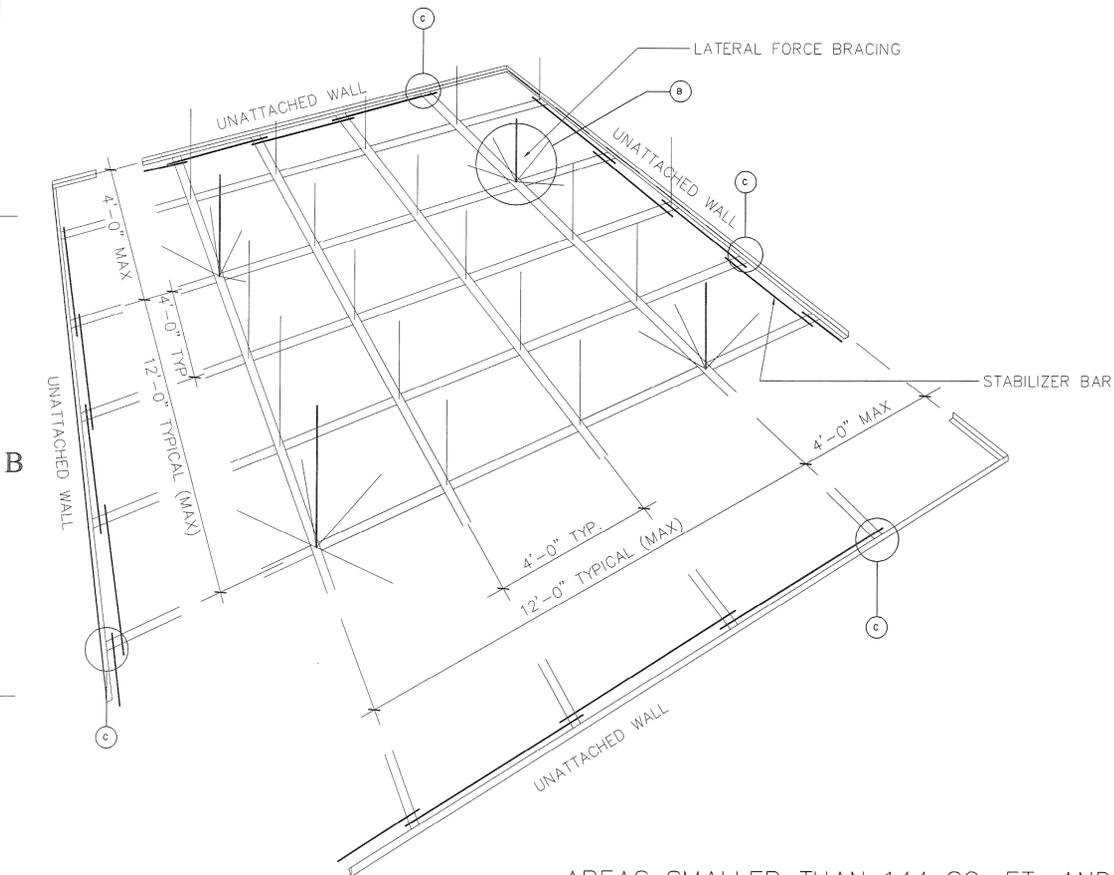


D UNATTACHED WALL  
NO SCALE



C ATTACHED WALL  
NO SCALE

C



AREAS SMALLER THAN 144 SQ. FT. AND WITH WALLS ON FOUR SIDES EXTENDING TO THE STRUCTURE NEED NOT BE BRACED. NOTE: BOUNDARY WALLS MUST BE BRACED TOP AND BOTTOM INDEPENDENT OF CEILING TO QUALIFY.

B

A

C

B

A



BUILDING NAME:  
**DIXIE STATE COLLEGE  
N.I.B.**

PROJECT TITLE:  
**NORTH PHOTO LAB  
RELOCATION**

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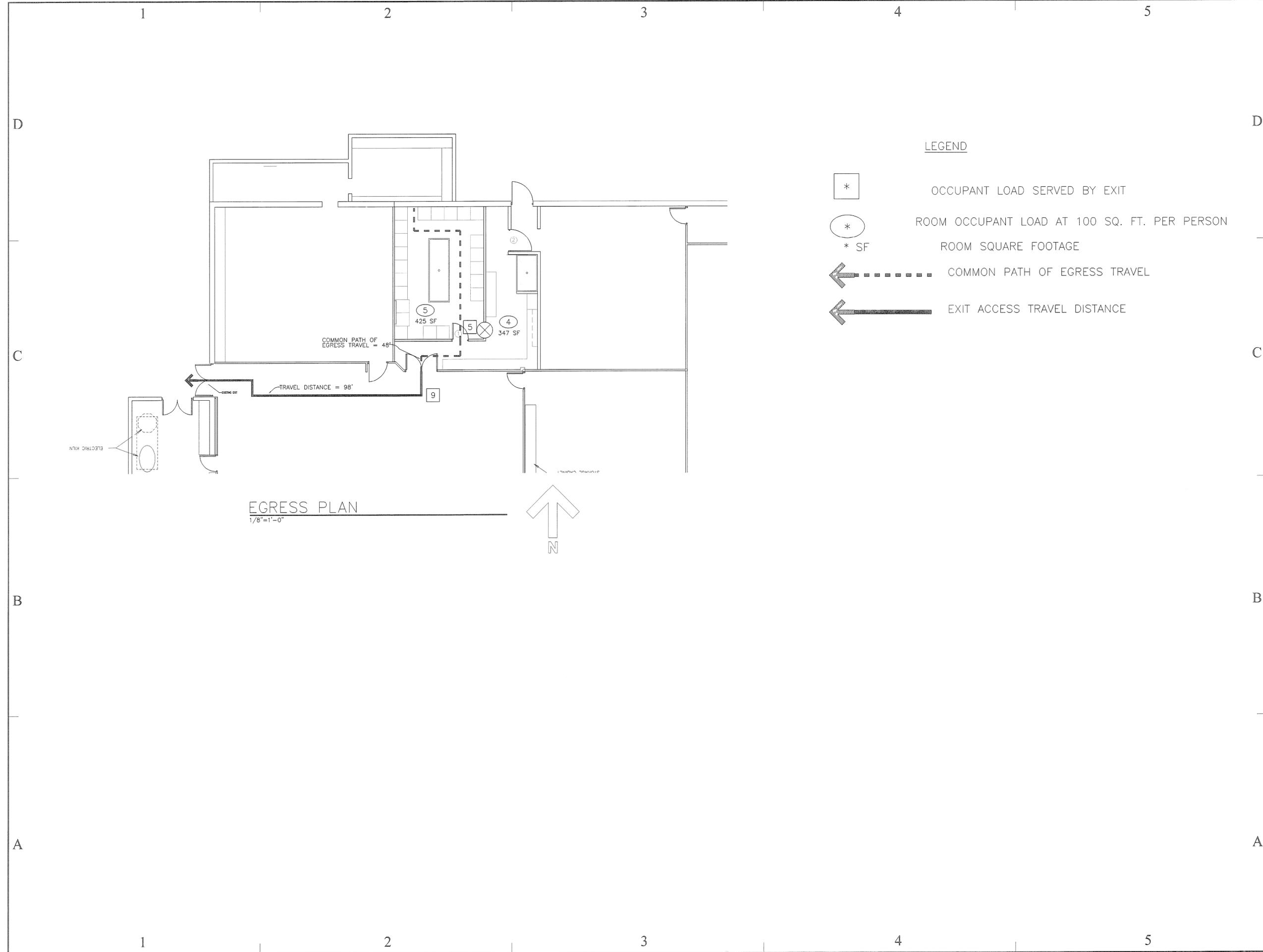
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CAD PROJECT NO:  
CAD DWG FILE: 09007  
DRAWN BY: GT  
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SHEET TITLE

**EGRESS**

SHEET NUMBER

**G1.00**





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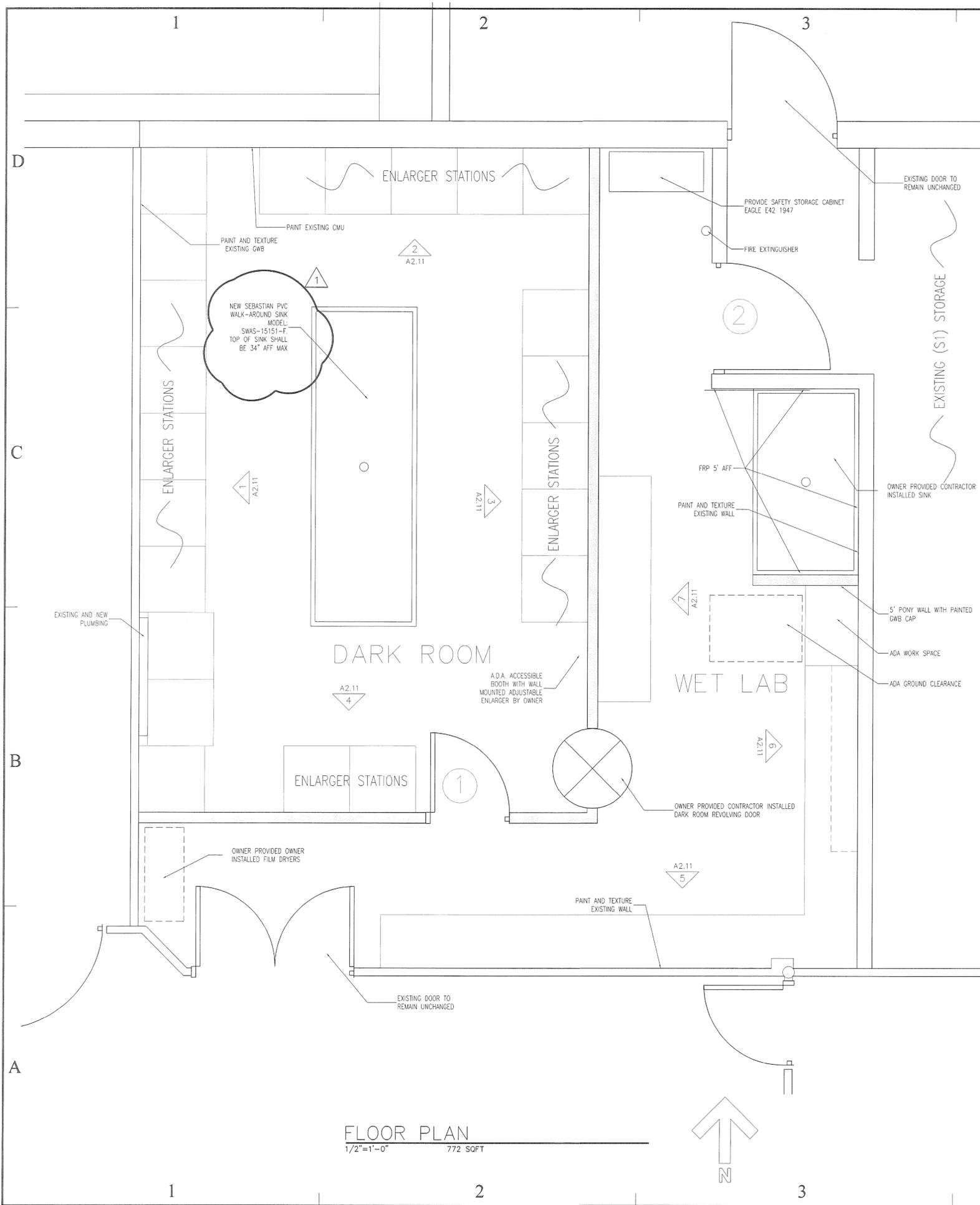
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SHEET TITLE

**FLOOR PLAN**

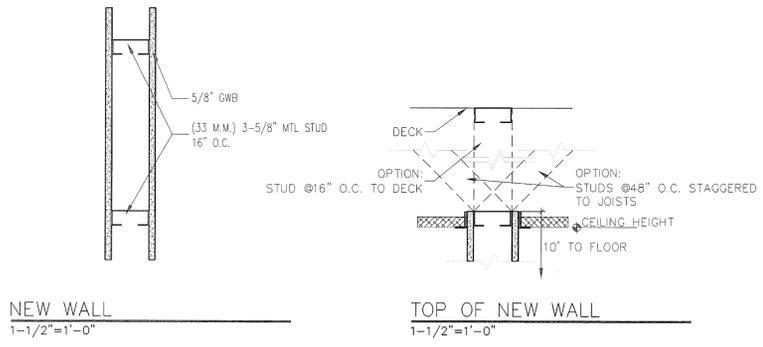
SHEET NUMBER

**A1.00**



**LEGEND**

- EXISTING WALL
- NEW WALL

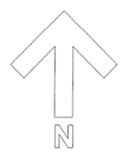


- GENERAL NOTES:**
1. WALLS TO BE PAINTED AND TEXTURED GWB UNLESS NOTED OTHERWISE
  2. FLOORING TO BE SHEET VINYL WITH 4" RUBBER BASE. REMOVE ALL EXISTING VCT AND REPAIR ANY DAMAGED FLOOR SECTIONS.
  3. REPAIR OR REPLACE ANY MISSING OR DAMAGED ROOF INSULATION ABOVE REMODEL
  4. CAP AND SEAL EXISTING EXHAUST DUCT.
  5. RELOCATE ALL ENLARGERS FROM EXISTING PHOTO LAB (IN THE SAME BUILDING) TO NEW ENLARGER STATIONS.
  6. RELOCATE EXISTING STORAGE ITEMS IN REMODEL SPACE.

**DOORS**

- ① 3'X7' HARDWOOD VENEER, FLUSH WOOD DOOR. MATCH EXISTING SPECIES, STAIN AND FINISH. NEW 2" WRAP AROUND, PAINTED HOLLOW METAL FRAME.
- ② EXISTING DOOR PROVIDE NEW LOCKSET

**FLOOR PLAN**  
 1/2"=1'-0" 772 SQFT





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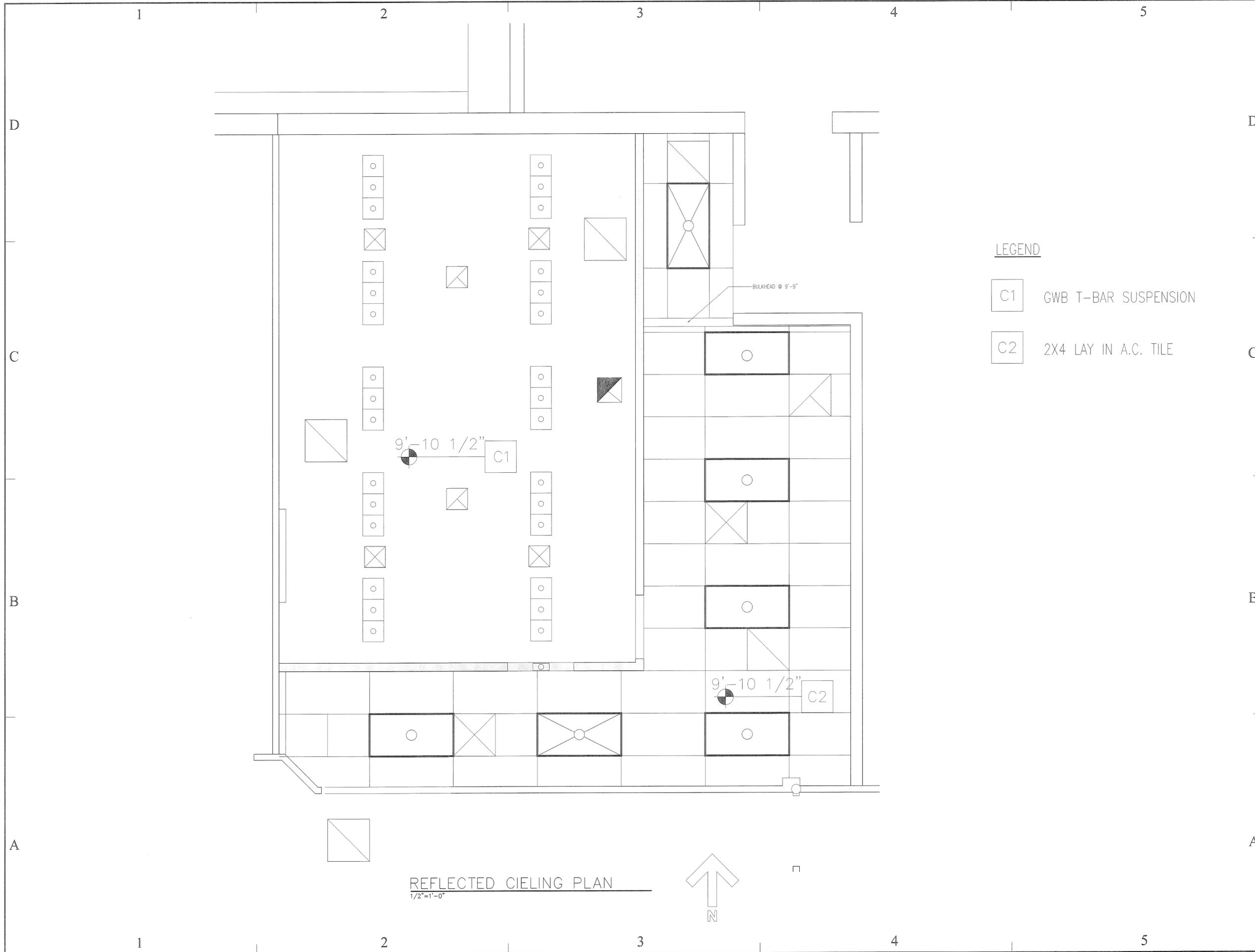
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SHEET TITLE

**RCP**

SHEET NUMBER

**A1.21**

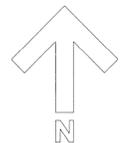


LEGEND

C1    GWB T-BAR SUSPENSION

C2    2X4 LAY IN A.C. TILE

**REFLECTED CIELING PLAN**  
1/2"=1'-0"





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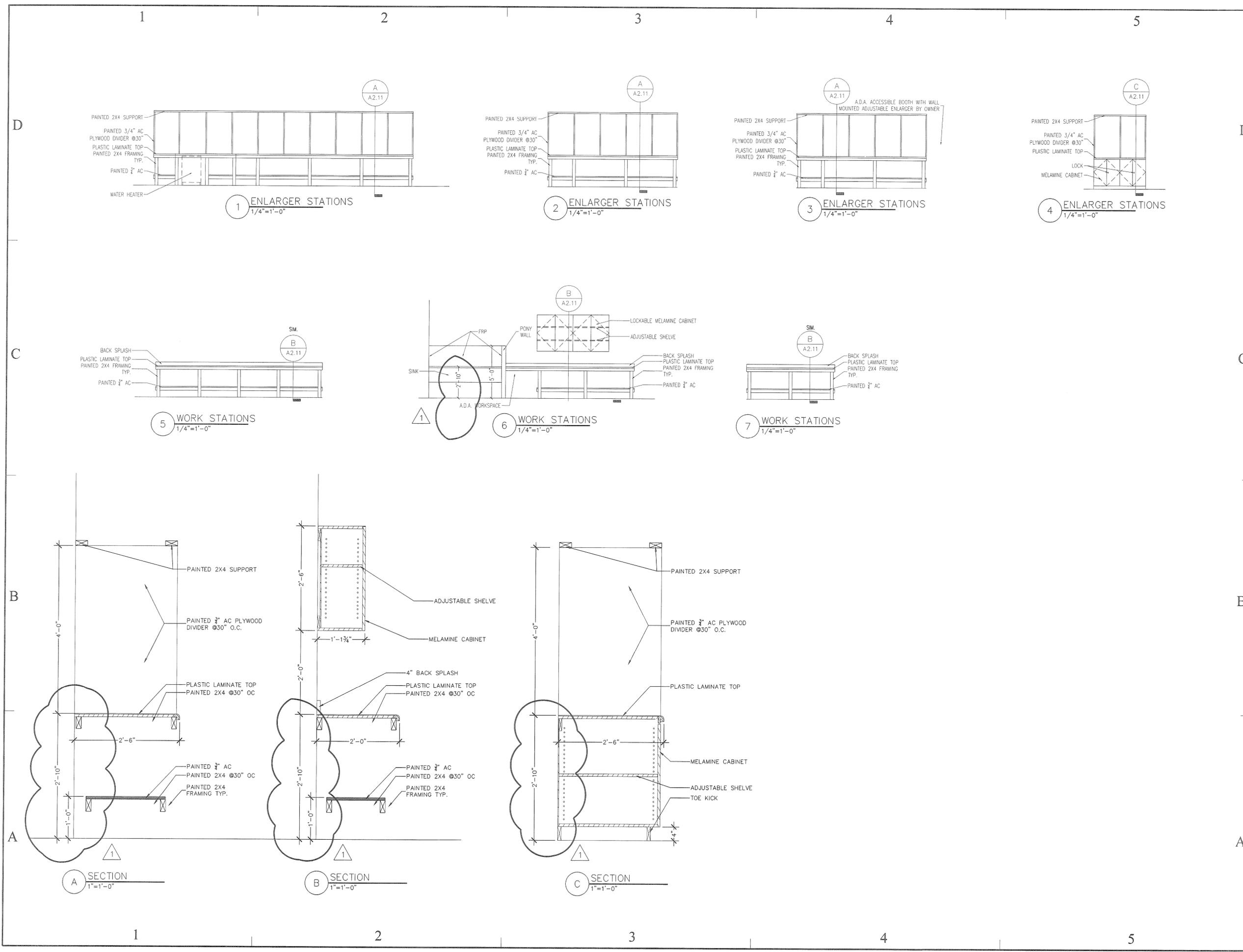
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SHEET TITLE

ELEVATIONS

SHEET NUMBER

A2.11





BUILDING NAME:

DIXIE STATE  
COLLEGE  
N.I.B.

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NORTH PHOTO LAB  
RELOCATION

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ISSUE TYPE: CHECK SET

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DRAWN BY: GT

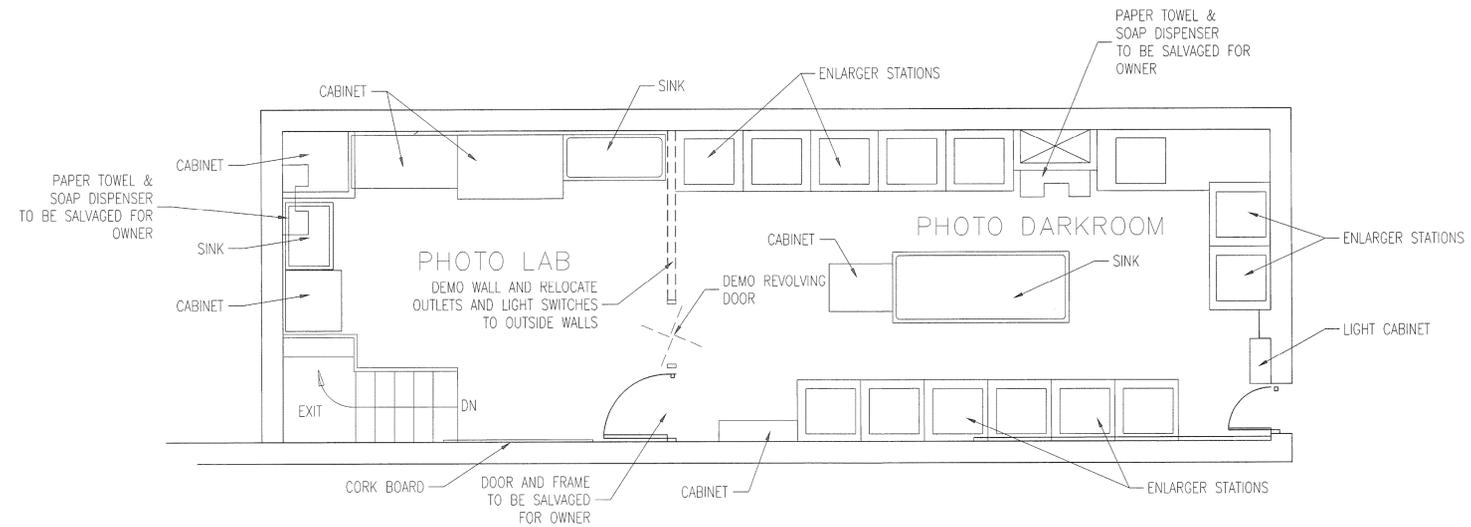
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SHEET TITLE

SHEET NUMBER

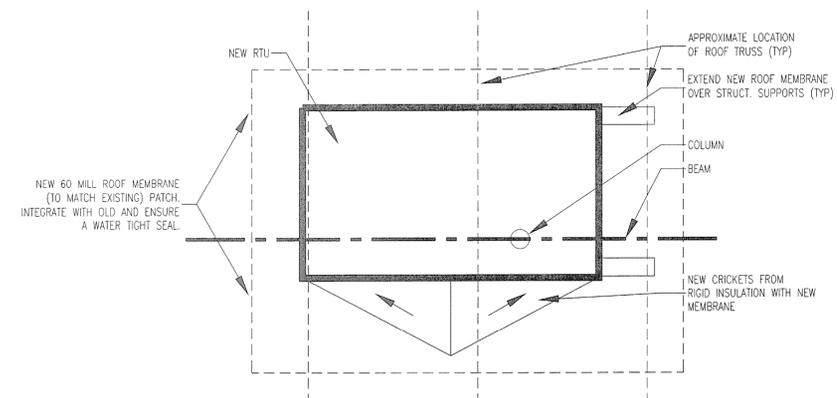
A3.00



UPPER FLOOR DEMO CONVERT TO STORAGE  
1/4"=1'-0" 682 SQFT

GENERAL NOTES:

1. REMOVE AND DISPOSE OF THE FOLLOWING ITEMS: ALL CABINETS, ALL ENLARGER STATIONS, ALL TABLES, ALL SINKS, ALL TRACK LIGHTING, LIGHT CABINET, DOOR AND WALL MARKED AS DEMO ITEMS AND CORK BOARD.
2. TERMINATE EXPOSED PLUMBING FROM SINKS AT WALL OR FLOOR.
3. AFTER DEMO IS COMPLETE CONTRACTOR SHALL PATCH AND PAINT THE WALLS AND CEILING.
4. CONTRACTOR IS TO REPAIR OR REPLACE ANY DAMAGES CAUSED BY DEMOLITION.



PARTIAL ROOF PLAN  
1/2"=1'-0"

**CKR Engineers, Inc.**  
Consulting Structural Engineers

September 16, 2009

Mr. Kim Campbell  
46 North 200 East  
St. George, Utah 84770

File: 9420

RE: MECHANICAL ROOF TOP UNIT - PHOTO LAB  
North Instructional Building  
Dixie State College  
St. George, Utah

Dear Kim:

We understand that a new roof top unit RTU-048 will be installed as part of the photo lab relocation project. See the attached mechanical plan MH101 for the unit's approximate location. The unit weighs approximately 900 lbs as shown in the attached cut sheet provided by the mechanical engineer.

The new unit will be located partially over the existing column, with the curb bearing on the wood trusses on each side of the column line. We were informed that the open-web wood trusses are approximately 30 in. deep, and are spaced at 48 in. o.c. From the description given, they are likely Trus-Joist TJL trusses; however, we could not confirm this. Our attached analysis shows that a 30 in. deep Trus-Joist TJL truss is adequate to support the additional load imposed by the unit.

Since the unit is located nearly over the column, the impact to the steel beams will be minimal. If the unit's curb does not bear directly on one of the wood trusses, install solid wood blocking below the curb between the roof sheathing and the wood plate on the steel beam. If the curb bears directly over a wood truss at the steel beam, then the blocking is not required.

The roof top unit is only 7 ft. long; therefore, part of the curb will bear on top of the roof sheathing, and not over one of the roof trusses. In order to insure that the load from the unit is distributed correctly and also to minimize stress in the roof sheathing, we recommend that a steel frame be placed below the roof top unit, directly on top of the roof sheathing. Use HSS5x2x3/16 tubes placed flatwise. The long side tubes should extend over a minimum of (3) trusses. Weld shorter cross pieces between the long side tubes at the ends of the unit, and if it doesn't interfere with the ducting, install one tube directly over the column. Bolt the frame to the roof sheathing with 1/2 in. bolts at 16 in. o.c.

Please call if you have further questions.

Sincerely,

*Daniel D. Goodrich*  
Daniel D. Goodrich, S.E.



Reviewed by,

*Conrad Guymon*  
Conrad Guymon, S.E.

CKR ENGINEERS, INC.  
1000 W. 1000 S. SUITE 200  
SALT LAKE CITY, UTAH 84119  
PHONE: (801) 467-1111 FAX: (801) 467-1112

LUMINAIRE SCHEDULE						
TYPE	DESCRIPTION	MANUFACTURER: CATALOG NUMBER	VOLTS	LAMPS QTY MODEL	MOUNTING	NOTES VA
L1	2X4 LAY-IN TROFFER WITH ACRYLIC PRISMATIC LENS DUAL LEVEL SWITCHED	COLUMBIA: ST824-332G-FS-A12-125-EU	120	3 F032/ 835	LAY-IN	105 VA
L1E	2X4 LAY-IN TROFFER WITH ACRYLIC PRISMATIC LENS DUAL LEVEL SWITCHED AND 90 MINUTE BATTERY BACK UP	COLUMBIA: ST824-332G-FS-A12-125-EU-EL	120	3 F032/ 835	LAY-IN	105 VA
L2	SURFACE MOUNTED DARKROOM SAFELIGHT STEEL SIDED, 3 COMPARTMENT (2) FILTERED LIGHT AMBER (1) GENERAL	MORELITE: S-548-3DR-OC	120	(1) 40W/ A21 (2) 15W/ A15	SURFACE	40 VA
L3	RECESSED STEEL HOUSING WITH SMOOTH TRANSLUCENT ACRYLIC LENS AND RED "DARK ROOM IN USE" LETTERING	MORELITE: R-225-90N-25W-DRU-120V	120	1 20W/ A15	RECESSED/ WALL	25 VA
X1	THERMOPLASTIC EMERGENCY EGRESS WITH 90 MINUTE BATTERY BACK UP	DUAL LIGHT, L2Z	120	INCLUDED	UNIVERSAL	

NOTES:  
(1)  
(2)

MECHANICAL EQUIPMENT SCHEDULE												
MARK	DESCRIPTION	LOAD	VOLT	PHASE	FLA	ELECTRICAL				OVER CURRENT PROTECTION		REMARKS
						CONDUIT SIZE	SETS	WIRE QUANTITY	SIZE	GND. SIZE	BKRR SIZE	
EF-1	EXHAUST FAN	14 HP	120	1	5.8	3/4"	1	2	12	12	20	4A
RTU-48	ROOF TOP UNIT	25.6 MCA	208	3	20.5	3/4"	1	3	10	10	40	8B
WH-1	ELEC. WTR. HEATER	24 FLA	208	3	24.0	3/4"	1	3	10	10	30	2A

VPHz = VOLTAGE / PHASE / HERTZ  
MCA = MINIMUM CIRCUIT AMPACITY  
MOCP = MAXIMUM OVER CURRENT PROTECTION LISTED BY THE MANUFACTURER  
FLA = FULL LOAD AMPS  
HP = HORSE POWER

REMARKS:  
1. FUSED DISCONNECT SWITCH  
2. NON-FUSED DISCONNECT SWITCH  
3. BREAKER IN ENCLOSURE  
4. MANUAL STARTER WITH THERMAL OVERLOAD  
5. MANUAL MOTOR CONTROLLER WITHOUT THERMAL OVERLOAD  
6. MAGNETIC STARTER  
7. MAGNETIC STARTER/ NON-FUSED DISCONNECT SWITCH  
8. MAGNETIC STARTER/FUSED DISCONNECT COMBINATION  
9. MAGNETIC STARTER/BREAKER COMBINATION  
10. REDUCED VOLTAGE STARTER  
11. VARIABLE FREQUENCY DRIVE  
12. RECEPTACLE/SPECIAL PURPOSE OUTLET/ETC.  
13. DIRECT CONNECTION  
14. DUCT DETECTOR IN RETURN DUCT  
15. BID AS ALTERNATE

A. FURNISHED, INSTALLED AND CONNECTED UNDER DIVISION 16.  
B. FURNISHED AND INSTALLED UNDER ANOTHER DIVISION REQUIRING CONNECTION UNDER DIVISION 16  
C. FURNISHED UNDER ANOTHER DIVISION BUT INSTALLED AND CONNECTED UNDER DIVISION 16.  
D. FURNISHED, INSTALLED AND CONNECTED UNDER ANOTHER DIVISION.  
E. FURNISHED AND INSTALLED UNDER DIVISION 16 REQUIRING CONNECTION UNDER ANOTHER DIVISION

### GENERAL NOTES

- THE ELECTRICAL SYSTEMS DEFINED BY THESE PLANS AND SPECIFICATIONS ARE TO BE CONSTRUCTED AS COMPLETE AND OPERABLE SYSTEMS AND SHALL BE BID WITH THIS INTENT. THE CONTRACTOR SHALL VISIT THE SITE, READ ALL THE RELEVANT DOCUMENTS AND BECOME FAMILIAR WITH THE TYPE OF CONSTRUCTION AND WORK TO BE ACCOMPLISHED. SHOULD ANY ERROR, OMISSION OR CONFLICT EXIST IN EITHER THE PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING BEFORE SUBMITTING HIS BID PRICE SO A CHANCE CAN BE ISSUED IN A PRE-BID ADDENDUM. OTHERWISE, THE CONTRACTOR AND/OR EQUIPMENT SUPPLIER SHALL SUPPLY THE PROPER MATERIALS AND LABOR TO INSTALL COMPLETE AND OPERABLE SYSTEMS AT THEIR OWN EXPENSE. WHEN EACH ELECTRICAL SYSTEM IS COMPLETE, THE CONTRACTOR SHALL TEST AND CONFIRM IT'S PROPER OPERATION. ANY INCOMPLETE SYSTEM SHALL BE MADE COMPLETE AND OPERABLE.
- THE ARCHITECTURAL AND MECHANICAL PLANS ARE CONSIDERED A PART OF THE ELECTRICAL DOCUMENTS SO FAR AS THEY APPLY. THE ELECTRICAL CONTRACTOR SHALL REFER TO AND COORDINATE WITH THEM. NO EXTRA COST SHALL BE ALLOWED FOR FAILURE TO COORDINATE THE CONTRACT DOCUMENTS WITH OTHER TRADES AND/OR IF EQUIPMENT DIMENSIONS ARE GREATER THAN SPECIFIED AND/OR DIMENSIONED ON THE PLANS.
- NO ADDITIONS TO THE CONTRACTOR BID WILL BE ALLOWED FOR CHANGES MADE NECESSARY BY INTERFERENCE WITH OTHER WORK.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE EQUIPMENT, MATERIALS AND LABOR FOR THE CONNECTIONS OF ALL EQUIPMENT SHOWN ON THE PLANS - ARCHITECTURAL, MECHANICAL, ETC.
- THIS PROJECT IS TO BE INSTALLED IN STRICT ACCORDANCE WITH LOCAL AND STATE CODES AND THE NEC. IF AT ANY TIME DURING CONSTRUCTION, OR AFTER, SOMETHING IS FOUND TO BE INSTALLED IN VIOLATION OF THE CODES LISTED ABOVE, IT SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- THE EC SHALL INSTALL A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN EACH CONDUIT RUN. CONDUIT SHALL NOT BE USED AS AN EQUIPMENT GROUNDING CONDUCTOR. THE EC SHALL GROUND THE ELECTRICAL SYSTEM IN ACCORDANCE WITH LOCAL AND NATIONAL CODES.
- ELECTRICAL CONTRACTOR SHALL CONFIRM MINIMUM CODE (NEC) WORKING CLEARANCE BEFORE INSTALLING ANY ELECTRICAL PANELS OR CABINETS AND SHALL MOVE THE PANELS AT HIS EXPENSE IF REJECTED BY AN INSPECTOR. IF CLEARANCE IS NOT POSSIBLE, THE DESIGNER SHALL BE NOTIFIED IMMEDIATELY IN WRITING.
- THE CONTRACTOR SHALL ALLOW THE MOVEMENT, BEFORE ROUGH-IN, OF ANY ELECTRICAL PANEL, DEVICE, LIGHT FIXTURE, ETC. A DISTANCE OF 10 FEET WITHOUT REQUIRING ADDITIONAL COST TO THE PROJECT.
- THE ELECTRICAL CONTRACTOR SHALL SECURE ALL CONDUIT TO THE STRUCTURE AS IT IS SET IN PLACE USING INDUSTRY STANDARD METHODS AND PRACTICES.
- TO ASSURE ALL DEVICES ARE RIGIDLY SET, THE ELECTRICAL CONTRACTOR SHALL SECURE ALL DEVICE BOXES WITH BRACKETS, HANGERS, ETC. DESIGNED FOR THE APPLICATION. ANY DEVICE BOXES NOT SECURED WILL BE MADE SECURE AT THE CONTRACTOR'S EXPENSE.
- BEFORE ANY ELECTRICAL CONDUIT, BOXES, ETC. ARE COVERED (FLOOR, CEILINGS, WALLS, ETC.), THEY SHALL BE APPROVED BY THE INSPECTING OFFICER (INSPECTOR). THE UNCOVERING AND REPLACEMENT OF ELECTRICAL WORK FOR THE INSPECTION PURPOSES WILL BE AT THE COST OF THE ELECTRICAL CONTRACTOR.
- LENGTHS OF FLEXIBLE CONDUIT GREATER THAN 48 INCHES SHALL NOT BE INSTALLED ON THIS PROJECT, EXCEPT WHIPS ON LIGHT FIXTURES, WHICH MAY BE UP TO ELEVEN (11) FEET IN LENGTH. FLEXIBLE CONDUIT SHALL NOT BE CONCEALED.
- ALL BATTERY POWERED OR CONTINUOUS BURN LIGHT FIXTURES SHOWN ON THE PLANS, SUCH AS EXIT LIGHTS, OR NIGHT LIGHTS, SHALL BE CONNECTED TO THE UN-SWITCHED LEG OF THE LIGHTING CIRCUIT FEEDING THAT AREA. NORMAL LIGHTING FIXTURES INDICATED WITH REGULAR BATTERY BACK UP SHALL BE SWITCHED AS INDICATED ON PLANS WITH UNSWITCHED CONDUCTOR PROVIDED FOR BATTERY CHARGING UNIT.
- ALL SURFACE/LAYIN MOUNTED FIXTURES SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE AND NOT THE CEILING GRID.
- DURING CONSTRUCTION, THE ELECTRICAL CONTRACTOR SHALL REMOVE, REROUTE, AND/OR RELOCATE ANY EXISTING ELECTRICAL EQUIPMENT THAT CONFLICTS WITH THE REMODEL OR ADDITION. ALL SYSTEMS SHALL BE OPERABLE AT THE COMPLETION OF THE PROJECT. THE OWNER RESERVES FIRST RIGHT OF REFUSAL ON ALL ELECTRICAL EQUIPMENT WHICH IS NOT TO BE REUSED. EQUIPMENT WHICH IS NOT REUSED OR RECLAIMED BY THE OWNER BECOMES THE PROPERTY OF THE ELECTRICAL CONTRACTOR AND SHALL BE REMOVED FROM THE PREMISES.
- THE ELECTRICAL CONTRACTOR SHALL MAINTAIN ELECTRICAL CONTINUITY TO REMAINING EQUIPMENT WHEN ANY EXISTING ELECTRICAL EQUIPMENT IS REMOVED.
- EXISTING LIGHT FIXTURES THAT ARE TO REMAIN, OR BE REUSED, SHALL BE CLEANED AND RELAMPED.

### ELECTRICAL SYMBOL SCHEDULE

SYMBOL	DEVICE/FIXTURE DESCRIPTION	MOUNTING	COMMENTS
☐	FLUORESCENT LIGHT FIXTURE		(1) (2) (3)
☐	FLUORESCENT LIGHT FIXTURE W/BATTERY BACKUP		(1) (2) (3)
☐	FLUORESCENT NIGHT LIGHT FIXTURE		(1) (2) (3) (4)
☐	RECESSED LIGHT FIXTURE	CEILING	(1) (3)
☐	TRACK LIGHT FIXTURE WITH HEADS		(1), (2), (3)
☐	EXIT FIXTURE - WALL MOUNT	7'-6"	(1) (2) (4) (5)
☐	EXIT FIXTURE - CEILING MOUNT	CEILING	(1) (4) (5)
☐	DUAL TECHNOLOGY OCCUPANCY SENSOR	CEILING	(7)
☐	DUAL TECHNOLOGY OCCUPANCY SENSOR SWITCH	4' - 0"	(6)
☐	POWER PACK	CEILING	(7)
☐	PHOTO-ELECTRIC CELL		
☐	SINGLE POLE SWITCH	4' - 0"	
☐	THREE WAY SWITCH	4' - 0"	
☐	FOUR WAY SWITCH	4' - 0"	
☐	DUAL LEVEL SWITCHING	4' - 0"	
☐	MANUAL SWITCH WITH THERMAL OVERLOAD		
☐	MAIN POWER PANEL		
☐	PANEL BOARD	6'-6" TO TOP	
☐	TELEPHONE BOARD	6'-6" TO TOP	
☐	DUPLEX CONVENIENCE OUTLET, GROUNDING TYPE	18"	
☐	DUPLEX CONVENIENCE OUTLET, GROUNDING TYPE		(6)
☐	DUPLEX CONVENIENCE OUTLET WITH GROUND FAULT CIRCUIT INTERRUPTOR	18"	
☐	DOUBLE DUPLEX OUTLET	18"	
☐	DUPLEX CONVENIENCE OUTLET, HALF SWITCHED	18"	
☐	SPECIAL PURPOSE OUTLET		
☐	JUNCTION BOX	CEILING	(12)
☐	MOTOR OUTLET		
☐	NON-FUSED DISCONNECT SWITCH		(13) (14)
☐	FUSED DISCONNECT SWITCH		(13) (14)
☐	TELEPHONE OUTLET	18"	
☐	DUAL DATA OUTLET	18"	
☐	DUAL DATA AND TELEPHONE OUTLET	18"	
☐	PHOTOELECTRIC SMOKE DETECTOR	CEILING	(11) (9)
☐	FIRE ALARM MANUAL PULL STATION	4'-0"	(11) (9)
☐	FIRE ALARM STROBE 15/75 CD	7'-6"	(11) (9)
☐	FIRE ALARM SIGNAL HORN STROBE	7'-6"	(11) (9)
☐	MECHANICAL/PLUMBING EQUIPMENT CALLOUT		
☐	DIAGRAM CALLOUT (REFER TO ELECTRICAL DIAGRAMS)		
---	CONDUIT RUN CONCEALED IN WALL OR CEILING		
---	CONDUIT RUN CONCEALED IN FLOOR OR GROUND		
---	LOW VOLTAGE CONDUIT RUN		
---	ONE CIRCUIT, TWO WIRE HOME RUN TO PANEL		
---	TWO CIRCUIT, THREE WIRE HOME RUN TO PANEL		
---	THREE CIRCUIT, FOUR WIRE HOME RUN TO PANEL		
---	CONDUIT STUB LOCATION		
---	CONDUIT STUB DOWN		
---	CONDUIT STUB UP		

ABBREVIATIONS/NOTES  
AFF - ABOVE FINISHED FLOOR, AFG - ABOVE FINISHED GRADE, AIC - AMPS INTERRUPTING CAPACITY, BC - BARE COPPER, BFG - BELOW FINISHED GRADE, BFC - BELOW FINISHED CEILING, CND. OR C. - CONDUIT, CT - CURRENT TRANSDUCER, DFA - DROP FROM ABOVE, EC - ELECTRICAL CONTRACTOR, GC - GENERAL CONTRACTOR, MC - MECHANICAL CONTRACTOR, MCA - MINIMUM CIRCUIT AMPS, P.C. - PLUMBING CONTRACTOR, POC - POINT OF CONNECTION, POS - POINT OF SALES, RMC - RIGID METAL CONDUIT, SCA - SHORT CIRCUIT AMPERES, TC - TEMP. CONTROL CONTRACTOR, WP - WEATHER PROOF/NEMA 3R VA - VOLT/AMPS, WF - VERIFY IN FIELD, SBJ - SYSTEM BONDING JUMPER, CO - CONDUIT ONLY

(1) SEE LIGHTING FIXTURE SCHEDULE FOR TYPE AND SPECIFICS.  
(2) SEE LIGHTING FIXTURE SCHEDULE FOR MOUNTING OF FIXTURE.  
(3) WIRE FIXTURE FROM ADJACENT J-BOX  
(4) DO NOT SWITCH  
(5) PROVIDE DIRECTIONAL ARROWS AS SHOWN ON THE DRAWINGS BY THE DARKENED AREA  
(6) COORDINATE HEIGHT WITH MILLWORK SHOP DRAWINGS  
(7) USE POWER PACK B2-100E-P  
(8) "X" IN SYMBOL IS INCHES BETWEEN RECEPTACLE ALONG WIREWAY. SEE DRAWINGS.  
(9) PROVIDE DEVICE UL LISTED TO BE USED WITH THE EXISTING FIRE ALARM PANEL/SYSTEM.  
(10) MATCH THE VOLTAGE OF THE RELAY WITH THAT OF THE CONTROLLING CIRCUIT.  
(11) USE A 4" X 4" BOX WITH A MUD RING TO MATCH THE DEVICE AND INSTALLATION.  
(12) PROVIDE MUD RING AND/OR BOX COVER APPROPRIATE FOR DEVICE/FIXTURE SERVED.  
(13) USE HEAVY DUTY FOR 480 VOLT.  
(14) SIZE TO THE EQUIPMENT BEING CONTROLLED  
(15) HUBBELL HBL7800 SERIES

### SHEET INDEX

E0.0	SYMBOLS, NOTES AND SCHEDULES
E1.1	ELECTRICAL PLAN
E2.1	OVERALL ELECTRICAL PLAN
E3.1	ONE-LINE DIAGRAM, PANEL SCHEDULES AND DETAILS

State of Utah  
Department of Administrative Services

Division of Facilities  
Construction & Management  
4110 State Office Building  
Salt Lake City, Utah 84114  
Phone: (801) 538 - 3018  
Fax: (801) 538 - 3267

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CAMPBELL & ASSOCIATES  
ARCHITECTS  
400 NORTH 400 EAST, SUITE 101, OGDEN, UTAH 84403  
PHONE: 468-6888 FAX: 468-8878 EMAIL: [info@campbellassoc.com](mailto:info@campbellassoc.com)

LICENSED PROFESSIONAL ENGINEER  
No. 353492  
LADD M. BIRCH  
09-16-09  
STATE OF UTAH

BUILDING NAME:  
DIXIE STATE COLLEGE  
N.I.B.

PROJECT TITLE:  
NORTH PHOTO LAB  
RELOCATION

MARK	DATE	DESCRIPTION
1	10/06/09	PLAN REVIEW

ISSUE TYPE: CHECK SET

ISSUE DATE: 9/16/09

DFCM PROJECT NO: 09113640  
CAD PROJECT NO:  
CAD DWG FILE: 09007  
DRAWN BY: K.BEATTY  
CHK'D BY: L.REMBER  
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SHEET TITLE  
SYMBOLS, NOTES AND SCHEDULES

SHEET NUMBER  
E0.0

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www.vbfa.com  
Salt Lake City - Logan - St. George - Temple - Pocatello  
1070 W 1600 S, Ste. #104 435.674.4800 T  
St. George, UT 84770 435.674.2708 F  
VBFA Project Number: VBFA-09194



COMcheck Software Version 3.6.1  
**Interior Lighting and Power Compliance Certificate**

**90.1 (2004) Standard**  
Section 1: Project Information  
Project Type: Addition  
Project Title: North Photo Lab Relocation  
Construction Site: Over Stone Garage  
Owner/Agent: [Signature]  
Designer/Contractor: Van Boerum and Frank Associates  
1070 West 1600 South  
Suite #104  
St. George, UT 84770  
(435) 674-4800

Section 2: General Information  
Building Use Description: Activity Type  
Activity Type(s): Common Space, Laboratory  
Floor Area: 850

Section 3: Requirements Checklist  
Interior Lighting:  
1. Total proposed watts must be less than or equal to total allowed watts.  
Controls, Switching, and Wiring:  
1. All permanent electrical connections shall be made in accordance with the National Electrical Code (NEC) for safety or security.  
2. All permanent electrical connections shall be made in accordance with the National Electrical Code (NEC) for safety or security.  
3. All permanent electrical connections shall be made in accordance with the National Electrical Code (NEC) for safety or security.  
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9. All permanent electrical connections shall be made in accordance with the National Electrical Code (NEC) for safety or security.  
Voltage Drop:  
1. All permanent electrical connections shall be made in accordance with the National Electrical Code (NEC) for safety or security.  
2. All permanent electrical connections shall be made in accordance with the National Electrical Code (NEC) for safety or security.

Section 4: Compliance Statement  
Compliance Statement: The proposed lighting design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed lighting system has been designed to meet the 90.1 (2004) Standard requirements in COMcheck Version 3.6.1 and to comply with the mandatory requirements in the Requirements Checklist.  
Name: Lawrence Rember Signature: [Signature] Date: 10-06-09

Section 5: Post Construction Compliance Statement  
Record Drawings and Operating and Maintenance Manuals:  
1. Construction documents with record drawings and operating and maintenance manuals provided to the owner.  
Lighting Designer or Contractor Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_



COMcheck Software Version 3.6.1  
**Interior Lighting Application Worksheet**

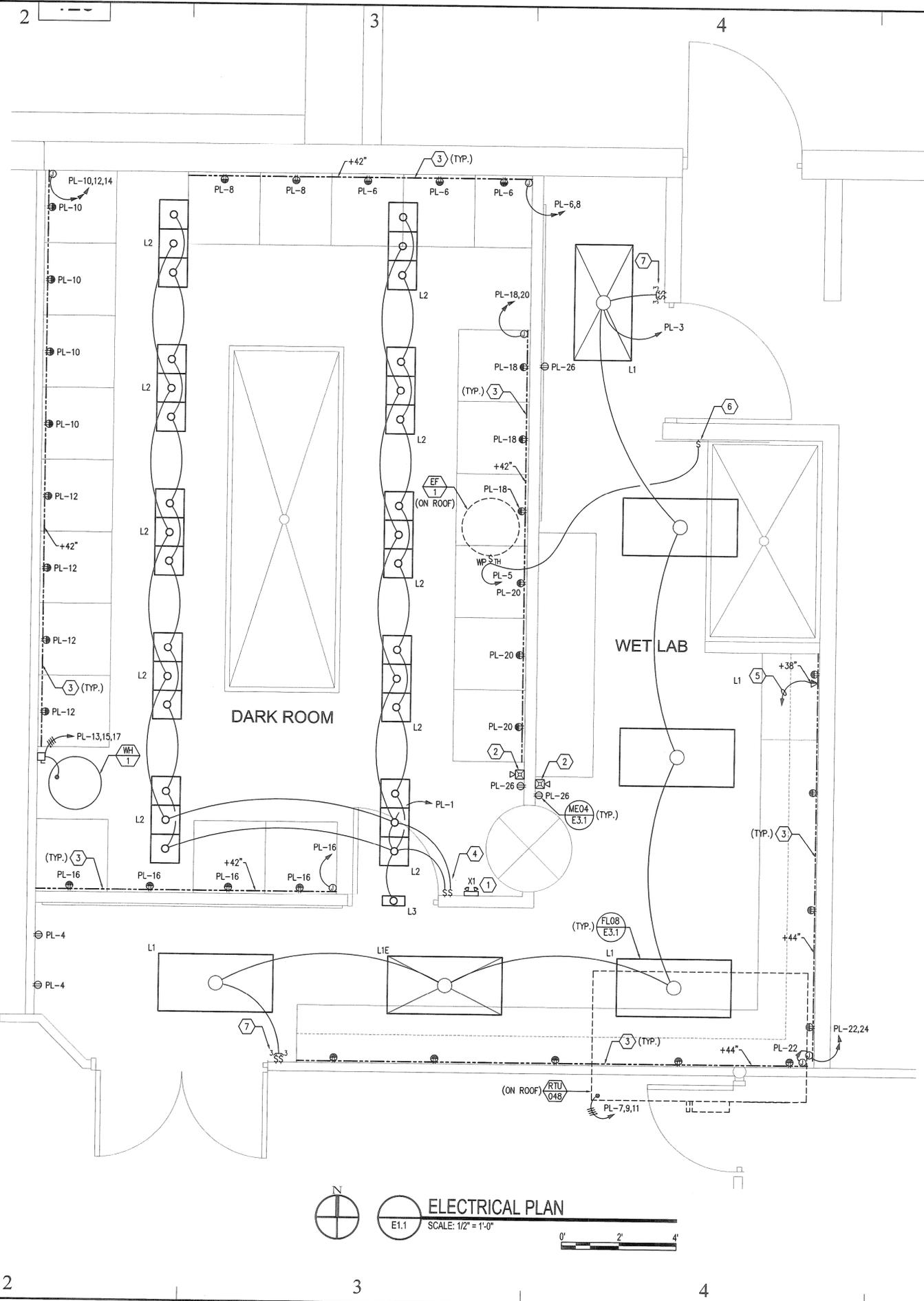
**90.1 (2004) Standard**  
Section 1: Allowed Lighting Power Calculation

Area Category	Floor Area (sq ft)	Allowed Watts / sq ft	Allowed Watts (B x C)
Common Space, Laboratory	850	1.4	1190
Total Allowed Watts =			1190

Section 2: Proposed Lighting Power Calculation

Fixture ID	Description (Lamp & Ballast)	Lamps / Fixture	# of Fixtures	Fixture Watt (C x D)
Generic Spot Type II Laboratory (400 sq ft)				
Generic Spot Type II Laboratory (400 sq ft)	1. 2x1 Lx40, T8 (19W) - 15 32W Electronic	3	6	165
Generic Spot Type II Laboratory (400 sq ft)	2. 2x1 Lx40, T8 (19W) - 15 32W Electronic	1	10	40
Generic Spot Type II Laboratory (400 sq ft)	3. 2x1 Lx40, T8 (19W) - 15 32W Electronic	1	1	25
Total Proposed Watts =				165

Section 3: Compliance Calculation  
Total Allowed Watts = 1190  
Total Proposed Watts = 165  
Project Compliance = 13%



**KEYED NOTES**

- CONNECT EMERGENCY EXIT/EGRESS LIGHT FIXTURE TO UNSWITCHED CONDUCTOR OF NEAREST 120 VOLT LIGHTING CIRCUIT.
- PROVIDE FIRE ALARM HORN/STROBE DEVICE COMPATIBLE WITH EXISTING NOTIFIER APP-100 FIRE ALARM CONTROL PANEL AND EXTEND 3/4" CONDUIT WITH 14/2 AWG REQUIRED TO CONNECT INTO NEAREST FAPS CIRCUIT.
- PROVIDE SURFACE MOUNTED, STEEL SIDED, SINGLE COMPARTMENT RACEWAY WITH DUPLEX GFCI RECEPTACLES AS INDICATED. EQUAL TO WIREMOLD G3000 SERIES.
- PROVIDE GRAY NEOPRENE PRESSWITCH WITH RED PILOT LIGHT EQUAL TO HUBBELL HBL1785 FOR GENERAL LIGHTING.
- PROVIDE 3/4" CONDUIT WITH (3) CAT 5E CABLES FROM DUAL DATA/SINGLE VOICE OUTLET TO MAIN TELEPHONE BOARD LOCATION. SEE SHEET E2.1 FOR LOCATION OF MAIN TELEPHONE BOARD. COIL 10 FEET OF CABLE AT TELEPHONE BOARD FOR FINAL CONNECTION BY OTHERS.
- LABEL SWITCH "EXHAUST FAN".
- PROVIDE DUAL LEVEL SWITCHING OF FIXTURES INDICATED. SWITCH INBOARD LAMPS AND OUTBOARD LAMPS SEPARATELY.

**GENERAL NOTES**

- LABEL INSIDE OF EACH RECEPTACLE BOX AND OUTSIDE OF RECEPTACLE FACE PLATE WITH CIRCUIT NUMBER CONNECTED I.E. (PL-2). FACE PLATE LABEL SHALL BE PROVIDED WITH STANDARD LABELING MACHINE NOT HAND WRITTEN.

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BUILDING NAME:  
**DIXIE STATE COLLEGE N.I.B.**

PROJECT TITLE:  
**NORTH PHOTO LAB RELOCATION**

MARK	DATE	DESCRIPTION
1	10/06/09	PLAN REVIEW

ISSUE TYPE: CHECK SET

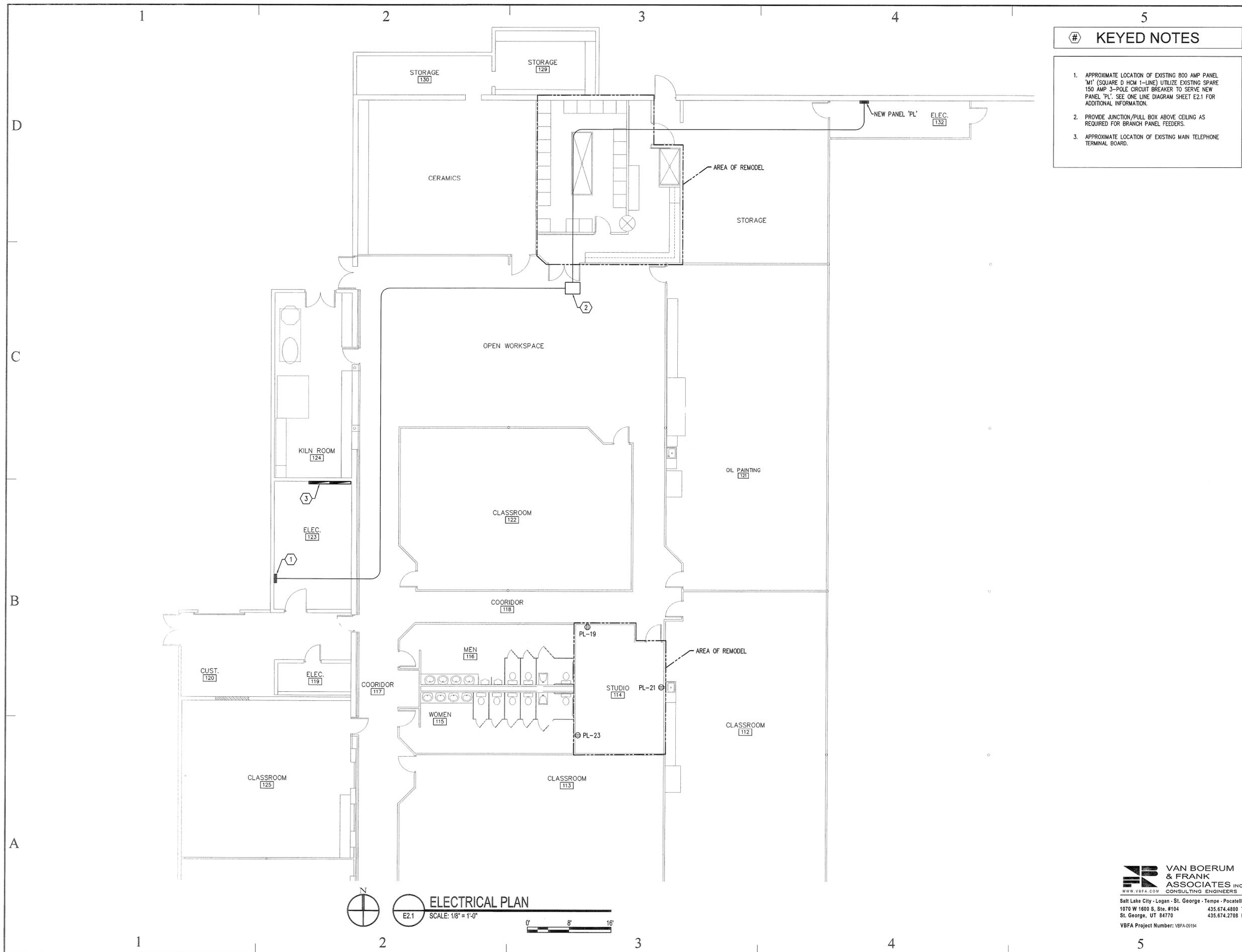
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CAD PROJECT NO:  
CAD DWG FILE: 09007  
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CHK'D BY: L.REMBER  
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SHEET TITLE  
**ELECTRICAL PLAN**

SHEET NUMBER

**VAN BOERUM & FRANK ASSOCIATES INC.**  
CONSULTING ENGINEERS  
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1070 W 1600 S, Ste. #104 435.674.4800 T  
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VBFA Project Number: VBFA09194



- # KEYED NOTES**
- APPROXIMATE LOCATION OF EXISTING 800 AMP PANEL 'M' (SQUARE D HCM 1-LINE) UTILIZE EXISTING SPARE 150 AMP 3-POLE CIRCUIT BREAKER TO SERVE NEW PANEL 'PL'. SEE ONE LINE DIAGRAM SHEET E2.1 FOR ADDITIONAL INFORMATION.
  - PROVIDE JUNCTION/PULL BOX ABOVE CEILING AS REQUIRED FOR BRANCH PANEL FEEDERS.
  - APPROXIMATE LOCATION OF EXISTING MAIN TELEPHONE TERMINAL BOARD.

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**CAMPBELL & ASSOCIATES**  
 ARCHITECTS  
 40 HICKS BLVD EAST UTAH ST. GEORGE, UTAH 84701  
 PHONE: (801) 225-5555 FAX: (801) 225-5555



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SHEET TITLE  
**OVERALL ELECTRICAL PLAN**

SHEET NUMBER

**E2.1**

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 VBFA Project Number: VBFA-09194





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SHEET TITLE  
**MECHANICAL  
LEGEND &  
SCHEDULES**

SHEET NUMBER

**ME001**

**LEGEND OF MECHANICAL SYMBOLS AND ABBREVIATIONS**

SINGLE LINE		DOUBLE LINE			
		R/W=1. ROUND DUCT SIMILAR TO RECTANGULAR			POSITIVE PRESSURE DUCT - RISE
		RECTANGULAR TO RECTANGULAR OR ROUND TO ROUND DUCT TRANSFORMATION MAXIMUM 15° INCLUDED ANGLE EXCEPT WHERE SHOWN OTHERWISE.			POSITIVE PRESSURE DUCT - DROP
		RECTANGULAR TO ROUND DUCT TRANSFORMATION			NEGATIVE PRESSURE DUCT - RISE
		BRANCH DUCT SPLIT WITH 6" WIDTH AND MIN. R=WIDTH OF BRANCH DUCT DOWNSTREAM. ELBOW TURNING VANE OPTIONAL.			NEGATIVE PRESSURE DUCT - DROP
		TAP ENTRY AREA EQUALS 150% OF BRANCH AREA			ROUND DUCT - RISE
		MANUAL VOLUME DAMPER			ROUND DUCT - DROP
		FIRE DAMPER IN DUCT, W/ ACCESS PANEL REQD.			TURNING VANES
		COMBINATION FIRE/SMOKE DAMPER W/ ACCESS PANEL			CEILING SUPPLY DIFFUSER
		FLEXIBLE DUCT CONNECTION			CEILING RETURN REGISTER
		FLEXIBLE DUCT			CEILING EXHAUST REGISTER (BALANCE TO MATCH SUPPLY IF RETURN CFM IS NOT SHOWN)
		RECTANGULAR DUCT WITH NET INSIDE DIMENSIONS SHOWN IN INCHES.			SIDEWALL SUPPLY REGISTER
		ROUND DUCT WITH NET INSIDE DIMENSIONS SHOWN IN INCHES.			SIDEWALL EXHAUST OR RETURN REGISTER
		INCLINED RISE	WITH RESPECT TO AIR FLOW 15° NOMINAL INCLINE WITH RADIUS TURNS=DEPTH OF DUCT.		CEILING SUPPLY DIFFUSER WITH FLEXIBLE DUCT
		INCLINED DROP			CEILING RETURN AIR GRILLE W/ SOUND BOOT

TOP FIGURES INDICATE NECK SIZE. BOTTOM FIGURE INDICATES CFM.

	4-WAY BLOW PATTERN
	3-WAY BLOW PATTERN
	2-WAY BLOW PATTERN
	2-WAY BLOW PATTERN
	1-WAY BLOW PATTERN
	EQUIPMENT IDENTIFICATION
	KEYED NOTE IDENTIFICATION
	THERMOSTAT
	SWITCH
	DUCT SMOKE DETECTOR
	UP THROUGH THE ROOF TO A ROOF CAP

**GAS/DX ROOFTOP UNIT SCHEDULE-COMMERCIAL**

SYMBOL	MANUF. AND MODEL NO.	NOMINAL TONS	SEER	REFRIGERANT	SUPPLY FAN			HEATING SECTION			COOLING SECTION			ELECTRICAL			UNIT WEIGHT (LBS)	REMARKS	
					TOTAL AIR FLOW RATE (CFM)	MINIMUM OUTSIDE AIR FLOW RATE (CFM)	EXTERNAL STATIC PRESSURE DROP (IN H2O)	GAS INPUT (BTUH)	ENTERING AIR TEMP. (DEG. F)	FUEL	MINIMUM TOTAL COOLING LOAD (MBH)	MINIMUM SENSIBLE COOLING LOAD (MBH)	ENTERING AIR TEMP. (DEG. F)	AMBIENT AIR TEMP. (DEG. F)	MAXIMUM CURRENT (AMPS)	MAXIMUM OVERCURRENT PROTECTION (MOCP)			VOLT-PHASE-HERTZ (V-PH-HZ)
RTU-048	CARRIER 48PGDC05	4	14	R-410A	1,600	315	0.5	75,000	14	N GAS	43.5	33.4	80/67	115	25.6	30	208/230-3-60	1100	1,2,3

- POWERED CONVENIENCE OUTLET TO BE FACTORY PROVIDED. UNIT TO BE SINGLE POINT CONNECTION. TRANSFORMER REQUIRED FOR 120 V POWER.
- DISCONNECT TO BE FACTORY PROVIDED.

**EXHAUST FAN SCHEDULE**

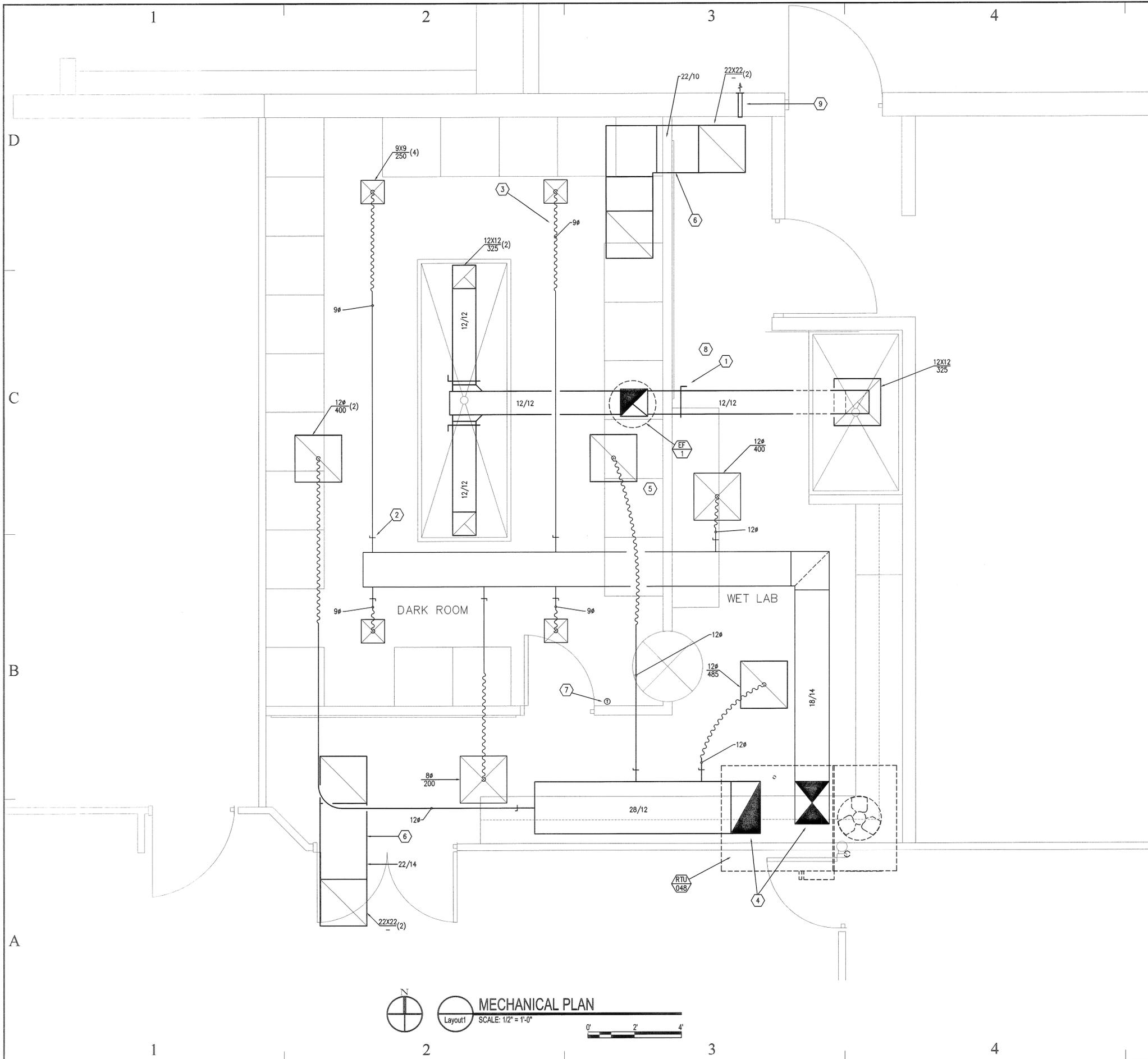
SYMBOL	MANUF. AND MODEL NO.	FAN			MOTOR				WEIGHT (LBS)	REMARKS		
		TOTAL AIR FLOW RATE (CFM)	TOT. STATIC PRESSURE DROP (IN H2O)	OUTLET VELOCITY (FPM)	FAN SPEED (RPM)	FAN WHEEL DIAMETER (IN)	BHP	HP			MOTOR SPEED (RPM)	VOLT/PH
EF-1	COOK ACEB 100	975	0.33	1490	1950	10	0.186	1/4	1750	120/1	45	1,2,3

- WALL SWITCH, ONE IN EACH ROOM, AND WIRING BY ELECTRICAL.
- DISCONNECT BY ELECTRICAL.
- PROVIDE WITH OPTIONAL ROOF CURB, CURB HINGE AND BELT TENSIONER.

**MECHANICAL SHEET INDEX**

SHEET	SHEET TITLE
ME001	MECHANICAL LEGEN, SYMBOLS & ABBREVIATIONS
ME002	MECHANICAL COMCHECK REPORTS
MH101	1ST FLOOR MECHANICAL PLAN
MH601	MECHANICAL SCHEDULES





- # KEYED NOTES
1. MANUAL VOLUME DAMPER, TYPICAL.
  2. HIGH EFFICIENT TAKE OFF WITH MANUAL VOLUME DAMPER, TYPICAL.
  3. FLEXIBLE DUCT, MAXIMUM LENGTH TO BE LIMITED TO 10'-0", TYPICAL.
  4. TRANSITION SUPPLY AND RETURN DUCT TO THE ROOF TOP UNIT DUCT CONNECTIONS.
  5. TRANSITION EXHAUST DUCT TO THE ROOF MOUNTED EXHAUST FAN.
  6. TRANSFER DUCT BETWEEN CEILING MOUNTED GRILLES TO BE INSTALLED ABOVE THE CEILING. TRANSFER DUCT AND GRILLES ARE TO BE INSTALLED FOR THE EXHAUST MAKE UP AIR.
  7. 7-DAY PROGRAMMABLE THERMOSTAT.
  8. EXHAUST FAN TO BE CONTROLLED BY A WALL MOUNTED SWITCH. SWITCH AND WIRING BY ELECTRICAL.
  9. INSTALL A 24" SHEET METAL VENT FROM THE HAZARDOUS STORAGE CABINET THROUGH THE WALL TO A 4X4 WALL LOUVER. PROVIDE ALL TRANSITION NECESSARY. COORDINATE WITH CABINET FOR INSTALLATION HEIGHT.

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 Construction & Management  
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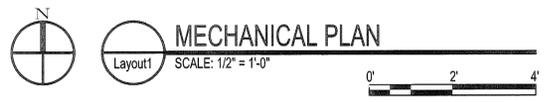
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SHEET TITLE  
**MECHANICAL PLAN**

SHEET NUMBER

**MH101**

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 Salt Lake City - Logan - St. George - Tempe - Pocatello  
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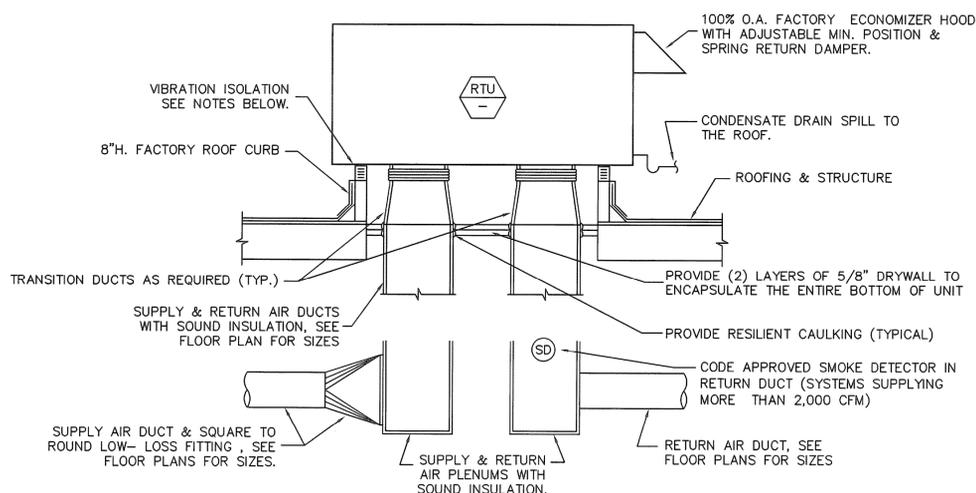
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SHEET TITLE

**MECHANICAL  
DETAILS**

SHEET NUMBER

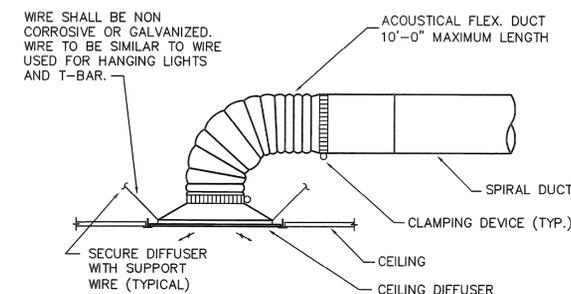
**MH601**



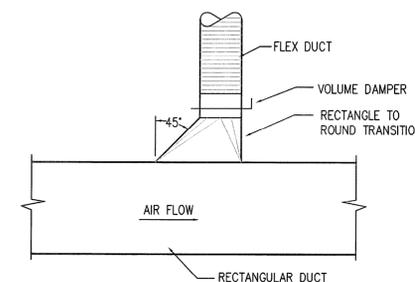
**NOTES:**

- COORDINATE EXACT LOCATION AND FRAMING OF ROOF OPENING WITH GENERAL CONTRACTOR.
- VIBRATION ISOLATION SHALL BE FACTORY FURNISHED NEOPRENE GASKET.

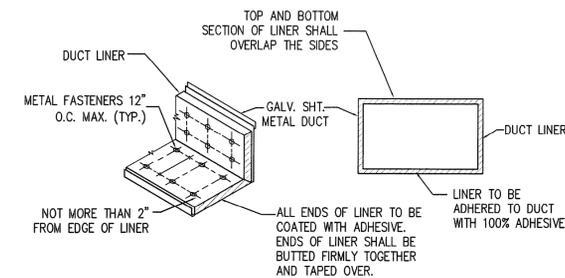
**4** ROOF TOP UNIT DETAIL  
MH601 NO SCALE



**1** CEILING DIFFUSER  
MH601 NO SCALE



**2** HIGH EFFICIENCY TAKE-OFF DETAIL  
MH601 NO SCALE



**3** DUCT LINER DETAIL  
MH601 NO SCALE

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SHEET TITLE

**PLUMBING  
LEGEND &  
SCHEDULES**

SHEET NUMBER

**PE001**

**PLUMBING SYMBOLS AND ABBREVIATIONS**

LINE TYPE	ABBREV.	DESCRIPTION	LINE TYPE	ABBREV.	DESCRIPTION
	CW	COLD WATER PIPE		V	VACUUM PIPE
	HW	HOT WATER PIPE			PIPE RISE
	HWR	HOT WATER RETURN PIPE			PIPE DROP
	G	GAS PIPE		FCO	FLOOR CLEANOUT
	V	VENT PIPE		COTG	CLEANOUT TO GRADE
	W	WASTE PIPE (BELOW GRADE)		WCO	WALL CLEANOUT
	W	WASTE PIPE (ABOVE GRADE)		FD	FLOOR DRAIN
	RD	ROOF DRAIN PIPE		VTR	VENT THROUGH THE ROOF
	RDO	ROOF DRAIN OVERFLOW PIPE		RD/RDO	ROOF DRAIN OR ROOF DRAIN OVERFLOW
	A	COMPRESSED AIR PIPE		PRV	PRESSURE REDUCING VALVE
	NO	NITROUS OXIDE PIPE			BUTTERFLY SHUTOFF VALVE 2 1/2" & LARGER, BALL VALVE 2" & SMALLER
	C	CONDENSATE DRAIN PIPE			GAS SHUTOFF COCK
	CO	CONDENSATE OVERFLOW DRAIN PIPE			UNION
	O	OXYGEN PIPE		POC	POINT OF CONNECTION

**GAS SCHEDULE - METER #1**

SYMBOL	BTU INPUT (BTU)	BTU INPUT (CFH)	LONGEST LENGTH (FT)	PRESSURE
(E) RTU-1	60,000	65.29	220	2 LB
(E) RTU-2	115,000	125.14		2 LB
(E) RTU-3	275,000	299.24		2 LB
(E) RTU-4	275,000	299.24		2 LB
(E) RTU-5	60,000	65.29		2 LB
(E) RTU-6	60,000	65.29		2 LB
(E) RTU-7	115,000	125.14		2 LB
(E) GAS KILN	400,000	435.26		2 LB
RTU-048	75,000	81.61	2 LB	
TOTAL DEMAND		1561.48		2 LB

BTU PER CUBIC FT FOR ST. GEORGE = 919 BTU/CU.FT. QUOTED FROM QUESTAR GAS GOOD PRACTICES FOR GAS PIPING AND APPLIANCE INSTALLATIONS MANUAL. GAS PIPE SIZED PER THE LONG LENGTH METHOD LISTED IN 2008 INTERNATIONAL FUEL GAS CODE, APPENDIX A.

**PLUMBING SHEET INDEX**

SHEET	SHEET TITLE
PE001	PLUMBING LEGEND & SCHEDULES
PP101	PLUMBING FLOOR PLAN
PP102	GAS PIPING PLAN - ROOF
PP501	PLUMBING DETAILS

**PLUMBING FIXTURE SCHEDULE**

SYMBOL	FIXTURE	CW (IN)	HW (IN)	W* (IN)	V (IN)	REMARKS
FD-1	FLOOR DRAIN	--	--	2	1-1/2	--
S-1	DARK ROOM SINK	1/2	1/2	1-1/2	1 1/2	SEE SPECIFICATIONS
S-2	WET LAB SINK	1/2	1/2	1-1/2	1 1/2	OWNER PROVIDED, CONTRACTOR INSTALLED
TP-1	TRAP PRIMER	3/8	--	--	--	MULTI DRAIN CAPACITY

\* 2-INCH MINIMUM INSTALLED BELOW GRADE.

**ELECTRIC WATER HEATER SCHEDULE**

SYMBOL	MANUF. AND MODEL NO.	CAP. U.S. GAL.	ELEMENT WATTAGE UPPER/LOWER	GPH @ 80 DEG RISE	1ST HOUR DELIVERY (GALLONS)	HEIGHT/ DIAMETER (IN)	ELECTRICAL		REMARKS
							TERMINAL L2/ TERMINALS L1&L3 AMP	V/PH	
WH-1	A.O. SMITH DEL-30	30	5000/5000	51	48	30/22	41.6/24.0	208/3	

**DOMESTIC EXPANSION TANK SCHEDULE**

SYMBOL	MANUFACTOR MODEL NO.	SYSTEM SERVED	TYPE	TANK VOLUME (GAL)	ACCEPTANCE VOLUME (GAL)	RELIEF VALVE (PSI)	DIA/ HEIGHT (IN)	NPTM FITTING (IN)	REMARKS
DET-1	BELL & GOSSETT PTA-5	WH-1	DIAPHRAM	2.1	0.9	112.5	10/10.5	3/4	



- ### # KEYED NOTES
- REMOVE EXISTING STUDDOR VENT INSTALLED ABOVE THE WALL, BELOW THE ROOF DECK AND INSTALL A 2" VENT THROUGH THE ROOF.
  - INSTALL A STUDDOR VENT UNDER THE WET ROOM SINK.
  - CONNECT NEW COLD WATER PIPE TO EXISTING WATER PIPE, THEN INSTALL BELOW GRADE TO EACH SINK. SEE DETAIL.
  - INSTALL NEW HOT WATER PIPE FROM THE WATER HEATER BELOW GRADE TO EACH SINK. SEE WATER DETAIL.
  - CONNECT SEWER LINE TO THE EXISTING SEWER LINE OFF THE EXISTING FLOOR DRAIN. CONTRACTOR TO FIELD VERIFY LOCATION AND LINE SIZE. EXISTING SEWER SHOULD BE A MINIMUM 2" LINE.
  - INSTALL THE WATER HEATER ON A 4 INCH, FIELD FABRICATED IRON STAND SO THE EXISTING FLOOR DRAIN UNDERNEATH IT IS ACCESSIBLE FOR THE T&P DRAIN AND THE EXISTING RPPB. STAND BY PLUMBING CONTRACTOR.
  - SEISMICALLY STRAP THE WATER HEATER TO THE WALL USING A SEISMIC STRAP 2/3 OF THE HEIGHT OF THE WATER HEATER.
  - INSTALL A 2" VENT THROUGH THE ROOF.
  - INSTALL HOT, COLD AND SEWER PIPING BELOW GRADE. SEPARATE WATER AND SEWER PIPE PER THE INTERNATIONAL PLUMBING CODE REQUIREMENTS, TYPICAL.
  - WET LAB SINK, S-2, IS OWNER PROVIDED AND CONTRACTOR INSTALLED. THE SINK IS SINGLE POINT CONNECTION FOR HOT, COLD AND SEWER PIPING. FIELD ASSEMBLY REQUIRED BY THE CONTRACTOR TO SET UP THE SERRATED HOSE NOZZLES AND PIPING FROM THE THERMOSTATIC MIXING VALVE TO THE OTHER END OF THE SINK. MOST PIPING IS PROVIDED HOWEVER SOME FITTINGS OR JOINTS MAY BE REQUIRED. THE CONTRACTOR SHALL FIELD VERIFY CONDITION OF THE SINK AND ITS PARTS.

- ### GENERAL NOTES
- CONTRACTOR TO PROVIDE AND INSTALL PENDANT FIRE SPRINKLER HEADS IN CEILING SPACE. COORDINATE DROP LOCATIONS WITH OWNER/ARCHITECT, TYPICAL. SEE SPECIFICATIONS.
  - HOT AND COLD WATER PIPING ABOVE GRADE SHALL BE TYPE L OR K HARD TEMPERED COPPER PIPE WITH WROUGHT-IRON COPPER FITTINGS USING 95-5 SOLDER. HOT AND COLD WATER PIPING BELOW GRADE SHALL BE PEX TUBE PIPING.
  - ALL WASTE AND VENT PIPING SHALL BE PVC PLASTIC PIPE.

**State of Utah**  
 Department of Administrative Services  
 Division of Facilities  
 Construction & Management  
 4110 State Office Building  
 Salt Lake City, Utah 84114  
 Phone: (801) 538 - 3018  
 Fax: (801) 538 - 3267

Internet: <http://www.dfc.com.state.ut.us>

CREATED BY:  
**CAMPBELL & ASSOCIATES**



BUILDING NAME:  
**DIXIE STATE COLLEGE**  
**N.I.B.**

PROJECT TITLE:  
**NORTH PHOTO LAB RELOCATION**

MARK	DATE	DESCRIPTION

ISSUE TYPE: CHECK SET

ISSUE DATE: 9/16/09

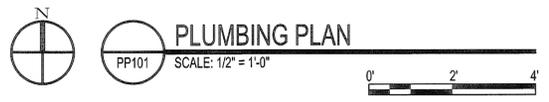
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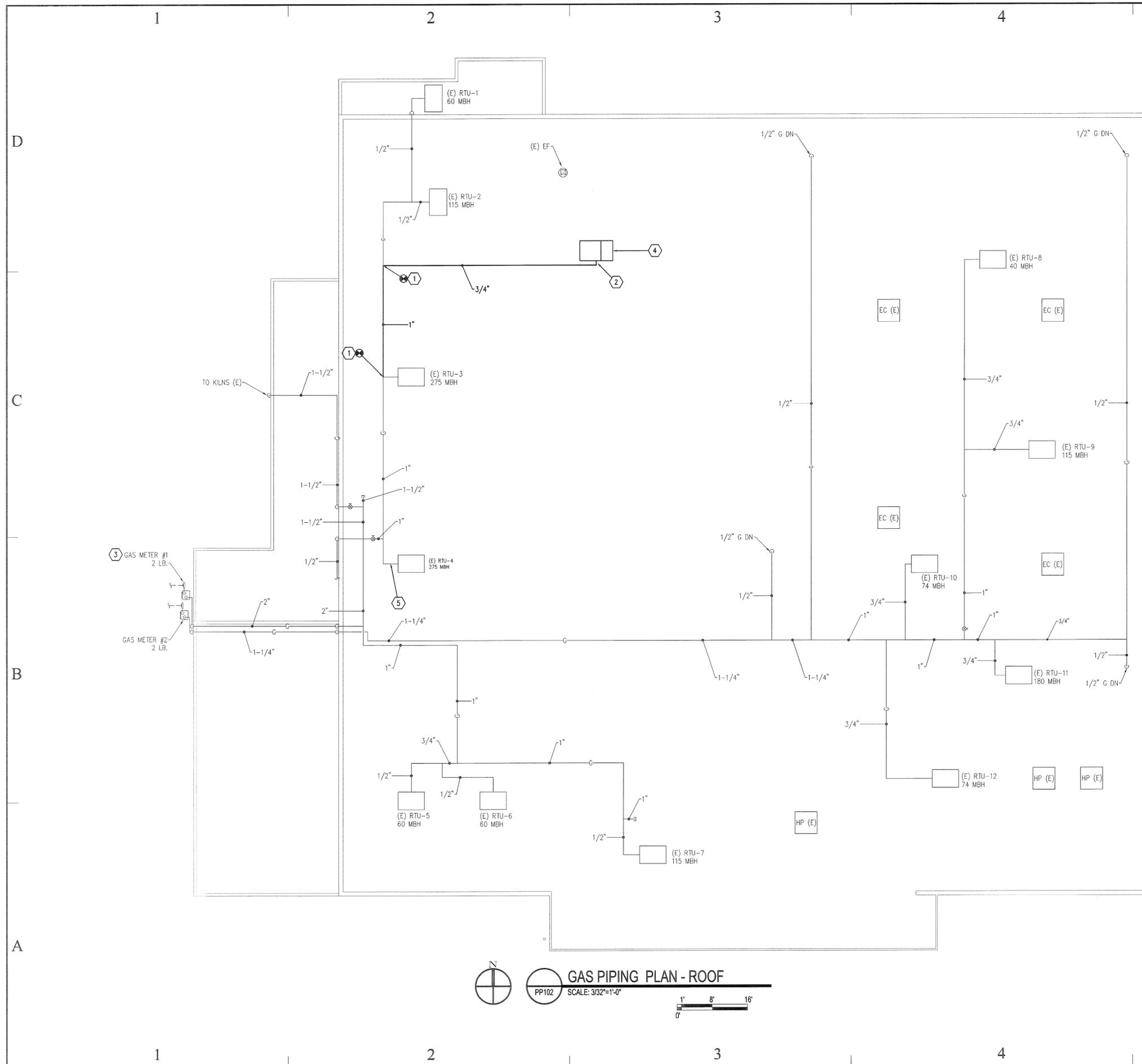
SHEET TITLE  
**PLUMBING PLAN**

SHEET NUMBER

**PP101**

**VAN BOERUM & FRANK ASSOCIATES INC.**  
 CONSULTING ENGINEERS  
 Salt Lake City - Logan - St. George - Temple - Pocatello  
 1070 W 1600 S, Ste. #104 435.674.4800 T  
 St. George, UT 84770 435.674.2708 F  
 VBFA Project Number: VBFA-09194





- KEYED NOTES**
- REMOVE EXISTING 3/4" GAS LINE. INSTALL NEW 1" GAS LINE AT APPROXIMATE LOCATION SHOWN. INSTALL 4X4 REDWOOD BLOCKS AT 10'-0" SPACING AND PIPE CLAMP THE GAS PIPE TO IT. PAINT THE GAS PIPING FOR WEATHER PROTECTION. RUN TO BRANCH OF NEW RTU, AND CONNECT TO EXISTING 3/4" GAS LINE.
  - PROVIDE AND INSTALL GAS COCK, 2 LB. TO 4 OZ. PRESSURE REGULATOR, DIRT LEG AND TEST TEE PRIOR TO CONNECTION TO UNIT, SEE DETAIL 6/PP501.
  - EXISTING 2 LB. GAS METER COORDINATE WITH QUESTAR GAS TO VERIFY EXISTING METER SIZE FOR NEW CAPACITY, 1561 CFH APPROXIMATELY. CHANGE OUT METER IF REQUIRED TO MEET NEW CAPACITY.
  - HVAC EQUIPMENT, SEE MECHANICAL PLANS.
  - EXISTING ROOF TOP UNITS PROVIDED WITH GAS COCK AND 2 LB. TO 4 OZ. PRESSURE REGULATOR, TYPICAL.

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 4110 State Office Building  
 Salt Lake City, Utah 84114  
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**NORTH PHOTO LAB  
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ISSUE DATE: 9/16/09

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CAD DWG FILE: 09007

DRAWN BY: M.HADLEY

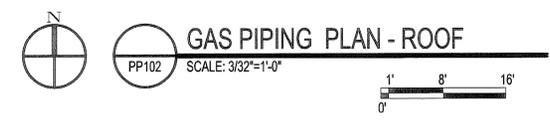
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SHEET TITLE  
**GAS PIPING PLAN  
 ROOF**

SHEET NUMBER

**PP102**



**VAN BOERUM & FRANK ASSOCIATES INC.**  
 CONSULTING ENGINEERS  
 www.vbfa.com  
 Salt Lake City · Logan · St. George · Tempe · Pocatello  
 1070 W 1600 S, Ste. #104 435.674.4800 T  
 St. George, UT 84770 435.674.2708 F  
 VBFA Project Number: VBFA-09194



BUILDING NAME:

**DIXIE STATE  
COLLEGE  
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PROJECT TITLE:

**NORTH PHOTO LAB  
RELOCATION**

MARK	DATE	DESCRIPTION

ISSUE TYPE: CHECK SET

ISSUE DATE: 9/16/09

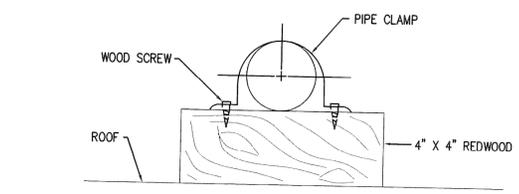
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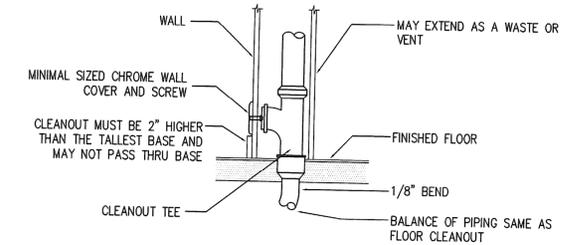
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DETAILS**

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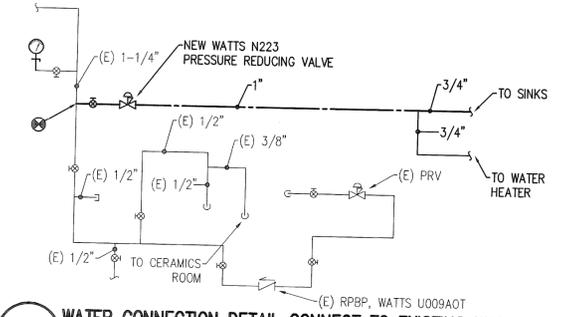
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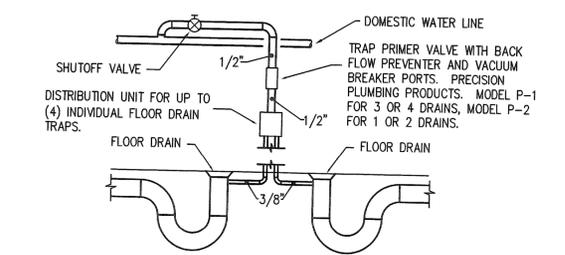
**7 ROOF MOUNTED GAS PIPING DETAIL**  
PP501 NO SCALE



**4 WALL CLEANOUT DETAIL**  
PP501 NO SCALE

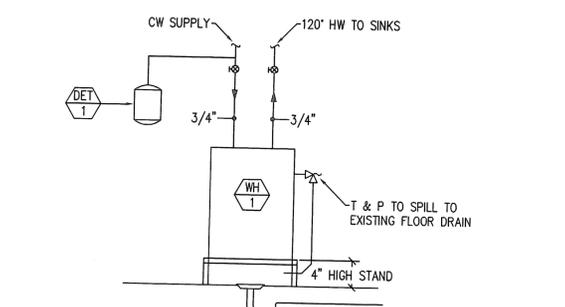


**1 WATER CONNECTION DETAIL CONNECT TO EXISTING WATER PIPING**  
PP501 NO SCALE

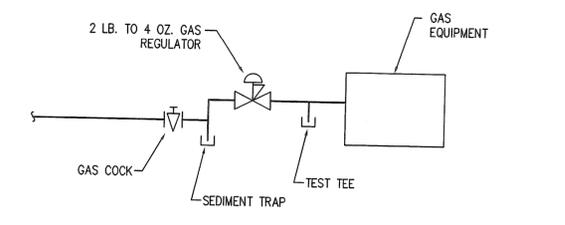


NOTE: FOR EVERY 20 FEET OF FLOOR DRAIN TRAP MAKE-UP WATER LINE THE PRIMER MUST BE A MINIMUM OF ONE FOOT ELEVATION FROM THE FINISHED FLOOR. DISTRIBUTION UNIT MUST BE INSTALLED LEVEL AND MUST BE INSTALLED WITH ACCESS FOR PERIODIC INSPECTION.

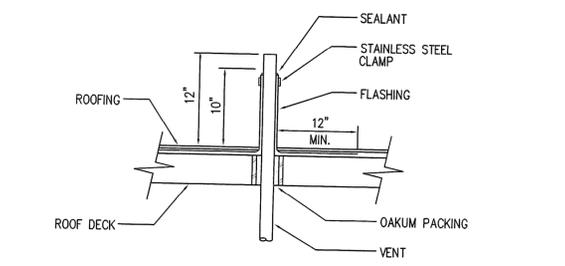
**5 TRAP PRIMER DETAIL - TP-1**  
PP501 NO SCALE



**2 WATER HEATER PIPING DETAIL**  
PP501 NO SCALE



**6 GAS CONNECTION TO EQUIPMENT DETAIL**  
PP501 NO SCALE



**3 VENT THRU ROOF FLASHING & SLEEVING DETAIL**  
PP501 NO SCALE