ALTERATIONS TO:

VERMONT TECHNICAL COLLEGE
WILLISTON DORMITORY

72 Helena Drive, 2nd Floor, Williston, VT 05495

Owner:
Vermont State Colleges
Richard Ethier
PO Box 359
Waterbury, VT 05676
T.802.241.2520 F.802.241.3369

Owner:
Vermont Technical College
PO Box 500
Randolph Center, VT 05061
T.800.442.8821

Civil Engineer:
Krebs & Landsing Consulting
164 Main Street, Suite 201
Colchester, VT 05446
T.802.878.0375 F.802.878.9618

Architect:
Banwell Architects
6 South Park Street
Lebanon, NH 03766
T.603.448.3778 F.603.443.5555

Mechanical Electrical Engineer:
Pearson & Associates Consulting Engineers
174 Thomas Lane
Stowe, VT 05672
T.802.253.9607 F.802.253.9290

Index of Drawings

Civil:

C-1	OVERALL SITE PLAN
C-2	SITE PLAN

Architectural:

A1.01	LEGENDS, GENERAL NOTES, CODE PLAN, DEMOLITION PLAN
A1.02	DOOR & FRAME TYPES, DOOR & FRAME SCHEDULE, DETAILS
A2.01	FUTURE FIRST FLOOR PLAN
A2.02	SECOND FLOOR PLAN, WALL TYPES
A3.01	ELEVATIONS
A8.01	REFLECTED CEILING PLAN
A9.01	CASEWORK DETAILS, INTERIOR ELEVATIONS

Mechanical:

M1.01	SECOND FLOOR MECHANICAL DUCTWORK PLAN
M2.01	SECOND FLOOR MECHANICAL PIPING PLAN
M3.01	MECHANICAL EQUIPMENT SCHEDULES
M4.01	MECHANICAL DETAILS & LEGEND

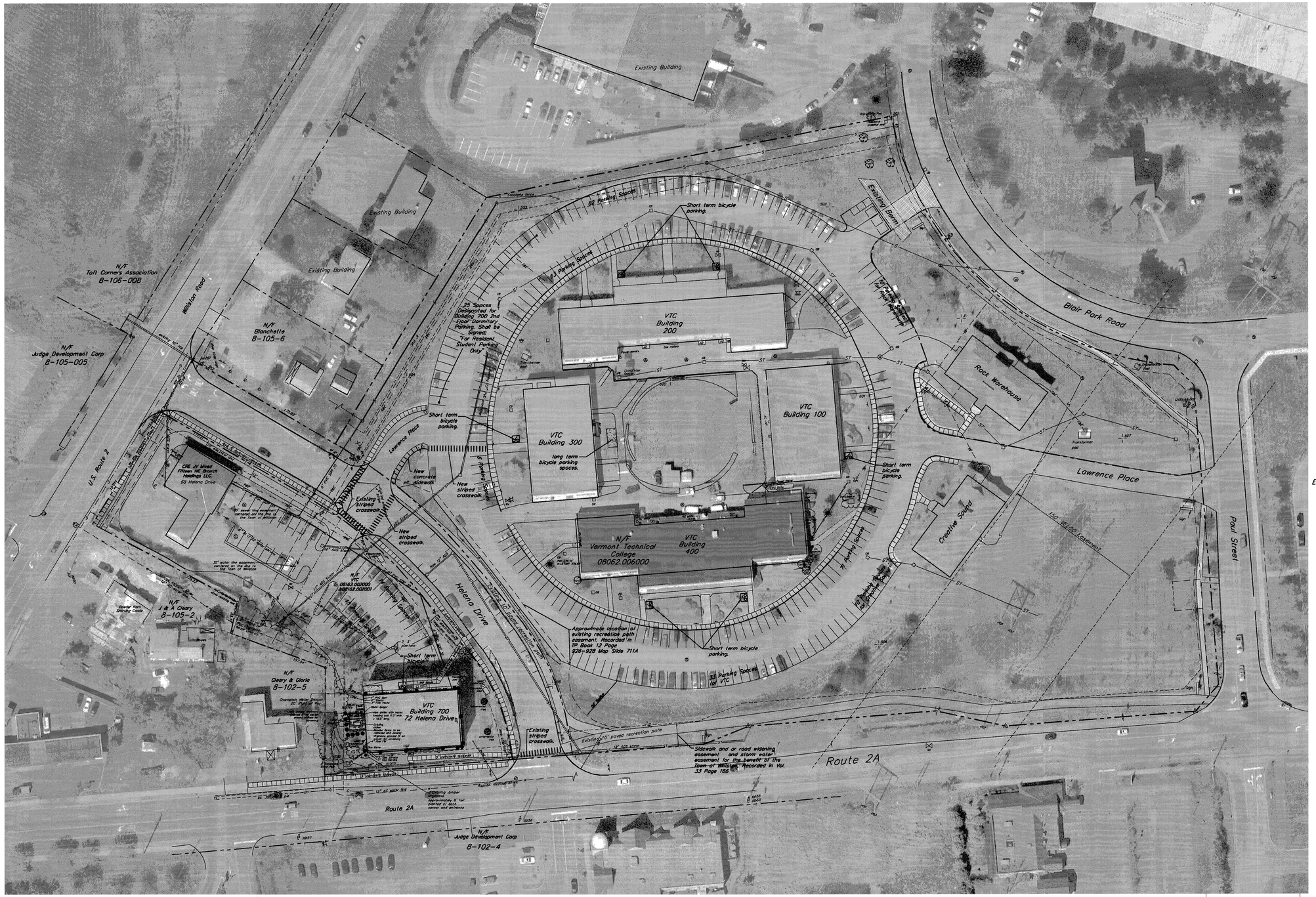
Plumbing:

P1.01	SECOND FLOOR DOMESTIC WATER PLUMBING PLAN
P2.01	SECOND FLOOR SANITARY WASTE PLUMBING PLAN
P3.01	PLUMBING FIXTURE SCHEDULES & DETAILS

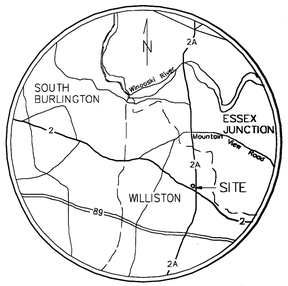
Electrical:

E1.01	SECOND FLOOR POWER PLAN
E1.02	SECOND FLOOR LIGHTING PLAN
E1.03	SECOND FLOOR FIRE ALARM PLAN
E1.04	ELECTRICAL PANEL SCHEDULES
E1.05	ELECTRICAL PANEL SCHEDULES

CONSTRUCTION DOCUMENTS - MARCH 2nd, 2011



Astronomic North



Location Map

nts

Project Information:

Applicant: Vermont Technical College

Project Location: 72 Helena Drive, VTC **Building 700**

Parcel ID: 08162.002000 & 08162.002001

Existing Land Use: Commercial Office **Space**

Surrounding Land Use: Educational **Community College** Commercial, office

Proposed Land Use: Educational **Community College**

Parking:

Existing Parking VTC Buildings 100, 200, 300, 400 & 700: **255 spaces**
Minus parking for 2 buildings not part of complex: **-20 spaces**
235 spaces
Existing Parking 72 Helena Drive VTC Building 700 **29 spaces**
Total Spaces: **264 spaces**

Required Parking Buildings 100, 200, 300, 400 & 700:
420 students & staff @ 0.35 spaces/student = **147 spaces**

Required Parking 72 Helena Drive:
180 students & staff @ 0.35 spaces/student = **63 spaces**
Existing 22 student dormitory 3rd floor @ 1 spaces/student = **22 spaces**
Proposed 25 student dormitory 2nd floor @ 1 spaces/student = **25 spaces**
Total Required Spaces: **257 spaces**

Issued for Bid 3/25/2011

Legend

- Concrete monument found
- Calculated point
- K&L control point
- Light
- CB #2 — Catch basin
- Sanitary manhole
- Utility pole
- Sign
- Handicap accessible
- Street light base & conduit
- Sheet drainage
- Grass lined swale
- Water line gate valve
- Hydrant
- Storm line
- Sanitary line
- Water line
- Underdrain
- Gas line
- Property line / right of way
- Concrete curbing
- Underground telephone and electric
- New bike parking

Notes

1. This plan is based on field survey and measurements by Krebs & Lansing Consulting Engineers. The intent of this plan is to show an existing building at 72 Helena Drive that has been added to the Vermont Technical Williston Campus.
2. Aerial photography provided by the Vermont Mapping Program Spring of 2004.
3. The Location of underground utilities is not warranted to be exact or complete.

0' 30' 60' 120' 180'

Bar Scale 1" = 50'

STATE OF VERMONT · MICHAEL BURKE · NO 5440 · REGISTERED PROFESSIONAL ENGINEER

Date revised	Description	Checked	Date
March 11, 2011	staff comments, final plans	MJB	3/11/2011
February 24, 2011	designated parking, chiller slab, & screening	MJB	2/24/2011

Design MJB
Drawn JAR
Checked MJB
Scale 1" = 50'
Date August 30, 2010
Project 08148.04

Overall Plan – 2nd Floor Dormitory Conversion
VTC Building 700

Vermont Technical College
Williston Campus

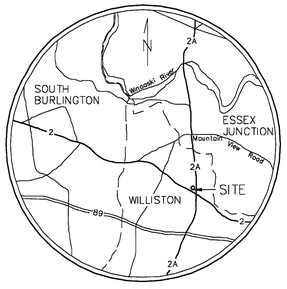
Tax Map Parcel 08162.002000 & 08162.002001

72 Helena Drive & Lawrence Place — **Williston, Vermont**

KREBS & LANSING Consulting Engineers, Inc.
164 Main Street, Colchester, Vermont 05446

field book 215
RevWS-current.dwg

C–1



Location Map

nts

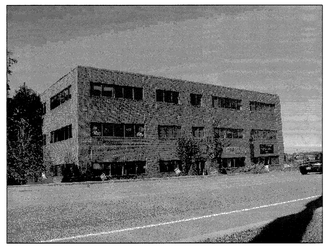


Photo 1

Photo 2

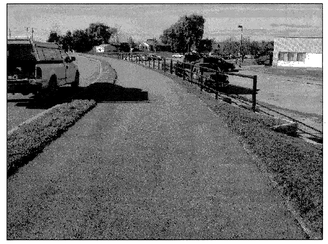
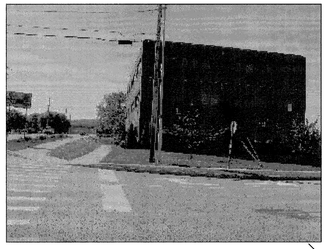


Photo 3

Photo 4

Astronomic North

Photo 5



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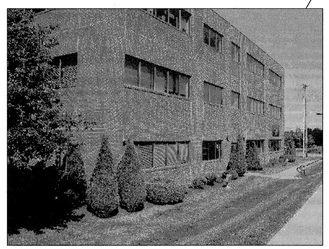

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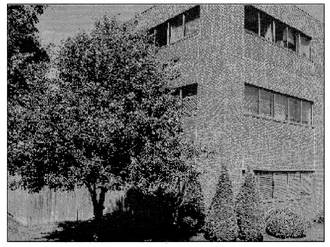

Photo 8

Photo 9

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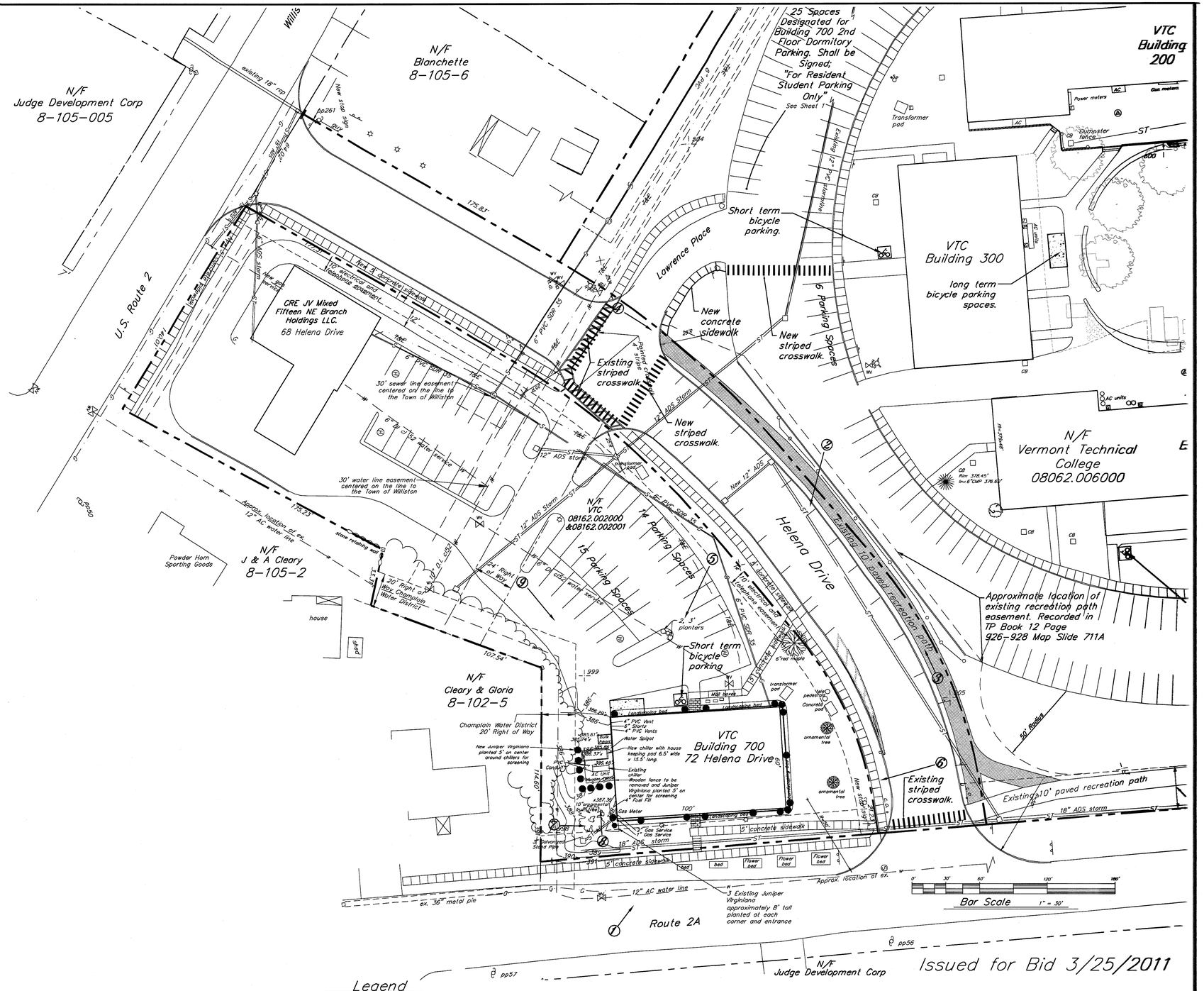

Issued for Bid 3/25/2011

Legend

Concrete monument found	Hydrant
Calculated point	Sign
K&L control point	Storm line
Light	Sanitary line
Catch basin	Water line
Sanitary manhole	Underdrain
Utility pole	Gas line
Handicap accessible	Property line / right of way
Street light base & conduit	Concrete curbing
Sheet drainage	Underground telephone and electric
Grass lined swale	Existing spot grades
Water line gate valve	New bike parking

STATE OF VERMONT MICHAEL BURKE NO 5440 REGISTERED PROFESSIONAL ENGINEER

Date revised	Description	Checked	Date
March 11, 2011	staff comments, final plans	MJB	03/11/2011
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Design	MJB
Drawn	JAR
Checked	MJB
Scale	1" = 30'
Date	August 30, 2010
Project	08148.04

Site Plan – 2nd Floor Dormitory Conversion
VTC Building 700

Vermont Technical College
Williston Campus

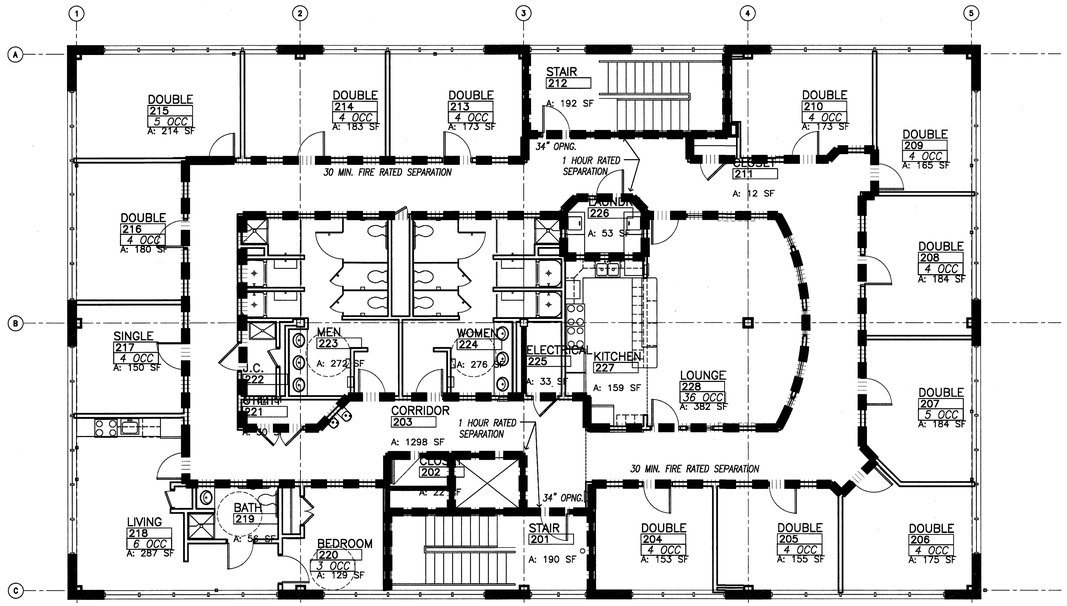
Tax Map Parcel 08162.002000 & 08162.002001

72 Helena Drive — Williston, Vermont

KREBS & LANSING Consulting Engineers, Inc.
164 Main Street, Colchester, Vermont 05446

field book 215 — ReVNS-current.dwg

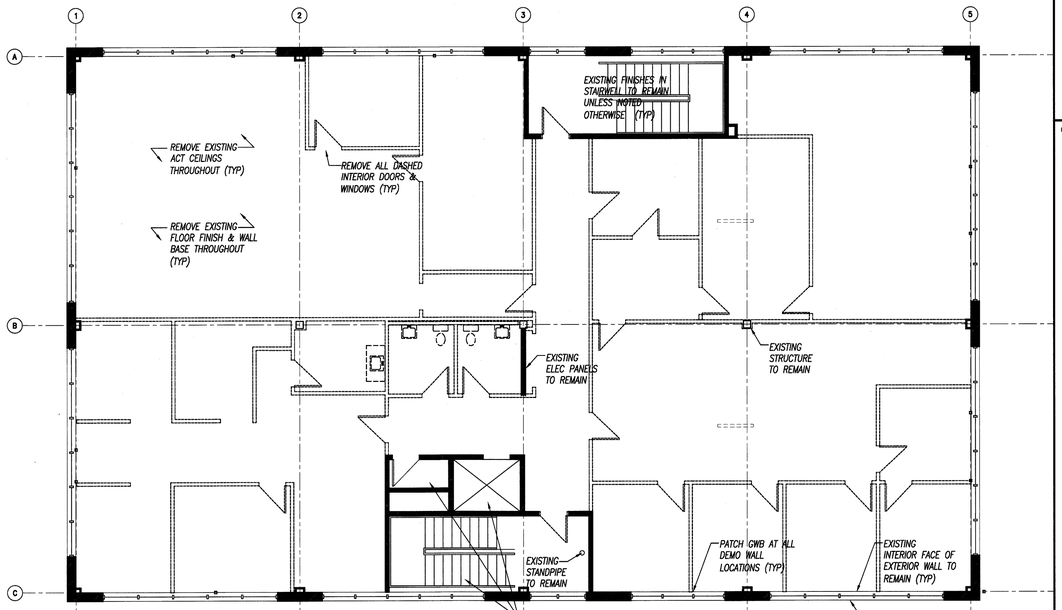
C-2



NOTE: ASSUME ELEVATOR & STAIRWELLS ARE 1-HR RATED AS EXISTING TO REMAIN

THIRD FLOOR GROSS AREA= 6,315 SF

02 2ND FLOOR CODE PLAN
SCALE: 1/8"=1'-0"



01 2ND FLOOR DEMOLITION PLAN
SCALE: 1/8"=1'-0"

WALL KEY:
- EXISTING WALL:
- DEMO WALL:
- NEW WALL:

CODE NOTES

APPLICABLE CODES:

INTERNATIONAL BUILDING CODE – 2006 EDITION
NFPA 101 LIFE SAFETY CODE – 2003 EDITION

USE GROUP CLASSIFICATION:

R-2 – RESIDENTIAL
B – BUSINESS

CONSTRUCTION TYPE:

2B – NONCOMBUSTIBLE, UNPROTECTED

FULL AUTOMATIC SPRINKLER SYSTEM

BUILDING HEIGHT & AREA:

BASE HEIGHT ALLOWED: (R) 4 STORIES/55' (IBC)
ACTUAL HEIGHT: 3 STORY / 36'-8"

FLOOR AREA:
BASE AREA ALLOWANCE: (R) 16,000 SF/FL (IBC) (BOCA)
ACTUAL AREA: 6,315 SF (THIRD FLOOR) ALL FLOORS OF EQUAL SIZE

OCCUPANT LOAD: SECOND FLOOR: 95

EXIT CAPACITY: THIRD FLOOR: DOORS 68"/0.2" = 340

CORRIDOR RATING: 30 MIN. FIRE RATED ASSEMBLY

MAXIMUM ALLOWABLE TRAVEL DISTANCE TO EXIT: 250' (R), SPRINKLER PROTECTED
ACTUAL MAXIMUM TRAVEL DISTANCE TO EXIT: 72'

MATERIALS LEGEND

- Earth/Fill
- Gravel/Porous Fill
- Concrete/Precast
- Concrete/Precast
- Stone: As Noted
- CMU
- Brick
- Steel
- Aluminum
- Cont. Wood Framing
- Wood Blocking
- Finish Wood
- Rigid Insulation: As Noted
- Spray Poly-Urethane Foam Insulation Urethane Insul.
- Cellulose Insulation: As Noted
- Batt Insulation: As Noted
- Sealant Bed/Mastic: As Noted
- Plywood: Type As noted
- Gypsum Sheathing: As Noted
- Cement Board Sheathing
- Ceramic Tile As Noted
- Resilient Flooring As Noted
- Acoustic Tile: Type As Scheduled
- Carpet
- Waterproof Membrane/ Vapor Barrier: As Noted

SYMBOL LEGEND

- COLUMN BUBBLE & GRIDLINE
- BUILDING SECTION REFERENCE
- WALL-SECTION REFERENCE
- DETAIL KEY
- ELEVATION REFERENCE
- WALL-TYPE REFERENCE. SEE DRAWING A0.02
- CASEWORK REFERENCE. SEE DRAWING A9.01
- INTERIOR ELEVATION REFERENCE
- DOOR NUMBER. SEE DOOR & FRAME SCHEDULE IN PROJECT MANUAL & DRAWING A0.03
- KEYNOTE REFERENCE
- INTERIOR FINISH/MATERIAL MARKER
- EXTERIOR FINISH/MATERIAL MARKER
- ROOM NAME, NUMBER, FINISHES & AREA
- ELEVATION DATUM: PLAN, ELEVATION, SECTION
- REVISION KEY
- REVISION CLOUD
- WINDOW TYPE REFERENCE

GENERAL NOTES

1. SEE STRUCTURAL DWGS FOR REQUIREMENTS FOR WALL REINFORCING AND BRACING
2. NOTE THAT SLAB IS RECESSED IN SOME AREAS TO ACCOMODATE FLOOR FINISHES, LIFT PIT AND ALLOW WATER TO FLOW TO DRAINS; SEE STRUCTURAL DWGS FOR LOCATIONS.
3. PROVIDE FIRE RATINGS AS REQUIRED WHERE INDICATED ON PLANS. WHERE INTERIOR PARTITIONS ARE NOTED AS FIRE RATED ON PLANS, SEAL TIGHTLY AT PERIMETER (INCL. ROOF DECK) & OPENINGS WITH UL LISTED SEALANT.
4. ALL DOOR FRAMES SHALL BE INSTALLED 6" FROM THE ADJACENT WALL OR CENTERED ON THE WALL UNLESS NOTED OTHERWISE.
5. ALL WALLS SHALL EXTEND TO THE BOTTOM OF THE FLOOR OR ROOF DECK ABOVE UNLESS NOTED OTHERWISE. PROVIDE MANUFACTURER'S STANDARD RUBBER CLOSURE TO SEAL GAPS @ TOP OF WALL, USE SAFING AT OTHER PENETRATIONS, TYPICAL.
6. NOTIFY ARCHITECT OF ANY CONFLICTS OR DISCREPANCIES IN THE DRAWINGS OR EXISTING CONDITIONS.
7. SEE ENLARGED PLANS FOR ADDITIONAL REFERENCES TO DETAILS

WALL RATINGS LEGEND AND NOTES

- 1-HOUR RATED
- 30 MIN RATED

1. SEE CODE PLANS FOR ALL RATING REQUIREMENTS.
2. SEE DOOR SCHEDULE FOR OPN'G PROTECTION REQUIREMENTS.
3. MECHANICAL, ELECTRICAL & PLUMBING SUBCONTRACTORS TO COMPLY W/ FIREBLOCKING & FIRESTOPPING REQUIREMENTS @ ALL PENETRATIONS OF FLOOR AND WALL ASSEMBLIES & ROOF AND CEILING ASSEMBLIES.
4. ALL SEMI-RECESSED OR RECESSED FIRE EXTINGUISHER CABINETS SHALL BE U.L. LISTED FOR USE IN 1-HOUR FIRE RESISTIVE CONSTRUCTION OR WRAP INSIDE OF STUD SPACE W/ 5/8"TYPE X G.W.B. (FIRETAPED) IF ALLOWED BY BLDG. OFFICIAL/INSPECTOR.

DEMOLITION NOTES

1. THIS PLAN DESCRIBES ARCHITECTURAL DEMOLITION ONLY. SEE MECHANICAL, PLUMBING & ELECTRICAL DEMO DRAWINGS FOR OTHER DEMO WORK.
2. THE SCOPE OF DEMOLITION INCLUDES, BUT IS NOT LIMITED TO, ALL WORK & LEGAL DISPOSAL OF MATERIALS AS SHOWN ON THE DRAWINGS & AS SPECIFIED. INCLUDE ALL DEMOLITION NECESSARY TO COMPLETE THE NEW CONSTRUCTION AS SHOWN ON THE DRAWINGS, SCHEDULES & SPECS.
3. THE BIDDERS ARE REQUIRED TO VISIT THE SITE & ARE RESPONSIBLE FOR FULL KNOWLEDGE OF EXISTING CONDITIONS.
4. REMOVE ALL EXISTING SUSPENDED & ADHERED CEILING TILES & GRID AND GYP BD CEILINGS UNLESS NOTED OTHERWISE. SEE FINISH SCHEDULE.
5. REMOVE ALL FLOOR FINISHES, BASE & ADHESIVES BACK TO ACCEPTABLE SUBFLOOR, UNLESS NOTED OTHERWISE.
6. REMOVE DOORS AND FRAMES UNLESS NOTED OTHERWISE; SEE DOOR SCHEDULE FOR DOORS AND/OR DOOR FRAMES TO REMAIN.
7. REPAIR WALLS & PATCH FINISHES AS NEEDED TO MATCH EXISTING. PREPARE EXISTING WALLS FOR NEW FINISHES.
8. FLASH FLOORS AS REQUIRED TO PREPARE EXISTING FLOORS FOR NEW FINISHES

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E: staff@banwell-architects.com

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COLCHESTER VT 05446
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P.O. BOX 610
STOWE, VERMONT 05672
T: 802 253 9607 F: 802 253 9290

LICENSED ARCHITECT DAVID NICKLES No. 2730 STATE OF VERMONT

REVISION	DATE	COMMENTS
–	–	–

KEY PLAN:

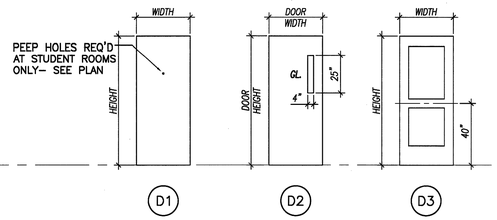
PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
CONSTRUCTION DOCUMENTS

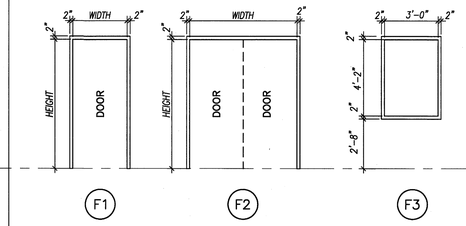
DRAWING TITLE:
LEGENDS, GENERAL NOTES, CODE PLAN, DEMO PLAN

PROJECT NO: 739 | DATE: 3/2/11

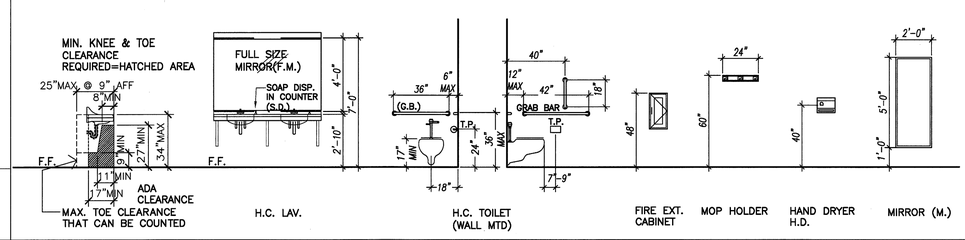
SHEET NUMBER:
A1.01



DOOR TYPES



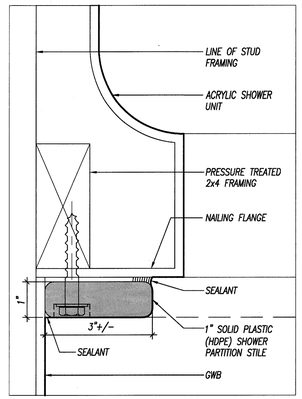
FRAME TYPES



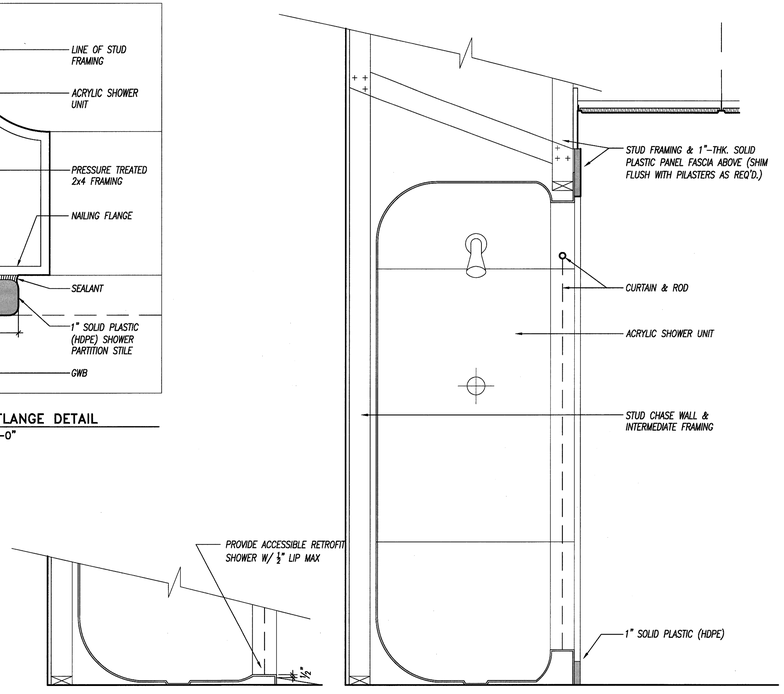
ACCESSORY MOUNTING HEIGHTS

DOOR AND FRAME SCHEDULE

OPENINGS		DOORS					FRAMES								
NUMBER	ROOM	TYPE	MATERIAL	WIDTH	HEIGHT	THICKNESS	TYPE	MATERIAL	HEAD	JAMB	THRESHOLD	GLASS	HARDWARE	FIRE RATING	REMARKS
201.1	STAIR 201	D2	WD	VIF	VIF	VIF	EXISTING	–	–	–	–	SAFETY	09	60 MIN	REUSE EXISING FRAME
202.1	CLOSET 202	–	–	3'–0"	7'–0"	1 3/4"	–	–	–	–	–	–	08	VERIFY 20 MIN	EXISTING DOOR & FRAME
203.1	CORRIDOR 203	D1	WD	1'–8"	7'–0"	2"	F1	HM	–	–	–	–	06	20 MIN	
204.1	DOUBLE 204	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	01	20 MIN	
205.1	DOUBLE 205	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	01	20 MIN	
206.1	DOUBLE 206	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	01	20 MIN	
207.1	DOUBLE 207	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	01	20 MIN	
208.1	DOUBLE 208	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	01	20 MIN	
209.1	DOUBLE 209	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	01	20 MIN	
210.1	DOUBLE 210	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	01	20 MIN	
211.1	CLOSET 211	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	07	20 MIN	
212.1	STAIR 212	D2	WD	VIF	VIF	VIF	EXISTING	–	–	–	–	SAFETY	09	60 MIN	REUSE EXISTING FRAME
213.1	DOUBLE 213	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	01	20 MIN	
214.1	DOUBLE 214	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	01	20 MIN	
215.1	DOUBLE 215	D1	WD	2'–10"	7'–0"	1 3/4"	F1	HM	–	–	–	–	01	20 MIN	
216.1	DOUBLE 216	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	01	20 MIN	
217.1	SINGLE 217	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	01	20 MIN	
218.1	LIVING 218	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	01	20 MIN	
218.2	LIVING 218	D1	WD	2'0	7'–0"	1 3/4"	F1	HM	–	–	–	–	11	–	
219.1	BATH 219	D1	WD	2'–10"	7'–0"	1 3/4"	F1	HM	–	–	–	–	12	–	
220.1	BEDROOM 220	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	05	–	
220.2	BEDROOM 220	D1	WD	3'–0"	7'–0"	1 3/4"	F2	HM	–	–	–	–	02	–	
221.1	UTILITY 221	D1	WD	5'–0"	7'–0"	1 3/4"	F2	HM	–	–	–	–	07	20 MIN	
222.1	J.C. 222	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	07	20 MIN	
222.2	J.C. 222	D1	HM	1'–10 11/16"	7'–0"	2"	F1	HM	–	–	–	–	06	–	
223.1	MEN 223	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	04	20 MIN	
224.1	WOMEN 224	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	04	20 MIN.	
225.1	ELECTRICAL 225	D1	WD	2'–8"	7'–0"	1 3/4"	F1	HM	–	–	–	–	07	20 MIN	
226.1	LAUNDRY 226	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	10	45 MIN	
228.1	LOUNGE 228	D3	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	SAFETY	10	20 MIN	
228.2	LOUNGE 228	–	–	–	–	–	F3	HM	–	–	–	SAFETY	–	20 MIN	BORROW LIGHT
228.3	LOUNGE 228	–	–	–	–	–	F3	HM	–	–	–	SAFETY	–	20 MIN	BORROW LIGHT
228.4	LOUNGE 228	–	–	–	–	–	F3	HM	–	–	–	SAFETY	–	20 MIN	BORROW LIGHT
228.5	LOUNGE 228	–	–	–	–	–	F3	HM	–	–	–	SAFETY	–	20 MIN	BORROW LIGHT
228.6	LOUNGE 228	–	–	–	–	–	F3	HM	–	–	–	SAFETY	–	20 MIN	BORROW LIGHT
228.7	LOUNGE 228	–	–	–	–	–	F3	HM	–	–	–	SAFETY	–	20 MIN	BORROW LIGHT
228.8	LOUNGE 228	–	–	–	–	–	F3	HM	–	–	–	SAFETY	–	20 MIN	BORROW LIGHT
228.9	LOUNGE 228	D3	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	SAFETY	10	20 MIN	

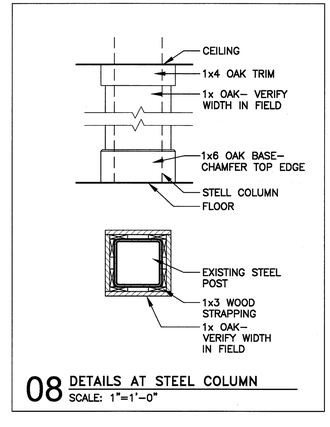


06 SHOWER FLANGE DETAIL
SCALE: 6"=1–0"

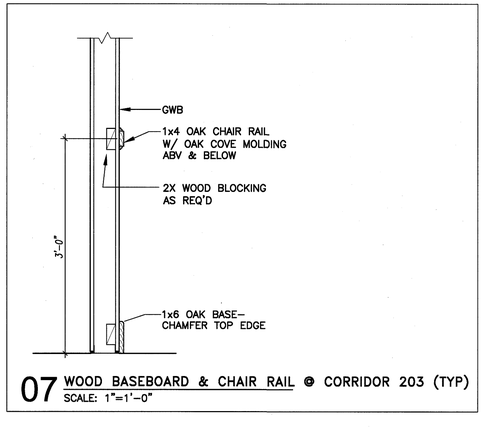


05 H.C. SHOWER
SCALE: 1"=1'–0"

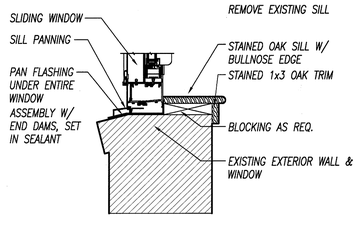
04 SECTION THROUGH STANDARD SHOWER UNIT
SCALE: 1"=1'–0"



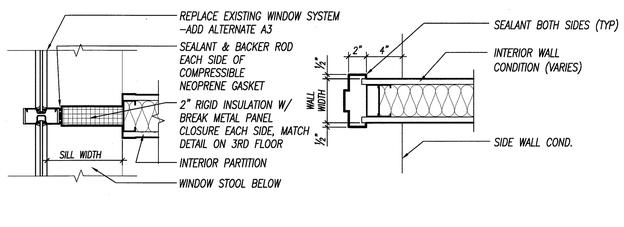
08 DETAILS AT STEEL COLUMN
SCALE: 1"=1'–0"



07 WOOD BASEBOARD & CHAIR RAIL @ CORRIDOR 203 (TYP)
SCALE: 1"=1'–0"



03 WINDOW SILL (ADD ALT. A–3 & A–3B)
SCALE: 1 1/2"=1'–0"



02 PLAN DETAIL AT WINDOW MULLION
SCALE: 1 1/2"=1'–0"

01 H.M. JAMB @ INT. GWB WALL
SCALE: 1 1/2"=1'–0"

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LICENSED ARCHITECT INGRID NICOLS No. 2739 STATE OF VERMONT

REVISION	DATE	COMMENTS
–	–	–

KEY PLAN:

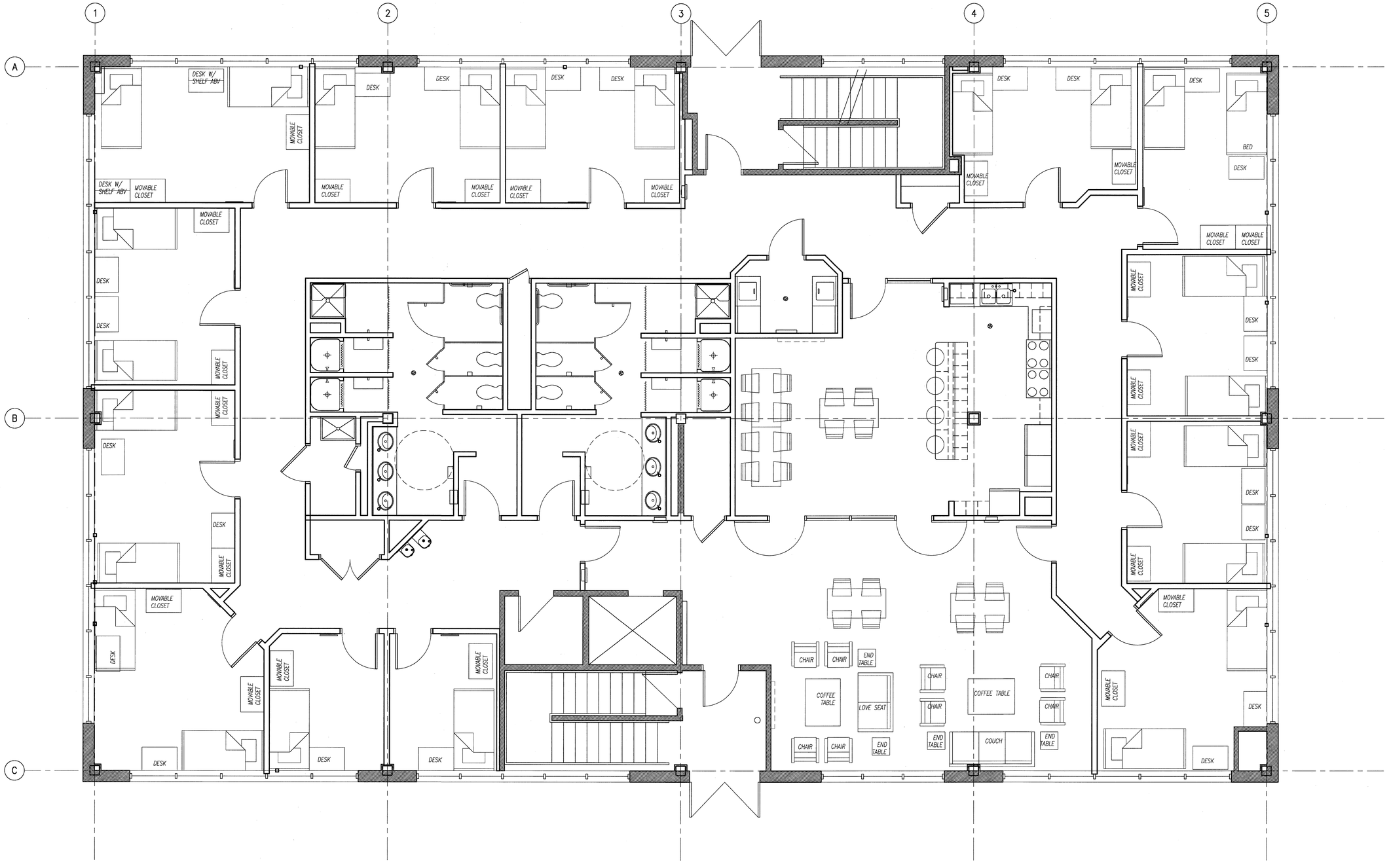
PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
CONSTRUCTION DOCUMENTS

DRAWING TITLE:
DOOR FRAME TYPES, DOOR SCHEDULE, DETAILS

PROJECT NO: 739 | DATE: 3/2/11

SHEET NUMBER:
A1.02



01 FUTURE FIRST FLOOR PLAN
SCALE: 1/8"=1'-0"

NOTE: FUTURE PLAN FOR REFERENCE ONLY, NO WORK ON THIS FLOOR WITH THE EXCEPTION OF WINDOW REPLACEMENT (ADD-ALT A-3B) SEE A3.01

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LICENSED ARCHITECT INGRID NICHOLS No. 2739 STATE OF VERMONT

REVISION	DATE	COMMENTS
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KEY PLAN:

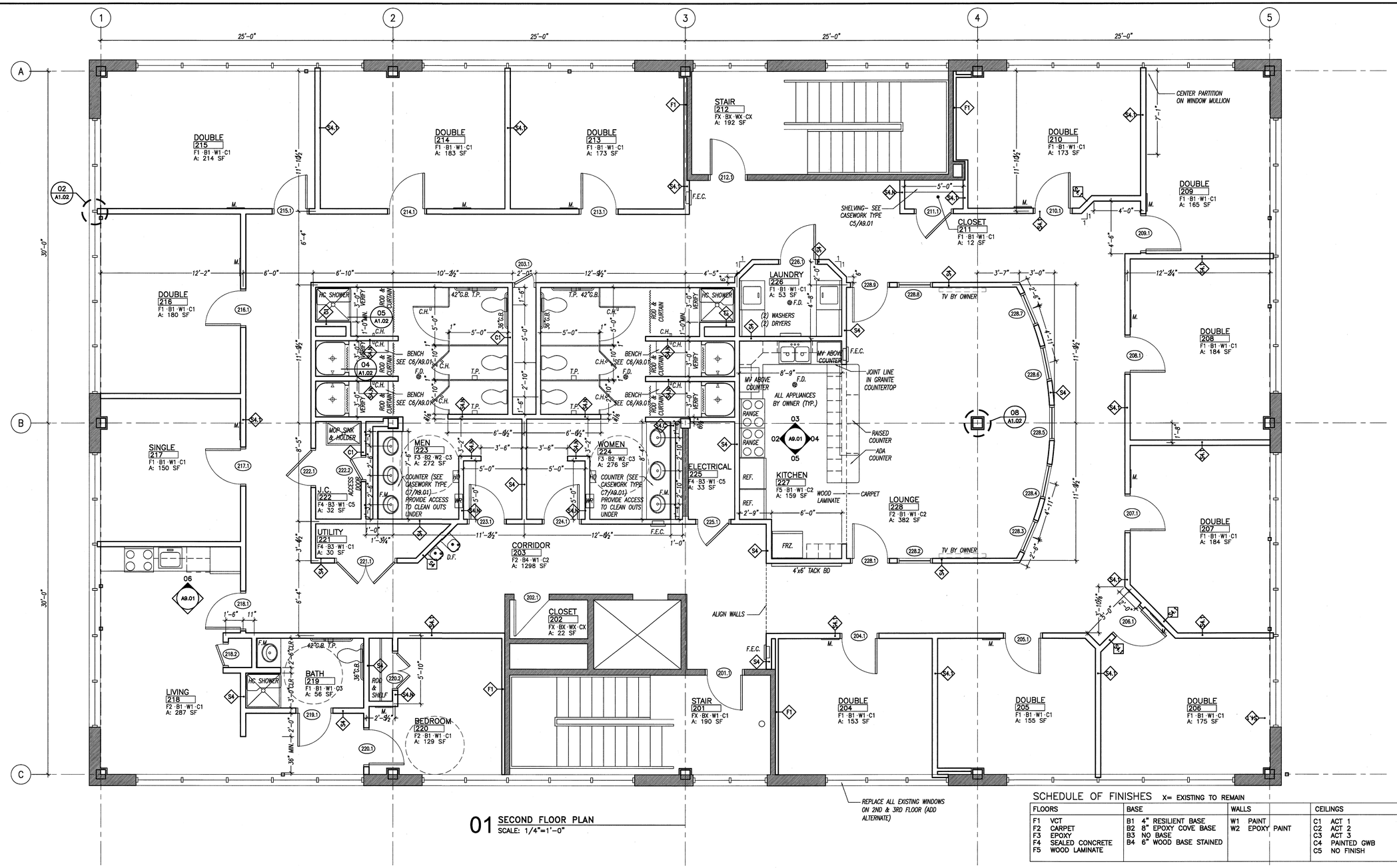
PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
CONSTRUCTION DOCUMENTS

DRAWING TITLE:
1ST FLOOR PLAN
(FOR REFERENCE ONLY)

PROJECT NO: 739 | DATE: 3/2/11

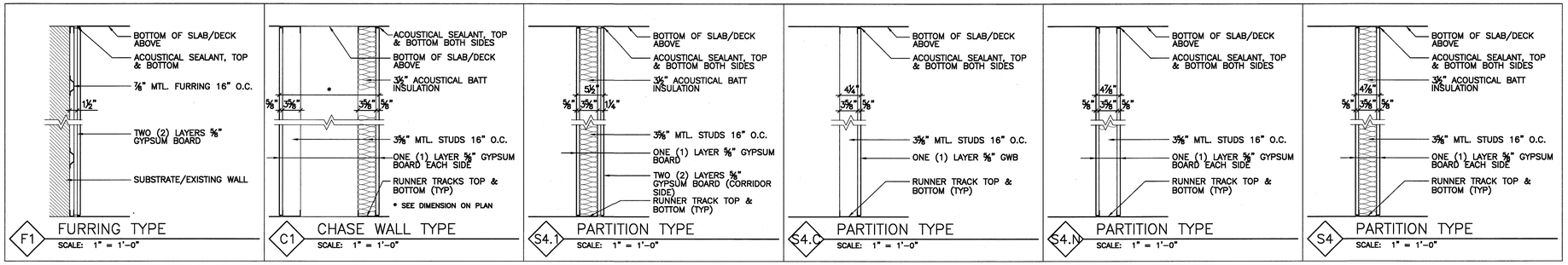
SHEET NUMBER:
A2.01



01 SECOND FLOOR PLAN
SCALE: 1/4"=1'-0"

SCHEDULE OF FINISHES X= EXISTING TO REMAIN

FLOORS	BASE	WALLS	CEILINGS
F1 VCT	B1 4" RESILIENT BASE	W1 PAINT	C1 ACT 1
F2 CARPET	B2 8" EPOXY COVE BASE	W2 EPOXY PAINT	C2 ACT 2
F3 EPOXY	B3 NO BASE		C3 ACT 3
F4 SEALED CONCRETE	B4 6" WOOD BASE STAINED		C4 PAINTED GWB
F5 WOOD LAMINATE			C5 NO FINISH



F1 FURRING TYPE SCALE: 1" = 1'-0"
C1 CHASE WALL TYPE SCALE: 1" = 1'-0"
S4.1 PARTITION TYPE SCALE: 1" = 1'-0"
S4.C PARTITION TYPE SCALE: 1" = 1'-0"
S4.N PARTITION TYPE SCALE: 1" = 1'-0"
S4 PARTITION TYPE SCALE: 1" = 1'-0"

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LICENSED ARCHITECT HAROLD NICOLL No. 2730 STATE OF VERMONT

REVISION	DATE	COMMENTS
–	–	–

KEY PLAN:

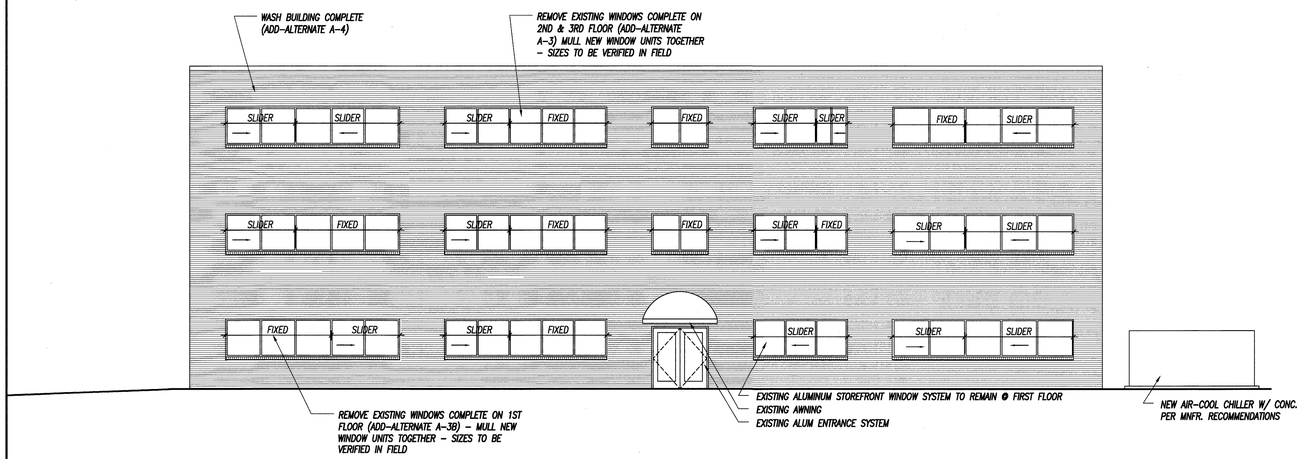
PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
CONSTRUCTION DOCUMENTS

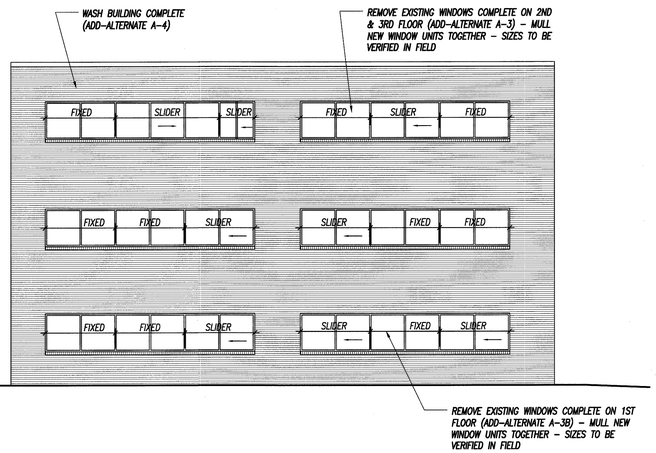
DRAWING TITLE:
SECOND FLOOR PLAN, WALL TYPES

PROJECT NO: 739 DATE: 3/2/11

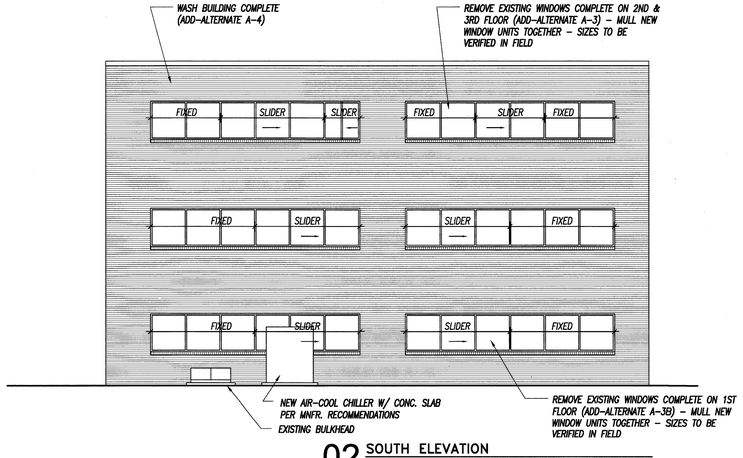
SHEET NUMBER:
A2.02



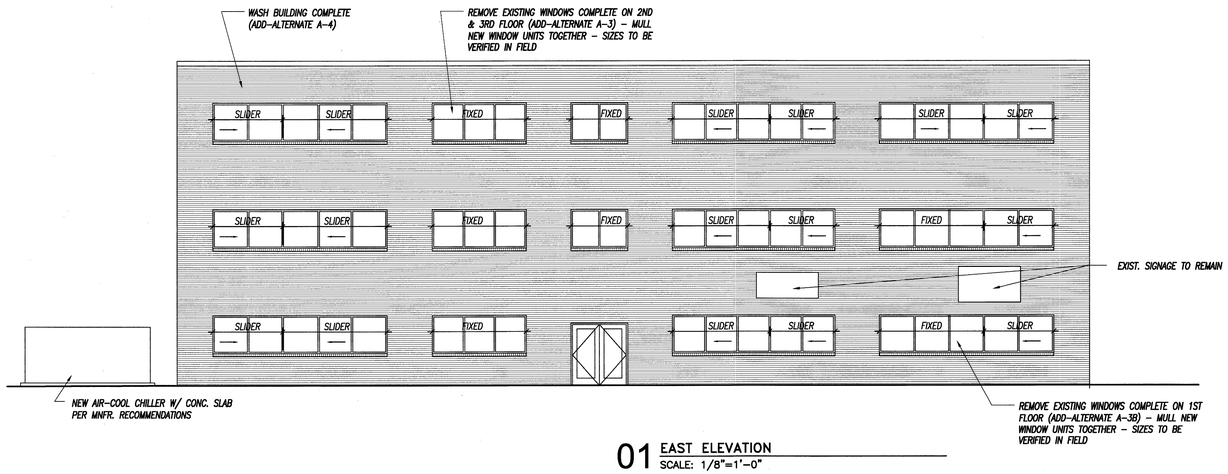
04 WEST ELEVATION
SCALE: 1/8"=1'-0"



03 NORTH ELEVATION
SCALE: 1/8"=1'-0"



02 SOUTH ELEVATION
SCALE: 1/8"=1'-0"



01 EAST ELEVATION
SCALE: 1/8"=1'-0"

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LICENSED ARCHITECT
INGRID NICKELS
No. 2730
STATE OF VERMONT

REVISION	DATE	COMMENTS
–	–	–

KEY PLAN:

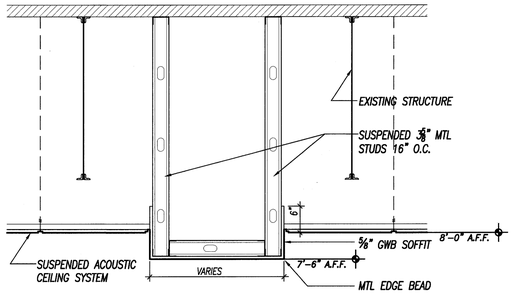
PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
CONSTRUCTION DOCUMENTS

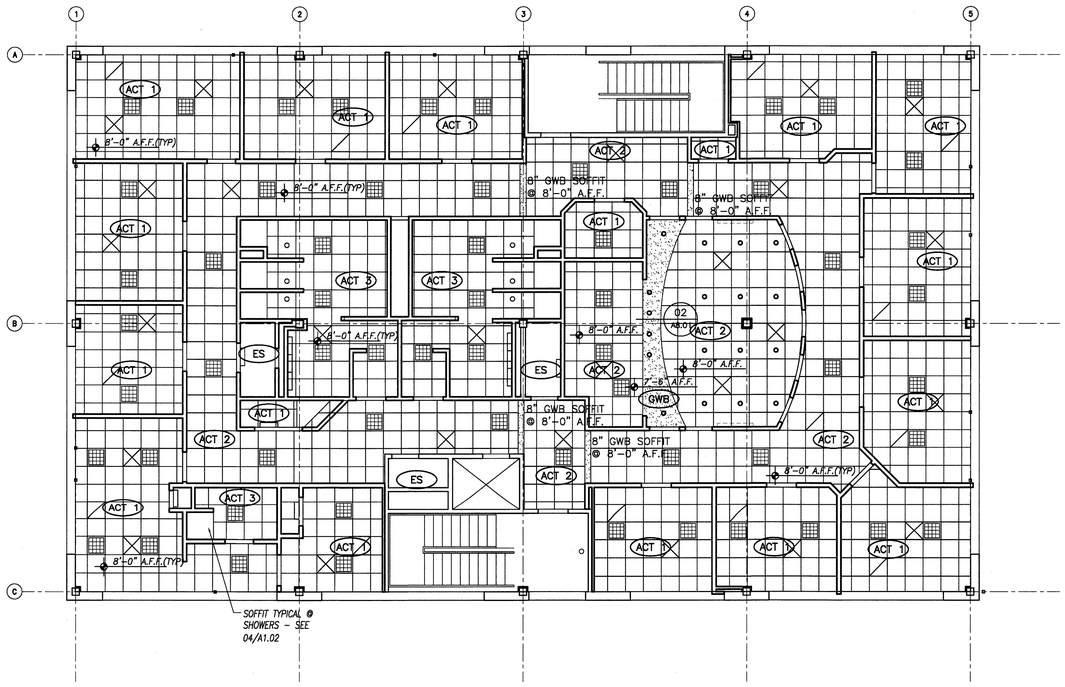
DRAWING TITLE:
ELEVATIONS

PROJECT NO: 739 | DATE: 3/2/11

SHEET NUMBER:
A3.01



02 SUSPENDED SOFFIT DETAIL AT KITCHEN
SCALE: 3/4" = 1'-0"



01 THIRD FLOOR REFLECTED CEILING PLAN
SCALE: 1/8"=1'-0"

NOTE: ALL CEILINGS MOUNTED AT 8'-0" A.F.F. UNLESS OTHERWISE NOTED

NOTE: SEE ELECTRICAL PLAN FOR LIGHT FIXTURE TYPES

SYMBOLS LEGEND

SUPPLY AIR DIFFUSER	⊠
RETURN AIR GRILL	⊘
RECESSED LIGHT FIXTURE	○
DROP IN LIGHT FIXTURE	▦
WALL MOUNTED LIGHT FIXTURE	▭
CEILING HEIGHT ABOVE FLOOR	8'-0" A.F.F.
TYP. ACOUSTICAL CEILING TILE	ACT-1
GYPSUM WALL BOARD	GWB
EXPOSED STRUCTURE	ES

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LICENSED ARCHITECT INGRID NICHOLS No. 2730 STATE OF VERMONT

REVISION	DATE	COMMENTS
–	–	–

KEY PLAN:

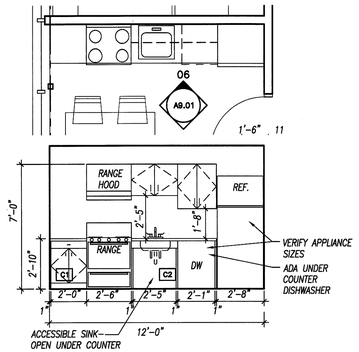
PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
CONSTRUCTION DOCUMENTS

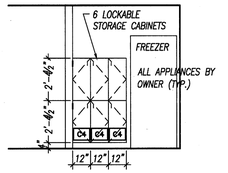
DRAWING TITLE:
REFLECTED CEILING PLAN

PROJECT NO: 739 | DATE: 3/2/11

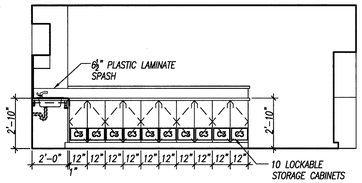
SHEET NUMBER:
A8.01



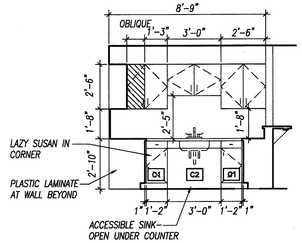
06 INTER. ELEV. @ LIVING 218
SCALE: 1/4" = 1'-0"



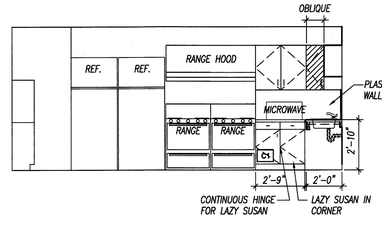
05 INTER. ELEV. @ KITCHEN 227
SCALE: 1/4" = 1'-0"



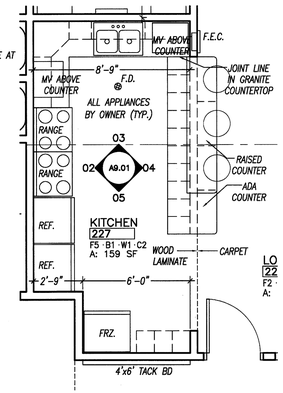
04 INTER. ELEV. @ KITCHEN 227
SCALE: 1/4" = 1'-0"



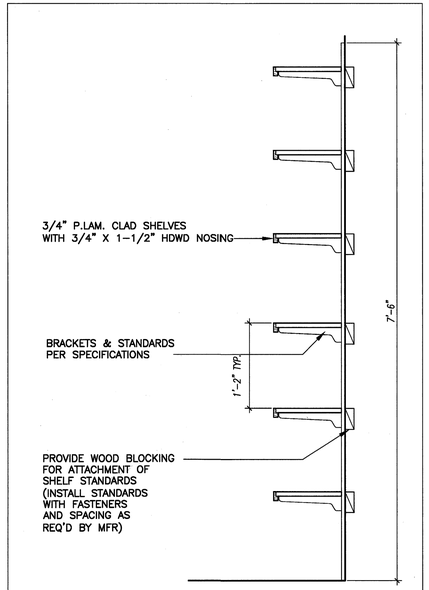
03 INTER. ELEV. @ KITCHEN 227
SCALE: 1/4" = 1'-0"



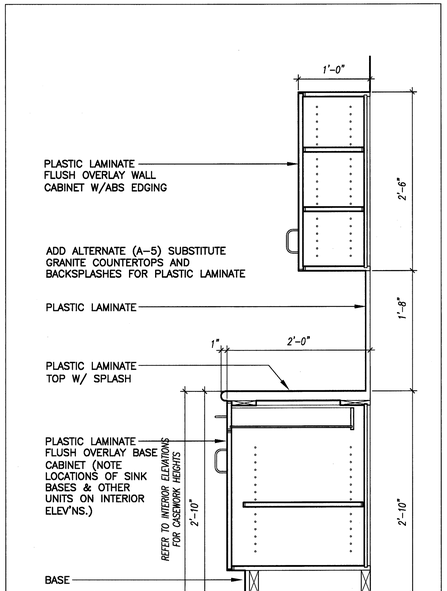
02 INTER. ELEV. @ KITCHEN 227
SCALE: 1/4" = 1'-0"



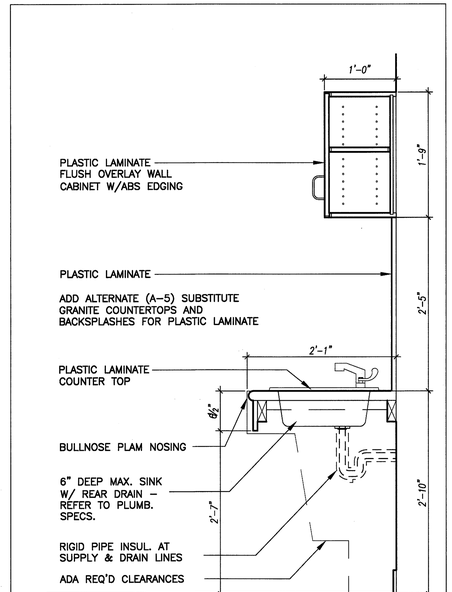
01 PARTIAL PLAN @ KITCHEN 227
SCALE: 1/4" = 1'-0"



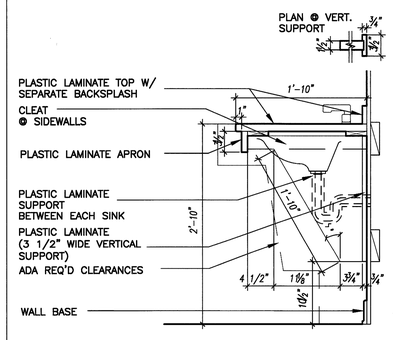
C5 ADJUSTABLE SHELVES
SCALE: 1"=1'-0"



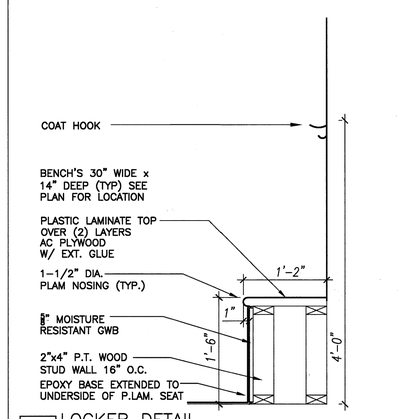
C1 BASE CABINET W/ WALL CABINET
SCALE: 1"=1'-0"



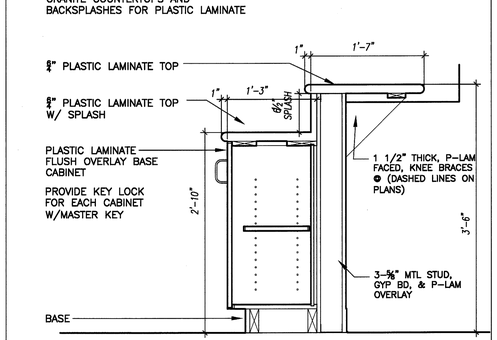
C2 SINK COUNTER W/ WALL CABINET
SCALE: 1"=1'-0"



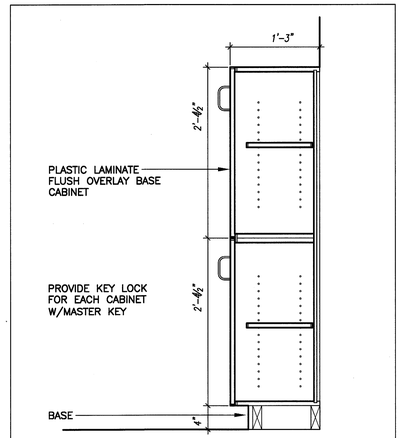
C7 SINK COUNTER-KNEE BRACES-HC
SCALE: 1"=1'-0"



C6 LOCKER DETAIL
SCALE: 1"=1'-0"



C3 BASE CABINET
SCALE: 1"=1'-0"



C4 BASE CABINET
SCALE: 1"=1'-0"

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LICENSED ARCHITECT HAROLD NICHOLS No. 2730 STATE OF VERMONT

REVISION	DATE	COMMENTS
–	–	–

KEY PLAN:

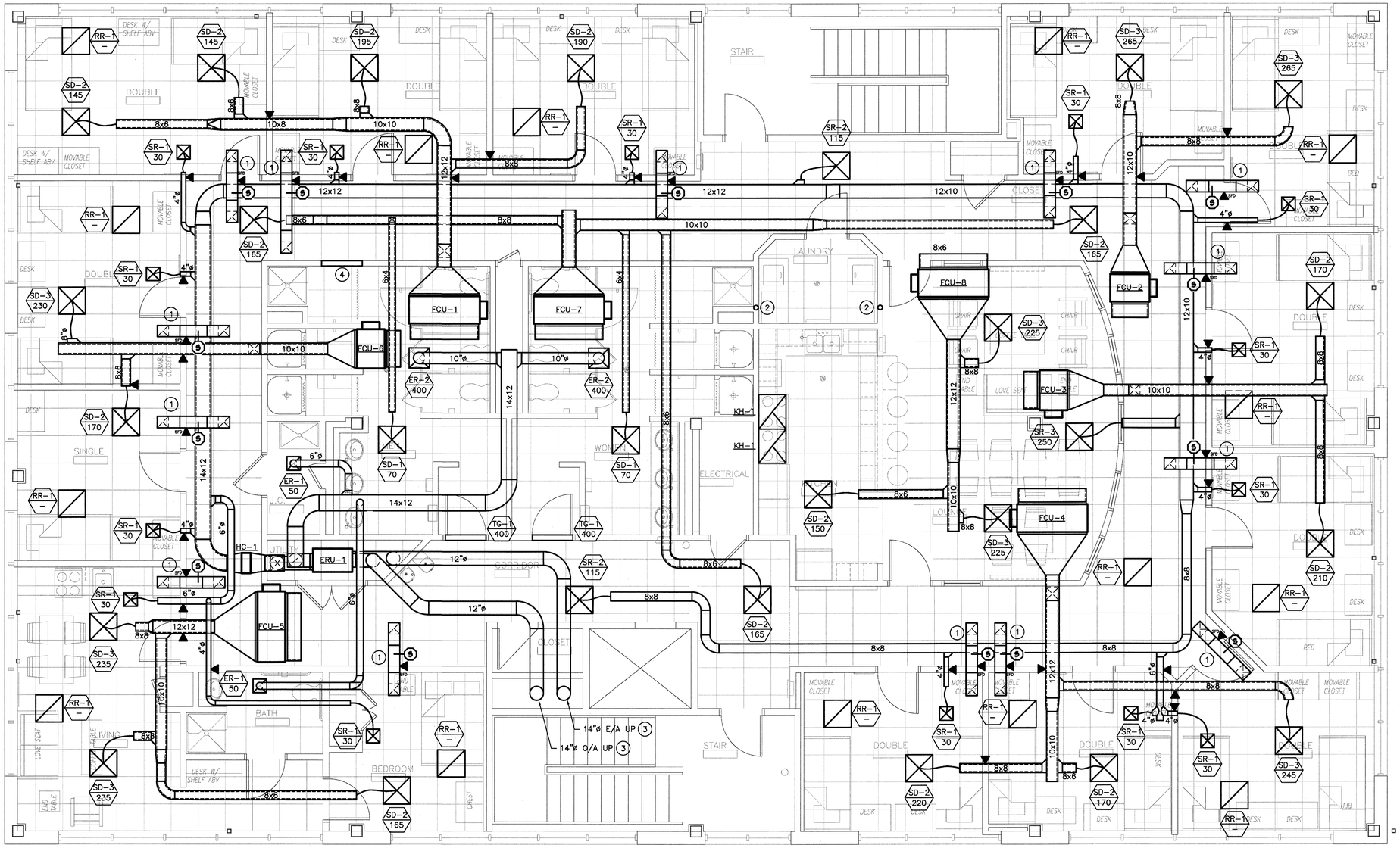
PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
CONSTRUCTION DOCUMENTS

DRAWING TITLE:
CASEWORK DETAILS, INTERIOR ELEVATIONS

PROJECT NO: 739 DATE: 3/2/11

SHEET NUMBER:
A9.01



SECOND FLOOR MECHANICAL DUCTWORK PLAN

SCALE: 1/4" = 1'-0"

HORIZONTAL SCALE IN FEET

4 2 0 4 8 12 16

GENERAL NOTES:

A. NEW MECHANICAL WORK SHALL BE COORDINATED CLOSELY WITH ALL OTHER TRADES SUCH TO NOT CREATE OBSTRUCTIONS OR ACCESS ISSUES TO MECHANICAL AND ELECTRICAL EQUIPMENT AND ARCHITECTURAL/STRUCTURAL COMPONENTS.

DEMOLITION NOTES:

- ALL EXISTING MECHANICAL HVAC INFRASTRUCTURE AND HVAC EQUIPMENT ON THIS FLOOR SHALL BE REMOVED. THIS INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING: WATER SOURCE HEAT PUMPS, VENTILATION UNIT AND ASSOCIATED DUCTWORK, DUCTWORK, REGISTERS, GRILLES, DIFFUSERS, HEAT PUMP LOOP PIPING, CONDENSATE DRAIN PIPING, CONTROLS, THERMOSTATS, AND BALANCING DAMPERS.
- THE OUTDOOR AIR INTAKE AND EXHAUST AIR DISCHARGE DUCTWORK TO/FROM THE EXISTING VENTILATION UNIT SHALL BE REMOVED BACK TO CHASE RISER SPACE AND CAPPED FOR FUTURE TIE-IN.

KEYED NOTES:

1. MC TO PROVIDE ACOUSTICALLY LINED AIR TRANSFER GRILLE TO ALLOW AIR FROM ROOMS TO TRANSFER TO THE RETURN AIR PLENUM SPACE WITH MINIMUM NOISE. PROVIDE A 12"x12", 90° BEND WITH A STRAIGHT SECTION OF DUCT AS SHOWN. ALL SECTIONS SHALL BE ACOUSTICALLY LINED PER MECHANICAL SPECIFICATIONS. A COMBINATION SMOKE/FIRE DAMPER WITH SMOKE DETECTOR SHALL BE PROVIDED AT THE STRAIGHT SECTION OF DUCTWORK PENETRATING THE RATED ASSEMBLY.
2. PROVIDE NEW 4"ø ALUMINUM DRYER E/A DUCTWORK WITH CLEANOUT. EXTEND DUCTWORK UP THROUGH THIRD FLOOR AND UP THROUGH ROOF, TERMINATING WITH A 135° GOOSENECK WITH BIRDSCREEN.
3. MC TO COORDINATE TIE IN OF O/A AND E/A DUCTWORK UP THE EXISTING SHAFT WITH EXISTING 20"x16" O/A AND 20"x16" E/A. THIS DUCT RISER SIZE IS LARGE ENOUGH TO SERVE BOTH THE SECOND FLOOR AND THIRD FLOOR ERU AIRFLOWS.
4. PROVIDE MINIMUM FREE AIR OPENING OF 4ft² TO ALLOW FOR THE RETURN AIR TO BE TRANSFERRED FROM THE CEILING PLENUM THROUGH THE FULL HEIGHT WALL BACK TO FCU-1,6,7 RETURN AIR PLENUM.

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STATE OF VERMONT — DEPARTMENT OF PUBLIC SAFETY — No. 5192 — REGISTERED PROFESSIONAL ENGINEER

REVISION	DATE	COMMENTS
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KEY PLAN:

PROJECT:

ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:

FOR BIDDING

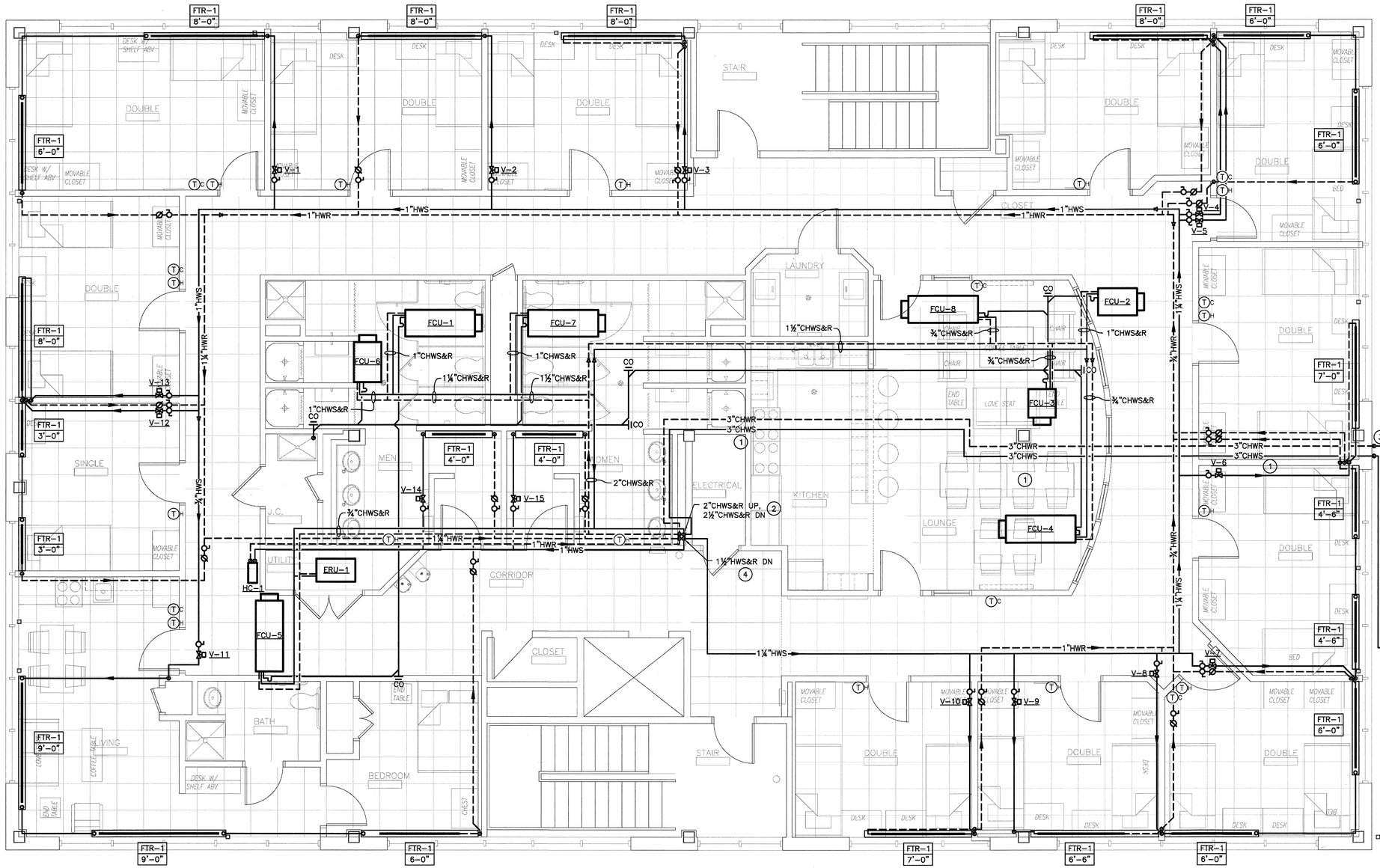
DRAWING TITLE:

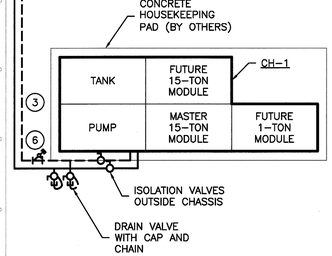
SECOND FLOOR MECHANICAL DUCTWORK PLAN

PROJECT NO: 683 DATE: 3/2/11

SHEET NUMBER:

M1.01





3RD FLOOR SCOPE OF WORK:

- THE FOLLOWING SHALL BE INCLUDED IN THE MECHANICAL CONTRACTOR'S SCOPE OF WORK. COORDINATE TIMING AND SCHEDULING OF THIS WORK WITH THE OWNER PRIOR TO START.
- ALL THERMOSTATS THAT ARE LOCATED IN THE HALLWAYS ON THE EXTERIOR WALLS SHALL BE MOVED TO THE OPPOSITE SIDE OF WALL INTO THE LIVING UNITS FOR EASE OF CONTROL WIRING AND THERMOSTAT RE-INSTALLATION. THIS IS TYPICAL OF FOUR (4) THERMOSTATS.

GENERAL NOTES:

A. ALL HWS&R PIPING RUNOUTS TO FTR-1 SHALL BE ¾" UNLESS NOTED OTHERWISE.

B. ALL PIPING CONNECTING TWO SECTIONS OF FINNED TUBE RADIATION WITHIN THE UNITS SHALL BE INSTALLED IN THE CEILING BELOW.

C. NEW MECHANICAL WORK SHALL BE COORDINATED CLOSELY WITH ALL OTHER TRADES SUCH TO NOT CREATE OBSTRUCTIONS OR ACCESS ISSUES TO MECHANICAL AND ELECTRICAL EQUIPMENT AND ARCHITECTURAL/STRUCTURAL COMPONENTS.

SECOND FLOOR MECHANICAL PIPING PLAN

SCALE: 1/4" = 1'-0"

HORIZONTAL SCALE IN FEET

4 2 0 4 8 12 16

DEMOLITION NOTES:

- ALL EXISTING MECHANICAL HVAC INFRASTRUCTURE AND HVAC EQUIPMENT ON THIS FLOOR SHALL BE REMOVED. THIS INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING: WATER SOURCE HEAT PUMPS, VENTILATION UNIT AND DUCTWORK, DUCTWORK, REGISTERS, GRILLES, DIFFUSERS, HEAT PUMP LOOP PIPING, CONDENSATE DRAIN PIPING, CONTROLS, THERMOSTATS, AND BALANCING DAMPERS.

KEYED NOTES:

1. 3"CHWS&R PIPING SHOWN ON THIS PLAN SHALL BE INSTALLED ABOVE THE CEILING OF THE FIRST FLOOR.
2. PROVIDE 2" CHWS&R SHUTOFF VALVES FOR FUTURE RENOVATION. VALVES SHALL BE LABELED AND IDENTIFIED CLEARLY AND INSTALLED IN AN ACCESSIBLE LOCATION. THE 3" CHWS&R PIPING AT THE FIRST FLOOR CEILING SHALL ENTER THE CHASE AND TRANSITION TO 2½" CHWS&R UP TO SERVE THE SECOND AND THIRD FLOORS. PROVIDE 2" CHWS&R SHUTOFF VALVES AT FIRST FLOOR CEILING FOR FUTURE FIRST FLOOR RENOVATION. VALVES SHALL BE LABELED AND IDENTIFIED CLEARLY AND INSTALLED IN AN ACCESSIBLE LOCATION.
3. 3" CHWS&R PIPING SHALL RUN ABOVE FIRST FLOOR CEILING, EXIT THE BUILDING, AND DROP DOWN SIDE OF BUILDING. PIPING SHALL RUN ALONG BOTTOM OF BUILDING TO CHILLER CH-1 CONNECTIONS.
4. THERE IS AN EXISTING 2" HWS&R THAT WAS EXTENDED FROM THE MECHANICAL ROOM TO THE 3RD FLOOR DURING THE LAST RENOVATION. PROVIDE NEW 1½" HWS&R CONNECTIONS TO THIS EXISTING RISER IN THE CEILING OF THE SECOND FLOOR, WITH ISOLATION VALVES, AND EXTEND TO THE SECOND FLOOR DISTRIBUTION AS SHOWN. IF 1½" FUTURES ARE AVAILABLE, CONNECT TO THESE. THE FLOW TO THE EXISTING ARMSTRONG 4380 SERIES MODEL 1.5x1.5x6 WILL BE INCREASED BY APPROXIMATELY 16 GPM. MC TO MAKE NECESSARY ADJUSTMENTS TO THE EXISTING CIRCULATOR TO SATISFY THE EXISTING 3RD FLOOR FLOW REQUIREMENTS AND THE PROPOSED SECOND FLOOR FLOW REQUIREMENTS.
5. COORDINATE NEW CHILLER AND HOUSEKEEPING PAD INSTALLATION WITH EXISTING BULKHEAD AND COOLING TOWER. THE CHILLER SHOWN IS FOR THE COMPLETE THREE FLOOR BUILDOUT. ONLY THE MASTER CHILLER MODULE (15 TONS) IS TO BE INSTALLED UNDER THIS SCOPE OF WORK. HOWEVER, CONCRETE PAD SHALL BE POURED FOR OVERALL UNIT SIZE.
6. PROVIDE AN INLINE Y-STRAINER WITH BLOWDOWN VALVE ON THE CHILLED WATER RETURN PIPING TO THE CHILLER. STRAINER SHALL HAVE 30-60 WIRE MESH. INSTALL IN AN ACCESSIBLE LOCATION OUTSIDE THE ENCLOSURE OF THE CHILLER.

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ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
FOR BIDDING

DRAWING TITLE:
SECOND FLOOR MECHANICAL PIPING PLAN

PROJECT NO: 683 | DATE: 3/2/11

SHEET NUMBER:
M2.01

FAN COIL UNIT SCHEDULE

TAG	LOCATION	MANUFACTURER & MODEL NO.	TYPE	FAN PERFORMANCE			COOLING PERFORMANCE										COIL		MOTOR				REMARKS
				CFM	E.S.P.	SPEED	TOTAL MBH	SENSIBLE MBH	EAT		LAT		GPM	MAX APD (FT)	MAX WPD (FT)	EWT	LWT	ROWS	FPI	HP	VOLTS	PH	HZ	
									db (°F)	wb (°F)	db (°F)	wb (°F)												
FCU–1	2ND FLOOR	TRANE FCCB1001C	HORIZONTAL CONCEALED	675	0.4	LOW	23	16	76	64.7	53.3	52.8	5.8	0.15	10	45	54	4	–	⅛, ¼	120	1	60	1
FCU–2	2ND FLOOR	TRANE FCCB0601C	HORIZONTAL CONCEALED	530	0.4	MEDIUM	13	11	76.8	65.2	57.6	57.0	5.3	0.15	14.8	45	50.6	4	–	¼	120	1	60	1
FCU–3	2ND FLOOR	TRANE FCCB0601C	HORIZONTAL CONCEALED	380	0.4	MEDIUM	10	8.3	78.7	66.2	58.2	57.7	2.6	0.15	4	45	53.9	4	–	¼	120	1	60	1
FCU–4	2ND FLOOR	TRANE FCCB1001C	HORIZONTAL CONCEALED	635	0.4	LOW	16.5	13.1	77.2	65.6	57.6	57.1	2.9	0.15	2.8	45	58	4	–	⅛, ¼	120	1	60	1
FCU–5	2ND FLOOR	TRANE FCCB1001C	HORIZONTAL CONCEALED	635	0.4	LOW	16.5	13.1	76.1	64.7	56.5	56.0	3.1	0.15	3.1	45	57	4	–	⅛, ¼	120	1	60	1
FCU–6	2ND FLOOR	TRANE FCCB0601C	HORIZONTAL CONCEALED	400	0.4	LOW	11.5	8.9	76.2	64.7	55.5	55.0	5.4	0.15	15.5	45	49.8	4	–	¼	120	1	60	1
FCU–7	2ND FLOOR	TRANE FCCB1001C	HORIZONTAL CONCEALED	635	0.4	LOW	21	15.2	81.6	68.7	58.9	58.3	3.3	0.15	3.4	45	59.5	4	–	⅛, ¼	120	1	60	1
FCU–8	2ND FLOOR	TRANE FCCB1001C	HORIZONTAL CONCEALED	600	0.4	LOW	18	15.2	83.3	68.2	59.6	58.9	2.6	0.15	2.4	45	60.4	4	–	⅛, ¼	120	1	60	1

REMARKS:
1. PROVIDE WITH THE FOLLOWING: HIGH STATIC FAN MOTOR, MANUAL AIR VENT, DISCONNECT SWITCH, 1" THROWAWAY FILTER, FAN SPEED SWITCH. CONTROLS TO BE PROVIDED BY ATC CONTRACTOR.

AIR–COOLED CHILLER SCHEDULE (INCLUDING FUTURE BUILDOUT)

TAG	LOCATION	MANUFACTURER & MODEL NO.	TYPE	AMBIENT TEMP.	NOMINAL TONS	REQUIRED TONS	% PG	GPM	EWT (°F)	LWT (°F)	WPD (FT)	ELECTRICAL					REMARKS
												VOLTS	PH	HZ	MCA	MOCP	
CH–1	ROOF	AIRSTACK MODEL ASP15X2A2A1/ASP15X2A2A1/ ASP10X2A2A1	MODULAR	95	38.4	35	35	88	54	44	10	208	3	60	207	250	1,2,3,4

REMARKS:
1. FOR THIS INITIAL PHASE OF WORK THE FOLLOWING SHALL BE PROVIDED: 15 TON MASTER MODULE, PUMP PACKAGE AIRSTACK MODEL ASP–00P (ARMSTRONG MODEL 3x3x8, 5HP) INCLUDING GLYCOL FEEDER AND AIRSTACK MODEL ASP–00T 180 GALLON GALVANINZED STEEL CAPACITANCE TANK.
2. THE OVERALL MODULAR CHILLER SHALL CONSIST OF THE FOLLOWING: 15 TON MASTER MODULE, 15 TON SLAVE MODULE #1, 10 TON SLAVE MODULE #2, PUMP PACKAGE AIRSTACK MODEL ASP–00P (ARMSTRONG MODEL 3x3x8, 5HP) INCLUDING GLYCOL FEEDER, AND AIRSTACK MODEL ASP–00T 180 GALLON GALVANINZED STEEL CAPACITANCE TANK.
3. THE CHILLER SHALL HAVE THE FOLLOWING FEATURES: STAINLESS STEEL EVAPORATOR, LEAD COMPRESSOR SEQUENCING, AUTOMATIC LOGGING OF FAULT CONDITION, AUTOMATIC INTERNAL RE–SCHEDULING IF FAULT OCCURS, ELECTRONIC CHILLED WATER CONTROL, DUAL CONDENSER FANS PER MODULE, STAINLESS STEEL INLET HEATER, FILTERS IN THE EVAPORATOR SUPPLY HEADERS, VFD'S ON THE FANS, SINGLE POINT POWER CONNECTION, LOW AMBIENT OPERATION TO –20°F, VARIABLE FLOW EVAPORATOR (MOTORIZED VALVES ON THE SUPPLY AND MANUAL VALVES ON THE RETURN), VFD'S ON THE PRIMARY PUMP, MINI GLYCOL FEEDER AND EXPANSION TANK IN THE PRIMARY LOOP AND SOUND ATTENUATION PACKAGE.
4. MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE A FACTORY START–UP OF THE CHILLER AND SHALL PROVIDE NECESSARY FACTORY TRAINING TO THE OWNER.

ENERGY RECOVERY UNIT SCHEDULE

TAG	LOCATION	MANUFACTURER & MODEL NO.	DIMENSIONS (WxDxH)	WEIGHT (LBS.)	MOTORS						ELECTRICAL			FILTERS MIN. EFF. (%)	REMARKS
					SUPPLY			EXHAUST			VOLTS	PH	Hz		
					CFM	ESP	HP	CFM	ESP	HP					
ERU–1	UTILITY ROOM	RENEWAIRE MODEL HE1X1NV	41"Lx21"Wx51"H	211	900	0.7	0.75	900	0.7	0.75	208	3	60	2" PLEATED, 20"x20", MERV 8	1

REMARKS:
1. UNIT SHALL BE CONTROLLED FROM A TIMECLOCK, RENEWAIRE MODEL TC7D DIGITAL TIMECLOCK. COORDINATE SCHEDULE OF TIMECLOCK WITH OWNER PRIOR TO SETTING UP.
2. PROVIDE VIBRATION PADS UNDER UNIT FEET.

HEATING COIL SCHEDULE

TAG	MATCHED UNIT TAG	DESIGN BASIS	FLUID	EAT		LAT		APD MAX (IN)	FLUID FLOW (GPM)	WPD MAX (FT)	EWT (°F)	LWT (°F)	COIL		REMARKS
				db (°F)	wb (°F)	db (°F)	wb (°F)						ROWS	FPI	
HC–1	ERU–1	TRANE	WATER	30	–	80		0.15	5	2	180	160	–	–	1,2

REMARKS:
1. COORDINATE LEFT HAND COIL CONNECTION VERSUS RIGHT HAND COIL CONNECTION PRIOR TO ORDERING.
2. MAINTAIN REQUIRED ACCESS TO HEATING COIL.

MECHANICAL EQUIPMENT SCHEDULE

TAG	DESCRIPTION	MANUFACTURER & MODEL	CHARACTERISTICS	ELECTRICAL
KH–1	RECIRCULATING KITCHEN HOOD	BROAN MODEL 413004 30" HOOD	2–SPEED 300 CFM FAN, STAINLESS STEEL FINISH, NON–DUCTED RANGE HOOD WITH NON–DUCTED FILTER. PROVIDE NEW FIRE SUPPRESSION SYSTEM FOR HOOD. FIRE SUPPRESSION SYSTEM SHALL CONSIST OF THE FOLLOWING: GUARDIAN III MODEL G300–A WET CHEMICAL EXTINGUISHER UNIT WITH TEMP. SENSING CAPABLITIES, AND AUTOMATIC RANGE SHUTDOWN OF POWER IN THE EVENT OF FIRE SUPPRESSION ACTIVATION. MC TO COORDINATE WITH GC ON AN ENCLOSURE TO CONCEAL THE EXTINGUISHER.	120V/1P/60HZ, 2 AMPS
MD–1	MOTORIZED DAMPER	GREENHECK MODEL VCD–33	DAMPER SIZE TO MATCH THE DUCTWORK SIZE TO WHICH IT IS CONNECTED	24V
◀	FIRE DAMPER	GREENHECK MODEL DFD–150	DAMPER SIZE TO MATCH THE DUCTWORK SIZE TO WHICH IT IS CONNECTED	–
◀ SFD	COMBINATION SMOKE FIRE DAMPER	GREENHECK MODEL FSD–23	EXTERNAL MOUNTED DAMPER ACTUATOR, RESETABLE LINK (RRL OPTION), OPEN CLOSED INDICATION (OCI OPTION). PROVIDE WITH FACTORY MOUNTED SLEEVE AND 120V SMOKE DETECTOR AND REMOTE KEYED TEST SWITCH.	120V

GRILLE, REGISTER, DIFFUSER SCHEDULE

TAG	MANUFACTURER	SIZE	TYPE & MODEL	REMARKS
ER–1	PRICE	6x6	6"x6"/630D/F/L/A/B12	–
ER–2	PRICE	16x14	16"x14"/630D/F/L/A/B12	–
RR–1	PRICE	22x22	80/22/22/F/L/B12	–
SR–1	PRICE	6x6	6"x6"/620D/F/L/A/B12	–
SR–2	PRICE	8x6	8"x6"/620D/F/L/A/B12	–
SR–3	PRICE	10x10	10"x10"/620D/F/L/A/B12	–
SD–1	PRICE	6x6	6"x6"/24"x24"/AMDA/3P/4A/B12	–
SD–2	PRICE	9x9	9"x9"/24"x24"/AMDA/3P/4A/B12	–
SD–3	PRICE	12x12	12"x12"/24"x24"/AMDA/3P/4A/B12	–
TG–1	PRICE	34x16	34"x16"/ATG1/BF/B12	TRANSFER GRILLE TO BE LOCATED ABOVE BATHROOM DOOR

HEATING RADIATOR SCHEDULE

TAG	TYPE	MANUFACTURER & MODEL	HEAT OUTPUT (BTUH/FT)	AWT (°F)	EAT (°F)	COLOR	REMARKS
FTR–1	HIGH CAPACITY BASEBOARD RADIATION	STERLING CLCU75	660	170	65	STANDARD	1

CONTROL VALVE SCHEDULE

VALVE NO.	FLOW RATE (GPM)	MAX P.D. (PSI)
V–1	1.0	2.0
V–2	0.6	2.0
V–3	0.6	2.0
V–4	0.6	2.0
V–5	1.0	2.0
V–6	0.6	2.0
V–7	0.6	2.0
V–8	0.8	2.0
V–9	0.5	2.0
V–10	0.6	2.0
V–11	2.1	2.0
V–12	0.6	2.0
V–13	0.6	2.0
V–14	0.5	2.0
V–15	0.5	2.0

REMARKS:
1. ALL CONTROL VALVES LISTED IN THIS SCHEDULE SHALL BE TWO–WAY, TWO–POSITION, NORMALLY OPEN VALVES.

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STATE OF VERMONT — No. 5193 — REGISTERED PROFESSIONAL ENGINEER

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MECHANICAL EQUIPMENT SCHEDULES

PROJECT NO: 683 | DATE: 3/2/11

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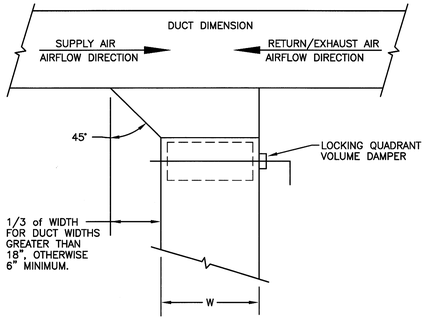
M3.01

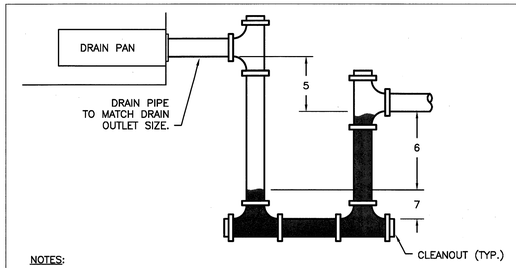


NOTES:

1. PROVIDE A VOLUME DAMPER AT EACH BRANCH TAKEOFF SUCH THAT EACH DIFFUSER, REGISTER AND GRILLE CAN BE INDIVIDUALLY BALANCED.

DUCT BRANCH CONNECTION DETAIL

NOT TO SCALE

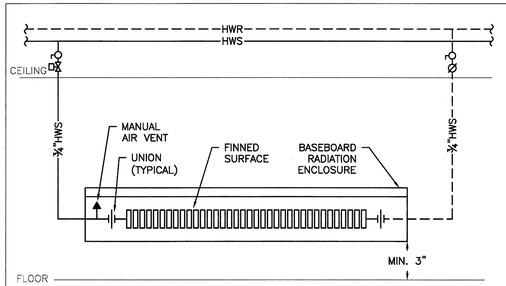


NOTES:

1. ALLOW SUFFICIENT SPACE BELOW DRAIN PAN FOR TRAP.
2. PITCH DRAIN FOR PROPER RUNOFF.
3. MANUALLY PRIME FILL TRAP BEFORE START-UP TO FORM INITAIL DRAIN SEAL.
4. SUPPORT LENGTHY DRAIN LINES TO PREVENT SAG AND CONDENSATE OVERFLOW.
5. DRAIN MUST BE LOWER THAN PAN OUTLET.
6. THIS DIMENSION IN INCHES MUST BE GREATER THAN THE MAXIMUM FAN DISCHARGE STATIC PRESSURE IN INCHES WC (WITH DIRTY FILTERS, COILS, AND MAXIMUM AIR FLOW).
7. PROVIDE A 1" WATER SEAL.

FAN COIL CONDENSATE DRAIN DETAIL

NOT TO SCALE

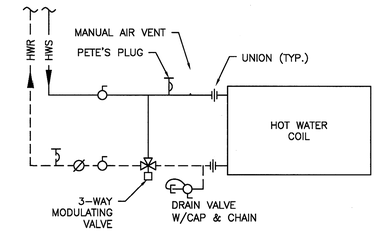


NOTES:

1. SHUTOFF VALVES, TWO-WAY TWO-POSITION CONTROL VALVE AND CIRCUIT SETTER SHALL BE INSTALLED IN THE CEILING ABOVE THE THIRD FLOOR IN AN ACCESSIBLE/SERVICEABLE LOCATION.

FINNED-TUBE RADIATION DETAIL

NOT TO SCALE



HEATING WATER COIL DETAIL

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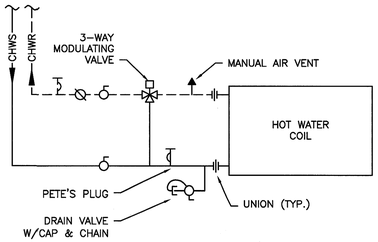

CHILLED WATER COIL DETAIL

NOT TO SCALE

MECHANICAL LEGEND

BDD	BACKDRAFT DAMPER	AFF	ABOVE FINISH FLOOR
	FIRE DAMPER	APD	AIR PRESSURE DROP
		AS	AIR SEPARATOR
SFD	COMBINATION SMOKE FIRE DAMPER	B	BOILER
		CD	CONDENSATE DRAIN
	MOTORIZED DAMPER	CKT	CIRCUIT
		DCW	DOMESTIC COLD WATER
VD	VOLUME DAMPER	DR	DRAIN
		<A>	EXISTING
	FLEXIBLE DUCT	E/A	EXHAUST AIR
	EXHAUST REGISTER	EC	ELECTRICAL CONTRACTOR
	RETURN REGISTER	EF	EXHAUST FAN
		ERU	ENERGY RECOVERY UNIT
	SUPPLY DIFFUSER	ESP	EXTERNAL STATIC PRESSURE
		ET	EXPANSION TANK
E	PIPE CAPPED	FCU	FAN COIL UNIT
G	PIPE TURNED DOWN	FTR	FINNED-TUBE RADIATION
	PIPE TURNED UP	GC	GENERAL CONTRACTOR
		HP	HEAT PUMP
	AUTOMATIC AIR VENT	HP	HORSEPOWER
	BACKFLOW PREVENTOR	HWR	HOT WATER RETURN
	BALANCING VALVE	HWS	HOT WATER SUPPLY
	BALL VALVE	HX	HEAT EXCHANGER
	BUTTERFLY VALVE	HZ	HERTZ
	CHECK VALVE	IWH	INDIRECT WATER HEATER
	CIRCULATOR PUMP	KH	KITCHEN HOOD
	CONNECT TO EXISTING	KSH	KICKSPACE HEATER
	FLOW DIRECTION	L	LOUVER
		LPR	LOW PRESSURE STEAM RETURN
	MANUAL AIR VENT	LPS	LOW PRESSURE STEAM SUPPLY
	PRESSURE GAUGE	LWR	LOOP WATER RETURN
	PRESSURE REGULATING VALVE	LWS	LOOP WATER SUPPLY
	SAFETY RELIEF VALVE	MAX	MAXIMUM
		MBH	1,000 BRITISH THERMAL UNITS
S	SMOKE DETECTOR	MC	MECHANICAL CONTRACTOR
	STRAINER	NO.	NUMBER
	STRAINER WITH BLOW DOWN VALVE	O/A	OUTDOOR AIR
		P	PUMP
T	TEMPERATURE SENSOR	PC	PLUMBING CONTRACTOR
	THERMOMETER	R/A	RETURN AIR
T	THERMOSTAT	S/A	SUPPLY AIR
	THREE-WAY MOTORIZED VALVE	VB	VACUUM BREAKER
	TWO-WAY MOTORIZED VALVE	VFD	VARIABLE FREQUENCY DRIVE
	UNION	WH	WATER HEATER
		WPD	WATER PRESSURE DROP

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STATE OF VERMONT
EDWARD E. PEARSON
No. 5192
REGISTERED
PROFESSIONAL ENGINEER

REVISION	DATE	COMMENTS
–	–	–

KEY PLAN:

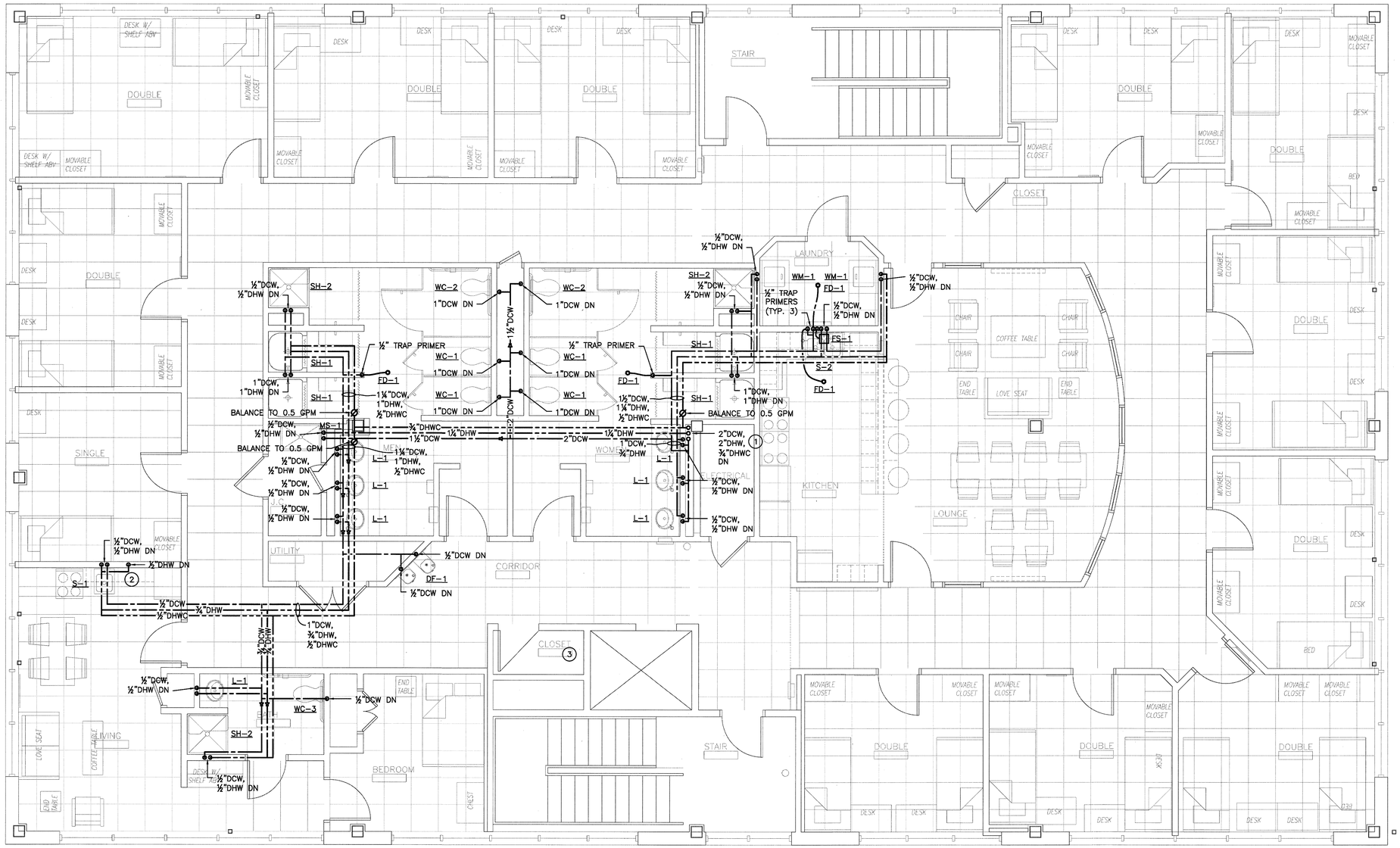
PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
FOR BIDDING

DRAWING TITLE:
MECHANICAL DETAILS & LEGEND

PROJECT NO: 683 | DATE: 3/2/11

SHEET NUMBER:
M4.01



SECOND FLOOR DOMESTIC WATER PLUMBING PLAN

SCALE: 1/4" = 1'-0"

HORIZONTAL SCALE IN FEET

4 2 0 4 8 12 16

KEYED NOTES:

1. NEW 2" DCW, 2" DHW SHALL TIE INTO EXISTING DOMESTIC COLD AND HOT WATER INFRASTRUCTURE IN THE MECHANICAL SPACE BELOW. BASED ON THE SIZE AND FLOW RATING OF THE EXISTING DOMESTIC HOT WATER RECIRCULATION PUMP, THE ¾" DHWC PIPING CAN CONNECT INTO THE RISER FEEDING THE 3RD FLOOR PLUMBING FIXTURE GROUPS. PROVIDE CIRCUIT SETTERS AS SHOWN TO BALANCE FLOW TO THE INDIVIDUAL AREAS.
2. PROVIDE ½" DHW DROP FOR NEW DISHWASHER HOT WATER CONNECTION. DROP CAN TEE OFF DHW FEEDING THE SINK, S-1. PROVIDE WATER HAMMER ARRESTOR ON DHW PIPING SERVING THE DISHWASHER. PROVIDE PRESSURE REDUCING VALVE AS REQUIRED TO SATISFY MANUFACTURER'S PRESSURE REQUIREMENTS.
3. EXISTING MOP SINK TO BE REMOVED. REMOVE ALL DOMESTIC COLD WATER AND DOMESTIC HOT WATER PIPING BACK TO MAIN AND CAP.

GENERAL NOTES:

A. NEW PLUMBING WORK SHALL BE COORDINATED CLOSELY WITH ALL OTHER TRADES SUCH TO NOT CREATE OBSTRUCTIONS OR ACCESS ISSUES TO MECHANICAL AND ELECTRICAL EQUIPMENT AND ARCHITECTURAL/STRUCTURAL COMPONENTS.

DEMOLITION NOTES:

- ALL EXISTING PLUMBING INFRASTRUCTURE AND PLUMBING FIXTURES ON THIS FLOOR SHALL BE REMOVED. PLUMBING INFRASTRUCTURE MAINS SHALL BE RE-CONNECTED TO FOR PROPOSED WORK.

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STATE OF VERMONT — EDWARD J. FERRIS — No. 5197 — REGISTERED PROFESSIONAL ENGINEER

REVISION	DATE	COMMENTS
–	–	–

KEY PLAN:

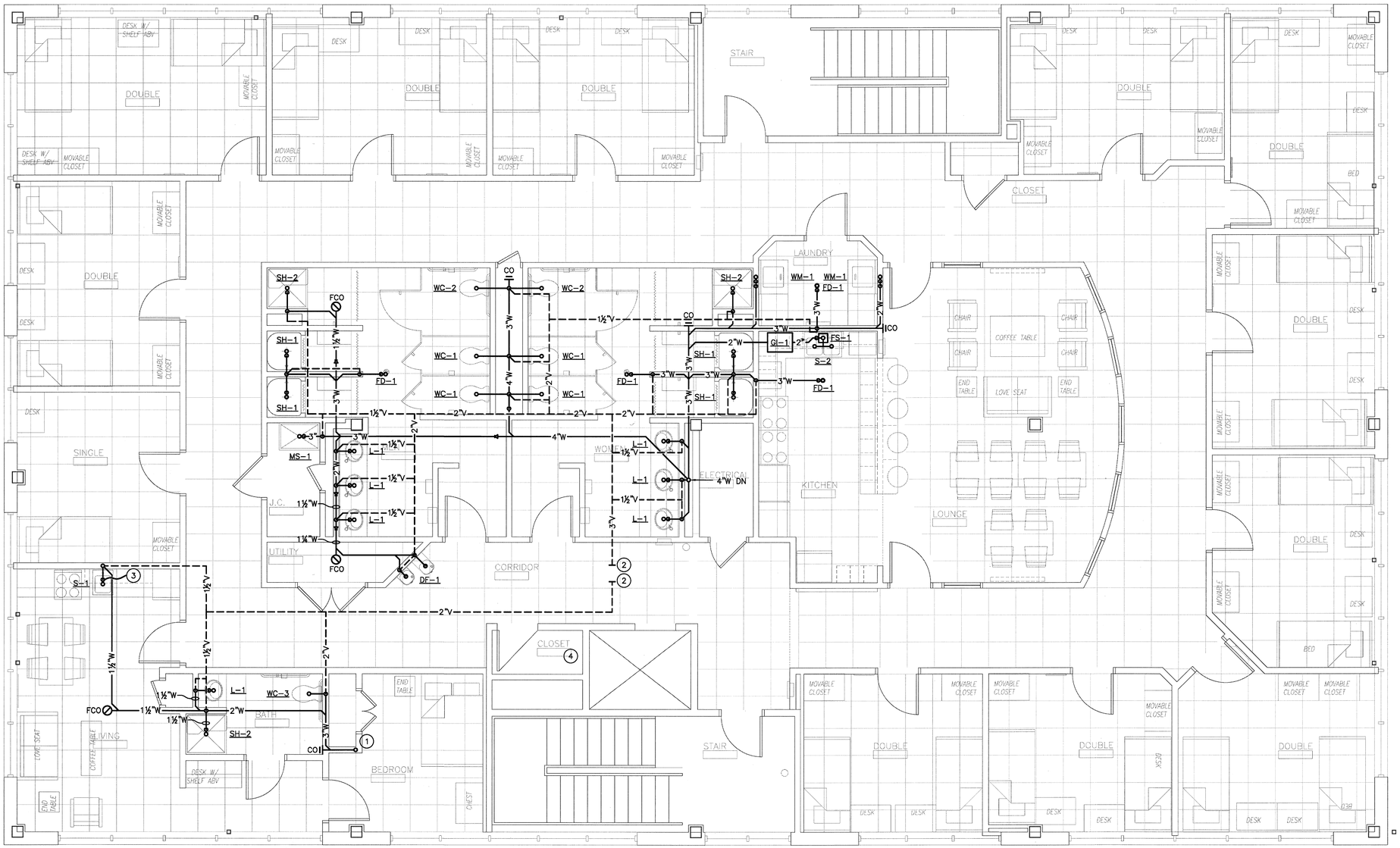
PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
FOR BIDDING

DRAWING TITLE:
SECOND FLOOR DOMESTIC WATER PLUMBING PLAN

PROJECT NO: 683 | DATE: 3/2/11

SHEET NUMBER:
P1.01



SECOND FLOOR SANITARY WASTE PLUMBING PLAN

SCALE: 1/4" = 1'-0"

HORIZONTAL SCALE IN FEET

4 2 0 4 8 12 16

KEYED NOTES:

1. TIE 3" SANITARY WASTE INTO EXISTING PLUMBING INFRASTRUCTURE ON FIRST FLOOR BELOW. FIELD COORDINATE EXACT LOCATION.
2. TIE NEW VENT PIPING INTO EXISTING VENT PIPING INFRASTRUCTURE IN THE AREA. IF THE SIZE OF THE EXISTING VENT PIPING IS LESS THAN 3", INCREASE VENT PIPE SIZING TO 3" AND EXTEND AS REQUIRED.
3. EXTEND DISHWASHER SANITARY WASTE PIPING FROM UNIT CONNECTION TO KITCHEN SINK, S-1 TRAP CONNECTION.
4. EXISTING MOP SINK TO BE REMOVED. REMOVE ALL SANITARY WASTE AND SANITARY VENT PIPING BACK TO MAIN AND CAP.

GENERAL NOTES:

A. NEW PLUMBING WORK SHALL BE COORDINATED CLOSELY WITH ALL OTHER TRADES SUCH TO NOT CREATE OBSTRUCTIONS OR ACCESS ISSUES TO MECHANICAL AND ELECTRICAL EQUIPMENT AND ARCHITECTURAL/STRUCTURAL COMPONENTS.

DEMOLITION NOTES:

- ALL EXISTING PLUMBING INFRASTRUCTURE AND PLUMBING FIXTURES ON THIS FLOOR SHALL BE REMOVED. PLUMBING INFRASTRUCTURE MAINS SHALL BE RE-CONNECTED TO FOR PROPOSED WORK.

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STATE OF VERMONT — No. 5193 — REGISTERED PROFESSIONAL ENGINEER

REVISION	DATE	COMMENTS
–	–	–

KEY PLAN:

PROJECT:

ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:

FOR BIDDING

DRAWING TITLE:

SECOND FLOOR SANITARY WASTE PLUMBING PLAN

PROJECT NO: 683 | DATE: 3/2/11

SHEET NUMBER:

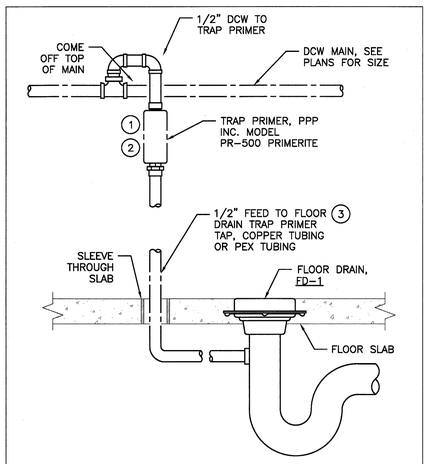
P2.01

PLUMBING FIXTURE SCHEDULE

ITEM	MANUFACTURER & MODEL NO.	TRIM & ACCESSORIES	CONNECTION SIZES				REMARKS
			WASTE	VENT	CW	HW	
DF–1	ELKAY MODEL EDFPBM117C DRINKING FOUNTAIN – BARRIER FREE	SURFACE MOUNTING PLATE	1½"	1½"	½"	–	–
FD–1	FLOOR DRAIN – ZURN MODEL ZN415S–P13–Y	PROVIDE WITH TYPE 'S' STRAINER, ½" TRAP PRIMER	3"	1½"	½"	–	–
FS–1	FLOOR SINK – ZURN MODEL Z1910–NH–P–2	NO HUB CONNECTION, ½" TRAP PRIMER, ½ GRATE, INTERIOR BOTTOM DOME STRAINER	2"	–	½"	–	
GI–1	GREASE INTERCEPTOR – ZURN MODEL GT2700–15	15 GPM FLOW RATE, 30 LBS. GREASE CAPACITY. PROVIDED WITH NO HUB CONNECTIONS, FLOW DIFFUSING BAFFLE, INTEGRAL TRAP AND VENTED INLET FLOW CONTROL DEVICE	2"	1½"	–	–	INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. COORDINATE EXACT INSTALLATION IN FLOOR WITH STRUCTURAL STEEL FLOOR SYSTEM.
L–1	LAVATORY IS INTEGRAL WITH COUNTERTOP, SEE ARCH DETAILS	FAUCET: MOEN MODEL CAL4621. AERATOR: MOEN MODEL 216721. PROVIDE CHROME STOPS, FLEXIBLE PIPING CONNECTIONS, CHROME TAIL PIECE, AND CHROME P–TRAP	1½"	1¼"	½"	½"	LOW FLOW HIGH EFFICIENCY AERATORS TO BE PROVIDED WITH THIS FAUCET. FAUCET SHALL CONTAIN NO MORE THAN 0.25% WEIGHTED AVERAGE LEAD CONTENT.
MS–1	MOP SINK – FIAT MODEL MSB3624	FIAT MODEL 830–AA SERVICE FAUCET, MODEL 889–CC MOP HANGER, MODEL 832–AA HOSE AND HOSE BRACKET, MODEL MSG3624 STAINLESS STEEL WALL GUARDS	3"	1½"	½"	½"	PROVIDE CHECK VALVES ON THE DCW AND DHW FEEDS TO THE MOP SINK FAUCET.
S–1	KITCHEN SINK – MOEN MODEL 22130, SINGLE BOWL (ADA COMPLIANT)	FAUCET: MOEN CHATEAU MODEL CA7430. AERATOR: MOEN MODEL 116711. PROVIDE STAINLESS STEEL STRAINER, CHROME P–TRAP WITH CLEANOUT, CHROME STOPS, TAIL PIECE AND FLEXIBLE PIPING CONNECTIONS.	1½"	1½"	½"	½"	PROVIDE TRUEBRO LAVGUARD P–TRAP AND ANGLE VALVE COVERS. FAUCET SHALL CONTAIN NO MORE THAN 0.25% WEIGHTED AVERAGE LEAD CONTENT.
S–2	KITCHEN SINK – MOEN MODEL 22129, DOUBLE BOWL (ADA COMPLIANT)	FAUCET: MOEN CHATEAU MODEL CA7430. AERATOR: MOEN MODEL 116711. PROVIDE STAINLESS STEEL STRAINER, CHROME P–TRAP WITH CLEANOUT, CHROME STOPS, TAIL PIECE AND FLEXIBLE PIPING CONNECTIONS.	1½"	1½"	½"	½"	PROVIDE TRUEBRO LAVGUARD P–TRAP AND ANGLE VALVE COVERS. FAUCET SHALL CONTAIN NO MORE THAN 0.25% WEIGHTED AVERAGE LEAD CONTENT.
SH–1	AQUARIUS MODEL G3679 SH SMOOTH WALL SHOWER	FAUCET: MOEN MODEL 8389–LF16. WASTE ASSEMBLY: AMERICAN BRASS & ALUMINUM FOUNDRY PART #1430G	1½"	1½"	½"	½"	CONTRACTOR TO VERIFY LH OR RH PRIOR TO ORDERING. LOW FLOW HIGH EFFICIENCY AERATORS TO BE PROVIDED WITH THIS SHOWER SYSTEM. NO SLIP JOINT FITTINGS SHALL BE PERMITTED AT TUB DRAIN LOCATIONS.
SH–2	AQUARIUS MODEL G3698 BF ONE PIECE TRANSFER SHOWER (ADA COMPLIANT)	FAUCET: MOEN MODEL 8346–LF16 THREE FUNCTION COMMERCIAL SHOWER SYSTEM. WASTE ASSEMBLY: AMERICAN BRASS & ALUMINUM FOUNDRY PART #1430G. PROVIDE WITH ADA COMPLIANT OPTIONS INCLUDING; WOODGRAIN PHENOLIC SEAT AND STAINLESS STEEL GRAB BARS.	1½"	1½"	½"	½"	CONTRACTOR TO VERIFY LH OR RH PRIOR TO ORDERING. LOW FLOW HIGH EFFICIENCY AERATORS TO BE PROVIDED WITH THIS SHOWER SYSTEM. NO SLIP JOINT FITTINGS SHALL BE PERMITTED AT TUB DRAIN LOCATIONS. PROVIDE GRAB BARS AND SEAT AT CORRECT ORIENTATION FOR FAUCET LOCATION.
WC–1	SLOAN EFFICIENCY SERIES MODEL ST–2063–1.6	SEAT: CHURCH MODEL 9500C ELONGATED, OPEN FRONT, LESS COVER, 1–1/2" BACK SPUD. FLUSHOMETER: SLOAN MODEL 152–1.6 WB ES–S, 1.6 GPF. USE WITH JAY R SMITH MODEL 0210 LY/RY WALL CARRIER.	3"	1½"	1"	–	PROVIDE SLOAN PART #EL–154 120 VAC/24VAC TRANSFORMER IN THE MECHANICAL ACCESS. ONE TRANSFORMER CAN SERVE UP TO 10 FLUSHOMETERS. 1 CT WILL BE NEEDED NEAR PLUMBING ACCESS CHASE. CONTROLS CONTRACTOR TO WIRE FROM THE CT TO THE SOLENOID OPERATOR ON THE FLUSH VALVE. MC TO DETERMINE WHETHER WALL CARRIER IS LEFT SIDE OR RIGHT SIDE DRAIN CONNECTION BASED ON SANITARY WASTE RISER LOCATION.
WC–2	SLOAN EFFICIENCY SERIES MODEL ST–2063–1.6 (ADA COMPLIANT)	SEAT: CHURCH MODEL 9500C ELONGATED, OPEN FRONT, LESS COVER, 1–1/2" BACK SPUD. FLUSHOMETER: SLOAN MODEL 152–1.6 WB ES–S, 1.6 GPF. USE WITH JAY R SMITH MODEL 0210 LY/RY WALL CARRIER.	3"	1½"	1"	–	LIP OF TOILET TO FLOOR IS TO BE 17"–19". PROVIDE SLOAN PART #EL–154 120 VAC/24VAC TRANSFORMER IN THE MECHANICAL ACCESS. ONE TRANSFORMER CAN SERVE UP TO 10 FLUSHOMETERS. 1 CT WILL BE NEEDED NEAR PLUMBING ACCESS CHASE. CONTROLS CONTRACTOR TO WIRE FROM THE CT TO THE SOLENOID OPERATOR ON THE FLUSH VALVE. MC TO DETERMINE WHETHER WALL CARRIER IS LEFT SIDE OR RIGHT SIDE DRAIN CONNECTION BASED ON SANITARY WASTE RISER LOCATION.
WC–3	TOTO MODEL CST744SLD DRAKE (ADA COMPLIANT)	SEAT: CHURCH MODEL 170; CHROME SUPPLIES AND STOPS	3"	1½"	½"	–	PROVIDE WC WITH RIGHT HAND TRIP LEVER WHERE REQUIRED TO MEET ADA REQUIREMENTS.
WM–1	IPC CORP. WATERTITE MODEL 4700	–	2"	–	½"	½"	–

PLUMBING LEGEND

	AUTOMATIC AIR VENT	AFF	ABOVE FINISH FLOOR
	BALANCING VALVE	AFG	ABOVE FINISH GRADE
	BALL VALVE	ARCH	ARCHITECT OR ARCHITECTURAL
	BUTTERFLY VALVE	BTUH	BTU'S PER HOUR
	CHECK VALVE	DCW	DOMESTIC COLD WATER
	CIRCULATOR PUMP	DHW	DOMESTIC HOT WATER
CO	CLEANOUT	DHWC	DOMESTIC HOT WATER RECIRCULATION
	CONCENTRIC REDUCER	<E>	EXISTING
FCO	FLOOR CLEANOUT	EC	ELECTRICAL CONTRACTOR
	FLOW DIRECTION	EWT	ENTERING WATER TEMPERATURE
	HOSE BIBB	FD	FLOOR DRAIN
	MANUAL AIR VENT	FT	FOOT OR FEET
	PRESSURE GAUGE	GC	GENERAL CONTRACTOR
	PRESSURE REGULATING VALVE	GPM	GALLONS PER MINUTE
	SAFETY RELIEF VALVE	HB	HOSE BIBB
	STRAINER	HP	HORSEPOWER
	STRAINER WITH BLOW DOWN VALVE	IN	INCH(ES)
	THERMOMETER	IWH	INDIRECT WATER HEATER
	UNION	L	LAVATORY
	VENT THROUGH ROOF	LBS	POUNDS
	WALL HYDRANT	LWT	LEAVING WATER TEMPERATURE
M	WATER METER	MC	MECHANICAL CONTRACTOR
	NEW WORK	<N>	NEW
	DOMESTIC COLD WATER	NC	NORMALLY CLOSED
	DOMESTIC HOT WATER	NO	NORMALLY OPEN
	DOMESTIC HOT WATER RECIRCULATION	NO.	NUMBER
	SANITARY VENT PIPING	PC	PLUMBING CONTRACTOR
	SANITARY WASTE	PSIG	POUNDS PER SQUARE INCH (GAUGE)
	SANITARY WASTE BELOW SLAB	PW	PUMPED WASTE
	PIPE CAPPED	RPM	REVOLUTIONS PER MINUTE
	PIPE TURNED DOWN	S	KITCHEN SINK OR SERVICE SINK
	PIPE TURNED UP	SH	SHOWER
	PIPE BRANCH OFF TOP OF MAIN	V	SANITARY VENT
	PIPE BRANCH OFF BOTTOM OF MAIN	VTR	VENT THROUGH ROOF
	FIXTURE OR DRAIN TRAP	W	SANITARY WASTE
	PIPE CONTINUED	WC	WATER CLOSET
		WH	WATER HEATER

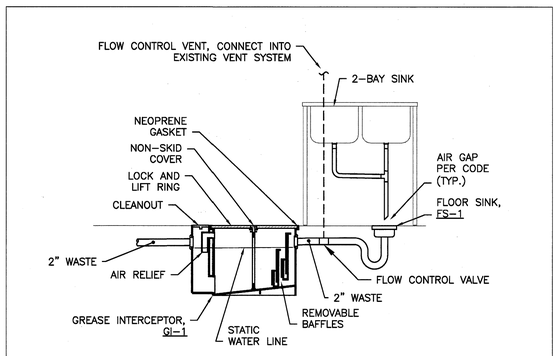


TRAP SEAL PRIMER DETAIL

NOT TO SCALE

KEYED NOTES:

1. TRAP PRIMER TO BE A MIN. OF 12" AFF.
2. PROVIDE 8x8 MIN ACCESS PANEL TO ALLOW ACCESS TO TRAP PRIMER FOR MAINTENANCE.
3. INSTALL ONE TRAP PRIMER PER FLOOR DRAIN. SEE PLANS FOR LOCATIONS OF FLOOR DRAINS.



2–POT SINK AND GREASE INTERCEPTOR DETAIL

NOT TO SCALE

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STATE OF VERMONT — DEPARTMENT OF PUBLIC SERVICE — REGISTERED PROFESSIONAL ENGINEER — No. 5198

REVISION	DATE	COMMENTS
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KEY PLAN:

PROJECT:

ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:

FOR BIDDING

DRAWING TITLE:

PLUMBING FIXTURE SCHEDULES & DETAILS

PROJECT NO: 683 | DATE: 3/2/11

SHEET NUMBER:

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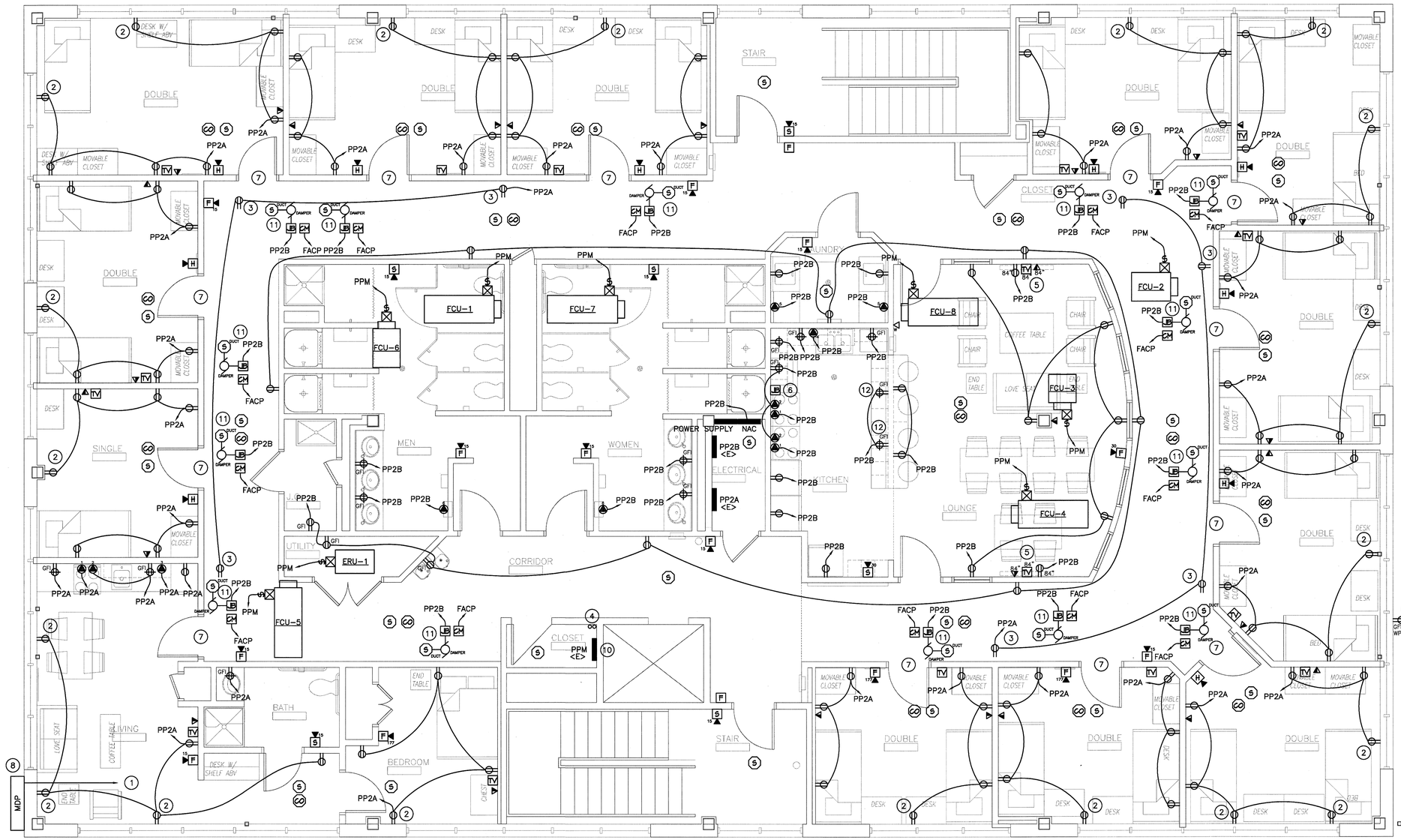

GENERAL NOTES & DEMOLITION NOTES: (THESE NOTES REFER TO ALL DRAWINGS)

A. EQUIPMENT AND MATERIALS REMOVED OR DEMOLISHED AND NOT TO BE REINSTALLED BY THE EC SHALL BE CLASSIFIED BY THE OWNER AS SALVAGE OR SCRAP. THOSE CLAIMED BY THE OWNER SHALL BE DELIVERED TO THE OWNER BY THE EC WHERE DIRECTED AT THE SITE. THOSE ITEMS NOT CLAIMED BY THE OWNER SHALL BECOME PROPERTY OF THE EC AND SHALL BE LEGALLY REMOVED FROM THE SITE AND PREMISES.

B. ANY PLACE WHERE THE CONTRACTOR PENETRATES, CUTS AND/OR REMOVES WALLS, CONTRACTOR IS TO REPLACE, PATCH AND PAINT WALLS TO ORIGINAL FINISHES.

C. FIELD VERIFY ALL DIMENSIONS BEFORE COMMENCEMENT OF WORK. NOTIFY ENGINEER OF ANY ERRORS.

D. THE EXISTING FACILITY WILL BE OCCUPIED AND FUNCTIONING DURING THE ENTIRE DURATION OF CONSTRUCTION. CARE SHOULD BE TAKEN WHEN WORKING IN OR AROUND OCCUPIED SPACES. THERE WILL BE NO INTERRUPTION IN POWER, SECURITY, TELEPHONE, DATA, OR FIRE ALARM SYSTEMS WITHOUT WRITTEN APPROVAL OF THE OWNER.

E. REFER TO THE ARCHITECTURAL PLANS FOR EXTENT OF DEMOLITION WORK TO BE PERFORMED BY THE GENERAL CONTRACTOR. ALL ITEMS THAT NEED TO BE REMOVED BY THE GC SHALL HAVE THE POWER DISCONNECTED BY THE EC.

F. NOT ALL DEVICES TO BE REMOVED OR DISCONNECTED ARE SHOWN. WHERE ENTIRE WALLS AND ROOMS ARE TO BE DEMOLISHED, ALL ELECTRICAL DEVICES IN THESE AREAS ARE TO BE DISCONNECTED, AND THE BRANCH CIRCUIT SHALL BE DISCONNECTED BACK TO THE SOURCE. ITEMS TO REMAIN AND BE RELOCATED WILL BE SHOWN. REFER TO MECHANICAL AND ARCHITECTURAL PLANS FOR TOTAL EXTENT OF DEMOLITION WORK.

G. THE BUILDING IS EXISTING. WIRING IN EXTERIOR WALLS SHALL BE FISHED AS NECESSARY. SOME INTERIOR PARTITIONS ARE EXISTING, WIRING IN THESE WALLS MAY NEED TO BE FISHED. REFER TO ARCHITECTURAL PLANS FOR FULL EXTENT OF EXISTING CONDITIONS. NO SURFACE RACEWAY TO BE INSTALLED WITHOUT WRITTEN AUTHORIZATION FROM ARCHITECT.

H. ALL NEW DEVICES AND LIGHTING SHALL BE WIRED TO NEAREST EXISTING RECEPTACLE OR LIGHTING CIRCUIT UNLESS OTHERWISE SHOWN. NEW CIRCUITS ARE SHOWN WITH A HOME RUN TO LISTED PANEL.

I. ALL SERVICES THAT SERVE OTHER PORTIONS OF THE BUILDING & PASS THRU THE RENOVATED SPACE SHALL REMAIN IN SERVICE THROUGHOUT THE CONSTRUCTION PERIOD. THESE SERVICES SHALL BE TEMPORARILY SUPPORTED DURING CONSTRUCTION, & PROPERLY PERMANENTLY SUPPORTED AFTER PROJECT COMPLETION.

J. THE CONTRACTOR SHALL BE FAMILIAR WITH ALL EQUIPMENT SYSTEM "HEAD-END" LOCATIONS PRIOR TO BID DATE. MANY SYSTEMS INSTALLED IN THIS PROJECT ARE CONNECTED TO EXISTING SYSTEMS. THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER CONNECTION TO ALL THESE SYSTEMS.

K. THE CONTRACTOR SHALL FULLY INVESTIGATE ALL EXISTING CONDITIONS AND EQUIPMENT LOCATIONS PRIOR TO THE BID DATE.

SECOND FLOOR POWER PLAN

SCALE: 1/4" = 1'-0"

HORIZONTAL SCALE IN FEET

4 2 0 4 8 12 16

KEYED NOTES:

1. RUN NEW FEED FOR THE CHILLER ABOVE THE FIRST FLOOR CEILING.
2. ALL DEVICES ON EXTERIOR WALLS SHALL BE WIRED AND INSTALLED USING SURFACE BOXES AND WIREMOLD.
3. INSTALL DUPLEX RECEPTACLES ABOVE SUSPENDED CEILING FOR USE BY ACCESS CONTROL CONTRACTOR. COORDINATE ALL LOCATIONS PRIOR TO ELECTRICAL ROUGH-IN.
4. PROVIDE (2) 4" EMT CHASES BETWEEN THE SECOND AND THIRD FLOORS FOR COMMUNICATIONS WIRING. COORDINATE THE SLEEVE LOCATIONS WITH THE EXISTING CONDITIONS.
5. COORDINATE THE EXACT LOCATIONS OF THE TV, POWER, AND DATA WITH THE OWNER AND ARCHITECTURAL ELEVATIONS PRIOR TO ELECTRICAL ROUGH-IN.
6. ANSUL SYSTEM FOR HOOD. PROVIDE 120V POWER AS REQUIRED FOR ANSUL SYSTEM. PROVIDE AN ADDRESSABLE FIRE ALARM MODULE AND CONNECTION TO THE FIRE ALARM SYSTEM.
7. REFER TO CARD ACCESS SYSTEM INSTALLATION DETAIL.
8. REFER TO ONE-LINE DIAGRAMS FOR WORK RELATED TO INCOMING SERVICE.
9. COORDINATE THE ELECTRICAL CONNECTION POINTS WITH INSTALLER. RUN CONDUIT UNDERGROUND FROM THE BUILDING TO THE A/C UNIT.
10. EXISTING PANEL TO REMAIN. PROVIDE NEW CIRCUITS AND CIRCUIT BREAKERS AS REQUIRED FOR ALL NEW LOADS.
11. PROVIDE A 120V CONNECTION TO EACH FIRE DAMPER AND DUCT SMOKE DETECTOR. FEED WITH A DEDICATED CIRCUIT FROM PANEL PP2B. PROVIDE A FIRE ALARM MONITORING MODULE TO MONITOR THE STATUS OF EACH FIRE DAMPER AND SMOKE DETECTOR. WIRE THESE TO THE NEW FIRE ALARM SYSTEM. PROVIDE WIRING AND INSTALLATION OF A REMOTE TEST SWITCH FOR EACH DUCT SMOKE DETECTOR. PROVIDE ALL WIRING REQUIRED FOR SMOKE DAMPER, SMOKE DETECTOR, AND TEST SWITCH. COORDINATE INSTALLATION LOCATION AND INSTRUCTIONS WITH MECHANICAL CONTRACTOR AND MECHANICAL DRAWINGS.
12. MOUNT RECEPTACLES HORIZONTALLY IN BACKSPLASH.
13. INSTALL NEW WEATHERPROOF GFI RECEPTACLE, CONNECT TO EXISTING BOILER ROOM RECEPTACLE CIRCUIT.

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STATE OF VERMONT REGISTERED PROFESSIONAL ENGINEER No. 5192

REVISION	DATE	COMMENTS
–	–	–

KEY PLAN:

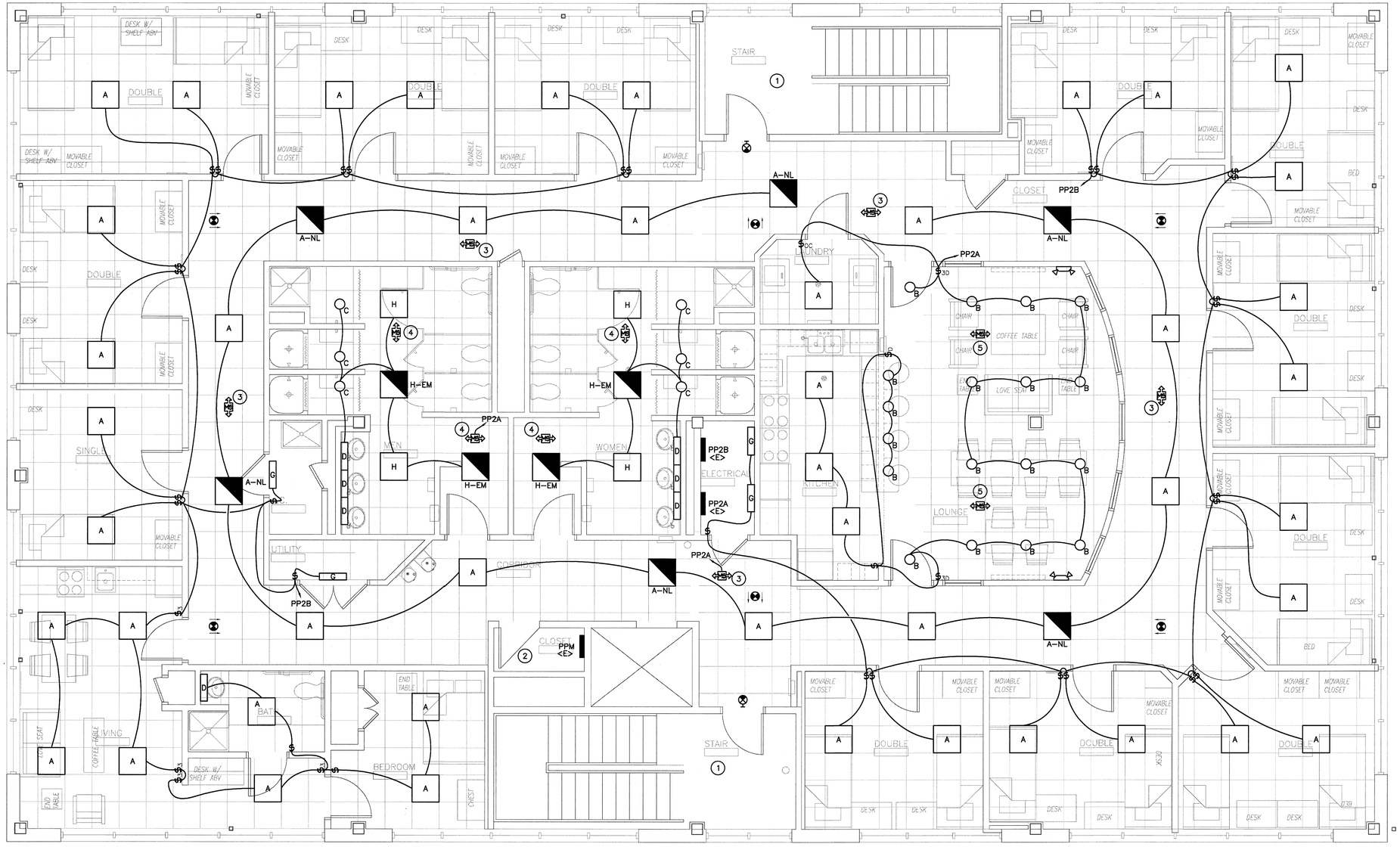
PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
FOR BIDDING

DRAWING TITLE:
SECOND FLOOR POWER PLAN

PROJECT NO: 683 DATE: 3/2/11

SHEET NUMBER:
E1.01



GENERAL NOTES & DEMOLITION NOTES: (THESE NOTES REFER TO ALL DRAWINGS)

A. EQUIPMENT AND MATERIALS REMOVED OR DEMOLISHED AND NOT TO BE REINSTALLED BY THE EC SHALL BE CLASSIFIED BY THE OWNER AS SALVAGE OR SCRAP. THOSE CLAIMED BY THE OWNER SHALL BE DELIVERED TO THE OWNER BY THE EC WHERE DIRECTED AT THE SITE. THOSE ITEMS NOT CLAIMED BY THE OWNER SHALL BECOME PROPERTY OF THE EC AND SHALL BE LEGALLY REMOVED FROM THE SITE AND PREMISES.

B. ANY PLACE WHERE THE CONTRACTOR PENETRATES, CUTS AND/OR REMOVES WALLS, CONTRACTOR IS TO REPLACE, PATCH AND PAINT WALLS TO ORIGINAL FINISHES.

C. FIELD VERIFY ALL DIMENSIONS BEFORE COMMENCEMENT OF WORK. NOTIFY ENGINEER OF ANY ERRORS.

D. THE EXISTING FACILITY WILL BE OCCUPIED AND FUNCTIONING DURING THE ENTIRE DURATION OF CONSTRUCTION. CARE SHOULD BE TAKEN WHEN WORKING IN OR AROUND OCCUPIED SPACES. THERE WILL BE NO INTERRUPTION IN POWER, SECURITY, TELEPHONE, DATA, OR FIRE ALARM SYSTEMS WITHOUT WRITTEN APPROVAL OF THE OWNER.

E. REFER TO THE ARCHITECTURAL PLANS FOR EXTENT OF DEMOLITION WORK TO BE PERFORMED BY THE GENERAL CONTRACTOR. ALL ITEMS THAT NEED TO BE REMOVED BY THE GC SHALL HAVE THE POWER DISCONNECTED BY THE EC.

F. NOT ALL DEVICES TO BE REMOVED OR DISCONNECTED ARE SHOWN. WHERE ENTIRE WALLS AND ROOMS ARE TO BE DEMOLISHED, ALL ELECTRICAL DEVICES IN THESE AREAS ARE TO BE DISCONNECTED, AND THE BRANCH CIRCUIT SHALL BE DISCONNECTED BACK TO THE SOURCE. ITEMS TO REMAIN AND BE RELOCATED WILL BE SHOWN. REFER TO MECHANICAL AND ARCHITECTURAL PLANS FOR TOTAL EXTENT OF DEMOLITION WORK.

G. THE BUILDING IS EXISTING. WIRING IN EXTERIOR WALLS SHALL BE FISHED AS NECESSARY. SOME INTERIOR PARTITIONS ARE EXISTING, WIRING IN THESE WALLS MAY NEED TO BE FISHED. REFER TO ARCHITECTURAL PLANS FOR FULL EXTENT OF EXISTING CONDITIONS. NO SURFACE RACEWAY TO BE INSTALLED WITHOUT WRITTEN AUTHORIZATION FROM ARCHITECT.

H. ALL NEW DEVICES AND LIGHTING SHALL BE WIRED TO NEAREST EXISTING RECEPTACLE OR LIGHTING CIRCUIT UNLESS OTHERWISE SHOWN. NEW CIRCUITS ARE SHOWN WITH A HOME RUN TO LISTED PANEL.

I. ALL SERVICES THAT SERVE OTHER PORTIONS OF THE BUILDING & PASS THRU THE RENOVATED SPACE SHALL REMAIN IN SERVICE THROUGHOUT THE CONSTRUCTION PERIOD. THESE SERVICES SHALL BE TEMPORARILY SUPPORTED DURING CONSTRUCTION, & PROPERLY PERMANENTLY SUPPORTED AFTER PROJECT COMPLETION.

J. THE CONTRACTOR SHALL BE FAMILIAR WITH ALL EQUIPMENT SYSTEM "HEAD-END" LOCATIONS PRIOR TO BID DATE. MANY SYSTEMS INSTALLED IN THIS PROJECT ARE CONNECTED TO EXISTING SYSTEMS. THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER CONNECTION TO ALL THESE SYSTEMS.

K. THE CONTRACTOR SHALL FULLY INVESTIGATE ALL EXISTING CONDITIONS AND EQUIPMENT LOCATIONS PRIOR TO THE BID DATE.

SECOND FLOOR LIGHTING PLAN

SCALE: 1/4" = 1'-0"

HORIZONTAL SCALE IN FEET

4 2 0 4 8 12 16

KEYED NOTES:

1. EXISTING LIGHTS TO REMAIN IN THE STAIRWELL.
2. EXISTING LIGHTING IN THIS ROOM TO REMAIN. CONNECT TO NEAREST LIGHTING CIRCUIT.
3. ALL OCCUPANCY SENSORS IN THE HALLWAYS SHALL WORK TOGETHER TO OPERATE ALL LIGHTS IN THE HALLWAYS. PROVIDE ALL REQUIRED POWER PACKS AND LOW VOLTAGE WIRING. REFER TO DETAIL.
4. ALL OCCUPANCY SENSORS IN EACH BATHROOM SHALL WORK TOGETHER TO OPERATE ALL LIGHTS IN THE SAME BATHROOM. PROVIDE ALL REQUIRED POWER PACKS AND LOW VOLTAGE WIRING. REFER TO DETAIL. MEN'S AND WOMEN'S BATHROOM LIGHTING CAN BE CONNECTED TO THE SAME CIRCUIT.
5. THE OCCUPANCY SENSORS IN THIS ROOM SHALL SEND POWER TO THE SWITCHES IN THIS ROOM WHEN ACTIVATED. REFER TO DETAIL.

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STATE OF VERMONT — BERNARD J. FEARON — NO. 5197 — REGISTERED PROFESSIONAL ENGINEER

REVISION	DATE	COMMENTS
–	–	–

KEY PLAN:

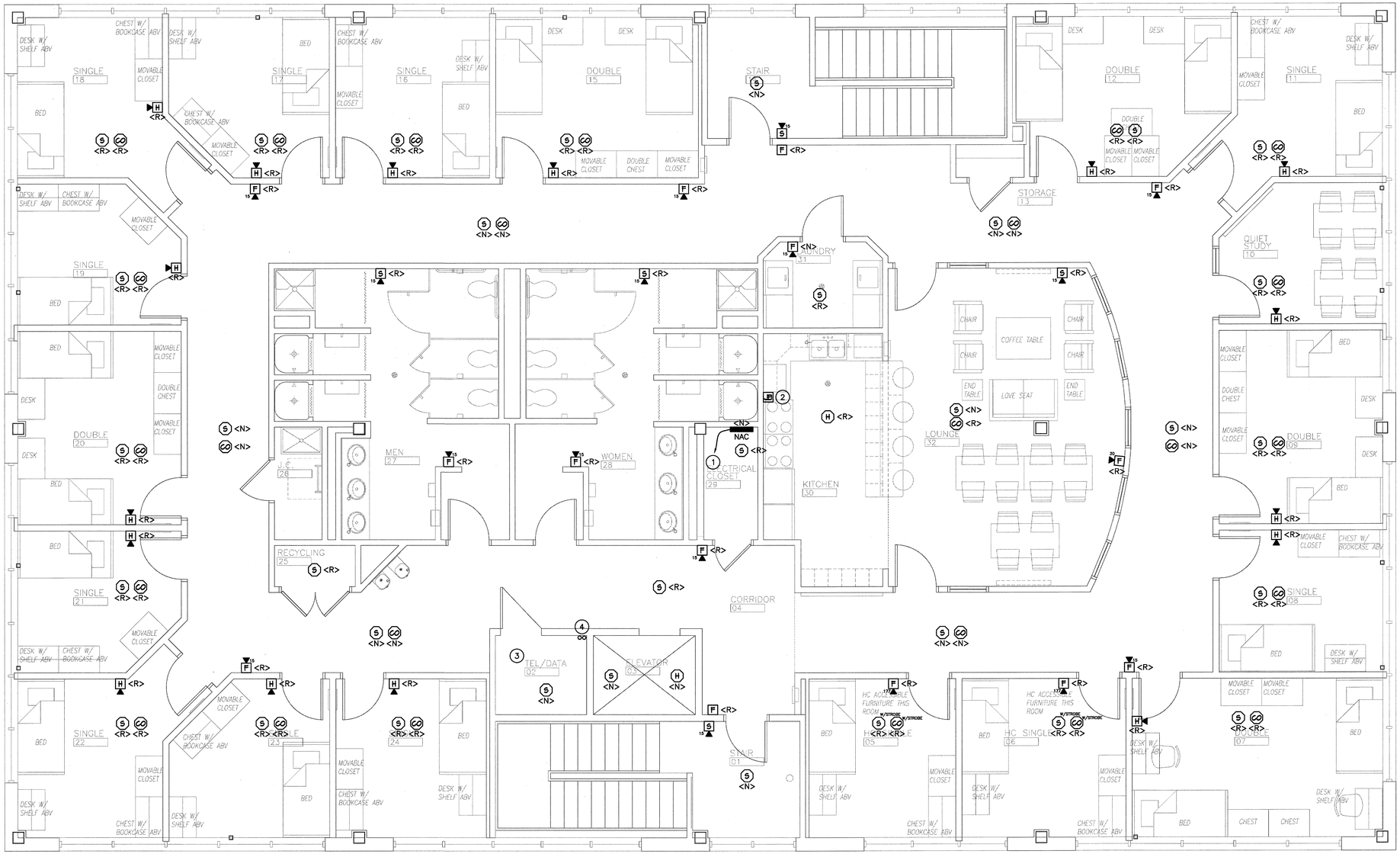
PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
FOR BIDDING

DRAWING TITLE:
SECOND FLOOR LIGHTING PLAN

PROJECT NO: 683 | DATE: 3/2/11

SHEET NUMBER:
E1.02



THIRD FLOOR FIRE ALARM PLAN

SCALE: 1/4" = 1'-0"

HORIZONTAL SCALE IN FEET

4 2 0 4 8 12 16

ELECTRICAL LEGEND

<E>	EXISTING DEVICE TO REMAIN
<N>	NEW DEVICE
<R>	EXISTING DEVICE TO BE REMOVED AND REPLACED WITH NEW, PROVIDE NEW WIRING

KEYED NOTES:

1. PROVIDE NEW 120V, 20A CIRCUIT FROM EXISTING POWER PANEL IN THIS ROOM.
2. ANSUL SYSTEM FOR HOOD. PROVIDE 120V POWER AS REQUIRED FOR ANSUL SYSTEM. PROVIDE AN ADDRESSABLE FIRE ALARM MODULE AND CONNECTION TO THE FIRE ALARM SYSTEM.
3. EXISTING TEL/DATA AND COAX TERMINATION AREA. HOMERUN ALL NEW CABLING TO THIS ROOM. PROVIDE (2) NEW 48 PORT PATCH PANELS FOR ALL NEW CABLE TERMINATIONS. MATCH EXISTING EQUIPMENT AND VTC'S IT REQUIREMENTS. TERMINATE AND TEST ALL CABLING.
4. PROVIDE (2)4" EMT CHASES BETWEEN SECOND AND THIRD FLOORS FOR COMMUNICATIONS WIRING. COORDINATE THE SLEEVE LOCATIONS WITH THE EXISTING CONDITIONS.

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STATE OF VERMONT — REGISTERED PROFESSIONAL ENGINEER — No. 5192

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KEY PLAN:

PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
FOR BIDDING

DRAWING TITLE:
THIRD FLOOR FIRE ALARM PLAN

PROJECT NO: 683 | DATE: 3/2/11

SHEET NUMBER:
E1.03

PANEL DESIGNATION SCHEDULE

PANEL: PP2A <E> — LOCATION: ELECTRICAL CLOSET
FED FROM: — MOUNTING: SURFACE
10,000 AIC — MAINS:
CONNECTED LOAD: 31.4 kW

CKT NO.	kW LOAD	DESCRIPTION	BREAKER P	BREAKER AMP	BREAKER AMP	BREAKER P	DESCRIPTION	kW LOAD	CKT NO.
1	0.7	DORM RECEPTACLES	1	*20	*20	1	DORM RECEPTACLES	0.6	2
3	0.7	DORM RECEPTACLES	1	*20	*20	1	DORM RECEPTACLES	0.7	4
5	0.6	DORM RECEPTACLES	1	*20	*20	1	DORM RECEPTACLES	0.7	6
7	0.7	DORM RECEPTACLES	1	*20	*20	1	DORM RECEPTACLES	0.6	8
9	0.7	DORM RECEPTACLES	1	*20	*20	1	DORM RECEPTACLES	0.7	10
11	0.6	DORM RECEPTACLES	1	*20	*20	1	DORM RECEPTACLES	0.6	12
13	0.6	DORM RECEPTACLES	1	*20	*20	1	DORM RECEPTACLES	0.7	14
15	0.7	DORM RECEPTACLES	1	*20	*20	1	DORM RECEPTACLES	0.6	16
17	0.7	DORM RECEPTACLES	1	*20	*20	1	DORM RECEPTACLES	0.7	18
19	0.6	DORM RECEPTACLES	1	*20	*20	1	DORM RECEPTACLES	0.6	20
21	0.2	APARTMENT KITCHEN	1	20	*20	1	DORM RECEPTACLES	0.7	22
23	8.0	APARTMENT RANGE	2	50	*20	1	DORM RECEPTACLES	0.5	24
25					*20	1	DORM RECEPTACLES	0.7	26
27	0.3	APARTMENT RANGE HOOD	1	20	*20	1	DORM RECEPTACLES	0.6	28
29	1.0	APARTMENT REFRIGERATOR	1	20	*20	1	COMMON SPACE LIGHTING	0.6	30
31	0.9	APARTMENT RECEPTACLES	1	*20	*20	1	CORRIDOR LIGHTING	0.5	32
33	0.2	APARTMENT BATH	1	20	*20	1	BATHROOM LIGHTING	0.6	34
35	0.8	APARTMENT BEDROOM	1	*20	20	1	CONTROLS RECEPTACLES	0.5	36
37	1.5	APARTMENT DISHWASHER	1	20	20	1	CONTROLS RECEPTACLES	0.7	38
39		SPACE					SPACE		40
41		SPACE					SPACE		42

* PROVIDE ARC-FAULT CIRCUIT BREAKERS FOR ALL LIVING UNITS AND LIGHTING CIRCUITS AS REQUIRED BY NEC.
NOTE: THIS PANEL IS EXISTING, PROVIDE ALL NEW BREAKERS AS LISTED ABOVE

PANEL DESIGNATION SCHEDULE

PANEL: PP2B <E> — LOCATION: ELECTRICAL ROOM
FED FROM: — MOUNTING: SURFACE
10,000 AIC — MAINS:
CONNECTED LOAD: 37.0 kW

CKT NO.	kW LOAD	DESCRIPTION	BREAKER P	BREAKER AMP	BREAKER AMP	BREAKER P	DESCRIPTION	kW LOAD	CKT NO.
1	1.8	CORRIDOR RECEPTACLES	1	20	20	1	REFRIGERATOR	1.0	2
3	0.2	MEN'S RECEPTACLE	1	20	20	1	REFRIGERATOR	1.0	4
5	0.2	MEN'S RECEPTACLE	1	20	20	1	FREEZER	1.0	6
7	1.0	MEN'S HAND DRYER	1	20	50	2	RANGE	8.0	8
9	0.2	WOMEN'S RECEPTACLE	1	20					10
11	0.2	WOMEN'S RECEPTACLE	1	20	50	2	RANGE	8.0	12
13	1.0	WOMEN'S HAND DRYER	1	20					14
15	0.2	LOUNGE TV	1	20	20	1	RANGE HOODS	0.7	16
17	1.1	LOUNGE RECEPTACLES	1	*20	20	1	KITCHEN COUNTERTOP	0.2	18
19	0.2	LOUNGE TV	1	20	20	1	KITCHEN COUNTERTOP	0.2	20
21	1.0	WASHER	1	20	20	1	GARBAGE DISPOSAL		22
23	1.0	WASHER	1	20	20	1	KITCHEN COUNTERTOP	0.2	24
25	3.0	DRYER	2	30	*20	1	DORM LIGHTING	0.7	26
27					*20	1	DORM LIGHTING	0.5	28
29	3.0	DRYER	2	30	20	1	FACP	0.1	30
31					20	1	KITCHEN COUNTERTOP	0.4	32
33	0.5	SMOKE DAMPER/DETECTORS	1	20	20	1	LOUNGE BAR RECEPTACLES	0.4	34
35		SPARE	1	20	20	1	SPARE		36
37		SPARE	1	20	20	1	SPARE		38
39		SPACE					SPACE		40
41		SPACE					SPACE		42

* PROVIDE ARC-FAULT CIRCUIT BREAKERS FOR ALL LIVING UNITS AND LIGHTING CIRCUITS AS REQUIRED BY NEC.
NOTE: THIS PANEL IS EXISTING, PROVIDE ALL NEW BREAKERS AS LISTED ABOVE

PANEL DESIGNATION SCHEDULE

PANEL: MDP — LOCATION: EXTERIOR
FED FROM: UTILITY — MOUNTING: SURFACE, NEMA 3R WEATHERPROOF
35,000 AIC — MAINS: 120/208V, 3-PHASE, 4-WIRE, 1000AMP MAIN CIRCUIT BREAKER, BOTTOM FEED
CONNECTED LOAD:

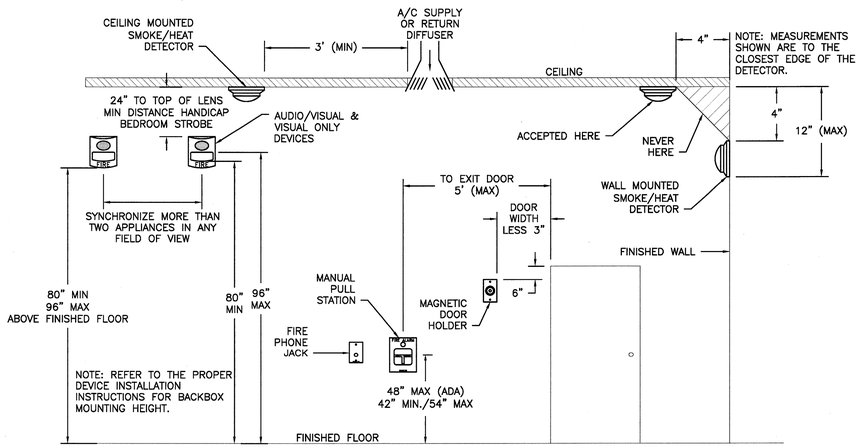
CKT NO.	kW LOAD	DESCRIPTION	BREAKER P	BREAKER AMP	BREAKER AMP	BREAKER P	DESCRIPTION	kW LOAD	CKT NO.
1	<E>	PP1A	3	200	200	3	PP1B	<E>	2
3									4
5									6
7	27.0	PP2A	3	200	200	3	PP2B	12.1	8
9									10
11									12
13	<E>	PPM	3	225	225	3	PP3A	<E>	14
15									16
17									18
19	40	CHILLER	3	250	100	3	SPARE		20
21									22
23									24
25			1	20	20	1			26
27			1	20	20	1			28
29			1	20	20	1			30
31			1	20	20	1			32
33			1	20	20	1			34
35			1	20	20	1			36
37			1	20	20	1			38
39			1	20	20	1			40
41			1	20	20	1			42

SPECIAL PURPOSE OUTLET SCHEDULE

KEY	DESCRIPTION	SUPPLIED BY	INSTALLED BY	ELECTRICAL REQUIREMENTS: CORD & CAP NEMA #	PROVIDED BY	VOLTS	AMPS	STARTER: PROVIDED BY	INSTALLED BY	ELECTRICAL DISCONNECT PROVIDED BY	REMARKS
(A)1	RANGE RECEPTACLE	EC	EC	14-50R	EC	208	50				COORDINATE EXACT LOCATION & REQUIREMENTS WITH OWNER PRIOR TO ROUGH-IN
(A)2	RANGE HOOD	ES	EC	HARDWIRED	EC	120	20				
(A)3	DISHWASHER	ES	ES	HARDWIRED	EC	120	20				COORDINATE EXACT LOCATION & REQUIREMENTS WITH OWNER PRIOR TO ROUGH-IN
(A)4	GARBAGE DISPOSAL RECEPTACLE	EC	EC	5-20R	EC	120	20				PROVIDE WALL MOUNTED SWITCH TO CONTROL
(A)5	CLOTHES DRYER RECEPTACLE	EC	EC	14-30R	EC	208	30				COORDINATE EXACT LOCATION & REQUIREMENTS WITH OWNER PRIOR TO ROUGH-IN
(A)6	HAND DRYER	ES	EC	HARDWIRED	EC	120	20				COORDINATE EXACT LOCATION & REQUIREMENTS WITH OWNER PRIOR TO ROUGH-IN

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER & MODEL NO.	MOUNTING	LAMPS	VOLTS	REMARKS
A	METALUX 2AC-217-UNV-L8835-EB81-U	RECESSED	(2)FO17T8	120	PROGRAM START BALLAST
A-NL	METALUX 2AC-217-UNV-L8835-EB81-U	RECESSED	(2)FO17T8	120	PROVIDE BODINE LP600 REMOTE EMERGENCY BALLAST, MOUNTED IN FIELD, THESE FIXTURES ARE UNSWITCHED, ALWAYS ON.
B	HALO H880E-870C	RECESSED	(1)26W TTT	120	DIMMABLE, MARK 10 BALLAST
C	HALO H280E-70PS	RECESSED	(1)18W TTT	120	
D	METALUX BAU-217-UNV-EB8-1-U	SURFACE	(2)FO17T8	120	
G	COLUMBIA UC24-117-E U	SURFACE	(1)FO17T8	120	MOUNT ON WALL OVER DOOR
H	FAIL-SAFE CF3-217-UNV-IK12-EB82	RECESSED	(2)FO17T8	120	
H-EM	FAIL-SAFE CF3-217-UNV-IK12-EB82-EBP	RECESSED	(2)FO17T8	120	UNSWITCHED, ALWAYS ON
	SURE-LITES CC7SM	SURFACE	INCLUDED	120	
	SURE-LITES CX71WHSD	SURFACE	LED	120	GREEN LETTERS ON WHITE BACKGROUND
	SURE-LITES CX72WHSD	SURFACE	LED	120	GREEN LETTERS ON WHITE BACKGROUND



FIRE ALARM DEVICE MOUNTING DETAIL
NOT TO SCALE

ELECTRICAL LEGEND

- FLUORESCENT LIGHT
- LIGHT FIXTURES
- EXIT LIGHT
- $ — SWITCH – SINGLE POLE, SERVICE SWITCH FOR MOTORS
- $3 — SWITCH – 3-WAY
- $3D — SWITCH – 3-WAY DIMMER
- $D — SWITCH – DIMMER
- $OC — SWITCH – OCCUPANCY
- MOTION SENSOR – CEILING OR WALL MOUNTED, REFER TO DETAILS
- ELECTRICAL DISTRIBUTION PANEL
- TV — CATV, CLOSED CIRCUIT LOCATION (4" SQUARE BOX WITH 1" EMT CONDUIT WITH BUSHING TO ACCESSIBLE CEILING) PROVIDE 2-GANG EXTENSION RING
- MOTOR STARTER PROVIDED BY MC, INSTALLED BY EC
- SAFETY DISCONNECT PROVIDED AND INSTALLED BY EC
- DUPLEX RECEPTACLE
- GFI — DUPLEX RECEPTACLE – GFCI PROTECTED
- DUPLEX RECEPTACLE – COUNTER HEIGHT
- (A)1 — SPECIAL PURPOSE OUTLET, REFER TO SCHEDULE
- PHONE/DATA LOCATION (4" SQUARE BOX WITH 1" EMT CONDUIT WITH BUSHING TO ACCESSIBLE CEILING) PROVIDE 2-GANG EXTENSION RING
- 15F — FIRE ALARM HORN/STROBE (NUMBER DENOTES CANDELA)
- 15S — FIRE ALARM STROBE
- H — FIRE ALARM HORN
- F — FIRE ALARM MANUAL PULL STATION – 48" AFF
- S — SYSTEM SMOKE DETECTOR
- CO — SYSTEM CARBON MONOXIDE DETECTOR
- JB — JUNCTION BOX
- CR — CARD READER
- IM — FIRE ALARM ISOLATION MODULE
- CM — FIRE ALARM CONTROL MODULE
- RA — FIRE ALARM REMOTE ANNUNCIATOR
- FS — FIRE ALARM SPRINKLER FLOW SWITCH
- TS — FIRE ALARM SPRINKLER TAMPER SWITCH

AFF — ABOVE FINISH FLOOR
EC — ELECTRICAL CONTRACTOR (DIVISION 16)
ES — EQUIPMENT SUPPLIER
TYP. — TYPICAL OF ALL

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STATE OF VERMONT — No. 5193 — REGISTERED PROFESSIONAL ENGINEER

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KEY PLAN:

PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

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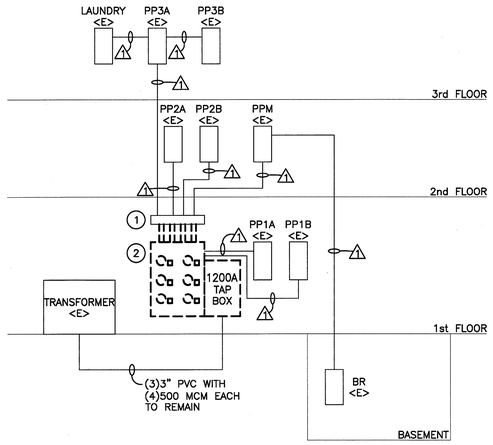
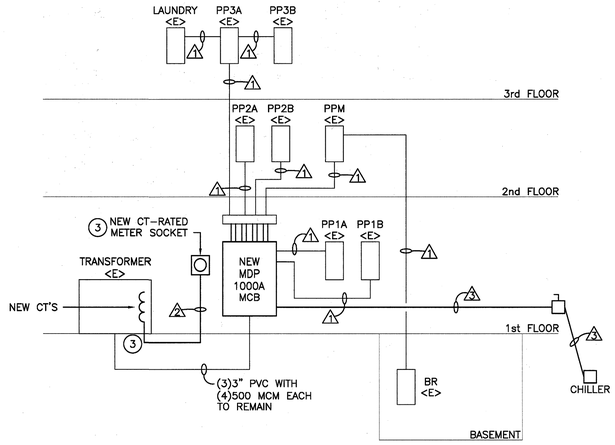
DRAWING TITLE:
ELECTRICAL PANEL SCHEDULES

PROJECT NO: 683 — DATE: 3/2/11

SHEET NUMBER:
E1.04



EXISTING ONE-LINE DIAGRAM
NOT TO SCALE

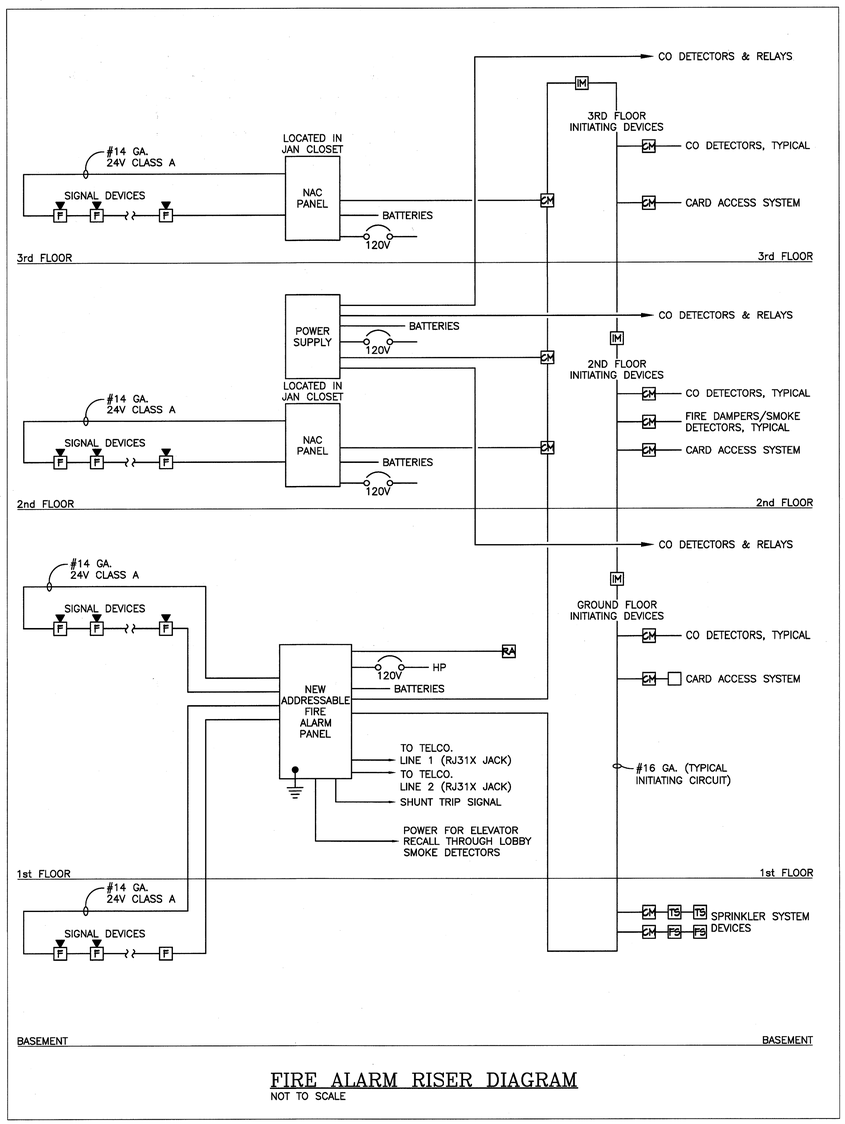


NEW ONE-LINE DIAGRAM
NOT TO SCALE

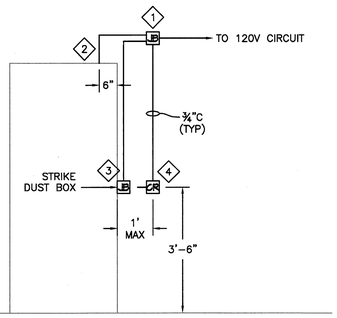
FEEDER SCHEDULE	
MARK	DESCRIPTION
1	EXISTING TO REMAIN
2	1" RIGID CONDUIT WITH (12) #12
3	3"EMT WITH (4) 350 MCM CU. AND #2 GR.

KEYED NOTES:

1. EXISTING WIRE TROUGH TO REMAIN. EXISTING PANEL FEEDERS TO BE REUSED AND EXTENDED INTO THE NEW MDP.
2. EXISTING 6-GANG METER SOCKET AND TAP BOX TO BE REMOVED AND REPLACED WITH A NEW 1000 AMP PANEL. ALL EXISTING PANEL FEEDERS SHALL EXTEND INTO THE NEW MDP. COORDINATE POWER DISCONNECTING AND RECONNECTING WITH GREEN MOUNTAIN POWER.
3. NEW CT-RATED METER SOCKET MOUNTED ON THE BUILDING. PROVIDE AND INSTALL A NEW METER SOCKET AND 1" RIGID CONDUIT WITH (12)#12 TO EXISTING TRANSFORMER VAULT FOR CT-METERING. INSTALL NEW 1" CONDUIT UNDERGROUND TO THE VAULT. COORDINATE ALL WORK WITH GREEN MOUNTAIN POWER.



FIRE ALARM RISER DIAGRAM
NOT TO SCALE

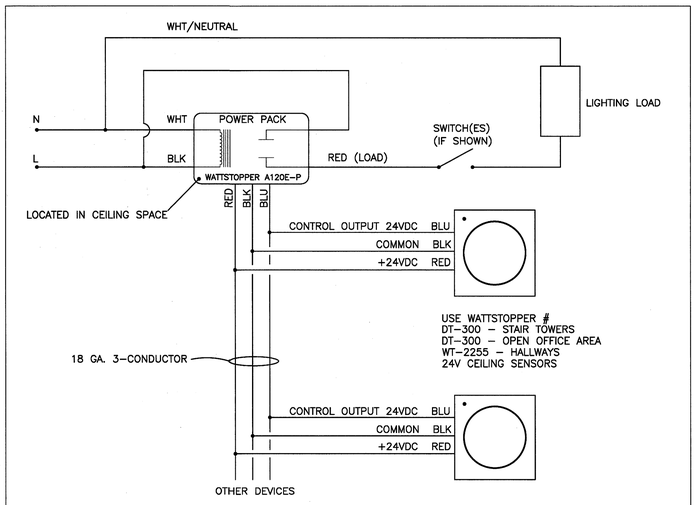


CARD ACCESS SYSTEM INSTALLATION DETAIL
NOT TO SCALE

KEYED NOTES:

1. PROVIDE 8"x12"x6" JUNCTION BOX WITH SCREW COVER, ABOVE SUSPENDED CEILING, MOUNTED ON ROOM SIDE OF DOOR.
2. STUB ¾" CONDUIT INTO HEAD OF DOOR FRAME FOR CONCEALED DOOR POSITION SWITCH. ALIGN LOCATION TO LATCH SIDE.
3. ELECTRIC STRIKE WIRING:
   A. WITHIN DOOR FRAME – STUB CONDUIT FROM JUNCTION BOX AND CONNECT TO DUST BOX IF PRESENT.
   B. FROM READER BOX – STUB CONDUIT TO LOCATION ADJACENT TO STRIKE PLATE.

   INSTALL GROMMETS ON ALL EXPOSED METAL EDGES.
4. PROVIDE 4"x4"x2⅛" DEEP BOX WITH SINGLE GANG DEVICE RING AND STAINLESS STEEL BLANK COVER PLATE FLUSH MOUNTED FOR FUTURE CARD READER.



SENSOR WIRING DETAIL
NOT TO SCALE

GENERAL NOTES & DEMOLITION NOTES: (THESE NOTES REFER TO ALL DRAWINGS)

A. EQUIPMENT AND MATERIALS REMOVED OR DEMOLISHED AND NOT TO BE REINSTALLED BY THE EC SHALL BE CLASSIFIED BY THE OWNER AS SALVAGE OR SCRAP. THOSE CLAIMED BY THE OWNER SHALL BE DELIVERED TO THE OWNER BY THE EC WHERE DIRECTED AT THE SITE. THOSE ITEMS NOT CLAIMED BY THE OWNER SHALL BECOME PROPERTY OF THE EC AND SHALL BE LEGALLY REMOVED FROM THE SITE AND PREMISES.

B. ANY PLACE WHERE THE CONTRACTOR PENETRATES, CUTS AND/OR REMOVES WALLS, CONTRACTOR IS TO REPLACE, PATCH AND PAINT WALLS TO ORIGINAL FINISHES.

C. FIELD VERIFY ALL DIMENSIONS BEFORE COMMENCEMENT OF WORK. NOTIFY ENGINEER OF ANY ERRORS.

D. THE EXISTING FACILITY WILL BE OCCUPIED AND FUNCTIONING DURING THE ENTIRE DURATION OF CONSTRUCTION. CARE SHOULD BE TAKEN WHEN WORKING IN OR AROUND OCCUPIED SPACES. THERE WILL BE NO INTERRUPTION IN POWER, SECURITY, TELEPHONE, DATA, OR FIRE ALARM SYSTEMS WITHOUT WRITTEN APPROVAL OF THE OWNER.

E. REFER TO THE ARCHITECTURAL PLANS FOR EXTENT OF DEMOLITION WORK TO BE PERFORMED BY THE GENERAL CONTRACTOR. ALL ITEMS THAT NEED TO BE REMOVED BY THE GC SHALL HAVE THE POWER DISCONNECTED BY THE EC.

F. NOT ALL DEVICES TO BE REMOVED OR DISCONNECTED ARE SHOWN. WHERE ENTIRE WALLS AND ROOMS ARE TO BE DEMOLISHED, ALL ELECTRICAL DEVICES IN THESE AREAS ARE TO BE DISCONNECTED, AND THE BRANCH CIRCUIT SHALL BE DISCONNECTED BACK TO THE SOURCE. ITEMS TO REMAIN AND BE RELOCATED WILL BE SHOWN. REFER TO MECHANICAL AND ARCHITECTURAL PLANS FOR TOTAL EXTENT OF DEMOLITION WORK.

G. THE BUILDING IS EXISTING. WIRING IN EXTERIOR WALLS SHALL BE FISHED AS NECESSARY. SOME INTERIOR PARTITIONS ARE EXISTING, WIRING IN THESE WALLS MAY NEED TO BE FISHED. REFER TO ARCHITECTURAL PLANS FOR FULL EXTENT OF EXISTING CONDITIONS. NO SURFACE RACEWAY TO BE INSTALLED WITHOUT WRITTEN AUTHORIZATION FROM ARCHITECT.

H. ALL NEW DEVICES AND LIGHTING SHALL BE WIRED TO NEAREST EXISTING RECEPTACLE OR LIGHTING CIRCUIT UNLESS OTHERWISE SHOWN. NEW CIRCUITS ARE SHOWN WITH A HOME RUN TO LISTED PANEL.

I. ALL SERVICES THAT SERVE OTHER PORTIONS OF THE BUILDING & PASS THRU THE RENOVATED SPACE SHALL REMAIN IN SERVICE THROUGHOUT THE CONSTRUCTION PERIOD. THESE SERVICES SHALL BE TEMPORARILY SUPPORTED DURING CONSTRUCTION, & PROPERLY PERMANENTLY SUPPORTED AFTER PROJECT COMPLETION.

J. THE CONTRACTOR SHALL BE FAMILIAR WITH ALL EQUIPMENT SYSTEM "HEAD-END" LOCATIONS PRIOR TO BID DATE. MANY SYSTEMS INSTALLED IN THIS PROJECT ARE CONNECTED TO EXISTING SYSTEMS. THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER CONNECTION TO ALL THESE SYSTEMS.

K. THE CONTRACTOR SHALL FULLY INVESTIGATE ALL EXISTING CONDITIONS AND EQUIPMENT LOCATIONS PRIOR TO THE BID DATE.

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WILLISTON VT 05495
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STATE OF VERMONT — No. 5197 — REGISTERED PROFESSIONAL ENGINEER

REVISION	DATE	COMMENTS
–	–	–

KEY PLAN:

PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
FOR BIDDING

DRAWING TITLE:
ELECTRICAL PANEL SCHEDULES

PROJECT NO: 683 | DATE: 3/2/11

SHEET NUMBER:
E1.05

PCI As Built Set for File

ALTERATIONS TO:

VERMONT TECHNICAL COLLEGE
WILLISTON DORMITORY

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Owner:
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Richard Ethier
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Waterbury, VT 05676
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Architect:
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Lebanon, NH 03766
T.603.448.3778 F.603.443.5555

Structural Engineer:
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51 Knight Lane
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Williston, VT 05495
T.802.879.6343 F.802.879.6376

Mechanical Electrical Engineer:
Liebert Engineers
147 Allen Brook Lane
Williston, VT 05495
T.802.879.5476 F.802.879.5486

Index of Drawings

Architectural:

A1.01	LEGENDS, GENERAL NOTES, CODE PLAN, DEMOLITION PLAN
A1.02	DOOR & FRAME TYPES, DOOR & FRAME SCHEDULE, DETAILS
A2.01	THIRD FLOOR PLAN, WALL TYPES
A8.01	REFLECTED CEILING PLAN
A9.01	CASEWORK DETAILS, INTERIOR ELEVATIONS

Mechanical:

PFD-1	HOT WATER HEATING PROCESS FLOW DIAGRAM
M-A	GENERAL NOTES, MECHANICAL & PLUMBING
M-B	LEGEND & ABBREVIATIONS, MECHANICAL & PLUMBING
M-1	HVAC DEMOLITION PLAN
M-2	THIRD FLOOR HVAC
M-3	DEMOLITION PLAN- THIRD FLOOR VENTILATION & EXHAUST
M-4	THIRD FLOOR VENTILATION & EXHAUST
M-5	THIRD FLOOR HOT WATER HEATING
M-6	MECHANICAL ROOM
M-7	MECHANICAL SCHEDULES & DETAILS (SHEET 1)
M-8	MECHANICAL SCHEDULES & DETAILS (SHEET 2)
P-1	DEMOLITION PLAN- THIRD FLOOR PLUMBING PLAN
P-2	THIRD FLOOR WASTE & VENT
P-3	THIRD FLOOR DOMESTIC WATER
P-4	SCHEDULES, NOTES & RISERS

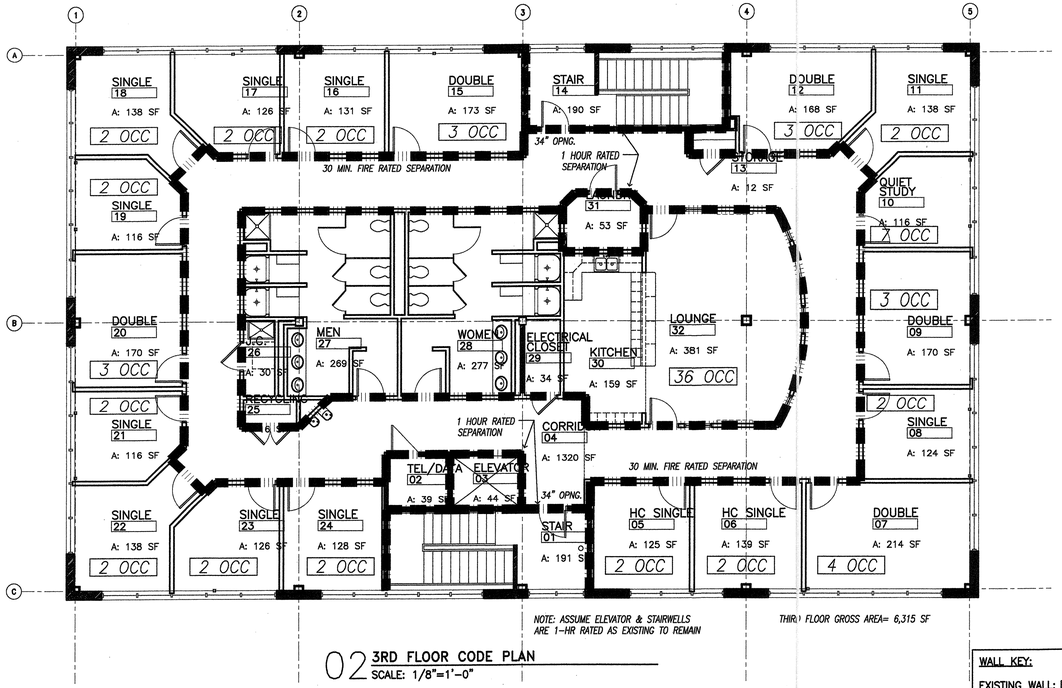
Electrical:

E-1	LEGEND
E-2	DETAILS & SCHEDULES
E-3	ELECTRICAL DEMOLITION
E-4	POWER PLAN
E-5	COMMUNICATIONS
E-6	FIRE ALARM
E-7	LIGHTING

Fire Protection:

FP-1	THIRD FLOOR FIRE PROTECTION

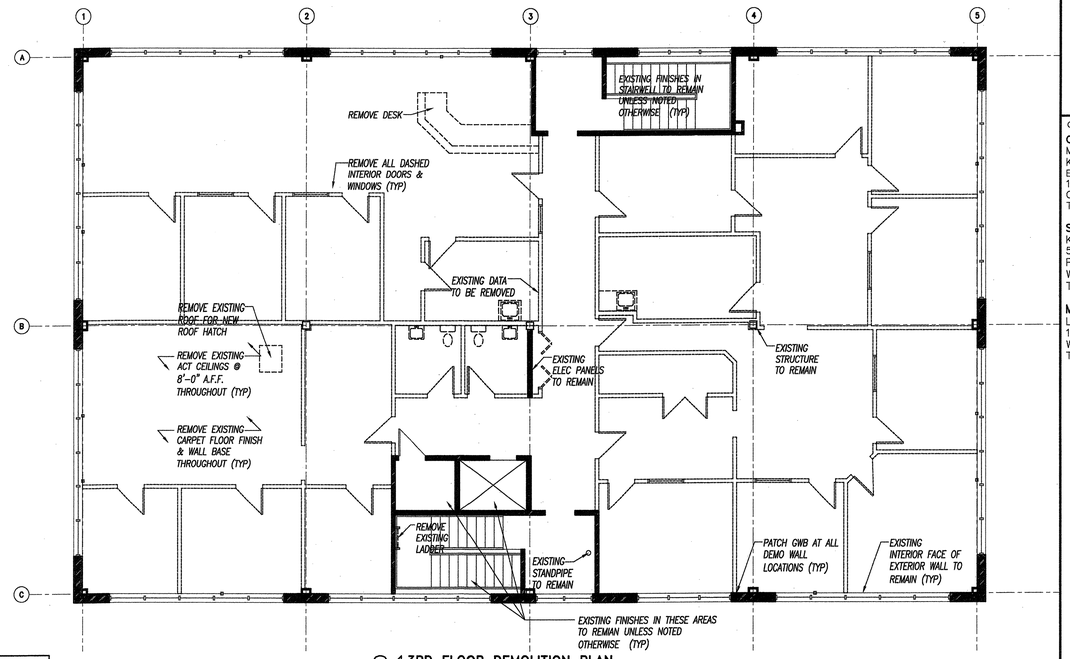
CONSTRUCTION DOCUMENTS 3-16-2009



NOTE: ASSUME ELEVATOR & STAIRWELLS ARE 1-HR RATED AS EXISTING TO REMAIN

THIRD FLOOR GROSS AREA= 6,315 SF

02 3RD FLOOR CODE PLAN
SCALE: 1/8"=1'-0"



01 3RD FLOOR DEMOLITION PLAN
SCALE: 1/8"=1'-0"

WALL KEY:
EXISTING WALL:
DEMO WALL:
NEW WALL:

CODE NOTES

APPLICABLE CODES:

INTERNATIONAL BUILDING CODE – 2003 EDITION
NFPA 101 LIFE SAFETY CODE – 2003 EDITION

USE GROUP CLASSIFICATION:

R-2 – RESIDENTIAL
B – BUSINESS

CONSTRUCTION TYPE:

2B – NONCOMBUSTIBLE, UNPROTECTED

FULL AUTOMATIC SPRINKLER SYSTEM

BUILDING HEIGHT & AREA:

BASE HEIGHT ALLOWED: (R) 4 STORIES/55' (IBC)
ACTUAL HEIGHT: 3 STORY / 36'-8"

FLOOR AREA:
BASE AREA ALLOWANCE: (R) 16,000 SF/FL (IBC) (BOCA)
ACTUAL AREA: 6,315 SF (THIRD FLOOR) ALL FLOORS OF EQUAL SIZE

OCCUPANT LOAD: THIRD FLOOR: 76

EXIT CAPACITY: THIRD FLOOR: DOORS 68"/0.2" = 340

CORRIDOR RATING: 30 MIN. FIRE RATED ASSEMBLY

MAXIMUM ALLOWABLE TRAVEL DISTANCE TO EXIT: 250' (R), SPRINKLER PROTECTED
ACTUAL MAXIMUM TRAVEL DISTANCE TO EXIT: 72'

MATERIALS LEGEND

- Earth/Fill
- Gravel/Porous Fill
- Concrete/Precast
- Concrete/Precast
- Stone: As Noted
- CMU
- Brick
- Steel
- Aluminum
- Cont. Wood Framing
- Wood Blocking
- Finish Wood
- Rigid Insulation: As Noted
- Spray Poly-Urethane Foam Insulation Urethane Insul.
- Cellulose Insulation: As Noted
- Batt Insulation: As Noted
- Sealant Bed/Mastic: As Noted
- Plywood: Type As noted
- Gypsum Sheathing: As Noted
- Cement Board Sheathing
- Ceramic Tile As Noted
- Resilient Flooring As Noted
- Acoustic Tile: Type As Scheduled
- Carpet
- Waterproof Membrane/ Vapor Barrier: As Noted

SYMBOL LEGEND

- OO — COLUMN BUBBLE & GRIDLINE
- 1 / A0.0 — BUILDING SECTION REFERENCE
- 1 / A0.0 — WALL-SECTION REFERENCE
- 1 / A0.0 — DETAIL KEY
- 1 / A0.0 — ELEVATION REFERENCE
- Wx — WALL-TYPE REFERENCE. SEE DRAWING A0.02
- Cx — CASEWORK REFERENCE. SEE DRAWING A9.01
- 01 / 04 02 / 03 — INTERIOR ELEVATION REFERENCE
- 119.1 — DOOR NUMBER. SEE DOOR & FRAME SCHEDULE IN PROJECT MANUAL & DRAWING A0.03
- 1 — KEYNOTE REFERENCE
- A — INTERIOR FINISH/MATERIAL MARKER
- A — EXTERIOR FINISH/MATERIAL MARKER
- ROOM NAME / 101 / F1 · B1 · W1 · C1 / A: 100.0 — ROOM NAME, NUMBER, FINISHES & AREA
- FLOOR ELEV 100'-0" — ELEVATION DATUM: PLAN, ELEVATION, SECTION
- 01 — REVISION KEY
- REVISION CLOUD
- W1 — WINDOW TYPE REFERENCE

GENERAL NOTES

1. SEE STRUCTURAL DWGS FOR REQUIREMENTS FOR WALL REINFORCING AND BRACING
2. NOTE THAT SLAB IS RECESSED IN SOME AREAS TO ACCOMODATE FLOOR FINISHES, LIFT PIT AND ALLOW WATER TO FLOW TO DRAINS; SEE STRUCTURAL DWGS FOR LOCATIONS.
3. PROVIDE FIRE RATINGS AS REQUIRED WHERE INDICATED ON PLANS. WHERE INTERIOR PARTITIONS ARE NOTED AS FIRE RATED ON PLANS, SEAL TIGHTLY AT PERIMETER (INCL. ROOF DECK) & OPENINGS WITH UL LISTED SEALANT.
4. ALL DOOR FRAMES SHALL BE INSTALLED 6" FROM THE ADJACENT WALL OR CENTERED ON THE WALL UNLESS NOTED OTHERWISE.
5. ALL WALLS SHALL EXTEND TO THE BOTTOM OF THE FLOOR OR ROOF DECK ABOVE UNLESS NOTED OTHERWISE. PROVIDE MANUFACTURER'S STANDARD RUBBER CLOSURE TO SEAL GAPS @ TOP OF WALL, USE SAFING AT OTHER PENETRATIONS, TYPICAL.
6. NOTIFY ARCHITECT OF ANY CONFLICTS OR DISCREPANCIES IN THE DRAWINGS OR EXISTING CONDITIONS.
7. SEE ENLARGED PLANS FOR ADDITIONAL REFERENCES TO DETAILS

WALL RATINGS LEGEND AND NOTES

- 1-HOUR RATED
- 30 MIN RATED

1. SEE CODE PLANS FOR ALL RATING REQUIREMENTS.
2. SEE DOOR SCHEDULE FOR OPN'G PROTECTION REQUIREMENTS.
3. MECHANICAL, ELECTRICAL & PLUMBING SUBCONTRACTORS TO COMPLY W/ FIREBLOCKING & FIRESTOPPING REQUIREMENTS @ ALL PENETRATIONS OF FLOOR AND WALL ASSEMBLIES & ROOF AND CEILING ASSEMBLIES.
4. ALL SEMI-RECESSED OR RECESSED FIRE EXTINGUISHER CABINETS SHALL BE U.L. LISTED FOR USE IN 1-HOUR FIRE RESISTIVE CONSTRUCTION OR WRAP INSIDE OF STUD SPACE W/ 5/8"TYPE X G.W.B. (FIRETAPED) IF ALLOWED BY BLDG. OFFICIAL/INSPECTOR.

DEMOLITION NOTES

1. THIS PLAN DESCRIBES ARCHITECTURAL DEMOLITION ONLY. SEE MECHANICAL, PLUMBING & ELECTRICAL DEMO DRAWINGS FOR OTHER DEMO WORK.
2. THE SCOPE OF DEMOLITION INCLUDES, BUT IS NOT LIMITED TO, ALL WORK & LEGAL DISPOSAL OF MATERIALS AS SHOWN ON THE DRAWINGS & AS SPECIFIED. INCLUDE ALL DEMOLITION NECESSARY TO COMPLETE THE NEW CONSTRUCTION AS SHOWN ON THE DRAWINGS, SCHEDULES & SPECS.
3. THE BIDDERS ARE REQUIRED TO VISIT THE SITE & ARE RESPONSIBLE FOR FULL KNOWLEDGE OF EXISTING CONDITIONS.
4. REMOVE ALL EXISTING SUSPENDED & ADHERED CEILING TILES & GRID AND GYP BD CEILINGS UNLESS NOTED OTHERWISE. SEE FINISH SCHEDULE.
5. REMOVE ALL FLOOR FINISHES, BASE & ADHESIVES BACK TO ACCEPTABLE SUBFLOOR, UNLESS NOTED OTHERWISE.
6. REMOVE DOORS AND FRAMES UNLESS NOTED OTHERWISE; SEE DOOR SCHEDULE FOR DOORS AND/OR DOOR FRAMES TO REMAIN.
7. REPAIR WALLS & PATCH FINISHES AS NEEDED TO MATCH EXISTING. PREPARE EXISTING WALLS FOR NEW FINISHES.
8. FLASH FLOORS AS REQUIRED TO PREPARE EXISTING FLOORS FOR NEW FINISHES

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REVISION	DATE	COMMENTS
–	–	–

KEY PLAN:

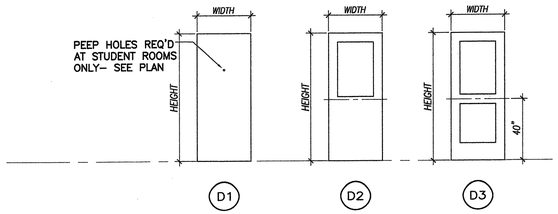
PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
CONSTRUCTION DOCUMENTS

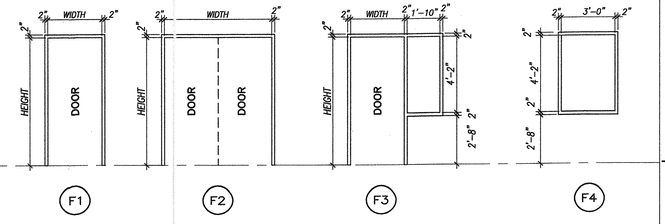
DRAWING TITLE:
LEGENDS,
GENERAL NOTES,
CODE PLAN, DEMO PLAN

PROJECT NO: 683 DATE: 03/16/09

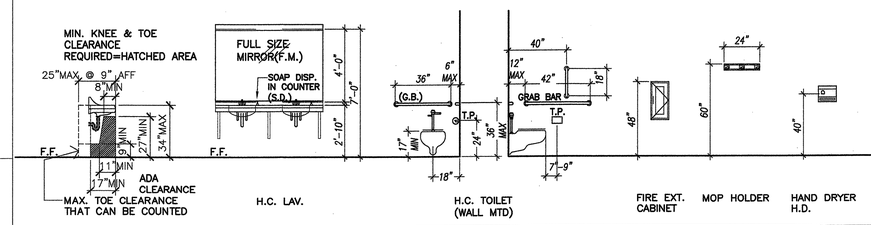
SHEET NUMBER:
A1.01



DOOR TYPES



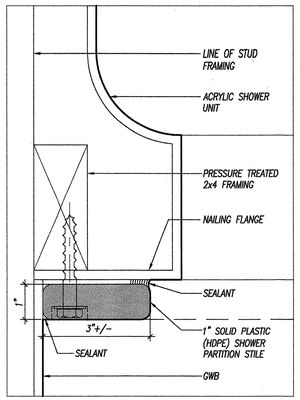
FRAME TYPES



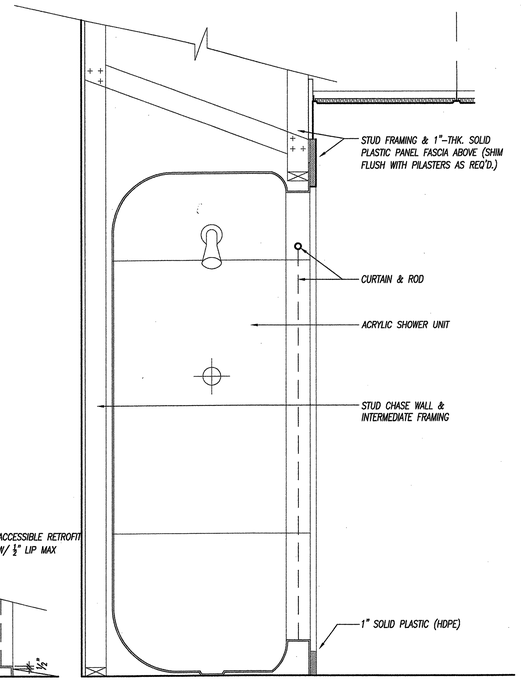
ACCESSORY MOUNTING HEIGHTS

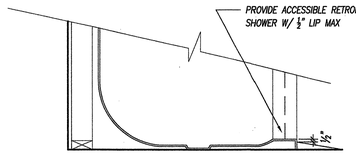
DOOR AND FRAME SCHEDULE

OPENINGS		DOORS					FRAMES								
NUMBER	ROOM	TYPE	MATERIAL	WIDTH	HEIGHT	THICKNESS	TYPE	MATERIAL	HEAD	JAMB	THRESHOLD	GLASS	HARDWARE	FIRE RATING	REMARKS
01.1	STAIR 01	D2	WD	VIF	VIF	VIF	EXISTING	–	–	–	–	SAFETY	–	45 MIN	REUSE EXISING FRAME
02.1	TEL/DATA 02	–	–	3'–0"	7'–0"	1 3/4"	–	–	–	–	–	–	–	VERIFY 20 MIN	EXISTING DOOR & FRAME
05.1	HC SINGLE 05	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	–	20 MIN	
06.1	HC SINGLE 06	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	–	20 MIN	
07.1	DOUBLE 07	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	–	20 MIN	
08.1	SINGLE 08	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	–	20 MIN	
09.1	DOUBLE 09	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	–	20 MIN	
10.1	QUIET STUDY 10	D2	WD	3'–0"	7'–0"	1 3/4"	F3	HM	–	–	–	SAFETY	–	20 MIN	W/ BORROW LIGHT
11.1	SINGLE 11	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	–	20 MIN	
12.1	DOUBLE 12	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	–	20 MIN	
13.1	STORAGE 13	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	–	20 MIN	
14.1	STAIR 14	D2	WD	VIF	VIF	VIF	EXISTING	–	–	–	–	SAFETY	–	45 MIN	REUSE EXISTING FRAME
15.1	DOUBLE 15	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	–	20 MIN	
16.1	SINGLE 16	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	–	20 MIN	
17.1	SINGLE 17	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	–	20 MIN	
18.1	SINGLE 18	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	–	20 MIN	
19.1	SINGLE 19	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	–	20 MIN	
20.1	DOUBLE 20	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	–	20 MIN	
21.1	SINGLE 21	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	–	20 MIN	
22.1	SINGLE 22	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	–	20 MIN	
23.1	SINGLE 23	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	–	20 MIN	
24.1	SINGLE 24	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	–	20 MIN	
25.1	RECYCLING 25	D1	WD	5'–0"	7'–0"	1 3/4"	F2	HM	–	–	–	–	–	20 MIN	
26.1	J.C. 26	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	–	20 MIN	
27.1	MEN 27	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	–	20 MIN	
28.1	WOMEN 28	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	–	20 MIN.	
29.1	ELECTRICAL CLOSET 29	D1	WD	2'–8"	7'–0"	1 3/4"	F1	HM	–	–	–	–	–	20 MIN	
31.1	LAUNDRY 31	D1	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	–	–	45 MIN	
32.1	LOUNGE 32	D3	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	SAFETY	–	20 MIN	
32.2	LOUNGE 32	–	–	–	–	–	F4	HM	–	–	–	SAFETY	–	20 MIN	BORROW LIGHT
32.3	LOUNGE 32	–	–	–	–	–	F4	HM	–	–	–	SAFETY	–	20 MIN	BORROW LIGHT
32.4	LOUNGE 32	–	–	–	–	–	F4	HM	–	–	–	SAFETY	–	20 MIN	BORROW LIGHT
32.5	LOUNGE 32	–	–	–	–	–	F4	HM	–	–	–	SAFETY	–	20 MIN	BORROW LIGHT
32.6	LOUNGE 32	–	–	–	–	–	F4	HM	–	–	–	SAFETY	–	20 MIN	BORROW LIGHT
32.7	LOUNGE 32	–	–	–	–	–	F4	HM	–	–	–	SAFETY	–	20 MIN	BORROW LIGHT
32.8	LOUNGE 32	–	–	–	–	–	F4	HM	–	–	–	SAFETY	–	20 MIN	BORROW LIGHT
32.9	LOUNGE 32	D3	WD	3'–0"	7'–0"	1 3/4"	F1	HM	–	–	–	SAFETY	–	20 MIN	



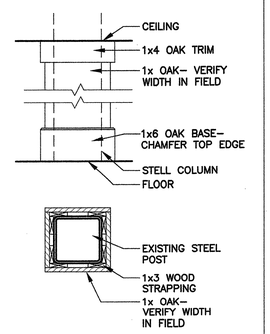
06 SHOWER FLANGE DETAIL
SCALE: 6"=1–0"



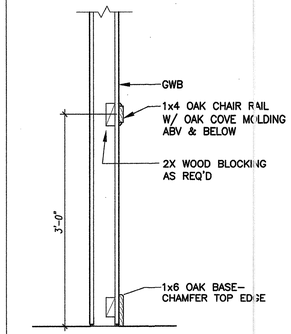


05 H.C. SHOWER
SCALE: 1"=1'–0"

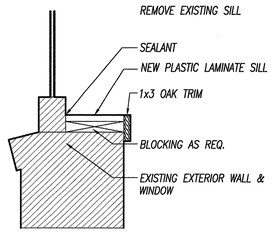
04 SECTION THROUGH STANDARD SHOWER UNIT
SCALE: 1"=1'–0"



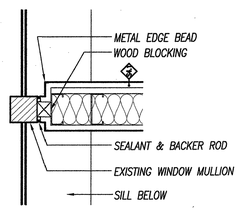
08 DETAILS AT STEEL COLUMN
SCALE: 1"=1'–0"



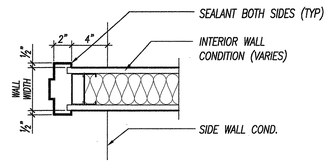
07 WOOD BASEBOARD & CHAIR RAIL (ADD–ALTERNATE A–2)
SCALE: 1"=1'–0"



03 WINDOW SILL (ADD–ALTERNATE)(A–1)
SCALE: 1 1/2"=1'–0"



02 PLAN DETAIL AT EXISTING WINDOW
SCALE: 1 1/2"=1'–0"



01 H.M. JAMB @ INT. GWB WALL
SCALE: 1 1/2"=1'–0"

MISC DETAILS

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REVISION	DATE	COMMENTS
–	–	–

KEY PLAN:

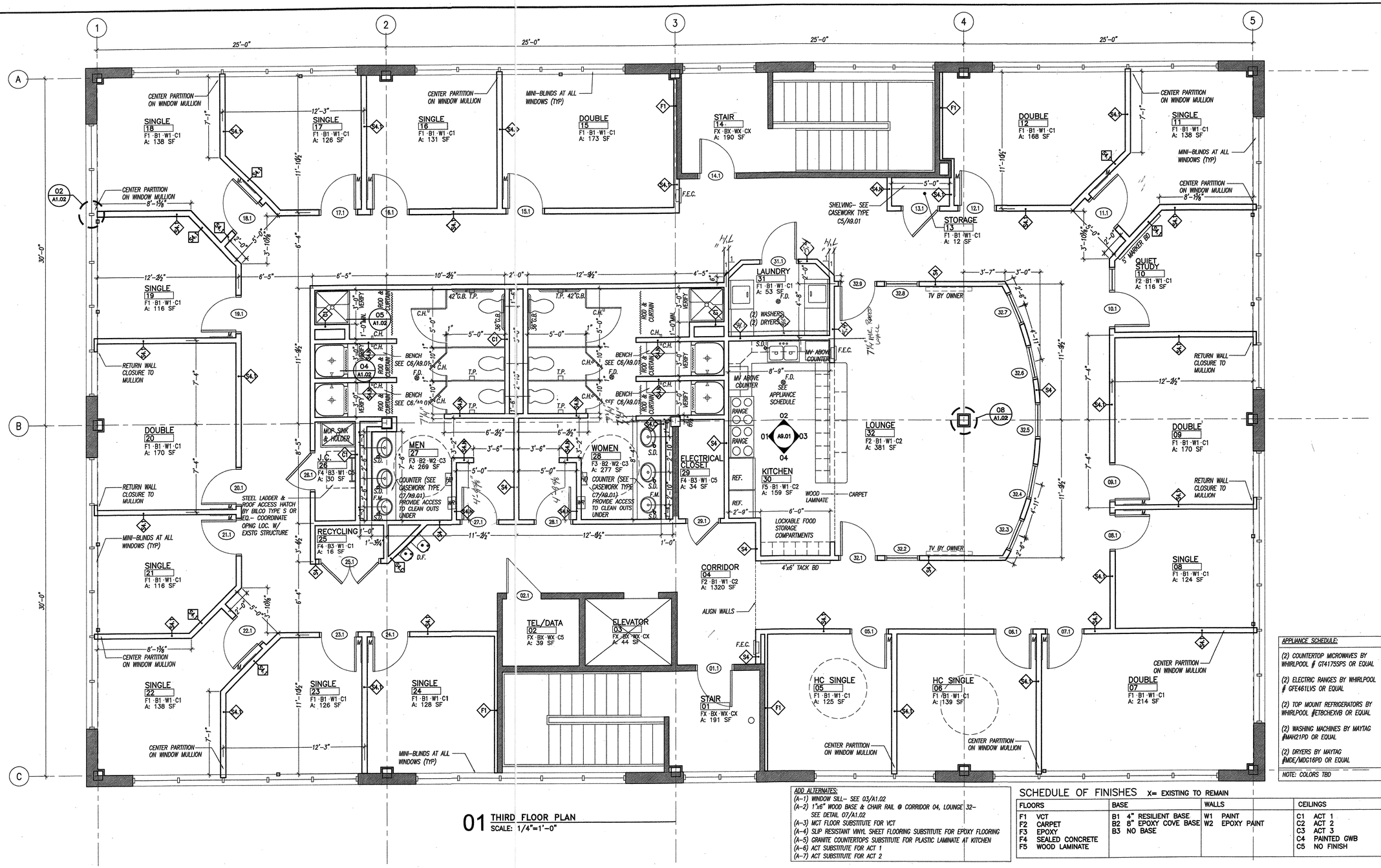
PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
CONSTRUCTION DOCUMENTS

DRAWING TITLE:
DOOR FRAME TYPES, DOOR SCHEDULE, DETAILS

PROJECT NO: 683 | DATE: 03/16/08

SHEET NUMBER:
A1.02



01 THIRD FLOOR PLAN
SCALE: 1/4"=1'-0"

ADD ALTERNATES:

(A-1) WINDOW SILL- SEE 03/A1.02
(A-2) 1"x6" WOOD BASE & CHAIR RAIL @ CORRIDOR 04, LOUNGE 32- SEE DETAIL 07/A1.02
(A-3) MCT FLOOR SUBSTITUTE FOR VCT
(A-4) SLIP RESISTANT VINYL SHEET FLOORING SUBSTITUTE FOR EPOXY FLOORING
(A-5) GRANITE COUNTERTOPS SUBSTITUTE FOR PLASTIC LAMINATE AT KITCHEN
(A-6) ACT SUBSTITUTE FOR ACT 1
(A-7) ACT SUBSTITUTE FOR ACT 2

APPLIANCE SCHEDULE:

(2) COUNTERTOP MICROWAVES BY WHIRLPOOL # GT4175SPS OR EQUAL

(2) ELECTRIC RANGES BY WHIRLPOOL # GFE461LVS OR EQUAL

(2) TOP MOUNT REFRIGERATORS BY WHIRLPOOL #ETDCHEXVB OR EQUAL

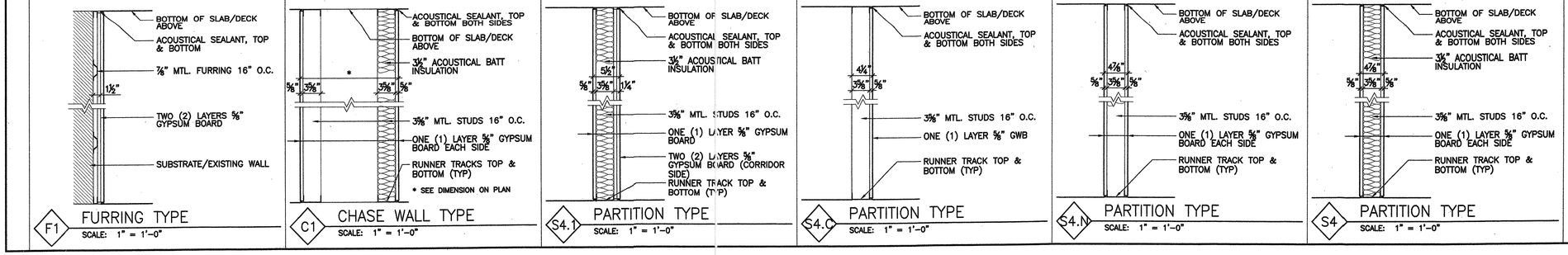
(2) WASHING MACHINES BY MAYTAG #MAH21PD OR EQUAL

(2) DRYERS BY MAYTAG #MDE/MDG16PD OR EQUAL

NOTE: COLORS TBD

SCHEDULE OF FINISHES X= EXISTING TO REMAIN

FLOORS	BASE	WALLS	CEILINGS
F1 VCT	B1 4" RESILIENT BASE	W1 PAINT	C1 ACT 1
F2 CARPET	B2 8" EPOXY COVE BASE	W2 EPOXY PAINT	C2 ACT 2
F3 EPOXY	B3 NO BASE		C3 ACT 3
F4 SEALED CONCRETE			C4 PAINTED GWB
F5 WOOD LAMINATE			C5 NO FINISH



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REVISION	DATE	COMMENTS
–	–	–

KEY PLAN:

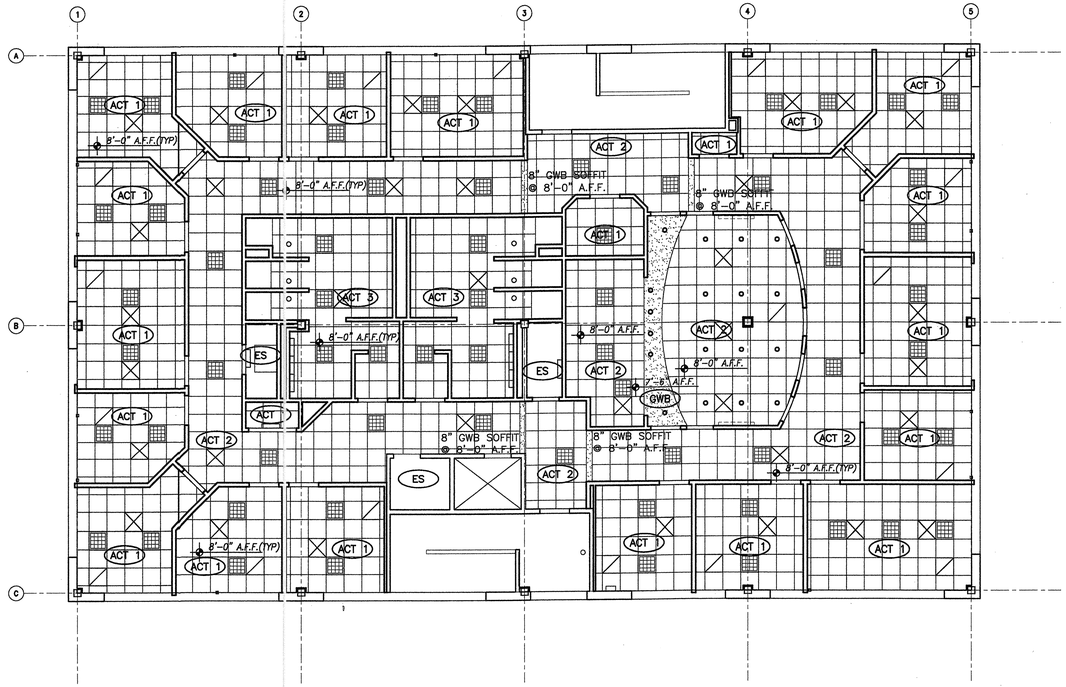
PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
CONSTRUCTION DOCUMENTS

DRAWING TITLE:
THIRD FLOOR PLAN, WALL TYPES

PROJECT NO: 683 | DATE: 03/16/08

SHEET NUMBER:
A2.01



NOTE: ALL CEILINGS MOUNTED AT 8'-0" A.F.F. UNLESS OTHERWISE NOTED

NOTE: SEE ELECTRICAL PLAN FOR LIGHT FIXTURE TYPES

SYMBOLS LEGEND

SUPPLY AIR DIFFUSER	⊠
RETURN AIR GRILL	⊘
RECESSED LIGHT FIXTURE	○
DROP IN LIGHT FIXTURE	▦
WALL MOUNTED LIGHT FIXTURE	▭
CEILING HEIGHT ABOVE FLOOR	8'-0" A.F.F.
TYP. ACOUSTICAL CEILING TILE	ACT-1
GYPSUM WALL BOARD	GWB
EXPOSED STRUCTURE	ES

01 THIRD FLOOR REFLECTED CEILING PLAN
SCALE: 1/8"=1'-0"

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REVISION	DATE	COMMENTS
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KEY PLAN:

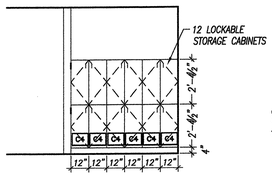
PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
CONSTRUCTION DOCUMENTS

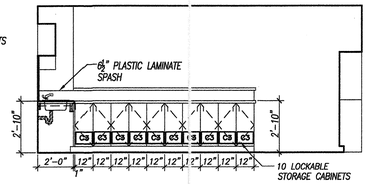
DRAWING TITLE:
REFLECTED CEILING PLAN

PROJECT NO: 683 | DATE: 03/16/09

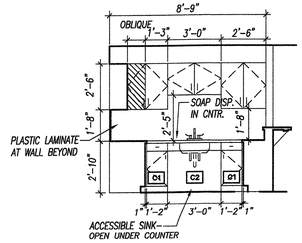
SHEET NUMBER:
A8.01



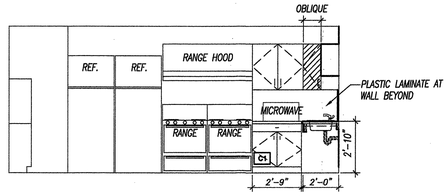
04 INTER. ELEV. @ KITCHEN 30
SCALE: 1/4" = 1'-0"



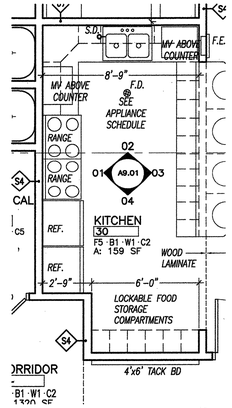
03 INTER. ELEV. @ KITCHEN 30
SCALE: 1/4" = 1'-0"



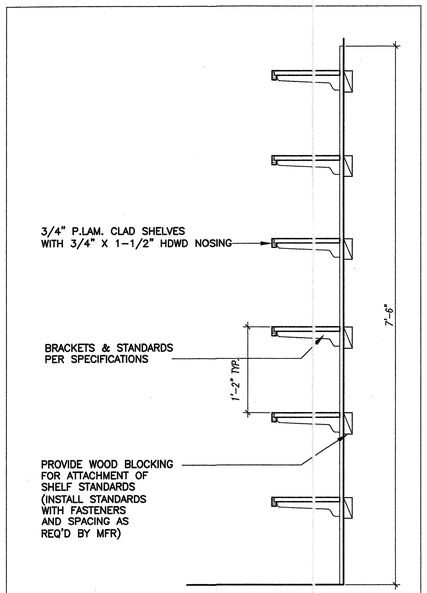
02 INTER. ELEV. @ KITCHEN 30
SCALE: 1/4" = 1'-0"



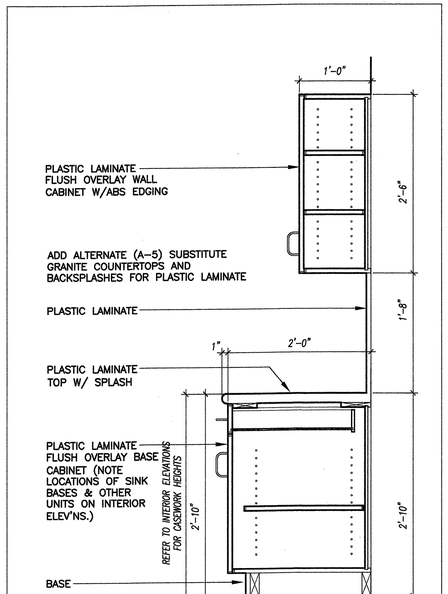
01 INTER. ELEV. @ KITCHEN 30
SCALE: 1/4" = 1'-0"



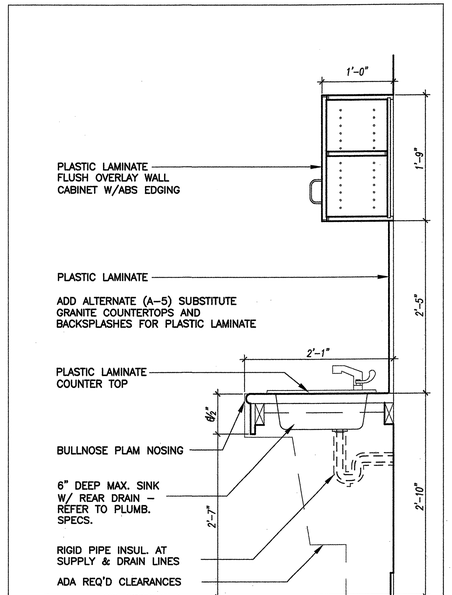
05 PARTIAL PLAN @ KITCHEN 30
SCALE: 1/4" = 1'-0"



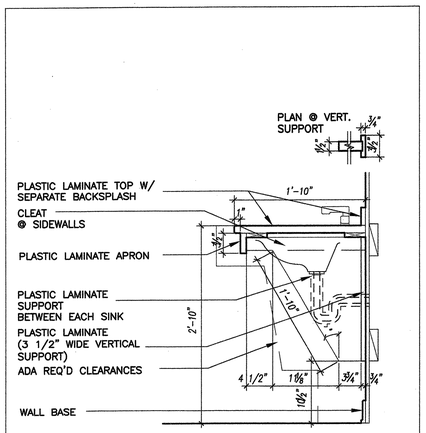
C5 ADJUSTABLE SHELVES
SCALE: 1"=1'-0"



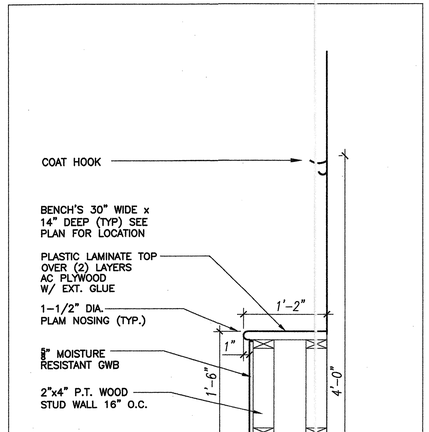
C1 BASE CABINET W/ WALL CABINET
SCALE: 1"=1'-0"



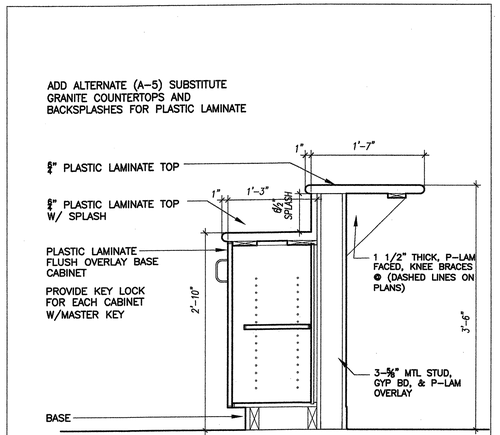
C2 SINK COUNTER W/ WALL CABINET
SCALE: 1"=1'-0"



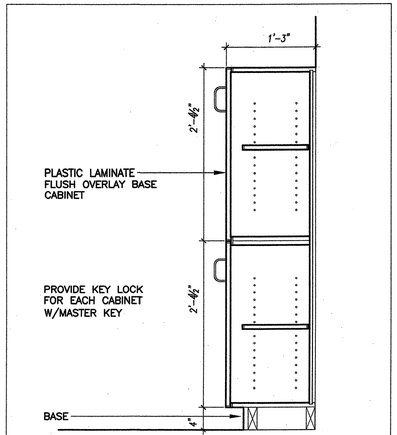
C7 SINK COUNTER-KNEE BRACES-HC
SCALE: 1"=1'-0"



C6 LOCKER DETAIL
SCALE: 1"=1'-0"



C3 BASE CABINET
SCALE: 1"=1'-0"



C4 BASE CABINET
SCALE: 1"=1'-0"

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REVISION	DATE	COMMENTS
-	-	-

KEY PLAN:

PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
CONSTRUCTION DOCUMENTS

DRAWING TITLE:
CASEWORK DETAILS, INTERIOR ELEVATIONS

PROJECT NO: 683 DATE: 03/16/08

SHEET NUMBER:
A9.01

SUMMARY OF WORK – CONTROLS SYSTEMS:

1. PROVIDE NEW INSTRUMENTS AND NEW CONTROLLER AS REQUIRED, AND CONFIGURE TO INTERFACE WITH EXISTING CONTROLS TO OPERATE AS FOLLOWS:

HWP–2 PUMP OPERATION:

A. INSTALL NEW HW RECIRC PUMP, PRESSURE TRANSMITTER, AND 3–WAY CONTROL VALVE AS SHOWN. PUMP TO OPERATE WHENEVER THERE IS A CALL FOR HEATING BY ANY OF THE 3RD FLOOR BASEBOARD HEATING ZONES, INCLUDING ERU HEATING COIL. 3–WAY VALVE TO MODULATE TO DIVERT FLOW TO BOILER RECIRC WHEN HEATING DEMAND DECREASES TO PREVENT PUMP DEAD–HEAD CONDITION.

BOILER OPERATION:

B. BOILER OPERATION TO REMAIN AS CURRENTLY CONFIGURED FOR WATER SOURCE HEAT PUMP LOOP: BOILERS CYCLE ON/OFF AND MODULATE AS NEEDED TO PROVIDE CONSTANT HWS TEMPERATURE OF 180°F.

C. BOILER CONTROLS TO BE MODIFIED AS REQUIRED TO ENSURE HOT WATER SUPPLY TEMPERATURE MAINTAINED (AT 180F) WHENEVER HWP–2 IS RUNNING (TO ENSURE HOT WATER IS AVAILABLE AT 3RD FLOOR USERS).

ERU & DUCT COIL OPERATION:

D. PROVIDE NEW SUPPLY AIR TEMPERATURE TRANSMITTER IN ERU S/A DUCT TO MODULATE RESPECTIVE HOT WATER HEATING CONTROL VALVE. CONFIGURE TO MAINTAIN AIR DISCHARGE TEMPERATURE OF MIN 72F (WINTER) AND MAX 75F (SUMMER).

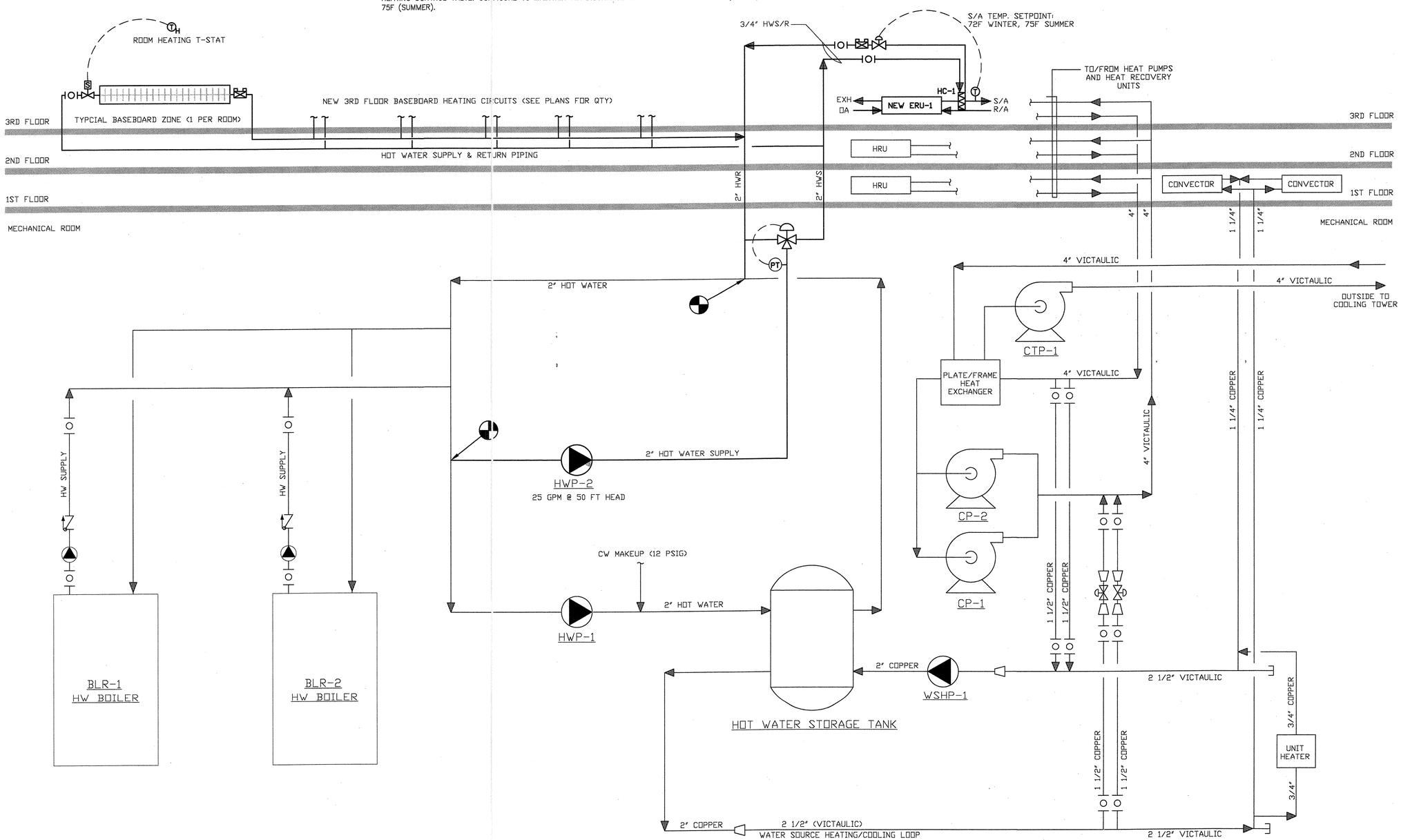
SUMMARY OF WORK – MECHANICAL SYSTEMS:

1. PROVIDE NEW HOT WATER BASEBOARD HEATING TO 3RD FLOOR. PIPING TO BE LOCATED IN 2ND FLOOR CEILING. REFER TO PROPOSED PIPING PLAN FOR MORE INFORMATION. PROVDE NEW T–STAT FOR INDEPENDENT ROOM CONTROL OF ZONE HEATING VALVE (ON/OFF).

2. REMOVE EXISTING HRU SERVING 3RD FLOOR AND REPLACE WITH NEW ERU. REFER TO PROPSED PLANS AND EQUIPMENT SCHEDULES FOR MORE INFORMATION.

3. FURNISH AND INSTALL NEW DUCT HEATING COIL TO TEMPER OA TO OCCUPIED SPACES..

4. TIE INTO EXISTING 180F HOT WATER LOOP AND INSTALL NEW RECIRCULATION PUMP, HWP2, AND ASSOCIATED PIPING FROM MECHANICAL ROOM TO 3RD FLOOR.



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REVISION	DATE	COMMENTS
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KEY PLAN:

PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
CONSTRUCTION DOCUMENTS

DRAWING TITLE:
PROPOSED WORK
HOT WATER HEATING
PROCESS FLOW DIAGRAM

PROJECT NO: 683 | DATE: 03/16/09

SHEET NUMBER:
PFD–1

GENERAL NOTES:

ALL WORK SHALL CONFORM TO THE FOLLOWING, AS ADOPTED BY THE RESPECTIVE JURISDICATION, THE MORE STRINGENT SUPERCEDING THE OTHERS WHERE CONTRADICTIONS EXIST:

A) ASHRAE 62.1

B) ASHRAE 90.1

C) 2005 VT GUIDELINES FOR ENERGY EFFIECENT COMMERCIAL CONSTRUCTION

D) INTERNATIONAL PLUMBING CODE

E) INTERNATIONAL MECHANICAL CODE

G1. THESE DRAWINGS ARE INTENDED TO SHOW SCOPE OF PROPOSED WORK, WHICH MAY TIE INTO EXISTING SERVICES, AS WELL AS APPROXIMATE SERVICE ROUTINGS. ALTHOUGH MUCH INFORMATION IS PRESENTED HERE, THESE DRAWINGS DO NOT NECESSARILY DEPICT EVERY FITTING, DIMENSION, OFFSET, VENT, DRAIN, OR TRANSITION REQUIRED FOR INSTALLATION. PRIOR TO SUBMITTING BID, CONTRACTOR SHALL SURVEY AND FIELD VERIFY EXISTING CONDITIONS AND OBSERVE PROPOSED ROUTINGS.

i. - NO ADDITIONAL COMPENSATION OR RELIEF FROM SCHEDULE SHALL BE GIVEN FOR DIFFICULT WORKING CONDITIONS.
ii - NO ADDITIONAL COMPENSATION SHALL BE GIVEN FOR EXTRA PIPING, DUCTWORK, FITTINGS, OR SUPPORTS REQUIRED TO COMPLETE THE INSTALLATION OF ALL RUNS DESCRIBED AND DEPICTED WITHIN THIS DESIGN PACKAGE.

G2. ALL NEW SERVICES SHALL BE INSTALLED IN A RECTALINEAR FASHION ALONGSIDE EXISTING SERVICES, UTILIZING THE SAME SUPPORT STRUCTURES WHEREVER POSSIBLE. SERVICES SHALL BE INSTALLED IN SUCH A MANNER AS TO MAXIMIZE THE AVAILABLE SURROUNDING CLEAR SPACE.

G2A. WHERE CONNECTING TO EXISTING PIPING, IT IS THE INTENT TO MATCH SIZE AND SCHEDULE OF EXISTING PIPING AND INSULATION UNLESS NOTED OTHERWISE. CONTRACTOR SHALL CONFIRM ALL SIZES AND SCHEDULES PRIOR TO COMMENCING WORK AND NOTIFY OWNER IMMEDIATELY OF ANY DESCREPANCIES FROM WHAT IS SHOWN HERE.

G3. CONTRACTOR SHALL WORK AROUND ALL EXISTING PIPING, UTILITIES, SERVICES, WIRING, AND SUPPORTS, ETC. LOCATED IN THE WORK AREA AND NOT SCHEDULED FOR MODIFICATION / RELOCATION.

G4. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OF ANY & ALL DAMAGES MADE ON NEW OR EXISTING EQUIPMENT, STRUCTURES, FLOOR, ETC. INSTALLED OR RELOCATED UNDER THIS CONTRACT. THIS SHALL INCLUDE ALL TOUCH UP PAINTING.

G5. CONTRACTOR SHALL REMOVE ALL DEBRIS RELATIVE TO THE RESPECTIVE TRADE IN A TIMELY FASHION AND PRACTICE GOOD HOUSEKEEPING.

G6. THE CONTRACTOR SHALL IMMEDIATELY STOP ALL WORK IF SUSPECT MATERIALS ARE IDENTIFIED WHICH MAY CONTAIN ASBESTOS FIBERS OR LEAD AND NOTIFY OWNER.

G7. CONTRACTOR SHALL CLOSELY COORDINATE WORK WITH THE OWNER AND OTHER TRADES IN ORDER TO MINIMIZE INTERFERENCE WITH NORMAL ACTIVITIES. WORK SHALL BE SCHEDULED IN PROPER SEQUENCE TO AVOID POWER OUTAGES WHEREVER POSSIBLE, AND TO MINIMIZE THE DURATION OF OUTAGES THAT CANNOT BE AVOIDED.

G8. ALL WORK SHALL BE PERFORMED WITH A SENSITIVITY TO BUILDING NEIGHBORING TENANTS. TASKS WHICH PRODUCE EXCESSIVE NOISE AND VIBRATION MAY BE REQUIRED TO BE COMPLETED DURING PERIODS WHEN THE BUILDING IS UNOCCUPIED. COORDINATE WITH OWNER FOR SCHEDULING ALL PHASES OF THE PROJECT, SPECIFICALLY DEMOLITION WORK.

G9. CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL NEW EQUIPMENT AS IDENTIFIED BY THESE PROJECT DRAWINGS. THIS SHALL INCLUDE TRANSPORTING, UNLOADING, UNCRATING, AND PLACEMENT OF ALL EQUIPMENT. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL ELIGIBLE ENERGY EFFICIENCY REBATES AND INCENTIVES AND CREDITING TO OWNER.

G10. CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING ALL NEW SUPPORT STEEL, UNISTRUT RACK, CEMENT FOOTINGS THAT ARE REQUIRED FOR EQUIPMENT INSTALLATION.

G11. EQUIPMENT AND MATERIALS INSTALLED UNDER THIS CONTRACT SHALL BE NEW AND WITHOUT FUNCTIONAL OR COSMETIC DEFECT.

G12. ALL WORK SHALL COMPLY WITH FEDERAL, STATE, AND LOCAL CODES.

G13. CONTRACTOR TO COORDINATE WITH GENERAL CONTRACTOR FOR CUTTING OF NEW OPENING AND PATCHING OF EXISTING OPENINGS. PROVIDE SEALANT, CAULKING, ETC. TO MAINTAIN REQUIRED FIRE RATING OF RESPECTIVE WALL.

G14. ALL OPENINGS IN FLOORS, WALLS OR ROOF ARE SIZED ACCORDING TO THE EQUIPMENT USED AS BASIS OF DESIGN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AND REVISING ALL OPENINGS AS REQUIRED TO SUIT ANY EQUIPMENT SUBSTITUTIONS.

G15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEALING ALL EXTERNAL OPENINGS TO MAINTAIN A WEATHER TIGHT SEAL. THE USE OF CAULKING TO SEAL GAPS GREATER THAN 1/4" SHALL NOT BE ACCEPTABLE.

G16. PROPERLY TEST, BALANCE AND ADJUSTED ALL HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS INSTALLED UNDER THIS CONTRACT, INCLUDING THE AUTOMATIC TEMPERATURE CONTROL SYSTEMS. ALL PROCEDURES SHALL BE IN COMPLIANCE WITH THE ASSOCIATED AIR BALANCE COUNCIL (AABC). SUBMIT BALANCE REPORT TO OWNER.

G17. CONTRACT SHALL SUBMIT MANUFACTURER'S PRODUCT SPECIFICATIONS FOR MATERIAL TO BE INSTALLED ON THIS PROJECT, INCLUDE DATA SUBSTANTIATING THAT MATERIALS COMPLY WITH REQUIREMENTS.

G18. CONTRACTOR SHALL FURNISH AND INSTALL ALL CONTROLS COMPONENTS (THERMOSTATS, TEMPERATURE CONTROL VALVES, CIRCUIT-SETTERS, OCCUPANCY SENSORS, ETC.) AS DESCRIBED BY THESE PROJECT DOCUMENTS TO INSTALL SYSTEMS THAT ARE COMPLETE, FULLY OPERATIONAL AND CONFIGURED TO FUNCTION TO MEET ALL OPERATING DESCRIPTIONS LISTED BY DESIGN DOCUMENTS. THIS SHALL INCLUDE INSTALLING ALL REQUIRED CONTROL WIRING, ANCILLARY DEVICES, AND CALIBRATING COMPONENTS, AND PROGRAMMING CONTROLS SYSTEMS.CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR ALL ELECTRICAL REQUIREMENTS FOR EQUIPMENT PROVIDED INCLUDING STARTERS, DISCONNECTS, FUSE SIZING, ETC.

G19. PROVIDE TEMPORARY CONSTRUCTION LIGHTING AS NECESSARY THROUGHOUT THE CONTRACT AREA. RELOCATE LIGHTING AS NECESSARY TO ACCOMMODATE CHANGING CONDITIONS.

G20. CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR ALL ELECTRICAL REQUIREMENTS FOR EQUIPMENT PROVIDED INCLUDING STARTERS, DISCONNECTS, FUSE SIZING, ETC. ALL ELECTRIC MOTORS SHALL BE PREMIUM EFFICIENCY TYPE, CONFORMING TO "MOTOR-UP" REQUIREMENTS.

GENERAL NOTES: CON'T

G21. CONTRACTOR SHALL FURNISH AND INSTALL FLEXIBLE CONNECTORS ON ALL CONNECTIONS TO EQUIPMENT THAT CAN GENERATE VIBRATIONS.

G22. CONTRACTOR SHALL FURNISH AND INSTALL SPRING TYPE VIBRATION ISOLATORS ON ALL SUPPORTS FOR EQUIPMENT THAT CAN GENERATE VIBRATIONS.

G23. AT THE COMPLETION OF THE PROJECT UNUSED MATERIALS, SUPPLIES, EQUIPMENT, TOOLS, ETC SHALL BE REMOVED FROM THE CONTRACT AREA AND THE AREA LEFT IN A CLEAN AND ACCEPTABLE MANNER AS DETERMINED BY THE OWNER OR HIS REPRESENTATIVE.

G24. AT THE COMPLETION OF THE PROJECT, CONTRACTOR SHALL PROVIDE MANUFACTURERS' DRAWINGS, CATALOG CUTS, INSTRUCTION MANUALS, SERVICE MANUALS, PARTS LIST, AND RED-LINED AS-BUILT DRAWINGS.

G25. CONTRACTOR SHALL LEAVE THE WORK IN PROPER WORKING ORDER AND SHALL, WITHOUT ADDITIONAL CHARGE, REPLACE ANY WORK MATERIALS OR EQUIPMENT FURNISHED AND INSTALLED UNDER THIS CONTRACT WHICH DEVELOPS DEFECTS, EXCEPT FROM ORDINARY WEAR AND TEAR, WITHIN ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE OWNER.

G26. CONTRACTOR SHALL REPLACE, WITHOUT ADDITIONAL CHARGE, ANY WORK, MATERIALS AND EQUIPMENT WHICH DEVELOPS DEFECTS, EXCEPT FROM ORDINARY WEAR AND TEAR, DUE TO IMPROPER INSTALLATION BY UNDER THIS CONTRACT.

G27. CONTRACTOR SHALL DELIVER TO OWNER AT LEAST ONE COPY OF OEM OWNER'S MANUAL FOR EACH PIECE OF CONTRACTOR FURNISHED EQUIPMENET INSTALLED BY THE PROJECT.

G28. CONTRACTOR SHALL SUPPLY OWNER WITH COMPLETE SET OF DRAWINGS, RED-LINED (MARKED IN COLOR) TO SHOW MODIFICATIONS MADE TO DESIGN DURING CONSTRUCTION WHICH REFLECT "AS-BUILT" CONDITIONS.

MECHANICAL PIPING NOTES:

M1. SLOPE AND LOCATION OF VENTS/DRAINS SHALL BE PROVIDED BOTH AS SHOWN AND AS REQUIRED.

M2. WELDING REQUIREMENTS: CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY HOT-WORK PERMITS. ALL WELDING AREAS SHALL BE SETUP WITH APPROPRIATE SHIELDING AND VENTILATION - HOUSE VENTILATION SYSTEMS ARE NOT BE USED FOR PROVIDING VENTILATION.

M3. COORDINATE ALL WORK WITH ELECTRICAL AND PLUMBING CONTRACTORS.

M4. PROVIDE AND INSTALL PIPE SLEEVES FOR ALL PIPING PENETRATING WALLS AND FLOORS. PROVIDE PENETRATION SEAL AS REQUIRED TO MAINTAIN WALL RATING FOR FIRE AND/OR SMOKE. REFER TO ARCHITECTURAL CODE LEGEND FOR THESE AREAS. PROVIDE ISOLATION VALVES FOR ALL BRANCH PIPING THAT RISES FROM MAIN TO FEED EQUIPMENT (UNIT HEATERS, COILS, HUMIDIFIERS, ETC.) ISOLATION VALVES SHOULD BE LOCATED ATAN ACCESSIBLE POINT TO WHERE THE BRANCH LINE MEETS THE MAIN.

M5. ALL BRANCH PIPING TO BE OFF TOP OF MAIN WHERE POSSIBLE. SIDE TAKEOFFS ARE PERMITTED WHERE TAKEOFFS CANNOT BE TAKEN OFF TOP OF MAIN. LOCATING TAKEOFFS ON BOTTOM OF MAINS SHALL BE AVOIDED.

M6. WHERE APPLICABLE, CONTRACTOR SHALL COORDINATE FUEL GAS REQUIREMENTS WITH EQUIPMENT SUPPLIER'S SPECIFICATIONS AND PROVIDE PRESSURE REGULATORS, GAS COCKS, DRIP LEGS, ETC. WHERE REQUIRED BY THE MANUFACTURER'S INSTRUCTIONS OR CODE.

M7. ALL PIPING PENETRATING EXTERIOR WALLS OR ROOFS SHALL BE FULLY SEALED AND MADE WEATHER TIGHT. ALL ATTACHMENTS TO STRUCTURE, CURBS, POSTS, GUIDES, SUPPORTS, ETC. SHALL BE FULLY FLASHED AND INTEGRATED INTO THE WALL OR ROOFING SYSTEM IN ACCORDANCE WITH ROOFING MANUFACTURERS INSTRUCTIONS AND ALL OTHER ACCEPTED PRACTICES.

HVAC/EXHAUST NOTES:

H1. CONTRACTOR SHALL COORDINATE DIFFUSER & GRILLE LOCATIONS WITH THE ARCHITECTURAL REFLECTED CEILING PLANS.

H2. CONTRACTOR SHALL INSULATE ALL SUPPLY DUCTWORK AS PER SPECIFICATIONS.

H3. CONTRACTOR SHALL FURNISH TURNING VANES IN ALL SUPPLY AND RETURN DUCTWORK WHERE GRADUAL DIRECTIONAL TRANSITIONS ARE NOT FEASIBLE. (REFER TO SMACNA)

H4. ALL DUCTWORK SHALL BE FABRICATED, INSTALLED, AND SUPPORTED PER SMACNA STANDARDS.

H5. CONTRACTOR SHALL FURNISH AND INSTALL DUCT ACCESS DOORS ADJACENT TO ANY SERVICABLE DEVICE, AND LABEL ACCORDINGLY.

PLUMBING/PIPING NOTES:

P1. PROVIDE AND INSTALL PIPE SLEEVES FOR ALL PIPING PENETRATING WALLS AND FLOORS. PROVIDE PENETRATION SEAL AS REQUIRED TO MAINTAIN WALL RATING FOR FIRE AND/OR SMOKE. REFER TO ARCHITECTURAL CODE LEGEND FOR THESE AREAS

P2. VERIFY EXACT LOCATION OF ALL MECHANICAL ROOM FLOOR DRAINS PRIOR TO ROUGH-IN.

P3. VERIFY EXACT LOCATION OF ALL PLUMBING FIXTURES IN OR ATTACHED TO CASEWORK WITH THE ARCHITECT AND THE MILLWORK SHOP DRAWINGS. COORDINATE PRIOR TO INSTALLATION.

P4. CONFIRM OR VERIFY EXACT LOCATION AND ACTUAL INVERT OF SANITARY AND STORM DRAIN LINES PRIOR TO INSTALLATION.

P5. DUE TO THE LARGE QUANTITY OF PIPING, DUCTWORK, CONDUIT, ETC. ABOVE THE CEILING COORDINATION WITH OTHER DISCIPLINES IS MANDATORY.

P6. ALL PIPES THROUGH FOOTINGS OR FOUNDATION WALLS SHALL BE SLEEVED IN ACCORDANCE WITH SECTION 305.5 OF THE INTERNATIONAL PLUMBING CODE.

P7. LOCATE SHUT-OFF VALVE ABOVE CEILING AND IN LOCATIONS ACCESSIBLE FOR SERVICE. LOCATION SHALL COMPLY WITH THE REQUIREMENTS OF ALL CODES REFERENCED HEREIN. ALL SANITARY/ACID DRAINAGE PIPING 4" AND LARGER SHALL SLOPE 1/8" PER FOOT UNLESS NOTED OTHERWISE.

P8. ALL SANITARY/ACID DRAINAGE PIPING 3" AND SMALLER SHALL SLOPE 1/4" PER FOOT UNLESS NOTED OTHERWISE.

P9. INVERT ELEVATIONS ARE CALCULATED FROM A FINISHED FLOOR ELEVATION OF 00.00' ELEVATIONS BELOW GROUND ARE NOTED IN FEET AND DECIMALS OF FEET.

P10. REFERENCE PLUMBING FIXTURE CONNECTION SCHEDULE(S) FOR LINE SIZES NOT SHOWN TO FIXTURES AND EQUIPMENT.

P11. ALL CLEANOUTS AND FLOOR DRAINS SHALL BE INSTALLED PLUMB AND LEVEL WITH FINISHED FLOOR ELEVATION FOR SLAB INSTALLATION. REFER TO STRUCTURAL DRAWINGS FOR SLAB ELEVATIONS AND SLOPES.

P12. CONTRACTOR SHALL PROVIDE HANGERS AND SUPPORTS FOR SEISMIC RESTRAINT PER THE INTERNATIONAL BUILDING CODE.

P13. ALL DRAINAGE PIPING AND PRESSURE SYSTEM PIPING SHALL BE RUN AS HIGH AS POSSIBLE TO BOTTOM OF STRUCTURE, UNLESS NOTED OTHERWISE. COORDINATE PIPE ROUTING WITH ALL OTHER TRADES.

P14. THE FOLLOWING PLUMBING SYSTEMS SHALL BE INSULATED: COLD WATER, HOT WATER, HOT WATER RECIRCULATION, P-TRAPS AND HORIZONTAL PIPING RECEIVING CONDENSATE ABOVE CEILINGS, HORIZONTAL ROOF DRAIN LEADERS (REFERENCE DIVISION 15 OF THE SPECIFICATIONS).

P15. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THAT ITEMS TO BE FURNISHED FIT THE SPACE AVAILABLE.

P16. THESE DRAWINGS ARE SCHEMATIC IN NATURE AND DO NOT SHOW EXACT LOCATIONS OF FIXTURES AND EQUIPMENT. ALL OFFSETS AND FITTINGS FOR COMPLETE INSTALLATION MAY NOT BE DEFINED ON THE DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING EXACT DIMENSIONS AT THE BUILDING AND ANY NECESSARY CHANGES MADE IN ACCORDANCE WITH STRUCTURAL CONDITIONS, EQUIPMENT TO BE INSTALLED AND COORDINATION WITH OTHER SYSTEMS. IF CONFLICTS CANNOT BE RESOLVED THEY SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT/ENGINEER.

P17. CONTRACTOR SHALL COMPLY WITH THE FOLLOWING CODES AND STANDARDS INSOFAR AS THEY APPLY: NFPA 54, CURRENT STANDARD BUILDING, GAS AND PLUMBING CODES.

P18. CONTRACTOR SHALL SECURE ALL PERMITS, INSPECTIONS, LICENSES AND TESTS REQUIRED FOR THIS WORK AND PAY ALL FEES IN CONNECTION THEREWITH.

P19. ALL MATERIALS SHALL BEAR THE MANUFACTURER'S NAME, TRADE NAME AND BE U.L. LABELED IF REQUIRED. UNLESS SPECIFICALLY INDICATED OTHERWISE, ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER. ALL EQUIPMENT OF A SIMILAR TYPE SHALL BE OF THE SAME MANUFACTURER.

P20. CONTRACTOR SHALL LOCATE AND SIZE ALL OPENINGS REQUIRED FOR PLUMBING EQUIPMENT AND PIPING; AND PROVIDE THIS INFORMATION TO THE GENERAL CONTRACTOR IN TIME NOT TO DELAY BUILDING CONSTRUCTION.

P21. CONTRACTOR SHALL PROVIDE AND LOCATE SLEEVES AND INSERTS REQUIRED BEFORE THE FLOOR AND WALLS ARE BUILT OR SHALL BE RESPONSIBLE FOR THE COST OF CUTTING AND PATCHING REQUIRED FOR PIPES WHERE SLEEVES AND INSERTS WERE NOT INSTALLED OR WHERE THEY WERE INCORRECTLY LOCATED.

P22. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OF CONSTRUCTION SELECTED BY THE CONTRACTOR OR OF THE SAFETY PRECAUTIONS AND PROGRAMS INCIDENTAL TO THE WORK OF THE CONTRACTOR. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE FAILURE OF THE CONTRACTOR TO PERFORM THE CONSTRUCTION WORK IN ACCORDANCE WITH THE DRAWINGS.

P23. ALL WALL HUNG FIXTURES AND FLOOR MOUNTED MOP SINKS SHALL BE SEALED BETWEEN WALL AND FIXTURES WITH WHITE SILICONE CAULKING.

P24 ALL COUNTER MOUNTED FIXTURE RIMS SHALL BE SEALED WITH SILICONE CAULKING.

P25. LOCATE FLOOR CLEANOUTS PAST LIMITS OF THE CASEWORK.

P26. CONTRACTOR SHALL MAKE PROVISIONS FOR EXPANSION LOOPS WHERE NECESSARY WHETHER OR NOT SHOWN ON DRAWINGS.

P27. OFFSET PLUMBING VENTS, WATER, AND GAS PIPING AS NECESSARY TO AVOID CONFLICTS WITH DUCTWORK. SEE HVAC PLANS.

P28. IT IS THE INTENT AND MEANING OF THE DRAWINGS TO PROVIDE COMPLETE AND OPERABLE PLUMBING AND DRAINAGE SYSTEMS.

P29. ALL PLUMBING LINE SIZE REDUCTIONS SHALL BE MADE WITH REDUCERS AND/OR REDUCING FITTINGS.

P30. PLUMBING CONTRACTOR SHALL TEST EACH REDUCED PRESSURE BACKFLOW PREVENTER AND DOUBLE CHECK VALVE INSTALLED USING A CERTIFIED TESTER IN ACCORDANCE WITH APPLICABLE PRIMARY DRINKING WATER REGULATIONS.

P31. ALL GAS PIPING IN PARTITION WALLS SHALL BE ANNEALED COPPER WITH BRAZED JOINTS. A STEEL STRIKER BARRIER NOT LESS THAN 0.0508 INCH THICK SHALL BE INSTALLED BETWEEN THE PIPING AND THE FINISHED WALL EXTENDING AT LEAST 4 INCHES BEYOND CONCEALED PENETRATIONS OF PLATES, FIRE STOPS, WALL STUDS, ETC... GAS PIPING SHALL NOT BE INSTALLED IN CMU OR SOLID WALLS.

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REVISION	DATE	COMMENTS
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KEY PLAN:

PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
CONSTRUCTION DOCUMENTS

DRAWING TITLE:
GENERAL NOTES
MECHANICAL & PLUMBING

PROJECT NO: 683 | DATE: 03/16/09

SHEET NUMBER:
M–A

TYPICAL P&ID LETTER COMBINATIONS

FIRST LETTERS	INITIATING OR MEASURED VARIABLE	CONTROLLERS: RECORDING	CONTROLLERS: INDICATING	CONTROLLERS: BLIND	CONTROLLERS: SELF-ACTUATED CONTROL VALVES	READOUT DEVICES: RECORDING	READOUT DEVICES: INDICATING	SWITCHES & ALARM DEVICES*: HIGH **	SWITCHES & ALARM DEVICES*: LOW	SWITCHES & ALARM DEVICES*: COMB	TRANSMITTERS: RECORDING	TRANSMITTERS: INDICATING	TRANSMITTERS: BLIND	SOLENOIDS, RELAYS COMPUTING DEVICES	PRIMARY ELEMENTS	TEST POINTS	WELL OR PROBE	VIEWING DEVICE, GLASS	SAFETY DEVICE	FINAL ELEMENT
A	ANALYSIS	ARC	AIC	AC	·	AR	AI	ASH	ASL	ASHL	ART	AIT	AT	AY	AE	AP	AW	·	·	AV
B	BURNER/COMBUSTION	BRC	BIC	BC	·	BR	BI	BSH	BSL	BSHL	BRT	BIT	BT	BY	BE	·	BW	BG	·	BZ
C	USER'S CHOICE	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
D	USER'S CHOICE	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
E	VOLTAGE	ERC	EIC	EC	·	ER	EI	ESH	ESL	ESHL	ERT	EIT	ET	EY	EE	·	·	·	·	EZ
F	FLOW RATE	FRC	FIC	FC	FCV/FICV	FR	FI	FSH	FSL	FSHL	FRT	FIT	FT	FY	FE	FP	·	FG	·	FV
FQ	FLOW QUANTITY	FQRC	FQIC	·	·	FQR	FQI	FQSH	FQSL	·	·	FQIT	FQT	FQY	FQE	·	·	·	·	FQV
FF	FLOW RATIO	FFRC	FFIC	FFC	·	FFR	FFI	FFSH	FFSL	·	·	·	·	·	·	·	·	·	·	FFV
G	USER'S CHOICE	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
H	HAND	HIC	HC	HC	·	·	·	·	·	HS	·	·	·	·	·	·	·	·	·	HV
I	CURRENT	IRC	IIC	·	·	IR	II	ISH	ISL	ISHL	IRT	IIT	IT	IY	IE	·	·	·	·	IZ
J	POWER	JRC	JIC	·	·	JR	JI	JSH	JSL	JSHL	JRT	JIT	JT	JY	JE	·	·	·	·	JV
K	TIME	KRC	KIC	KC	KCV	KR	K	KSH	KSL	KSHL	KRT	KIT	KT	KY	KE	·	·	·	·	KV
L	LEVEL	LRC	LIC	LC	LCV	LR	LI	LSH	LSL	LSHL	LRT	LIT	LT	LY	LE	·	LW	LG	·	LV
M	USER'S CHOICE	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
N	USER'S CHOICE	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
O	USER'S CHOICE	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
P	PRESSURE/VACUUM	PRC	PIC	PC	PCV	PR	PI	PSH	PSL	PSHL	PRT	PIT	PT	PY	PE	PP	·	·	PSV/PSE	PV
PD	PRESSURE/DIFFERENTIAL	PDRC	PDIC	PDC	PDCV	PDR	PDI	PDSH	PDSL	·	PDRT	PDIT	PDT	PDY	PE	PP	·	·	·	PDV
Q	QUANTITY	QRC	QIC	·	·	QR	QI	QSH	QSL	QSHL	QRT	QIT	QT	QY	QE	·	·	·	·	QZ
R	RADIATION	RRC	RIC	RC	·	RR	RI	RSH	RSL	RSHL	RRT	RIT	RT	RY	RE	·	RW	·	·	RZ
S	SPEED/FREQUENCY	SRC	SIC	SC	SCV	SR	SI	SSH	SSL	SSHL	SRT	SIT	ST	SY	SE	·	·	·	·	SV
T	TEMPERATURE	TRC	TIC	TC	TCV	TR	TI	TSH	TSL	TSHL	TRT	TIT	TT	TY	TE	TP	TW	·	TSE	TV
TD	TEMPERATURE/DIFFERENTIAL	TDRC	TDIC	TDC	TDCV	TDR	TDI	TDSH	TDSL	·	TDRT	TDIT	TDT	TDY	TE	TP	TW	·	·	TDV
U	MULTIVARIABLE	·	·	·	·	UR	UI	·	·	·	·	·	·	UY	·	·	·	·	·	UV
V	VIBRATION/MACHINERY/ANLYSIS	·	·	·	·	VR	VI	VSH	VSL	VSHL	VRT	VIT	VT	VY	VE	·	·	·	·	VZ
W	WEIGHT/FORCE	WRC	WIC	WC	WCV	WR	WI	WSH	WSL	WSHL	WRT	WIT	WT	WY	WE	·	·	·	·	WZ
WD	WEIGHT/FORCE/DIFFERENTIAL	WDRC	WDIC	WDC	WDCV	WDR	WDI	WDSH	WDSL	·	WDRT	WDIT	WDT	WDY	WE	·	·	·	·	WDZ
X	UNCLASSIFIED	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
Y	EVENT/STATE/PRESENCE	·	YIC	YC	·	YR	YI	YSH	YSL	·	·	·	YT	YY	YE	·	·	·	·	YZ
Z	POSITION/DIMENSION	ZRC	ZIC	ZC	ZCV	ZR	ZI	ZSH	ZSL	ZSHL	ZRT	ZIT	ZT	ZY	ZE	·	·	·	·	ZV
ZD	GUAGING/DEVIATION	ZDRC	ZDIC	ZDC	ZDCV	ZDR	ZDI	ZDSH	ZDSL	·	ZDRT	ZDIT	ZDT	ZDY	ZDE	·	·	·	·	ZDV

NOTE: THIS TABLE IS NOT ALL-INCLUSIVE.
* A, ALARM, THE ANNUNCIATING DEVICE, MAY BE USED IN THE SAME FASION AS S, SWITCH, THE ACTUATING DEVICE.
** THE LETTERS H AND L MAY BE OMITTED IN THE UNDEFINED CASE.

OTHER POSSIBLE COMBINATIONS:

FO	(RESTRICTION ORIFICE)	PFR	(RATIO)
FRK/HIK	(CONTROL STATIONS)	KQI	(RUNNING TIME INDICATOR)
FX	(ACCESSORIES)	QQI	(INDICATING COUNTER)
TJR	(SCANNING RECORDER)	WKIC	(RATE-OF-WEIGHT-LOSS CONTROLLER)
LLH	(PILOT LIGHT)	HMS	(HAND MOMENTARY SWITCH)

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	FCV	FLOW CONTROL VALVE	PVC	POLYVINYL CHLORIDE
AG	ABOVE (MEZZANINE) GRATING	F TO F	FACE TO FACE	PVDF	POLYVINYLIDENE FLUORIDE
A/S	AIR SUPPLY	FT	FEET	PW	PURIFIED WATER
BFP	BOILER FEED PUMP	F.C.	FAIL CLOSE	QTY	QUANTITY
BFW	BOILER FEEDWATER	F.O.	FAIL OPEN	R/A	RETURN AIR
BLR	BOILER	FL	FAIL LAST	S/A	SUPPLY AIR
BOC	BOTTOM OF CONDUIT	FOT	FLAT ON TOP	S	STEAM
BOD	BOTTOM OF DUCT	GPM	GALLONS PER MINUTE	SF	SQUARE FEET
BOE	BOTTOM OF EQUIPMENT	HPS	HIGH PRESSURE STEAM	SPRK	SPRINKLER
BOP	BOTTOM OF PIPE	HWS/R	(HEATING) HOT WATER SUPPLY/RETURN	SS	STAINLESS STEEL
BR	BRINE	IA	INSTRUMENT AIR	SW	SOFT WATER
CA	COMPRESSED AIR	LB/HR	POUNDS / HOUR	TOP	TOP OF PIPE
CDA	CLEAN DRY AIR	LF	LINEAR FEET	TCV	TEMPERATURE CONTROL VALVE
CFM	CUBIC FEET PER MINUTE	LPS	LOW PRESSURE STEAM	UV	ULTRA VIOLET
CHP	CENTRAL HEATING PLANT	MBH	BTU/HOUR (1000)	VD	VOLUME DAMPER
CHWR	CHILLED WATER RETURN	MPS	MED. PRESS. STEAM	VFD	VARIABLE FREQUENCY DRIVE
CHWS	CHILLED WATER SUPPLY	N2	NITROGEN	WC	WATER COLUMN
COND	CONDESATE	N.C.	NORMALLY CLOSED		
CO	CARBON MONOXIDE	N.O.	NORMALLY OPEN		
CO2	CARBON DIOXIDE	OCC	OCCUPANCY/OCCUPANTS		
CR	CONDENSATE RETURN	ORP	OXIDATION REDUCTION POTENTIAL		
CS	CARBON STEEL	OA	OUTSIDE AIR		
CWS/R	CONDENSOR WATER SUPPLY/RTN	OS	OCCUPANCY SENSOR		
DA	DEAERATOR	OZ	OZONE		
DC	DOUBLE CONTAINED	O2	OXYGEN		
DFP	DEAERATOR FEED PUMP	O3	OZONE		
DFW	DEAERATOR FEEDWATER	PE	POLYETHYLENE		
DIR	DEIONIZED WATER RETURN	PEN	PENETRATION		
DIW	DEIONIZED WATER	PP	POLYPROPYLENE		
EL	ELEVATION	PSI	POUNDS PER SQ. INCH (PRESSURE)		
EXH	EXHAUST	PSID	POUNDS PER SQ. INCH (DIFFERENTIAL)		

SCOPE OF PROJECT, GENERALLY DEFINED AS FOLLOWS:

CONTRACTOR SHALL FURNISH AND INSTALL THE FOLLOWING EQUIPMENT AND SERVICES AT THE VERMONT TECHNICAL COLLEGE 3-STORY BUILDING AT 72 HELENA DRIVE IN WILLISTON, VT:

MECHANICAL ROOM:

1. REPLACE WATER HEATER AND RECONNECT TO EXISTING NATURAL GAS, ELECTRICAL, AND DOMESTIC WATER SERVICES. INSTALL NEW DIRECT VENT INTAKE AND EXHAUST PIPES FOR NEW UNIT. INSTALL NEW CONDENSATE PUMP AND CONDENSATE TUBING.

2. TIE IN TO EXISTING HOT WATER PIPING AND INSTALL NEW RECIRCULATING PUMP AND 2" HWS/R LOOP TO SERVE NEW HEATING COMPONENTS (SEE BELOW).

3RD FLOOR:

3. FURNISH AND INSTALL NEW BASEBOARD HEATING ELEMENTS AND ASSOCIATED PIPING AND CONTROLS FOR HEATING OF 3RD FLOOR PERIMETER ROOMS AND BATHROOMS. INSTALL NEW HWS/R PIPING IN CELING OF 2ND FLOOR AND PENETRATE FLOOR WITH PIPING RISERS AT BASEBOARD CONNECTIONS.

4. RELOCATE (4) OF (5) HEAT PUMPS TO PROVIDE CLEARANCE FOR INSTALLATION OF NEW WALLS. RELOCATE ALL ASSOCIATED SERVICES (PIPING, DRAINS, ELECTRICAL, CONTROLS, SUPPORTS, ETC.)

5. INSTALL NEW S/A DUCTWORK TO SERVE AREAS AS INDICATED ON PLANS (FOR COOLING ONLY, EXCEPT HP-5, WHICH WILL PROVIDE HEAT TO ITS RESPECTIVE AREA).

6. RELOCATE AND INSTALL NEW R/A GRATES WITH INSULATED PLENUM BOXES, AND ACOUSTICAL RETURN AIR TRANSFER COMPONENTS AT CORRIDOR WALL (REFER TO PLANS). (NOTE - RETURN AIR TO BE VIA CEILING PLENUM, NOT DUCTED RETURNS).

7. REPLACE 3RD FLOOR HRU WITH NEW ERU AND RELOCATE TO POSITION INDICATED. INSTALL DUCT COIL IN ERU-1 S/A AND CONNECT NEW HWS/R PIPING (180°F) TO HEATING COIL.

8. INSTALL NEW DUCTWORK TO DELIVER OUTSIDE AIR FROM NEW ERU DIRECTLY INTO OCCUPIED SPACES AS INDICATED ON PLANS.

9. PROVIDE NEW KITCHEN EXHAUST HOODS (X2) WITH AUTOMATIC FIRE SUPPRESSION CAPABILITY.

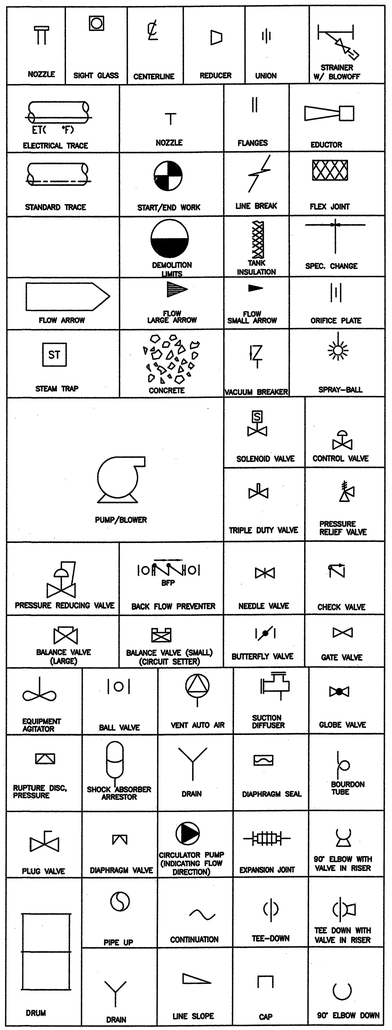
GENERAL:

G1. PROVIDE ALL WIRING, PANELS, DISCONNECTS DEVICES, ETC.

G2. UPGRADE CONTROLS AND FURNISH NEW CONTROLLER AS REQURIED TO CONFIGURE SYSTEM TO OPERATE AS DESCRIBED BY THIS DESIGN.

G3. ALL COMPONENTS INSTALLED IN R/A CEILING PLENUM SHALL BE PLENUM RATED.

GENERAL PIPING SYMBOLS



BANWELL ARCHITECTS
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REVISION	DATE	COMMENTS
-	-	-

KEY PLAN:

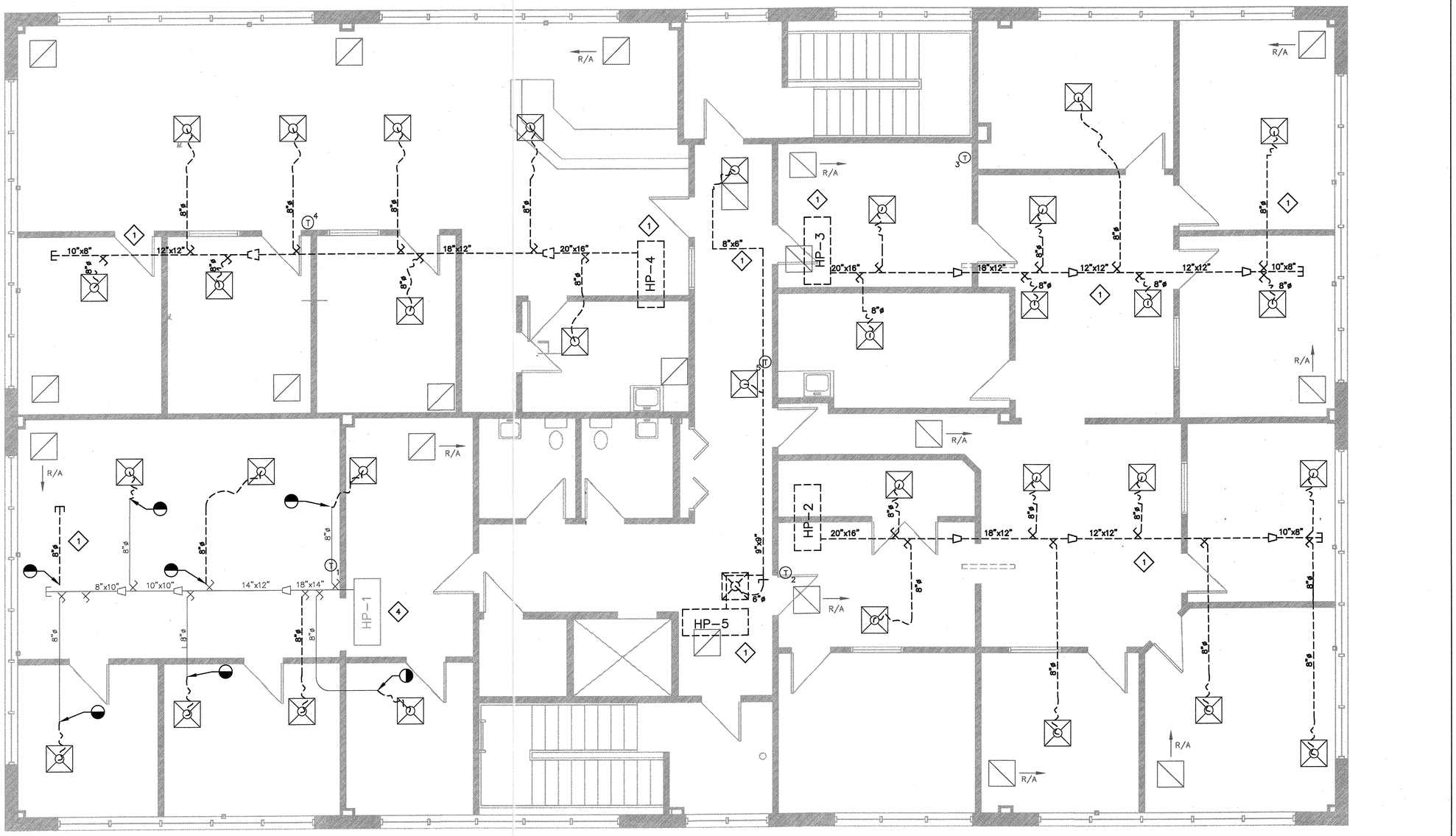
PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
CONSTRUCTION DOCUMENTS

DRAWING TITLE:
LEGENDS & ABBREVIATIONS
MECHANICAL & PLUMBING

PROJECT NO: 683 | DATE: 03/16/09

SHEET NUMBER:
M-B



HVAC DEMOLITION PLAN

SCALE: 1/4"= 1'-0"

LEGEND

LIMITS OF DEMOLITION, SHADED SIDE INDICATING SECTION TO BE REMOVED

SCOPE OF WORK:

1. CONTRACTOR SHALL RELOCATE HEAT PUMPS, HP-2, 3, 4, AND 5 TO LOCATIONS SHOWN ON PROPOSED DUCTWORK PLAN, M-2. REMOVE ALL SECTIONS OF ASSOCIATED DUCTWORK. RIGID DUCTS CAN BE REUSED, IF PRACTICAL, FOR PROPOSED SYSTEM, SEE M-2. CAP ALL TAKEOFFS WHICH REMAIN BUT ARE NOT USED FOR NEW DUCTWORK.
2. RELOCATE S/A DIFFUSERS AND R/A BOXES AS INDICATED ON PROPOSED PLAN, M-2. R/A GRATES (CURRENTLY W/OUT INSULATED BOXES) MAY BE USED IN CONSTRUCTION NEW R/A BOXES. (NOTE - R/A GRILLES WITH INSUALTED BOXES HAVE AN ARROW INDICATING SIDE OF OPENING).
3. RELOCATE THERMOSTATS TO LOCATIONS SHOWN ON PROPOSED PLAN AND REWIRE AS NECESSARY. (HP'S-1, 2, 3, AND 4 SHALL BE USED FOR COOLING ONLY. HP-5 SHALL MAINTAIN CURRENT CONFIGURATION FOR HEATING AND COOLING.)
4. HP-1 MAY REMAIN IN PLACE IF IT DOES NOT INTERFERE WITH PROPOSED WALLS. COORDINATE WITH GENERAL CONTRACTOR AND ARCHITECT.

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KEY PLAN:

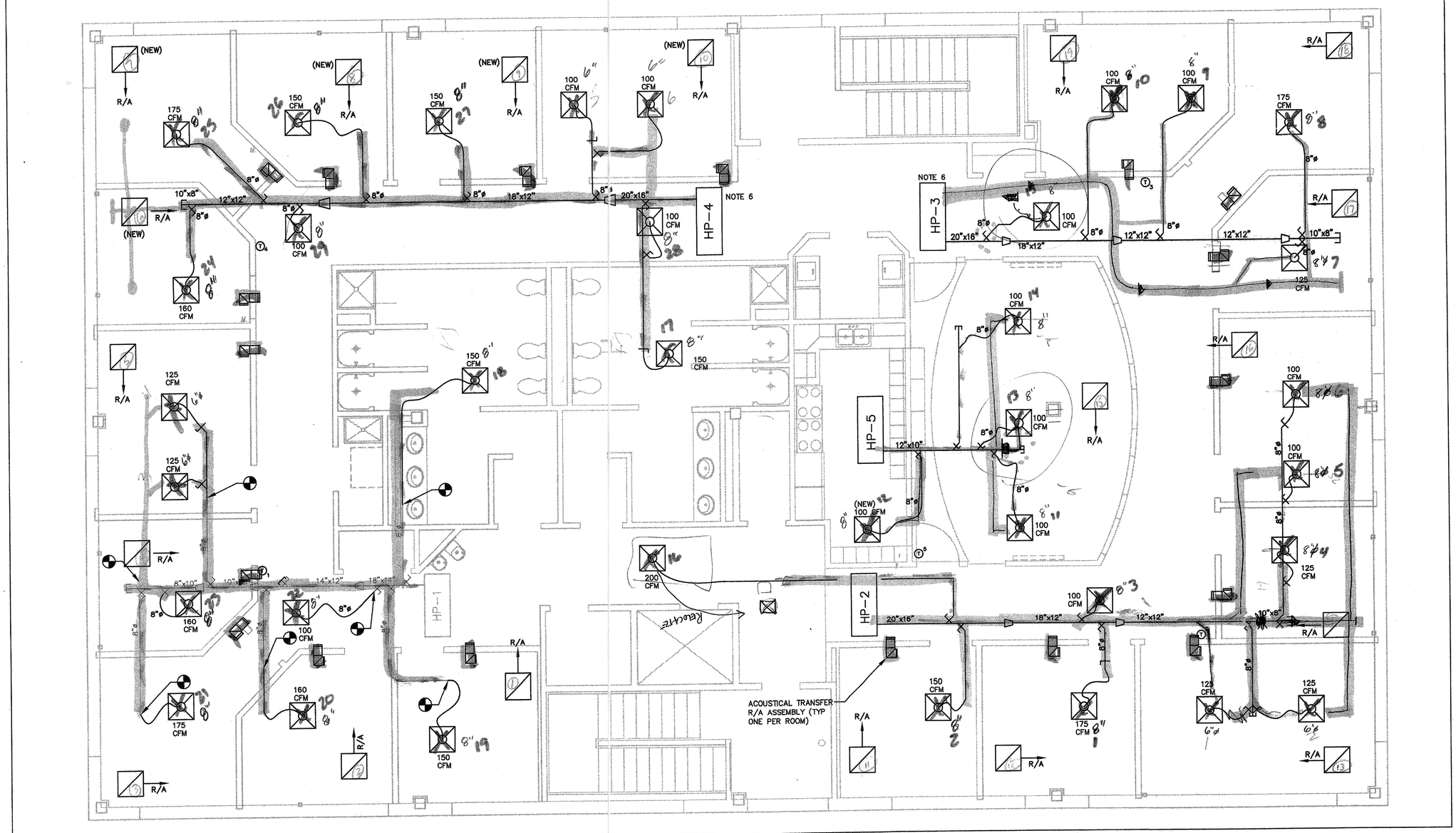
PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
CONSTRUCTION DOCUMENTS

DRAWING TITLE:
HVAC
DEMOLITION PLAN

PROJECT NO: 683 | DATE: 03/16/09

SHEET NUMBER:
M-1



PROPOSED HVAC DUCTWORK – 3RD FLOOR

SCALE: 1/4" = 1'-0"

SCOPE OF WORK:

1. RELOCATE EXISTING HEAT PUMP UNITS, HP-2, 3, 4 AND 5, TO APPROXIMATE LOCATIONS SHOWN. (HP-1 CAN REMAIN IN PLACE, PROVIDED IT DOES NOT INTERFERE WITH NEW WALLS RUNNING FROM FLOOR TO DECK). INSTALL RIGID GALVANIZED METAL SUPPLY AIR DUCTWORK FROM EACH HEAT PUMP AS INDICATED. EXISTING DUCTWORK CAN BE REUSED TO THE MAXIMUM EXTENT PRACTICAL. RELOCATE EXISTING S/A DIFFUSERS TO APPROX. POSTIONS SHOWN AND CONNECT WITH NEW FLEX AS REQUIRED. (NOTE – MAXIMUM FLEX LENGTH NOT TO EXCEED 6 FT. EXISTING FLEX IS NOT TO BE REUSED). ALL BUT ONE OF THE DIFFUSERS SHOWN HERE ARE EXISTING, TO BE REUSED. PROVIDE ADDITIONAL NEW DIFFUSER (TO MATCH EXISTING) AS NEEDED. AS PART OF HEAT PUMP RELOCATION, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REROUTE AND RECONNECT ALL ASSOCIATED SERVICES FOR EACH UNIT (WATER LOOP SUPPLY AND RETURN PIPING, DRAIN PIPING, ELECTRICAL, CONTROL WIRING, ETC.).

2. BALANCE S/A TO FLOWS LISTED HERE, AND PROVIDE BALANCE REPORT TO OWNER.

3. RELOCATE EXISTING R/A GRILLES TO APPROX. LOCATIONS SHOWN. INSTALL NEW R/A GRILLES WITH INSULATED BOXES TO MATCH EXISTING. (NOTE QUANTITY OF EXISTING TO BE RELOCATED = 13. QUANTITY OF NEW TO BE FURNISHED = 5). ORIENT BOX OPENING AS INDICATED BY ARROW.

4. COORDINATE FINAL PLACEMENT OF DIFFUSERS AND GRILLES WITH REFLECTED CEILING PLAN AND LIGHTING LAYOUT. FINAL PLACMENT MAY VARY SLIGHTLY FROM WHAT IS SHOWN HERE.

5. CONTRACTOR SHALL FURNISH AND INSTALL ACOUSTICALLY-LINED AIR TRANSFER GRILLES TO ALLOW AIR FROM ROOMS TO TRAVERSE TO R/A PLENUM SPACES WITHOUT CARRYING EXCESSIVE NOISE. ASSEMBLIES SHALL BE CONSTRUCTED OF AN 8"x8" 90 DEGREE BEND AND STRAIGHT SECTION OF DUCT, ALL LINED WITH ACOUSTICAL INSULATION (TO MATCH THAT OF THE R/A PLENUM BOXES). INSTALL FIXED GRILLES ON INLET AND OUTLET OF EACH. ALTERNATE: INSTEAD OF FIELD FABRICATING THE TRANSFER GRILLES, CONTRACTOR MAY FURNISH AND INSTALL INDUSTRIAL ACOUSTICS COMPANY QUIET VENT SILENCER TYPE S, MODEL #808.

SCOPE OF WORK (continued):

6. PROVIDE LABELS ON CEILING GRID TO INDICATE EQUIPMENT AND CONTROLS COMPONENTS LOCATED ABOVE. THIS SHALL APPLY, BUT NOT BE LIMITED TO, ALL HEAT PUMPS AND ENERGY RECOVERY UNIT.

7. FOR ANY SERVICES THAT ARE TO REMAIN IN PLACE, CONTRACTOR SHALL COORDINATE WALL CONSTRUCTION TO CLEAR SERVICES, OR ELSE TEMPORARILY REMOVE SECTIONS OF PIPING, DUCTS, ETC. TO ALLOW FOR WALL CONSTRUCTION, AND THEN REINSTALL SECTION, PROVIDING NEW WALL PENETRATION AS NEEDED, AND PATCHING AND SEALING TO MEET FIRE RATING OF RESPECTIVE WALL.

8. REFER TO M-4 FOR PROPOSED MAKEUP AIR AND EXHAUST.

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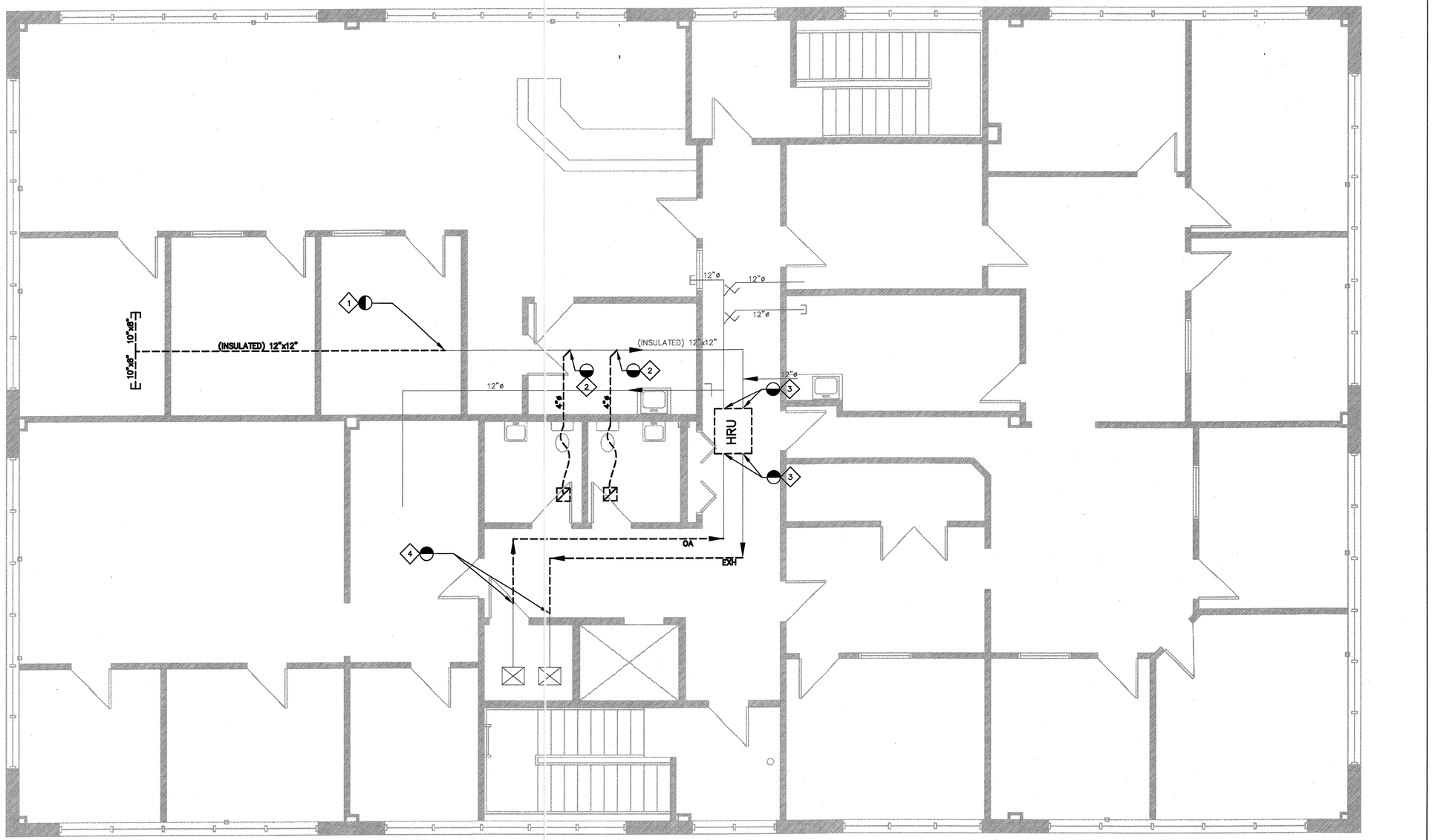
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
CONSTRUCTION DOCUMENTS

DRAWING TITLE:
PROPOSED PLAN
THIRD FLOOR
HVAC

PROJECT NO: 683 DATE: 03/16/09

SHEET NUMBER:
M-2



DEMOLITION PLAN VENTILATION & EXHAUST – 3RD FLOOR

SCALE: 1/4"= 1'-0"

LEGEND

LIMITS OF DEMOLITION, SHADED SIDE INDICATING SECTION TO BE REMOVED

SCOPE OF WORK:

1. CONTRACTOR SHALL REMOVE SECTIONS OF OUTSIDE AIR DUCTWORK AS INDICATED. CAP DUCTS THAT ARE NOT TO BE REUSED FOR PROPOSED SYSTEM.
2. REMOVE EXISTING EXHAUST DUCTS SERVING BATHROOMS AND CAP.
3. REMOVDE EXISTING HRU AND HAND OVER TO OWNER FOR SALVAGE. INSTALL SECTIONS OF DUCTWORK TO JOIN OA & EXHAUST DUCTS WHERE HRU USED TO BE.
4. REMOVE SECTIONS OF OA AND EXHAUST DUCTS APPROX. AS INDICATED TO ALLOW FOR INSTALLATION OF NEW ERU. REFER TO M-4.

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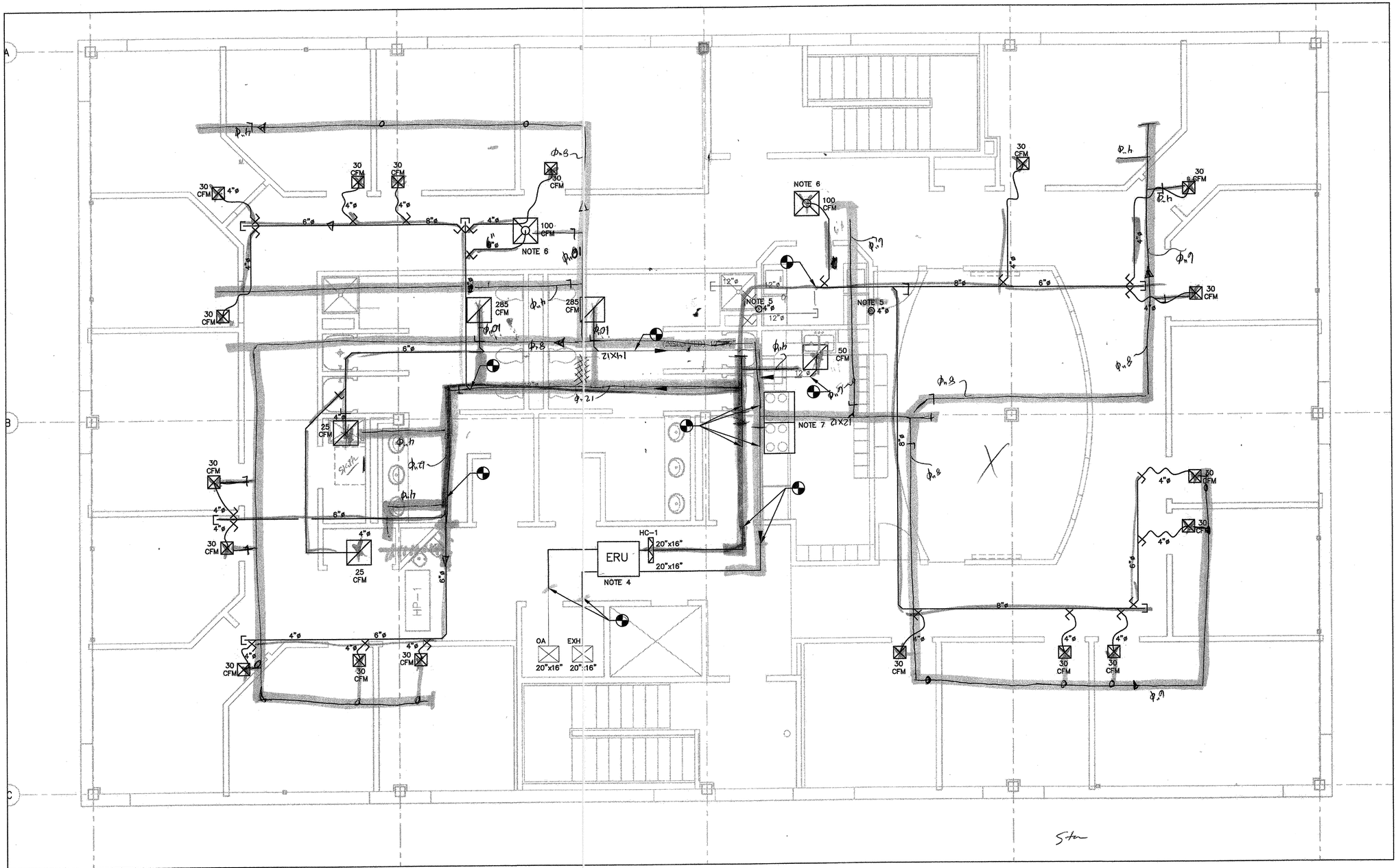
PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
CONSTRUCTION DOCUMENTS

DRAWING TITLE:
DEMOLITION PLAN
THIRD FLOOR
VENTILATION & EXHAUST

PROJECT NO: 683 DATE: 03/16/09

SHEET NUMBER:
M-3



PROPOSED VENTILATION & EXHAUST – 3RD FLOOR

SCALE: 1/4"= 1'-0"

SCOPE OF WORK:

1. CONTRACTOR SHALL TIE INTO EXISTING OUTSIDE AIR SYSTEM AND INSTALL NEW DUCTWORK AND S/A DIFFUSERS AS INDICATED. S/A DIFFUSERS SHALL BE 12"x12", TITUS SERIES TMSA-AA, WHITE, WITH 4" ROUND CONNECTION AND OPTIONAL BALANCING DAMPER, OR SIMILAR.

2. CONTRACTOR SHALL PROVIDE NEW EXHAUST GRILLES AT LOCATIONS SHOWN (1 PER BATHROOM, 1 FOR KITCHENETTE, 1 FOR JANITOR CLOSET, AND 1 FOR ELECTRICAL CLOSET) AND INSTALL NEW EXHAUST DUCTS WITH BALANCE DAMPERS. TIE INTO EXISTING EXHAUST SYSTEM APPROX. AS SHOWN. EXHAUST GRILLES TO BE 24"x24" TITUS EGGCRATE STYLE, WHITE, SERIES 50F, CONFIGURED FOR LAY-IN CEILING INSTALLATION, WITH OPTIONAL BALANCING DAMPER, OR SIMILAR.

3. BALANCE SYSTEM TO FLOWS LISTED HERE, AND PROVIDE BALANCE REPORT TO OWNER.

4. INSTALL NEW ERU AT LOCATION SHOWN, INCLUDING ALL ASSOCIATED PIPING, DRAINS, CONTROLS COMPONENTS, ELECTRICAL, ETC. REUSE SERVICES FROM FORMER HRU AS MUCH AS PRACTICAL. FURNISH AND INSTALL NEW AIR TEMPERATURE SENSOR TO CONTROL ERU HOT WATER COIL TCV TO MAINTAIN SUPPLY AIR TEMPERATURE SETPOINT.

5. FURNISH AND INSTALLTWO (2) NEW DRYER VENTS. ROUTE TO EXTERIOR (ROOF) AND TERMINATE WITH VENT WITH INTEGRAL GRAVITY (BACKDRAFT) DAMPER TO PREVENT COLD AIR, INSECTS, ETC. FROM ENTERING WHEN DRYER IS OFF. TERMINATION AT ROOF MUST UTILIZE HOODED VENT WITH GRAVITY BACKDRAFT DAMPER IN HORIZONTAL, WITH DISCHARGE POINT ELEVATED SUFFICIENTLY (MINIMUM 30") TO CLEAR SNOW LINE. USE SEIHO SFZ ALUMINUM VENT OR SIMILAR. ALL DUCTWORK EXPOSED ABOVE ROOF TO BE ALUMINUM OR STAINLESS STEEL. INSTALL 90° ELBOW TO ALLOW FOR VENT TO BE INSTALLED IN HORIZONTAL. PROVIDE GUY-WIRES FOR SUPPORT IF NECESSARY.

SCOPE OF WORK (continued):

6. FURNISH AND INSTALL NEW OA TO CORRIDOR AS INDICATED TO PROVIDE MAKEUP AIR FOR BATHROOMS AND DRYER EXHAUST.

7. IN KITCHENETTE, FURNISH AND INSTALL NEW RECIRCULATION STYLE RANGE HOODS. HOODS SHALL BE 30" FABER "SYNTHESIS" SERIES WITH 2-SPEED 280 CFM FAN, CONFIGURED FOR "DUCTLESS" INSTALLATION, OR SIMILAR. COORDINATE WITH ARCHITECT FOR CHOICE OF STAINLESS STEEL OR WHITE. AT NEW HOODS, FURNISH AND INSTALL FIRE SUPPRESSION SYSTEM FOR EACH. SUPPRESSION SYSTEM TO CONSIST OF THE GUARDIAN III MODEL G300-A WET CHEMICAL EXTINGUISHER UNIT WITH TEMPERATURE SENSING CAPABILITY AND AUTOMATIC STOVE POWER SHUT-OFF. COORDINATE WITH ELECTRICAL CONTRACTOR TO PROVIDE POWER OUTLET FOR UNITS. COORDINATE WITH GENERAL CONTRACTOR AND ARCHITECT TO PROVIDE SOFFIT OR CABINET OVER RANGE HOOD TO CONCEAL EXTINGUISHER.

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KEY PLAN:

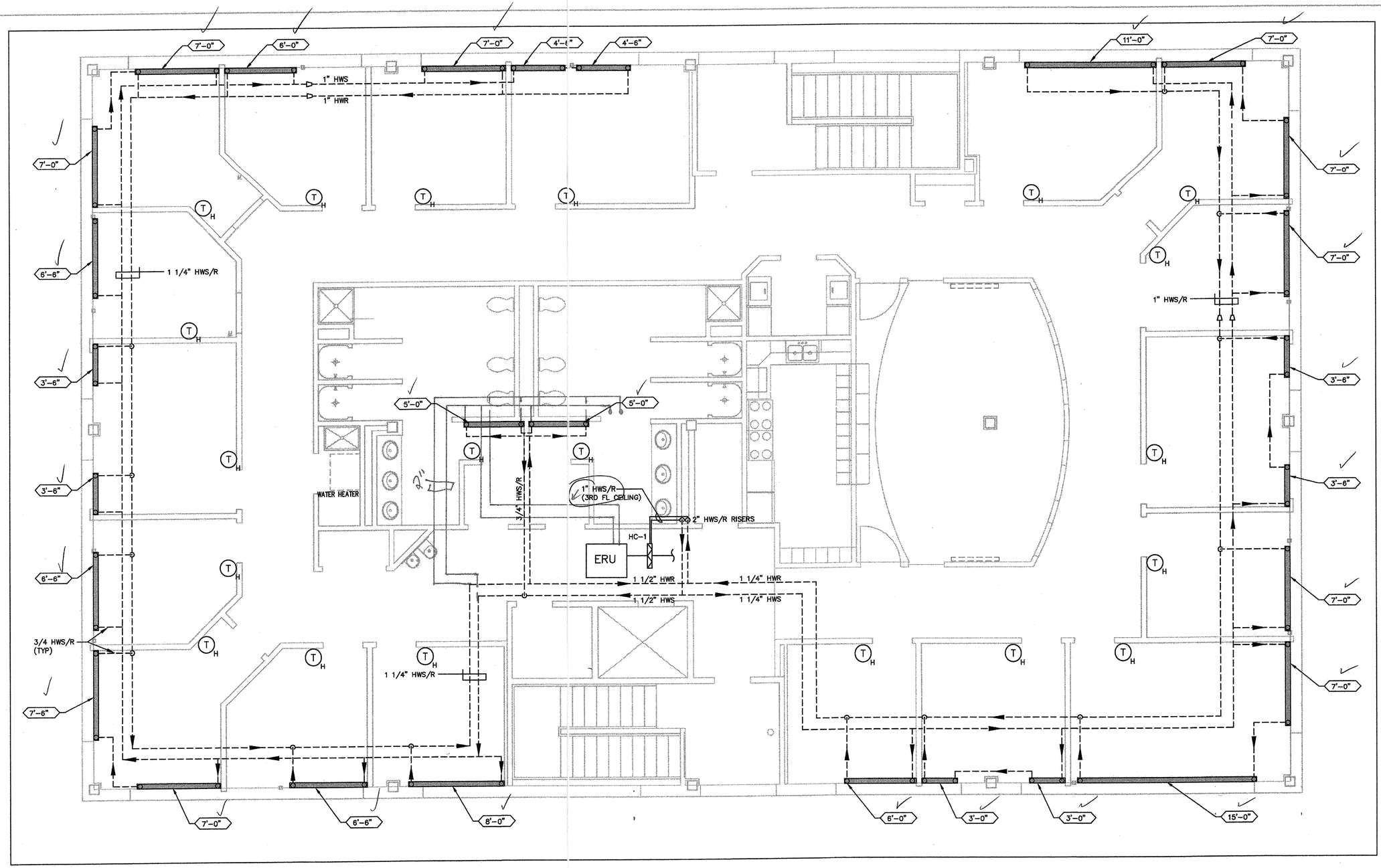
PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
CONSTRUCTION DOCUMENTS

DRAWING TITLE:
PROPOSED PLAN
THIRD FLOOR
VENTILATION & EXHAUST

PROJECT NO: 683 DATE: 03/16/09

SHEET NUMBER:
M-4



PROPOSED HOT WATER PIPING PLAN

SCALE: 1/4"= 1'-0"

SCOPE OF WORK:

1. CONTRACTOR SHALL FURNISH AND INSTALL NEW BASEBOARD RADIATION AND ASSOCIATED ZONE CONTROL VALVE, BALANCE VALVE, AND ISOLATION VALVES FOR EACH (REFER TO PFD-01 FOR REQUIRED CONFIGURATION). AFTER ALL PIPING IS INSTALLED, BALANCE EACH CIRCUIT TO 1 GPM. BASEBOARD TO BE STERLING HEAT MODEL #CLCU75 OR EQUAL, ACTIVE LENGTH AS INDICATED. (NOTE, MOUNTING HEIGHT OF NEW BASEBOARD TO BE KEPT TO 12" MAX TO AVOID EXISTING ELECTRICAL OUTLETS).

2. FURNISH AND INSTALL (INCLUDING WIRING) NEW T-STAT (HEATING ONLY) FOR CONTROL OF RESPECTIVE ROOM ZONE VALVE.

3. NEW BASEBOARD HW PIPING TO BE INSTALLED ABOVE THE 2ND FLOOR CEILING. PROVIDE FLOOR PENETRATIONS, 2 PLACES FOR EACH BASEBOARD SECTION, AND INSTALL PIPING FROM BELOW TO CONNECT TO NEW BASEBOARDS. SEE BASEBOARD INSTALLATION DETAIL FOR MORE INFORMATION.

4. INSTALL NEW HOT WATER PIPING TO 3RD FLOOR CEILNG AND CONNECT TO NEW ERU S/A DUCT HEATING COIL.

5. REFER TO PFD-01 FOR DIAGRAM OF NEW HOT WATER HEATING SYSTEM FOR 3RD FLOOR.

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VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:

CONSTRUCTION DOCUMENTS

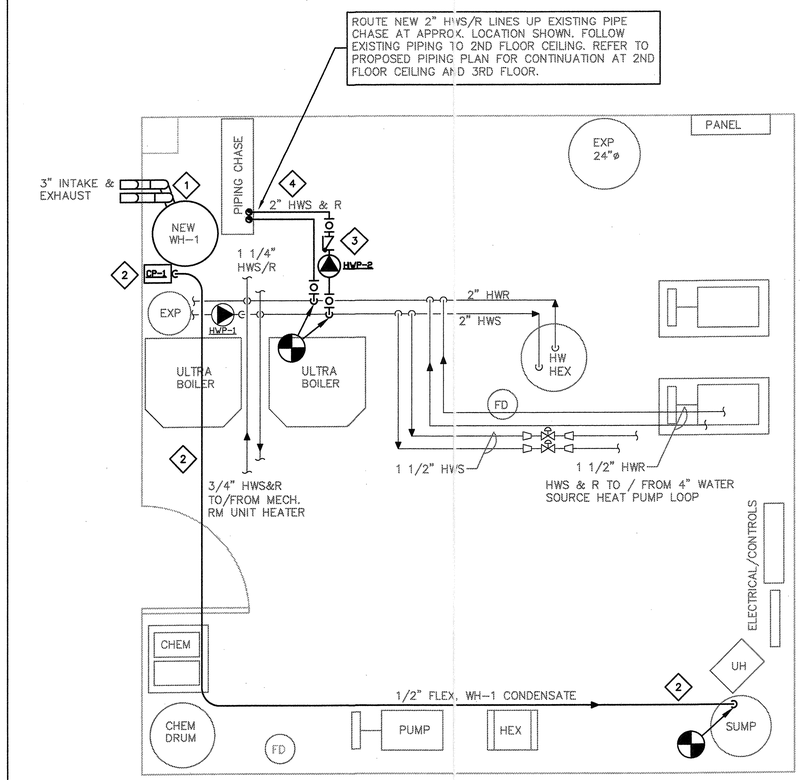
DRAWING TITLE:

PROPOSED PLAN
THIRD FLOOR
HOT WATER HEATING

PROJECT NO: 683 | DATE: 03/16/09

SHEET NUMBER:

M-5



MECHANICAL ROOM
SCALE: 1/2"=1'-0"

SCOPE OF WORK:

1. CONTRACTOR SHALL REPLACE EXISTING WATER HEATER WITH NEW. SEE SCHEDULE FOR SPECIFICATIONS. UNIT IS TO BE A DIRECT VENT STYLE - CONTRACTOR SHALL PROVIDE NEW EXTERIOR WALL PENETRATION FOR NEW 3" PVC INTAKE AND EXHAUST PIPES. REUSE THE EXISTING EXHAUST PENETRATION TO THE MAXIMUM EXTENT PRACTICAL. SEAL AROUND INTAKE AND EXHAUST PIPES AFTER INSTALLATION. AT EXTERIOR, ELEVATE INTAKE & EXHAUST OPENINGS MINIMUM OF 36" TO CLEAR SNOW. RECONNECT NATURAL GAS SERVICE TO NEW UNIT. ALL ASPECTS OF WATER HEATER INSTALLATION, SPECIFICALLY VENTING AND GAS PIPING, TO BE IN ACCORDANCE WITH MFR REQUIREMENTS AND APPLICABLE CODES.
2. AS PART OF WH-1 INSTALLATION, FURNISH AND INSTALL NEW CONDENSATE PUMP, CP-1, AND FLEXIBLE TUBING AS INDICATED TO PUMP WH-1 CONDENSATE TO EXISTING SUMP.
3. TIE INTO 2" HWS & R PIPING AT APPROX. LOCATION AND INSTALL NEW 2" VALVED BRANCH TAKEOFFS. ON SUPPLY TAKEOFF, INSTALL NEW RECIRCULATION PUMP, HWP-2, AND CHECK VALVE AND ISOLATION VALVE. REFER TO DETAIL 8 ON M-7 FOR REQUIRED COMPONENTS FOR IN-LINE PUMP INSTALLATION.
4. INSTALL NEW 2" HWS & R PIPING FROM MECH ROOM TO 2ND FLOOR CEILING AND 3RD FLOOR, RUNNING IN EXISTING PIPE CHASE ALONGSIDE EXISTING PIPING AS MUCH AS POSSIBLE.
5. FURNISH AND INSTALL PIPING INSULATION ON ALL EXPOSED SECTIONS OF EXISTING HOT WATER SUPPLY AND RETURN PIPING THAT ARE CURRENTLY NOT INSULATED.
6. CONTRACTOR SHALL PERFORM A THOROUGH CLEANING OF MECHANICAL ROOM.

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DRAWING TITLE:
MECHANICAL ROOM

PROJECT NO: 683 DATE: 03/16/09

SHEET NUMBER:
M-6

PIPE, FITTING & INSULATION SCHEDULE

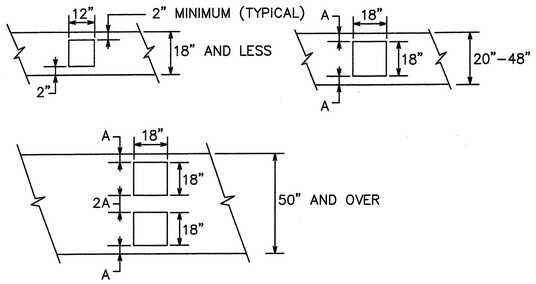
SERVICE	PIPE & FITTINGS	INSULATION
HEATING HOT WATER - INTERIOR, ABOVE GRADE	TYPE L COPPER WITH SOLDER FITTINGS	1 1/2" FIBERGLASS INSULATION WITH ASJ COVERING, PVC COVERS @ FITTINGS, ELBOWS AND VALVES

NOTES:
1. CONTRACTOR TO PROVIDE DIELECTRIC COUPLINGS WHEREVER NECESSARY FOR THE JOINING OF TWO OR MORE DISSIMILAR PIPING MATERIALS.

SYSTEM	FLUID TEMP. (DEG. F)	INSUL. COND.	MEAN RATING TEMP (DEG. F)	INSULATION THICKNESS (IN.)					
				RUNOUTS UP TO 2	1 AND LESS	1 1/4 TO 2	2 1/2 TO 4	5 AND 6	8 AND UP
HEATING	ABOVE 350	0.32–0.34	250	1.5	2.5	2.5	3.0	3.5	3.5
	251–350	0.29–0.31	200	1.5	2.0	2.5	3.0	3.5	3.5
	201–250	0.27–0.30	150	1.0	1.5	1.5	3.0	3.0	3.5
	141–200	0.25–0.29	125	0.5	1.5	1.5	1.5	1.5	1.5
	105–140	0.24–0.28	100	0.5	1.0	1.0	1.0	1.5	1.5
COOLING	40–55	0.23–0.27	75	1.0	1.0	1.0	1.5	15	1.5
	BELOW 40	0.23–0.27	75	1.0	1.0	1.5	1.5	1.5	1.5

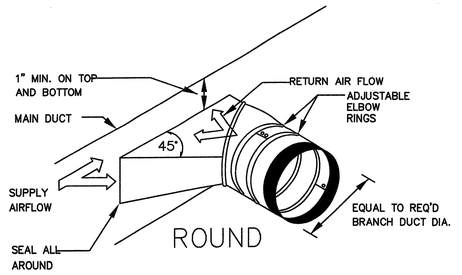
NOTE: ABOVE CHART IS PROVIDED FOR REFERENCE. ALL INSULATION MATERIALS AND SIZES SHALL COMPLY WITH ASHRAE 90.1, AND SHALL SUPERCEDE VALUES IN THIS TABLE WHERE ANY DISCREPANCIES OCCUR.

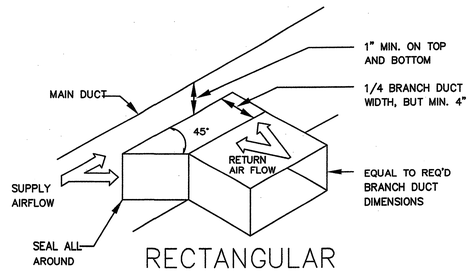
1 M–7 | M–7 PIPE MATERIAL & INSULATION TABLES
NO SCALE



NOTES:
1. PROVIDE DUCT ACCESS DOORS AS PER SPECIFICATION AT CONTROL DEVICES, (AUTOMATIC DAMPERS, SENSORS, ETC.), FIRE DAMPERS, SMOKE DAMPERS, REHEAT COILS, HUMIDIFIERS, AIR FLOW SENSORS, VAV BOXES, AND WHERE REQUIRED FOR SERVICE ACCESS, AND AS SHOWN ON DRAWINGS.
2. LOCATE ACCESS DOORS IN DUCTWORK TO FACILITATE ACCESS TO DEVICES REQUIRING SERVICE AND INSPECTION.

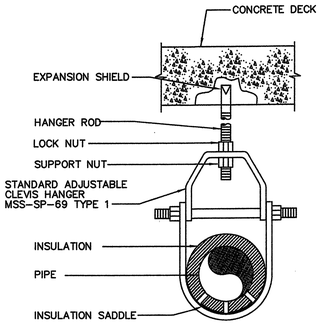
3 M–7 | M–7 DUCT ACCESS DOOR DETAILS
NO SCALE



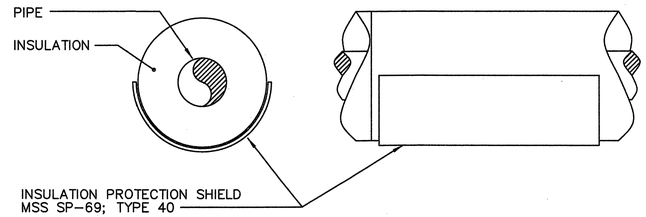


NOTE: EACH BRANCH CONNECTION SHALL BE EQUIPED WITH A VOLUME DAMPER WITH POSITION LOCK FOR BALANCING PURPOSES

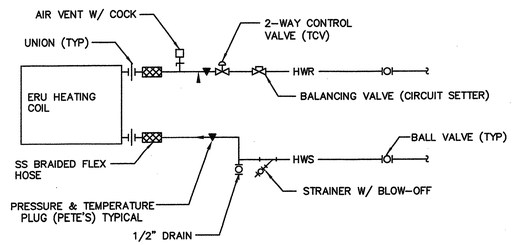
2 M–7 | M–7 TYPICAL TAKE–OFF DETAIL
NO SCALE



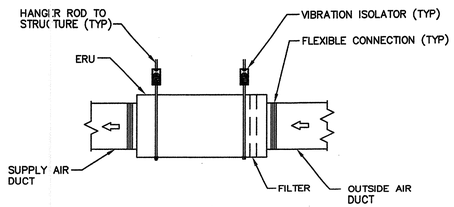
4 M–7 | M–7 ADJUSTABLE CLEVIS HANGER DETAIL
NO SCALE



5 M–7 | M–7 INSULATION PROTECTION SHIELD DETAIL
NO SCALE

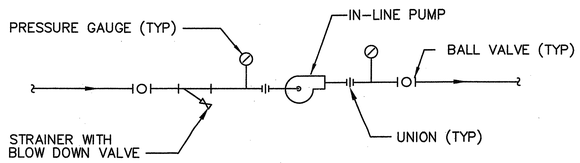


6 M–7 | M–7 TYPICAL COIL PIPING DETAIL (AT ERU)
NO SCALE



NOTE – NOT ALL DUCTS DEPICTED HERE

7 M–7 | M–7 ERU INSTALLATION DETAIL
NO SCALE



8 M–7 | M–7 IN–LINE PUMP PIPING DETAIL
NO SCALE

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REVISION	DATE	COMMENTS
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KEY PLAN:

PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
CONSTRUCTION DOCUMENTS

DRAWING TITLE:
MECHANICAL SCHEDULES & DETAILS (SHEET 1)

PROJECT NO: 683 DATE: 03/16/09

SHEET NUMBER:
M–7

EXHAUST / VENTILATOR FAN SCHEDULE

REF NO.	CFM	MAX. OUT.VEL. FPM	RPM	EXTERNAL STATIC PRESS. IN.WG.	MOTOR				DRIVE	TYPE	DESCRIPTION / AREA SERVED	MFR/MODEL
					HP	VOLTS	Ø	Hz				
ERU-1	800	--	--	0.75	(2) 3/4	208	3	60		AIR/AIR HEX	3RD FLOOR ERU	RENEWAIRE / HE1XINH SERIES

NOTES:
1. ERU-1 IS AN AIR-TO-AIR HEAT EXCHANGER STYLE HEAT RECOVERY UNIT, APPROX. 70% EFFICIENT, WITH TWO (2) FANS. INSTALL / CONFIGURE DUCTWORK IN ACCORDANCE WITH MFR'S REQUIREMENTS.
2. UNIT SHALL INCLUDE OPTIONAL NON-FUSED DISCONNECT, AND BE CONFIGURED FOR 115V CONTROL WIRING.

PUMP SCHEDULE

REF. No.	SYSTEM SERVED	GPM	PRESS. FT. HD.	MOTOR				TYPE	MFR / MODEL
				HP	RPM	VOLTS	PHASE		
HWP-2	HW HEATING	30	60	2	3600	208	3	IN-LINE CENTRIFUGAL	ARMSTRONG / 4380 SERIES, 1.5x1.5x6
CP-1	WH-1 CONDENSATE	0.6	15	1/20	3000	115	1	CONDENSATE PUMP	HARTELL / KT-15 WITH 6 FT CORD

NOTES:
1. ALL MOTORS SHALL BE PREMIUM EFFICIENT TO COMPLY WITH "MOTOR-UP" REQUIREMENTS.
2. FURNISH AND INSTALL LOCAL DISCONNECT AND MOTOR STARTER FOR PUMP.
3. MANUFACTURERS OFFERING SIMILAR PRODUCTS MAY BE SUBSTITUTED WITH OWNER / ENGINEER APPROVAL.

DUCT COIL SCHEDULE

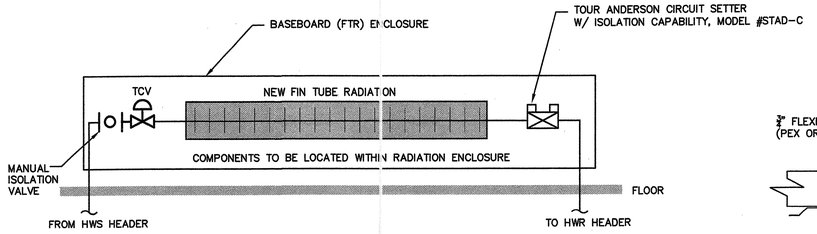
REF. NO.	CFM	SIZE IN.		AIR TEMP. °F		MBH	FACE VEL. FPM	GPM	WATER TEMP. °F		AIR PRESS. DROP IN. WG	WATER PRESS. DROP FT. HD.	REMARKS
		H	W	ENT.	LVG.				ENT.	LVG.			
HC-1	800	20	16	40	72	27.6	360	2.8	180	160	0.2	5	-

NOTES:
1. CONTRACTOR RESPONSIBLE FOR FURNISHING AND INSTALLING COIL IN NEW OA DUCT (SEE PROPOSED PLAN, M-4) INCLUDING PROVIDING ANY DUCT TRANSITIONS REQUIRED.
2. CONTRACTOR RESPONSIBLE TO CONFIGURE HW HEATING COIL TO TEMPER AIR AS DESCRIBED WITHIN THIS DESIGN (75°F SUMMER, 72° WINTER).
3. PERFORMANCE DATA LISTED ABOVE APPLIES TO WINTER DESIGN CONDITIONS, WITH A MINIMUM RECOVERY EFFICIENCY OF 60%.

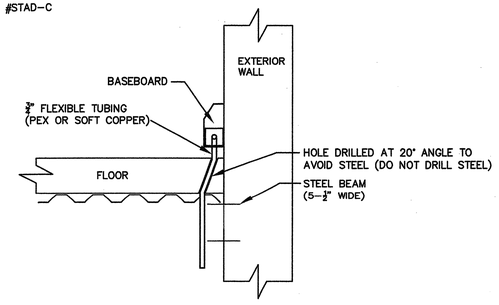
HOT WATER SYSTEM PIPING COMPONENTS

ITEM	COMPONENT DESCRIPTION	SIZE	SPECIFICATIONS	MANUFACTURER*	MODEL*	QTY	NOTES
1	ISOLATION VALVES - BALL	UP TO 2 1/2"	BRONZE VALVE W/ OPTIONAL STAINLESS STEEL BALL, NPT ENDS	APOLLO	70-100 SERIES	PER DRAWINGS	PROVIDE HANDLE SUITABLE FOR LOCATING IN BASEBOARD ENCLOSURE
2	STRAINERS	UP TO 2 1/2"	CAST IRON BODY WITH SS 20 MESH SCREEN, NPT CONNECTIONS	SPIRAX SARCO	IT SERIES	PER DRAWINGS	PROVIDE MANUAL ISOLATION BALL VALVE FOR EACH
3	STRAINERS	3" AND UP	CLASS 125, CAST IRON, 1/8" PERFORATIONS (4" AND UP), 20 MESH (2" TO 3"), FLANGED	SPIRAX SARCO	CI-125	PER DRAWINGS	PROVIDE MANUAL ISOLATION BALL VALVE FOR EACH
4	CHECK VALVES	UP TO 2"	CAST IRON BODY, SILENT GLOBE STYLE, NPT ENDS, SS SPRING, CLASS 250	MUELLER STEAM	303-AP	PER DRAWINGS	
5	CHECK VALVES	2" AND UP	SILENT GLOBE STYLE, FLANGED ENDS, CS BODY, SS TRIM & SPRING, CLASS 150	MUELLER STEAM	105MDT	PER DRAWINGS	
6	PRESSURE GAUGE	4 1/2" DIAL	DIRECT DRIVE, BLACK, 1/4" BOTTOM NPT CONNECTION, STAINLESS STEEL TAG	PERMA-CAL	#1-2-1....	PER DRAWINGS	
7	THERMOMETERS	5" DIAL	BIMETAL TYPE, SS CASE, 0-200 F, 1/2" NPT REAR CONNECTION	ASHCROFT	CODE 50-EL-60-E-040-0/200	PER DRAWINGS	INCLUDE THERMOWELL SIZED FOR PIPE
8	BALANCING VALVES	VARIES	CAST IRON BODY, BRASS VANES, 150 LB FLANGED ENDS	TOUR & ANDERSON	STAD-C SERIES	PER DRAWINGS	INCLUDE PREFORMED INSULATION
9	HIGH PT VENTS / LOW PT DRAINS	1/2" / 3/4"	BRONZE BALL VALVE, 2-PIECE DESIGN, NPT END CONNECTIONS, LEVER HANDLE	APOLLO	78-100 SERIES	AS REQUIRED	INCLUDE CAP ON CHAIN FOR EACH

*MANUFACTURERS OFFERING SIMILAR PRODUCTS MAY BE SUBSTITUTED FOR COMPONENTS LISTED HERE CONTINGENT UPON APPROVAL OF OWNER



BASEBOARD RADIATION DETAIL
SCALE: NONE



SIDE ELEVATION
SCALE: 1" = 1'-0"

1 / M-8 | M-8 BASEBOARD INSTALLATION DETAILS
NO SCALE

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REVISION	DATE	COMMENTS
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KEY PLAN:

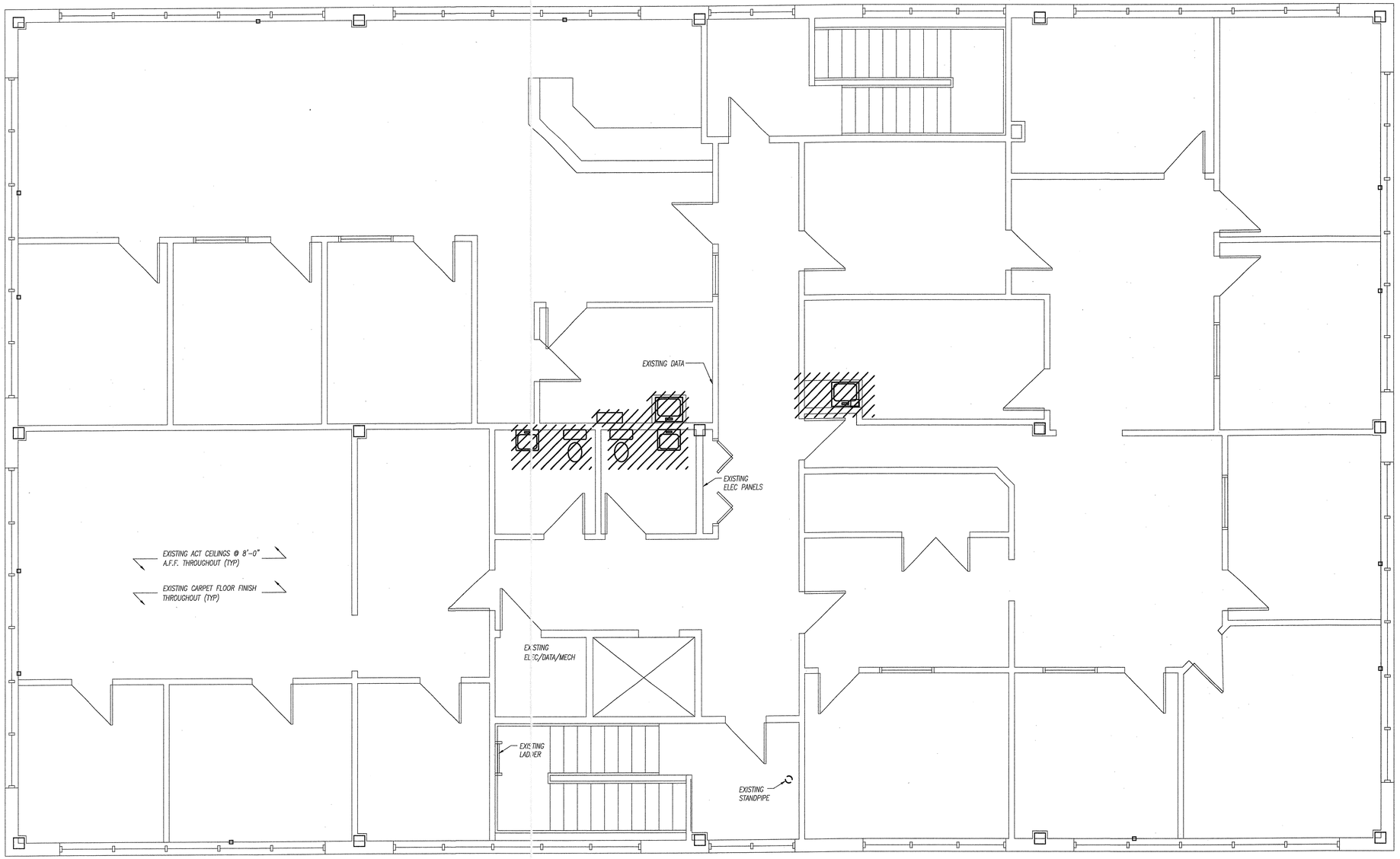
PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
CONSTRUCTION DOCUMENTS

DRAWING TITLE:
MECHANICAL SCHEDULES & DETAILS (SHEET 2)

PROJECT NO: 683 | DATE: 03/16/09

SHEET NUMBER:
M-8



THIRD FLOOR DEMOLITION PLAN

SCALE: 1/4"=1'-0"

NOTES:

1. CONTRACTOR SHALL REMOVE ALL PLUMBING FIXTURES AND ASSOCIATED PIPING BACK TO MAIN. PROVIDE CAPS AT ENDS OF MAINS.
2. WASTE CONNECTIONS SHALL BE REMOVED BACK TO EXISTING 3" WASTE MAIN. CONTRACTOR TO CAP.
3. ALL VENT LINES SHALL SERVING PLUMBING FIXTURES FOR THIS FLOOR SHALL BE REMOVED AND CAPPED. EXISTING VENT THROUGH THE ROOF SHALL REMAIN
4. EXISTING BATHROOMS ARE BEING SUPPLIED BY ELECTRIC WATER HEATERS ABOVE CEILING. CONTRACTOR TO REMOVE WATER HEATERS AND SUPPLY PIPING AND RETURNED TO OWNER.

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KEY PLAN:

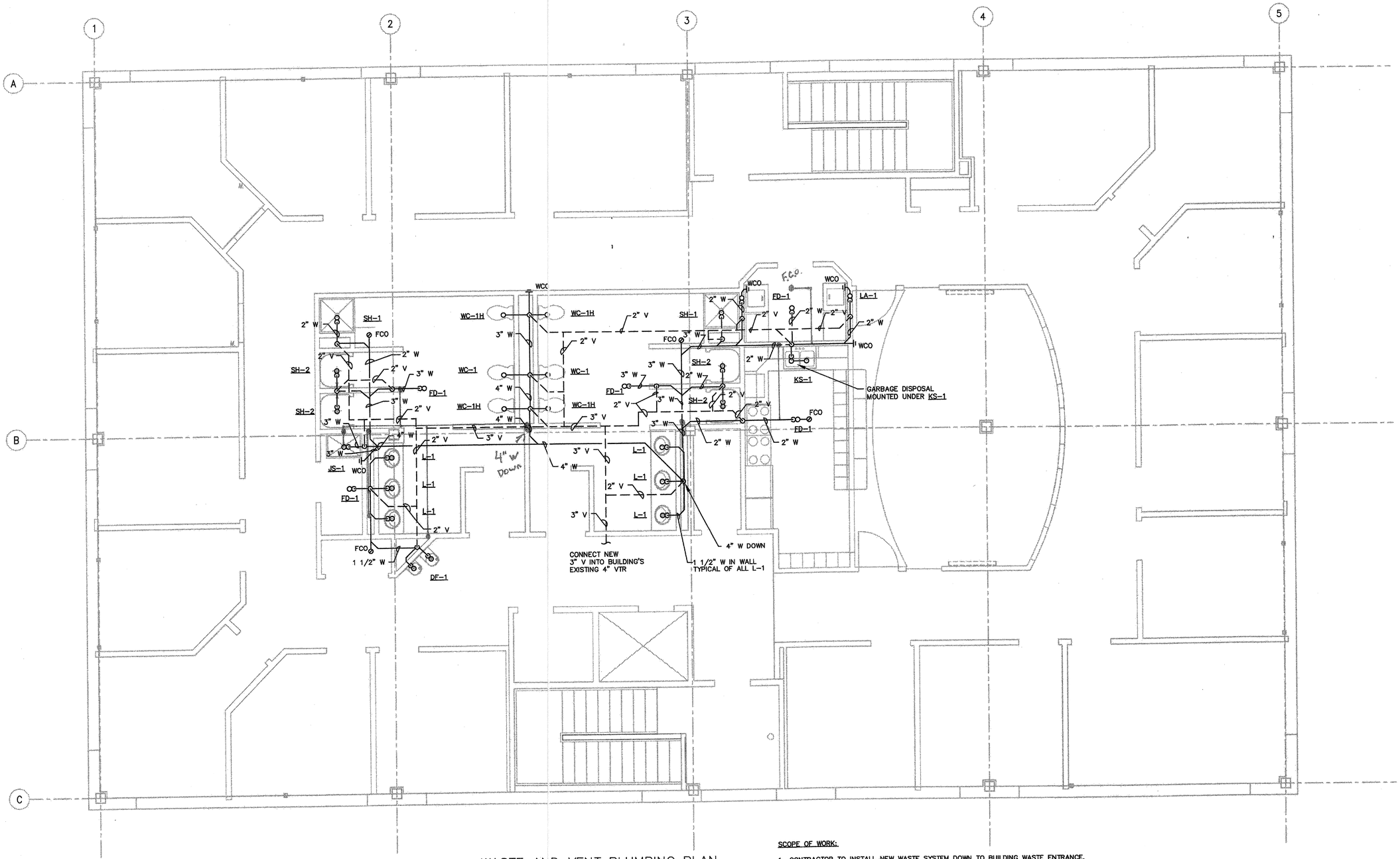
PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
CONSTRUCTION DOCUMENTS

DRAWING TITLE:
DEMOLITION PLAN
THIRD FLOOR
PLUMBING PLAN

PROJECT NO: 683 | DATE: 03/16/09

SHEET NUMBER:
P–1



WASTE AND VENT PLUMBING PLAN

SCALE: 1/4"=1'-0"

SCOPE OF WORK:

1. CONTRACTOR TO INSTALL NEW WASTE SYSTEM DOWN TO BUILDING WASTE ENTRANCE, SIZED PER IPC 2003. CONTRACTOR SHALL RECONNECT EXISTING WASTE SYSTEM INTO NEW SYSTEM AS REQUIRED TO MAINTAIN A FUNCTIONING SYSTEM.
2. CONTRACTOR TO FURNISH AND INSTALL NEW PLUMBING FIXTURES AS SHOWN IN PLUMBING SCHEDULE ON SHEET P-4. ALL NEW FIXTURES SHALL HAVE STOPS ON THE WATER AND TRAP INSULATION, PER CODE, FOR ANY EXPOSED PIPING WATER AND/OR WASTE.
3. CONTRACTOR TO RECONNECT EXISTING VENT INTO NEW VENT SYSTEM AS NECESSARY TO MAINTAIN INTEGRETY OF THE EXISTING SYSTEM. CONNECT NEW VENTING FROM NEW FIXTURES INTO EXISTING VENT THROUGH THE ROOF.
4. ALL FLOOR AND WALL CLEANOUTS SHALL BE INSTALLED TO MAINTAIN RODDING DISTANCES PER IPC 2003.
5. ALL FLOOR PENETRATIONS SHALL BE FIRE CAULKED AND SEALED.

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KEY PLAN:

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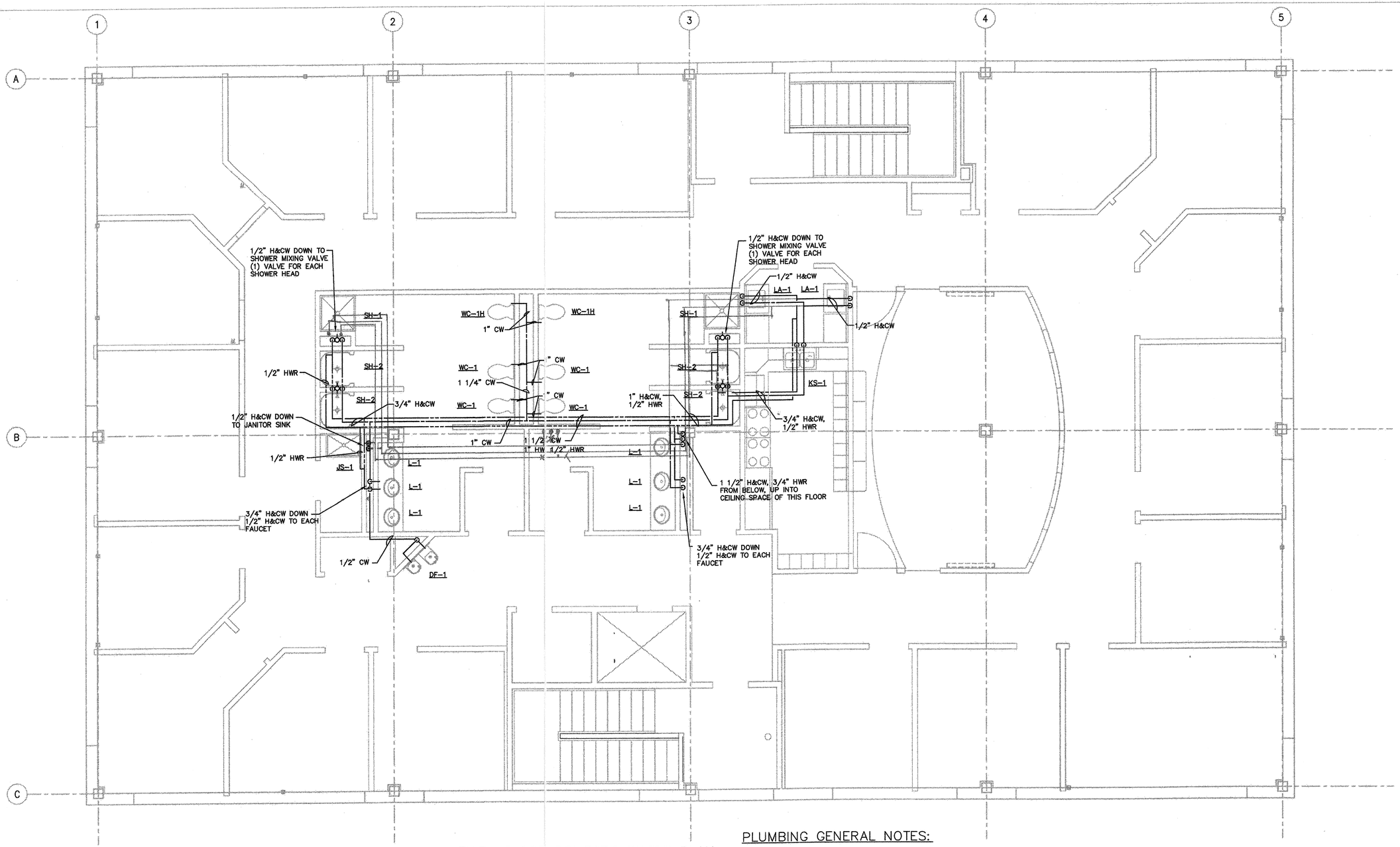
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
CONSTRUCTION DOCUMENTS

DRAWING TITLE:
PROPOSED PLAN
THIRD FLOOR
WASTE AND VENT

PROJECT NO: 683 DATE: 03/15/08

SHEET NUMBER:
P-2



THIRD FLOOR DOMESTIC WATER PLAN

SCALE: 1/4"=1'-0"

PLUMBING GENERAL NOTES:

1. PERFORM WORK IN STRICT ACCORDANCE WITH ALL MUNICIPAL, STATE AND OTHER AUTHORITIES, PUBLIC AND PRIVATE, HAVING JURISDICTION. REPORT ALL DISCREPANCIES WITH SUCH REGULATIONS TO ENGINEER AND DO NOT PROCEED WITH ANY WORK UNTIL RECEIPT OF WRITTEN AUTHORIZATION IS RECEIVED FROM ENGINEER.
2. COORDINATE ALL WORK WITH OTHER TRADES TO AVOID INTERFERENCE. NO CHANGE IN CONTRACT PRICE WILL BE ALLOWED BECAUSE OF ANY WORK MADE NECESSARY BY FAILURE TO DO THE REQUIRED COORDINATION.
3. PLUMBING PLANS ARE DIAGRAMMATIC AND DO NOT SHOW ALL PIPES AND FITTINGS REQUIRED. THE RIGHT IS RESERVED TO VARY RUNS AND MAKE OFFSETS, DURING CONSTRUCTION TO MEET STRUCTURAL, MECHANICAL AND ELECTRICAL INTERFERENCES. SIGNIFICANT REROUTING OF LINES MUST BE APPROVED BY ENGINEER PRIOR TO WORK.
4. PROVIDE STOP VALVES AT ALL PLUMBING FIXTURES.
5. PROVIDE THE NECESSARY VALVES, PIPES AND FITTINGS THROUGHOUT SYSTEM TO ELIMINATE WATER HAMMER. EQUIPMENT BY ZURN OR EQUAL.
6. MAKE OFFSETS IN VERTICAL DRAIN, WASTE AND VENT PIPING AT 45 DEGREE ANGLE WHEREVER POSSIBLE. WHERE VENT PIPES CONNECT TO A HORIZONTAL WASTE PIPE BELOW SLAB OR FLOOR, THE VENT CONNECTION SHALL BE TAKEN OFF ABOVE THE CENTERLINE OF THE SOIL PIPE AND SHALL BE RUN, AT ANGLE OF NOT MORE THAN 45 DEGREES FROM THE VERTICAL, TO THE VENT RISER PIPE LOCATED AS INDICATED ON THE DRAWING.
7. INSTALL PLUMBING FIXTURES AFTER PAINTING OF ADJACENT WALLS, CEILINGS, ETC. IS COMPLETED.
8. ALL PIPING SHALL BE RUN AS HIGHEST POSSIBLE TO MAXIMIZE HEADROOM. COORDINATE WITH OTHER TRADES AND BUILDING STEEL.
9. ALL WASTE PIPING ON THIS FLOOR SHALL BE INSULATED WITH 1" FIBERGLASS WITH ASJ.
10. ALL FLOOR PENETRATIONS SHALL BE FIRE CAULKED AND SEALED.
11. CONTRACTOR TO FURNISH AND INSTALL NEW WATER LINE UP TO THIS FLOOR TO SERVE NEW PLUMBING FIXTURES. CONTRACTOR TO VERIFY MOST DIRECT ROUTE FROM WATER ENTRANCE TO THIS FLOOR PRIOR TO INSTALLATION. RECONNECT EXISTING FIXTURE LINES INTO NEW MAIN AS NECESSARY TO MAINTAIN EXISTING SYSTEM.

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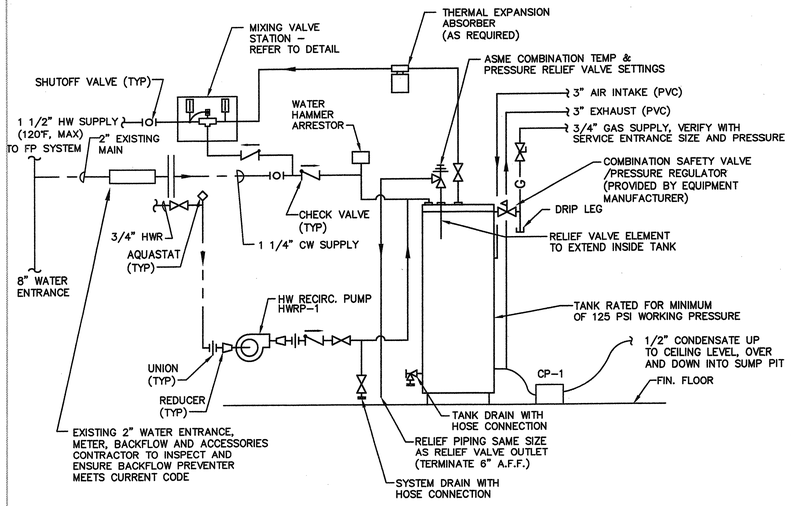
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
CONSTRUCTION DOCUMENTS

DRAWING TITLE:
PROPOSED PLAN
THIRD FLOOR
DOMESTIC WATER

PROJECT NO: 683 | DATE: 03/16/09

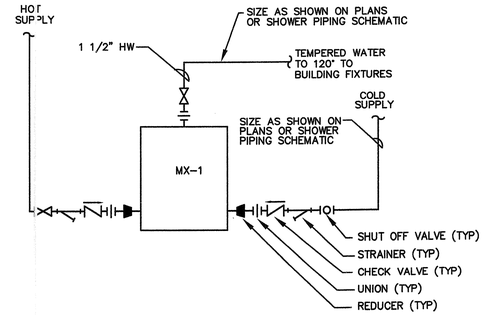
SHEET NUMBER:
P-3



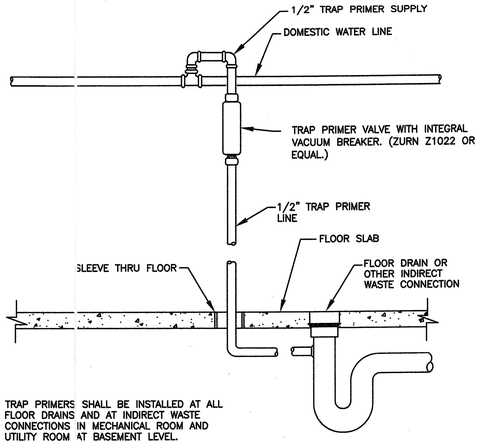
GAS-FIRED WATER HEATER DETAIL
NOT TO SCALE

WATER HEATER NOTES:

REMOVE AND DISPOSE OF EXISTING WATER HEATER, COORDINATE WITH OWNER. CONTRACTOR TO FURNISH AND INSTALL NEW WH-1 IN PLACE OF REMOVED WATER HEATER. CONNECT NEW 1 1/2" COLD WATER AND 1 1/2' HOT WATER LINES INTO NEW WATER HEATER. CONTRACTOR TO FURNISH AND INSTALL NEW RECIRCULATION PUMP, HWRP-1, IN SYSTEM AS SHOWN IN DETAIL, THIS SHEET. CONTRACTOR TO INSTALL NEW DIRECT VENT CONNECTIONS FOR NEW WATER HEATER, FURNISH NEW OPENING IN EXISTING WALL TO ACCOMONDATE NEW SYSTEM.



MIXING VALVE PIPING DETAIL
NOT TO SCALE



TRAP PRIMERS SHALL BE INSTALLED AT ALL FLOOR DRAINS AND AT INDIRECT WASTE CONNECTIONS IN MECHANICAL ROOM AND UTILITY ROOM AT BASEMENT LEVEL.

PLUMBING LEGEND
WASTE
VENT
COLD WATER
HOT WATER

PLUMBING FIXTURE SCHEDULE

FIXTURE NO.	MANUFACTURER, CATALOG NO. & DESCRIPTION	CONNECTIONS CW	HW	WASTE	VENT	REMARKS
WC-1	KOHLER KINGSTON K-4330 WALL MOUNTED TOILET, 1" WATER CONNECTION	1"	–	3"	2"	SEAT: CHURCH 2155C OPEN FRONT LESS COVER, ZURN CARRIER, SLOAN ECO 8111-1.1 GPF ELECTRONIC DUAL FLUSH
WC-1H	KOHLER KINGSTON K-4330 WALL MOUNTED TOILET, 1" WATER CONNECTION MOUNT AT REQUIRED ADA HEIGHT	1"	–	3"	2"	SEAT: CHURCH 2155C OPEN FRONT LESS COVER, ZURN CARRIER, SLOAN ECO 8111-1.1 GPF ELECTRONIC DUAL FLUSH
L-1	KOHLER K-2196-4 PENNINGTON SELF-RIMMING WITH 4" CENTER FAUCET DRILLING	1/2"	1/2"	1 1/2"	1 1/2"	KOHLER CORALAIS K-15243-4, LEVER FAUCET
KS-1	ELKAY LRADQ3321 SINGLE HOLE DRILLING	1/2"	1/2"	1 1/2"	1 1/2"	ELKAY LKE4160, 8" CAST SPOUT
DF-1	ELKAY WALL MOUNTED DUAL UNIT EHWM217C	(2)1/2"	–	1 1/2"	1 1/2"	SUPPORT CARRIED – HAWS MODEL 6800
JS-1	FIAT MOP SERVICE BASIN MSB-3624	3/4"	3/4"	3"	2"	PROVIDE CHICAGO 540-LD897SWXFP WALL MOUNTED 8" CENTER FAUCET, 832AA HOSE AND BRACKET, 3" DRAIN CONN.
SH-1	LASCO BATHWARE 3636-BFS	1/2"	1/2"	2"	2"	SHOWER VALVE ZURN TEMP-GUARD III SHOWER UNIT Z7300-SS-MT-HW-1.75
SH-2	LASCO BATHWARE 3636-BFS	1/2"	1/2"	2"	2"	SHOWER VALVE ZURN TEMP-GUARD III SHOWER UNIT Z7300-SS-MT-HW-1.75
LA-1	GUY GREY BOX W4700HA	1/2"	1/2"	2"	2"	SHOWER VALVE ZURN TEMP-GUARD III SHOWER UNIT
FD-1	ZURN ZN-415-P FLOOR DRAIN, TYPE B STRAINER	–	–	2"	2"	TRAP PRIMER CONNECTION FROM NEAREST WATER SUPPLY, TRAP PRIMER TO BE ZURN SANI-GUARD Z1022 OR EQUAL
MX-1	WATTS 1 1/2"N 170-M2	1 1/2"	1 1/2"			OUTLET TEMPERATURE SET AT 120°F
A*L-1	KOHLER K-22119 CAXTON UNDERCOUNTER SINK WITH CLAMPS	1/2"	1/2"	1 1/2"	1 1/2"	KOHLER CORALAIS K-15240-4

NOTES: 1. A*L-1 ADD ALTERNATE – CONTRACTOR TO COORDINATE WITH ARCHITECT FOR COUNTER SELECTION
2. ALL EXPOSED WATER AND WASTE PIPING SHALL BE COVERED WITH IPS TRUEBRO LAVGUARD 2 EZ OR EQUAL

PIPE, FITTING, INSULATION SCHEDULE

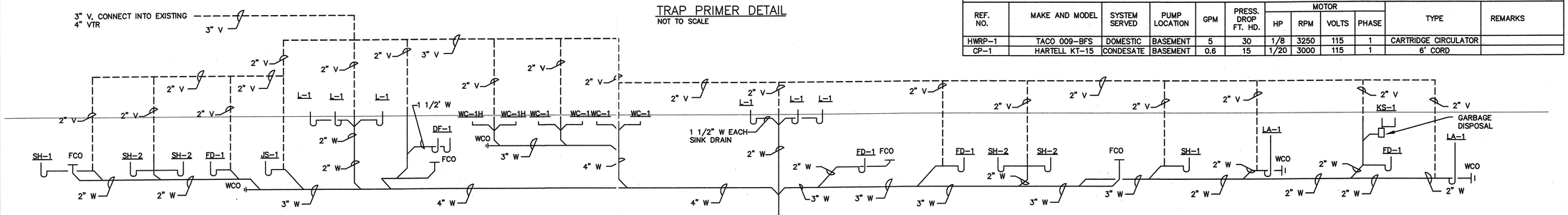
SERVICE	PIPE OR DUCTWORK & FITTINGS	INSULATION
DOMESTIC COLD WATER ABOVE GRADE	ASTM B88 TYPE L COPPER TUBING HARD DRAWN W/WROUGHT COPPER FITTINGS AND GRADE 95TA SOLDER JOINTS	1" WALL ASTM C547 GLASS FIBER INSULATION WALL SERVICE JACKET. MOLDED PVC FITTING COVERS WITH FIBERGLASS INSERTS
DOMESTIC HOT WATER ABOVE GRADE	ASTM B88 TYPE L COPPER TUBING HARD DRAWN W/WROUGHT COPPER FITTINGS AND GRADE 95TA SOLDER JOINTS	1" WALL ASTM C547 GLASS FIBER INSULATION WALL SERVICE JACKET. MOLDED PVC FITTING
SAN. WASTE & VENT	ASTM A 74; ASM A 888; CISPI 301, SCHEDULE 40 NO HUB	NOT INSULATED

WALL HEATER SCHEDULE

REF. NO.	MAKE AND MODEL	MBH	GAS	DIRECT VENT	SIZE IN. H	SIZE IN. D	1ST HR DELIVERY GAL	CONNECTIONS CW IN	CONNECTIONS HW OUT	CONNECTIONS GAS	REMARKS
WH-1	BRADFORD-WHITE EF-100T-199E-3NA	199,999	NATURAL	3" PVC	78"	28.25"	309	1 1/2"	1 1/2"	3/4"	

PUMP SCHEDULE

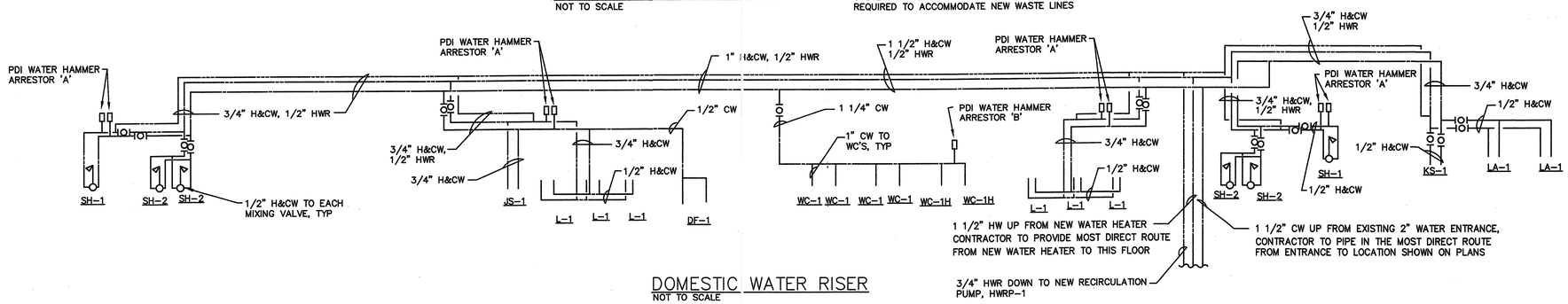
REF. NO.	MAKE AND MODEL	SYSTEM SERVED	PUMP LOCATION	GPM	PRESS. DROP FT. HD.	MOTOR HP	MOTOR RPM	MOTOR VOLTS	MOTOR PHASE	TYPE	REMARKS
HWRP-1	TACO 009-BFS	DOMESTIC	BASEMENT	5	30	1/8	3250	115	1	CARTRIDGE CIRCULATOR	
CP-1	HARTELL KT-15	CONDESATE	BASEMENT	0.6	15	1/20	3000	115	1	6' CORD	



TRAP PRIMER DETAIL
NOT TO SCALE

WASTE AND VENT RISER
NOT TO SCALE

4" W, CONNECT INTO EXISTING WASTE SYSTEM. INCREASE EXISTING SYSTEM AS REQUIRED TO ACCOMMODATE NEW WASTE LINES



DOMESTIC WATER RISER
NOT TO SCALE

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REVISION	DATE	COMMENTS
–	–	–

KEY PLAN:

PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
CONSTRUCTION DOCUMENTS

DRAWING TITLE:
PROPOSED PLAN SCHEDULES, NOTES & RISERS

PROJECT NO: 683 DATE: 03/16/09

SHEET NUMBER:
P-4

ELECTRICAL LEGEND

—ONE—LINE DIAGRAM SYMBOL LEGEND—

SYMBOL	DESCRIPTION
30KVA PRI 480V- SEC 208Y/120V	TRANSFORMER, SIZE AND VOLTAGE AS INDICATED ON DRAWING
100AF XXXAT LSIG	DRAW OUT CIRCUIT BREAKER, 1600AF INDICATES FRAME SIZE IN AMPERES, 1300AT INDICATES TRIP SENSOR SETTING IN AMPERES LSIG INDICATES LONGTIME, SHORT TIME, INSTANTANEOUS, AND GROUND FAULT SETTINGS
	DRAWOUT
100A	CIRCUIT BREAKER, 100A INDICATES TRIP SETTING IN AMPERES, 3 POLE
150AF 15AT	MOLDED CASE CIRCUIT BREAKER, THERMAL TRIP, 3-POLE, UNLESS OTHERWISE NOTED 150AF INDICATES FRAME SIZE IN AMPERES, 15AT INDICATES TRIP SETTING IN AMPERES.
F	FUSE
30AS 30AF NEMA 1	FUSED SWITCH, 30AF INDICATES FUSE SIZE IN AMPERES
	TRANSFER SWITCH
	GROUND CONNECTION
	MOTOR STARTER
	COMBINATION MOTOR STARTER, WITH DISCONNECT SWITCH
GEN	GENERATOR
X 10	ELECTRIC MOTOR, NUMERAL INDICATES RATED HORSEPOWER
A	AMMETER
AS	AMMETER SWITCH
V	VOLT METER
VS	VOLT METER SWITCH
HOA	HAND / OFF / AUTO SELECTOR SWITCH
S/S	START / STOP PUSHBUTTON STATION
GFP	RELAY, GFR INDICATES GROUND FAULT, STR INDICATES SHUNT TRIP
R	RED RUN LIGHT LOCATED IN MCC STARTER COVER
K1	KIRK KEY INTERLOCKING
FVNR 1	MOTOR MAGNETIC STARTER, FVNR INDICATES FULL VOLTAGE NON REVERSING, SIZE 1 INDICATES NEMA SIZE
VFD	VARIABLE FREQUENCY DRIVE
	POWER FACTOR CORRECTION CAPACITOR
	CURRENT TRANSFORMER, QUANTITY AND RATIO AS INDICATED ON DRAWING
	POTENTIAL TRANSFORMER 480-120V UNLESS OTHERWISE NOTED

—LIGHTING—

SYMBOL	DESCRIPTION
S A S	2x4 FLUORESCENT FIXTURE, SIZE AND POSITION AS INDICATED ON PLAN DWG "A" DENOTES FIXTURE TYPE "3" DENOTES CIRCUIT NUMBER "b" DENOTES SWITCH CONTROL
S A S	2X4 FLUORESCENT FIXTURE CONNECTED TO NIGHT/EMERGENCY CIRCUIT (LIFE SAFETY), SIZE AND POSITION AS INDICATED ON PLAN DWG EQUIPPED WITH BACKUP BATTERY OPERATION
S A S	1x4 FLUORESCENT FIXTURE, SIZE AND POSITION AS INDICATED ON PLAN DWG "A" DENOTES FIXTURE TYPE "3" DENOTES CIRCUIT NUMBER "b" DENOTES SWITCH CONTROL
S A S	1X4 FLUORESCENT FIXTURE CONNECTED TO NIGHT/EMERGENCY CIRCUIT (LIFE SAFETY), SIZE AND POSITION AS INDICATED ON PLAN DWG EQUIPPED WITH BACKUP BATTERY OPERATION
	CEILING MOUNTED LIGHTING FIXTURE
	WALL MOUNTED LIGHTING FIXTURE
	CEILING MOUNTED ILLUMINATED EXIT SIGN WITH DIRECTION ARROWS AND OUTLET BOX, SHADED AREA INDICATES LIGHTED FACES, ARROWS INDICATE DIRECTION
	WALL MOUNTED ILLUMINATED EXIT SIGN WITH OUTLET BOX, SHADED AREA INDICATES LIGHTED FACES, ARROWS INDICATE DIRECTION
	WALL WASHER LIGHTING FIXTURE
	FLOOD LIGHT FIXTURE
	EMERGENCY BATTERY UNIT
	EXIT/EMERGENCY LIGHT
	LIGHTING TRACK WITH LAMP HEADS AS INDICATED
LC-1	DENOTES AREA LIGHTING CONTROL, ROOM SHALL BE CONFIGURED PER REFERENCED WIRING DETAIL.

—SWITCHES—

SYMBOL	DESCRIPTION
$a	SWITCH NOMENCLATURE (TYPICAL FOR ALL SWITCH TYPES): "a" - INDICATES ASSOCIATED LIGHTING FIXTURE CONTROLLED BY SWITCH
$WP	"WP" - INDICATES DEVICE BOX AND COVER TO BE WEATHERPROOF
$XP	"XP1" - INDICATES EXPLOSION PROOF, CLASS-1, DIVISION-1 "XP2" - INDICATES EXPLOSION PROOF, CLASS-1, DIVISION-2
$	SINGLE POLE SWITCH, 120V, 20A, W/DEVICE BOX AND COVER
$2	TWO POLE SWITCH, 120V, 20A WITH DEVICE BOX AND COVER
$3	THREE WAY SWITCH, 120V, 20A W/DEVICE BOX AND COVER
$4	FOUR WAY SWITCH, 120V, 20A W/DEVICE BOX AND COVER
$P	SINGLE POLE SWITCH, 120V, 20A, W/DEVICE BOX, COVER AND PILOT LIGHT
$D	1000 WATT 120V DIMMER SWITCH W/DEVICE BOX AND COVER
$K	KEY OPERATED SWITCH, 120V, 20A W/DEVICE BOX AND COVER
$M	MANUAL MOTOR STARTER WITH PILOT LIGHT IN NEMA 1 ENCLOSURE UNLESS OTHERWISE NOTED.
$OS	OCCUPANCY SENSOR, WALL MOUNTED
$TS	ROTARY TIMER SWITCH (0-12HR) WITH HOLD-ON FEATURE, INTERMATIC OR EQUAL
OS a	CEILING MOUNTED. DUAL TECHNOLOGY UNLESS NOTED OTHERWISE "a" INDICATES ASSOCIATED LIGHTING FIXTURE CONTROLLED BY THE SENSOR
OS a IR US	IR - INFRA RED TYPE US - ULTRA SONIC TYPE "a" INDICATES ASSOCIATED LIGHTING FIXTURE CONTROLLED BY THE SENSOR

—POWER DISTRIBUTION EQUIPMENT—

SYMBOL	DESCRIPTION
	PANELBOARD OR DISTRIBUTION PANEL, SURFACE MOUNTED
	PANELBOARD RECESSED MOUNTED
	POWER DISTRIBUTION PANELBOARD - 480/277V, 3PH, 4W, GND SEE ONE-LINE DIAGRAM
	MOTOR CONTROL CENTER
VFD	VARIABLE FREQUENCY DRIVE
LR	VFD INPUT LINE REACTOR
T	TRANSFORMER, DRY TYPE, SIZE & RATING AS INDICATED ON DRAWINGS
5	MOTOR, NUMERAL INDICATES HORSE POWER
30A 1	NON-FUSED DISCONNECT SWITCH, SIZE AND NEMA RATING AS SHOWN
30A 30A 1	FUSED DISCONNECT SWITCH, SIZE, FUSE SIZE AND NEMA RATING AS SHOWN
	MOTOR STARTER
	COMBINATION MOTOR STARTER
CP	CONTROL PANEL
J	JUNCTION BOX, SIZE AS REQUIRED PER LOCAL AND NATIONAL ELECTRICAL CODE, CAST NEMA-12 UNLESS OTHERWISE REQUIRED TO SUIT AREA CLASSIFICATION
PB	PULL BOX, SIZE AS REQUIRED PER LOCAL AND NATIONAL ELECTRICAL CODE
B	BELL
T	THERMOSTAT
CAS	CARD ACCESS READER (MOUNT 4'-0" A.F.F)
ACC PAD	ACCESS KEY PAD (MOUNT 5'-6" A.F.F)
	HOMERUN TO PANELBOARD, 2#12 & 1#12 GRD- 1/2"C UON

—RECEPTACLES—

RECEPTACLE NOMENCLATURE (TYPICAL FOR ALL RECEPTACLE TYPES):
MOUNT @ 1'-6" AFF UON

SYMBOL	DESCRIPTION
(E)	EXISTING TO REMAIN
SS	SURGE SUPPRESSOR TYPE DUPLEX RECEPTACLE
IG	ISOLATED GROUND TYPE DUPLEX RECEPTACLE
GFI	"GFI" - INDICATES GROUND FAULT CIRCUIT INTERRUPTER PROTECTION "GFI"
WP	"WP"- INDICATES DEVICE BOX AND COVER TO BE NEMA 3R ENCLOSURE
XP	"XP" - INDICATES EXPLOSION PROOF
	120V, 20A, SIMPLEX RECEPTACLE
	120V, 20A, DUPLEX RECEPTACLE W/DEVICE BOX AND COVER
	120V, 20A, QUADRAPLEX RECEPTACLE WITH DEVICE BOX AND COVER
	SPECIAL PURPOSE OUTLET
4000—D	SURFACE RACEWAY SYSTEM WITH POWER & DATA OUTLETS AS SHOWN. MOUNT DUPLEX RECEPTACLES 2'-0" ON CENTER UNLESS OTHERWISE NOTED, NUMBER DENOTES TYPE
	WIREMOLD G4000 SURFACE RACEWAY: 4000=SINGLE CHANNEL 4000-D=TWO CHANNEL
	FLOOR MOUNTED RECEPTACLE
C	RECEPTACLE (COORDINATE MOUNT WITH COUNTER)
B	RECEPTACLE - MOUNT IN BASE OF CABINET
T	TAMPER RESISTANT
	MOUNT IN FLOOR POCKET BOX
	MOUNT FLUSH IN CEILING FOR PROJECTOR
R	RETRACTABLE DROP-CORD RECEPTACLE
	QUAD RECEPTACLE MOUNTED IN CAST ALUMINUM BOX, PENDENT MOUNT WITH SO CORD

—RACEWAY & WIRING—

SYMBOL	DESCRIPTION
DP1-1,3	HOMERUN TO PANELBOARD (ie) PANEL "DP1" CIRCUITS #1 & #3
CT-XX	CABLE TRAY/WIREWAY, X - DENOTES WIDTH
	LIQUIDTIGHT FLEXIBLE METAL RACEWAY, SIZE AS INDICATED ON PLAN DRAWING
	CONDUIT TURNING UP, SIZE AS INDICATED ON PLAN DRAWING
	CONDUIT TURNING DOWN, SIZE AS INDICATED ON PLAN DRAWING
UG	CONDUIT RUN UNDERGROUND, SIZE AS INDICATED ON PLAN DRAWING
BD 60A	BUS DUCT WITH CABLE TAP BOX

—GROUNDING—

SYMBOL	DESCRIPTION
GR	GROUND ROD
■	GROUND CONNECTION EXOTHERMIC WELD OR APPROVED COMPRESSION CONNECTION
□	GROUND CONNECTION BOLTED TO COLUMN OR EQUIPMENT

—FIRE ALARM SYSTEM—

SYMBOL	DESCRIPTION
RTS	FIRE ALARM REMOTE TEST SWITCH
MM	FIRE ALARM MONITOR MODULE
S	SMOKE DETECTOR "C" - CEILING MOUNTED "D" - DUCT MOUNTED "W" - WALL MOUNTED "U" - UNDER RAISED FLOOR SECURED TO PEDESTAL "P" - MOUNTED ABOVE CEILING "R" - ELEVATOR RECALL
HT	HEAT DETECTOR, 190 DEG. FIXED TEMPERATURE TYPE, SURFACE MOUNTED
CO	CARBON MONOXIDE DETECTOR
FP	FIRE ALARM PULL STATION, MOUNTED 48" AFF
HS	HORN STROBE (ADA)
SS	SPEAKER STROBE (ADA)
FL	STROBE (ADA)
S ADA	SMOKE DETECTOR WITH INTEGRAL STOBE/HORN
S L	LOCAL (IN ROOM) PHOTELECTRIC 120V W/BATTERY BACK-UP
CO ADA	CARBON MONOXIDE DETECTOR WITH INTEGRAL STROBE/HORN
H	HORN
DH	MAGNETIC DOOR HOLDER MTD. 60" AFF
FS	SPRINKLER SYSTEM FLOW SWITCH (FURNISHED BY SPRINKLER CONTRACTOR AND WIRED BY ELECTRICAL CONTRACTOR) NEMA 4X ENCLOSURE UNLESS OTHERWISE NOTED)
TS	SPRINKLER SYSTEM TAMPER SWITCH (FURNISHED BY SPRINKLER CONTRACTOR AND WIRED BY ELECTRICAL CONTRACTOR) NEMA 4X ENCLOSURE UNLESS OTHERWISE NOTED)
K	KNOX BOX
FACP	FIRE ALARM CONTROL PANEL
FAAP	FIRE ALARM ANNUNCIATOR PANEL
DSDP	DUCT SMOKE DETECTOR CONTROL PANEL
FATB	FIRE ALARM TERMINAL BOX
VACP	VOICE ALARM CONTROL PANEL
ANN	ANNUNCIATOR
INCC	EXISTING INTELLIGENT NETWORK COMMAND CENTER
RMB	RADIO MASTER BOX

—TELECOMMUNICATIONS—

SYMBOL	DESCRIPTION
VDD	TELECOM OUTLET, 1"C STUBBED INTO ACCESSIBLE CEILING SPACE, V=CAT6 VOICE CABLE, D=CAT6 DATA CABLE
	COMBINED TEL/DATA FLOOR OUTLET
	WIRELESS ACCESS POINT (WAP)
VDDC	TELECOM OUTLET, 1"C STUBBED INTO ACCESSIBLE CEILING SPACE, V=CAT6 VOICE CABLE, D=CAT6 DATA CABLE, C=RG6 COAX CABLE
W	WALL PHONE OUTLET, 54" AFF, 1/2"C STUBBED INTO ACCESSIBLE CEILING SPACE, (1) VOICE CABLE

—COMMUNICATIONS—

SYMBOL	DESCRIPTION
AMP	AMPLIFIER
S	HORN SPEAKER
S	CEILING MTD. SPEAKER BACK BOX
S	WALL MTD. SPEAKER BACK BOX, AS ABOVE
	CLOCK
TV	CATV OUTLET, WALL MOUNTED, INSTALL RG-6 QUADSHIELD FROM EACH OUTLET BACK TO TEL/DATA CLOSET.
CCTV	TV CAMERA LOCATION

—ABREVIATIONS—

EL	EMERGENCY LIGHT
NEC	NATIONAL ELECTRIC CODE
UON	UNLESS OTHERWISE NOTED
AFF	ABOVE FINISHED FLOOR
GFI	GROUND FAULT INTERRUPTING
WM	WIREMOLD
MTD	MOUNTED
FA	FIRE ALARM
WG	WITH GUARD
C	CONDUIT
CB	CIRCUIT BREAKER
ST	SHUNT TRIP
UG	UNDERGROUND
GND	GROUND
NL	NITE LIGHT
TBD	TO BE DETERMINED
WP	WEATHER PROOF
(E)	EXISTING TO REMAIN

—GENERAL NOTES—

1. GENERAL: WORK INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, DEVICES, PERMITS, PAYMENT OF ALL FEES AND OPERATIONS NECESSARY OF THE INSTALLATION OF THE COMPLETE ELECTRICAL SYSTEM INDICATED OR SPECIFIED. TAKE INTO ACCOUNT ALL FACTORS AND CONDITIONS AFFECTING ELECTRICAL WORK INDICATED ON THE ASSOCIATED MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS.
2. CODES: COMPLY WITH THE NATIONAL ELECTRICAL CODES, NATIONAL ELECTRICAL SAFETY CODE, AND LOCAL CODES, ORDINANCES AND REGULATIONS, EXCEPT WHERE PLANS OR SPECIFICATIONS ARE STRICTER.
3. ALL WALL PLATES SHALL BE COLOR WHITE, FLOOR COVER PLATES SHALL MATCH DOOR HARDWARE FINISH.
4. ALL DEVICES ARE COLOR WHITE UNLESS OTHERWISE NOTED.
5. NO COMMON NEUTRALS SHALL BE USED FOR MULTIPLE LIGHTING AND/OR RECEPTACLE BRANCH CIRCUITS. (FULL NEUTRAL FOR EACH PHASE CONDUCTOR)
6. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATIONS OF CEILING MOUNTED DEVICES.
7. REFER TO ARCHITECTURAL DRAWINGS FOR CRITICAL DIMENSIONS WHERE APPLICABLE.

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REVISION	DATE	COMMENTS
–	–	–

KEY PLAN:

PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
CONSTRUCTION DOCUMENTS

DRAWING TITLE:
LEGEND

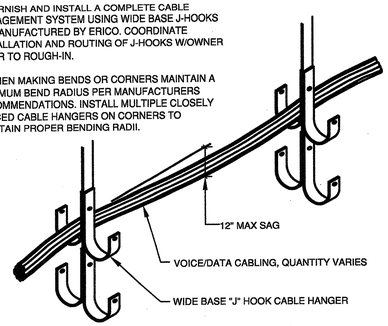
PROJECT NO: 683 DATE: 03/16/09

SHEET NUMBER:
E—1

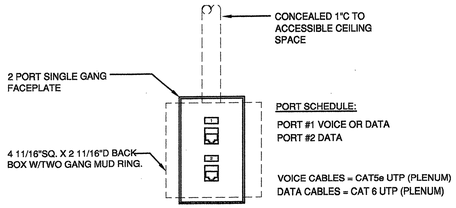
NOTES:

1. FURNISH AND INSTALL A COMPLETE CABLE MANAGEMENT SYSTEM USING WIDE BASE J-HOOKS AS MANUFACTURED BY ERICO. COORDINATE INSTALLATION AND ROUTING OF J-HOOKS W/OWNER PRIOR TO ROUGH-IN.

2. WHEN MAKING BENDS OR CORNERS MAINTAIN A MAXIMUM BEND RADIUS PER MANUFACTURERS RECOMMENDATIONS. INSTALL MULTIPLE CLOSELY SPACED CABLE HANGERS ON CORNERS TO MAINTAIN PROPER BENDING RADII.



CABLE SUPPORT
SCALE: N/A



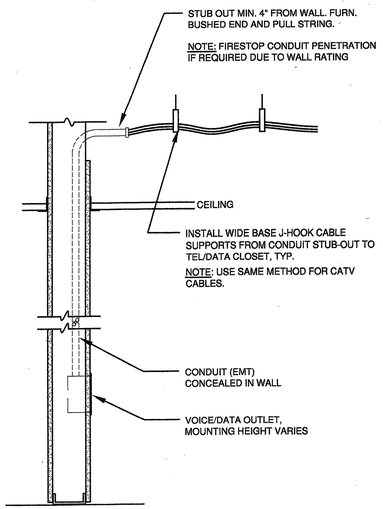
▼ MOUNT 18" AFF

▼C MOUNT ABOVE COUNTER

D DENOTES QTY OF CAT6 DATA CABLES

V DENOTES QTY OF CAT5e VOICE CABLES

VOICE/DATA OUTLET
SCALE: N/A



NOTES:

1. CONTRACTOR TO COORDINATE PATHWAY INSTALLATION WITH SPECIFIC WALL CHARACTERISTICS AND FIRE RATING. REFER TO ARCHITECTURAL DRAWINGS FOR TYPE OF WALL CONSTRUCTION AND LOCATIONS.
2. CONTRACTOR TO COORDINATE TELECOM OUTLET INSTALLATION WITH THE WALL CONTRACTOR.
3. FURNISH AND INSTALL 4"C SLEEVES IN WALLS AND FLOORS AS REQUIRED TO ROUTE VOICE/DATA CABLES TO EQUIPMENT BOARD IN TELECOM CLOSETS. MAINTAIN 40% FILL IN ALL SLEEVES. FIRESTOP ALL SLEEVES

VOICE/DATA OUTLET CONDUIT DROP
SCALE: N/A

PANEL:	PP3A	(EXISTING)	
MAIN BUS RATING:	225A		
VOLTAGE:	120/208		
PHASE:	3		
WIRE:	4		
MIN AIC:			
MCB	225A		
MLO			

SURFACE MOUNT	X
FLUSH MOUNT	
100% RATED NEUTRAL BUS	X
EQUIPMENT GROUND BUS	X
ISOLATED GROUND BUS	
DOUBLE NEUTRAL BUS	
FEED THRU PANEL	
LOCATION: 3RD ELEC RM	

DESCRIPTION	kW	BKR	Ckt	T	Ckt	BKR	kW	DESCRIPTION
Spare	1.2	15/2	1	A	2	50/2	4.5	RANGE
Spare	1.2	-	3	B	4	-	4.5	-
RECEPT (ARC FAULT) 7320, 7322	1.4	20/1	5	C	6	50/2	4.5	RANGE
RECEPT (ARC FAULT) 7324, 7326	1.4	20/1	7	A	8	-	4.5	-
RECEPT (ARC FAULT) 7328, 7330	1.4	20/1	9	B	10	20/1	-	MICROWAVE
RECEPT (ARC FAULT) 7332, 7334	1.4	20/1	11	C	12	20/1	0.8	RECEPT-KITCH COUNTER / HOOD
RECEPT (ARC FAULT) 7336, 7338	1.4	20/1	13	A	14	20/1	1.2	DISPOSAL
RECEPT (ARC FAULT) 7302 - 7310	1.4	20/1	15	B	16	20/1	1.2	MICROWAVE
RECEPT (ARC FAULT) 7312	1.4	20/1	17	C	18	100/2	4.2	PP-3C
RECEPT (ARC FAULT) 7308, 7310	1.4	20/1	19	A	20	-	-	-
RECEPT (ARC FAULT) 7312, 7314	1.4	20/1	21	B	22	20/1	4.2	SPARE
RECEPT (ARC FAULT) 7316	1.4	20/1	23	C	24	20/1		ROOM REFRIDGERATOR: (ARC FAULT) 7308
RECEPT (ARC FAULT) 7310 → 7316	1.4	20/1	25	A	26	20/1		SPARE
REFRIG	1.2	20/1	27	B	28	20/1		ROOM REFRIDGE (ARC FAULT) 7314
REFRIG	1.2	20/1	29	C	30	20/1		SPARE
RECEPT-TEL/DATA CLOS.	0.2	20/1	31	A	32	30/3	2.5	ROOM REFRIDGE (ARC FAULT) 7326
EXISTING FAN	1.5	20/2	33	B	34	-	2.5	Room Refridge (ARC FAULT) 7328
ERU-1	1.5	-	35	C	36	-	2.5	Room Refridge (ARC FAULT) 7330
HEAT PUMP (EXISTING)	2.5	30/3	37	A	38	30/3	2.5	Room Refridge (ARC FAULT) 7332
UNIT 1	2.5	-	39	B	40	-	2.5	Room Refridge (ARC FAULT) 7334
	2.5	-	41	C	42	-	2.5	Room Refridge (ARC FAULT) 7336

LOAD DATA	kW	Amps	NOTES
Phase A	18.3		1. FURNISH AND INSTALL NEW AFCI BREAKERS AS SCHEDULED
Phase B	17.0		
Phase C	15.6		
Total Demand	51.0	141.6	

PANEL:	PP3B	(EXISTING)	
MAIN BUS RATING:	225A		
VOLTAGE:	120/208		
PHASE:	3		
WIRE:	4		
MIN AIC:			
MCB			
MLO	225A		

SURFACE MOUNT	X
FLUSH MOUNT	
100% RATED NEUTRAL BUS	X
EQUIPMENT GROUND BUS	X
ISOLATED GROUND BUS	
DOUBLE NEUTRAL BUS	
FEED THRU PANEL	
LOCATION: 3RD ELEC RM	

DESCRIPTION	kW	BKR	Ckt	T	Ckt	BKR	kW	DESCRIPTION
HEAT PUMP (EXISTING)	2.5	30/3	1	A	2	30/3	2.5	HEAT PUMP (EXISTING)
UNIT 4	2.5	-	3	B	4	-	2.5	UNIT 5
-	2.5	-	5	C	6	-	2.5	-
LIGHTING (ARC FAULT)	1.2	20/1	7	A	8	20/2	1.2	SPARE
LIGHTING (ARC FAULT)	1.2	20/1	9	B	10	-	1.2	SPARE
LIGHTING Bath Rooms	1.2	20/1	11	C	12	20/1	1.5	ROOM REFRIG. (ARC FAULT) 7320
LIGHTING Hall	1.2	20/1	13	A	14	20/1	0.6	ROOM REFRIG. (ARC FAULT) 7322
LIGHTING KITCHEN/CAFE	1.2	20/1	15	B	16	20/1	0.6	Room Refrig. (ARC FAULT) 7324
Lighting	0.4	20/1	17	C	18	20/1	0.6	ROOM REFRIG. (ARC FAULT) 7338
HVAC controls	0.6	20/1	19	A	20	20/1	0.6	ROOM REFRIG. (ARC FAULT) 7302
BATH OUTLETS	0.6	20/1	21	B	22	20/1	0.6	ROOM REFRIG. (ARC FAULT) 7304
BATH OUTLETS	0.6	20/1	23	C	24	20/1	0.6	ROOM REFRIG. (ARC FAULT) 7308
2	0.6	20/1	25	A	26	20/1	0.6	ROOM REFRIG. (ARC FAULT) 7310
HP UNIT 2	0.6	20/1	27	B	28	20/1	0.6	SPARE
	0.6	20/1	29	C	30	20/1	0.2	PANEL OUTLET
3	0.6	20/1	31	A	32	20/1	0.6	ROOM REFRIG. (ARC FAULT) 7316
HP UNIT 3	0.8	20/1	33	B	34	20/1	1.4	RECEPT-LOUNGE (ARC FAULT)
	0.6	20/1	35	C	36	20/1	1.4	RECEPT-CORRIDOR
DRYER-BATHROOM - HAND (WOMEN)	1.5	20/1	37	A	38	20/1		SPARE
		20/1	39	B	40	15/2	1.2	EXISTING FAN
DRYER BathRoom - HAND (MEN)		20/1	41	C	42	-	1.2	-

LOAD DATA	kW	Amps	NOTES
Phase A	10.0		1. FURNISH AND INSTALL NEW AFCI BREAKERS AS SCHEDULED
Phase B	10.4		
Phase C	9.7		
Total Demand	30.1	83.6	

INSTALL NEW AFCI (ARC FAULT CIRCUIT BREAKERS) IN PP3A & 3B, AS INDICATED IN PANEL SCHEDULE

NEW PANEL

PANEL:	PP3C		
MAIN BUS RATING:	100A		
VOLTAGE:	120/208		
PHASE:	1		
WIRE:	3		
MIN AIC:			
MCB	100A		
MLO			

SURFACE MOUNT	
FLUSH MOUNT	X
100% RATED NEUTRAL BUS	X
EQUIPMENT GROUND BUS	X
ISOLATED GROUND BUS	
DOUBLE NEUTRAL BUS	
FEED THRU PANEL	
LOCATION: 3RD FL LAUNDRY ROOM	

DESCRIPTION	kW	BKR	Ckt	T	Ckt	BKR	kW	DESCRIPTION
WASHING MACHINE	1.2	20/1	1	A	2	20/1	1.2	WASHING MACHINE
DRYER	1.5	30/2	3	B	4	30/2	1.5	DRYER
-		-	5	A	6	-		-
Laundry Room Outlets		20/1	7	B	8	20/1		SPARE
SPARE		20/1	9	A	10	20/1		SPARE
SPARE		20/1	11	B	12	20/1		SPARE
SPARE		20/1	13	A	14	20/1		SPARE
SPARE		20/1	15	B	16	20/1		SPARE
SPARE		20/1	17	A	18	20/1		SPARE

LOAD DATA	kW	Amps	NOTES
Phase A	5.4		
Phase B	3.00		
Total Demand	8.4	40.4	

OCCUPANCY SENSOR SCHEDULE

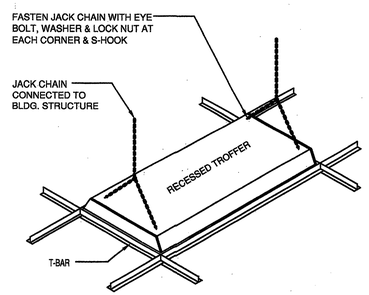
TYPE	MODEL	MANUFACTURER	APPLICATION	NOTES
OS-1	W-2000A	WATTSTOPPER	ROOMS	CEILING
OS-2	W-500A	WATTSTOPPER	ROOMS, TOILETS	CEILING
OS-3	WT-600	WATTSTOPPER	CORRIDOR	CEILING
OS-4	DW-200	WATTSTOPPER	DORMS	WALL MOUNTED W/DUAL ON/OFF BUTTONS - SET FOR MANUAL ON

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER	CATALOG NUMBER	LAMPS	DIFFUSER	MOUNTING	REMARKS
A	LITHONIA	2RT5-2-14T5-GEB115S	2-14WT5 FLUORESCENT	ACRYLIC	RECESSED	2x2 LAY-IN WITH STEP DIMMING BALLAST
B	HALO	H880E-870	1-26WTT CFR	-	RECESSED	RECESSED DOWNLIGHT 8" DIA, WITH SPECULAR REFLECTOR AND ELEX DIMMING BALLAST
C	HALO	H280E-70PS	1-26WTT CFR	ACRYLIC	RECESSED	RECESSED DOWNLIGHT 6" DIA, WITH LENS, DAMP LOCATION LISTING
D	METALUX	BAU-217-UNV-EB8-1-RLS	FO1778	ACRYLIC	WALL	MOUNT ABOVE MIRROR
E	LITHONIA	WC-214	2-14W T5	ACRYLIC	WALL	2' WALL BRACKET 7' MOUNTING HEIGHT
F	DUAL LIGHT	SEMPRA SE	LED	-	WALL/CEILING	EXIT LIGHT, BATTERY OPERATED, GREEN LED, WHITE WITH BRUSHED ALUMINUM FACE 120V
G	DUAL LIGHT	LZ25N-12V-10W	2-10W HALOGEN LAMP	-	WALL	EMERGENCY LIGHT, 8'-0" MH WHITE FINISH
H	LITHONIA	2WRT-6-220-1	2-20 W T-8 FLUOR.	ACRYLIC	RECESSED	UL LISTED FOR WET LOCATIONS 2X2 LAY-IN

NOTES:

1. ALL LAMPS TO BE 3500K COLOR TEMPERATURE & SHALL HAVE A CRI GREATER THAN 80.
2. ALL FIXTURE LAMP & BALLAST COMBINATIONS SHALL COMPLY WITH EFFICIENCY VERMONT'S REBATE PROGRAM.
3. ALL FIXTURES ARE 120 VOLT.



RECESSED LIGHT FIXTURE MOUNTING
SCALE: N/A

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REVISION	DATE	COMMENTS
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KEY PLAN:

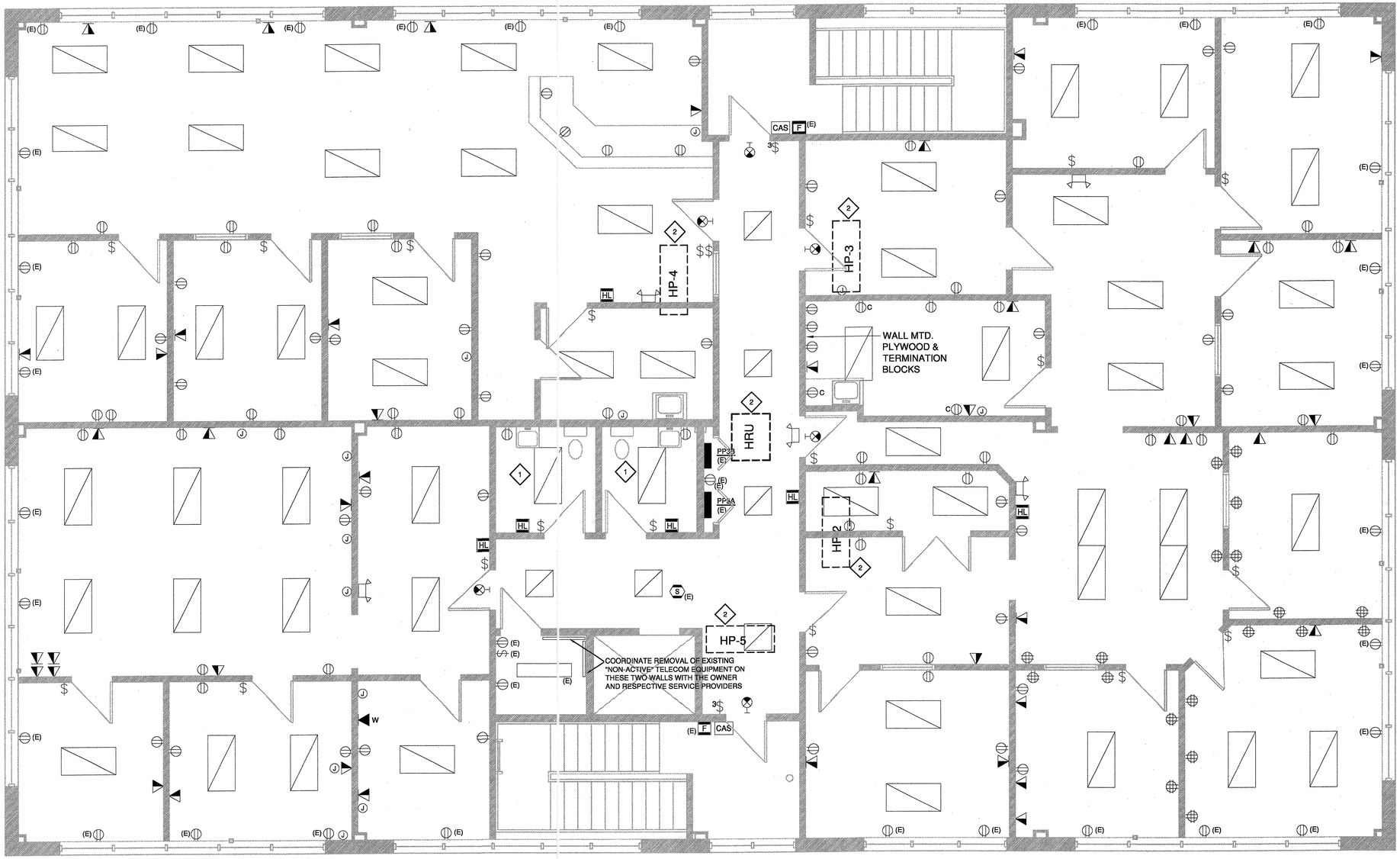
PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
CONSTRUCTION DOCUMENTS

DRAWING TITLE:
DETAILS & SCHEDULES

PROJECT NO: 683 DATE: 03/16/05

SHEET NUMBER:
E – 2



THIRD FLOOR PLAN

SCALE: 1/4"=1'-0"

SCOPE OF WORK:

1. DISCONNECT ELECTRIC WATER HEATER & REMOVE ALL CONDUIT & WIRING BACK TO SOURCE.
2. DISCONNECT EXISTING UNITS & REMOVE EXISTING CONDUIT & WIRE BACK TO SOURCE. RE-USE EXISTING BREAKERS TO FEED RELOCATED UNITS.

GENERAL NOTES:

1. DISCONNECT AND REMOVE ALL DEVICES CONDUIT AND WIRING BACK TO SOURCE.
2. DEVICES SHOWN AS (E) ARE EXISTING TO REMAIN2. DEVICES SHOWN AS (E) ARE EXISTING TO REMAIN.
3. CONTRACTOR TO REMOVE AND DISPOSE OF ALL FLUORESCENT FIXTURES EQUIPPED WITH T-12 LAMPS.
4. CONTRACTOR TO TURN OVER TO OWNER ANY FLURESCENT FIXTURES EQUIPPED WITH T-8 LAMPS.
5. ALL LAMPS TO BE REMOVED FROM FIXTURES AND DISPOSED OF PROPERLY BY CONTRACTOR.

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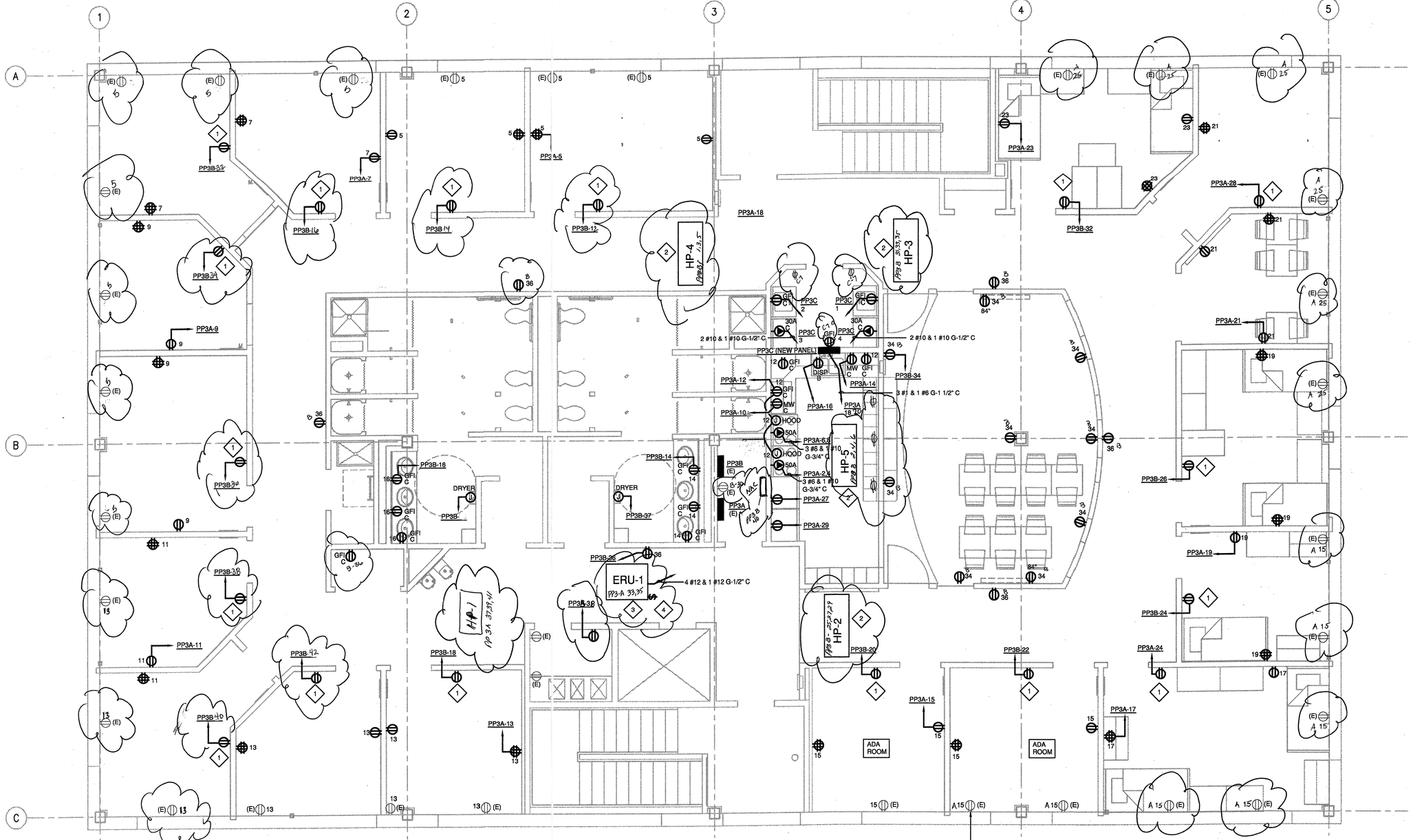
PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
CONSTRUCTION DOCUMENTS

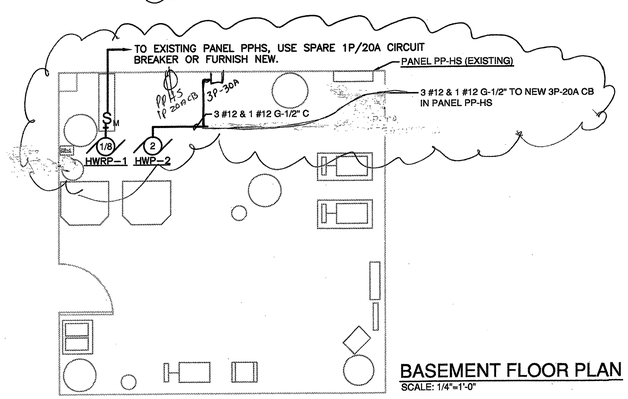
DRAWING TITLE:
ELECTRICAL DEMOLITION

PROJECT NO: 683 | DATE: 03/16/09

SHEET NUMBER:
E–3



THIRD FLOOR PLAN
SCALE: 1/4"=1'-0"



BASEMENT FLOOR PLAN
SCALE: 1/4"=1'-0"

SCOPE OF WORK:

1. CONTRACTOR TO CLEARLY LABEL RECEPTACLES AS "REFRIGERATOR - DEDICATED 20A CIRCUIT".
2. RECONNECT EXISTING RELOCATED UNITS TO EXISTING SOURCE.
3. CONNECT ERU-1 TO EXISTING CIRCUIT SERVING HP-5.
4. CONNECT ON/OFF SWITCH TO OPERATE ERU-1 CONTROLLER'S 120V COIL

GENERAL NOTES:

1. CONTRACTOR TO COORDINATE DEVICE LOCATIONS WITH OWNER PRIOR TO INSTALLATION.
2. ALL WIRING IN CEILING TO BE PLENUM RATED.

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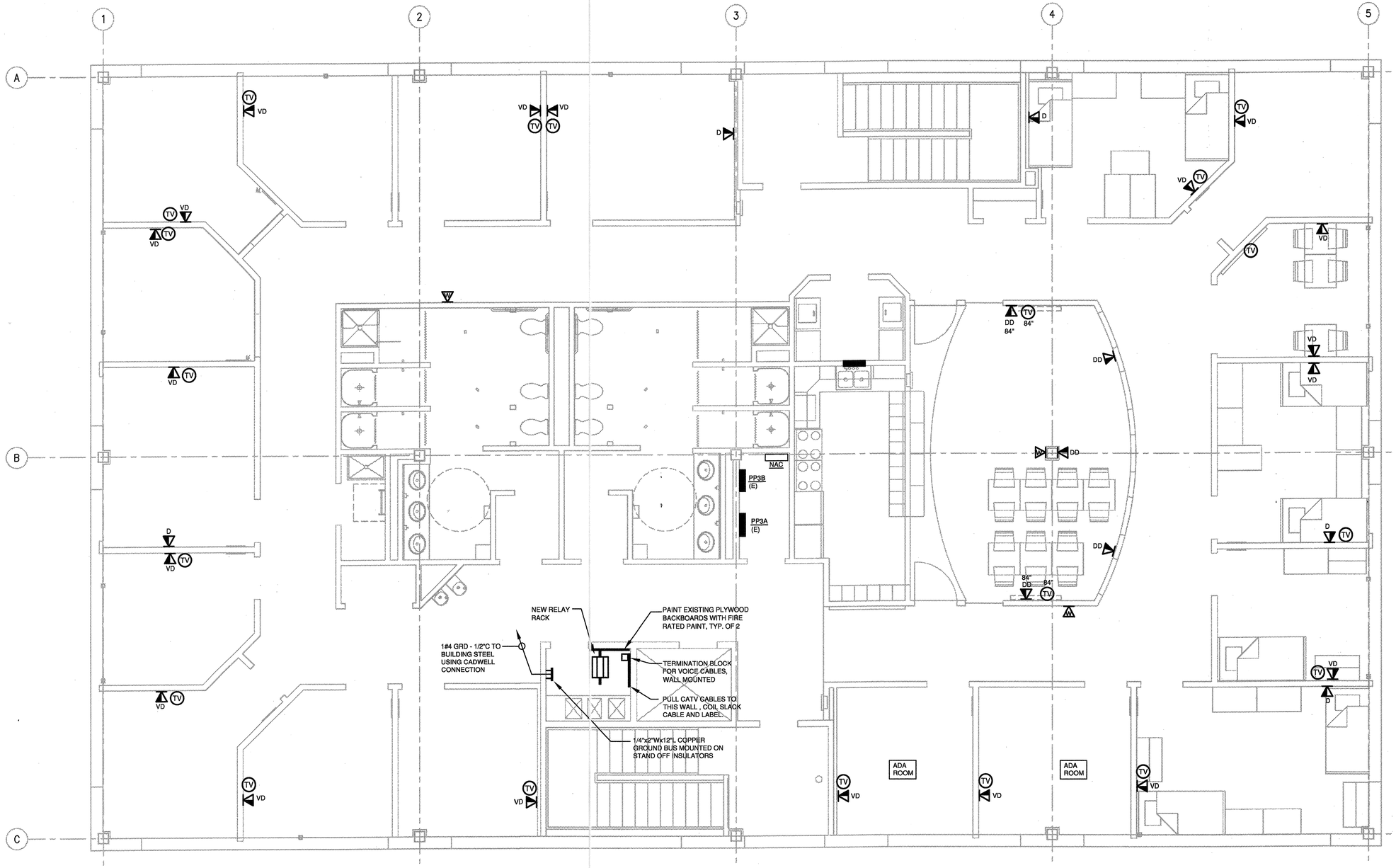
PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

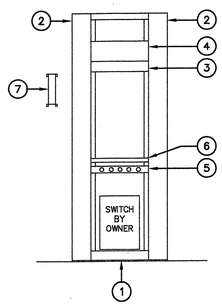
ISSUED:
CONSTRUCTION DOCUMENTS

DRAWING TITLE:
POWER PLAN

PROJECT NO: 683 | DATE: 03/16/08

SHEET NUMBER:
E-4





ELEVATION-NEW DATA RACK

SCALE: N/A

DATA CLOSET EQUIPMENT SCHEDULE

TAG	DESCRIPTION	QTY	REMARKS
1	19"W FLOOR MOUNTED EQUIP. RACK, CPI OR EQUAL	1	FURNISH FLOOR BOLT DOWN KIT
2	RACK MOUNT VERT CABLE MANAGEMENT	2	
3	RACK MOUNT HORIZ CABLE MGMNT	1	
4	48 PORT RACK MOUNT PATCH PANEL (CAT6)	1	
5	RACK MOUNTED POWER STRIP CPI #12816-705	1	
6	RACK GROUNDING STRAP	1	GRIND SURFACE OF RACK PRIOR TO INSTALL CONNECT TO WALL MOUNT GROUND BAR AS REQ'D.
7	50 PAIR TERMINATION BLOCK (IDC) CAT 5e, WALL MOUNT	1	FOR CROSS CONNECTION OF VOICE CABLES

NOTES:
1. PROVIDE CABLE MANAGEMENT FROM FLOOR RACK TO POINT WHERE CABLES EXIT ROOM. USE WIRE MESH CABLE TRAY OR J-HOOKS AS REQUIRED.

GENERAL NOTES:

1. CONTRACTOR TO COORDINATE DEVICE LOCATIONS WITH OWNER PRIOR TO INSTALLATION.
2. ALL TELECOMMUNICATIONS AND CATV CABLES SHALL BE PLENUM RATED.

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REVISION	DATE	COMMENTS
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KEY PLAN:

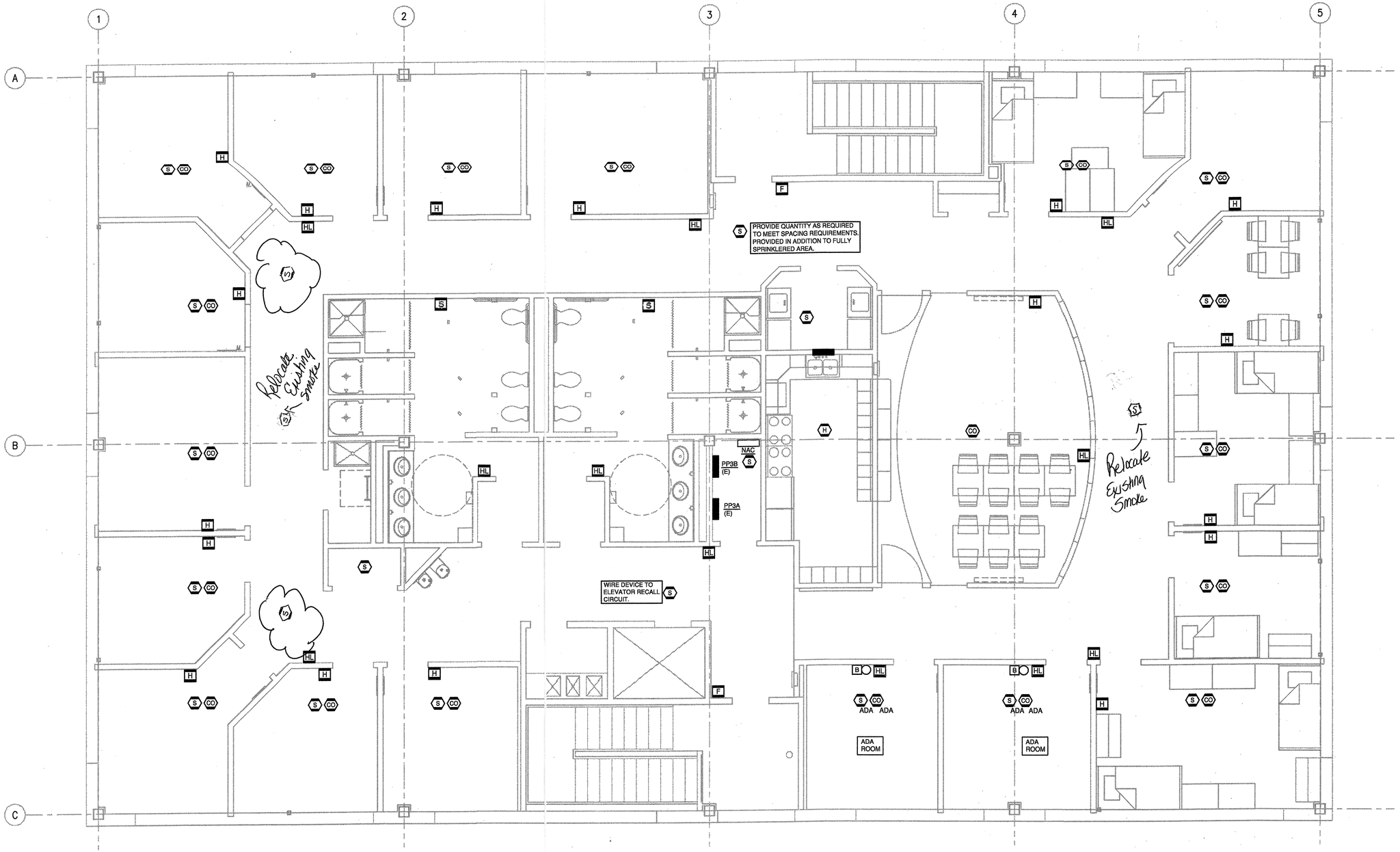
PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
CONSTRUCTION DOCUMENTS

DRAWING TITLE:
COMMUNICATIONS

PROJECT NO: 683 DATE: 03/16/05

SHEET NUMBER:
E–5



THIRD FLOOR PLAN
SCALE: 1/4"=1'0"

SCOPE OF WORK: (DESIGN-BUILD)

CONTRACTOR SHALL DESIGN, FURNISH, AND INSTALL ALL COMPONENTS TO PROVIDE A NEW 3RD FLOOR SUB SYSTEM FIRE ALARM/LIFE SAFETY SYSTEM TO COVER ALL AREAS OF THE FLOOR. OWNER DESIRES TO INTEGRATE THIS SYSTEM INTO THE EXISTING MAIN FACP, FCI MODEL 72 NON-ADDRESSABLE PANEL LOCATED IN THE GROUND FLOOR WEST ENTRANCE WAY.

THIS FLOOR PLAN IS BEING PROVIDED FOR REFERENCE ONLY AND SHALL BE USED BY THE CONTRACTOR TO DETERMINE APPROXIMATE COVERAGE REQUIREMENTS, DEVICE LOCATIONS, AND QUANTITIES.

ALL WORK SHALL BE COMPLETED BY A SINGLE VENDOR. SYSTEM AND SYSTEM DEVICES SHALL BE FCI TO MATCH COMPONENTS OR COMPATIBLE IN ALL RESPECTS.

CONTRACTOR SHALL PROVIDE REMOTE PANEL (NAC) WITH BATTERY BACK-UP, AND ALL REQUIRED COMPONENTS TO CONSTRUCT A COMPLETE, TESTED, AND FULLY FUNCTIONAL SYSTEM.

IN ADDITION TO THE REMOTE NAC PANEL THE CONTRACTOR SHALL PROVIDE ALL REQUIRED INITIATION AND NOTIFICATION DEVICES INCLUDING BUT NOT LIMITED TO HORNS, STROBES, PULL STATIONS, HEAT, SMOKE, & CO DETECTORS, MONITOR MODULES, RELAYS, SYNCHRONIZING DEVICES, WIRING, AND TERMINATION DEVICES.

DEVICES IN THE ADA DESIGNATED STUDENT ROOMS SHALL BE FULLY ADA COMPLIANT MEETING ALL UL-1971 AND NFPA CRITERIA. THIS INCLUDES HORN (90db) AND STROBE (177 Cd) EQUIPPED DEVICES

SCOPE OF WORK: CONT.

THE SYSTEM SHALL BE DESIGNED AND FULLY DOCUMENTED BY A CERTIFIED NICET LEVEL II OR III DESIGNER OR PROFESSIONAL FIRE PROTECTION ENGINEER.

SUBMIT DESIGN DRAWINGS AND SYSTEM COMPONENT SELECTION FOR REVIEW PRIOR TO CONSTRUCTION.

NOTES:

1 ALL FIRE ALARM COMPONENTS AND SYSTEMS SHALL COMPLY WITH THE LATEST EDITION OF NFPA-72, NATIONAL FIRE ALARM CODE; NFPA 11, NFPA-101, LIFE SAFETY CODE; ADA; UL-1971, VERMONT FIRE &BUILDING SAFETY CODE 2005, NFPA 720, AND THE AHJ.

2 ALL WALL MOUNTED STROBE-HORNS AND STROBE LIGHTS SHALL BE MOUNTED AT 7'-6" ABOVE FINISHED FLOOR.

3 ALL STROBES SHALL HAVE A FREQUENCY OF 1-2 Hz AND SHALL BE CONFIGURED FOR SYNCHRONIZED FLASHING. ALL HORNS SHALL BE TEMPORAL AND SYNCHRONIZED.

4 ALL SYSTEM DEVICES SHALL BE WIRED TO EITHER THE NEW NAC PANEL OR TO THE EXISTING FIRE ALARM CONTROL PANEL (FACP) LOCATED ON THE GROUND FLOOR.

5 ALL SMOKE SETECTORS SHALL BE PHOTOELECTRIC OR DUAL TECHNOLOGY SENSING.

6 DETECTORS IN STUDENT ROOMS SHALL BE LOCAL DUAL POWER DEVICES POWERED FROM NON DEDICATED 120V SOURCE WITH BATTERY BACK-UP.

7 CO DETECTORS SHALL BE CONFIGURED WITH EXTERNAL POWER FROM A NON-DEDICATED CIRCUIT WITH BATTERY BACK-UP AND WIRED TO THE NAC PANEL NOTIFICATION CIRCUIT. MONITORING AND RE-SET OF CO ALARM SHALL BE THROUGH THE FACP OR AS REQUIRED TO MEET APPLICABLE CODES. FIRE DEPARTMENT NOTIFICATION SHALL BE VIA APPROVED CIRCUIT & DEVICE OR AS DIRECTED BY OWNER OR AHJ. UNIT TO BE MERCURO CM15A OR EQUAL.

8 ALL COMMON AREA DEVICES SHALL BE SYSTEM POWERED MONITORING & NOTIFICATION DEVICES WIRED TO LOCAL NAC PANEL.

9 NAC PANEL SHALL BE FURNISHED AND INSTALLED COMPLETE WITH BATTERY BACK-UP AND ALL OTHER REQUIRED AUXILIARY DEVICES. PANEL SHALL BE WIRED TO MAIN FACP. INCLUDE LOCAL SMOKE DETECTOR OVER PANEL.

10 FACP TO INCLUDE REMOTE MONITORING FUNCTION. CONFIRM AUTO DIALER AND DUAL PHONE LINES ARE IN PLACE AND FULLY FUNCTIONAL. COORDINATE WITH OWNER TO ESTABLISH MONITORING CAPABILITIES. ALL OTHER EXISTING FACP FUNCTIONS INCLUDING SPRINKLER SYSTEM MONITORING, ELEVATOR RECALL, ETC. SHALL BE MAINTAINED.

11 CONTRACTOR TO COORDINATE DEVICE LOCATIONS PRIOR TO INSTALLATION.

12 INTERSTITIAL SPACES ABOVE CEILINGS FUNCTION AS A RETURN AIR PLENUM FOR SYSTEM HVAC EQUIPMENT. ALL CABLES, DEVICES, ETC. ROUTED IN THIS SPACE SHALL BE PLENUM RATED AND INSTALLED PER APPLICABLE CODES.

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REVISION	DATE	COMMENTS
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KEY PLAN:

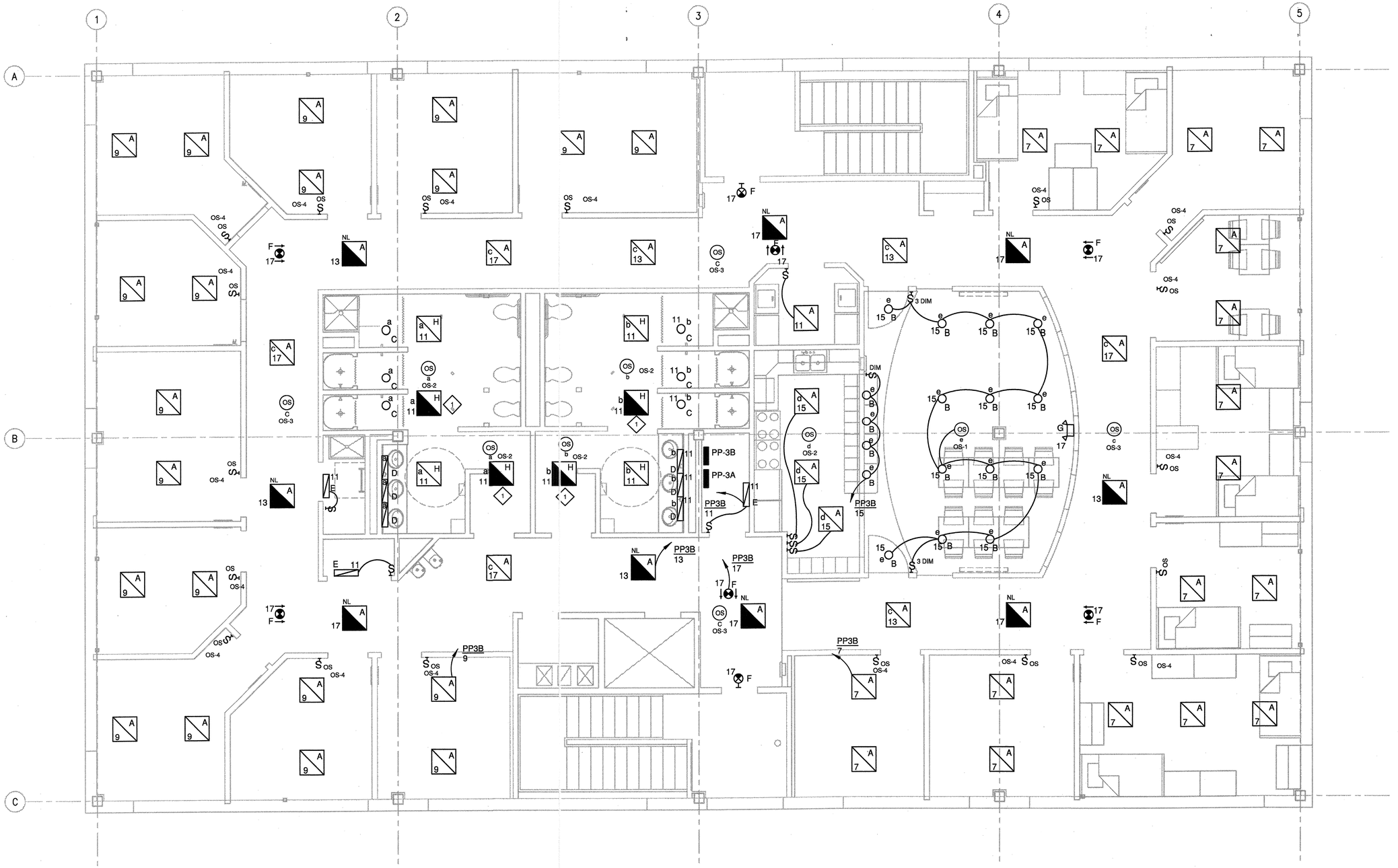
PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
CONSTRUCTION DOCUMENTS

DRAWING TITLE:
FIRE ALARM

PROJECT NO: 683 | DATE: 03/16/09

SHEET NUMBER:
E–6



THIRD FLOOR PLAN

SCALE: 1/4"=1'-0"

SCOPE OF WORK:

1 CONNECT EMERGENCY BATTERY PACK TO UNSWITCHED CIRCUIT LEG.

GENERAL NOTES:

1. DORM ROOM OCCUPANCY SENSORS OS-4 SHALL STEP DIM ALL FIXTURES WITHIN THE ROOM.

2. LIGHTING FIXTURES DESIGNATED "NL" ARE CONNECTED TO A NIGHT LIGHTING CIRCUIT & ARE NOT CONTROLLED BY THE CORRIDOR OCCUPANCY SENSOR.

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KEY PLAN:

PROJECT:

ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:

CONSTRUCTION DOCUMENTS

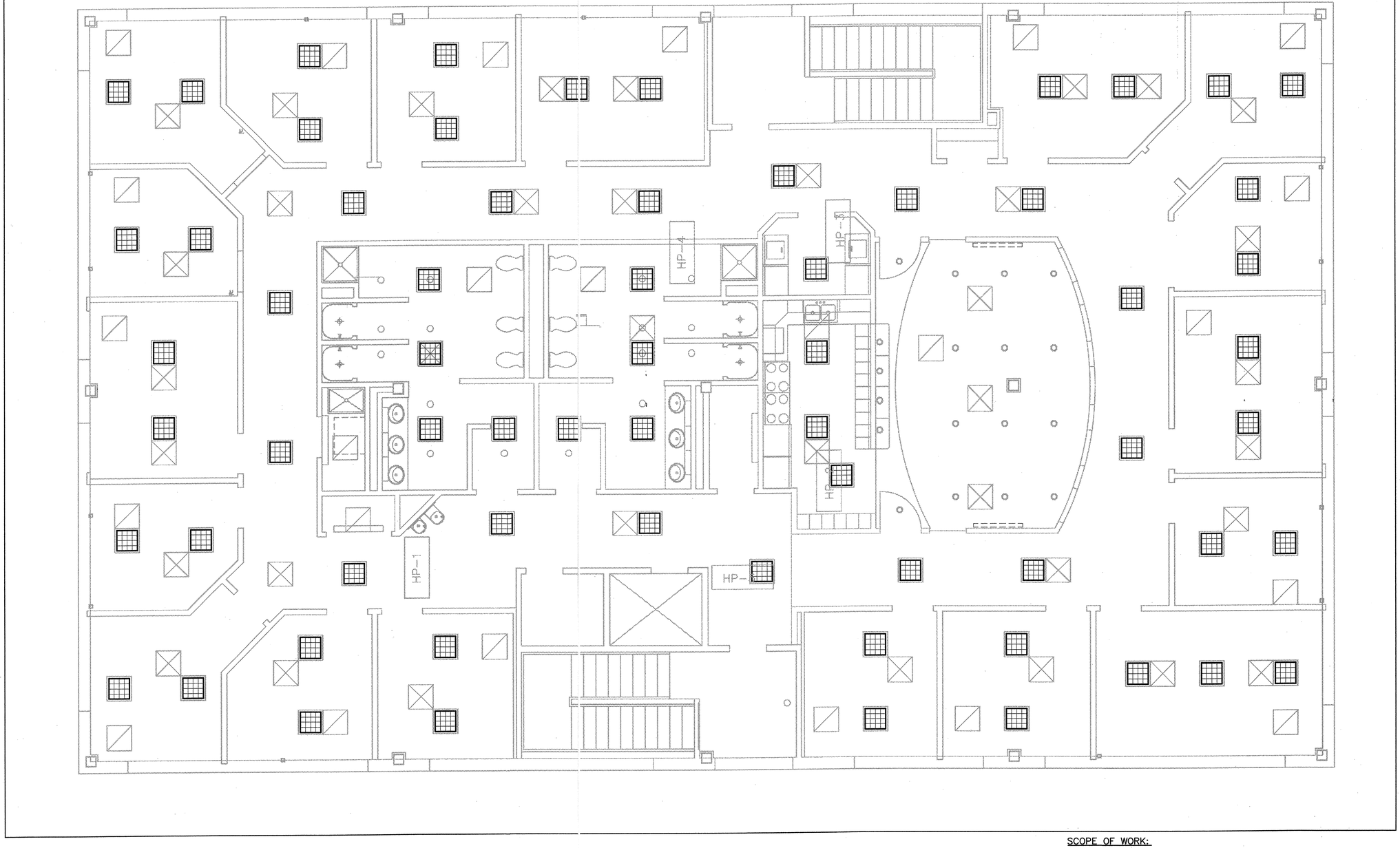
DRAWING TITLE:

LIGHTING

PROJECT NO: 683 | DATE: 03/16/05

SHEET NUMBER:

E-7



PROPOSED FIRE PROTECTION - 3RD FLOOR

SCALE: 1/4"= 1'-0"

SCOPE OF WORK:

1. CONTRACTOR SHALL REPLACE AL SPRINKLER HEADS WITH SEMI-RECESSED HEADS AND WHITE ESCUTCHEONS SUITABLE FOR SUSPENDED CEILING APPLICATOINS. CONTRACTOR SHALL REPOSTION SPRINKLER HEADS TO PROVIDE REQUIRED COVERAGE. ADD HEADS IF NECESSARY AS DICTATED BY THE LATEST CODE. HEADS TO BE CENTERED IN CEILING TILES AND PLACED SO AS TO AVOID ALL OTHER CEILING MOUNTED DEVICES AND COMPONENTS.

2. CONTRACTOR SHALL FURNISH AND INSTALL AND CERTIFY SPRINKLER PIPING IN CONJUNCTION WITH A QUALIFIED FIRE PROTECTION ENGINEER OR SPRINLER DESIGN COMPANY. PROPOSED MODIFICATIONS TO BE SUBMITTED FOR REVIEW. PROVIDE A FULL SET OF DOCUMENTS TO BE GIVEN TO THE OWNER.

3. SYSTEM TO BE MODIFIED TO MEET ALL NFPA CODES FOR CHANGE OF USE (DORMITORY). SYSTEM TO BE EVALUATED TO THE RQUIREMENTS OF NFPA 13 AND 13R TO DETERMINE REQUIRED UPGRADES WHICH PROVIDE MINIMAL IMPACT ON THE EXISTING RISER AND DISTRIBUTION SYSTEM. DOCUMENT SYSTEM SIZING DETERMINATION AND PROVIDE ALL REQUIRED CALCULATIONS.

BANWELL ARCHITECTS

THE CARRIAGE HOUSE
6 SOUTH PARK STREET
LEBANON, NH 03766
T: 603 448 3778
F: 603 443 5555

E: staff@banwell-architects.com

CONSULTANTS:

CIVIL ENGINEER:
MICHAEL J. BURKE
KREBS & LANDSING CONSULTING ENGINEERS
164 MAIN STREET, SUITE 201
COLCHESTER VT 05446
T: 802 878 0375 F: 802 878 9618

STRUCTURAL ENGINEER:
KNIGHT CONSULTING ENGINEERS
51 KNIGHT LANE
PO BOX 29
WILLISTON VT 05495
T: 802 879 6343 F: 802 879 6376

MECHANICAL & ELECTRICAL ENGINEER:
LiebertEngineering incorporated
802-879-5476
Fax: 802-879-5486
www.liebertengineering.com
147 Allen Brook Lane
Williston, VT 05495
Custom Thinking & Practical Solutions

REVISION	DATE	COMMENTS
–	–	–

KEY PLAN:

PROJECT:
ALTERATIONS TO:
VERMONT TECHNICAL COLLEGE
72 HELENA DRIVE
WILLISTON, VT 05495

ISSUED:
CONSTRUCTION DOCUMENTS

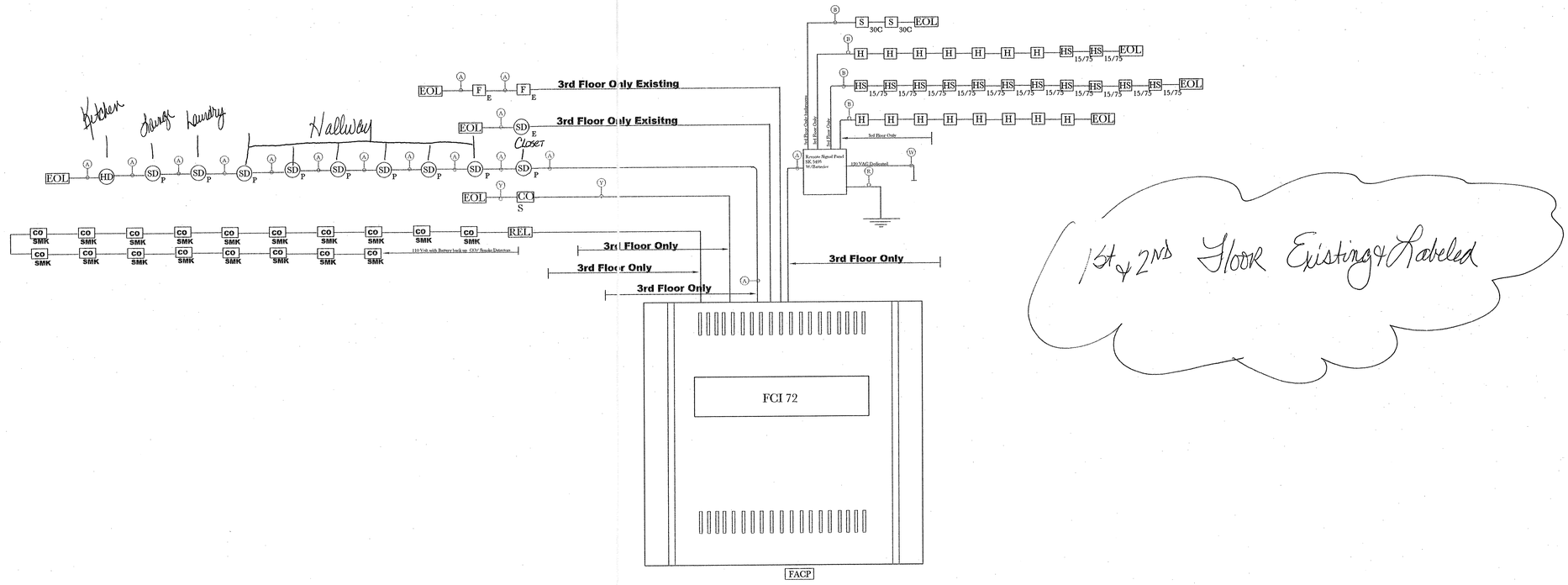
DRAWING TITLE:
PROPOSED PLAN
THIRD FLOOR
FIRE PROTECTION

PROJECT NO: 683 | DATE: 03/16/09

SHEET NUMBER:
FP-1

(SD)P	Photoelectric Smoke Detector
(SD)D	Duct Smoke Detector
(SD)E	Photoelectric Smoke Detector Elevator
F E	Pull Station Existing
CO S	System CO Detector
CO SMK	110 Volt CO/Smoke Detector with Battery back up.
HS 15/75	Horn/Strobe Multi Candela
S 30C	Strobe Only 30 Candela
H	Horn Only

(A)—o	(2) Conductor 18 or 16 GA
(B)—o	(2) Conductor 14 GA AHU Shutdown
(SD)—o	(2) Conductor 16 or 14 GA SNAC Circuit
	(4) Conductor 18 or 16 GA for
(D)—o	(4) Conductor 18 or 16 GA for Remote Duct Test Switch
(GR)—o	(1) Conductor 6 GA Ground
(F)—o	(3) Conductor 12 GA 110 Volt Ac Dedicates
(CAT)—o	Cat 5 E CABLE for Phone



Riser Diagram

1st & 2nd Floor Existing & Labeled

General Notes

1. All New Fire Alarm Systems wiring shall comply with the National Electrical Code, Applicable State and Local Fire and Safety Codes, as well as being coordinated with the local Authority having Jurisdiction.

2. Caution Do Not connect any power to the control Panel (Batteries or 120 VAC) until all other field wiring is connected and tested.

3. Do not install F.A.C.P. or Smoke Detectors in unheated areas.

4. Do not install any A.C. Current carrying devices in the same raceway with Fire Alarm Conductors.

5. See Installation Manuals for additional instructions.

7. BPS6A available power for SNAC circuits for indicating circuits are (4) 1.625 amps at 24VDC. Quickstart output for external devices ie.snac circuit,24DC power is 4.75amps at 24VDC.

8. Cabinet dimensions for Quickstart QS1: 14"W x 18"H x 4.88" deep.

Warning

The installing contractor is responsible for the wiring of all devices, The wire type and that all wiresizes meet State and Local requirements. The installing contractor is also responsible that the installation is free of all defects.

Notes

1: Must be grounded to a driven ground rod or cold water pipe on the street side of the main shut off valve.
2: No AC voltage on any terminal other than those specified.

No.	Revision/Issue	Date

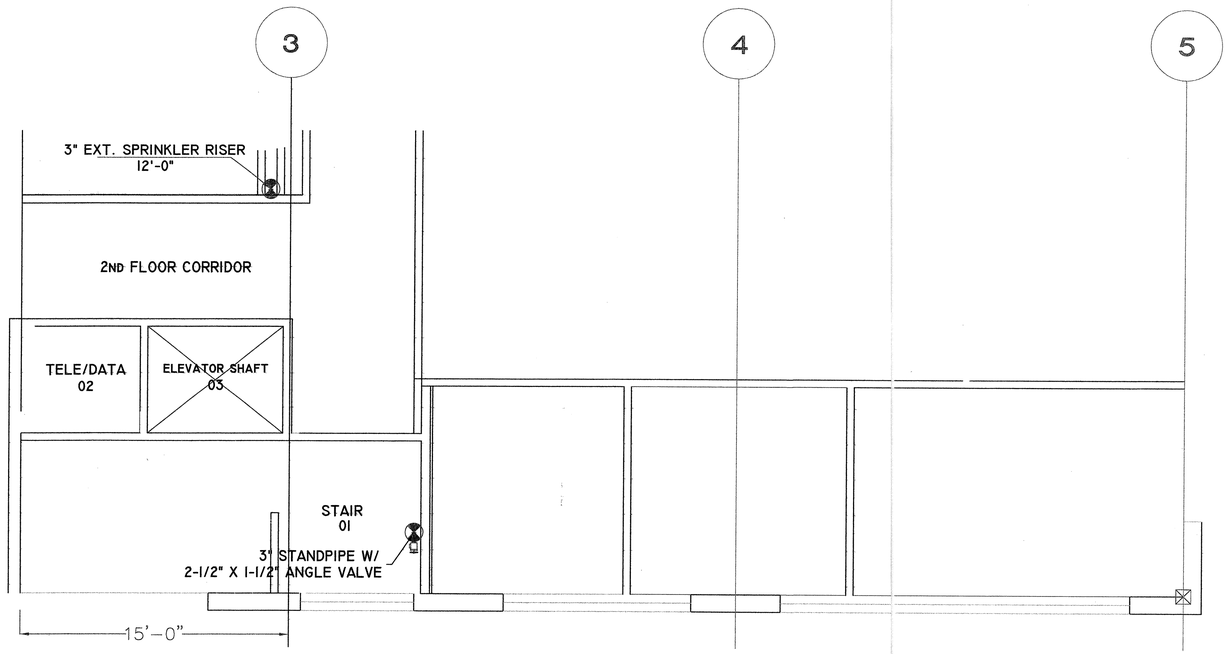
Firm Name and Address

Northeastern Security
P.O. box 1431
338 Boyer Circle
Williston,VT 05495
802-862-8907

Project Name and Address

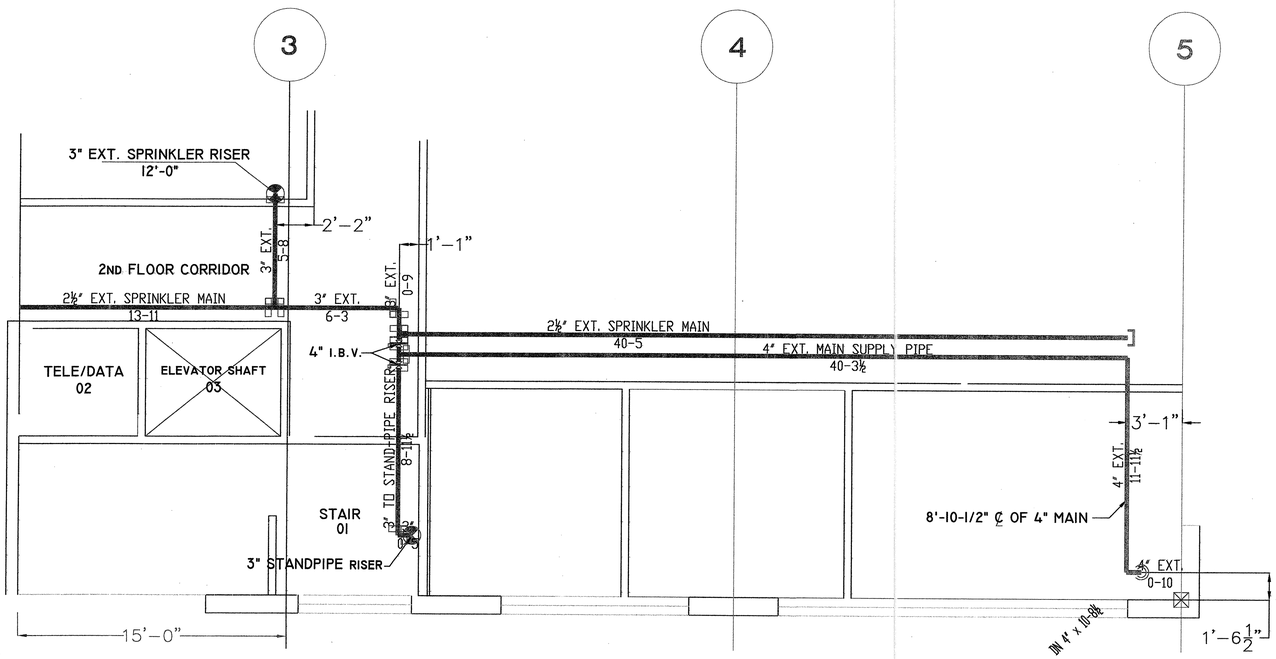
VTC DORMS
3rd Floor Only
WILLISTON,VT 05495

Project	Sheet
Date 6.22.2009	F1
Scale NTS	



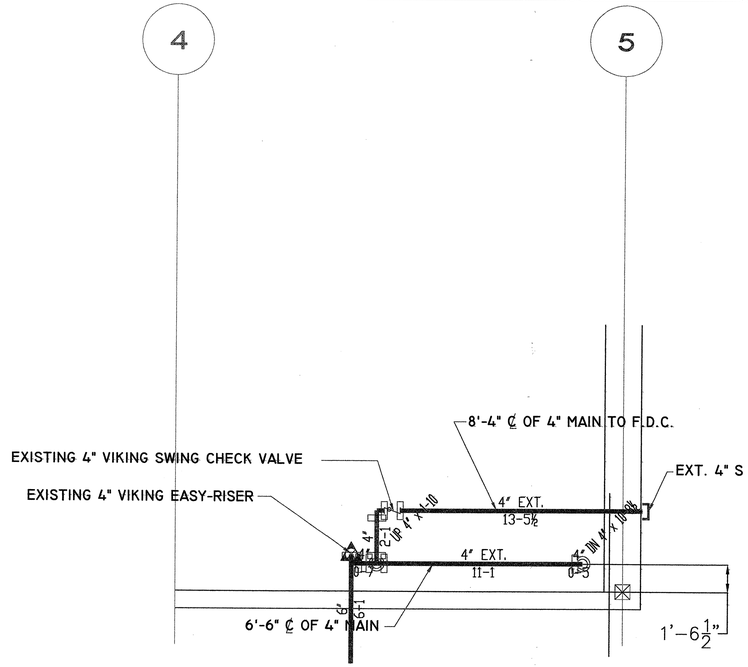
2ND FLOOR FIRE PROTECTION

SCALE: 1/4" = 1'-0"



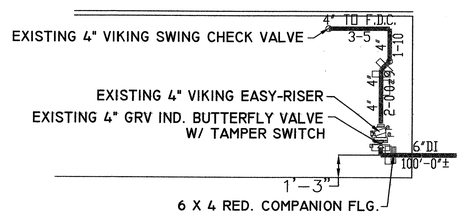
1ST FLOOR DORM FIRE PROTECTION

SCALE: 1/4" = 1'-0"



MECHANICAL BASEMENT FLOOR FIRE PROTECTION

SCALE: 1/4" = 1'-0"



4" EXISTING WET RISER DETAIL

SCALE: 1/4" = 1'-0"

SEE ADDITIONAL SPRINKLER NOTES

SPRINKLER SYSTEM SYMBOLS

Branch line fabrication tag
Water motor alarm
Electrical bell 24 DC Vdc
Electrical bell 24 DC Vdc
Flush mount fire department con
Flush mount fire department con
Pipe elevation center line of pipe
System Riser
Welded pipe fabrication note paint
Welded pipe fabrication tag

NOTES

SPRINKLER SYMBOLS AND FINISH SCHEDULE

SYM	QTY	STYLE	MODEL #	FINISH	ESCUTCHEON	BY	UP-1 x 1-10	DH-1 x 1-10	Pipe drop	Pipe rise	Flow switch	Tamper switch	Pipe elevation center line of pipe	System Riser	Welded pipe fabrication note paint	Welded pipe fabrication tag
	80	CONC	V3802	VIC	WHT	195	5.6	1/2	CRF	1/2						
						SCP										

OTHER
QUICK RESPONSE

REVISIONS

REVISION	DATE	DESCRIPTION
1	05.03.08	---

FIRETECH SPRINKLER CORP.
140 HEGEMAN AVENUE, COLCHESTER, VT 05446 PHONE 802-655-1600
BUILDING TODAY PROTECTING TOMORROW
E-MAIL: ENGINEERING@FIRETECHSPRINKLER.COM

FIRE PROTECTION PARTIAL PLANS

PERMIT NO.	PERMIT#
CONTRACT NO.	C374
APPROVAL	State of Vermont
DESIGNER	J.M. STEADY
SCALE	As noted
DATE	6/20/2008
SHEET	FP 2 OF 2

VERMONT TECHNICAL COLLEGE
3RD FLOOR DORM
72 HELENA DRIVE
WILLISTON, VT. 05495

AS-BUILT DRAWING 7-13-2009 J.M.S.

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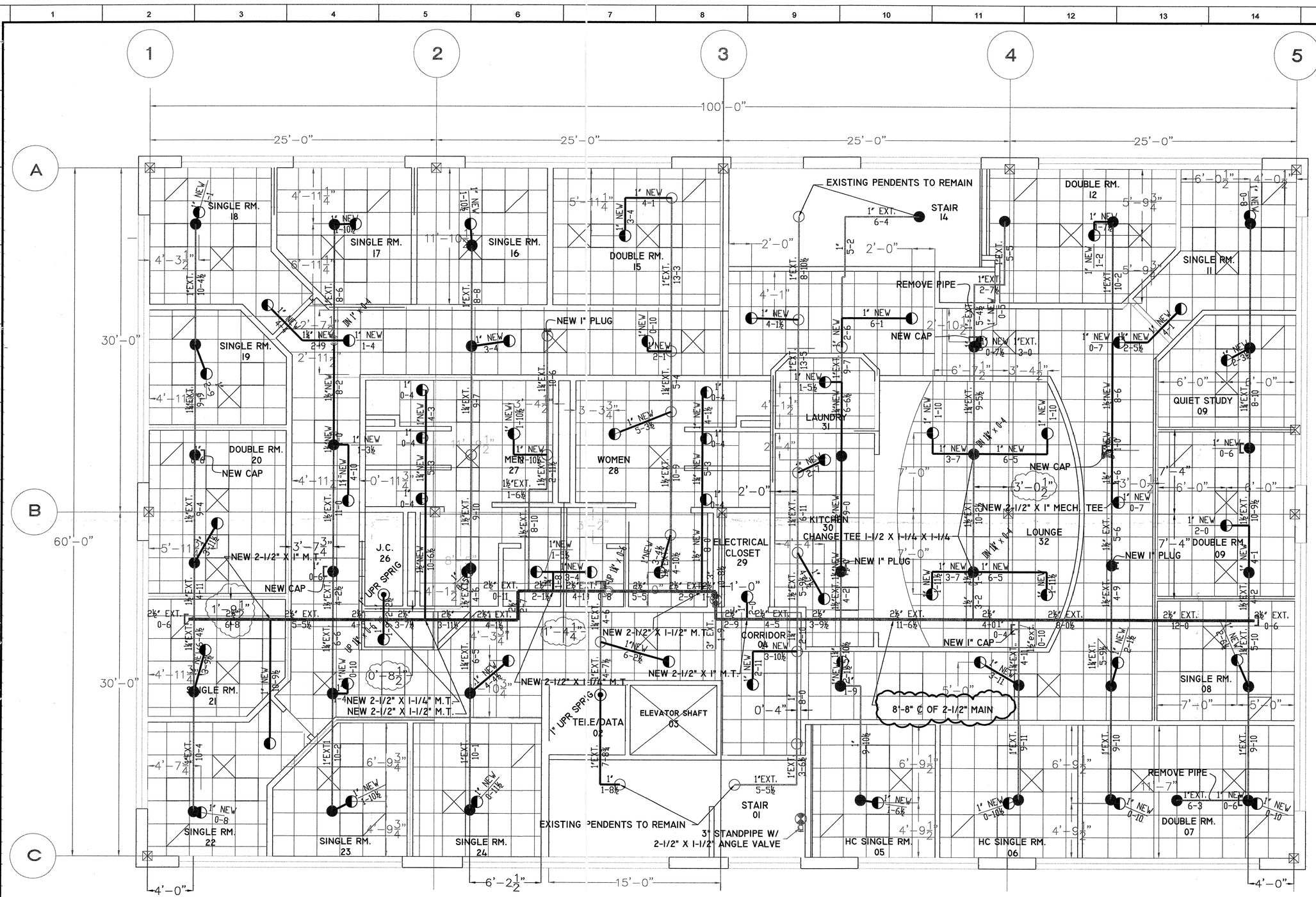

(39) RELOCATIONS
(21) NEW SPRINKLERS
EXISTING SPRINKLER PIPE
NEW SPRINKLER PIPE
EXISTING TEE OUTLET SYMBOL

3RD FLOOR DORM FIRE PROTECTION

SCALE: 1/4" = 1'-0"

SPRINKLER SYMBOLS AND FINISH SCHEDULE										
SYM	QTY	STYLE	MODEL #	FINISH	TEMP	K-FACTOR	NPT	ORIF	OTHER	
●	60	CONC	V3802	WHT	155	5.6	1/2		QUICK RESPONSE	

REVISIONS			
REVISION	DATE	DESCRIPTION	BY
1	06/30/08	--	SCP

SEE ADDITIONAL SPRINKLER NOTES

SPRINKLER SYSTEM SYMBOLS

- Pipe drop
- Pipe rise
- Elbow
- Fire elevation center line of pipe
- System Riser
- Flow switch & tamper
- Welded pipe fabrication
- UP 1"x1-1/2"
- DN 1"x1-1/2"
- Branch line fabrication tag
- Water motor alarm
- Electrical Bell 24 VDC Vibr.
- Flush mount fire department con.
- Flush mount fire department con.
- Riser type fire department con.

NOTES

FIRE PROTECTION PARTIAL PLANS	
PERMIT NO.	PERMIT#
CONTRACT NO.	C374
APPROVAL	State of Vermont
DESIGNER	J. M. STEADY
SCALE	As noted
DATE	6/02/2009
C374	FP 1 OF 2

VERMONT TECHNICAL COLLEGE
3RD FLOOR DORM
72 HELENA DRIVE
WILLISTON, VT. 05495

AS-BUILT DRAWING 7-13-2009 J.M.S.

FIRETECH SPRINKLER CORP.
340 HEGEMAN AVENUE, COLCHESTER, VT 05446 PHONE 802-655-1800
BUILDING TODAY PROTECTING TOMORROW
E-MAIL: ENGINEERING@FIRETECHSPRINKLER.COM

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Attachment 3

GORDIAN®
Building knowledge

University of Toledo
University of Vermont
University of Washington
University of West Florida
University of Wisconsin - Madison
Vanderbilt University
Virginia Commonwealth University
Wake Forest University
Washburn University
Washington State University
Washington State University - Tri-Cities Campus
Washington State University - Vancouver
Washington University in St. Louis
Wayne State University
Wellesley College
Wesleyan University
West Chester University
West Virginia Health Science Center
West Virginia University
Western Oregon University
Westfield State University
Widener University
Williams College
Worcester Polytechnic Institute
Worcester State University

Vermont Technical College

Space Utilization Analysis

Preliminary Presentation:

Randolph Campus & Williston Campus

February 4, 2022

Space Utilization: COVID Considerations

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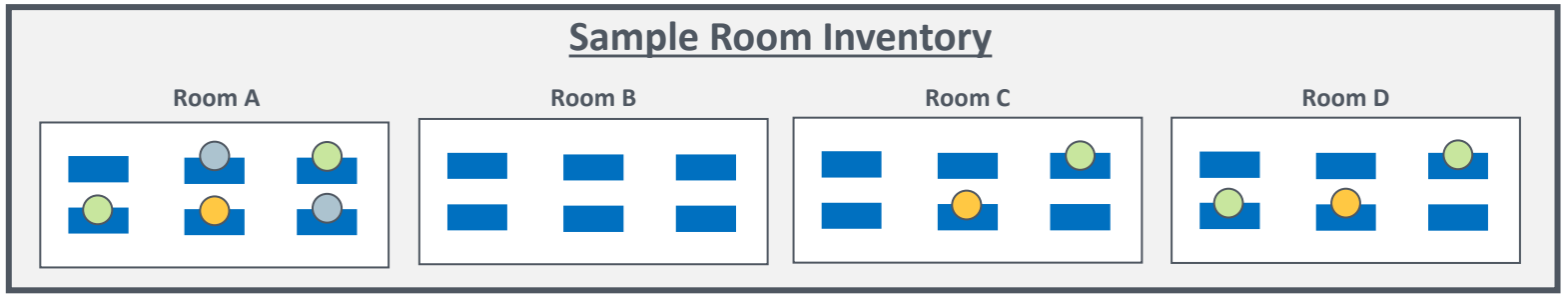
Space Utilization Terminology



Gordian Term:	Definition:	Example:
Room Utilization	The percentage of available rooms that are scheduled Monday-Friday, 7:00 a.m. through 9:45 p.m.	3 out of 4 rooms are scheduled. There is a ***Room Utilization*** of 75%.
Room Capacity	The number of chairs that a teaching space is configured to hold based on the registrar's space inventory.	Room A has a ***Room Capacity*** of 6.
Position Utilization	The percentage of available seats that are occupied within each utilized room.	Room D has 3 of 6 seats occupied. There is a ***Position Utilization*** of 50%.

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Scope of Analysis: From VTC Inventory

4 Terms

Spring 19, Fall 19,
Spring 20, Fall 21

5 Days

Monday – Friday

9 Buildings

82 Teaching Spaces

Room Type	*Count*
Auditorium	N/A
Classroom	36
Seminar Room	N/A
Lecture Hall	1
Conference Room	2
Dry Laboratory	8
Wet Laboratory	3
Computer Lab	8
Studio/Performance/Specialty	24

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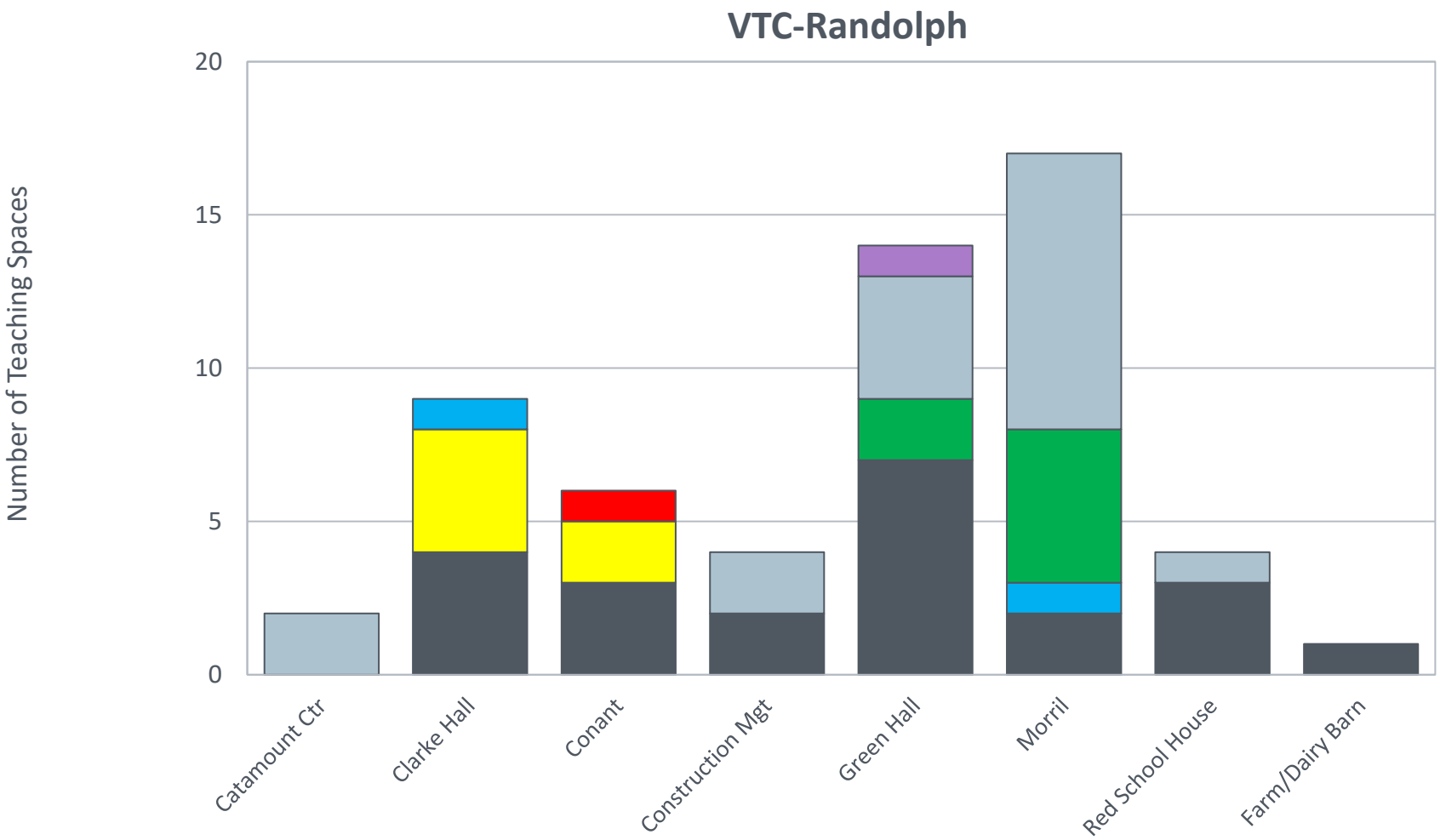
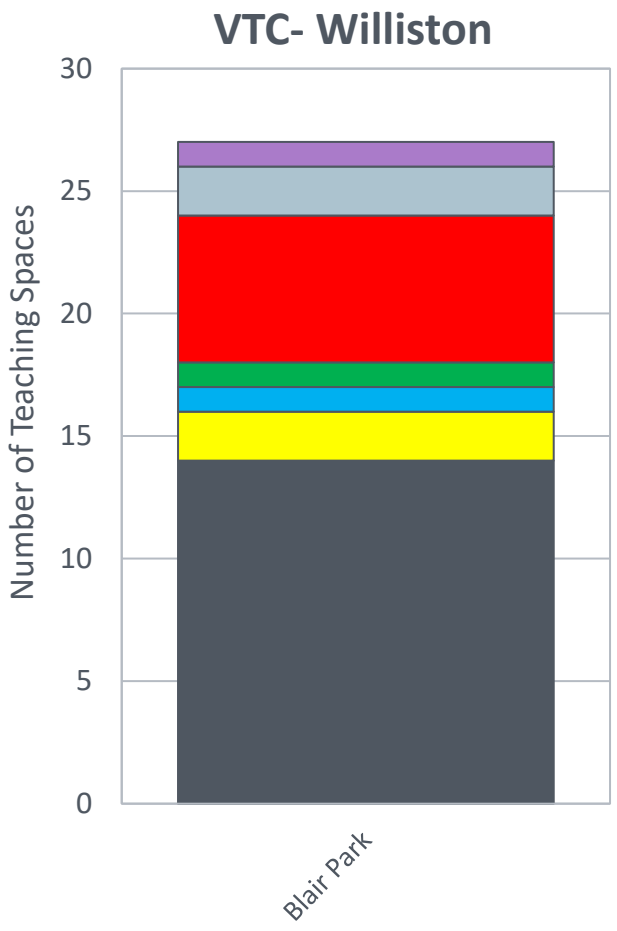
Teaching Space Classification by VTC Campus Sites





Classroom | Computer Laboratory | Laboratory (Wet) | Laboratory (Dry) | Lecture Hall | Seminar Room | Studio/Performance/Specialty | Conference Room

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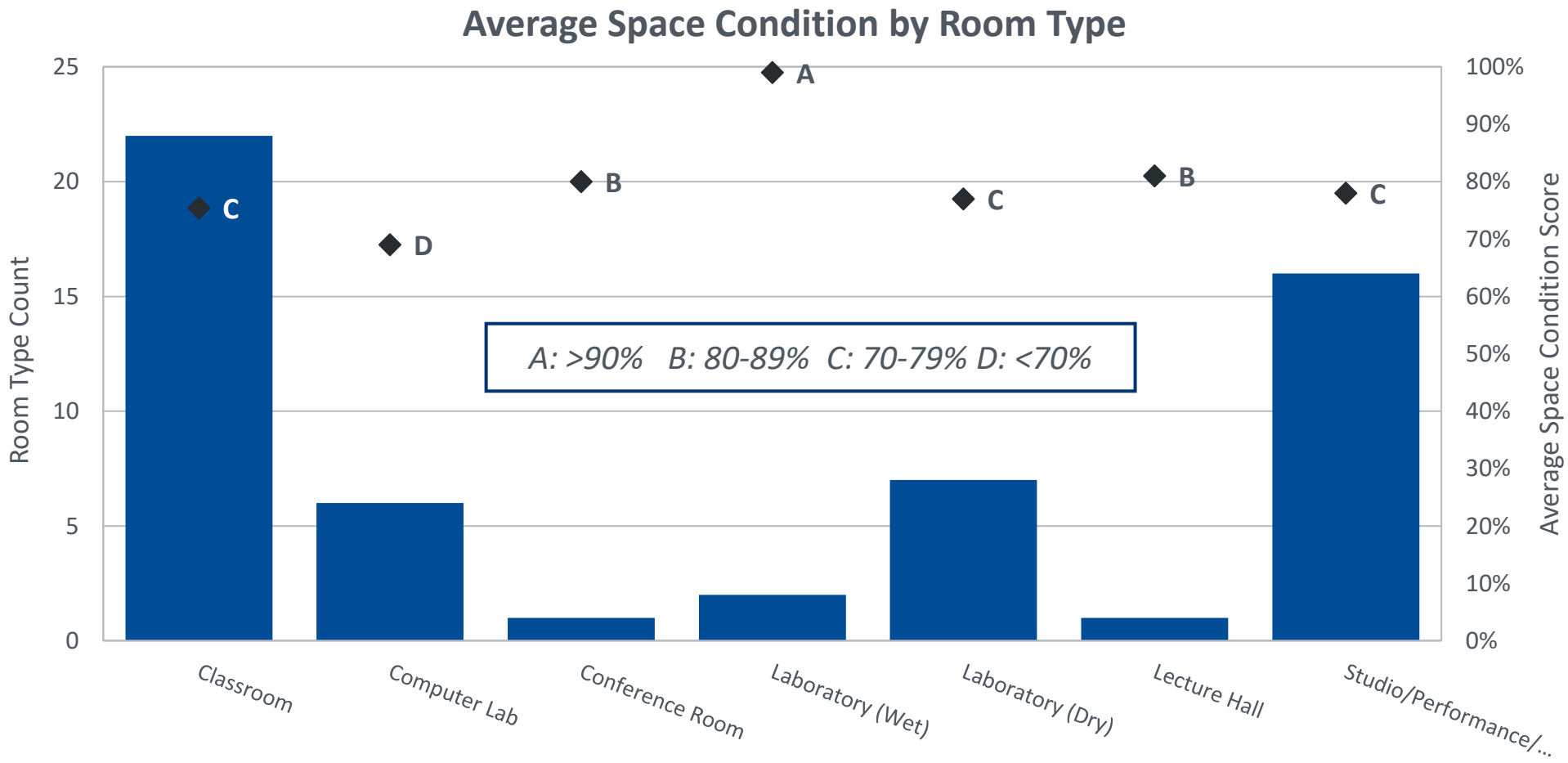
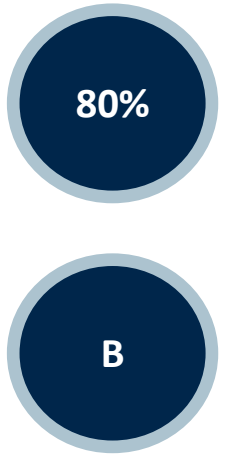
VTC-Randolph Room Type and Average Space Condition



VTC-Randolph Space Condition Average:



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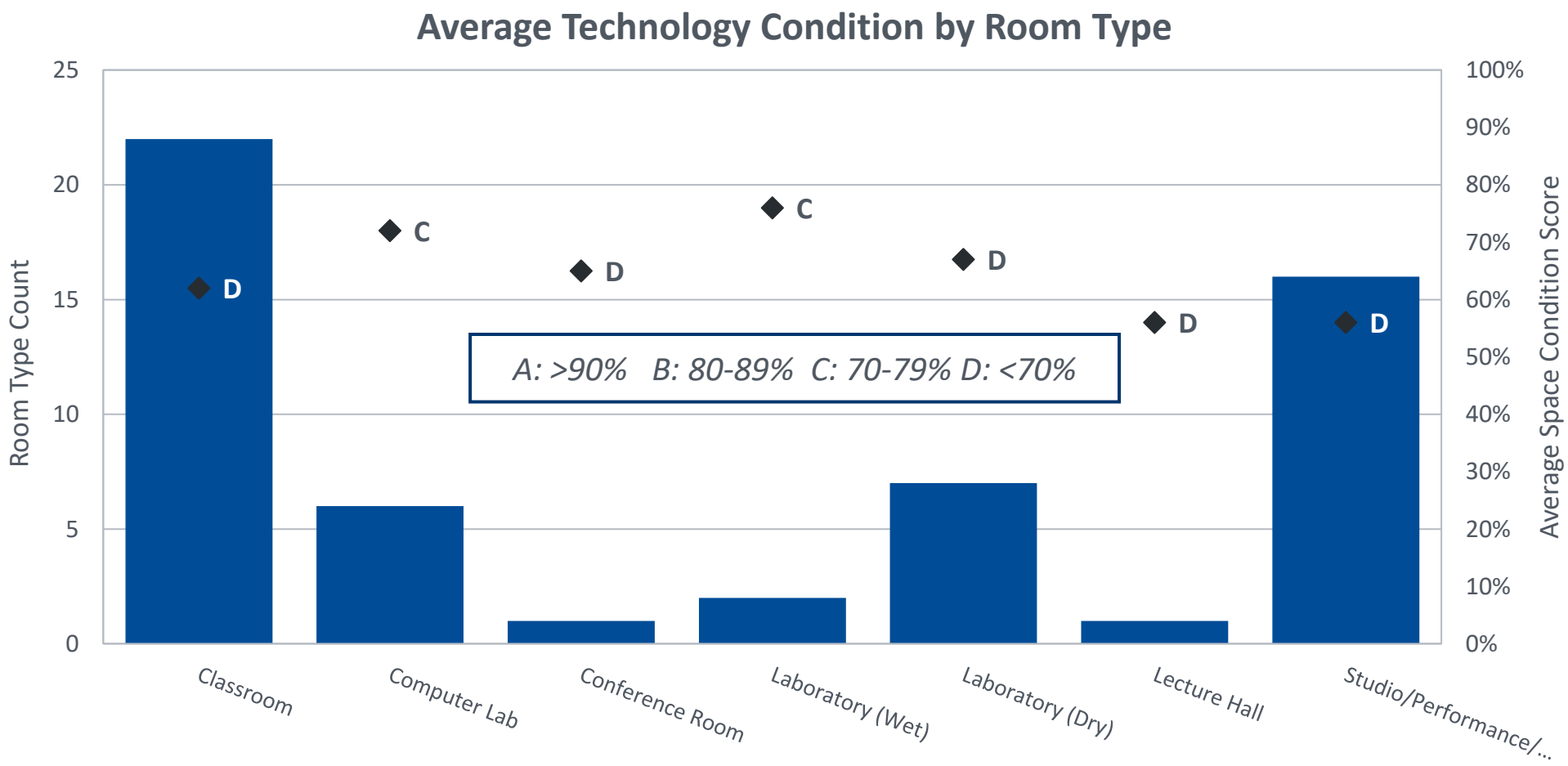
VTC-Randolph Room Type and Average Technology Condition



VTC-Randolph Technology Condition Average:

62%

D

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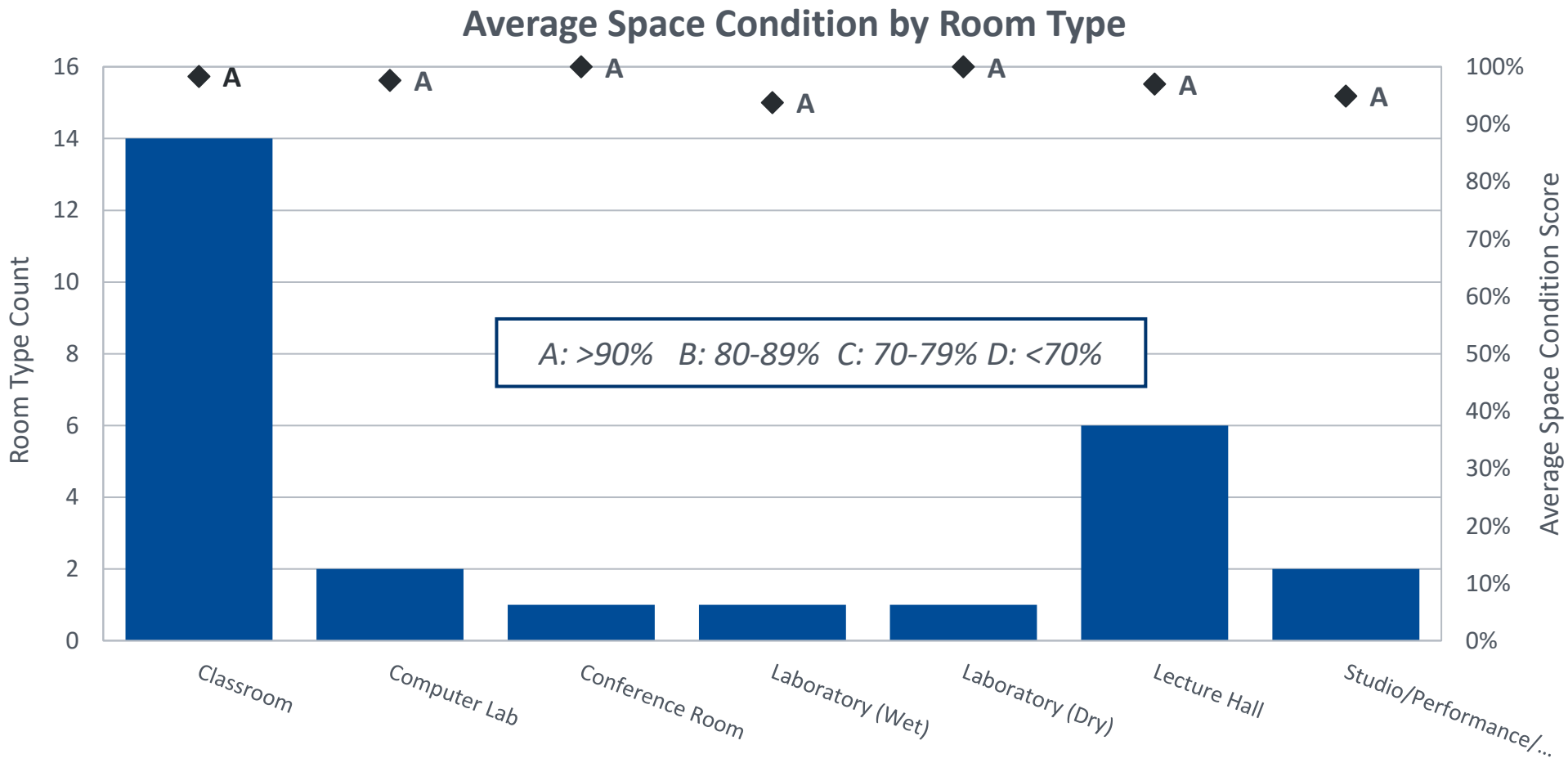
VTC-Williston Room Type and Average Space Condition



VTC-Williston Space Condition Average:

97%

A

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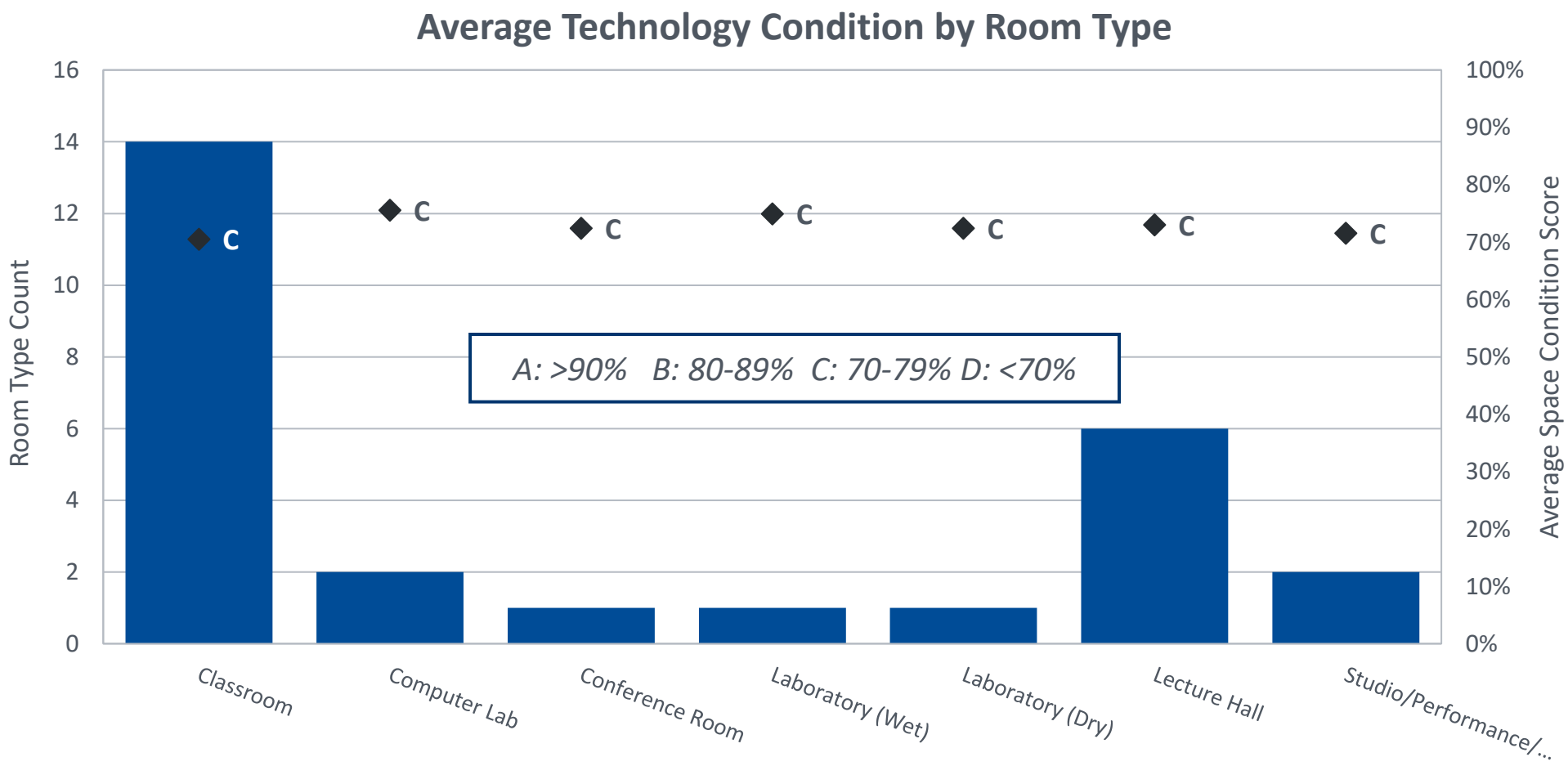
VTC-Williston Room Type and Average Technology Condition



VTC-Williston Technology Condition Average:

73%

C

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GORDIAN®
Building knowledge

Scheduling Data Analysis: Fall 2021 VTC

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17 VTC Teaching Spaces Were Unscheduled in Fall 2021

Not all available Teaching Spaces are scheduled and utilized for classes every semester

VTC-Williston

- Total available teaching spaces = **25**
- Scheduled Teaching Spaces for Fall 2021 = **20**

VTC - Randolph

- Total available teaching spaces = **57**
- Scheduled Teaching Spaces for Fall 2021 = **45**

Campus	Row Labels	Count
VTC-Williston	BLP-203	1
	BLP-212	1
	BLP-214	1
	BLP-335	1
	BLP-410	1
VTC-Williston Total		**5**
VTC-Randolph	CON-105	1
	CPM-114	1
	GRE-101B	1
	GRE-204	1
	MOR-122	1
	MOR-123	1
	MOR-130	1
	MOR-132	1
	MOR-134	1
	RSH-108	1
	RSH-109	1
	RSH-200	1
VTC-Randolph Total		**12**
Grand Total		**17**

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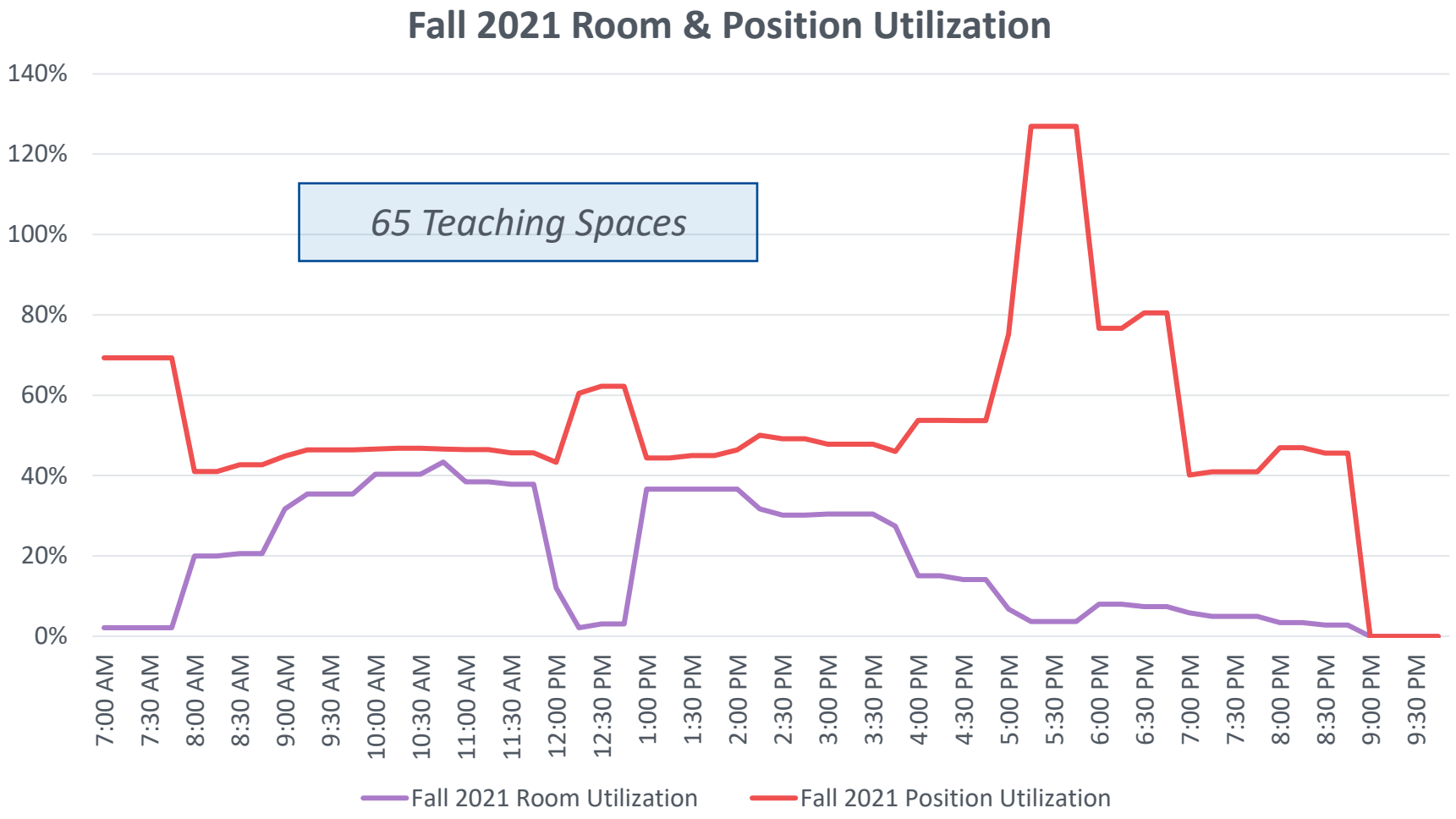
VTC Room & Position Utilization: Fall 2021



Room Utilization:

What percentage of these rooms are being used at any given time?

Avg: 9AM-5PM **28%**

Position Utilization:

What percentage of available seats are occupied within each utilized room at any given time?

Avg: 9AM-5PM **50%**

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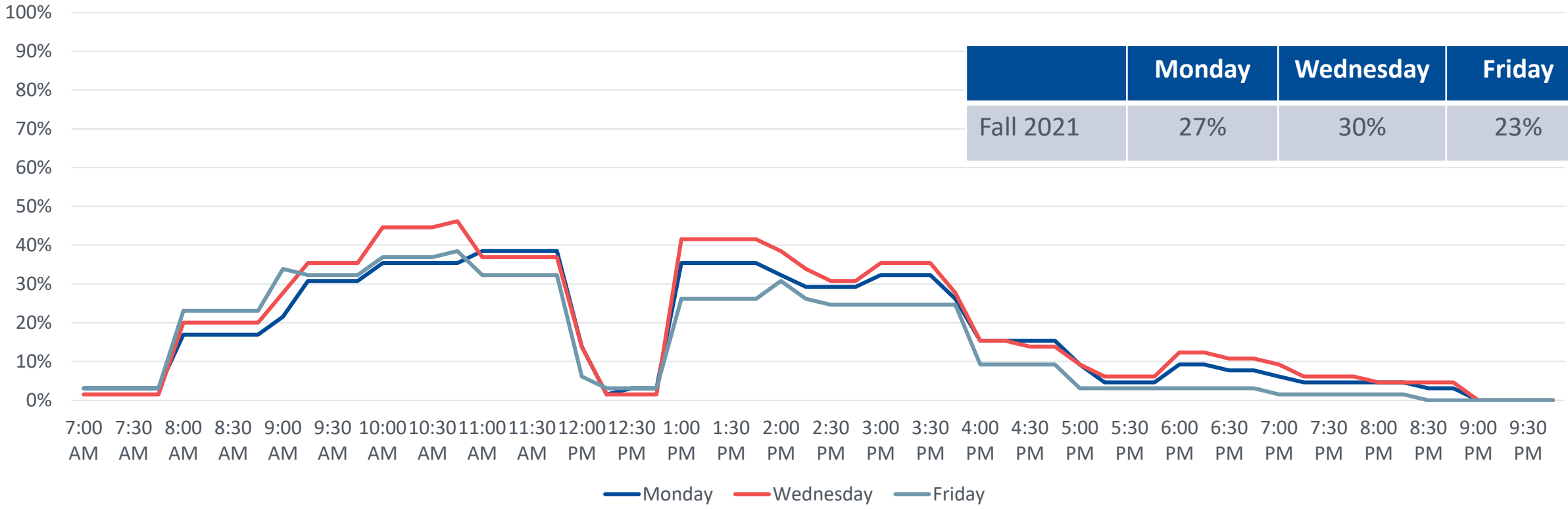
Fall 2021 Room Utilization by Weekday: M, W & F

The Monday & Wednesday Modality Utilization Rate aligns with the Friday Rate

Room Utilization: Monday, Wednesday, Friday (9AM – 5PM)



	Monday	Wednesday	Friday
Fall 2021	27%	30%	23%

9AM-5PM Averages: *Mon & Wed Avg. =* ***28%*** *Fri Avg.=* ***23%***

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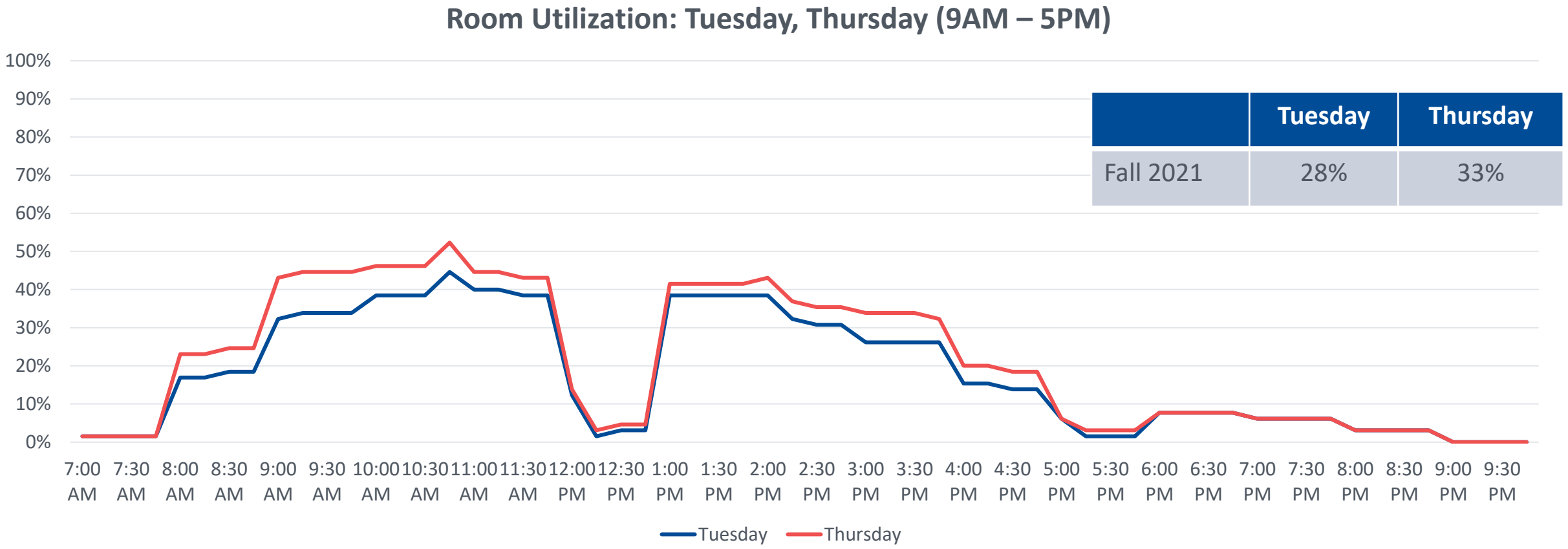
Fall 2021 Room Utilization by Weekday: T, Th



	Tuesday	Thursday
Fall 2021	28%	33%

9AM-5PM Averages: *Tues & Thurs =* ***31%***

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Scheduling Data Analysis: Fall 2021 VTC By Campus

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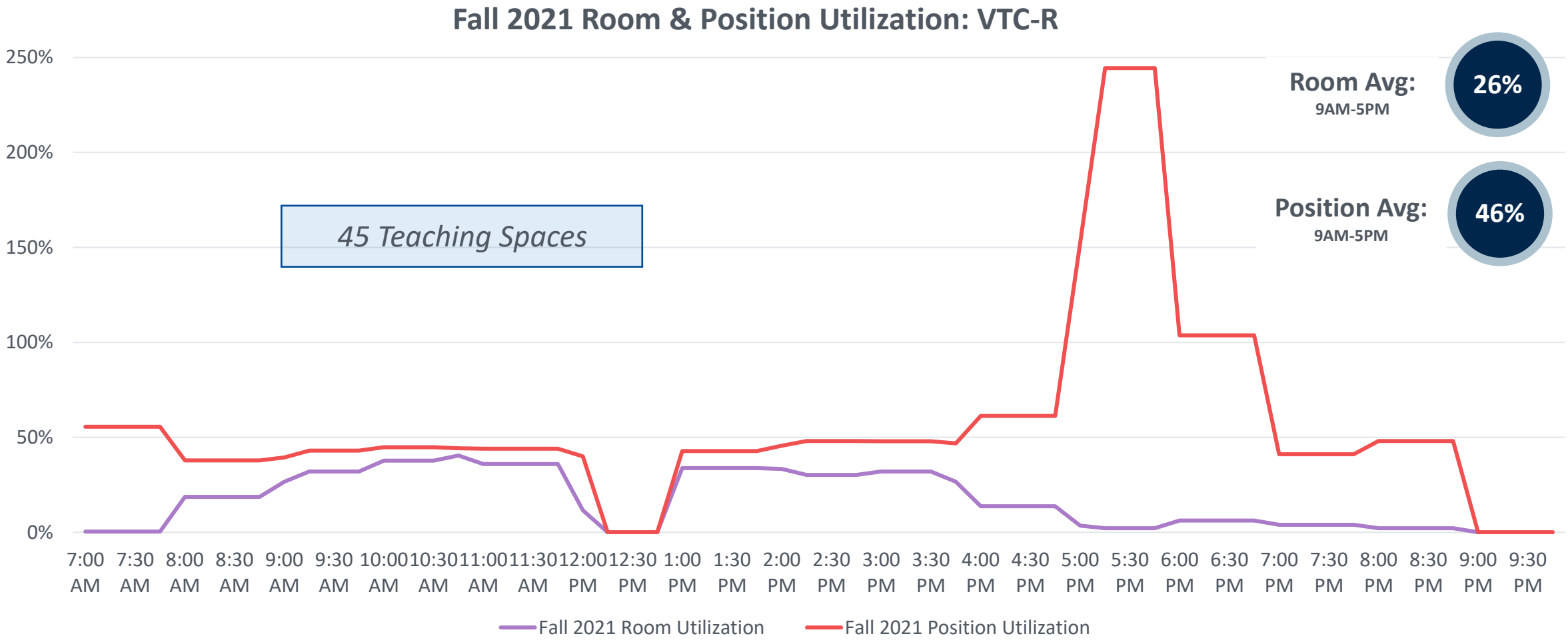
VTC-Randolph Fall 2021 Room & Position Utilization



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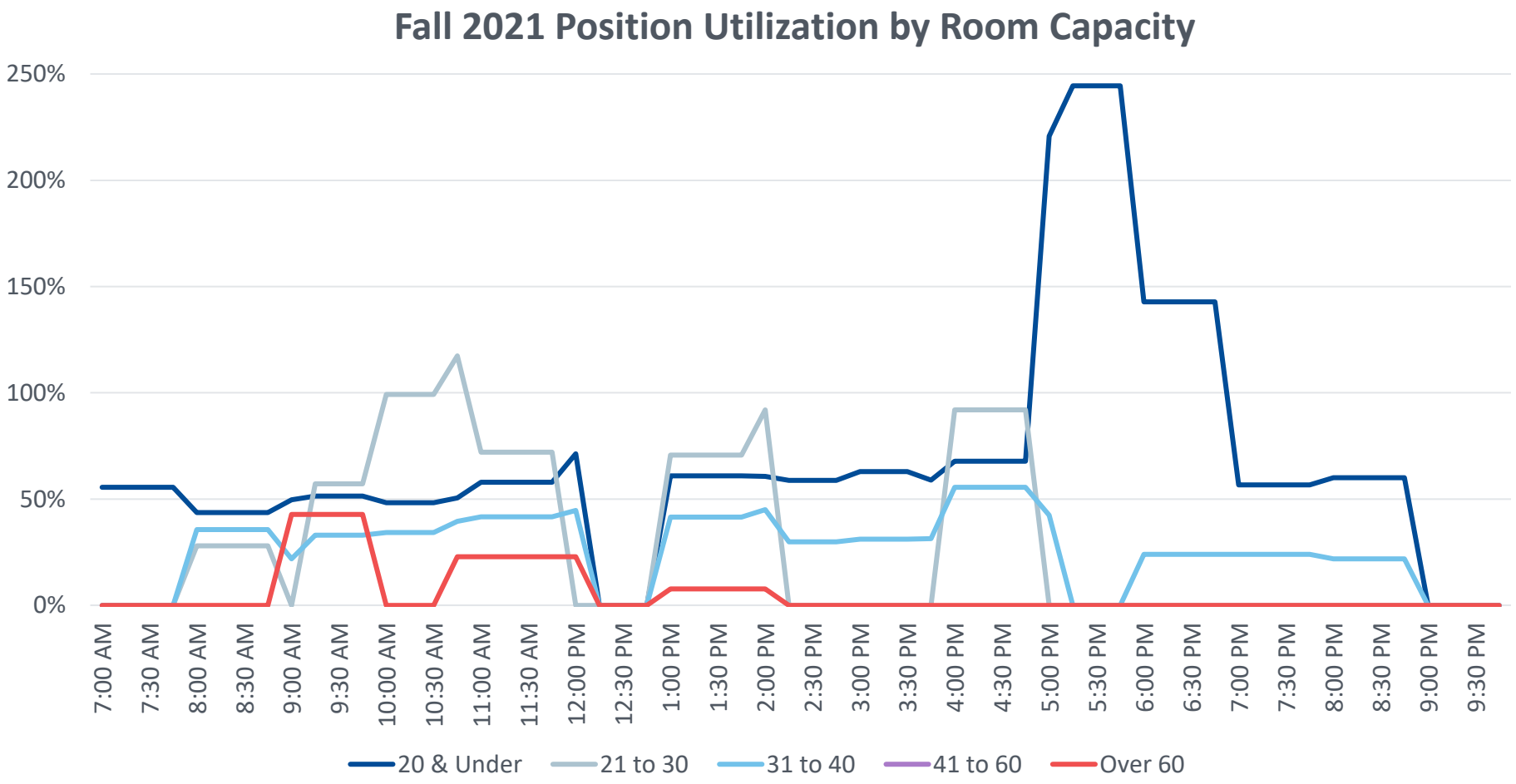
VTC-Randolph Position Utilization by Room Capacity Bucket



Average (9AM-5PM) Position Utilization by Room Capacity Bucket:

- 20 & Under – *58%*
- 21 to 30 – *49%*
- 31 to 40 – *35%*
- 41 to 60 –*N/A*
- Over 60 – *11%*

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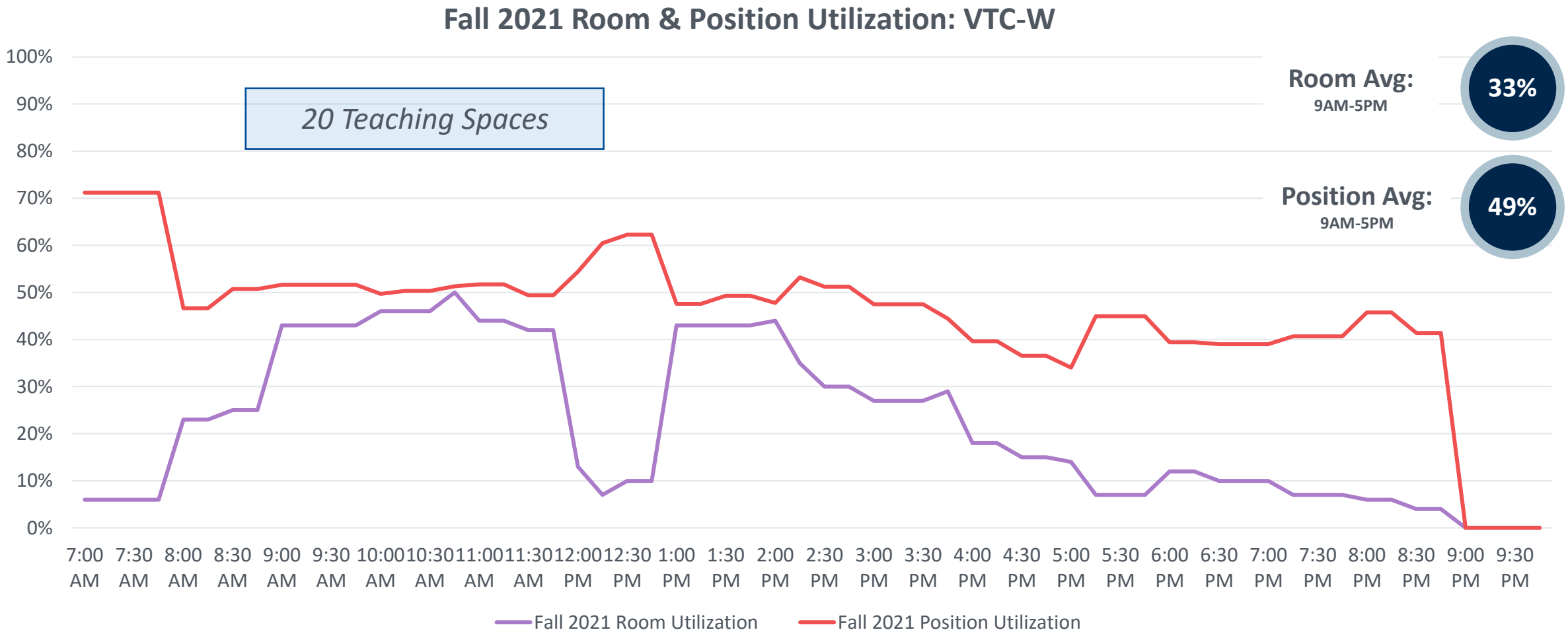
VTC-Williston Fall 2021 Room & Position Utilization



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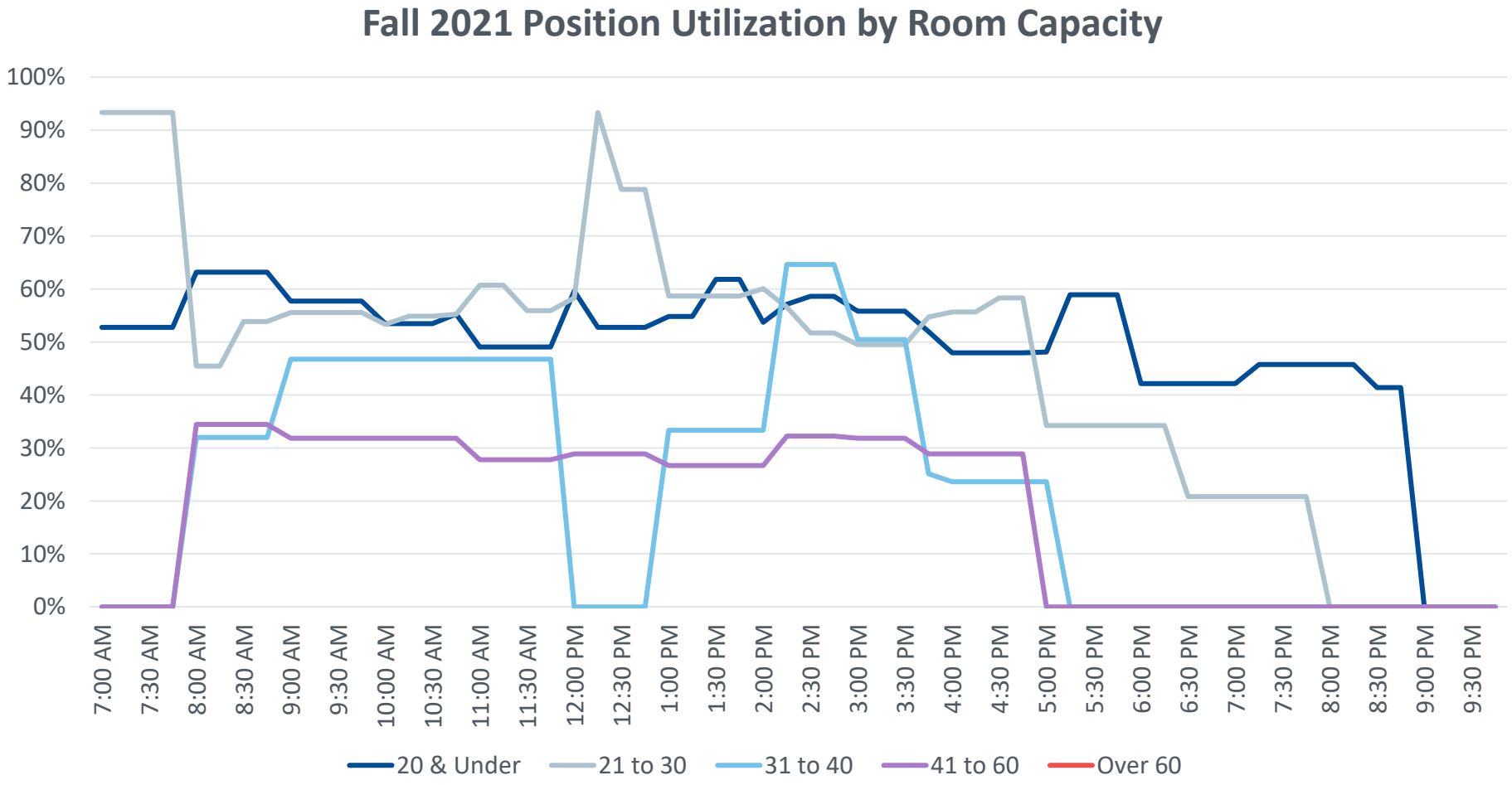
VTC-Williston Position Utilization by Room Capacity Bucket

Small rooms are utilized at almost 2x the rate of larger scheduled spaces



Average (9AM-5PM) Position Utilization by Room Capacity Bucket:

- 20 & Under – *54%*
- 21 to 30 – *58%*
- 31 to 40 – *37%*
- 41 to 60 – *29%*
- Over 60 – *N/A*

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Attachment 4

ASBESTOS INSPECTION REPORT

of

VT State Colleges - Williston Campus
201 Lawrence Place, Building 100, 200, 400
Williston VT, 05495

Prepared for:

Eric Brigante
VT State Colleges
1001 College Road
Lyndonville, VT 05851

January 29, 2024

KDAI Project No: 19114-012

KD ASSOCIATES, INC.
Environmental Consulting & Contracting
41 IDX Drive, Suite 209, South Burlington, Vermont 05403-7757 (802) 862-7490

INTRODUCTION

At your request a representative from K-D Associates, Inc. inspected and collected select samples of suspect building materials for the presence of asbestos from the Williston Campus of the Vermont States Colleges located on 201 Lawrence Place, Williston, VT. The survey was designed and conducted to satisfy the pre-renovation requirements of EPA 40 CFR 61, Subpart M, National Emission Standards for Hazardous Air Pollutants (NESHAP), Occupational Safety and Health Administration (OSHA), and the Vermont Regulations for Asbestos Control (VRAC) (V.S.A. Title 18, Chapter 26). The site visit and inspection were conducted on January 12, 2024.

Multiple samples of each suspect material were collected per homogeneous area. The number of samples was guided by the sampling requirements of the EPA Asbestos Hazard Emergency Response Act (AHERA). Each sample was sealed in a distinct sampling bag, labeled, and transported under a chain-of-custody to the laboratory for analysis.

All samples were analyzed by Polarized Light Microscopy (PLM) until either a positive sample was found in a material type or all samples were analyzed. Asbestos-Containing Material (ACM) as defined by the EPA and the State of Vermont are materials with an asbestos concentration of greater than one percent (>1%). Laboratory analysis was performed by PLM using EPA Method 600/R-93/116 (point-counted when positive at less than 5%). When one sample in a material type is found to contain asbestos in a concentration greater than one percent (>1.0%), the remaining samples in that group are not analyzed (positive stop). Complete laboratory results are attached.

FINDINGS:

In summary, no asbestos was detected in any of the materials sampled during the January 12, 2023, site visit.

The following materials were analyzed and found to be **non-asbestos** containing materials:

Sample ID	Material Description	Location
24WB012-01, -02,	Mastic - Black	Building 400, On Concrete Floor, Mechanical Room Within Room 411
24WB012-03, -04	Epoxy Flooring - Green	Building 400, Room 411 (Wood Shop)
24WB012-05, -06	Adhesive	Associated with Samples #03, #04
24WB012-07, -08	Vinyl Baseboard - Black	Building 400, Room 411
24WB012-09, -10	Adhesive	Associated with Samples #07, #08
24WB012-11, -12	Leveler - Grey	Building 400, Mechanical Room within Room 411
24WB012-13, -14	Adhesive - Tan	Building 400, Mechanical Room within Room 411, Lower 6” of Wallboard
24WB012-15, -16, -17	Joint Compound	Building 400, Mechanical Room Wall, Hallway Wall, Room 416 Wall

24WB012-18, -19, -20	Gypsum Board	Building 400, Mechanical Room Wall, Hallway Wall, Room 416 Wall
24WB012-21, -22	Ceiling Tile - Suspended in Track	Building 400, Hallway & Room 416
24WB012-23, -24	Vinyl Baseboard - Green	Building 400, Hallway
24WB012-25, -26	Adhesive	Associated with Samples #23, #24
24WB012-27, -28	Adhesive	Building 400, Associated with Darker Multi-Color Carpeting Room 416
24WB012-29, -30, -31	Duct Sealant - Grey	Building 400, Overhead circular HVAC Ductwork
24WB012-32, -33	Joint Compound	Building 100, Hallway Wall & Central Classroom Wall
24WB012-34, -35	Gypsum Board	Building 100, Hallway Wall & Central Classroom Wall
24WB012-36, -37	12” x 12” Floor Tile - Green	Building 100, Central Classroom
24WB012-38, -39	Adhesive	Associated with Samples #36, #37
24WB012-40, -41	Ceiling Tile - Suspended in Track	Building 100, Central Classroom & Hallway
24WB012-42, -43	Sink Undercoating	Building 100, Stainless Sink in Common Room
24WB012-44, -45	Vinyl Baseboard - Green	Building 100, Central Classroom
24WB012-46, -47	Adhesive	Associated with Samples #44, #45
24WB012-48, -49	Adhesive	Building 200, Associated with Green Carpet in Room 227 & 225
24WB012-50, -51	Adhesive	Building 200, Associated with Dark Multi-Color Carpet, Game Room & Hallway
24WB012-52, -53, -54	Joint Compound	Building 200, Office 225 Wall, Common Room Wall & Game Room Wall
24WB012-55, -56, -57	Gypsum Board	Building 200, Office 225 Wall, Common Room Wall & Game Room Wall
24WB012-58, -59	Vinyl Baseboard - Grey	Building 200, Room 225
24WB012-60, -61	Adhesive	Associated with Samples #58, #59
24WB012-62, -63	Vinyl Baseboard - Green	Building 200, Game Room & Common Area
24WB012-64, -65	Adhesive	Associated with Samples #62, #63
24WB012-66, -67	Ceiling Tile - Suspended in Track	Building 200, Wavy Pattern, Game Room & Common Area
24WB012-68, -69	Ceiling Tile - Suspended in Track	Building 200, Dimple Pattern, Game Room & Common Area

RESULTS / CONCLUSIONS

The results of this select sample pre-renovation asbestos inspection in buildings 100, 200 and 400 of the Vermont State College's Williston Campus located on 201 Lawrence Place, Williston, VT have found no building materials that contain asbestos. It is important to note that the samples listed above are the only materials tested during the January 12, 2024 site visit.

The Vermont Regulations for Asbestos Control (VRAC) and National Emission Standards for Hazardous Air Pollutants (NESHAP) have notification requirements 10 work days prior to abatement and/or demolition activities that may apply.

An effort was made to find materials hidden from casual view, however additional suspect materials may be present in concealed or inaccessible spaces. Any other suspect materials found during renovation/demolition activities, not specifically sampled/identified in this survey should be presumed to

This report is not intended to be used as a bid document or specification for the purpose of abatement estimating. The quantities associated with the above materials are approximated and are not intended to be used for abatement cost estimation.

Please do not hesitate to call if you have any questions or need additional information.

Respectfully,

Dillon Wells
VT Asbestos Inspector #AI8939810

Enclosure 🗁 19114-012

EMSL Analytical, Inc.

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EMSL Order:	042401365
Customer ID:	KDAI50
Customer PO:	
Project ID:	

Attention:	K-D Associates, Inc.	**Phone:**	(802) 862-7490
	K-D Associates	**Fax:**	(802) 660-2462
	41 IDX Drive	**Received Date:**	01/23/2024 10:05 AM
	Suite 209	**Analysis Date:**	01/25/2024 - 01/26/2024
	South Burlington, VT 05403	**Collected Date:**	01/12/2024

Project: VT State Colleges / 19114-012 / Williston Campus, 201 Lawrence Place, Williston, VT, 05495 / Bldg. 400, 100, 200

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
24WB012-01 *042401365-0001*	On Concrete Floor, Room 411 Mech Room - Mastic - Black	Black Non-Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
24WB012-02 *042401365-0002*	On Concrete Floor, Room 411 Mech Room - Mastic - Black	Black Non-Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
24WB012-03 *042401365-0003*	Room 411 - Epoxy Flooring - Green	Green Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24WB012-04 *042401365-0004*	Room 411 - Epoxy Flooring - Green	Green Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24WB012-05 *042401365-0005*	Room 411 - Adhesive a/w #03	Gray/Black Non-Fibrous Heterogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
Result includes a small amount of inseparable attached material					
24WB012-06 *042401365-0006*	Room 411 - Adhesive a/w #04	Gray/Black Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
Result includes a small amount of inseparable attached material					
24WB012-07 *042401365-0007*	Room 411, Mech Room - Vinyl Baseboard - Black	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24WB012-08 *042401365-0008*	Room 411, Mech Room - Vinyl Baseboard - Black	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24WB012-09 *042401365-0009*	Room 411, Mech Room - Adhesive a/w #07	White/Beige Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
24WB012-10 *042401365-0010*	Room 411, Mech Room - Adhesive a/w #08	Brown/White/Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24WB012-11 *042401365-0011*	Room 411, Mech Room on Concrete - Leveler - Grey	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24WB012-12 *042401365-0012*	Room 411, Mech Room on Concrete - Leveler - Grey	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24WB012-13 *042401365-0013*	Lower 6" at Wallboard, Room 411, Mech Room - Adhesive - Tan	Tan/Beige Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
24WB012-14 *042401365-0014*	Lower 6" at Wallboard, Room 411, Mech Room - Adhesive - Tan	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 01/26/2024 12:14:30

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EMSL Order:	042401365
Customer ID:	KDAI50
Customer PO:	
Project ID:	

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
24WB012-15 *042401365-0015*	Mech Room Wall - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24WB012-16 *042401365-0016*	Hallway Wall - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24WB012-17 *042401365-0017*	Room 411 Wall - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24WB012-18 *042401365-0018*	Mech Room Wall - Gypsum Board	Brown/White Fibrous Homogeneous	15% Cellulose 5% Glass	80% Non-fibrous (Other)	None Detected
24WB012-19 *042401365-0019*	Hallway Wall - Gypsum Board	White Fibrous Homogeneous	5% Glass	95% Non-fibrous (Other)	None Detected
24WB012-20 *042401365-0020*	Room 411 Wall - Gypsum Board	Brown/White Fibrous Homogeneous	15% Cellulose 5% Glass	80% Non-fibrous (Other)	None Detected
24WB012-21 *042401365-0021*	In Track, Hallway - Ceiling Tile 24"x48"	Gray/White Fibrous Homogeneous	50% Cellulose 30% Min. Wool	20% Non-fibrous (Other)	None Detected
24WB012-22 *042401365-0022*	In Track, Hallway - Ceiling Tile 24"x48"	Gray/White Fibrous Homogeneous	50% Cellulose 30% Min. Wool	20% Non-fibrous (Other)	None Detected
24WB012-23 *042401365-0023*	Hallway - Vinyl Baseboard - Green	Green Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24WB012-24 *042401365-0024*	Hallway - Vinyl Baseboard - Green	Green Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24WB012-25 *042401365-0025*	Hallway - Adhesive a/w #23	White/Beige Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
24WB012-26 *042401365-0026*	Hallway - Adhesive a/w #24	White/Beige Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
Result includes a small amount of inseparable attached material					
24WB012-27 *042401365-0027*	Room 416 - Adhesive a/w Darker Multi-color Carpet	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24WB012-28 *042401365-0028*	Room 414 - Adhesive a/w Darker Multi-color Carpet	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24WB012-29 *042401365-0029*	Circular HVAC Duct to the Ceiling Tile - Duct Sealant - Grey	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24WB012-30 *042401365-0030*	Circular HVAC Duct to the Ceiling Tile - Duct Sealant - Grey	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24WB012-31 *042401365-0031*	Circular HVAC Duct to the Ceiling Tile - Duct Sealant - Grey	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24WB012-32 *042401365-0032*	Common Wall, Central Classroom - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

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Project ID:	

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
24WB012-33 *042401365-0033*	Common Wall, Central Classroom - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24WB012-34 *042401365-0034*	Common Wall, Central Classroom - Gypsum Board	White Fibrous Homogeneous	5% Glass	95% Non-fibrous (Other)	None Detected
24WB012-35 *042401365-0035*	Common Wall, Central Classroom - Gypsum Board	Brown/White Fibrous Homogeneous	15% Cellulose 5% Glass	80% Non-fibrous (Other)	None Detected
24WB012-36 *042401365-0036*	Central Classroom - 12"x12" Floor Tile - Green	Green Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24WB012-37 *042401365-0037*	Central Classroom - 12"x12" Floor Tile - Green	Green Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24WB012-38 *042401365-0038*	Central Classroom - Adhesive a/w #36	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24WB012-39 *042401365-0039*	Central Classroom - Adhesive a/w #37	Gray/Yellow Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
Result includes a small amount of inseparable attached material					
24WB012-40 *042401365-0040*	In Track, Central Classroom - Ceiling Tile 24"x48"	Gray/White Fibrous Homogeneous	50% Cellulose 30% Min. Wool	20% Non-fibrous (Other)	None Detected
24WB012-41 *042401365-0041*	In Track, Central Classroom - Ceiling Tile 24"x48"	Gray/White Fibrous Homogeneous	50% Cellulose 30% Min. Wool	20% Non-fibrous (Other)	None Detected
24WB012-42 *042401365-0042*	Stainless Sink on Common Wall - Sink Undercoating	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24WB012-43 *042401365-0043*	Stainless Sink on Common Wall - Sink Undercoating	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24WB012-44 *042401365-0044*	Central Classroom - Vinyl Baseboard - Green	Green Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24WB012-45 *042401365-0045*	Central Classroom - Vinyl Baseboard - Green	Green Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24WB012-46 *042401365-0046*	Central Classroom - Adhesive a/w #44	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24WB012-47 *042401365-0047*	Central Classroom - Adhesive a/w #45	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24WB012-48 *042401365-0048*	Room 227 - Adhesive a/w Green Carpet	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24WB012-49 *042401365-0049*	Room 225 - Adhesive a/w Green Carpet	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24WB012-50 *042401365-0050*	Hall - Adhesive a/w Dark Multi-color Carpet	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

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