Durham BOE-Phase 2 Shoppes of Hope Valley Improvements

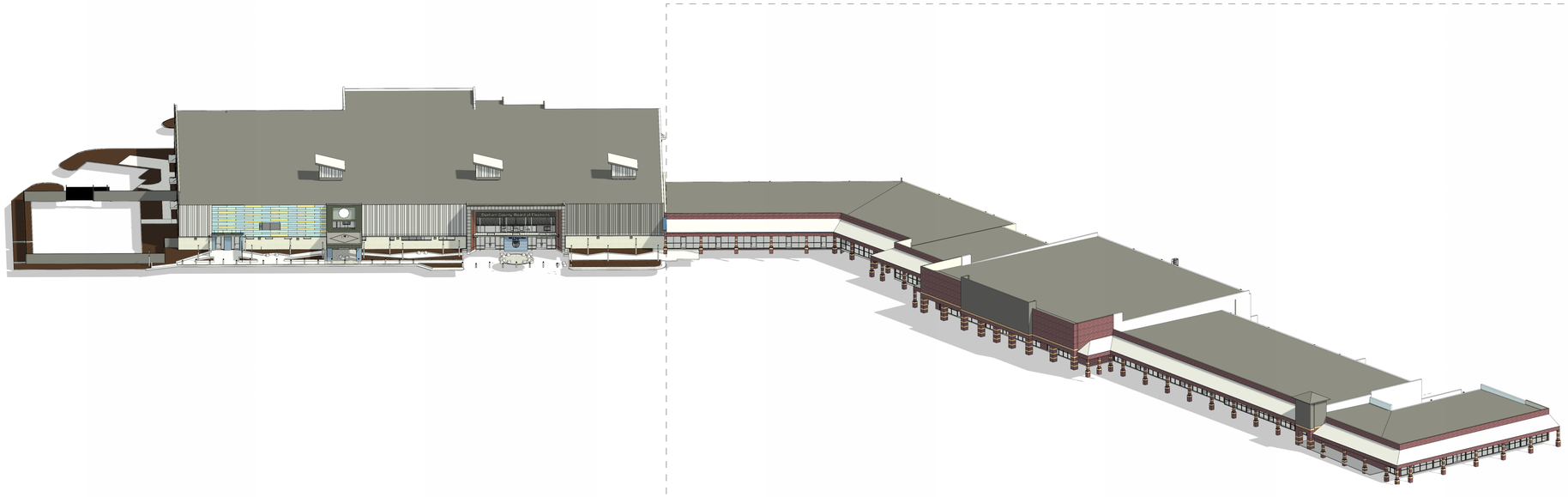
3825 S. ROXBORO STREET
DURHAM, NC

Owner Project #23-009

DRAWING SHEETS	
Sheet Number	**Sheet Name**
GENERAL	
A001	COVER SHEET
A002	NOTES, LEGENDS & ABBREVIATIONS AND UL DETAILS
A003	BUILDING CODE SUMMARY - APPENDIX B
ARCHITECTURAL	
A100	ARCHITECTURAL SITE PLAN - PHASE 2
A200	OVERALL PLAN
BUILDING ENCLOSURE	
BE 100	BUILDING CODE SUMMARY
BE 101	OVERALL PLAN
BE 102	SECTOR B ENLARGED PLAN
BE 103	SECTOR C PLAN
BE 104	SECTOR D & E PLAN
BE 301	ROOF SYSTEMS
BE 501	DETAILS
BE 502	DETAILS
BE 503	DETAILS
MECHANICAL	
M001	MECHANICAL LEGENDS AND NOTES
M002	MECHANICAL SPECIFICATIONS
M101	MECHANICAL SCHEDULES
M 301	BUILDING 2 MECHANICAL ROOF PLANS
M 302	BUILDING 3 MECHANICAL ROOF PLANS
M 303	BUILDING 4 MECHANICAL ROOF PLANS
M 304	BUILDING 5 MECHANICAL ROOF PLANS
M 601	MECHANICAL DETAILS
ELECTRICAL	
E001	ELECTRICAL LEGEND & ABBREVIATIONS
E002	ELECTRICAL SPECIFICATIONS
E101	BUILDING 2 ELECTRICAL PLAN
E102	BUILDING 3 ELECTRICAL PLAN
E103	BUILDING 4 ELECTRICAL PLAN
E104	BUILDING 5 ELECTRICAL PLAN
E401	ELECTRICAL SCHEDULES AND DETAILS
E501	ELECTRICAL SCHEDULES AND DETAILS
E502	ELECTRICAL SCHEDULES AND DETAILS
Grand total: 31	

General Note:
The Phase 2 project scope primarily includes roofing, mechanical, and electrical scope associated with roof and HVAC equipment improvements in the shopping centers' south area as shown. Additional scope for electrical lighting and minor suite repairs are phased and further described in Construction Manager at Risk documents. The majority of the work is accessible from exterior. Hours of work are standard described by city ordinances typically allowed during the daytime hours of 7:00 a.m. to 8:00 p.m. on weekdays. There are exceptions to these hours for situations involving urgent necessity in the interest of public safety or convenience. Access and disturbance to interior suites will be coordinated by the CMAR and authorized agents of the Owner.

PHASE 2



CONSTRUCTION DRAWINGS

OWNER REPRESENTATIVE
DCo Engineering & Environmental Services
Durham, NC
984.227.4329

DESIGN LEAD
RND Architects, PA
Durham, NC
919.490.1266

PME CONSULTANT
Engineered Designs, PA
Cary, NC
919.851.8481

STRUCTURAL CONSULTANT
Gardener & McDaniel, PA
Durham, NC
919.489.0926

SITE/CIVIL CONSULTANT
Thomas & Hutton, PA
Durham, NC
919.682.0368

INTERIOR DESIGN
Maria Lindqvist Design
Siler City, NC

BUILDING ENCLOSURE CONSULTANTS
REI ENGINEERS
Raleigh, NC

AUDIO VISUAL CONSULTANTS
J AND A ENGINEERING
Marietta, GA

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GLENN PARKS — REGISTERED ARCHITECT — 13421 — DURHAM, NC — 3.27.25

PROJECT INFORMATION:

Durham BOE-Phase 2 Shoppes of Hope Valley Improvements

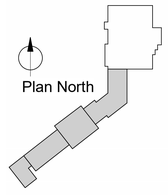
Owner Project #23-009

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3825 S. ROXBORO STREET
DURHAM, NC

KEY PLAN:

PHASE 2



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No. Date Description

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RND	GP	3/27/25

Sheet Name

COVER SHEET

Sheet Number

A001

GENERAL LEGEND

RATED WALL - 1 HOUR

EXISTING PARTITION

METAL STUD PARTITION

CMU INFILL/PARTITION

ROOM TAG — Room name 101

PARTITION TAG - SEE PARTITION TYPES — 1

DOOR TAG - SEE DOOR/FRAME SCHEDULE — 101

WINDOW TAG - SEE WINDOW SCHEDULE — A

RENOVATION NOTE KEYED TO PLAN — 1

SPOT ELEVATION AFF — 0'-0"

SECTION MARK — DWG NO. 1, SHEET NO. A101

INTERIOR ELEVATION — SHEET NO. A101, DWG NO. 1

CEILING LEGEND

ROOM NUMBER — 101

CEILING HEIGHT - A.F.F. — 10'-0"

SPRINKLER HEAD

RECESSED LIGHT FIXTURE

STRIP OR PENDANT FIXTURE

2 X 2 LAY-IN LIGHT FIXTURE

2 X 4 LAY-IN LIGHT FIXTURE

SUPPLY AIR DIFFUSER

RETURN AIR DIFFUSER

EXIT LIGHT

EMERGENCY LIGHT

SMOKE DETECTOR — S

SPEAKER — SP

WIRELESS ACCESS POINT — WAP

GYPSUM WALLBOARD SOFFIT/CEILING/OR BULKHEAD

ACOUSTICAL CEILING

DEMOLITION LEGEND

EXISTING WALL TO REMAIN

DASHED LINES INDICATE EXISTING WALLS, DOORS OR OTHER ITEMS TO BE DEMOLISHED

ACOUSTICAL CEILING TO BE DEMOLISHED

DEMOLITION NOTE - KEYED TO PLAN — 1

NOTE: NOT ALL ITEMS KEYNOTED IN PLAN

ABBREVIATION

ACOUSTICAL CEILING TILE	ACT
ABOVE FINISHED FLOOR	AFF
FLOOR DRAIN	F.D.
FIELD VERIFY / MEASURE	F.V.
FIRE EXTINGUISHER	FE
FIRE EXTINGUISHER CABINET	FEC
FIRE EXTINGUISHER HOSE	FEH
GENERAL CONTRACTOR	GC
MANUFACTURER	MFG
NOT IN CONTRACT	NIC
OPPOSITE / OPPOSITE HAND	OPP
REFERENCE	REF
SIMILAR	SIM
SPECIFICATIONS	SPEC
STEEL	STL
TYPICAL	TYP
UNLESS NOTED OTHERWISE	UNO
VINYL COMPOSITE TILE	VCT
WITH	W/
SIMILAR NUMBER OF PLACES	# PL

NOTE: COORDINATE WITH PLUMBING, MECHANICAL, FIRE PROTECTION & ELECTRICAL ENGINEERING DRAWINGS FOR DEVICE, FIXTURE QUANTITIES AND TYPES - ARCHITECTURAL PLANS SHOW DEVICES FOR LOCATION ONLY - TYPICAL.

General Notes

GENERAL CONTRACTOR SHALL FIELD VERIFY/FIELD MEASURE ALL DIMENSIONS. NOTIFY ARCHITECT OF ANY DISCREPANCIES BETWEEN DRAWINGS AND ACTUAL FIELD DIMENSIONS PRIOR TO START OF WORK. OWNER/ARCHITECT CANNOT GUARANTEE THE ACCURACY OF THESE DRAWINGS OF EXISTING CONDITIONS. FAILURE OF THE GENERAL CONTRACTOR TO VERIFY EXISTING DIMENSIONS PRIOR TO START OF WORK OR FABRICATION OF CONTRACT MATERIALS SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR ANY CONFLICTS, COSTS, OR DELAYS THAT MIGHT HAVE BEEN AVOIDED HAD THE CONTRACTOR DONE SO.

A. ALL WORK SHALL BE COMPLETED IN COMPLIANCE WITH APPLICABLE CODES AND TO THE SATISFACTION OF LOCAL BUILDING INSPECTORS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FILING AND SECURING ALL NECESSARY PERMITS, APPROVALS ETC. FOR ALL TRADES.

B. SPECIFICATIONS MUST BE READ IN CONJUNCTION WITH THE DRAWINGS TO FULLY DETERMINE THE SCOPE OF WORK REQUIRED. DO NOT ATTEMPT TO DETERMINE THE SCOPE OF WORK WITHOUT READING THE SPECIFICATIONS.

C. SITE VISITATION: THE CONTRACTOR SHALL EXAMINE THE SITE BEFORE BIDDING THE PROJECT AND SHALL FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS. FAILURE OF THE CONTRACTOR TO VISIT THE SITE BEFORE SUBMISSION OF A BID SHALL NOT RELIEVE HIM OF ANY SPECIAL PROBLEMS WHICH MIGHT HAVE BEEN AVOIDED HAD THE CONTRACTOR EXAMINED THE EXISTING SITE CONDITIONS.

D. CONTRACT DRAWINGS: THE CONTRACT DRAWINGS CONTAIN INFORMATION TO A DEGREE OF DETAIL WHICH IS CONSIDERED TO BE BOTH CONSISTENT WITH THEIR SCALES AND ADEQUATE TO ACCOMPLISH THEIR PURPOSE. BEYOND THIS POINT, THEY ARE DIAGRAMMATIC. THE CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS MATERIALS REQUIRED TO COMPLETELY INSTALL THE WORK IN ACCORDANCE WITH THE INTENT OF THE DRAWINGS AND THE SPECIFIED FUNCTIONS. ANY OMISSIONS FROM EITHER THE DRAWINGS OR THE SPECIFICATIONS ARE UNINTENTIONAL AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CALL TO THE ATTENTION OF THE DESIGNER ANY PERTINENT OMISSIONS PRIOR TO SUBMISSION OF A BID.

E. ASBESTOS CONTAINING MATERIAL HAS NOT BE SUSPECTED. IF CONTRACTOR ENCOUNTERS WHAT THEY SUSPECTS TO BE ACM, THEY SHALL NOT DISTURB THE MATERIAL AND SHALL NOTIFY THE OWNER IMMEDIATELY. THE OWNER IS RESPONSIBLE FOR ABATEMENT AND PROPER DISPOSAL SHOULD ACM BE ENCOUNTERED.

F. ALL EXISTING BUILDING LIFE SAFETY COMPONENTS SUCH AS EXIT SIGNAGE, EXIT LIGHTS, FIRE ALARM, FIRE SPRINKLERS, ETC., SHALL REMAIN CONTINUOUSLY OPERATIONAL AND FREE OF OBSTRUCTION FOR AREAS OUTSIDE OF CONSTRUCTION ZONE IN ORDER TO MAINTAIN BUILDING OCCUPANCY DURING CONSTRUCTION.

G. NOTIFY ARCHITECT OF BUILDING EXPANSION JOINT LOCATIONS. JOINTS IN CORRIDOR WALL MUST BE REPLACED IF DEMOLISHED.

H. SEE PLUMBING, MECHANICAL, ELECTRICAL AND FIRE PROTECTION DRAWINGS FOR FURTHER INFORMATION.

I. ALL SMOKE-TIGHT PARTITIONS SHALL BE CONTINUOUS TO THE UNDERSIDE OF SMOKE-TIGHT SUB-CEILING ABOVE CORRIDOR.

J. ALL FIRE RATED WALLS AND PARTITION SHALL BE EFFECTIVELY AND PERMANENTLY IDENTIFIED WITH STENCILING OR SIGNS THAT ARE SECURELY FASTENED AND NOT WITH ADHESIVE. SUCH IDENTIFICATION SHALL BE ABOVE THE CEILING AND IN CONCEALED SPACES. SUGGESTED WORDING; ' FIRE AND SMOKE BARRIER PROTECT ALL OPENINGS'.

K. THE GC SHALL PROVIDE SIGNAGE ON ALL DOORS INTO PROJECT AREA STATING, "CONSTRUCTION SITE - NO ADMITTANCE" AND NAME OF PROJECT. SIGN SHALL BE PROFESSIONALLY MADE WITH EASILY VISIBLE LETTERS ON BACKGROUND INDICATING WARNING TO STAFF AND PUBLIC. THE CONTRACTOR SHALL PROVIDE WALK-OFF MATS AS SPECIFIED AT EACH DOOR LEADING FROM THE CONSTRUCTION AREA INTO OTHER PARTS OF THE BUILDING.

L. ALL ITEMS SCHEDULED TO BE REMOVED SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE. THE OWNER RESERVES THE RIGHT TO CLAIM ANY ITEMS REMOVED DURING DEMOLITION. EQUIPMENT AND FURNITURE WILL BE REMOVED BY THE OWNER, UNLESS NOTED OTHERWISE. OWNER WILL BE PRESENT AT PRE-CONSTRUCTION MEETING PRIOR TO ALL PHASES OF DEMOLITION.

M. GC TO FIELD VERIFY ALL DIMENSIONS. NOTIFY ARCHITECT OF ANY DISCREPANCIES BETWEEN DRAWINGS AND ACTUAL FIELD DIMENSIONS. DIMENSIONS ARE TO FACE OF STUD AND CMU WALLS UNLESS NOTED OTHERWISE. VERTICAL DIMENSIONS ARE FROM TOP OF FLOOR SLAB, EXCEPT WHERE NOTED TO BE FROM ABOVE FINISHED FLOOR (AFF). DIMENSIONS ARE NOT ADJUSTABLE WITHOUT APPROVAL OF ARCHITECT UNLESS NOTED.

N. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR:

1. PROVIDING ALL NECESSARY ACCESS PANELS, WITH CORRECT FIRE PROTECTION RATINGS, WHETHER INDICATED OR NOT ON THE DRAWINGS.
2. ACCESS PANELS REQUIRED SHALL INCLUDE, BUT NOT LIMITED TO DAMPERS, PLUMBING VALVES, JUNCTIONS BOXES AND CLEANOUTS
3. PATCHING AND FIRE STOPPING ALL FLOOR AND ROOF OPENINGS LEFT BY REMOVAL OF P, M, AND E DUCTS, PIPES, AND CONDUITS.
4. WHERE EXISTING WALLS ARE REMOVED, REPAIR FLOOR SUBSTRATES TO RECEIVE NEW FINISHES.
5. WHERE EXISTING FINISHES ARE REMOVED PREPARE SURFACE TO RECIEVE NEW FINISHES.
6. COORDINATE AND PROVIDE BLOCKING/BACKING IN PARTITIONS BEHIND ALL WALL MOUNTED ITEMS (MILLWORK SHELVING, FILES, ETC.) ALL CONCEALED WOOD TO BE FIRE-RETARDANT LUMBER.
7. WHERE LAVATORIES, MIRRORS, ACCESSORIES, ETC. ARE SCHEDULED TO BE REMOVED FROM WALLS TO REMAIN, PATCH AND PAINT WALLS TO MATCH EXISTING (WHERE EXPOSED TO VIEW).

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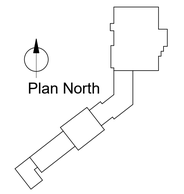
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3825 S. ROXBORO STREET
DURHAM, NC

KEY PLAN:

PHASE 2



REVISIONS

No.	Date	Description

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Sheet Name

NOTES, LEGENDS & ABBREVIATIONS AND UL DETAILS

Sheet Number

A002

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2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)
(Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: Durham County Board of Elections South Roxboro Street Renovations
Address: 3825 South Roxboro St., Suite 101 Zip Code 27713
Owner/Authorized Agent: Brenda Hayes Bright Phone # (919) 560 - 7991 E-Mail bbright@dconc.gov
Owned By: County
Code Enforcement Jurisdiction: City

CONTACT: Glenn Parks, AIA, RND Architects, P.A.

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural	RND ARCHITECTS, PA	Glenn Parks, AIA /13421	919.972.1844		glenn@rndpa.com
Civil	Thomas & Hutton PA	Preston Royster, PE /35003	919.682.0368		proyster@cjtpa.com
Landscape	Thomas & Hutton PA	Jeremy Anderson, RA /1268	919.682.0368		janderson@cjtpa.com
Electrical	Engineered Designs Inc	Jason Lund, PE /037667	919.851.8481		jlund@engineereddesigns.com
Fire Alarm	Engineered Designs Inc	Jason Lund, PE /037667	919.851.8481		jlund@engineereddesigns.com
Plumbing	Engineered Designs Inc	Patricia Danahy, PE /055306	919. 851.8481		pdanahy@engineereddesigns.com
Mechanical	Engineered Designs Inc	Patricia Danahy, PE /055306	919. 851.8481		pdanahy @engineereddesigns.com
Structural	Gardner & McDaniel	Bill Easterling, PE / 28335	919.489.0926		bill@gmengrs.com
Sprinkler-Standpipe	n/a				
Retaining Walls >5' High	n/a				
Other	n/a				

("Other" should include firms and individuals such as truss, precast, pre-engineered, interior designers, etc.)

2018 NC BUILDING CODE: Renovation

2018 NC EXISTING BUILDING CODE: Change of Use N/A Change of Use
CONSTRUCTED: (date) est.2010 **CURRENT OCCUPANCY(S)** (Ch. 3): M
RENOVATED: (date) _____ **PROPOSED OCCUPANCY(S)** (Ch. 3): B, A-3, S-1

RISK CATEGORY (Table 1604.5): **Current:** III **Proposed:** III

BASIC BUILDING DATA
Construction Type: II-B
Sprinklers: Yes NFPA 13
Standpipes: No
Primary Fire District: No **Flood Hazard Area:** No
Special Inspections Required: No

Gross Building Area Table

FLOOR	EXISTING (SQ.FT)	NEW (SQ.FT)	SUB-TOTAL
3rd Floor			
2nd Floor			
Mezzanine			
1st Floor	57,672		
Basement			
TOTAL	57,672		

ACCESSIBLE DWELLING UNITS N/A
(SECTION 1107)

UNIT CLASSIFICATION	TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED

ACCESSIBLE PARKING – N/A
(SECTION 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES		# OF ACCESSIBLE SPACES PROVIDED		TOTAL # ACCESSIBLE
	REQUIRED	PROVIDED	96" SPACES	132" SPACES	PROVIDED
TOTAL					

PLUMBING FIXTURE REQUIREMENTS- N/A
(TABLE 2902.1)

USE		WATERCLOSETS			URINALS	LAVATORIES			SHOWERS	DRINKING FOUNTAINS	
		MALE	FEMALE	UNISEX		MALE	FEMALE	UNISEX	/TUBS	REGULAR	ACCESSIBLE
SPACE	EXIST'G										
	NEW										
	REQ'D										

SPECIAL APPROVALS

Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, etc., describe below)

ALLOWABLE AREA

Primary Occupancy Classification(s): Business Assembly - A-3 Storage - S-1
Accessory Occupancy Classification(s): _____
Incidental Uses (Table 509): _____
Special Uses (Chapter 4 – List Code Sections): _____
Special Provisions: (Chapter 5 – List Code Sections): _____
Mixed Occupancy: Yes Separation: 1 Hr. Exception: _____

Separated Use (508.4) - See below for area calculations for each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} \leq 1$$

$$\frac{A\text{-}3\text{: xx,xxx}}{38{,}000} + \frac{B\text{: xx,xxx}}{92{,}000} + \frac{S\text{-}1\text{: xx,xxx}}{70{,}000} = ____ \leq 1.00$$

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2[4] AREA	(C) AREA FOR FRONTAGE INCREASE[1,5]	(D) ALLOWABLE AREA PER STORY OR UNLIMITED[2,3]
1	A-3	54,749	38,000	6,365	44,365
1	B	54,749	92,000	15,410	107,410
1	S-1	54,749	70,000	11,725	81,725

[1] Frontage area increases from Section 506.3 are computed thus:
a. Perimeter which fronts a public way or open space having 20 feet minimum width = 931.5 (F)
b. Total Building Perimeter = 1014 (P)
c. Ratio (F/P) = 0.92 (F/P)
d. W = Minimum width of public way = 30 (W)
e. Percent of frontage increase $I_f = 100[F/P - 0.25]$ x W/30 = 67 (%)
[2] Unlimited area applicable under conditions of Section 507.
[3] Maximum Building Area = total number of stories in the building x D (maximum 3 stories) (506.2).
[4] The maximum area of open parking garages must comply with Table 406.5.4.
[5] Frontage increase is based on the unsprinklered area value in Table 506.2.

ALLOWABLE HEIGHT

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE [1]
Building Height in Feet (Table 504.3) [2]	75	30	
Building Height in Stories (Table 504.4) [3]			

[1] Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4.
[2] The maximum height of air traffic control towers must comply with Table 412.3.1.
[3] The maximum height of open parking garages must comply with Table 406.5.4.

ENERGY SUMMARY SEE BUILDING ENCLOSURE SHEETS

ENERGY REQUIREMENTS:
The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed design.

Existing building envelope complies with code: Yes (The remainder of this section is not applicable)

Exempt Building: Select one Provide code or statutory reference:

Climate Zone: Select one

Method of Compliance: Select one
(If "Other" specify source here)_____

THERMAL ENVELOPE (Prescriptive method only)

Roof/ceiling Assembly (each assembly)
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____
Skylights in each assembly: _____
U-Value of skylight: _____
total square footage of skylights in each assembly: _____

Exterior Walls (each assembly)
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____
Openings (windows or doors with glazing)
U-Value of assembly: _____
Solar heat gain coefficient: _____
projection factor: _____
Door R-Values: _____

Walls below grade (each assembly)
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____

Floors over unconditioned space (each assembly)
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____

Floors slab on grade
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____
Horizontal/vertical requirement: _____
slab heated: _____

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D	RATING PROVIDED (W/ * REDUCTION)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOINTS
Structural Frame, including columns, girders, trusses		0					
Bearing Walls		0					
Exterior		0					
North		0					
East		0					
West		0					
South		0					
Interior		0					
Nonbearing Walls and Partitions		0					
Exterior walls							
North		0					
East		0					
West		0					
South		0					
Interior walls and partitions		0					
Floor Construction Including supporting beams and joists		0					
Floor Ceiling Assembly		0					
Columns Supporting Floors		0					
Roof Construction, including supporting beams and joists		0					
Roof Ceiling Assembly		0	U263	G005			
Columns Supporting Roof		0					
Shaft Enclosures - Exit							
Shaft Enclosures - Other							
Corridor Separation		1	U465	G005			
Occupancy/Fire Barrier Separation		1					
Party/Fire Wall Separation		2					
Smoke Barrier Separation		0					
Smoke Partition		0					
Tenant/Dwelling Unit/ Sleeping Unit Separation		na					
Incidental Use Separation		na					

* Indicate section number permitting reduction

PERCENTAGE OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting: Yes
Exit Signs: Yes
Fire Alarm: Yes
Smoke Detection Systems: Yes
Carbon Monoxide Detection: Yes

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #:

- ☐ Fire and/or smoke rated wall locations (Chapter 7)
- ☐ Assumed and real property line locations (if not on the site plan)
- ☐ Exterior wall opening area with respect to distance to assumed property lines (705.8)
- ☐ Occupancy Use for each area as it relates to occupant load calculation (Table 1004.1.2)
- ☐ Occupant loads for each area
- ☐ Exit sign locations (1013)
- ☐ Exit access travel distances (1017)
- ☐ Common path of travel distances (Tables 1006.2.1 & 1006.3.2(1))
- ☐ Dead end lengths (1020.4)
- ☐ Clear exit widths for each exit door
- ☐ Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3)
- ☐ Actual occupant load for each exit door
- ☐ A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation
- ☐ Location of doors with panic hardware (1010.1.10)
- ☐ Location of doors with delayed egress locks and the amount of delay (1010.1.9.7)
- ☐ Location of doors with electromagnetic egress locks (1010.1.9.9)
- ☐ Location of doors equipped with hold-open devices
- ☐ Location of emergency escape windows (1030)
- ☐ The square footage of each fire area (202)
- ☐ The square footage of each smoke compartment for Occupancy Classification I-2 (407.5)
- ☐ Note any code exceptions or table notes that may have been utilized regarding the items above

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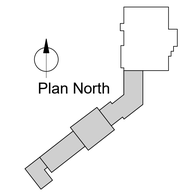
Durham BOE-Phase 2 Shoppes of Hope Valley Improvements

Owner Project #23-009

2242
3825 S. ROXBORO STREET
DURHAM, NC

KEY PLAN:

PHASE 2



REVISIONS

No. Date Description

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GP	GP	3/27/25

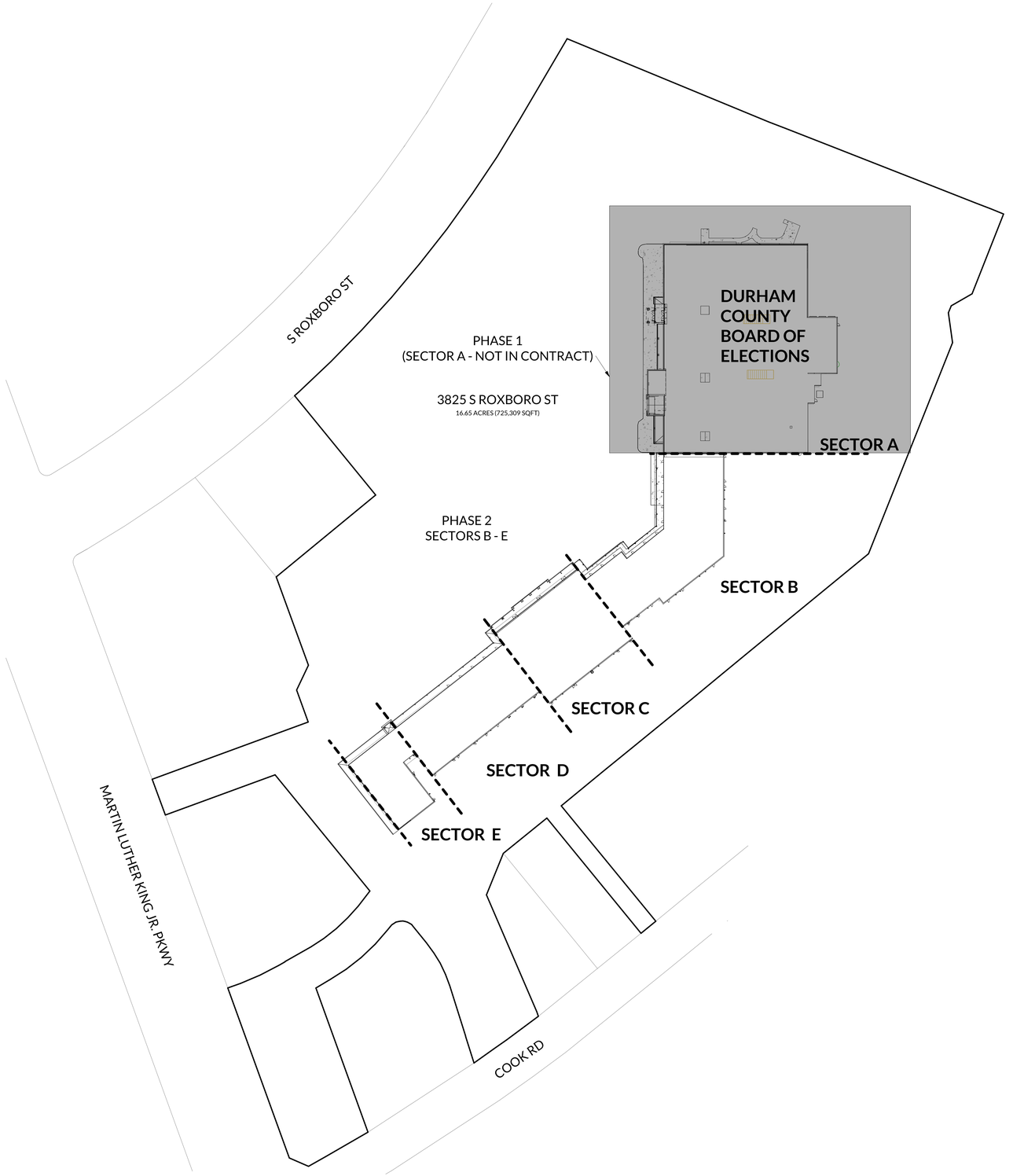
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BUILDING CODE SUMMARY - APPENDIX B

Sheet Number

A003

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1 A100 **ARCHITECTURAL SITE PLAN - PHASE 1B**
1/64" = 1'-0"

4/7/2025 2:31:37 PM

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DURHAM, NC
3.27.25

PROJECT INFORMATION:

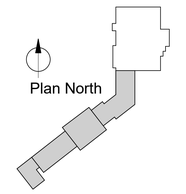
Durham BOE-Phase 2
Shoppes of Hope Valley Improvements

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KEY PLAN:

PHASE 2



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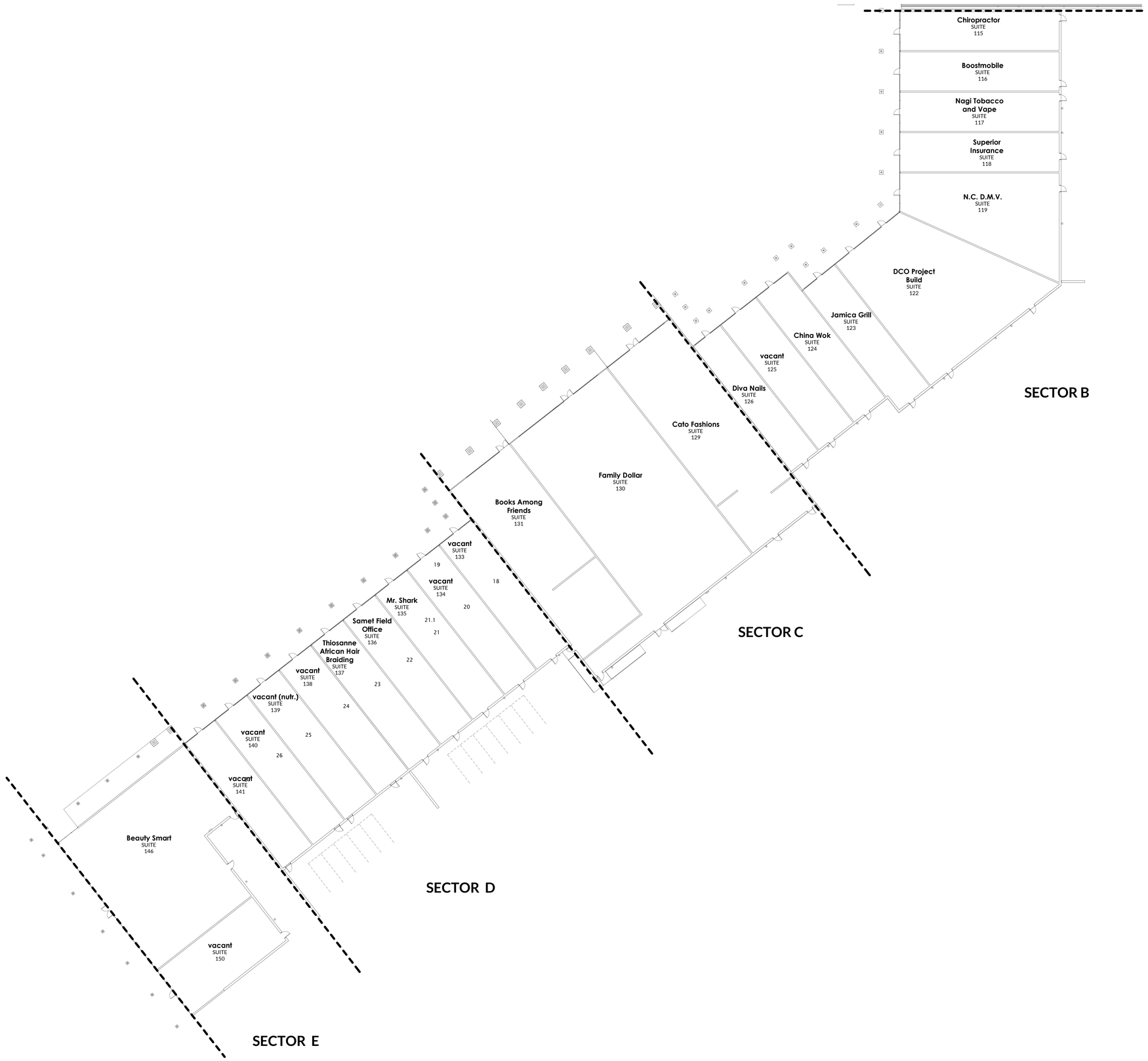
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EMC	GP	3/27/25

Sheet Name

ARCHITECTURAL SITE PLAN - PHASE 2

Sheet Number

A100



1 / A200 OVERALL FLOOR PLAN - PHASE 2
1" = 20'-0"

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DURHAM, NC
3.27.25

PROJECT INFORMATION:

Durham BOE-Phase 2 Shoppes of Hope Valley Improvements

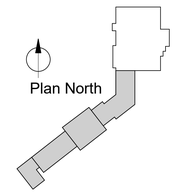
Owner Project #23-009

2242

3825 S. ROXBORO STREET
DURHAM, NC

KEY PLAN:

PHASE 2



REVISIONS

No.	Date	Description

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EJW	GP	3/27/25

Sheet Name

OVERALL PLAN

Sheet Number

A200

2018 APPENDIX B
BUILDING CODE SUMMARY
FOR COMMERCIAL ROOF REPLACEMENT PROJECTS
(EXCEPT 1 AND 2 FAMILY DWELLINGS AND TOWNHOUSES)

Name of Project: DURHAM COUNTY SHOPS OF HOPE VALLEY- BOARD OF ELECTIONS- PHASE 2
Address: 3825 S. ROXBORO ROAD DURHAM, NC 27713
Owner/ Authorized Agent: Brenda Hayes-Bright Phone #: 919-560-7991
Email: bbright@dconc.gov
Owned By: ☒ City/County ☐ Private ☐ State
Code Enforcement Jurisdiction: ☒ City Durham ☐ County ☐ State

ENGINEER:

FIRM	NAME	LICENSE #	PHONE #	EMAIL
REI Engineers	Stephen Ingram	049789	919-845-1450	singram@reiengineers.com

2018 NORTH CAROLINA CODE FOR:
☒ Roof Replacement ☐ Roof Recover ☐ Roof Repair

2018 NORTH CAROLINA EXISTING BUILDING CODE
CHAPTER 5 CLASSIFICATION OF WORK:
☒ Section 503: Alteration – Level 1 (Renovation) ☐ Section 504: Alteration – Level 2 (Alteration) ☐ Section 505: Alteration – Level 3 (Reconstruction)

BASIC BUILDING DATA
Constructed Date: 2010 **Construction Type:** (check all that apply) ☐ I-A ☐ II-A ☐ III-A ☐ IV ☐ V-A ☐ I-B ☒ II-B ☐ III-B ☐ V-B

Sprinklers: ☐ No ☐ Partial ☒ Yes: ☒ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D
Standpipes: ☒ No ☐ Yes: Class: ☐ 1 ☐ 2 ☐ 3 ☐ Wet ☐ Dry
Fire District: ☐ No ☒ Yes (Primary)
Building Height: 20 feet **Roof Area:** 54,671 square feet **Number of Stories:** 1
Allowable Height: 75 feet **Allowable Area:** 92,000 square feet **Allowable Stories:** 4

OCCUPANCY
Assembly: ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
Business: ☒ B
Educational: ☐ E
Factory: ☐ F-1 (Moderate) ☐ F-2 (Low Hazard)
High Hazard: ☐ H-1 (Detonate) ☐ H-2 (Deflagrate) ☐ H-3 (Combust) ☐ H-4 (Health) ☐ H-5 (HPM)
Institutional: ☐ I-1 Condition 1 ☐ I-1 Condition 2 ☐ I-2 ☐ I-3 ☐ I-4
Mercantile: ☐ M
Residential: ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
Storage: ☐ S-1 (Moderate) ☐ S-2 (Low Hazard)
Utility: ☐ U

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE PROTECTION RATING REQUIRED	FIRE PROTECTION RATING PROVIDED	DESIGN # FOR RATED ASSEMBLY	COMMENTS
Roof Construction All Roof Areas Steel Deck	0 HR.	0 HR.	-	Type IIB no fire resistance required

STRUCTURAL SUMMARY

Components & Cladding Wind Uplift Resistance: (ASCE 7-10)

Basic Wind Speed 115 mph Risk Category II
Internal Pressure Coeff. 0.18 Exposure Category C

Wind Uplift Nominal Design Pressures:

Zone 1 (Field)	-18.4	psf
Zone 2 (Perimeter)	-30.8	psf
Zone 3 (Corner)	-46.4	psf
Zone 4 (Perimeter)	-18.2	psf
Zone 5 (Corner)	-22.4	psf
Positive Zone 4 and 5	+16.8	psf
Zone 2 OH (Perimeter)	-26.5	psf
Zone 3 OH (Corner)	-43.6	psf

Roof System Dead Load

Existing System:	15	psf
Replacement system	3.09	psf

ENERGY SUMMARY

Roof Assembly Description: Refer to Specification Section 07 22 16 Roof Insulation
Code Compliance: 2018 NCEBC
Min. Required R-value: Not less than existing

Existing R-Value: R-10
R-Value of Insulation (min): R-20
Number of Skylights: 0
u-Value of each Skylight: 0
Total Sq. Ft. of Skylights 0

A BUILDING CODE SUMMARY
SCALE: N.T.S.

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Robert E. Tomlinson IIBEC 0321 Registered Roof Consultant

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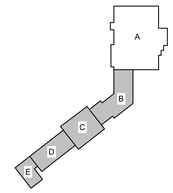
Durham BOE-Phase 2 Shops of Hope Valley Improvements

Owner Project #23-009

2242
3825 S. ROXBORO STREET
DURHAM, NC

KEY PLAN:

PHASE 2



REVISIONS

No.	Date	Description

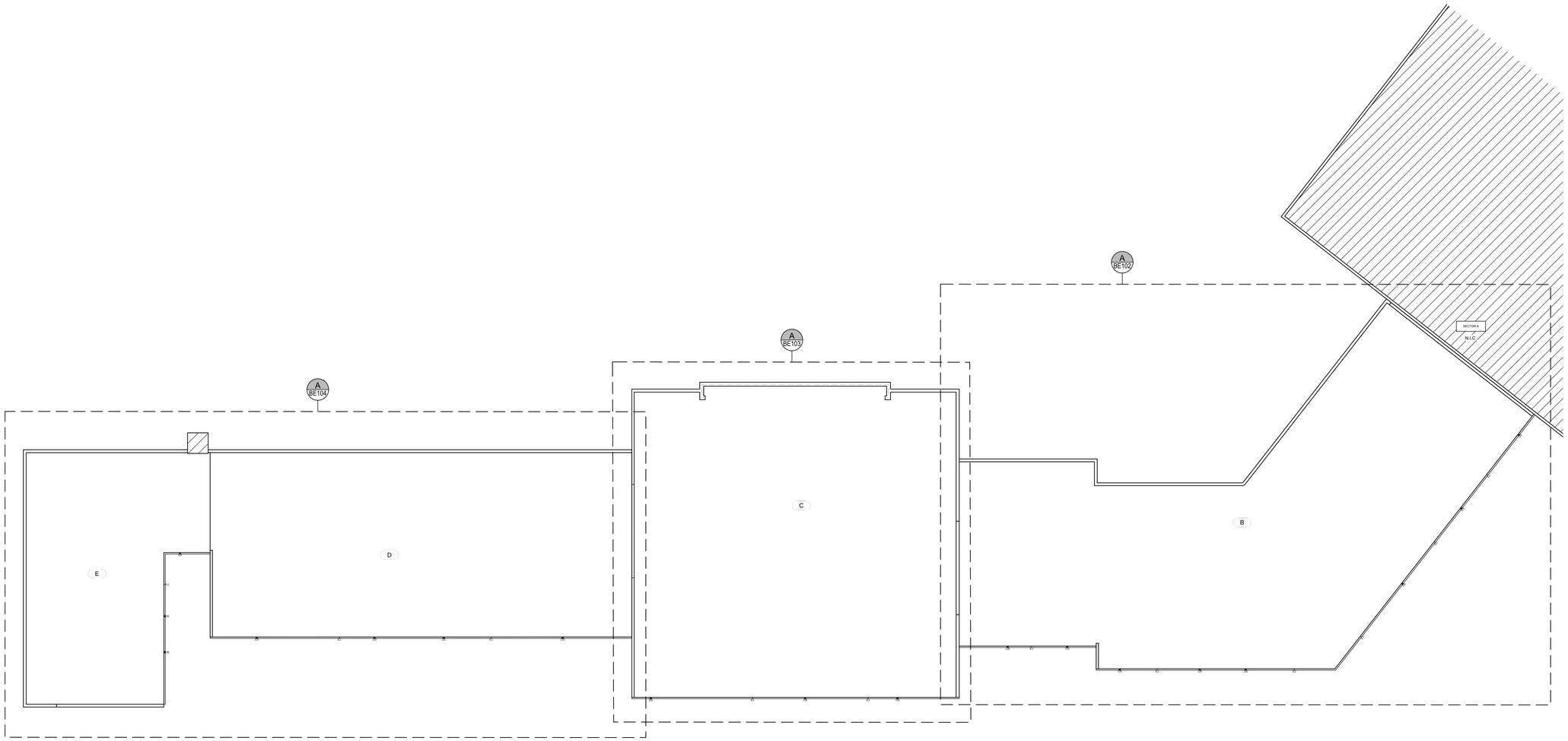
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Sheet Name
BUILDING CODE SUMMARY

Sheet Number
BE100



A ROOF PLAN

SCALE: 1"=20'

PLAN NORTH

1"=20' 20 0 20 40

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KEY

- ROOF EDGE
- PARAPET WALL
- WALL EXPANSION JOINT
- GUTTER EDGE
- STRUCTURAL SLOPE
- VALLEY LINE
- GAS LINE
- RISING WALL
- SOIL PIPE
- PIPE PENETRATION
- HOT STACK
- PITCH PAN
- SATELLITE BASE
- MECHANICAL CURB
- ABANDONED CURB
- MULTIPLE PIPE PENETRATION
- EXHAUST FAN
- EQUIPMENT SUPPORT CURB
- ROOF LADDER
- N.I.C. (NOT IN CONTRACT)
- NOTE NO.
- DETAIL INDICATOR (B / SHT)

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Robert E. Tomlinson IIBEC 0321 Registered Roof Consultant

PROJECT INFORMATION:

Durham BOE-Phase 2
Shops of Hope Valley Improvements

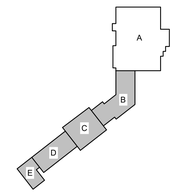
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3825 S. ROXBORO STREET
DURHAM, NC

KEY PLAN:

PHASE 2



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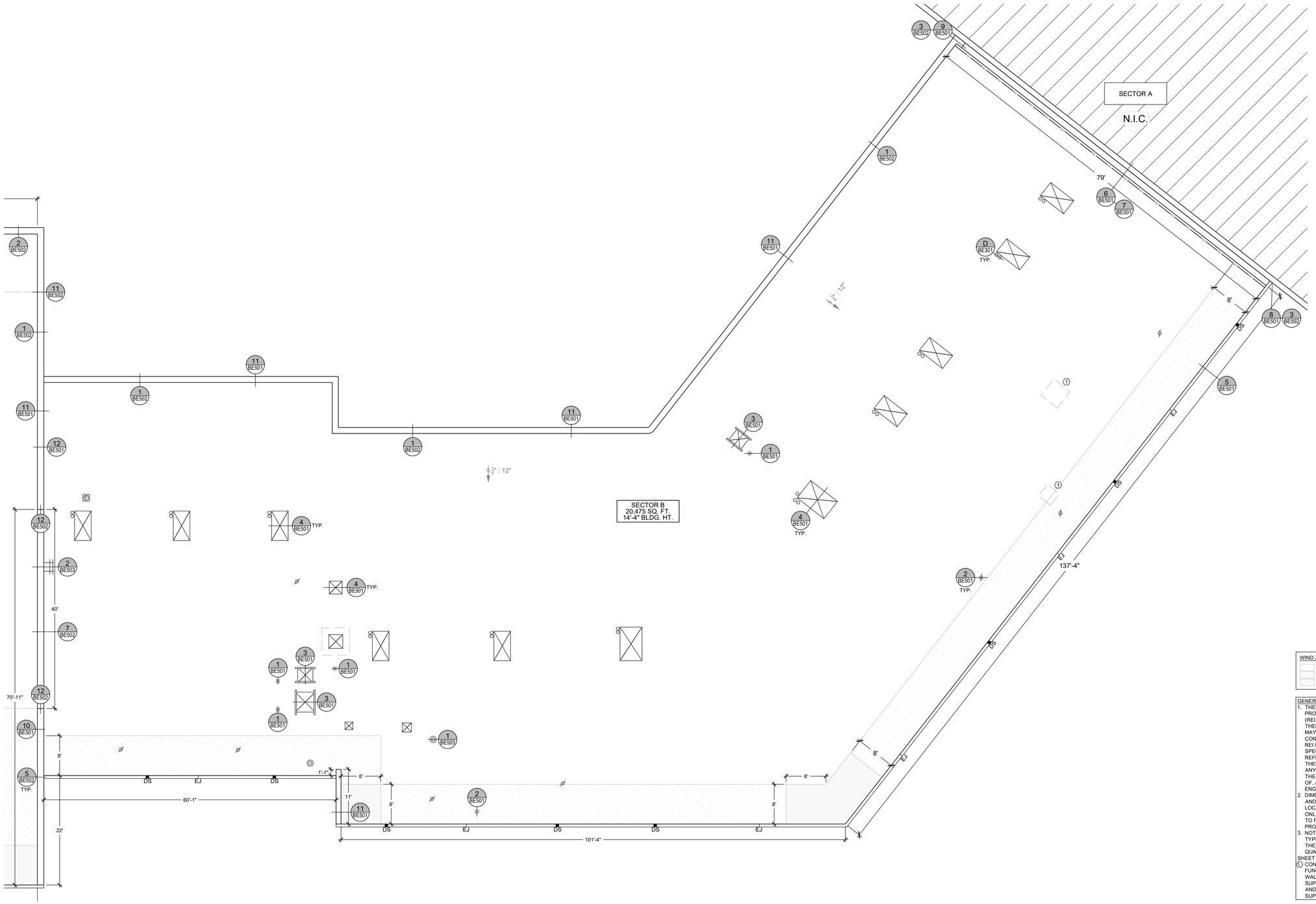
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DEMOLITION/ RENOVATION PLAN - ROOF BUILDING 2

Sheet Number

BE101

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A ROOF PLAN
SCALE: 1/8" = 1'-0"

WIND ZONES
- ZONE 1 (INTERIOR)
- ZONE 2 (PERIMETER)
- ZONE 3 (CORNER)

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KEY
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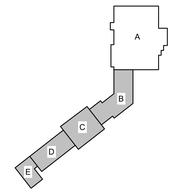
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Shops of Hope
Valley Improvements

Owner Project #23-009

2242
3825 S. ROXBORO STREET
DURHAM, NC

KEY PLAN:

PHASE 2



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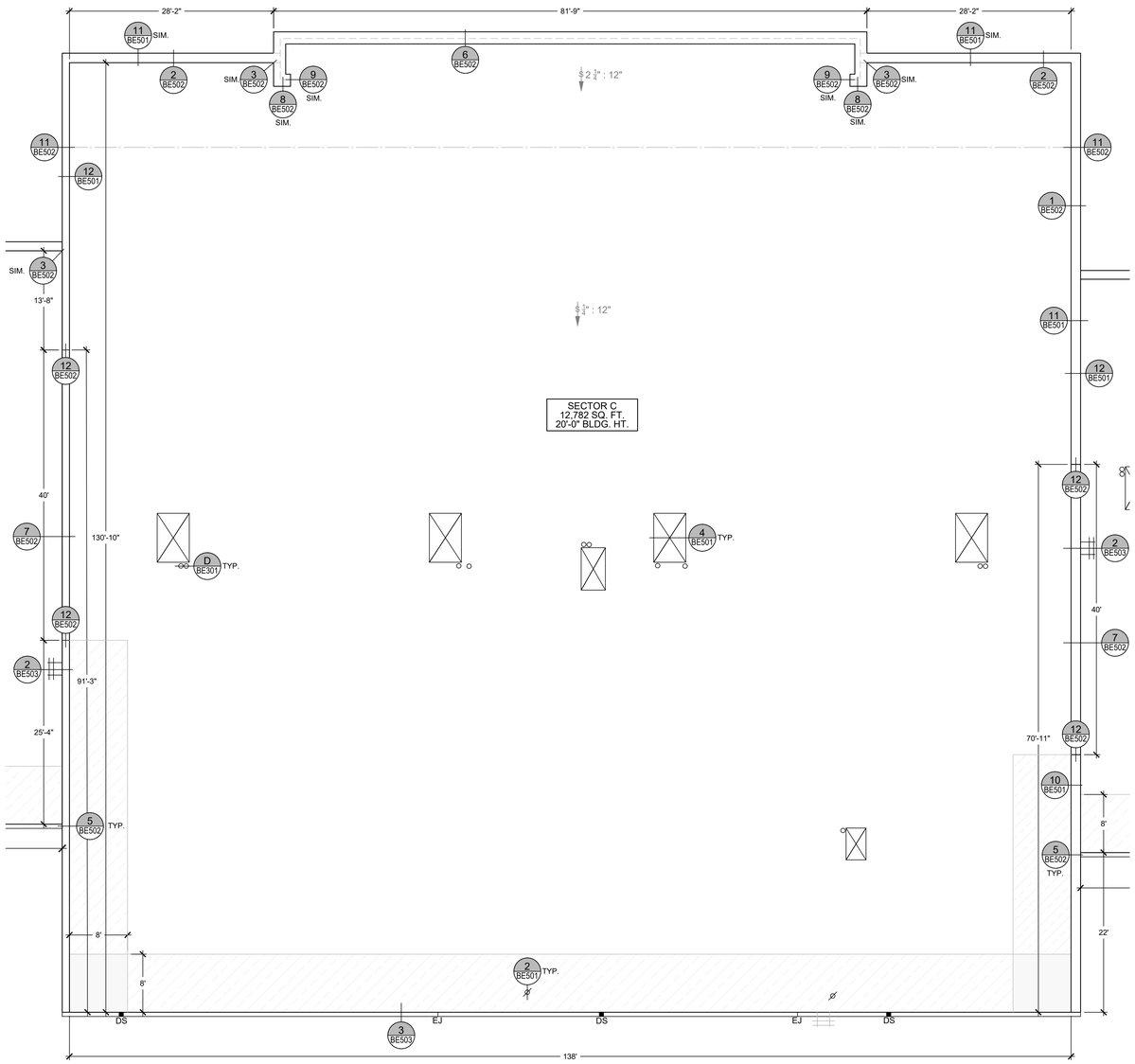
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DEMOLITION/ RENOVATION PLAN - ROOF BUILDING 2

Sheet Number

BE102

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A ROOF PLAN
SCALE: 1/8" = 1'-0"

PLAN NORTH

1/8" = 1'-0" 8 0 8 16

WIND ZONES

- ZONE 1 (INTERIOR)
- ZONE 2 (PERIMETER)
- ZONE 3 (CORNER)

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PROJECT INFORMATION:

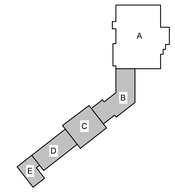
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DURHAM, NC

KEY PLAN:

PHASE 2



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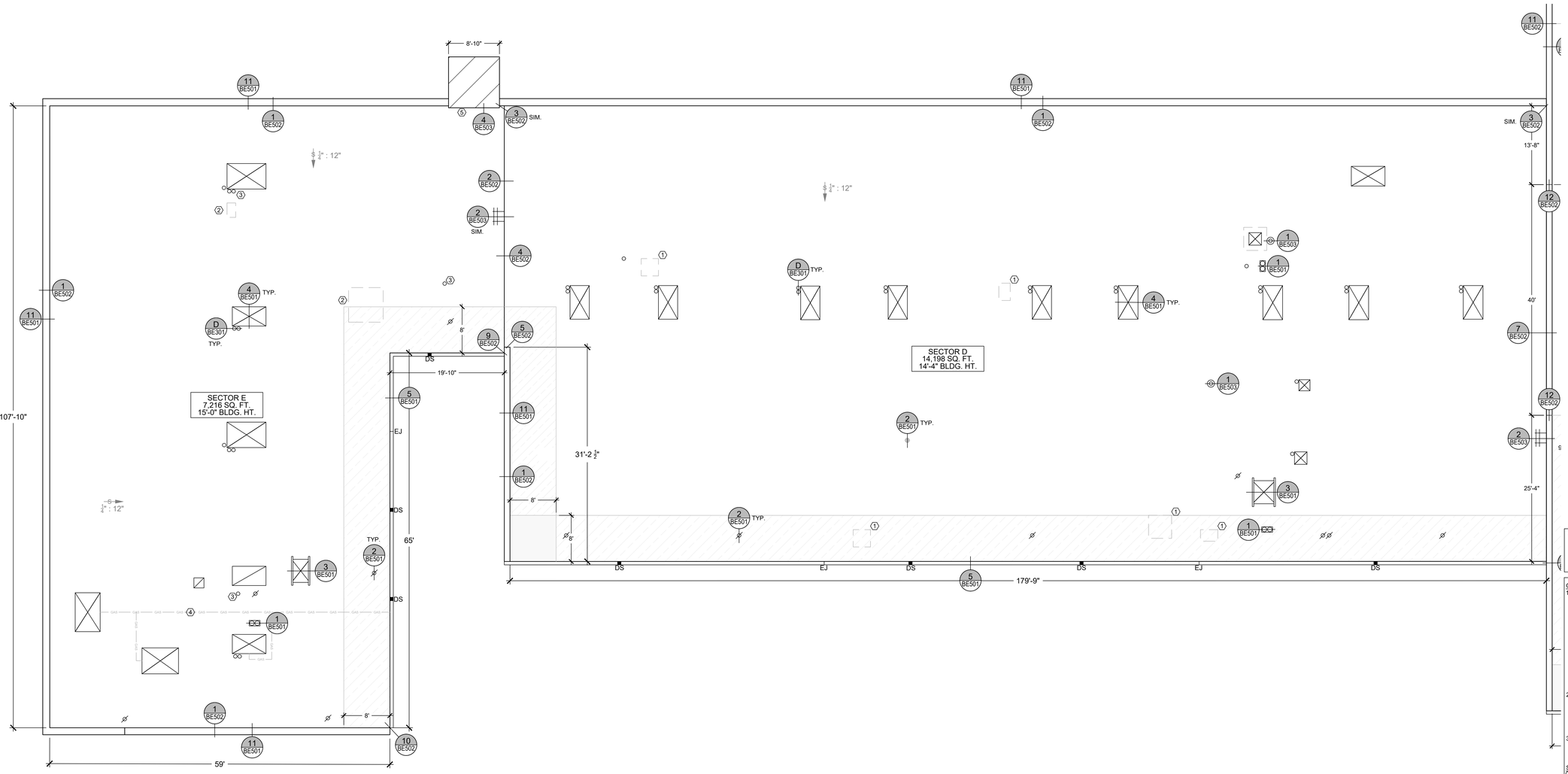
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DEMOLITION/ RENOVATION PLAN - ROOF BUILDING 2

Sheet Number

BE103

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A ROOF PLAN
SCALE: 1/8" = 1'-0"

PLAN NORTH

1/8" = 1'-0" 8 0 8 16

WIND ZONES
- ZONE 1 (INTERIOR)
- ZONE 2 (PERIMETER)
- ZONE 3 (CORNER)

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2. REMOVE AND DISPOSE OF ABANDONED SATELLITE DISH SUPPORT.
3. REMOVE ABANDONED PIPE/CONDUIT PENETRATION.
4. REMOVE ABANDONED GAS LINE.
5. INSTALL STAINLESS STEEL SPLASH PAN AT DOWNSPOUT OUTLET.

KEY
- ROOF EDGE
- PARAPET WALL
- WALL EXPANSION JOINT
- GUTTER EDGE
- STRUCTURAL SLOPE
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NORTH CAROLINA PROFESSIONAL SEAL 049789 ENGINEER STEPHEN INGRAM

Robert E. Tomlinson IIBEC 0321 Registered Roof Consultant

PROJECT INFORMATION:

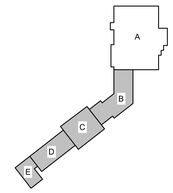
Durham BOE-Phase 2
Shops of Hope
Valley Improvements

Owner Project #23-009

2242
3825 S. ROXBORO STREET
DURHAM, NC

KEY PLAN:

PHASE 2



REVISIONS

No.	Date	Description

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SNK		03-27-25

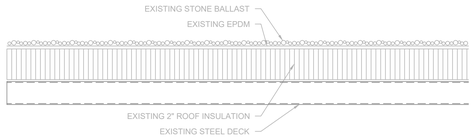
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DEMOLITION/ RENOVATION PLAN - ROOF BUILDING 2

Sheet Number

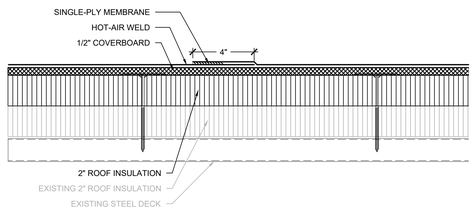
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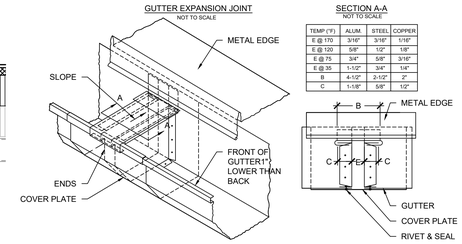
NOTES:
1. EXISTING ROOF SYSTEM COMPOSITION SHOWN IS BASED UPON RANDOM SAMPLING AT TEST CUT LOCATIONS.
2. CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY INFORMATION PROVIDED.
3. REMOVE COMPONENTS DOWN TO THE EXISTING DECK TO REMAIN.

A1 EXISTING ROOF SYSTEM
SCALE: 3" = 1'-0"

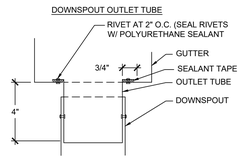


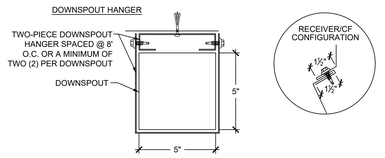
NOTES:
1. ROOF SYSTEM SHALL BE A TESTED ASSEMBLY IN ACCORDANCE WITH FM 4474, UL 580 OR UL 1897 TO RESIST THE WIND UPLIFT PRESSURES SPECIFIED IN SECTION 07 51 13 OF THE CONTRACT DOCUMENTS. PROVIDE SUBMITTAL INCLUDING DOCUMENTATION OF TESTED ASSEMBLY ALONG WITH ATTACHMENT REQUIREMENTS FOR THE ASSEMBLY.
2. ANY WHOLE OR PARTIAL INSULATION BOARD OR PORTION OF ANY BOARD WHICH FALLS IN THE PERIMETERS & CORNERS OUTLINED SHALL BE SUBJECT TO THE FASTENING REQUIREMENTS FOR THE HIGHEST WIND ZONE ENCOUNTERED, ACROSS THE ENTIRE BOARD.

B REPLACEMENT ROOF SYSTEM
SCALE: 3" = 1'-0"

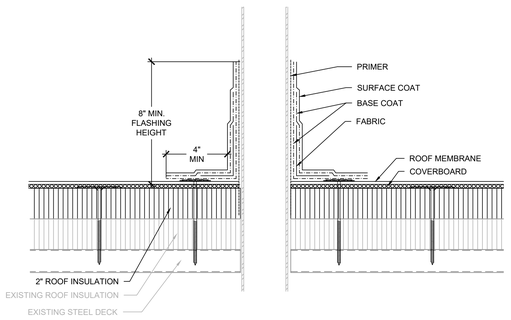


TEMP (°F)	ALUM.	STEEL	COPPER
E @ 170	3/16"	3/16"	1/16"
E @ 120	5/8"	1/2"	1/8"
E @ 75	3/4"	5/8"	3/16"
E @ 35	1-1/2"	3/4"	1/4"
B	4-1/2"	2-1/2"	2"
C	1-1/8"	5/8"	1/2"

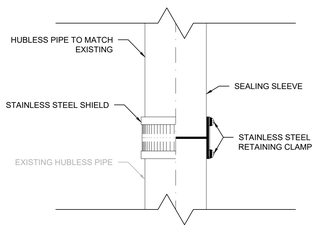


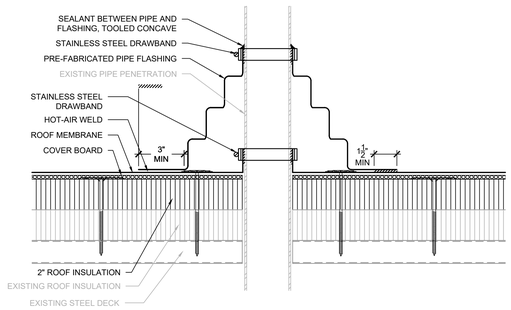


C GUTTER, DOWNSPOUT, AND METAL DETAILS
SCALE: 3" = 1'-0"

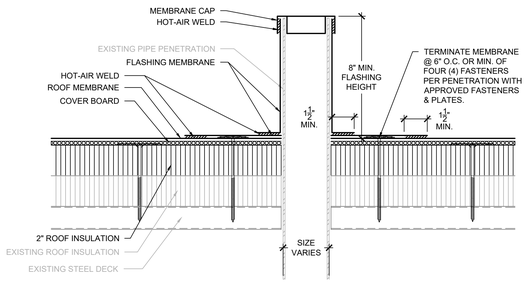


PIPE EXTENSION COUPLING





PRE-FABRICATED BOOT



FIELD WRAPPED PENETRATION

D PIPE PENETRATION
SCALE: 3" = 1'-0"

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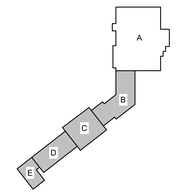
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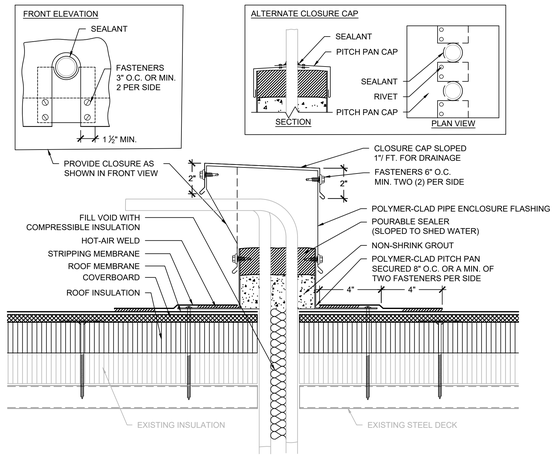
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Sheet Name

ROOF SYSTEMS

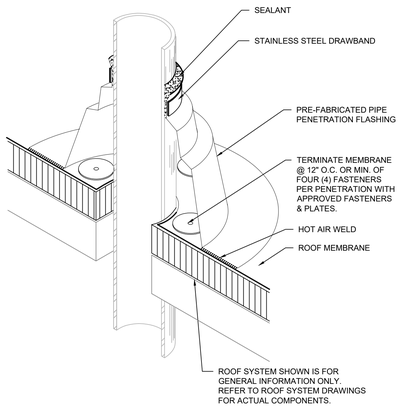
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BE301



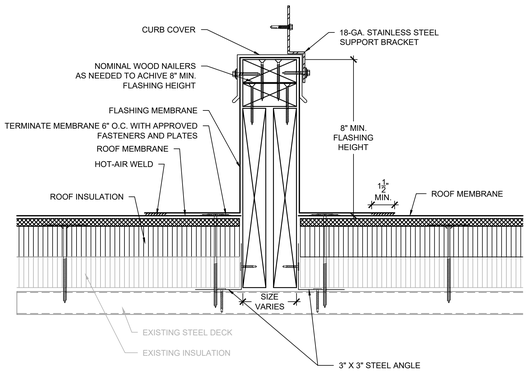
NOTES:
1. WHERE PIPES CAN BE SEPARATED WITH 2" MIN. CLEARANCE, PROVIDE FLUID APPLIED FLASHING IN LIEU OF MULTIPLE PIPE PENETRATION FLASHING. UTILIZE RIGID INSULATION B/W PIPES TO MAINTAIN SEPARATION.
2. WHERE PIPES ARE VERTICAL, PROVIDE ALTERNATE CLOSURE CAP.

1 MULTIPLE PIPE PENETRATION
SCALE: 3" = 1'-0"

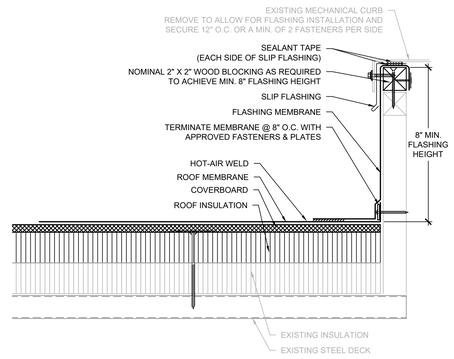


NOTE:
1. EXTEND PENETRATION TO PROVIDE MINIMUM 8" FLASHING HEIGHT.

2 PRE-FABRICATED PIPE PENETRATION
SCALE: 3" = 1'-0"

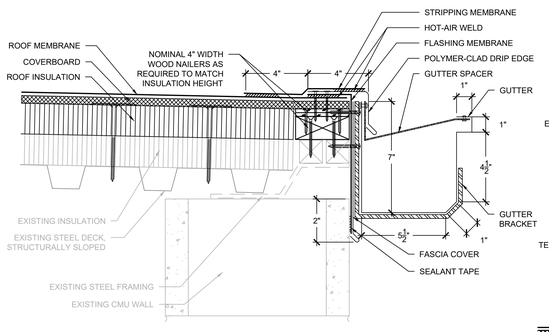


3 RAIL CURB
SCALE: 3" = 1'-0"



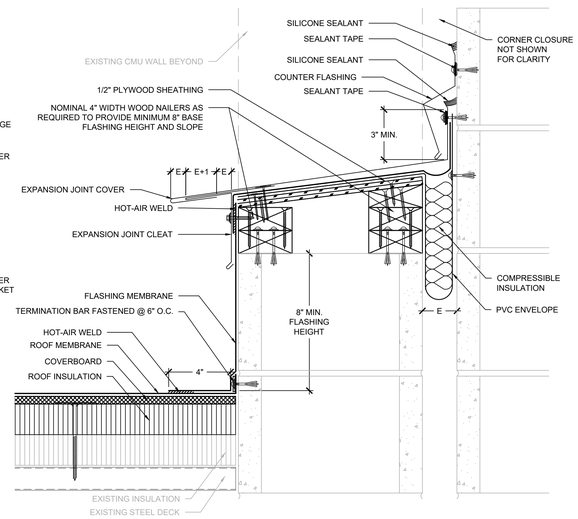
NOTES:
1. PROPERLY DISCONNECT UNIT TO RAISE AND ALLOW FLASHING INSTALLATION THEN PROPERLY REINSTALL AND CONNECT.
2. EXTEND CURB HEIGHT AND/OR PROVIDE WOOD NAILERS TO PROVIDE MINIMUM 8" FLASHING HEIGHT.

4 EQUIPMENT CURB
SCALE: 3" = 1'-0"

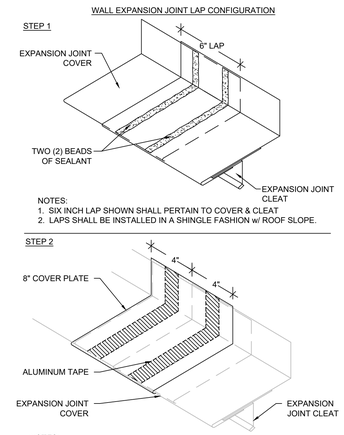


NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ROOF EDGE CONSTRUCTION AND COMPONENTS PRIOR TO SHEET METAL FABRICATION AND TO CONFIRM DETAIL AS SHOWN WILL PROVIDE POSITIVE DRAINAGE WITHOUT PONDING WATER. NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO INSTALLATION.

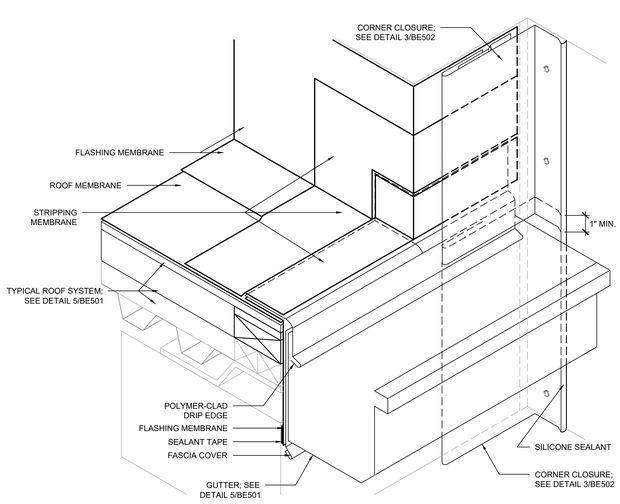
5 GUTTER EDGE
SCALE: 3" = 1'-0"



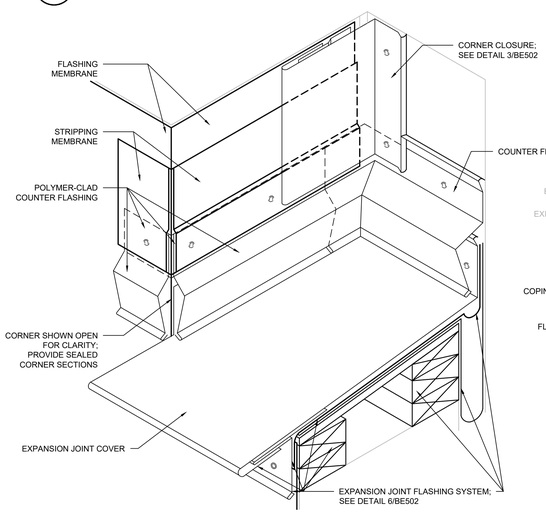
6 ROOF-TO-WALL EXPANSION JOINT COVER
SCALE: 3" = 1'-0"



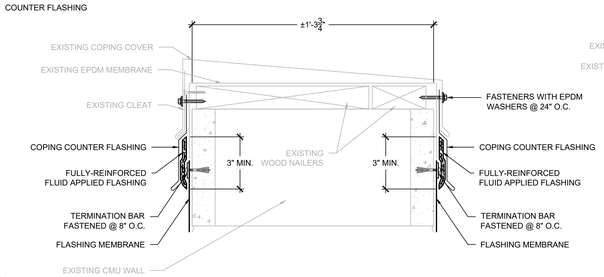
7 END JOINT SPLICE PLATE COVER
SCALE: N.T.S.



8 EXPANSION JOINT FLASHING AT GUTTER EDGE
SCALE: N.T.S.

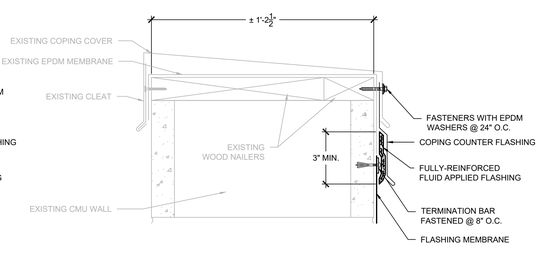


9 EXPANSION JOINT COVER AND CLOSURE AT CMU WALL
SCALE: 3" = 1'-0"



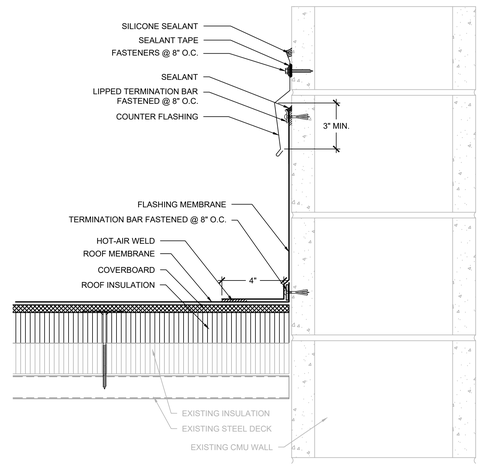
NOTES:
1. PROVIDE SEPARATE FASCIA COVER EXTENSION WHERE EDGE METAL DIMENSIONS EXCEED ALLOWABLE TESTED ASSEMBLY REQUIREMENTS.

10 COPING COVER COUNTER FLASHING AT CMU WALLS
SCALE: 3" = 1'-0"



NOTES:
1. PROVIDE SEPARATE FASCIA COVER EXTENSION WHERE EDGE METAL DIMENSIONS EXCEED ALLOWABLE TESTED ASSEMBLY REQUIREMENTS.

11 COPING COVER COUNTER FLASHING AT CMU WALLS
SCALE: 3" = 1'-0"



12 COUNTER FLASHING WITH BASE FLASHING AT CMU WALLS
SCALE: 3" = 1'-0"

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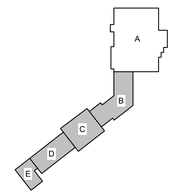
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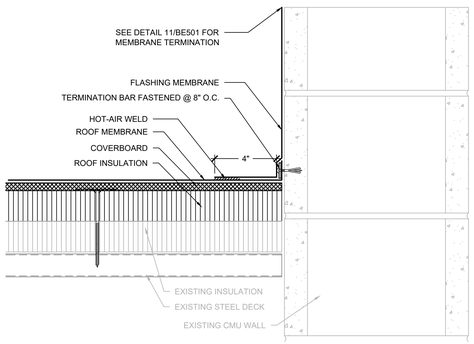
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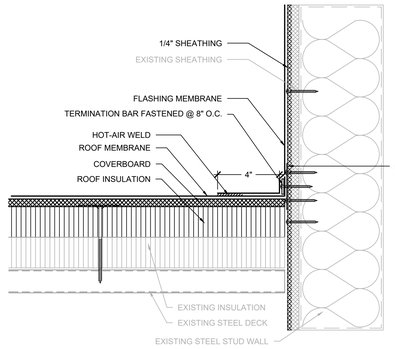
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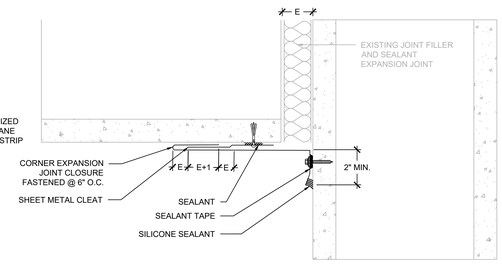
BE501



1 BASE FLASHING AT CMU WALL
SCALE: 3" = 1'-0"

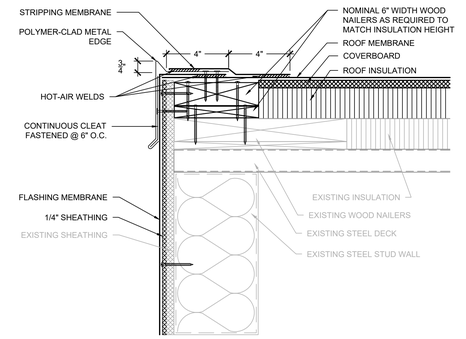


2 BASE FLASHING AT METAL STUD WALL
SCALE: 3" = 1'-0"

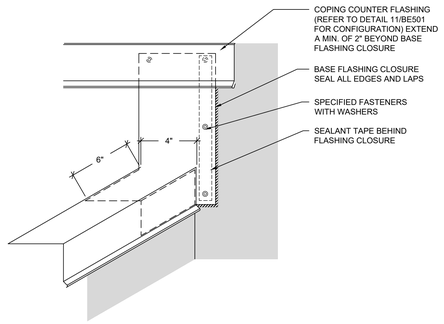


NOTES:
1. CLOSURE TO EXTEND FROM UNDER THE COPING COVER COUNTERFLASHING ABOVE TO OVER THE COUNTERFLASHING OVER THE VERTICAL FLANGE OF THE EXPANSION JOINT COVER BELOW.

3 CMU WALL EXPANSION JOINT COVER INSIDE CLOSURE
SCALE: 3" = 1'-0"

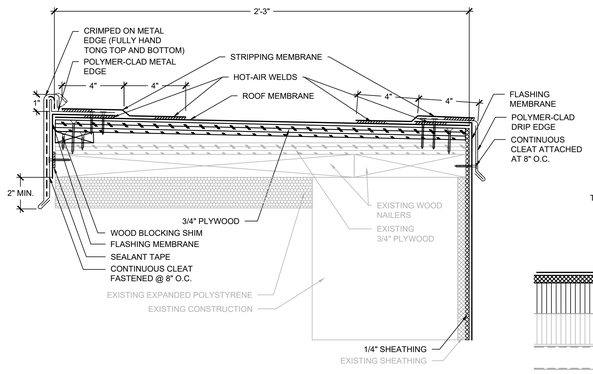


4 RAKE EDGE
SCALE: 3" = 1'-0"

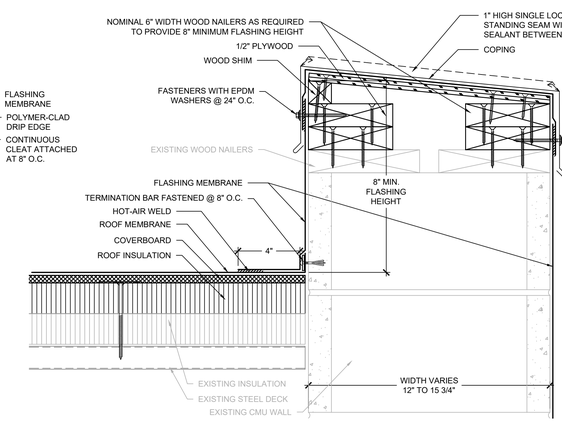


NOTES:
1. MEMBRANE AND FLASHING/STRIPPING MEMBRANE NOT SHOWN FOR CLARITY.
2. BASE FLASHING CLOSURE TO BE INSTALLED CONCURRENTLY WITH METAL EDGE AND STRIPPED INTO MEMBRANE WITH HOT-AIR WELDED STRIPPING PLY.

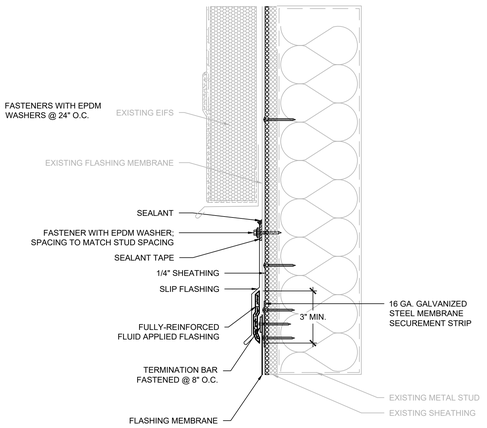
5 DRIP EDGE TO BASE FLASHING CLOSURE
SCALE: 3" = 1'-0"



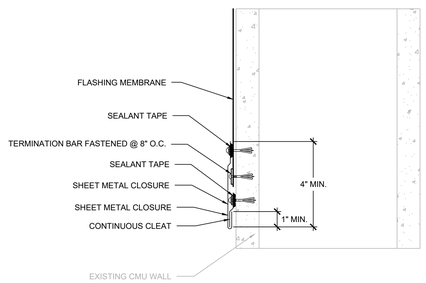
6 METAL EDGES AT EIFS AND SHEATHING PARAPET WALL
SCALE: 3" = 1'-0"



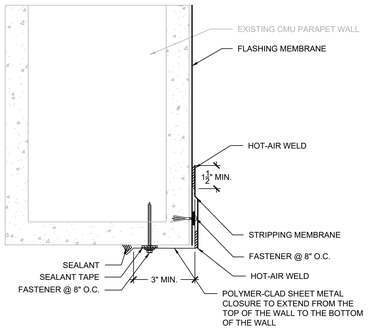
7 NEW COPING COVER
SCALE: 3" = 1'-0"



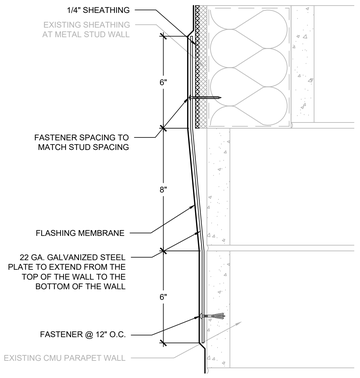
8 COUNTER FLASHING EXTENSION AT EIFS TO CMU WALL
SCALE: 3" = 1'-0"



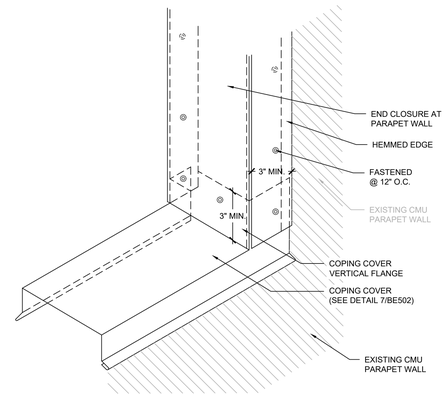
9 VERTICAL FLASHING TERMINATION AND CLOSURE
SCALE: 3" = 1'-0"



10 CMU PARAPET WALL OUTSIDE CORNER CLOSURE
SCALE: 3" = 1'-0"



11 METAL STUD WALL TO CMU WALL TRANSITION CLOSURE
SCALE: 3" = 1'-0"



NOTES:
1. EXTEND TOP END TO GO UNDER THE COPING FLASHING EXTENSIONS. SEE DETAIL 8/BE502.

12 SHEET METAL CLOSURE AT END OF PARAPET WALL
SCALE: N.T.S.

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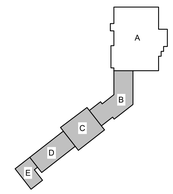
Durham BOE-Phase 2
Shops of Hope
Valley Improvements

Owner Project #23-009

2242
3825 S. ROXBORO STREET
DURHAM, NC

KEY PLAN:

PHASE 2



REVISIONS

No.	Date	Description

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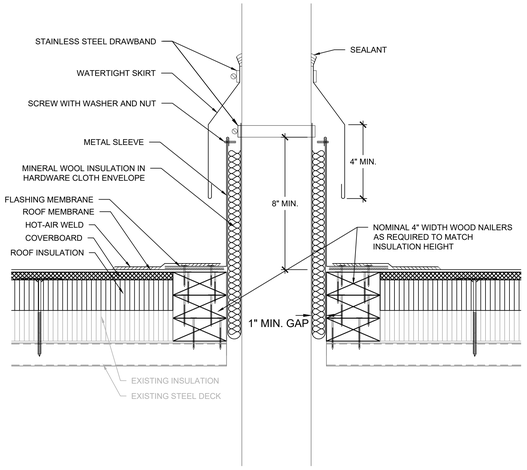
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DETAILS

Sheet Number

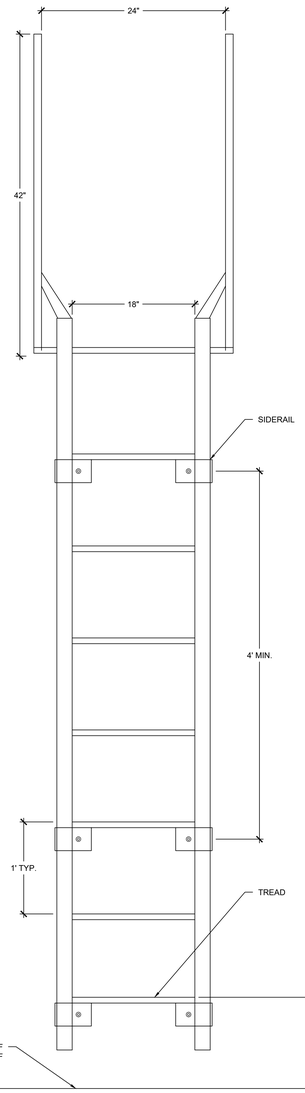
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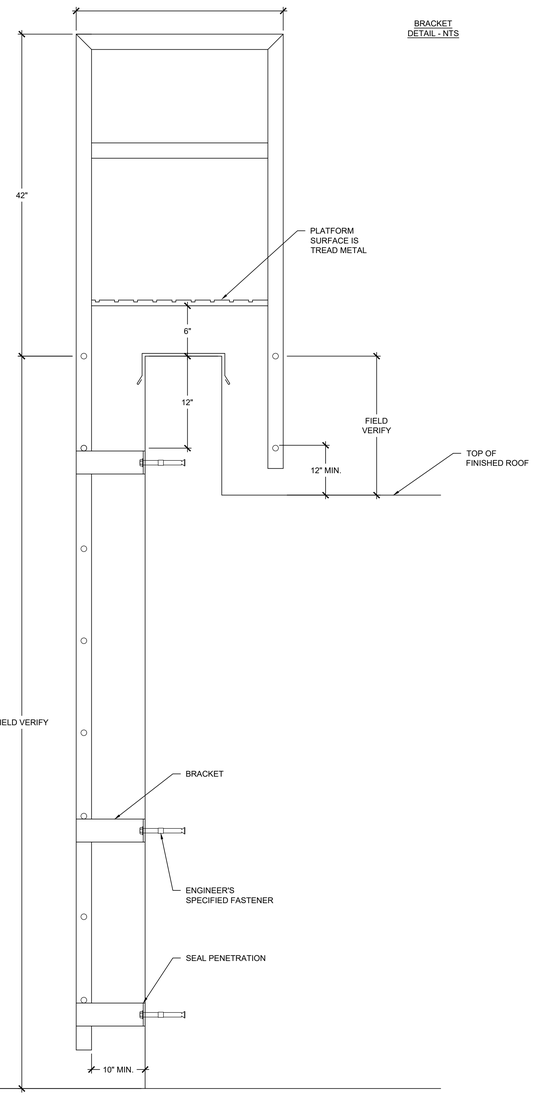


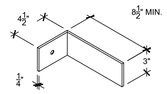
1 HOT STACK
SCALE: 3" = 1'-0"

ELEVATION - NTS



PROFILE AT PARAPET CONDITION - NTS

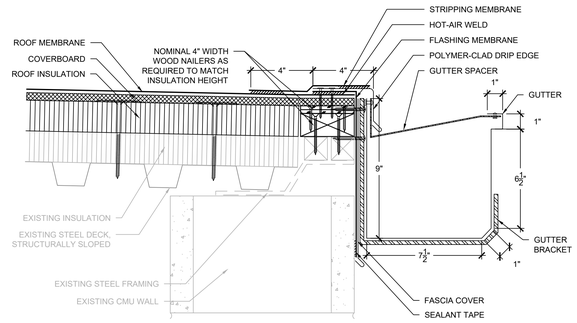




BRACKET DETAIL - NTS

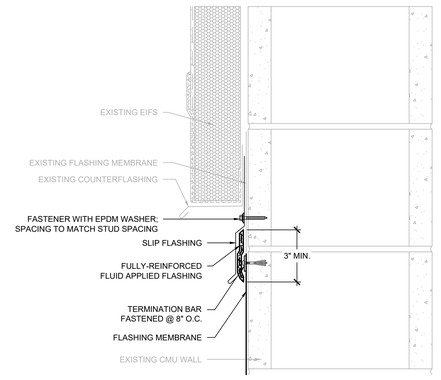
NOTES:
1. PROVIDE LADDERS TO MEET OSHA 1910 AND 1926.
2. ATTACH LADDERS IN ACCORDANCE WITH MANUFACTURER'S APPROVED INSTALLATION INSTRUCTIONS AND SHOP DRAWINGS.
3. CONTRACTOR TO FIELD VERIFY SUBSTRATE AND DIMENSIONS IN ORDER FOR MANUFACTURER TO DETERMINE APPROPRIATE FASTENING.

2 LADDER
SCALE: 1-1/2" = 1'-0"



NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ROOF EDGE CONSTRUCTION AND COMPONENTS PRIOR TO SHEET METAL FABRICATION AND TO CONFIRM DETAIL AS SHOWN WILL PROVIDE POSITIVE DRAINAGE WITHOUT PONDING WATER. NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO INSTALLATION.

3 GUTTER EDGE AT SECTOR C
SCALE: 3" = 1'-0"



4 SLIP FLASHING AT EIFS TO CMU WALL
SCALE: 3" = 1'-0"

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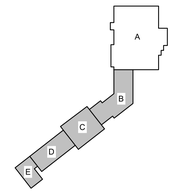
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OUTSIDE AIR COMPLIANCE SCHEDULE

SYSTEM	AREA SERVED	CURRENT OCCUPANT	OCCUPANCY TYPE	AREA (SQ. FT.)	REQUIRED OA (CFM/PERSON)	OCCUPANCY	REQUIRED OA (CFM/SQFT)	MINIMUM OUTSIDE AIR (CFM)	DESIGNED OUTSIDE AIR (CFM)
RTU-1	SUITE 115	CHIROPRACTOR	OFFICE SPACE	1523	5	8	.06	129	130
RTU-2	SUITE 116	BOOST MOBILE	SALES	1537	7.5	23	.12	300	305
RTU-3	SUITE 117	VAPE STORE	SALES	1535	7.5	23	.12	300	300
RTU-4	SUITE 118	INSURANCE	OFFICE SPACE	1539	5	8	.06	131	135
RTU-5	SUITE 119	DMV	OFFICE SPACE	2896	5	14	.06	246	250
RTU-6	SUITE 122	PROJECT BUILD	OFFICE SPACE	2349.5	5	23	.06	200	200
RTU-7	SUITE 122	PROJECT BUILD	OFFICE SPACE	2349.5	5	107	.06	200	200
RTU-8	SUITE 123	JAMAICAN RESTAURANT	DINING ROOM	1532	7.5	107	.18	677	680
RTU-9	SUITE 124	CHINA WOK	DINING ROOM	1529	7.5	9	.18	677	680
RTU-10	SUITE 125	VACANT	OFFICE SPACE	1707	5	33	.06	145	150
RTU-12	SUITE 129	CATO	SALES	2279.5	7.5	68	.12	445	450
RTU-13	SUITE 129	CATO	SALES	2279.5	7.5	113	.12	445	450
RTU-19	SUITE 134	SUBWAY	FAST FOOD	762	7.5	58	.18	423	425
RTU-20	SUITE 134	SUBWAY	FAST FOOD	762	7.5	8	.18	423	425
RTU-23	SUITE 137	VACANT	OFFICE SPACE	1532	5	152	.06	130	135
RTU-25	SUITE 139	NUTRITION STORE	SALES	1531	7.5	107	.12	299	300
RTU-27	SUITE 141	TAILOR	SALES	1448	7.5	8	.12	283	285
RTU-28	SUITE 146	BEAUTY SALON	SALES	1888	7.5	8	.12	363	365
RTU-29	SUITE 146	BEAUTY SALON	SALES	1888	7.5	38	.12	363	365
RTU-30	SUITE 146	BEAUTY SALON	SALES	1888	7.5	23	.12	363	365
RTU-31	SUITE 150	PIZZA	DINING ROOM	544	7.5	23	.18	241	245
RTU-32	SUITE 150	PIZZA	DINING ROOM	544	7.5	22	.18	241	245
RTU-33	SUITE 150	PIZZA	DINING ROOM	544	7.5	114	.18	241	245

NOTE:

1. OCCUPANCY TYPE, OCCUPANCY, CFM/PERSON, AND CFM/SQFT ARE BASED ON ASHRAE 62.1
2. CONTRACTOR TO PERFORM A RECORD OF AIRFLOW MEASUREMENTS FOR REVIEW BY MECHANICAL ENGINEER. ADJUSTMENTS TO BE MADE AS NECESSARY.

MECHANICAL ABBREVIATIONS

Ø	ROUND OR DIAMETER
AC/HR	AIR CHANGES PER HOUR
AFF	ABOVE FINISHED FLOOR
ALUM.	ALUMINUM
AMCA	AIR MOVEMENT AND CONTROL ASSOCIATION
ANSI	AMERICAN NATIONAL STANDARD ASSOCIATION
APPROX.	APPROXIMATE
ARCH.	ARCHITECTURAL
ASHRAE	AMERICAN SOCIETY HEATING, REFRIGERATING AND AIR CONDITIONING ENGINEERS
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
BOD	BOTTOM OF DUCT
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
CFM	CUBIC FEET PER MINUTE
CLG.	CEILING
CONT	CONTINUATION
CONST.	CONSTRUCTION
CONTR.	CONTRACTOR
COORD.	COORDINATE
DB	DRY BULB
DIA.	DIAMETER
DN.	DOWN
DWG.	DRAWING
EAT	ENTERING AIR TEMPERATURE
E.C.	ELECTRICAL CONTRACTOR
EF-1	EXHAUST FAN AND NUMBER
EFF	EFFICIENCY
EL	ELEVATION
EQUIP.	EQUIPMENT
E.S.P.	EXTERNAL STATIC PRESSURE
EXIST.	EXISTING
FPM	FEET PER MINUTE
GA	GUAGE
G.C.	GENERAL CONTRACTOR
HP	HORSEPOWER
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
I.D.	INSIDE DIAMETER
IN.	INCH
KW	KILOWATT
L.A.T.	LEAVING AIR TEMPERATURE
LB	POUNDS
LB/HR	POUNDS PER HOUR
MAX.	MAXIMUM
MBH	1,000 BTU PER HOUR
M.C.	MECHANICAL CONTRACTOR
MFR.	MANUFACTURER
MIN.	MINIMUM
MTD.	MOUNTED
N/A	NOT APPLICABLE
N.C.	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO.	NUMBER
N.O.	NORMALLY OPEN
NTS	NOT TO SCALE
O.A.	OUTSIDE AIR
OBD	OPPOSED BLADE DAMPER
O.D.	OUTSIDE DIAMETER
OPNG.	OPENING
P.C.	PLUMBING CONTRACTOR
PSI	POUNDS PER SQUARE INCH
QTY.	QUANTITY
R.A.	RETURN AIR
RH	RELATIVE HUMIDITY
REQ'D	REQUIRED
REV.	REVISION
RPM	REVOLUTIONS PER MINUTTE
RTU-1	ROOFTOP AIR CONDITIONING UNIT AND NUMBER
S.A.	SUPPLY AIR
SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
S.P.	STATIC PRESSURE
SPEC.	SPECIFICATION
SQ.	SQUARE
STD	STANDARD
TEMP.	TEMPERATURE
T'STAT	THERMOSTAT
TYP.	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VAV	VARIABLE AIR VOLUME
VEL	VELOCITY
VSD	VARIABLE SPEED DRIVE
W/	WITH
W/O	WITHOUT
W.B.	WET BULB

MECHANICAL HVAC LEGEND

- SUPPLY AIR DUCT SECTION
- RETURN AIR DUCT SECTION
- EXHAUST AIR DUCT SECTION
- 14x10 — SQUARE SHEETMETAL DUCTWORK (DIMENSIONS ARE IN INCHES)
- 14"Ø — ROUND SHEETMETAL DUCTWORK (DIMENSIONS ARE IN INCHES)
- INTERNAL DUCT LINING
- TRANSITION
- SQUARE-TO-ROUND TRANSITION
- D or R — CHANGE IN ELEVATION OF DUCTWORK - D=DROP, R=RISE
- DUCT TURNING UP
- DUCT TURNING DOWN
- SQUARE ELBOW WITH MULTIPLE TURNING VANES
- D, R — ROUND ELBOW (R = 1.5*D)
- SPIN-IN FITTING WITH SCOOP EXTRACTOR AND BALANCING DAMPER WITH LOCKING QUADRANT
- FLEXIBLE DUCT
- SUPPLY AIR DIFFUSER
- RETURN AIR GRILLE OR REGISTER
- EXHAUST AIR GRILLE OR REGISTER
- LINEAR SLOT DIFFUSER
- SUPPLY DIFFUSER (SIDEWALL OR DUCT MOUNTED)
- RETURN GRILLE OR REGISTER (SIDEWALL OR DUCT MOUNTED)
- DIFFUSER SYMBOL - LETTER=TYPE, NUMBER=CFM
- FD — FIRE DAMPER
- MD — MANUAL OPERATED DAMPER
- MOD — MOTOR OPERATED DAMPER
- S — DUCT MOUNTED SMOKE DETECTOR
- T — THERMOSTAT (INSTALL 48" AFF)
- H — HUMIDISTAT (INSTALL 48" AFF)
- 1 — KEYED NOTE NUMBER
- DEMOLITION SYMBOL
- CONNECT TO EXISTING
- X / Y — EQUIPMENT SYMBOL X= UNIT DESIGNATION Y= EQUIPMENT NUMBER

MECHANICAL DEMOLITION LEGEND

- EXISTING DUCTWORK TO BE DEMOLISHED
- NEW WORK
- EXISTING PIPE TO BE DEMOLISHED

Rooftop Unit Sequence of Operation:

GENERAL
1. ROOFTOP UNITS ARE OPERATED BY PROGRAMMABLE THERMOSTAT.
2. ROOFTOP UNITS SHALL OPERATE ACCORDING TO THEIR MICROPROCESSOR-BASED STAND-ALONE CONTROLS.

SEQUENCE
1. WHEN THE THERMOSTAT READS BELOW 65 DEG. F (ADJ.) +/- 2 DEG. F THE ROOFTOP UNIT SHALL RUN CONTINUOSLY IN HEATING MODE.
2. WHEN THE THERMOSTAT READS ABOVE 72 DEG. F (ADJ.) +/- 2 DEG. F THE ROOFTOP UNIT SHALL RUN CONTINUOSLY IN COOLING MODE.
3. SMOKE DETECTOR SHUTDOWN (WHERE EXISTING SMOKE DETECTORS ARE PRESENT).
   a. THE UNIT SHALL SHUT DOWN IN RESPONSE TO A SIGNAL FROM THE SMOKE DETECTOR INDICATING THE PRESENCE OF SMOKE. THE SMOKE DETECTOR SHALL BE INTERLOCKED TO THE UNIT THROUGH THE DRY CONTACTS OF THE SMOKE DETECTOR. A MANUAL RESET OF THE SMOKE DETECTOR SHALL BE REQUIRED TO RESTART THE UNIT.

MECHANICAL SHEET LIST

M001	MECHANICAL LEGENDS & NOTES
M002	MECHANICAL SPECIFICATIONS
M101	MECHANICAL SCHEDULES
M301	BUILDING 2 MECHANICAL ROOF PLANS
M302	BUILDING 3 MECHANICAL ROOF PLANS
M303	BUILDING 4 MECHANICAL ROOF PLANS
M304	BUILDING 5 MECHANICAL ROOF PLANS
M601	MECHANICAL DETAILS

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PROJECT INFORMATION:

DURHAM BOE - PHASE 2 SHOPPES OF HOPE VALLEY IMPROVEMENTS

Owner Project #23-009

2242

3825 S. ROXBORO STREET
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KEY PLAN:

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MECHANICAL LEGENDS & NOTES

Sheet Number

M001

4/2/2025 3:38:10 PM

GENERAL

1.1 SUMMARY

A. ALL WORK INDICATED ON DRAWINGS/SPECIFICATIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE CITY, COUNTY AND STATE BUILDING CODES. AND THE LOCAL AUTHORITY HAVING JURISDICTION. WORK SHALL ALSO BE IN ACCORDANCE WITH NFPA REQUIREMENTS. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE "OSHA" REGULATIONS.

B. OBTAIN ALL PERMITS REQUIRED, GIVE ALL LEGAL NOTICES, AN HAVE ALL WORK INSPECTED AS REQUIRED BY LOCATE OR STATE LAW. UPON COMPLETION OF WORK, PROVIDE A CERTIFICATE OF INSPECTION FROM THE LOCAL OR STATE AUTHORITIES HAVING JURISDICTION OVER THE WORK.

C. WORKMANSHIP-COMPETENT SKILLFUL WORKMEN SHALL DO ALL WORK IN A FINISHED, THOROUGHLY SUBSTANTIAL AND CRAFTSMAN LIKE MANNER. THIS IS INTENDED TO REFER PARTICULARLY TO SMALLER DETAILS NECESSARY BUT USUALLY NOT SPECIFIED OR INDICATED ON THE DRAWINGS.

D. ALL SUBSTANDARD WORK, INSTALLED BY THIS CONTRACTOR, SHALL BE REPLACED BY THIS CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER, IF THIS CONTRACT DAMAGES EXISTING WORK, HE SHALL PAY THE COST OF REPLACEMENT OF THE DAMAGED WORK AT NO ADDITIONAL EXPENSE TO THE OWNER. THE ENGINEER SHALL BE THE JUDGE OF WORKMANSHIP AND HIS OPINION SHALL BE FINAL.

E. SUPERVISION-CONSTANTLY SUPERVISE THE WORK FROM BEGINNING TO COMPLETION AND FINAL REVIEW.

F. PROGRESS OF WORK-DILIGENTLY PERFORM THE WORK AS RAPIDLY AS POSSIBLE WITH OUR COMPROMISING WORK QUALITY AND MINIMIZE DISCOMFORT OF THE BUILDING OCCUPANTS.

G. THESE PLANS ARE DIAGRAMMATIC AND SHOW THE GENERAL LOCATION OF DEVICES, EQUIPMENT, PIPE ROUTING, ETC. ALL WORK SHALL BE COORDINATED WITH ALL OTHER TRADES PRIOR TO INSTALLATION. CONTRACTOR SHALL COORDINATE INSTALLATION/ROUTING OF ALL WORK WITH EXISTING CONDITIONS AND OTHER TRADE'S WORK PRIOR TO ROUGH-IN. CONTRACTOR SHALL PROVIDE ALL NECESSARY ANCILLARY DEVICES REQUIRED FOR A COMPLETE AND COORDINATED INSTALLATION.

H. INTERFERENCE-PLANS ARE GENERALLY DIAGRAMMATIC. CONTRACTOR SHALL AVOID INTERFERENCE WITH CONDUITS, EQUIPMENT, ARCHITECTURAL AND STRUCTURAL WORK. NECESSARY OFFSETS IN DUCTWORK, ETC. REQUIRED TO PROPERLY INSTALL EQUIPMENT SO AS TO TAKE UP A MINIMUM SPACE SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR WITH NO ADDITIONAL EXPENSE TO THE OWNER.

I. ALL EXISTING INFORMATION SHOWN IS BASED ON NON-DESTRUCTIVE FIELD INVESTIGATION AND/OR EXISTING DRAWING INFORMATION. DURING THE COURSE OF CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE A/E OF ANY HIDDEN CONDITIONS FOUND THAT REQUIRE CORRECTIVE ACTION BEYOND THE CONTRACTOR'S SCOPE OF WORK. ALL FIELD CORRECTIONS SHALL BE REDLINED ON CONSTRUCTION DOCUMENTS AND THE AS-BUILTS SHALL BE TURNED OVER TO THE A/E UPON CONTRACT COMPLETION.

J. IF CONTRACTOR NOTICES THAT NECESSARY INFORMATION IS ABSENT ON DRAWINGS OR IN SPECIFICATIONS, SUCH THAT CONTRACTOR IS UNSURE OF MATERIALS, SIZING, OR ROUTING OF SYSTEMS, THEN IT IS IMPERATIVE THAT THE CONTRACTOR CONTACT THE ENGINEER DURING BID OR PRIOR TO ROUGH-IN TO REQUEST CLARIFICATION. IF CONTRACTOR PROCEEDS WITH INSTALLATION WITHOUT DIRECTION FROM THE ENGINEER, THEN CONTRACTOR ASSUMES ALL COST ASSOCIATED WITH HIS ACTIONS AND RESPONSIBILITY FOR THE FUNCTION OF SYSTEM.

K. COORDINATE PREPARATION AND PROCESSING OF SUBMITTALS WITH PERFORMANCE OF CONSTRUCTION ACTIVITIES. TRANSMIT SUBMITTALS SUFFICIENTLY IN ADVANCE OF PERFORMANCE OF RELATED CONSTRUCTION ACTIVITIES TO AVOID DELAYS. ALLOW SUFFICIENT REVIEW TIME SO THAT INSTALLATION WILL NOT BE DELAYED AS A RESULT OF THE TIME REQUIRED TO PROCESS SUBMITTALS, INCLUDING TIME FOR RESUBMITTAL. ALLOW TWO WEEKS FOR INITIAL REVIEW, AND TWO WEEKS FOR REPROCESSING OF RESUBMITTAL IF NECESSARY, NO EXTENSION OF CONTRACT TIME WILL BE AUTHORIZED BECAUSE OF FAILURE TO TRANSMIT THE SHOP DRAWINGS TO THE DESIGNER SUFFICIENTLY IN ADVANCE OF THE WORK TO PERMIT PROCESSING. ANY AND ALL DEVIATIONS FROM THE SPECIFICATIONS AND/OR DRAWINGS MUST BE NOTED IN RED HIGHLIGHTED ON EACH COPY OF THE SHOP DRAWINGS.

L. EQUIPMENT AND MATERIAL LOCATIONS-DETERMINE EXACT EQUIPMENT AND MATERIAL LOCATIONS TO PROVIDE BEST ARRANGEMENT AND TO FACILITATE PROPER MAINTENANCE AND SERVICING. COORDINATE CLOSELY WITH THE OWNER.

M. EQUIPMENT AND MATERIAL INSTALLATION-ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS, RECOMMENDATIONS AND REFERENCED STANDARDS.

N. IF ALTERNATE EQUIPMENT IS USED OTHER THAN WHAT IS SPECIFIED ON THE DRAWINGS, THE CONTRACTOR SHALL COORDINATE THE REQUIREMENTS OF THAT EQUIPMENT WITH ALL OTHER TRADES. THIS COORDINATION SHALL OCCUR PRIOR TO ROUGH-IN OF ANY TRADES EQUIPMENT. ALL REVISION WORK REQUIRED TO COORDINATE ANY EQUIPMENT SUBSTITUTIONS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.

O. ALL PIPE PENETRATIONS THROUGH FIRE-RATED WALLS OR FLOORS SHALL BE SEALED PER U.L. DETAILS SHOWN ON G-SERIES DRAWINGS. ALL PIPE PENETRATIONS THROUGH NON-RATED WALLS OR FLOORS SHALL BE SEALED WITH THE APPROPRIATE WALL/FLOOR MATERIALS PER THE ARCHITECTURAL SPECIFICATIONS. EXISTING AND NEW PIPING, DUCTWORK, ETC. PENETRATING.

P. WHERE THE WORD 'PROVIDE' IS USED, IT SHALL BE DEFINED TO MEAN THAT THE DEVICE/EQUIPMENT INDICATED SHALL BE 'FURNISHED AND INSTALLED' BY THE CONTRACTOR, UNLESS OTHERWISE NOTED.

Q. ALL MANUFACTURER'S MINIMUM WORKING CLEARANCE RECOMMENDATIONS SHALL BE MAINTAINED ON ALL EQUIPMENT.

R. THE CONTRACTOR SHALL SUBMIT TO THE ARCHITECT/ENGINEER A COMPLETE SET OF AS-BUILT PLANS INDICATING ALL CHANGES ENCOUNTERED DURING CONSTRUCTION.

S. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND SHALL NOTIFY LOCAL INSPECTION DEPARTMENTS AS WORK PROGRESSES.

T. L. M.C. SHALL INSTALL 1" PHENOLIC ID TAGS WITH LETTERING ON ALL NEW EQUIPMENT. ID TAGS ARE TO BE READABLE FROM NORMAL PERSONNEL AREAS.

U. LABELING-LABEL ALL EQUIPMENT, DAMPERS AND CONTROL DEVICES, VALVES, ACCESS DOORS, ETC. COORDINATE INSTALLATION OF IDENTIFYING DEVICES AFTER COMPLETION OF COVERING AND PAINTING WHERE DEVICES ARE APPLIED TO SURFACES. INSTALL IDENTIFYING DEVICES PRIOR TO INSTALLATION OF ACOUSTICAL CEILINGS AND SIMILAR CONCEALMENT. COMPLY WITH ASME A13.1 FOR LETTERING SIZE, LENGTH OF COLOR FIELD, COLORS, AND VIEWING OF ANGLES OF IDENTIFYING DEVICES.

V. EQUIPMENT AND DEVICE LABELING-LABELS SHALL BE ENGRAVED, LAMINATED IN PLASTIC TAGS, ATTACHED WITH ADHESIVE AND SELF TAPPING STAINLESS-STEEL SCREWS. ALL DAMPERS, CONTROL DEVICES, VALVES, ACCESS DOORS SHALL BE PROVIDED WITH 2-1/2 INCH BY 6 INCH LABELS. ALL EQUIPMENT SHALL BE PROVIDED WITH 4-1/2 INCH BY 6 INCH LABELS.

W. ALL NAMEPLATES AND OTHER ITEMS SHALL BE CONNECTED TO APPROPRIATE MOUNTING SURFACES SUCH THAT THEY SHALL NOT BE DETACHED DURING TRANSPORT OR OTHER OPERATING CONDITIONS. NO GLUE ON NAMEPLATES, ETC., ARE ALLOWED UNLESS APPROVED BY ENGINEER.

PRODUCT / EXECUTION

2.1 ROOFTOP UNIT

A. OUTDOOR, ROOFTOP MOUNTED, ELECTRICALLY CONTROLLED, HEATING AND COOLING UNIT UTILIZING A FULLY HERMATIC SCROLL COMPRESSOR FOR COOLING DUTY AND HEAT PUMP HEATING DUTY.

B. UNIT CABINET: GALVANIZED STEEL CONSTRUCTION, BONDERIZED AND COATED WITH A PREPAINTED BAKED ENAMEL FINISH ON ALL EXTERNALLY EXPOSED SURFACES.

C. BASE RAIL: MINIMUM 16 GAUGE THICK.

D. CONDENSATE PAN: SLOPED AND MADE OF A CORROSION RESISTANT MATERIAL.

E. COILS: ALUMINUM PLATE FINS, COPPER TUBE WITH BRAZED JOINTS.

F. COMPRESSOR: TANDEM SCROLL COMPRESSOR ASSEMBLY ON A SINGLE REFRIGERATION CIRCUIT WITH TWO STAGES OF COOLING FOR EFFICIENT COMFORT COOLING OPERATION.

G. FILTER: SEE SCHEDULE.

H. CONDENSER FAN: DIRECT DRIVEN PROPELLER TYPE FAN.

I. CONDENSER MOTOR: TOTALLY ENCLOSED, PERMANENTLY LUBRICATED BEARINGS, INHERENT THERMAL OVERLOAD PROTECTION WITH AN AUTOMATIC RESET FEATURE.

2.2 CONTROLS

A. EXISTING CONTROL WIRING IS TO BE REUSED.
B. NEW THERMOSTATS SHALL BE INSTALLED IN THE SAME LOCATION AS EXISTING THERMOSTATS.

TESTING

3.1 HVAC TESTING AND BALANCING:

A. MECHANICAL CONTRACTOR SHALL ENGAGE THE SERVICES OF A QUALIFIED TESTING & BALANCING AGENCY TO BALANCE AIR AND/OR WATER SYSTEMS PER EITHER NEBB OR AABC CRITERIA.

B. AIR BALANCE AGENCY SHALL BALANCE ALL FANS, AND OTHER EQUIPMENT TO FLOWS INDICATED ON DRAWINGS. AGENCY SHALL PROVIDE A FINAL AIR BALANCE REPORT TO MECHANICAL CONTRACTOR, ENGINEER, AND FIELD INSPECTOR AT COMPLETION OF PROJECT. PROJECT WILL NOT BE CONSIDERED COMPLETE UNTIL REPORT HAS BEEN SUBMITTED AND APPROVED.

3.2 TESTING, ADJUSTING AND BALANCING:

A. THE TESTING, ADJUSTING AND BALANCING OF THE AIR SYSTEM SHALL BE PERFORMED BY A CONTRACTOR CERTIFIED BY THE ASSOCIATED AIR BALANCE COUNCIL (AABC). THE SYSTEM SHALL BE BALANCED TO THE VALUES NOTED. IF THE SYSTEM CAN NOT BE BALANCED TO WITHIN THE REQUIREMENTS, THE CONTRACTOR SHALL INVESTIGATE THE SYSTEM IN QUESTION, DETERMINE THE CAUSE, AND PROVIDE A COMPLETE WRITTEN REPORT DESCRIBING THE PROBLEM, THE CAUSE AND INSTRUCTION ON HOW TO CORRECT THE SYSTEM TO OBTAIN THE AIR VALUES REQUIRED. ONCE CORRECTIVE MEASURES HAVE BEEN COMPLETED BY THE CONTRACTOR, THE SYSTEM SHALL BE BALANCED TO THE REQUIREMENTS OF THE SPECIFICATIONS.

B. A CERTIFIED BALANCE REPORT (SEALED BY AN ENGINEER) SHALL BE PROVIDED TO THE ARCHITECT/ENGINEER FOR REVIEW AND APPROVAL. REPORTS SHALL BE ON AABC "NATIONAL STANDARDS FOR TOTAL SYSTEM BALANCE" FORMS OR FORMS PREPARED FOLLOWING ASHRAE 111.

C. TEST, ADJUST, AND BALANCE THE FOLLOWING MECHANICAL EQUIPMENT: NEW ROOFTOP UNITS.

D. VERIFY TEMPERATURE CONTROL SYSTEM OPERATION.

E. REPORTS: SUBMIT TESTING, ADJUSTING AND BALANCING REPORT WHICH SHALL BE PROOF THAT THE SYSTEMS HAVE BEEN TESTED, ADJUSTED AND BALANCED IN ACCORDANCE WITH THE REFERENCED STANDARDS; ARE AN ACCURATE REPRESENTATION OF HOW THE SYSTEMS HAVE BEEN INSTALLED; ARE A TRUE REPRESENTATION OF HOW THE SYSTEMS ARE OPERATING AT THE COMPLETION OF THE TESTING, ADJUSTING AND BALANCING PROCEDURES; AND ARE AN ACCURATE RECORD OF ALL FINAL QUANTITIES MEASURED, TO ESTABLISH NORMAL OPERATING VALUES OF THE SYSTEMS. FOLLOW THE PROCEDURES AND FORMAT SPECIFIED BELOW:

F. CALIBRATION REPORTS: SUBMIT PROOF THAT ALL REQUIRED INSTRUMENTATION HAS BEEN CALIBRATED TO TOLERANCES SPECIFIED IN THE REFERENCED STANDARDS, WITHIN A PERIOD OF SIX MONTHS PRIOR TO STARTING THE PROJECT.

G. PERFORM TESTING AND BALANCING PROCEDURES, IN ACCORDANCE WITH THE DETAILED PROCEDURES OUTLINED BY AABC OR NEBB, AND AS DESCRIBED BELOW.

H. CUT INSULATION, AND DUCTWORK FOR INSTALLATION OF TEST PROBES TO THE MINIMUM EXTENT NECESSARY TO ALLOW ADEQUATE PERFORMANCE OF PROCEDURES.

I. PATCH INSULATION, DUCTWORK AND HOUSING, USING MATERIALS IDENTICAL TO THOSE REMOVED.

3.3 RECORD (AS-BUILT) DRAWINGS:

A. UPON COMPLETION OF WORK AND VERIFICATION OF COMPILED PUNCH LIST ITEMS, PROVIDE A COMPLETE SET OF AS-BUILT DRAWINGS TO THE ARCHITECT/ENGINEER. AS-BUILT DRAWINGS SHALL INCLUDE ALL DRAWINGS FOR THE PROJECT WITH ANY AND ALL DEVIATIONS INDICATED IN RED. INCLUDE ALL CONTRACTOR MODIFICATIONS AND UPDATE EQUIPMENT AND MATERIAL SCHEDULES.

B. KEEP ONE SET OF "RED LINED" RECORD DRAWINGS ON SITE AT ALL TIMES. FORWARD ON PROGRESS COPY TO THE DESIGNER FOR REVIEW PRIOR TO THE FINAL INSPECTION.

3.4 PLACING IN SERVICE, TESTS, INSTRUCTIONS AND MAINTENANCE:

A. MAKE ALL NECESSARY TESTS, TRIAL OPERATIONS, ETC. REQUIRED AND DIRECTED BY THE DESIGNER TO PROVE THAT ALL SYSTEMS ARE IN COMPLETE SERVICEABLE CONDITION AN WILL FUNCTION AS INTENDED. PROVIDE ALL NECESSARY ASSISTANCE AS DIRECTED BY THE OWNER OR THE DESIGNER WHICH MAY BE REQUIRED TO PROPERLY INSTRUCT THE OWNER IN THE OPERATION OF ALL EQUIPMENT.

B. PROVIDE ALL NECESSARY ASSISTANCE AS DIRECTED BY THE OWNER OR THE DESIGNER WHITCH MAY BE REQUIRED TO PROPERLY INSTRUCT THE OWNER IN THE OPERATION OF ALL EQUIPMENT.

3.5 OPERATION AND MAINTENANCE MANUAL S (O&M MANUALS):

A. UPON COMPLETION OF WORK AND VERIFICATIONS OF COMPILED PUNCH LIST ITEMS, PROVIDE FOUR (4) COMPLETE SETS OF OPERATION AND MAINTENANCE MANUALS TO THE ARCHITECT/ENGINEER. OPERATION AND MAINTENANCE MANUALS SHALL BE PROVIDE FOR ALL ITEMS REQUIRING SHOP DRAWING SUBMITTAL. COMBINE ALL MAINTENANCE MANUAL SUBMITTALS INTO ONE HEAVY DUTY, INDUSTRIAL STRENGTH, THREE RING BINDER . PROVIDE A TABLE OF CONTENTS AND DIVIDE EACH SUBMITTAL IN ACCORDANCE WITH IT'S RELATED SPECIFICATION SECTION. SUBMIT MAINTENANCE MANUAL BINDER FOR ENGINEERS REVIEW AFTER ALL INFORMATION HAS BEEN INCLUDED. INCOMPLETE MAINTENANCE MANUALS SHALL BE RETURNED TO THE CON

3.6 WARRANTY:

A. CORRECT ANY DEFECTS IN WORKMANSHIP AND/OR MATERIAL WHICH OCCUR DURING THE FIRST YEAR OF OPERATION. WARRANTY CERTIFICATE FOR EQUIPMENT WILL COMMENCE UPON DATE OF ACCEPTANCE OF WORK BY THE OWNER. SUBMIT WRITTEN CERTIFICATE WITH MAINTENANCE DATA.

3.7 UNDERWRITER'S LABORATORIES APPROVAL:

A. ALL ELECTRICAL EQUIPMENT FURNISHED HALL BE UL APPROVED AND SHALL BE LABELED OR LISTED BY UL NO EQUIPMENT SHALL BE APPROVED WHICH FAILS TO MEET THESE CONDITIONS NO EQUIPMENT SHALL BE APPROVED WHICH FAILS TO MEET THESE CONDITIONALS.

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Professional Seals

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 055306 03/27/25 ENGINEER PATRICIA A DANAHY

ENGINEERED DESIGNS PLLC CORPORATE SEAL No. P-3001 NORTH CAROLINA

PROJECT INFORMATION:

DURHAM BOE - PHASE 2

SHOPPES OF HOPE VALLEY IMPROVEMENTS

Owner Project #23-009

2242

3825 S. ROXBORO STREET
DURHAM, NC

KEY PLAN:

PHASE 2

REVISIONS

No. Date Description

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Sheet Name

MECHANICAL SPECIFICATIONS

Sheet Number

M002

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PACKAGED ROOFTOP HEAT PUMP SCHEDULE

MARK	LOCATION / SERVES	MANUFACTURER	MODEL	NOM. TONS	FAN DATA						HEATING DATA					COMPRESSOR DATA			COOLING DATA						ELECTRICAL DATA				WEIGHT (LBS)	REMARKS
					CFM	MIN. OA	EXT. S.P. IN. H20	HP	QUANTITY	FLA COLUMNS	kW	TOTAL CAPACITY	STAGES	ENTERING AIR (°F DB)	LEAVING AIR (°F DB)	QUANTITY	RLA	LRA	TOTAL MBH	SENS MBH	REFRIG.	SEER	EER	ENTERING AIR (°F DB/WB)	LEAVING AIR (°F DB/WB)	VOLTAGE	PHASE	MCA	MOCP		
RTU-1	SUITE 115	CARRIER	50FEQM05A2M5-8U6C0	4	1600	130	0.75	0.72	1	1.5	3.64	3.3	1	70	96.7	1	14.4	120	50.01	38.85	R-454B	13.4	-	80/67	57.5/57.1	208	3	39	50	633	1, 2, 3, 4, 5
RTU-2	SUITE 116	CARRIER	50FEQM05A2M5-8U6C0	4	1600	360	0.75	0.72	1	1.5	3.64	3.3	1	70	96.7	1	14.4	120	50.01	38.85	R-454B	13.4	-	80/67	57.5/57.1	208	3	39	50	633	1, 2, 3, 4, 5
RTU-3	SUITE 117	CARRIER	50FEQM05A2M5-8U6C0	4	1600	360	0.75	0.72	1	1.5	3.64	3.3	1	70	96.7	1	14.4	120	50.01	38.85	R-454B	13.4	-	80/67	57.5/57.1	208	3	39	50	633	1, 2, 3, 4, 5
RTU-4	SUITE 118	CARRIER	50FEQM05A2M5-8U6C0	4	1600	135	0.75	0.72	1	1.5	3.64	3.3	1	70	96.7	1	14.4	120	50.01	38.85	R-454B	13.4	-	80/67	57.5/57.1	208	3	39	50	633	1, 2, 3, 4, 5
RTU-5	SUITE 119	CARRIER	50FEQM08A2M5-8U6C0	7.5	3000	250	0.75	1.12	1	1.5	-	7.4	-	70	96.1	2	12.2	120	94	71.86	R-454B	-	11.2	80/67	57.8/57.1	208	3	37	45	1022	1, 2, 3, 4, 5
RTU-6	SUITE 122	CARRIER	50FEQM08A2M5-8U6C0	7.5	3000	200	0.75	1.12	1	1.5	-	7.4	-	70	96.1	2	12.2	120	94	71.86	R-454B	-	11.2	80/67	57.8/57.1	208	3	37	45	1022	1, 2, 3, 4, 5
RTU-7	SUITE 122	CARRIER	50FEQM06A2M5-8U6C0	5	2000	200	0.75	0.98	1	1.5	4.3	4.9	1	70	96.3	1	18.9	156	63.36	49.49	R-454B	13.4	-	80/67	57.1/57	208	3	52	62	754	1, 2, 3, 4, 5
RTU-8	SUITE 123	CARRIER	50FEQM05A2M5-8U6C0	4	1600	1085	0.75	0.72	1	1.5	3.64	3.3	1	70	96.7	1	14.4	120	50.01	38.85	R-454B	13.4	-	80/67	57.5/57.1	208	3	39	50	633	1, 2, 3, 4, 5
RTU-9	SUITE 124	CARRIER	50FEQM06A2M5-8U6C0	5	2000	1080	0.75	0.98	1	1.5	4.3	4.9	1	70	96.3	1	18.9	156	63.36	49.49	R-454B	13.4	-	80/67	57.1/57	208	3	52	62	754	1, 2, 3, 4, 5
RTU-10	SUITE 125	CARRIER	50FEQM05A2M5-8U6C0	4	1600	150	0.75	0.72	1	1.5	3.64	3.3	1	70	96.7	1	14.4	120	50.01	38.85	R-454B	13.4	-	80/67	57.5/57.1	208	3	39	50	633	1, 2, 3, 4, 5
[E] RTU-11	SUITE 126	CARRIER	50FEQM05A2M5-8U6C0	4	EXISTING TO REMAIN																									7
RTU-12	SUITE 129	CARRIER	50FEQM12A2M5-8U6C0	10	4000	530	0.8	2.01	1	7.4	-	9.4	-	70	96.4	2	18.6	155	128	97	R-454B	-	11	80/67	57.6/56.9	208	3	56	70	1172	1, 2, 3, 4, 5
RTU-13	SUITE 129	CARRIER	50FEQM04A2M5-8U6C0	3	1200	530	0.75	0.46	1	1.5									37.12	28.04	R-454B	13.4	-			208	3	34	40	636	1, 2, 3, 4, 5, 6
[E] RTU-14	SUITE 130	CARRIER	50FCQM12A2M5A0A1A0	10	EXISTING TO REMAIN																									7
[E] RTU-15	SUITE 130	CARRIER	50GCM04A2M5AOA1A0	3	EXISTING TO REMAIN																									7
[E] RTU-16	SUITE 130	CARRIER	50FCQM12A2M5A0A1A0	10	EXISTING TO REMAIN																									7
[E] RTU-17	SUITE 131	CARRIER	50TCQD12A2A5A0A0G0	10	EXISTING TO REMAIN																									7
[E] RTU-18	SUITE 133	DAIKIN	DSH048XXX3BXXX	4	EXISTING TO REMAIN																									7
RTU-19	SUITE 134	CARRIER	50FEQM05A2M5-8U6C0	4	1600	710	0.75	0.72	1	1.5	3.64	3.3	1	70	96.7	1	14.4	120	50.01	38.85	R-454B	13.4	-	80/67	57.5/57.1	208	3	39	50	633	1, 2, 3, 4, 5, 6
RTU-20	SUITE 134	CARRIER	50FEQM05A2M5-8U6C0	4	1600	710	0.75	0.72	1	1.5	3.64	3.3	1	70	96.7	1	14.4	120	50.01	38.85	R-454B	13.4	-	80/67	57.5/57.1	208	3	39	50	633	1, 2, 3, 4, 5
[E] RTU-21	SUITE 135	CARRIER	50KCQA06A2A5A0A0A0	5	EXISTING TO REMAIN																									7
[E] RTU-22	SUITE 136	CARRIER	50KCQA05A2A5A0A0A0	4	EXISTING TO REMAIN																									7
RTU-23	SUITE 137	CARRIER	50FEQM05A2M5-8U6C0	4	1600	135	0.75	0.72	1	1.5	3.64	3.3	1	70	96.7	1	14.4	120	50.01	38.85	R-454B	13.4	-	80/67	57.5/57.1	208	3	39	50	633	1, 2, 3, 4, 5
[E] RTU-24	SUITE 138	YORK	XP048C00A2AAA4A	4	EXISTING TO REMAIN																									7
RTU-25	SUITE 139	CARRIER	50FEQM05A2M5-8U6C0	4	1600	360	0.75	0.72	1	1.5	3.64	3.3	1	70	96.7	1	14.4	120	50.01	38.85	R-454B	13.4	-	80/67	57.5/57.1	208	3	39	50	633	1, 2, 3, 4, 5
[E] RTU-26	SUITE 140	CARRIER	50KCQA05A2A5A0A0A0	4	EXISTING TO REMAIN																									7
RTU-27	SUITE 141	CARRIER	50FEQM05A2M5-8U6C0	4	1600	340	0.75	0.72	1	1.5	3.64	3.3	1	70	96.7	1	14.4	120	50.01	38.85	R-454B	13.4	-	80/67	57.5/57.1	208	3	39	50	633	1, 2, 3, 4, 5
RTU-28	SUITE 146	CARRIER	50FEQM08A2M5-8U6C0	7.5	3000	435	0.75	1.12	1	1.5	-	7.4	-	70	96.1	2	12.2	120	94	71.86	R-454B	-	11.2	80/67	57.8/57.1	208	3	37	45	1022	1, 2, 3, 4, 5
RTU-29	SUITE 146	CARRIER	50FEQM04A2M5-8U6C0	3	1200	435	0.75	0.46	1	1.5	2.71	3.3	1	70	95.8	1	12.2	98	37.12	28.04	R-454B	13.4	-	80/67	58.4/57.3	208	3	34	40	636	1, 2, 3, 4, 5
RTU-30	SUITE 146	CARRIER	50FEQM08A2M5-8U6C0	7.5	3000	435	0.75	1.12	1	1.5	-	7.4	-	70	96.1	2	12.2	120	94	71.86	R-454B	-	11.2	80/67	57.8/57.1	208	3	37	45	1022	1, 2, 3, 4, 5
RTU-31	SUITE 150	CARRIER	50FEQM07A2M5-8U6C0	6	2400	385	0.75	1.31	1	1.5	4.23	4.9	1	70	90.8	1	21	162	73.17	57.28	R-454B	-	11.2	80/67	57.9/57.4	208	3	51	60	759	1, 2, 3, 4, 5, 6
RTU-32	SUITE 150	CARRIER	50FEQM06A2M5-8U6C0	5	2000	385	0.75	0.98	1	1.5	4.3	4.9	1	70	96.3	1	18.9	156	63.36	49.49	R-454B	13.4	-	80/67	57.1/57	208	3	52	62	754	1, 2, 3, 4, 5
RTU-33	SUITE 150	CARRIER	50FEQM08A2M5-8U6C0	7.5	3000	385	0.75	1.12	1	1.5	-	7.4	-	70	96.1	2	12.2	120	94	71.86	R-454B	-	11.2	80/67	57.8/57.1	208	3	37	45	1022	1, 2, 3, 4, 5

ALTERNATE MANUFACTURERS: DAIKIN, TRANE

REMARKS

1. PROVIDE SINGLE POINT ELECTRICAL CONNECTION AND NON-FUSED DISCONNECT.
2. PROVIDE FIVE (5) YEAR COMPRESSOR PARTS WARRANTY, FIVE (5) YEAR ELECTRIC HEAT PARTS WARRANTY, AND ONE (1) YEAR WHOLE UNIT PARTS WARRANTY.
3. PROVIDE 4" MERV-13 FILTERS.
4. PROVIDE LOUVERED HAIL GUARDS AND ECONOMIZER HOOD.
5. PROVIDE NEW ROOFTOP CURB ADAPTER TO UNIT.
6. BASE BID: CONTRACTOR SHALL EVALUATE, TEST, AND PROVIDE A REPORT OF FIDINGS TO THE EOR FOR REVIEW.
7. ALLOWANCE: CONTRACTOR SHALL PROVIDE A $50,000 ALLOWANCE FOR REPAIRS TO ETR UNITS.

MECHANICAL / ELECTRICAL EQUIPMENT COORDINATION SCHEDULE

EQUIPMENT DESIGNATION	EQUIPMENT DESCRIPTION	EQUIPMENT FURN. BY	VOLTAGE/ PHASE	HEATER KW	FAN HP	MCA	MOCP	DISCONNECT FURN. BY	STARTER FURN. BY	CONTROLS	REMARKS
RTU-1	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	3.3	0.72	39	50	M.C.	E.C.	TSTAT	
RTU-2	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	3.3	0.72	39	50	M.C.	E.C.	TSTAT	
RTU-3	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	3.3	0.72	39	50	M.C.	E.C.	TSTAT	
RTU-4	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	3.3	0.72	39	50	M.C.	E.C.	TSTAT	
RTU-5	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	6.29	1.12	37	45	M.C.	E.C.	TSTAT	
RTU-6	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	6.29	1.12	37	45	M.C.	E.C.	TSTAT	
RTU-7	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	4.9	0.98	52	62	M.C.	E.C.	TSTAT	
RTU-8	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	3.3	0.72	39	50	M.C.	E.C.	TSTAT	
RTU-9	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	4.9	0.98	52	62	M.C.	E.C.	TSTAT	
RTU-10	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	3.3	0.72	39	50	M.C.	E.C.	TSTAT	
[E] RTU-11	ROOFTOP AIR HANDLING UNIT	ETR	208-3	-	-	-	-	ETR	ETR	TSTAT	
RTU-12	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	9.4	2.01	56	70	M.C.	E.C.	TSTAT	
RTU-13	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	3.3	0.46	34	40	M.C.	E.C.	TSTAT	
[E] RTU-14	ROOFTOP AIR HANDLING UNIT	ETR	208-3	-	-	-	-	ETR	ETR	TSTAT	
[E] RTU-15	ROOFTOP AIR HANDLING UNIT	ETR	208-3	-	-	-	-	ETR	ETR	TSTAT	
[E] RTU-16	ROOFTOP AIR HANDLING UNIT	ETR	208-3	-	-	-	-	ETR	ETR	TSTAT	
[E] RTU-17	ROOFTOP AIR HANDLING UNIT	ETR	208-3	-	-	136	150	ETR	ETR	TSTAT	
[E] RTU-18	ROOFTOP AIR HANDLING UNIT	ETR	208-3	-	-	-	-	ETR	ETR	TSTAT	
RTU-19	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	3.3	0.72	39	50	M.C.	E.C.	TSTAT	
RTU-20	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	3.3	0.72	39	50	M.C.	E.C.	TSTAT	
[E] RTU-21	ROOFTOP AIR HANDLING UNIT	ETR	208-3	-	-	58	60	ETR	ETR	TSTAT	
[E] RTU-22	ROOFTOP AIR HANDLING UNIT	ETR	208-3	-	-	47	50	ETR	ETR	TSTAT	
RTU-23	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	3.3	0.72	39	50	M.C.	E.C.	TSTAT	
[E] RTU-24	ROOFTOP AIR HANDLING UNIT	ETR	208-3	-	-	-	-	ETR	ETR	TSTAT	
RTU-25	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	3.3	0.72	39	50	M.C.	E.C.	TSTAT	
[E] RTU-26	ROOFTOP AIR HANDLING UNIT	ETR	208-3	-	-	47	50	ETR	ETR	TSTAT	
RTU-27	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	3.3	0.72	39	50	M.C.	E.C.	TSTAT	
RTU-28	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	6.29	1.12	37	45	M.C.	E.C.	TSTAT	
RTU-29	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	3.3	0.46	34	40	M.C.	E.C.	TSTAT	
RTU-30	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	6.29	1.12	37	45	M.C.	E.C.	TSTAT	
RTU-31	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	4.9	1.31	51	60	M.C.	E.C.	TSTAT	
RTU-32	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	4.9	0.98	52	62	M.C.	E.C.	TSTAT	
RTU-33	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	6.29	1.12	37	45	M.C.	E.C.	TSTAT	

ABBREVIATIONS:

EC: ELECTRICAL CONTRACTOR

FWE: FURNISHED WITH EQUIPMENT

MC: MECHANICAL CONTRACTOR

ETR: EXISTING TO REMAIN

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EDi PROJECT NUMBER: 026-23.2

Professional Seals

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 055306 03/27/25 PATRICIA A DAMATO

ENGINEERED DESIGNS PLLC CORPORATE SEAL No. P-3001 NORTH CAROLINA

PROJECT INFORMATION:

DURHAM BOE - PHASE 2 SHOPPES OF HOPE VALLEY IMPROVEMENTS

Owner Project #23-009

2242

3825 S. ROXBORO STREET
DURHAM, NC

KEY PLAN:

PHASE 2

REVISIONS

No.	Date	Description

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MECHANICAL SCHEDULES

Sheet Number

M101

GENERAL NOTES

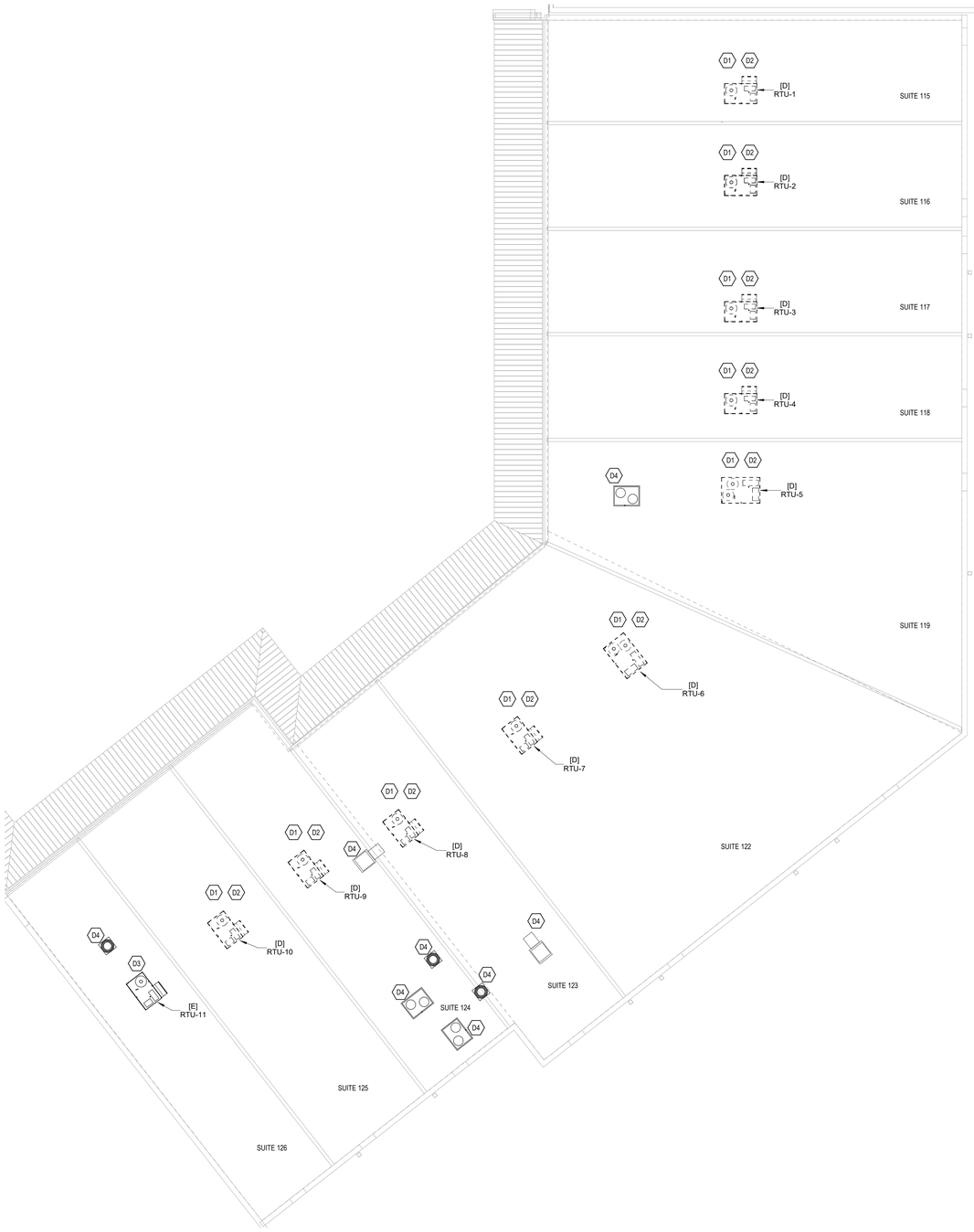
1. CONTRACTOR SHALL VERIFY AND COORDINATE EXISTING SUPPLY AND RETURN DUCTS. CONTRACTOR SHALL CONNECT NEW ROOFTOP UNIT INTO EXISTING SUPPLY AND RETURN DUCT.
2. CONTRACTOR SHALL COORDINATE ALL ROOFTOP UNIT LOCATIONS WITH DURHAM COUNTY AND ARCHITECT.
3. SEE M-001 FOR LEGENDS AND ABBREVIATIONS.

KEYED NOTES - DEMOLITION:

- D1 REMOVE EXISTING ROOFTOP UNIT AND ASSOCIATED THERMOSTAT LOCATED IN SUITE BELOW.
- D2 DISCONNECT EXISTING SUPPLY AND RETURN AIR DUCTWORK, PREPARE FOR NEW EQUIPMENT CONNECTION.
- D3 ROOFTOP UNIT TO REMAIN.
- D4 EXISTING ROOFTOP EQUIPMENT TO REMAIN.

KEYED NOTES - NEW WORK:

1. BASE BID: CONTRACTOR SHALL EVALUATE, TEST, AND PROVIDE A REPORT OF FIDINGS TO THE EOR FOR REVIEW.
2. ALLOWANCE: CONTRACTOR SHALL PROVIDE A $50,000 ALLOWANCE FOR REPAIRS TO ETR UNITS.
3. CONNECT NEW RTU TO EXISTING DUCT WORK. TRANSITION AS NEEDED.
4. REFER TO DETAIL 1/M601 FOR FURTHER RTU INFORMATION.
5. PROVIDE NEW THERMOSTAT IN SUITE FOR NEW RTU CONTROL. INSTALL IN LOCATION OF EXISTING THERMOSTAT.
6. EXISTING ROOFTOP EQUIPMENT TO REMAIN.



1 M301 BUILDING 2 - MECHANICAL ROOF PLAN - DEMO
SCALE: 3/32" = 1'-0"



2 M301 BUILDING 2 - MECHANICAL ROOF PLAN - NEW WORK
SCALE: 3/32" = 1'-0"

N

0' 12' 24' 48' 96'
3/32" = 1'-0" GRAPHIC SCALE

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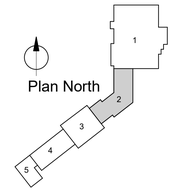
DURHAM BOE - PHASE 2 SHOPPES OF HOPE VALLEY IMPROVEMENTS

Owner Project #23-009

2242
3825 S. ROXBORO STREET
DURHAM, NC

KEY PLAN:

PHASE 2



REVISIONS

No.	Date	Description

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Sheet Name
BUILDING 2 MECHANICAL ROOF PLANS

Sheet Number
M301

GENERAL NOTES

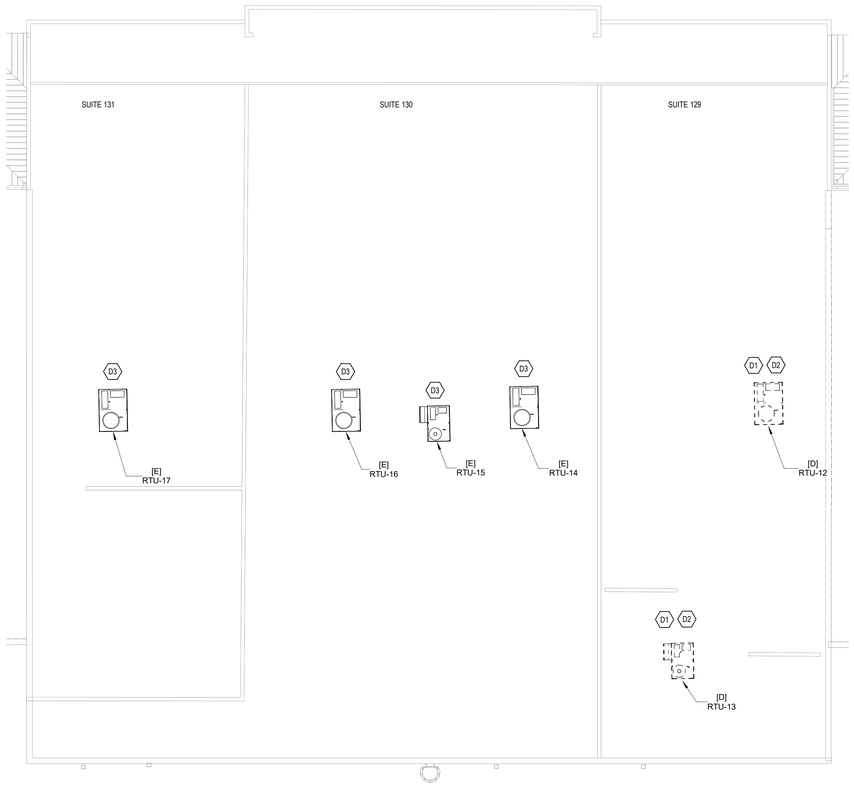
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KEYED NOTES - DEMOLITION:

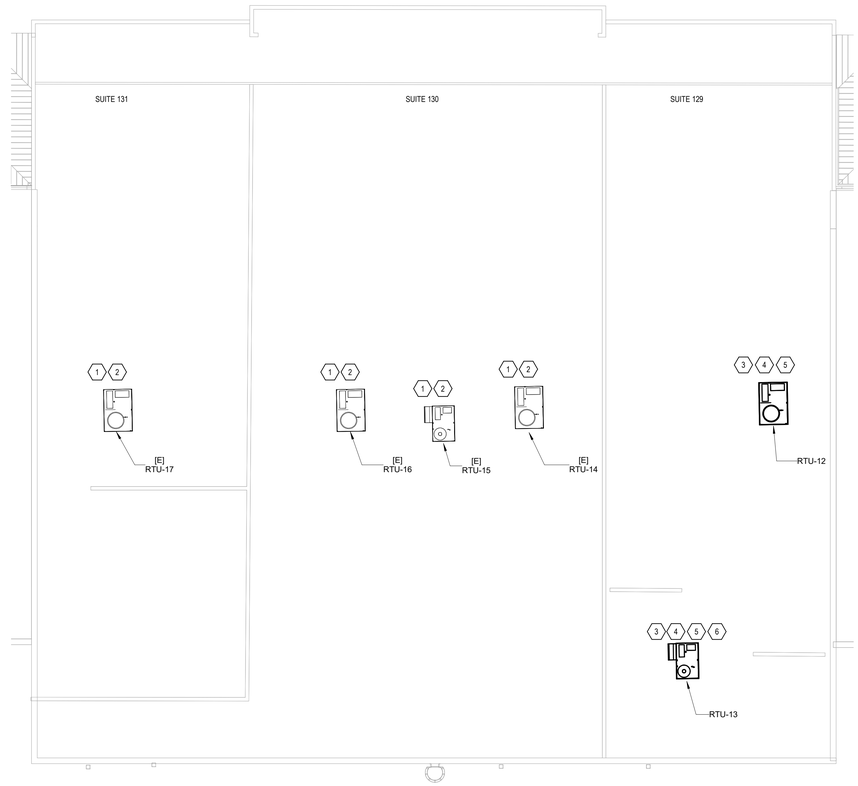
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4. REFER TO DETAIL 1/M601 FOR FURTHER RTU INFORMATION.
5. PROVIDE NEW THERMOSTAT IN SUITE FOR NEW RTU CONTROL. INSTALL IN LOCATION OF EXISTING THERMOSTAT.
6. PROVIDE NEW ROOFTOP CURB ADAPTER TO UNIT.



1 M302 BUILDING 3 - MECHANICAL ROOF PLAN - DEMO
SCALE: 3/32" = 1'-0"



2 M302 BUILDING 3 - MECHANICAL ROOF PLAN - NEW WORK
SCALE: 3/32" = 1'-0"

0' 12" 24" 48" 96"
3/32" = 1'-0"
GRAPHIC SCALE

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PROJECT INFORMATION:

DURHAM BOE - PHASE 2 SHOPPES OF HOPE VALLEY IMPROVEMENTS

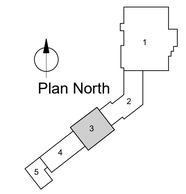
Owner Project #23-009

2242

3825 S. ROXBORO STREET
DURHAM, NC

KEY PLAN:

PHASE 2



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Sheet Name

BUILDING 3 MECHANICAL ROOF PLANS

Sheet Number

M302

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GENERAL NOTES

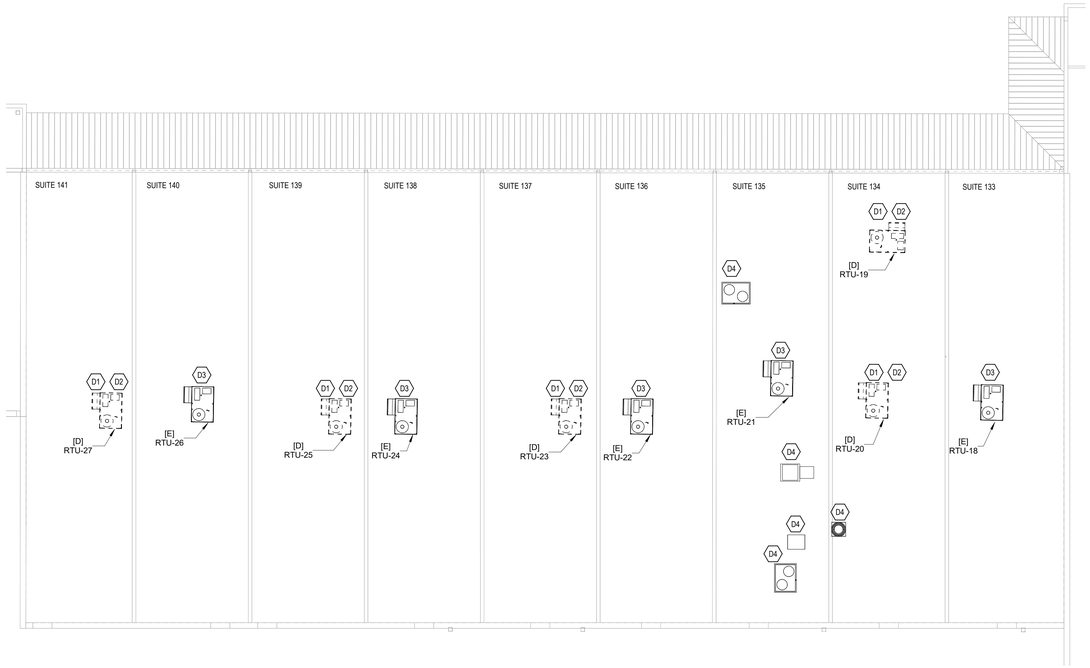
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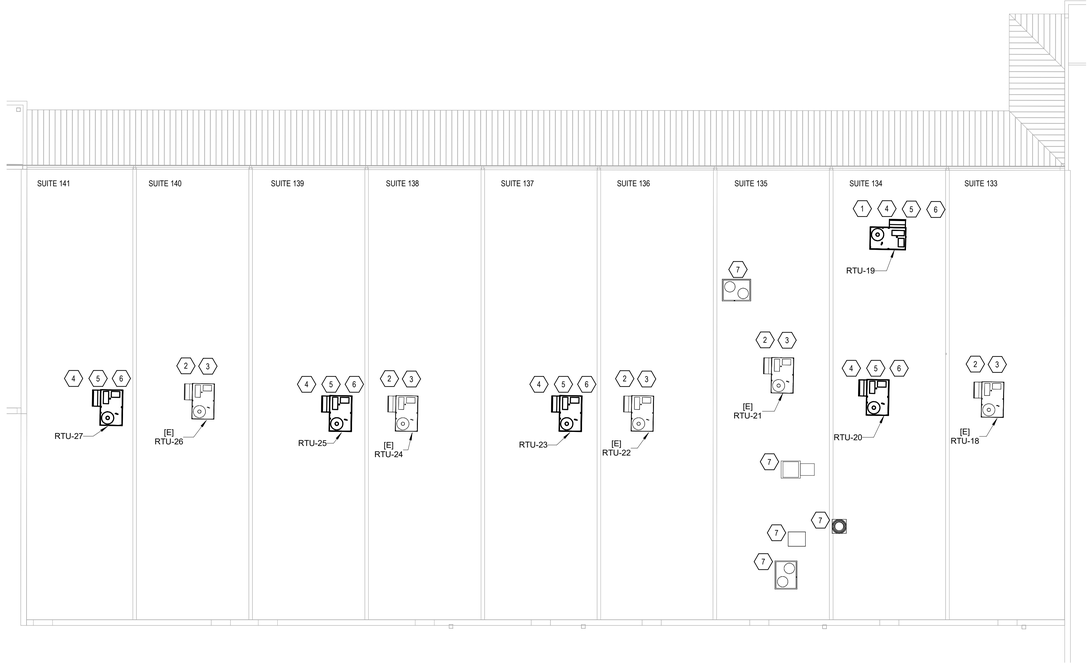
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7. EXISTING ROOFTOP EQUIPMENT TO REMAIN.



1 M303 BUILDING 4 - MECHANICAL ROOF PLAN - DEMO

SCALE: 3/32" = 1'-0"



2 M303 BUILDING 4 - MECHANICAL ROOF PLAN - NEW WORK

SCALE: 3/32" = 1'-0"

0' 12" 24" 48" 96"

3/32" = 1'-0" GRAPHIC SCALE

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PROJECT INFORMATION:

DURHAM BOE - PHASE 2 SHOPPES OF HOPE VALLEY IMPROVEMENTS

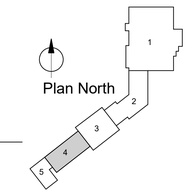
Owner Project #23-009

2242

3825 S. ROXBORO STREET
DURHAM, NC

KEY PLAN:

PHASE 2



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Sheet Name

BUILDING 4 MECHANICAL ROOF PLANS

Sheet Number

M303

GENERAL NOTES

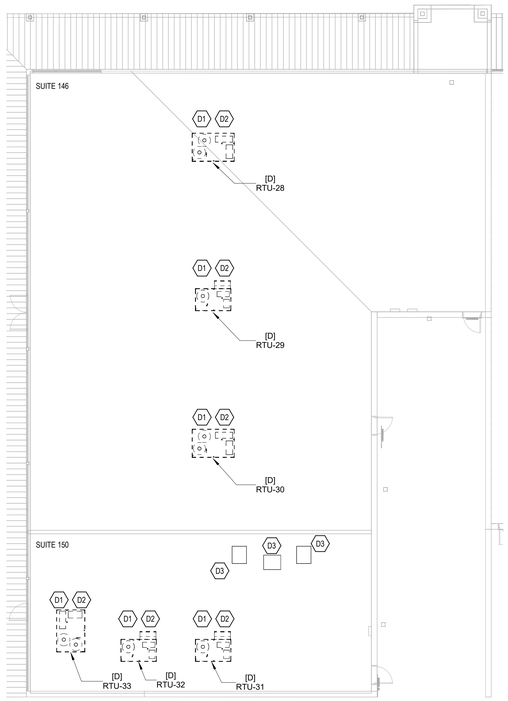
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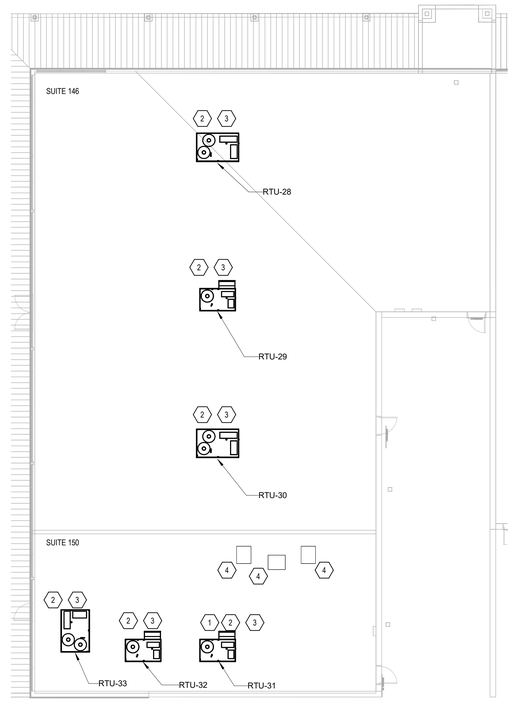
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KEYED NOTES - NEW WORK:

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2. CONNECT NEW RTU TO EXISTING DUCT WORK. TRANSITION AS NEEDED.
3. REFER TO DETAIL X/M-601 FOR FURTHER RTU INFORMATION.
4. EXISTING ROOFTOP EQUIPMENT TO REMAIN.



1 M304 BUILDING 5 - MECHANICAL ROOF PLAN - DEMO
SCALE: 3/32" = 1'-0"



2 M304 BUILDING 5 - MECHANICAL ROOF PLAN - NEW WORK
SCALE: 3/32" = 1'-0"

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PROJECT INFORMATION:

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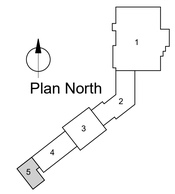
Owner Project #23-009

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3825 S. ROXBORO STREET
DURHAM, NC

KEY PLAN:

PHASE 2



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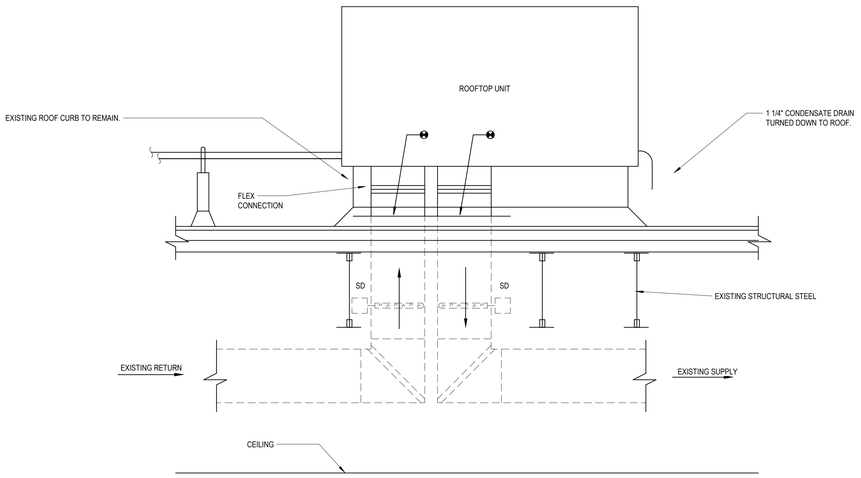
BUILDING 5 MECHANICAL ROOF PLANS

Sheet Number

M304

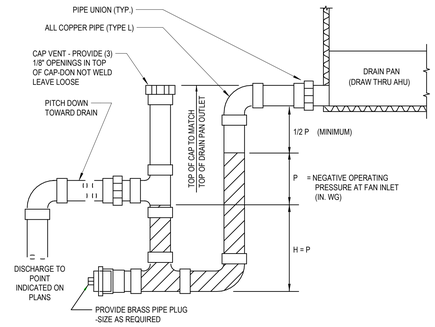
0' 12' 24' 48' 96'
3/32" = 1'-0" GRAPHIC SCALE

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1 M601 **ROOFTOP UNIT DETAIL - BOTTOM TAKEOVER**

SCALE:NOT TO SCALE



DRAW THRU AHU
USE COPPER FITTINGS AND TYPE L PIPE
PITCH HORIZONTAL DRAIN LINE 1" IN 10 FEET

2 M601 **CONDENSATE DRAIN DETAIL**

SCALE:NOT TO SCALE

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PROJECT INFORMATION:

DURHAM BOE - PHASE 2 SHOPPES OF HOPE VALLEY IMPROVEMENTS

Owner Project #23-009

2242

3825 S. ROXBORO STREET
DURHAM, NC

KEY PLAN:

PHASE 2

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EOW	PAD	3/27/25

Sheet Name

MECHANICAL DETAILS

Sheet Number

M601

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GENERAL ELECTRICAL NOTES

1. ALL WORK INDICATED ON DRAWINGS AND SPECIFICATIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE CITY, COUNTY AND STATE BUILDING CODES, THE NATIONAL ELECTRICAL CODE, AND THE LOCAL AUTHORITY HAVING JURISDICTION.

2. THESE PLANS ARE DIAGRAMMATIC IN NATURE AND SHOW THE GENERAL LOCATION OF DEVICES, EQUIPMENT, ROUTING, ETC. ALL WORK SHALL BE COORDINATED WITH ALL OTHER TRADES PRIOR TO INSTALLATION. THE CONTRACTOR SHALL COORDINATE INSTALLATION / ROUTING OF ALL WORK WITH EXISTING CONDITIONS AND OTHER TRADES WORK PRIOR TO ROUGH-IN. CONTRACTOR SHALL PROVIDE ALL NECESSARY ANCILLARY DEVICES REQUIRED FOR A COMPLETE AND COORDINATED INSTALLATION.

3. ALL EXISTING INFORMATION SHOWN IS BASED ON NON-DESTRUCTIVE FIELD INVESTIGATION AND / OR EXISTING DRAWING INFORMATION PROVIDED BY THE OWNER. DURING THE COURSE OF CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT / ENGINEER OF ANY HIDDEN CONDITIONS FOUND THAT REQUIRE CORRECTIVE ACTION BEYOND THE CONTRACTOR'S SCOPE OF WORK.

4. IF THE CONTRACTOR NOTICES THAT NECESSARY INFORMATION IS ABSENT ON DRAWINGS OR IN SPECIFICATIONS, SUCH THAT THE CONTRACTOR IS UNSURE OF MATERIALS, SIZING, OR ROUTING OF SYSTEMS, THEN IT IS IMPERATIVE THAT THE CONTRACTOR CONTACT THE ARCHITECT / ENGINEER DURING BID OR PRIOR TO ROUGH-IN TO REQUEST CLARIFICATION. IF THE CONTRACTOR PROCEEDS WITH INSTALLATION WITHOUT DIRECTION FROM THE ARCHITECT / ENGINEER, THEN THE CONTRACTOR ASSUMES ALL COST ASSOCIATED WITH HIS ACTIONS AND RESPONSIBILITY FOR THE FUNCTION OF THE SYSTEM(S).

5. ALL PENETRATIONS THROUGH FIRE-RATED WALLS OR FLOORS SHALL BE SEALED IN ACCORDANCE WITH LISTED THROUGH PENETRATION DETAIL(S) APPLICABLE FOR THE PENETRATION TYPE AND WALL / FLOOR CONSTRUCTION ENCOUNTERED. ALL PIPE PENETRATIONS THROUGH NON-RATED WALLS OR FLOORS SHALL BE SEALED WITH THE APPROPRIATE WALL / FLOOR MATERIALS PER THE ARCHITECTURAL SPECIFICATIONS. ALL PIPE PENETRATIONS THROUGH EXTERIOR WALLS SHALL BE SEALED WITH MATERIALS PER THE ARCHITECTURAL SPECIFICATIONS AND WATERPROOFED TO PREVENT MOISTURE FROM ENTERING THE BUILDING. ALL ROOF PENETRATIONS SHALL BE FLASHED AND MADE WATERTIGHT IN A MANNER THAT IS CONSISTENT WITH ROOF CONSTRUCTION AND APPROVED BY THE ROOF MATERIAL MANUFACTURER SO AS NOT TO VOID THE ROOF WARRANTY. REFER TO PLANS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. ALL WALL, FLOOR AND ROOF PENETRATIONS AND SEALING OF PENETRATIONS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR.

6. WHERE THE WORD 'PROVIDE' IS USED, IT SHALL BE DEFINED TO MEAN THAT THE DEVICE / EQUIPMENT INDICATED SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR, UNLESS OTHERWISE NOTED.

7. ALL MANUFACTURER'S MINIMUM WORKING CLEARANCE RECOMMENDATIONS SHALL BE MAINTAINED ON ALL EQUIPMENT.

8. ALL CONDUIT SHALL BE NEATLY ARRANGED, PROPERLY ALIGNED AND SUPPORTED. CONDUIT SHALL BE KEPT AT LEAST SIX (6) INCHES FROM FLUES, STEAM PIPES, OR HOT WATER PIPES WHERE POSSIBLE.

9. CONCEALED CONDUITS SHALL BE RUN IN A DIRECT LINE WITH LONG SWEEP BENDS AND OFFSETS. EXPOSED CONDUITS SHALL BE RUN PARALLEL TO AND AT RIGHT ANGLES TO BUILDING LINES.

10. CONDUITS SHALL BE CONTINUOUS FROM OUTLET TO OUTLET, FROM OUTLETS TO CABINETS, PULL OR JUNCTION BOXES AND SHALL BE SECURED TO ALL BOXES WITH LOCKNUTS AND BUSHING IN SUCH A MANNER THAT EACH SYSTEM SHALL BE ELECTRICALLY CONTINUOUS THROUGHOUT.

11. WHERE CONDUITS ARE RUN FROM INDOORS TO OUTDOORS, CONDUITS SHALL BE SEALED WITH VAPOR SEAL COMPOUND AT THE POINT OF ENTRY INTO THE BUILDING OR BUILDINGS IN ACCORDANCE WITH NEC ARTICLE 230.8.

12. ALL CONDUIT PENETRATIONS THRU ELECTRICAL/MECHANICAL EQUIPMENT ENCLOSURES SHALL BE PROPERLY SEALED SO AS NOT TO VOID THE U.L. LISTING OR INTEGRITY OF THE FACTORY ENCLOSURE.

13. CONDUCTORS SHALL BE SOFT-DRAWN COPPER AND THIRD-PARTY LISTED UNLESS OTHERWISE NOTED, WITH THHN / THWN-2 INSULATION UNLESS OTHERWISE NOTED. CONDUCTOR SIZES SHALL BE STANDARD AMERICAN WIRE GAUGE SIZES. CONDUCTORS AND EQUIPMENT TERMINALS SHALL BE RATED AT 75 DEGREE CELSIUS. WERE EQUIPMENT PROVIDED DOES NOT HAVE TERMINALS RATED AT 75 DEGREE CELSIUS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ADJUSTMENTS TO CONDUCTOR AND CONDUIT SYSTEMS ACCORDINGLY BASED ON THE NEC FOR THE EQUIPMENT'S RATING.

14. UNLESS SPECIFICALLY NOTED OTHERWISE, THE MINIMUM WIRE SIZE SHALL BE #12 AWG, EXCEPT THAT CONTROL WIRING MAY BE #14 AWG OR #16 AWG AS NOTED ON PLANS. ALL CONDUCTORS (POWER / CONTROL) SHALL BE INSTALLED IN CONDUIT UNLESS SPECIFICALLY NOTED OTHERWISE.

15. WHERE CONDUCTORS ARE RUN IN PARALLEL BOTH CONDUCTORS ARE TO BE TAPPED WHERE BRANCH CIRCUITS ARE TAKEN OFF.

16. SPLICING OF CONDUCTORS SHALL BE HELD TO A MINIMUM. CONDUCTOR RUNS LESS THAN 50' IN LENGTH SHALL NOT BE SPLICED. SPLICE CONNECTIONS SHALL BE DOCUMENTED ON DRAWINGS INDICATING LOCATION, WIRE TYPE, AND SPLICE METHOD, FOR INSPECTION PRIOR TO (PUNCH LIST) CLOSEOUT OF PROJECT.

17. ALL CONDUCTORS INTERNAL TO ELECTRICAL EQUIPMENT SHALL BE NEATLY TIE WRAPPED WITH NYLON TIE WRAPS. CONDUCTORS SHALL BE ROUTED PARALLEL & VERTICAL TO ENCLOSURE SIDES. ALL SHARP EDGES ON CUT TIE WRAPS SHALL BE REMOVED.

18. ALL EQUIPMENT FEEDERS SHALL BE CONTINUOUS FROM THE DISCONNECT SWITCH TO THE MOTOR / EQUIPMENT TAP BOX. SPLICES SHALL NOT BE ALLOWED.

19. HANGERS AND CLAMPS SHALL BE MADE OF DURABLE MATERIALS SUITABLE FOR THE APPLICATION INVOLVED. HANGER ASSEMBLIES SHALL BE PROTECTED BY GALVANIZING, OR OTHER SUITABLE PRESERVATION METHODS TO PREVENT CORROSION. THE REQUIRED STRENGTH OF THE SUPPORTING EQUIPMENT AND SIZE AND TYPE OF ANCHORS SHALL BE BASED ON THE COMBINED WEIGHT OF CONDUIT, HANGER AND CABLES.

20. WHERE AN INDIVIDUALLY MOUNTED SAFETY SWITCH, STARTER, OR CIRCUIT BREAKER IS SHOWN ADJACENT TO ITS RESPECTIVE LOAD AND NOT MOUNTED ON A WALL, PROVIDE ALL SUPPORTS, BRACKET, ANCHORING, ETC. NECESSARY TO PROPERLY SUPPORT THE DEVICE.

21. APPROPRIATE GROUNDING LUGS SHALL BE PROVIDED ON ALL ENCLOSURES TO BE GROUNDED.

22. EXCEPT WHERE SPECIFICALLY INDICATED OTHERWISE, ALL EXPOSED NON-CURRENT CARRYING METALLIC PARTS OF ELECTRICAL EQUIPMENT, RACEWAY SYSTEMS AND NEUTRAL CONDUCTOR OF THE WIRING SYSTEM SHALL BE GROUNDED.

23. EACH RACEWAY FOR ALL POWER SYSTEMS AND BRANCH CIRCUITS SHALL HAVE A SEPARATE GROUNDING CONDUCTOR. THE RACEWAY SYSTEM SHALL NOT BE RELIED UPON FOR EQUIPMENT GROUNDING.

24. THE CONTRACTOR SHALL FULLY COORDINATE ALL WORK PRIOR TO ROUGH-IN OF ANY MECHANICAL OR ELECTRICAL EQUIPMENT. REFER TO MECHANICAL SCHEDULES FOR DESIGNATIONS OF ALL EQUIPMENT REQUIRING CONTROL WIRING. THE CONTRACTOR SHALL PROVIDE ALL CONTROL WIRING AND HARDWARE RELATED TO CONTROL WORK (I.E. TRANSFORMERS, CONTROL MODULES, CONNECTORS, ETC.) ALL CONTROL WIRING SHALL BE PLENUM RATED AND INSTALLED IN CONDUIT UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL MATERIALS AND LABOR TO PROVIDE THE 120 VOLT POWER SOURCES REQUIRED TO OPERATE ALL LOW VOLTAGE MECHANICAL EQUIPMENT AND MAKE FINAL 120 VOLT CONNECTIONS TO CONTROL EQUIPMENT. CONTRACTOR SHALL PROVIDE ALL JUNCTION BOXES, RECEPTACLES, SNAP SWITCHES AND 120 VOLT WIRING, AND SHALL INSTALL ALL WIRING IN CONDUIT.

25. CONTRACTOR SHALL PROVIDE LABELS ON RECEPTACLE FACEPLATES TO DENOTE THE PANEL AND CIRCUIT SERVING EACH DEVICE. LABELS SHALL BE THE SELF-ADHESIVE TYPE AND BE WHITE WITH BLACK LETTERING. TEXT HEIGHT SHALL BE BETWEEN 3/8" AND 1/4" TO ENSURE LEGIBILITY AND TO PROPERLY FIT ON THE FACEPLATE AS REQUIRED.

26. TYPICAL DEVICE MOUNTING HEIGHTS • DEVICE MOUNTING HEIGHTS NOTED SHALL BE TO CENTER LINE OF DEVICE UNLESS OTHERWISE NOTED. REFER TO PLANS / SYMBOLS FOR ADDITIONAL DEVICE MOUNTING REQUIREMENTS:

RECEPTACLES	18" AFF
RECEPTACLES (TV)	60" AFF
DATA OUTLET	18" AFF
DATA OUTLET (TV)	60" AFF
TELEPHONE OUTLET	48" AFF
LIGHT SWITCH	48" AFF
EXIT SIGN (WALL MOUNTED)	7'-6" AFF OR 1'-0" ABOVE DOOR
FIRE ALARM PULL STATION	48" AFF TO TOP OF DEVICE
FIRE ALARM NOTIFICATION DEVICE	80" AFF TO BOTTOM OF DEVICE

RACEWAY SYMBOLS

SYMBOL	DESCRIPTION
	CONDUIT CONCEALED IN WALLS OR ABOVE CEILINGS
	UNSWITCHED LIGHTING CIRCUIT
L2-1,3,5	NEW HOMERUN TO PANELBOARD. LETTERS INDICATE PANELBOARD AND NUMBERS INDICATE CIRCUITS IN PANELBOARD
	UNDERGROUND/UNDERSLAB/INFLOOR RACEWAY. REFER TO PLANS FORM MORE INFORMATION
	CONDUIT BREAK
E	INDICATES CAPPED CONDUIT END
EUG	UNDERGROUND ELECTRICAL
LS	GENERATOR EMERGENCY "LIFE SAFETY" POWER CONDUIT
S	GENERATOR EMERGENCY "STAND-BY" POWER CONDUIT
	CONDUIT TURNED DOWN
	CONDUIT TURNED UP

POWER / DATA SYMBOLS

SYMBOL	DESCRIPTION
WP	SURFACE MOUNTED DUPLEX RECEPTACLE. "WP" INDICATES WEATHERPROOF.
	PANELBOARD
J	JUNCTION BOX. SIZE PER N.E.C.
30/NF	HEAVY DUTY DISCONNECT. SIZE AS INDICATED IN DRAWINGS. 30 — FRAME SIZE NF — FUSE SIZE -'NF' INDICATES NON-FUSED -'F' INDICATES FUSED PER EQUIPMENT NAMEPLATE NUMBER INDICATES FRN FUSE SIZE
E	ELECTRICAL EQUIPMENT CONNECTION (HARD-WIRED OR CONNECTED TO SWITCH MOUNTED ON EQUIPMENT

LIGHT FIXTURE SYMBOLS

SYMBOL	DESCRIPTION
"A"	1'X1' LED FIXTURE. LETTER INDICATES FIXTURE TYPE. SEE LIGHT FIXTURE SCHEDULE FOR DESCRIPTION.
	EXISTING LINEAR LED FIXTURE.

LIGHTING CONTROLS SYMBOLS

SYMBOL	DESCRIPTION
	PHOTOCELL, ROOF MOUNTED

ABBREVIATIONS

SYMBOL	DESCRIPTION
AFG	ABOVE FINISHED GRADE
AFF	ABOVE FINISHED FLOOR
C	CONDUIT
EGC	EQUIPMENT GROUND CONDUCTOR
EM	EMERGENCY
EUG	ELECTRICAL UNDERGROUND
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
G, GND	GROUND
GEC	GROUNDING ELECTRODE CONDUCTOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GRS	GALVANIZED RIGID STEEL
GWH	GAS WATER HEATER
IG	ISOLATED GROUND
IWH	INSTANTANEOUS WATER HEATER
KCMIL	ONE THOUSAND CIRCULAR MILS
KVA	KILO-VOLT AMPERES
KW	KILOWATTS
KWH	KILOWATT-HOURS
MCB	MAIN CIRCUIT BREAKER
MLO	MAIN LUG ONLY
NEC	NATIONAL ELECTRICAL CODE
'NL'	INDICATES FIXTURE ON UNSWITCHED NIGHT LIGHT CIRCUIT
NTS	NOT TO SCALE
NVR	NETWORK VIDEO RECORDER
PH, Ø	PHASE
SWBD	SWITCHBOARD
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR (IG)
UE	UNDERGROUND ELECTRIC
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
UT	UNDERGROUND TELECOMM
V	VOLTS
WP	WEATHERPROOF
XFMR	TRANSFORMER

GENERAL SYMBOLS LEGEND NOTES

A. NOT ALL SYMBOLS SHOWN ON THIS SHEET ARE NECESSARILY USED ON THE DRAWINGS AND WHEN NOT USED THEY SHOULD BE ASSUMED NOT TO APPLY TO THIS PROJECT. ADDITIONAL SYMBOLS MAY BE INCLUDED ON DRAWINGS THAT ARE NOT SHOWN HERE AND ARE IDENTIFIED ON THE DRAWINGS PERTAINING TO THAT PARTICULAR SYSTEM.
B. REFER TO SPECIFICATIONS, ARCHITECTURAL DRAWINGS, APPLICABLE SCHEDULES AND DETAILS FOR ADDITIONAL INFORMATION REGARDING EACH DEVICE IDENTIFIED ON THIS LEGEND.
C. SUBSCRIPTS SHOWN ON THE LEGEND ON A DEVICE MAY BE APPLIED TO ANY DEVICE IN THE SAME GROUP. I.E. "T" INDICATES COUNTER HEIGHT.
D. ABBREVIATIONS MAY BE APPLIED TO ANY SYMBOL.
E. REFER TO OTHER TRADE DRAWINGS FOR THOSE TRADES EQUIPMENT SYMBOLS AND ABBREVIATIONS.
F. VERIFY LOCATIONS AND DIMENSIONS OF ALL EQUIPMENT AND COORDINATE WITH OTHER TRADES PRIOR TO ROUGH-IN.
G. CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY LOCATIONS AND ELEVATIONS OF CASEWORK PRIOR TO ROUGH-IN.
H. ALL CIRCUITS SHALL CONSIST OF 2#12 + #12G IN 3/4"C. THHN/THWN IN EMT UNLESS OTHERWISE NOTED.
I. MINIMUM RACEWAY SIZE IS 3/4" FOR ALL CIRCUITS UNLESS OTHERWISE NOTED.
J. ALL FIRE ALARM RACEWAY AND JUNCTION BOXES SHALL BE PAINTED OR DYED RED.
K. ALL SECURITY, COMMUNICATIONS AND INTERCOM CONDUIT SHALL BE PROVIDED WITH THERMAL PLASTIC (NYLON) INSULATED BUSHINGS AT BOTH THE DEVICE OUTLET AND THE END OF THE CONDUIT, PRIOR TO CABLING LEAVING RACEWAY AND LANDING IN CABLE TRAY.

MECHANICAL/ELECTRICAL CONTROLS WIRING COORDINATION NOTE

THE MECHANICAL AND ELECTRICAL CONTRACTORS SHALL FULLY COORDINATE ALL WORK PRIOR TO ROUGH-IN OF ANY MECHANICAL OR ELECTRICAL EQUIPMENT. REFER TO MECHANICAL SCHEDULES FOR DESIGNATIONS OF ALL EQUIPMENT REQUIRING CONTROL WIRING.

THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL CONTROL WIRING AND HARDWARE RELATED TO CONTROL WORK (I.E. TRANSFORMERS, CONTROL MODULES, CONNECTORS, ETC..). ALL CONTROL WIRING SHALL BE PLENUM RATED AND INSTALLED IN CONDUIT.

THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROVIDING ALL MATERIALS AND LABOR TO PROVIDE THE 120V POWER SOURCES REQUIRED TO OPERATE ALL LOW VOLTAGE MECHANICAL EQUIPMENT AND MAKE FINAL 120 VOLT CONNECTIONS TO CONTROL EQUIPMENT. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL JUNCTION BOXES, RECEPTACLES, SNAP SWITCHES AND 120 VOLT WIRING AND SHALL INSTALL ALL WIRING IN CONDUIT.

EXPOSED ELECTRICAL INSTALLATION NOTES

A. INSTALLATION OF THE ELECTRICAL BOXES AND SYSTEMS SHALL BE CONCEALED WITHIN WALLS, CEILINGS, AND SURFACES THROUGHOUT. ALL DEVICES SHALL BE FLUSH MOUNT OR RECESS MOUNT AS NOTED ON CONTRACT DOCUMENTS. LOCATIONS WHERE CONCEALED FLUSH MOUNT IS NOT POSSIBLE DUE TO OBSTRUCTIONS IN THE CAVITY, OR SIMILAR CONDITION, SHALL BE IDENTIFIED BY CONTRACTOR TO THE PROJECT ARCHITECT/ENGINEER IN WRITING. SURFACE MOUNT OF DEVICES AND EXPOSED RACEWAY SHALL ONLY BE PERMITTED IN AREAS NOTED OR WHERE WRITTEN APPROVAL OF THE PROJECT ARCHITECT/ENGINEER HAS BEEN GIVEN.

B. WHERE APPROVAL HAS BEEN GIVEN FOR THE USE OF SURFACE MOUNTED DEVICES AND EXPOSED RACEWAY, ONLY SYSTEMS DESIGNATED AS SURFACE MOUNTED (I.E. WIRE-MOLD TYPE) SHALL BE UTILIZED FOR THE INSTALLATION. RACEWAYS, BOXES AND FITTINGS SHALL BE FREE OF SHARP EDGES AND SHALL BE PAINTED TO MATCH THE SURFACE THEY ARE MOUNTED ON.

C. EXPOSED DEVICES AND RACEWAY IN ELECTRICAL/MECHANICAL/TELECOM ROOMS (I.E. UTILITY SPACES) SHALL BE NEATLY RUN PLUMB AND LEVEL WITH BUILDING ELEMENTS, PARALLEL AND PERPENDICULAR TO WALLS/FLOORS AND CEILINGS. RACEWAYS SHALL BE NEATLY GROUPED AND RUN TOGETHER WHERE POSSIBLE. THE USE OF STANDOFF (MINERALLAC) TYPE STRAPS SHALL NOT BE PERMITTED WHERE CONDUIT IS LOCATED WITHIN 10'-0" OF THE FLOOR. ALL EXPOSED CONDUIT INSTALLED WITHIN UTILITY SPACES SHALL UTILIZE OFFSETS AND BE SECURED WITH ONE (1) HOLE OR TWO (2) HOLE STRAPS. DEVICE BOXES INSTALLED WITHIN UTILITY SPACES SHALL BE LISTED FOR SURFACE MOUNT APPLICATIONS AND CONTAIN NO SHARP EDGES I.E. SHALL BE HANDY BOX TYPE.

VOLTAGE DROP WIRING NOTE

VOLTAGE DROP HAS BEEN CONSIDERED IN THE DESIGN OF ALL BRANCH CIRCUITRY AND FEEDER SIZES BASED UPON THE ILLUSTRATED EQUIPMENT LAYOUTS AND SHORTEST CONDUCTOR / RACEWAY ROUTING. HOWEVER; THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING VOLTAGE DROP CONDITIONS OF FINAL CONDUIT / CONDUCTOR ROUTINGS DO NOT EXCEED THE FOLLOWING MAXIMUM VALUES AND UPSIZE CONDUCTORS AND CONDUIT AS REQUIRED / NOTED BELOW:

1. FEEDER CIRCUITS:
   1.1. MAX 3% VOLTAGE DROP (PER NEC ARTICLE 215.2(A)(4) INFORMATIONAL NOTE NO. 2)
2. BRANCH CIRCUITS:
   2.1. MAX 3% VOLTAGE DROP (PER NEC ARTICLE 210.19(A)(1) INFORMATIONAL NOTE NO. 4)
3. COMBINED VOLTAGE DROP ON FEEDER AND BRANCH CIRCUIT TO THE FURTHEST DEVICE OUTLET / UTILIZATION EQUIPMENT SHALL NOT EXCEED 5%.
4. EQUIPMENT GROUND CONDUCTORS SHALL BE UPSIZED AS REQUIRED PER NEC ARTICLE 250.122.(B).
5. IN ADDITION TO THE REQUIREMENTS NOTED ABOVE, INCREASE CONDUCTOR SIZE BASED ON LENGTH OF RUN AS INDICATED BELOW. ALL BRANCH CIRCUIT WIRING TO 120VOLT RECEPTACLES SHALL BE AS FOLLOWS:
   5.1. MAXIMUM OVERALL LENGTH 85FT - 2-#12, 1-#12G
   5.2. MAXIMUM OVERALL LENGTH 140FT - 2-#10, 1-#10G
   5.3. MAXIMUM OVERALL LENGTH 225FT - 2-#8, 1-#8G
   5.4. MAXIMUM OVERALL LENGTH 350FT - 2-#6, 1-#6G

WHERE THE CONDUCTOR LENGTH FROM THE PANEL TO THE FIRST OUTLET ON A 277 VOLT CIRCUIT EXCEEDS 125 FEET, THE BRANCH CIRCUIT CONDUCTORS FROM THE PANEL TO THE FIRST OUTLET SHALL NOT BE SMALLER THAN #10 AWG.

EQUIPMENT NOTE TO CONTRACTOR

THE E.C. SHALL VERIFY ALL EQUIPMENT INFORMATION WITH ITS RESPECTIVE TRADE FOR VOLTAGE, PHASE, AND MOCP (MAXIMUM OVER-CURRENT PROTECTION) PRIOR TO ROUGH-IN. EDI HAS MADE ALL EFFORTS TO CORRECTLY IDENTIFY EACH PIECE OF EQUIPMENT LOAD IN ORDER TO REFLECT THE CORRECT CONDUIT, WIRE, AND CIRCUIT BREAKER SIZE WITH RESPECT TO VOLTAGE DROP AND EQUIPMENT LOAD, HOWEVER; IF ANY INFORMATION SHOWN ON THESE DRAWINGS CONTRADICTS WITH THE ACTUAL EQUIPMENT SUPPLIED THEN THE E.C. SHALL ASSUME ALL RESPONSIBILITY FOR PROVIDING ADEQUATE CONDUIT, WIRE, AND MOCP SIZED FOR THESE PIECES OF EQUIPMENT INSTALLED IN ACCORDANCE WITH THE NEC.

EXISTING EQUIPMENT / CONDUIT / CONDUCTOR REMOVAL GENERAL NOTE

UNLESS OTHERWISE NOTED WHERE LIGHTING FIXTURES, SWITCHES, RECEPTACLES, TELECOMMUNICATION OUTLETS, FIRE ALARM, ETC, ARE SHOWN TO BE REMOVED, THE CONTRACTOR SHALL REMOVE ALL DEVICES, OUTLET BOXES, FACEPLATES, CONDUIT, SURFACE RACEWAY, WIREMOLD, WIRE / CABLING, JUNCTION BOXES, SUPPORTS, FASTENERS, ETC. IN THEIR ENTIRETY BACK TO THE SOURCE. CLOSELY COORDINATE REMOVAL OF EXISTING DATA CABLING WITH OWNER.

IN THE EVENT EXISTING CONDUIT NOTED TO BE REMOVED TERMINATES INTO A JUNCTION BOX, OUTLET BOX, ETC. SERVING OTHER EXISTING EQUIPMENT TO REMAIN OR BE RECONNECT, THE CONTRACTOR SHALL REMOVE CONDUIT TO THAT JUNCTION BOX AT A MINIMUM. CONTRACTOR SHALL PROVIDE KNOCKOUT PLUGS FOR ALL KNOCKOUTS WHERE CONDUIT IS REMOVED.

IN THE EVENT EXISTING CONDUCTORS / CABLING NOTED TO BE REMOVED BACK TO THE SOURCE ARE FOUND TO SERVE OTHER EXISTING EQUIPMENT TO REMAIN AND / OR NOT BE MODIFIED AS PART OF THIS PROJECT, THE CONTRACTOR SHALL REMOVE CONDUCTORS / CABLING SPECIFICALLY DEDICATED TO THE EXISTING SYSTEM / DEVICE BEING REMOVED TO THE FURTHEST POINT POSSIBLE PRIOR TO WHERE EXISTING SYSTEMS / DEVICES NOT TO BE REMOVED ARE SERVED.

NEC ARTICLE "300.7" REQUIREMENT

FILL ALL NEW CONDUITS THAT PENETRATE EXTERIOR WALLS OF THE BUILDING WITH AN APPROVED MATERIAL TO PREVENT THE CIRCULATION OF WARM AIR TO A COLDER SECTION OF THE RACEWAY OR SLEEVE AS REQUIRED PER NEC 300.7 "RACEWAYS EXPOSED TO DIFFERENT TEMPERATURES". ALL MATERIALS UTILIZED FOR PATCHING/SEALING (INTERIOR AND EXTERIOR OF CONDUIT) WALL PENETRATIONS SHALL BE LISTED ACCORDINGLY FOR THE APPLICATION THAT IT IS UTILIZED FOR.

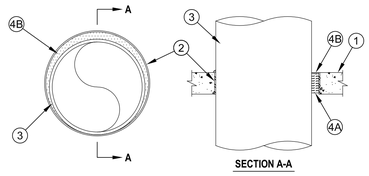
EXISTING DEVICES NOTE

UNLESS OTHERWISE NOTED ALL EXISTING LIGHTING, SWITCHING DEVICES, FIRE ALARM, DATA OUTLETS, RECEPTALCES, POWER EQUIPMENT, ETC. LOCATED ADJACENT TO THE PROJECT AREA NOT SPECIFICALLY IDENTIFIED AS BEING MODIFIED OR REMOVED AS A PART OF THIS PROJECT SHALL REMAIN AND BE FULLY FUNCTIONAL THROUGHOUT AND AT THE COMPLETION OF THE PROJECT EEN THOUGH NOT ALL EXISTING DEVICES ARE INDICATED ON THE PLANS. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY TERMPORARY AND / OR PERMANENT WIRING AND CONNECTIONS TO ENSURE ADJACENT SPACES REMAIN OPERATIONAL AS DESCRIBED.

LOAD NOTE TO THE REVIEWER

THIS PROJECT IS A REPLACEMENT OF EXISTING EQUIPMENT. NO ADDITIONAL LOAD IS BEING ADDED TO THE ELECTRICAL SYSTEM.

System No. C-AJ-1226
F Rating — 3 Hr
T Rating — 0 Hr
L Rating At Ambient — Less Than 1 CFM/Sq Ft
L Rating At 400 F — 4 CFM/Sq Ft



SECTION A-A

1. Floor or Wall Assembly — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 32 in.
2. Metallic Sleeve — (Optional) Nom 32 in. diam (or smaller) Schedule 40 (or heavier) steel sleeve cast or grouted into floor or wall assembly, flush with floor or wall surfaces or extending a max of 3 in. above floor or beyond both surfaces of wall.
2A. Sheet Metal Sleeve — (Optional) Max 6 in. diam, min 26 ga galv steel provided with a 26 ga galv steel square flange spot welded to the sleeve at approx mid-height, or flush with bottom of sleeve in floors, and sized to be a min of 2 in. larger than the sleeve diam. The sleeve is to be cast in place and may extend a max of 4 in. below the bottom of the deck and a max of 1 in. above the top surface of the concrete floor.
2B. Sheet Metal Sleeve — (Optional) - Max 12 in. diam, min 24 ga galv steel provided with a 24 ga galv steel square flange spot welded to the sleeve at approx mid-height, or flush with bottom of sleeve in floors, and sized to be a min of 2 in. larger than the sleeve diam. The sleeve is to be cast in place and may extend a max of 4 in. below the bottom of the deck and a max of 1 in. above the top surface of the concrete floor.
3. Through-Penetrant — One metallic pipe, tube or conduit to be installed either concentrically or eccentrically within the firestop system. The annular space between penetrant and periphery of opening shall be min 0 in. (point contact) to max 1-7/8 in. Penetrant may be installed with continuous point contact. Penetrant to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic penetrants may be used:
   A. Steel Pipe — Nom 30 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 30 in. diam (or smaller) cast or ductile iron pipe.
   C. Copper Pipe — Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.
   D. Copper Tubing — Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.
   E. Conduit — Nom 6 in. diam (or smaller) steel conduit.
   F. Conduit — Nom 4 in. diam (or smaller) steel electrical metallic tubing (EMT).
4. Firestop System — The firestop system shall consist of the following:
   A. Packing Material — Min 4 in. thickness of min 4 pcf mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or sleeve or from both surfaces of wall or sleeve as required to accommodate the required thickness of fill material.
   B. Fill, Void or Cavity Material* — Sealant — Min 1/4 in. thickness of fill material applied within the annulus, flush with top surface of floor or sleeve or with both surfaces of wall or sleeve. At the point or continuous contact locations between penetrant and concrete or sleeve, a min 1/4 in. diam bead of fill material shall be applied at the concrete or sleeve/ pipe penetrant interface on the top surface of floor and on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant

*Bearing the UL Classification Mark

Hilti Firestop Systems

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C UL US

1 E001 — WALL/FLOOR FIRESTOP DETAIL
SCALE: N.T.S.

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EDI PROJECT NUMBER: 026-23-02

Professional Seals

NORTH CAROLINA PROFESSIONAL SEAL 037887 03/27/25 ENGINEER JASON D. LUND

ENGINEERED DESIGNS PLLC CORPORATE SEAL No. P-3001 NORTH CAROLINA

Drawing List

E001	ELECTRICAL LEGEND AND ABBREVIATIONS AND NOTES
E002	ELECTRICAL SPECIFICATIONS
E101	BUILDING 2 ELECTRICAL PLAN
E102	BUILDING 3 ELECTRICAL PLAN
E103	BUILDING 4 ELECTRICAL PLAN
E104	BUILDING 5 ELECTRICAL PLAN
E401	ELECTRICAL DETAILS AND SCHEDULES
E501	ELECTRICAL SCHEDULES
E502	ELECTRICAL SCHEDULES

PROJECT INFORMATION:

Durham BOE-Phase 2
Shoppes of Hope Valley Improvements

Owner Project #23-009

2242
3825 S. ROXBORO STREET
DURHAM, NC

KEY PLAN:

PHASE 2

REVISIONS

No.	Date	Description

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Original drawing is 30"x42" - Do not scale contents.

DRAWN:	CHECKED:	DATE:
CAM	JDL	03/27/2025

Sheet Name

ELECTRICAL LEGEND AND ABBREVIATIONS

Sheet Number

E001

ELECTRICAL SPECIFICATIONS

PART 1 - GENERAL

1.1 SUMMARY

A. ALL WORK INDICATED ON DRAWINGS/SPECIFICATIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE CITY, COUNTY AND STATE BUILDING CODES, AND THE LOCAL AUTHORITY HAVING JURISDICTION.

B. THESE PLANS ARE DIAGRAMMATIC AND SHOW THE GENERAL LOCATION OF DEVICES, EQUIPMENT, PIPE ROUTING, ETC. ALL WORK SHALL BE COORDINATED WITH ALL OTHER TRADES PRIOR TO INSTALLATION. CONTRACTOR SHALL COORDINATE INSTALLATION/ROUTING OF ALL WORK WITH EXISTING CONDITIONS AND OTHER TRADE'S WORK PRIOR TO ROUGH-IN. CONTRACTOR SHALL PROVIDE ALL NECESSARY ANCILLARY DEVICES REQUIRED FOR A COMPLETE AND COORDINATED INSTALLATION.

C. ALL EXISTING INFORMATION SHOWN IS BASED ON NON-DESTRUCTIVE FIELD INVESTIGATION AND/OR EXISTING DRAWING INFORMATION. DURING THE COURSE OF CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE A/E OF ANY HIDDEN CONDITIONS FOUND THAT REQUIRE CORRECTIVE ACTION BEYOND THE CONTRACTOR'S SCOPE OF WORK. ALL FIELD CORRECTIONS SHALL BE RED-LINED ON CONSTRUCTION DOCUMENTS AND THE AS-BUILTS SHALL BE TURNED OVER TO THE A/E UPON CONTRACT COMPLETION.

D. IF CONTRACTOR NOTICES THAT NECESSARY INFORMATION IS ABSENT ON DRAWINGS OR IN SPECIFICATIONS, SUCH THAT CONTRACTOR IS UNSURE OF MATERIALS, SIZING, OR ROUTING OF SYSTEMS, THEN IT IS IMPERATIVE THAT THE CONTRACTOR CONTACT THE ENGINEER DURING BID OR PRIOR TO ROUGH-IN TO REQUEST CLARIFICATION. IF CONTRACTOR PROCEEDS WITH INSTALLATION WITHOUT DIRECTION FROM THE ENGINEER, THEN CONTRACTOR ASSUMES ALL COST ASSOCIATED WITH HIS ACTIONS AND RESPONSIBILITY FOR THE FUNCTION OF SYSTEM.

E. SUBMIT ELECTRONIC COPIES OF PRODUCT AND CAPACITY DATA FOR SPECIFIED EQUIPMENT TO THE ARCHITECT/ENGINEER BEFORE ORDERING EQUIPMENT. IF CONTRACTOR ELECTS TO IGNORE REQUIREMENT FOR SUBMITTAL INFORMATION, OR IF SUBMITTAL IS RECEIVED AFTER INSTALLATION OF EQUIPMENT, THEN CONTRACTOR ASSUMES ALL COSTS ASSOCIATED WITH SUBSTITUTION AND RESPONSIBILITY FOR OPERATION, FUNCTION, AND COORDINATION OF EQUIPMENT PURCHASED.

F. IF ALTERNATE EQUIPMENT IS USED OTHER THAN WHAT IS SPECIFIED ON THE DRAWINGS, THE CONTRACTOR SHALL COORDINATE THE REQUIREMENTS OF THAT EQUIPMENT WITH ALL OTHER TRADES. THIS COORDINATION SHALL OCCUR PRIOR TO ROUGH-IN OF ANY TRADES EQUIPMENT. ALL REVISION WORK REQUIRED TO COORDINATE ANY EQUIPMENT SUBSTITUTIONS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.

G. ALL PIPE PENETRATIONS THROUGH FIRE-RATED WALLS OR FLOORS SHALL BE SEALED BE SEALED IN ACCORDANCE WITH LISTED THROUGH PENETRATION SYSTEM DETAIL(S) APPLICABLE FOR THE PENETRATION TYPE AND WALL / FLOOR CONSTRUCTION ENCOUNTERED. ALL PIPE PENETRATIONS THROUGH NONRATED WALLS OR FLOORS SHALL BE SEALED WITH THE APPROPRIATE WALL/FLOOR MATERIALS PER THE ARCHITECTURAL SPECIFICATIONS. ALL PIPE PENETRATIONS THROUGH EXTERIOR WALLS SHALL BE SEALED WITH MATERIALS PER THE ARCHITECTURAL SPECIFICATIONS AND WATERPROOFED TO PREVENT MOISTURE FROM ENTERING THE BUILDING. ALL ROOF PENETRATIONS SHALL BE FLASHED AND MADE WATERTIGHT IN A MANNER THAT IS CONSISTENT WITH ROOF CONSTRUCTION AND APPROVED BY THE ROOF MATERIAL MANUFACTURER SO AS NOT TO VOID THE ROOF WARRANTY. ALL WALL, FLOOR AND ROOF PENETRATIONS AND SEALING OF PENETRATIONS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR.

H. WHERE THE WORD 'PROVIDE' IS USED, IT SHALL BE DEFINED TO MEAN THAT THE DEVICE/EQUIPMENT INDICATED SHALL BE 'FURNISHED AND INSTALLED' BY THE CONTRACTOR, UNLESS OTHERWISE NOTED.

I. ALL MANUFACTURER'S MINIMUM WORKING CLEARANCE RECOMMENDATIONS SHALL BE MAINTAINED ON ALL EQUIPMENT.CONTRACTOR SHALL ENSURE THAT ALL NEC ACCESSIBILITY REQUIREMENTS AND DEDICATED WORK SPACE CLEARANCES ARE MAINTAINED. THIS SHALL INCLUDE, BUT IS NOT LIMITED TO LOCATIONS / ACCESS FOR PANELBOARDS, DISCONNECTS, JUNCTION BOXES, EQUIPMENT, ETC. JUNCTION BOXES SHALL NOT BE LOCATED ABOVE FIXED EQUIPMENT, HARD CEILINGS, ETC. WHERE THEY CANNOT BE READILY ACCESSED BY A FLOOR LADDER. WHERE REQUIRED TO BE LOCATED ABOVE HARD CEILINGS, CONTRACTOR SHALL PROVIDE APPROPRIATE ACCESS PANELS / OPENINGS.

J. THE CONTRACTOR SHALL SUBMIT TO THE ARCHITECT/ENGINEER A COMPLETE SET OF AS-BUILT PLANS INDICATING ALL CHANGES ENCOUNTERED DURING CONSTRUCTION.

K. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND SHALL NOTIFY LOCAL INSPECTION DEPARTMENTS AS WORK PROGRESSES.

L. MOUNTING HEIGHTS FOR ALL WALL MOUNTED ELECTRICAL DEVICES SHALL BE AS INDICATED ON THE TYPICAL DEVICE MOUNTING HEIGHTS SCHEDULE SHOWN ON HEREIN, UNLESS NOTED OTHERWISE.

PART 2 - PRODUCT/EXECUTION

2.1 LIGHTING FIXTURES

A. INSTALL ALL LIGHTING FIXTURES AS SPECIFIED ON THE DRAWINGS. FIXTURES SHALL BE FURNISHED BY THE CONTRACTOR UNLESS OTHERWISE SPECIFIED.

B. ALL LAMPS SHALL BE INSTALLED BY THE CONTRACTOR. LAMPS SHALL BE AS SPECIFIED IN THE LIGHT FIXTURE SCHEDULE ON THE DRAWINGS. LAMPS SHALL BE THOSE MANUFACTURED BY GENERAL ELECTRIC, SYLVANIA OR PHILLIPS.

C. ALL L.E.D. FIXTURES:
1. COMPLY WITH UL 1598. COMPLY WITH ANSI C78-377-2008, IESNA LM-79, AND IESNA LM-80.
2. FIXTURES SHALL HAVE A POWER FACTOR OF NO LESS THAN 0.9 (90%).
3. FIXTURES SHALL HAVE A MAXIMUM OF 20% HARMONIC DISTORTION.]
4. FIXTURES SHALL HAVE A MINIMUM SURGE PROTECTION OF 2.5KVA INTEGRAL TO DRIVER.
5. FIXTURES SHALL BE LISTED BY ONE OF THE FOLLOWING AGENCIES' WEBSITE
   5.1. LIGHTINGFACTS.COM
   5.2. ENGERYSTAR.GOV
   5.3. DESIGNLIGHTS.ORG
6. A 10 YEAR WARRANTY SHALL BE PROVIDED FOR ALL FIXTURES WITH NON-MODULAR (NON-REPLACEABLE) DRIVERS.
7. A 5 YEAR WARRANTY SHALL BE PROVIDED FOR ALL FIXTURES WITH MODULAR (REPLACEABLE) DRIVERS.

D. EXTERIOR MOUNTED FIXTURES PROVIDED WITH BATTERY BACK-UP SHALL INCLUDE BATTERY PACKS RATED FOR 0 DEGREES F OPERATION.

E. ALL FLUORESCENT FIXTURES SHALL BE EQUIPPED WITH AN INTEGRATED CIRCUIT ELECTRONIC BALLAST, SOUND RATED 'A' AND SHALL BE DESIGNED TO OPERATE CONTINUOUSLY IN AN AMBIENT TEMPERATURE OF 40 DEGREES C, WHEN INSTALLED AS SHOWN ON THE DRAWINGS.

2.2 WIRING DEVICES

A. STANDARD DUPLEX RECEPTACLES SHALL BE HUBBELL #HBL5362, PASS & SEYMOUR #5362A OR LEVITON #5362A, COLOR BY ARCHITECT.

B. TUMBLER TOGGLE TYPE LIGHT SWITCHES SHALL BE 120-277 VAC, 20A, HUBBELL NO. 1221/1223 OR EQUAL. SWITCHES SHALL BE NUMBER OF POLES AS INDICATED BY THE DRAWING SYMBOLS. WHERE MORE THAN ONE SWITCH IS SHOWN AT AN OUTLET, SWITCHES SHALL BE INSTALLED UNDER A GANG PLATE IN AN ORDER APPROPRIATE TO OUTLET LOCATION. COLOR BY ARCHITECT.

C. SWITCHES, CONTROLLING OR DISCONNECTING MOTOR LOADS IN EXCESS OF 1/3 HP, SHALL BE HORSEPOWER RATED AND APPROVED, FOR MOTOR CONTROL SERVICES.

D. WIRING DEVICE COVERPLATES SHALL BE AS SPECIFIED BY ARCHITECT FOR FINISHED AREAS. WHERE CONDUIT IS EXPOSED, THE PLATES SHALL BE GALVANIZED OR CAST METAL TO SUIT THE OUTLET BOX USED.

E. DIMMER WALL SWITCHES FOR FLUORESCENT LIGHT FIXTURES SHALL BE AS INDICATED ON DRAWINGS.

F. LIGHT SWITCHES SHALL BE LOCATED 8" TO CENTERLINE OF DEVICE AS MEASURED FROM THE EDGE OF THE DOOR JAMB OR FROM THE EDGE OF THE DOOR ITSELF IF MOUNTED ON THE WALL WHICH IS BEHIND THE DOOR WHEN OPENED.

G. WHERE SWITCHES, RECEPTACLES, OR OUTLETS ARE SHOWN AT CASEWORK OR MILLWORK, MOUNT THEM SO THAT THEY ARE 8" ABOVE COUNTER OR 2" ABOVE BACKSPLASH UNLESS NOTED OTHERWISE ON PLANS.

H. WHERE COVER PLATES CONFLICT WITH CASEWORK OR MILLWORK, THE MOUNTING HEIGHTS OF WIRING DEVICES SHALL BE SLIGHTLY ADJUSTED TO MAKE THE COVER PLATE CLEAR THE BACKSPLASH BY 1/4". REVIEW CASEWORK DRAWINGS PRIOR TO ROUGH-IN FOR OUTLET BOXES.

2.3 CONDUIT

A. ALL CONDUIT 3/4" THROUGH 3" AND CONCEALED IN WALLS AND ABOVE CEILINGS SHALL BE EMT. ALL OTHER CONDUIT SHALL BE RIGID HOT DIPPED GALVANIZED OR HEAVY WALL CONDUIT (IMC). CONDUIT IS TO BE MADE UP TIGHT WITH THREADED COUPLINGS WITH FULL THREADS EMPLOYED IN THE CONDUIT. ALL SHALL BE SQUARE CUT AND REAMED TO REMOVE ANY SHOULDERS OR BURRS. BENDS OR OFFSETS SHALL BE MADE WITH STANDARD CONDUIT ELLS OR FIELD BENDS MADE WITH AN APPROVED BENDER OR HICKEY OR HUB TYPE CONDUIT FITTINGS. NUMBER OF BENDS SHALL CONFORM TO NEC. EMT CONDUIT SHALL HAVE A CORROSION RESISTANT INNER AND OUTER COATING AND A SMOOTH INNER SURFACE. EMT SHALL BE UL APPROVED. EMT COUPLING AND CONNECTORS SHALL BE WATERTIGHT COMPRESSION TYPE WITH AN INSULATED THROAT.

B. ALL CONDUIT MUST BE NEATLY ARRANGED, PROPERLY ALIGNED AND SUPPORTED. CONDUIT SHALL BE KEPT AT LEAST SIX (6) INCHES FROM FLUES, STEAM PIPES, OR HOT WATER PIPES WHERE POSSIBLE.

C. CONCEALED CONDUITS SHALL BE RUN IN A DIRECT LINE WITH LONG SWEEP BENDS AND OFFSETS. EXPOSED CONDUITS SHALL BE RUN PARALLEL TO AND AT RIGHT ANGLES TO BUILDING LINES.

D. ALL CONDUIT RUNS UNDERGROUND OR IN FLOOR SLAB SHALL BE PVC SCHEDULE 40. UNDERGROUND CONDUIT SHALL TRANSITION TO METAL CONDUIT PRIOR TO EXITING GRADE.

E. ALL CONDUIT JOINTS SHALL BE WATER TIGHT AND FREE FROM OBSTRUCTIONS, CLEANED AND DRY BEFORE PULLING CONDUCTORS. THE CONTRACTOR SHALL EXERCISE NECESSARY PRECAUTIONS TO PREVENT DIRT, PLASTER, OR TRASH IN CONDUIT, FITTINGS, AND BOXES DURING THE COURSE OF INSTALLATION. ALL CONDUIT ENDS SHALL BE PLUGGED WITH APPROVED CONDUIT SEALS AS SOON AS INSTALLED AND SHALL NOT BE WITHDRAWN UNTIL ALL CONCRETE WORK, MASONRY WORK, AND PLASTERING IS COMPLETED.

F. CONDUITS SHALL BE CONTINUOUS FROM OUTLET TO OUTLET, FROM OUTLETS TO CABINETS, PULL OR JUNCTION BOXES AND SHALL BE SECURED TO ALL BOXES WITH LOCKOUTS AND BUSHING IN SUCH MANNER THAT EACH SYSTEM SHALL BE ELECTRICALLY CONTINUOUS THROUGHOUT.

G. CONDUIT TERMINALS AT CABINETS AND BOXES SHALL BE RIGIDLY SECURED WITH DOUBLE LOCKNUTS AND BUSHINGS AS REQUIRED BY THE NEC AND LOCAL ELECTRICAL CODE. ON ALL CONDUIT 1-1/4" TRADE SIZE AND LARGER, BUSHINGS SHALL BE OZ, TYPE B.

H. ERICKSON COUPLINGS MAY BE USED IN CONDUIT, BUT UNIONS WILL NOT BE PERMITTED. RUNNING THREADS WILL NOT BE PERMITTED.

I. FITTINGS FOR METAL CONDUIT SHALL COMPLY WITH NEMA FB 1 AND UL 514B. FITTINGS FOR EMT SHALL BE STEEL PLATED HEXAGONAL COMPRESSION FITTINGS/COUPLINGS. NO POT METAL, SET SCREW OR INDENTED FITTINGS TYPE FITTINGS/COUPLINGS SHALL BE UTILIZED.

J. WHERE CONDUITS ARE RUN FROM INDOOR TO OUTDOOR CONDUITS SHALL BE SEALED WITH VAPOR SEAL COMPOUND OR AT A POINT OF ENTRY INTO BUILDING OR BUILDINGS IN ACCORDANCE WITH NEC ARTICLE 230.8.

K. WHERE FLEXIBLE CONDUIT IS USED, IT SHALL BE SEAL TIGHT FLEX. FITTINGS FOR FLEX SHALL BE CROUSE HINDS TYPE T & B.

L. ALL CONDUIT TERMINATIONS SHALL HAVE NYLON INSERT THROAT BUSHINGS INSTALLED. BUSHINGS SHALL BE INSTALLED PRIOR TO CONDUCTOR INSTALLATION. CUT BUSHINGS SHALL NOT BE ALLOWED.

M. ALL CONDUIT PENETRATIONS THRU ELECTRICAL/MECHANICAL EQUIPMENT ENCLOSURES SHALL BE PROPERLY SEALED SO AS NOT TO VOID THE U.L. LISTING OR INTEGRITY OF THE FACTORY ENCLOSURE.

N. ALL EMPTY CONDUIT SHALL BE PROVIDED WITH PULLSTRINGS AND LABELS ON EACH END TO INDICATE THEIR INTENDED USE.

2.4 PULL BOXES AND JUNCTION BOXES

A. FURNISH AND INSTALL PULL BOXES WHERE NECESSARY AND AS SHOWN ON THE DRAWINGS IN THE RACEWAY SYSTEM TO FACILITATE CONDUCTOR INSTALLATION. IN GENERAL, CONDUIT RUNS OF MORE THAN 100 FT. OR WITH MORE THAN THREE RIGHT-ANGLE BENDS SHALL HAVE A PULLBOX INSTALLED AT A CONVENIENT INTERMEDIATE LOCATION. ALL BOXES SHALL BE MADE OF GALVANIZED STEEL, OF METAL GAUGE AND PHYSICAL SIZE AS REQUIRED BY THE NEC FOR THE NUMBER AND SIZE OF CONDUITS AND CONDUCTORS INVOLVED. UNLESS SPECIFIED OTHERWISE, BOXES SHALL HAVE REMOVABLE SCREW COVER FOR INSTALLATION. BOXES SHALL BE SECURELY MOUNTED TO THE BUILDING STRUCTURE WITH SUPPORTING FACILITIES INDEPENDENT OF THE CONDUITS ENTERING OR LEAVING THE BOXES. WHEN SEVERAL CONDUCTORS PASS THROUGH A COMMON PULL BOX, THEY SHALL BE TAGGED TO INDICATE CLEARLY THEIR ELECTRICAL CHARACTERISTICS, CIRCUIT NUMBER AND PANEL DESIGNATION. IN NO CASE SHALL THE PULL BOX BE INSTALLED IN AN INACCESSIBLE LOCATION.

B. PROVIDE INTERIOR BOXES OF GALVANIZED STEEL WITH GALVANIZED STEEL COVERS PER NEMA OS-1, AND LISTED UNDER UL-514.

C. PROVIDE EXTERIOR BOXES OF TYPE FD FERROALLOY PER NEMA FB-1, WITH GASKETED COVER AND THREADED HUBS.

2.5 CONDUCTORS

A. CONDUCTORS SHALL BE SOFT-DRAWN COPPER AND THIRD-PARTY LISTED UNLESS OTHERWISE NOTED, WITH THHN / THWN-2 INSULATION UNLESS OTHERWISE NOTED. CONDUCTOR SIZES SHALL BE STANDARD AMERICAN WIRE GAUGE SIZES. CONDUCTORS AND EQUIPMENT TERMINALS SHALL BE RATED AT 75 DEGREE CELSIUS. WERE EQUIPMENT PROVIDED DOES NOT HAVE TERMINALS RATED AT 75 DEGREE CELSIUS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ADJUSTMENTS TO CONDUCTOR AND CONDUIT SYSTEMS ACCORDINGLY BASED ON THE NEC FOR THE EQUIPMENT'S RATING.

B. WIRE AND CABLE SHALL BE FACTORY COLOR-CODED. WITH A SEPARATE COLOR FOR EACH PHASE AND NEUTRAL USED CONSISTENTLY THROUGHOUT THE SYSTEM. DIFFERENT COLORS SHALL BE USED FOR 120/208Y SYSTEM AND SHALL BE CONSISTENT THROUGHOUT THE SYSTEM.

C. CONDUCTORS INTENDED SOLELY FOR GROUNDING PURPOSES SHALL BE GREEN OR BARE, AS REQUIRED BY THE NEC. COLORS FOR THE DIFFERENT VOLTAGE SYSTEMS SHALL BE IDENTIFIED WITH DIFFERENT COLOR SCHEMES AND NEUTRAL OR GROUNDED CONDUCTORS SHALL BE GREY OR WHITE CORRESPONDINGLY WITH EACH VOLTAGE SYSTEM. ANY CONDUCTOR IDENTIFIED SOLELY FOR GROUNDING SHALL BE IDENTIFIED BY A GREEN COLOR. ALL CONDUITS SHALL CONTAIN A GREEN GROUNDING CONDUCTOR.

D. UNLESS SPECIFICALLY NOTED OTHERWISE, THE MINIMUM WIRE SIZE SHALL BE #12 AWG, EXCEPT THAT CONTROL WIRING MAY BE #14 AWG OR #16 AWG AS NOTED ON PLANS. ALL CONDUCTORS (POWER / CONTROL) SHALL BE INSTALLED IN CONDUIT UNLESS SPECIFICALLY NOTED OTHERWISE.

E. CONDUCTORS #8 AND SMALLER SHALL BE TYPE THWN-THNN. #6 AND LARGER SHALL BE CLP TYPE XHHW 90 DEGREE INSTALLATION. OKONITE X-OLENE PRODUCT GROUP 11232, OR EQUAL, IS ACCEPTABLE.

F. CONTROL CONDUCTORS SHALL BE TAGGED OR IDENTIFIED AT EACH END ACCORDING TO DRAWINGS. ALL CONDUCTORS NOT IDENTIFIED ON DRAWINGS SHALL BE SYSTEMATICALLY TAGGED AND NOTED ON PRINT.

G. WHERE CONDUCTORS ARE RUN IN PARALLEL BOTH CONDUCTORS ARE TO BE TAPPED WHERE BRANCH CIRCUITS ARE TAKEN OFF.

H. CONDUCTORS #10 AND SMALLER SHALL BE TERMINATED WITH STA-KON OR EQUAL PRESSURE TYPE TERMINALS.

I. SPLICING OF CONDUCTORS SHALL BE HELD TO A MINIMUM. CONDUCTOR RUNS LESS THAN 50' IN LENGTH SHALL NOT BE SPLICED. THOSE SPLICE CONNECTIONS SHALL BE DOCUMENTED ON DRAWINGS AS TO LOCATION, WIRE TYPE, AND SPLICE METHOD, FOR INSPECTION PRIOR TO (PUNCH LIST) CLOSEOUT OF PROJECT. ALL CONDUCTOR SPLICES (WHERE ALLOWED) OR TAPS SHALL BE MADE WITH COMPRESSION/CRIMP TYPE FITTINGS AND COVERED WITH NYLON COVER CAPS UNLESS OTHERWISE NOTED. WIRE NUTS OR TAPING OF SPLICES/TAPS SHALL NOT BE ALLOWED.

L. ALL EQUIPMENT FEEDERS SHALL BE CONTINUOUS FROM THE DISCONNECT SWITCH TO THE MOTOR/EQUIPMENT TAP BOX. SPLICES SHALL NOT BE ALLOWED.

M. NEC SECTION 210.4D REQUIRES SEPARATE AND DISTINCT COLOR CODING ON MULTI-VOLTAGE SYSTEMS. PANELBOARDS SHALL BE CLEARLY MARKED. THE IDENTIFICATION SHALL BE BY COLOR CODE OR TAGGING IN A CONSISTENT MANNER.

N. ALL CONDUCTORS INTERNAL TO ELECTRICAL EQUIPMENT SHALL BE NEATLY TIE WRAPPED WITH NYLON TIE WRAPS. CONDUCTORS SHALL BE ROUTED PARALLEL & VERTICAL TO ENCLOSURE SIDES. ALL SHARP EDGES ON CUT TIE WRAPS SHALL BE REMOVED.

O. CONTRACTOR MAY USE TYPE MC CABLE IN LIEU OF CONDUIT AND CONDUCTORS WHERE ALLOWED BY LOCAL CODES AND THE NATIONAL ELECTRICAL CODE. IF TYPE MC CABLE IS USED, CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR RESIZING ANY CIRCUITS SHOWN.

2.6 CONDUIT SUPPORT

A. EXPOSED CONDUITS SHALL BE SECURELY FASTENED IN PLACE ON MAXIMUM 8FT. INTERVALS, UNLESS SPECIFIED OTHERWISE, AND HANGERS, SUPPORTS OR FASTENINGS SHALL BE PROVIDED AT EACH ELBOW AND AT END OF EACH STRAIGHT RUN TERMINATION AT BOX OR CABINET, UNLESS SPECIFIED OTHERWISE. HORIZONTAL AND VERTICAL CONDUIT RUNS MAY BE SUPPORTED BY TWO MALLEABLE STRAPS, BEAM CLAMPS, OR OTHER APPROVED DEVICES WITH SUITABLE BOLTS AND EXPANSION SHIELDS FOR MOUNTING TO BUILDING STRUCTURE OR SPECIAL BRACKETS.

B. HANGERS AND CLAMPS SHALL BE MADE OF DURABLE MATERIALS SUITABLE FOR THE APPLICATION INVOLVED. HANGER ASSEMBLIES SHALL BE PROTECTED BY GALVANIZING, OR OTHER SUITABLE PRESERVATION METHODS TO PREVENT CORROSION. THE REQUIRED STRENGTH OF THE SUPPORTING EQUIPMENT AND SIZE AND TYPE OF ANCHORS SHALL BE BASED ON THE COMBINED WEIGHT OF CONDUIT, HANGER AND CABLES.

C. WHERE AN INDIVIDUALLY MOUNTED SAFETY SWITCH, STARTER, OR CIRCUIT BREAKER IS SHOWN ADJACENT TO ITS RESPECTIVE LOAD AND NOT MOUNTED ON A WALL, PROVIDE ALL SUPPORTS, BRACKET, ANCHORING, ETC. NECESSARY TO PROPERLY SUPPORT THE DEVICE.

2.7 GROUNDING

A. EXCEPT WHERE SPECIFICALLY INDICATED OTHERWISE, ALL EXPOSED NON-CURRENT CARRYING METALLIC PARTS OF ELECTRICAL EQUIPMENT, RACEWAY SYSTEMS AND NEUTRAL CONDUCTOR OF THE WIRING SYSTEM SHALL BE GROUNDED.

B. EACH RACEWAY FOR ALL POWER SYSTEMS AND BRANCH CIRCUITS SHALL HAVE A SEPARATE GROUNDING CONDUCTOR.

C. SPECIFIC ITEMS TO BE GROUNDED ARE LISTED BELOW. THIS LIST IS NOT COMPLETE, BUT GENERALLY DESCRIBES THE GROUNDING OF MAJOR ITEMS THAT MAY OR MAY NOT HAVE THE GROUND INDICATED. THESE GROUNDS ARE TO BE INSTALLED EVEN THOUGH NOT SPECIFICALLY SHOWN OR INDICATED ON THE PLANS.
1. GROUNDING FOR ALL ELECTRICAL EQUIPMENT WITHIN REACH OF METALLIC PLUMBING OR EXPOSED CONCRETE FLOORS IN DIRECT CONTACT WITH THE EARTH SHALL BE PROVIDED.
2. PANELBOARDS, TRANSFORMERS, WIRING GUTTERS, AND TELEPHONE BACKBOARDS.
3. MOTORS, MOTOR STARTERS, AND MOTOR CONTROLS.

D. GROUNDING TYPE RECEPTACLES AND LIGHTING FIXTURE BALLASTS SHALL BE ELECTRICALLY CONNECTED TO THE PANEL WITH A GREEN CONDUCTOR. CONDUIT GROUND IS NOT ACCEPTABLE.

E. APPROPRIATE GROUNDING LUGS SHALL BE PROVIDED ON ALL ENCLOSURES TO BE GROUNDED.

F. PROVIDE U.L. LISTED / APPROVED GROUND CONNECTION LUG(S) AND FITTINGS. LUGS SHALL BE CU/AL RATED. AREA OF LUG CONNECTION TO ENCLOSURE SHALL BE SCRAPED CLEAN OF ALL PAINT AND/OR FOREIGN MATERIALS AND LUG CONNECTED TO ENCLOSURE WITH U.L. APPROVED GROUNDING SCREW. (EXCEPTION: FACTORY PROVIDED GROUNDING LUG/LOCATION)

2.8 SAFETY SWITCHES

A. SAFETY SWITCHES SHALL BE FUSIBLE OR NON-FUSIBLE, HEAVY DUTY, SINGLE THROW AS SHOWN ON DRAWINGS AND BE CAPABLE OF BEING LOCKED IN THE OPEN POSITION. CONTRACTOR SHALL FURNISH AND INSTALL A SAFETY SWITCH WITHIN SIGHT AND ACCESSIBLE OF EACH MOTOR AS REQUIRED BY THE NEC.

B. SAFETY SWITCHES SHALL HAVE THE NUMBER OF POLES AS REQUIRED BY THE CIRCUIT.

C. SAFETY SWITCHES SHALL BE IN NEMA 1 ENCLOSURES INDOORS AND NEMA 3R ENCLOSURES OUTDOORS OR WHERE EXPOSED TO DAMP ENVIRONMENTS.

2.9 STARTERS

A. STARTERS AND/OR DISCONNECTS SHALL BE SQUARE D HEAVY DUTY TYPE AND FURNISHED WITH CLASS R KIT FOR FUSES, H/OA SWITCH CAPABLE OF BEING LOCKED IN THE OPEN POSITION. ENCLOSURES SHALL BE NEMA 1 FOR INDOOR AND NEMA 3R FOR OUTDOOR USE. EACH STARTER SHALL BE EQUIPPED WITH 120 VOLT CONTROL TRANSFORMER, SECONDARY FUSES AND (2)SETS OF N.C. AND N.O. CONTACTS.

B. FRACTIONAL HORSEPOWER UNITS SHALL BE TOGGLE SWITCH TYPE WITH THERMAL OVERLOAD RELAYS - SQUARE D, TYPE F, OR EQUAL.

2.10 NAMEPLATES | IDENTIFICATION

A. ALL PANELBOARDS, TRANSFORMERS, LIGHTING CONTACTORS, MOTOR STARTERS, DISCONNECTS, TIMERS, ETC. SHALL BE PROVIDED WITH NAMEPLATES WITH EQUIPMENT NAME AND VOLTAGE. LABELS ON EQUIPMENT SHALL BE LAMINATED PLASTIC, BLACK WITH WHITE ENGRAVING UNLESS OTHERWISE NOTED. LABELS SHALL BE SECURELY FASTENED TO EQUIPMENT BY USE OF RIVETS OR SCREWS.

B. CONTRACTOR SHALL PROVIDE LABELS ON RECEPTACLE FACEPLATES TO DENOTE THE PANEL AND CIRCUIT SERVING EACH DEVICE. LABELS SHALL BE THE SELF-ADHESIVE TYPE AND BE WHITE WITH BLACK LETTERING. TEXT HEIGHT SHALL BE BETWEEN 3/8" AND 1/4" TO ENSURE LEGIBILITY AND TO PROPERLY FIT ON THE FACEPLATE AS REQUIRED.

C. PANELBOARD DIRECTORY LABELING NOTE - CONTRACTOR SHALL ENSURE ALL PANELBOARD DIRECTORIES MODIFIED AS A PART OF WORK SHOWN ON THESE PLANS ARE UPDATED TO REFLECT AS-BUILT CONDITIONS AND INCLUDE EACH CIRCUIT'S CLEAR, EVIDENT, AND SPECIFIC PURPOSE OR USE IN ACCORDANCE WITH NEC ARTICLE 408.4(A).

2.11 TOUCH-UP FINISH

A. WHEN GROUTING AROUND LIGHT SWITCHES, RECEPTACLES AND/OR TELEPHONE DEVICES, THE PLATES SHALL BE REMOVED SO NO GROUT MATERIAL IS ON PLATE. THE CONTRACTOR SHALL REPLACE ANY PLATE, WIRING DEVICE OR ANY PORTION OF THE ELECTRICAL EQUIPMENT THAT BECOMES COATED WITH FOREIGN MATERIAL WHEN NECESSARY CARE OF PREVENTION HAS BEEN DISREGARDED.

B. ALL PANELBOARDS, JUNCTION BOXES, SWITCHES OR ASSOCIATED CONTROL EQUIPMENT SHALL BE CLEANED, INTERIOR AND EXTERIOR, OF ALL PAINT, MORTAR, AND/OR TRASH THAT ACCUMULATES DURING CONSTRUCTION AND AFTER CONSTRUCTION AND HAS BEEN COMPLETED.

C. OPENINGS FOR CONDUITS THRU WALLS, FLOORS, ETC., AND THE GROUTING AROUND CONDUITS IN THE OPENINGS SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. NEW OR PATCHED WORK SHALL BE PAINTED TO MATCH SURROUNDING SURFACES, PRIOR TO ACCEPTANCE OF ELECTRICAL CONTRACTOR'S WORK

PART 3 - TESTING | INSTALLATION | COORDINATION

A. AFTER THE INTERIOR WIRING SYSTEM IS COMPLETED, THE CONTRACTOR SHALL CONDUCT OPERATING TESTS FOR APPROVAL. THESE TESTS SHALL BE PERFORMED IN THE PRESENCE OF THE AUTHORIZED REPRESENTATIVE OF THE BUILDING OWNER. THE INSTALLATION SHALL BE DEMONSTRATED TO OPERATE IN ACCORDANCE WITH THE REQUIREMENTS OF THIS SPECIFICATION. THE CONTRACTOR SHALL FURNISH ALL INSTRUMENTS AND PERSONNEL REQUIRED FOR THESE TESTS.

B. ALL FEEDERS SHALL BE TESTED WITH A 1000 A VOLT MEGGAR AND FOUND TO BE WITHIN ACCEPTABLE LIMITS BEFORE PLACING IN SERVICE.

C. ALL DUPLEX OUTLETS SHALL BE CHECKED FOR PROPER WIRING, INCLUDING GROUNDING, WITH RECEPTACLE POLARIZER.

D. PROPER PHASE ROTATION OF ALL MOTORS SHALL BE VERIFIED WITH A PHASE ROTATION METER PRIOR TO MOTOR START-UP. ANY SWAPPING OF MOTOR LEADS TO OBTAIN PROPER PHASE ROTATION SHALL BE DONE AT MOTOR J.B. AND NOT AT DISCONNECT SWITCH.

1. THE CONTRACTOR SHALL FULLY COORDINATE ALL WORK PRIOR TO ROUGH-IN OF ANY MECHANICAL OR ELECTRICAL EQUIPMENT. REFER TO MECHANICAL SCHEDULES FOR DESIGNATIONS OF ALL EQUIPMENT REQUIRING CONTROL WIRING. THE CONTRACTOR SHALL PROVIDE ALL CONTROL WIRING AND HARDWARE RELATED TO CONTROL WORK (I.E. TRANSFORMERS, CONTROL MODULES, CONNECTORS, ETC.) ALL CONTROL WIRING SHALL BE PLENUM RATED AND INSTALLED IN CONDUIT UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL MATERIALS AND LABOR TO PROVIDE THE 120 VOLT POWER SOURCES REQUIRED TO OPERATE ALL LOW VOLTAGE MECHANICAL EQUIPMENT AND MAKE FINAL 120 VOLT CONNECTIONS TO CONTROL EQUIPMENT. CONTRACTOR SHALL PROVIDE ALL JUNCTION BOXES AND / OR RECEPTACLES, 120 VOLT WIRING, AND SHALL INSTALL ALL WIRING IN CONDUIT.

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PROJECT INFORMATION:

Durham BOE-Phase 2
Shoppes of Hope
Valley Improvements

Owner Project #23-009

2242

3825 S. ROXBORO STREET
DURHAM, NC

KEY PLAN:

PHASE 2

REVISIONS

No.	Date	Description

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Sheet Name

ELECTRICAL SPECIFICATIONS

Sheet Number

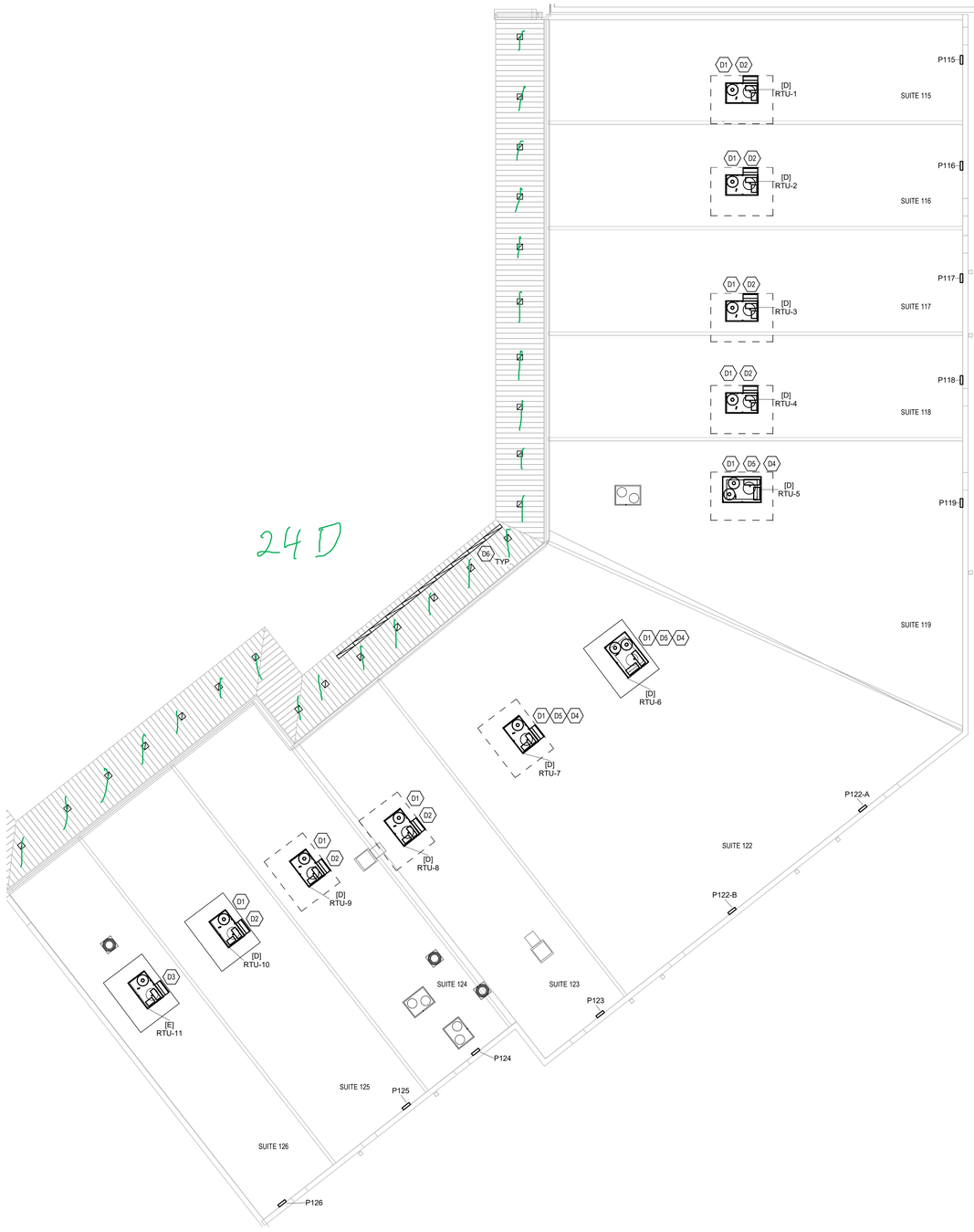
E002

GENERAL NOTES - DEMOLITION

1. ALL ELECTRICAL PANELS SHOWN ARE LOCATED WITHIN THE SUITE THEY SERVE.
2. ALL CONTROL CONDUITS AND WIRING SHALL BE PRESERVED FOR RECONNECTION TO NEW EQUIPMENT IN NEW WORK PHASE.

KEYED NOTES - DEMOLITION:

- D1 DEMOLISH EXISTING ROOFTOP UNIT AND ITS ASSOCIATED DISCONNECT SWITCH IN THEIR ENTIRETY.
- D2 PRESERVE LINE SIDE CIRCUITRY FOR RECONNECTION TO NEW EQUIPMENT IN NEW WORK PHASE.
- D3 ROOFTOP UNIT TO REMAIN.
- D4 DEMOLISH EXISTING BREAKER SERVING EXISTING ROOF TOP CONDENSING UNIT.
- D5 DISCONNECT AND DEMOLISH ALL CONDUIT AND CONDUCTORS SERVING ROOF TOP UNIT IN THEIR ENTIRETY BACK TO SOURCE.
- D6 DISCONNECT AND DEMOLISH ALL ELECTRICAL FIXTURES LOCATED WITHIN SOFFIT. PRESERVE CONDUIT AND CONDUCTORS SERVING LIGHT FIXTURES FOR RECONNECTION TO NEW EQUIPMENT IN NEW WORK PHASE.



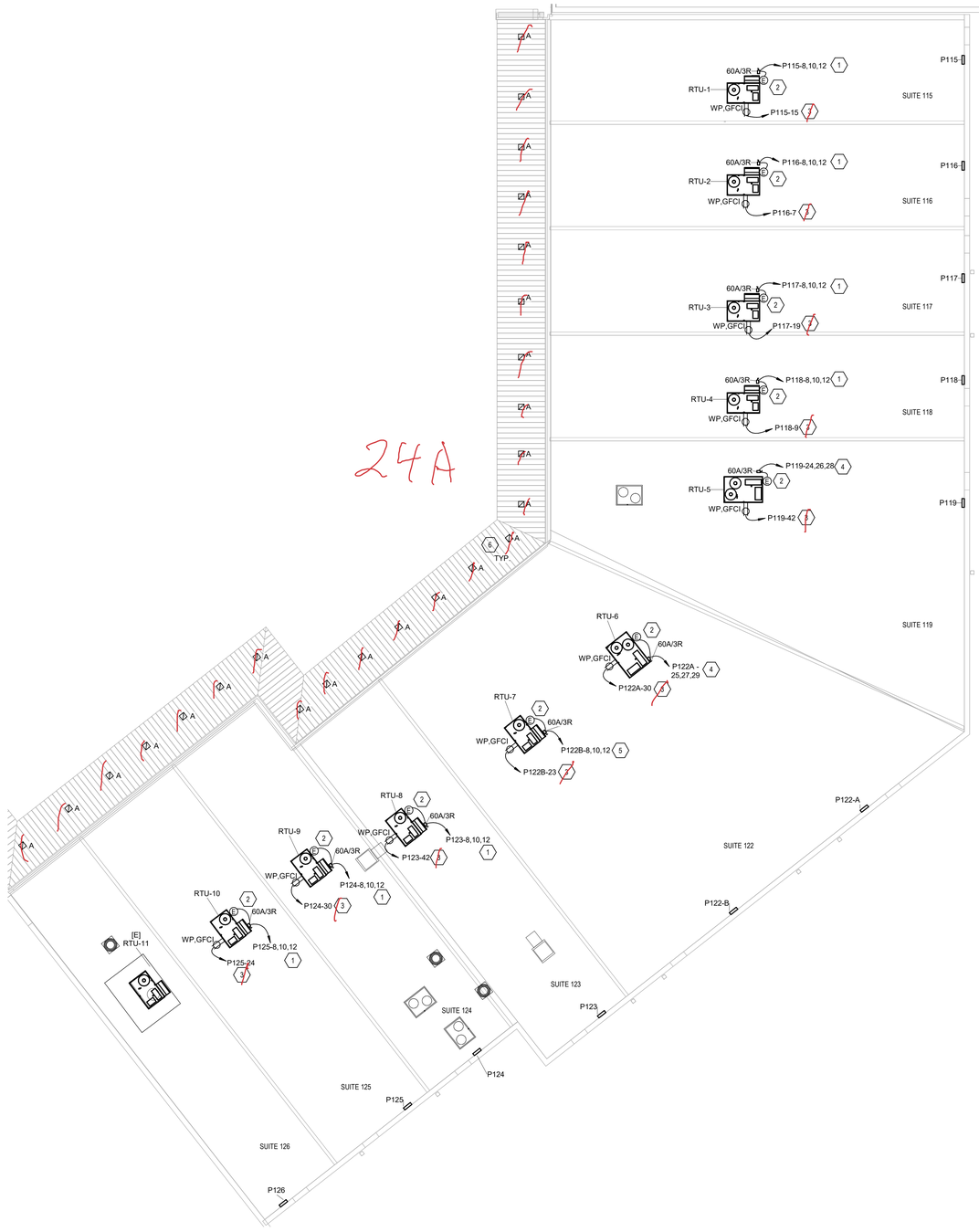
1 BUILDING 2 - ELECTRICAL PLAN - DEMO
E101 SCALE: 3/32" = 1'-0"

GENERAL NOTES - NEW WORK

1. ALL ELECTRICAL PANELS SHOWN ARE LOCATED WITHIN THE SUITE THEY SERVE.
2. RECONNECT ALL CONTROL WIRING PRESERVED DURING DEMOLITION PHASE TO NEW EQUIPMENT IN NEW WORK PHASE.
3. PROVIDE #2 BARE COPPER GROUNDING CONDUCTOR FROM EACH NEW ROOF TOP UNIT FRAME AND CONNECT TO BUILIDNG GROUNDING SYSTEM.
4. COORDINATE ALL ROOFING PENETRATIONS WITH ROOFING COMPANY. PROVIDE PATCHING IN ACCORDANCE WITH ROOFING COMPANY REQUIREMENTS TO MAINTAIN WARRANTY.

KEYED NOTES - NEW WORK:

1. CONNECT NEW NEMA 3R DISCONNECT SWITCH SHOWN TO LINE SIDE FEEDER PRESERVED DURING DEMOLITION PHASE.
2. PROVIDE NEW LOAD SIDE CIRCUITRY TO CONNECT NEW ROOF TOP CONDENSING UNIT TO NEW DISCONNECT SWITCH. PROVIDE CONDUIT AND CONDUCTORS SIZED TO MATCH EXISTING OR NEW LINE SIDE.
3. PROVIDE NEW SURFACE MOUNTED WEATHERPROOF GFCI RECEPTACLE TO SERVE NEW ROOF TOP UNIT. ALL NEW CIRCUITY SHALL BE 2#12, 1#12G IN 3/4"C UNLESS OTHERWISE REQUIRED DUE TO VOLTAGE DROP.
4. PROVIDE NEW 45A 3P BREAKER TO SERVE NEW ROOF TOP UNIT. PROVIDE 3#8, #10G IN 1"C TO CONNECT NEW BREAKER TO NEW DISCONNECT SWITCH.
5. PROVIDE NEW 60A 3P BREAKER TO SERVE NEW ROOF TOP UNIT. PROVIDE 3#6, #10G IN 1"C TO CONNECT NEW BREAKER TO NEW DISCONNECT SWITCH.
6. PROVIDE NEW SOFFIT LIGHTING AS INDICATED. CONNECT NEW LIGHT FIXTURES TO EXISTING CIRCUITRY PRESERVED DURING DEMOLITION. CONTRACTOR SHALL PROVIDE WIRE AND CONDUIT MATCHING EXISTING TO INTERCEPT AND EXTEND CIRCUITS AS NEEDED.



2 BUILDING 2 - ELECTRICAL PLAN - NEW WORK
E101 SCALE: 3/32" = 1'-0"

0 12" 24" 48" 96"
3/32" = 1'-0" GRAPHIC SCALE

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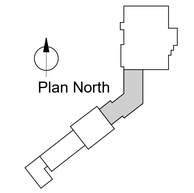
Durham BOE - Phase 2 Shoppes of Hope Valley Improvements

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PHASE 2



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Sheet Name

BUILDING 2 ELECTRICAL PLAN

Sheet Number

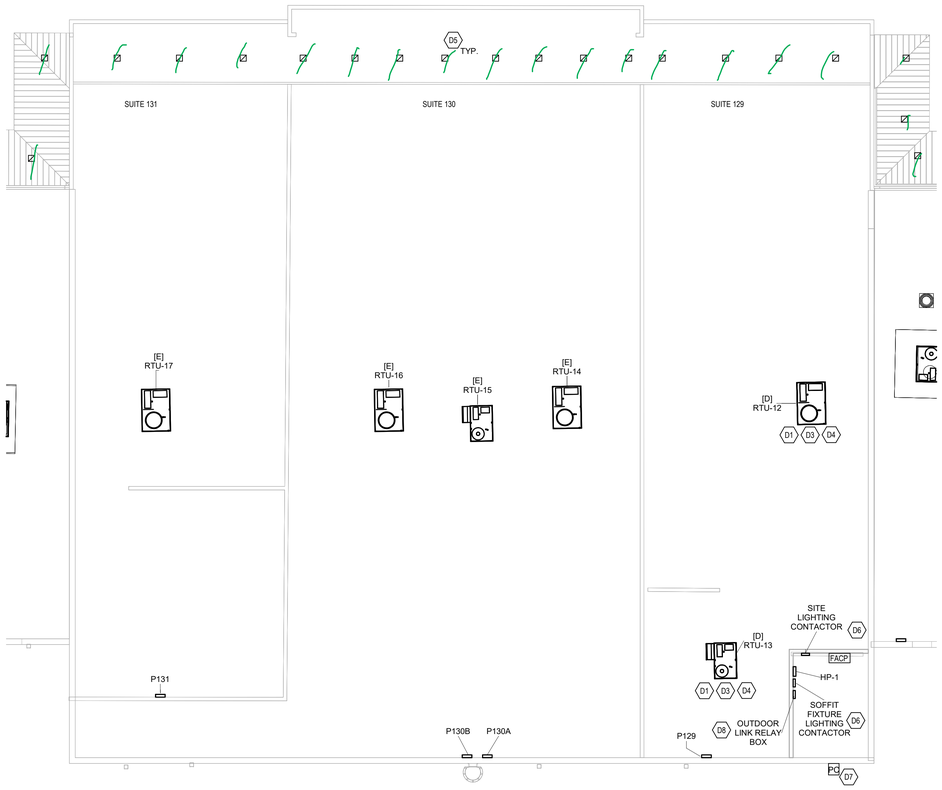
E101

GENERAL NOTES - DEMOLITION

1. ALL ELECTRICAL PANELS SHOWN ARE LOCATED WITHIN THE SUITE THEY SERVE.
2. ALL CONTROL CONDUITS AND WIRING SHALL BE PRESERVED FOR RECONNECTION TO NEW EQUIPMENT IN NEW WORK PHASE.

KEYED NOTES - DEMOLITION:

- D1 DEMOLISH EXISTING ROOFTOP UNIT AND ITS ASSOCIATED DISCONNECT SWITCH IN THEIR ENTIRETY.
- D2 ROOFTOP UNIT TO REMAIN.
- D3 DEMOLISH EXISTING BREAKER SERVING EXISTING ROOF TOP CONDENSING UNIT.
- D4 DISCONNECT AND DEMOLISH ALL CONDUIT AND CONDUCTORS SERVING ROOF TOP UNIT IN THEIR ENTIRETY BACK TO SOURCE.
- D5 DISCONNECT AND DEMOLISH ALL ELECTRICAL FIXTURES LOCATED WITHIN SOFFIT. PRESERVE CONDUIT AND CONDUCTORS SERVING LIGHT FIXTURES FOR RECONNECTION TO NEW EQUIPMENT IN NEW WORK PHASE.
- D6 DISCONNECT AND DEMOLISH EXISTING LIGHTING CONTACTORS SERVING SOFFIT AND SITE LIGHTING. PRESERVE CONDUIT AND CONDUCTORS FOR RECONNECTION TO NEW EQUIPMENT IN NEW WORK PHASE.
- D7 DEMOLISH EXISTING PHOTOCELL SERVING LIGHTING CONTACTOR IN ITS ENTIRETY. DISCONNECT AND DEMOLISH CONDUIT AND CONDUCTORS IN THIER ENTIRETY BACK TO SOURCE.
- D8 DEMOLISH EXISTING "OUTDOOR LINK" RELAY BOX IN ITS ENTIRETY. DEMOLISH ALL ASSOCATED CONDUIT AND CONDUCTORS.



1 E102 BUILDING 3 - ELECTRICAL PLAN - DEMO
SCALE: 3/32" = 1'-0"

GENERAL NOTES - NEW WORK

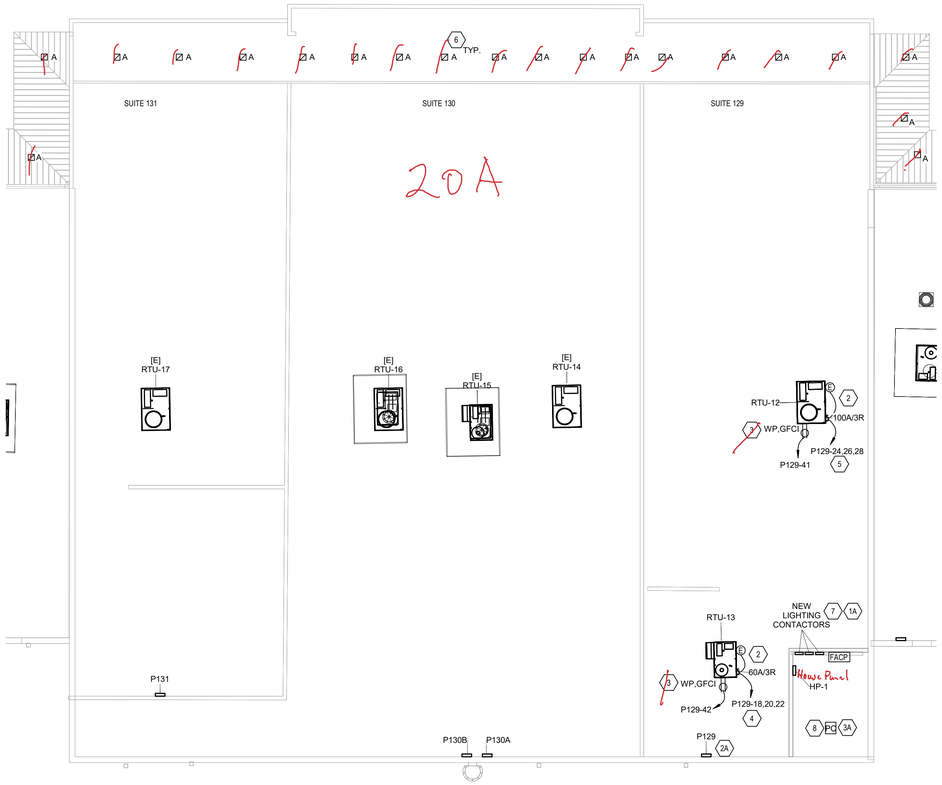
1. ALL ELECTRICAL PANELS SHOWN ARE LOCATED WITHIN THE SUITE THEY SERVE.
2. RECONNECT ALL CONTROL WIRING PRESERVED DURING DEMOLITION PHASE TO NEW EQUIPMENT IN NEW WORK PHASE.
3. PROVIDE #2 BARE COPPER GROUND CONDUCTOR FROM EACH NEW ROOF TOP UNIT FRAME AND CONNECT TO BUILDING GROUNDING SYSTEM.
4. COORDINATE ALL ROOFING PENETRATIONS WITH ROOFING COMPANY. PROVIDE PATCHING IN ACCORDANCE WITH ROOFING COMPANY REQUIREMENTS TO MAINTAIN WARRANTY.

KEYED NOTES - NEW WORK:

1. CONNECT NEW NEMA 3R DISCONNECT SWITCH SHOWN TO LINE SIDE FEEDER PRESERVED DURING DEMOLITION PHASE.
2. PROVIDE NEW LOAD SIDE CIRCUITRY TO CONNECT NEW ROOF TOP CONDENSING UNIT TO NEW DISCONNECT SWITCH. PROVIDE CONDUIT AND CONDUCTORS SIZED TO MATCH EXISTING OR NEW LINE SIDE.
3. PROVIDE NEW SURFACE MOUNTED WEATHERPROOF GFCI RECEPTACLE TO SERVE NEW ROOF TOP UNIT. ALL NEW CIRCUITRY SHALL BE 2#12, 1#12G IN 3/4"C UNLESS OTHERWISE REQUIRED DUE TO VOLTAGE DROP.
4. PROVIDE NEW 40A 3P BREAKER TO SERVE NEW ROOF TOP UNIT. PROVIDE 3#8, #10G IN 3/4"C TO CONNECT NEW BREAKER TO NEW DISCONNECT SWITCH.
5. PROVIDE NEW 70A 3P BREAKER TO SERVE NEW ROOF TOP UNIT. PROVIDE 3#4, #8G IN 1-1/4"C TO CONNECT NEW BREAKER TO NEW DISCONNECT SWITCH.
6. PROVIDE NEW SOFFIT LIGHTING AS INDICATED. CONNECT NEW LIGHT FIXTURES TO EXISTING CIRCUITRY PRESERVED DURING DEMOLITION. CONTRACTOR SHALL PROVIDE WIRE AND CONDUIT MATCHING EXISTING TO INTERCEPT AND EXTEND CIRCUITS AS NEEDED.
7. PROVIDE NEW LIGHTING CONTACTORS WITH HAND OFF AUTO SWITCHES AS INDICATED. CONNECT CIRCUITRY PRESERVED DURING DEMOLITION TO NEW LIGHTING CONTACTORS. LIGHTING CONTACTORS SHALL BE 12 POLE, 30A RATED. BASIS OF DESIGN IS EATON MODEL #ECC04C1ACA-S3P23P25 OR APPROVED EQUAL BY SCHNEIDER ELECTRIC OR ABB. PROVIDE JUNCTION BOXES AS NEEDED TO INTERCEPT AND EXTEND WIRING TO NEW CONTACTORS.
8. PROVIDE NEW ROOF MOUNTED PHOTOCELL FACING NORTH. COORDINATE EXACT MOUNTING LOCATION WITH ARCHITECT. PHOTOCELL SHALL CONTROL LIGHTING CONTACTORS. LIGHT FIXTURES SHALL RUN DUSK UNTIL DAWN.

ALTERNATE KEYED NOTES - NEW WORK:

- 1A IN LIEU OF PROVIDING NEW LIGHTING CONTACTORS, CONTRACTOR SHALL PROVIDE TWO (2) LIGHTING CONTROL PANELS. LIGHTING CONTROL PANEL BASIS OF DESIGN IS HUBBELL MODEL#: CK-24-2-S-24 OR APPROVED EQUAL BY COOPER OR WATTSTOPPER. LIGHTING CONTROL PANELS SHALL BE SERVED FROM PANEL P-129.
- 2A PROVIDE TWO (2) 20A BREAKERS TO SERVE LIGHTING CONTROL PANELS. PROVIDE (4)#12 AND #12G IN 3/4"C TO CONNECT TO LIGHTING CONTROL PANELS.
- 3A CONNECT NEW ROOF MOUNTED PHOTOCELL TO NEW LIGHTING CONTROL PANELS. LIGHTING SHALL RUN DUSK UNTIL DAWN.



2 E102 BUILDING 3 - ELECTRICAL PLAN NEW WORK
SCALE: 3/32" = 1'-0"

0' 12' 24' 48' 96'
3/32" = 1'-0" GRAPHIC SCALE

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EDi PROJECT NUMBER: 026-23.2

Professional Seals

NORTH CAROLINA PROFESSIONAL SEAL 037687 03/27/25 ENGINEER JASON D. LUND

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PROJECT INFORMATION:

Durham BOE - Phase 2 Shoppes of Hope Valley Improvements

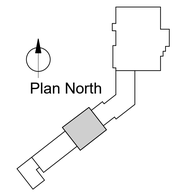
Owner Project #23-009

2242

3825 S. ROXBORO STREET
DURHAM, NC

KEY PLAN:

PHASE 2



REVISIONS

No.	Date	Description

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Sheet Name

BUILDING 3 ELECTRICAL PLAN

Sheet Number

E102

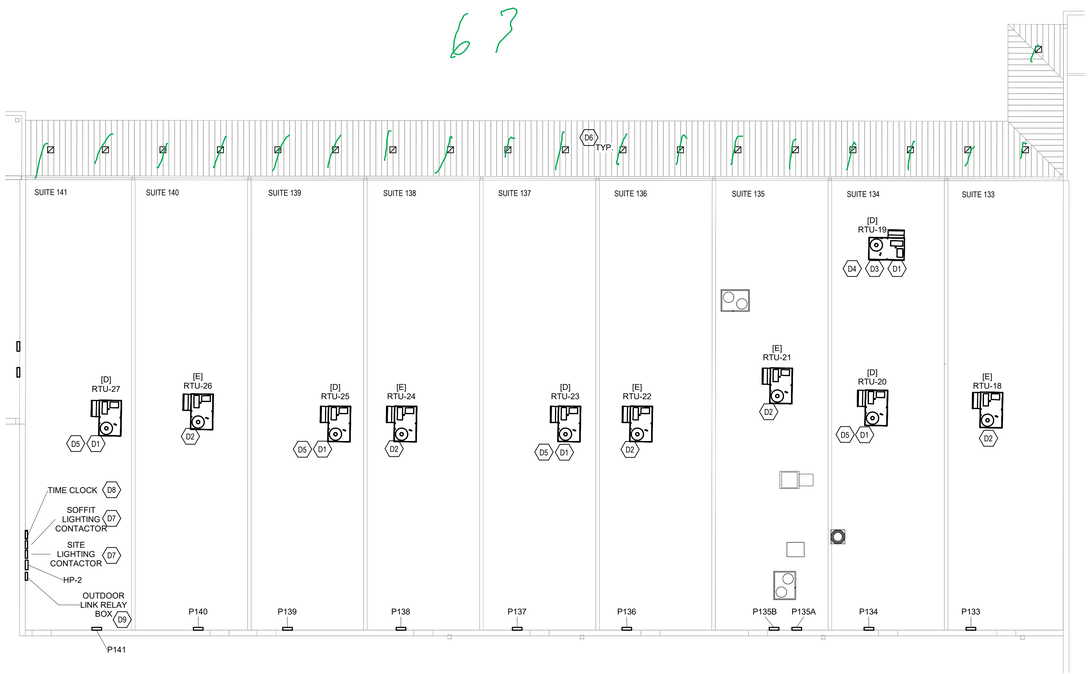
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GENERAL NOTES - DEMOLITION

1. ALL ELECTRICAL PANELS SHOWN ARE LOCATED WITHIN THE SUITE THEY SERVE.
2. ALL CONTROL CONDUITS AND WIRING SHALL BE PRESERVED FOR RECONNECTION TO NEW EQUIPMENT IN NEW WORK PHASE.

KEYED NOTES - DEMOLITION:

- D1 DEMOLISH EXISTING ROOFTOP UNIT AND ITS ASSOCIATED DISCONNECT SWITCH IN THEIR ENTIRETY.
- D2 ROOFTOP UNIT TO REMAIN.
- D3 DEMOLISH EXISTING BREAKER SERVING EXISTING ROOF TOP CONDENSING UNIT.
- D4 DISCONNECT AND DEMOLISH ALL CONDUIT AND CONDUCTORS SERVING ROOF TOP UNIT IN THEIR ENTIRETY BACK TO SOURCE.
- D5 PRESERVE LINE SIDE CIRCUITRY FOR RECONNECTION TO NEW EQUIPMENT IN NEW WORK PHASE.
- D6 DISCONNECT AND DEMOLISH ALL ELECTRICAL FIXTURES LOCATED WITHIN SOFFIT. PRESERVE CONDUIT AND CONDUCTORS SERVING LIGHT FIXTURES FOR RECONNECTION TO NEW EQUIPMENT IN NEW WORK PHASE.
- D7 DISCONNECT AND DEMOLISH EXISTING LIGHTING CONTACTORS SERVING SOFFIT AND SITE LIGHTING. PRESERVE CONDUIT AND CONDUCTORS FOR RECONNECTION TO NEW EQUIPMENT IN NEW WORK PHASE.
- D8 DISCONNECT AND DEMOLISH TIME CLOCK SERVING LIGHTING CONTACTOR IN ITS ENTIRETY. DEMOLISH ALL ASSOCIATED CONDUIT AND CONDUCTORS BACK TO SOURCE.
- D9 DEMOLISH EXISTING "OUTDOOR LINK" RELAY BOX IN ITS ENTIRETY. DEMOLISH ALL ASSOCATED CONDUIT AND CONDUCTORS.



1 BUILDING 4 - ELECTRICAL PLAN - DEMO
E103
SCALE: 3/32" = 1'-0"

GENERAL NOTES - NEW WORK

1. ALL ELECTRICAL PANELS SHOWN ARE LOCATED WITHIN THE SUITE THEY SERVE.
2. RECONNECT ALL CONTROL WIRING PRESERVED DURING DEMOLITION PHASE TO NEW EQUIPMENT IN NEW WORK PHASE.
3. PROVIDE #2 BARE COPPER GROUND CONDUCTOR FROM EACH NEW ROOF TOP UNIT FRAME AND CONNECT TO BUILDING GROUNDING SYSTEM.
4. COORDINATE ALL ROOFING PENETRATIONS WITH ROOFING COMPANY. PROVIDE PATCHING IN ACCORDANCE WITH ROOFING COMPANY REQUIREMENTS TO MAINTAIN WARRANTY.

KEYED NOTES - NEW WORK:

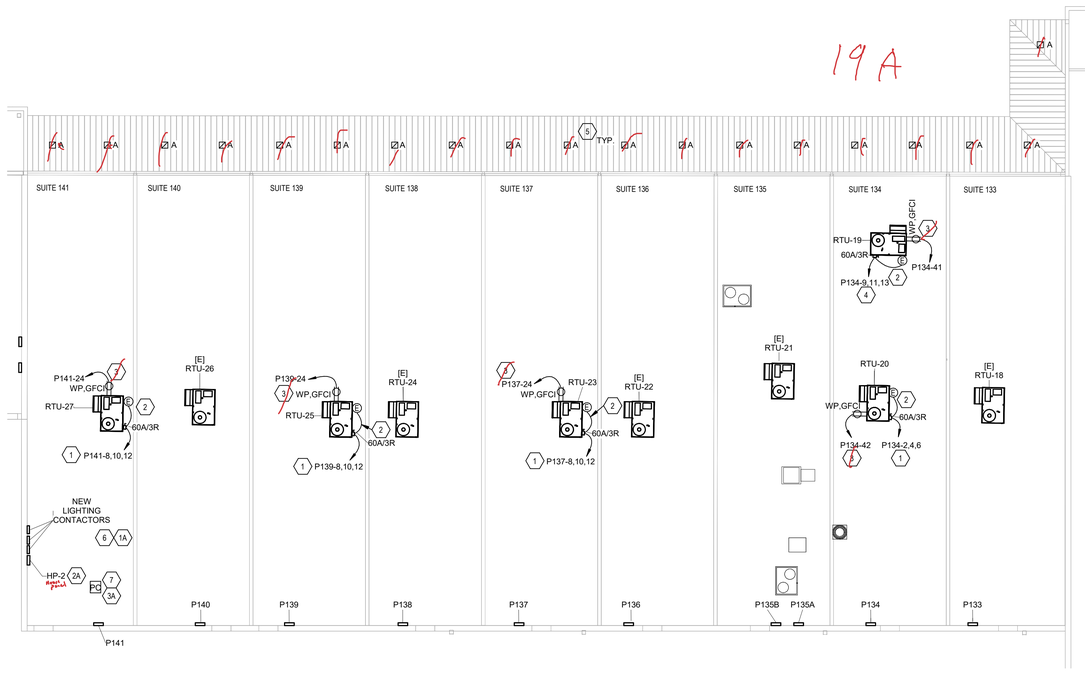
1. CONNECT NEW NEMA 3R DISCONNECT SWITCH SHOWN TO LINE SIDE FEEDER PRESERVED DURING DEMOLITION PHASE.
2. PROVIDE NEW LOAD SIDE CIRCUITRY TO CONNECT NEW ROOF TOP CONDENSING UNIT TO NEW DISCONNECT SWITCH. PROVIDE CONDUIT AND CONDUCTORS SIZED TO MATCH EXISTING OR NEW LINE SIDE.
3. PROVIDE NEW SURFACE MOUNTED WEATHERPROOF GFCI RECEPTACLE TO SERVE NEW ROOF TOP UNIT. ALL NEW CIRCUITY SHALL BE 2#12, 1#12G IN 3/4"C UNLESS OTHERWISE REQUIRED DUE TO VOLTAGE DROP.
4. PROVIDE NEW 50A 3P BREAKER TO SERVE NEW ROOF TOP UNIT. PROVIDE 3#8, #10G IN 1"C TO CONNECT NEW BREAKER TO NEW DISCONNECT SWITCH.
5. PROVIDE NEW SOFFIT LIGHTING AS INDICATED. CONNECT NEW LIGHT FIXTURES TO EXISTING CIRCUITRY PRESERVED DURING DEMOLITION. CONTRACTOR SHALL PROVIDE WIRE AND CONDUIT MATCHING EXISTING TO INTERCEPT AND EXTEND CIRCUITS AS NEEDED.
6. PROVIDE NEW LIGHTING CONTACTORS WITH HAND OFF AUTO SWITCH AS INDICATED. CONNECT CIRCUITRY PRESERVED DURING DEMOLITION TO NEW LIGHTING CONTACTORS. LIGHTING CONTACTORS SHALL BE 12 POLE, 30A RATED. BASIS OF DESIGN IS EATON MODEL #ECCO4C1ACA-S3P23P25 OR APPROVED EQUAL BY SCHNIEDER ELECTRIC OR ABB. PROVIDE JUNCTION BOXES AS NEEDED TO INTERCEPT AND EXTEND WIRING TO NEW CONTACTORS.
7. PROVIDE NEW ROOF MOUNTED PHOTOCELL FACING NORTH. COORDINATE EXACT MOUNTING LOCATION WITH ARCHITECT. PHOTOCELL SHALL CONTROL LIGHTING CONTACTORS. LIGHT FIXTURES SHALL RUN DUSK UNTIL DAWN.

ALTERNATE KEYED NOTES - NEW WORK:

1A. IN LIEU OF PROVIDING NEW LIGHTING CONTACTORS, CONTRACTOR SHALL PROVIDE TWO (2) LIGHTING CONTROL PANELS. LIGHTING CONTROL PANEL BASIS OF DESIGN IS HUBBEL MODEL#: CX-24-2-S-24 OR APPROVED EQUAL BY COOPER OR WATTSTOPPER. LIGHTING CONTROL PANELS SHALL BE SERVED FROM PANEL HP-2.

2A. UTILIZE SPARE BREAKERS 3 AND 5 TO SERVE LIGHTING CONTROL PANELS. PROVIDE (4)#12 AND #12G IN 3/4"C TO CONNECT TO LIGHTING CONTROL PANELS.

3A. CONNECT NEW ROOF MOUNTED PHOTOCELL TO NEW LIGHTING CONTROL PANELS. LIGHTING SHALL RUN DUSK UNTIL DAWN.



2 BUILDING 4 - ELECTRICAL PLAN - NEW WORK
E103
SCALE: 3/32" = 1'-0"

0' 12' 24' 48' 96'
3/32" = 1'-0" GRAPHIC SCALE

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EDi PROJECT NUMBER: 026-23.2

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PROJECT INFORMATION:

Durham BOE - Phase 2 Shoppes of Hope Valley Improvements

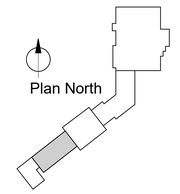
Owner Project #23-009

2242

3825 S. ROXBORO STREET
DURHAM, NC

KEY PLAN:

PHASE 2



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No.	Date	Description

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CAM	JDL	03/27/2025

Sheet Name

BUILDING 4 ELECTRICAL PLAN

Sheet Number

E103

GENERAL NOTES - DEMOLITION

1. ALL ELECTRICAL PANELS SHOWN ARE LOCATED WITHIN THE SUITE THEY SERVE.
2. ALL CONTROL CONDUITS AND WIRING SHALL BE PRESERVED FOR RECONNECTION TO NEW EQUIPMENT IN NEW WORK PHASE.

KEYED NOTES - DEMOLITION:

D1 DEMOLISH EXISTING ROOFTOP UNIT AND ITS ASSOCIATED DISCONNECT SWITCH IN THEIR ENTIRETY.

D2 DEMOLISH EXISTING BREAKER SERVING EXISTING ROOF TOP CONDENSING UNIT.

D3 DISCONNECT AND DEMOLISH ALL CONDUIT AND CONDUCTORS SERVING ROOF TOP UNIT IN THEIR ENTIRETY BACK TO SOURCE.

D4 PRESERVE LINE SIDE CIRCUITRY FOR RECONNECTION TO NEW EQUIPMENT IN NEW WORK PHASE.

D5 DISCONNECT AND DEMOLISH ALL ELECTRICAL FIXTURES LOCATED WITHIN SOFFIT. PRESERVE CONDUIT AND CONDUCTORS SERVING LIGHT FIXTURES FOR RECONNECTION TO NEW EQUIPMENT IN NEW WORK PHASE.

GENERAL NOTES - NEW WORK

1. ALL ELECTRICAL PANELS SHOWN ARE LOCATED WITHIN THE SUITE THEY SERVE.
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3. PROVIDE #2 BARE COPPER GROUND CONDUCTOR FROM EACH NEW ROOF TOP UNIT FRAME AND CONNECT TO BUILDING GROUNDING SYSTEM.
4. COORDINATE ALL ROOFING PENETRATIONS WITH ROOFING COMPANY. PROVIDE PATCHING IN ACCORDANCE WITH ROOFING COMPANY REQUIREMENTS TO MAINTAIN WARRANTY.

KEYED NOTES - NEW WORK:

1 CONNECT NEW NEMA 3R DISCONNECT SWITCH SHOWN TO LINE SIDE FEEDER PRESERVED DURING DEMOLITION PHASE.

2 PROVIDE NEW LOAD SIDE CIRCUITRY TO CONNECT NEW ROOF TOP CONDENSING UNIT TO NEW DISCONNECT SWITCH. PROVIDE CONDUIT AND CONDUCTORS SIZED TO MATCH EXISTING OR NEW LINE SIDE.

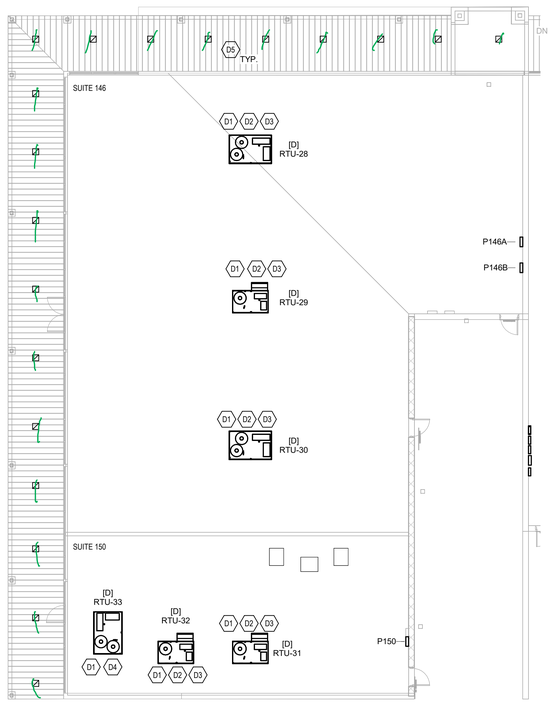
3 PROVIDE NEW SURFACE MOUNTED WEATHERPROOF GFCI RECEPTACLE TO SERVE NEW ROOF TOP UNIT. ALL NEW CIRCUITY SHALL BE 2#12, 1#12G IN 3/4"C UNLESS OTHERWISE REQUIRED DUE TO VOLTAGE DROP.

4 PROVIDE NEW 45A 3P BREAKER TO SERVE NEW ROOF TOP UNIT. PROVIDE 3#8, #10G IN 1"C TO CONNECT NEW BREAKER TO NEW DISCONNECT SWITCH.

5 PROVIDE NEW 40A 3P BREAKER TO SERVE NEW ROOF TOP UNIT. PROVIDE 3#8, #10G IN 3/4"C TO CONNECT NEW BREAKER TO NEW DISCONNECT SWITCH.

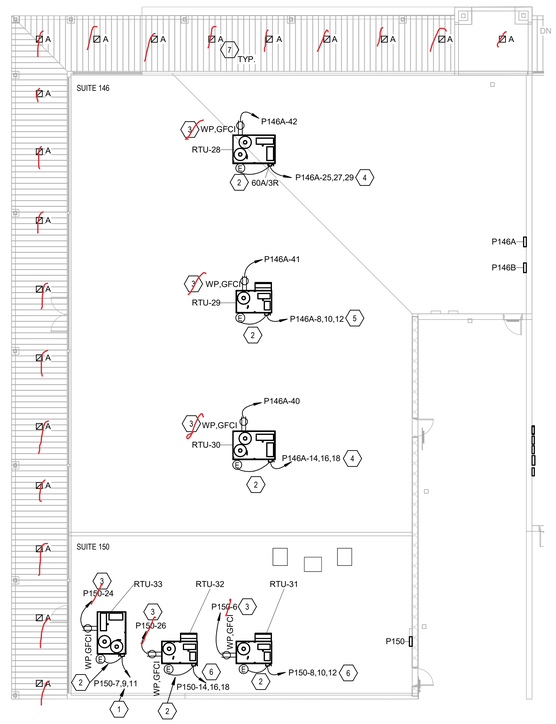
6 PROVIDE NEW 60A 3P BREAKER TO SERVE NEW ROOF TOP UNIT. PROVIDE 3#6, #10G IN 1"C TO CONNECT NEW BREAKER TO NEW DISCONNECT SWITCH.

7 PROVIDE NEW SOFFIT LIGHTING AS INDICATED. CONNECT NEW LIGHT FIXTURES TO EXISTING CIRCUITRY PRESERVED DURING DEMOLITION. CONTRACTOR SHALL PROVIDE WIRE AND CONDUIT MATCHING EXISTING TO INTERCEPT AND EXTEND CIRCUITS AS NEEDED.



8 2 D

1 E104 BUILDING 5 - ELECTRICAL PLAN - DEMO
SCALE: 3/32" = 1'-0"



19A

2 E104 BUILDING 5 - ELECTRICAL PLAN - NEW WORK
SCALE: 3/32" = 1'-0"

0' 12' 24' 48' 96'
3/32" = 1'-0" GRAPHIC SCALE

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ENGINEERED DESIGNS P.L.L.C. CORPORATE SEAL No. P-3001 NORTH CAROLINA

PROJECT INFORMATION:

Durham BOE - Phase 2 Shoppes of Hope Valley Improvements

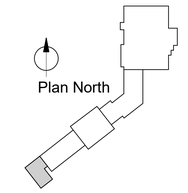
Owner Project #23-009

2242

3825 S. ROXBORO STREET
DURHAM, NC

KEY PLAN:

PHASE 2



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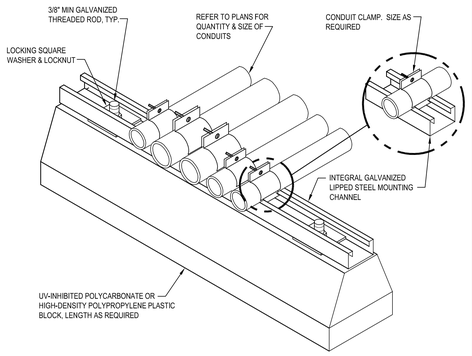
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Sheet Name

BUILDING 5 ELECTRICAL PLAN

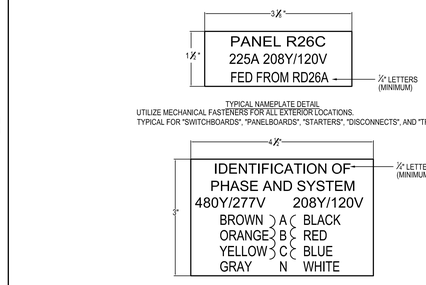
Sheet Number

E104



ROOF CONDUIT SUPPORT DETAIL

C008 — N.T.S



TYPICAL NAMEPLATE DETAIL
UTILIZE MECHANICAL FASTENERS FOR ALL EXTERIOR LOCATIONS.
TYPICAL FOR "SWITCHBOARDS", "PANELBOARDS", "STARTERS", "DISCONNECTS", AND "TRANSFORMERS".

TYPICAL PANELBOARD CONDUCTOR NAMEPLATE DETAIL

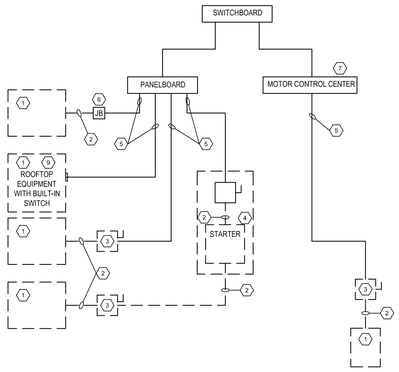
TYPICAL FOR MOUNTING TO ALL DISTRIBUTION EQUIPMENT (SWITCHGEAR, SWITCHBOARDS, PANELBOARDS, ETC.)

GENERAL NOTES:
1. REFER TO SPECIFICATIONS FOR ADDITIONAL NAMEPLATE REQUIREMENTS.
2. NAMEPLATE TO BE 1/16" THICK PLASTIC WITH WHITE CENTER LAMINATION. FACE SHALL BE BLACK, ENGRAVED LETTERS SHALL BE WHITE.
3. SECURE NAMEPLATE TO SURFACES WITH HIGH STRENGTH ADHESIVE CEMENT.

GE02 — N.T.S

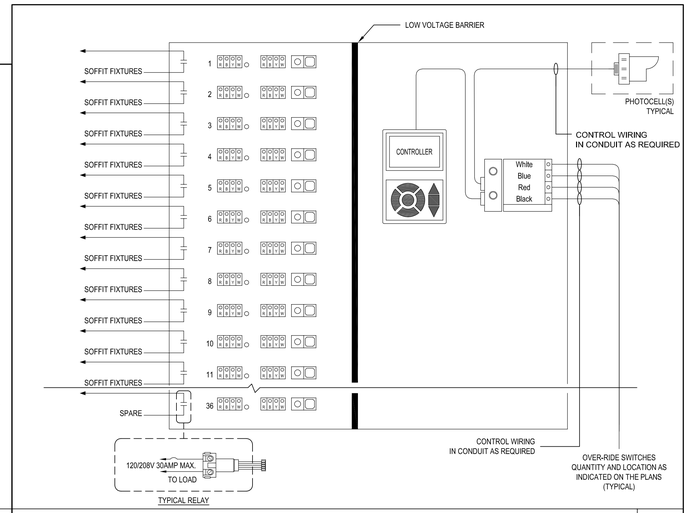
ELECTRICAL NOTES

1. EQUIPMENT OF TRADES OTHER THAN ELECTRICAL
2. CONDUIT & WIRING BY HVAC, PLUMBING CONTRACTOR OR OTHER TRADES.
3. IF AN ADDITIONAL DISCONNECT IS REQUIRED BY NEC IT SHALL BE PROVIDED AND INSTALLED BY THE EQUIPMENT CONTRACTOR.
4. A COMBINATION STARTER OR VFD MAY BE USED IN LIEU OF A SEPARATE DISCONNECT SWITCH AND STARTER. LOCATE ADJACENT TO EQUIPMENT.
5. FEEDER CIRCUIT WIRING AND CONDUIT IN ELECTRICAL WORK. SEE PANELBOARD SCHEDULES FOR WIRE AND BREAKER SIZES.
6. JUNCTION BOX MAY BE SHOWN ON ELECTRICAL PLANS FOR SOME EQUIPMENT. IF NO STARTER OR DISCONNECT IS SUPPLIED, A JUNCTION BOX SHALL BE INSTALLED ADJACENT TO EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL PROVIDE LINE SIDE WIRING TO THE JUNCTION BOX. LOAD SIDE WIRING WILL BE PROVIDED BY MECHANICAL CONTRACTOR OR OTHER TRADES.
7. PROJECTS UTILIZING AN MCC, THE STARTER, CB, OR VFD IN THE MCC ARE PROVIDED BY THE ELECTRICAL CONTRACTOR.
8. IN ALL CASES THE EQUIPMENT CONTRACTOR SHALL MAKE FINAL CONNECTIONS, START UP AND TEST EQUIPMENT.
9. IF THE ROOFTOP EQUIPMENT IS NOT PROVIDED WITH BUILT IN SWITCH, THE ELECTRICAL CONTRACTOR SHALL PROVIDE A DISCONNECT SWITCH.
10. IN A SINGLE PRIME CONTRACT, IT IS THE RESPONSIBILITY OF THE PRIME CONTRACTOR TO COORDINATE BETWEEN THE ELECTRICAL AND THE OTHER TRADES.



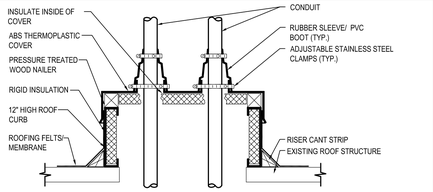
EQUIPMENT CONNECTION DETAIL

GE04 — N.T.S



LIGHTING CONTROL PANEL WIRING DIAGRAM

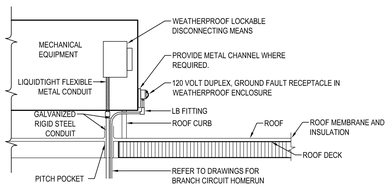
L025 — N.T.S



NOTES:
1. ROOFING MODIFICATIONS/PENETRATIONS SHALL BE IN ACCORDANCE WITH THE ROOFING MANUFACTURER'S SPECIFICATIONS AND DETAILS TO MAINTAIN THE ROOFING SYSTEM WARRANTEE. COORDINATE ALL ROOFING WORK WITH THE OWNER AND/OR ASSOCIATED CONTRACTOR.
2. WHERE POSSIBLE UTILIZE EXISTING ROOF PENETRATIONS.

CONDUIT THRU ROOF DECK

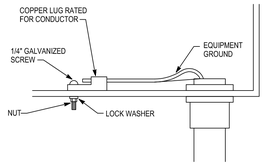
C012 — N.T.S



NOTES:
1. LOCATION OF RECEPTACLE AND DISCONNECT SWITCH IS REPRESENTATIVE AND SHALL BE INSTALLED PER MECHANICAL EQUIPMENT MANUFACTURERS RECOMMENDATIONS.
2. WORK SPACE IN ACCORDANCE WITH NEC 110.26 SHALL BE MAINTAINED.

ROOF TOP MECHANICAL EQUIPMENT RECEPTACLE DETAIL

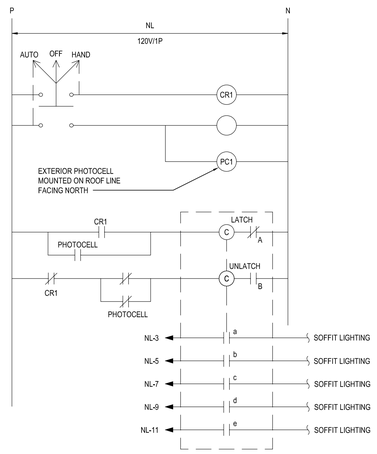
P002 — N.T.S



NOTES:
1. ONE WIRE PER HOLE. USE MULTIPLE BARREL LUGS AS REQUIRED.
2. SCRAPE PAINT FROM ENCLOSURE TO INSURE GOOD METAL-TO-METAL CONTACT BETWEEN LUG AND ENCLOSURE.
3. USE GROUND BARS WHERE AVAILABLE WITH EQUIPMENT.

TYPICAL GROUNDING EQUIPMENT

G006 — N.T.S



NOTE: MECHANICALLY HELD, 208V, 30A, LIGHTING CONTACTOR AND RELAY IN NEMA 1 ENCLOSURE WITH 120V COIL AND HOA SWITCH MOUNTED IN COVER NUMBER OF POLES AS INDICATED

LIGHTING CONTACTOR DIAGRAM

L024 — N.T.S

MECHANICAL / ELECTRICAL EQUIPMENT COORDINATION SCHEDULE

EQUIPMENT DESIGNATION	EQUIPMENT DESCRIPTION	EQUIPMENT FURN. BY	VOLTAGE/ PHASE	HEATER KW	FAN HP	MCA	MOCP	DISCONNECT FURN. BY	STARTER FURN. BY	CONTROLS	REMARKS
RTU-1	Suite 115 Rooftop Unit	M.C.	208-3	3.3	0.72	39	50	M.C.	E.C.	Tstat	
RTU-2	Suite 116 Rooftop Unit	M.C.	208-3	3.3	0.72	39	50	M.C.	E.C.	Tstat	
RTU-3	Suite 117 Rooftop Unit	M.C.	208-3	3.3	0.72	39	50	M.C.	E.C.	Tstat	
RTU-4	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	3.3	0.72	39	50	M.C.	E.C.	TSTAT	
RTU-5	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	6.29	1.12	37	45	M.C.	E.C.	TSTAT	
RTU-6	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	6.29	1.12	37	45	M.C.	E.C.	TSTAT	
RTU-7	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	4.9	0.98	52	62	M.C.	E.C.	TSTAT	
RTU-8	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	3.3	0.72	39	50	M.C.	E.C.	TSTAT	
RTU-9	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	4.9	0.98	52	62	M.C.	E.C.	TSTAT	
RTU-10	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	3.3	0.72	39	50	M.C.	E.C.	TSTAT	
RTU-11	ROOFTOP AIR HANDLING UNIT	ETR	208-3	-	-	-	-	ETR	ETR	TSTAT	
RTU-12	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	9.4	2.01	56	70	M.C.	E.C.	TSTAT	
RTU-13	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	3.3	0.46	34	40	M.C.	E.C.	TSTAT	
RTU-14	ROOFTOP AIR HANDLING UNIT	ETR	208-3	-	-	-	-	ETR	ETR	TSTAT	
RTU-15	ROOFTOP AIR HANDLING UNIT	ETR	208-3	-	-	-	-	ETR	ETR	TSTAT	
RTU-16	ROOFTOP AIR HANDLING UNIT	ETR	208-3	-	-	-	-	ETR	ETR	TSTAT	
RTU-17	ROOFTOP AIR HANDLING UNIT	ETR	208-3	-	-	136	150	ETR	ETR	TSTAT	
RTU-18	ROOFTOP AIR HANDLING UNIT	ETR	208-3	-	-	-	-	ETR	ETR	TSTAT	
RTU-19	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	3.3	0.72	39	50	M.C.	E.C.	TSTAT	
RTU-20	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	3.3	0.72	39	50	M.C.	E.C.	TSTAT	
RTU-21	ROOFTOP AIR HANDLING UNIT	ETR	208-3	-	-	58	60	ETR	ETR	TSTAT	
RTU-22	ROOFTOP AIR HANDLING UNIT	ETR	208-3	-	-	47	50	ETR	ETR	TSTAT	
RTU-23	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	3.3	0.72	39	50	M.C.	E.C.	TSTAT	
RTU-24	ROOFTOP AIR HANDLING UNIT	ETR	208-3	-	-	-	-	ETR	ETR	TSTAT	
RTU-25	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	3.3	0.72	39	50	M.C.	E.C.	TSTAT	
RTU-26	ROOFTOP AIR HANDLING UNIT	ETR	208-3	-	-	47	50	ETR	ETR	TSTAT	
RTU-27	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	3.3	0.72	39	50	M.C.	E.C.	TSTAT	
RTU-28	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	6.29	1.12	37	45	M.C.	E.C.	TSTAT	
RTU-29	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	3.3	0.46	34	40	M.C.	E.C.	TSTAT	
RTU-30	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	6.29	1.12	37	45	M.C.	E.C.	TSTAT	
RTU-31	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	4.9	1.31	51	60	M.C.	E.C.	TSTAT	
RTU-32	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	4.9	0.98	52	62	M.C.	E.C.	TSTAT	
RTU-33	ROOFTOP AIR HANDLING UNIT	M.C.	208-3	6.29	1.12	37	45	M.C.	E.C.	TSTAT	

ABBREVIATIONS:
EC: ELECTRICAL CONTRACTOR
FWE: FURNISHED WITH EQUIPMENT
MC: MECHANICAL CONTRACTOR
ETR: EXISTING TO REMAIN

LIGHT FIXTURE SCHEDULE

FIXTURE TYPE	DESCRIPTION	MOUNTING	VOLTS/WATTS	LAMPS TYPE	LAMPS LUMENS	MANUFACTURER	SERIES NO.	REMARKS
A	SURFACE MOUNTED HIGH ABUSE/VANDAL RESISTANT SOFFIT FIXTURE	SURFACE	208/25	LED	2783	KENALL OR APPROVED EQUAL	H1212DSM-PP-SL-25L40K-DV XXX XXX	SURFACE MOUNT FIXTURE IN SOFFIT. COORDINATE FINAL MOUNTING LOCATIONS WITH ARCHITECT.

LIGHTING NOTES:

1. ALL LIGHTING FIXTURES SHALL BE TESTED AND CERTIFIED BY AN APPROVED TESTING LABORATORY.
2. ALL LED FIXTURES SHALL HAVE MINIMUM CRI OF 80 UNLESS SPECIFICALLY NOTED OTHERWISE.
3. LUMEN OUTPUT NOTED FOR LED FIXTURES IS THE MINIMUM THAT MUST BE PROVIDED FOR THE FIXTURE SPECIFIED.
4. VERIFY ALL MOUNTING HEIGHTS WITH ARCHITECT PRIOR TO ROUGH-IN.
5. COORDINATE ALL COLORS/FINISH OPTIONS OF LIGHT FIXTURES WITH THE ARCHITECT PRIOR TO PURCHASING.
6. ALL LIGHTING FIXTURES INDICATED WITHIN THE LIGHTING FIXTURE SCHEDULE SHALL BE PROVIDED WITH ALL REQUIRED MOUNTING HARDWARE, CONNECTORS AND ANY OTHER NEEDED FIXTURE OPTIONS FOR A COMPLETE AND OPERATIONAL INSTALLATION AS INTENDED ON THE DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL REQUIRED COMPONENTS AT NO ADDITIONAL COST TO THE OWNER.
7. THE E.C. SHALL COORDINATE CLOSELY WITH THE ARCHITECT AND/OR GENERAL CONTRACTOR FOR THE DESIRED MOUNTING METHODS OF THE LED LIGHT FIXTURES IN ALL LOCATIONS OF THE BUILDING AS SHOWN ON THE PLANS. THE E.C. SHALL COORDINATE AND VERIFY THE EXACT LOCATIONS FOR THE POWER SUPPLY (LOW-VOLTAGE TRANSFORMERS) WITH THE ARCHITECT AND/OR GENERAL CONTRACTOR PRIOR TO ROUGH-IN. CONTRACTOR SHALL PROVIDE ALL MOUNTING HARDWARE AS REQUIRED TO MOUNT THESE FIXTURES AS DIRECTED BY THE ARCHITECT.
8. ELECTRICAL CONTRACTOR SHALL PROVIDE ADDITIONAL SHIELDING FOR LIGHTING FIXTURES AS REQUIRED TO OBTAIN AHJ APPROVED FOOTCANDLE LEVELS AT PROPERTY BOUNDARIES. ELECTRICAL CONTRACTOR SHALL PROVIDE FOOTCANDLE TESTING RESULTS AT PROPERTY LINES TO ENGINEER ON RECORD PRIOR TO PROJECT COMPLETION.

LIGHTING CONTROL PANEL NOTE

RELAY BASED LIGHTING CONTROL PANEL SHALL BE PROVIDED AS INDICATED. CONTRACTOR SHALL INCLUDE ALL NECESSARY OVERRIDE SWITCHES, CONTROL WIRING, POWER SUPPLIES, ETC. NECESSARY FOR A COMPLETE AND FUNCTIONAL LIGHTING CONTROL SYSTEM. AT A MINIMUM, THE LIGHTING CONTROL PANEL SHALL INCLUDE THE FOLLOWING, REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS:

A. INTEGRAL CONTROLLER WITH 7-DAY SCHEDULING CAPABILITY
B. QUANTITY OF 120/208V RELAYS AS INDICATED ON THE PLANS AND AS REQUIRED TO PROVIDE CONTROL OF LIGHTING CIRCUITS SHOWN.
C. PUSHBUTTON OVERRIDES FOR EACH RELAY.
D. PHYSICAL BARRIERS TO SEPARATE LOW VOLTAGE CONTROL COMPONENTS AND 208V CIRCUITS IN ACCORDANCE WITH THE NEC.
E. U.L. LISTING FOR INTENDED USE (CONTROL OF BOTH NORMAL AND EMERGENCY LIGHTING).
F. CONTRACTOR SHALL COORDINATE SCHEDULE / PROGRAMMING REQUIREMENTS WITH THE OWNER AND PROVIDE COMPLETE COMMISSIONING OF THE SYSTEM AS REQUIRED TO PROVIDE A COMPLETE AND FUNCTIONAL LIGHTING CONTROL SYSTEM. SEE LIGHTING FUNCTIONALITY NOTE, THIS SHEET, FOR ADDITIONAL REQUIREMENTS.
G. CONTROL POWER SUPPLY AS REQUIRED TO ACCEPT / UTILIZE 120VAC FOR CONTROL COMPONENTS.

THE CONTRACTOR SHALL PROVIDE, NEW, ANY CONFIGURATION TOOL(S), DEVICE(S), ETC. NECESSARY FOR PROGRAMMING, ADJUSTING OR OTHERWISE CHANGING LCP SETTINGS TO THE OWNER AT THE COMPLETION OF THE PROJECT AND PROVIDE A MINIMUM OF FOUR HOURS OF TRAINING ON HOW TO ADJUST THE LCP SCHEDULING AND OVERRIDE BUTTON FUNCTIONALITY UNLESS MORE IS REQUIRED AS DEFINED IN THE CONTRACT SPECIFICATIONS.

LIGHTING FUNCTIONALITY NOTE

THE CONTRACTOR SHALL CONDUCT A MEETING WITH THE OWNER TO DISCUSS FINAL LIGHTING CONTROL OPERATION / SCHEDULING. PRODUCE MINUTES NOTING AGREED UPON SETTINGS, SCHEDULES, ETC. AND DISTRIBUTE TO THE OWNER, ENGINEER, AND ARCHITECT.

EQUAL LIGHTING MANUFACTURER NOTE

THE LIGHTING FIXTURES INDICATED WITHIN THIS FIXTURE SCHEDULE ONLY INDICATE THE MINIMAL QUALITY STANDARDS THAT ARE REQUIRED FOR THE FIXTURES THAT ARE TO BE INSTALLED WITHIN THIS FACILITY. THE FOLLOWING ARE ACCEPTABLE LIGHTING BRANDS (MANUFACTURERS) THAT MAY BE SUBSTITUTED IN LIEU OF THE FIXTURES INDICATED IN ACCORDANCE PER NORTH CAROLINA GENERAL STATUE GS-133, ALL SUBSTITUTIONS MUST MEET OR EXCEED THE MINIMAL QUALITY STANDARDS AS SET FORTH BY THE FIXTURE SELECTIONS INDICATED WITHIN THIS LIGHTING FIXTURE SCHEDULE.

- LITHONIA
- COOPER LIGHTING
- COLUMBIA LIGHTING

LIGHT FIXTURE DISPOSAL NOTE

CONTRACTOR SHALL VERIFY WITH THE ARCHITECT AND OWNER IF ANY OF THE UNUSED DEMOLISHED LIGHTING FIXTURES ARE TO BE RETURNED TO THE BUILDING OWNER FOR ATTIC STOCK. IF THE BUILDING OWNER DOES NOT DESIRE TO KEEP THE UNUSED DEMOLISHED LIGHT FIXTURES THEN THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER REMOVAL AND DISCARDING OF THE DEMOLISHED LIGHT FIXTURES AND THEIR ASSOCIATED BALLASTS.

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EDI PROJECT NUMBER: 026-23.02

Professional Seals

NORTH CAROLINA PROFESSIONAL SEAL 037687 ENGINEER JASON D. LIND 03/27/25

ENGINEERED DESIGNS PLLC CORPORATE SEAL No. P-3001 NORTH CAROLINA

PROJECT INFORMATION:

Durham BOE-Phase 2
Shoppes of Hope Valley Improvements

Owner Project #23-009

2242

3825 S. ROXBORO STREET
DURHAM, NC

KEY PLAN:

PHASE 2

REVISIONS

No.	Date	Description

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DRAWN:	CHECKED:	DATE:
CAM	JDL	03/27/2025

Sheet Name

ELECTRICAL SCHEDULES AND DETAILS

Sheet Number

E401

2020 Quarry 10

PANEL "P115"

CT	DESCRIPTION	LIGHT	RECP	MOTOR	HEAT	OTHER	G	EGC	N	W	CB	PHASE	CB	W	N	EGC	C	OTHER	HEAT	MOTOR	RECP	LIGHT	DESCRIPTION	CT
1	LIGHTS 1 HIGH	--	--	--	--	--	EXISTING TO REMAIN				20	A	20	EXISTING TO REMAIN				--	--	--	--	--	RECEPTACLES	2
3	WATER HEATER	--	--	--	--	--	EXISTING TO REMAIN				20	B	20	EXISTING TO REMAIN				--	--	--	--	--	LTS BATHROOM	4
5	LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				20	C	20	EXISTING TO REMAIN				--	--	--	--	--	RECEPTACLES	6
7	X-RAY	--	--	--	--	--	EXISTING TO REMAIN				100	A	50	EXISTING TO REMAIN				--	--	4683	--	--	NEW RTU-1	8
9		--	--	--	--	--					2P	B	3P					--	--	4683	--	--		10
11	RECEPTACLES	--	--	--	--	--	EXISTING TO REMAIN				20	C						--	--	4683	--	--		12
13	RECEPTACLES	--	--	--	--	--	EXISTING TO REMAIN				20	A	--	--	--	--	--	--	--	--	--	--		14
15	**ROOF GFCI REC.**	--	**180**	--	--	--	**12**	**12**	**12**	**3/4"**	**20**	B	--	--	--	--	--	--	--	--	--	--		16
17		--	--	--	--	--	--	--	--	--	--	C	--	--	--	--	--	--	--	--	--	--		18
19		--	--	--	--	--	--	--	--	--	--	A	--	--	--	--	--	--	--	--	--	--		20
21		--	--	--	--	--	--	--	--	--	--	B	--	--	--	--	--	--	--	--	--	--		22
23		--	--	--	--	--	--	--	--	--	--	C	--	--	--	--	--	--	--	--	--	--		24

VOLTAGE	208Y/120		PANEL LOAD	CONNECTED	DEMAND	NEC KVA	TOTALS:	KVA	AMPS	LOAD NOTES:		
PHASE/WIRE	3 PHASE 4 WIRE		SUMMARY	KVA	FACTOR	TOTAL	PHASE A:	4.7	39.0	1. LARGEST OF: NEC TABLE 220-12 OR CONNECTED LOAD.		
MAIN SIZE	125 AMPS		LIGHTING NOTE 1	0.0	125%	0.0	PHASE B:	4.9	40.5	2. <10KVA - 100% + >10KVA - 50%		
MAIN TYPE	M.L.O.		RECP. NOTE 2	0.2	NEC	0.2	PHASE C:	4.7	39.0	3. INCLUDES 125% OF LARGEST MOTOR		
ENCLOSURE	NEMA 1		MOTOR NOTE 3	14.0	NEC	14.0	TOTAL:	14.2	39.5	4. ---		
TYPE	PANELBOARD		HEAT	0.0	100%	0.0	PANEL NOTES:					
BUSSING	COPPER		OTHER	0.0	100%	0.0	1. PANEL IS A SQUARE D QO LOAD CENTER. ALL NEW BREAKERS SHALL BE QO TYPE.					
BREAKER TYPE	BOLT ON						2. BREAKER SERVING NEW RTU-1 SHALL BE REUSED.					
MOUNTING	SURFACE		TOTAL KVA	14.2		14.2	3. ---					
MINIMUM A/C RATING			KVA X 1000 / VOLTS X 1.73 = TOTAL AMPS			39.5	4. ---					

PANEL "P116"

CT	DESCRIPTION	LIGHT	RECP	MOTOR	HEAT	OTHER	C	EGC	N	W	CB	PHASE	CB	W	N	EGC	C	OTHER	HEAT	MOTOR	RECP	LIGHT	DESCRIPTION	CT
1	LIGHTS 1	--	--	--	--	--	EXISTING TO REMAIN				20	A	20	EXISTING TO REMAIN				--	--	--	--	--	RECEPTACLES	2
3	BOOST SIGN	--	--	--	--	--	EXISTING TO REMAIN				20	B	20	EXISTING TO REMAIN				--	--	--	--	--	LTS BATHROOM	4
5	RECEPTACLES	--	--	--	--	--	EXISTING TO REMAIN				20	C	20	EXISTING TO REMAIN				--	--	--	--	--	ROOF GFCI	6
7	**ROOF GFCI REC.**	--	**180**	--	--	--	**12**	**12**	**12**	**3/4"**	**20**	A	50	EXISTING TO REMAIN				--	--	**4683**	--	--	NEW RTU-2	8
9		--	--	--	--	--	--	--	--	--	--	B	3P					--	--	**4683**	--	--		10
11		--	--	--	--	--	--	--	--	--	--	C						--	--	**4683**	--	--		12
13		--	--	--	--	--	--	--	--	--	--	A	--	--	--	--	--	--	--	--	--	--		14
15		--	--	--	--	--	--	--	--	--	--	B	--	--	--	--	--	--	--	--	--	--		16
17		--	--	--	--	--	--	--	--	--	--	C	--	--	--	--	--	--	--	--	--	--		18
19		--	--	--	--	--	--	--	--	--	--	A	--	--	--	--	--	--	--	--	--	--		20
21		--	--	--	--	--	--	--	--	--	--	B	--	--	--	--	--	--	--	--	--	--		22
23		--	--	--	--	--	--	--	--	--	--	C	--	--	--	--	--	--	--	--	--	--		24

VOLTAGE	208Y/120		PANEL LOAD	CONNECTED	DEMAND	NEC KVA	TOTALS:	KVA	AMPS	LOAD NOTES:		
PHASE/WIRE	3 PHASE 4 WIRE		SUMMARY	KVA	FACTOR	TOTAL	PHASE A:	4.7	39.0	1. LARGEST OF: NEC TABLE 220-12 OR CONNECTED LOAD.		
MAIN SIZE	125 AMPS		LIGHTING NOTE 1	0.0	125%	0.0	PHASE B:	4.7	39.0	2. <10KVA - 100% + >10KVA - 50%		
MAIN TYPE	M.L.O.		RECP. NOTE 2	0.2	NEC	0.2	PHASE C:	4.7	39.0	3. INCLUDES 125% OF LARGEST MOTOR		
ENCLOSURE	NEMA 1		MOTOR NOTE 3	14.0	NEC	14.0	TOTAL:	14.2	39.5	4. ---		
TYPE	PANELBOARD		HEAT	0.0	100%	0.0	PANEL NOTES:					
BUSSING	COPPER		OTHER	0.0	100%	0.0	1. PANEL IS A SQUARE D QO LOAD CENTER. ALL NEW BREAKERS SHALL BE QO TYPE.					
BREAKER TYPE	BOLT ON						2. BREAKER SERVING NEW RTU-2 SHALL BE REUSED.					
MOUNTING	SURFACE		TOTAL KVA	14.2		14.2	3. ---					
MINIMUM A/C RATING	10KAIC		KVA X 1000 / VOLTS X 1.73 = TOTAL AMPS			39.5	4. ---					

PANEL "P117"

CT	DESCRIPTION	LIGHT	RECP	MOTOR	HEAT	OTHER	C	EGC	N	W	CB	PHASE	CB	W	N	EGC	C	OTHER	HEAT	MOTOR	RECP	LIGHT	DESCRIPTION	CT
1	LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				20	A	20	EXISTING TO REMAIN				--	--	--	--	--	WATER HEATER	2
3	RECEPTACLES	--	--	--	--	--	EXISTING TO REMAIN				20	B	20	EXISTING TO REMAIN				--	--	--	--	--	LIGHTS	4
5	RECEPTACLES	--	--	--	--	--	EXISTING TO REMAIN				20	C	20	EXISTING TO REMAIN				--	--	--	--	--	RECEPTACLES	6
7	ROOF GFCI REC.	--	--	--	--	--	EXISTING TO REMAIN				20	A	50	EXISTING TO REMAIN				--	--	**4683**	--	--		8
9	COOLER REC.	--	--	--	--	--	EXISTING TO REMAIN				20	B	3P					--	--	**4683**	--	--	NEW RTU-3	10
11	LOTTO	--	--	--	--	--	EXISTING TO REMAIN				20	C						--	--	**4683**	--	--		12
13	COOLER REC.	--	--	--	--	--	EXISTING TO REMAIN				20	A	20	EXISTING TO REMAIN				--	--	--	--	--	RECEPTACLES	14
15	RECEPTACLES	--	--	--	--	--	EXISTING TO REMAIN				20	B	20	EXISTING TO REMAIN				--	--	--	--	--	RECEPTACLES	16
17	RECEPTACLES	--	--	--	--	--	EXISTING TO REMAIN				20	C	20	EXISTING TO REMAIN				--	--	--	--	--	RECEPTACLES	18
19	**ROOF GFCI REC.**	--	**180**	--	--	--	**12**	**12**	**12**	**3/4"**	**20**	A	20	EXISTING TO REMAIN				--	--	--	--	--	RECEPTACLES	20
21		--	--	--	--	--	--	--	--	--	--	B	--	--	--	--	--	--	--	--	--	--		22
23		--	--	--	--	--	--	--	--	--	--	C	--	--	--	--	--	--	--	--	--	--		24

VOLTAGE	208Y/120		PANEL LOAD	CONNECTED	DEMAND	NEC KVA	TOTALS:	KVA	AMPS	LOAD NOTES:		
PHASE/WIRE	3 PHASE 4 WIRE		SUMMARY	KVA	FACTOR	TOTAL	PHASE A:	4.9	40.5	1. LARGEST OF: NEC TABLE 220-12 OR CONNECTED LOAD.		
MAIN SIZE	125 AMPS		LIGHTING NOTE 1	0.0	125%	0.0	PHASE B:	4.7	39.0	2. <10KVA - 100% + >10KVA - 50%		
MAIN TYPE	M.L.O.		RECP. NOTE 2	0.2	NEC	0.2	PHASE C:	4.7	39.0	3. INCLUDES 125% OF LARGEST MOTOR		
ENCLOSURE	NEMA 1		MOTOR NOTE 3	14.0	NEC	14.0	TOTAL:	14.2	39.5	4. ---		
TYPE	PANELBOARD		HEAT	0.0	100%	0.0	PANEL NOTES:					
BUSSING	COPPER		OTHER	0.0	100%	0.0	1. PANEL IS A SQUARE D QO LOAD CENTER. ALL NEW BREAKERS SHALL BE QO TYPE.					
BREAKER TYPE	BOLT ON						2. BREAKER SERVING NEW RTU-3 SHALL BE REUSED.					
MOUNTING	SURFACE		TOTAL KVA	14.2		14.2	3. ---					
MINIMUM A/C RATING	10KAIC		KVA X 1000 / VOLTS X 1.73 = TOTAL AMPS			39.5	4. ---					

PANEL "P118"

CT	DESCRIPTION	LIGHT	RECP	MOTOR	HEAT	OTHER	G	EGC	N	W	CB	PHASE	CB	W	N	EGC	C	OTHER	HEAT	MOTOR	RECP	LIGHT	DESCRIPTION	CT
1	LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				20	A	20	EXISTING TO REMAIN				--	--	--	--	--	RECEPTACLES	2
3	SIGN LIGHT	--	--	--	--	--	EXISTING TO REMAIN				20	B	20	EXISTING TO REMAIN				--	--	--	--	--	LTS BATHROOM	4
5	WATER HEATER	--	--	--	--	--	EXISTING TO REMAIN				20	C	20	EXISTING TO REMAIN				--	--	--	--	--	ROOF GFCI	6
7	ROOF GFCI REC	--	--	--	--	--	EXISTING TO REMAIN				20	A	50	EXISTING TO REMAIN				--	--	**4683**	--	--		8
9	**ROOF GFCI REC.**	--	**180**	--	--	--	**12**	**12**	**12**	**3/4"**	**20**	B	3P					--	--	**4683**	--	--	NEW RTU-4	10
11		--	--	--	--	--	--	--	--	--	--	C						--	--	**4683**	--	--		12
13		--	--	--	--	--	--	--	--	--	--	A	--	--	--	--	--	--	--	--	--	--		14
15		--	--	--	--	--	--	--	--	--	--	B	--	--	--	--	--	--	--	--	--	--		16
17		--	--	--	--	--	--	--	--	--	--	C	--	--	--	--	--	--	--	--	--	--		18
19		--	--	--	--	--	--	--	--	--	--	A	--	--	--	--	--	--	--	--	--	--		20
21		--	--	--	--	--	--	--	--	--	--	B	--	--	--	--	--	--	--	--	--	--		22
23		--	--	--	--	--	--	--	--	--	--	C	--	--	--	--	--	--	--	--	--	--		24

VOLTAGE	208Y/120		PANEL LOAD	CONNECTED	DEMAND	NEC KVA	TOTALS:	KVA	AMPS	LOAD NOTES:		
PHASE/WIRE	3 PHASE 4 WIRE		SUMMARY	KVA	FACTOR	TOTAL	PHASE A:	4.7	39.0	1. LARGEST OF: NEC TABLE 220-12 OR CONNECTED LOAD.		
MAIN SIZE	125 AMPS		LIGHTING NOTE 1	0.0	125%	0.0	PHASE B:	4.9	40.5	2. <10KVA - 100% + >10KVA - 50%		
MAIN TYPE	M.L.O.		RECP. NOTE 2	0.2	NEC	0.2	PHASE C:	4.7	39.0	3. INCLUDES 125% OF LARGEST MOTOR		
ENCLOSURE	NEMA 1		MOTOR NOTE 3	14.0	NEC	14.0	TOTAL:	14.2	39.5	4. ---		
TYPE	PANELBOARD		HEAT	0.0	100%	0.0	PANEL NOTES:					
BUSSING	COPPER		OTHER	0.0	100%	0.0	1. PANEL IS A SQUARE D QO LOAD CENTER. ALL NEW BREAKERS SHALL BE QO TYPE.					
BREAKER TYPE	BOLT ON						2. BREAKER SERVING NEW RTU-4 SHALL BE REUSED.					
MOUNTING	SURFACE		TOTAL KVA	14.2		14.2	3. ---					
MINIMUM A/C RATING	10KAIC		KVA X 1000 / VOLTS X 1.73 = TOTAL AMPS			39.5	4. ---					

PANEL "P119"

CT	DESCRIPTION	LIGHT	RECP	MOTOR	HEAT	OTHER	C	EGC	N	W	CB	PHASE	CB	W	N	EGC	C	OTHER	HEAT	MOTOR	RECP	LIGHT	DESCRIPTION	CT
1	LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				20	A	20	EXISTING TO REMAIN				--	--	--	--	--	RECEPTACLES	2
3	RECEPTACLES	--	--	--	--	--	EXISTING TO REMAIN				20	B	20	EXISTING TO REMAIN				--	--	--	--	--	RECEPTACLES	4
5	WATER HEATER	--	--	--	--	--	EXISTING TO REMAIN				20	C	20	EXISTING TO REMAIN				--	--	--	--	--	RECEPTACLES	6
7	SIGN	--	--	--	--	--	EXISTING TO REMAIN				20	A	20	EXISTING TO REMAIN				--	--	--	--	--	EWC	8
9	RECEPTACLES	--	--	--	--	--	EXISTING TO REMAIN				20	B	20	EXISTING TO REMAIN				--	--	--	--	--	VENDING MACHINE	10
11	RECEPTACLES	--	--	--	--	--	EXISTING TO REMAIN				20	C	20	EXISTING TO REMAIN				--	--	--	--	--	VENDING MACHINE	12
13	SPARE	--	--	--	--	--	--	--	--	--	20	A	20	EXISTING TO REMAIN				--	--	--	--	--	REFRIGERATOR	14
15	RECEPTACLES	--	--	--	--	--	EXISTING TO REMAIN				20	B	20	EXISTING TO REMAIN				--	--	--	--	--	COFFEE MACHINE	16
17	TELEPHONE BRD.	--	--	--	--	--	EXISTING TO REMAIN				20	C	20	EXISTING TO REMAIN				--	--	--	--	--	MICROWAVE	18
19	SECURITY SYST.	--	--	--	--	--	EXISTING TO REMAIN				20	A	20	EXISTING TO REMAIN				--	--	--	--	--	SR EXAM OFFICE	20
21	RECEPTACLES	--	--	--	--	--	EXISTING TO REMAIN				20	B	20	EXISTING TO REMAIN				--	--	--	--	--	LIGHTS	22
23	SPARE	--	--	--	--	--	--	--	--	--	20	C	**45**	**8**	**--**	**10**		--	--	**4443**	--	--		24
25	PARTITION PWR	--	--	--	--	--	EXISTING TO REMAIN				20	A	**3P**	**8**	**--**	**--**	**1"**	--	--	**4443**	--	--	NEW RTU-5	26
27	RECEPTACLES	--	--	--	--	--	EXISTING TO REMAIN				20	B		**8**	**--**	**--**		--	--	**4443**	--	--		28
29	PARTITION PWR	--	--	--	--	--	EXISTING TO REMAIN				20	C	--	--	--	--	--	--	--	--	--	--	**SPACE**	30
31	PARTITION PWR	--	--	--	--	--	EXISTING TO REMAIN				20	A	--	--	--	--	--	--	--	--	--	--	**SPACE**	32
33	PARTITION PWR	--	--	--	--	--	EXISTING TO REMAIN				20	B	--	--	--	--	--	--	--	--	--	--	**SPACE**	34
35	SPARE	--	--	--	--	--	--	--	--	--	20	C	20	EXISTING TO REMAIN				--	--	--	--	--	RECEPTACLES	36
37		--	--	--	--	--	EXISTING TO REMAIN				20	A	2P	EXISTING TO REMAIN				--	--	--	--	--		38
39	HP-1	--	--	--	--	--	EXISTING TO REMAIN				20	B	2P	EXISTING TO REMAIN				--	--	--	--	--	A/HU-1	40
41		--	--	--	--	--	EXISTING TO REMAIN				20	C	3P	EXISTING TO REMAIN				--	--	--	--	--		42

VOLTAGE	208Y/120		PANEL LOAD	CONNECTED	DEMAND	NEC KVA	TOTALS:	KVA	AMPS	LOAD NOTES:		
PHASE/WIRE	3 PHASE 4 WIRE		SUMMARY	KVA	FACTOR	TOTAL	PHASE A:	4.4	37.0	1. LARGEST OF: NEC TABLE 220-12 OR CONNECTED LOAD.		
MAIN SIZE	225 AMPS		LIGHTING NOTE 1	0.0	125%	0.0	PHASE B:	4.4	37.0	2. <10KVA - 100% + >10KVA - 50%		
MAIN TYPE	M.L.O.		RECP. NOTE 2	0.2	NEC	0.2	PHASE C:	4.6	38.5	3. INCLUDES 125% OF LARGEST MOTOR		
ENCLOSURE	NEMA 1		MOTOR NOTE 3	13.3	NEC	13.3	TOTAL:	13.5	37.5	4. ---		
TYPE	PANELBOARD		HEAT	0.0	100%	0.0	PANEL NOTES:					
BUSSING	COPPER		OTHER	0.0	100%	0.0	1. PANEL IS A SQUARE D NQOD LOAD CENTER. ALL NEW BREAKERS SHALL BE QO TYPE.					
BREAKER TYPE	BOLT ON						2. ---					
MOUNTING	SURFACE		TOTAL KVA	13.5		13.5	3. ---					
MINIMUM A/C RATING	10KAIC		KVA X 1000 / VOLTS X 1.73 = TOTAL AMPS			37.5	4. ---					

PANEL "P122A"

CT	DESCRIPTION	LIGHT	RECP	MOTOR	HEAT	OTHER	C	EGC	N	W	CB	PHASE	CB	W	N	EGC	C	OTHER	HEAT	MOTOR	RECP	LIGHT	DESCRIPTION	CT
1	SPACE	--	--	--	--	--	--	--	--	--	--	A	20	EXISTING TO REMAIN				--	--	--	--	--	LIGHTS	2
3	WATER COOLER	--	--	--	--	--	EXISTING TO REMAIN				20	B	20	EXISTING TO REMAIN				--	--	--	--	--	LIGHTS	4
5	WATER HEATER	--	--	--	--	--	EXISTING TO REMAIN				20	C	20	EXISTING TO REMAIN				--	--	--	--	--	ROOF GFCI REC	6
7	SIGN/TIMECLOCK	--	--	--	--	--	EXISTING TO REMAIN				20	A	20	--	--	--	--	--	--	--	--	--	SPARE	8
9	CEILING RECS	--	--	--	--	--	EXISTING TO REMAIN				20	B	20	EXISTING TO REMAIN				--	--	--	--	--	RECEPTACLES	10
11	CEILING RECS	--	--	--	--	--	EXISTING TO REMAIN				20	C	--	--	--	--	--	--	--	--	--	--	SPACE	12
13	SPACE	--	--	--	--	--	--	--	--	--	--	A	20	--	--	--	--	--	--	--	--	--	SPARE	14
15	SPACE	--	--	--	--	--	--	--	--	--	--	B	20	EXISTING TO REMAIN				--	--	--	--	--	RECEPTACLES	16
17	SPACE	--	--	--	--	--	--	--	--	--	--	C	20	EXISTING TO REMAIN				--	--	--	--	--	RECEPTACLES	18
19	RECEPTACLES	--	--	--	--	--	EXISTING TO REMAIN				20	A	20	EXISTING TO REMAIN				--	--	--	--	--	SPACE	20
21	SPACE	--	--	--	--	--	--	--	--	--	--	B	--	--	--	--	--	--	--	--	--	--	SPACE	22
23	SPACE	--	--	--	--	--	--	--	--	--	--	C	--	--	--	--	--	--	--	--	--	--	SPACE	24
25		--	--	--	--	--	EXISTING TO REMAIN				20	A	20	EXISTING TO REMAIN				--	--	--	--	--	SPACE	26
27	**NEW RTU-6**	--	--	**4443**	--	--			**10**	--	**8**	A	45	--	--	--	--	--	--	--	--	--	SPACE	28
29		--	--	**4443**	--	--	**1"**	--	--	--	**8**	B	**3P**	--	--	--	--	--	--	--	--	--	SPACE	30
31		--	--	--	--	--		--	--	--	--	C	20	**12**	**12**	**12**	**3/4"**	--	--	--	--	**180**	ROOFTOP GFCI	32

VOLTAGE	208Y/120		PANEL LOAD	CONNECTED	DEMAND	NEC KVA	TOTALS:	KVA	AMPS	LOAD NOTES:		
PHASE/WIRE	3 PHASE 4 WIRE		SUMMARY	KVA	FACTOR	TOTAL	PHASE A:	4.4	37.0	1. LARGEST OF: NEC TABLE 220-12 OR CONNECTED LOAD.		
MAIN SIZE	125 AMPS		LIGHTING NOTE 1	0.0	125%	0.0	PHASE B:	4.4	37.0	2. <10KVA - 100% + >10KVA - 50%		
MAIN TYPE	M.L.O.		RECP. NOTE 2	0.2	NEC	0.2	PHASE C:	4.6	38.5	3. INCLUDES 125% OF LARGEST MOTOR		
ENCLOSURE	NEMA 1		MOTOR NOTE 3	13.3	NEC	13.3	TOTAL:	13.5	37.5	4. ---		
TYPE	PANELBOARD		HEAT	0.0	100%	0.0	PANEL NOTES:					
BUSSING	COPPER		OTHER	0.0	100%	0.0	1. PANEL IS A SQUARE D QO LOAD CENTER. ALL NEW BREAKERS SHALL BE QO TYPE.					
BREAKER TYPE	BOLT ON						2. COORDINATE WIRING WITH DURHAM COUNTY PROJECT BUILD					
MOUNTING	SURFACE		TOTAL KVA	13.5		13.5	3. ---					
MINIMUM A/C RATING	10KAIC		KVA X 1000 / VOLTS X 1.73 = TOTAL AMPS			37.5	4. ---					

PANEL "P122B"

CT	DESCRIPTION	LIGHT	RECP	MOTOR	HEAT	OTHER	C	EGC	N	W	CB	PHASE	CB	W	N	EGC	C	OTHER	HEAT	MOTOR	RECP	LIGHT	DESCRIPTION	CT
1	SPACE	--	--	--	--	--	--	--	--	--	--	A	20	EXISTING TO REMAIN				--	--	--	--	--	LIGHTS	2
3	RECEPTACLES	--	--	--	--	--	EXISTING TO REMAIN				20	B	20	EXISTING TO REMAIN				--	--	--	--	--	LIGHTS	4
5	RECEPTACLES	--	--	--	--	--	EXISTING TO REMAIN				20	C	20	EXISTING TO REMAIN				--	--	--	--	--	LIGHTS	6
7	SIGN	--	--	--	--	--	EXISTING TO REMAIN				20	A	20	--	--	--	--	--	--	--	--	--	SPARE	8
9	SPACE	--	--	--	--	--	--	--	--	--	--	B	50	EXISTING TO REMAIN				--	--	**4683**	--	--	NEW RTU-10	10
11	RECEPTACLES	--	--	--	--	--	EXISTING TO REMAIN				20	C	3P					--	--	**4683**	--	--		12
13	RECEPTACLES	--	--	--	--	--	EXISTING TO REMAIN				20	A						--	--	--	--	--	SPACE	14
15	WATER COOLER	--	--	--	--	--	EXISTING TO REMAIN				20	B	--	--	--	--	--	--	--	--	--	--	SPACE	16
17	LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				20	C	--	--	--	--	--	--	--	--	--	--	SPACE	18
19	SPACE	--	--	--	--	--	--	--	--	--	--	A	--	--	--	--	--	--	--	--	--	--	SPACE	20
21	SPACE	--	--	--	--	--	--	--	--	--	--	B	--	--	--	--	--	--	--	--	--	--	SPACE	22
23	SPACE	--	--	--	--	--	--	--	--	--	--	C	--	--	--	--	--	--	--	--	--	--	SPACE	24
25		--	--	--	--	--	EXISTING TO REMAIN				20	A	20	EXISTING TO REMAIN				--	--	--	--	--	SPACE	26
27		--	--	--	--	--	EXISTING TO REMAIN				20	B	20	EXISTING TO REMAIN				--	--	--	--	--	SPACE	28
29		--	--	--	--	--	EXISTING TO REMAIN				20	C	20	EXISTING TO REMAIN				--	--	--	--	--	SPACE	30
31		--	--	--	--	--	EXISTING TO REMAIN				20	A	20	EXISTING TO REMAIN				--	--	--	--	--	SPACE	32
33		--	--	--	--	--	EXISTING TO REMAIN				20	B	20	EXISTING TO REMAIN				--	--	--	--	--	SPACE	34
35		--	--	--	--	--	EXISTING TO REMAIN				20	C	20	EXISTING TO REMAIN				--	--	--	--	--	SPACE	36
37		--	--	--	--	--	EXISTING TO REMAIN				20	A	20	EXISTING TO REMAIN				--	--	--	--	--	SPACE	38
39		--	--	--	--	--	EXISTING TO REMAIN				20	B	20	EXISTING TO REMAIN				--	--	--	--	--	SPACE	40
41	**ROOFTOP GFCI**	--	**180**	--	--	--	**12**	**12**	**12**	**3/4"**	**20**	C	20	**12**	**12**	**12**	**3/4"**	--	--	--	--	**180**	ROOFTOP GFCI	42

VOLTAGE	208Y/120		PANEL LOAD	CONNECTED	DEMAND	NEC KVA	TOTALS:	KVA	AMPS	LOAD NOTES:		
PHASE/WIRE	3 PHASE 4 WIRE		SUMMARY	KVA	FACTOR	TOTAL	PHASE A:	6.2	52.0	1. LARGEST OF: NEC TABLE 220-12 OR CONNECTED LOAD.		
MAIN SIZE	125 AMPS		LIGHTING NOTE 1	0.0	125%	0.0	PHASE B:	6.2	52.0	2. <10KVA - 100% + >10KVA - 50%		
MAIN TYPE	M.L.O.		RECP. NOTE 2	0.2	NEC	0.2	PHASE C:	6.4	53.5	3. INCLUDES 125% OF LARGEST MOTOR		
ENCLOSURE	NEMA 1		MOTOR NOTE 3

PANEL "P134"

CT	DESCRIPTION	LIGHT	RECP	MOTOR	HEAT	OTHER	C	EGC	N	W	CB	PHASE	CB	W	N	EGC	C	OTHER	HEAT	MOTOR	RECP	LIGHT	DESCRIPTION	CT
1	LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				20	A	50 3P	EXISTING TO REMAIN				--	--	4683	--	--	NEW RTU-20	2
3	LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				20	B						--	--	4683	--	--		4
5	LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				20	C						--	--	4683	--	--		6
7	LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				20	A	30 3P	EXISTING TO REMAIN				--	--	--	--	--	BREAD OVEN	8
9	NEW RTU-19	--	--	4683	--	--		10	--	8	50 3P	B						--	--	--	--	--		10
11		--	--	4683	--	--	1"	--	--	8		C						--	--	--	--	--		12
13		--	--	4683	--	--		--	--	8		A	15 2P	EXISTING TO REMAIN				--	--	--	--	--	FREEZER	14
15	LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				20	B						--	--	--	--	--		16
17	LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				20	C	15 2P	EXISTING TO REMAIN				--	--	--	--	--	COOLER	18
19	LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				20	A						--	--	--	--	--		20
21	WATER HEATER	--	--	--	--	--	EXISTING TO REMAIN				20	B	20	EXISTING TO REMAIN				--	--	--	--	--	LIGHTS	22
23	BATHROOM	--	--	--	--	--	EXISTING TO REMAIN				20	C	20	EXISTING TO REMAIN				--	--	--	--	--	ICE MACHINE	24
25	MICROWAVE	--	--	--	--	--	EXISTING TO REMAIN				20	A	20	EXISTING TO REMAIN				--	--	--	--	--	SODA MACHINE	26
27	RECEPTACLES	--	--	--	--	--	EXISTING TO REMAIN				20	B	20	EXISTING TO REMAIN				--	--	--	--	--	SODA PUMP	28
29	RECEPTACLES	--	--	--	--	--	EXISTING TO REMAIN				20	C	20	EXISTING TO REMAIN				--	--	--	--	--	SPARE	30
31	RECEPTACLES	--	--	--	--	--	EXISTING TO REMAIN				20	A	20	EXISTING TO REMAIN				--	--	--	--	--	RECEPTACLES	32
33	SPARE	--	--	--	--	--	EXISTING TO REMAIN				20	B	20	EXISTING TO REMAIN				--	--	--	--	--	RECEPTACLES	34
35	TOASTER	--	--	--	--	--	EXISTING TO REMAIN				30 2P	C	20	EXISTING TO REMAIN				--	--	--	--	--	RECEPTACLES	36
37		--	--	--	--	--						A	--	--	--	--	--	--	--	--	--	--	SPACE	38
39	SPACE	--	--	--	--	--	--	--	--	--		B	--	--	--	--	--	--	--	--	--	--	SPACE	40
41	ROOFTOP GFCI	--	180	--	--	--	12	12	12	3/4"	20	C	20	12	12	12	3/4"	--	--	--	180	--	ROOFTOP GFCI	42

VOLTAGE	208Y/120	PANEL LOAD	CONNECTED	DEMAND	NEC KVA
PHASE/WIRE	3 PHASE 4 WIRE	SUMMARY	KVA	FACTOR	TOTAL
MAIN SIZE	225 AMPS	LIGHTING NOTE 1	0.0	125%	0.0
MAIN TYPE	M.L.O.	RECP. NOTE 2	0.4	NEC	0.4
ENCLOSURE	NEMA 1	MOTOR NOTE 3	28.1	NEC	28.1
TYPE	PANELBOARD	HEAT	0.0	100%	0.0
BUSSING	COPPER	OTHER	0.0	100%	0.0
BREAKER TYPE	BOLT ON				
MOUNTING	SURFACE	TOTAL KVA	28.5		28.5
MINIMUM A/C RATING	10KAIC	KVA X 1000 / VOLTS X 1.73 = TOTAL AMPS			79.1

TOTALS:	KVA	AMPS
PHASE A:	9.4	78.1
PHASE B:	9.4	78.1
PHASE C:	9.7	81.1
TOTAL:	28.5	79.1

PANEL NOTES:
1. PANEL IS A SIEMENS LOAD CENTER. ALL NEW BREAKERS SHALL BE QP TYPE.
2. RTU-20 BREAKER SHALL BE REUSED.
3. ---
4. ---

PANEL "P137"

CT	DESCRIPTION	LIGHT	RECP	MOTOR	HEAT	OTHER	C	EGC	N	W	CB	PHASE	CB	W	N	EGC	C	OTHER	HEAT	MOTOR	RECP	LIGHT	DESCRIPTION	CT
1	LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				20	A	20	EXISTING TO REMAIN				--	--	--	--	--	RECEPTACLES	2
3	SIGN	--	--	--	--	--	EXISTING TO REMAIN				20	B	20	EXISTING TO REMAIN				--	--	--	--	--	EXISTING LOAD	4
5	WATER HEATER	--	--	--	--	--	EXISTING TO REMAIN				20	C	20	EXISTING TO REMAIN				--	--	--	--	--	BATHROOM GFCI	6
7	SPARE	--	--	--	--	--	EXISTING TO REMAIN				20	A	50 3P	EXISTING TO REMAIN				--	--	4683	--	--	NEW RTU-23	8
9	SPARE	--	--	--	--	--	EXISTING TO REMAIN				20	B						--	--	4683	--	--		10
11	SPARE	--	--	--	--	--	EXISTING TO REMAIN				20	C						--	--	4683	--	--		12
13	SPARE	--	--	--	--	--	EXISTING TO REMAIN				20	A	--	--	--	--	--	--	--	--	--	--	SPACE	14
15	SPACE	--	--	--	--	--	--	--	--	--	--	B	--	--	--	--	--	--	--	--	--	--	SPACE	16
17	SPACE	--	--	--	--	--	--	--	--	--	--	C	--	--	--	--	--	--	--	--	--	--	SPACE	18
19	SPACE	--	--	--	--	--	--	--	--	--	--	A	--	--	--	--	--	--	--	--	--	--	SPACE	20
21	SPACE	--	--	--	--	--	--	--	--	--	--	B	--	--	--	--	--	--	--	--	--	--	SPACE	22
23	SPACE	--	--	--	--	--	--	--	--	--	--	C	20	12	12	12	3/4"	--	--	--	180	--	ROOF GFCI REC.	24

VOLTAGE	208Y/120	PANEL LOAD	CONNECTED	DEMAND	NEC KVA
PHASE/WIRE	3 PHASE 4 WIRE	SUMMARY	KVA	FACTOR	TOTAL
MAIN SIZE	125 AMPS	LIGHTING NOTE 1	0.0	125%	0.0
MAIN TYPE	M.L.O.	RECP. NOTE 2	0.2	NEC	0.2
ENCLOSURE	NEMA 1	MOTOR NOTE 3	14.0	NEC	14.0
TYPE	PANELBOARD	HEAT	0.0	100%	0.0
BUSSING	COPPER	OTHER	0.0	100%	0.0
BREAKER TYPE	BOLT ON				
MOUNTING	SURFACE	TOTAL KVA	14.2		14.2
MINIMUM A/C RATING	10KAIC	KVA X 1000 / VOLTS X 1.73 = TOTAL AMPS			39.5

TOTALS:	KVA	AMPS
PHASE A:	4.7	39.0
PHASE B:	4.7	39.0
PHASE C:	4.9	40.5
TOTAL:	14.2	39.5

LOAD NOTES:
1. LARGEST OF: NEC TABLE 220-12 OR CONNECTED LOAD.
2. <10KVA - 100% + >10KVA - 50%
3. INCLUDES 125% OF LARGEST MOTOR
4. ---

PANEL NOTES:
1. PANEL IS A SQUARE D QO LOAD CENTER. ALL NEW BREAKERS SHALL BE QO TYPE.
2. BREAKER SERVING RTU-23 SHALL BE REUSED.
3. ---
4. ---

PANEL "P139"

CT	DESCRIPTION	LIGHT	RECP	MOTOR	HEAT	OTHER	C	EGC	N	W	CB	PHASE	CB	W	N	EGC	C	OTHER	HEAT	MOTOR	RECP	LIGHT	DESCRIPTION	CT
1	LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				20	A	20	EXISTING TO REMAIN				--	--	--	--	--	RECEPTACLES	2
3	SIGN	--	--	--	--	--	EXISTING TO REMAIN				20	B	20	EXISTING TO REMAIN				--	--	--	--	--	COOLER	4
5	WATER HEATER	--	--	--	--	--	EXISTING TO REMAIN				20	C	20	EXISTING TO REMAIN				--	--	--	--	--	BATHROOM GFCI	6
7	RECEPTACLES	--	--	--	--	--	EXISTING TO REMAIN				20	A	50 3P	EXISTING TO REMAIN				--	--	4683	--	--	NEW RTU-25	8
9	LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				20	B						--	--	4683	--	--		10
11	LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				20	C						--	--	4683	--	--		12
13	LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				20	A	20	--	--	--	--	--	--	--	--	--	SPARE	14
15	SPACE	--	--	--	--	--	--	--	--	--	--	B	20	--	--	--	--	--	--	--	--	--	SPARE	16
17	SPACE	--	--	--	--	--	--	--	--	--	--	C	--	--	--	--	--	--	--	--	--	--	SPACE	18
19	SPACE	--	--	--	--	--	--	--	--	--	--	A	--	--	--	--	--	--	--	--	--	--	SPACE	20
21	SPACE	--	--	--	--	--	--	--	--	--	--	B	--	--	--	--	--	--	--	--	--	--	SPACE	22
23	SPACE	--	--	--	--	--	--	--	--	--	--	C	20	12	12	12	3/4"	--	--	--	180	--	ROOF GFCI REC.	24

VOLTAGE	208Y/120	PANEL LOAD	CONNECTED	DEMAND	NEC KVA
PHASE/WIRE	3 PHASE 4 WIRE	SUMMARY	KVA	FACTOR	TOTAL
MAIN SIZE	125 AMPS	LIGHTING NOTE 1	0.0	125%	0.0
MAIN TYPE	M.L.O.	RECP. NOTE 2	0.2	NEC	0.2
ENCLOSURE	NEMA 1	MOTOR NOTE 3	14.0	NEC	14.0
TYPE	PANELBOARD	HEAT	0.0	100%	0.0
BUSSING	COPPER	OTHER	0.0	100%	0.0
BREAKER TYPE	BOLT ON				
MOUNTING	SURFACE	TOTAL KVA	14.2		14.2
MINIMUM A/C RATING	10KAIC	KVA X 1000 / VOLTS X 1.73 = TOTAL AMPS			39.5

TOTALS:	KVA	AMPS
PHASE A:	4.7	39.0
PHASE B:	4.7	39.0
PHASE C:	4.9	40.5
TOTAL:	14.2	39.5

LOAD NOTES:
1. LARGEST OF: NEC TABLE 220-12 OR CONNECTED LOAD.
2. <10KVA - 100% + >10KVA - 50%
3. INCLUDES 125% OF LARGEST MOTOR
4. ---

PANEL NOTES:
1. PANEL IS A SQUARE D QO LOAD CENTER. ALL NEW BREAKERS SHALL BE QO TYPE.
2. BREAKER SERVING RTU-25 SHALL BE REUSED.
3. ---
4. ---

PANEL "P141"

CT	DESCRIPTION	LIGHT	RECP	MOTOR	HEAT	OTHER	C	EGC	N	W	CB	PHASE	CB	W	N	EGC	C	OTHER	HEAT	MOTOR	RECP	LIGHT	DESCRIPTION	CT
1	LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				20	A	20	EXISTING TO REMAIN				--	--	--	--	--	RECEPTACLES	2
3	SIGN	--	--	--	--	--	EXISTING TO REMAIN				20	B	--	--	--	--	--	--	--	--	--	--	SPACE	4
5	WATER HEATER	--	--	--	--	--	EXISTING TO REMAIN				20	C	20	EXISTING TO REMAIN				--	--	--	--	--	BATHROOM GFCI	6
7	SPARE	--	--	--	--	--	EXISTING TO REMAIN				20	A	50 3P	EXISTING TO REMAIN				--	--	4683	--	--	NEW RTU-27	8
9	SPACE	--	--	--	--	--	--	--	--	--	--	B						--	--	4683	--	--		10
11	SPACE	--	--	--	--	--	--	--	--	--	--	C						--	--	4683	--	--		12
13	SPACE	--	--	--	--	--	--	--	--	--	--	A	--	--	--	--	--	--	--	--	--	--	SPACE	14
15	SPACE	--	--	--	--	--	--	--	--	--	--	B	--	--	--	--	--	--	--	--	--	--	SPACE	16
17	SPACE	--	--	--	--	--	--	--	--	--	--	C	--	--	--	--	--	--	--	--	--	--	SPACE	18
19	SPACE	--	--	--	--	--	--	--	--	--	--	A	--	--	--	--	--	--	--	--	--	--	SPACE	20
21	SPACE	--	--	--	--	--	--	--	--	--	--	B	--	--	--	--	--	--	--	--	--	--	SPACE	22
23	SPACE	--	--	--	--	--	--	--	--	--	--	C	20	12	12	12	3/4"	--	--	--	180	--	ROOF GFCI REC.	24

VOLTAGE	208Y/120	PANEL LOAD	CONNECTED	DEMAND	NEC KVA
PHASE/WIRE	3 PHASE 4 WIRE	SUMMARY	KVA	FACTOR	TOTAL
MAIN SIZE	125 AMPS	LIGHTING NOTE 1	0.0	125%	0.0
MAIN TYPE	M.L.O.	RECP. NOTE 2	0.2	NEC	0.2
ENCLOSURE	NEMA 1	MOTOR NOTE 3	14.0	NEC	14.0
TYPE	PANELBOARD	HEAT	0.0	100%	0.0
BUSSING	COPPER	OTHER	0.0	100%	0.0
BREAKER TYPE	BOLT ON				
MOUNTING	SURFACE	TOTAL KVA	14.2		14.2
MINIMUM A/C RATING	10KAIC	KVA X 1000 / VOLTS X 1.73 = TOTAL AMPS			39.5

TOTALS:	KVA	AMPS
PHASE A:	4.7	39.0
PHASE B:	4.7	39.0
PHASE C:	4.9	40.5
TOTAL:	14.2	39.5

LOAD NOTES:
1. LARGEST OF: NEC TABLE 220-12 OR CONNECTED LOAD.
2. <10KVA - 100% + >10KVA - 50%
3. INCLUDES 125% OF LARGEST MOTOR
4. ---

PANEL NOTES:
1. PANEL IS A SQUARE D QO LOAD CENTER. ALL NEW BREAKERS SHALL BE QO TYPE.
2. ---
3. ---
4. ---

PANEL "P146A"

CT	DESCRIPTION	LIGHT	RECP	MOTOR	HEAT	OTHER	C	EGC	N	W	CB	PHASE	CB	W	N	EGC	C	OTHER	HEAT	MOTOR	RECP	LIGHT	DESCRIPTION	CT
1	LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				20	A	20	EXISTING TO REMAIN				--	--	4683	--	--	LIGHTS	2
3	LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				20	B	20	EXISTING TO REMAIN				--	--	4683	--	--	LIGHTS	4
5	LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				20	C	20	EXISTING TO REMAIN				--	--	4683	--	--	LIGHTS	6
7	LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				20	A	40 3P	8	--	10		--	--	4083	--	--	NEW RTU-29	8
9	LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				20	B		8	--	--	1"	--	--	4083	--	--		10
11	SIGN	--	--	--	--	--	EXISTING TO REMAIN				20	C		8	--	--		--	--	4083	--	--		12
13	SIGN	--	--	--	--	--	EXISTING TO REMAIN				20	A	45 3P	8	--	10		--	--	4443	--	--	NEW RTU-30	14
15	SIGN	--	--	--	--	--	EXISTING TO REMAIN				20	B		8	--	--	1"	--	--	4443	--	--		16
17	REC ROOF TOP	--	--	--	--	--	EXISTING TO REMAIN				20	C		8	--	--		--	--	4443	--	--		18
19	LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				20	A	--	--	--	--	--	--	--	--	--	--	SPACE	20
21	LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				20	B	--	--	--	--	--	--	--	--	--	--	SPACE	22
23	LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				20	C	--	--	--	--	--	--	--	--	--	--	SPACE	24
25		--	--	4443	--	--		10	--	8	45 3P	A	--	--	--	--	--	--	--	--	--	--	SPACE	26
27	NEW RTU-28	--	--	4443	--	--	1"	--	--	8		B	--	--	--	--	--	--	--	--	--	--	SPACE	28
29		--	--	4443	--	--		--	--	8		C	--	--	--	--	--	--	--	--	--	--	SPACE	30
31	SPARE	--	--	--	--	--	EXISTING TO REMAIN				20	A	20	EXISTING TO REMAIN				--	--	--	--	--	LTG CONTROL CKT	32
33	SPARE	--	--	--	--	--	EXISTING TO REMAIN				20	B	--	--	--	--	--	--	--	--	--	--	SPACE	34
35	SPACE	--	--	--	--	--	--	--	--	--	--	C	--	--	--	--	--	--	--	--	--	--	SPACE	36
37	SPACE	--	--	--	--	--	--	--	--	--	30 2P	A	--	--	--	--	--	--	--	--	--	--	SPACE	38
39	SPACE	--	--	--	--	--	--	--	--	--		B	20	12	12	12	3/4"	--	--	--	180	--	ROOFTOP GFCI	40
41	ROOFTOP GFCI	--	180	--	--	--	12	12	12	3/4"	20	C	20	12	12	12	3/4"	--	--	--	180	--	ROOFTOP GFCI	42

VOLTAGE	208Y/120	PANEL LOAD	CONNECTED	DEMAND	NEC KVA
PHASE/WIRE	3 PHASE 4 WIRE	SUMMARY	KVA	FACTOR	TOTAL
MAIN SIZE	400 AMPS	LIGHTING NOTE 1	0.0	125%	0.0
MAIN TYPE	M.L.O.	RECP. NOTE 2	0.5	NEC	0.5
ENCLOSURE	NEMA 1	MOTOR NOTE 3	53.0	NEC	53.0
TYPE	PANELBOARD	HEAT	0.0	100%	0.0
BUSSING	COPPER	OTHER	0.0	100%	0.0
BREAKER TYPE	BOLT ON				
MOUNTING	SURFACE	TOTAL KVA	53.5		53.5
MINIMUM A/C RATING	10KAIC	KVA X 1000 / VOLTS X 1.73 = TOTAL AMPS			148.6

TOTALS:	KVA	AMPS
PHASE A:	17.7	147.1
PHASE B:	17.8	148.6
PHASE C:	18.0	150.1
TOTAL:	53.5	148.6

LOAD NOTES:
1. LARGEST OF: NEC TABLE 220-12 OR CONNECTED LOAD.
2. <10KVA - 100% + >10KVA - 50%
3. INCLUDES 125% OF LARGEST MOTOR
4. ---

PANEL NOTES:
1. PANEL IS A SQUARE D QON LOAD CENTER. ALL NEW BREAKERS SHALL BE QO TYPE.
2. ---
3. ---
4. ---

PANEL "P150"

CT	DESCRIPTION	LIGHT	RECP	MOTOR	HEAT	OTHER	C	EGC	N	W	CB	PHASE	CB	W	N	EGC	C	OTHER	HEAT	MOTOR	RECP	LIGHT	DESCRIPTION	CT
1	WATER HEATER	--	--	--	--	--	EXISTING TO REMAIN				20	A	15	EXISTING TO REMAIN				--	--	--	--	--	LIGHTS	2
3	RECEPTACLES	--	--	--	--	--	EXISTING TO REMAIN				20	B	20	EXISTING TO REMAIN				--	--	--	--	--	CLOCK	4
5	WARMER	--	--	--	--	--	EXISTING TO REMAIN				20	C	20	12	12	12	3/4"	--	--	--	--	--	ROOFTOP GFCI	6
7	NEW RTU-33	--	--	4443	--	--	EXISTING TO REMAIN				45 3P	A	60 3P	6	--	10		--	--	6124	--	--	NEW RTU-31	8
9		--	--	4443	--	--						B		6	--	--	1"	--	--	6124	--	--		10
11		--	--	4443	--	--						C		6	--	--		--	--	6124	--	--		12
13	COOLER	--	--	--	--	--	EXISTING TO REMAIN				20	A	60 3P	6	--	10		--	--	6124	--	--	NEW RTU-32	14
15	COMPRESSOR	--	--	--	--	--					20 3P	B		6	--	--	1"	--	--	6124	--	--		16
17		--	--	--	--	--						C		6	--	--		--	--	6124	--	--		18
19	MIXER	--	--	--	--	--	EXISTING TO REMAIN				30 3P	A	20 2P	EXISTING TO REMAIN				--	--	--	--	--	ANSUL SYSTEM	20
21		--	--	--	--	--						B						--	--	--	--	--		22
23		--	--	--	--	--						C	20	12	12	12	3/4"	--	--	--	180	--	ROOFTOP GFCI	24
25	RUNNER/CASH	--	--	--	--	--	EXISTING TO REMAIN				20 3P	A	20	12	12	12	3/4"	--	--	--	180	--	ROOFTOP GFCI	26
27	REGISTER	--	--	--	--	--						B	40 2P	EXISTING TO REMAIN				--	--	--	--	--	DRINK MACHINE	28
29		--	--	--	--	--						C						--	--	--	--	--		30
31	FREEZER	--	--	--	--	--	EXISTING TO REMAIN				20 3P	A	20 2P	EXISTING TO REMAIN				--	--	--	--	--	WARMERS	32
33		--	--	--	--	--						B						--	--	--	--	--		34
35	EXHAUST FAN	--	--	--	--	--	EXISTING TO REMAIN				20	C						--	--	--	--	--		36
37	FREEZER	--	--	--	--	--	EXISTING TO REMAIN				20	A	20 2P	EXISTING TO REMAIN				--	--	--	--	--	SHEETER	38
39		--	--	--	--	--						B						--	--	--	--	--	SAUCER	40
41	ROOFTOP GFCI	--	180	--	--	--	12	12	12	3/4"	20	C	20	12	12	12	3/4"	--	--	--	180	--	MAKER TABLE	42

VOLTAGE	208Y/120	PANEL LOAD	CONNECTED	DEMAND	NEC KVA
PHASE/WIRE	3 PHASE 4 WIRE	SUMMARY	KVA	FACTOR	TOTAL
MAIN SIZE	225 AMPS	LIGHTING NOTE 1	0.0	125%	0.0
MAIN TYPE	M.C.B.	RECP. NOTE 2	0.5	NEC	0.5
ENCLOSURE	NEMA 1	MOTOR NOTE 3	50.1	NEC	50.1
TYPE	PANELBOARD	HEAT	0.0	100%	0.0
BUSSING	COPPER	OTHER	0.0	100%	0.0
BREAKER TYPE	BOLT ON				
MOUNTING	SURFACE	TOTAL KVA	50.6		50.6
MINIMUM A/C RATING	10KAIC	KVA X 1000 / VOLTS X 1.73 = TOTAL AMPS			140.6

TOTALS:	KVA	AMPS
PHASE A:	16.9	140.6
PHASE B:	16.7	139.1
PHASE C:	17.1	142.1
TOTAL:	50.6	140.6

LOAD NOTES:
1. LARGEST OF: NEC TABLE 220-12 OR CONNECTED LOAD.
2. <10KVA - 100% + >10KVA - 50%
3. INCLUDES 125% OF LARGEST MOTOR
4. ---

PANEL NOTES:
1. PANEL IS AN EATON BR CENTER. ALL NEW BREAKERS SHALL BE BR TYPE.
2. BREAKER SERVING RTU-33 SHALL BE REUSED.
3. ---
4. ---

PANEL "HP-1"

CT	DESCRIPTION	LIGHT	RECP	MOTOR	HEAT	OTHER	C	EGC	N	W	CB	PHASE	CB	W	N	EGC	C	OTHER	HEAT	MOTOR	RECP	LIGHT	DESCRIPTION	CT
1	LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				20	A	20	EXISTING TO REMAIN				--	--	--	--	--	FIRE ALARM PNL.	2
3	WALL PACKS	--	--	--	--	--	EXISTING TO REMAIN				30 2P	B	20	EXISTING TO REMAIN				--	--	--	--	--	BPS PANEL	4
5		--	--	--	--	--						C	20	EXISTING TO REMAIN				--	--	--	--	--	PHOTOCELL	6
7	POLE LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				30 2P	A	30 2P	EXISTING TO REMAIN				--	--	--	--	--	POLE LIGHTS	8
9		--	--	--	--	--						B						--	--	--	--	--		10
11	POLE LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				30 2P	C	20 2P	EXISTING TO REMAIN				--	--	--	--	--	CANOPY LIGHTS	12
13		--	--	--	--	--						A						--	--	--	--	--		14
15	POLE LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				30 2P	B	20 2P	EXISTING TO REMAIN				--	--	--	--	--	CANOPY LIGHTS	16
17		--	--	--	--	--						C						--	--	--	--	--		18
19	POLE LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				30 2P	A	20 2P	EXISTING TO REMAIN				--	--	--	--	--	CANOPY LIGHTS	20
21		--	--	--	--	--						B						--	--	--	--	--		22
23	POLE LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				30 2P	C	20 2P	EXISTING TO REMAIN				--	--	--	--	--	CANOPY LIGHTS	24
25		--	--	--	--	--						A						--	--	--	--	--		26
27	POLE LIGHTS	--	--	--	--	--	EXISTING TO REMAIN				30 2P	B	20 2P	EXISTING TO REMAIN				--	--	--	--	--	CANOPY LIGHTS	28
29		--	--	--	--	--						C						--	--	--	--	--		30

VOLTAGE	208Y/120	PANEL LOAD	CONNECTED	DEMAND	NEC KVA
PHASE/WIRE	3 PHASE 4 WIRE	SUMMARY	KVA	FACTOR	TOTAL
MAIN SIZE	200 AMPS	LIGHTING NOTE 1	0.0	125%	0.0
MAIN TYPE	M.L.O.	RECP. NOTE 2	0.0	NEC	0.0
ENCLOSURE	NEMA 1	MOTOR NOTE 3	0.0	NEC	0.0
TYPE	PANELBOARD	HEAT	0.0	100%	0.0
BUSSING	COPPER	OTHER	0.0	100%	0.0
BREAKER TYPE	BOLT ON				
MOUNTING	SURFACE	TOTAL KVA	0.0		0.0
MINIMUM A/C RATING	10KAIC	KVA X 1000 / VOLTS X 1.73 = TOTAL AMPS	