



BELLEVUE RETAIL CENTER

Interior/Exterior Improvements (Level 3 Alt)

CHINA-1 TENANT

601 Bellevue Avenue

Daytona Beach, FL

SHEET INDEX - ARCHITECTURAL

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Client:
CHINAONE, LLC
 2655 N. Atlantic Ave.
 Daytona Beach, FL 32118

Code Information

JURISDICTION AUTHORITY

JURISDICTION (COUNTY OR CITY) City of Daytona Beach, Florida
 JURISDICTION ADDRESS Permitting Services
 CITY, STATE, ZIP 301 S. Ridgewood Ave
 Daytona Beach, FL 32114

ADOPTED CODES

BUILDING: FLORIDA BUILDING CODE - 2014

FIRE: FLORIDA FIRE PREVENTION CODE 5th EDITION
 NFPA 1 & NFPA 101 (W/ STATE FIRE MARSHAL AMENDMENTS)
 FLORIDA BUILDING CODE, PLUMBING - 2014

PLUMBING: FLORIDA BUILDING CODE, PLUMBING - 2014

MECHANICAL: FLORIDA BUILDING CODE, MECHANICAL - 2014

ELECTRICAL: NATIONAL ELECTRIC CODE - 2010
 (NFPA 70, NATIONAL ELECTRIC CODE)

FUEL/GAS: FLORIDA BUILDING CODE, FUEL/GAS - 2014

ACCESSIBILITY: FLORIDA ACCESSIBILITY CODE, 2014

ENERGY: FLORIDA ENERGY CODE, 2014

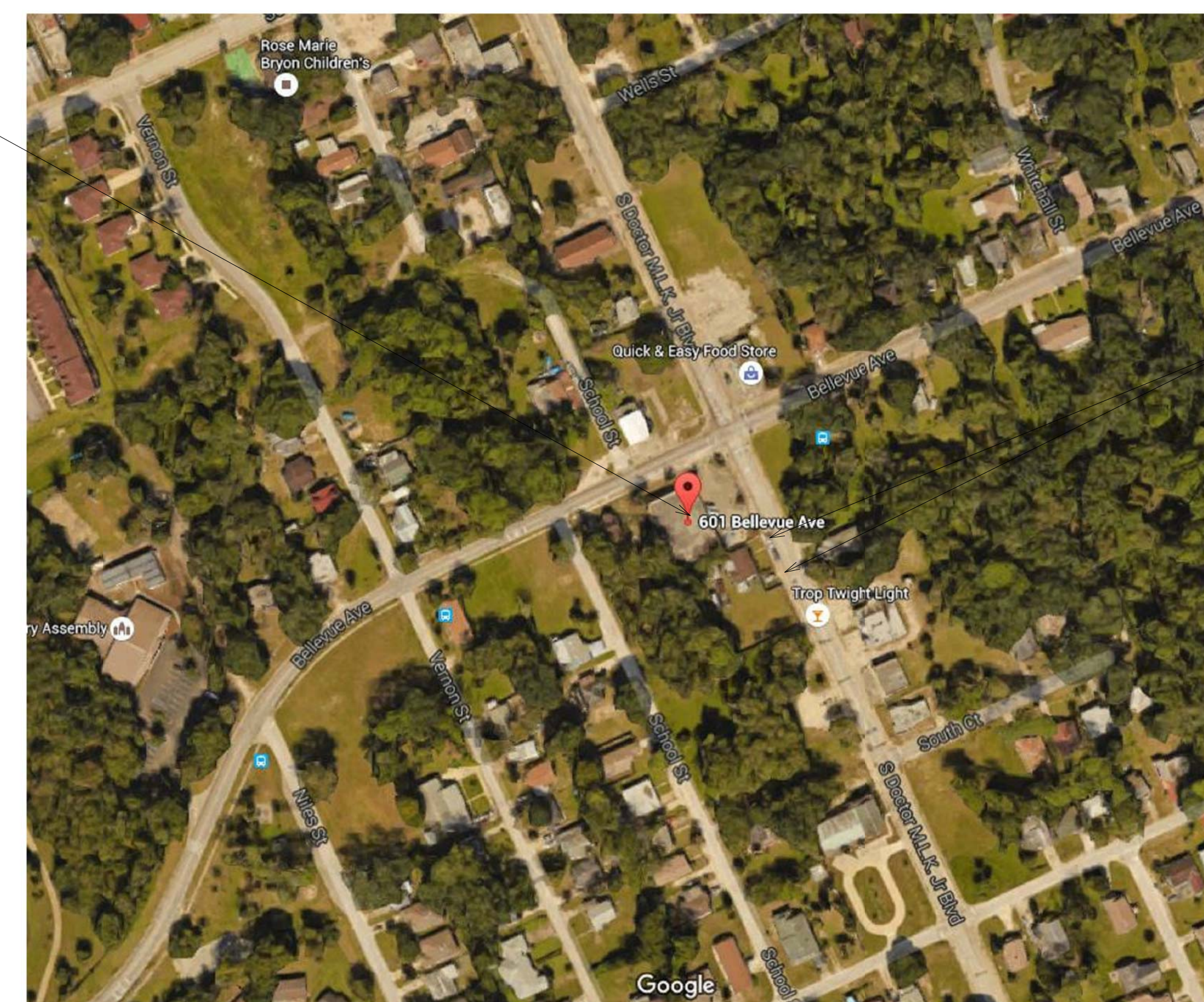
BUILDING AND CONSTRUCTION DATA

OCCUPANCY CLASSIFICATION M-MERCANTILE
 CONSTRUCTION NONPROTECTED, UN-SPRINKLED

GENERAL NOTES

1. THE DRAWINGS INDICATE LOCATION, DIMENSIONS, REFERENCE AND TYPICAL DETAILS OF CONSTRUCTION. THE DRAWINGS DO NOT INDICATE EVERY CONDITION - WORK NOT PARTICULARLY DETAILED SHALL BE OF CONSTRUCTION SIMILAR TO PARTS THAT ARE DETAILED.
2. WRITTEN DIMENSIONS PREVAIL. DO NOT SCALE THESE DRAWINGS. IF DIMENSIONS ARE IN QUESTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM THE ARCHITECT BEFORE PROCEEDING.
3. DETAILED DRAWINGS AND LARGER SCALE DRAWINGS TAKE PRECEDENCE OVER SMALLER SCALE DRAWINGS.
4. PARTITION DIMENSIONS ARE GIVEN TO THE FACE OF FRAMING/FURRING MEMBER UNLESS OTHERWISE NOTED.
5. WHERE BUILDING ELEMENTS ARE TOO LARGE TO FIT INSIDE THE CAVITY OF WALLS, WALLS ARE TO BE FURRED TO CONCEAL OR "BUILD IN" PIPING, ELECTRICAL PANELS AND OTHER RECESSED OBJECTS.
6. DOOR OPENING LOCATIONS ARE DIMENSIONED TO ROUGH OPENING.
7. IF THE CONTRACTOR DISCOVERS ANY CONFLICT BETWEEN THE DRAWINGS AND THE CONDITIONS WHERE WORK IS TO BE PERFORMED, HE SHALL PROMPTLY NOTIFY THE ARCHITECT.

PROJECT LOCATION



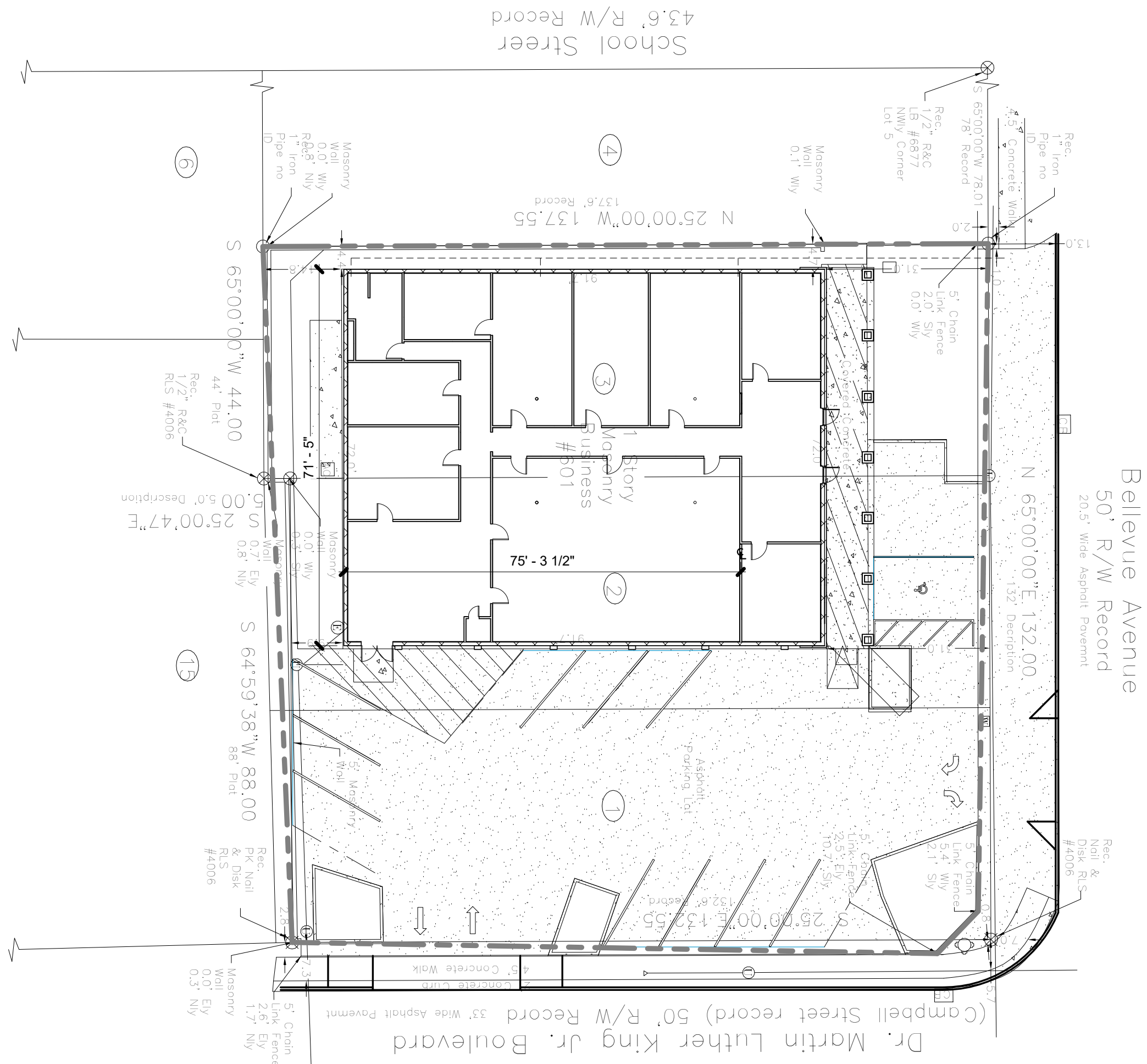
STREET PARKING

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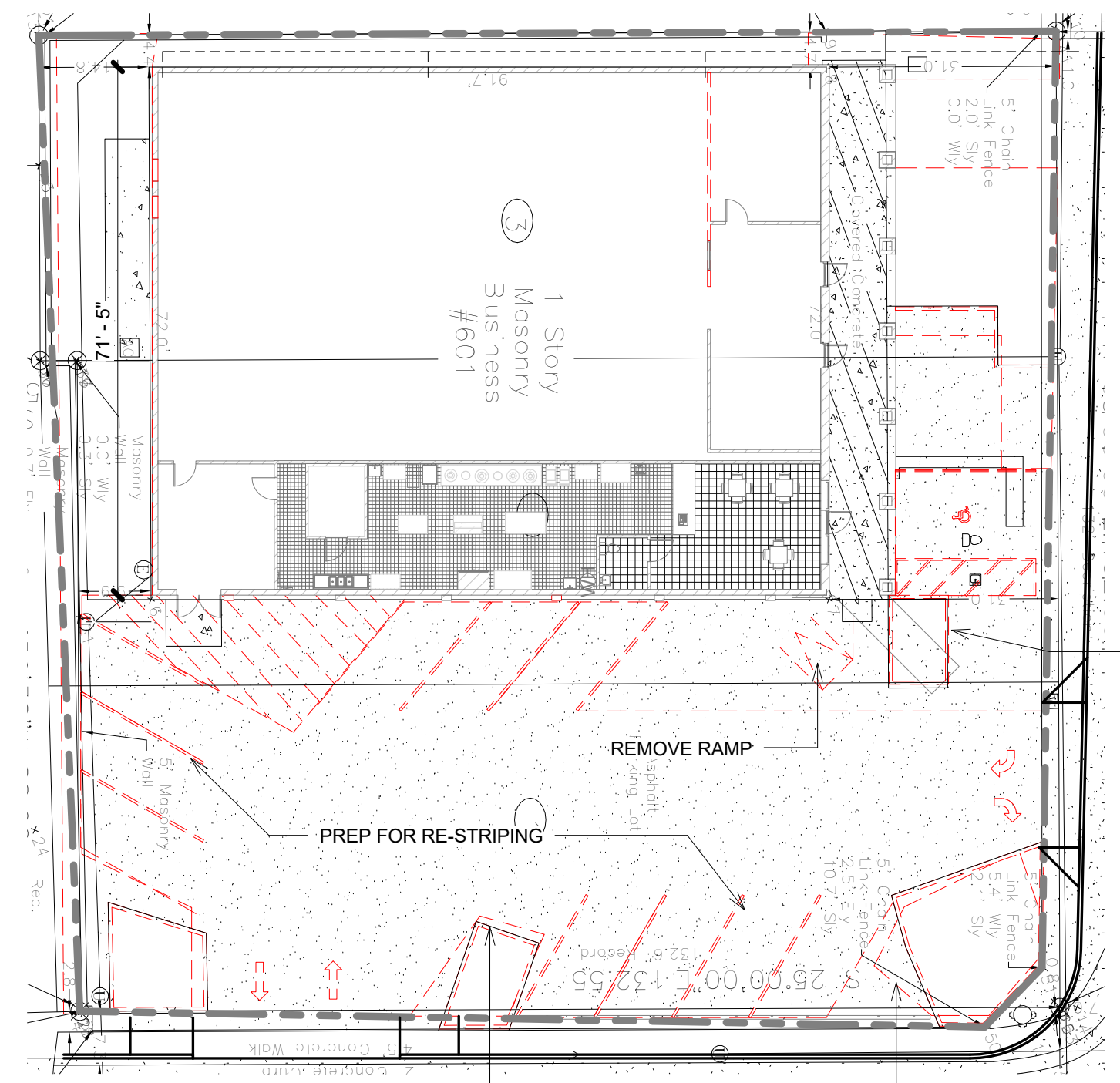
Jeff Galther
 AR93666

Revision Schedule		
Revision Number	Revision Description	Revision Date

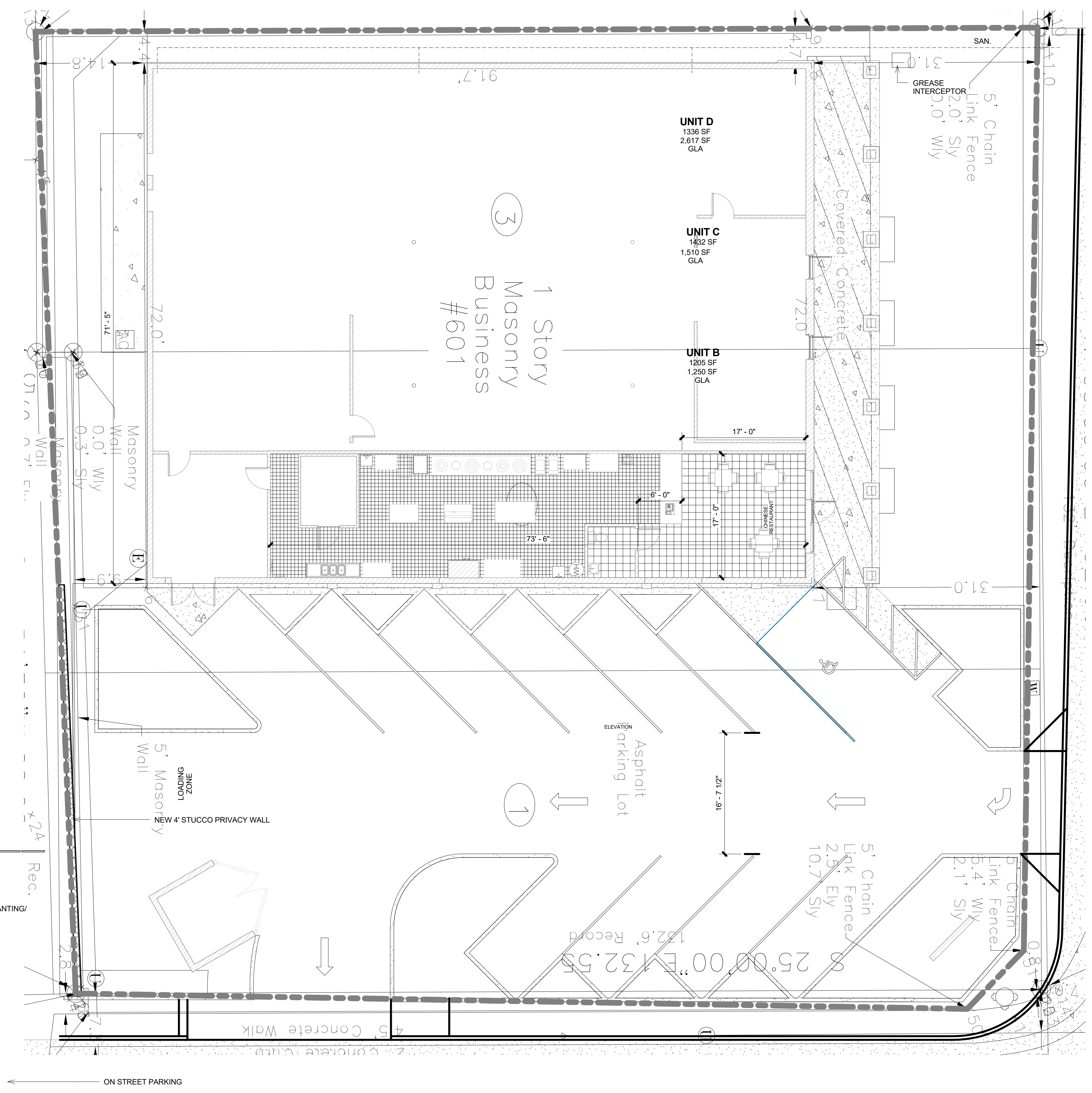
BELLEVUE RETAIL	
601 BELLEVUE AVE	
Project Data	
Project number	16-020
Date	8/8/2016
Drawn by	Author
Checked by	Checker
A0-COV	
Scale	1/8" = 1'-0"



2 EXISTING SITE PLAN
1" = 20'-0"



3 SITE DEMO PLAN
1" = 20'-0"



1 SITE MODIFICATIONS PLAN
1/8" = 1'-0"

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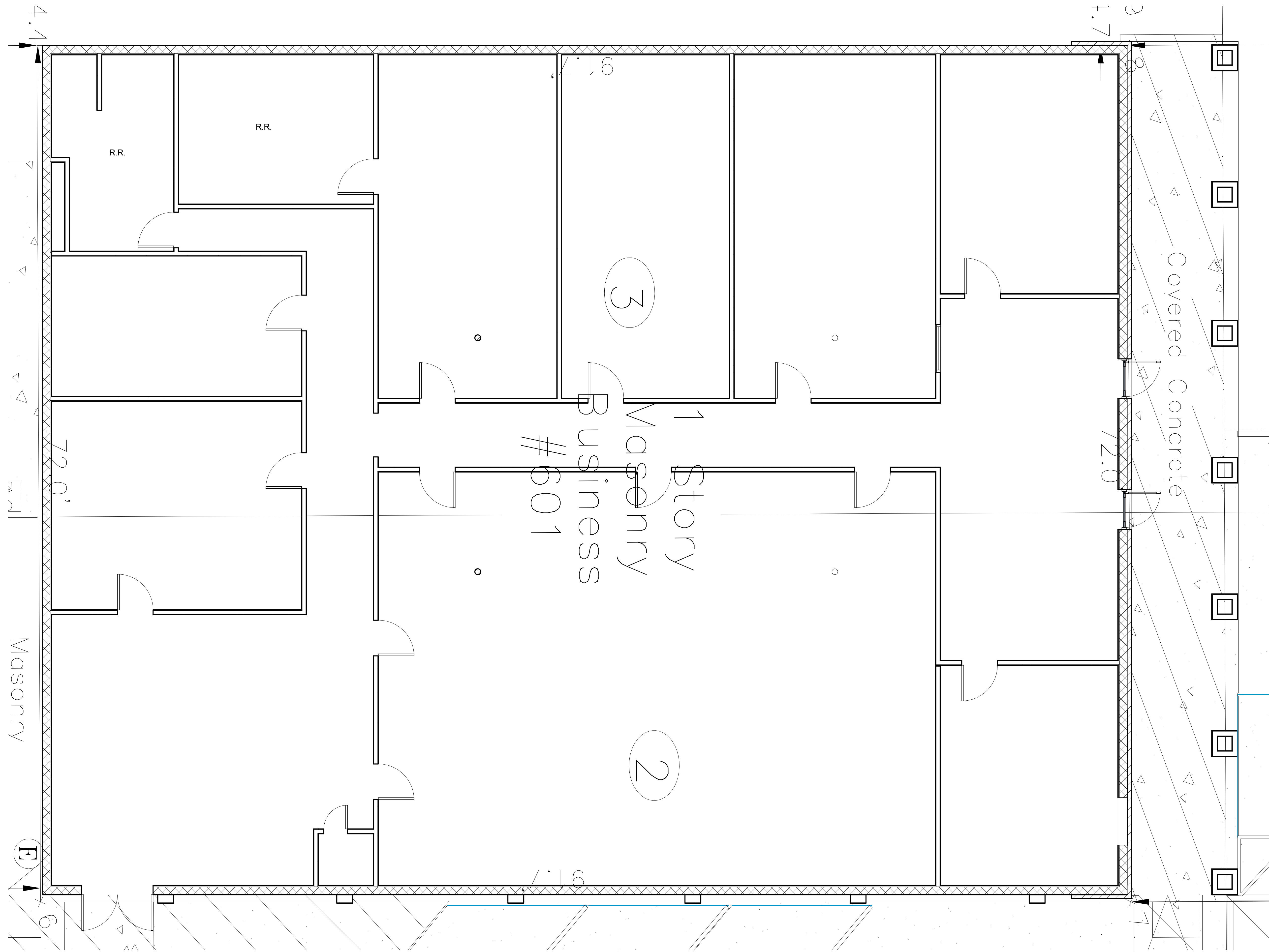
Revision Schedule		
Revision Number	Revision Description	Revision Date

**BELLEVUE RETAIL
601 BELLEVUE AVE
SITE PLAN**

Project number	16-020
Date	8/8/2016
Drawn by	Author
Checked by	Checker

A100

Scale As indicated



1 Existing Plan
1/4" = 1'-0"

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Revision Schedule		
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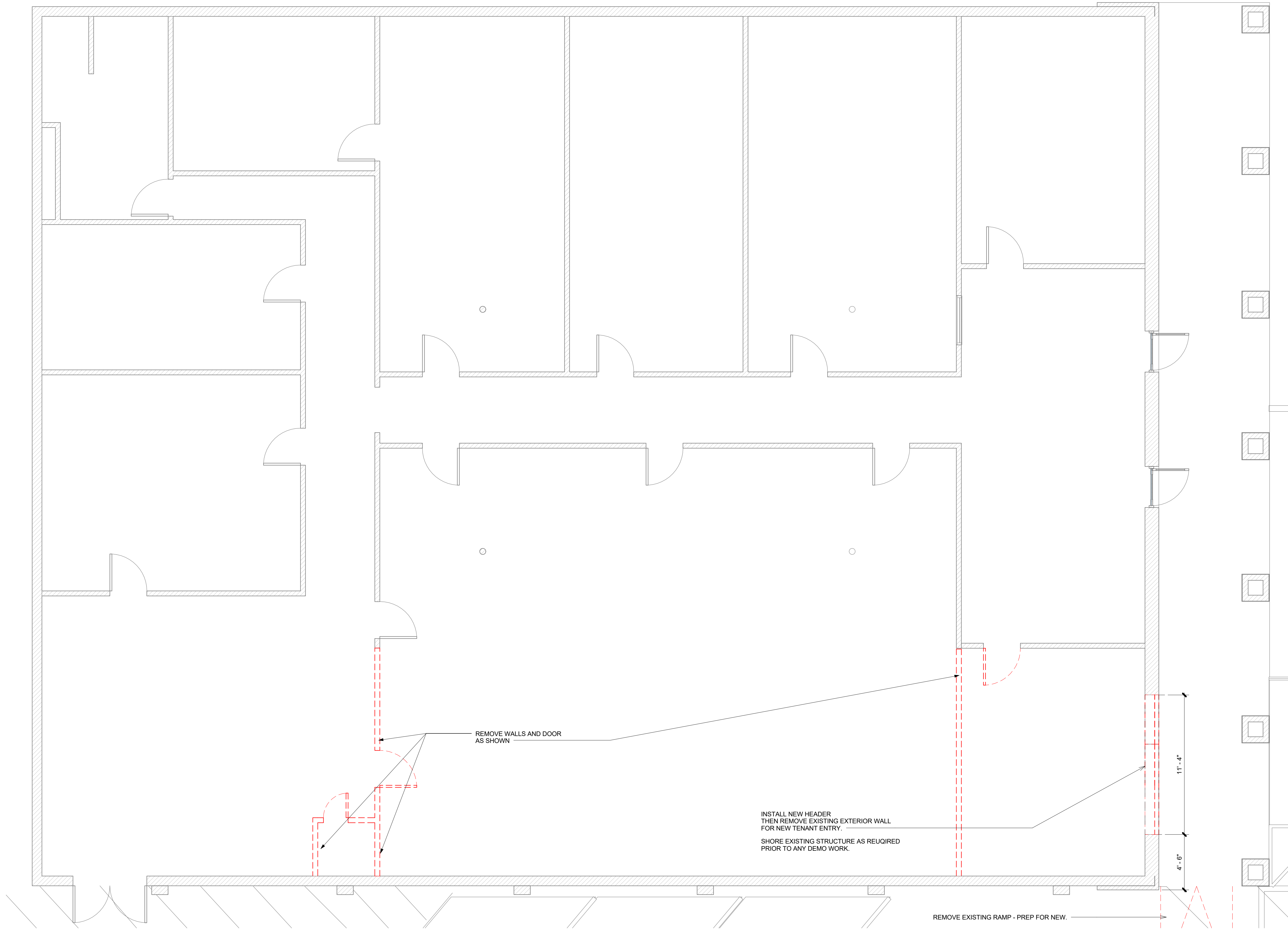
BELLEVUE RETAIL
601 BELLEVUE AVE
Existing Floor Plans

Project number	16-020
Date	8/8/2016
Drawn by	Author
Checked by	Checker

A101
Scale 1/4" = 1'-0"

DEMOLITION NOTES

- DRAWINGS OF EXISTING CONDITIONS HAVE BEEN COMPILED FROM EXISTING DATA SUPPLIED BY THE OWNER TO THE ARCHITECT. THE ARCHITECT MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, FOR THE ACCURACY OF THE COMPLETENESS OF THE EXISTING INFORMATION RECORDED. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND NOTIFY THE ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES OR CONFLICTS THAT MIGHT ARISE IN THE COURSE OF THE DEMOLITION WORK.
- VERIFY LOCATIONS OF EXISTING MECHANICAL, PLUMBING AND ELECTRICAL UTILITIES. LOCATE AND PROTECT UTILITIES TO REMAIN. DISCONNECT, REMOVE BACK TO NEAREST JUNCTION BOX OR PANEL, AS REQUIRED, AND CAP DESIGNATED UTILITIES WITHIN THE DEMOLITION AREA. REFER TO THE MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFO.
- ALL EXISTING BUILDING UTILITIES SHALL REMAIN IN OPERATION DURING CONSTRUCTION. PROVIDE REROUTING OF UTILITIES SERVING ADJACENT AREAS THAT ARE TO MAINTAIN UNINTERRUPTED SERVICE. ANY TEMPORARY SUSPENSION OF SERVICE SHALL BE COORDINATED AND APPROVED BY THE FACILITY MANAGER, NOT LESS THAN 24 HOURS IN ADVANCE.
- THE DEMOLITION PLAN KEYNOTES ARE DIAGRAMMATIC AND GENERAL IN NATURE. THE INTENT IS TO ILLUSTRATE THE COMPLETE DEMOLITION OF THE SPACES INDICATED UNLESS NOTED OTHERWISE. FIELD VERIFICATION OF EXISTING CONDITIONS AND SPECIFIC QUANTITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
- REMOVAL AND DISPOSAL OF DEMOLITION DEBRIS IS THE RESPONSIBILITY OF THE CONTRACTOR. VERIFY THE HAULING ROUTE THROUGH THE BUILDING, THE DEMOLITION STAGING AREA, AND THE LOCATION OF THE DUMPSTERS WITH THE OWNER PRIOR TO THE START OF DEMOLITION. DISPOSAL OF RUBBISH SHALL BE DONE IN A LEGAL MANNER.
- THE OWNER RESERVES THE RIGHT TO SALVAGE ANY DEMOLISHED ITEM. VERIFY ITEMS TO BE SALVAGED WITH THE OWNER PRIOR TO THE START OF DEMOLITION. REMOVE, PROTECT, CLEAN, REPAIR FOR REUSE AND TURN OVER SUCH ITEMS AS DIRECTED BY THE OWNER.
- IN ORDER TO INSTALL SOME OF THE NEW WORK (INCLUDING, BUT NOT LIMITED TO MECHANICAL, PLUMBING OR ELECTRICAL) IT WILL BE NECESSARY FOR THE CONTRACTOR AND HIS SUBCONTRACTORS TO REMOVE AND REPLACE (OR REFINISH) EXISTING WALLS, FLOORS, OR CEILING IN THE AREAS OF THE BUILDING NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL INCLUDE ALL RELATED COSTS IN HIS BASE BID, WHETHER SHOWN ON THESE PLANS OR NOT.
- PROTECT ADJACENT SPACES NOT SCHEDULED FOR DEMOLITION. PATCH AND REPAIR DAMAGED FINISHES, ITEMS AND FIXTURES TO REMAIN AND/OR REPLACE IN KIND TO MATCH EXISTING FROM DAMAGE DURING THE PROGRESS OF THE WORK. PROVIDE TEMPORARY SAFETY BARRIERS REQUIRED BY CODE AND AS INDICATED TO INSURE PUBLIC SAFETY AND TO ALLOW BUILDING OCCUPANCY. CONTRACTOR TO SUBMIT FOR APPROVAL, BARRIER LOCATIONS, AND METHOD OF CONSTRUCTION TO THE ARCHITECT PRIOR TO INSTALLATION.
- NO STRUCTURAL ELEMENTS ARE INCLUDED IN THIS SCOPE OF WORK.
- PROVIDE DUST BARRIERS AROUND OPENINGS, TO AND FROM THE CONSTRUCTION AREA. PROVIDE ALL MEANS NECESSARY TO INHIBIT DUST FROM ENTERING OTHER PORTIONS OF THE FACILITY. SUBMIT BARRIER LOCATIONS TO THE ARCHITECT FOR APPROVAL, PRIOR TO INSTALLATION.
- PROVIDE ADEQUATE SHORING, BRACING, BARRICADES AND PROTECTIVE MEASURES AS REQUIRED TO SAFELY EXECUTE THE WORK IN THE CONSTRUCTION AREA AND THE AREAS ADJACENT TO THE CONSTRUCTION AREA. CEASE OPERATIONS AND NOTIFY THE ARCHITECT IMMEDIATELY IF THE STRUCTURE APPEARS TO BE ENDANGERED. DO NOT RESUME OPERATIONS UNTIL CORRECTIVE MEASURES HAVE BEEN TAKEN.
- CONTRACTOR SHALL MAINTAIN REQUIRED MEANS OF EGRESS AND ENSURE THAT EXIT ROUTES ARE SIGNED, LIGHTED AND PROTECTED IN ACCORDANCE WITH CODE REQUIREMENTS. RELOCATE EXISTING AND/OR PROVIDE SMOKE PROTECTORS AND LIFE SAFETY EQUIPMENT FOR ADEQUATE COVERAGE.
- ALL CORE DRILLING OR OTHER NOISY WORK SHALL BE SCHEDULED 48 HOURS IN ADVANCE WITH THE OWNER.
- APPLY CEMENT BASE FLOOR PATCH AS REQUIRED TO FILL DINGS, NAIL HOLES, CHIPS AND CRACKS.
- AT FLOOR AREAS SCHEDULED TO RECEIVE NEW FLOOR COVERING, REMOVE EXISTING FLOOR COVERING AND PREPARE SUBSTRATE FOR NEW FLOOR COVERING PER SPECIFICATIONS AND MANUFACTURER'S REQUIREMENTS.
- COORDINATE EXISTING SPRINKLER LINE AND HEAD LOCATION WITH NEW PLAN. SUBMIT SPRINKLER SHOP DRAWINGS TO ARCHITECT FOR REVIEW WITH THE FIRE DEPARTMENT.
- CONTRACTOR IS RESPONSIBLE FOR BUILDING SECURITY DURING DEMOLITION PHASE. PROTECT ALL OPENINGS FROM WEATHER CONDITIONS AND SECURE THEM TO PREVENT VANDALISM.
- DO NOT PERFORM ANY WORK THAT WILL VOID WARRANTIES OF EXISTING WEATHER EXPOSED OR MOISTURE RESISTANT ELEMENTS WITHOUT PRIOR APPROVAL FROM THE OWNER.
- ARCHITECT ASSUMES NO RESPONSIBILITY RELATING TO ANY TOXIC MATERIALS, INCLUDING ASBESTOS, AND ASSUMES NO RESPONSIBILITY TO ITS EXISTENCE OR REMOVAL. THE OWNER WILL TAKE ACTION FOR DIRECTLY CONTRACTING WITH A CONSULTANT OR SPECIALIST, LICENSED BY THE STATE, FOR SUCH SERVICES SHOULD THOSE SERVICES BE REQUIRED ON THE PROJECT.



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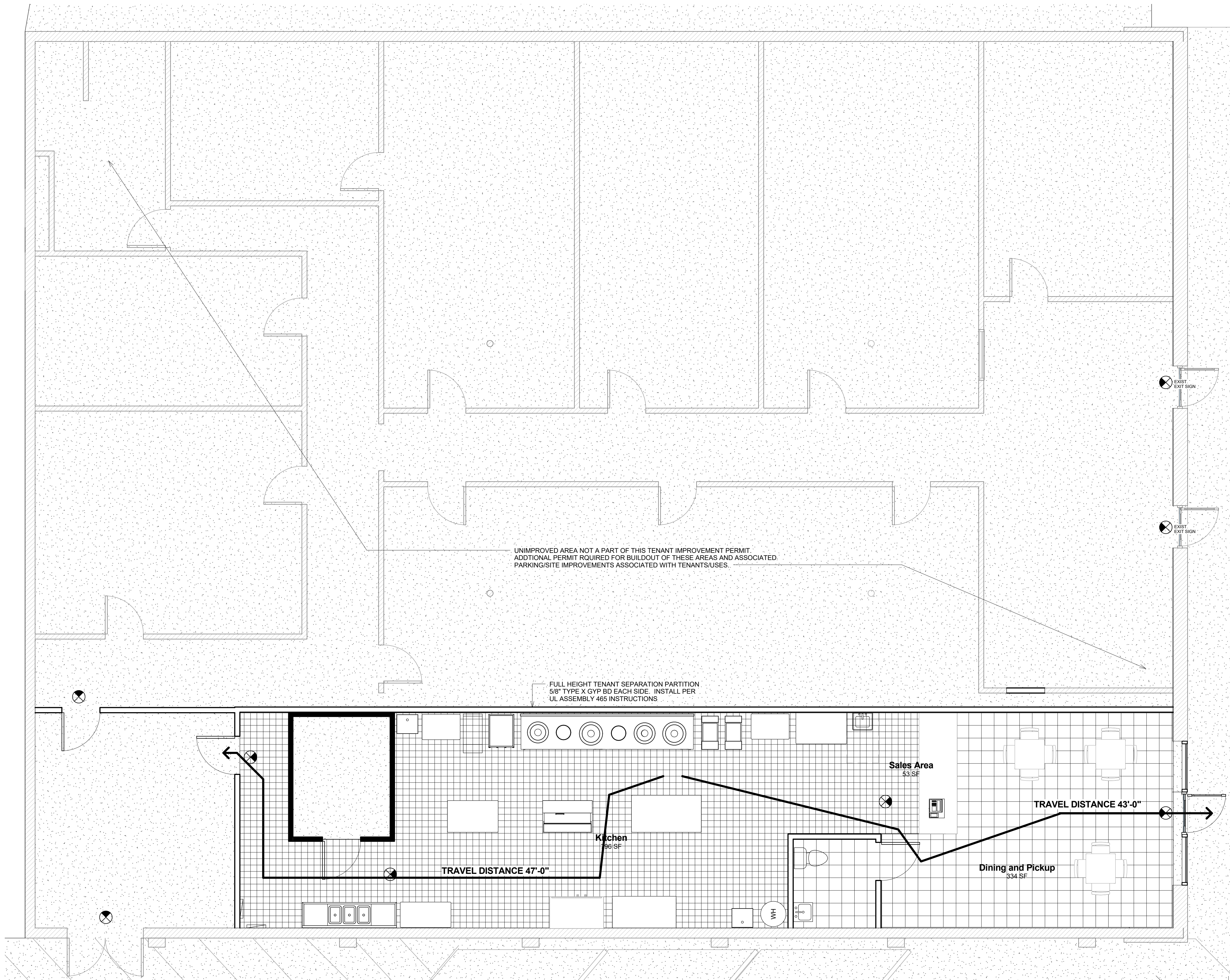
BELLEVUE RETAIL
601 BELLEVUE AVE
Demo Plans

Project number	16-020
Date	8/8/2016
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Checked by	Checker

A101 D

Scale 1/4" = 1'-0"

1 Demo Floor Plan
 1/4" = 1'-0"



LOAD CALCULATIONS					
ROOM NAME	AREA	Occupancy Type	OLF	Occupant Load	Required Exits
Existing Finished Floor					
Restroom	15 SF	Not Enclosed (none)		23	1
Dining and Pickup	334 SF	Assembly - Unconcentrated (tables and chairs)	15 SF	23	1
Sales Area	53 SF	Business Areas	100 SF	1	1
Kitchen	796 SF	Kitchens Commercial	200 SF	4	1
Existing Finished Floor: 4	1183 SF			28	
	1183 SF			28	

TENANT SPACE DATA SUMMARY	
BUILDING CONSTRUCTION TYPE: IIB PER FLORIDA BUILDING CODE 2014	
AREA: 1,087SF	
OCCUPANCY TYPE : RESTAURANT	
FIRE RESISTANT RATING REQUIREMENTS: TYPE/IB	
0 HOUR RATING REQUIRED FOR WALLS/FRAME ROOF PER TABLE 601	
EXIT WIDTH REQUIRED: .2 INCHES PER PERSON	
MEANS OF EGRESS - TRAVEL DISTANCE - 200' MAX COMMON PATH OF TRAVEL - N/A DEAD-END CORRIDOR - 20' MAX MIN. CORRIDOR WIDTH - 44" REQUIRED	

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Revision Schedule		
Revision Number	Revision Description	Revision Date
1	BLDG DEPT COMMENTS	9/12/2014

BelleVue Retail 601 Bellevue Ave Life Safety Plans	
Project number	16-020
Date	8/8/2016
Drawn by	Author
Checked by	Checker
A101 LS	
Scale	1/4" = 1'-0"

1 Life Safety Plan
1/4" = 1'-0"

PROJECT NOTES

GENERAL NOTES:

- THIS PROJECT AND ALL WORK ASSOCIATED WITH PROJECT SHALL CONFORM TO STATE AND LOCAL JURISDICTION CODE REQUIREMENTS.
- THE TERM "ARCHITECT" OR "DESIGNER" AS USED IN THESE DOCUMENTS REFERS TO JEFF GAITHER, AIA.
- THE ARCHITECT SHALL NOT HAVE CONTROL OR CHARGE OF AND SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCE OR PROCEDURE, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, ALL OF WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- THE DESIGN ADEQUACY, AND SAFETY OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, ETC. DURING DEMOLITION AND/OR CONSTRUCTION IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR, AND HAS NOT BEEN CONSIDERED BY THE STRUCTURAL ENGINEER OR ARCHITECT.
- THE ARCHITECT ASSUMES NO RESPONSIBILITY FOR THE COMPLETENESS OF PLANS FOR BID PURPOSES PRIOR TO THE ISSUANCE OF THE BUILDING PERMIT.
- ALL WORK NOTED "N.I.C." OR "NOT IN CONTRACT" IS TO BE ACCOMPLISHED BY A CONTRACTOR OTHER THAN THE GENERAL CONTRACTOR AND IS NOT TO BE PART OF THE CONSTRUCTION AGREEMENT. THE GENERAL CONTRACTOR SHALL COORDINATE WITH "OTHER" CONTRACTORS PER REQUIREMENTS ESTABLISHED BY OWNER AND TENANT.
- THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS ARE RESPONSIBLE FOR EXAMINING CONTRACT DOCUMENTS, FIELD CONDITIONS, AND CONFIRMING THAT WORK IS BUILDABLE AS SHOWN BEFORE PROCEEDING WITH CONSTRUCTION. IF THERE ARE ANY QUESTIONS REGARDING THESE OR OTHER COORDINATION ITEMS, THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING CLARIFICATION FROM THE ARCHITECT BEFORE PROCEEDING WITH WORK IN QUESTION OR RELATED WORK.
- CONTRACTOR SHALL MAINTAIN RECORD DOCUMENTS OF CONSTRUCTION CHANGES ("AS-BUILT DRAWINGS") AND SHALL PROVIDE SAID DOCUMENTATION TO THE ARCHITECT UPON COMPLETION OF CONSTRUCTION - NO EXCEPTION ALLOWED.
- THE GENERAL CONTRACTOR IS SOLELY RESPONSIBLE TO COORDINATE WITH ALL SUBCONTRACTORS PER REQUIREMENTS ESTABLISHED BY OWNER, TENANT, OR BOTH, WHICH ARE UNDER SEPARATE CONTRACT WITH THE OWNER, OR TENANT, OR BOTH.
- THE STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING, OTHER DRAWINGS, AND JOB SPECIFICATIONS ARE SUPPLEMENTARY TO ARCHITECTURAL CONSTRUCTION DRAWINGS. ANY DISCREPANCY BETWEEN THESE DOCUMENTS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT FOR CLARIFICATION.
- THE INTENT OF DRAWINGS AND SPECIFICATIONS IS TO INCLUDE ALL LABOR, MATERIALS AND SERVICES NECESSARY FOR THE COMPLETION OF ALL WORK SHOWN, DESCRIBED, OR REASONABLY IMPLIED, BUT NOT LIMITED TO THAT EXPLICITLY INDICATED IN THE CONTRACT DOCUMENTS.
- INSTALL ALL MANUFACTURED ITEMS, MATERIALS, AND EQUIPMENT IN STRICT ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS, UNLESS NOTED OTHERWISE.
- ANY WORK INSTALLED IN CONFLICT WITH THE CONSTRUCTION DRAWINGS, WITHOUT THE PRIOR APPROVAL OF THE OWNER AND THE ARCHITECT SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- THE GENERAL CONTRACTOR SHALL NOTIFY THE ARCHITECT IMMEDIATELY OF ANY SPECIFIED MATERIALS OR EQUIPMENT WHICH ARE EITHER UNAVAILABLE OR THAT WILL CAUSE A DELAY IN THE CONSTRUCTION COMPLETION SCHEDULE. THE CONTRACTOR SHALL SUBMIT CONFIRMATIONS OF DELIVERY DATES FOR ORDERS OF MATERIALS AND EQUIPMENT HAVING LONG LEAD TIMES.
- ALL REQUESTS FOR SUBSTITUTIONS OF ITEMS SPECIFIED SHALL BE SUBMITTED IN WRITING AND WILL BE CONSIDERED ONLY IF BETTER SERVICE FACILITIES, A MORE ADVANTAGEOUS DELIVERY DATE, OR A LOWER PRICE WITH CREDIT TO THE OWNER TENANT WILL BE PROVIDED WITHOUT SACRIFICING QUALITY, APPEARANCE, AND FUNCTION. UNDER NO CIRCUMSTANCES WILL THE ARCHITECT BE REQUIRED TO PROVE THAT A PRODUCT PROPOSED FOR SUBSTITUTION IS OR IS NOT OF EQUAL QUALITY TO THE PRODUCT SPECIFIED.
- PROJECT SPECIFICATIONS ARE AN INTEGRAL PART OF THESE PLANS - SUBSTITUTIONS FOR SPECIFIED MATERIALS REQUIRE THE WRITTEN APPROVAL FROM THE ARCHITECT.
- UNLESS OTHERWISE NOTED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL SUBMIT ONE (1) SET OF SHOP DRAWINGS. SHOP DRAWINGS SHOULD INCLUDE DETAILED, FABRICATION AND ERECTION DRAWINGS, SETTING DRAWINGS, DIAGRAMMATIC DRAWINGS, AND MATERIAL SCHEDULES. LOCATION AND ORIENTATION OF ALL ITEMS SHOULD BE CLEARLY INDICATED. BEGIN FABRICATION OF SHOP ITEMS AFTER RECEIVING ARCHITECT'S OR DESIGNER'S APPROVAL OF SHOP DRAWINGS.
- THE ARCHITECT'S REVIEW OF SHOP DRAWINGS SHALL NOT RELIEVE THE GENERAL CONTRACTOR OR SUBCONTRACTOR FROM RESPONSIBILITY FOR DEVIATIONS FROM THE DRAWINGS OR SPECIFICATIONS UNLESS HE HAS, IN WRITING, AND BROUGHT TO THE ATTENTION OF THE ARCHITECT SUCH DEVIATIONS AT THE TIME OF THE SUBMISSION, NOR SHALL IT RELIEVE HIM (GENERAL CONTRACTOR) FROM RESPONSIBILITY FOR ERRORS OF ANY SORT IN THE SHOP DRAWINGS.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED BUILDING PERMITS PRIOR TO STARTING CONSTRUCTION.
- PRIOR TO THE ISSUANCE OF A BUILDING PERMIT, THE APPLICANT SHALL HAVE EVIDENCE OF CURRENT WORKMAN'S COMPENSATION INSURANCE COVERAGE ON FILE WITH THE STATE LABOR DEPARTMENT IN COMPLIANCE WITH CURRENT LABOR CODES.
- PROVIDE CONTINUOUS INSPECTIONS AS SET FORTH IN STATE AND LOCAL CODES AND PER CONTRACT DOCUMENTS AS NEEDED.
- PRIOR TO THE ISSUANCE OF FINAL CERTIFICATE OF OCCUPANCY FOR THIS PROJECT, THE GENERAL CONTRACTOR SHALL SUBMIT A SIGNED CERTIFICATE TO THE DEPARTMENT OF BUILDING AND SAFETY STATING THAT ALL WORK HAS BEEN PERFORMED AND MATERIALS INSTALLED ACCORDING TO THE PLANS AND SPECIFICATIONS AFFECTING NON-RESIDENTIAL ENERGY.

DRAWING NOTES:

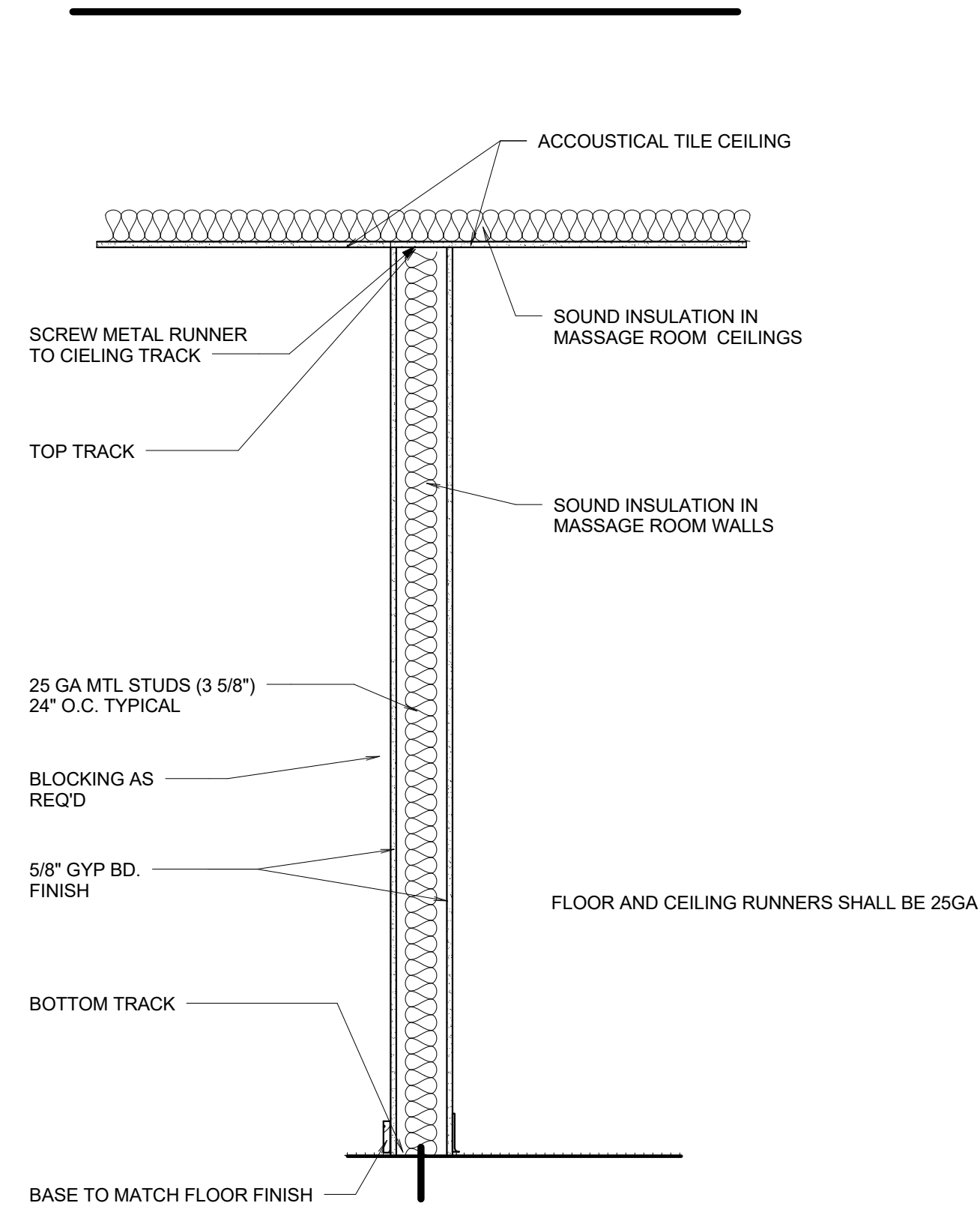
- UNLESS OTHERWISE NOTED OR INDICATED, ALL DIMENSIONS ON THESE DOCUMENTS SHALL BE TO FACE OF CURB, FACE OF CONCRETE OR MASONRY, FACE OF FINISH OR CENTERLINE OF GRIDS.
- ALL VERTICAL DIMENSIONS SHOWN ARE FROM FLOOR SLAB, UNLESS OTHERWISE NOTED.
- DIMENSIONS SHOWN IN FIGURES TAKE PRECEDENCE OVER DIMENSIONS SCALED FROM DRAWINGS. LARGE SCALE DRAWINGS AND DETAILS TAKE PRECEDENCE OVER SMALLER SCALE DRAWINGS.
- THE TERM "ALIGN", AS USED IN THESE DOCUMENTS, SHALL MEAN TO ACCURATELY LOCATE FINISHES IN THE SAME PLANE.
- "TYPICAL" AS USED IN THESE DOCUMENTS SHALL MEAN THAT THE CONDITION IS THE SAME OR REPRESENTATIVE FOR ALL SIMILAR CONDITIONS THROUGHOUT, UNLESS NOTED OTHERWISE.
- DETAILS ARE USUALLY KEYED AND NOTED "TYPICAL" ONLY ONCE, WHEN THEY FIRST OCCUR AND ARE REPRESENTATIVE OF ALL SIMILAR CONDITIONS THROUGHOUT, UNLESS NOTED OTHERWISE.
- COLUMN CENTERLINES (GRID LINES) ARE SHOWN FOR DIMENSIONING PURPOSES.

INTERIOR / EXTERIOR NOTES:

- WHERE ELECTRICAL, MECHANICAL AND/OR PLUMBING ITEMS, SUCH AS LIGHTS, DUCTS, PIPING, DOWNSPOUTS, ETC. ARE TO PENETRATE ANY BUILDING FOOTINGS, SLABS, FLOORS, STRUCTURAL FRAMING, WALL PARTITIONS, CEILING, ETC., IT IS REQUIRED THAT AN APPROPRIATELY SIZED OPENING OR CLEARANCE BE FURNISHED. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL ITEMS WITH THE CONSTRUCTION DOCUMENTS PRIOR TO THE INSTALLATION OF STRUCTURAL, MECHANICAL, PLUMBING AND ELECTRICAL WORK. ANY CONFLICT OR DISCREPANCY WITHIN CONSTRUCTION DOCUMENTS SHALL BE BROUGHT TO THE ARCHITECT'S ATTENTION FOR CLARIFICATION.
- CONTRACTOR, ALONG WITH MECHANICAL CONTRACTOR, SHALL PROVIDE AND LOCATE ACCESS DOORS/PANELS IN WALL & CEILING CONSTRUCTION AS REQUIRED TO PROVIDE ACCESS TO MECHANICAL, FIRE SPRINKLER, PLUMBING & ELECTRICAL WORK. CONTRACTOR SHALL SUBMIT A PLAN OF ALL PROPOSED ACCESS PANEL LOCATIONS TO ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION.
- ALL PENETRATIONS AT RATED CONSTRUCTION SHALL BE PROTECTED TO MAINTAIN RATING.
- WHERE OCCURS, CONTRACTOR SHALL PATCH ANY EXISTING WALLS AND/OR CEILING AS NEEDED TO REFINISH THE LEASE SPACE AND REPAIR ALL DAMAGES CAUSED BY CONTRACTOR.
- INTERIOR WALLS AND CEILING SHALL BE INSTALLED IN ACCORDANCE TO STATE & LOCAL CODES, INCLUDING REQUIREMENTS FOR FLAME SPREAD AND SMOKE DENSITY RATINGS FOR FINISH MATERIALS.
- WHEN USED, ALL NOISE BARRIER BATTS (SOUND INSULATION) AND INSULATION BATTS SHALL BE NON-COMBUSTIBLE AND SHALL NOT CONTAIN OR UTILIZE OZONE DEPLETING COMPOUNDS.
- ALL NEW CONSTRUCTION MATERIALS SHALL BE 100% ASBESTOS-FREE.

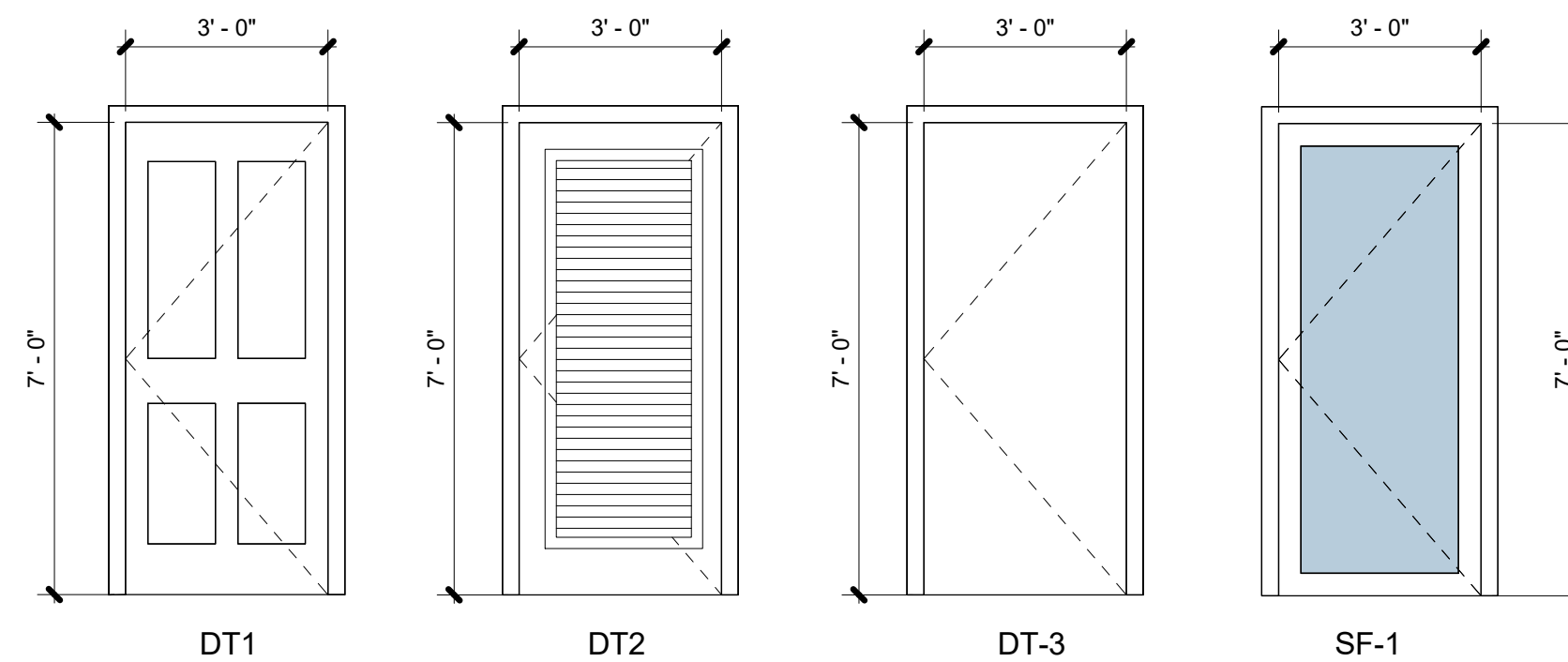
JOB SITE NOTES:

- WHERE EXISTING TENANTS/BUSINESSES ARE ADJACENT TO THE JOB SITE/TENANT, THE CONTRACTOR SHALL MINIMIZE CONSTRUCTION NOISE - EXTREME NOISE CONSTRUCTION SHALL OCCUR AT NON-TYPICAL BUSINESS HOURS. CONTRACTOR SHOULD NOTIFY BUILDING REPRESENTATIVE OF SPECIAL CIRCUMSTANCES IN ADVANCE PRIOR TO WORK.
- THE CONTRACTOR AT HIS OWN EXPENSE, SHALL KEEP THE PROJECT AND SURROUNDING AREA FREE FROM DUST AND DEBRIS. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR AND WATER POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH.
- CONSTRUCTION DEBRIS AND WASTES SHALL BE DEPOSITED AT AN APPROPRIATE SITE. THE CONTRACTOR SHALL INFORM THE BUILDING REPRESENTATIVE OF THE LOCATION OF DISPOSAL SITES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE GENERAL CLEANING OF THE JOB AFTER ITS COMPLETION. WHERE APPLICABLE, CLEANING SHALL INCLUDE, BUT NOT BE LIMITED TO, THE EXTERIOR AND THE INTERIOR OF THE BUILDING, THE PATH OF TRAVEL TO THE JOB SITE, PARKING LOTS, ELEVATORS, LOBBIES, AND CORRIDOR CARPETS.
- THE CONTRACTOR SHALL PROVIDE PEDESTRIAN PROTECTION, WHERE REQUIRED PER STATE AND LOCAL CODES.
- IF TRENCHES OR EXCAVATIONS 5'-0" OR MORE IN DEPTH ARE REQUIRED, OBTAIN ISSUANCE OF A BUILDING OR GRADING PERMIT.
- NO HAZARDOUS MATERIALS SHALL BE USED OR STORED WITHIN THE BUILDING WHICH DOES NOT COMPLY WITH THE LOCAL FIRE AUTHORITY AND STATE & COUNTY REQUIREMENTS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR BLOCKING OFF SUPPLY AND RETURN AIR GRILLES, DIFFUSERS & DUCTS TO KEEP DUST FROM ENTERING INTO BUILDING AIR DISTRIBUTION SYSTEMS.
- BUILDINGS UNDERGOING CONSTRUCTION, ALTERATION OR DEMOLITION SHALL BE DONE SO IN ACCORDANCE WITH STATE & LOCAL CODES.



TYPICAL WALL SECTION (NON RATED)

4
3/4" = 1'-0"



Door Types

3/8" = 1'-0"

Door Hardware Notes:

DOOR HARDWARE, HANDLES, PULLS LATCHES, LOCKS, AND OTHER OPERATING DEVICES ON ACCESSIBLE DOORS SHALL HAVE A SHAPE THAT IS EASY TO GRASP WITH ONE HAND AND DOES NOT REQUIRE TIGHT GRASPING, TIGHT PINCHING, OR TWISTING OF THE WRIST TO OPERATE. LEVER OPERATED MECHANISMS, PUSH TYPE MECHANISMS, AND U-SHAPED HANDLES ARE ACCEPTABLE DESIGNS. WHEN SLIDING DOORS ARE FULLY OPEN, OPERATING HARDWARE SHALL BE EXPOSED AND USABLE FROM BOTH SIDES. HARDWARE REQUIRED FOR ACCESSIBLE DOOR PASSAGE SHALL BE MOUNTED NO HIGHER THAN 48" ABOVE FINISHED FLOOR.

LOCKSETS SHALL BE KEYED TO BUILDING MASTER.

DOOR SCHEDULE						
Type	Count	Width	Height	Material	Hardware	Comments
DT-1	1	3'-0"	6'-8"	SC WOOD	PRIVACY SET	
DT-3	2	3'-0"	7'-0"	HOLLOW METAL	EXIT DOOR W PUSHBAR	
SF-1	1	3'-0"	7'-0"	ANNODIZED ALUMINUM	SUPPLIED BY STOREFRONT SUPPLIER	
WC-1	1	3'-0"	7'-0"	COOLER PANEL SYSTEM	PART OF COOLER ASSEMBLY	

Plan Notes:

PROVIDE WOOD BLOCKING IN WALLS FOR MIRRORS, AND OTHER WALL MOUNTED WORK AS REQUIRED TO ACCOMMODATE INSTALLATION.

FIRE EXTINGUISHERS SHALL BE LARSEN'S MODEL No. MP-10, MULTI-PURPOSE ABC, COMPLETE WITH MOUNTING BRACKET, OR APPROVED SIMILAR.

TOP OF FIRE EXTINGUISHERS SHALL BE LESS THAN 5'-0" AFF. BOTTOM SHALL BE NO LESS THAN 4" AFF.

PER SECTION 1005.2 DOOR ENCROACHMENT SHALL NOT REDUCE THE REQUIRED WIDTH TO LESS THAN 1/2 DURING DOOR SWING.

FIRE RATED TENANT DEMISING WALL SHALL NOT BE USED FOR PLUMBING.

ANY REPAIRS TO EXISTING TENANT DEMISING WALLS SHALL BE REPAIRED TO THE REQUIREMENTS OF FIRE RATED WALL DESIGN U-465.

SEAL PENETRATIONS W/FIRE RATED SEALANTS AS REQUIRED TO MAINTAIN FIRE RATING.

Finish Notes:

FLOOR: KITCHEN: QUARRY TILE
DAL TILE ARID GREY

DINING: VCT COLOR TO BE SELECTED BY OWNER.

WALLS: FRP TO 8'-0"; GYP BD. PAINTED W/ EPOXY PAINT ABOVE.

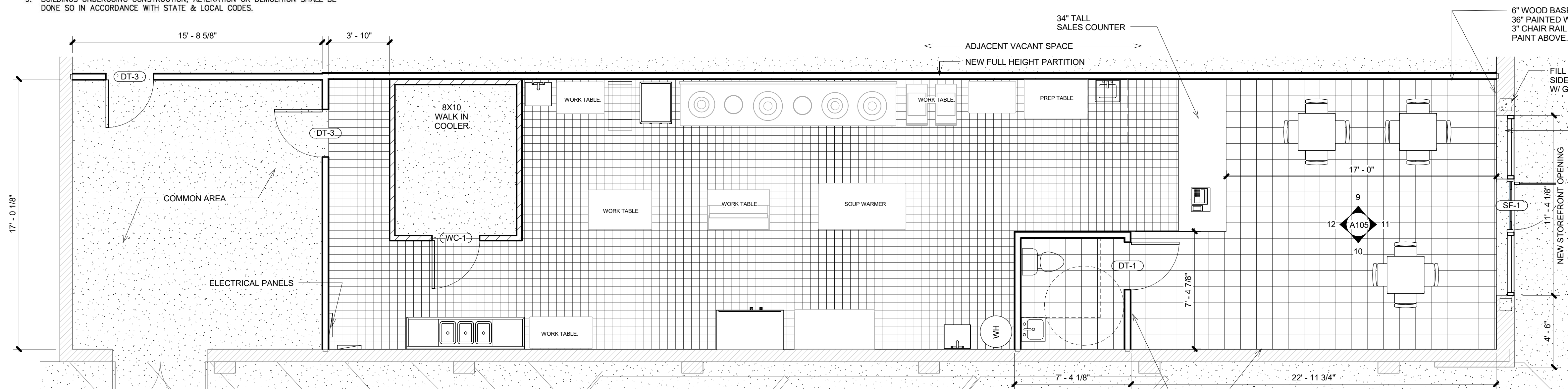
STAINLESS STEEL BEHIND COOKLINE

DINING AREA: PAINTED

HALLWAY: PAINTED

CEILING: 2X4 LAY IN ACCOUSTICAL CEILING. ARMSTRONG KITCHEN ZONE 672 IN KITCHEN

STANDARD IN DINING AREA



1 Floor Plan

1/4" = 1'-0"

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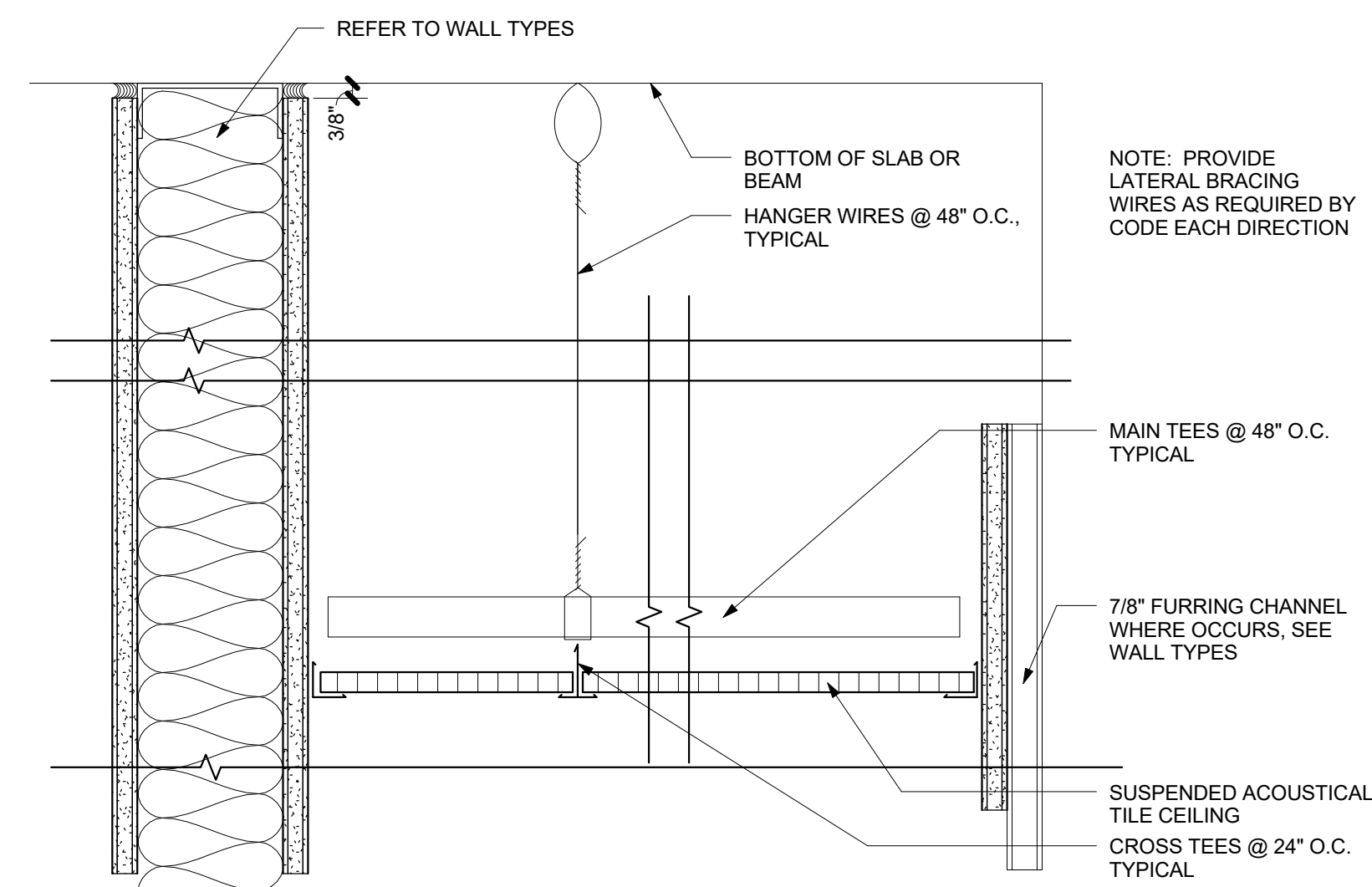
Revision Schedule		
Revision Number	Revision Description	Revision Date
1	BLDG DEPT COMMENTS	9/12/2014

BELLEVUE RETAIL 601 BELLEVUE AVE Floor Plan

Project number	16-020
Date	8/8/2016
Drawn by	Author
Checked by	Checker

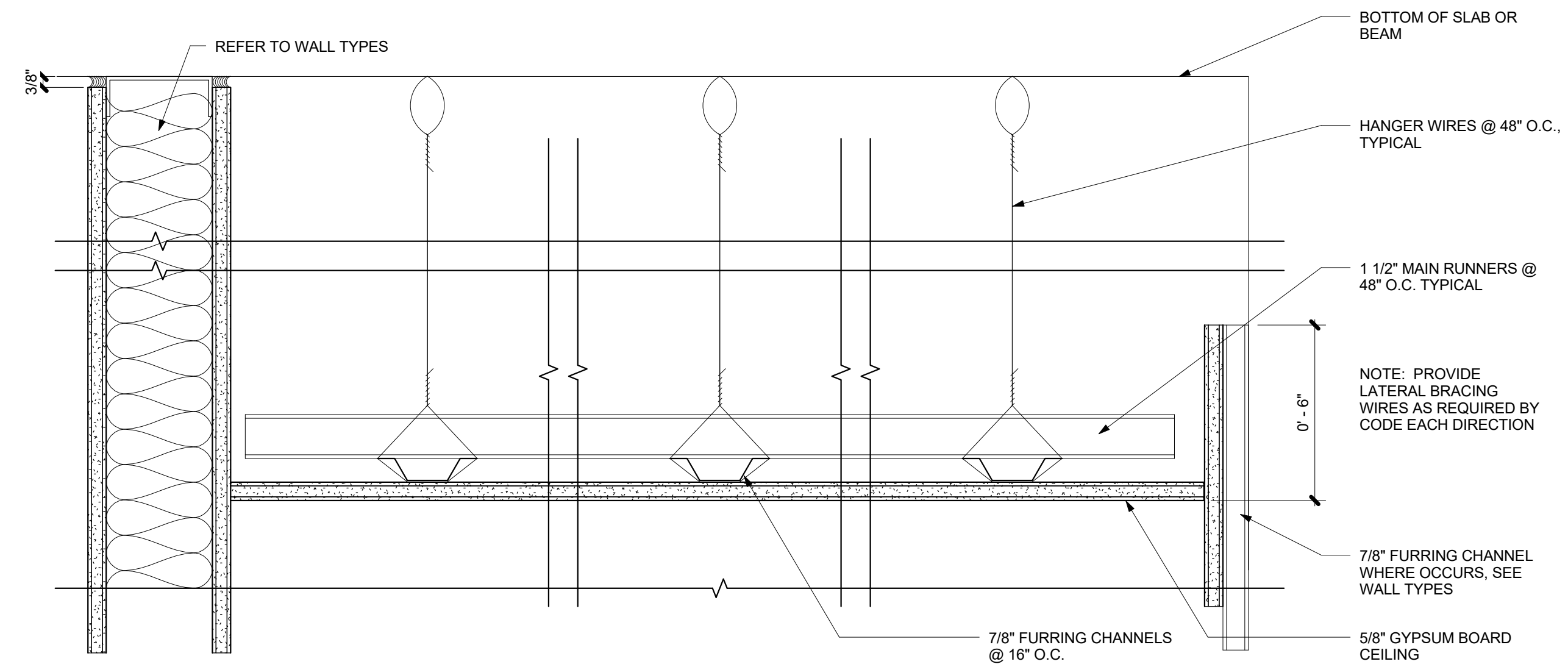
A102

Scale	As indicated
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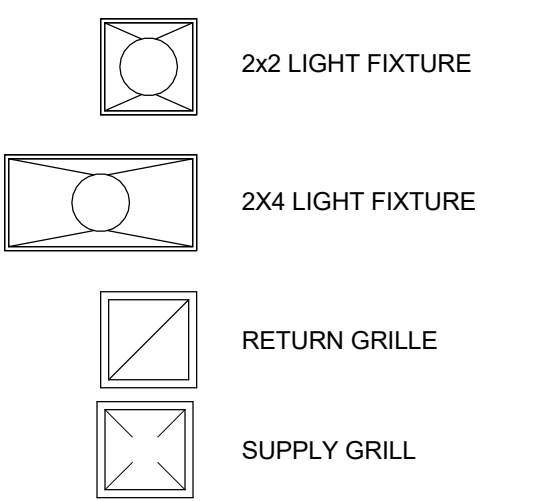
2 SUSPENDED ACOUSTIC TILE CEILING

3" = 1'-0"

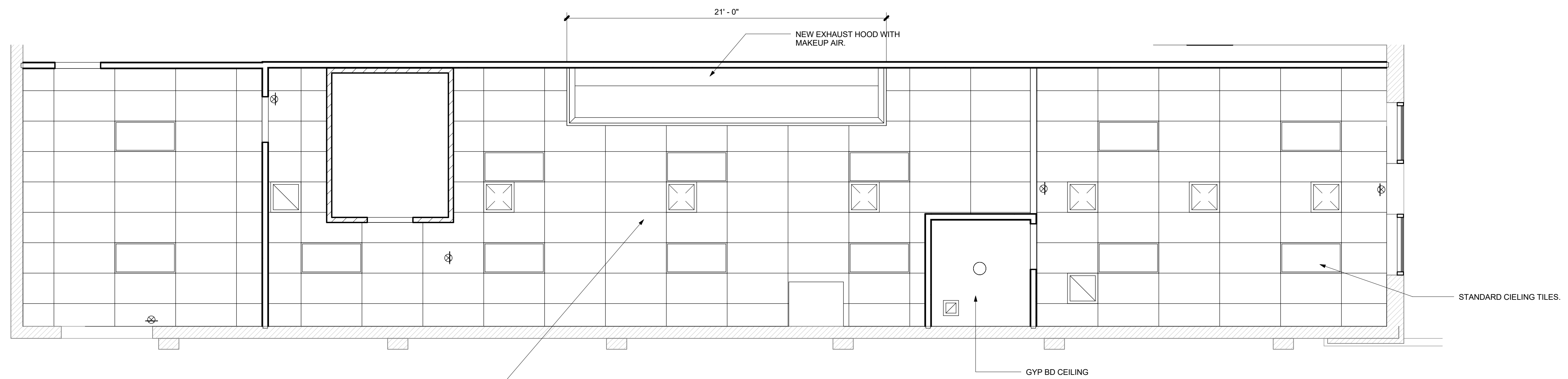


3 SUSPENDED GYPSUM BOARD CEILING

3" = 1'-0"



Ceiling Legend
1/4" = 1'-0"



ALL CEILING TILES IN KITCHEN AREA SHOWN ARE ARMSTRONG KITCHEN ZONE 672 CEILING TILES.

1 Ceiling Plan - Affected Areas

1/4" = 1'-0"

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Revision Schedule		
Revision Number	Revision Description	Revision Date

BELLEVUE RETAIL
601 BELLEVUE AVE
Ceiling Plan

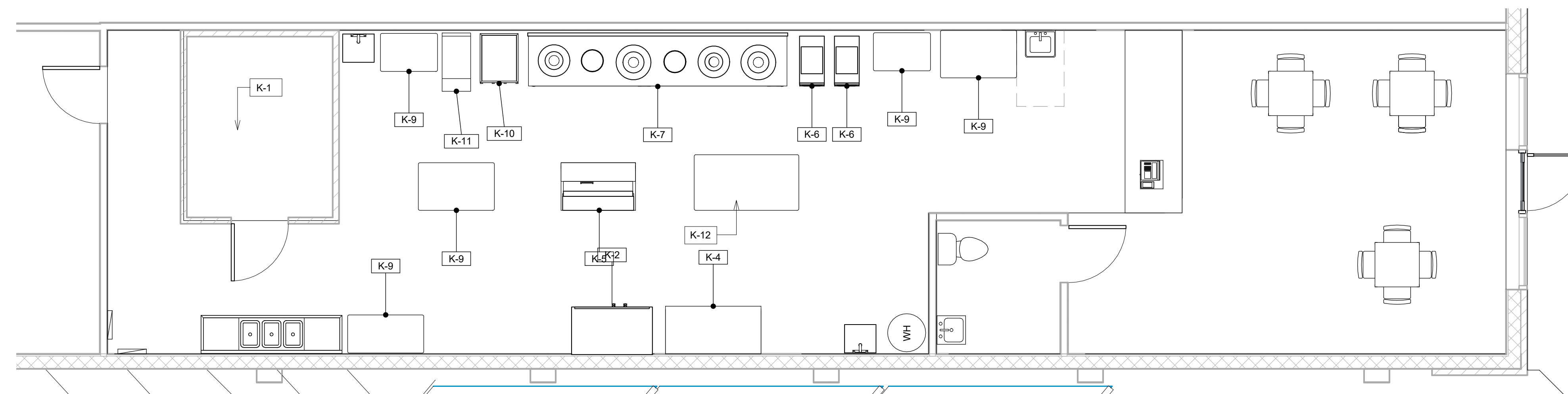
Project number	16-020
Date	8/8/2016
Drawn by	Author
Checked by	Checker

A103

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EQUIPMENT SCHEDULE

ID	QTY	Name	Size	San.	HW	CW	NG	Power	Load
K-1	1	WALK IN COOLER	120X96X90						220V 16A
K-2	1	REACH IN FREEZER	49 CUFT					NEMA-5-15P PLUG115V	7A
K-3	1	MEAT GRINDER							220V 16A
K-4	1	WORKTOP FREEZER	27X30X33					NEMA-5-15P PLUG	110V 4AMP
K-5	1	PREP TABLE	47X27X35					NEMA-5-15P PLUG120V	9.9 AMP
K-6	2	DEEP FRYER	24X32X15				3/4"		120K BTU
K-7	1	WOK RANGE	164X30X34				3/4"		
K-8	1	SODA COOLER							115V 5.8A
K-9	1	SS WORKTABLE	SIZES VARY						
K-10	1	CHAR-GRILL					3/4"		66,000 BTU
K-11	1	RICE COOKER					3/4"		
K-12	1	SOUP WARMER							



2 Kitchen Equipment Plan
1/4" = 1'-0"

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Revision Schedule		
Revision Number	Revision Description	Revision Date

BELLEVUE RETAIL 601 BELLEVUE AVE EQUIPMENT PLAN

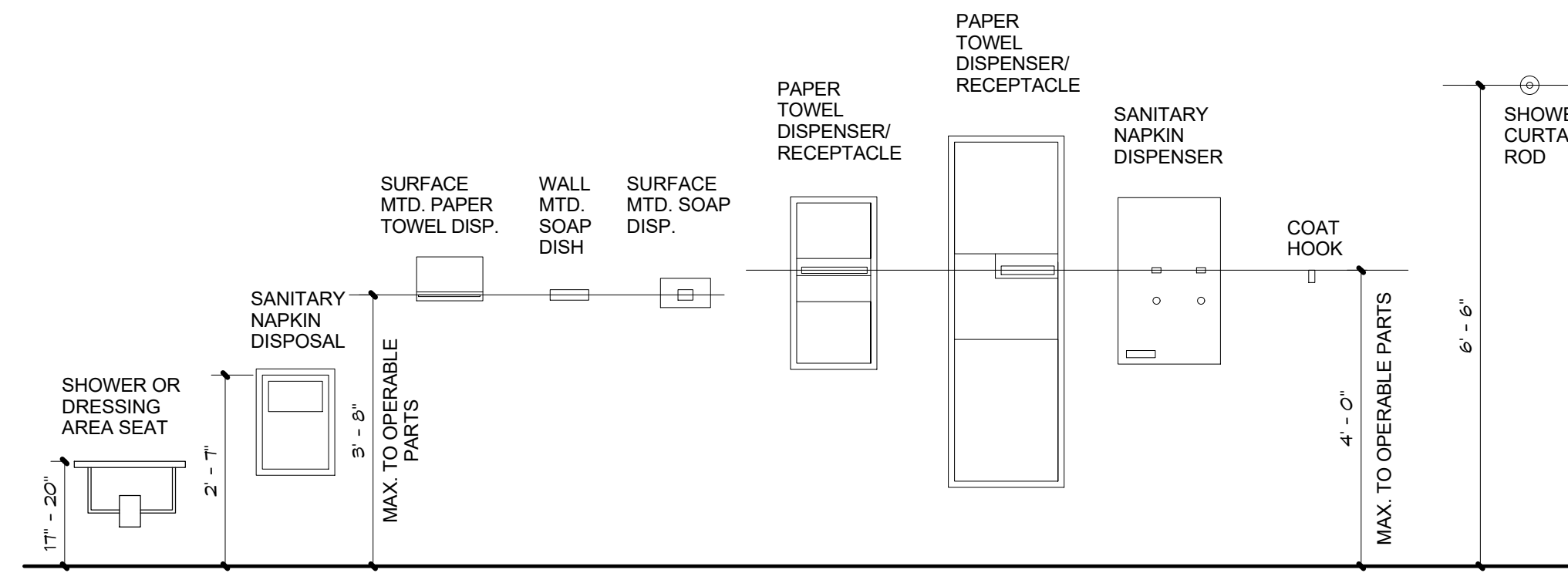
Project number	16-020
Date	8/8/2016
Drawn by	Author
Checked by	Checker

A104

Scale 1/4" = 1'-0"

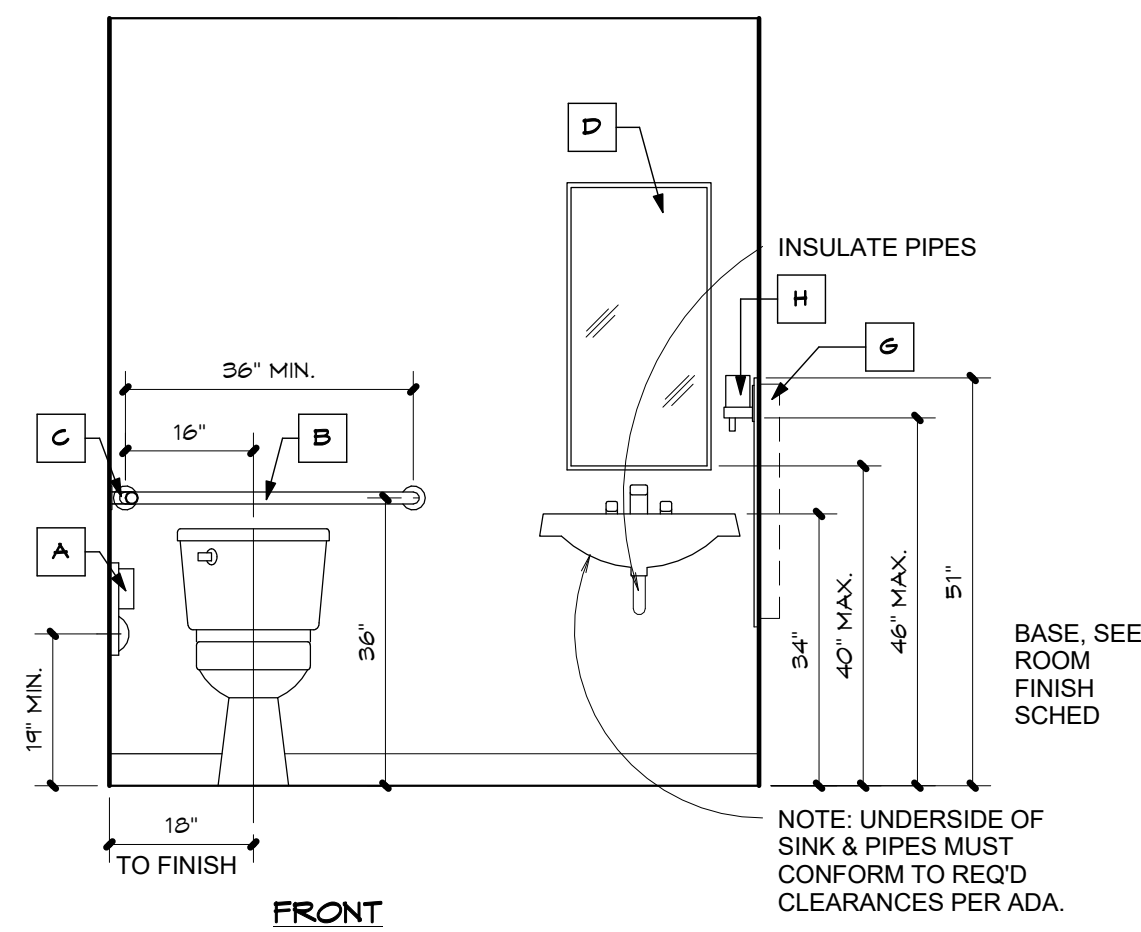
TOILET ACCESSORIES		
MARK	ITEM	BOBRICK MODEL NUMBER
A	TOILET PAPER DISPENSER RECESSED, DOUBLE ROLL	B-4388
B	GRAB BAR - 1 1/2" DIA., S/S, PREENED GRIP, SNAP FLANGE	B-6806.99 36" L.
C	GRAB BAR - 1 1/2" DIA., S/S PREENED GRIP, SNAP FLANGE	B-6806.99 42" L.
D	MIRROR - S/S ANGLE FRAME	B-290 1836
E	COAT HOOK	B-682
G	PAPER TOWEL DISP/RECEP. RECESSED	B-369
H	SOAP DISPENSER	B-155

NOTE:
 PROVIDE WOOD BLOCKING IN THE PARTITION WALLS AS REQ'D TO MOUNT THE ACCESSORIES SHOWN. INSTALL ACOUSTIC BATT INSUL. BEHIND ALL RECESSED OR SEMI-RECESSED ACCESSORIES.



1 ADA HC FLOOR PLAN W/ TOILET ACCESSORIES

1/2" = 1'-0"

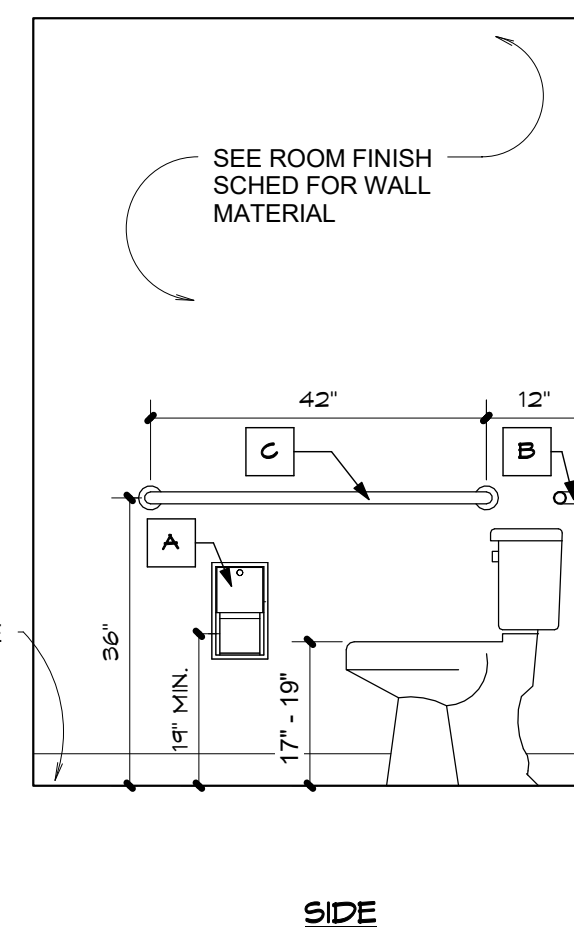


3 ADA Toilet Elevations

1/2" = 1'-0"

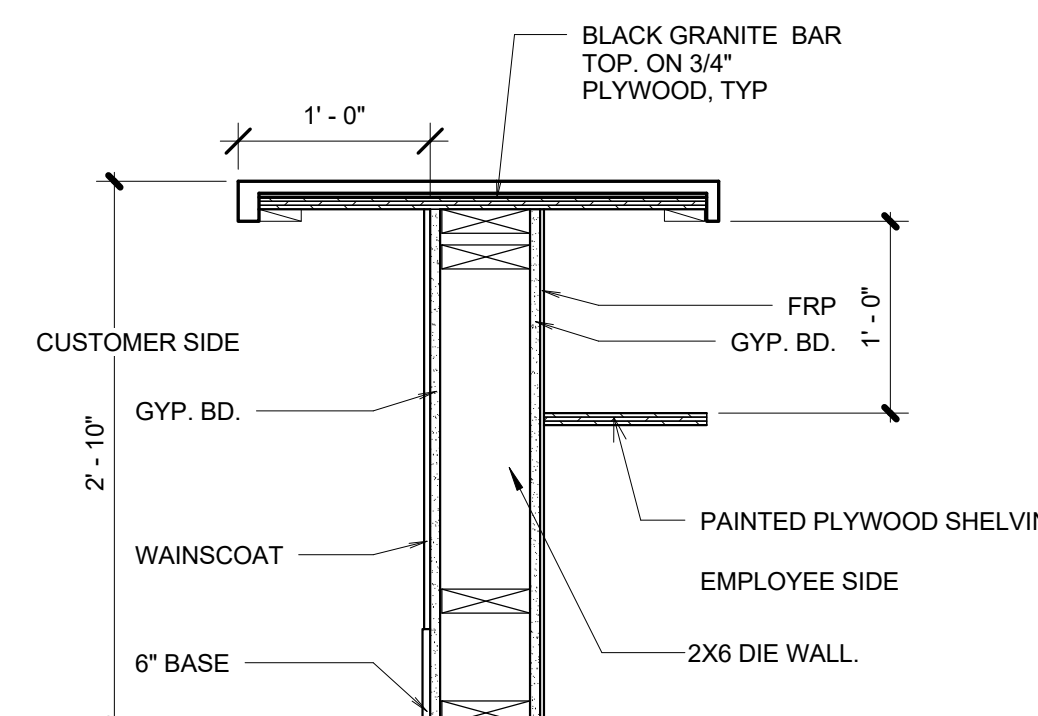
2 MISC. TOILET ACCESSORIES MOUNTING HEIGHTS

1/2" = 1'-0"



4 Sales Counter

1" = 1'-0"

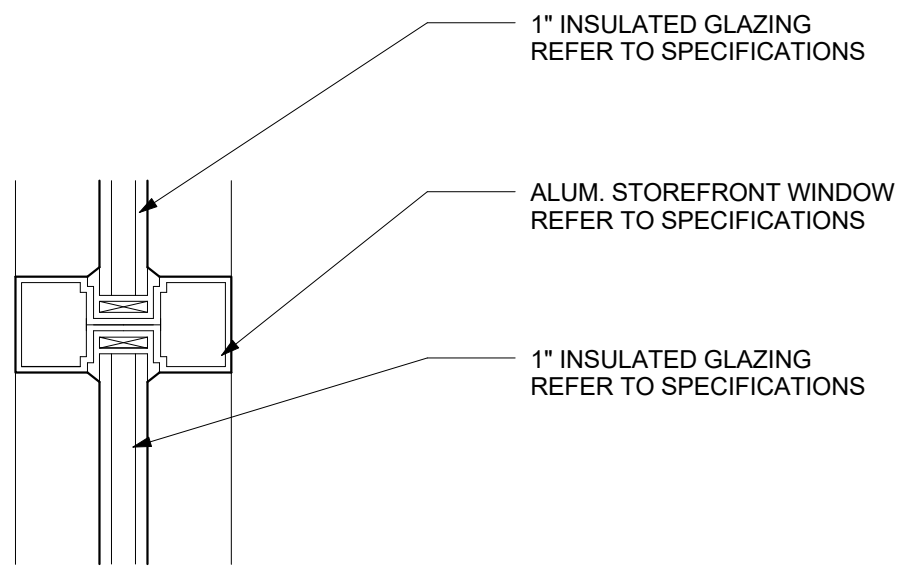


5 STOREFRONT HEAD DETAIL

1 1/2" = 1'-0"

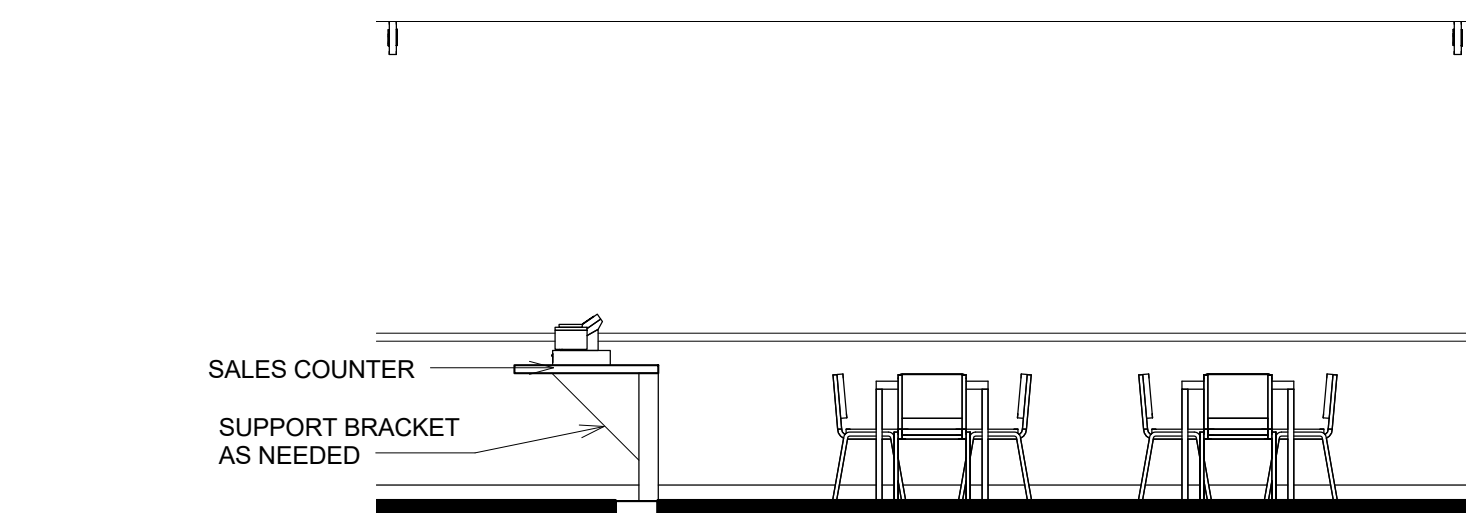
6 ALUM 451 GLASS/GLASS

3" = 1'-0"



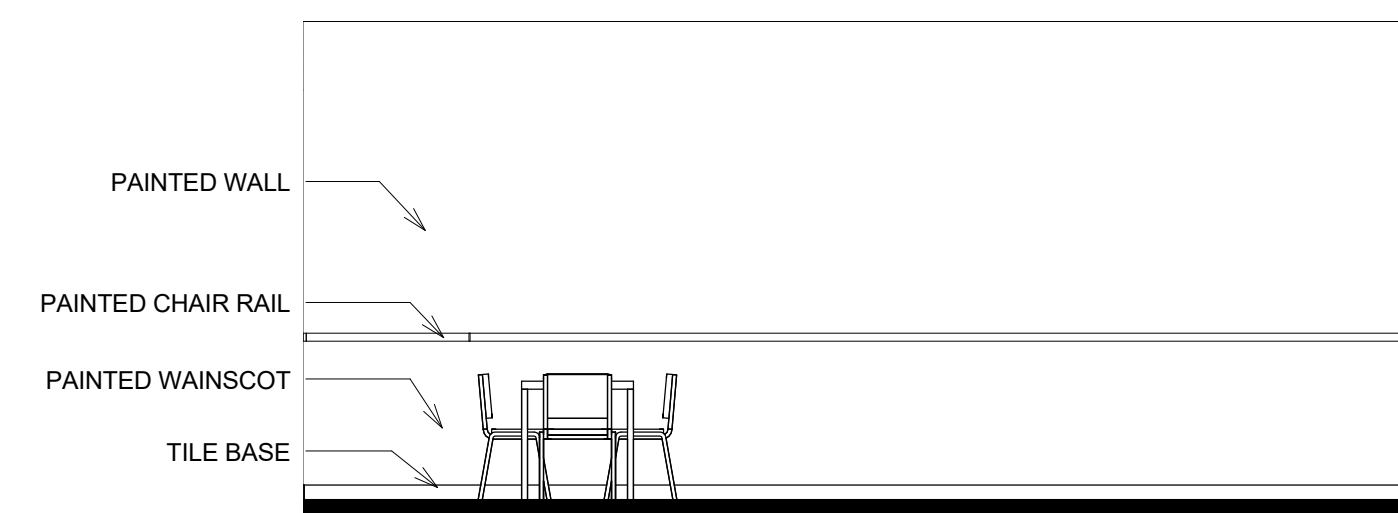
7 ALUM 451 WINDOW SILL

1 1/2" = 1'-0"



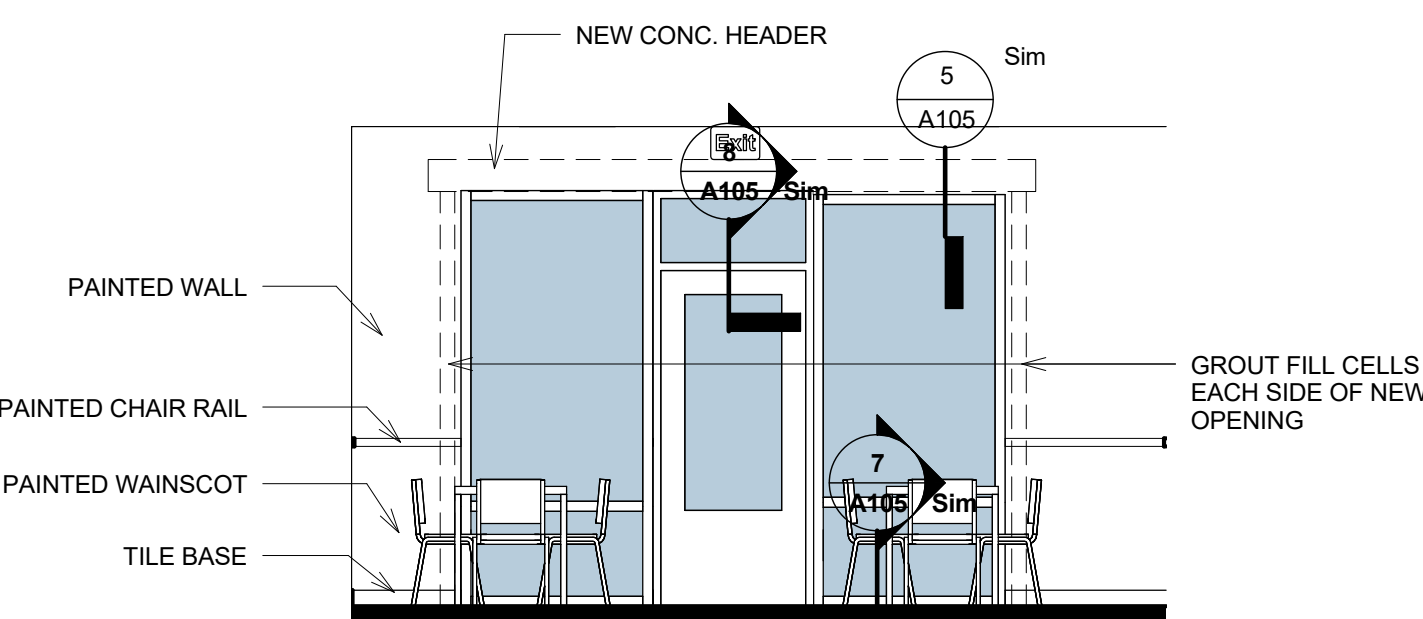
9 INTERIOR ELEVATION

1/4" = 1'-0"



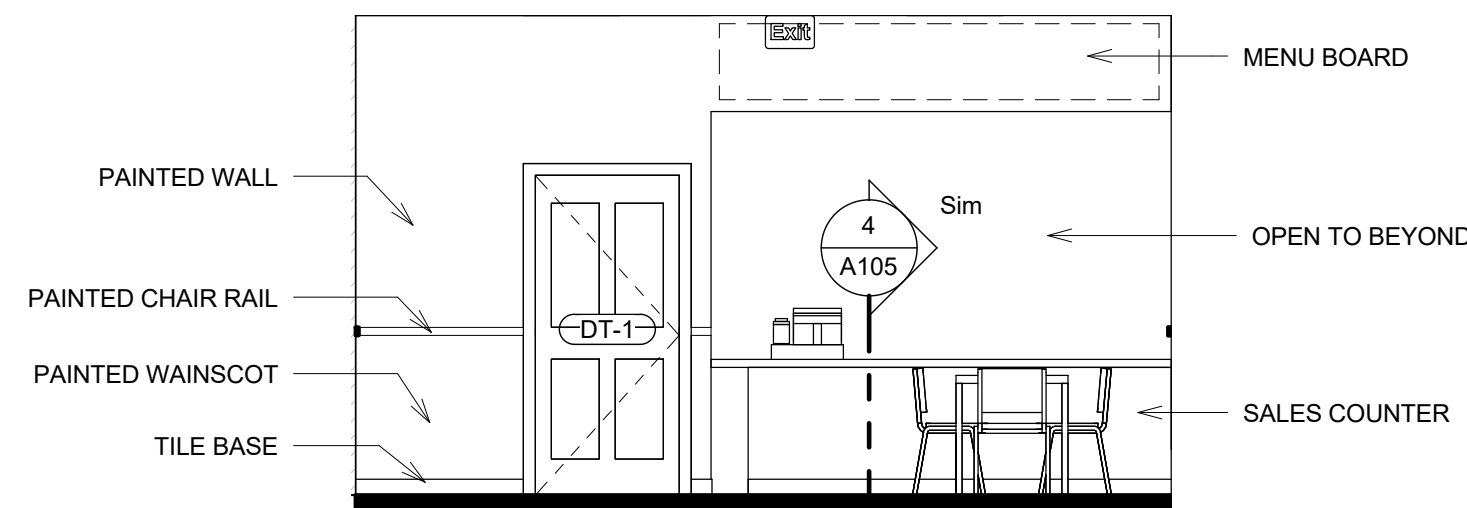
10 INTERIOR ELEVATION - SIDE

1/4" = 1'-0"



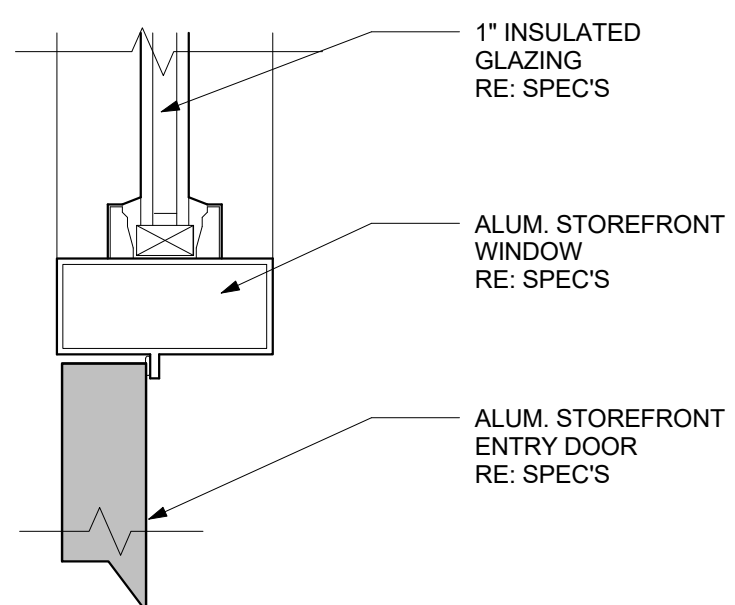
11 INTERIOR ELEVATION - ENTRY

1/4" = 1'-0"



12 INTERIOR ELEVATION - SIDE 2

1/4" = 1'-0"



8 ALUM 451 DOOR/WINDOW CONN.

3" = 1'-0"

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Revision Schedule		
Revision Number	Revision Description	Revision Date

BELLEVUE RETAIL 601 BELLEVUE AVE DETAILS

Project number	16-020
Date	8/8/2016
Drawn by	Author
Checked by	Checker

A105

Scale As indicated

ABBREVIATIONS			
ABV	ABOVE	SA	SUPPLY AIR
ADJ	ADJUSTABLE	SF	SUPPLY FAN
AF	AIRFOIL	SDT	SMOKE DETECTOR
AFF	ABOVE FINISHED FLOOR	SD	SUPPLY DIFFUSER
AC	AIR CONDITIONER	SDMP	SMOKE DAMPER
ACU	AIR CONDITIONING UNIT	SQ.FT.	SQUARE FOOT
AHU	AIR HANDLING UNIT	SR	SUPPLY REGISTER
AP	ACCESS PANEL	STR	STARTER
BAS	BUILDING AUTOMATION SYSTEM	SWSI	SINGLE WIDTH, SINGLE INLET
BI	BACKWARD INCLINE	SZ	SINGLE ZONE
BLDG	BUILDING	TEFC	TOTALLY ENCLOSED FAN COOLED
BHP	BRAKE HORSEPOWER	TEMP	TEMPERATURE
BTUH	BRITISH THERMAL UNIT PER HOUR	TG	TRANSFER GRILLE
CD	CONDENSATE DRAIN	T/O	TRANSFER OPENING ABOVE CEILING
CFM	CUBIC FEET PER MINUTE	T'STAT	THERMOSTAT
CLG	CEILING	TYP	TYPICAL
CW	CHILLED WATER	VFC	VARIABLE FREQUENCY DRIVE CONTROLLER
CWR	CHILLED WATER RETURN	VAV	VARIABLE AIR VOLUME
CWS	CHILLED WATER SUPPLY	VS	VARIABLE SPEED
CONC	CONCRETE	W	WATTS
COND	CONDENSATE	W/	WITH
CONT	CONTINUOUS	W/O	WITHOUT
CO	CARBON MONOXIDE	WB	WETBULB
COP	COEFFICIENT OF PERFORMANCE	ZD	ZONE DAMPER
CU	CONDENSING UNIT		
DB	DRYBULB		
DWDI	DOUBLE WIDTH, DOUBLE INLET		
DWGS	DRAWINGS		
DX	DIRECT EXPANSION		
EF	EXHAUST FAN		
EXH	EXHAUST		
EA	EACH		
EAT	ENTERING AIR TEMPERATURE		
EER	ENERGY EFFICIENCY RATIO		
ELECT	ELECTRICAL		
ENT	ENTERING		
EQ	EQUAL		
ER	EXHAUST REGISTER		
EWT	ENTERING WATER TEMPERATURE		
FC	FORWARD CURVED		
FCU	FAN COIL UNIT		
FD	FIRE DAMPER		
FL	FLOOR		
FLEX	FLEXIBLE CONNECTOR OR DUCT		
FPM	FEET PER MINUTE		
F/S	COMBINATION FIRE AND SMOKE DAMPER		
FT. H ₂ O	FEET WATER GAUGE		
F	DEGREES FAHRENHEIT		
GA	GAUGE		
GAL	GALLON		
GALV	GALVANIZED		
GPM	GALLONS PER MINUTE		
HP	HORSEPOWER		
HTWR	HIGH TEMPERATURE HOT WATER RETURN		
HTWS	HIGH TEMPERATURE HOT WATER SUPPLY		
HW	HOT WATER		
HWR	HOT WATER RETURN		
HWS	HOT WATER SUPPLY		
HVAC	HEATING VENTILATING AND AIR CONDITIONING		
HV	HEATING AND VENTILATING		
IN.WG	INCHES WATER GAGE		
KW	KILOWATTS		
LAT	LEAVING AIR TEMPERATURE		
LD	LINEAR DIFFUSER		
LWT	LEAVING WATER TEMPERATURE		
MAX	MAXIMUM		
MBH	1000 X BTUH		
MIN	MINIMUM		
MVD	MANUAL VOLUME DAMPER		
MZ	MULTI-ZONE		
N.T.S.	NOT TO SCALE		
OA	OUTSIDE AIR		
OBMVD	OPPOSED BLADE MANUAL VOLUME DAMPER		
OPD	OPEN DRIP PROOF		
PROP	PROPELLER		
PCR	PRE-CONDITIONED AIR SYSTEM RETURN WATER		
PCS	PERCENT		
PD	PRESSURE DROP		
PERF. PL.	PERFORATED PLATE		
PLBG	PLUMBING		
PSIA	POUNDS PER SQUARE INCH ABSOLUTE		
PSIG	POUNDS PER SQUARE INCH GAUGE		
RA	RETURN AIR		
RD	RADIATION DAMPER		
REG	REGISTER		
REQ'D	REQUIRED		
RG	RETURN AIR GRILLE		
RH	RELATIVE HUMIDITY		
RPM	REVOLUTIONS PER MINUTE		
RR	RETURN AIR REGISTER		
RTU	ROOFTOP UNIT		

GENERAL NOTES	
1.	INSTALL EQUIPMENT AND MATERIALS IN COMPLIANCE WITH MANUFACTURER'S MINIMUM CLEARANCE REQUIREMENTS AND RECOMMENDATIONS.
2.	COMPLY WITH THE LATEST EDITIONS OF NFPA AND THE LATEST ADOPTED EDITION FLORIDA BUILDING CODE (MECHANICAL, PLUMBING AND GAS).
3.	ALL MATERIALS SHALL FIT THE SPACE AVAILABLE. VERIFY DIMENSIONS AND CLEARANCES ON BUILDING PLANS PRIOR TO COMMENCING WORK.
4.	CONTRACTOR IS RESPONSIBLE FOR TESTING AND BALANCING OF AIR SYSTEMS IN ACCORDANCE WITH AABC GUIDELINES. A TEST AND BALANCE REPORT SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL.
5.	PROVIDE 45 DEGREE BRANCH TAKE-OFF PER SMACNA FIG. 2-8 ON ALL RECTANGULAR DUCT TAKE-OFFS.
6.	PROVIDE AND INSTALL DUCT MOUNTED HINGED ACCESS DOORS FOR ALL SMOKE AND/OR FIRE DAMPERS, NOT OTHERWISE ACCESSIBLE.
7.	CONTRACTOR SHALL COORDINATE VOLTAGE AND PHASE OF EACH PIECE OF EQUIPMENT WITH THE ELECTRICAL CONTRACTOR PRIOR TO ORDERING AND SHALL COORDINATE WITH ALL OTHER TRADES PRIOR TO OR INSTALLING EQUIPMENT AND MATERIALS.
8.	COORDINATE ALL HVAC SYSTEM DRAWINGS WITH EXISTING/NEW TRUSS TO AVOID INTERFERENCE BETWEEN MECHANICAL SYSTEMS AND ROOF STRUCTURE. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH TRUSS INTERFERENCE THAT OCCURS IN THE FIELD DURING CONSTRUCTION. COORDINATE IN ADVANCE. DUCT SIZES MAY BE REVISED TO FIT TRUSS SYSTEM SO LONG AS THE EQUIVALENT INSIDE CROSS SECTIONAL AREA IS NOT DECREASED.
9.	GAUGES AND CONSTRUCTION FOR DUCTWORK SHALL CONFORM TO THE LATEST EDITION OF SMACNA'S HVAC DUCT CONSTRUCTION STANDARDS.
10.	TRANSITION RECTANGULAR DUCTWORK ON BOTTOM AND SIDES. MAINTAIN TOP OF DUCTWORK LEVEL AND HIGH AS POSSIBLE. FLEXIBLE DUCT RUN-OUTS TO CEILING DIFFUSERS SHALL BE AS STRAIGHT AS POSSIBLE AND FREE OF SAGS & KINKS. FLEX DUCT SHALL BE THE SAME SIZE AS THE DIFFUSER NECK IT SERVES.
11.	ALL DUCT TRANSITIONS FROM SQUARE TO ROUND SHALL BE SMOOTH SQUARE TO ROUND TRANSITIONS. SPIN-IN FITTINGS AT THE END OF CAPPED DUCTS ARE NOT ACCEPTABLE. DUCT DIMENSIONS SHOWN ARE INSIDE CLEAR DIMENSIONS.
12.	THE CONTRACTOR SHALL FULFILL ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS AND SHALL COMPLETE THE WORK SHOWN ON THESE DRAWINGS. ALL SYSTEMS SHALL BE FINISHED, TESTED AND BALANCED, ADJUSTED, AND PROVEN TO BE FULLY OPERATIONAL AND USEABLE.
13.	ADJUST ALL DIFFUSERS IN CORRIDORS OR WITHIN THREE (3) FEET OF A WALL TO PROVIDE 2-WAY OR 3-WAY BLOW AWAY FROM OR PARALLEL TO WALLS. ALL DIFFUSERS SHALL HAVE 4-WAY BLOW UNLESS NOTED OTHERWISE.
14.	PORTIONS OF DUCTWORK VISIBLE THROUGH GRILLES AND REGISTERS IN FINISHED AREAS SHALL BE PAINTED FLAT BLACK.
15.	ALL DAMPERS IN AND ABOVE CEILING SHALL BE ACCESSIBLE. CONTRACTOR SHALL COORDINATE ALL ACCESS PANELS IN CEILINGS OR WALLS WITH ARCHITECTURAL REFLECTED CEILING PLANS AND INTERIOR DRAWINGS FOR PROPER LOCATION.
16.	MOUNT THERMOSTATS WHERE INDICATED ON PLANS 48" A.F.F. UNLESS NOTED OTHERWISE. IN HANDICAPPED ACCESSIBLE AREAS, MOUNT CONTROLS AT 48" ABOVE FINISHED FLOOR.
17.	COORDINATE DUCTWORK AND PIPING WITH PLUMBING, FIRE PROTECTION AND ELECTRICAL. MAKE OFFSETS AND TRANSITIONS TO COORDINATE WITH OTHER TRADES WITHOUT ANY ADDITIONAL EXPENSE TO THE CONTRACT.
18.	SEAL ALL TRANSVERSE JOINTS AND FITTINGS WITH DUCT SEALER.
19.	TRAP AND ROUTE CONDENSATE DRAINS LINES, FULL SIZE OF UNIT CONNECTION, AS INDICATED. SLOPE 1/8" PER FOOT.
20.	ALTERNATE MANUFACTURERS AND MODELS WILL BE REVIEWED. THERE MAY BE ARCHITECTURAL, STRUCTURAL AND ELECTRICAL CHANGES RESULTING FROM THE ALTERNATES. THE COST OF IMPLEMENTING AND ENGINEERING THESE CHANGES SHALL BE BORNE BY THE MECHANICAL SUBCONTRACTOR.
21.	PIPE AND DUCT ROUTING SHOWN IS SCHEMATIC. PROVIDE ANY ADDITIONAL OFFSETS AND FITTINGS, INCLUDING DIVIDED DUCTS, REQUIRED FOR PROPER INSTALLATION AND TO MAINTAIN CLEARANCES AS ENCOUNTERED IN THE FIELD.
22.	COORDINATE CEILING MOUNTED AIR DEVICE LOCATION WITH REFLECTED CEILING PLAN AND OTHER TRADES.
23.	ALL CONTROL WIRING AND CONDUIT SHALL COMPLY WITH NEC DIVISION 16 SPECIFICATIONS.
24.	PROVIDE MATERIALS WHICH HAVE A FLAME SPREAD RATING OF 25 OR LESS AND A SMOKE DEVELOPED RATING OF 50 OR LESS WHEN TESTED IN ACCORD WITH ASTM E84.
25.	SLEEVE AND FIRE STOP PENETRATIONS THROUGH FIRE RATED SYSTEMS TO MAINTAIN RATING OF SYSTEM. USE MINIMUM GALVANIZED STEEL GAUGE DUCT AS REQUIRED TO MAINTAIN RATING OF SYSTEM.
26.	THE TABC SHALL BE EMPLOYED DIRECTLY BY THE GENERAL CONTRACTOR WHO SHALL BE SOLELY RESPONSIBLE FOR ITS PERFORMANCE AND THE TIMELY SCHEDULE OF ITS OPERATION.
27.	WHERE THE EXHAUST DUCT IS CONCEALED WITHIN THE BUILDING CONSTRUCTION, THE EQUIVALENT LENGTH OF THE DUCT SHALL BE IDENTIFIED ON A PERMANENT LABEL OR TAG. THE LABEL OR TAG SHALL BE LOCATED WITHIN 6 FEET OF THE EXHAUST DUCT CONNECTION.

NOTE:
GENERAL NOTES ON THIS MECHANICAL SHEET ARE FOR GENERAL REFERENCE PURPOSES ONLY. ALL OF THESE NOTES MAY NOT BE USED FOR THIS PROJECT.

LEGEND	
	SUPPLY DIFFUSER. (4-WAY)
	RETURN OR OUTDOOR AIR GRILLE
	EXHAUST GRILLE
	SUPPLY DUCT UP SECTION (RECTANGULAR)
	RETURN DUCT UP SECTION (RECTANGULAR)
	EXHAUST DUCT UP SECTION (RECTANGULAR)
	SUPPLY DUCT DOWN SECTION (RECTANGULAR)
	RETURN DUCT DOWN SECTION (RECTANGULAR)
	EXHAUST DUCT DOWN SECTION (RECTANGULAR)
	SUPPLY DUCT UP SECTION (ROUND).
	SUPPLY DUCT DOWN SECTION (ROUND).
	LINEAR SLOT DIFFUSER
	EXISTING LINEAR SLOT DIFFUSER (LIGHT LINETYPE)
	RECTANGULAR DUCTWORK WITH TAKE-OFF, BALANCING DAMPER AND INSULATED FLEXIBLE ROUND DUCT. SAME SIZE AS DIFFUSER INLET UNLESS NOTED OTHERWISE. FIRST DIMENSION IS THAT OF SIDE SHOWN. ROUND DUCTWORK.
	CONICAL FITTING WITH DAMPER ON BRANCH CONNECTION TO RECTANGULAR MAIN (PROVIDE DAMPER IN LOW PRESSURE DUCTWORK ONLY).
	OPPOSED BLADE VOLUME DAMPER (OBD).
	MANUAL DAMPER
	FLEXIBLE DUCT CONNECTION.
	FIRE DAMPER WITH ACCESS PANEL.
	COMBINATION FIRE/SMOKE DAMPER WITH ACCESS PANEL.
	EXISTING DUCTWORK TO BE REMOVED (DASHED LINETYPE)
	DUCT MOUNTED SMOKE DETECTOR PROVIDED AND WIRED BY ELECTRICAL CONTRACTOR AND INSTALLED IN DUCT BY MECHANICAL CONTRACTOR. REFER TO SPECIFICATIONS FOR CONTROL REQUIREMENTS.
	AIR DEVICE TAG MARK-CFM
	SIDEWALL TRANSFER GRILLE
	SIDEWALL SUPPLY REGISTER
	SIDEWALL RETURN GRILLE OR OUTSIDE AIR LOUVER
	SIDEWALL EXHAUST GRILLE
	WALL MOUNTED DDC TEMPERATURE SENSOR MOUNT 5'-0" ABOVE FINISHED FLOOR.
	WALL MOUNTED THERMOSTAT MOUNT 48" ABOVE FINISHED FLOOR.
	WALL MOUNTED CO SENSOR MOUNT 48" ABOVE FINISHED FLOOR.
	WALL MOUNTED DDC HUMIDITY SENSOR MOUNT 48" ABOVE FINISHED FLOOR.
	WALL MOUNTED HUMIDISTAT SENSOR MOUNT 48" ABOVE FINISHED FLOOR.
	PHOTO DETAIL OR SECTION IDENTIFICATION TARGET A = DETAIL NUMBER. B = SHEET NUMBER ON WHICH DETAIL IS LOCATED.
	RADIATION DAMPER INSTALLED IN AIR DEVICE
	RADIATION DAMPER INSTALLED IN DUCT.
	ELBOW WITH TURNING VANES
	REFERENCE NOTES
	REFERENCE NOTE - MULTI-DISCIPLINE SHEETS
	FLOW DIRECTION
	INDICATES POINT OF CONNECTION BETWEEN NEW AND EXISTING.
	POINT OF DISCONNECT
	CWS CONDENSER WATER SUPPLY PIPING.
	CWR CONDENSER WATER RETURN PIPING.
	BCWS BUILDING CONDENSER WATER SUPPLY PIPING.
	BCWR BUILDING CONDENSER WATER RETURN PIPING.
	CHWS CHILLED WATER SUPPLY PIPING.
	CHWR CHILLED WATER RETURN PIPING.
	HWS HEATING WATER SUPPLY PIPING.
	HWR HEATING WATER RETURN PIPING.
	CD CONDENSATE DRAIN PIPING.
	R REFRIGERANT PIPING
	FS FLOW SENSOR.
	SP STATIC PRESSURE TRANSMITTER ASSEMBLY.
	RECTANGULAR BRANCH DUCT CONNECTION. (PROVIDE BALANCING DAMPER AT ALL BRANCH CONNECTIONS)
	TEE (PLAN, UP, DOWN).
	ELBOW (PLAN, UP, DOWN).
	VALVE.
	TWO WAY MOTORIZED CONTROL VALVE.
	THREE WAY MOTORIZED CONTROL VALVE.
	PRESSURE REDUCING VALVE.
	FLOW CONTROL VALVE.
	BALL VALVE FOR PIPING 2-INCHES AND SMALLER, BUTTERFLY VALVE FOR PIPING 2-1/2 INCHES AND LARGER.
	BUTTERFLY VALVE.
	CHECK VALVE.
	STRAINER.
	BALANCE VALVE WITH INTEGRAL TAPS FOR CONNECTION OF DIFFERENTIAL PRESSURE METER. VALVE SHALL HAVE NAMEPLATE INDICATING WATER FLOW RATE VERSUS VALVE PRESSURE DROP.
	AUTOMATIC FLOW CONTROL VALVE WITH INTEGRAL TEMPERATURE AND PRESSURE TEST PORTS.
	M MOTORIZED ACTUATOR
	OPENING IN WALL ABOVE CEILING.
	EQUIPMENT TAG MARK
	1" DOOR UNDER CUT. ARROW INDICATES DIRECTION OF FLOW

NOTE:
SYMBOLS SHOWN ON THIS MECHANICAL LEGEND ARE FOR REFERENCE PURPOSES ONLY. ALL OF THESE SYMBOLS MAY NOT BE USED FOR THIS PROJECT.

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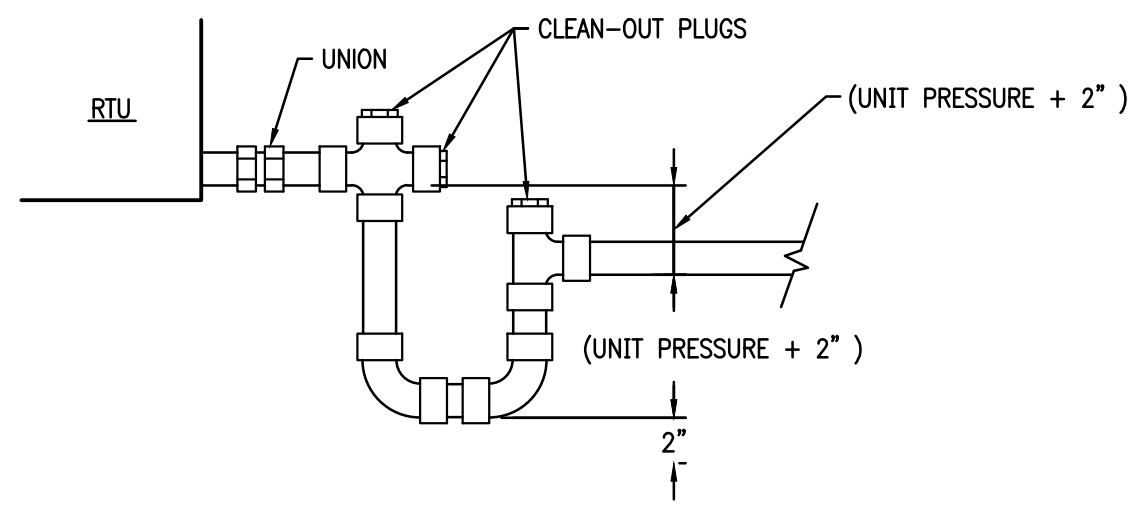
Revision Schedule		
Revision Number	Revision Description	Revision Date

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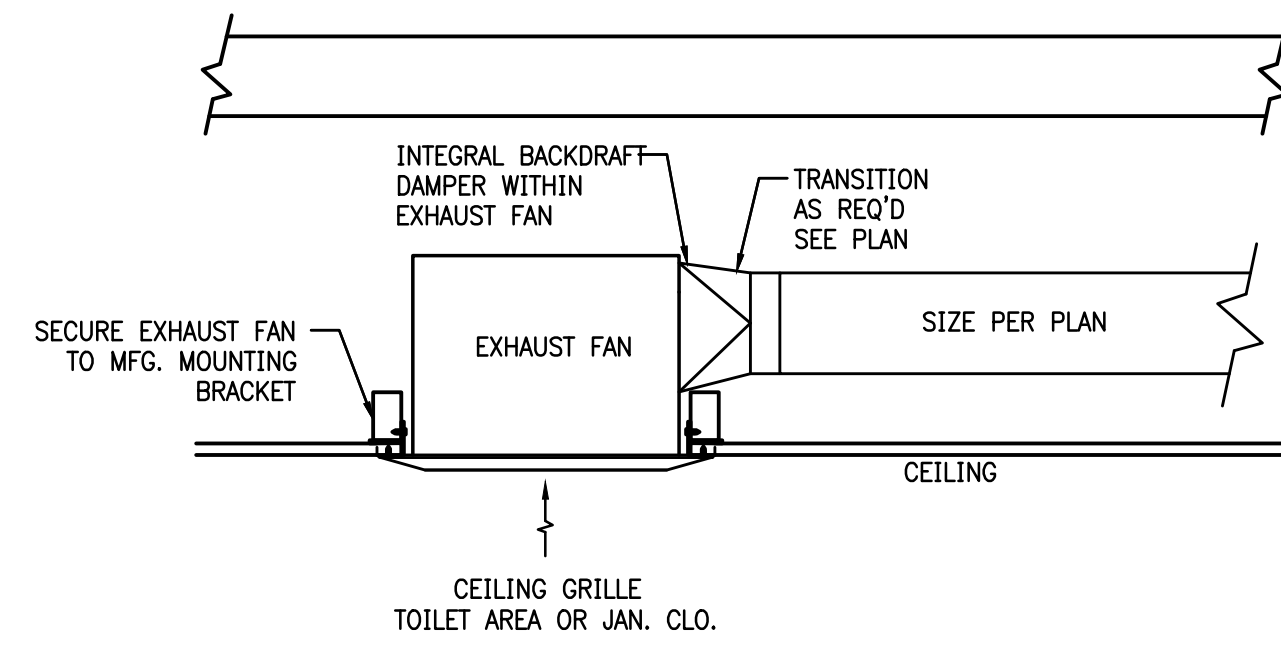
BelleVue Retail	
601 BELLEVUE AVE	
SYMBOL LEGEND MECHANICAL	
Project number	16-020
Date	08/08/2016
Drawn by	MJR/SJB
Checked by	BLS/AJB
M001	
Scale	As indicated



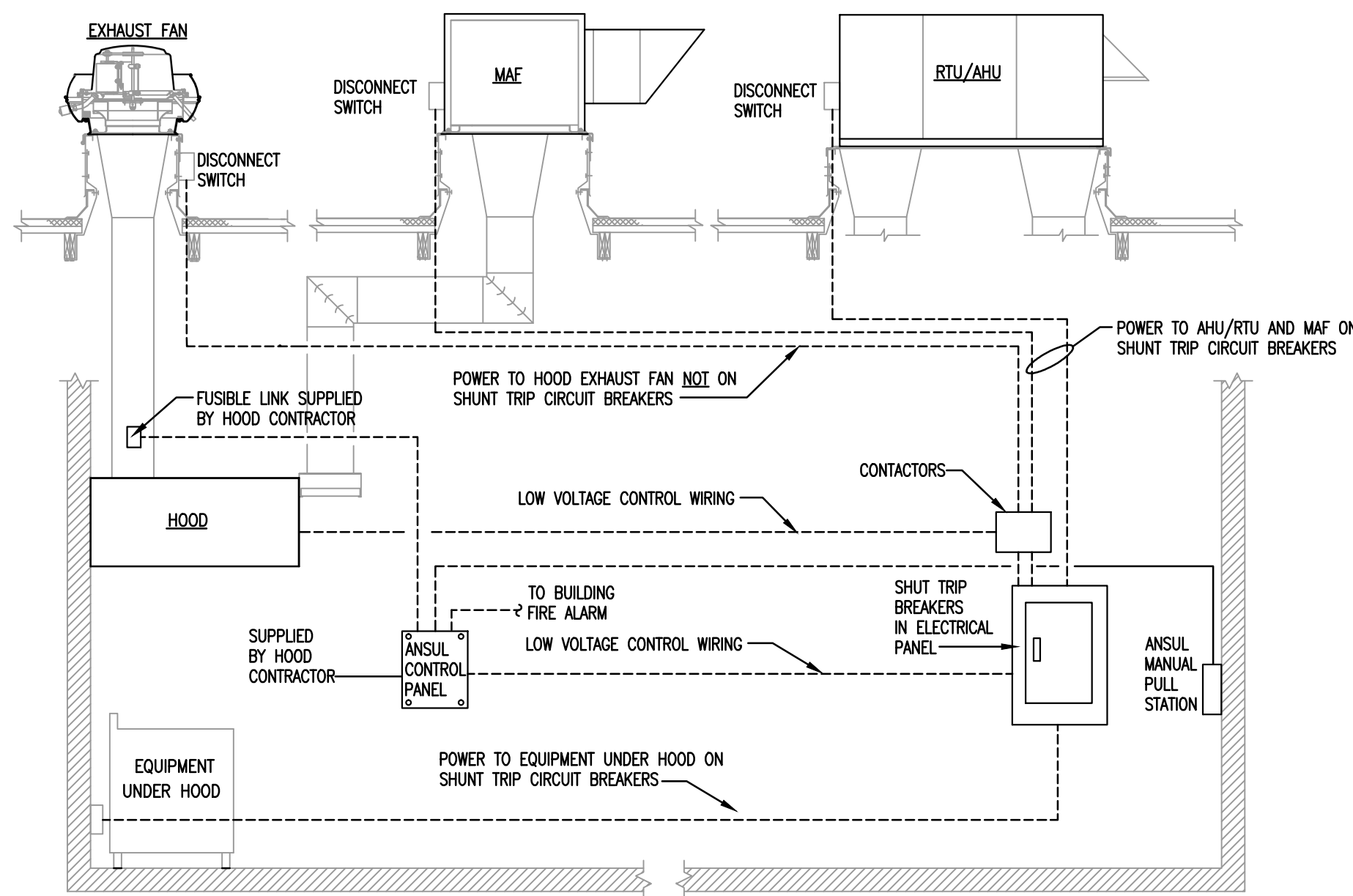
NOTES:

- CONDENSATE DRAIN SHALL BE PIPED FULL SIZE OF UNIT CONNECTION.
- CONDENSATE PANS SHALL BE INSTALLED WITH ADEQUATE PITCH TO ENSURE POSITIVE DRAINAGE OF ACCUMULATED CONDENSATE.
- TRAP CONDENSATE AND DISCHARGE PER PLAN.

3 CONDENSATE DRAIN DETAIL
NTS



2 CABINET FAN SUPPORT DETAIL
NTS



SEQUENCE OF OPERATIONS

- THE FUSIBLE LINK WITHIN THE EXHAUST DUCT WORK WILL BLOW OR THE MANUAL PULL STATION IS ACTIVATED.
- THE ANSUL SYSTEM WILL BE ACTIVATED CAUSING THE FOLLOWING:
 - A SIGNAL WILL BE SENT TO THE BUILDING FIRE ALARM.
 - A SIGNAL WILL BE SENT TO ELECTRICAL SHUNT TRIP BREAKERS (ALL EQUIPMENT ASSOCIATED WITH THE HOOD SYSTEM AND HOOD MAKEUP AIR FAN).
 - A SIGNAL WILL BE SENT TO THE GAS ANSUL VALVE CAUSING TO CLOSE (NORMALLY OPEN).
- THE HOOD EXHAUST FAN WILL REMAIN IN OPERATION.
- THE ANSUL SYSTEM GAS BOTTLES WILL DISCHARGE.

NOTE:

- IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO PROVIDE ALL LOW VOLTAGE WIRING AND INTERCONNECTING THE HOOD ANSUL SYSTEM WITH THE SHUNT TRIP BREAKERS, THE BUILDING FIRE ALARM SYSTEM, AND ANY HOOD CONTROL PANELS. (IF APPLICABLE)
- WHEN FIRE ALARM SYSTEM IS ACTIVATED ALL EQUIPMENT UNDER HOOD SHALL BE SHUT DOWN. EXHAUST FAN SHALL REMAIN ACTIVE.

1 HOOD CONTROL SCHEMATIC DETAIL
NTS NOT TO SCALE

AIR BALANCE	
EXHAUST:	
KEF-1	2,500 CFM
KEF-2	2,500 CFM
EF-1	60 CFM
EXHAUST TOTAL:	5,060 CFM
MAKEUP AIR:	
MUA-1	4,800 CFM
RTU-1	350 CFM
MAKEUP TOTAL:	5,150 CFM
OFFICE PRESSURE = +90 (WITH ALL OFFICE FANS ACTIVATED)	

OUTSIDE AIR CALCULATIONS							
CLASSIFICATION	OCC. FACTOR OCCUPANCY/ 1000 SQFT. (PERSONS)	ASHRAE 62 VALUES PER TABLE 6-1		SPACE AREA (SQFT)	SPACE LOAD (PERSONS)	OUTDOOR AIR REQUIRED (CFM)	OUTDOOR AIR SUPPLIED (CFM)
		Rp	Ra				
KITCHEN	20	7.5	0.12	1,040	21	282.3	300
WAITING LOBBY	10	5.0	0.06	395	4	43.7	50
TOTAL				1,435	25	326	350

NOTES:
 1. REQUIRED OUTDOOR VENTILATION AIR VALUES TAKEN FROM ASHRAE 62, TABLE 6-1.
 VENTILATION BREATHING ZONE FORMULA: $Vbz = Rp + Pz + Ra + Az$
 $Pz = OCCUPANCY FACTOR * SPACE AREA$
 * AREA DOES NOT INCLUDE WALK IN COOLER.

AIR DEVICE SCHEDULE						
MARK	DESCRIPTION	FACE SIZE	NECK	MATERIAL	MANUFACTURER & MODEL NO.	NOTES
A	PERFORATED FACE SUPPLY DIFFUSER	24"x24"	10"φ	ALUMINUM	PRICE LFD-3	1.
B	LOUVERED FACE SUPPLY DIFFUSER	24"x24"	SEE SCHED.	ALUMINUM	PRICE ASCD	1.
C	LOUVERED FACE SUPPLY DIFFUSER	8"x6"	SEE SCHED.	ALUMINUM	PRICE 710	1.
D	EGGCRATE RET./EXH. GRILLE (1/2"x1/2"x1/2")	24"x24"	SEE PLAN	ALUMINUM	PRICE 80	1.

NOTES:
 1. COORDINATE SURFACE FINISHES WITH ARCHITECTURAL DRAWINGS.
 2. PROVIDE RAPID MOUNT FRAME FOR PLASTER AND SHEET ROCK CEILINGS.
 3. SUPPLY COMPLETE FACTORY INSTALLED 1/2" THICK FOIL BACKED INSULATION.
 4. PROVIDE INTEGRAL FACE DAMPER.

FAN SCHEDULE											
MARK	AREA SERVED	TYPE	CFM	T.S.P.	HP/WATTS	R.P.M.	VOLTS/PH	WEIGHT	SONES	MANUFACTURER & MODEL NO.	NOTES
KEF-1	KITCHEN	UPBLAST	2,500	1.5	2.0	1,274	208/3φ	117	18	CAPTIVE AIRE DU180HFA OR EQUAL	1,2,3,4 & 5.
KEF-2	KITCHEN	UPBLAST	2,500	1.5	2.0	1,274	208/3φ	117	18	CAPTIVE AIRE DU180HFA OR EQUAL	1,2,3,4 & 5.
EF-1	RESTROOM	CABINET	60	0.25	24.3	1,250	120/1φ	-	0.8	PANASONIC FV-08VF2	1. & 6.
MUA-1	KITCHEN	MAKEUP	4,800	0.5	3.0	641	208/3φ	412	11.1	CAPTIVE AIRE A1-G15 OR EQUAL	1. & 6.

NOTES:
 1. PROVIDE WITH VIBRATION ISOLATOR KIT, SUSPENDED MOUNTING HARDWARE AND DISCONNECT.
 2. HOOD FAN SYSTEMS SHALL START AUTOMATICALLY ON THE EVENT COOKING EQUIPMENT BELOW THE HOOD IS ACTIVATED. INTERLOCK HOOD EXHAUST SYSTEM WITH COOKING EQUIPMENT AND HOOD MAKEUP AIR SYSTEM.
 3. VERIFY EXACT HOOD FAN INFORMATION WITH KITCHEN EQUIPMENT DRAWINGS.
 4. FAN TO BE CONTROLLED BY TIMECLOCK.
 5. PROVIDE WITH FACTORY SOLID STATE SPEED CONTROLLER.
 6. EXHAUST FAN TO BE CONTROLLED BY INDIVIDUAL SWITCH.

ROOF TOP UNIT SCHEDULE - ELECTRIC (NEW)																									
PLAN MARK	EVAPORATOR SECTION											HEATER		CONDENSER SECTION				ELECTRICAL REQUIREMENTS			UNIT WEIGHT (LBS.)	EER	SEER	UNIT MODEL	NOTES
	SUPPLY AIRFLOW (CFM)	OUTSIDE AIRFLOW (CFM)	E.A.T. DB (F)	E.A.T. WB (F)	L.A.T. DB (F)	L.A.T. WB (F)	TOTAL COOLING (MBH)	SENSIBLE COOLING (MBH)	ESP (IN WG)	H.P.	R.P.M.	HEATER (KW)	HEATER STAGES	NO. COMPRESSOR	COMPRESSOR RLA (EACH)	NO. CONDENSER FANS	CONDENSER FAN FLA (EA.)	V-PH-HZ	M.C.A.	M.O.C.P.					
RTU-1	2400	350	80.0	67.0	57.6	57.1	75.21	58.11	0.80	3.7	1411	7.90	1	1	19.0	1	1.5	208-3-60	44.0	50	709.0	11.20	-	50TC-A07---5	1,2

NOTES:
 1. PROVIDE COMPLETE WITH NON-FUSED DISCONNECT SWITCH, ROOF CURB, THROUGH THE BASE ELECTRICAL CONNECTION AND UNIT MOUNTED POWERED SERVICE RECEPTACLE. ROUTE FULL SIZE CONDENSATE TO NEAREST DRAIN.
 2. PROVIDE MOTORIZED OUTSIDE AIR DAMPER. OUTSIDE AIR DAMPER SHALL CLOSE WHEN EVAPORATOR FAN MOTOR IS OFF.

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Revision Schedule		
Revision Number	Revision Description	Revision Date

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JLC16.0172.00

Adam Joseph Barney
 P.E. #: 69124

BELLEVUE RETAIL 601 BELLEVUE AVE	
SCHEDULES - MECHANICAL	
Project number	16-020
Date	08/08/2016
Drawn by	MJR/SJB
Checked by	BLS/AJB
M301	
Scale	As indicated

140 MPH WINDSPEED

SECURE FAN TO CURB WITH #12x1-1/2" SHEET METAL SCREWS ON 1'-0" CENTERS (ALL SIDES).

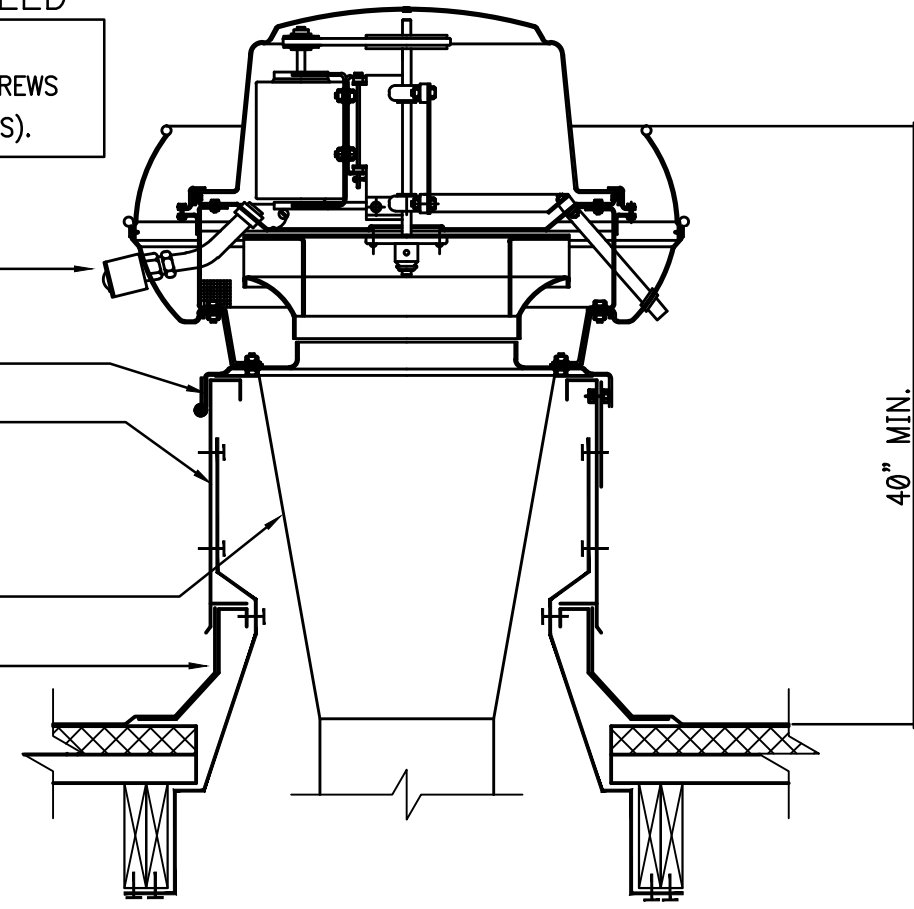
ELECTRICAL DISCONNECT BOX

HINGED SIDE OF FAN TO FACE REAR OF BUILDING

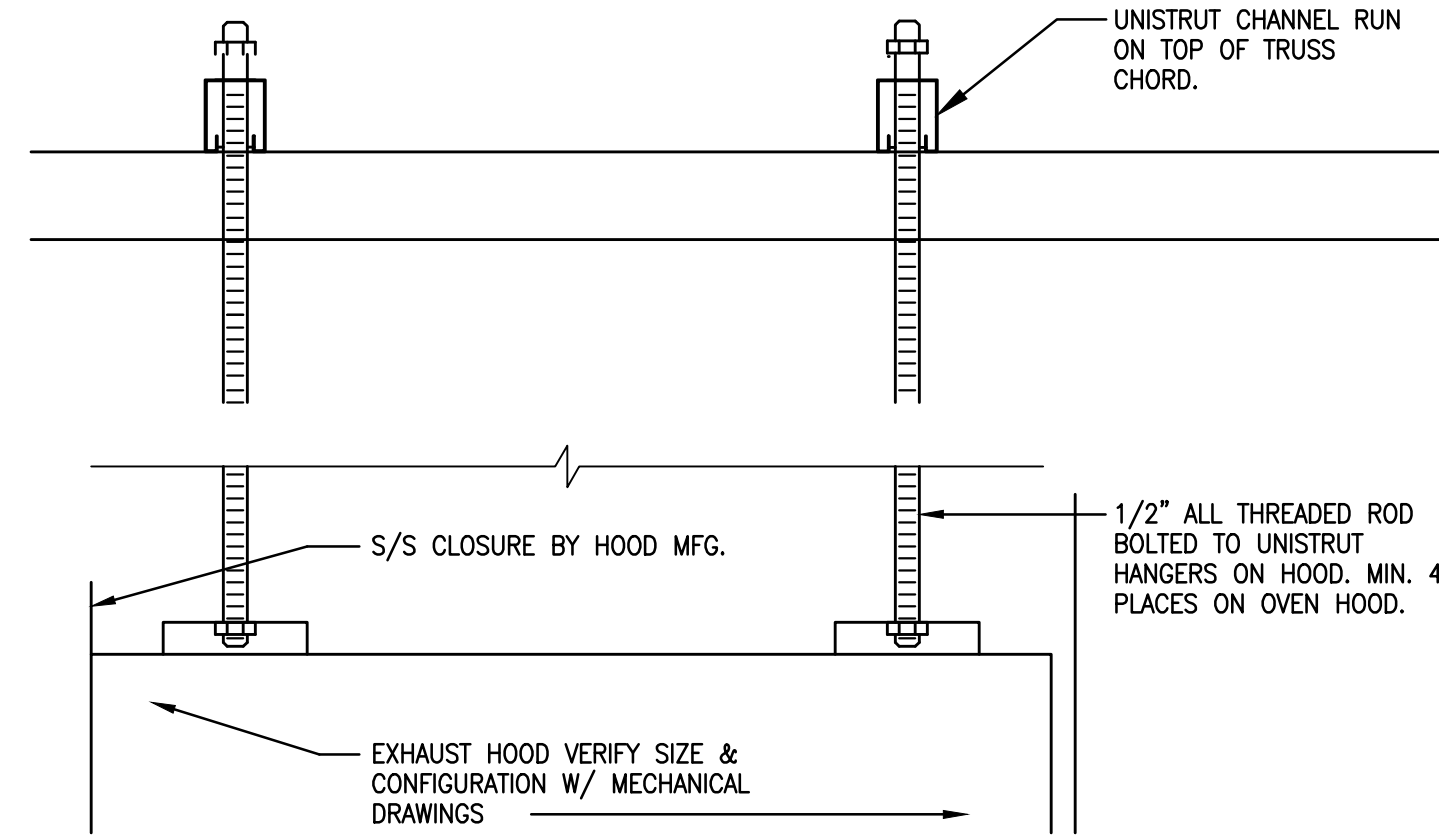
CURB EXTENSION

TAPER DUCT FROM FULL SIZE OF CURB OPENING TO EXHAUST DUCT SIZE SHOWN ON DWG. M1. SLOPE SIDES AT 1:4.

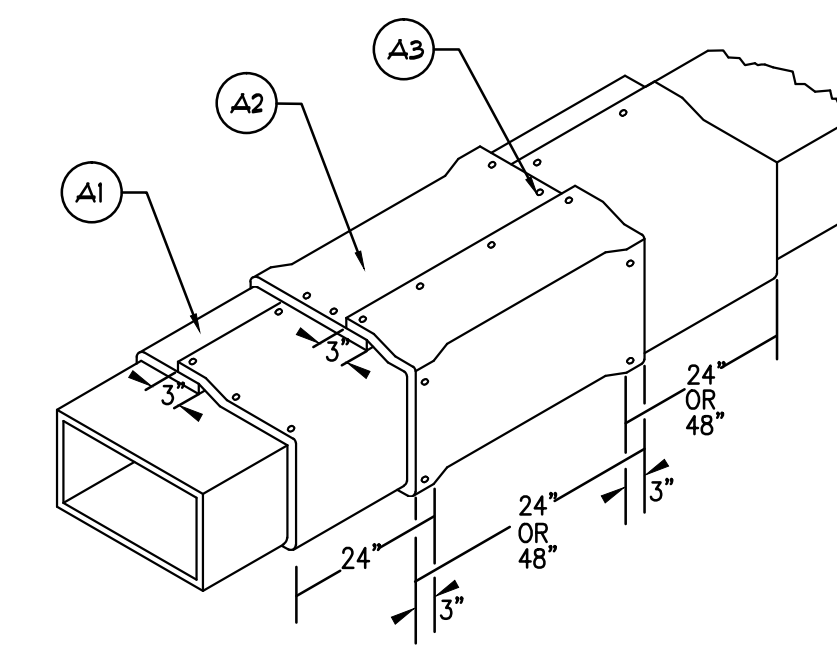
1'-0" HIGH BASE CURB



10 GREASE EXHAUST FAN MOUNTING DETAIL
NTS



9 HOOD MOUNTING DETAIL
NTS

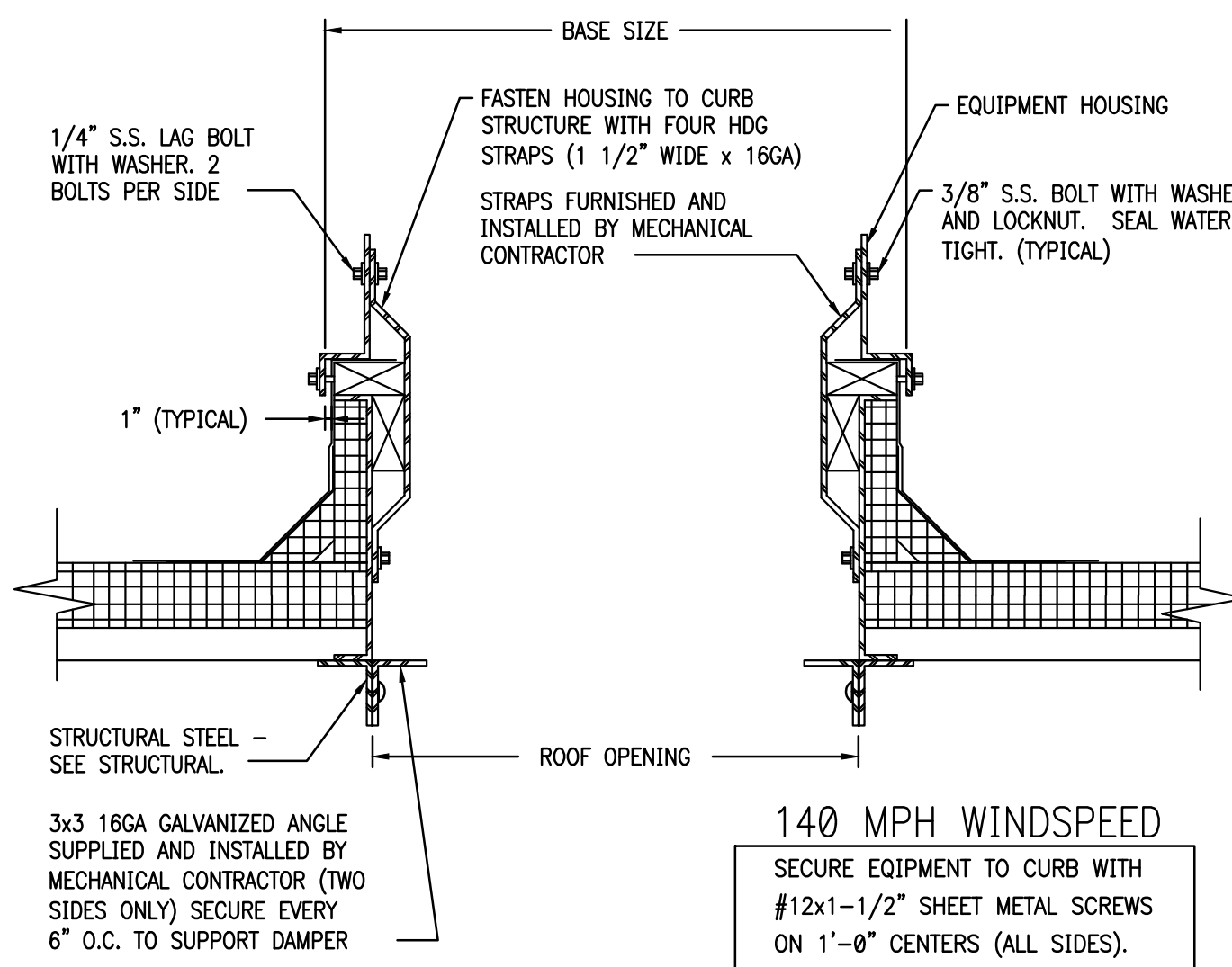


- A1 PYROSCAT FP OR CSM FASTR DUCT WRAP (F1) TYPICAL-BOTTOM PIECE (LAYER 1)
- A2 PYROSCAT FP OR CSM FASTR DUCT WRAP (F1) TYPICAL- TOP PIECE (LAYER 2)
- A3 STEEL INSULATION PINS AT 3" OVERLAPS (TYPICAL)
ALUMINUM TAPE (NOT SHOWN) USED OVER EXPOSED EDGES OF BLANKET

NOTE:

1. "DOUBLE LAYER" WRAP ENTIRE LENGTH OF GREASE DUCT FROM HOOD POINT OF CONNECTION TO FAN POINT OF CONNECTION.
2. FOR DETAILED INSTRUCTIONS REFER TO "PYROSCAT GUIDE TO INSTALLATION"

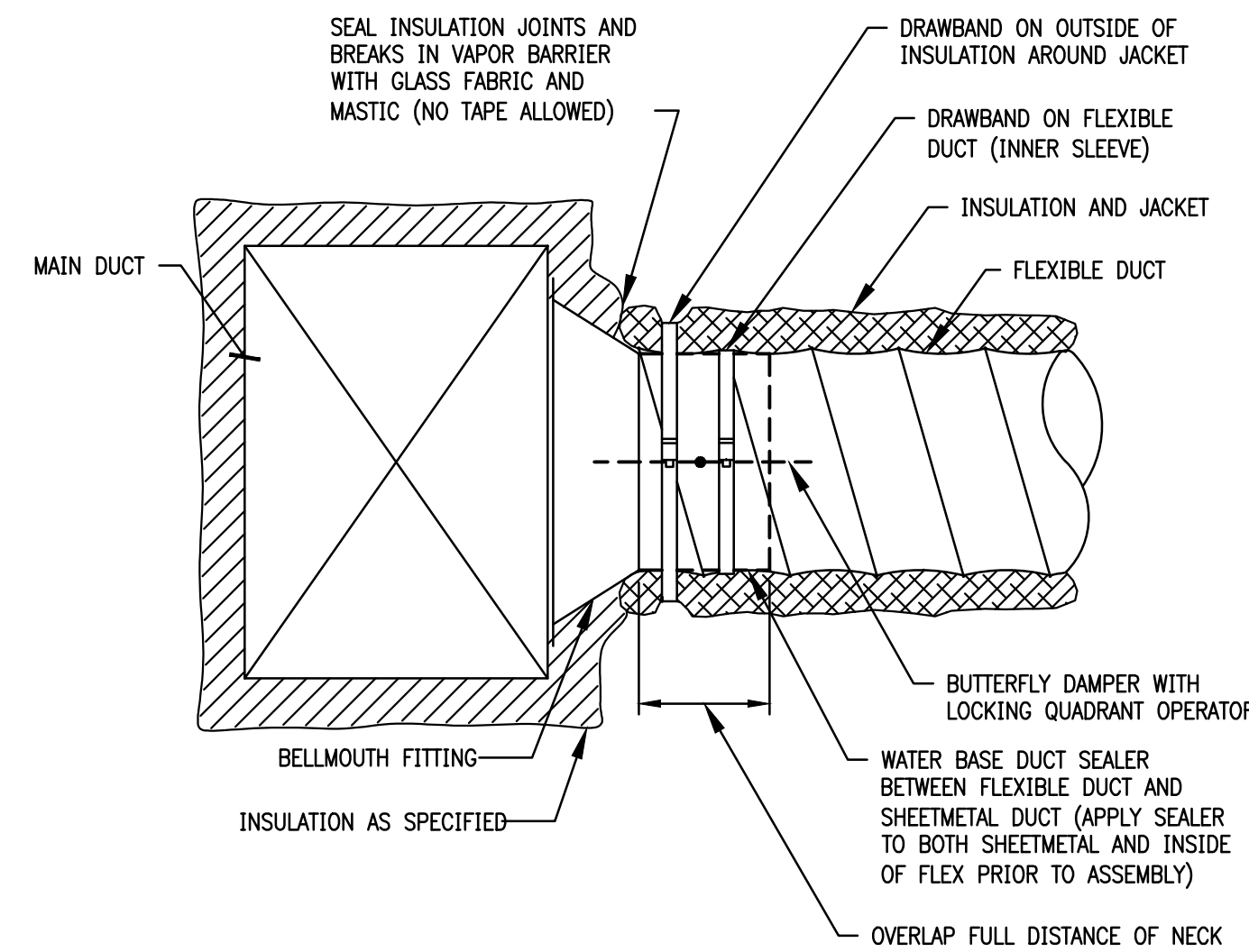
8 GREASE EXHAUST DUCT FIRE WRAP DETAIL
NTS



NOTES:

1. USE SIMILAR FASTENING METHOD AND HARDWARE FOR PREFAB CURB.
2. WHERE CURB ADAPTORS ARE USED, SECURE ADAPTOR TO UNIT WITH STAINLESS STEEL FASTENERS EVERY 12" ON CENTER.
3. CONTRACTOR SHALL PROVIDE ALL LABOR AND HARDWARE FOR INSTALLATION AS SHOWN(COORDINATE WITH OWNER'S VENDOR FOR FAN, GUARD AND DAMPER).

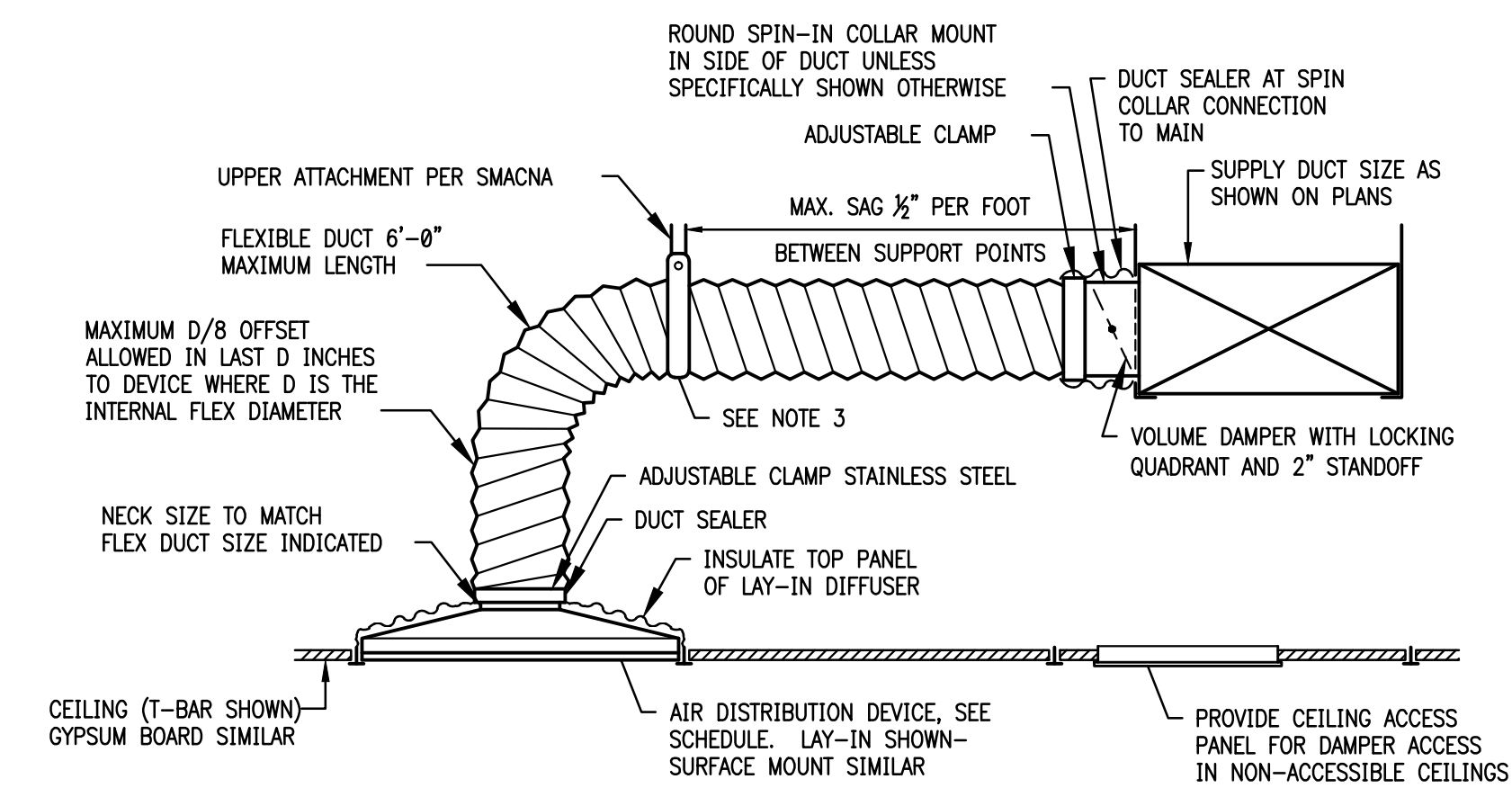
7 STEEL ROOF CURB DETAIL
NTS



NOTES:

1. TYPICAL FOR: LOW PRESSURE AND HIGH PRESSURE CONNECTION TO MAIN DUCT, FAN TERMINAL UNITS, VARIABLE AIR VOLUME UNITS, AND DIFFUSERS.
2. DRAWBANDS SHALL BE EQUIVALENT TO PANDUIT PLT-H.

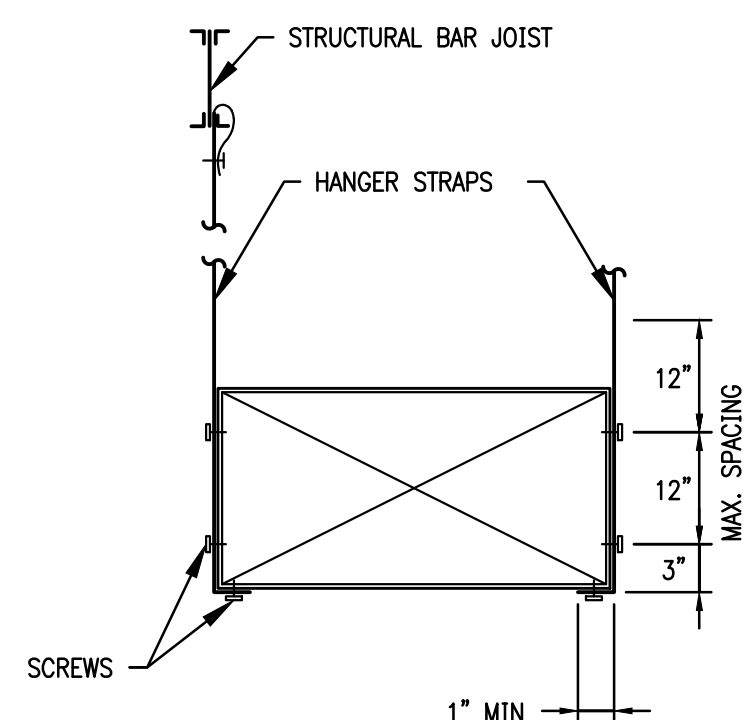
6 FLEXIBLE DUCT CONNECTION DETAIL
NTS



NOTES:

1. FLEXIBLE DUCTS SHALL BE ONE-PIECE AND SHALL NOT BE SPLICED TOGETHER.
2. EXTEND FLEXIBLE DUCT INSULATION TO DUCT/DIFFUSER PANEL INSULATION AND SEAL WITH MASTIC.
3. MINIMUM 1-1/2" WIDE 22 GAUGE GALVANIZED STRAP HANGER WITH HEMMED EDGES PER SMACNA FIGURE 3-10.
4. FLEXIBLE AIR DUCT SHALL BE FULLY EXTENDED AND NOT COMPRESSED WITH ELBOW RADIUS NO LESS THAN R/D=1.0.

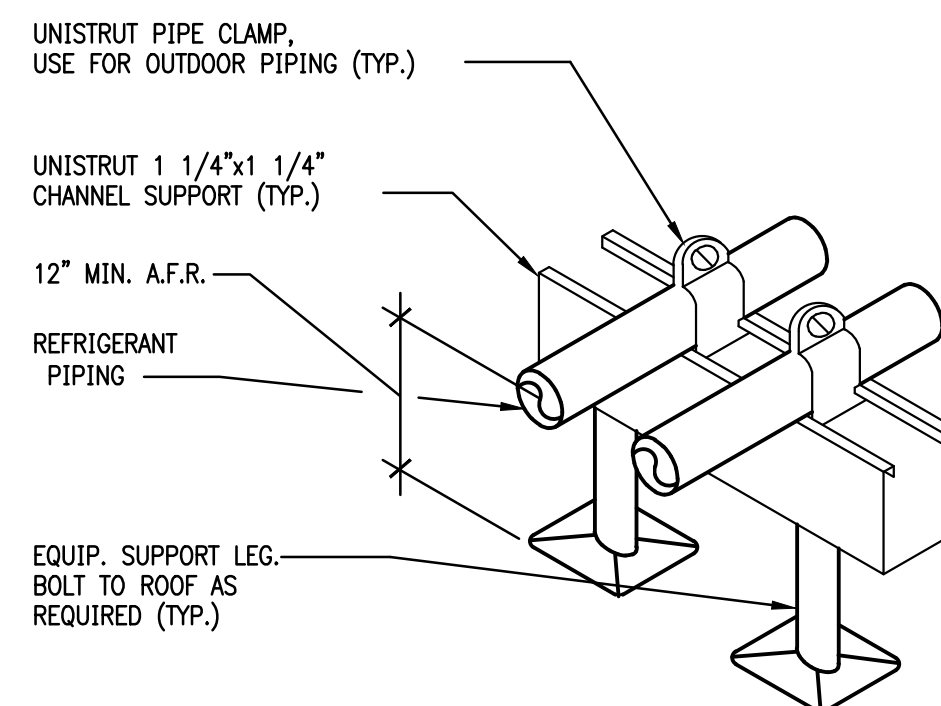
5 FLEXIBLE DUCT DETAIL
NTS



NOTES:

1. MAXIMUM SPACING BETWEEN HANGER LOCATIONS SHALL BE 8'-0" PER PAIR.
2. STRAPS SHALL BE MINIMUM 1 1/2" x 22 GAGE GALVANIZED STEEL.
3. REFER TO SMACNA FOR ADDITIONAL REQUIREMENTS.

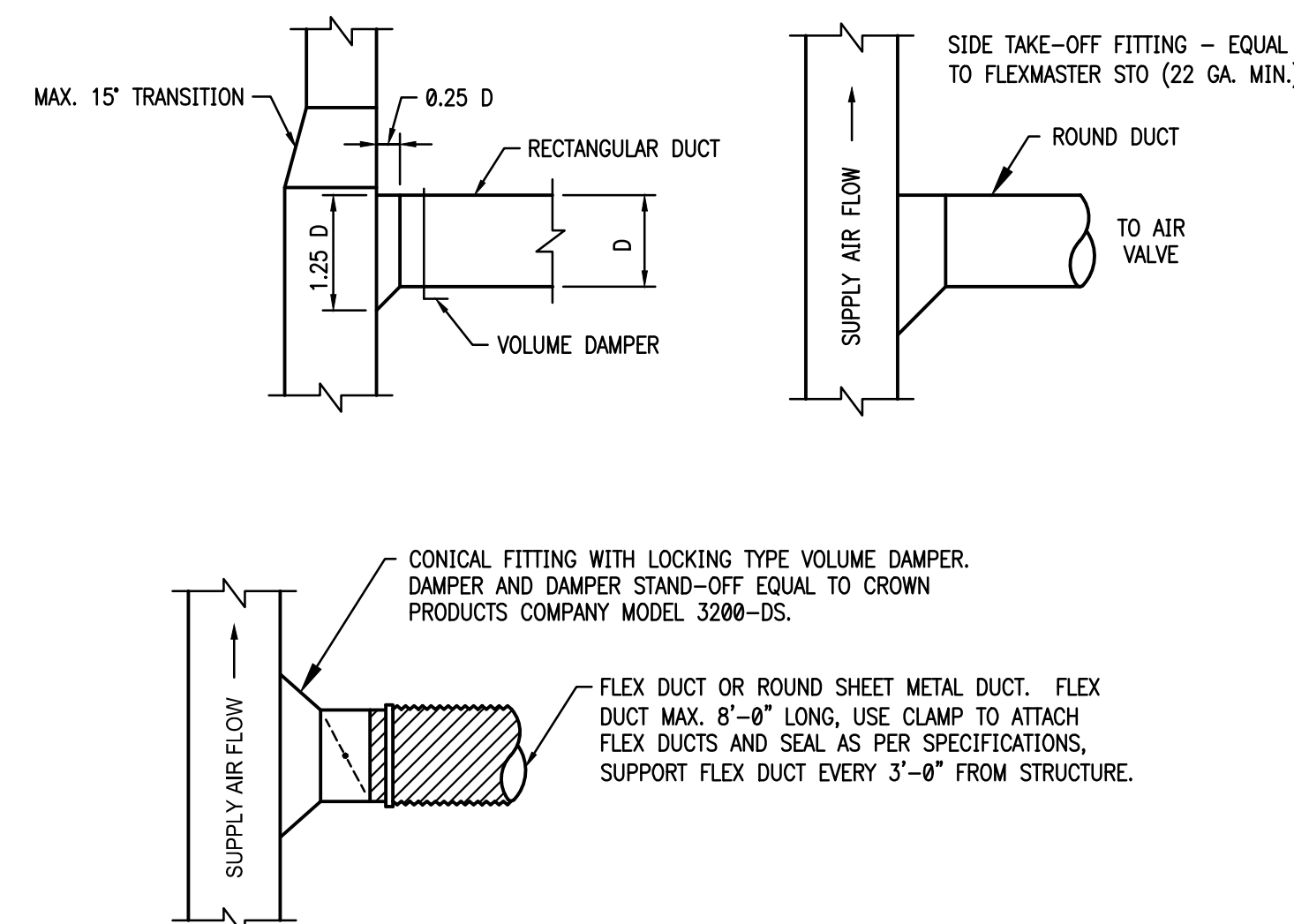
4 DUCTWORK SUPPORT DETAIL
NTS



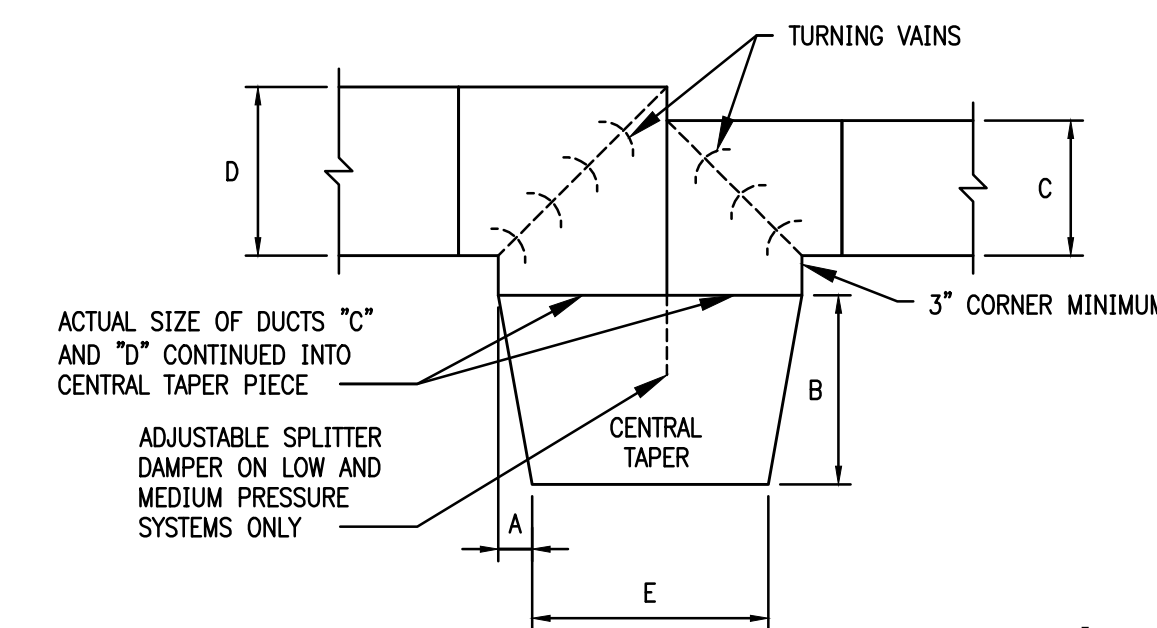
NOTES:

1. SUPPORTS SHALL BE INSTALLED A MAXIMUM 8'-0" O.C. AND AT EACH CHANGE OF DIRECTION OF PIPING.

3 ROOF PIPING SUPPORT DETAIL
NTS



2 DUCT CONNECTION DETAIL
NTS



NOTES:

1. DIMENSION "A" IN INCHES, DIMENSION "B" IN FEET.
2. DEPTH OF "C" AND "D" WILL BE THE SAME.
3. PROPORTION SPLIT ACCORDING TO CFM IN EACH BRANCH.
4. OMIT SPLITTER DAMPER IN DUCTWORK BETWEEN AHU SUPPLY FAN AND TERMINAL BOX INLET.

1 DUCT SPLITTER DETAIL
NTS

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BELLEVUE RETAIL	
601 BELLEVUE AVE	
DETAILS - MECHANICAL	
Project number	16-020
Date	08/08/2016
Drawn by	MJR/SJB
Checked by	BLS/AJB
M401	
Scale	As indicated

HOOD INFORMATION - Job#2720871

HOOD NO.	TAG	MODEL	LENGTH	MAX. COOKING TEMP.	EXHAUST PLENUM RISER(S)					TOTAL SUPPLY CFM	HOOD CONSTRUCTION	HOOD CONFIG.			
					TOTAL EXH. CFM	WIDTH	LENG.	HEIGHT	DIA.			CFM	S.P.	END TO END	ROW
1		5430 ND-2-PSP-F	11' 0.00"	600 Deg.	2800			4"	16"	2800	-1.116"	2500	430 SS Where Exposed	LEFT	ALONE
2		5430 ND-2-PSP-F	11' 0.00"	600 Deg.	2800			4"	16"	2800	-1.116"	2300	430 SS Where Exposed	RIGHT	ALONE

HOOD INFORMATION

HOOD NO.	TAG	FILTER(S)					LIGHT(S)		UTILITY CABINET(S)				FIRE SYSTEM PIPING	HOOD HANGING WGT			
		TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 9 MICRONS	QTY	TYPE	WIRE GUARD	LOCATION	SIZE	FIRE SYSTEM TYPE			SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY
1		Captrate Solo Filter	8	20"	16"	93% See Filter Spec.	4	L55 Series E26	NO	Left	12"x54"x30"	Ansul R102	3.0/3.0	DCV-2111	1 Light 1 Fan	YES	903 LBS
2		Captrate Solo Filter	8	20"	16"	93% See Filter Spec.	4	L55 Series E26	NO							YES	732 LBS

HOOD OPTIONS

HOOD NO.	TAG	OPTION
1		FIELD WRAPPER 12.00" High Front, Left BACKSPLASH 80.00" High X 276.00" Long 430 SS Vertical LEFT WIDE VERTICAL END PANEL 42" Top Width, 36" Bottom Width, 80" High Insulated 4" Legs 430 SS
2		FIELD WRAPPER 12.00" High Front, Right RIGHT WIDE VERTICAL END PANEL 42" Top Width, 36" Bottom Width, 80" High Insulated 4" Legs 430 SS

PERFORATED SUPPLY PLENUM(S)

HOOD NO.	TAG	POS.	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S)			
							WIDTH	LENG.	DIA.	CFM
1		Front	144"	16"	6"	MUA	12"	28"	833	0.257"
							12"	28"	833	0.257"
							12"	28"	833	0.257"
2		Front	132"	16"	6"	MUA	12"	28"	766	0.219"
							12"	28"	766	0.219"
							12"	28"	766	0.219"

SPECIFICATION: CAPTRATE GREASE-STOP SOLO FILTER

THE CAPTRATE GREASE-STOP SOLO FILTER IS A SINGLE-STAGE FILTER FEATURING A UNIQUE S-BAFFLE DESIGN IN CONJUNCTION WITH A SLOTTED REAR BAFFLE DESIGN, TO DELIVER EXCEPTIONAL FILTRATION EFFICIENCY.

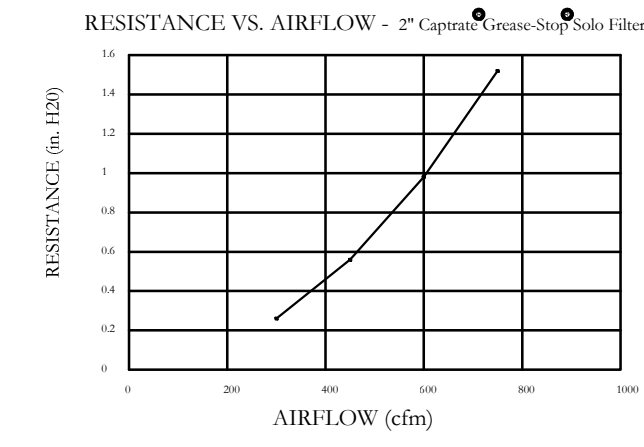
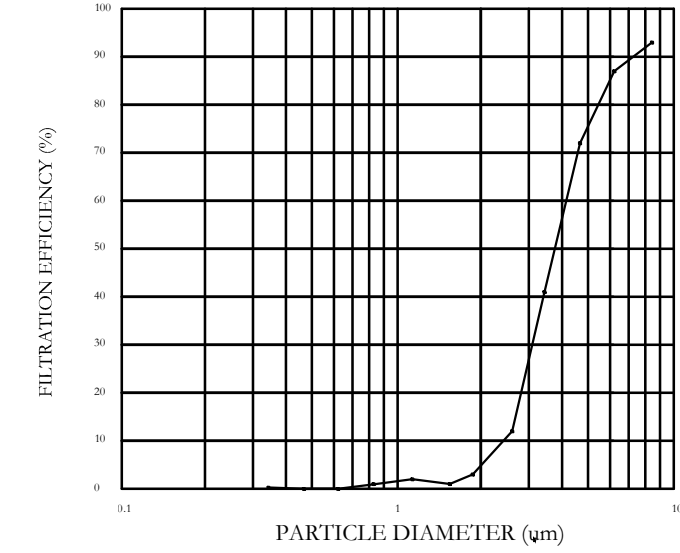
FILTER IS STAINLESS STEEL CONSTRUCTION, AND SIZED TO FIT INTO STANDARD 2-INCH DEEP HOOD CHANNEL(S).

UNITS SHALL INCLUDE STAINLESS STEEL HANDLES AND A FASTENING DEVICE TO SECURE THE TWO COMPONENTS WHEN ASSEMBLED.

GREASE EXTRACTION EFFICIENCY PERFORMANCE SHALL REMOVE AT LEAST 75% OF GREASE PARTICLES FIVE MICRONS IN SIZE, AND 90% GREASE PARTICLES SEVEN MICRONS IN SIZE AND LARGER, WITH A CORRESPONDING PRESSURE DROP NOT TO EXCEED 1.0 INCHES OF WATER GAUGE.

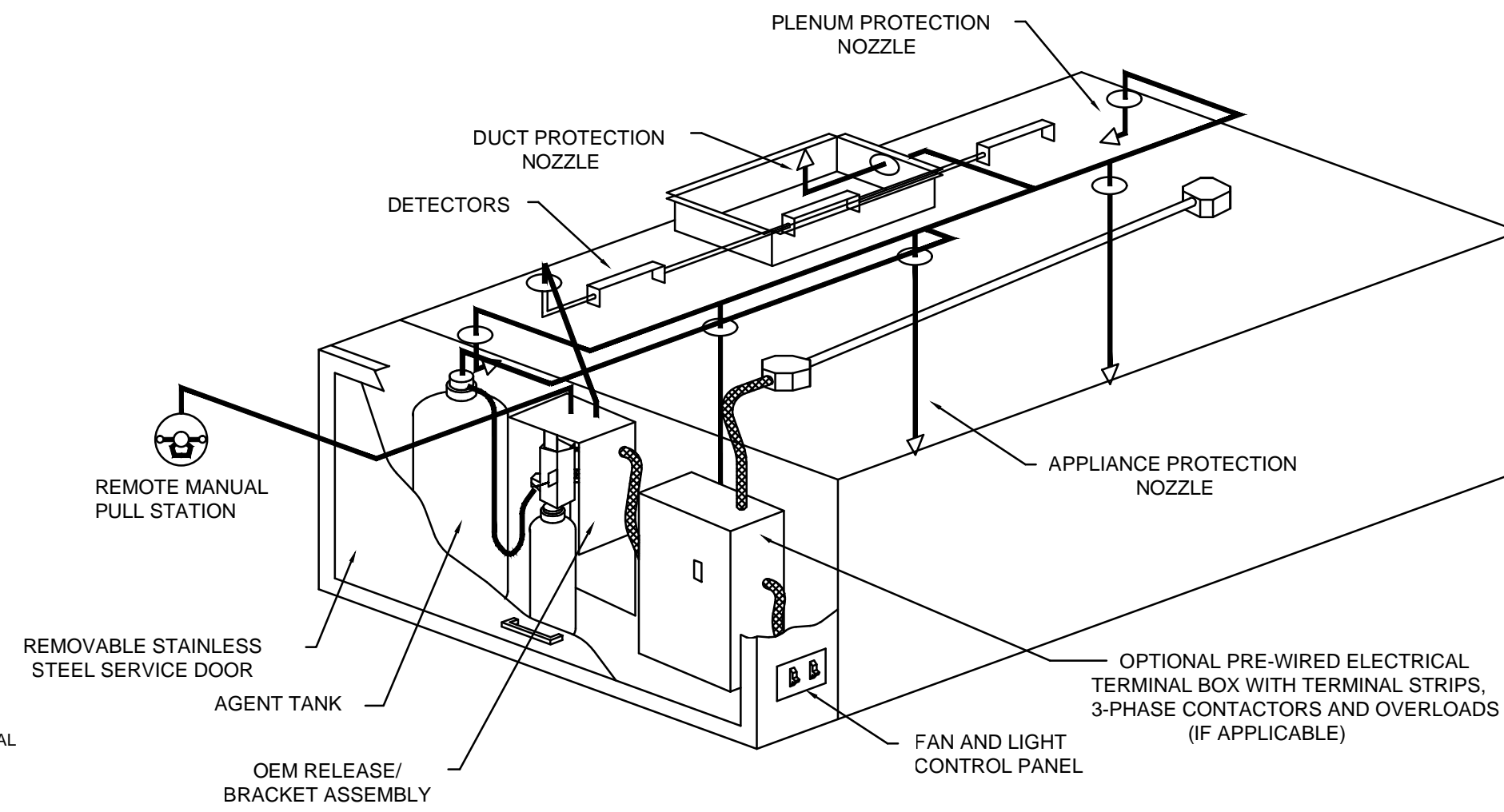
THE CAPTRATE GREASE-STOP SOLO WAS TESTED TO ASTM STANDARD ASTM F2519-05.

FILTER COLLECTION EFFICIENCY 2" Captrate[®] Grease-Stop Solo Filter

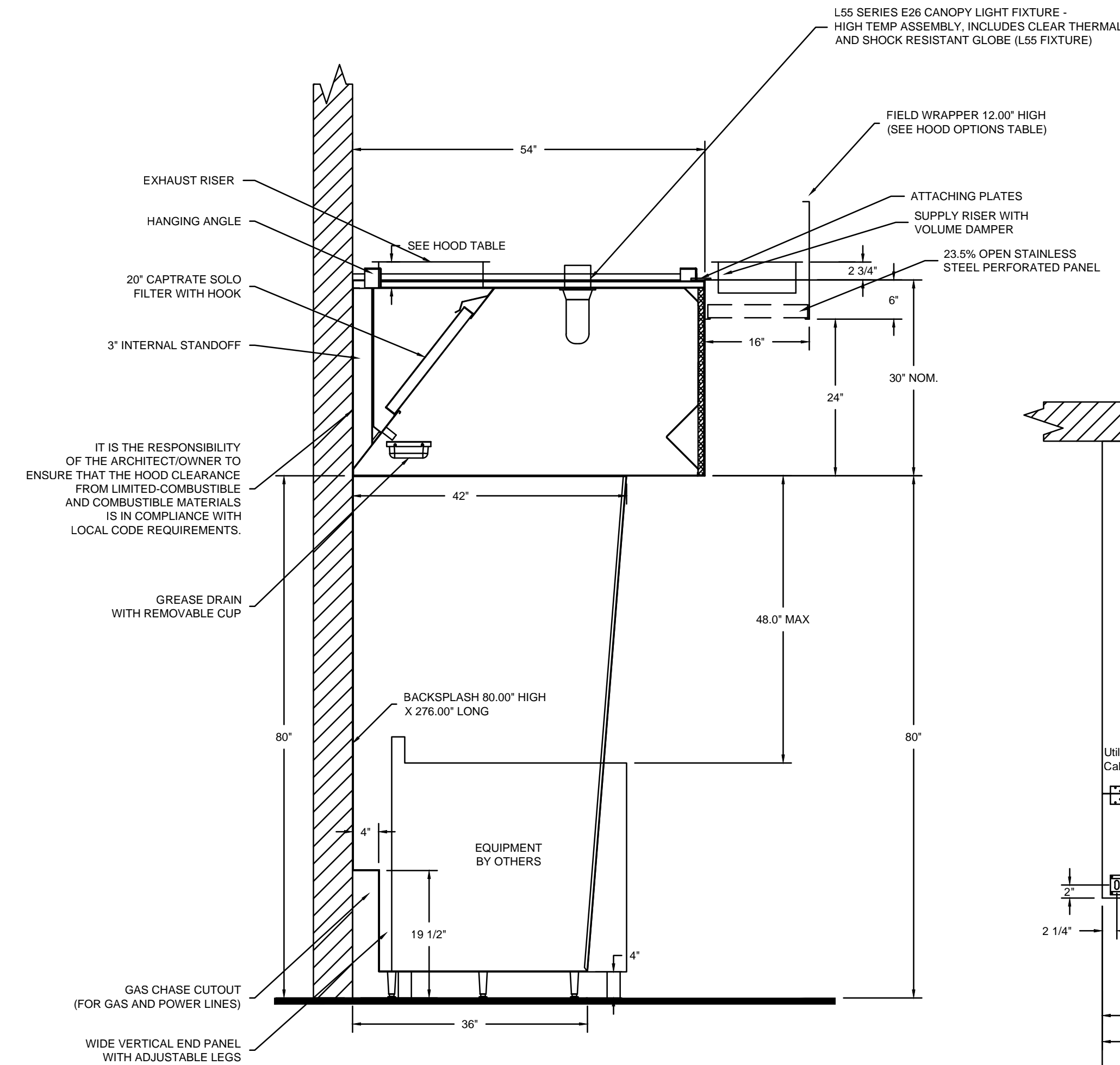


CAPTRATE FILTERS ARE BUILT IN COMPLIANCE WITH:

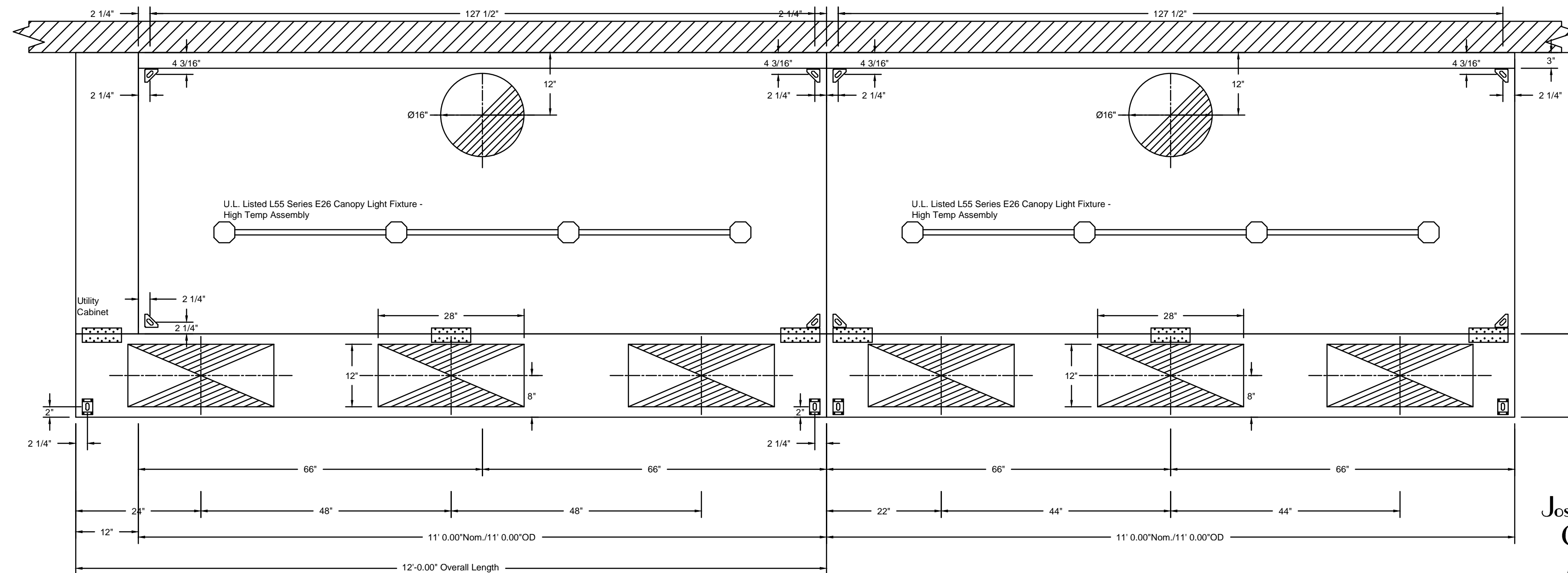
- NFPA #95
- NSF STANDARD #2
- UL STANDARD #1046
- INT. MECH. CODE (IMC)
- ULC-S649



TYPICAL ANSUL R-102 SYSTEM LAYOUT



SECTION VIEW - MODEL 5430ND-2-PSP-F



PLAN VIEW - Hood #1
11' 0.00" LONG 5430ND-2-PSP-F

PLAN VIEW - Hood #2
11' 0.00" LONG 5430ND-2-PSP-F

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601 BELLEVUE AVE
CAPTIVE AIRE - MECHANICAL

Project number	16-020
Date	08/08/2016
Drawn by	MJR/SJB
Checked by	BLS/AJB

M501

Scale As indicated

JLC16.0172.00

Adam Joseph Barney
P.E. #: 69124

EXHAUST FAN INFORMATION - Job#2720871

FAN UNIT NO.	TAG	FAN UNIT MODEL #	CFM	ESP.	RPM	H.P.	B.H.P.	Ø	VOLT	FLA	WEIGHT (LBS.)	SONES
1		DU180HFA	2500	1.500	1274	2.000	1.1050	3	208	6.1	117	18
2		DU180HFA	2500	1.500	1274	2.000	1.1050	3	208	6.1	117	18

MUA FAN INFORMATION - Job#2720871

FAN UNIT NO.	TAG	FAN UNIT MODEL #	BLOWER	HOUSING	CFM	ESP.	RPM	H.P.	B.H.P.	Ø	VOLT	FLA	WEIGHT (LBS.)	SONES
3		A2-G15	G15-PB	A2	4800	0.500	641	3.000	1.6810	3	208	9.5	412	11.1

FAN OPTIONS

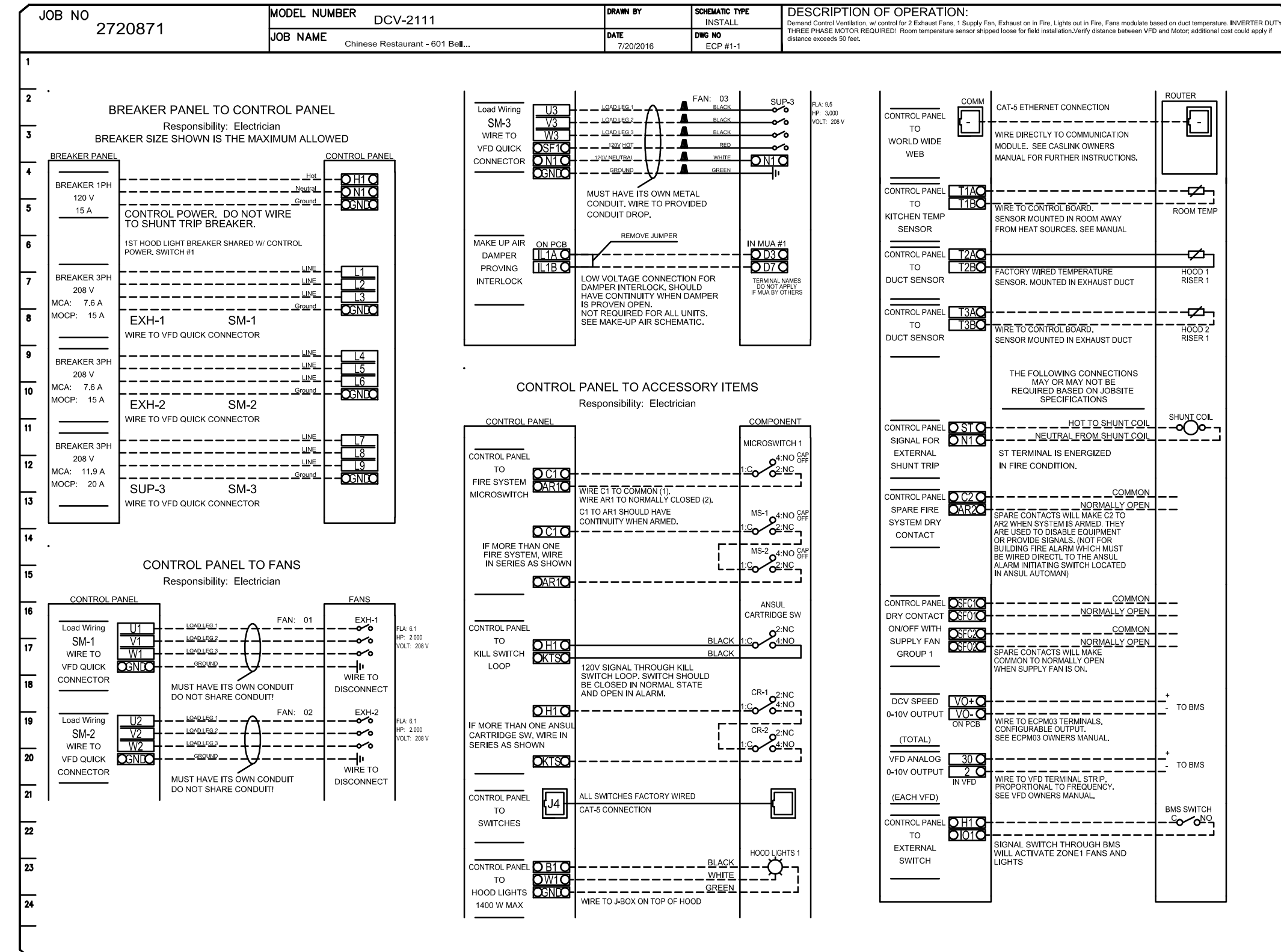
FAN UNIT NO.	TAG	OPTION (Qty. - Descr.)
1		1 - Grease Box 1 - Miami Dade Certification. 1 - Fan Base Ceramic Seal - For Grease Ducts
2		1 - Grease Box 1 - Miami Dade Certification. 1 - Fan Base Ceramic Seal - For Grease Ducts
3		1 - Miami Dade Certification.

CURB ASSEMBLIES

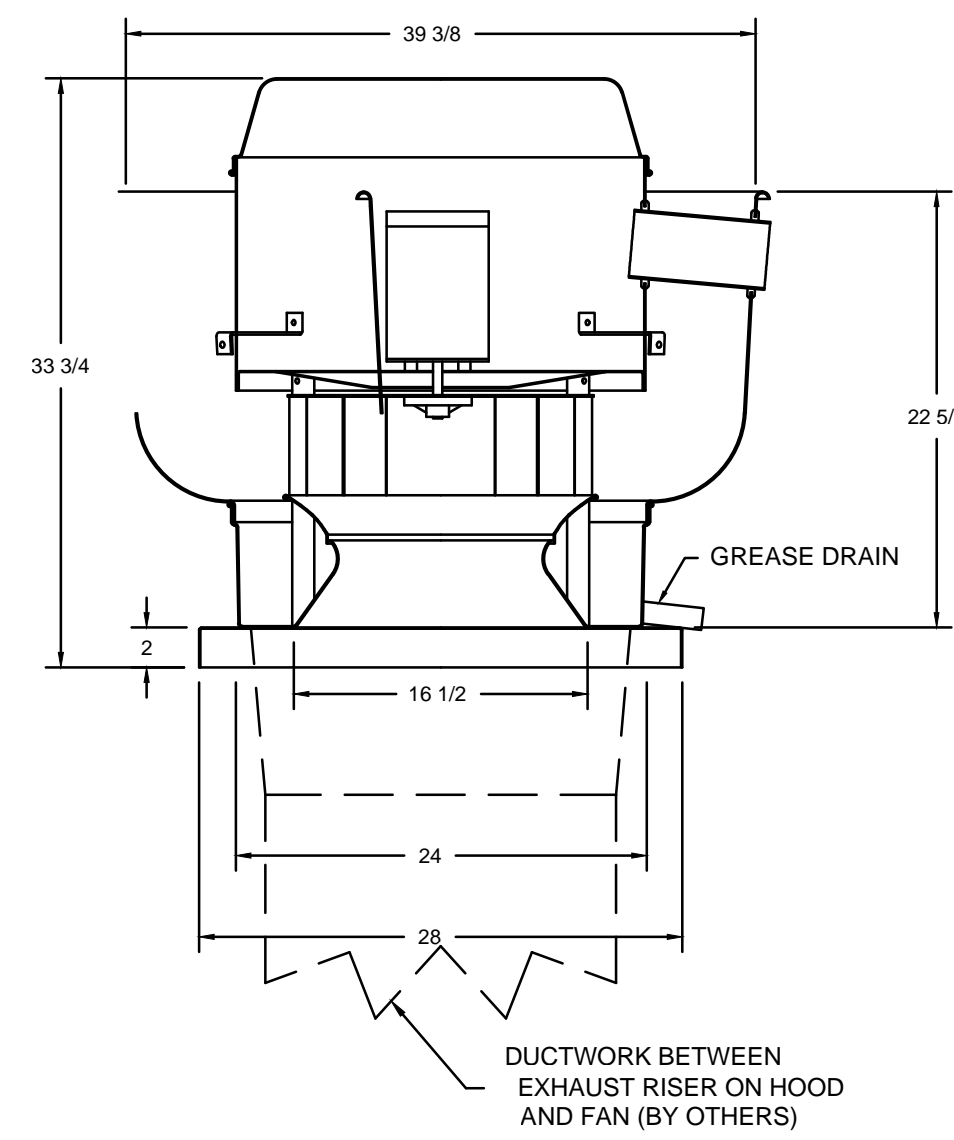
NO.	ON FAN	WEIGHT	ITEM	SIZE
1	# 1	53 LBS	Curb	26.500"W x 26.500"L x 24.000"H Vented Hinged 16 Gauge
2	# 2	53 LBS	Curb	26.500"W x 26.500"L x 24.000"H Vented Hinged 16 Gauge
3	# 3	83 LBS	Curb	31.000"W x 31.000"L x 24.000"H 16 Gauge

ELECTRICAL PACKAGES - Job#2720871

NO.	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED						
				LOCATION	QUANTITY		TYPE	Ø	H.P.	VOLT	FLA		
1		DCV-2111	Utility Cabinet Left	Utility Cabinet Left	1 Light	Smart Controls DCV	Exhaust	3	2,000	208	6.1		
				Hood # 1	1 Fan		Exhaust	3	2,000	208	6.1		
							Supply	3	3,000	208	9.5		



FAN #1, #2 - DU180HFA EXHAUST FAN



FEATURES:

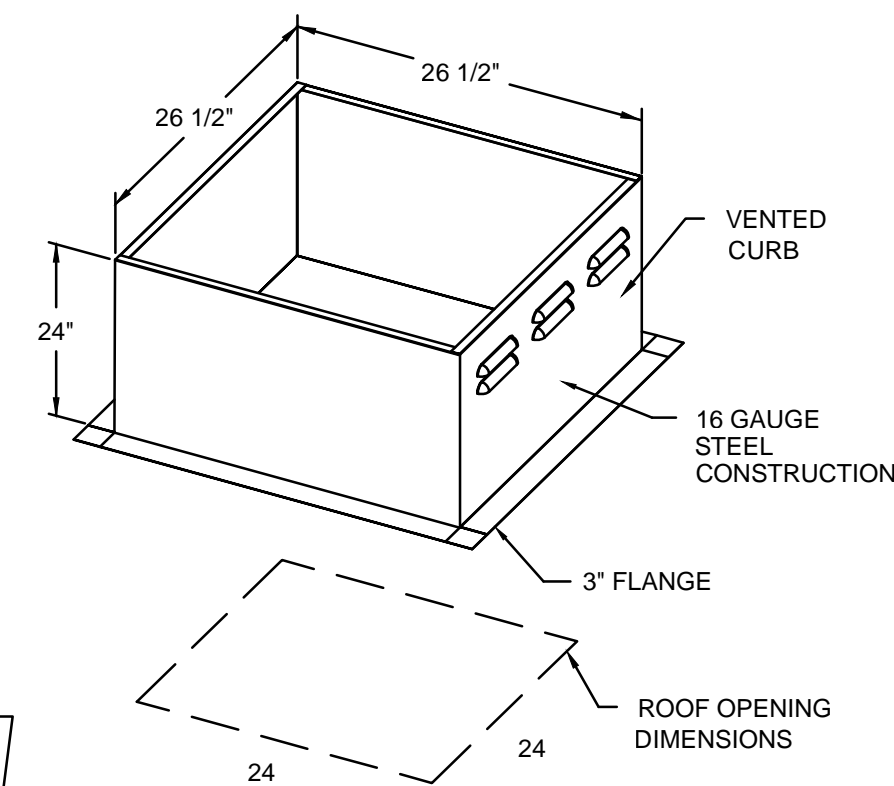
- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS)
- ROOF MOUNTED FANS
- RESTAURANT MODEL
- UL705 AND UL762
- VARIABLE SPEED CONTROL
- INTERNAL WIRING
- WEATHERPROOF DISCONNECT
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE)
- HIGH HEAT OPERATION 300°F (149°C)
- GREASE CLASSIFICATION TESTING

NORMAL TEMPERATURE TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

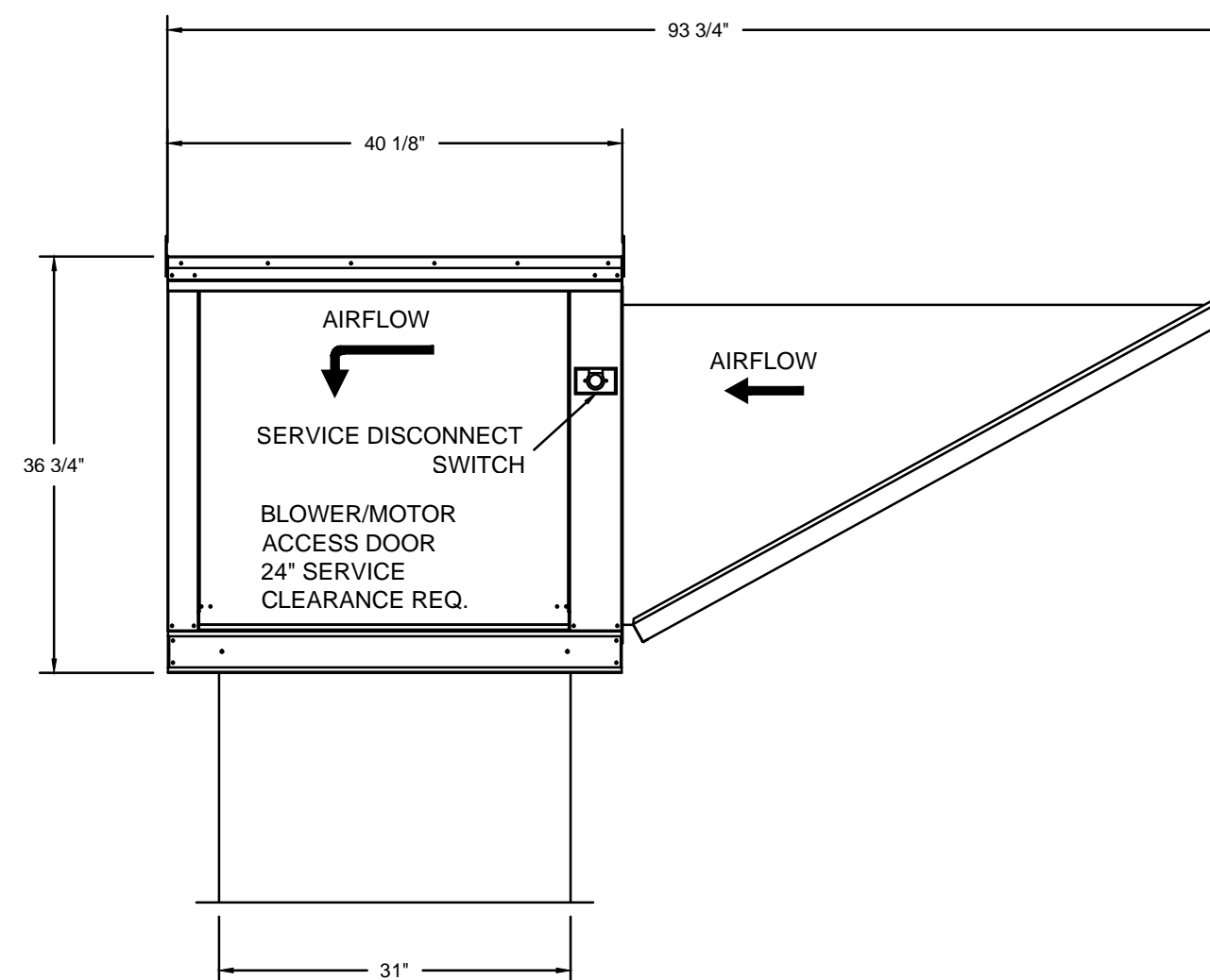
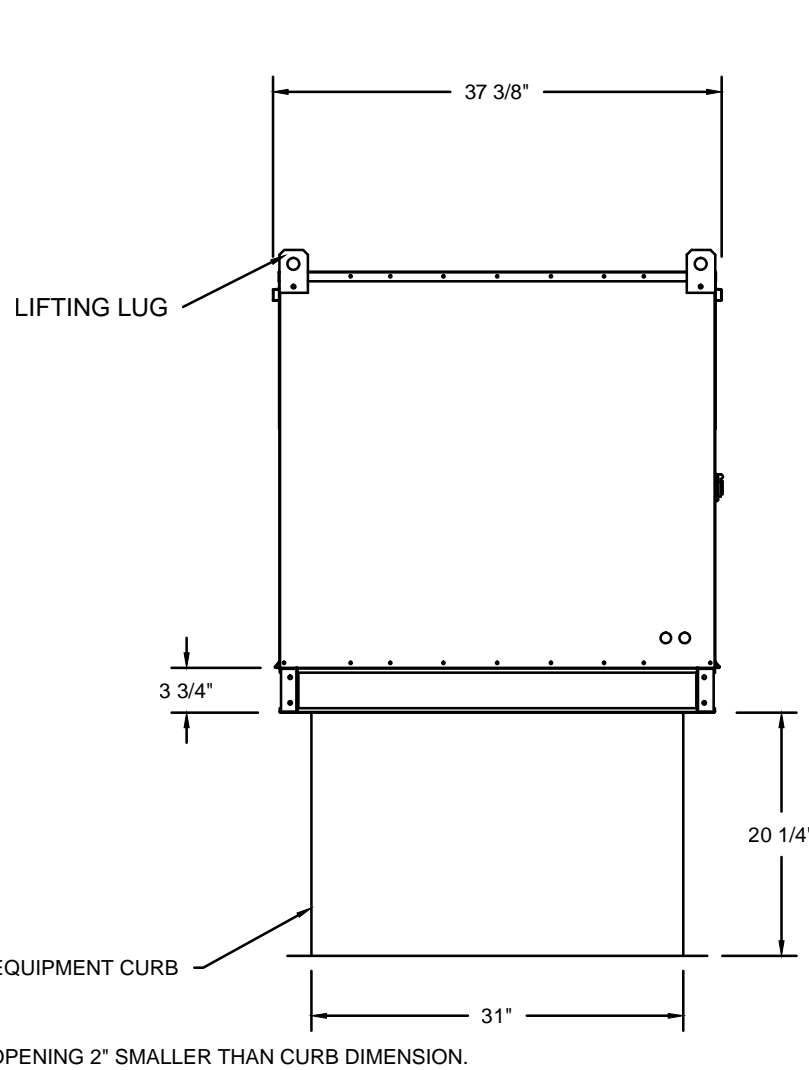
ABNORMAL FLARE-UP TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

OPTIONS

- GREASE BOX
- MIAMI DADE CERTIFICATION.
- FAN BASE CERAMIC SEAL - FOR GREASE DUCTS



- FAN #3 A2-G15 - SUPPLY FAN**
1. UNTEMPERED SUPPLY UNIT WITH 15" BLOWER IN SIZE #2 HOUSING
 2. INTAKE HOOD WITH EZ FILTERS
 3. DOWN DISCHARGE - AIR FLOW RIGHT -> LEFT
 4. MIAMI DADE IMPACT AND WIND LOAD CERTIFICATION - MIAMI DADE COUNTY PRODUCT CONTROL APPROVED, FLORIDA BUILDING CODE APPROVAL. CURBS UP TO 20" HIGH MUST BE 20 GAUGE ALUMINIZED. CURBS 20" HIGH THROUGH 42" HIGH MUST BE 16 GAUGE ALUMINIZED.



REVISIONS

NO.	DESCRIPTION	DATE

CAPTIVE AIR MECHANICAL
Orlando Mechanical

19930 Independence Blvd., Groveland, FL 34736 PHONE: (919) 682-3852 FAX: (919) 747-5611 EMAIL: reg41@captiveaire.com

Chinese Restaurant - 601 Bellevue Ave
DAYTONA BEACH, FL.

DATE: 7/20/2016
DWG.#: 2720871
DRAWN BY: PAB
SCALE: 3/4" = 1'-0"
MASTER DRAWING

SHEET NO.
2

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Revision Schedule		
Revision Number	Revision Description	Revision Date

BELLEVUE RETAIL
601 BELLEVUE AVE
CAPTIVE AIRE - MECHANICAL

Project number	16-020
Date	08/08/2016
Drawn by	MJR/SJB
Checked by	BLS/AJB

M502

Scale As indicated

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Consulting Engineers

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MECHANICAL SPECIFICATIONS

GENERAL

THE GENERAL MECHANICAL SPECIFICATIONS APPLY TO THE WORK SPECIFIED IN THIS SECTION.

SCOPE OF WORK

FURNISH AND INSTALL COMPLETE AIR CONDITIONING SYSTEMS AS INDICATED ON THE DESIGN DRAWINGS AND AS OUTLINED WITHIN THESE SPECIFICATIONS. WORK SHALL INCLUDE BUT NOT BE LIMITED TO THE FABRICATION AND/OR INSTALLATION OF THE SCHEDULED AIR CONDITIONING UNITS, EXHAUST FANS, AIR DISTRIBUTION AND DUCTWORK.

CLEANING, TESTING AND ADJUSTING:
THE MECHANICAL CONTRACTOR, AT HIS EXPENSE, SHALL CLEAN, REPAIR, ADJUST, CHECK, BALANCE, AND PLACE IN SERVICE THE VARIOUS SYSTEMS HEREIN SPECIFIED WITH THEIR RESPECTIVE EQUIPMENT, ACCESSORIES AND PIPING. HE SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT, AND TOOLS REQUIRED TO PERFORM TESTS REQUIRED BY THESE SPECIFICATIONS AND BY THE GOVERNING AUTHORITIES.

NO WORK SHALL BE COVERED OR CONCEALED UNTIL PROPERLY INSPECTED AND TESTED.

TESTING:
ADJUST THE AIR CONDITIONING SYSTEMS, VENTILATING SYSTEMS, FANS, ETC., TO DELIVER NOT LESS THAN THE REQUIRED AIR QUANTITY WITH QUANTITIES IN EXCESS TO BE SUBJECT TO THE APPROVAL OF THE ENGINEER IF FOUND TO NOT HAVE OBJECTIONABLE EFFECTS SUCH AS NOISE, DRAFTS, OR MOTOR OVERLOAD.

THIS CONTRACTOR SHALL PROVIDE THREE (3) COPIES OF A TEST AND BALANCE REPORT TO THE OWNER AT TIME OF SUBSTANTIAL COMPLETION INSPECTION.

THE TEST AND BALANCE REPORT SHALL BE TYPEWRITTEN AND CONTAIN THE FOLLOWING DATA:

1. DATE, TIME, WEATHER, WHEN TEST TAKEN.
2. AIR CAPACITIES AT EACH UNIT INCLUDING OUTSIDE AIR. (ENTERING AND LEAVING DB/WB)
3. STATIC PRESSURE THROUGH UNITS AND UNIT COMPONENTS.
4. MOTOR OPERATING VOLTAGE AND AMPERAGE.
5. DRIVE TYPES, SIZES AND SPEED RANGE.
6. IDENTIFICATION OF ALL AIR TERMINAL DEVICES WITH DESIGN CFM AND ACTUAL CFM.

ADDITIONALLY, SYSTEMS DRAWING CLEARLY MARKED TO IDENTIFY LOCATION OF EQUIPMENT AND AIR DEVICES TESTED SHALL BE PROVIDED ALONG WITH THE WRITTEN TEST AND BALANCE REPORT.

MAINTENANCE MANUALS

PROVIDE COMPLETE MAINTENANCE MANUALS (3 REQUIRED) ON ALL NEW EQUIPMENT. ORGANIZE OPERATING AND MAINTENANCE DATA INTO SUITABLE SETS OF MANAGEABLE SIZE. BIND PROPERLY INDEXED DATA INTO INDIVIDUAL, HEAVY-DUTY, 2-INCH, 3-RING VINYL COVERED BINDERS WITH POCKET FOLDERS FOR FOLDED SHEET INFORMATION. MARK APPROPRIATE IDENTIFICATION ON FRONT AND SPINE OF EACH BINDER. INCLUDE THE FOLLOWING TYPES OF INFORMATION. THE INFORMATION WILL BE TURNED OVER TO THE OWNER AT TIME OF SUBSTANTIAL COMPLETION:

- OPERATING AND MAINTENANCE INSTRUCTIONS
- SPARE PARTS LIST
- COPIES OF WARRANTIES
- WIRING DIAGRAMS
- INSPECTION REPORTS AND APPROVALS
- SHOP DRAWINGS AND PRODUCT DATA

TRAINING SERVICES

THOROUGHLY INSTRUCT THE OWNER'S REPRESENTATIVE IN THE OPERATION OF ALL EQUIPMENT FURNISHED AND LOCATION OF ALL VALVES AND CONTROL DEVICES.

TRAIN BUILDING OWNER'S PERSONNEL DURING NORMAL WORKING HOURS ON STARTUP AND SHUTDOWN PROCEDURES, TROUBLESHOOTING PROCEDURES, SERVICING AND PREVENTATIVE MAINTENANCE SCHEDULE AND PROCEDURES. REVIEW WITH THE OWNER'S PERSONNEL, THE DATA CONTAINED IN THE OPERATING AND MAINTENANCE MANUALS. SCHEDULE TRAINING WITH OWNER, PROVIDE AT LEAST 7-DAYS PRIOR NOTICE TO ARCHITECT/ENGINEER.

HANGERS AND SUPPORTS

PROVIDE ALL NECESSARY HANGER RODS, CLAMPS AND ATTACHMENTS TO PROPERLY INSTALL AND SUPPORT DUCTWORK, PIPING AND EQUIPMENT FROM THE BUILDING STRUCTURE.

PROVIDE ANY ANGLE IRON OR UNISTRUT AND SUSPENSION RODS REQUIRED TO INSTALL EQUIPMENT, PIPING AND DUCTWORK.

ALL SUPPORTS EXPOSED TO OUTDOORS SHALL BE CLEANED, PRIMED AND PAINTED TO PREVENT RUSTING. FINISH COLOR AS SELECTED BY OWNER.

THE USE OF BALING WIRE OR PERFORATED METAL STRAPPING IS NOT ACCEPTABLE FOR SUPPORTS.

WARRANTY/GUARANTEE:

THE CONTRACTOR SHALL WARRANTY/GUARANTEE AND MAINTAIN THE STABILITY OF WORK AND MATERIALS AND KEEP SAME IN PERFECT REPAIR AND CONDITION OF THE PERIOD OF ONE (1) YEAR.

DEFECTS OF ANY KIND DUE TO FAULTY WORK OR MATERIALS APPEARING DURING THE ABOVE MENTIONED PERIOD MUST BE IMMEDIATELY MADE GOOD BY THE CONTRACTOR AT HIS OWN EXPENSE TO THE ENTIRE SATISFACTION OF THE OWNER AND ARCHITECT AND ENGINEER. SUCH RECONSTRUCTION AND REPAIRS SHALL INCLUDE ALL DAMAGE TO THE FINISH OR FURNISHING OF THE BUILDING RESULTING FROM THE ORIGINAL DEFECT OR REPAIRS THERETO.

EQUIPMENT:

1.1 QUALITY ASSURANCE

- A. ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES: LISTED AND LABELED AS DEFINED IN NFPA 70, ARTICLE 100, BY A TESTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION, AND MARKED FOR INTENDED USE.
- B. UNITS SHALL BE DESIGNED TO OPERATE WITH HCFC-FREE REFRIGERANTS.

1.2 WARRANTY

- A. SPECIAL WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPLACE COMPONENTS LISTED BELOW THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.

1. WARRANTY PERIOD FOR COMPRESSORS: MANUFACTURER'S STANDARD, BUT NOT LESS THAN FIVE (5) YEARS FROM DATE OF SUBSTANTIAL COMPLETION.
2. WARRANTY PERIOD FOR HEAT EXCHANGERS: MANUFACTURER'S STANDARD, BUT NOT LESS THAN FIVE (5) YEARS FROM DATE OF SUBSTANTIAL COMPLETION.

1.3 MANUFACTURERS

- A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
 1. AOKI
 2. TRANE
 3. CARRIER
 4. YORK

2.1 CABINET

- A. CONSTRUCTION: SINGLE WALL.
- B. EXTERIOR CASING: GALVANIZED STEEL WITH BAKED-ENAMEL PAINT FINISH WITH LIFTING LUGS AND KNOCKOUTS FOR ELECTRICAL AND PIPING CONNECTIONS.

2.2 INTERIOR CASING - GALVANIZED STEEL

- A. BASE RAILS: GALVANIZED-STEEL RAILS FOR MOUNTING ON ROOF CURB.
- B. SERVICE DOORS: HINGED ACCESS DOORS WITH NEOPRENE GASKETS.
- C. INTERNAL INSULATION: FIBROUS-GLASS DUCT LINING COMPLYING WITH ASTM C 1071, TYPE II.
 1. THICKNESS: 1 INCH (25 MM).
 2. INSULATION ADHESIVE: COMPLY WITH ASTM C 916, TYPE I.
 3. MECHANICAL FASTENERS: GALVANIZED STEEL, SUITABLE FOR ADHESIVE ATTACHMENT, MECHANICAL ATTACHMENT, OR WELDING ATTACHMENT TO CASING WITHOUT DAMAGING LINER AND WITHOUT CAUSING AIR LEAKAGE WHEN APPLIED AS RECOMMENDED BY MANUFACTURER.
- D. CONDENSATE DRAIN PANS: FORMED SECTIONS OF STAINLESS-STEEL SHEET DESIGNED FOR SELF-DRAINAGE. FABRICATE PANS WITH SLOPES TO PRECLUDE BUILDUP OF MICROBIAL SLIME. PROVIDE FLOAT SWITCH.
- E. ROOF CURB: FULL-PERIMETER CURB OF SHEET METAL, MINIMUM 14 INCHES HIGH, WITH WOOD NALER, NEOPRENE SEALING STRIP, AND WELDED Z-BAR FLASHING.

2.3 SUPPLY-AIR FAN

- A. FAN: FORWARD-CURVED CENTRIFUGAL; STATICALLY AND DYNAMICALLY BALANCED, GALVANIZED STEEL, MOUNTED ON SOLID-STEEL SHAFT WITH SELF-ALIGNING, PERMANENTLY LUBRICATED BALL BEARINGS.
- B. MOTOR: TOTALLY ENCLOSED-SPEED MOTOR.
- C. DRIVE: V-BELT DRIVE WITH MATCHING FAN PULLEY AND ADJUSTABLE MOTOR SHEAVES AND BELT ASSEMBLY WITH MINIMUM 1.4 SERVICE FACTOR.
- D. MOUNTING: FAN WHEEL, MOTOR, AND DRIVES SHALL BE MOUNTED IN FAN CASING WITH SPRING ISOLATORS.

2.4 REFRIGERATION SYSTEM

- A. FABRICATE AND LABEL REFRIGERATION SYSTEM TO COMPLY WITH ASHRAE 15, "SAFETY CODE FOR MECHANICAL REFRIGERATION."
- B. COMPRESSORS: RECIPROCATING OR SCROLL COMPRESSORS WITH INTEGRAL VIBRATION ISOLATORS, INTERNAL OVERCURRENT AND OVERTEMPERATURE PROTECTION, INTERNAL PRESSURE RELIEF.
- C. EER AND COP: 13 EER AND 11.8 COP VALUES AS DEFINED BY ASHRAE/IESNA 90.1, "ENERGY EFFICIENT DESIGN OF NEW BUILDINGS EXCEPT LOW-RISE RESIDENTIAL BUILDINGS."
- D. REFRIGERANT: R-410A ON ALL NEW SYSTEMS.
- E. REFRIGERATION SYSTEM SPECIALTIES: EXPANSION VALVE WITH REPLACEABLE THERMOSTATIC ELEMENT

1. REFRIGERANT DRYER
2. HIGH-PRESSURE SWITCH.
3. LOW-PRESSURE SWITCH.
4. THERMOSTAT FOR COIL FREEZE-UP PROTECTION DURING LOW AMBIENT TEMPERATURE OPERATION OR LOSS OF AIR.
5. BRASS SERVICE VALVES INSTALLED IN DISCHARGE AND LIQUID LINES.
6. OPERATING CHARGE OF REFRIGERANT.

2.5 CAPACITY CONTROL

- A. HOT-GAS BYPASS REFRIGERANT CONTROL FOR CAPACITY CONTROL WITH CONTINUOUS DEHUMIDIFICATION ON A SINGLE COMPRESSOR.

2.6 REFRIGERANT COILS

- A. EVAPORATOR AND CONDENSER COILS SHALL BE DESIGNED, TESTED, FABRICATED, AND RATED ACCORDING TO ARI 410 AND ASHRAE 33. COILS SHALL BE LEAK TESTED UNDER WATER WITH AIR AT 315 PSIG (2170 KPA).

1. CAPACITY REDUCTION: CIRCUIT COILS FOR FACE CONTROL.
2. TUBES: COPPER
3. FINS: ALUMINUM
4. FIN AND TUBE JOINT: MECHANICAL BOND.
5. SUCTION AND DISTRIBUTOR: SEAMLESS COPPER TUBE WITH BRAZED JOINTS.
6. COATING: PHENOLIC EPOXY CORROSION-PROTECTION COATING ON BOTH COILS.
7. SOURCE QUALITY CONTROL: TEST TO 450 PSIG (3105 KPA), AND TO 300 PSIG (2070 KPA) UNDERWATER.

- B. CONDENSER FAN: PROPELLER TYPE, DIRECTLY DRIVEN BY MOTOR.
- C. SAFETY CONTROLS:

1. COMPRESSOR MOTOR AND OUTSIDE-COIL FAN MOTOR LOW AMBIENT LOCKOUT.
2. OVERCURRENT PROTECTION FOR COMPRESSOR MOTOR AND OUTSIDE-COIL FAN MOTORS.

2.7 FILTERS

- A. COMPLY WITH NFPA 90A.
- B. DISPOSABLE PLEATED FILTERS: 2-INCH-(50-MM-) THICK, FACTORY-FABRICATED, FLAT-PANEL-TYPE, DISPOSABLE AIR FILTERS WITH HOLDING FRAMES.
- C. FILTER MEDIA TO BE INTERLACED GLASS FIBERS SPRAYED WITH NONFLAMMABLE ADHESIVE.
- D. FILTER FRAMES TO BE GALVANIZED STEEL.

2.8 CONTROLS

- A. FACTORY-WIRE CONNECTION FOR CONTROLS' POWER SUPPLY.
- B. CONTROL DEVICES, INCLUDING SENSORS, TRANSMITTERS, RELAYS, SWITCHES, THERMOSTATS, HUMIDISTATS, DETECTORS, OPERATORS, ACTUATORS, AND VALVES, SHALL BE MANUFACTURER'S STANDARD ITEMS TO ACCOMPLISH INDICATED CONTROL FUNCTIONS.
- C. UNIT CONTROLS: SOLID-STATE CONTROL BOARD AND COMPONENTS WITH FIELD-ADJUSTABLE CONTROL PARAMETERS.
- D. SUPPLY-FAN CONTROL: UNITS SHALL BE ELECTRICALLY INTERLOCKED WITH CORRESPONDING EXHAUST FANS, TO OPERATE CONTINUOUSLY WHEN EXHAUST FANS ARE RUNNING. TIME CLOCK SHALL SWITCH OPERATION FROM OCCUPIED TO UNOCCUPIED. NIGHT SETBACK THERMOSTAT SHALL CYCLE FAN DURING UNOCCUPIED PERIODS TO MAINTAIN SPACE TEMPERATURE.
 1. TIMER: SEVEN-DAY ELECTRONIC CLOCK.
- E. ELECTRICALLY INTERLOCK KITCHEN HOOD FIRE-EXTINGUISHING SYSTEM TO DE-ENERGIZE REPLACEMENT-AIR UNIT WHEN FIRE-EXTINGUISHING SYSTEM DISCHARGES.
- F. MINIMUM REFRIGERATION SYSTEM CONTROLS SHALL CONSIST OF A WALL-MOUNTING, RELATIVE-HUMIDITY AND TEMPERATURE SENSOR THAT ENERGIZES DEHUMIDIFIER OPERATION WHEN RELATIVE HUMIDITY IS MORE THAN 60 PERCENT.

PIPING:

CONDENSATE DRAINS:

CONDENSATE PIPE TO BE TYPE L OR PVC. ROUTE TO DRYWELL OR AS INDICATED ON PLANS. COORDINATE WITH PLUMBER TO PROVIDE HUB DRAIN(S) IN MECHANICAL ROOM AND DRYWELL(S). HVAC CONTRACTOR TO PROVIDE P-TRAP AT UNIT SIZED FOR 2" GREATER THAN UNIT STATIC PRESSURE. PROVIDE CLEANOUT AT UNIT FOR SUSPENDED HORIZONTAL AIR HANDLERS. INSULATE CONDENSATE PIPE WITH 1/2" ARMAFLEX (OR EQUAL) INSULATION RATED FOR PLENUM APPLICATION. CONDENSATE DRAIN LINE SHALL BE NOT LESS THAN THE EQUIPMENT DRAIN LINE SIZE AND IN NO CASE LESS THAN 3/4" PIPE SIZE.

REFRIGERANT PIPING:

COVER ALL EXPOSED LIQUID LINES AND ALL SUCTION PIPING (INDOORS AND OUTDOORS), FITTINGS, VALVES, ETC., CONTINUOUS THROUGH SLEEVES, HANGERS, ETC., WITH 1/2" FR/ARMAFLEX. INSTALLATION SHALL BE CONDENSATION FREE AND INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

REFRIGERANT PIPING BELOW GRADE SHALL BE ROUTED THROUGH MINIMUM 4" DIAMETER PVC PIPE SLEEVES TO EACH CONDENSING UNIT. ALL UNDERGROUND REFRIGERANT PIPING SHALL BE CONTINUOUS WITH NO UNDERGROUND JOINTS ALLOWED. REFRIGERANT PIPE SIZES SHALL BE SIZED PER A/C EQUIPMENT MANUFACTURER'S RECOMMENDATION BASED ON LENGTH OF RUN BETWEEN CONDENSING UNITS AND AHU UNITS.

PIPING ROUTED ALONG BUILDING EXTERIOR WALL SHALL BE PROTECTED BY SHEET METAL HOUSING SECURELY ATTACHED TO WALL AT 8'-0" INTERVALS AND PAINTED TO MATCH BUILDING EXTERIOR.

TRAP OIL IN SUCTION LINE AT EVAPORATOR COIL. NO OTHER COIL TRAPS PERMITTED. PROVIDE SUCTION RISERS, CHECK VALVES, SOLENOID VALVES, OR OTHER DEVICES REQUIRED IN PIPING SYSTEM BY MANUFACTURER'S INSTALLATION INSTRUCTIONS.

PIPE HANGERS AND SUPPORTS:
PIPE HANGERS, WHERE NEEDED, SHALL BE GRINNEL #260 CLEVIS TYPE, 5'-0" ON CENTER, SECURELY ATTACHED TO BUILDING CONSTRUCTION. SPACE AT MIN. 5'-0" INTERVALS.

PIPE SUPPORT:
ATTACH LINES SECURELY ALONG PAD/FLOOR/EQUIPMENT/STRUCTURE TO PREVENT MOVEMENT. SUPPORT IN A MANNER THAT LINES DO NOT HANG FROM EVAPORATOR CONNECTIONS OR BLOCK ACCESS TO FILTERS, CONTROLS, ETC.

SUPPORT AT MIN. 8'-0" INTERVALS FOR VERTICAL PIPES, 5'-0" FOR SUSPENDED HORIZONTAL PIPING.

EXHAUST FANS:

FURNISH EXHAUST FANS WITH PERFORMANCE AND CAPACITIES AS LISTED ON THE DESIGN DRAWINGS.

SUSPENDED FANS SHALL BE SUPPORTED FROM A TRAPEZE TYPE HANGER WITH SPRING MOUNTED VIBRATION ISOLATORS.

ALL EXHAUST FANS SHALL COME WITH INTEGRAL BACKDRAFT DAMPER.

COORDINATE WITH ARCHITECT TO LOCATE EXHAUST FANS, EXHAUST GRILLES, WALL OR ROOF CAPS A MINIMUM DISTANCE OF 10'-0" FROM ANY OPERABLE WINDOW, DOOR OR FRESH AIR INTAKE.

AIR DISTRIBUTION EQUIPMENT:

FURNISH SUPPLY AIR GRILLES AND RETURN AIR REGISTERS WITH OPPOSED BLADE BALANCING DAMPERS AS SCHEDULED ON THE DESIGN DRAWINGS.

GRILLES, REGISTERS, AND CEILING DIFFUSERS SHALL BE FURNISHED AS SCHEDULED ON THE DESIGN DRAWINGS AND SHALL BE ALL ALUMINUM CONSTRUCTION UNLESS NOTED OTHERWISE. AIR DISTRIBUTION SHALL NOT EXCEED NC-30 NOISE CRITERIA AS DEFINED IN THE LATEST ASHRAE GUIDE.

DUCTWORK:

1. ALL DUCTWORK DIMENSIONS ARE INSIDE NET FREE AREA.
2. SEAL ALL JOINTS WITH GLASS-FAB AND MASTIC.
3. NOT USED.
4. ALL EXHAUST AND OUTSIDE AIR DUCTWORK IS TO BE SHEET METAL - NO EXCEPTIONS. ADJUSTABLE SPLITTERS AND DAMPERS SHALL BE SUPPLIED AND INSTALLED IN EVERY SPLIT AND BRANCH DUCT AND SHALL BE PROVIDED WITH LOCKING QUADRANTS ON EXPOSED OR IN ACCESSIBLE AREAS OF THE DUCT FOR EASE OF OPERATION. ACCESS PANELS OR YOUNG REGULATORS SHALL BE PROVIDED WHERE DAMPERS ARE INSTALLED ABOVE HARD CEILINGS OR IN SOFFITS EVEN IF NOT STATED ON PLANS. ELBOWS OR CHANGES IN DUCT DIRECTION GREATER THAN 45 DEGREES SHALL BE FITTED WITH AIR TURNS CONSISTING OF CURVED AIRFOIL BLADES OR VANES WHICH WILL PERMIT THE AIR TO MAKE ABRUPT TURNS WITHOUT APPRECIABLE TURBULENCE.
5. ELBOWS OR CHANGES IN DUCT DIRECTION GREATER THAN 45 DEGREES SHALL BE FITTED WITH AIR TURNS CONSISTING OF CURVED AIRFOIL BLADES OR VANES WHICH WILL PERMIT THE AIR TO MAKE ABRUPT TURNS WITHOUT APPRECIABLE TURBULENCE. LONG RADIUS TURNS ARE AN ACCEPTABLE SUBSTITUTE IF SPACE PERMITS.

- SHEET METAL DUCTWORK: SHALL BE CONSTRUCTED PER THE APPROPRIATE SMACNA DESIGN STANDARDS, MEETING THE MINIMUM GAUGE SHEET METAL THICKNESS SPECIFIED. INSULATE INTERNALLY OR EXTERNALLY WITH FIBERGLASS INSULATION TO ACHIEVE A MINIMUM R-VALUE OF 7.0 UNLESS INSTALLED IN A MECHANICALLY COOLED SPACE OR BETWEEN COOLED FLOORS IN A CAVITY WHOSE EXTERIOR WALLS ARE INSULATED, IN WHICH CASE THE R-VALUE MAY BE 4.2.

- FIBERGLASS DUCTWORK: SHALL BE CONSTRUCTED OF FIBERGLASS FIBERBOARD DUCTWORK TO BE A MINIMUM OF 1" THICK. FIBERGLASS DUCTWORK SHALL BE LINED WITH ANTI MICROBIAL INSULATION EQUAL TO JOHNS-MANVILLE SUPERDUCT. INSULATE FIBERGLASS SUPPLY AND RETURN DUCTS TO A MINIMUM R-VALUE OF 7.0 UNLESS INSTALLED IN A MECHANICALLY COOLED SPACE OR BETWEEN COOLED FLOORS IN A CAVITY WHOSE EXTERIOR WALLS ARE INSULATED, IN WHICH CASE THE R-VALUE MAY BE 4.2.

- FLEXIBLE DUCTWORK SHALL BE SPIRAL FORMED OUT OF 3003 BRIGHT REFLECTIVE FINISHED ALUMINUM ALLOY, MECHANICALLY LOCKED AND HAVE A MINIMUM R-VALUE OF 6.0. IT SHALL BE UL LISTED UNDER CLASS 1 AIR DUCTS AND CLASS 1 CONNECTORS, MEET ALL REQUIREMENTS OF UL 181 AND COMPLY WITH NFPA 90A AND NFPA 90B.

- ROUND SPIRAL DUCTWORK: SHALL BE CONSTRUCTED PER THE APPROPRIATE SMACNA DESIGN STANDARDS, MEETING THE MINIMUM GAUGE SHEET METAL THICKNESS SPECIFIED AND SHALL BE A MINIMUM 1" DOUBLE WALL INTERNALLY INSULATED. NON INSULATED SPIRAL DUCTWORK WILL NOT BE ACCEPTED AS A SUBSTITUTION.

VIBRATION ISOLATION:

ALL BLOWER UNITS AND VIBRATING TYPE EQUIPMENT SHALL BE PROPERLY FITTED WITH MASON INDUSTRIES VIBRATION ISOLATION EQUIPMENT SIZED IN ACCORDANCE WITH EQUIPMENT WEIGHT AND DUTY.

PROVIDE FLEXIBLE CONNECTORS AT ALL SUPPLY AND RETURN CONNECTIONS TO AIR HANDLING EQUIPMENT CONSISTING OF HEAVY CANVAS OR NEOPRENE FABRIC WITH AIRTIGHT SEAMS AND CONNECTIONS TO THE EQUIPMENT.

AIR FILTERS:

FILTERS SHALL BE 1" FIBERGLASS MEDIA THROW AWAY TYPE IN A RIGID FRAME WITH A SUPPORTING MAZE ACROSS BOTH ENTERING AND LEAVING SURFACES. SUPPLY ONE COMPLETE SET OF FILTERS AFTER OWNER'S FINAL ACCEPTANCE. FARR 30/30 OR EQUAL.

HEAT PUMP UNIT INSTALLATION:

PROVIDE CONCRETE PADS FOR GRADE MOUNTED CONDENSING UNITS. PADS SHALL BE A MINIMUM OF 4" THICK, 3,000 PSI CONCRETE, AND SHALL BE 4" LARGER ON EACH SIDE THAN THE FOOTPRINT OF THE CONDENSING UNIT. VERIFY UNIT DIMENSIONS WITH APPROVED SHOP DRAWINGS PRIOR TO FABRICATION OF PADS.

SUSPENDED UNITS SHALL BE SUPPORTED IN APPROVED MANNER AND IN ACCORDANCE WITH AIR HANDLING UNIT SUPPORT DETAIL. PROVIDE AUXILIARY OVERFLOW DRAIN PAN WITH FLOAT SWITCH WHERE REQUIRED.

ALL AIR HANDLING UNITS AND CONDENSING UNITS SHALL BE INSTALLED WITH MANUFACTURER REQUIRED MINIMUM MAINTENANCE CLEARANCES. PROVIDE MAN SIZED ACCESS PANEL WHERE REQUIRED.

FIRE DAMPERS:

FIRE DAMPERS SHALL BE TYPE "B" CURTAIN TYPE, SUITABLE FOR EITHER VERTICAL OR HORIZONTAL INSTALLATION WITH 20 GAUGE STEEL CHANNEL FRAMES, 24 GAUGE STEEL BLADES, AND 18 GAUGE STEEL ENCLOSURE WITH DUCT COLLARS. ALL PARTS GALVANIZED MILL FINISH.

FIRE DAMPERS SHALL BE EQUAL TO RUSKIN TYPE 1BD2 FOR WALLS UP TO 2 HOUR.

INSTALL IN ACCORDANCE WITH NFPA-90A, TESTED IN ACCORDANCE WITH UL SAFETY STANDARD 555, 1-1/2 HOUR AND 4 HOUR PROTECTION, AND 165F FUSIBLE LINK.

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Revision Schedule		
Revision Number	Revision Description	Revision Date

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SPECIFICATIONS -
MECHANICAL

Project number	16-020
Date	08/08/2016
Drawn by	MJR/SJB
Checked by	BLS/AJB

M601

Scale As indicated

NOTE:

ALL OF THE SPECIFICATIONS LISTED ON THIS SHEET MAY NOT BE USED FOR THIS PROJECT.

LEGEND	
	DIRECTION OF FLOW IN PIPE
	PITCH PIPE DOWN IN DIRECTION OF ARROW
	PIPE UP
	PIPE DOWN
	EXPANSION JOINT
	FLEXIBLE PIPE CONNECTOR
	BALL VALVE
	CHECK VALVE, HORIZONTAL SWING
	GATE VALVE
	BUTTERFLY VALVE
	GLOBE VALVE
	BALANCING VALVE
	BALANCING COCK
	STRAINER, Y-TYPE AND BLOWOFF VALVE
	PRESSURE RELIEF VALVE (WATER)
	PRESSURE REDUCING VALVE
	MANUAL AIR VENT
	SOLENOID VALVE
	VALVE OS & Y
	CAPPED LINE
	SANITARY SEWER (ABOVE GRADE)
	SANITARY SEWER (BELOW GRADE)
	DOMESTIC COLD WATER
	BOOSTED PRESSURE DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	DOMESTIC HOT WATER RETURN
	CONDENSATE DRAIN (BELOW GRADE)
	CONDENSATE DRAIN (ABOVE GRADE)
	STORM SEWER (BELOW GRADE)
	STORM SEWER (ABOVE GRADE)
	STORM EMERGENCY OVERFLOW PIPING
	GREASE SEWER (BELOW GRADE)
	GREASE SEWER (ABOVE GRADE)
	SOFT COLD WATER
	VENT
	GAS LINE (BELOW GRADE)
	GAS LINE (ABOVE GRADE)
	POINT OF CONNECTION NEW TO EXISTING
	POINT OF REMOVAL FOR DEMOLITION
	DELTA T (TEMPERATURE DIFFERENCE)
	PHOTO DETAIL OR SECTION IDENTIFICATION TARGET A = DETAIL NUMBER B = SHEET NUMBER ON WHICH DETAIL IS LOCATED.
	HOSE BIBB
	FLOOR DRAIN
	HUB DRAIN
	TRENCH DRAIN
	COMPRESSED AIR (BELOW GRADE)
	COMPRESSED AIR (ABOVE GRADE)
	FLOOR CLEANOUT
	CLEANOUT
	EXTERIOR CLEANOUT
	HORIZONTAL CLEANOUT
	ITEMS TO BE REMOVED (DEMOLITION)
	COLD NANO WATER
	COLD FILTERED WATER
	SHOCK ABSORBER

NOTE:
SYMBOLS SHOWN ON THIS PLUMBING LEGEND ARE FOR REFERENCE PURPOSES ONLY. ALL OF THESE SYMBOLS MAY NOT BE USED FOR THIS PROJECT.

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. GENERAL PROVISIONS SPECIFICALLY APPLICABLE TO DIVISION 15 SECTIONS, IN ADDITION TO DIVISION 1 - GENERAL REQUIREMENTS.

1.2 SCOPE

- A. THE WORK SHALL INCLUDE THE PROVISIONS OF SYSTEMS, EQUIPMENT AND MATERIALS SPECIFIED IN THIS DIVISION AND AS CALLED FOR ON THE DRAWINGS. WORK SHALL ALSO INCLUDE SUPERVISION, OPERATION, METHODS AND LABOR FOR THE FABRICATION, START-UP AND TESTS FOR A COMPLETE OPERATIONAL PLUMBING INSTALLATION.

- B. DRAWINGS FOR THE WORK ARE DIAGRAMMATIC IN NATURE AND ARE INTENDED TO CONVEY THE SCOPE OF THE INSTALLATION AND TO INDICATE THE GENERAL ARRANGEMENT AND LOCATIONS OF THE WORK. BECAUSE OF THE SCALE OF THE DRAWINGS, CERTAIN BASIC ITEMS SUCH AS PIPE FITTINGS, ACCESS PANELS, AND SLEEVES MAY NOT BE SHOWN. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR SELECTING THE EQUIPMENT TO FIT THE SPACE PROVIDED, THE LOCATION AND SIZES FOR PIPE FITTINGS, SLEEVES, INSERTS, FIRE AND/OR SMOKE DAMPERS, AND OTHER BASIC ITEMS REQUIRED BY CODE AND OTHER SECTIONS SHALL BE COORDINATED AND INCLUDED FOR THE PROPER INSTALLATION OF THE WORK.

- C. EQUIPMENT SPECIFICATIONS MAY NOT DEAL INDIVIDUALLY WITH MINUTE ITEMS REQUIRED SUCH AS COMPONENTS, PARTS, CONTROLS AND DEVICES WHICH MAY BE REQUIRED TO PRODUCE THE EQUIPMENT PERFORMANCE SPECIFIED OR AS REQUIRED TO MEET THE EQUIPMENT WARRANTIES. WHERE SUCH ITEMS ARE REQUIRED, THEY SHALL BE INCLUDED BY THE INSTALLER OF THE EQUIPMENT, WHETHER OR NOT SPECIFICALLY INDICATED IN THE CONTRACT DOCUMENTS WITH NO ADDITIONAL COST INCURRED.

- D. WHERE NOTED ON THE DRAWINGS OR INDICATED IN OTHER SECTIONS OF THE SPECIFICATION, THE CONTRACTOR FOR THIS DIVISION SHALL INSTALL PLUMBING EQUIPMENT FURNISHED BY OTHERS, AND SHALL MAKE ALL FINAL CONNECTIONS. CONTRACTOR SHALL INSTALL EQUIPMENT AND SYSTEMS IN STRICT ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

- E. COORDINATE WITH ALL TRADES IN SUBMITTAL OF SHOP DRAWINGS. TIGHT SPACE CONDITIONS SHALL BE DETAILED TO THE SATISFACTION OF ALL TRADES, SUBJECT TO THE REVIEW AND FINAL ACCEPTANCE OF THE ARCHITECT/ENGINEER. IN THE EVENT THAT THE CONTRACTOR INSTALLS HIS WORK BEFORE COORDINATING WITH OTHER TRADES OR SO AS TO CAUSE ANY INTERFERENCE WITH THE WORK OF THE OTHER TRADES THIS CONTRACTOR SHALL MAKE ALL REQUIRED CHANGES TO CORRECT THE CONDITION AT NO ADDITIONAL COST TO THE PROJECT.

- F. CONTRACTOR SHALL VERIFY ALL EQUIPMENT CONNECTION SIZES PRIOR TO INSTALLATION OF ANY SYSTEMS. THIS CONTRACTOR SHALL ADJUST PIPING SYSTEM SIZES AS REQUIRED TO MATCH EQUIPMENT CONNECTIONS. UTILIZE REDUCERS WHERE EQUIPMENT CONNECTIONS ARE SMALLER THAN PIPE SIZES INDICATED ON PLANS, NO PIPING SHALL BE DECREASED IN SIZE (IN THE DIRECTION OF FLOW).

G. EXAMINATION OF BIDDING DOCUMENTS:

- 1. EACH BIDDER SHALL EXAMINE THE BIDDING DOCUMENTS CAREFULLY AND NOT LATER THAN TEN (10) DAYS PRIOR TO THE DATE FOR RECEIPT OF BIDS, SHALL MAKE WRITTEN REQUEST TO THE ENGINEER FOR INTERPRETATION OR CORRECTION OF ANY AMBIGUITY, INCONSISTENCY OR ERROR THEREIN. ANY INTERPRETATION OR CORRECTION WILL BE ISSUED AS AN ADDENDUM BY THE ENGINEER. ONLY A WRITTEN INTERPRETATION OR CORRECTION TO BID DOCUMENTS BY ADDENDUM SHALL BE BINDING. NO BIDDER SHALL RELY UPON ANY INTERPRETATION OR CORRECTION GIVEN BY ANY OTHER METHOD.

H. FIRE PROTECTION:

THIS BUILDING HAS AN EXISTING SPRINKLER SYSTEM. IT IS THE CONTRACTORS RESPONSIBILITY TO VISIT THE SITE AND EVALUATE THE EXISTING SYSTEM AND ITS CONDITION. THE NEW SCOPE OF WORK SHALL INCLUDE RELOCATING EXISTING SPRINKLER HEADS THAT CONFLICT WITH NEW WORK, REPLACING EXISTING SPRINKLER HEADS WITH NEW PENDANT TYPE SPRINKLER HEADS AND INSTALLING NEW SPRINKLER HEADS AS REQUIRED. THE CONTRACTOR SHALL PROVIDE ALL MATERIAL, LABOR, TRUCKING, HOISTING, ENGINEERING, SCAFFOLDING, SHOP DRAWINGS, INSURANCE, PERMITS, FEE'S, ETC. NECESSARY FOR THE FURNISHING AND INSTALLATION OF ALL RELATED WORK IN ACCORDANCE WITH THE CONTRACT DRAWINGS.

IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE ADEQUATE SPRINKLER COVERAGE WITHIN THE SCOPE OF WORK AND IN AREAS OUTSIDE THE SCOPE OF WORK THAT BECOME UNPROTECTED BY THE EXISTING SPRINKLER SYSTEM DUE TO NEW CONSTRUCTION. HOSE STREAMS SHALL MEET OR EXCEED THE REQUIREMENTS OF NFPA 13 AND ALL LOCAL AUTHORITIES.

THE EXISTING SPRINKLER SYSTEM SHALL BE MODIFIED IN ACCORDANCE WITH NFPA 13 (2009 EDITION), NFPA 14 (2009 EDITION), 61G15 OF THE FLORIDA ADMINISTRATIVE CODE AND THE FLORIDA BUILDING CODE (2009 EDITION). IT IS THE RESPONSIBILITY OF THE FIRE PROTECTION CONTRACTOR TO SUBMIT SIGNED AND SEALED DRAWINGS AND HYDRAULIC CALCULATIONS TO THE AUTHORITY HAVING JURISDICTION AS DEFINED IN 61G15 AND NFPA 13, SECTION 14-1.

H. SUBSTITUTIONS

- 1. EXCEPT AS PROVIDED BELOW, EACH BIDDER REPRESENTS THAT HIS BID IS BASED UPON THE MATERIALS AND EQUIPMENT DESCRIBED IN THE BIDDING DOCUMENTS.
- 2. NO SUBSTITUTIONS FOR OTHER MATERIALS AND EQUIPMENT WILL BE CONSIDERED UNLESS WRITTEN REQUEST HAS BEEN SUBMITTED TO THE ENGINEER FOR APPROVAL AT LEAST TEN (10) DAYS PRIOR TO THE DATE FOR RECEIPT OF BIDS. EACH SUCH REQUEST SHALL INCLUDE A COMPLETE DESCRIPTION OF THE PROPOSED SUBSTITUTE, THE NAME OF THE MATERIAL OR EQUIPMENT FOR WHICH IT IS TO BE SUBSTITUTED, DRAWINGS, CUTS, PERFORMANCE AND TEST DATA OR INFORMATION NECESSARY FOR A COMPLETE EVALUATION.
- 3. IF THE ENGINEER APPROVES ANY PROPOSED SUBSTITUTE, SUCH APPROVAL WILL BE ISSUED AS AN ADDENDUM FORWARDED TO ALL PARTICIPATING BIDDERS.
- 4. IF ANY BIDDER IS UNABLE TO PROCURE WRITTEN APPROVAL OF ANY SUBSTITUTE FROM THE ENGINEER PRIOR TO THE OPENING OF BIDS, THEN HE SHALL BASE HIS BID ON ITEMS AND SYSTEMS AS SPECIFIED IN BID DOCUMENTS.

SPECIFICATIONS

- 5. SUBSTITUTIONS REQUESTED ON THE BID PROPOSAL FORM WHICH ARE PRIOR APPROVED BY THE ENGINEER WILL BE INCORPORATED INTO THE CONTRACT WITH THE SUCCESSFUL BIDDER.

- 6. REQUESTS FOR ANY SUBSTITUTIONS NOT SUBMITTED AND APPROVED IN ACCORDANCE WITH THE ABOVE INSTRUCTIONS WILL BE DENIED BY THE ENGINEER.

1.3 REGULATORY REQUIREMENTS

- A. ALL INSTALLATIONS AND EQUIPMENT SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE STATUTES, CODES AND REGULATIONS OF THE GOVERNMENTAL BODIES HAVING JURISDICTION.
- B. CONFORM TO 2014 FLORIDA BUILDING CODE.
- C. CONFORM TO 2014 FLORIDA FIRE PREVENTION CODE.

1.4 CUTTING AND PATCHING

- A. SUBMIT WRITTEN REQUEST IN ADVANCE OF CUTTING OR ALTERING ELEMENTS.
- B. EMPLOY SKILLED AND EXPERIENCED INSTALLER TO PERFORM CUTTING AND PATCHING WHICH EFFECT:
 - 1. STRUCTURAL INTEGRITY OF ELEMENT.
 - 2. INTEGRITY OF WEATHER.
 - 3. EFFICIENCY, MAINTENANCE, OR SAFETY OF ELEMENT.
 - 4. VISUAL QUALITIES OF SIGHT.
 - 5. WORK OF OWNER OR SEPARATE CONTRACTOR.

PART 2 PRODUCTS

2.1 PIPE HANGERS AND SUPPORTS

- A. MANUFACTURERS:
 - 1. B-LINE.
 - 2. OTHER ACCEPTABLE MANUFACTURERS OFFERING EQUIVALENT PRODUCTS.
 - A) MICHIGAN HANGER.
 - B) FHD.

2.2 PIPING INSULATION

- A. MANUFACTURERS:
 - 1. OWENS-CORNING
 - 2. JOHNS-MANVILLE
 - 3. KNAUF
- B. ASTM C547, RIGID MOLDED NON-COMBUSTIBLE FIBERGLASS INSULATION. 'K' VALUE .024 @ 75 DEGREES F.
- C. VAPOR BARRIER JACKET, KRAFT PAPER WITH GLASS FIBER YARN AND BONDED TO ALUMINUM FILM. CLOSURE SYSTEM SHALL BE UL 181.
- D. INSULATION THICKNESS 1-1/2"

2.3 SANITARY SEWER & VENT PIPING, ABOVE AND BELOW GRADE:

- A. CAST IRON: CISPI 301, SERVICE WEIGHT, NO HUB.
 - 1. FITTINGS: CISPI 301 CAST IRON DWV.
 - 2. JOINTS: CISPI 301 STAINLESS STEEL CLAMPS, MINIMUM 24 GA. WITH NEOPRENE GASKET, HUSKEY SERIES 4000 OR CLAMP-ALL ONLY.

2.4 PIPING: WATER PIPING

- A. COPPER PIPING: ASTM B88 TYPE 'L' HARD DRAWN OR CPVC.
 - 1. FITTINGS: ASME 16.18 CAST BRONZE OR ASME B16.22 WROUGHT COPPER OR BRONZE.
 - 2. JOINTS: ASTM B32 SOLDER, ASTM 95-5 TA MINIMUM, FLUX ASTM B813. JOINTS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM B828.

2.5 PIPING: GAS PIPING

- A. STEEL PIPE: ASTM A 53/A 53M; TYPE E OR S; GRADE B; BLACK. WALL THICKNESS OF WROUGHT-STEEL PIPE SHALL COMPLY WITH ASME B36.10M.
 - 1. MALLEABLE-IRON THREADED FITTINGS: ASME B16.3, CLASS 150, STANDARD PATTERN, WITH THREADED ENDS ACCORDING TO ASME B1.20.1.
 - 2. STEEL THREADED FITTINGS: ASME B16.11, FORGED STEEL WITH THREADED ENDS ACCORDING TO ASME B1.20.1.
 - 3. STEEL WELDING FITTINGS: ASME B16.9, WROUGHT STEEL OR ASME B16.11, FORGED STEEL.
 - 4. UNIONS: ASME B16.39, CLASS 150, MALLEABLE IRON WITH BRASS-TO-IRON SEAT, GROUND JOINT, AND THREADED ENDS ACCORDING TO ASME B1.20.1.
 - 5. CAST-IRON FLANGES AND FLANGED FITTINGS: ASME B16.1, CLASS 125.
 - 6. JOINT COMPOUND AND TAPE: SUITABLE FOR NATURAL GAS.
 - 7. STEEL FLANGES AND FLANGED FITTINGS: ASME B16.5.
 - 8. GASKET MATERIAL: THICKNESS, MATERIAL, AND TYPE SUITABLE FOR NATURAL GAS.

PART 3 INSTALLATION

- A. INSTALL IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- B. PROVIDE NON-CONDUCTING DIELECTRIC CONNECTIONS WHEREVER JOINTING DISSIMILAR METALS.
- C. ROUTE PIPING IN ORDERLY MANNER AND MAINTAIN GRADIENT.
- D. INSTALL PIPING TO CONSERVE BUILDING SPACE AND NOT INTERFERE WITH USE OF SPACE.
- E. GROUP PIPING WHENEVER PRACTICAL AT COMMON ELEVATIONS.
- F. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS, OR CONNECTED EQUIPMENT.
- G. PROVIDE CLEARANCE FOR INSTALLATION OF INSULATION AND ACCESS TO VALVES AND FITTINGS.
- H. PROVIDE ACCESS WHERE VALVES AND FITTINGS ARE NOT EXPOSED. COORDINATE SIZE AND LOCATION OF ACCESS DOORS WITH APPROPRIATE ARCHITECTURAL SECTION.
- I. ESTABLISH ELEVATIONS OF BURIED PIPING OUTSIDE THE BUILDING TO ENSURE PROPER SLOPE AND COVER.
- J. ESTABLISH ELEVATIONS OF EXISTING BURIED PIPING FOR CONNECTION TO NEW WORK TO ENSURE PROPER SLOPE AND COVER.
- K. WHERE PIPE SUPPORT MEMBERS ARE WELDED TO STRUCTURAL BUILDING FRAMING, SCRAPE, BRUSH CLEAN, AND APPLY ONE COAT OF ZINC RICH PRIMER TO WELDING.

- L. EXTEND CLEANOUTS TO FINISHED FLOOR OR WALL SURFACE. LUBRICATE THREADED CLEANOUT PLUGS WITH MIXTURE OF GRAPHITE AND LINSEED OIL. ENSURE CLEARANCE AT CLEAN-OUT FOR RODDING OF DRAINAGE SYSTEM.

- M. RESET SPRINKLER HEADS FROM UPRIGHT POSITION TO DOWN POSITION TO CENTER OF NEW CEILING TILE.

- K. TORQUE ALL HUBLESS CAST IRON COUPLING IN STRICT ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. UTILIZE COUPLING MANUFACTURERS PRE-SET TORQUE WRENCH.

- O. INSTALL WATER HAMMER SHOCK ARRESTORS AT EACH FIXTURE OR BATTERY OF FIXTURES WHERE REQUIRED. ARRESTORS SHALL BE FACTORY FABRICATED. INSTALL ARRESTORS AND SIZE PER PLUMBING AND DRAINAGE INSTITUTE STANDARD P.D.I. WH-201. ACCEPTABLE MANUFACTURERS ZURN, JOSAM, SIOUX CHIEF. PPP INC. FOR 1-11 FU'S PROVIDE PDI-A, FOR 12-32 FU'S PDI-B, 33-60 FU'S PDI-C, 61-113 FU'S PDI-D.

GENERAL NOTES

- 1. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY FITTINGS AS REQUIRED BY ALL APPLICABLE CODES AND GOVERNING AUTHORITIES.
- 2. CONTRACTOR SHALL VERIFY AND CORRECT AS REQUIRED TO MEET ALL CODES AND REGULATIONS ANY POSSIBLE DISCREPANCIES BETWEEN TYPE AND SIZE OF CONNECTION SPECIFIED IN PLUMBING FIXTURE SCHEDULE AND FIXTURES ACTUALLY INSTALLED ON THE SITE.
- 3. VENT PIPING SHOWN ON FLOOR PLANS IS ONLY INDICATIVE EXCEPT FOR VTR LOCATIONS.
- 4. VALVES AND FITTINGS SHALL BE OF SAME SIZE OF LINE ON WHICH THEY ARE LOCATED, UNLESS OTHERWISE INDICATED ON DRAWINGS.
- 5. CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES.
- 6. CONTRACTOR SHALL FIELD VERIFY ALL GIVEN MEASUREMENTS PRIOR TO LAYING AND CONNECTING ALL SANITARY AND WASTE PIPING AND NOTIFY ARCHITECT OF ANY DISCREPANCIES.
- 7. AIR CHAMBERS SHALL NOT BE CONSIDERED AN EQUAL TO WATER ARRESTORS AS SPECIFIED.
- 8. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING FIRE RATING AND WEATHERPROOFING INTEGRITY OF ALL PIPING AND PENETRATIONS.
- 9. ALL WATER SUPPLY AND SANITARY LINES SHALL BE RUN AS CLOSE TO PLANS AS POSSIBLE WITH NO CHANGES IN SIZING.
- 10. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY SUPPORTING DEVICES FOR ALL FIXTURES INCLUDED IN CONTRACT OR HEREIN SPECIFIED OR OTHERWISE.
- 11. ALL DRAINAGE PIPING SHALL BE MARKED WITH THE SEAL OF APPROVAL OF THE NATIONAL SANITATION FOUNDATION.
- 12. DO NOT PENETRATE FOUNDATIONS WITH PIPING. COORDINATE WITH GENERAL CONTRACTOR TO DROP FOUNDATIONS AS REQUIRED TO CLEAR PLUMBING SERVICES WHERE ABSOLUTELY NECESSARY. ALL PIPING PENETRATING A BEARING WALL OR FOOTING MUST BE SLEEVED AND LOCATION APPROVED BY STRUCTURAL ENGINEER.
- 13. ROUTE ALL PIPING CONCEALED ABOVE CEILINGS, WITHIN WALLS, OR IN CHASES. PIPING EXPOSED SHALL BE SLOPED AND PAINTED TO MATCH ARCHITECTURAL FINISHES. PIPING IN MECHANICAL ROOMS MAY BE EXPOSED.
- 14. PROVIDE ACCESS PANELS TO ALL VALVES WITHIN CHASES OR ABOVE NON-ACCESSIBLE CEILINGS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
- 15. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF PLUMBING FIXTURE MOUNTING HEIGHTS, AND DIMENSIONS.
- 16. CONTRACTOR SHALL VERIFY INVERT ELEVATIONS OF SEWERS TO WHICH NEW SEWER LINES ARE TO BE CONNECTED BEFORE INSTALLATION OF NEW SEWER LINE.
- 17. ALL VENTS THROUGH ROOF SHALL BE MIN. 10'-0" FROM ANY AIR INTAKES.
- 18. CONTRACTOR SHALL INSTALL DIELECTRIC UNIONS AT CONNECTIONS OF DISSIMILAR METALS.
- 19. WHERE EXISTING PIPING IS DESIGNATED TO BE REMOVED AND CAPPED, ALL PIPING SERVING THE DESIGNATED FIXTURE SHALL BE REMOVED FROM WITHIN WALLS TO THE POINT DESIGNATED ON THE DRAWINGS. PIPING SHALL BE CAPPED BY APPROVED CAPPING METHODS UTILIZING PIPE 'CAPS' INTENDED FOR SUCH USE. 'CAPS' SHALL BE AIRTIGHT AND WATERIGHT.
- 20. WHERE EXISTING SURFACES ARE DISRUPTED DUE TO THE REMOVAL OF EXISTING EQUIPMENT OR PIPING, THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF DISRUPTED SURFACES TO MATCH EXISTING ADJACENT SURFACES.
- 21. EXISTING CONDITIONS AS SHOWN ON THE DRAWINGS ARE TAKEN FROM ORIGINAL AND AS-BUILT DRAWINGS OF THE BUILDING AND IN PART ARE UNVERIFIED. FIELD CONDITIONS SHALL GOVERN. ALL EXISTING CONDITIONS MUST BE VERIFIED PRIOR TO INITIATION OF WORK.
- 22. ALL EXISTING PIPING, NOT REMAINING IN SERVICE AFTER NEW CONSTRUCTION, SHALL BE REMOVED.
- 23. PIPING WHICH IS TO REMAIN IN SERVICE SHALL NOT BE DISTURBED. EXISTING PIPING DAMAGED DURING CONSTRUCTION SHALL BE REPLACED WITH NEW PIPING OF THE SAME SIZE AND MATERIAL.
- 24. EXISTING BUILDING SEWERS THAT ARE USED WITH NEW BUILDING SANITARY SEWERS SHALL BE EXAMINED AND TESTED TO CONFORM IN ALL RESPECTS TO ALL THE REQUIREMENTS OF PLUMBING AUTHORITY HAVING JURISDICTION AND APPLICABLE PLUMBING CODES.
- 25. ALL EXISTING SANITARY, DOMESTIC WATER, AND RAIN WATER PIPING THAT ARE LOCATED IN EXISTING WALLS TO BE DEMOLISHED AND REMAINING IN SERVICE AFTER CONSTRUCTION SHALL BE RELOCATED TO NEW WALLS, CHASES, ETC.
- 26. COORDINATE WITH GENERAL CONTRACTOR TO PATCH ALL EXISTING WALLS, FLOORS, CEILINGS, ETC., AS REQUIRED BY NEW WORK. SEE SPECIFICATIONS.

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Revision Schedule		
Revision Number	Revision Description	Revision Date

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JLC16.0172.00

Adam Joseph Barney
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BELLEVUE RETAIL	
601 BELLEVUE AVE	
SYMBOL LEGEND	
PLUMBING	
Project number	16-020
Date	08/08/2016
Drawn by	MJR/SJB
Checked by	BLS/AJB
P001	
Scale	As indicated

REFERENCE NOTES: (X)

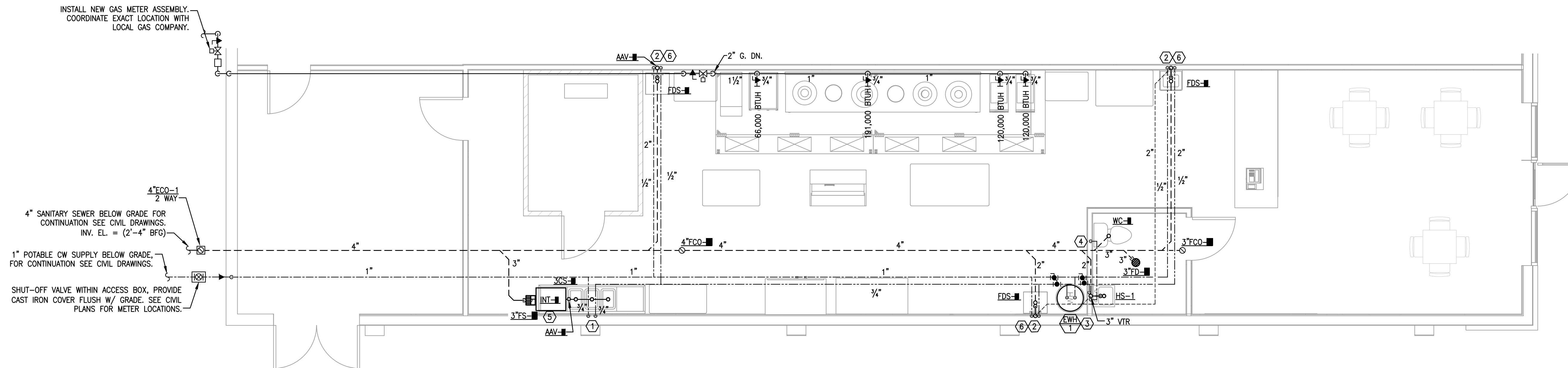
- (1) 3/4" COLD WATER AND HOT WATER DOWN.
- (2) 1/2" COLD WATER AND HOT WATER DOWN.
- (3) ELECTRIC WATER HEATER EWH-1, SET TO 140°F.
- (4) 1/2" COLD WATER DOWN.
- (5) LOW PROFILE GREASE INTERCEPTOR INT-1, SEE SIZING CALC FOR MODEL INFO.
- (6) PROVIDE POINT OF USE MIXING VALVE AT HAND SINK SET TO 110°F.

GENERAL NOTES:

1. ALL FLOOR DRAINS SHALL BE PROVIDED WITH TRAP PRIMER VALVE AND FITTINGS UNLESS NOTED OTHERWISE.
2. PROVIDE LEAD-FREE POINT OF USE THERMOSTATIC MIXING VALVES ASSE 1070 AT HAND SINKS TO TEMPER HOT WATER TO 110 DEGREES F.
3. SANITARY AND GREASE DRAINS RECEIVING 140 DEGREE F. DISCHARGE FROM FIXTURES SHALL BE CAST IRON NO-HUB PIPING WITH HEAVY DUTY COUPLINGS.

PDI SIZING METHOD FOR GREASE TRAP INT-1

EFFECTIVE CAPACITY OF GREASE INTERCEPTOR (GALLONS) 3 COMPARTMENTS @ 14"x10"x9.5" EA. x 3 = 3,990
CONTENTS IN GALLONS: CUBIC INCHES DIVIDED BY 231 = 17.2 GALLONS ACTUAL DRAINAGE LOAD 0.75 x 17.2 = 12.9 GALLONS
CALCULATION FOR FLOW RATE FOR ONE MINUTE PERIOD: 12.9/1 = 12.9 GPM FLOW RATE
FOR ONE MINUTE PERIOD 12.9 GPM REQUIRES PDI SIZE 15 ENDURA GREASE INTERCEPTOR MODEL: 25 LO



1 FLOOR PLAN - PLUMBING
1/4" = 1'-0"

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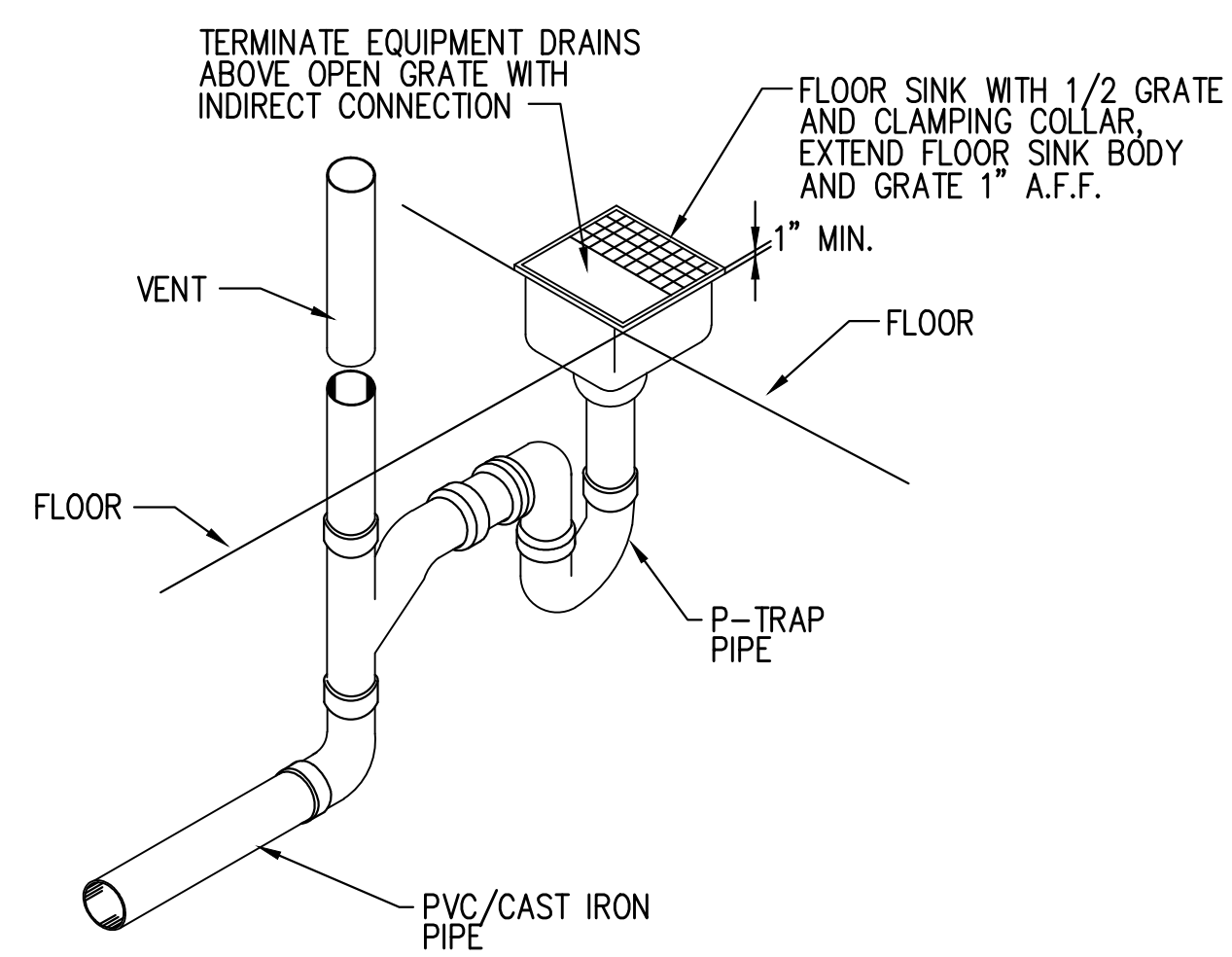
Blake Lawrence Suddeth
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BELLEVUE RETAIL
601 BELLEVUE AVE
FLOOR PLANS
PLUMBING

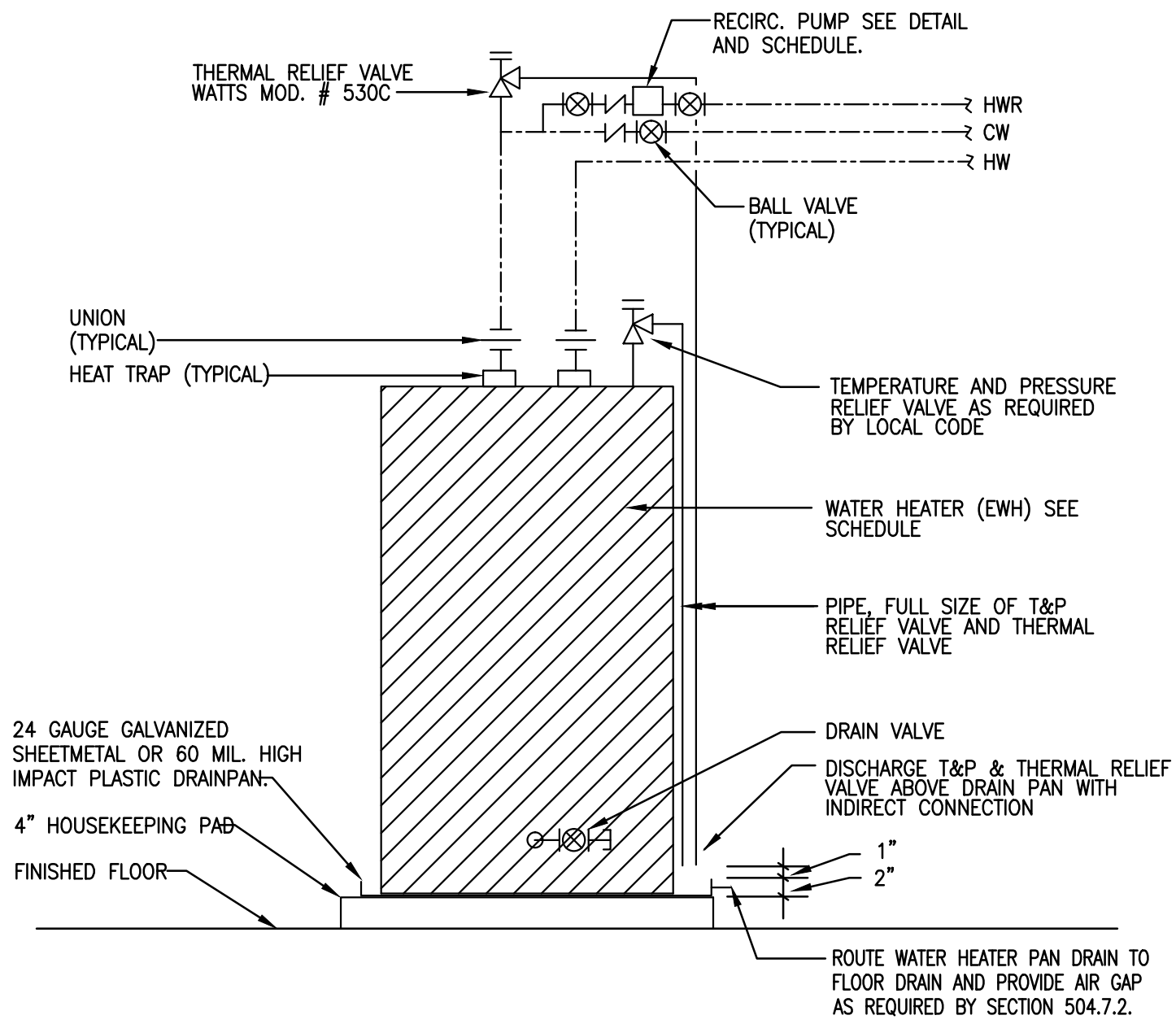
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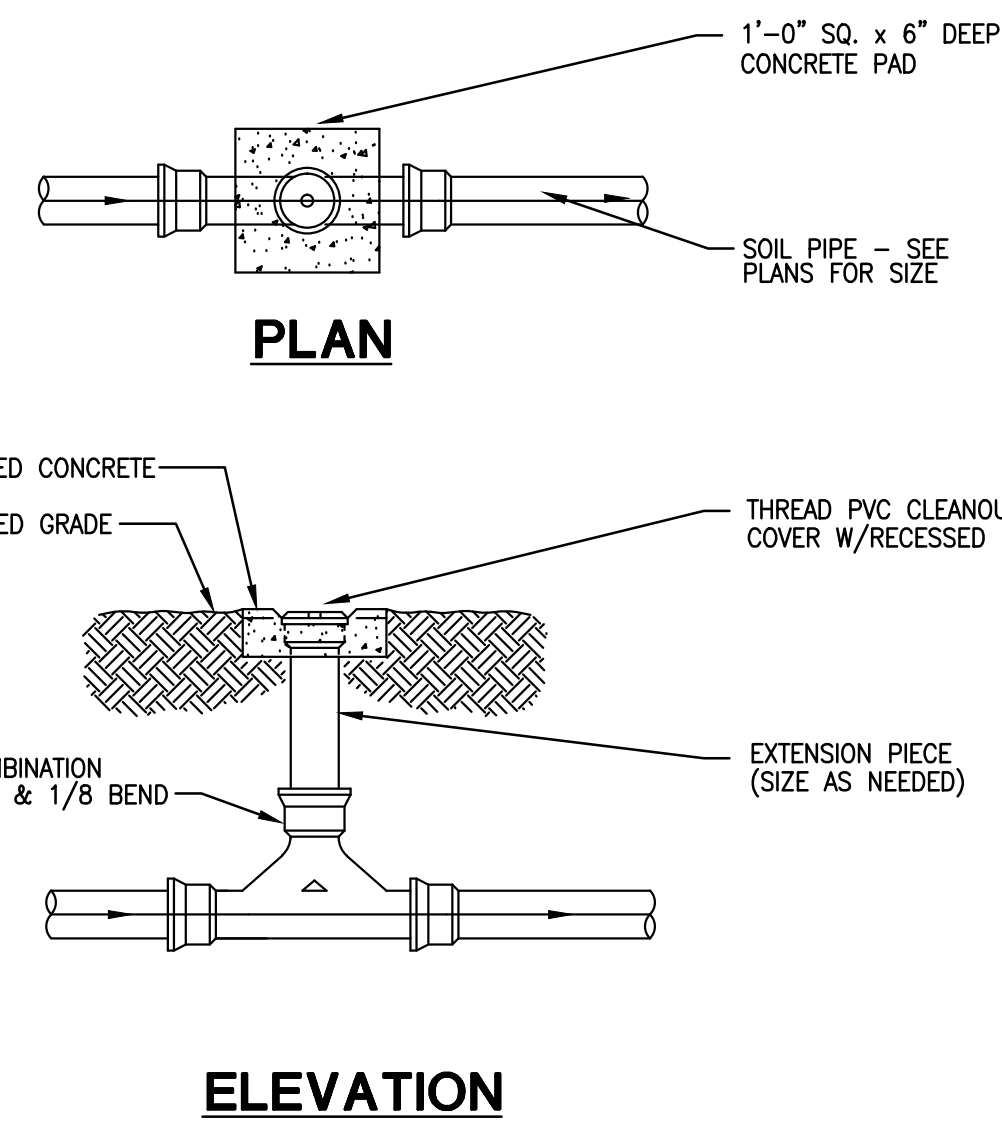
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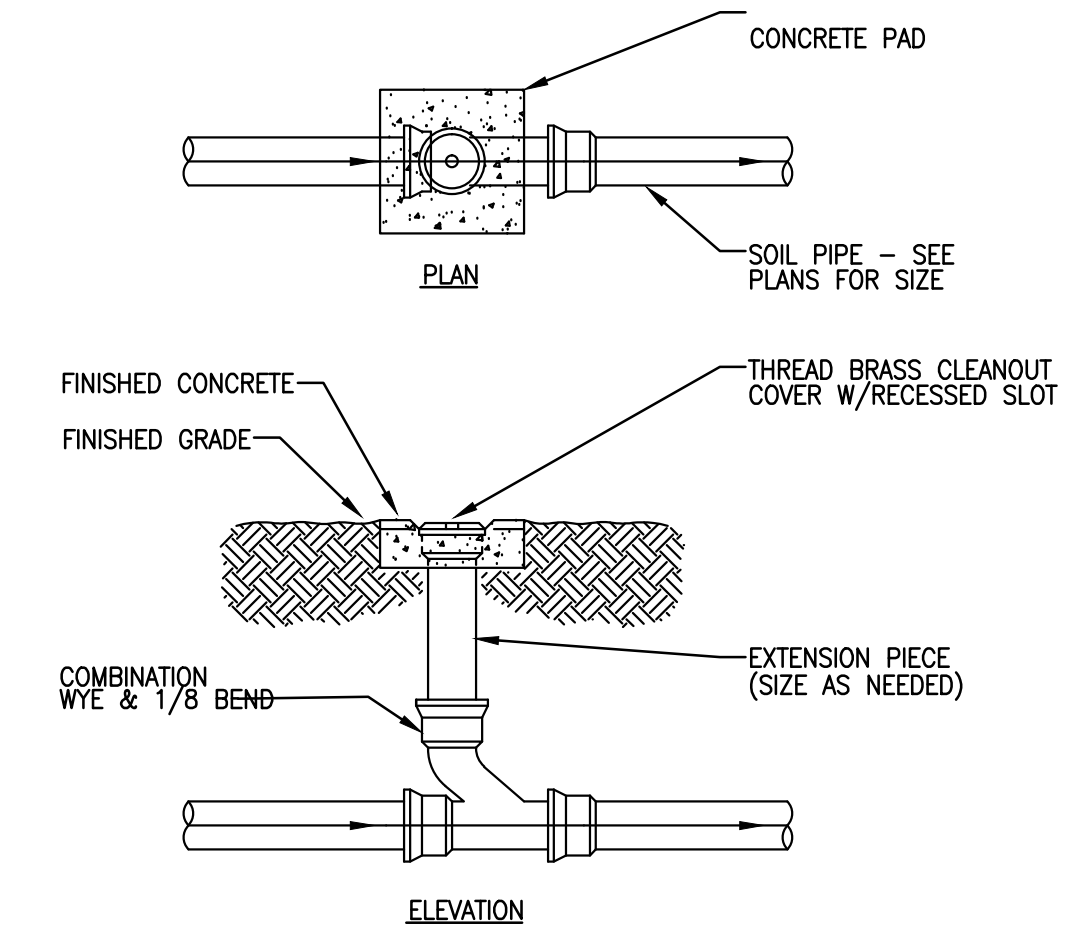
4 FLOOR SINK DETAIL
NTS



3 ELECTRIC WATER HEATER DETAIL
NTS

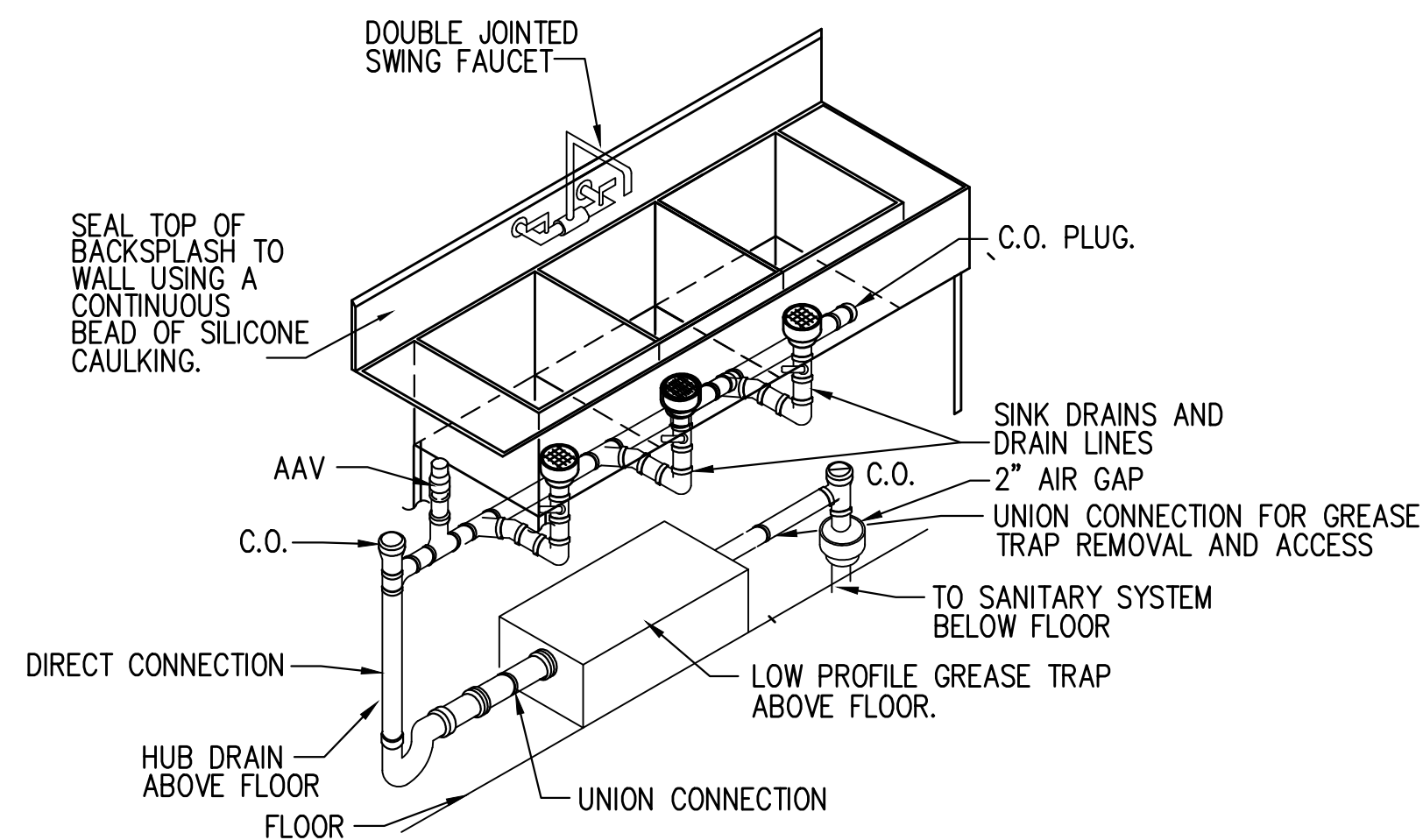


2 TWO WAY CLEAN OUT DETAIL
NTS



1 EXTERIOR CLEAN OUT DETAIL
NTS

- NOTE:**
- UNIONS HAVE BEEN ADDED TO THE GREASE TRAP PIPING TO ALLOW FOR REMOVAL FROM BELOW SINK AND CLEANING.
 - GREASE TRAP FLOW CONTROL VALVE IS NOT REQUIRED FOR UNDER SINK INSTALLATION. SEE ADDED MANUFACTURER'S INSTALLATION INFORMATION.



5 GREASE TRAP DETAIL
NTS

PLUMBING FIXTURE SCHEDULE								
MARK	FIXTURE	WASTE	TRAP	VENT	COLD WATER	HOT WATER	MANUFACTURER / MODEL #	DESCRIPTION
FDS-1	FOOD SINK	1-1/2"	1-1/4"	1-1/2"	1/2"	1/2"	BK RESOURCES BK5-1-1620-12S	16"x20"x12" Compartment Sink w/ 5/8" Legs
HS-1	HAND SINK	1-1/2"	1-1/4"	1-1/2"	1/2"	1/2"	BK RESOURCES BKHS-W-1410-40-S	Wall Mount Hand Sink 14"x10"x5" Bowl w/ Faucet
3CS-1	3 COMPARTMENT SINK	3"	3"	1-1/2"	1/2"	1/2"	ALLSTRONG SE10143D	PROVIDE SERVICE FAUCET
FD-1	FLOOR DRAIN	2"	-	-	-	-	J.R. SMITH 2005-B	DRAIN WITH TRAP PRIMER CONNECTION, POLISHED BRONZE COVER, 2" OUTLET. PROVIDE ALL FLOOR DRAINS WITH TRAP PRIMER VALVES
FS-1	FLOOR SINK	2"	-	-	-	-	J.R. SMITH 3430-12	12"x12"x8", 1/2" GRATE FLOOR SINK WITH 2" OUTLET.
WHA-1	WATER HAMMER ARRESTOR	-	-	-	1/2"	-	SIJUX CHIEF #650 SERIES	SIZE PER MANUFACTURER'S RECOMMENDATIONS. FOR CERTIFIED: WHA-1: SIZE "M" WHA-2: SIZE "B" REFER TO SPECIFICATION FOR SELECTION METHOD.
WCO-1	WALL CLEAN-OUT	SIZE/SEE DWG.	-	-	-	-	ZURN Z144 B	CAST IRON CLEAN-OUT TEL, DURA COATED BODY, GAS AND WATERTIGHT ABS TAPERED THREAD PLUG AND ROUND, SMOOTH STAINLESS STEEL WALL ACCESS COVER WITH SECURING SCREW.
MV-1	MIXING VALVE STATION	-	-	-	1/2"	1/2"	SYMMONS T-210-CW	THERMOSTATIC CONTROLLER, CHECK STOPS, REMOVABLE CARTRIDGE WITH STRAINER, U.S. PISTON, THERMAL MOTOR, MIN FLOW RATE .5 GPM.
TPV-1	TRAP PRIMER VALVE	-	-	-	1/2"	-	PRECISION PLUMBING PRODUCTS PR-500	PROVIDE FULLY ACCESSIBLE SHUT OFF VALVE TO EACH PRIMER VALVE.

NOTES:

- ALL PLUMBING FIXTURES SHALL BE SUPPLIED WITH WATTS "FLOODSAFE" AUTO-SHUT OFF CONNECTOR TYPE SUPPLY RISERS WITH BRAIDED STAINLESS STEEL CONNECTORS. THIS SHALL INCLUDE ALL FAUCETS

ELECTRIC WATER HEATER SCHEDULE										
UNIT #	TYPE	GALLONS	INPUT KW	GPH REC. @ 70°F RISE	VOLT/PHASE CURRENT DRAW (PER PHASE)	OPERATING WEIGHT (LBS.)	DIMENSIONS	MANUFACTURER		NOTES
								MANUFACTURER	MODEL #	
EWH-1	ELECTRIC	50	4.5	21	208V - 1Ø	134	60 H x 22"Ø	AO SMITH	PNT-50 OR EQUAL	1, 2 & 3

NOTES:

- PROVIDE WITH EXPANSION TANK, T & P VALVE AND WATER HEATER DRAIN PAN.
- COORDINATE WATER HEATER LOCATION AND PIPING WITH MECHANICAL PLANS.
- PROVIDE WATTS NO. WM-26 WALL MOUNTED WATER HEATER RESTRAINT SYSTEM, WITH HEAVY DUTY ANGLE IRON FRAME FOR EACH WATER HEATER.

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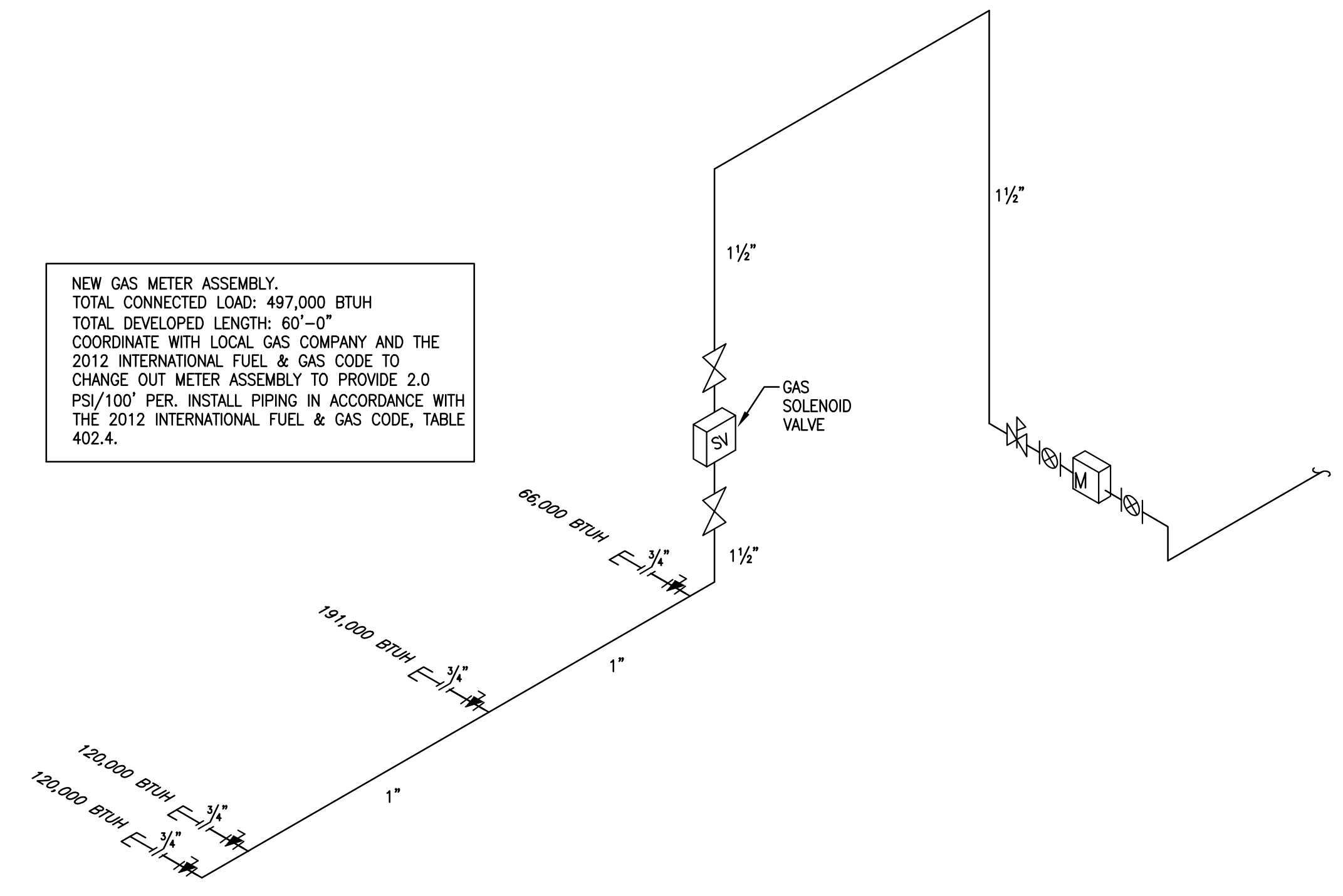
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SCHEDULES PLUMBING	
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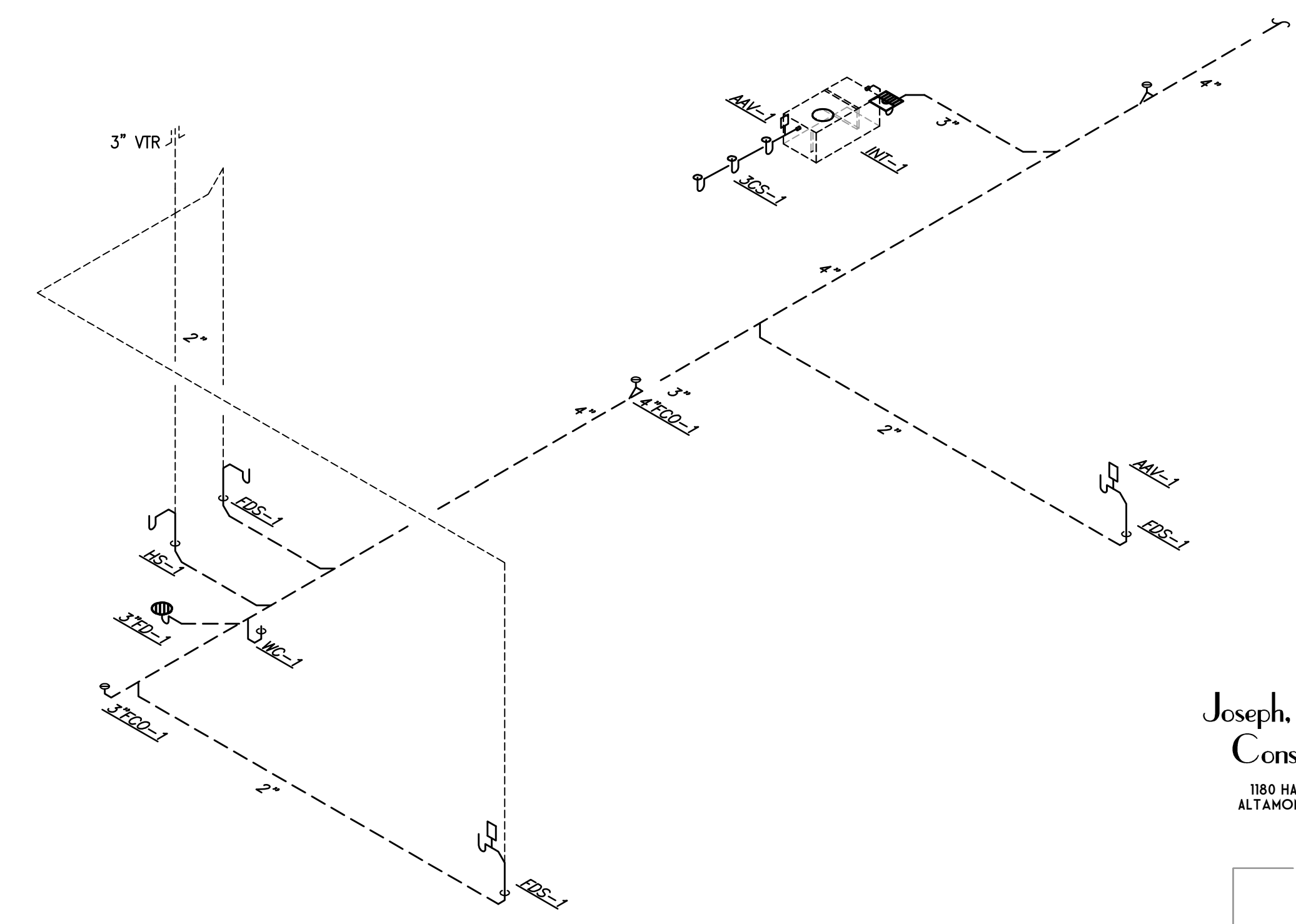
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NEW GAS METER ASSEMBLY.
 TOTAL CONNECTED LOAD: 497,000 BTUH
 TOTAL DEVELOPED LENGTH: 60'-0"
 COORDINATE WITH LOCAL GAS COMPANY AND THE
 2012 INTERNATIONAL FUEL & GAS CODE TO
 CHANGE OUT METER ASSEMBLY TO PROVIDE 2.0
 PSI/100' PER. INSTALL PIPING IN ACCORDANCE WITH
 THE 2012 INTERNATIONAL FUEL & GAS CODE, TABLE
 402.4.



2 GAS ISO - PLUMBING
 N.T.S.



1 SANITARY ISO - PLUMBING
 N.T.S.

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 P.E. # 69124

BELLEVUE RETAIL	
601 BELLEVUE AVE	
ISMETRICS PLUMBING	
Project number	16-020
Date	08/08/2016
Drawn by	MJR/SJB
Checked by	BLS/AJB
P401	
Scale	As indicated

ELECTRICAL LEGEND

WIRING AND POWER

- S. SWITCH
 - (NONE) SINGLE POLE TOGGLE SWITCH
 - 2 TWO POLE TOGGLE SWITCH
 - 3 THREE WAY TOGGLE SWITCH
 - WP SINGLE POLE WEATHERPROOF SWITCH
 - K SINGLE POLE KEYED SWITCH
 - OS OCCUPANCY SENSOR SWITCH
 - M MANUAL MOTOR CONTROLLER W/O OVERLOADS
- S_{abc} LOWER CASE LETTERS INDICATES SWITCHING DESIGNATIONS, QUANTITY OF LETTERS EQUAL QUANTITY OF GANGED SWITCHES
- ⊕ SINGLE RECEPTACLE
 - GFI GROUND FAULT CIRCUIT INTERRUPTER
 - WP WEATHERPROOF
 - IG ISOLATED GROUND
 - C COUNTER HEIGHT (ABOVE COUNTER OR 42" AFF)
- ⊕ DUPLEX RECEPTACLE
 - GFI GROUND FAULT CIRCUIT INTERRUPTER
 - WP WEATHERPROOF
 - IG ISOLATED GROUND
 - C COUNTER HEIGHT (ABOVE COUNTER OR 42" AFF)
 - EWC ELECTRIC WATER COOLER, COORDINATE LOCATION WITH PLUMBING CONTRACTOR
- ⊕ QUADRAPLEX RECEPTACLE
 - GFI GROUND FAULT CIRCUIT INTERRUPTER
 - WP WEATHERPROOF
 - IG ISOLATED GROUND
 - C COUNTER HEIGHT (ABOVE COUNTER OR 42" AFF)
- ⊕ SPECIAL RECEPTACLE
 - X TYPE X (SEE RECEPTACLE SCHEDULE)
 - C COUNTER HEIGHT
- PP POWER POLE
- ⊕ RECESSED FLOOR MOUNTED DUPLEX RECEPTACLE
- ⊕ SURFACE-MOUNTED FLOOR DUPLEX RECEPTACLE
- ⊕ CEILING-MOUNTED DUPLEX RECEPTACLE
- ⊕ PLUG MOLD
 - C COUNTER HEIGHT
- J JUNCTION BOX
- DISCONNECT SWITCH
- DISCONNECT SWITCH - WEATHERPROOF (NEMA 3R)
- F FUSED DISCONNECT SWITCH
- MAGNETIC MOTOR STARTER
- COMBINATION FUSED DISCONNECT/MAGNETIC STARTER SWITCH
 - HOA HAND/OFF/AUTO
 - SS START/STOP
- M MANUAL STARTER
- VSD COMBINATION VARIABLE SPEED DRIVE AND DISCONNECT
- VSD VARIABLE SPEED DRIVE
- EF-1 MOTOR WITH DESIGNATOR
- TC TIME CLOCK
- WH WATER HEATER
- HVP1-6 BRANCH CIRCUIT HOME RUN WITH PANEL NAME AND CIRCUIT NUMBER, QUANTITY OF ARROWHEADS DENOTES QUANTITY OF BRANCH CIRCUITS
- BRANCH CIRCUIT WIRING, PROVIDE QUANTITIES OF CONDUCTORS REQUIRED FOR CIRCUITING AND SWITCHING INDICATED
- POWER LEG ONLY (NO SWITCH LEG BETWEEN ROOMS)
- MUSHROOM HEAD PUSH BUTTON (EMERGENCY STOP)
- R RELAY
- GROUND ROD
- T TRANSFORMER
- T_K TYPE "K" TRANSFORMER
- UH ELECTRIC UNIT HEATER (FURNISHED UNDER DIV 15 UNLESS NOTED OTHERWISE)

PANELS

- XXX NEW ELECTRICAL PANEL
- MDP MAIN DISTRIBUTION PANEL (SEE PANEL SCHEDULE)
- TVSS TRANSIENT VOLTAGE SURGE SUPPRESSION
- ATS AUTOMATIC TRANSFER SWITCH
- XXX ELECTRICAL SYSTEMS PANEL
- SACP SECURITY ALARM CONTROL PANEL
- FACP FIRE ALARM CONTROL PANEL
- MC MASTER CLOCK CONTROL PANEL
- PA PUBLIC ADDRESS CONTROL PANEL
- FAAP FIRE ALARM ANNUNCIATOR PANEL

LIGHTING

- XX LIGHTING FIXTURE (SEE LIGHTING FIXTURE SCHEDULE FOR LETTER DESIGNATION AND DESCRIPTION OF FIXTURES)
- EMERGENCY/NIGHT LIGHT LIGHTING FIXTURE
- EXIT LIGHTING FIXTURE UNIVERSAL MOUNT, SINGLE/DOUBLE FACE (WHERE USED, ARROW INDICATES CHEVRON DIRECTION)
- BATTERY POWERED EMERGENCY LIGHT
- EMERGENCY LIGHT REMOTE HEAD
- TK TRACK LIGHTING
- △ TRACK LIGHTING HEAD
- WG WIRE CAGE LIGHT GUARD
- OS OCCUPANCY SENSOR - CEILING MOUNTED
- OSC OCCUPANCY SENSOR - CEILING MOUNTED - CORRIDOR
- OSW OCCUPANCY SENSOR - WALL MOUNTED
- LC LIGHTING CONTACTOR
- PC PHOTOCELL
- S. SWITCH
 - OS OCCUPANCY SENSOR SWITCH
 - D DIMMER
 - D3 THREE WAY DIMMER (INCANDESCENT)

FIRE ALARM SYSTEMS

- F FIRE ALARM PULL STATION
- F FIRE ALARM HORN
- F FIRE ALARM HORN AND STROBE COMBINATION
- F WP FIRE ALARM HORN AND STROBE COMBINATION, WEATHERPROOF
- FS FIRE ALARM SPEAKER
- FS FIRE ALARM SPEAKER AND STROBE COMBINATION
- F FIRE ALARM STROBE
- S SMOKE DETECTOR
- H HEAT DETECTOR
- DD DUCT DETECTOR
- RTS REMOTE TEST STATION FOR DUCT DETECTOR
- FSR FIRE ALARM SHUT DOWN RELAY
- D FIRE DOOR HOLD OPEN
- AREA OF RESCUE CALL STATION
- ADA AREA OF RESCUE MASTER TELEPHONE STATION

TELECOMMUNICATIONS

- DATA/COMM OUTLET
- TELEVISION OUTLET
- SPEAKER

NOTE:
SYMBOLS SHOWN ON THIS ELECTRICAL LEGEND ARE FOR REFERENCE PURPOSES ONLY. ALL OF THESE SYMBOLS MAY NOT BE USED FOR THIS PROJECT.

ABBREVIATIONS

- A - AMPERES
- A/C - AIR CONDITIONING
- AC - ALTERNATING CURRENT
- AFF - ABOVE FINISHED FLOOR
- AFG - ABOVE FINISHED GRADE
- AHU - AIR HANDLING UNIT
- AWG - AMERICAN WIRE GAUGE
- C - CONDUIT
- CFL - COMPACT FLUORESCENT LAMP
- CH - COUNTER HEIGHT
- CONC - CONCRETE
- COND - CONDUIT
- CU - COPPER
- DISC - DISCONNECT
- ECB - ENCLOSED CIRCUIT BREAKER
- ELEC - ELECTRICAL
- EM - EMERGENCY
- EMS - ENERGY MANAGEMENT SYSTEM
- EMT - ELECTRICAL METALLIC TUBING
- EF - EXHAUST FAN
- EWC - ELECTRIC WATER COOLER
- ETR - EXISTING TO REMAIN
- EX - EXISTING
- FA - FIRE ALARM
- FACP - FIRE ALARM CONTROL PANEL
- FPL - FLORIDA POWER AND LIGHT
- G - GROUND
- GFI - GROUND FAULT INTERRUPTER
- GND - GROUND
- GRC - GALVANIZED RIGID CONDUIT
- H.I.D. - HIGH INTENSITY DISCHARGE
- HVAC - HEATING, VENTILATING AND AIR CONDITIONING
- I.G. - ISOLATED GROUND
- J - JUNCTION
- KAIC - (THOUSAND) AMPERE INTERRUPTING CAPACITY
- KVA - KILOVOLT-AMPERES
- KW - KILOWATT
- LTC - LIGHTING
- MCM - THOUSANDS OF CIRCULAR MILS
- MCU - MASTER CONTROL UNIT
- MCP - MOTOR CIRCUIT PROTECTION
- MH - METAL HALIDE
- N - NEUTRAL
- NA - NOT APPLICABLE
- NF - NON-FUSED
- NL - NIGHT LIGHT
- NEC - NATIONAL ELECTRICAL CODE
- NEMA - NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
- NFPA - NATIONAL FIRE PROTECTION ASSOCIATION
- NIC - NOT IN CONTRACT
- O.C. - ON CENTER
- O.F.C.I. - OWNER FURNISHED CONTRACTOR INSTALLED
- P - POLE
- PNL - PANELBOARD
- PVC - POLYVINYL CHLORIDE
- RM - ROOM
- RCS - RIGID GALVANIZED STEEL
- SPEC - SPECIFICATION
- SS - STAINLESS STEEL
- TVSS - TRANSIENT VOLTAGE SURGE SUPPRESSION
- TYP - TYPICAL
- UON - UNLESS OTHERWISE NOTED
- V - VOLTS
- W - WIRE
- WP - WEATHERPROOF

GENERAL NOTES

- 1) ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE (NFPA 70), AND THE LATEST ADOPTED EDITION OF THE FLORIDA BUILDING CODE.
 - 2) CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS AND COORDINATE WITH EXISTING EQUIPMENT PRIOR TO BIDDING.
 - 3) ALL ELECTRICAL MATERIALS, DEVICES, APPLIANCES, AND EQUIPMENT SHALL BE LABEL LISTED BY AN APPROVED THIRD-PARTY TESTING AGENCY.
- BUILDING:**
- 4) INSTALLATION HEIGHT OF EQUIPMENT (TO CENTERLINE) ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE SHALL BE:
 - RECEPTACLE = 18"
 - CLOCK = 7'-6"
 - SWITCH = 44"
 - MODULAR JACK FOR WALL MOUNTED TELEPHONE = 52"
 - MODULAR TELEPHONE JACK = 18"
 - AUDIO/VISUAL FIRE ALARM INDICATORS = 80"
 - FIRE ALARM PULL STATIONS = 50"
 - TELEVISION OUTLET = 84"
 - COMPUTER OUTLET = 18"
 - CALL SWITCH = 44"
 - REMOTE TEST STATION FOR DUCT DETECTOR = 52"
 - C = ABOVE COUNTER BACKSPASH, COORDINATE WITH ARCHITECTURAL ELEVATIONS AND MILLWORK.
 - 5) ALL CONDUIT AND WIRING SHALL BE CONCEALED IN WALLS OR ABOVE CEILINGS UNLESS NOTED OTHERWISE OR APPROVED BY THE ARCHITECT/ENGINEER. ALL DEVICE OUTLET BOXES SHALL BE RECESSED UNLESS NOTED OTHERWISE OR APPROVED BY THE ARCHITECT/ENGINEER. WHERE APPROVED OR NOTED SURFACE METAL RACEWAY AND DEVICE BOXES SHALL BE USED IN LIEU OF CONDUIT AND CONCEALED BOXES AT NO EXTRA COST TO THE OWNER.
 - 6) ALL CONDUIT ROUTES SHOWN ARE APPROXIMATE ONLY. CONTRACTOR SHALL FIELD VERIFY FINAL ROUTE.
 - 7) CONDUIT RUNS SHOWN ARE SCHEMATIC AND DO NOT INDICATE THE NECESSARY FITTINGS AND JUNCTION BOXES THAT ARE INCLUDED IN THE SCOPE OF THE WORK.
 - 8) CONTRACTOR SHALL PERMANENTLY IDENTIFY ALL WIRING WITH THE SOURCE AND CIRCUIT AT ALL ELECTRICAL EQUIPMENT, PULL AND JUNCTION BOXES AND ELECTRICAL TERMINATIONS PROVIDED OR ASSOCIATED WITH THIS CONSTRUCTION.
 - 9) CONTRACTOR SHALL PATCH AND REPAIR ALL DAMAGED SURFACES AND AREAS WHERE EQUIPMENT WAS REMOVED OR MODIFIED, TO MATCH EXISTING CONDITIONS.
 - 10) ALL ABANDONED AUDIO OR CONTROL CABLES SHALL BE REMOVED. ALL BOX OR EQUIPMENT OPENINGS SHALL BE CLOSED WITH LISTED CLOSURE DEVICE AS APPROVED BY THE EQUIPMENT MANUFACTURER.
 - 11) WHERE EXISTING EQUIPMENT OR MATERIALS ARE REMOVED OR CHANGED, ALL BRANCH CONDUITS WHICH NO LONGER ARE IN SERVICE, SHALL BE REMOVED AS DIRECTED BY THE ENGINEER. IF, IN THE COURSE OF THIS WORK, OUTLETS ARE COVERED UP OR OTHERWISE RENDERED INACCESSIBLE, ALL WIRING TO SAME SHALL BE REMOVED TO THE SOURCE. IF A CIRCUIT THAT MUST REMAIN IN SERVICE IS INTERRUPTED THEREBY, IT SHALL BE RECONNECTED BY THE MOST INCONSPICUOUS MEANS SO AS TO REMAIN OPERATIONAL, WITH THE SAME CAPACITY AS BEFORE. ALL BUILDING SURFACES DAMAGED, AND OPENINGS LEFT BY REMOVAL OF BOXES, PIPING OR OTHER EQUIPMENT SHALL BE REPAIRED BY THE CONTRACTOR. ALL HOLES LEFT IN JUNCTION BOXES, SWITCHES, PANELS, ETC. SHALL BE CLOSED.
 - 12) ALL REUSABLE DEVICES, FIXTURES AND EQUIPMENT SHALL BECOME THE PROPERTY OF THE OWNER. ALL OTHER SALVAGE AND DEBRIS SHALL BE REMOVED FROM THE PREMISES DAILY.
 - 13) THIS CONTRACTOR SHALL FURNISH AND PROVIDE ALL DEMOLITION REQUIRED TO ACCOMMODATE THIS PROJECT WHETHER INDICATED ON DRAWINGS, OR DIRECTED IN THE FIELD.
- GROUNDING:**
- 14) ALL METAL RACEWAYS, INCLUDING CONDUIT, WIRE TROUGHS, WIREMOLD, ETC., SHALL BE GROUNDED. ALL CONNECTIONS IN METAL RACEWAYS SHALL BE COMPLETED IN SUCH A MANNER AS TO MAINTAIN A CONTINUOUS PATH TO GROUND THROUGHOUT THE ENTIRE LENGTH OF THE RACEWAY.
- WIRING:**
- 15) UNLESS NOTED OTHERWISE ON THE DRAWINGS OR ON THE EQUIPMENT WIRING SCHEDULE, EACH BRANCH CIRCUIT HOME RUN SHALL BE THREE (3) #12 AWG THHN/THWN (1 HOT, 1 NEUTRAL & 1 EQUIPMENT GROUND) IN 3/4" EMT CONDUIT. PROTECT EACH CIRCUIT WITH A 20 AMPERE, 1-POLE OVERCURRENT DEVICE UNLESS NOTED OTHERWISE. COMBINED NEUTRALS ARE NOT PERMITTED.
- EXISTING DEVICES TO REMAIN:**
- 16) UNLESS OTHERWISE NOTED:
 - a. ON DEMOLITION AND NEW WORK PLANS - DEVICES AND EQUIPMENT SHOWN IN LIGHT LINETYPE ARE EXISTING TO REMAIN.
 - b. ON DEMOLITION PLANS - DEVICES AND EQUIPMENT SHOWN IN DARK LINETYPE ARE EXISTING TO BE REMOVED
 - c. ON NEW WORK PLANS - DEVICES AND EQUIPMENT SHOWN IN DARK LINETYPE ARE NEW.

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Revision Schedule		
Revision Number	Revision Description	Revision Date

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JLC16.0172.00

Blake Lawrence Suddeth
P.E. #: 69060

BELLEVUE RETAIL
601 BELLEVUE AVE
SYMBOL LEGEND
ELECTRICAL

Project number	16-020
Date	08/08/2016
Drawn by	MJR/SJB
Checked by	BLS/AJB

E001

Scale As indicated

GENERAL KITCHEN NOTES:

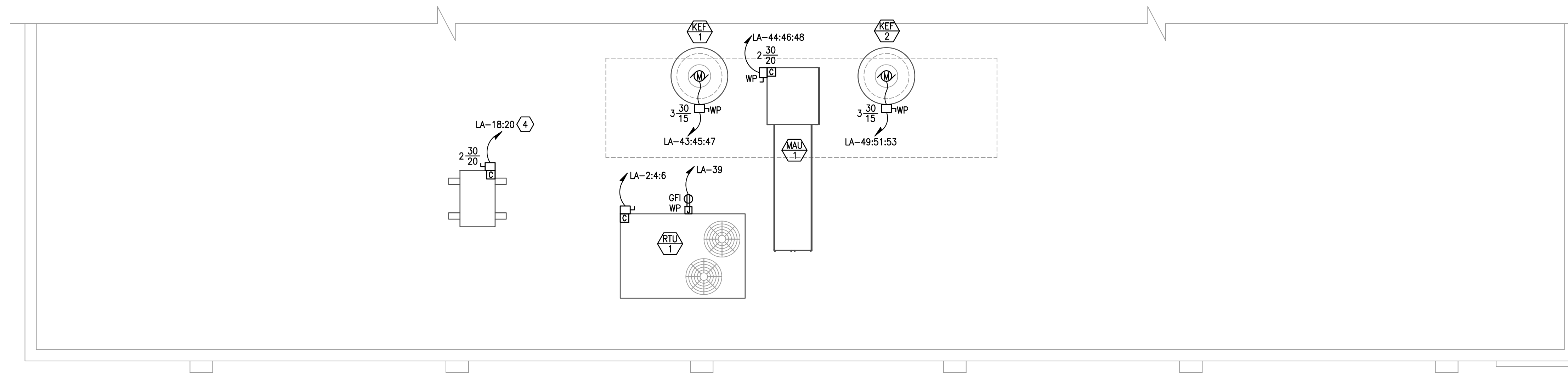
- A. REFER TO "KITCHEN EQUIPMENT SCHEDULE" FOR DESCRIPTION AND POWER REQUIREMENTS OF EACH DEVICE IN KITCHEN. COORDINATE EXACT LOCATION OF ALL JUNCTION BOXES, RECEPTACLES, ETC. WITH KITCHEN EQUIPMENT VENDOR PRIOR TO ROUGH-IN.
- B. ALL 15AMP & 20AMP RECEPTACLES IN KITCHEN AND BAR AREA SHALL BE GFCI PROTECTED PER NEC 210.8(B)2.
- C. DIVISION 16 CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS TO KITCHEN EQUIPMENT, FURNISH AND INSTALL ALL JUNCTION BOXES, RECEPTACLES, COVER PLATES, PULL BOXES, CONDUIT AND WIRING AS REQUIRED. COORDINATE WITH FOOD SERVICE DRAWINGS AND MANUFACTURER'S INSTRUCTIONS FOR LOCATION OF ALL EQUIPMENT CONNECTION LOCATIONS AND REQUIREMENTS.
- D. DIVISION 16 CONTRACTOR SHALL PULL ALL LOW VOLTAGE WIRING FOR POS SYSTEM, PHONE, AND SECURITY CAMERAS. COORDINATE WITH OWNER'S VENDOR.
- E. FLEXIBLE CONDUIT INSTALLED IN KITCHEN FOR FINAL EQUIPMENT CONNECTION SHALL BE LIQUID TIGHT CONDUIT WITH NEOPRENE JACKET.
- F. INTERCONNECT DEFROST TIMERS ON WALK-IN EVAPORATOR COILS TO REMOTE COMPRESSORS PER MANUFACTURER'S INSTRUCTIONS.
- G. ENCLOSURES FOR ALL ELECTRICAL PANELS, CIRCUIT BREAKER ENCLOSURES, DISCONNECT SWITCHES, WALL SWITCHES, CONTACTOR ENCLOSURES, PUSHBUTTONS, ETC WITHIN KITCHEN AREA SHALL BE FOOD GRADE, RECESSED MOUNTED, UNLESS OTHERWISE NOTED.

GENERAL NOTES:

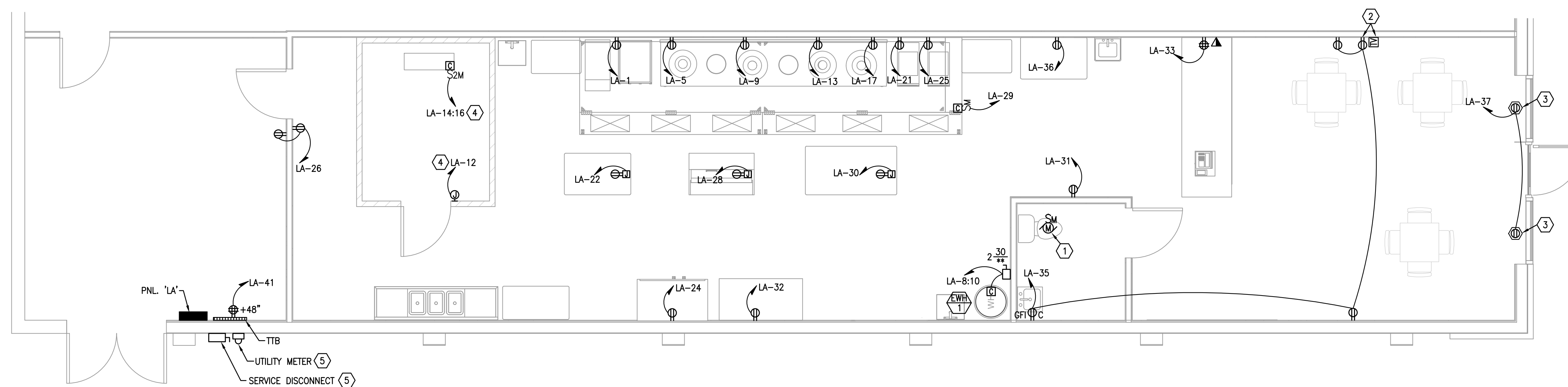
- A. DO NOT SCALE ELECTRICAL DRAWING FOR ANY DIMENSIONS.
- B. ALL WORK SHALL COMPLY WITH THE 2011 NATIONAL ELECTRIC CODE, NATIONAL, STATE AND LOCAL CODES. PROVIDE GROUNDING AND BONDING PER NEC 250.
- C. SEE SINGLE LINE DIAGRAM FOR FEEDER WIRE AND CONDUIT SIZE. ALL CIRCUITS NOT SIZED ON DRAWING SHALL BE INSTALLED TO MEET MINIMUM SIZE REQUIRED BY NEC. ALL CONDUCTORS SHALL HAVE AN EQUIPMENT GROUND WIRE SIZED PER NEC.
- D. FIELD VERIFY EXACT LOCATION OF ALL DEVICES AND EQUIPMENT PRIOR TO ROUGH IN.

REFERENCE NOTES: (X)

- (1) CONNECT 120V FRACTIONAL HORSEPOWER BATHROOM EXHAUST FAN TO LOCAL LIGHTING CIRCUIT AND CONTROLS. FAN SHALL OPERATE SIMULTANEOUSLY WITH ROOM LIGHTS.
- (2) PROVIDE 120V RECEPTACLE AND TELEVISION OUTLET FOR WALL MOUNTED TELEVISION. COORDINATE MOUNTING HEIGHT AND LOCATION WITH OWNER/EQUIPMENT INSTALLER PRIOR TO ROUGH-IN.
- (3) PROVIDE "SHOW WINDOW" RECEPTACLE MOUNTED PER N.E.C. ARTICLE 210.62.
- (4) COORDINATE ALL WALK-IN COOLER REQUIREMENTS WITH COOLER INSTALLER PRIOR TO ROUGH-IN. PROVIDE ALL ELECTRICAL REQUIRED FOR A COMPLETE INSTALLATION.
- (5) COORDINATE LOCATION WITH BUILDING OWNER AND UTILITY COMPANY PRIOR TO ROUGH-IN. REFER TO POWER RISER DIAGRAM FOR ADDITIONAL INFORMATION.



2 ROOF PLAN - ELECTRICAL
1/4" = 1'-0"



1 FLOOR PLAN - POWER AND SYSTEMS
1/4" = 1'-0"

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BELLEVUE RETAIL
601 BELLEVUE AVE
FLOOR PLANS
ELECTRICAL

Project number	16-020
Date	08/08/2016
Drawn by	MJR/SJB
Checked by	BLS/AJB

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Blake Lawrence Suddeth
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E201

Scale As indicated

GENERAL NOTES:

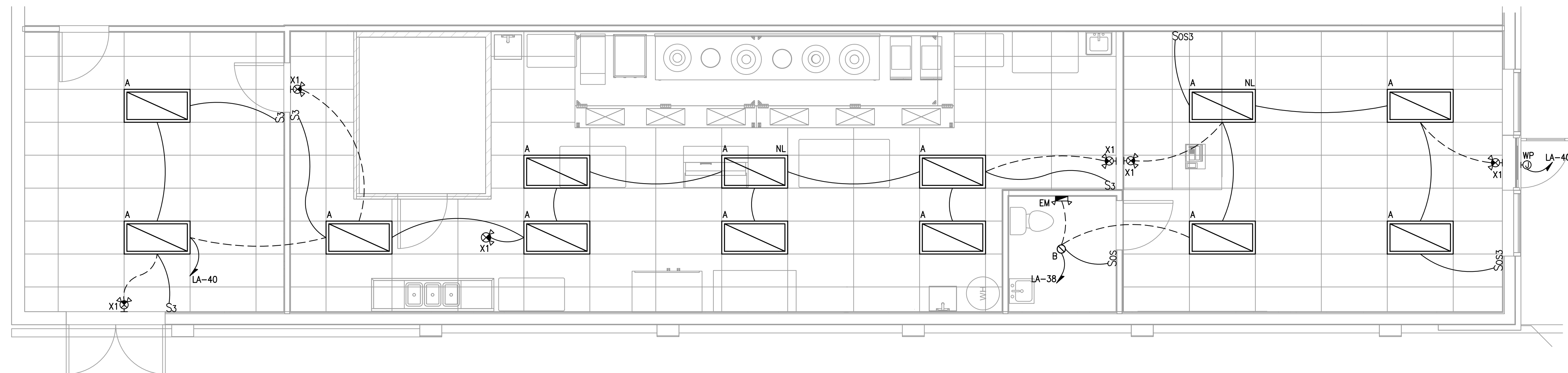
- A. SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT FIXTURE LOCATIONS AND ORIENTATIONS.
- B. REFER TO ARCHITECTURAL ELEVATIONS AND SECTIONS FOR ADDITIONAL LIGHTING FIXTURE MOUNTING DETAILS AND INFORMATION.
- C. ALL EMERGENCY LIGHTING FIXTURES AND EXIT SIGNS SHALL BE CONNECTED "HOT" TO THE INDICATED LOCAL LIGHTING CIRCUIT.
- D. VERIFY ALL MOUNTING HEIGHTS AND PENDANT LENGTHS WITH ARCHITECT AND ENGINEER PRIOR TO ORDERING FIXTURES.
- E. EMERGENCY ILLUMINATION SHALL BE PROVIDED FOR A PERIOD OF 90 MINUTES IN THE EVENT OF FAILURE OF NORMAL LIGHTING. EMERGENCY LIGHTING FACILITIES SHALL BE ARRANGED TO PROVIDE INITIAL ILLUMINATION THAT IS AT LEAST AN AVERAGE OF 1 FOOTCANDLE (10 LUX) AND A MINIMUM AT ANY POINT OF 0.1 FOOTCANDLE (1 LUX) MEASURED ALONG THE PATH OF EGRESS AT FLOOR LEVEL. ILLUMINATION LEVELS SHALL BE PERMITTED TO DECLINE TO 0.6 FOOTCANDLE (6 LUX) AVERAGE AND A MINIMUM AT ANY POINT OF 0.06 FOOTCANDLE (0.6 LUX) AT THE END OF THE EMERGENCY LIGHTING TIME DURATION. A MAXIMUM-TO-MINIMUM ILLUMINATION UNIFORMITY RATIO OF 40:1 SHALL NOT BE EXCEEDED.

REFERENCE NOTES: (X)

- (1) PROVIDE WEATHERPROOF JUNCTION BOX WITH 120V CONNECTION FOR SIGNAGE. CONNECT SIGNAGE VIA TIMECLOCK FOR AUTOMATIC CONTROL. COORDINATE TIMECLOCK LOCATION AND REQUIREMENTS WITH OWNER PRIOR TO ROUGH-IN.

LIGHTING FIXTURE SCHEDULE

MARK	DESCRIPTION	MANUFACTURER	MODEL	VOLTS	LAMP			FIXTURE WATTS
					QTY	WATTS	MODEL	
A	2'x4' FLOURESCENT, GRID MOUNTED WITH PRISMATIC ACRYLIC LENS	COLUMBIA	JT824-332G-FSA12-EU	120	3	32	T8	96
B	6" LED DOWNLIGHT WITH 1400 LUMEN OUTPUT AND 4000K COLOR TEMP	PRESCOLITE	LC6LED120-6LCLED640K8WT	120	1	21	LED	21
EM	WALL MOUNTED EMERGENCY LIGHT WITH TWIN ADJUSTABLE HEADS AND BATTERY BACKUP	DUAL LITE	EY-2	120	2	2	LED	4
X1	SINGLE FACE EXIT SIGN WITH RED LETTERS, TWIN ADJUSTABLE HEADS AND BATTERY BACKUP	DUAL LITE	EVC-U-R-W	120	2	2	LED	4



1 FLOOR PLAN - LIGHTING
1/4" = 1'-0"

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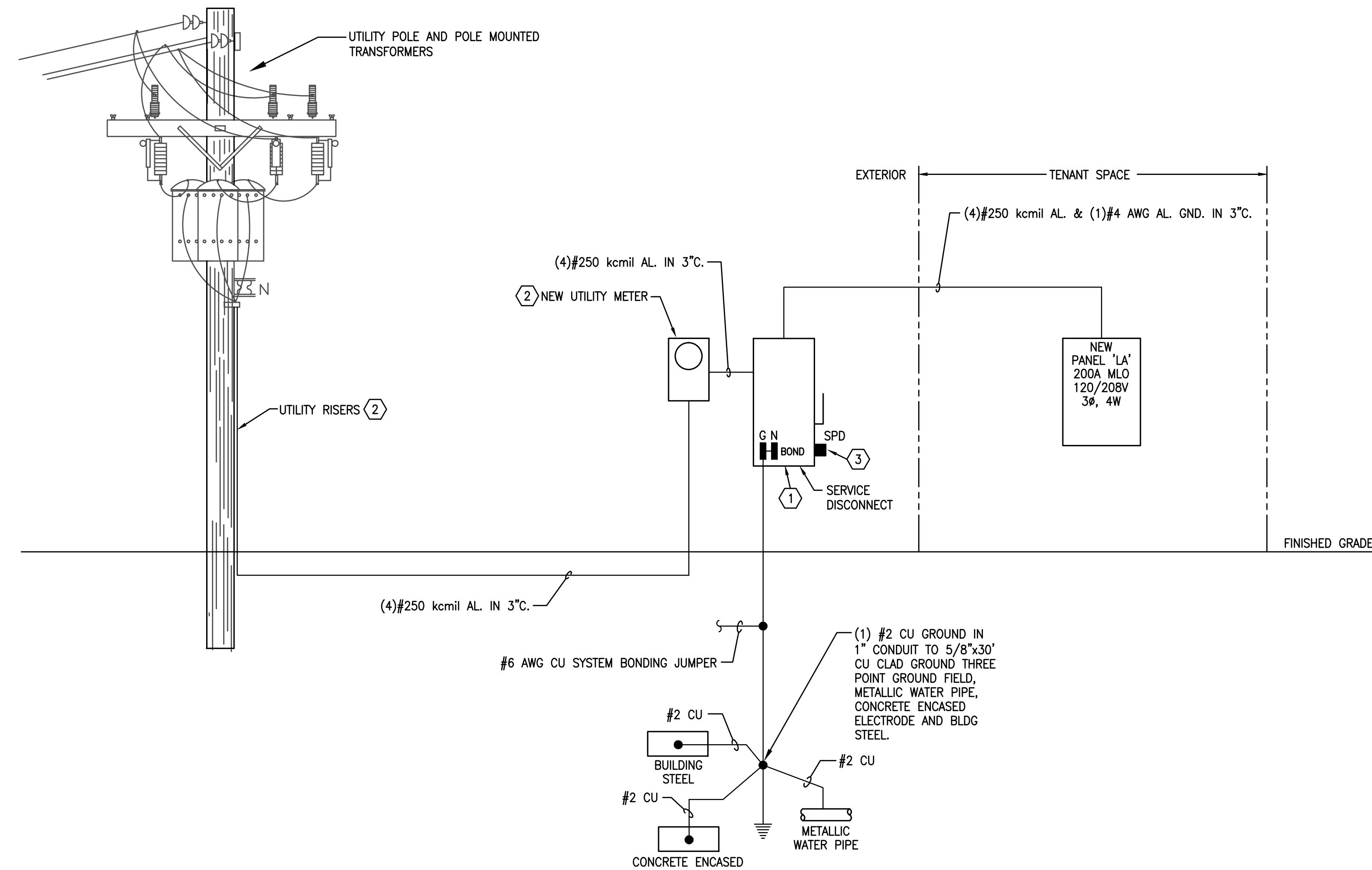
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BELLEVUE RETAIL
601 BELLEVUE AVE
FLOOR PLAN LIGHTING

Project number	16-020
Date	08/08/2016
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E202	
Scale	As indicated



1 Power Riser Diagram

No Scale

GENERAL NOTES:

- A. DO NOT SCALE ELECTRICAL DRAWING FOR ANY DIMENSIONS.
- B. ALL WORK SHALL COMPLY WITH THE 2011 NATIONAL ELECTRIC CODE, NATIONAL, STATE AND LOCAL CODES. PROVIDE GROUNDING AND BONDING PER NEC 250.
- C. SEE SINGLE LINE DIAGRAM FOR FEEDER WIRE AND CONDUIT SIZE. ALL CIRCUITS NOT SIZED ON DRAWING SHALL BE INSTALLED TO MEET MINIMUM SIZE REQUIRED BY NEC. ALL CONDUCTORS SHALL HAVE AN EQUIPMENT GROUND WIRE SIZED PER NEC.
- D. FIELD VERIFY EXACT LOCATION OF ALL DEVICES AND EQUIPMENT PRIOR TO ROUGH IN.

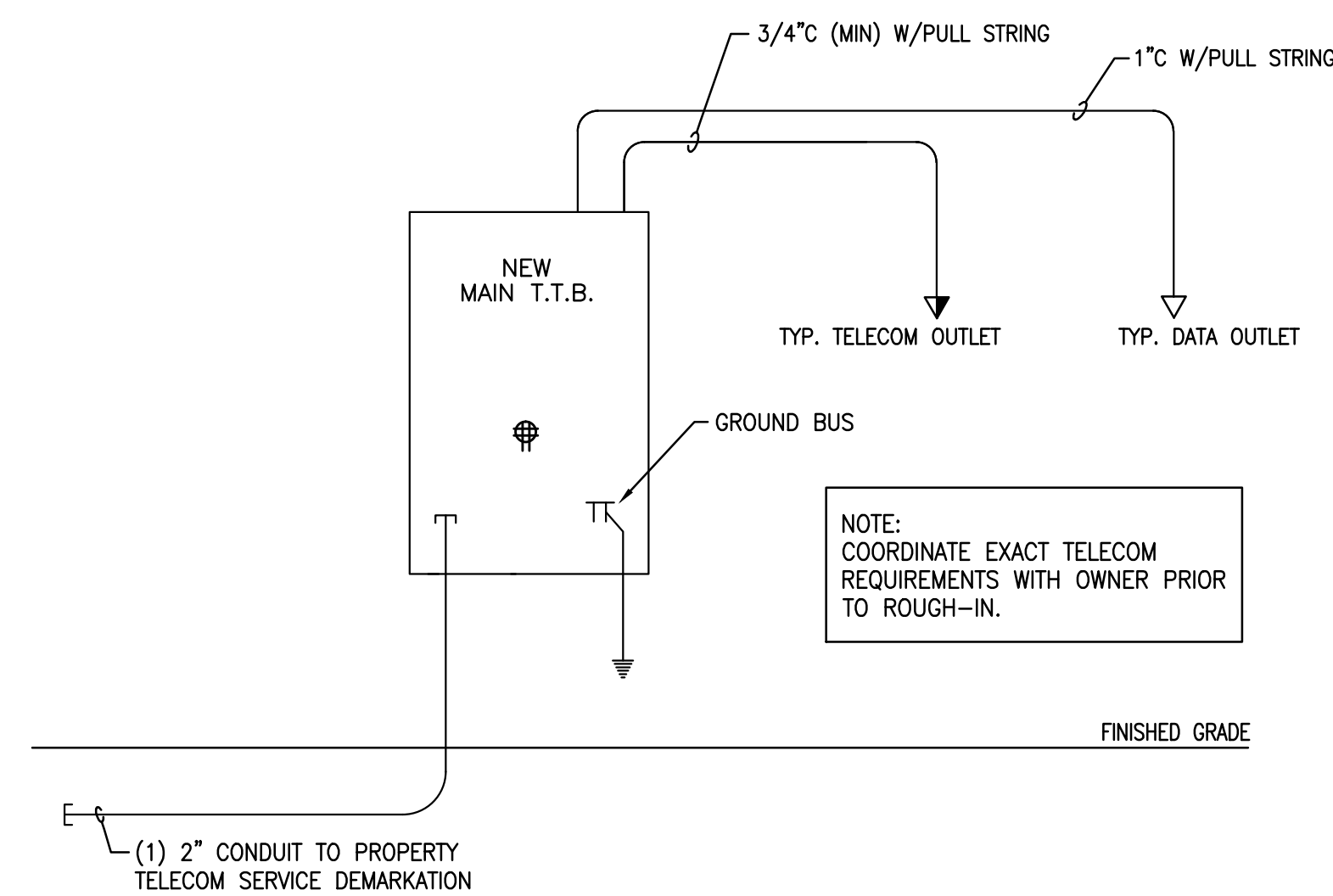
REFERENCE NOTES: (X)

- (1) PROVIDE HEAVY DUTY, 200AMP, 3Ø, 4W, NEMA 3R, SERVICE ENTRANCE RATED DISCONNECT SWITCH FUSED AT 200AMPS FOR NEW UTILITY SERVICE. COORDINATE ALL REQUIREMENTS WITH UTILITY COMPANY PRIOR TO ROUGH-IN.
- (2) CONNECT ALL REQUIREMENTS WITH LOCAL UTILITY COMPANY PRIOR TO ROUGH-IN.
- (3) PROVIDE HARD WIRED SURGE SUPPRESSION UNIT.

NOTE:
PER (FBC C405.7.3):
FEEDERS ARE DESIGNED FOR A MAXIMUM VOLTAGE DROP OF 2% AT DESIGN LOAD.
BRANCH CIRCUITS ARE DESIGNED FOR A MAXIMUM VOLTAGE DROP OF 3% AT DESIGN LOAD.

GENERAL NOTES:

- A. DO NOT SCALE ELECTRICAL DRAWING FOR ANY DIMENSIONS.
- B. ALL WORK SHALL COMPLY WITH THE 2011 NATIONAL ELECTRIC CODE, NATIONAL, STATE AND LOCAL CODES. PROVIDE GROUNDING AND BONDING PER NEC 250.
- C. COORDINATE ALL WORK WITH LOCAL TELEPHONE/TELEVISION SERVICE PROVIDER
- D. COORDINATE EXACT TELECOMMUNICATIONS REQUIREMENTS WITH OWNER PRIOR TO ROUGH-IN.



2 Communications Riser Diagram

No Scale

PANEL 'LA'

LOCATION: TENANT SPACE		VOLTAGE: 208Y/120V 3Ø 4W		MIN. AIC RATING: 22K AIC		NOTES: PROVIDE TYPED WRITTEN DIRECTORY PROVIDE GROUND & NEUTRAL BUS											
TYPE: SQUARE 'D' - TYPE NQ		MAINS: 200A MLO MCB		MOUNTING: SURFACE		ENCLOSURE: NEMA 1											
FED FROM: UTILITY DISC.		LUGS: <input type="checkbox"/> SUB-FEED <input type="checkbox"/> FEED-THRU		PHASE		CIRCUIT DESCRIPTION											
CIRCUIT #	CIRCUIT DESCRIPTION	BRANCH CIRCUIT		BKR	LOAD KVA	PHASE	CIRCUIT DESCRIPTION										
		#	NEUT GND COND														
1	KITCHEN EQUIPMENT	12	12	12	1/2"	20/1	1.00	A	4.22	50/3	8	-	10	1"	RTU-1	2	
3	SHUNT TRIP COIL				////	///			B	4.22	-	8	-	-	-		4
5	KITCHEN EQUIPMENT	12	12	12	1/2"	20/1	1.00	C	4.22	-	8	-	-	-	-		6
7	SHUNT TRIP COIL				////	///			A	2.25	30/2	10	-	10	1/2"	EW-1	8
9	KITCHEN EQUIPMENT	12	12	12	1/2"	20/1	1.00	B	2.25	-	10	-	-	-	-		10
11	SHUNT TRIP COIL				////	///			C	0.50	20/1	12	12	12	1/2"	COOLER	12
13	KITCHEN EQUIPMENT	12	12	12	1/2"	20/1	1.00	A	0.65	20/2	12	-	12	1/2"	COOLER EVAP.	14	
15	SHUNT TRIP COIL				////	///			B	0.65	-	12	-	-	-		16
17	KITCHEN EQUIPMENT	12	12	12	1/2"	20/1	1.00	C	1.30	20/2	12	-	12	1/2"	COOLER COND.	18	
19	SHUNT TRIP COIL				////	///			A	1.30	-	12	-	-	-		20
21	KITCHEN EQUIPMENT	12	12	12	1/2"	20/1	1.00	B	1.00	20/1	12	12	12	1/2"	KITCHEN EQUIPMENT	22	
23	SHUNT TRIP COIL				////	///			C	1.00	20/1	12	12	12	1/2"	KITCHEN EQUIPMENT	24
25	KITCHEN EQUIPMENT	12	12	12	1/2"	20/1	1.00	A	1.00	20/1	12	12	12	1/2"	KITCHEN EQUIPMENT	26	
27	SHUNT TRIP COIL				////	///			B	1.00	20/1	12	12	12	1/2"	KITCHEN EQUIPMENT	28
29	KITCHEN HOOD	12	12	12	1/2"	20/1	0.50	C	1.00	20/1	12	12	12	1/2"	KITCHEN EQUIPMENT	30	
31	RECEPTACLES - GENERAL	12	12	12	1/2"	20/1	0.54	A	1.00	20/1	12	12	12	1/2"	KITCHEN EQUIPMENT	32	
33	POS	12	12	12	1/2"	20/1	0.50	B	-	20/1	-	-	-	-	SPARE	34	
35	RECEPTACLES - GENERAL	12	12	12	1/2"	20/1	0.72	C	0.77	20/1	12	12	12	1/2"	LIGHTS - BOH	36	
37	RECEPTACLES - SHOW WINDOW	12	12	12	1/2"	20/1	0.18	A	0.67	20/1	12	12	12	1/2"	LIGHTS - FOH	38	
39	RECEPTACLES - ROOF	12	12	12	1/2"	20/1	0.36	B	1.20	20/1	12	12	12	1/2"	LIGHTS - SIGNAGE	40	
41	RECEPTACLES - TTB	12	12	12	1/2"	20/1	0.36	C	-	20/1	-	-	-	-	SPARE	42	
43	KEF-1	12	-	12	1/2"	15/3	0.94	A	1.32	20/3	12	-	12	1/2"	MAU-1	44	
45	-	12	-	-	-	-	0.94	B	1.32	-	12	-	-	-	-		46
47	-	12	-	-	-	-	0.94	C	1.32	-	12	-	-	-	-		48
49	KEF-2	12	-	12	1/2"	15/3	0.94	A	-	20/1	-	-	-	-	SPARE	50	
51	-	12	-	-	-	-	0.94	B	-	20/1	-	-	-	-	SPARE	52	
53	-	12	-	-	-	-	0.94	C	-	20/1	-	-	-	-	SPARE	54	
55	SPARE	-	-	-	-	-	20/1	-	A	-	20/1	-	-	-	SPARE	56	
57	SPARE	-	-	-	-	-	20/1	-	B	-	20/1	-	-	-	SPARE	58	
59	SPARE	-	-	-	-	-	20/1	-	C	-	20/1	-	-	-	SPARE	60	
EQUIPMENT SERVED		CONN. LOAD	L.F.	D.F.	DEMAND LOAD												
LIGHTING		2.64 KVA		125%	3.30 KVA												
RECEPTACLES - GENERAL		2.16 KVA		100%	2.16 KVA												
EQUIPMENT		26.76 KVA		100%	26.76 KVA												
KITCHEN EQUIPMENT		19.40 KVA		65%	12.61 KVA												
NOTES:																	
1) NON-COINCIDENTAL LOAD NOT INCLUDED IN LOAD CALCULATION.																TOTAL DEMAND LOAD: 44.83 KVA	
																TOTAL DEMAND AMPS: 124.53 AMPS	

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Revision Schedule		
Revision Number	Revision Description	Revision Date

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BELLEVUE RETAIL
601 BELLEVUE AVE
RISERS AND SCHEDULES ELECTRICAL

Project number 16-020
Date 08/08/2016
Drawn by MJR/SJB
Checked by BLS/AJB

E301

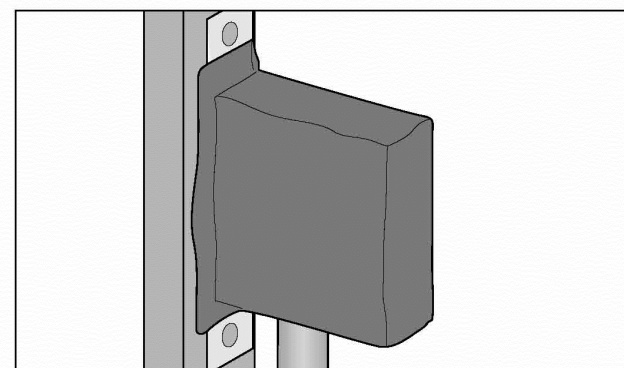
Scale As indicated

Product Information

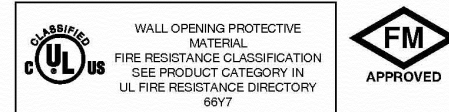


Firestop Putty Pad (CP 617, CP 617L and CP 617XL)

- Product description**
 - A moldable firestop putty designed to help protect electrical outlet boxes
- Product features**
 - Applied by hand
 - Fast installation
- Areas of application**
 - Protection of electrical outlet boxes
- For use with**
 - Gypsum wall assemblies with wood or metal studs

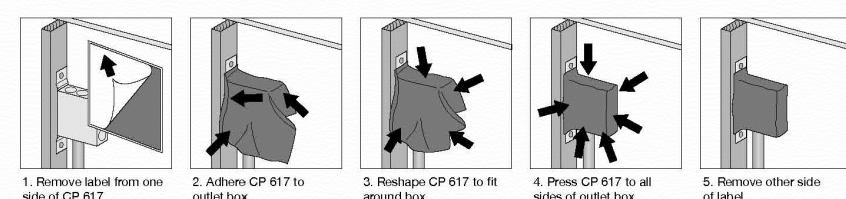


Technical Data*		CP 617
Dimensions (LxWxH)		CP 617: 6" x 7" x 1.8" (15 x 18 x 0.3 cm) CP 617L: 7" x 7" x 1.8" (18 x 18 x 0.3 cm) CP 617XL: 9" x 9" x 1.8" (23 x 23 x 0.3 cm)
Consistency		Moldable putty
Color		Red
Application temperature		40°F (5°C) to 95°F (35°C)
Storage temperature		40°F (5°C) to 104°F (40°C)
Curing time		Non-curing
Density		1.48 g/cm ³
Intumescent activation		Approx. 220°F to 250°F (104°C to 121°C)
Volatiles solvents		None
Asbestos fibers		None
Surface burning characteristics (ASTM E 84-08)		Flame Spread: 10 Smoke development: 10
Sound transmission classification (ASTM E 90-07)		59 (Relates to specific construction)
*Tested in accordance with UL 2053 • ASTM E 84 • ASTM G21		



Installation instructions for CP 617

- Notice**
- Before handling, read Material Safety Data Sheet and product label for safe usage and health information.
 - Instructions below are general guidelines — always refer to the applicable listing (CLIN) in the UL Fire Resistance Directory or Hilti Firestop Systems Guide for complete installation information.
- Application of firestop putty**
- After ensuring box is cleaned of loose debris, dirt, oil, moisture, frost and wax, remove label from one side of pad. For a 1 to 2 hour fire rating, one CP 617 pad is required. Exposed side of pad is placed against box.
 - CP 617 Firestop Putty Pads are to be installed to completely cover the exterior surfaces of the outlet box (except for the side of the outlet box against the stud) and completely seal against the stud within the stud cavity.
 - Remove CP 617 to fit around conduit or cables.
 - Press CP 617 to all sides of electrical box.
 - Remove other side of label.

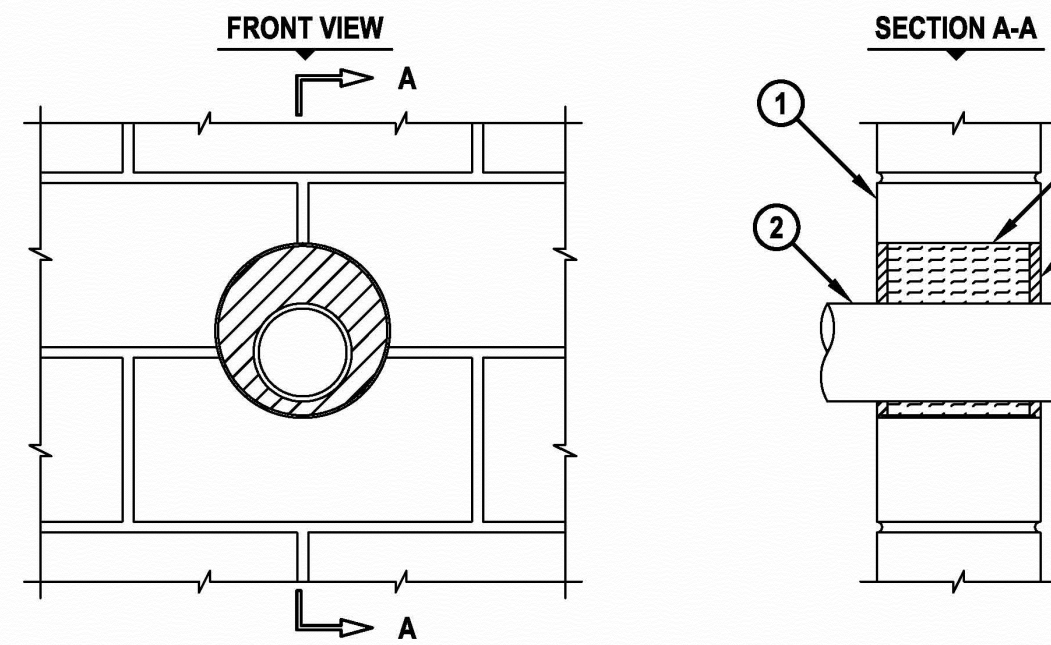


Hilti. Outperform. Outlast.

Hilti, Inc. (U.S.) 1-800-879-8000 • www.us.hilti.com • en español 1-800-879-5000 • Hilti Firestop Systems Guide

**UL/cUL SYSTEM NO. W-J-1020
METAL PIPE THROUGH CONCRETE WALL OR BLOCK WALL**

F-RATING = 2-HR.
T-RATING = 0-HR. OR 1/4-HR.
L-RATING AT AMBIENT = LESS THAN 1 CFM/SQ. FT.
L-RATING AT 400°F = 4 CFM/SQ. FT.

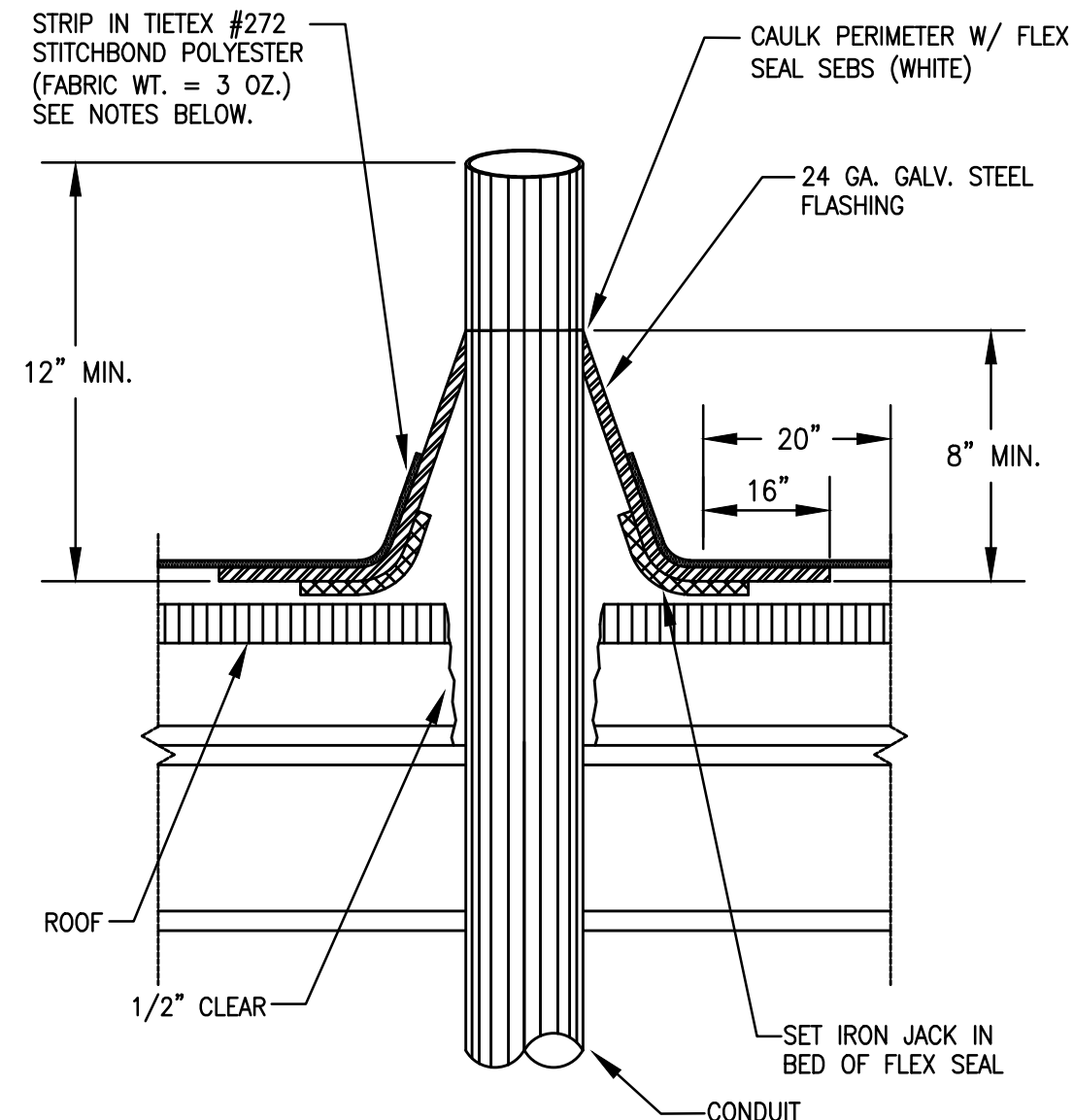


- CONCRETE WALL ASSEMBLY (2-HR. FIRE-RATING):
 - LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE WALL (MIN. 5" THICK).
 - ANY UL/ULC CLASSIFIED CONCRETE BLOCK WALL.
- PENETRATING ITEM TO BE ONE OF THE FOLLOWING:
 - MAXIMUM 4" NOMINAL DIAMETER COPPER PIPE.
 - MAXIMUM 4" NOMINAL DIAMETER STEEL CONDUIT.
 - MAXIMUM 4" NOMINAL DIAMETER EMT.
- MINERAL WOOL (MIN. 4 PCF DENSITY), BACKER ROD, OR HILTI CF 128 FILLER FOAM TO BE USED AS A BACKER.
- HILTI FS-ONE INTUMESCENT FIRESTOP SEALANT:
 - MINIMUM 1/4" DEPTH WHEN EMT OR STEEL CONDUIT IS THE PENETRATING ITEM.
 - MINIMUM 1/2" DEPTH WHEN COPPER PIPE IS THE PENETRATING ITEM.

NOTES: 1. MAXIMUM DIAMETER OF OPENING = 8".
2. ANNULAR SPACE = MINIMUM 3/4", MAXIMUM 3-1/2".
3. FOR HOLLOW BLOCK WALLS, USE NO. 8 STEEL WIRE MESH TO AID IN THE INSTALLATION.

HILTI FIRESTOP SYSTEMS	HILTI, Inc. Tulsa, Oklahoma USA (918) 252-6000	Sheet 1 of 1	Drawing No. WJ 1020e
		Scale 1/8" = 1"	
		Date SEPT. 16, 1999	

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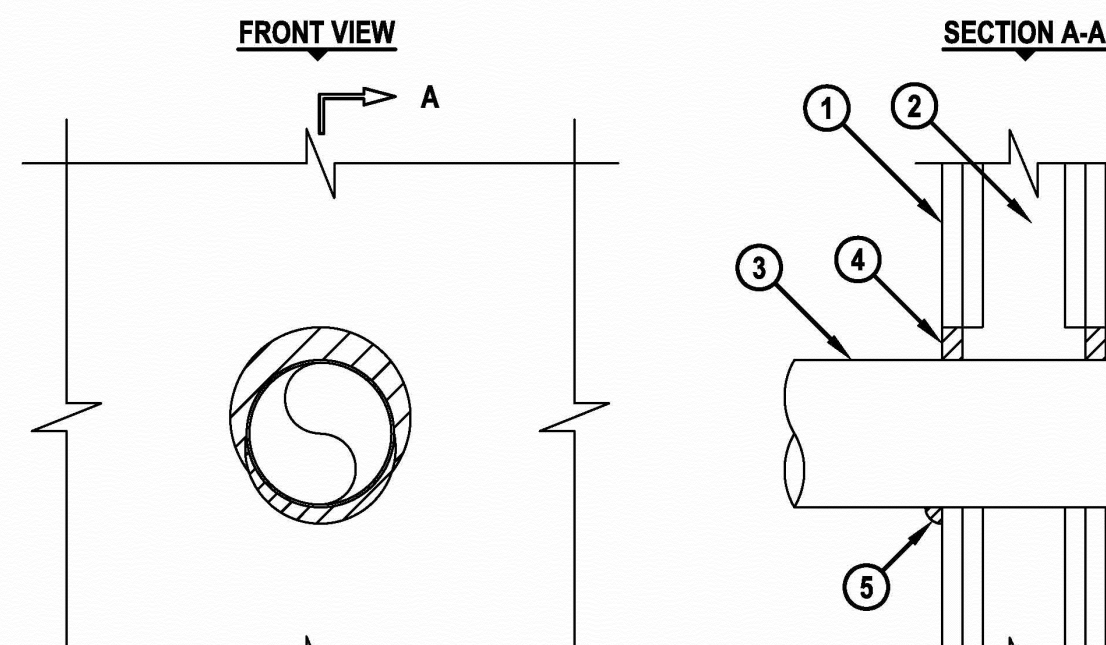
- NOTES:
- ALL SURFACES TO BE CLEAN (FREE OF DIRT, GREASE, SCALE, PAINT, ETC.)
 - WIRE BRUSH ALL LOOSE MATERIAL AS REQUIRED.
 - PRIME EXISTING ROOF AND FLASHING W/ SB ELASTOMERIC PRIMER.
 - 5 COURSE: 2 PLYS TIETEX W/ SB ELASTOMERIC GEL (FEATHER SECOND PLY) AT MIN. 40 MIL UNCURED PER COURSE.
 - TOP COAT W/ K-2 EXTREME DUTY ELASTOMER (MATCH ROOF COLOR)
 - DETAIL SHOW FOR WEATHERPROOFING PENETRATION ONLY. CONTRACTOR SHALL PROVIDE FIRESTOPPING AS REQUIRED TO MAINTAIN FIRE RATING OF ROOF.

ROOF PENETRATION WEATHERPROOF DETAIL

SCALE: NT5

**UL/cUL SYSTEM NO. W-L-1175
METAL PIPE THROUGH GYPSUM WALL ASSEMBLY**

F-RATING = 1-HR. OR 2-HR.
T-RATING = 0-HR.
L-RATING AT AMBIENT = 1 CFM/SQ. FT.
L-RATING AT 400°F = 1 CFM/SQ. FT.



- GYPSUM WALL ASSEMBLY (UL/cUL CLASSIFIED U300 OR U400 SERIES) (1-HR. OR 2-HR. FIRE-RATING) (2-HR. SHOWN).
- (NOT SHOWN) WOOD STUDS TO CONSIST OF NOMINAL 2" x 4" LUMBER. STEEL STUDS TO BE MINIMUM 2-1/2" WIDE.
- PENETRATING ITEM TO BE ONE OF THE FOLLOWING:
 - MAXIMUM 4" NOMINAL DIAMETER EMT.
 - MAXIMUM 4" NOMINAL DIAMETER STEEL CONDUIT.
- MINIMUM 5/8" DEPTH HILTI CP 618 FIRESTOP PUTTY STICK.
- MINIMUM 1/4" CROWN HILTI CP 618 FIRESTOP PUTTY STICK AT POINT OF CONTACT.

NOTES: 1. MAXIMUM DIAMETER OF OPENING = 5-1/2".
2. ANNULAR SPACE = MINIMUM 0", MAXIMUM 1".

HILTI Hilti Firestop Systems	HILTI, Inc. Tulsa, Oklahoma USA (918) 252-6000	Sheet 1 of 1	Drawing No. WL 1175b
		Scale 3/16" = 1"	
		Date Mar. 22, 2006	

Saving Lives through Innovation and Education

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Revision Schedule		
Revision Number	Revision Description	Revision Date

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DETAILS ELECTRICAL

Project number	16-020
Date	08/08/2016
Drawn by	MJR/SJB
Checked by	BLS/AJB

E401

Scale As indicated

Blake Lawrence Suddeth
P.E. # 63060

OUTLET BOX MOUNTED IN FIRE RATED WALL

SCALE: NT5

UL FIRE RATED DETAIL (W-J-1020)

SCALE: NT5

UL FIRE RATED DETAIL (W-L-1175)

SCALE: NT5

ELECTRICAL SPECIFICATIONS

I. GENERAL REQUIREMENTS:

A. DO ALL WORK IN COMPLIANCE WITH THE LATEST ADOPTED EDITION OF THE FLORIDA BUILDING CODE (FBC-2014), NFPA 70 (NEC-2011) AND NFPA 101 (LIFE SAFETY CODE-2012), AND THE REGULATIONS OF THE LOCAL UTILITY TELEPHONE, CABLE TELEVISION AND POWER UTILITY COMPANIES. OBTAIN AND PAY FOR ANY AND ALL REQUIRED PERMITS, INSPECTIONS, CERTIFICATES OF INSPECTIONS AND APPROVAL, AND THE LIKE, AND DELIVER SUCH CERTIFICATES TO THE ENGINEER.

B. THE CONTRACTOR SHALL FURNISH, PERFORM, OR OTHERWISE PROVIDE ALL LABOR (INCLUDING, BUT NOT LIMITED TO, ALL PLANNING, PURCHASING, PAINTING, TRANSPORTING, RIGGING, HOISTING, STORING, INSTALLING, TESTING, CHASING, CHANNELING, CUTTING, TRENCHING, EXCAVATING AND BACKFILLING), COORDINATION, FIELD VERIFICATION, EQUIPMENT INSTALLATION, SUPPORT, AND SAFETY, SUPPLIES, AND MATERIALS NECESSARY FOR THE CORRECT INSTALLATION OF COMPLETE AND FUNCTIONAL ELECTRICAL SYSTEMS (AS DESCRIBED OR IMPLIED BY THESE SPECIFICATIONS AND THE APPLICABLE DRAWINGS).

C. ALL DRAWINGS AND SPECIFICATIONS ON THE PROJECT ARE COMPLEMENTARY, EACH TO ALL OTHER SETS, AND THEY SHALL BE USED IN COMBINATION FOR THE EXECUTION OF THIS WORK. DIVISION 16 WORK SHOWN ON ANY ONE SET OF DRAWINGS, INCLUDING ALL ARCHITECTURAL DRAWINGS, MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR GENERAL WORK AND EQUIPMENT, AND DIVISION 16 WORK CALLED FOR UNDER ANY SECTION OF THE PROJECT SPECIFICATIONS, SHALL BE CONSIDERED AS INCLUDED IN THIS WORK UNLESS SPECIFICALLY EXCLUDED BY INCLUSION IN SOME OTHER BRANCH OF THE WORK. THIS SHALL INCLUDE ROUGH-IN FOR CONNECTIONS AND EQUIPMENT AS CALLED FOR OR IMPLIED. THE CONTRACTOR SHALL CHECK ALL DRAWINGS AND SPECIFICATIONS FOR THE PROJECT AND SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL DIVISION 16 WORK.

D. THE CONTRACTOR SHALL CAREFULLY CHECK THE DRAWINGS AND SPECIFICATIONS OF ALL OTHER TRADES AND DIVISIONS BEFORE INSTALLING ANY OF HIS WORK. HE SHALL IN ALL CASES CONSIDER THE WORK OF ALL OTHER TRADES, AND SHALL COORDINATE HIS WORK WITH THEM SO THAT THE BEST ARRANGEMENTS OF ALL EQUIPMENT, PIPING, CONDUIT, DUCTS, ROUGH-IN, ETC., CAN BE OBTAINED.

E. LOCATIONS DESIGNATED FOR OUTLETS, SWITCHES, DEVICES, EQUIPMENT, ETC., ARE APPROXIMATE AND FINAL LOCATIONS SHALL BE VERIFIED IN THE FIELD. CONTRACTOR SHALL LOCATE ALL DEVICES UP TO 5 FEET IN ANY DIRECTION AS DIRECTED BY OWNER AND PER CODE. WHERE INSTRUCTIONS OR NOTES ARE INSUFFICIENT TO CONVEY THE INTENT OF THE DESIGN, CONSULT THE OWNER PRIOR TO BIDDING AND INSTALLATION.

F. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND COORDINATING THE LOCATIONS OF DEVICES TO BE USED AND COORDINATING THE FINAL LOCATIONS OF ELECTRICAL EQUIPMENT WITH MILLWORK, SINKS, BENCHES, COUNTERS AND SHELVING PRIOR TO BIDDING AND INSTALLATION. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER.

G. DIVISION 16 CONTRACTOR SHALL HAVE HAD EXPERIENCE OF AT LEAST THE SAME SIZE AND SCOPE AS THIS PROJECT, ON AT LEAST TWO OTHER PROJECTS WITHIN THE LAST FIVE YEARS IN ORDER TO BE QUALIFIED TO BID THIS PROJECT.

H. CONTRACTOR SHALL AND DOES HEREBY WARRANT ALL MATERIALS AND EQUIPMENT FURNISHED UNDER THIS SECTION OF THE SPECIFICATIONS TO BE FREE FROM DEFECTS AND TO FUNCTION OR OPERATE SATISFACTORILY FOR ONE YEAR AFTER FINAL ACCEPTANCE OF THE WORK, AND THAT ANY ITEMS NOT MEETING THIS REQUIREMENT WILL BE MADE GOOD BY HIM WITHOUT COST TO OWNER, PROVIDED SUCH DEFECTS OR FAILURES ARE NOT DUE TO ABUSE, NEGLIGENCE, OR LACK OF REASONABLE AND ORDINARY MAINTENANCE.

I. ALL WORK SHALL BE EXECUTED IN A WORKMANSHIP MANNER DISPLAYING A NEAT MECHANICAL APPEARANCE UPON COMPLETION.

J. BALANCE TOTAL PHASE LOADS IN EACH ELECTRICAL PANEL TO A VALUE WITHIN 10% OF EACH OTHER.

K. THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION, WHEREVER WORK IS TO BE PERFORMED IN FINISHED/OCCUPIED SPACES, TO PREVENT DAMAGE TO ADJACENT AREAS, EQUIPMENT, OR FURNISHINGS; TO PREVENT ACCIDENTAL INJURY TO BUILDING OCCUPANTS AND THE PUBLIC; TO PREVENT THE SPREADING OF DUST, DIRT, DEBRIS, AND MOISTURE FROM THE AREA WHERE WORK IS BEING PERFORMED; AND TO PREVENT DUST, DIRT, DEBRIS, AND MOISTURE FROM GETTING ON OR IN THE BUILDING OCCUPANT'S FURNISHINGS OR EQUIPMENT.

L. THE CONTRACTOR SHALL REPAIR, AT NO COST TO THE OWNER, ANY DAMAGE DONE BY HIMSELF OR HIS EMPLOYEES. HE SHALL ALSO BE RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED TO PROPERLY INSTALL HIS WORK. THIS SHALL ALSO INCLUDE THE PATCHING OF EXISTING ROADWAYS (PAVED OR IMPROVED), PARKING AREAS, SIDEWALKS, WALLS, STAIRS, MECHANICAL WORK, CURBS, GUTTERS, ETC., CUT TO INSTALL WORK PROVIDED BY THE CONTRACTOR. PATCH WORK SHALL COMPLY WITH THE APPLICABLE SECTIONS OF THESE SPECIFICATIONS AND SHALL MATCH THE EXISTING FINISHES.

M. UPON COMPLETION OF WORK, THE ENTIRE WIRING SYSTEM SHALL BE TESTED, AND SHALL BE SHOWN TO BE IN PROPER WORKING CONDITION IN ACCORDANCE WITH INTENT OF SPECIFICATIONS AND DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL SYSTEMS READY FOR OPERATION AND TO HAVE AN ELECTRICIAN AVAILABLE TO OPERATE SAME IN ACCORDANCE WITH AND UNDER THE SUPERVISION OF THE INSPECTION REPRESENTATIVE OF THE ENGINEER. THE CONTRACTOR SHALL BE AVAILABLE TO ASSIST IN REMOVAL OF PANEL FRONTS, ETC., TO PERMIT INSPECTION AS REQUIRED.

N. IN ACCORDANCE WITH DIVISION 1 AND THE CONDITIONS OF THE CONTRACT, THE CONTRACTOR SHALL PROVIDE AND KEEP UP TO DATE A COMPLETE RECORD SET OF CONSTRUCTION "AS-BUILTS" BLUELINE PRINTS WHICH SHALL BE CORRECTED DAILY, AND SHALL SHOW EVERY CHANGE FROM THE ORIGINAL CONTRACT DRAWINGS, INCLUDING ADDENDA AND CHANGE ORDERS IN ACCORDANCE WITH GENERAL REQUIREMENTS AND SPECIAL CONDITIONS. THIS SET OF PRINTS SHALL BE KEPT ON THE JOB SITE, AND SHALL BE USED ONLY AS A RECORD SET. THIS SHALL NOT BE CONSTRUED AS AUTHORIZATION FOR THE CONTRACTORS TO MAKE CHANGES IN THE LAYOUT WITHOUT DEFINITE INSTRUCTION IN EACH CASE.

II. ELECTRICAL SCOPE:

A. FURNISHING AND INSTALLATION OF POWER SYSTEMS, AND AUXILIARY SYSTEMS AS SHOWN OR HEREIN SPECIFIED.

B. CONNECTION OF ALL EQUIPMENT REQUIRING ELECTRICAL CONNECTION, MENTIONED IN THIS DIVISION OR SHOWN ON DRAWINGS, WHETHER FURNISHED BY DIVISION 16 OR UNDER OTHER DIVISIONS, OR FURNISHED BY OWNER.

C. FURNISHING AND INSTALLATION OF OUTLET BOXES, CONDUIT RACEWAYS, FOR A TELEPHONE AND DATA RACEWAY DISTRIBUTION SYSTEM. (TELEPHONE AND DATA HARDWARE, AS WELL AS WIRING AND SOFTWARE IS NOT INCLUDED.)

D. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR CONTACTING THE OFFICES OF ALL LOCAL AND/OR STATE AUTHORITIES HAVING JURISDICTION OVER THIS PROJECT IN ORDER TO SCHEDULE ALL REQUIRED INSPECTIONS AND OBTAIN ALL NECESSARY PERMITS, ETC. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER OF ALL SCHEDULED INSPECTIONS AT LEAST TWO WEEKS IN ADVANCE OF THE SCHEDULED DATE.

E. THE CONTRACTOR SHALL REPLACE ANY DEFECTIVE MATERIALS, EQUIPMENT, OR WORKMANSHIP WITHOUT COST TO THE OWNER WITHIN THE STIPULATED GUARANTEED PERIOD.

F. IT SHALL BE THE RESPONSIBILITY OF THE DIVISION 16 CONTRACTOR TO HAVE ALL SYSTEMS READY FOR OPERATION AND TO HAVE AN ELECTRICIAN AVAILABLE FOR ALL INSPECTIONS. THE CONTRACTOR SHALL PROVIDE PERSONNEL TO ASSIST IN REMOVAL OF PANEL FRONTS, ETC. TO PERMIT INSPECTION AS REQUIRED.

G. SUBMIT TO THE ARCHITECT/ENGINEER PROMPTLY AFTER AWARD OF CONTRACT AND PRIOR TO PURCHASING, SIX COPIES OF MANUFACTURER'S SHOP DRAWINGS IN ACCORDANCE WITH DIVISION 1, SECTION 01300 - SUBMITTALS FOR THE FOLLOWING ITEMS. ALL SHOP DRAWINGS OF A SPECIFIC ITEM OR SYSTEM SHALL BE MADE IN ONE SUBMITTAL AND WITHIN TEN DAYS AFTER AWARD OF CONTRACT.

1. PANELBOARDS
2. SUPPORTS
3. WIRING DEVICES
4. DISCONNECT SWITCHES
5. CONDUIT
6. WIRE

H. COMPLETED WIRING SYSTEMS SHALL BE FREE FROM SHORT CIRCUITS AND AFTER COMPLETION, PERFORM TESTS FOR INSULATION RESISTANCE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE. ALL WIRING SYSTEMS SHALL BE COMPLETELY AND TOTALLY "SAFED" DURING CONSTRUCTION. ONLY QUALIFIED PERSONNEL SHALL HANDLE ELECTRICAL SYSTEMS.

I. BEFORE ROUGH-IN OF CIRCUITRY OR CONNECTING TO EQUIPMENT, FURNISHED UNDER THIS DIVISION, ANY OTHER DIVISION, OR BY THE OWNER, THE CONTRACTOR SHALL VERIFY THE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF THE EQUIPMENT BEING FURNISHED AND FOR THAT SPECIFIED AND SHOWN ON THE DRAWINGS AND PROVIDE FOR PROPER ROUGH-IN AND CONNECTION.

J. THE ELECTRICAL CIRCUITS, COMPONENTS, AND CONTROLS FOR ALL EQUIPMENT ARE SELECTED AND SIZED, BASED ON THE EQUIPMENT SPECIFIED. IF SUBSTITUTIONS AND/OR EQUIVALENT EQUIPMENT ARE FURNISHED, IT SHALL BE THE RESPONSIBILITY OF ALL PARTIES CONCERNED, INVOLVED IN, AND FURNISHING THE SUBSTITUTE AND/OR EQUIVALENT EQUIPMENT TO VERIFY AND COMPARE THE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF THAT FURNISHED TO THAT SPECIFIED AND/OR SHOWN. IF GREATER CAPACITY OR MORE MATERIALS OR LABOR IS REQUIRED FOR THE ROUGH-IN, CIRCUITRY OR CONNECTIONS THAN FOR THE ITEM SPECIFIED AND PROVIDED FOR, THEN IT SHALL BE THE RESPONSIBILITY OF THE PARTIES INVOLVED IN PROVIDING THE SUBSTITUTE AND/OR EQUIVALENT ITEMS OF EQUIPMENT TO PROVIDE ALL COMPENSATION FOR ADDITIONAL CHARGES MADE FOR THE PROPER ROUGH-IN, CIRCUITRY AND CONNECTIONS FOR THE EQUIPMENT FURNISHED. NO ADDITIONAL CHARGES ABOVE THE BASE BID SHALL BE ALLOWED FOR SUCH REVISIONS.

K. EXCAVATION FOR UNDERGROUND ELECTRICAL STRUCTURES: CONFORM TO ELEVATIONS AND DIMENSIONS SHOWN WITHIN A TOLERANCE OF PLUS OR MINUS 0.10"; PLUS A SUFFICIENT DISTANCE TO PERMIT PLACING AND REMOVAL OF CONCRETE FORMWORK, INSTALLATION OF SERVICES, OTHER CONSTRUCTION, AND FOR INSPECTION.

L. TRENCHING: EXCAVATE TRENCHES FOR ELECTRICAL INSTALLATIONS AS FOLLOWS:

1. EXCAVATE TRENCHES TO THE UNIFORM WIDTH, SUFFICIENTLY WIDE TO PROVIDE AMPLE WORKING ROOM AND A MINIMUM OF 6" TO 9" CLEARANCE ON BOTH SIDES OF RACEWAYS AND EQUIPMENT.
2. EXCAVATE TRENCHES TO DEPTH INDICATED OR REQUIRED.
3. LIMIT THE LENGTH OF OPEN TRENCH TO THAT IN WHICH INSTALLATIONS CAN BE MADE AND THE TRENCH BACKFILLED WITHIN THE SAME DAY.
4. WHERE ROCK IS ENCOUNTERED, CARRY EXCAVATION BELOW REQUIRED ELEVATION AND BACKFILL WITH A LAYER OF CRUSHED STONE OR GRAVEL PRIOR TO INSTALLATION OF RACEWAYS AND EQUIPMENT. PROVIDE A MINIMUM OF 6" OF STONE OR GRAVEL CURVEHION BETWEEN ROCK BEARING SURFACE AND ELECTRICAL INSTALLATIONS.

M. THE CONTRACTOR SHALL PROVIDE ALL INSERTS FOR THE SUPPORT OF DIVISION 16 EQUIPMENT TO BE PLACED IN CONCRETE OR THROUGH CONCRETE SLABS AS CONSTRUCTION PROGRESSES. HE SHALL PROVIDE ALL MISCELLANEOUS HANGING AND SUPPORTING HARDWARE. ALL ELECTRICAL WORK IS TO BE CONCEALED IN OR BUILT INTO GENERAL CONSTRUCTION SHALL BE PLACED AS CONSTRUCTION PROGRESSES. FAILURE OF THE CONTRACTOR TO COORDINATE WORK WITH OTHER TRADES AND THE PROJECT CONSTRUCTION PROGRESS SHALL MAKE HIM RESPONSIBLE FOR ALL COST OF CUTTING AND PATCHING, AS REQUIRED TO INSTALL WORK. NO STRUCTURAL MEMBER, MASONRY CONSTRUCTION OR FINISHED WORK SHALL BE CUT OR ALTERED WITHOUT PRIOR WRITTEN APPROVAL BY THE ARCHITECT/ENGINEER. CONTRACTOR SHALL FIRE RATE ALL PENETRATIONS THROUGH ALL FIRE RATED SLABS OR WALLS PER THE INTENDED RATING.

N. THE CONTRACTOR SHALL SUPPLY AND SET INTO PLACE ALL WALL SLEEVES FOR CONDUITS AND CEILING INSERTS FOR HANGERS IN AREAS OF NEW CONSTRUCTION AS BUILDING CONSTRUCTION PROGRESSES. INSTALL EQUIPMENT NOTED TO BE CONCEALED IN WALLS BEFORE WALLS ARE CONSTRUCTED IN ORDER THAT WALLS MAY BE CONSTRUCTED AROUND CONDUITS, ENCLOSURES, ETC.

O. METALLIC MATERIALS SHALL BE PROTECTED AGAINST CORROSION. EQUIPMENT ENCLOSURES SHALL BE GIVEN RUST-INHIBITING TREATMENT AND STANDARD FINISH BY MANUFACTURER. ALUMINUM SHALL NOT BE USED ON CONTACT WITH EARTH, AND, WHERE CONNECTED TO DISSIMILAR METAL, SHALL BE PROTECTED BY AN ANTI-CORROSION TREATMENT. ALL FERROUS METALS SUCH AS ANCHORS AND BOLTS, BRACES, BOXES, BODIES, CLAMPS, FITTINGS, GUARDS, NUTS, PINS, RODS, SHIMS, THIMBLES, WASHERS, AND MISCELLANEOUS PARTS, NOT OF STAINLESS STEEL OR NONFERROUS MATERIALS, SHALL BE HOT-DIPPED GALVANIZED.

P. ALL CONDUITS STUBBED OUT FOR FUTURE USE SHALL HAVE A PULL WIRE INSTALLED, A PLASTIC CAP INSTALLED AND BE IDENTIFIED AS TO THE CONDUIT ORIGIN.

Q. THE RESPONSIBILITY FOR ANY CUTTING OF CONSTRUCTION WHICH IS REQUIRED FOR THE INSTALLATION OF DIVISION 16 WORK, SHALL BE BY THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES AND THE OWNER BEFORE ANY CUTTING AND OBTAIN APPROVAL FROM THE ARCHITECT/ENGINEER PRIOR TO ANY CUTTING. ALL PATCHING AND FINISHING SHALL BE BY THE CONTRACTOR.

R. WHERE OPENINGS OR HOLES ARE CUT IN CONSTRUCTION AND THE CUTTING BREAKS ELECTRICAL CIRCUITRY OR CONTROL CIRCUITRY CONDUIT AND WIRING, THEN IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REROUTE THE CIRCUITRY CONDUIT AND REWIRING AND TO COMPLETE THE CIRCUITRY AS REQUIRED AND AS APPROVED BY THE ARCHITECT/ENGINEER. TEMPORARY COMPLETION SHALL BE PROVIDED WHERE NECESSARY BEFORE THE PERMANENT REROUTING AND COMPLETION WORK IS FINISHED.

S. ANY PENETRATIONS OF FIRE OR SMOKE RATED ASSEMBLIES MADE BY THIS CONTRACTOR IN VERTICAL OR HORIZONTAL CONSTRUCTION SHALL BE SEALED AND PROTECTED BY THIS CONTRACTOR IN ORDER TO MAINTAIN THE ESTABLISHED FIRE RATING WITH METHODS AS APPROVED BY THE AUTHORITY HAVING JURISDICTION.

III. IDENTIFICATION:

A. IDENTIFICATION NAMEPLATES SHALL BE LAMINATED PLASTIC, SECURED TO EQUIPMENT WITH TWO SCREWS.

B. EACH PANELBOARD AND SWITCHBOARD SHALL BE EQUIPPED WITH A PERMANENT PLASTIC NAMEPLATE WITH 1/2" MINIMUM LETTERS, SECURELY FASTENED TO THE DEVICE.

C. EACH INDIVIDUALLY MOUNTED CIRCUIT BREAKER, SWITCH, TRANSFER SWITCH, MOTOR STARTER, LIGHTING CONTACTOR, TRANSFORMER AND/OR ANY OTHER CONTROL OR PROTECTIVE DEVICE INCLUDING EQUIPMENT DISCONNECT SWITCHES SHALL BE EQUIPPED WITH A PERMANENT PLASTIC NAMEPLATE WITH 1/2" MINIMUM LETTERS.

D. PANELBOARDS SHALL HAVE TYPEDWRITTEN DIRECTORIES. ALL CIRCUITS TO BE IDENTIFIED BY DEVICES SERVED AND ROOM NUMBERS (I.E., LIGHTING ROOM 216), HANDWRITTEN DIRECTORIES WILL NOT BE ALLOWED.

E. EACH JUNCTION BOX CABINET OR WIREWAY LARGER THAN 6" X 6" SHALL BE EQUIPPED WITH A PLASTIC NAMEPLATE WITH 1/2" MINIMUM LETTERS INDICATING THE SYSTEM ENCLOSED.

F. ALL SYSTEMS JUNCTION BOXES AND CONDUIT SHALL BE COLOR CODED INSIDE AND OUTSIDE OF THE BOX PRIOR TO THE INSTALLATION OF CONDUCTORS PER THE FOLLOWING:

1. CCTV SYSTEM: GREEN
2. TELEPHONE DATA SYSTEM: BLUE
3. FIRE ALARM SYSTEM: RED

G. ENTIRE BOX INSIDE AND OUT, INCLUDING COVER, SHALL BE PAINTED PRIOR TO INSTALLING CONDUCTORS.

IV. WIRING DEVICES:

A. SWITCHES AND RECEPTACLES IN LOBBIES, CORRIDORS OR COMMERCIAL SPACES, UNFINISHED AND MECHANICAL SPACES SHALL BE 20 AMP COMMERCIAL GRADE 125 VAC. GRAY IN COLOR WITH STAINLESS STEEL COVERPLATES.

B. WEATHERPROOF RECEPTACLES SHALL BE GFCI TYPES WITH GASKETED STAINLESS STEEL KEY LOCKABLE FLIP COVER TYPE COVERPLATES. SURGE SUPPRESSION TYPE OUTLETS IN DFPS AND IDFS SHALL BE HUBBELL #83625 (BLUE) OR EQUAL.

C. RECEPTACLES PROVIDED FOR ATTACHMENT OF CORD AND PLUG EQUIPMENT SHALL BE HEAVY DUTY, SPECIFICATION GRADE, NON-INTERCHANGEABLE, FLUSH MOUNTED TYPES OF THE PROPER NEMA CONFIGURATION TO SERVE THE EQUIPMENT. NEMA CONFIGURATIONS SHALL BE VERIFIED PRIOR TO INSTALLATION OF CIRCUIT CONDUCTORS. CONTRACTOR TO PROVIDE ALL CONNECTION, WIRING, PIGTAILS FOR DISHWASHERS, COOKING RANGES, OVENS AND GARBAGE DISPOSALS.

D. ALL DEVICES SHALL HAVE PROPER PLATES, CARPET FLANGES, TRIMS, RINGS, ESCUTCHEONS, ETC., AS MANUFACTURED BY SAME MANUFACTURER AS DEVICES. ANY TELEPHONE OR OTHER OUTLET WHICH IS NOT EQUIPPED WITH A PLATE FURNISHED BY OTHERS SHALL HAVE ONE PROVIDED BY THIS CONTRACTOR. DEVICE PLATES SHALL BE COLOR AND TYPE AS SHOWN BELOW.

1. FINISHED SPACES DECORA LINE:
 - a. IVORY DEVICES
 - b. IVORY NYLON PLATES
2. UNFINISHED OR INDUSTRIAL OR COMMERCIAL TYPE SPACES:
 - a. GRAY DEVICES
 - b. STAINLESS STEEL OR STAMPED GALVANIZED STEEL ON SURFACE MOUNTED BOXES
 - c. STAINLESS STEEL PLATES ON FLUSH MOUNTED BOXES

- | | |
|----------|--------------|
| PHASE A, | COLOR: BLACK |
| PHASE B, | COLOR: RED |
| PHASE C, | COLOR: BLUE |
| NEUTRAL, | COLOR: WHITE |
| GROUND, | COLOR: GREEN |

VIII. GROUNDING:

A. THIS SECTION DEALS WITH THE GROUNDING OF SERVICE EQUIPMENT, TRANSFORMERS, NON-CURRENT CARRYING CONDUCTIVE SURFACES OF EQUIPMENT, METAL BUILDING, STRUCTURES AND OTHER EQUIPMENT.

F. MOUNTING HEIGHTS ARE APPROXIMATE. THE EXACT LOCATIONS AND MOUNTING HEIGHTS SHALL BE DETERMINED ON THE JOB AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH ALL TRADES TO INSURE CORRECT INSTALLATION, I.E., OVER COUNTERS IN OR ABOVE BACK-SPLASHES, IN BLOCK WALLS, TILE AND OTHER SPECIFIC CONSTRUCTION FEATURES. LOCATION OF OUTLETS MOUNTED IN BUILT-INS, MILLWORK, AND CABINERY SHALL BE VERIFIED. OUTLETS MOUNTED IN KICK OR TOE SPACES SHALL BE MOUNTED HORIZONTALLY. OUTLET BOXES SHALL BE MOUNTED TO PREVENT DEVICE FLATE FROM OVERLAPPING BACKSPLASH, TRIM, TILE, ETC. LOCATE SO DEVICE PLATE WILL LAY FLAT AGAINST SURFACE COMPLETELY AROUND THE PERIMETER OF PLATE.

G. OUTLETS, OTHER THAN THOSE COORDINATED WITH COUNTER TOPS, SHELVES, AND CABINETS, SHALL BE LOCATED WITH THE CENTER LINE OF OUTLET BOXES THE FOLLOWING DISTANCE ABOVE THE FINISHED FLOOR, UNLESS OTHERWISE INDICATED:

1. RECEPTACLES, GENERAL: 1'-6" AFF
2. TELEPHONE OUTLETS: 1'-6" AFF
3. SWITCHES, GENERAL: 4'-0" AFF

V. RACEWAYS

A. SHALL BE GALVANIZED OUTSIDE AND INSIDE BY HOT DIPPING. E.M.T. SHALL BE ELECTRO-GALVANIZED. CONDUITS SHALL BE AS MANUFACTURED BY REPUBLIC, PITTSBURGH STANDARD, WHEATLAND, TRIANGLE, ALLIED, OR YOUNGSTOWN.

B. SHALL BE STANDARD THREADED TYPE, GALVANIZED OUTSIDE AND INSIDE BY HOT DIPPING. THREADED AND CLAMP TYPE NOT ACCEPTABLE. SHALL BE AS MANUFACTURED BY RACO, EFCOR, OR APLETON.

C. SHALL BE STEEL THREADED COMPRESSION TYPE. ALL COUPLINGS AND CONNECTORS SHALL BE EFCOR OR RACO. PRESSURE INDENTED TYPE CONNECTORS OR CAST METAL WILL NOT BE APPROVED FOR ANY LOCATION.

D. CONNECTORS SHALL HAVE PLASTIC INSULATED THROAT INSERTS.

E. THE USE OF METAL CLAD CABLE IS ACCEPTABLE IN LOCATIONS AS ACCEPTED BY THE NEC AND ALL LOCAL JURISDICTIONAL CODES.

F. STEEL METAL CLAD CABLE, TYPE MC, EMPLOYING CIRCUIT CONDUCTORS #12 SOLID TO #2 AWG, SOLID OR STRANDED COPPER WITH THHN INSULATION, AN INSULATED GREEN GROUNDING CONDUCTOR AND GALVANIZED STEEL INTERLOCKED ARMOR CLADDING. THE CABLES SHALL BE SUITABLE FOR USE IN DRY LOCATIONS AT TEMPERATURES NOT EXCEEDING 90° C ON AD CIRCUITS UP TO 600 VOLTS IN ACCORDANCE WITH N.E.C., ARTICLE 334. THE CABLE SHALL BE ONE AND TWO HOUR FIRE RATED PER ANS/UL 1479 FOR USE IN WALL, CEILING AND FLOOR ASSEMBLIES.

G. FLEXIBLE METALLIC CONDUIT RACEWAYS MAY BE USED TO CONNECT HVAC UNITS LOCATED IN INTERIOR MECHANICAL AREAS. MINIMUM SIZE 3/4".

H. CONDUIT SHALL BE SIZED IN ACCORDANCE WITH THE LATEST NATIONAL ELECTRICAL CODE EXCEPT THAT NO CONDUIT SHALL BE SMALLER THAN 3/4" UNLESS OTHERWISE NOTED. CONDUIT SHALL BE SIZED LARGER THAN REQUIRED ABOVE WHEN SO SHOWN ON THE DRAWINGS OR WHEN REQUIRED BY LOCAL CODE.

I. ANY CONDUIT STUBBED OUT FOR FUTURE SHALL BE CAPPED WITH A PLASTIC CAP AND MARKED WITH A 2" MINIMUM RED METAL TAG WHICH IDENTIFIES CONDUIT ORIGIN. CONDUITS STUBBED UP ABOVE GRADE OR ROOF SHALL BE TAGGED ON THE CONDUIT. CONDUIT STUBBED OUT BELOW GRADE SHALL BE TAGGED ON NEAREST BUILDING WALL, CURB, ETC., DIRECTLY OVER THE CONDUIT RUN. ALL EMPTY CONDUITS SHALL HAVE PULL WIRES.

VI. SCHEDULE 40 RIGID PVC:

A. CONDUIT SHALL BE COMPOSED OF POLYVINYLCHLORIDE AND SHALL BE UL RATED TYPE 40 FOR USE WITH 90EC RATED CONDUCTORS. CONDUIT SHALL CONFORM TO NEMA STANDARDS AND APPLICABLE SECTIONS OF NEC.

B. INSTALLATION OF RIGID NON-METALLIC CONDUIT SHALL COMPLY WITH ARTICLE 347 OF THE NATIONAL ELECTRICAL CODE (NFPA 70) AND THESE SPECIFICATIONS.

C. PROVIDE A CONTINUOUS, INSULATED, GROUNDING CONDUCTOR IN EVERY RIGID, NON-METALLIC RACEWAY EVEN IF NOT SHOWN ON THE DRAWINGS. THE GROUNDING CONDUCTOR SHALL BE CONNECTED TO GROUND AT EACH END OF THE RACEWAY IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE (NFPA 70).

D. WHERE RIGID NON-METALLIC CONDUIT TRANSITIONS TO METALLIC CONDUIT, THE LOCATION OF THE TRANSITION SHALL BE UNDERGROUND.

E. NO PVC CONDUIT SHALL BE RUN EXPOSED, OR ABOVE GRADE.

VII. WIRE AND CABLE 600 VOLT:

A. CONDUCTORS SHALL HAVE CURRENT CARRYING CAPACITIES AS PER NEC AND WITH 600 VOLT INSULATION, #12 AVERAGE MINIMUM FOR 20 AMP CIRCUITS AND #14 FOR 15 AMP CIRCUITS EXCEPT FOR CONTROLS, AND FIXTURE WIRE. CONDUCTORS SHALL BE COPPER.

B. #12 AND #10 SHALL BE SOLID, TYPE THW/THWN INSULATION.

C. #8 AND LARGER, AND ANY SIZE TO MOTORS SHALL BE STRANDED TYPE THW.

D. SHALL BE MADE WITH T & B STA-KON WIRE JOINTS, PT SERIES, COMPLETE WITH INSULATING CAPS AND INSTALLED WITH WT161 TOOL OR WT2000 TOOL, IDEAL SUPER-NUTS (NOT WIRE NUTS), IDEAL WING NUTS, OR BUCHANAN ELEC. PRODUCTS 8 CAP OR SERIES 2000 PRES-SURE CONNECTORS COMPLETE WITH NYLON SNAP-ON INSULATORS AND INSTALLED WITH C24 PRESSURE TOOL.

E. ALL JOINTS AND SPLICES IN WIRE SHALL BE MADE WITH APPROVED SOLDERLESS CONNECTORS, AND COVERED SO THAT INSULATION IS OWNER APPROVED EQUAL TO CONDUCTOR INSULATION. SPLICES SHALL NOT BE PERMITTED IN CONTROL, SECURITY, FIRE ALARM, TELEVISION OR COMMUNICATIONS SYSTEMS, OR WHERE OTHERWISE NOTED. SPLICING OF WIRE OR CABLES WILL NOT BE ALLOWED BELOW GRADE, INCLUDING IN BOXES BELOW GRADE.

F. BOTH CONDUCTORS AND CONDUITS SHALL BE CONTINUOUS FROM OUTLET TO OUTLET.

G. IN INSTALLING THE MAIN ELECTRICAL SERVICE, ADDITIONAL SLACK CONDUCTORS SHALL BE PROVIDED AND TERMINATED AS REQUIRED BY ELECTRIC UTILITY FOR CONNECTION TO THEIR EQUIPMENT. FIELD COORDINATE WITH UTILITY PRIOR TO INSTALLING CONDUCTORS.

H. IN INSTALLING PARALLEL CONDUCTORS IT IS MANDATORY THAT ALL CONDUCTORS MAKING UP THE FEEDER BE EXACTLY THE SAME LENGTH, THE SAME SIZE AND THE SAME TYPE OF CONDUCTOR WITH THE SAME INSULATION. FURTHER, EACH GROUP OF CONDUCTORS MAKING UP A PHASE OR NEUTRAL MUST BE BONDED AT BOTH ENDS IN AN APPROVED MANNER.

I. CONDUCTOR SIZES INDICATED ON CIRCUIT HOMERUNS OR IN PANELBOARD SCHEDULES SHALL BE INSTALLED OVER THE ENTIRE LENGTH OF THE CIRCUIT UNLESS NOTED OTHERWISE ON THE DRAWINGS.

J. CONDUCTORS SHALL BE CONTINUOUS AND UNSPLICED WHERE INSTALLED IN CONDUIT. SPLICES SHALL OCCUR ONLY WITHIN WIRING TROUGHS, WIREWAYS, JUNCTION BOXES, OUTLET BOXES, OR EQUIPMENT ENCLOSURES WHERE SUFFICIENT ADDITIONAL ROOM IS PROVIDED FOR ALL SPLICES.

K. EACH BRANCH CIRCUIT AND FEEDER CONDUCTOR SHALL BE COLOR CODED. FOR CONDUCTOR SIZES THRU NO. 6 AWG, THE INSULATION SHALL BE OF THE COLOR AS INDICATED BELOW. COLOR CODE SHALL BE STRICTLY ADHERED TO. FOR CONDUCTOR SIZES NO. 4 AWG AND LARGER, COLOR CODED PHASE TAPE MAY BE APPLIED COMPLETELY AROUND THE CONDUCTOR INSULATION WITHIN 8" OF EACH END OF THE CONDUCTOR AND IN EACH PULL OR JUNCTION BOX OR WHENEVER CONDUCTORS ARE PHYSICALLY EXPOSED TO VIEW. GROUNDING CONDUCTORS AND GROUNDING CONDUCTORS SHALL HAVE INSULATION COLOR AS INDICATED FOR SIZES THROUGH #6 AWG. 120/208 V, 3PHASE,4W

B. ALL GROUNDING CONNECTIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND ALL LOCAL CODES AND REQUIREMENTS. SUCH CODES SHALL BE CONSIDERED MINIMUM REQUIREMENTS AND THE INSTALLATION OF THE GROUNDING SYSTEM SHALL INSURE FREEDOM FROM DANGEROUS SHOCK EXPOSURE AND SHALL PROVIDE A LOW IMPEDANCE GROUND FAULT PATH TO PERMIT OPERATION OF OVERCURRENT AND GROUND FAULT PROTECTIVE DEVICES.

C. ALL SERVICE AND EQUIPMENT GROUNDING CONDUCTORS, AND BONDING JUMPERS SHALL BE INSULATED COPPER, TYPE THHN, THWN, OR THW CONDUCTORS (UNLESS NOTED OTHERWISE) AND SHALL BE SIZED IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF ARTICLES 250 AND 517 OF THE NATIONAL ELECTRICAL CODE. GROUNDING CONDUCTORS #6 AWG AND SMALLER SHALL HAVE A GREEN COLOR INSULATION. ALL GROUNDING CONDUCTORS #4 AWG AND LARGER SHALL BE ADEQUATELY IDENTIFIED WITH A GREEN TRACER AND/OR GREEN COLORED TAPE AT EACH END OF THE GROUNDING CONDUCTOR AND AT EACH PULLBOX OR OTHER ACCESSIBLE LOCATION.

D. THE MAIN SERVICE GROUNDING ELECTRODE SYSTEM SHALL CONSIST OF THE FOLLOWING ITEMS BONDED TOGETHER BY THE GROUNDING ELECTRODE CONDUCTORS IN ACCORDANCE WITH NEC ARTICLE 250, PART H:

1. THE MAIN UNDERGROUND COLD WATER PIPE, IF METAL, NEC 250- 81(A)
2. METAL FRAME OF BUILDING WHERE AVAILABLE, NEC 250-81(B)
3. CONCRETE ENCASED ELECTRODE, NEC 250-81(C)
4. THE BUILDING LIGHTNING PROTECTION SYSTEM.

E. THE NEUTRAL CONDUCTOR SHALL BE GROUNDDED AT THE SERVICE ENTRANCE MAIN DISCONNECT, AND AT EACH SEPARATELY DERIVED SYSTEM ONLY PER NEC ARTICLE 250.

F. A #4 INSULATED COPPER CONDUCTOR INSTALLED IN 3/4" CONCEALED CONDUIT SHALL BE CONNECTED FROM THE BUILDING GROUNDING ELECTRODE SYSTEM TO EACH BUILDING TELEPHONE TERMINAL/DATA I/O TERMINAL BOARDS, OR CABINETS, FIRE ALARM CONTROL CABINETS, CCTV SYSTEM CABINETS, EMS CABINETS, AND SECURITY SYSTEM CABINETS. TERMINATE ON AN APPROPRIATELY SIZED (B) TERMINAL MULTI-CONDUCTOR CONNECTION GROUNDING LUG LOCATED WITHIN CABINET OR ON TERMINAL BOARDS.

IX. PANELBOARDS:

A. PANELBOARDS SHALL BE DEAD FRONT TYPE AND SHALL BE IN ACCORDANCE WITH UNDERWRITERS' LABORATORIES, INC., STANDARD FOR PANELBOARDS AND ENCLOSING CABINETS AND SO LABELED.

B. PANELBOARDS SHALL BE FACTORY ASSEMBLED WITH BRANCH BREAKERS ARRANGED AS SHOWN IN SCHEDULES. BREAKERS SHALL BE NUMBERED VERTICALLY BEGINNING TOP LEFT. BREAKER NUMBERS SHALL BE PERMANENTLY ATTACHED TO TRIM. PANEL SHALL BE MINIMUM 20" WIDE OR 16" FOR RESIDENTIAL LOAD CENTERS, UNLESS SPECIFICALLY NOTED OTHERWISE.

C. ANY SPECIAL REQUIREMENTS ON THE DRAWINGS OR SCHEDULES, SUCH AS GROUND FAULT PROTECTION, ARC-FAULT CIRCUIT BREAKERS, INCREASED INTERRUPTING CAPACITY, SHUNT TRIP TYPE CIRCUIT BREAKER, FEED THRU PANELBOARDS, ETC., SHALL SUPERSEDE THESE SPECIFICATIONS, BUT ONLY INsofar AS THAT PARTICULAR REQUIREMENT IS CONCERNED AND AS INDICATED.

D. WIRING IN PANELBOARD GUTTERS SHALL BE DONE IN A NEAT AND WORKMANLIKE MANNER. WIRING SHALL BE GROUPED INTO NEAT BUNDLES AND SECURED WITH NYLON TIE WRAPS.

E. PROVIDE TYPE WRITTEN DIRECTORIES FOR EACH PANELBOARD INDICATING THE LOAD SERVED.

X. LIGHTING FIXTURES:

A. LIGHTING FIXTURES SHALL BE FURNISHED AS SHOWN ON DRAWINGS AND IN THE LIGHTING FIXTURE SCHEDULE. IT SHALL SPECIFICALLY BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY EXACT TYPE CEILING AND RECESSING DEPTH OF ALL RECESSED FIXTURES AND TO FURNISH THE MOUNTING TRIMS AND ACCESSORIES OF THE SPECIFIED AND/OR APPROVED FIXTURES FOR THE CEILING TO BE INSTALLED. LIGHTING FIXTURES SHALL BE PROVIDED WITH JOINER PLATES, END CAPS, RETAINING CLIPS, PLASTER FRAMES, HOUSINGS, AND ALL OTHER ACCESSORIES REQUIRED FOR A COMPLETE INSTALLATION.

B. ALL FIXTURES SHALL BE EQUIPPED WITH LAMPS UNLESS OTHERWISE NOTED. LAMPS SHALL BE INSTALLED NEW, IMMEDIATELY PRIOR TO FINAL INSPECTION, AND SHALL NOT BE USED FOR CONSTRUCTION.

C. FIXTURE CATALOG NUMBER REPRESENTS BASIC LUMINARY SIZE, TYPE, QUALITY AND CONFIGURATION. ACCESSORIES SHALL BE FURNISHED WITH EACH UNIT AS REQUIRED FOR A COMPLETE FINISH INSTALLATION. BASIC ACCESSORIES SHALL INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

1. JOINING PLATES, END CAPS, RETAINING CLIPS, ETC.
2. TRIMS FOR RECESSED FIXTURES.
3. FIXTURE STEMS AND CANOPIES FINISHED TO MATCH FIXTURES.
4. SPECIAL MOUNTING BRACKETS, TENONS, SLIP FILTERS, CONCRETE BASES, POLES, ANCHOR BOLTS, JUNCTION BOXES, AND STANCHIONS FOR ALL EXTERIOR LIGHTING FIXTURES. PROVIDE ALL WEATHERPROOFING FOR ALL LIGHTING FIXTURES TO BE INSTALLED IN EXTERIOR LOCATIONS.

D. STRUCTURAL SUPPORT OF ALL FIXTURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

E. THE SYSTEM GROUNDING CONDUCTOR SHALL BE SECURED TO EACH FIXTURE BODY BY MEANS OF A BONDING SCREW.

F. OWNER/DEVELOPER WILL HAVE RIGHT TO RELOCATE LIGHTING FIXTURES OR LIGHTING SWITCHES WITHIN 72" OF LOCATION SHOWN ON FIRST WALK-THROUGH AT NO ADDITIONAL EXPENSE. COORDINATE THE WALK-THROUGH PRIOR TO THE INSTALLATION OF THE WIRING.

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Revision Schedule		
Revision Number	Revision Description	Revision Date

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