NORTHGLENN URBAN RENEWAL AUTHORITY RESOLUTION NO.

N/22-5
Series of 2022

A RESOLUTION APPROVING A BUSINESS UTILITY ASSISTANCE GRANT (BUAG) WITH MOUNTAINSIDE PIZZA, INC. DBA DOMINO'S PIZZA

WHEREAS, Mountainside Pizza, Inc. dba Domino's Pizza (the "Grantee") is making utility improvements to the property located at 530 Malley Drive, Northglenn, CO 80233 (the "Property"); and

WHEREAS, NURA desires to facilitate the proposed improvements by reimbursing the tenant for utility upgrade improvements as described hereto as **Exhibit B** (the "improvements"); and

WHEREAS, NURA specifically finds that entering into this Agreement (**Exhibit A**) will enhance the physical appearance and economic viability of the Property, will protect adjacent properties from deterioration, and will maintain a positive business environment in the City of Northglenn.

NOW THEREFORE, BE IT RESOLVED BY THE BOARD OF COMMISSIONERS OF THE NORTHGLENN URBAN RENEWAL AUTHORITY, THAT:

Section 1. The Incentive Agreement attached hereto as **Exhibit A** is hereby approved for up to Twelve Thousand Five Hundred Dollars and Zero Cents (**$12,500.00)** and the Chair is authorized to execute the same on behalf of the Authority.

DATED this_____day of_____, 2022

Rosie Garner
Chair

ATTEST:

Debbie Tuttle
Executive Director

APPROVED AS TO FORM

Jeff Parker
Board Attorney

EXHIBIT A

NORTHGLENN URBAN RENEWAL AUTHORITY
BUSINESS UTILITY ASSISTANCE GRANT (BUAG)

THIS NORTHGLENN URBAN RENEWAL AUTHORITY BUSINESS UTILITY ASSISTANCE AGREEMENT (the "Agreement") is made and executed this ____ day of _____, 2022, (the "Effective Date") by and between the NORTHGLENN URBAN RENEWAL AUTHORITY, a Colorado Urban Renewal Authority ("NURA") and Mountainside Pizza, Inc. dba Domino's Pizza (the "Grantee") (individually a "Party" or collectively the "Parties").

W I T N E S S E T H

WHEREAS, NURA is authorized under the provisions of Colorado's Urban Renewal Law, C.R.S. § 31-25-101, *et seq*., to enter into agreements and provide financial incentives for the redevelopment of property to eliminate blight; and

WHEREAS, such redevelopment may be made and encouraged by granting financial assistance to businesses located within the NURA boundaries and to business owners of property within NURA boundaries; and

WHEREAS, Grantee desires to improve the property located at 530 Malley Drive, Northglenn, CO 80233 (the "Property") with the utility upgrade improvements more specifically described in Grantee's application for business incentives attached hereto as **Exhibit B** (the "Improvements"); and

WHEREAS, the Improvements are intended to preserve the Property, by protecting against its deterioration, maintaining a positive business environment in the City, and attracting other businesses to the City and the Northglenn Urban Renewal Area; and

WHEREAS, the Improvements will further the public purpose of NURA as set forth in C.R.S. § 31-25-102; and

WHEREAS, NURA desires to reimburse Grantee by paying Grantee for a portion of the Improvements pursuant to the terms of this Agreement.

NOW, THEREFORE, in order to promote redevelopment, fulfill NURA's urban renewal purpose as set forth in Colorado's Urban Renewal Law, C.R.S. § 31-25-101, *et seq.,* and achieve the above-referenced goals, and in consideration of the performance of the mutual covenants and promises set forth herein, the receipt and adequacy of which are hereby acknowledged, the Parties agree as follows:

I. REIMBURSEMENT

A. NURA agrees to reimburse Grantee an amount up to a maximum amount of Twelve Thousand Five Hundred Dollars and Zero Cents ($12,500.00) for the Improvements as follows:

1. The Improvements shall be constructed in compliance with all applicable laws, rules and regulations, including without limitation, all applicable building and technical codes, and City of Northglenn ordinances (collectively, the "Laws");

2. The Improvements shall be maintained and operated in compliance with the Laws;

3. All required approvals of any governmental authority with jurisdiction over the Improvements shall be obtained by Grantee prior to construction of the Improvements;

4. All contractors and subcontractors have signed lien waivers for all work and materials related to the Improvements; and

5. Grantee shall provide NURA with itemized reasonably detailed invoices and financial documentation that to NURA's reasonable satisfaction confirm the Actual Direct Costs of the Improvements.

The phrase "Actual Direct Costs" means costs invoiced to Grantee by the contractor(s) which can include sales and use taxes, permits, and project design review fees, but shall not include internal Grantee costs, such as Grantee staff time or Grantee travel expenses.

B. Reimbursement to Grantee shall be made as follows:

1. Reimbursement shall not be made until all of the Improvements have been fully completed and all governmental requirements have been satisfied; and

2. Upon completion of the Improvements and Grantee being in compliance with all of the requirements of this Agreement, and upon delivery to NURA of fully paid invoices for all the Improvements, NURA shall reimburse Grantee up to a maximum of Twelve Thousand Five Hundred Dollars and Zero Cents ($12,500.00) for the Actual Direct Costs incurred by Grantee for the Improvements; and

3. NURA's obligation to reimburse Grantee shall terminate if Grantee has not met all of the above-listed conditions by August, 9, 2022.

II. ONGOING GRANTEE OBLIGATIONS

In addition to any ongoing obligations set forth in or reasonably implied from Section I, Grantee shall maintain the Improvements in good condition and good working order. If at any time within five (5) years from the Effective Date, Grantee fails to comply with the above-referenced conditions, Grantee shall reimburse NURA for all amounts paid by NURA to Grantee under this Agreement; provided that NURA shall first provide Grantee with written notice that one or both of the above-referenced conditions has been breached and Grantee shall have ten (10) days to cure the breach.

III. PROMOTION

Grantee authorizes NURA to promote the approved project, including but not limited to the following: Website, Signage, Northglenn Connection, Economic Development E-newsletter, and other marketing and promotional publications and communication methods.

IV. INDEMNIFICATION

Grantee agrees to indemnify and hold harmless NURA and its officers, insurers, volunteers, representatives, agents, employees, heirs and assigns from and against all claims, liability, damages, losses, expenses and demands, including attorney fees, on account of injury, loss, or damage, including, without limitation, claims arising from bodily injury, personal injury, sickness, disease, death, business loss or damage, or any other loss of any kind whatsoever, which arise out of or are in any manner connected with this Agreement if such injury, loss, or damage is caused in whole or in part by, the act, omission, error, professional error, mistake, negligence, or other fault of Grantee, any subcontractor of Grantee, or any officer, employee, representative, or agent of Grantee, or which arise out of any worker's compensation claim of any employee of Grantee or of any employee of any subcontractor of Grantee.

V. MISCELLANEOUS

A. Governing Law and Venue. This Agreement shall be governed by the laws of the State of Colorado, and any legal action concerning the provisions hereof shall be brought in Adams County, Colorado.

B. No Waiver. Delays in enforcement or the waiver of any one or more defaults or breaches of this Agreement by NURA shall not constitute a waiver of any of the other terms or obligation of this Agreement.

C. Integration. This Agreement and any attached exhibits constitute the entire Agreement between Grantee and NURA, superseding all prior oral or written communications.

D. Third Parties. There are no intended third-party beneficiaries to this Agreement.

E. Notice. Any notice under this Agreement shall be in writing, and shall be deemed sufficient when directly presented or sent pre-paid, first class United States Mail to the party at the following addresses set forth on the first page of this Agreement.

If to NURA:
Executive Director
Northglenn Urban Renewal Authority
11701 Community Center Drive
Northglenn, CO 80233

If to Grantee: Mountainside Pizza, Inc.
Domino's Pizza – Team Wow
Joseph R. Vanasco
5314 Paylor Lane
Lakewood Ranch, FL 34240

Either party may change such notice address upon prior written notice to the other party.

F. Severability. If any provision of this Agreement is found by a court of competent jurisdiction to be unlawful or unenforceable for any reason, the remaining provisions hereof shall remain in full force and effect.

G. Modification. This Agreement may only be modified upon written agreement of the Parties.

H. Assignment. Neither this Agreement nor any of the rights or obligations of the Parties hereto, shall be assigned by either party without the written consent of the other.

I. Governmental Immunity. NURA, its officers, and its employees, are relying on, and do not waive or intend to waive by any provision of this Agreement, the monetary limitations or any other rights, immunities, and protections provided by the Colorado Governmental Immunity Act, C.R.S. § 24-10-101, *et seq.*, as amended, or otherwise available to NURA and its officers or employees.

J. Rights and Remedies. The rights and remedies of NURA under this Agreement are in addition to any other rights and remedies provided by law. The expiration of this Agreement shall in no way limit NURA's legal or equitable remedies, or the period in which such remedies may be asserted.

K. Subject to Annual Appropriations. Any financial obligations of NURA not performed during the current fiscal year are subject to annual appropriation, and thus any obligations of NURA hereunder shall extend only to monies currently appropriated and shall not constitute a mandatory charge, requirement or liability beyond the current fiscal year.

[*Remainder of page intentionally blank. Signatures on following pages.*]

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement on the date first set forth above.

NORTHGLENN URBAN RENEWAL AUTHORITY

_____

Rosie Garner Date
Chair

ATTEST:

_____

Debbie Tuttle Date
Executive Director

APPROVED AS TO FORM:

_____

Jeff Parker
NURA Attorney

Mountainside Pizza, Inc. dba Domino's Pizza

By _____

Its: CONTROLLER

FLORIDA
STATE OF ~~COLORADO~~)
) ss.
COUNTY OF SARASOTA)

The foregoing instrument was subscribed, sworn to and acknowledged before me this ___ day of _____, 2022, by_____ as_____of Mountainside Pizza, Inc. dba Domino's Pizza.

My commission expires:

(S E A L)

MALISSA K. MACCI
MY COMMISSION # HH 013677
EXPIRES: June 23, 2024
Bonded Thru Notary Public Underwriters

_____
Notary Public

EXHIBIT B

NORTHGLENN URBAN RENEWAL AUTHORITY

Business Utility Assistance Grant (BUAG) Application Form

Name of Applicant: Joseph R Vanasco

Name of Business: Mountainside Pizza, Inc (dba Domino's)

Address of Business: 530 Malley Dr., Nortghlenn, CO 80233

Mailing Address (if different than business): 5314 Paylor Lane, Lakewood Ranch, FL 34240

Phone Number: 813-277-8977 **Email:** joe@team-wow.com

Type of Business: Domino's Pizza

Applicant is the: ☐ Property Owner ☑ Business Owner ☐ Other _____

How many years has the business been in existence? Mountainside-9Yrs, Domino's-62Yrs

How long has the business been operating at the current location? N/A

When does your current lease expire? 04-30-2032

If lease expires in less than two years, please explain the circumstances:

Property owner's name (if different from applicant): Xing Long House, LLC-Ricky Ye(PM

Property owner's address: 536 Malley Dr., Northglenn, CO 80233

Property owner's phone number: 720-589-1866 or 720-238-7286

Note: If you are not the property owner, please have the property owner or authorized representative co- sign this application under Property Owner Authorization on Page 3.

Why are you requesting this grant?

To help supplement costs associated with installation of electrical upgrades.

Proposed Improvements:
Please describe the proposed improvements to the property. If applicable, include one photograph of all area(s) showing the existing building conditions **prior** to the improvements.

Three bids are required for the proposed work. If you have any additional building information such as measured plans, site plans, or architectural documentation for improvements (plans, sketches, or construction costs, permit and construction fees and taxes), please include them with your application.

Utility Improvements Description:

Removal of existing electrical panel, installation of two (2) new electrical panels, new LED lighting, power to new RTU's, tankelss water heater, kitchen equipment (including but not limited to ovens, hood, makelines, walk-in-cooler, dishwasher), etc. and installation of tune filter (filters harmonics which helps reduce energy consumption).

Bid information:

Bid #1: Company Creative Construction Amount $ 46,928

Bid #2: Company New Style Contracting Amount $ 57,500

Bid #3: Company Tracon Construction Amount $ 58,500

Which company have you chosen to perform the work? Creative Construction

Is this company licensed to perform work in Northglenn? Yes ☑ No ☐

Budget & Timing:

Total overall proposed project budget: $ 46,928

Total amount of funding assistance being requested: $ 12,500

Desired completion date: 04-15-2022

Authorization:
The applicant authorizes the Northglenn Urban Renewal Authority (NURA) to promote an approved project, including but not limited to, displaying a NURA grant program sign or sticker at the site during and after construction, and the use of photographs and descriptions of the city and NURA related communications and materials.

The applicant understands that NURA reserves the right to make changes in the conditions of the Business Utility Assistance Grant program as warranted.

The applicant understands that, in the event this application is approved, a binding agreement must be signed and recorded. The applicant must also provide proof of the completed project prior to the release of grant funds.

Signature of Applicant /V (VANASCO) **Date** 01-28-2022

Property Owner Authorization:

If the applicant is not the property owner, please have the property owner or an authorized representative review and co-sign this application below.

As owner of property at 530 Malley Dr. Northglenn, CO (address) I have reviewed the above application and authorize the operator of Domino's (business name) at said address to perform improvements described above as part of the NURA Business Utility Assistance Grant program.

Signature of Property Owner or Authorized Representative:

[signature] 1/29/2022

Name **Date**

SUBMITTAL CHECKLIST

Please check all the boxes below indicating that you have included the following required documentation:

- [x] Original Application Form
- [x] At least one color photo of each area of the building where the improvements will be made **prior** to the improvements (if applicable)
- [x] Color rendering(s) of proposed scope of work **(Electrical Drawings)**
- [x] Three (3) contractor bids (including complete project description and cost estimate)
- [x] $25 application fee payable to NURA
- [x] Project Fact Sheet
- [ ] Pre-Treatment Questionnaire & Approvals **(Submitted to City per Shannon)**
- [ ] Building/Planning/Public Works Approvals **(To be submitted later per Shannon)**
- [x] Completed W-9 – Request for Taxpayer ID & Certification

GENERAL NOTES:

1. THE ELECTRICAL WORK SHALL INCLUDE FURNISHING ALL LABOR, SUPERVISION, MATERIALS, EQUIPMENT, TOOLS, TRANSPORTATION, INSURANCE AND PERFORM OPERATIONS REQUIRED TO CONSTRUCT AND INSTALL COMPLETE AND OPERATIVE ELECTRICAL SYSTEM IN ACCORDANCE WITH THE SPECIFICATIONS AND DRAWINGS.
2. ALL MATERIAL FURNISHED AND ALL WORK INSTALLED SHALL COMPLY WITH THE LATEST ACTIVE OR ADOPTED EDITIONS OF THE NATIONAL ELECTRIC CODE, STATE OR LOCAL ELECTRICAL CODES, AND THE REQUIREMENTS OF THE UTILITY COMPANIES. WHERE CONFLICTS OCCUR, THE MORE STRINGENT OR THE CODE ENFORCED BY THE AUTHORITY HAVING JURISDICTION SHALL APPLY.
3. WORK INTENDED, BUT HAVING MINOR DETAILS OBVIOUSLY OMITTED OR NOT SHOWN SHALL BE FURNISHED AND INSTALLED COMPLETE TO PERFORM REQUIRED FUNCTION.
4. ELECTRICAL PLANS ARE DIAGRAMATICAL. DO NOT SCALE. COORDINATE ACTUAL LOCATIONS OF ALL DEVICES AND ROUTING OF ALL RACEWAYS WITH ARCHITECT AND ALL TRADES PRIOR TO ANY ROUGH-IN.
5. ALL MATERIALS SHALL BE NEW AND IN GOOD CONDITION. THE MATERIAL SHALL BE THE PRODUCT OF SUBSTANTIALLY ESTABLISHED AND RECOGNIZED MANUFACTURER'S
6. THIS CONTRACTOR SHALL COORDINATE HIS WORK SO THAT IT DOES NOT INTERFERE WITH THE WORK OF ALL OTHER TRADES. IT SHALL BE THIS CONTRACTOR'S RESPONSIBILITY TO SEE THAT THIS WORK IS INSTALLED IN A TIMELY MANNER. PLAN AND INSTALL ALL ELECTRICAL WORK IN SUCH A MANNER AS TO PREVENT OBSTRUCTIONS, AND KEEP OPENINGS AND PASSAGEWAYS CLEAR. CONSULT ALL CONTRACT DRAWINGS FOR CONDITIONS AFFECTING THIS WORK AND VERIFY SPACES IN WHICH WORK WILL BE INSTALLED. NOTIFY ARCHITECT IMMEDIATELY OF POSSIBLE CONFLICTS. WHERE INTERFERENCE WITH STRUCTURAL, MECHANICAL OR OTHER FEATURES EXIST, OR WHERE JOB CONDITIONS REQUIRE REASONABLE CHANGES IN LOCATIONS AND ARRANGEMENT OF INDICATED EQUIPMENT, CONDUIT, OUTLETS OR WIRING, CONTRACTOR SHALL MAKE SUCH CHANGES WITHOUT EXTRA COST TO OWNER OR ARCHITECT.
7. THIS CONTRACTOR SHALL REVIEW ALL CONTRACT DOCUMENTS AND VISIT THE SITE PRIOR TO SUBMITTING HIS BID. HE SHALL INCLUDE ALL WORK IN HIS BID DISCERNIBLE FROM REVIEW OF DOCUMENTS AND SITE VISIT. NO SUBSEQUENT ALLOWANCES WILL BE MADE FOR LACK OF REASONABLE REVIEW OF DOCUMENTS AND SITE VISIT.
8. THIS CONTRACTOR SHALL SUBMIT FOR APPROVAL ONE (1) SET OF COMPLETE PDF'S OF SHOP DRAWINGS ON THE FOLLOWING: PANELBOARDS, DISCONNECT SWITCHES, LIGHTING FIXTURES, LAMPS, DEVICES AND COVERPLATES, FIRE ALARM EQUIPMENT AND ANY OTHER ITEMS REQUESTED BY THE ARCHITECT.
9. THIS CONTRACTOR SHALL LEAVE EACH ENTIRE ELECTRICAL SYSTEM IN PROPER WORKING ORDER AND SHALL REPLACE ANY WORK OR MATERIAL PROVIDED BY HIM UNDER THIS CONTRACT WHICH DEVELOPS DEFECTS WITHIN (1) YEAR OF FINAL ACCEPTANCE BY OWNER.
10. THIS CONTRACTOR SHALL PROVIDE, MAINTAIN AND REMOVE AFTER CONSTRUCTION IS COMPLETE, AND ADEQUATE TEMPORARY POWER AND LIGHTING SYSTEM.
11. PANELBOARDS SHALL BE OF THE SAME MANUFACTURER, (SQUARE 'D', CUTLER-HAMMER, GE OR ITE/SEIMENS). PROVIDE SCREW-ON ENGRAVED NAMEPLATES FOR ALL DISTRIBUTION EQUIPMENT.
12. THIS CONTRACTOR SHALL PROVIDE NEW, TYPED, PANELBOARD DIRECTORIES FOR ALL NEW AND/OR EXISTING PANELS WITHIN THE SCOPE OF THIS PROJECT. THE DIRECTORIES SHALL INDICATE THE LOAD TYPE AND AREA SERVED. PROVIDE ALL FIELD VERIFICATION WORK AS NECESSARY.
13. LIGHTING FIXTURES SHALL BE FURNISHED COMPLETE WITH LAMPS, HANGERS AND INCIDENTALS. FIXTURES SHALL BE INDEPENDENTLY SUPPORTED FROM THE STRUCTURE ABOVE. ALL LIGHTING FIXTURES, LAMPS AND LENSES SHALL BE THOROUGHLY CLEANED PRIOR TO FINAL ACCEPTANCE.
14. WIRING DEVICES SHALL BE SPECIFICATION GRADE WITH HIGH IMPACT NYLON COVERPLATES. COLOR OF DEVICES AND COVERPLATES AS DIRECTED BY THE ARCHITECT. ACCEPTABLE MANUFACTURER'S ARE HUBBELL, P&S, GENERAL ELECTRIC AND COOPER INDUSTRIES.
15. WIRE SHALL BE 'THHN' OR 'XHHW' COPPER, 90°C, 600 VOLTS. SOLID SIZE 10 AND SMALLER, STRANDED SIZE 8 AND LARGER. ALL FEEDERS AND BRANCH CIRCUITS SHALL HAVE A GREEN CODE SIZE EQUIPMENT GROUND. MINIMUM SIZE WIRE #12 AWG. UNLESS OTHERWISE NOTED.
16. ALL INTERIOR WIRING SHALL BE IN EMT WITH STEEL, SET SCREW FITTINGS. EMT SHALL BE USED IN ALL BLOCK (CMU) WALLS. TYPE MC (METAL-CLAD) CABLE MAY BE USED ON THIS PROJECT SUBJECT TO MEETING ALL OF THE FOLLOWING CONDITIONS:
   A. THE LOCAL AUTHORITIES HAVING JURISDICTION MUST ALLOW THE USE OF MC CABLE.
   B. THE ARCHITECT AND OWNER MUST APPROVE OF THE USE OF MC CABLE.
   C. THE CABLE STRUCTURE AND INSTALLATION ARE IN ACCORDANCE WITH UL, NEC AND LOCAL CODE REQUIREMENTS.
   D. THE MC CABLE CONDUCTOR SIZE MEETS THE REQUIREMENTS OF THE CONSTRUCTION DRAWINGS AND NEC. THE MINIMUM WIRE SIZE SHALL BE #12 AWG., THHN OR THWN.
   E. THE MC CABLE MUST CONTAIN AN NEC SIZED GREEN GROUND CONDUCTOR FOR ALL CIRCUITS.
   F. RECORD DRAWINGS (AS-BUILT DRAWINGS) SHALL REFLECT THE USE AND ROUTING LOCATIONS OF THE MC CABLE.
17. THIS CONTRACTOR SHALL COORDINATE AN MAKE FINAL CONNECTIONS FOR MECHANICAL EQUIPMENT. SIZE ALL FUSES/CIRCUIT BREAKERS PROTECTING MECHANICAL EQUIPMENT PER EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
18. THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL ELECTRICAL WIRING, RACEWAYS, OUTLET AND JUNCTION BOXES, MOTOR STARTERS, DISCONNECT AND CONTROLS FOR EQUIPMENT FURNISHED UNDER OTHER SECTIONS, UNLESS NOTED OTHERWISE. VERIFY EQUIPMENT REQUIREMENTS WITH EQUIPMENT MANUFACTURER PRIOR TO BID.
19. THIS CONTRACTOR SHALL NOT INTERRUPT OR REMOVE ANY EXISTING CIRCUITS OR EQUIPMENT UNLESS NOTED OTHERWISE ON PLANS. ANY DAMAGED OR DISRUPTED CIRCUITS OR EQUIPMENT SHALL BE RESTORED TO LIKE NEW CONDITION AT NO ADDITIONAL COST TO OWNER OR ARCHITECT.
20. ALL PENETRATIONS OF FIRE-RESISTIVE FLOORS OR SHAFT WALLS SHALL BE PROTECTED BY MATERIALS AND INSTALLATION THAT CONFORM TO UNDERWRITER'S LABORATORIES LISTINGS FOR 'THROUGH-PENETRATION FIRE STOP SYSTEMS.' THE CONTRACTOR SHALL SUBMIT TO THE ARCHITECT, SHOP DRAWING DETAILS, FURNISHED BY THE MANUFACTURER OF THE FIRE STOP MATERIAL, WHICH SHOW COMPLETE CONFORMANCE WITH THE UL. THE DRAWINGS SHALL BE SPECIFIC FOR EACH PENETRATIONS, WITH ALL VARIABLES DEFINED.
21. THE FINAL DETERMINATION OF EXIT LIGHTING LOCATIONS AND EGRESS PATHWAYS SHALL BE THE RESPONSIBILITY OF THE ARCHITECT. THE CONTRACTOR SHALL CONFIRM AND VERIFY THE LOCATIONS OF ALL EXIT AND EMERGENCY LIGHTING WITH THE ARCHITECT PRIOR TO ANY INSTALLATION.
22. THE ELECTRICAL CONTRACTOR SHALL COORDINATE SYSTEM FURNITURE JUNCTION BOX LOCATIONS WITH THE SUPPLIER AND MAKE ALL FINAL FLEXIBLE CONNECTIONS TO SAME.

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
ATS	AUTOMATIC TRANSFER SWITCH
EDF	ELECTRIC DRINKING FOUNTAIN
EF	EXHAUST FAN
GFI	GROUND FAULT INTERRUPTER
GRD	GROUNDING/BONDING CONDUCTOR
MCC	MOTOR CONTROL CENTER
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
PNL	PANEL
SES	SERVICE ENTRANCE SECTION
SWBD	SWITCHBOARD
UNO	UNLESS NOTED OTHERWISE
WP	WEATHERPROOF
A/C	AIR CONDITIONING UNIT
E/C	EVAPORATIVE COOLER
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS

DEVICE MTG. HEIGHTS

ALL HEIGHTS ARE ABOVE FINISHED FLOOR AND TO THE CENTERLINE OF THE DEVICE U.N.O.

RECEPTACLES	+18"
TELEPHONE OUTLETS	+18"
DATA OUTLETS	+18"

ABOVE COUNTER RECEPTACLES, TELEPHONE AND DATA OUTLETS VERIFY WITH ARCHITECT PRIOR TO ROUGH IN.

SWITCHES	+48"
DIMMERS	+48"
OTHER CONTROLS	+48"
TIME SWITCHES	+48"
RECEPTACLE(S) LOCATED AT TMB	+48"
FA MANUAL PULL STATION	+48"
FA VISUAL DEVICES	+80"
FA AUDIO DEVICES	+80"

PANELBOARD SYMBOLS SCHEDULE

- ● INDICATES EXISTING LOAD AND BREAKER TO REMAIN, NO REVISION. EXISTING LOADS MAY HAVE BEEN ESTIMATED.
- ◑ INDICATES CIRCUIT BREAKER TO BE SUITABLE AND U.L. LISTED FOR "SWITCHING DUTY"
- ○ INDICATES NEW LOAD HAS BEEN ADDED TO EXISTING BREAKER.
- □ INDICATES EXISTING LOAD HAS BEEN REMOVED, BREAKER TO BECOME SPARE.
- ■ INDICATES NEW LOAD AND NEW BREAKER ADDED TO EXISTING BUSSED SPACE.
- ⬡ INDICATES EXISTING LOAD AND BREAKER HAS BEEN REMOVED AND REPLACED WITH NEW BREAKER AND NEW LOAD.
- ⬢ INDICATES PROVIDE LOCK-CLOSED DEVICE ON THE BREAKER.
- ◇ INDICATES PROVIDE LOCK-OPEN DEVICE ON THE BREAKER.
- ▽ INDICATES ISOLATED GROUNDED CIRCUIT.
- △ INDICATES CIRCUIT THRU LIGHTING CONTACTOR. SEE WIRING DIAGRAM.
- ▲ INDICATES CIRCUIT THRU PHOTO ELECTRIC CELL. PROVIDE 20A. PHOTO CELL AS REQUIRED.
- ◆ INDICATES CIRCUIT THRU TIME CLOCK. PROVIDE A TIME CLOCK AS REQUIRED.
- N INDICATES NON-CONTINUOUS LOAD @ 100%
- C INDICATES CONTINUOUS LOAD @ 125%
- M INDICATES MOTOR LOAD @ 100%
- LM INDICATES LARGEST MOTOR LOAD @ 125%
- SR INDICATES SPARE CIRCUIT BREAKER
- SP INDICATES BUSSED SPACE
- GF INDICATES GFCI CIRCUIT BREAKER

ELECTRICAL SYMBOLS

NOTE: SOME SYMBOLS IN THIS LIST MAY NOT BE USED FOR THIS PROJECT.

- CEILING MOUNTED LIGHT FIXTURE. LOWER CASE LETTER, IF USED, INDICATES SWITCHING. L# DESIGNATES TYPE. SEE LIGHT FIXTURE SCHEDULE FOR DETAILS.
- WALL MOUNTED LIGHT FIXTURE. LOWER CASE LETTER, IF USED, INDICATES SWITCHING. L# DESIGNATES TYPE. SEE LIGHT FIXTURE SCHEDULE FOR DETAILS.
- WALL WASHER LIGHT FIXTURE. ARROW INDICATES GENERAL DIRECTION OF WASH. LOWER CASE LETTER, IF USED, INDICATES SWITCHING. L# DESIGNATES TYPE. SEE LIGHT FIXTURE SCHEDULE FOR DETAILS.
- FLUORESCENT LIGHT FIXTURE. LOWER CASE LETTER, IF USED, INDICATES SWITCHING. L# DESIGNATES TYPE. SEE LIGHT FIXTURE SCHEDULE FOR DETAILS.
- TRACK LIGHTING SYSTEM. TRIANGLES DENOTE TRACK LIGHT FIXTURES. LOWER CASE LETTER, IF USED, INDICATES SWITCHING. L# DESIGNATES TYPE. SEE LIGHT FIXTURE SCHEDULE FOR DETAILS.
- POLE MOUNTED LIGHT FIXTURE. L# DESIGNATES TYPE. MULTIPLE LUMINARIES AS SHOWN ON PLANS. SEE LIGHT FIXTURE SCHEDULE FOR DETAIL. SEE POLE MOUNTING DETAIL FOR POLE INFORMATION.
- SPOT OR FLOOD LIGHT. L# DESIGNATES TYPE. SEE LIGHT FIXTURE SCHEDULE FOR DETAILS.
- NL — FLUORESCENT LIGHT FIXTURE WITH (2) LAMPS SERVED BY A FULL LIGHT OUTPUT EMERGENCY BALLAST. "NL" INDICATES FIXTURE SHALL BE CONNECTED TO UNSWITCHED CIRCUIT. LOWER CASE LETTER, IF USED, INDICATES SWITCHING. L# DISIGNATES TYPE. SEE LIGHT FIXTURE SCHEDULE FOR DETAILS.
- EXIT LIGHT FIXTURE. MOUNTING NOT SHOWN ON DRAWINGS. SHADED PORTION INDICATES FACE OF SIGN. PROVIDE ARROWS ON FACE(S) OF FIXTURE AS SHOWN ON PLANS. SEE FIXTURE SCHEDULE FOR DETAILS.
- JUNCTION BOX IN ACCESSIBLE LOCATION.
- FLEXIBLE CONDUIT EQUIPMENT CONNECTION. PROVIDE GROUND BUSHING AND GROUND CONDUCTOR IN ACCORDANCE WITH THE NEC. PROVIDE WEATHERPROOF FLEXIBLE CONDUIT FOR EQUIPMENT LOCATED OUTSIDE.
- $ — TOGGLE SWITCH. MOUNT AT 48" ABOVE FINISHED FLOOR U.N.O. 20 A. 120 V. OR 277 V. AS REQUIRED.
- $2 — TWO POLE TOGGLE SWITCH. MOUNT AT 48" ABOVE FINISHED FLOOR U.N.O. 20 A. 120 V. OR 277 V. AS REQUIRED.
- $3 — THREE WAY TOGGLE SWITCH. MOUNT AT 48" ABOVE FINISHED FLOOR U.N.O. 20 A. 120 V. OR 277 V. AS REQUIRED.
- $4 — FOUR WAY TOGGLE SWITCH. MOUNT AT 48" ABOVE FINISHED FLOOR U.N.O.
- $T — MOTOR RATED SWITCH, VOLTAGE AND PHASE RATED WITH THERMAL OVERLOAD PROTECTION. NEMA 3R WHEN LOCATED OUTSIDE.
- TC — TIMECLOCK. 3-POLE SINGLE THROUGH, 24-HR ASTRONOMIC DIAL WITH DAY OMITTING DEVICE, RESERVE POWER, AND NEMA 1 ENCLOSURE FOR INDOORS – NEMA 3R ENCLOSURE WHEN LOCATED OUTSIDE. EQUAL TO TORK #7300-ZL U.N.O.
- PC — PHOTOCELL SWITCH. MOUNT ABOVE ROOF AND AIM NORTH. EQUAL TO TORK #2100.
- D — DIMMER SWITCH. MOUNT AT 48" ABOVE FINISHED FLOOR U.N.O. SUPERSCRIPT NUMBER INDICATES: 1=1000 WATTS, 2=2000 WATTS, NONE =600 WATTS. DO NOT REMOVE COOLING FINS.
- DUPLEX RECEPTACLE. MOUNT AT 18" ABOVE FINISHED FLOOR U.N.O.
- DUPLEX RECEPTACLE. MOUNT 6" ABOVE SPLASH OF COUNTER TOP. VERIFY EXACT DIMENSIONS WITH ARCHITECT.
- SWITCH RATED DUPLEX RECEPTACLE. TIE STRAP REMOVED FOR "CONSTANT" AND SWITCHED LEG CONTROL WIRING.
- CEILING MOUNTED DUPLEX RECEPTACLE
- QUAD RECEPTACLE. TWO DUPLEX RECEPTACLES WITH ONE DEVICE PLATE. MOUNT AT 18" ABOVE FINISHED FLOOR U.N.O.
- QUAD RECEPTACLE. TWO DUPLEX RECEPTACLES WITH ONE DEVICE PLATE. MOUNT AT 6" ABOVE SPLASH OF COUNTER TOP. VERIFY EXACT DIMENSIONS WITH ARCHITECT.
- CIRCUIT BREAKER. AMPERAGE/POLES, AS INDICATED.
- SWITCH WITH FUSES. AMPERAGE/POLES, AND FUSE SIZE AND TYPE AS INDICATED.
- FUSED PULL-OUT SWITCH. AMPERAGE/POLES, AND FUSE SIZE AND TYPE AS INDICATED.
- FUSE. SIZE AND TYPE AS INDICATED. ALL FUSE TYPES NOTED ARE BUSMAN DESIGNATIONS U.N.O.
- TRANSFORMER. DRY TYPE, PAD MOUNT, WITH KVA, PRI. & SEC. VOLTAGE, MIN. IMPEDANCE, AND "K" RATING AS NOTED. 150°C RISE U.N.O. PROVIDE SEPARATELY DERIVED SOURCE GROUNDING PER NEC 250-26. CONDUCTOR SIZE AS NOTED.
- SES — SERVICE ENTRANCE SECTION. SEE ONE-LINE DIAGRAM.
- FLUSH FLOOR OUTLET WITH DEVICE SHOWN. PROVIDE WITH BRASS DEVICE PLATE AND CARPET FLANGE, IN CARPETED AREAS. TELEPHONE AND DATA OUTLETS SHALL HAVE MIN. 1"C. WITH PULL STRING STUBBED UP INTO ACCESSIBLE CEILING SPACE. PROVIDE CONDUIT BUSHINGS ABOVE CEILING.
- SPECIAL PURPOSE RECEPTACLE WITH NEMA CONFIGURATION NOTED, ie; 6-50, 15-20, ETC.
- MULTI OUTLET ASSEMBLY (MOA). MOUNT AT 6" ABOVE COUNTER SPLASH WHERE LOCATED BEHIND COUNTER, OR AT 12", U.N.O.

RECEPTACLE SUBSCRIPTS – PROVIDE THE FOLLOWING DEVICE FEATURES WHERE NOTED:

GF	GROUND FAULT CIRCUIT INTERRUPTER
IG	ISOLATED GROUND. PROVIDE SEPERATE GROUND CONDUCTOR FROM PANELBOARD WITHOUT ANY SPLICE.
V	VERIFY NEMA CONFIGURATION WITH EQUIPMENT TO BE SERVED PRIOR TO ROUGH-IN.
CC	CORD AND CAP. PROVIDE 6' CORD AND CAP FOR THE EQUIPMENT TO MATCH RECEPTACLE TYPE AND AMPERAGE.

- DATA OUTLET. SLASH LINE INDICATES MOUNTING IS ABOVE COUNTER. PROVIDE 3/4"C. WITH PULL STRING UP INTO ACCESSIBLE CEILING SPACE U.N.O. PROVIDE CONDUIT BUSHING ABOVE CEILING.
- TELEPHONE OUTLET. MOUNT AT 18" ABOVE FINISH FLOOR U.N.O. SLASH LINE INDICATES MOUNTING IS ABOVE COUNTER. PROVIDE 3/4"C. WITH PULL STRING UP INTO ACCESSIBLE CEILING SPACE U.N.O. PROVIDE CONDUIT BUSHING ABOVE CEILING. "P" INDICATES PAY PHONE. PROVIDE #6 CU GROUND PER NEC 800-40.
- DATA AND TELEPHONE OUTLETS COMBINED IN ONE BOX. PROVIDE (2) 3/4"C. WITH PULL STRING UP INTO ACCESSIBLE CEILING SPACE U.N.O. PROVIDE CONDUIT BUSHING ABOVE CEILING.
- SPEAKER. PROVIDE SPEAKER, BACKBOX, AND GRILL. VERIFY MOUNTING TYPE AND LOCATION WITH SPECIFICATIONS AND PLANS.
- 2'x 2'x 3/4" THICK FIRE RATED TELEPHONE MOUNTING BOARD. MOUNT AT 6" BELOW CEILING. PROVIDE #6 SOLID CU GROUND PER NEC 800-40.
- CIRCUITS IN CONCEALED CONDUIT U.N.O. NO DISTINCTION IS MADE FOR UNDERGROUND OR OVERHEAD CONDUITS. (———) INDICATES HOMERUN TO PANELBOARD OR AS NOTED. HACHURES INDICATE NUMBER OF PHASE AND NEUTRAL CONDUTORS, WHERE NO HACHURES ARE SHOWN PROVIDE 2#12 CU, 1#12 CU BOND IN 1/2" CONDUIT. WHEN HOMERUN CONDUCTORS ARE LARGER THAN #12, PROVIDE INDICATED SIZE FOR ENTIRE LENGTH OF CIRCUIT. BOND AND ISOLATED GROUND CONDUCTORS ARE NOT SHOWN. PROVIDE EQUIPMENT BOND WITH ALL CIRCUITS PER NEC 250-95. PROVIDE ISOLATED GROUND FOR IG RECIPTACLES PER NEC 250-95.
- PANELBOARD. SURFACE OR FLUSH MOUNTED AS NOTED IN PANEL SCHEDULE.
- MOTOR. SIZE AND RATING AS SHOWN. "EF" INDICATES EXHAUST FAN.
- PREWIRED MOTOR CONTROLLER FURNISHED WITH EQUIPMENT.
- MAGNETIC MOTOR STARTER. SIZE, VOLTAGE, PHASE, AND NUMBER OF POLES AS REQUIRED. FURNISHED WITH (1) N.O./N.C. FIELD CONVERTIBLE AUXILIARY CONTACT. SHALL BE SINGLE SPEED NON-REVERSING U.N.O. PROVIDE NEMA 3R WHEN LOCATED OUTSIDE.
- COMBINATION DISCONNECT SWITCH AND MOTOR STARTER WITH ENCLOSURE. SEE DISCONNECT SWITCH AND MAGNETIC MOTOR STARTER SYMBOLS. SIZE ACCORDING TO RELATED CIRCUIT BREAKER U.N.O.
- HEAVY DUTY FUSED DISCONNECT SWITCH. SIZE ACCORDING TO RELATED CIRCUIT BREAKER U.N.O. NF = NON-FUSIBLE
- TELEVISION OUTLET. SLASH LINE INDICATES MOUNTING IS ABOVE COUNTER. PROVIDE 3/4"C. WITH PULL STRING INTO ACCESSIBLE CEILING SPACE U.N.O. PROVIDE CONDUIT BUSHING ABOVE CEILING.

FAULT CURRENT SCHEDULE

DEVICE	AIC RATING	L-N VOLTS	UTILITY FAULT	UTILITY X	UTILITY R	FED FROM DEVICE	FED FROM FAULT	FED FROM X	FED FROM R	FEEDER SIZE	FEEDER X / 1000'	FEEDER R / 1000'	FEEDER LENGTH	FEEDER X	FEEDER R
SES	42,000	120V	42,000	0.002802	0.0005603					(2)#350kcmil	0.02	0.019		0	0
A	42K/10K	120V	23,294	0.004156	0.003044	SES	42,000	0.002802	0.0005603	#3/0	0.042	0.077	32'	0.0014	0.0025
B	42K/10K	120V	17,974	0.004682	0.004759	A	23,294	0.004156	0.003044	#1	0.046	0.15	11'	0.0005	0.0017
TC	22,000	120V	4,463	0.005266	0.02637	B	17,974	0.004682	0.004759	#12	0.054	2	11'	0.0006	0.0216

A

ROOM
MOUNTING SURFACE
FED FROM SES
NOTE NEW

VOLTS 208Y/120V 3P 4W
BUS AMPS 225
NEUTRAL 100%

AIC 42K/10K
MAIN BKR MLO
LUGS STANDARD

CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	KVA LOAD B	KVA LOAD C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	KVA LOAD B	KVA LOAD C
1	60/3	RTU-1	4.62			2	20/1	CUST AREA, LTG	0.048		
3	|			4.62		4	20/1	MISC. SHOW WINDOW LTG.		1.2	
5	|				4.62	6	20/1	DRY STOR&CAR TOP REC. GFCI			0.72
7	20/3	K27B WALK-IN COOLER CONDENSING UNIT	1.26			8	20/1	K9 HOT HOLD CAB GFCI	1.92		
9	|			1.26		10	20/1	WALK-IN COOL HEAT TAPE & LTS GFPE		0.72	
11	|				1.26	12	20/1	K10 MAKELINE RCP GFCI			1.66
13	20/1	MISC. SHOW WINDOW LTG.	1.2			14	20/1	K10 MAKELINE RCP GFCI	1.66		
15	20/1	K27A EVAP UNIT #2		0.24		16	20/1	MISC. SHOW WINDOW LTG.		1.2	
17	20/1	K27A EVAP UNIT #1			0.24	18	20/1	MISC. SHOW WINDOW LTG.			1.2
19	20/1	K21 2-DR VISI-COOLER GFCI	0.84			20	20/1	MAKELINE REC. GFCI	0.72		
21	20/1	MISC. W/H & PUMP		0.6		22	20/1	K14 MIN-FRIDGE GFCI		0.18	
23	20/1	ROOF RECEPTACLE GFCI			0.36	24	20/1	BLDG.SIGN.			1.2
25	20/1	SAUCE MIXER REC. GFCI	0.18			26	20/1	BLDG.SIGN.	1.2		
27	30/2	STACKED W/D GFCI		2.5		28	20/1	BLDG.SIGN.		1.2	
29	|				2.5	30	20/1	SMOKE DETECTOR (1)(2)			0.1
31	20/1	K22 COKE COOLER GFCI	0.9			32	50/3	RTU-2	3.07		
33	20/1	PROD AREA EF-1, LTG		1.42		34	|			3.07	
35	20/1	DW REC. GFCI			0.92	36	|				3.07
37	30/3	K29 HEAT BOOSTER	2.52			38	100/3	PANEL B	4.22		
39	|			2.52		40	|			3.18	
41	|				2.52	42	|				3.58
								TOTAL CONNECTED KVA BY PHASE	24.4	23.9	24
								TOTAL CONNECTED AMPS BY PHASE	203	200	200

	CONN. KVA	CALC. KVA			CONN. KVA	CALC. KVA	
LIGHTING	1.37	1.71	(125%)	CONTINUOUS	4.44	5.55	(125%)
LARGEST MOTOR	7.57	9.46	(125%)	HEATING	0	0	(100%)
OTHER MOTORS	30.5	30.5	(100%)	NONCONTINUOUS	5.69	5.69	(100%)
RECEPTACLES	16	13	(50%>10)	KITCHEN EQUIP	6.66	4.33	(65%)
KITCHEN	0	0	(100%)	NONCOIN/DIVERSE	0	0	(N/A)
				TOTAL KVA	72.2	70.2	

BALANCED THREE PHASE AMPS 195

B

ROOM
MOUNTING SURFACE
FED FROM A
NOTE NEW

VOLTS 208Y/120V 3P 4W
BUS AMPS 125
NEUTRAL 100%

AIC 42K/10K
MAIN BKR MLO
LUGS STANDARD

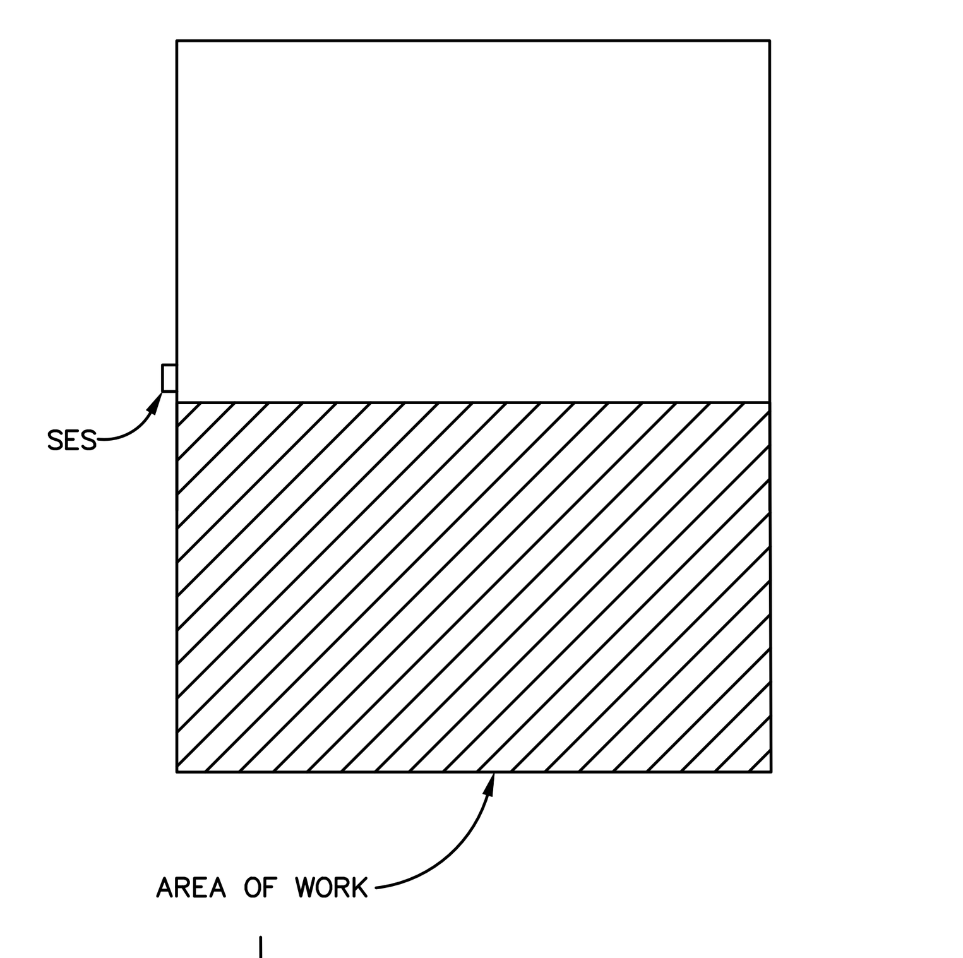
CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	KVA LOAD B	KVA LOAD C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	KVA LOAD B	KVA LOAD C
1	20/1	K12 BOFI CONVEYOR OVEN	0.576			2	20/1	K12 BOFI CONVEYOR OVEN	0.576		
3	-/1	SHUNT TRIP		0		4	-/1	SHUNT TRIP		0	
5	20/3	EFH-1			0.305	6	20/1	K12 BOFI CONVEYOR OVEN			0.576
7	|		0.305			8	-/1	SHUNT TRIP	0		
9	|			0.305		10	20/1	MAKELINE MONITOR GFCI		0.3	
11	20/1	ORDER STA REC. GFCI			0.18	12	20/1	MAKELINE SLAVE MONITOR GFCI			0.3
13	20/1	MENU BOARD MONITOR GFCI	0.6			14	20/1	MAKELINE MONITOR GFCI	0.3		
15	20/1	DRIVER DISP REC. GFCI		0.18		16	20/1	T.M.B. REC.		1.08	
17	20/1	ORDER STA REC. GFCI			0.36	18	-/1	CUST AREA GFCI			0
19	20/1	RR REC. GFCI	0.18			20	20/1	CUST AREA REC. GFCI	0.18		
21	20/1	MAN OFF REC. GFCI		0.36		22	20/1	REC&DATA PRINTER REC. GFCI		0.18	
23	20/1	P.O.S. REC. GFCI			0.6	24	20/1	DRIVER'S MONITOR GFCI			0.6
25	20/1	P.O.S. REC. GFCI	0.6			26	20/1	MANAGER DESK REC.ABV & BELOW GFCI	0.36		
27	20/1	PIZZA TRACKER TV GFCI		0.6		28	20/1	AIR CURTAIN REC.		0.18	
29	20/1	MAN OFF REC. GFCI			0.36	30	20/1	MAKELINE MONITOR GFCI			0.3
31	20/1	AIR CURTAIN REC.	0.18			32	20/1	SMART SAFE REC. GFCI	0.18		
33	20/1	SPARE		0		34	20/1	SPARE		0	
35	-/1	SPACE			0	36	20/1	SPARE			0
37	20/1	DSS THIN CLIENT REC. GFCI	0.18			38	40/3	TVSS	0		
39	-/1	SPACE		0		40	|			0	
41	20/1	TIMECLOCK/CONTACTOR			0	42	|				0
								TOTAL CONNECTED KVA BY PHASE	4.22	3.18	3.58
								TOTAL CONNECTED AMPS BY PHASE	35.1	26.5	29.8

	CONN. KVA	CALC. KVA			CONN. KVA	CALC. KVA	
LIGHTING	0	0	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR	0.915	1.14	(125%)	HEATING	0	0	(100%)
OTHER MOTORS	0	0	(100%)	NONCONTINUOUS	0	0	(100%)
RECEPTACLES	8.34	8.34	(50%>10)	KITCHEN EQUIP	1.73	1.56	(90%)
KITCHEN	0	0	(100%)	NONCOIN/DIVERSE	0	0	(N/A)
				TOTAL KVA	11	11	

BALANCED THREE PHASE AMPS 30.6

FEEDER SCHEDULE

FEEDER AMPS	CONDUIT AND FEEDER	FEEDING THESE DEVICES
20	1/2"C,1#12,#12N,#12G	TC
100	1-1/2"C,3#1,#1N,#8G	B
200	2"C,3#3/0,#3/0N,#6G	A



KEY MAP

N.T.S.

ONE-LINE NOTES:

A. SWITCHBOARD COMPONENTS, INCLUDING OVERCURRENT PROTECTIVE DEVICES SHALL BE FULLY RATED FOR THE AVAILABLE FAULT CURRENT SHOWN.

B. PER NEC ARTICLE 110.22, PROVIDE IDENTIFICATION AT ENCLOSURE OF PANEL BOARDS WHERE BREAKERS ARE APPLIED IN SERIES COMBINATION, STATING: "CAUTION – SERIES COMBINATION SYSTEM RATED ________AMPS AVAILABLE. IDENTIFIED REPLACEMENT COMPONENTS REQUIRED." CONTRACTOR TO FILL IN BLANK WITH AVAILABLE FAULT CURRENT AS SHOWN ON ONE-LINE DIAGRAM.

C. PER NEC ARTICLE 240.86(A), PROVIDE IDENTIFICATION AT EACH DISCONNECTING MEANS FEEDING DOWNSTREAM DEVICES APPLIED IN SERIES COMBINATION. PROVIDE NOTE INDICATING: "CAUTION – SERIES RATED DEVICES ARE FED FROM THIS REMOTE MAIN. ________AMPS AVAILABLE. IDENTIFIED REPLACEMENT COMPONENT REQUIRED." CONTRACTOR TO FILL IN BLANK WITH AVAILABLE FAULT CURRENT AS SHOWN ON ONE-LINE DIAGRAM.

D. THE SERIES RATED SYSTEM WILL BE 1-TIER WITH DEVICES RATED @ 65K/14K FOR 480V SYSTEMS AND 42K/10K FOR 208V SYSTEMS.

F. UNLESS NOTED OTHERWISE, LIGHTING AND APPLIANCE BRANCH CIRCUIT BREAKERS ARE SERIES RATED WITH REMOTE UPSTREAM MAIN BREAKERS IN ACCORDANCE WITH 'UL' 489.

G. PROVIDE ARC FLASH AND SHOCK HAZARD WARNING IDENTIFICATION PER NEC ARTICLE 110.16

H. NO DESIGN CHANGES MAY BE MADE TO THE SYSTEM WITHOUT THE PRIOR APPROVAL OF THE DESIGN ENGINEER AND THE ELECTRICAL INSPECTOR.

PANEL SCHEDULE NOTES:

A. A.I.C. RATING SHOWN ON PANEL SCHEDULES ARE THE MINIMUM RATING FOR NEW AND REPLACEMENT OVERCURRENT PROTECTIVE DEVICES. EACH DEVICE SHALL BE SERIES RATED WITH THE UPSTREAM DEVICE AT AFC AS SHOWN ON ONE-LINE DIAGRAM.

B. ALL PANEL BOARDS SHALL HAVE A TYPE WRITTEN DIRECTORY IDENTIFYING EACH NUMBERED CIRCUIT PLACED IN A DIRECTORY HOLDER INSIDE THE DOOR.

C. THE CONTRACTOR SHALL PERMANENTLY MARK WITH PERMANENT MARKER THE CIRCUIT IDENTIFICATIONS ON THE COVERPLATES OF RECEPTACLES, EQUIPMENT, AND LIGHTING JUNCTION BOXES. (STICK ON LABELS NOT ACCEPTABLE)

SHEET NOTE

A. PER NEC 408.4 – EVERY BRANCH CIRCUIT AND CIRCUIT MODIFICATION MUST BE UNIQUELY IDENTIFIED. PROVIDE A TAG AT EACH CIRCUIT CONDUCTORS JUNCTION BOX, OUTLET, SWITCH, ETC. DESIGNATING WHICH ELECTRICAL PANEL AND CIRCUIT NUMBER THE CONDUCTOR IS FED FROM.

B. PROVIDED A HANDLE-TIE TO OPERATE SIMULTANEOUSLY FOR ALL CIRCUIT BREAKERS SHARING THE SAME NEUTRAL CONDUCTOR.

SES KEYED NOTES

(1) TVSS (TRANSIENT VOLTAGE SURGE SUPPRESSER) TO BE SUPPLIED BY ELECTRICAL CONTRACTOR. MANUFACTURER: SIEMENS, MODEL# TPS3 SERIES-TPS3-*-11-10-D2, NEMA 4X, OR EQUAL. INTERIOR MOUNTED ADJACENT TO PANEL-B AND WITHIN 10'. PROVIDE ALL WIRING AND GROUNDING AS RECOMMENDED BY THE MANUFACTURER. ELECTRICAL CONTRACTOR SHALL CONTACT AND COORDINATE EXACT TVSS REQUIREMENTS WITH MANUFACTURER. SIEMENS INDUSTRY, INC. AT (888)333-3545, info.us@siemens.com

*
A=120/240V, 1PH, 3W
B=120/240V, 3PH, 4W
C=120/208V, 3PH, 4W

PANEL SCHEDULE KEYED NOTES :

(1) INDICATES PROVIDE & INSTALL A LOCK-ON DEVICE.
(2) PROVIDE RED IDENTIFICATION FOR FIRE ALARM EQUIPMENT PER NEC 760.41 (A) & (B).

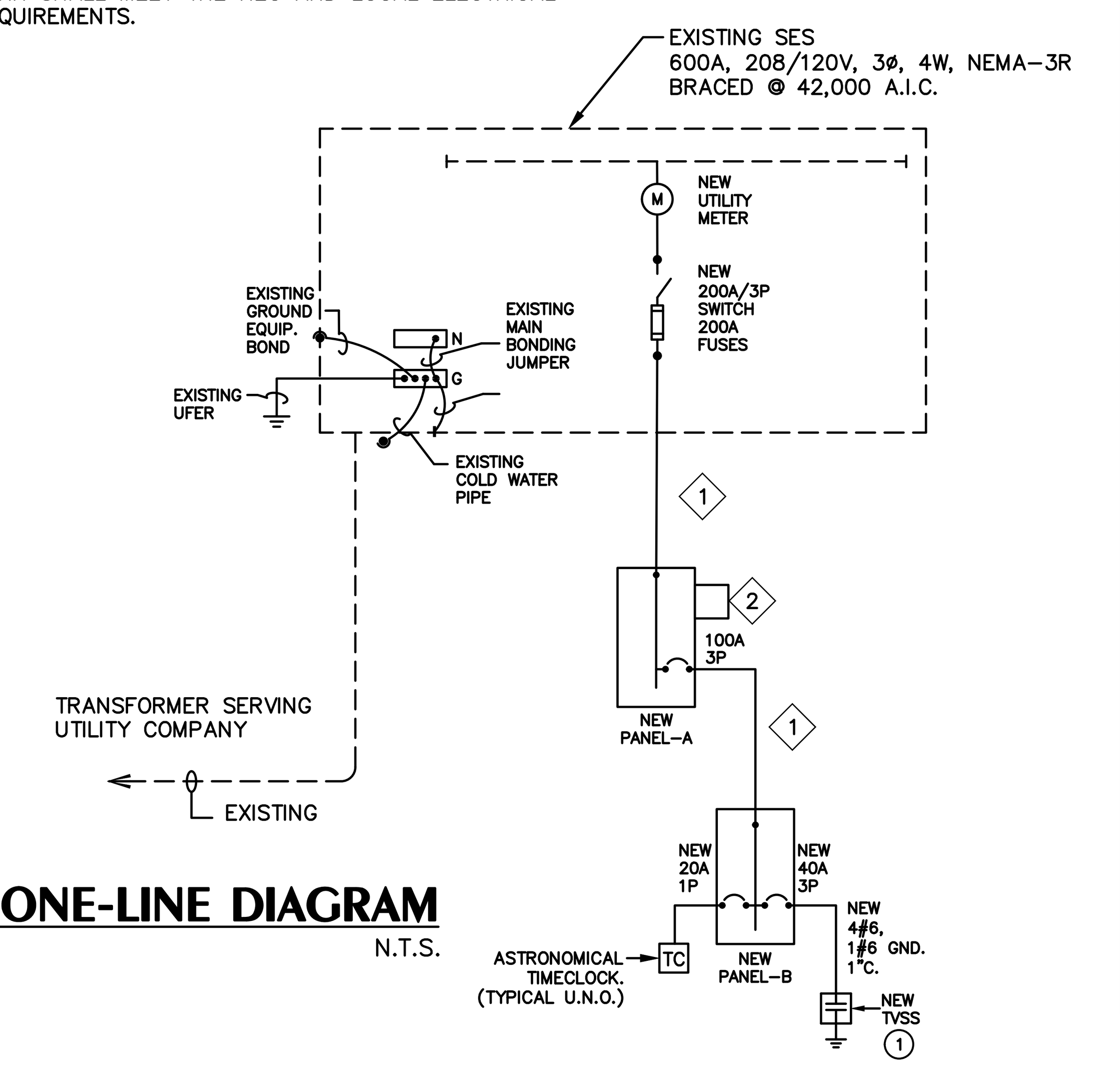
GENERAL ONE-LINE NOTES :

A. DASHED LINES INDICATE EXISTING EQUIPMENT. SOLID LINES INDICATE NEW EQUIPMENT U.N.O.

ONE LINE DIAGRAM KEYED NOTES :

1. SEE FEEDER SCHEDULE THIS SHEET.

2. GC OR ELECTRICAL CONTRACTOR TO PROVIDE A TUNE FILTER MODEL T7 FOR THE DOMINO'S PANEL AS DIRECTED BY OWNER. ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT EQUIPMENT, INSTALLATION AND ELECTRICAL REQUIREMENTS WITH OWNER AND EQUIPMENT MANUFACTURER. ALL WOORK SHALL MEET THE NEC AND LOCAL ELECTRICAL CODE REQUIREMENTS.



PARTIAL ONE-LINE DIAGRAM

N.T.S.

GNICH ARCHITECTURE STUDIO
AN OREGON LIMITED LIABILITY COMPANY

1001 SE SANDY BLVD., SUITE 100
PORTLAND, OR 97214
V. 503.552.9079
F. 503.241.7055
WWW.GNICHARCH.COM

01.20.22

COLORADO REGISTERED PROFESSIONAL ENGINEER — DARRELL ROY CASE — NUMBER 32485

310.505.6222

Project No: 5510
Domino's Pizza Bakery Store
Pizza Theater Tenant Improvement
640 Malley Drive., Northglenn, CO 80233
for Longhorn Pizza, Inc.
5313 Paylor Lane, 34240

ISSUED FOR PERMIT:
12.22.2021

REV:	DATE:	DESCRIPTION:

SHEET NAME:
ELECTRICAL ONE-LINE DIAGRAM/ PANEL SCHEDULES/ CALCULATIONS
SDE-21136

SHEET NUMBER:
E1.0

LUMINAIRE SCHEDULE

CALLOUT	SYMBOL	LAMP	MODEL	DESCRIPTION	BALLAST	MOUNTING	INPUT WATTS	VOLTS
A1		(1) LED	GENESIS GLSZARCH-40W-5000K	2'X2' LED TROFFER, 5000K	STANDARD	CEILING	40	120V 1P 2W
AE		(1) LED	GENESIS GLSZARCH-40W-5000K	2'X2' LED TROFFER NIGHT LIGHT, 5000K	STANDARD	CEILING	40	120V 1P 2W
B		(1) LED	GENESIS GLSD6-15W-3000K-120/277-WHITE	6" APERTURE LED DOWNLIGHT	STANDARD	RECESSED	15	120V 1P 2W
C		(1) LED	GENESIS GLSD6-15W-3000K-120/277-WHITE	6" APERTURE LED DOWNLIGHT	STANDARD	RECESSED	15	120V 1P 2W
CE		(1) LED	GENESIS GLSD6-15W-3000K-120/277-WHITE	6" APERTURE LED DOWNLIGHT NIGHT LIGHT	STANDARD	RECESSED	15	120V 1P 2W
EM1		(2) 1.1W LED	GENESIS GLSLEDR1	LED EMERGENCY LIGHT WITH EMERGENCY BATTERY BACK UP 90 MINUTE MINIMUM.	STANDARD	WALL	1	120V 1P 2W
EM2		(1) 1.5W LED	GENESIS GLSRELED-S-W	DECORATIVE LED AC/EMERGENCY LIGHT WATERPROOF	STANDARD	WALL	1.5	120V 1P 2W
EXL		(1) 1W LED	GENESIS LEDCXTE-1-R-W-EM	EXIT SIGN WITH EMERGENCY BATTERY BACKUP 90 MIN MINIMUM	STANDARD	WALL	1	120V 1P 2W

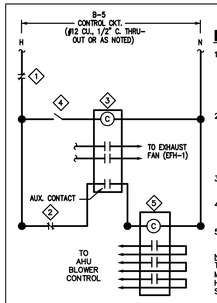
GENERAL NOTES:
A. ELECTRICAL CONTRACTOR SHALL COORDINATE ALL DEVICE & FIXTURE FINISHES, LOCATIONS AND MOUNTING HEIGHTS WITH ARCHITECT PRIOR TO PURCHASING ANY EQUIPMENT. ALSO CONFIRM THE EXACT CEILING TYPE PRIOR TO ORDERING ANY FIXTURES.
B. CONNECT ALL EXIT AND EMERGENCY LIGHTING TO UNSWITCHED LEG OF LOCAL LIGHTING CIRCUIT.

LIGHT SENSOR SYMBOLS:

- (M) STANDARD RANGE ULTRASONIC/INFRARED SENSOR (MOUNTED TO CEILING) MFR: SENSORSWITCH, CAT# CMR-PDT-9. (OR EQUAL)
- (P) STANDARD RANGE AUTOMATIC DIMMING CONTROL SENSOR (MOUNTED TO CEILING) MFR: SENSORSWITCH, CAT# CMR-ADC. (OR EQUAL) (LOWER CASE LETTER DESIGNATES WHICH FIXTURES ARE TO BE CONTROLLED BY THIS SENSOR)
- $_{TS}$ WALL MOUNTED TIME SWITCH WITH OVERRIDE FUNCTION. MFR: INTERMATIC, CAT# EI600WC. (OR EQUAL) COORDINATE LOCATION WITH OWNER. CONNECT TO 120V LIGHTING BRANCH CIRCUITS TO PROVIDE AUTOMATIC SHUT-OFF.
- (DS) DAY LIGHT SENSOR
- $_{OS}$ WALL MOUNTED OCCUPANCY/VACANCY SENSOR SWITCH
- $_{D}$ WALL MOUNTED DIMMER SWITCH

KEYED NOTES

1. WALK-IN COOLER LIGHTS PROVIDED BY MFR. CONNECTED AT HEAT TAPE & LTS J-BOX. SHOWN FOR REFERENCE ONLY. ELECTRICAL CONTRACTOR SHALL VERIFY THAT ADDED LOAD DOES NOT EXCEED 80 WATTS.

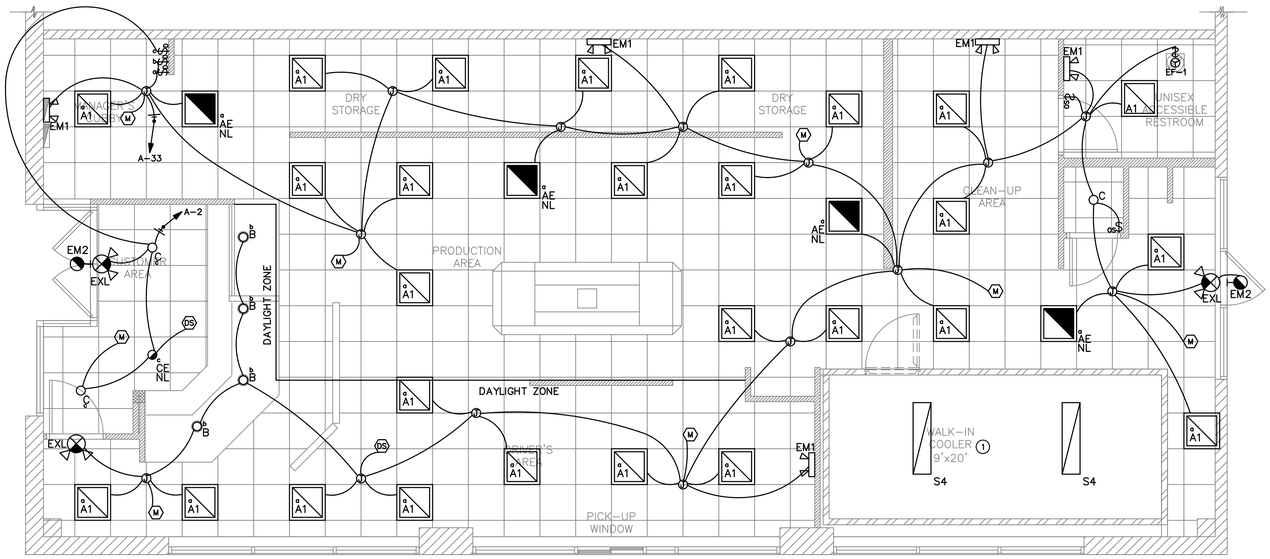


KEY NOTES

1. ROUTE CONTROL CIRCUIT THRU NORMALLY CLOSED CONTACTS IN FIRE SUPPRESSION SYSTEM IF REQUIRED BY FIRE MARSHALL OR "AUTHORITY HAVING JURISDICTION", TO SHUT DOWN BOTH "MAU-1" AND "HOOD EXHAUST FAN" UPON ACTIVATION OF FIRE SUPPRESSION SYSTEM. VERIFY WHICH OF KEYED NOTE 1 OR 2 WILL BE REQUIRED BY "AUTHORITIES".
2. ROUTE CONTROL CIRCUIT THRU NORMALLY CLOSED CONTACTS IN FIRE SUPPRESSION SYSTEM IF REQUIRED BY FIRE MARSHALL OR "AUTHORITY HAVING JURISDICTION", TO SHUT DOWN "MAU-1" WHILE ALLOWING "HOOD EXHAUST FAN" TO STAY "ON" UPON ACTIVATION OF FIRE SUPPRESSION SYSTEM. VERIFY WHICH KEYED NOTE 1 OR 2 WILL BE REQUIRED BY "AUTHORITIES".
3. MAGNETIC STARTER (M), SEE SYMBOLS AND FLOOR PLAN FOR LOCATION.
4. 15 AMP, 120V., TOGGLE SWITCH. LABEL "HOOD EXHAUST FAN AND BLOWER FANS". SEE FLOOR PLAN FOR LOCATION.
5. RELAY AND N.O. CONTACTS TO TURN BLOWER/A.H. TO 'ON' POSITION WHILE HOOD EXHAUST IS OPERATING.

NOTE:
THE HOOD EXHAUST FAN MOTOR SHALL BE INTERLOCKED WITH BLOWER MOTOR FROM MAKE-UP AIR FAN OR A/C UNIT AS NOTED SO WHEN HOOD EXHAUST FAN IS OPERATING ALSO THE BLOWER MOTOR OPERATE SIMULTANEOUSLY.

HOOD EXHAUST / MAKE-UP AIR INTERLOCK WIRING DIAGRAM



ELECTRICAL LIGHTING PLAN
SCALE: 1/4"=1'-0"

COMcheck Software Version 4.1.5.3
Interior Lighting Compliance Certificate

Project Information

Energy Code: 2018 IECC
Project Title: DOMINO'S PIZZA
Project Type: Alteration

Construction Site: 640 Malley Dr. Northglenn, CO 80233
Owner/Agent:
Designer/Contractor: AZ

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts (B X C)
1-Common Space Types:Food Preparation	1803	1.06	1911
		Total Allowed Watts =	1911

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Common Space Types:Food Preparation (1803 sq.ft.)				
LED 1: A1: 2X2: Other:	1	27	40	1080
LED 2: AE: 2X2 NL: Other:	1	4	40	160
LED 3: B: CAN: Other:	1	4	15	60
LED 4: C: CAN: Other:	1	3	15	45
LED 5: CE: CAN NL: Other:	1	1	15	15
			Total Proposed Watts =	1360

Interior Lighting PASSES

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting alteration project represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2018 IECC requirements in COMcheck Version 4.1.5.3 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title | Signature | Date

COMcheck Software Version 4.1.4.3
Inspection Checklist

Energy Code: 2018 IECC

Requirements: 100.0% were addressed directly in the COMcheck software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR4]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

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01.20.22

COLORADO REGISTERED DARRELL CHAD ROY CASE NUMBER 32485 PROFESSIONAL ENGINEER

Project No: 5510
Domino's Pizza Bakery Store
Pizza Theater Tenant Improvement
640 Malley Drive., Northglenn, CO 80233
for Longhorn Pizza, Inc.
5313 Paylor Lane, 34240

310.505.6222

ISSUED FOR PERMIT:
12.22.2021

REV:	DATE:	DESCRIPTION:

SHEET NAME:
ELECTRICAL LIGHTING PLAN

SDE-21136

SHEET NUMBER:
E2.0

GENERAL NOTES:
A. PROVIDE DUAL ELEMENT FUSES AND SIZE PER EQUIPMENT NAMEPLATE.

KEY NOTES:
E = FURNISHED BY ELECT. CONTRACTOR
F = FUSED (300V = FRNR / 600V = FRSR)
B = BREAKER
I = INTEGRAL WITH UNIT
NF = NON-FUSED
O = FURNISHED WITH EQUIPT
N3R = NEMA-3R RATED
N1 = NEMA-1 RATED

GENERAL EQUIPMENT SCHEDULE

CALLOUT	SYMBOL	DESCRIPTION	VOLTS	AMPS	KVA	CALC. LOAD KVA	CIRCUIT	WIRE CALLOUT
EF-1		EXHAUST FAN #1	120V 1P 2W	0.83	0.1	0.13	A-33	3/4"C,1#12,#12N,#12G
EFH-1		HOOD EXHAUST FAN	208V 3P 3W	2.54	0.91	1.14	B-5,7,9	3/4"C,3#12,#12G
HT & LIGHTS		HEAT TAPE & LIGHTS	120V 1P 2W	6	0.72	1	A-10	3/4"C,1#12,#12N,#12G
K9		CRESCOR HOT HOLD CAB	120V 1P 2W	16	1.92	2.4	A-8	3/4"C,1#12,#12N,#12G
K10		MAKELINE RCP	120V 1P 2W	13.8	1.66	1	A-14	3/4"C,1#12,#12N,#12G
K10		MAKELINE RCP	120V 1P 2W	13.8	1.66	1	A-12	3/4"C,1#12,#12N,#12G
K12		TRIPLE STACK CONVEYOR	120V 1P 2W	4.8	0.58	1	B-6	3/4"C,1#12,#12N,#12G
K12		TRIPLE STACK CONVEYOR	120V 1P 2W	4.8	0.58	1	B-2	3/4"C,1#12,#12N,#12G
K12		TRIPLE STACK CONVEYOR	120V 1P 2W	4.8	0.58	1	B-1	3/4"C,1#12,#12N,#12G
K14		ATOSA MIN-FRIDGE	120V 1P 2W	1.5	0.18	0.23	A-22	3/4"C,1#12,#12N,#12G
K21		2 DOOR VISI-COOLER	120V 1P 2W	7	0.84	1.05	A-19	3/4"C,1#12,#12N,#12G
K22		COKE COOLER	120V 1P 2W	7.5	0.9	1	A-31	3/4"C,1#12,#12N,#12G
K27A-1		COOLER EVAP UNIT #1	120V 1P 2W	2	0.24	0.3	A-17	3/4"C,1#12,#12N,#12G
K27A-2		COOLER EVAP UNIT #2	120V 1P 2W	2	0.24	0.3	A-15	3/4"C,1#12,#12N,#12G
K27B		COOLER COND UNIT	208V 3P 3W	10.5	3.78	4.73	A-7,9,11	3/4"C,3#12,#12G
K29		DISHMACHINE WATER HEAT BOOSTER	208V 3P 3W	21	7.57	9.46	A-37,39,41	3/4"C,3#10,#10G
RTU-1		ROOFTOP UNIT #1	208V 3P 3W	38.5	13.87	15.1	A-1,3,5	1"C,3#4,#10G
RTU-2		ROOFTOP UNIT #2	208V 3P 3W	25.6	9.22	10.65	A-32,34,36	3/4"C,3#6,#10G

NOTE: ALL DISCONNECTS AND SWITCHES TO BE PROVIDED AND INSTALLED BY ELEC CONTRACTOR.

GENERAL KITCHEN NOTES

1. FINAL CONNECTION TO ALL KITCHEN EQUIPMENT SHALL BE MADE WITH "SEAL-TITE" FLEXIBLE CONDUIT.
2. THE ELECTRICAL CONTRACTOR SHALL MAKE FINAL ELECTRICAL CONNECTIONS TO ALL KITCHEN FOOD SERVICE AND RELATED EQUIPMENT.
3. K# - INDICATES FOOD SERVICE EQUIPMENT IDENTIFICATION NUMBER. SEE KITCHEN SCHEDULE ON THIS SHEET.
4. THE ELECTRICAL CONTRACTOR SHALL VERIFY ROUGH-IN REQUIREMENTS, LOCATIONS, MOUNTING HEIGHTS, VOLTAGE, PHASE, AMPS, HP, KW, ETC. FOR ALL FOOD SERVICE EQUIPMENT PRIOR TO ROUGH-IN.
5. PROVIDE SEAL-OFF'S FOR ALL CONDUITS ENTERING OR LEAVING WALK-IN BOXES.
6. THE ELECTRICAL CONTRACTOR SHALL VERIFY THE ROUGH-IN REQUIREMENTS, LOCATIONS, ORIENTATION, VOLTAGE, PHASE, HP, KW, ETC. FOR ALL HVAC AND PLUMBING EQUIPMENT PRIOR TO ROUGH-IN.
7. ALL CIRCUITS SHALL HAVE AN INSULATED GROUND WIRE (BOND) SIZED PER N.E.C. 250.122. #12 MINIMUM GROUND. WIRE NOT SHOWN ON DRAWINGS.
8. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL DISCONNECT SWITCHES, CONDUIT, WIRE AND INSTALL UNDER SUPERVISION OF KITCHEN EQUIPMENT SUPPLIER.
9. THE ELECTRICAL CONTRACTOR SHALL VERIFY THE PLUG CONFIGURATIONS FOR APPLICABLE KITCHEN EQUIPMENT WITH SUPPLIER PRIOR TO ROUGH-IN.
10. PROVIDE GFCI PROTECTION FOR ALL KITCHEN RECEPTACLES PER NEC 210.8(B).
11. ALL RECEPTACLES IN PRODUCTION AREA LOW WALL SHALL BE MOUNTED HORIZONTALLY AT +6" BELLOW LOW WALL CAP U.N.O.

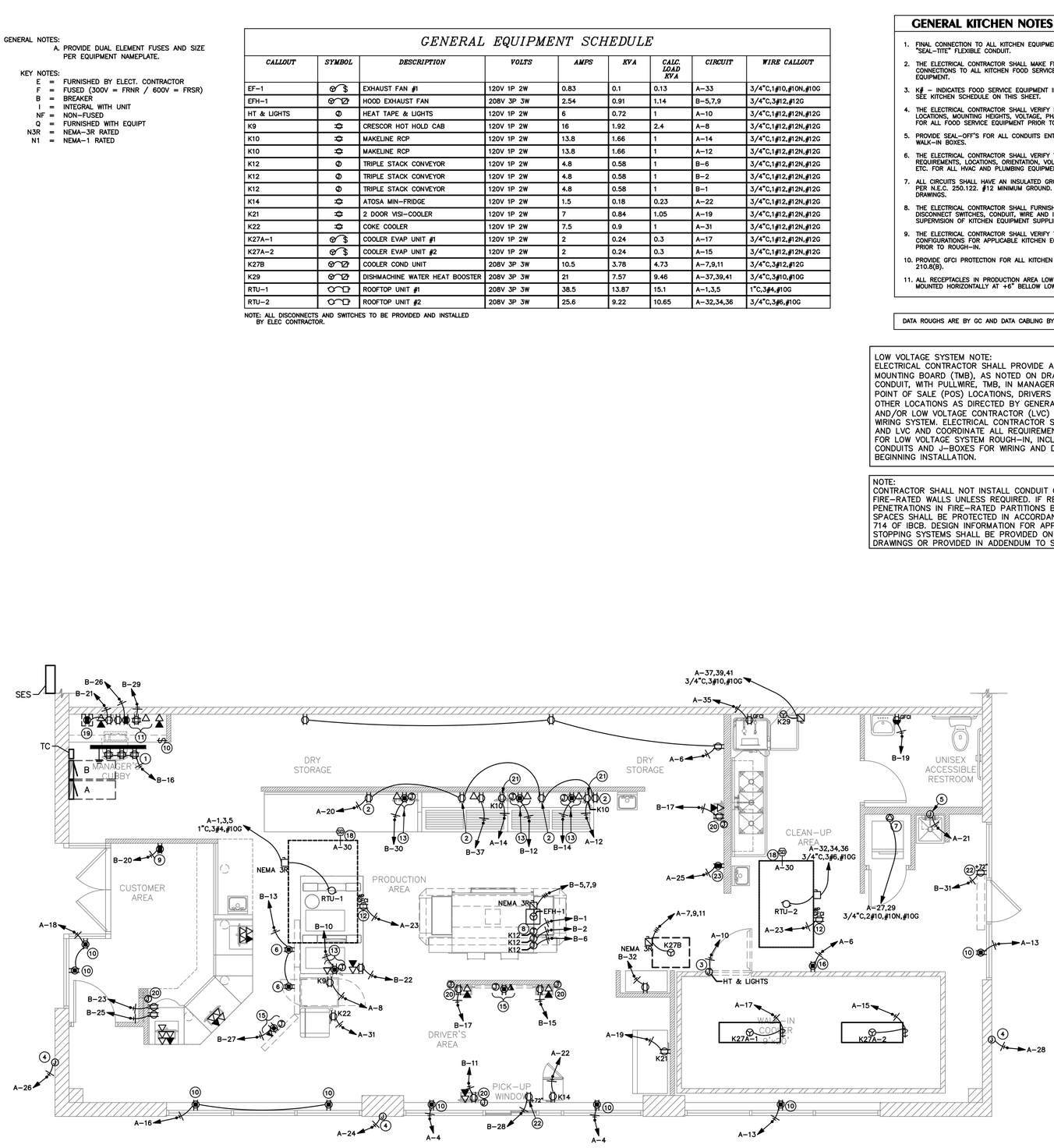
DATA ROUGHS ARE BY GC AND DATA CABLING BY DOMINO'S VENDER

LOW VOLTAGE SYSTEM NOTE:
ELECTRICAL CONTRACTOR SHALL PROVIDE A TELEPHONE MOUNTING BOARD (TMB), AS NOTED ON DRAWINGS AND 1-1/4" CONDUIT, WITH PULLWIRE, TMB, IN MANAGER OFFICE, TO ALL POINT OF SALE (POS) LOCATIONS, DRIVERS STATIONS AND OTHER LOCATIONS AS DIRECTED BY GENERAL CONTRACTOR (GC) AND/OR LOW VOLTAGE CONTRACTOR (LVC) FOR LOW VOLTAGE WIRING SYSTEM. ELECTRICAL CONTRACTOR SHALL MEET WITH GC AND LVC AND COORDINATE ALL REQUIREMENTS AND LOCATIONS FOR LOW VOLTAGE SYSTEM ROUGH-IN, INCLUDING TMB, CONDUITS AND J-BOXES FOR WIRING AND DEVICES PRIOR TO BEGINNING INSTALLATION.

NOTE:
CONTRACTOR SHALL NOT INSTALL CONDUIT OR J-BOXES IN FIRE-RATED WALLS UNLESS REQUIRED. IF REQUIRED ALL PENETRATIONS IN FIRE-RATED PARTITIONS BETWEEN TENANT SPACES SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 714 OF IBCB. DESIGN INFORMATION FOR APPROVED FIRE STOPPING SYSTEMS SHALL BE PROVIDED ON CONSTRUCTION DRAWINGS OR PROVIDED IN ADDENDUM TO SUCH DRAWINGS.

KEYED NOTES

1. PROVIDE A FIRE-TREATED 4'X4'X3/4" PLYWOOD WITH #6 CU. GND. FOR TELEPHONE/COMMUNICATIONS MOUNTING BOARD "T.M.B." TO COMPLY WITH NEC 800.100(B). COORDINATE EXACT LOCATION WITH OWNER PRIOR TO INSTALLATION. PROVIDE 3/4" C. TO MAIN BUILDING TELEPHONE MOUNTING CABINET/BOARD. MOUNT ABOVE SUSPENDED CEILING WHERE SHOWN IN ACCESSIBLE CEILING SPACE.
2. RECEPTACLE BEHIND MAKELINE AND PREP COUNTER RECOMMENDED TO BE MOUNTED AS HIGH AS POSSIBLE U.N.O. COORDINATE MOUNTING HEIGHTS & LOCATION WITH OWNER.
3. J-BOX FOR CONNECTION TO WALK-IN COOLER DOOR HEAT TAPE AND LIGHTS. PROVIDE W.P. MANUAL SWITCH AND MAKE CONNECTION TO LIGHTS. COORDINATE EXACT ELECTRICAL REQUIREMENTS WITH VENDOR.
4. PROVIDE W.P. JUNCTION BOX FOR CONNECTION TO NEW TENANT SIGNAGE. VERIFY EXACT LOCATION IN FIELD AND WITH OWNER PRIOR TO ANY WORK. VERIFY ELECTRICAL REQUIREMENTS WITH SIGN SUPPLIER. CIRCUIT THRU ASTRONOMICAL TIME CLOCK, PROVIDED BY GC.
5. PROVIDE JUNCTION BOX AND 20A RECEPTACLE FOR CONNECTION TO WATER HEATER IGNITER/CONTROLS/RECIRCULATION PUMP, AS APPLICABLE. COORDINATE EXACT LOCATIONS WITH PLUMBING CONTRACTOR. VERIFY ELECTRICAL REQUIREMENTS WITH W/H SUPPLIER/INSTALLER.
6. PROVIDE A CEILING MOUNTED RECEPTACLE FOR CONNECTION TO LED MENU BOARD. 600 WATTS MAX (EACH). VERIFY EXACT REQUIREMENTS WITH SUPPLIER AND THE LOCATION IN FIELD.
7. 30A, 120/208V 1PH, GFCI PROTECTED RECEPTACLE FOR ELECTRIC COMBINATION CLOTHES WASHER/DRYER. VERIFY LOCATION, RECEPTACLE CONFIGURATION AND ELECTRICAL REQUIREMENTS WITH THE OWNER AND MANUFACTURER. PROVIDE 3#10, 1#10 GND., IN 3/4"C. TO MEET NEC REQUIREMENTS.
8. PROVIDE JUNCTION BOX FOR CONNECTION TO OVEN CONTROLLER. COORDINATE EXACT LOCATION AND ELECTRICAL REQUIREMENTS OF CONTROLS WITH SUPPLIER.
9. PROVIDE A TAMPER RESISTANT COMBINATION 15A, 120V RECEPTACLE AND A USB CHARGER DEVICE TO BE EQUAL TO ARROWHART TR7740W. MOUNT COMBO-OUTLETS HORIZONTALLY AT +38" AFF.
10. SHOW-WINDOW RECEPTACLE, MOUNT FLUSH IN CEILING. PROVIDE 120V 20A SWITCH AT MANAGERS OFFICE FOR SHOW-WINDOW RECEPTACLES CONTROL. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO ROUGH-IN.
11. PROVIDE DATA OUTLET AND QUAD RECEPTACLE FOR SECURITY EQUIPMENT. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO ROUGH-IN. VERIFY EXACT ELECTRICAL REQUIREMENTS WITH INSTALLER OR OWNER.
12. PROVIDE A WP/GFI RECEPTACLE WITHIN 25'-0" OF HVAC EQUIPMENT. MOUNT RECEPTACLE AT +18" ABOVE ROOF/GROUND AS APPROPRIATE TO MEET NEC.
13. CONTRACTOR TO PROVIDE A DUPLEX RECEPTACLE AND DATA OUTLET AS SHOWN MOUNTED ABOVE CEILING.
14. NOT USED.
15. PROVIDE WALL/POLE MOUNTED RECEPTACLE FOR PIZZA TRACKER OR TV.
16. PROVIDE A 20A, 120V, DUPLEX RECEPTACLE IN CEILING FOR MAGNETIC CAR-TOPPERS ABV. VERIFY LOCATION AND ADDITIONAL REQUIREMENTS WITH OWNER.
17. NOT USED.
18. SMOKE DETECTOR MOUNT IN DUCT PER MECHANICAL CODE REQUIREMENTS.
19. PROVIDE USB/DUPLEX RECEPTACLE, COORDINATE EXACT LOCATION WITH OWNER PRIOR TO ROUGH IN.
20. PROVIDE JUNCTION BOX AND 3/4"C. E.C. (RECOMMENDED) WITH PULLSTRING FOR MONITOR CABLING BY OTHERS. COORDINATE EXACT LOCATIONS AND REQUIREMENTS WITH SUPPLIER OR OWNER.
21. PROVIDE A 20A,120V RECEPTACLE FOR MAKELINE COMPRESSOR. LOCATE RECEPTACLE NEAREST TO MAKELINE COMPRESSOR AS POSSIBLE. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH EQUIPMENT SUPPLIER AND GC.
22. PROVIDE A 20A, 120V RECEPTACLE FOR CONNECTION TO AIR CURTAIN. COORDINATE EXACT LOCATION, MOUNTING HEIGHT AND ELECTRICAL REQUIREMENTS WITH GC AND EQUIPMENT SUPPLIER.
23. PROVIDE A 20A, 120V RECEPTACLE MOUNTED ABOVE PREP TABLE. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH OWNER.



ELECTRICAL POWER PLAN
SCALE: 1/4"=1'-0"

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01.20.22

COLORADO REGISTERED DARRELL ROY CASE NUMBER 32485 PROFESSIONAL ENGINEER

Project No: 5510
Domino's Pizza Bakery Store
Pizza Theater Tenant Improvement
640 Malley Drive., Northglenn, CO 80233
for Longhorn Pizza, Inc.
5313 Paylor Lane, 34240
310.505.6222

ISSUED FOR PERMIT:
12.22.2021

REV:	DATE:	DESCRIPTION:

SHEET NAME:
ELECTRICAL POWER PLAN

SDE-21136

SHEET NUMBER:
E3.0

HVAC EQUIPMENT SCHEDULE

DESIGNATION	MANUFACTURER	NOMINAL CAPACITY (TONS)	EFFICIENCY EER/SEER (X)	MANUFACTURER MODEL	TOTAL AIRFLOW (CFM)	O.A. AIRFLOW, HOOD OPERATING (CFM)	O.A. AIRFLOW, NO HOOD (CFM)	E.S.P. (IN. WG.)	S.A. FAN SIZE (HP)	S.A. FAN (BHP)	S.A. FAN MAX (BHP)	S.A. FAN EFF. (%)	S.A. FAN SPEED (RPM)	S.A. FAN WHEEL DIA. (IN)	O.A. AIR TEMP. (DB)	O.A. AIR TEMP. (WB)	COIL ENT. AIR TEMP. (DB)	COIL ENT. AIR TEMP. (WB)	TOTAL COOLING (MBH)	SENSIBLE COOLING (MBH)	LATENT COOLING (MBH)	HEATING CAPACITY (MBH-GAS/KW-ELEC)	HEATING EFFICIENCY (%)	COMPRESSOR - QUANTITY/TYPE	INDOOR FAN FLA-HP (AMP)	COMPRESSOR QUAN./RLA-LRA EA. (AMP)	CONDENSER FAN QUAN./ FLA EA. (AMP)	MCA (AMP)	MOCP MIN/MAX (AMP)	ELECTRIC SERVICE (VOLTS/PHASE/HZ)	WEIGHT (LBS)	UNIT SEQUENCE NUMBER	ACCESSORIES
RTU-1	CARRIER	7.5	11.0 EER	48TCED08G2	3000	810	330	0.8	3	1.87	2.9	83	806	15X15	95	–	75	62	82.8	67.2	15.6	180 MBH/GAS	82	2/SCROLL	8.3	2/13.6-83	2/1.5	47/47	60/60	240/3/60	1222	1	MANUFACTURER'S ROOF CURB; ENTHALPY ECONOMIZER, SA SMOKE DETECTOR, FAULT DETECTION AND DIAGNOSTICS, POWERED CONVENIENCE OUTLET, HAIL GUARDS, MULTI-SPEED SUPPLY FAN .
RTU-2	CARRIER	5.0	12.0 EER 14.1 SEER	48KCEA06G2	2000	540	220	0.8	2	1.38	1.5	89	1323	10X10	95	–	75	62	57.0	46.1	10.9	115MBH/GAS	81	1/SCROLL	8.3	1/15.9-110	1/1.4	35/35	50/50	240/3/60	885	2	MANUFACTURER'S ROOF CURB, ENTHALPY ECONOMIZER, SA SMOKE DETECTOR, FAULT DETECTION AND DIAGNOSTICS, POWERED CONVENIENCE OUTLET, HAIL GUARDS.

HVAC ITEMS LEGEND

SYMBOL	DESCRIPTION
?X? / ?X?(R)	DUCT (SIZE IS CLEAR INSIDE DIMENSION) / RETURN DUCT (SIZE IS CLEAR INSIDE DIMENSION)
	SQUARE ELBOW WITH TURNING VANES
	AIR EXTRACTOR W/ VOLUME DAMPER (V.D.)
	DUCT TRANSITION
	INTERNALLY LINED DUCT
	HIDDEN DUCT
	RETURN AIR GRILLE
	CEILING DIFFUSER (4-W THROW UNLESS DIRECTION ARROWS SHOWN)
	FLEXIBLE DUCT WORK
UC	DOOR UNDERCUT
	SUPPLY REGISTER
	WALL CAP
	EXHAUST FAN
	FIRE DAMPER
SD	DUCT SMOKE DETECTOR
	MANUAL VOLUME DAMPER (MVD)
M	MOTORIZED DAMPER
H	HUMIDITY SENSOR
T	THERMOSTAT
S	TEMPERATURE SENSOR
AIRFLOW	AIR FLOW DIRECTION
	SUPPLY AIR DUCT UP / DOWN
	SUPPLY AIR DUCT UP / DOWN
	RETURN AIR DUCT UP / DOWN
	EXHAUST AIR DUCT UP / DOWN

SELECTED EQUIPMENT IN THESE DRAWINGS CAN BE SUBSTITUTED WITH EQUIPMENT OF EQUAL PERFORMANCE FROM ANOTHER MANUFACTURER THAT IS PREFERRED BY OWNER/MECHANICAL CONTRACTOR.

ABBREVIATIONS

ABBREV.	DESCRIPTION
A/C	ABOVE CEILING
A/G	ABOVE GRADE
ACD	CONDENSATE DRAIN
AFF	ABOVE FINISHED FLOOR
AP	ACCESS PANEL
ARCH	ARCHITECT/ARCHITECTURAL
B/F	BELOW FLOOR
B/G	BELOW GRADE
BHP	BRAKE HORSE POWER
CFM	CUBIC FEET / MINUTE
CONN	CONNECT/CONNECTION
CU	CUBIC
CW	DOMESTIC COLD WATER
EA	EXHAUST AIR
EXH	EXHAUST
F&I	FURNISH AND INSTALL
FF	FINISHED FLOOR
FT	FEET
GPM	GALLONS PER MINUTE
HP	HORSE POWER
IN	INCHES
OA	OUTSIDE AIR
POC	POINT OF CONNECTION
RA	RETURN AIR
RPM	REVOLUTIONS/MINUTE
SA	SUPPLY AIR
SQ	SQUARE
T'STAT	THERMOSTAT
UC	UNDERCUT DOOR
UON	UNLESS OTHERWISE NOTED
WG	WATER GAUGE

REFRIGERATION EQUIPMENT SCHEDULE

DESIGNATION	WICF-1	WICC-1
APPLICATION	WALK-IN COOLER FAN COIL	WALK-IN COOLER CONDENSING UNIT
MANUFACTURER	KOLPAK	KOLPAK
MODEL	FAN COIL FOR A 9'X20' WALK-IN	CONDENSING UNIT FOR A 9'X20' WALK-IN
REFRIGERANT	---	448A
COMMENTS	NOTE 1	NOTE 2

NOTE:
1. COORDINATE WITH ARCHITECTURAL AND ELECTRICAL PLANS
2. F&I W/ACR REFRIGERANT PIPING, ALL VALVES, APPURTENANCES AND EQUIPMENT REQUIRED FOR COMPLETE SYSTEM. UPSIZE REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATIONS TO MEET ACTUAL INSTALLATION CONDITIONS.

RESTAURANT AIR BALANCING SCHEDULE

EXHAUST UNIT	EXHAUST AIR FLOW (CFM)	PROVIDED BY	O.A. AIR FLOW (CFM)
EFH-1	1255	RTU-1,2	RTU-1: 810 RTU-2: 540
*EF-1	85	–	–
EXFILTRATION	10	–	–
TOTAL EXHAUST	1350	TOTAL O.A.	1350
*FANS TO BE OPERATING ON AN INTERMITTENT BASIS			

KITCHEN EXH AIR CALCULATIONS

AREA	SQ.FT	CFM/SQ.FT	TOTAL CFM	PROVIDED BY
KITCHEN	760	0.7	532.0	EFH-1

O.A. CALCULATIONS

AREA	OCCUPANCY	CFM/PERSON	SUBTOTAL	SQUARE FEET	CFM/SQ.FT	SUBTOTAL	TOTAL CFM	PROVIDED BY
LOBBY	4	7.5	30.0	104	0.18	18.7	48.7	RTU-1 & 2
STORAGE	5	0.0	0.0	933	0.12	112.0	112.0	RTU-1 & 2
PRODUCTION	4	7.5	30.0	760	0.18	136.8	166.8	RTU-1 & 2
						TOTAL	327	

AIR DISTRIBUTION DEVICES

DESIGNATION	"SD-1"	"SD-3"	"SD-4"	"RG-1"	"DG-1"
DESCRIPTION	PERFORATED CEILING DIFFUSER	LOUVER CEILING DIFFUSER	LOUVER. DIFFERENTIAL	PERFORATED CEILING INLET	NON-VISION DOOR GRILLE
APPLICATION	SUPPLY	SUPPLY	SUPPLY	RETURN / EXHAUST	TRANSFER
DESIGN MFG.	TITUS	TITUS	TITUS	TITUS	TITUS
MODEL NO	PAS-AA	TMS-AA	TMSA-AA	PAR-AA	CT-700
ACCESSORIES	OBD	OBD	OBD	–	–
NOTES	NOTES 3,6&7	NOTES 1&3	NOTES 1&3	NOTES 2,3,5&8	NOTE 4

NOTES:
1. ADJUSTABLE CORE DIFFUSER WITH ROUND NECK.
2. BORDER FOR A 24X24 LAY-IN CEILING GRID.
3. F&I WITH R-6 MOLDED INSULATION BLANKET.
4. DOUBLE DEFLECTION GRILLE, DUCT MOUNTED (NO CEILING), RADIUS END CAPS TO MATCH DUCT SIZE. MOUNT GRILLE AT 45° ANGLE BELOW HORIZONTAL. ADJUST BLADES FOR PROPER AIR DISTRIBUTION.
5. PERFORATED FACE RETURN/EXHAUST INLET. ROUND NECK W/BORDER FOR 12X12, 24X12, 16X16, 20X20 OR 24X24 LAY-IN CEILING GRID. SELECT BORDER SIZE FOR AVAILABLE SPACE IN CEILING GRID..
6. PERFORATED FACE DIFFUSER, ADJUSTABLE DISCHARGE PATTERN, ROUND NECK W/BORDER FOR 12X12, 24X12, 16X16, 20X20 OR 24X24 LAY-IN CEILING GRID. SELECTED BORDER SIZE FOR AVAILABLE SPACE IN CEILING GRID. UNLESS OTHERWISE INDICATED BY THROW DIRECTION ARROWS, UNIT TO BE 4-WAY DISTRIBUTION PATTERN.
7. W/TYPE 3 FRAME BORDER FOR 24x24 CEILING GRID.
8. F&I W/OPPOSED BLADE DAMPER.

VENTILATION FAN SCHEDULE

DESIGNATION	EFH-1	EF-1	–	–
APPLICATION	KITCHEN FAN EXHAUST	RESTROOM EXHAUST FAN	–	–
MANUFACTURER	ACME	GREENHECK	–	–
MODEL	PDU135RG	SP-B90	–	–
AIR FLOW (CFM)	1255	85	–	–
FAN SPEED (RPM)	–	700	–	–
EXT. STATIC PRESSURE	1"	0.125"	–	–
MOTOR (HP OR WATTS)	½	21.1W	–	–
ELECTRICAL	208/3/60	120/1/60	–	–
WEIGHT	130	35	–	–
COMMENTS	NOTES 1,2,3,4,6,7,8	NOTE 5	–	–

NOTES:
1. F&I 20" HINGED CURB. UNIT TO HAVE GRAVITY BACKDRAFT DAMPER, GALV. INSECT SCREEN ON DISCHARGE SIDE OF DAMPER AND VENTILATOR INLET TO BE FLANGED FOR DUCT CONN.
2. INTERLOCK RTU-1, 2 AND EFH-1 FOR SYNCHRONIZED OPERATION.
3. CONTROL TO CLOSE DAMPERS WHEN UNIT IS OFF AND OPEN WHEN THE UNIT RUNS.
4. DAMPER SHALL BE NORMALLY CLOSED WITH 24V ACTUATOR SUITABLE FOR INTERCONNECTION WITH AC CONTROL WIRING.
5. F&I W/MFGR SUPPLIED SPEED CONTROL TO BALANCE FAN. SPEED SWITCH TO BE IN SECURED PANEL ADJACENT TO FAN ABOVE CEILING. FANS TO BE CONTROLLED BY OCCUPANCY SENSORS COMBINED W/5 MIN (ADJ) TIME DELAY TO SHUT OFF FAN.
6. F&I MOTORIZED DAMPER ON OUTSIDE AIR & MAKE-UP AIR INTAKE DUCTS.
7. ROOF OPENING 14.5"X14.5".
8. VFD DRIVE.

GENERAL NOTES:

1. DOOR UNDERCUTS TO PROVIDE A 0.75"CLEAR OPENING.
2. MOUNT THERMOSTATS 48" ABOVE FINISH FLOOR TO CENTER.
3. DUCTWORK AND EQUIP. SHOWN IS DIAGRAMMATIC. COORDINATE AND ROUTE DUCTWORK TO MEET JOB REQUIREMENT. LOCATION OF EQUIPMENT MUST BE COORDINATED WITH ALL DISCIPLINES BEFORE FINAL LOCATIONS ARE SELECTED. WEIGHT OF EQUIPMENT MUST BE VERIFIED AND COORDINATED WITH STRUCTURAL SYSTEMS BEFORE EQUIPMENT CAN BE INSTALLED AT JOB SITE.
4. SPACE ALLOCATED FOR MECHANICAL AND OTHER WORK ABOVE THE SUSPENDED CEILING IS CRITICAL. LIGHT FIXTURES AND AIR DIFFUSERS HAVE BEEN LOCATED TO ACHIEVE A DEFINITE ARCHITECTURAL EFFECT AND MAY NOT BE CHANGED WITHOUT THE CONSENT OF THE ARCHITECT. BECOME FAMILIAR WITH THE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS PRIOR TO FABRICATING AND INSTALLING ANY MATERIALS. HANG DUCTWORK AS CLOSE AS POSSIBLE TO THE STRUCTURE ABOVE, UNLESS INDICATED OTHERWISE.
5. COORDINATE THE LOCATION OF CEILING DIFFUSERS, REGISTERS AND GRILLES WITH THE ARCHITECTURAL REFLECTED CEILING PLANS.
6. PASSAGES OF PIPES, CONDUITS, BUS DUCTS, CABLES, WIRE, AIR DUCTS, PNEUMATIC DUCTS, AND SIMILAR BUILDING SERVICE EQUIPMENT THROUGH FIRE BARRIERS SHALL BE PROTECTED AS FOLLOWS: THE SPACE BETWEEN THE PENETRATING ITEM AND FIRE BARRIER SHALL: BE FILLED WITH A MATERIAL CAPABLE OF MAINTAINING THE FIRE RESISTANCE RATING OF THE FIRE BARRIER PRODUCT. PRODUCT USED MUST MEET TEST METHODS ASTM E 814 OR NFPA 251 FOR FIRE RATING.
7. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DUCT AND PIPING LOCATIONS IN FIELD AND INCLUDE IN BID EXTENDING TO EXISTING AS REQUIRED. CONTRACTOR MAY REUSE ALL EXISTING DUCT IF CLEANED AND COMPLY WITH SPECS.
8. CONTRACTOR SHALL BALANCE ALL SYSTEMS. F&I 3RD PARTY OR LICENSED HVAC CONTRACTOR INSPECTION AND FURNISH COPY OF THE REPORT TO THE CITY INSPECTOR.
9. PLANS SHALL CONFORM TO THE THE CURRENT CODE AND LOCAL AMENDMENTS.
10. ALL DIFFUSERS AND GRILLES ARE LESS THAN 20 LBS, CONTRACTOR SHALL POSITIVELY ATTACH TO CEILING MAIN RUNNERS.
11. VENTS SHALL BE TERMINATED A MIN OF 1'-0" ABOVE ROOF AND 2'-0" ABOVE 8'-0" AWAY FROM PARAPETS OR WALLS.
12. THERMOSTATS ARE LOW VOLTAGE PROGRAMMABLE THERMOSTATS AND ARE TO BE LOCATED AS SHOWN. OWNER TO PROVIDE T. STAT AND WIRED SENSOR.
13. IF THERE IS NO PARAPET, THE PARAPET IS LESS THAN 42" ABOVE ROOF SURFACE OR A DIFFERENCE IN WALKING SURFACE ELEVATION OF 3'-0", THE UNITS PLACED WITHIN 10'-0" OF EDGE OF ROOF, SHALL HAVE RAILINGS OR TIE-OFFS MEETING OSHA REQUIREMENTS.
14. RUN-OUTS TO DUCTS TO AIR DISTRIBUTION DEVICES SHALL BE SIZED THE SAME AS THE CONNECTION TO THE AIR DISTRIBUTION DEVICE, UNLESS OTHERWISE NOTED.
15. INTERIOR SUPPLY AND RETURN TRUNK DUCTS TO BE FIBERBOARD OR SHEET METAL. (TYP)
16. F&I EQUIPMENT REQUIRING AN EXTERNAL SOURCE OF ELECTRICAL POWER FOR ITS OPERATION SHALL BE HAVE THE FOLLOWING:
    16.1. READILY ACCESSIBLE DISCONNECTING MEANS WITHIN SIGHT OF THE EQUIPMENT.
    16.2. 120 VAC GROUNDING-TYPE RECEPTACLE OUTLET ON THE ROOF ADJACENT TO WITHIN 25 FEET OF EQUIPMENT. THE RECEPTACLE OUTLET SHALL NOT BE CONNECTED TO THE LOAD SIDE OF THE EQUIPMENT DISCONNECTING MEANS NEC 210.63.
17. WHERE MORE THAN ONE HVAC UNIT IS INSTALLED ON THE ROOF OF, OR WITHIN A BUILDING, IT SHALL BE PERMANENTLY IDENTIFIED AS TO THE AREA OR SPACE SERVED BY THE EQUIPMENT.
18. FURNISH O&M MANUALS FOR HVAC SYSTEMS WITHIN 90 DAYS OF SYSTEM ACCEPTANCE.
19. HVAC EQUIPMENT TO BE TESTED TO ENSURE PROPER OPERATION.
20. AS-BUILT HVAC SYSTEMS DRAWINGS TO BE SUBMITTED WITHIN 90 DAYS OF SYSTEM ACCEPTANCE.
21. PROVIDE AN AIR BALANCE REPORT FOR SYSTEMS TO THE OWNER.
22. HVAC SYSTEM CONTROLS TO BE TESTED TO ENSURE PROPER CALIBRATION, ADJUSTMENT AND OPERATION.
23. FLASH AND COUNTERFLASH ALL PIPES, CONDUITS, DUCTS AND FLUES THROUGH ROOF AND / OR EXTERIOR WALLS. MAKE PENETRATIONS WATERTIGHT.
24. MAKE-UP AIR FOR EFH-1 TO BE SUPPLIED BY RTUS UON. IF AN OVEN HOOD MAKE, MODEL OR OVEN CONFIGURATION IS CHANGED FROM THAT WHICH IS SHOWN ON THE MECHANICAL & ARCHITECTURAL DRAWINGS, THE AIR BALANCE SCHEDULE IS VOIDED AND SUFFICIENT AIR BALANCE IS NOT GUARANTEED. IN THE CASE OF A CHANGE IN FIELD, CONTRACTOR TO VERIFY MAKE-UP AIR REQUIREMENTS WILL BE MET.
25. RETURN AIR GRILLS TO BE CLEANABLE.

FIELD VERIFICATION NOTES:

1. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING SITE CONDITIONS PRIOR TO SUBMITTING BID. FIELD VERIFICATION WORK SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING
    1.A. EXACT PLACEMENT, DIMENSIONS, CONDITIONS, CAPACITIES MANUFACTURER AND CONDITION OF ALL EXISTING HVAC EQUIP. WITHIN SCOPE OF WORK, WHETHER SPECIFICALLY SHOWN OR NOT.
    1.A. SIZE, CONDITION AND LOCATIONS OF ALL EXISTING DUCTWORK.
    1.B. SIZE, CONDITIONS AND LOCATIONS OF ALL EXISTING AIR DISTRIBUTION DEVICES, GRILLES, REGISTERS, DIFFUSERS, DAMPERS, ETC.
    1.C. CONDITIONS AND LOCATION OF ALL EXISTING ENVIRONMENTAL AND AUTOMATED CONTROLS.
2. ALL REFERENCES ON THESE DRAWINGS TO EXISTING EQUIPMENT, DUCTWORK, DIFFUSERS, THERMOSTATS AND PIPING ARE FOR REFERENCE ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL ITEMS PRIOR TO SUBMITTAL OF BID AND INCLUDE IN THE BID ANY AND ALL AMOUNTS REQUIRED TO ACCOMMODATE EXISTING CONDITIONS.
3. NO ALLOWANCES OR MODIFICATIONS TO THE CONTRACTOR'S BID OR BID CONDITIONS, DUE TO FAILURE OF ACCURATELY VERIFYING EXISTING CONDITIONS, AFTER THE PROJECT HAS BEEN AWARDED.
4. ANY DISCREPANCIES WHICH MAY AFFECT THE CONTRACTORS BID SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND THE ARCHITECT FOR DIRECTION AS SOON AS THEY ARE DISCOVERED.

TYPE I KITCHEN HOOD SCHEDULE

DESIGNATION	MANUFACTURER	MODEL	SUPPLY AIR (CFM)	MAKE-UP AIR DUCT CONN. DIA. (IN)	MAKE-UP AIR DUCT CONN. DEPTH (IN)	EXHAUST AIR FLOW (CFM)	EXHAUST DUCT CONN. WIDTH (IN)	EXHAUST DUCT CONN. DEPTH (IN)	HOOD PRESS DROP (IN. W.C.)	VELOCITY AT DUCT (FT/MIN)	WEIGHT (LBS)
KH-1	AVI	3270	--	--	--	1255	12	12	1	1255	750

NOTES:
1. REFER TO HOOD MANUFACTURER'S CUT-SHEETS FOR REQUIRED HOOD INFORMATION. EQUIPMENT AND APPLIANCES SHALL BE INSTALLED AS REQUIRED BY THE TERMS OF THEIR APPROVAL IN ACCORDANCE WITH THE CONDITIONS OF THE LISTING. THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND THE CURRENT CODE.
2. MANUFACTURER'S INSTALLATION INSTRUCTIONS SHALL BE AVAILABLE ON THE JOB SITE AT THE TIME OF INSPECTION.
3. SUPPORT: HOOD SHALL BE SECURED IN PLACE BY NON-COMBUSTIBLE SUPPORTS. ALL HOOD SUPPORTS SHALL BE ADEQUATE FOR THE APPLIED LOAD OF THE HOOD, THE UNSUPPORTED DUCTWORK, THE EFFLUENT LOADING, AND THE POSSIBLE WEIGHT OF PERSONNEL WORKING IN OR ON THE HOOD.
4. CLEARANCES: MAINTAIN CLEARANCES AS PER HOOD MANUFACTURER'S RECOMMENDATIONS AND AS PER CODE STANDARDS.
5. OPERATION: HOOD SYSTEM SHALL BE DESIGNED AND INSTALLED TO AUTOMATICALLY ACTIVATE THE EXHAUST FAN WHENEVER COOKING OPERATIONS OCCUR. THE ACTIVATION OF THE EXHAUST FAN SHALL OCCUR THROUGH AN INTERLOCK WITH THE COOKING APPLIANCES OR BY MEANS OF HEAT SENSORS.
6. PERFORMANCE TEST: KITCHEN HOOD AND DUCT SHALL HAVE A PERFORMANCE TEST PER THE CURRENT CODE.
7. EXHAUST DUCT WELD: EXTERNAL WELD ALL JOINTS AND SEAMS OF ALL TYPE I HOOD EXHAUST DUCTS.
8. AIR VELOCITY: GREASE DUCT SYSTEMS SERVING A TYPE I HOOD SHALL BE DESIGNED AND INSTALLED SO AS TO MAINTAIN AN AIR VELOCITY WITHIN THE DUCT SYSTEM BETWEEN 500 AND 1500 FEET PER MINUTE.
9. GREASE DUCT MATERIAL: FOR TYPE 1 HOOD DUCT GA. #16 MFG. STD. STEEL OR #18 MFG. STD. GA. STAINLESS.
10. GREASE DUCT SUPPORTS: GREASE DUCT BRACING AND SUPPORTS SHALL BE OF NON-COMBUSTIBLE MATERIALS SECURELY ATTACHED TO STRUCTURE AND DESIGN TO CARRY SEISMIC AND GRAVITY LOADS. BOLTS, SCREWS, RIVETS AND OTHER FASTENERS SHALL NOT PENETRATE DUCT WALLS.
11. MIN. SLOPE OF HORIZONTAL DUCTS: DUCT SYSTEMS SERVING A TYPE I HOOD SHALL SLOPE NOT LESS THAN ONE-FOURTH UNIT VERTICAL IN 12 UNITS HORIZONTAL (2-PERCENT SLOPE) TOWARD THE HOOD OR TOWARD AN APPROVED GREASE RESERVOIR.
12. CLEANOUTS: GREASE DUCT SYSTEM SHALL NOT HAVE OPENINGS THEREIN OTHER THAN THOSE REQUIRED FOR PROPER OPERATION AND MAINTENANCE OF THE SYSTEM. ANY PORTION OF SUCH SYSTEM HAVING SECTIONS NOT FURNISHED WITH ACCESS FROM THE DUCT ENTRY OR DISCHARGE SHALL BE FURNISHED WITH CLEANOUT OPENINGS. CLEANOUT OPENINGS SHALL BE EQUIPPED WITH TIGHT-FITTING DOORS CONSTRUCTED OF STEEL HAVING A THICKNESS NOT LESS THAN THAT REQUIRED FOR THE DUCT. DOORS SHALL BE EQUIPPED WITH A SUBSTANTIAL METHOD OF LATCHING, SUFFICIENT TO HOLD THE DOOR TIGHTLY CLOSED. DOORS SHALL BE DESIGNED SO THAT THEY ARE OPERABLE WITHOUT THE USE OF A TOOL. DOOR ASSEMBLIES, INCLUDING ANY FRAMES AND CASKETING, SHALL BE APPROVED FOR THE PURPOSE, AND SHALL NOT HAVE FASTENERS THAT PENETRATE THE DUCT. LISTED AND LABELED ACCESS DOOR ASSEMBLIES SHALL BE INSTALLED IN ACCORDANCE WITH THE TERMS OF THE LISTING. A SIGN SHALL BE PLACED ON ALL ACCESS PANELS STATING: "ACCESS PANEL – DO NOT OBSTRUCT" IN LETTERS AT LEAST 1" HIGH.
13. HORIZONTAL CLEANOUTS: CLEANOUTS LOCATED ON HORIZONTAL SECTIONS OF DUCTS SHALL BE SPACED NOT MORE THAT 20 FT APART. THE CLEANOUTS SHALL BE LOCATED ON THE SIDE OF THE DUCT WITH THE OPENING NOT LESS THAT 1.5 INCHES ABOVE THE BOTTOM OF THE DUCT, AND NOT LESS THAT 1 IN BELOW THE TOP OF THE DUCT WITH THE OPENING NOT LESS THAN 1.5 IN ABOVE THE BOTTOM OF THE DUCT, AND NOT LESS THAT 1 INCH BELOW THE TOP OF THE DUCT. THE OPENING MIN DIMENSIONS SHALL BE 12 IN ON EACH SIDE, WHERE THE DIMENSIONS OF THE SIDE OF THE DUCT PROHIBIT THE CLEANOUT INSTALLATION PRESCRIBED HEREIN. THE OPENINGS SHALL ON THE TOP OF THE DUCT OR THE BOTTOM OF THE DUCT. WHERE LOCATED ON THE TOP OF THE DUCT, THE OPENING EDGES SHALL BE A MINIMUM OF 1 INCH FROM THE EDGES OF THE DUCT. WHERE LOCATED IN THE BOTTOM OF THE DUCT, CLEANOUT OPENING SHALL BE DESIGNED TO PROVIDE FOR DRAINAGE OF GREASE DOWN THE DUCT AROUND THE DAM, AND SHALL BE APPROVED FOR THE APPLICATION. WHERE THE DIMENSIONS OF THE SIDES, TOP OR BOTTOM THE DUCT PRECLUDE THE INSTALLATION OF THE PRESCRIBED MINIMUM-SIZE OPENING, THE CLEANOUT SHALL BE LOCATED ON THE DUCT FACE THAT AFFORDS THE LARGEST OPENING DIMENSION AND SHALL BE INSTALLED WITH THE OPENING EDGES AT THE PRESCRIBED DISTANCES FROM THE DUCT EDGES AS PREVIOUSLY SET FORTH IN THIS SECTION.
14. FIRE SUPPRESSION: APPROVED FIRE SUPPRESSION SYSTEM COMPLYING WITH CURRENT CODE SHALL BE INSTALLED.

REFRIGERANT PIPING NOTES:

A. ONLY ACR RATED COPPER PIPE TO BE USED.
B. IF SHUT-OFF VALVES (SOV) ARE NOT INSTALLED ON THE EQUIPMENT BY THE MANUFACTURER, INSTALL SOV ON EACH EQUIPMENT CONNECTION.
C. INSTALL ADDITIONAL TX VALVE AS RECOMMENDED BY THE MANUFACTURER FOR THE LENGTH OF PIPING RUN.
D. USE LONG RADIUS ELBOWS AND FITTINGS.
E. ALL AHU UNIT TO HAVE AN INVERTED TRAP ON SUCTION LINE.
F. F&I FILTER/DRYER NEXT TO THE CU ON THE LIQUID LINE. THE FILTER/DRYER TO BE FOLLOWED BY A SIGHTGLASS WITH MOISTURE INDICATOR. F&I SOV IMMEDIATELY DOWNSTREAM OF EACH SIGHTGLASS.
G. ALL SUCTION AND HOT GAS BY-PASS LINES TO BE INSULATED.
H. F&I CONDENSING UNITS WITH LOW AMBIENT TEMPERATURE PROTECTION SUCH AS CONDENSER FLOOD BACK, CONDENSER FAN SPEED CONTROL OR CONDENSER FAN CYCLING.
I. FULLY CHARGE LINES AT THE END OF INSTALLATION, PRIOR TO SYSTEM START-UP.
J. ADD ADDITIONAL OIL TO EACH SYSTEM AS PER MANUFACTURER'S RECOMMENDATIONS FOR THE SYSTEM'S PIPE SIZES AND LENGTH.
K. PIPE MINIMUM BENDING RADIUS PER MANUFACTURER'S RECOMMENDATIONS, BUT IN NO CASE LESS THAN 4".
L. ADD ADDITIONAL REFRIGERANT AS RECOMMENDED BY THE MANUFACTURER OF EACH UNIT.

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01.20.22

COLORADO REGISTERED DARRELL ROY CASE NUMBER 32485 PROFESSIONAL ENGINEER

Project No: 5510/ Store #6281
Domino's Pizza Bakery Store
Pizza Theater Tenant Improvement
530 Malley Drive., Northglenn, CO 80233
Mountainside Pizza, Inc.
5313 Paylor Lane, 34240
Lakewood Ranch, FL 34240
310.505.6222

ISSUED FOR PERMIT:
12.23.2021

REV:	DATE:	DESCRIPTION:

SHEET NAME:
MECHANICAL SCHEDULES, CALCULATIONS AND LEGEND

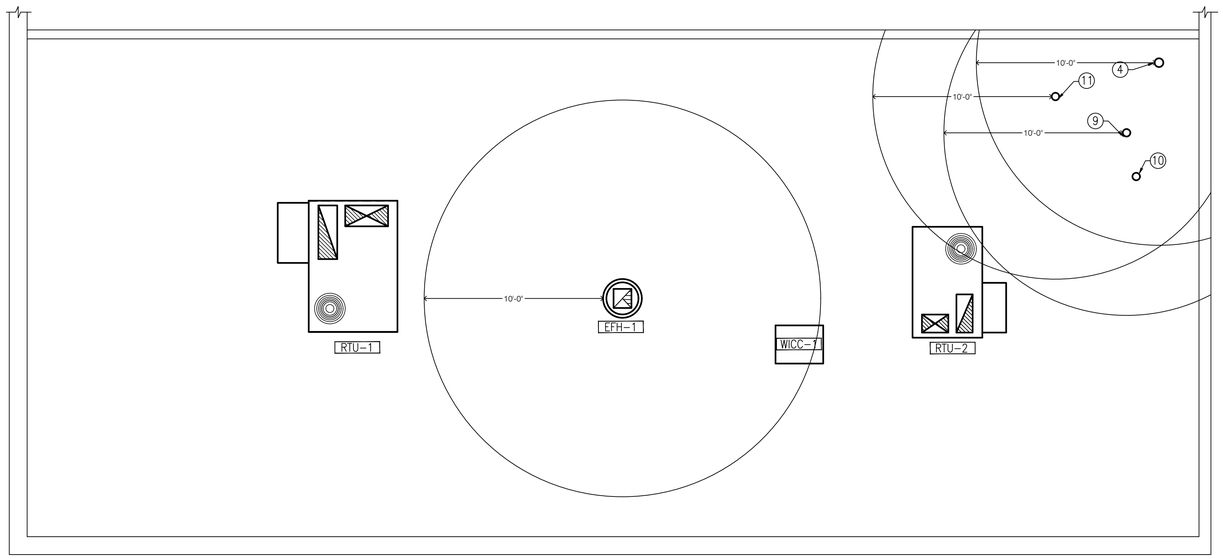
SHEET NUMBER:
M1.0

PRIOR TO THE COMMENCEMENT OF WORK, CONTRACTOR TO COORDINATE THE WORK REPRESENTED IN THIS SET OF DOCUMENTS. CONTRACTOR TO FIELD VERIFY CONDITION, LOCATION, SIZE, CAPACITY AND FLOW DIRECTION OF EXISTING SYSTEMS AND COMPONENTS BEING INCORPORATED INTO THE SYSTEMS AS INDICATED IN THESE DOCUMENTS.

UNLESS OTHERWISE NOTED, ALL EQUIPMENT, MATERIAL AND SYSTEM COMPONENTS CONTAINED OR REFERRED TO BY THESE DOCUMENTS ARE TO BE CONSIDERED AS NEW TO BE FURNISHED AND INSTALLED (F&I) AS THUS.

SEE SHEETS M1.0, P1.0, P4.0 AND ARCHITECTURAL DOCUMENTS FOR ADDITIONAL REQUIREMENTS.

UNLESS OTHERWISE NOTED, FLASH AND COUNTER FLASH ALL DUCTS, EQUIPMENT CURBS, ETC. PENETRATING THE ROOF/EXTERIOR WALLS, MAKE WATERTIGHT.



MECHANICAL ROOF PLAN
SCALE: 1/4" = 1'-0"

DUCT RUN-OUT SCHEDULE

DUCT CFM	DUCT SIZE
0-150	6" ROUND
150-270	8" ROUND
270-330	10" ROUND
330-470	12" ROUND
470-530	14" ROUND
530-690	16" ROUND

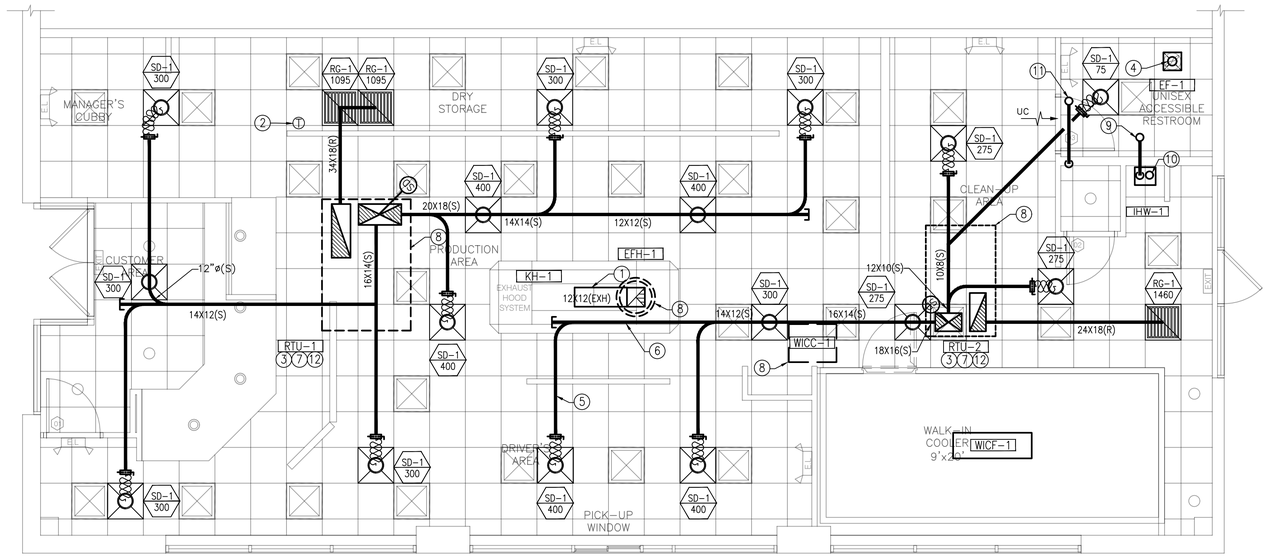
NOTES:
1. AIR DEVICE NECK SIZE SHALL BE THE SAME AS RUNOUT SIZE.
2. RECTANGULAR DUCT SIZES OF EQUIVALENT FREE AREA MAY BE SUBSTITUTED FOR ROUND DUCT,
3. RUNOUTS MAY BE RIGID OR FLEX DUCT PER SPECIFICATIONS.

RETURN AIR DEVICE NECK SIZE

NECK SIZE	CFM
6X6	0-100
8X8	100-200
10X10	200-400
12X12	400-650
15X15	650-1050
18X18	1050-1350
22X22	1350-2000

HVAC KEYED NOTES:

1. DUCTWRAP TO BE F&I FOR DUCTWORK CONNECTED TO EXTERIOR EXHAUST FAN AS PER ASTM-E2336. RISER TO REDUCE AT FAN CONNECTION AS REQUIRED TO FIT DUCTWRAP. MAINTAIN 10 FEET MINIMUM CLEARANCE FROM ALL MA OR OA INTAKE DUCTS.
2. T'STAT FOR UNITS RTU-1, 2 WITH 24 HR, 7 DAYS PROGRAMMABLE THERMOSTATS AND 5 DEGREE DEADBAND TO BE INSTALLED AT 48" ABOVE THE FLOOR.
3. TEMPERATURE SENSORS TO BE INSTALLED IN COMBINED RETURN/OUTSIDE AIR INTAKE.
4. 6"ø EXHAUST DUCT UP THRU ROOF. TERMINATE WITH FACTORY FABRICATED ROOF JACK. MAINTAIN 10 FEET MINIMUM CLEARANCE FROM ALL MA OR OA INTAKE DUCTS.
5. BRANCHES TO BE FLEX DUCT OR RIGID DUCT (TYP). FLEX DUCT RUNS NOT TO EXCEED 5'.
6. INTERIOR SUPPLY AND RETURN TRUNK DUCTS TO BE FIBERBOARD OR SHEET METAL (TYP).
7. DUCT RISER TO BE FULL SIZE OF UNIT'S DUCT CONNECTION.
8. OUTLINE OF EQUIPMENT ON ROOF.
9. RUN FLUE VENT UP THRU ROOF. TERMINATE WITH FACTORY FABRICATED ROOF JACK. MANUFACTURER'S CONCENTRIC ROOF JACK FOR FLUE VENT/COMBUSTION AIR IS ACCEPTABLE. MAINTAIN 10 FEET MINIMUM CLEARANCE FROM ALL MA OR OA INTAKE DUCTS.
10. RUN COMBUSTION AIR VENT UP THRU ROOF. SEE MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR SIZE.
11. RUN DRYER VENT UP THRU ROOF. TERMINATE WITH FACTORY FABRICATED ROOF JACK. SEE MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR SIZE.
12. F&I SMOKE DETECTOR INDICATOR LIGHT IN CEILING BELOW UNIT. LABEL INDICATOR LIGHT. (TYP.)



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

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01.20.22

COLORADO REGISTERED DARRELL ROY CASEY NUMBER 32485 PROFESSIONAL ENGINEER

Project No: 5510/ Store #6281
Domino's Pizza Bakery Store
Pizza Theater Tenant Improvement
530 Malley Drive., Northglenn, CO 80233
Mountainside Pizza, Inc.
5313 Paylor Lane, 34240
Lakewood Ranch, FL 34240
310.505.6222

ISSUED FOR PERMIT:
12.23.2021

REV:	DATE:	DESCRIPTION:

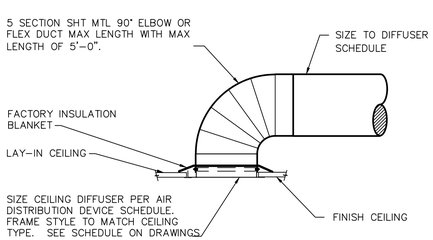
SHEET NAME:

MECHANICAL PLAN

SHEET NUMBER:

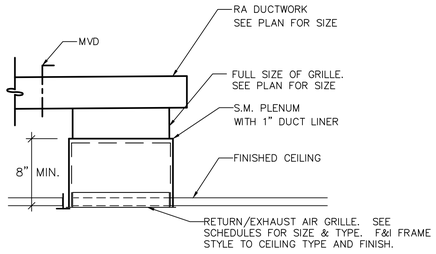
M2.0

THE DETAILS ON THIS SHEET ARE STANDARD DETAILS. NOT ALL DETAILS MAY BE RELEVANT TO THIS PROJECT.



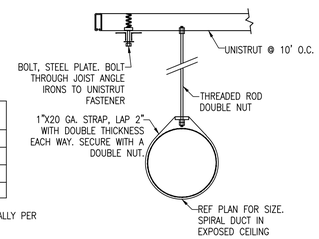
DIFFUSER INSTALLATION DETAIL

NO SCALE



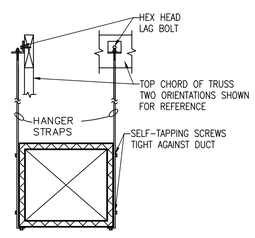
RETURN/EXHAUST AIR GRILLE DETAIL

NO SCALE



DUCT SIZE (SF)	HANGER SIZE	MAX SPACING
>2	1" X 1/16"	8'-0"
2-4	1" X 1/8"	8'-0"
4-10	1" X 1/8"	6'-0"
>10	1" X 1/8"	4'-0"

NOTE:
1. WRAP ALL SUPPLY AIR DUCTS EXTERNALLY PER SPECIFICATIONS.
2. NO POP RIVETS ALLOWED.



DUCT HANGER DETAIL

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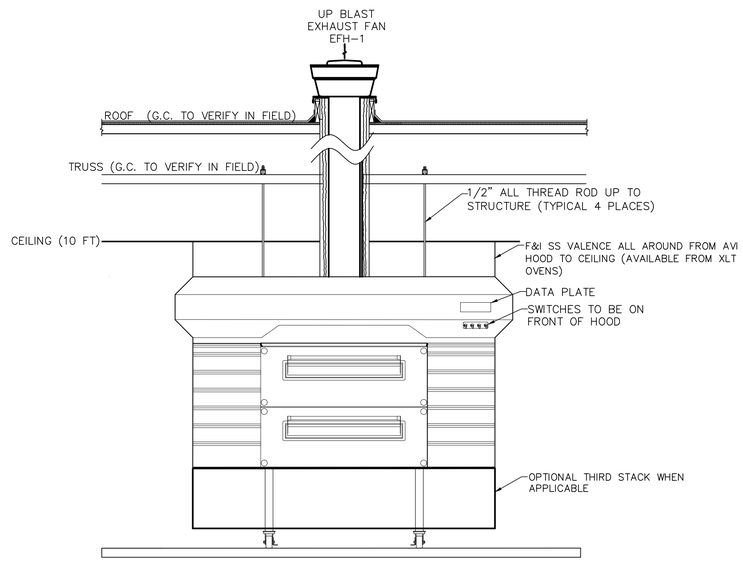
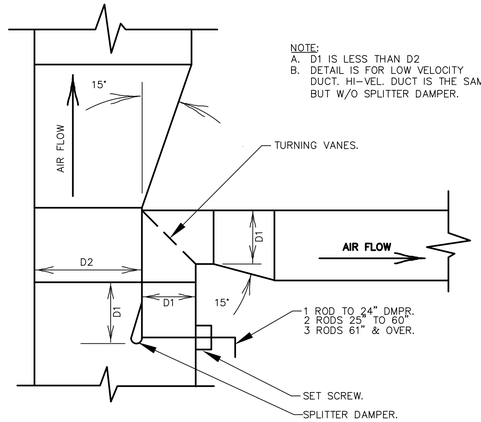


NOTE:
DETAIL IS DIAGRAMMATIC AND DOES NOT DENOTE THE NUMBER OF OVENS. SEE RCHITECTURAL PLANS FOR NUMBER OF OVENS.

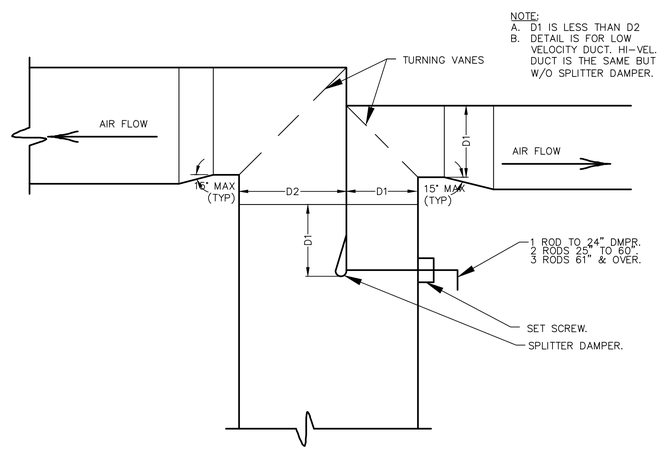
HOOD CLEARANCES AND DUCTS DETAIL

NO SCALE



TYPICAL MAIN DUCT SPLITTER DAMPER TAKE-OFF DETAIL (SIMILAR FOR ROUND DUCTS)

NO SCALE



TYPICAL DUCT SPLITTER DAMPER DETAIL (SIMILAR FOR ROUND DUCTS)

NO SCALE

TYPE I HOOD SEQUENCE OF OPERATIONS:

1. AIR CONDITIONING UNITS (ACU)
   - A. ALL AIR CONDITIONING UNITS, ROOF TOP (RTU), AND SPLIT SYSTEM CONDENSER UNITS (CU) AND AIR HANDLING UNITS (AHU), SHALL BE CONTROLLED BY A PROGRAMMABLE 24/7 SMART THERMOSTAT DEVICE.
     1) DEVICE TO HAVE A 100 F (ADJ) DEADBAND, PROGRAMMABLE START AND STOP TIMES, 3-POSITION ON/OFF/AUTO SELECTOR SWITCH AND A 2 HOUR MANUAL OVERRIDE.
2. SUPPLY FANS (RTU & AHU)
   - A. EACH UNIT'S SUPPLY AIR FANS ARE ENERGIZED AND THE OUTSIDE AIR (OA) DAMPERS MODULATE TO POSITION TO ADEQUATELY PRESSURIZE BUILDING.
   - B. UNIT'S TEMPERATURE SENSOR, LOCATED IN THE RETURN AIR (RA) DUCT MONITORS THE MIXED (MA), RA & OA TEMPERATURE. IF THE ROOM TEMPERATURE IS NOT WITHIN 10OF DEGREES OF ROOM TEMPERATURE SET POINTS, UNIT WILL GO INTO HEATING OR COOLING MODE TO MEET THE DESIRED TEMPERATURE SET POINTS.
   - C. EACH UNIT'S FAN WILL CONTINUE TO RUN FOR 2 MINUTES (ADJ) AFTER THE HEATING OR COOLING ROOM TEMPERATURE SET POINT IS MET.
   - D. COOLING MODE:
     1) COMPRESSOR WILL BE ENERGIZED TO COOL THE AIR TO ROOM AIR TEMPERATURE.
     2) COMPRESSOR (S) WILL SHUT OFF WHEN MECHANICAL COOLING IS NO LONGER NEEDED.
   - E. HEATING MODE:
     1) HEATING CONTROLS WILL ENERGIZE GAS BURNER IN FIRST STAGE AND IF NECESSARY TO SECOND STAGE HEATING TO BRING AIR TEMPERATURE UP TO THE HEATING ROOM TEMPERATURE SET POINT.
     2) IF GAS HEATING IS NO LONGER NECESSARY, GAS BURNERS WILL SHUT OFF.
3. MIXED AIR TEMPERATURE IS WITHIN 10°F DEGREES OF ROOM TEMPERATURE:
   - A. COMPRESSOR IS NOT ENERGIZED
   - B. GAS BURNERS ARE NOT ENERGIZED.
   - C. UNIT OPERATES IN THE ECONOMIZER MODE.
     1) ECONOMIZER MODE: WHEN OUTDOOR WEATHER CONDITIONS, AS SENSED BY UNIT MOUNTED CONTROLS, ARE BELOW ITS SETTING, AND FREE COOLING IS AVAILABLE, ECONOMIZER MODE SHALL BE ENABLED AND DAMPERS SHALL POSITION TO ENABLE 100% OA ENTERING THE BUILDING. EA DAMPERS TO MODULATE TO EXHAUST THE OA NOT BEING EXHAUSTED BY THE EXHAUST FANS (EFH-1 & EF-X).
     2) WHEN THE OA SET-POINT IS BELOW 55°F (ADJ.), THE MECHANICAL COOLING SHALL BE DISABLED. THE ECONOMIZER CONTROL SHALL RESET OA DAMPERS TO THE MINIMUM RUN OA INTAKE POSITION AND ENERGIZE THE MECHANICAL COOLING WHEN THE OA SET POINT IS EXCEEDED.
     3) ADDITIONAL HIGH LIMIT SHUT OFF CONTROLS BELOW.
        - a. OA TEMPERATURE > 75°F
        - b. OA TEMPERATURE > RA TEMPERATURE
        - c. (OA TEMPERATURE, OA RELATIVE HUMIDITY)>AIR
        - d. OA HUMIDITY > RA HUMIDITY
        - e. OA DEW POINT > 55°F
        - f. OA TEMPERATURE > 75°F
        - g. NO FIXED ENTHALPY CONTROL.
4. EXHAUST FANS
   - A. REST ROOM EXHAUST FANS (EF) ARE TO BE STARTED BY AN OCCUPANCY SENSOR. WHEN THE OCCUPANT VACATES THE ROOM, THE FAN WILL REMAIN RUNNING FOR A MINIMUM OF 10 MINUTES (ADJ).
5. EXHAUST HOOD EXHAUST FAN (EFH-1)
   - A. GAS OVEN IS MANUALLY STARTED.
   - B. EXHAUST FAN EFH-1 AUTOMATICALLY ENERGIZES AND STARTS RUNNING.
   - C. ONCE EFH-1 IS UP TO SPEED, APPROXIMATELY 5 SECONDS (ADJ), THE SUPPLY AIR UNIT (SAU) INTRODUCING THE LARGEST AMOUNT OF OUTSIDE AIR (OA) INTO THE BUILDING STARTS.
     1) ROOF TOP UNITS (RTU), AIR HANDLING UNITS (AHU) AND / OR MAKE-UP AIR UNITS (MAU) ARE CONSIDERED AS SUPPLY AIR UNITS (SAU).
     2) IF THERE IS A DEDICATED MAKE-UP AIR UNIT PROVIDING OA TO A SELF-COMPENSATING HOODS, THIS UNIT SHALL BE THE FIRST UNIT STARTED.
   - D. AFTER A 5 SECOND (ADJ) INTERVAL, THE SAU BRING IN THE NEXT LARGEST AMOUNT OF OA INTO THE BUILDING STARTS.
   - E. THIS PROCESS CONTINUES UNITL ALL OF THE SAU'S HAVE BEEN STARTED.
6. WHEN GAS OVEN IS TURNED OFF:
   - A. ANY DEDICATED MAKE-UP AIR UNIT STOPS.
   - B. ON ALL SUPPLY AIR FANS OA DAMPERS CLOSE TO MINIMUM ALLOWED OA POSITION AND THE EA DAMPER IS SET TO ALLOW SLIGHT BUILDING PRESSURIZATION.
7. UNOCCUPIED MODE:
   - A. VENTILATION AND ECONOMIZER DAMPERS BECOME FULLY CLOSED.
   - B. THERMOSTAT SENDS SIGNAL TO UNITS TO OPERATE IN SETBACK MODE UNTIL NEXT OCCUPIED MODE CYCLE PER THERMOSTAT PROGRAMMING.
   - C. DURING HEATING SEASON, THE UNITS TO BE EQUIPPED WITH CONTROLS TO AUTOMATICALLY RESTART AND TEMPORARILY OPERATE TO MAINTAIN A TEMPERATURE ABOVE 55°F.
   - D. DURING COOLING SEASON, THE UNITS TO BE EQUIPPED WITH CONTROLS TO AUTOMATICALLY RESTART AND TEMPORARILY OPERATE TO MAINTAIN A TEMPERATURE BELOW 85°F.
   - E. UNITS SHALL BE SEQUENCED TO MAINTAIN SPACE TEMPERATURE AS FOLLOWS:
     1) THE LARGEST TONNAGE UNIT, OR AS THE SEQUENCE NUMBER IN THE AIR CONDITIONING UNIT SCHEDULE INDICATES, SHALL RUN TO MAINTAIN THE SPACE SETBACK TEMPERATURE.
     2) IF THE SPACE TEMPERATURE IS MEASURED AS 30°F ABOVE THE COOLING OR 30°F BELOW THE HEATING SETBACK TEMPERATURE, OR AS THE SEQUENCE NUMBER IN THE AIR CONDITIONING UNIT SCHEDULE INDICATES, SHALL START TO MAINTAIN THE SPACE SETBACK TEMPERATURE. WHEN THE TEMPERATURE DROPS TO 20F BELOW THE SETBACK TEMPERATURE IN COOLING MODE OR ABOVE SETBACK TEMPERATURE IN HEATING MODE, THE SECOND UNIT SHALL TURN OFF.
8. AIR CONDITIONING UNIT MANUAL OVERRIDE MODE:
   - A. VENTILATION AND ECONOMIZER DAMPERS BECOME POSITIONED AT THE MINIMUM OA SETTING.
   - B. THERMOSTAT SENDS SIGNAL TO UNIT TO OPERATE IN NORMAL MODE.
   - C. MANUAL OVERRIDE TIMER TO BE SET FOR A PERIOD OF 2 HOURS (ADJ.).
9. EXHAUST HOOD FIRE SUPPRESSION SYSTEM:
   - A. WHEN THE EXHAUST HOOD FIRE SUPPRESSION SYSTEM IS ACTIVATED FANS IN ALL UNITS BRINGING OA INTO THE SPACE SHALL BE SHUT DOWN.
   - B. EFH-1 IS FORCED ON TO FULL SPEED.
10. SMOKE DETECTORS
    - A. IF A FIRE ALARM SYSTEM IS PRESENT IN THE BUILDING, SMOKE DETECTORS TO NOTIFY FIRE ALARM SYSTEM IN THE EVENT OF SMOKE BEING DETECTED.
    - B. NON-EMERGENCY OPERATION:
      1) THERMOSTATS, COMPRESSOR AND FANS RUN AS NORMAL.
    - C. SMOKE DETECTED IN SUPPLY OR RETURN:
      1) SMOKE DETECTOR GENERATE VISIBLE ALERT SIGNS.
      2) SMOKE DETECTOR SENDS SIGNAL TO HVAC SYSTEM TO SHUT OFF.
      3) AIR CONDITIONING AND MAKE-UP AIR UNITS TO HAVE FANS AND COMPRESSORS DE-ENERGIZE.

GNICH ARCHITECTURE STUDIO
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01.20.22

COLORADO REGISTERED DARRELL ROY CAST NUMBER 32485 PROFESSIONAL ENGINEER

Project No: 5510/ Store #6281

Domino's Pizza Bakery Store
Pizza Theater Tenant Improvement
640 Malley Drive., Northglenn, CO 80233
Mountainside Pizza, Inc.
5313 Paylor Lane, 34240
Lakewood Ranch, FL 34240

310.505.6222

ISSUED FOR PERMIT:
12.15.2021

REV:	DATE:	DESCRIPTION:

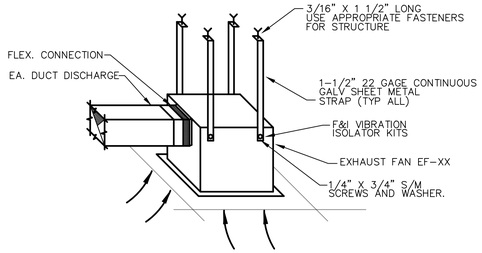
SHEET NAME:

MECHANICAL DETAILS AND SEQUENCE OF OPERATIONS

SHEET NUMBER:

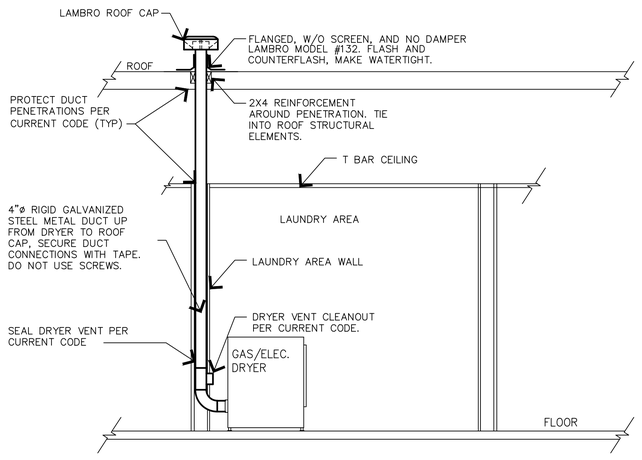
M3.0

THE DETAILS ON THIS SHEET ARE STANDARD DETAILS. NOT ALL DETAILS MAY BE RELEVANT TO THIS PROJECT.



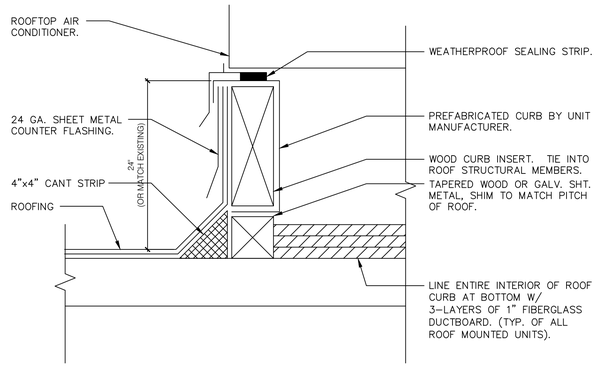
RESTROOM FAN INSTALLATION DETAIL

SCALE: N.T.S



DRYER VENT DETAIL

NO SCALE



NOTES:

WHERE POSSIBLE ALL ELECTRICAL CONDUIT & DRAIN PIPING SHALL BE ROUTED THROUGH ROOF WITHIN THE CONFINES OF CURB PERIMETER.

APPLIANCES DESIGNED TO BE FIXED IN POSITION SHALL BE SECURELY FASTENED IN PLACE. SUPPORTS FOR APPLIANCES SHALL BE DESIGNED AND CONSTRUCTED TO SUSTAIN VERTICAL AND HORIZONTAL LOADS AS REQUIRED FOR LOCAL SEISMIC ZONE.

CURB INSTALLATION DETAIL

NOT TO SCALE

BRANCH DUCT TAKE-OFF DETAIL

NO SCALE

NOTES:
1. L = 1/4 W (4" MIN.)
2. ALL DUCTWORK SHALL CONFORM TO SMACNA DUCT CONSTRUCTION STANDARDS AND UL 181.

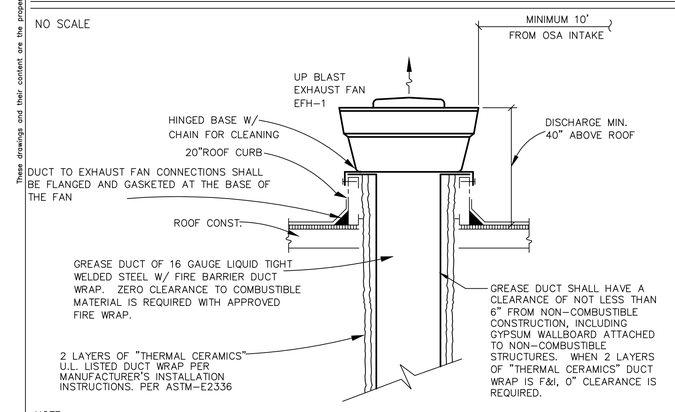
BRANCH DUCT TAKE-OFF & DAMPER DETAIL

NO SCALE

NOTES:
1. WHERE POSSIBLE ROUTE ALL ELECTRICAL CONDUIT AND DRAIN PIPING THROUGH ROOF, WITHIN THE CONFINES OF CURB PERIMETER.
2. CONTRACTOR TO FURNISH AND INSTALL FACTORY RECOMMENDED ECONOMIZER, INCLUDING ALL NECESSARY CONTROLS, DAMPERS AND ACCESSORIES. UNITS SHALL BE F&I WITH BAROMETRIC RELIEF DAMPER. FURNISH AND INSTALL DIFFERENTIAL ENTHALPY CONTROLS OPTION. COORDINATE WITH ELECTRICAL AS NECESSARY.

ROOF MOUNTED A.C. UNIT DETAIL

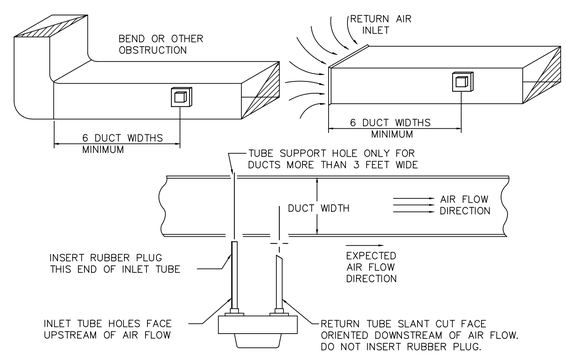
NO SCALE



NOTE:
EXHAUST OUTLETS SHALL BE LOCATED NOT LESS THAN 10 FEET HORIZONTALLY FROM PARTS OF THE SAME OR CONTIGUOUS BUILDINGS, ADJACENT BUILDINGS, ADJACENT PROPERTY LINES AND AIR INTAKE OPENINGS INTO ANY BUILDING AND SHALL BE LOCATED NOT LESS THAN 10 FEET ABOVE THE ADJOINING GRADE LEVEL.

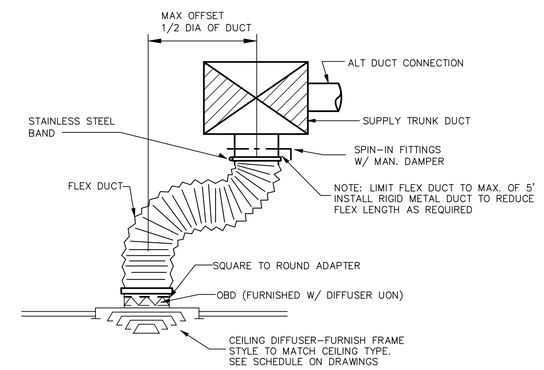
EXHAUST FAN DETAIL

NO SCALE



TYPICAL DUCT DETECTOR INSTALLATION

NOT TO SCALE



TYP. DUCT CONNECTION

NO SCALE

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01.20.22

COLORADO REGISTERED DARRELL ROY CAMP NUMBER 32485 PROFESSIONAL ENGINEER

Project No: 5510/ Store #6281
Domino's Pizza Bakery Store
Pizza Theater Tenant Improvement
640 Malley Drive., Northglenn, CO 80233
Mountainside Pizza, Inc.
5313 Paylor Lane, 34240
Lakewood Ranch, FL 34240
310.505.6222

ISSUED FOR PERMIT:
12.15.2021

REV:	DATE:	DESCRIPTION:

SHEET NAME:

MECHANICAL DETAILS

SHEET NUMBER:

M4.0

COMcheck Software Version 4.1.5.3
Mechanical Compliance Certificate

Project Information

Energy Code:	2018 IECC
Project Title:	Domino's T.I.
Location:	Northglenn, Colorado
Climate Zone:	5b
Project Type:	Alteration

Construction Site:	Owner/Agent:	Designer/Contractor:
640 Malley Drive Northglenn, CO 80233	Brent Hamill Longhorn Pizza Inc 5313 Paylor Lane Sarasota, FL 34240 310.505.6222	

Mechanical Systems List

Quantity	System Type & Description
1	HVAC System 1 (Single Zone): Heating: 1 each - Central Furnace, Gas, Capacity = 180 kBtu/h Proposed Efficiency = 82.00% Et, Required Efficiency: 80.00 % Et or 80% AFUE Cooling: 1 each - Single Package DX Unit, Capacity = 83 kBtu/h, Air-Cooled Condenser, Air Economizer Proposed Efficiency = 11.00 EER, Required Efficiency: 11.00 EER + 12.6 IEER Fan System: FAN SYSTEM 1 -- Compliance (Motor nameplate HP method) : Passes Fans: FAN 1 Supply, Constant Volume, 3000 CFM, 3.0 motor nameplate hp, 87.0 fan efficiency grade
1	HVAC System 2 (Single Zone): Heating: 1 each - Central Furnace, Gas, Capacity = 115 kBtu/h Proposed Efficiency = 81.00% Et, Required Efficiency: 80.00 % Et or 80% AFUE Cooling: 1 each - Single Package DX Unit, Capacity = 57 kBtu/h, Air-Cooled Condenser, Air Economizer Proposed Efficiency = 14.10 SEER, Required Efficiency: 14.00 SEER Fan System: FAN SYSTEM 2 -- Compliance (Motor nameplate HP method) : Passes Fans: FAN 2 Supply, Constant Volume, 2000 CFM, 2.0 motor nameplate hp, 89.0 fan efficiency grade
1	Water Heater 1: Gas Instantaneous Water Heater, Capacity: 0 gallons, Input Rating: 199 kBtu/h w/ Circulation Pump No minimum efficiency requirement applies

Mechanical Compliance Statement

Compliance Statement: The proposed mechanical alteration project represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2018 IECC requirements in COM*check* Version 4.1.5.3 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title ____________ Signature ____________ Date ____________

Project Title: Domino's T.I. Report date: 01/20/22
Data filename: S:\2_PROJECT FILES\5500's\5510 (Brent Hamill_Northglenn, CO_New Store_CD)\D-MEP\Calcs\5510.cck Page 1 of 12

COMcheck Software Version 4.1.5.3
Inspection Checklist

Energy Code: 2018 IECC

Requirements: 100.0% were addressed directly in the COM*check* software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR2]^{1}	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical systems and equipment and document where exceptions to the standard are claimed. Load calculations per acceptable engineering standards and handbooks.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C103.2 [PR3]^{1}	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the service water heating systems and equipment and document where exceptions to the standard are claimed. Hot water system sized per manufacturer's sizing guide.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Project Title: Domino's T.I. Report date: 01/20/22
Data filename: S:\2_PROJECT FILES\5500's\5510 (Brent Hamill_Northglenn, CO_New Store_CD)\D-MEP\Calcs\5510.cck Page 2 of 12

Section # & Req.ID	Footing / Foundation Inspection	Complies?	Comments/Assumptions
C403.12.2, C403.12.3 [FO9]^{3}	Snow/ice melting system and freeze protection systems have sensors and controls configured to limit service for pavement temperature and outdoor temperature. future connection to controls.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Project Title: Domino's T.I. Report date: 01/20/22
Data filename: S:\2_PROJECT FILES\5500's\5510 (Brent Hamill_Northglenn, CO_New Store_CD)\D-MEP\Calcs\5510.cck Page 3 of 12

Section # & Req.ID	Plumbing Rough-In Inspection	Complies?	Comments/Assumptions
C404.5, C404.5.1, C404.5.2 [PL6]^{3}	Heated water supply piping conforms to pipe length and volume requirements. Refer to section details.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C404.5, C404.5.1, C404.5.2 [PL6]^{3}	Heated water supply piping conforms to pipe length and volume requirements. Refer to section details.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C404.5, C404.5.1, C404.5.2 [PL6]^{3}	Heated water supply piping conforms to pipe length and volume requirements. Refer to section details.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C404.6.1, C404.6.2 [PL3]^{1}	Automatic time switches installed to automatically switch off the recirculating hot-water system or heat trace.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C404.6.3 [PL7]^{3}	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C404.6.3 [PL7]^{3}	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C404.6.3 [PL7]^{3}	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C404.7 [PL8]^{3}	Demand recirculation water systems have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C404.7 [PL8]^{3}	Demand recirculation water systems have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C404.7 [PL8]^{3}	Demand recirculation water systems have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Project Title: Domino's T.I. Report date: 01/20/22
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1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Project Title: Domino's T.I. Report date: 01/20/22
Data filename: S:\2_PROJECT FILES\5500's\5510 (Brent Hamill_Northglenn, CO_New Store_CD)\D-MEP\Calcs\5510.cck Page 5 of 12

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C402.2.6 [ME41]^{3}	Thermally ineffective panel surfaces of sensible heating panels have insulation >= R-3.5.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C403.8.4 [ME142]^{2}	Motors for fans that are not less than 1/12 hp and less than 1 hp are electronically commutated motors or have a minimum motor efficiency of 70 percent. These motors have the means to adjust motor speed.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.8.4 [ME142]^{2}	Motors for fans that are not less than 1/12 hp and less than 1 hp are electronically commutated motors or have a minimum motor efficiency of 70 percent. These motors have the means to adjust motor speed.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.8.5 [ME143]^{2}	Each DX cooling system > 65 kBtu and chiller water/evaporative cooling system with fans > 1/4 hp are designed to vary the indoor fan airflow as a function of load and comply with detailed requirements of this section.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.8.5 [ME143]^{2}	Each DX cooling system > 65 kBtu and chiller water/evaporative cooling system with fans > 1/4 hp are designed to vary the indoor fan airflow as a function of load and comply with detailed requirements of this section.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.12.1 [ME71]^{2}	Systems that heat outside the building envelope are radiant heat systems controlled by an occupancy sensing device or timer switch.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C403.2.3 [ME55]^{2}	HVAC equipment efficiency verified.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Mechanical Systems list for values.*
C403.5.5 [ME113]^{2}	Fault detection and diagnostics installed with air-cooled unitary DX units having economizers.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.5.5 [ME113]^{2}	Fault detection and diagnostics installed with air-cooled unitary DX units having economizers.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.2 [ME59]^{1}	Natural or mechanical ventilation is provided in accordance with International Mechanical Code Chapter 4. Mechanical ventilation has capability to reduce outdoor air supply to minimum per IMC Chapter 4.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.7.1 [ME59]^{1}	Demand control ventilation provided for spaces >500 ft2 and >25 people/1000 ft2 occupant density and served by systems with air side economizer, auto modulating outside air damper control, or design airflow >3,000 cfm.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Project Title: Domino's T.I. Report date: 01/20/22
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Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.7.2 [ME115]^{3}	Enclosed parking garage ventilation has automatic contaminant detection and capacity to stage or modulate fans to 50% or less of design capacity.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C403.7.6 [ME141]^{3}	HVAC systems serving guestrooms in Group R-1 buildings with > 50 guestrooms: Each guestroom is provided with controls that automatically manage temperature setpoint and ventilation (see sections C403.7.6.1 and C403.7.6.2).	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.7.4 [ME57]^{1}	Exhaust air energy recovery on systems meeting Table C403.7.4(1) and C403.7.4(2).	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C403.7.5 [ME116]^{3}	Kitchen exhaust systems comply with replacement air and conditioned supply air limitations, and satisfy hood rating requirements and maximum exhaust rate criteria.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.11.1, C403.11.2 [ME60]^{2}	HVAC ducts and plenums insulated in accordance with C403.11.1 and constructed in accordance with C403.11.2, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.5, C403.5.1, C403.5.2 [ME62]^{1}	Air economizers provided where required, meet the requirements for design capacity, control signal, ventilation controls, high-limit shut-off, integrated economizer control, and provide a means to relieve excess outside air during operation.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.5, C403.5.1, C403.5.2 [ME62]^{1}	Air economizers provided where required, meet the requirements for design capacity, control signal, ventilation controls, high-limit shut-off, integrated economizer control, and provide a means to relieve excess outside air during operation.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.5.3.3 [ME124]^{1}	Air economizers automatically reduce outdoor air intake to the design minimum outdoor air quantity when outdoor air intake will not reduce cooling energy usage. See Table C403.5.3.3 for applicable device types and climate zones.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.5.3.3 [ME124]^{1}	Air economizers automatically reduce outdoor air intake to the design minimum outdoor air quantity when outdoor air intake will not reduce cooling energy usage. See Table C403.5.3.3 for applicable device types and climate zones.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.5.3.4 [ME125]^{1}	System capable of relieving excess outdoor air during air economizer operation to prevent overpressurizing the building. The relief air outlet located to avoid recirculation into the building.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Project Title: Domino's T.I. Report date: 01/20/22
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Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.5.3.4 [ME125]^{1}	System capable of relieving excess outdoor air during air economizer operation to prevent overpressurizing the building. The relief air outlet located to avoid recirculation into the building.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.5.3.5 [ME126]^{1}	Return, exhaust/relief and outdoor air dampers used in economizers have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Reference section C403.7.7 for details.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.5.3.5 [ME126]^{1}	Return, exhaust/relief and outdoor air dampers used in economizers have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Reference section C403.7.7 for details.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.4.1.4 [ME63]^{2}	Heating for vestibules and air curtains with integral heating include automatic controls that shut off the heating system when outdoor air temperatures > 45F. Vestibule heating and cooling systems controlled by a thermostat in the vestibule with heating setpoint <= 60F and cooling setpoint >= 80F.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.3.3 [ME35]^{1}	Hot gas bypass limited to: <=240 kBtu/h – 50% >240 kBtu/h – 25%	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.3.3 [ME35]^{1}	Hot gas bypass limited to: <=240 kBtu/h – 50% >240 kBtu/h – 25%	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.2.2.1 [ME53]^{3}	Air outlets and zone terminal devices have means for air balancing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.5, C403.5.1, C403.5.2 [ME123]^{3}	Refrigerated display cases, walk-in coolers or walk-in freezers served by remote compressors and remote condensers not located in a condensing unit, have fan-powered condensers that comply with Sections C403.5.1 and refrigeration compressor systems that comply with C403.5.2..	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Project Title: Domino's T.I. Report date: 01/20/22
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Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.6 [EL26]^{2}	Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Table C405.6.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C405.7 [EL27]^{2}	Electric motors meet the minimum efficiency requirements of Tables C405.7(1) through C405.7(4). Efficiency verified through certification under an approved certification program or the equipment efficiency ratings shall be provided by motor manufacturer (where certification programs do not exist).	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C405.8.2, C405.8.2.1 [EL28]^{2}	Escalators and moving walks comply with ASME A17.1/CSA B44 and have automatic controls configured to reduce speed to the minimum permitted speed in accordance with ASME A17.1/CSA B44 or applicable local code when not conveying passengers.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C405.9 [EL29]^{2}	Total voltage drop across the combination of feeders and branch circuits <= 5%.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Project Title: Domino's T.I. Report date: 01/20/22
Data filename: S:\2_PROJECT FILES\5500's\5510 (Brent Hamill_Northglenn, CO_New Store_CD)\D-MEP\Calcs\5510.cck Page 9 of 12

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C303.3, C408.2.5.3 [FI8]^{3}	Furnished O&M manuals for HVAC systems within 90 days of system acceptance.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.2 [FI27]^{3}	HVAC systems and equipment capacity does not exceed calculated loads.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.4.1 [FI47]^{3}	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.4.1 [FI47]^{3}	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.4.1.2 [FI38]^{3}	Thermostatic controls have a 5 °F deadband.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.4.1.3 [FI20]^{3}	Temperature controls have setpoint overlap restrictions.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.4.2 [FI39]^{3}	Each zone equipped with setback controls using automatic time clock or programmable control system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.4.2.1, C403.2.4.2.2 [FI40]^{3}	Automatic Controls: Setback to 55°F (heat) and 85°F (cool); 7-day clock, 2-hour occupant override, 10-hour backup	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.4.2.3 [FI41]^{3}	Systems include optimum start controls.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.4.2.3 [FI41]^{3}	Systems include optimum start controls.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C404.3 [FI11]^{3}	Heat traps installed on supply and discharge piping of non-circulating systems.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C404.4 [FI25]^{2}	All piping insulated in accordance with section details and Table C403.11.3.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Project Title: Domino's T.I. Report date: 01/20/22
Data filename: S:\2_PROJECT FILES\5500's\5510 (Brent Hamill_Northglenn, CO_New Store_CD)\D-MEP\Calcs\5510.cck Page 10 of 12

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01.20.22

DARRELL ROY CASE
NUMBER 32485

Project No: 5510/ Store #6281
Domino's Pizza Bakery Store
Pizza Theater Tenant Improvement
530 Malley Drive., Northglenn, CO 80233
Mountainside Pizza, Inc.
5313 Paylor Lane, 34240
Lakewood Ranch, FL 34240
310.505.6222

ISSUED FOR PERMIT:
12.23.2021

REV:	DATE:	DESCRIPTION:

SHEET NAME:

MECHANICAL
ENERGY CERTIFICATE

SHEET NUMBER:

M5.0

MECHANICAL SPECIFICATIONS

WORK INCLUDED -
ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF AN OPERATING HVAC SYSTEM INCLUDING HVAC EQUIPMENT, DUCTWORK, GRILLES, REGISTERS, CONTROL AND RELATED ITEMS AS REQUIRED OR SPECIFIED. OBTAIN AND PAY FOR BUILDING PERMITS, FEES, TESTS, AND INSPECTIONS REQUIRED IN CONNECTION WITH WORK. ALL WORK AND MATERIALS SHALL BE IN FULL ACCORDANCE WITH ALL GOVERNING CODES AND ORDINANCES. THE FINAL PRODUCT SHALL BE A COMPLETE WORKING SYSTEM.

GENERAL -
ALL HVAC EQUIPMENT AND ACCESSORIES SHALL BE INSTALLED AS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC, AND ARE INTENDED TO CONVEY SCOPE OF WORK AND TO INDICATE GENERAL ARRANGEMENT OF EQUIPMENT, DUCTS AND PIPING. THEY ARE NOT INTENDED TO SHOW EVERY OFFSET OR FITTINGS OR STRUCTURAL CONFLICT THAT MAY BE ENCOUNTERED DURING INSTALLATION OF WORK. DO NOT SCALE DRAWINGS. THE LOCATION OF ALL DUCTWORK, EQUIPMENT AND RELATED ITEMS SHALL BE VERIFIED IN THE FIELD PRIOR TO FABRICATION. THE EQUIPMENT AND DUCTWORK/DIFFUSER LOCATIONS AS SHOWN ARE ACCURATE TO THE BEST OF OUR KNOWLEDGE. HOWEVER, IN SOME INSTANCES, THE EQUIPMENT ITEM MAY VARY FROM WHAT IS SHOWN. VERIFY ALL CRITICAL DIMENSIONS AND ROUGH-IN REQUIREMENTS WITH THE EQUIPMENT SUPPLIER PRIOR TO CONSTRUCTION. FAILURE OF THE CONTRACTOR TO VERIFY THESE DIMENSIONS SHALL PLACE THE RESPONSIBILITY FOR ANY SUBSEQUENT RELOCATION'S DIRECTLY UPON THE CONTRACTOR.

SUBSTITUTIONS -
IF THE CONTRACTOR DESIRES TO USE EQUIPMENT AND/OR MATERIAL OF EQUAL QUALITY OTHER THAN THAT SPECIFIED, HE SHALL HAVE REQUESTED, IN WRITING, APPROVAL OF EACH SUCH SUBSTITUTION AND RECEIVED APPROVAL PRIOR TO BID OPENING. A CONTRACTOR OFFERING A SUBSTITUTION SHALL ACCEPT RESPONSIBILITY FOR ITS EFFECT ON THE WORK OF ALL TRADES. THE CONTRACTOR WHO REQUESTED SUCH SUBSTITUTION SHALL PAY ALL COST AND CHANGES RESULTING FROM THE INCLUSION OF SUBSTITUTIONS.

DISCREPANCIES - IN THE EVENT THAT THE CONTRACTOR FINDS DISCREPANCIES OR OMISSIONS, OR IS IN DOUBT AS TO THE EXACT MEANING OF THE PLANS AND/OR SPECIFICATIONS, HE SHALL, BEFORE COMMENCING WORK, CONTACT THE ARCHITECT FOR CLARIFICATION.

FIRE/DRAFT STOP SURVEY -
THE CONTRACTOR SHALL REVIEW THE ARCHITECTURAL DRAWINGS TO VERIFY THE LOCATION OF ALL FIRE AND/OR DRAFT BARRIERS IN THIS PROJECT PRIOR TO CONSTRUCTION. F&I UL AND LOCAL CODE APPROVED FIRE/SMOKE DAMPERS AND MECHANICAL PIPING PENETRATION, CONSTRUCTION MATERIALS AND INSTALLATION METHODS FOR BARRIER RATING ENCOUNTERED. INCLUDE RATED ACCESS PANELS FOR EACH DAMPER. FAILURE OF THE CONTRACTOR TO VERIFY REQUIRED FIRE/DRAFT BARRIER REQUIREMENTS PRIOR TO BIDDING THESE DOCUMENTS SHALL PLACE THE RESPONSIBILITY FOR ANY SUBSEQUENT RELOCATIONS OR REVISIONS DIRECTLY ON THE CONTRACTOR.

ACCEPTABLE MANUFACTURERS -
THE FOLLOWING IS A LIST OF MANUFACTURERS WHOSE EQUIPMENT AND HVAC MATERIALS ARE ACCEPTABLE, SUBJECT TO CONFORMANCE WITH CONTRACT DOCUMENTS. VERIFY THAT THE EQUIPMENT WILL MEET ALL CAPACITIES, SPACE ALLOCATIONS, AND THAT THE WEIGHTS WILL NOT EXCEED STRUCTURAL DESIGN LOADS.

HVAC EQUIPMENT: TRANE, CARRIER, PAYNE, YORK, DAY & NIGHT, LENNOX,RUUD AND ICP COMMERCIAL.

DUCT & PIPE INSTALLATION: KNAUF, OWENS-CORNING, MANVILLE, CERTAIN-TEED AND PPG

EVAPORATE COOLERS: ARVIN, GOETTL MASTER COOL, UNITED METAL PRODUCTS

MAKE-UP AIR UNITS: ARIES, REZNOR, WESTERN AND STERLING

HVAC CONTROLS: HONEYWELL, BARBER-COLEMAN, ROBERT SHAW, OR HVAC EQUIPMENT SUPPLIER FURNISHED

GRILLES, REGISTERS, DIFFUSERS & LOUVERS: ANEMOSTAT, KRUEGER, METAL-AIRE, TITUS, RUSKIN AND PENN

ACCESS DOORS: MILCOR, VENTGAB AND POTTER-ROEMER

FLEXIBLE DUCT: GENFLEX, THERMAFLEX, OR EQUIVALENT

EXHAUST FANS: GREENHECK, ACME, ILG, LOREN COOK, PENN AND BROAN

SMOKE & FIRE DAMPERS: RUSKIN, PHILLIPS AND AIR BALANCE

AIR CONDITIONING UNITS -
SELF CONTAINED OR SPLIT SYSTEM: ELECTRIC/HEAT PUMP AIR CONDITIONING AND ELECTRIC RESISTANCE OR GAS HEATING SECTION. TYPE, CAPABILITIES AND RATING INDICATED ON THE DRAWINGS, ARI, AND/OR AGA CERTIFIED, UL LISTED. INCLUDE FACTORY ACCESSORIES NECESSARY TO MAKE EQUIPMENT COMPLETELY OPERATIONAL.

EVAPORATIVE COOLER UNITS -
FURNISH AND INSTALL EVAPORATIVE COOLERS. EACH UNIT SHALL BE COMPLETE WITH BLOWER AND MOTOR WITH STARTERS. F&I SNAP LOCK PAD FRAMES. UNDERCOATING OF RESERVOIR, STRAINER BASKET, FLOAT KIT, WATER CONNECTION KIT, "AQUATROL" BLEED CONTROL PUMP. MODELS AND CAPACITIES AS INDICATED ON DRAWINGS, APPROVED UNITS SHALL BE CERTIFIED FOR AIR DELIVERY OR BE INCREASED IN SIZE TO MEET DESIGN STANDARDS, INCLUDE FACTORY ACCESSORIES NECESSARY TO MAKE EQUIPMENT COMPLETELY OPERATIONAL. COOLER SHALL BE CONNECTED TO A SYSTEM OF DRAINAGE TO FACILITATE THE DRAINING OF COOLER AND THE BLEED-OFF LINES. LINES SHALL BE TYPE "M" COPPER. TERMINATE DRAINAGE LINES AS INDICATED ON DRAWINGS. EVAPORATIVE COOLING EQUIPMENT SHALL BE U.L. LISTED AND MUST HAVE A PERMANENTLY ATTACHED LABEL.

HVAC EQUIPMENT DRAINS -
TO BE INSTALLED AS INDICATED OR REQUIRED. USE TYPE "M" COPPER TUBING AND WROUGHT COPPER MECHANICAL FITTINGS. EXTEND DRAINS TO NEAREST CODE APPROVED RECEPTOR, LAVATORY TAILPIECE (FURNISHED BY PLUMBER) OR DRAIN OUTSIDE IN PLANTER AREA. SLOPE DRAIN AT A MINIMUM OF 1/8" PER FT.

NOTE: INSULATE ALL CONDENSATE DRAIN LINES ABOVE CEILING.

NOTE: CONTRACTOR OPTION TO USE PVC WITH OWNERS APPROVAL. SCHEDULE 40 PVC ACCEPTABLE WHERE CONCEALED WITHIN STRUCTURE. NO PVC PIPING ABOVE ROOF OR AT EXTERIOR OF BUILDING.

TEMPERATURE CONTROL SYSTEM -
AS INDICATED OR REQUIRED. F&I THERMOSTAT AND SUB BASE, WITH HINGED AND LOCKABLE OPAQUE COVER(PUBLIC AREAS ONLY). CONTROLS SHALL BE FURNISHED AS RECOMMENDED BY HVAC EQUIPMENT SUPPLIER, SUITABLE FOR APPLICATION, UNLESS OTHERWISE INDICATED ON THE DRAWINGS. CONTRACTOR TO COORDINATE EXACT LOCATION AND MOUNTING HEIGHT WITH THE ARCHITECT/OWNER.

NOTE: CONTRACTOR TO F&I PROGRAMMABLE THERMOSTAT.

NOTE: EACH HEATING AND COOLING SYSTEM SHALL HAVE AT LEAST ONE SOLID-STATE PROGRAMMABLE THERMOSTAT. THE THERMOSTAT SHALL HAVE THE CAPABILITY TO SET BACK OR SHUT DOWN THE SYSTEM BASED ON DAY OF THE WEEK AND TIME OF DAY, AND F&I A READILY ACCESSIBLE MANUAL OVERRIDE THAT WILL RETURN TO THE PRE-SETBACK OR SHUTDOWN WITHOUT REPROGRAMMING.

EXHAUST FANS -
SIZE, CAPACITIES, AND TYPE AS INDICATED ON THE DRAWINGS. FURNISH COMPLETE WITH FACTORY CURBS/ROOF CAPS,BAROMETRIC DAMPER, SPEED CONTROL, DISCONNECT, STARTER (IF REQUIRED) AND BIRD SCREEN. FURNISH ROOF MOUNTED FANS WITH INSULATED ROOF CURB. F&I CEILING MOUNTED FANS WITH WALL/ROOF CAP.

NOTE: ALL EXHAUST SYSTEMS MUST HAVE DAMPERS THAT ARE AUTOMATICALLY CLOSED WHILE THE EQUIPMENT IS NOT OPERATING.

GRILLES, DIFFUSERS AND REGISTERS -
SIZE, CAPACITIES, AND TYPE AS INDICATED ON THE DRAWINGS. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. F&I ALUMINUM TYPE FOR EVAPORATIVE COOLERS AND AREAS SUBJECT TO MOISTURE. F&I EXTRACTORS BEHIND ALL SUPPLY REGISTERS.

NOTE: EACH SUPPLY AIR OUTLET OR DIFFUSER MUST HAVE ITS OWN BALANCING DEVICE. ACCEPTABLE BALANCING DEVICES INCLUDE ADJUSTABLE DAMPERS LOCATED WITHIN THE DUCTWORK, TERMINAL DEVICES AND SUPPLY AIR DIFFUSERS. EACH BALANCING DEVICE OR OTHER MEANS OF SUPPLY AIR ADJUSTMENT USED IN BALANCING SHALL BE FURNISHED WITH ACCESS.

DUCTWORK -
ALL DUCTWORK INSTALLATIONS MUST CONFORM TO REQUIREMENTS OF THE LATEST EDITION OF THE CODE.
ALL LOW PRESSURE HEATING AND AIR CONDITIONING DUCTWORK SHALL BE FABRICATED FROM LOCK FORMING PRIME GRADE GALVANIZED STEEL SHEETS (MAKE-UP AIR DUCTWORK CONVEYING EVAPORATIVE COOLED AIR SHALL BE FABRICATED FROM ALUMINUM SHEETS), AND INSTALLED BY SKILLED MECHANICS IN STRICT CONFORMANCE WITH THE LATEST SMACNA MANUAL. CROSS BREAK ALL SIDES OF DUCTS. SUPPORT ALL DUCTWORK FROM OVERHEAD STRUCTURE WITH STRAP IRON OR ANGLES. ALL DUCT DIMENSIONS ARE NET FREE AREA AND DO NOT INCLUDE ALLOWANCE FOR INSULATION. ALL JOINTS, LONGITUDINAL AND TRANSVERSE SEAMS, AND CONNECTIONS IN DUCTWORK MUST BE SECURELY SEALED USING WELDMENTS, MECHANICAL FASTENERS WITH SEALS, GASKETS, OR MASTICS, MESH AND MASTIC SEALING SYSTEMS, OR TAPES. TAPES AND MASTICS MUST BE LISTED AND LABELED IN ACCORDANCE WITH U.L. 181A OR U.L. 181B.

HORIZONTAL AND VERTICAL DUCT SUPPORTERS -

REFER TO CURRENT CODE EDITION FOR DUCT SUPPORTS.

DUCTWORK FABRICATION -
F&I CONNECTIONS BETWEEN EQUIPMENT AND DUCTWORK (DURODYNE "GRIP LOCK" OR EQUAL). F&I SHEET METAL SHIELDED OVER EXPOSED JOINTS. COVER ALL JOINTS, SEAMS AND LOCKS ON INTERIOR AND EXTERIOR DUCTWORK WITH 4 OZ. CANVAS SATURATED WITH VINYL ACRYLIC DUCT SEALANT (UL LISTED, FLAME SPREAD 0) TO MAKE AIR TIGHT. WHERE DUCTS PASS THROUGH THE WALLS OR ROOF, FLASH AND COUNTER FLASH TO LEAVE WATERTIGHT INSTALLATION. PAINT ALL EXPOSED DUCTWORK TO MATCH SURROUNDING CONSTRUCTION OR AS RECOMMENDED BY ARCHITECT. F&I AIRFOIL TURNING VANES ON ALL RIGHT ANGLE ELBOWS. F&I VOLUME AND SPLITTER DAMPERS WHERE SHOWN ON DRAWINGS AND AS REQUIRED. FLEXIBLE DUCTWORK SHALL BE OF FLEXIBLE WIRE REINFORCED FIBERGLASS DUCT (TYPE UL, CLASS 1), AND NYLON LINER AND COVER, CONNECTORS TO BE UL APPROVED. FLEXIBLE DUCTWORK SHALL BE LIMITED TO RUN-OUTS TO DIFFUSERS OF (5) FIVE FT. OR LESS, SUPPORTED WITH STRAP HANGERS.

DUCTWORK INSULATION -
ALL ACOUSTIC LINER TO BE MINIMUM 1.5 PCF DENSITY, WITH NFPA 90A APPROVED LINER OR COATING. THERMAL INSULATION SHALL BE MINIMUM 3/4 PCF DENSITY, WITH A MAXIMUM "K" FACTOR OF 0.30 AT 75DEGREES F AND SHALL HAVE A FLAME RETARDANT FOIL-SKIMKRAFT VAPOR BARRIER (FSK), FASTENED TO DUCTWORK WITH 16 GA. WIRE @ 12" O.C. ALL INSULATION SHALL HAVE A FLAME SPREAD RATING OF 25 OR LESS, AND A SMOKE DEVELOPED RATING OF 50 OR LESS. EXTERIOR HVAC DUCTWORK TO BE LINED WITH 2" DUCT LINER 1-1/2" PCF, K=0.28 AT 75DEGREES F, R=8 IN CLIMATE ZONES 1 THROUGH 4, AND R-12 IN CLIMATE ZONES 5 THROUGH 8. INTERIOR DUCTWORK BELOW CEILING INSULATION TO BE LINED WITH 1" DUCT LINER 1-1/2" PCF, K=0.28 AT 75DEGREES F, R=8 (MIN.), OR WRAP WITH 1-1/2" FIBERGLASS DUCT WRAP, 3/4 PCF, K=0.31 AT 75DEGREES F, R=8 (MIN.) AND FLAME RETARDANT FOIL-SKIMKRAFT VAPOR BARRIER (SKF). INTERIOR SHEET METAL DUCTWORK ABOVE CEILING INSULATION TO BE LINED WITH 2" DUCT LINER 1-1/2" PCF, K=0.28 AT 75DEGREES F, R=8 (MIN.) OR WRAP WITH FIBERGLASS DUCT WRAP, 3/4" PCF, K=0.31 AT 75DEGREES F, R=8 (MIN.). COMBINATION HEATING/COOLING MAKE-UP AIR DUCTWORK CONVEYING EVAPORATIVE COOLED AIR SHALL BE INSULATED ON THE EXTERIOR WITH 1-1/2" THICK GLASS FIBER RIGID BOARD WITH ALL SERVICE JACKET (MIN. 3 PCF DENSITY, K=0.23, R=8). RIGID INSULATION ON OUTDOOR DUCTWORK SHALL BE COVERED WITH A LAYER OF OPEN WEAVE GLASS CLOTH EMBEDDED BETWEEN TWO COATS OF WEATHERPROOF MASTIC OF NOT LESS THAN 1/8" TOTAL THICKNESS. DUCTWORK CONVEYING EVAPORATIVE COOLED AIR ONLY SHALL NOT BE INSULATED,
DUCTWORK INSULATION SHALL COMPLY WITH REQUIREMENTS OF THE CURRENT ENERGY CODE EDITION AND SHALL BE INSTALLED BY LICENSED INSULATION CONTRACTOR, IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. ALL AIR DUCTS MUST BE INSULATED TO THE FOLLOWING LEVELS:

A. SUPPLY AND RETURN AIR DUCTS FOR CONDITIONED AIR LOCATED IN UNCONDITIONED SPACES (SPACES NEITHER HEATED NOR COOLED) MUST BE INSULATED WITH A MINIMUM OF R-6. UNCONDITIONED SPACES INCLUDE ATTICS, CRAWL SPACES, UNHEATED BASEMENTS AND UNHEATED GARAGES.

B. SUPPLY AND RETURN AIR DUCTS AND PLENUMS MUST BE INSULATED TO A MINIMUM OF R-8 WHEN LOCATED OUTSIDE THE BUILDING IN CLIMATE ZONES 1 THROUGH 4, AND R-12 IN CLIMATE ZONES 5 THROUGH 8.

C. WHERE LOCATED WITHIN A BUILDING ENVELOPE ASSEMBLY, THE DUCT OR PLENUM SHALL BE SEPARATED FROM THE BUILDING EXTERIOR OR EXEMPT SPACES BY A MINIMUM OF R-8 INSULATION IN CLIMATE ZONES 1 THROUGH 4 AND A MINIMUM OF R-12 INSULATION IN CLIMATE ZONES 5 THROUGH 8

EXCEPTION: DUCT INSULATION IS NOT REQUIRED ON DUCTS LOCATED WITHIN THE EQUIPMENT

EXCEPTION: DUCT INSULATION IS NOT REQUIRED WHEN THE DESIGN TEMPERATURE DIFFERENCE BETWEEN THE INTERIOR AND EXTERIOR OF THE DUCT OR PLENUM DOES NOT EXCEED 15DEGREES F.

D. MECHANICAL FASTENERS AND SEALS, MASTICS, OR GASKETS MUST BE USED WHEN CONNECTING DUCTS TO FANS AND OTHER AIR DISTRIBUTION EQUIPMENT, INCLUDING MULTIPLE-ZONE TERMINAL UNITS.

E. ALL JOINTS, LONGITUDINAL AND TRANSVERSE SEAMS, AND CONNECTIONS IN DUCTWORK MUST BE SECURELY SEALED USING WELDMENTS; MECHANICAL FASTENERS WITH SEALS, GASKETS, OR MASTICS; MESH AND MASTIC SEALING SYSTEMS; OR TAPES. TAPES AND MASTICS MUST BE LISTED AND LABELED IN ACCORDANCE WITH UL 181A AND SHALL BE MARKED "181A-P" FOR PRESSURE-SENSITIVE TAPE, "181A-M" FOR MASTIC OR "181A-H" FOR HEAT-SENSITIVE TAPE. TAPES AND MASTICS USED TO SEAL FLEXIBLE AIR DUCTS AND FLEXIBLE AIR CONNECTORS SHALL COMPLY WITH UL 181B AND SHALL BE MARKED "181B-FX" FOR PRESSURE-SENSITIVE TAPE OR "181B-M" FOR MASTIC. UNLISTED DUCT TAPE IS NOT PERMITTED AS A SEALANT ON ANY METAL DUCTS.

LOW PRESSURE HVAC DUCTWORK -

LOW PRESSURE DUCTWORK TO BE ANY DUCTWORK AT 2" W.G. OR LESS. CONSTRUCT PARTITION FORMING PLENUMS OR SUCTION CHAMBERS OF #18 GAUGE WITH 1-1/2" x 1-1/2" x 3/16" GALVANIZED IRON ANGLES AND RIVETS FOR SEAM CONNECTIONS AND STIFFENING. ALL SUPPLY, RETURN AND EXHAUST DUCTS (AS NOTED) SHALL BE PRIME STEEL SHEETS HOT-DIPPED GALVANIZED OF THE FOLLOWING GAUGES:

UP TO 12" WIDE OR DIAMETER - #26

13" UP TO 30" WIDE OR DIAMETER - #24

31" UP TO 45" WIDE OR DIAMETER - #22

ALL EXHAUST DUCTWORK SHALL BE - #24

HVAC INTERLOCKS/ SMOKE DETECTORS -
F&I ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO INTERLOCK HVAC SUPPLY AND EXHAUST SYSTEMS SPECIFIED ON THE DRAWINGS OR REQUIRED BY THE CURRENT MECHANICAL CODE, FURNISH, INSTALL AND CONNECT SMOKE DETECTORS (APPROVED BY REGULATING AGENCY) ON THE RETURN SIDE OF ALL HVAC FANS EXCEEDING 2000 CFM OR AS REQUIRED PER LOCAL REGULATIONS TO SHUT DOWN FAN IF SMOKE IS DETECTED IN DUCTWORK.
SMOKE DETECTOR SHALL BE MOUNTED IN RETURN AIR DUCT. AUTOMATIC SHUT-OFF SHALL BE ACCOMPLISHED BY INTERRUPTING THE POWER SOURCE OF THE MECHANICAL UNIT UPON DETECTION OF SMOKE IN THE MAIN RETURN AIR DUCT. ACTIVATION OF ANY DETECTOR SHALL SHUT DOWN ALL UNITS WITHIN THE SYSTEM. SMOKE DETECTOR SHALL BE LABELED BY AN APPROVED AGENCY FOR AIR DUCT INSTALLATION AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. SUCH DEVICES SHALL BE COMPATIBLE WITH THE OPERATION VELOCITIES, PRESSURES, TEMPERATURE AND HUMIDITY OF THE SYSTEM. DETECTOR SHALL BE 120 V/1 PHASE (OR AS DIRECTED BY THE ELECTRICAL CONTRACTOR) AND U.L. LISTED. COORDINATE AS REQUIRED PRIOR TO ORDERING AND INSTALLING. DETECTOR SHALL BE FURNISHED AND INSTALLED BY MECHANICAL. LINE VOLTAGE BY ELECTRICAL.

NOTE: IF A FIRE ALARM SYSTEM IS AVAILABLE, THE DUCT SMOKE DETECTOR(S) SHALL BE CONNECTED TO THE FIRE ALARM SYSTEM PER THE CURRENT MECHANICAL CODE. IF A FIRE ALARM SYSTEM IS NOT AVAILABLE, F&I A VISIBLE AND AUDIBLE SUPERVISORY SIGNAL AT A CONSTANTLY SUPERVISED LOCATION TRIGGERED BY THE ACTIVATION OF A DUCT SMOKE DETECTOR. INCLUDE THE AIR DUCT DETECTOR TROUBLE INDICATOR (LED AT THE CEILING BELOW THE DUCT DETECTOR) AS REQUIRED BY THE CURRENT MECHANICAL CODE.

NOTE: SMOKE DETECTORS ASSOCIATED WITH SMOKE DAMPERS AND HVAC SHUTOFFS SHALL BE TESTED BY AN APPROVED TESTING AGENCY OR A QUALIFIED THIRD PARTY SPECIAL INSPECTOR. THE SPECIAL INSPECTOR/TESTING AGENCY SHALL BE AN INDEPENDENT THIRD PARTY INDIVIDUAL OR FIRM AND SHALL NOT BE THE INSTALLING CONTRACTOR. A PROFESSIONAL ENGINEER SHALL SUBMIT A FINAL SIGNED AND SEALED REPORT TO THE MECHANICAL INSPECTOR PRIOR TO CITY ISSUANCE OF FINAL INSPECTION APPROVAL OR OCCUPANCY APPROVAL, INCLUDING CONDITIONAL OCCUPANCY APPROVAL.

NOTE: IF A COMPLETE FIRE ALARM DETECTION SYSTEM IS INSTALLED IN THE BUILDING THEN SMOKE DUCT DETECTORS ARE NOT REQUIRED PER THE CURRENT MECHANICAL CODE, AS LONG AS THE FIRE ALARM SYSTEM IS INTERCONNECTED TO THE MECHANICAL UNITS TO SHUT DOWN IN THE EVENT OF FIRE ALARM ACTIVATION IN ACCORDANCE WITH THE CURRENT MECHANICAL CODE.

ELECTRICAL WORK -
MECHANICAL DIVISION SHALL FURNISH ALL MOTOR STARTERS REQUIRED FOR MECHANICAL EQUIPMENT, UNLESS INCLUDED AS AN INTEGRAL PART OF THE HVAC EQUIPMENT. F&I SUITABLE ENCLOSURE PER NEMA STANDARDS. ALL LOW VOLTAGE (24V) CONTROL WIRING OR THERMOSTATS AND OTHER CONTROL REQUIREMENTS TO BE THE RESPONSIBILITY OF MECHANICAL CONTRACTOR. ALL LINE VOLTAGE WIRING AND CONDUIT INCLUDING LOW VOLTAGE CONTROL CONDUIT TO BE INSTALLED BY ELECTRICAL CONTRACTOR. SMOKE DETECTORS TO BE WIRED BY THE ELECTRICAL CONTRACTOR.

OUTSIDE AIR REQUIREMENTS -
LOCATE ALL OUTSIDE AIR/INTAKE AIR OPENINGS A MINIMUM OF 10'-0" FROM PLUMBING VENTS, EXHAUST FANS, AND/OR GAS FLUE VENTS. F&I OUTSIDE AIR GRILLE (FILTER IF REQUIRED) AND OBD.

NOTE: MINIMUM OSA REQUIREMENTS SHALL COMPLY WITH THE CURRENT MECHANICAL CODE.

CONTRACTOR TO BALANCE OUTSIDE AIR TO CFM SHOWN ON OUTSIDE AIR SCHEDULE.
CONTRACTOR SHALL F&I A COPY OF AIR BALANCE TEST REPORT TO FIELD INSPECTOR PRIOR TO FINAL INSPECTION.
VENTILATION SYSTEMS SHALL BE BALANCED BY AN APPROVED METHOD. A BALANCE REPORT SHALL VERIFY THAT THE VENTILATION SYSTEM IS CAPABLE OF SUPPLYING AIR FLOW RATES REQUIRED BY THE CURRENT ENERGY CODE.

SYSTEM START-UP/AIR BALANCE -
BEFORE FINAL ACCEPTANCE, CONTRACTOR SHALL DEMONSTRATE THAT ALL APPARATUS IS FUNCTIONING PROPERLY IN ACCORDANCE WITH FACTORY START-UP RECOMMENDATIONS. AIR QUANTITIES SHALL BE BALANCED FOR EVEN TEMPERATURES THROUGHOUT CONTROLS AND/OR INTERLOCKS/SMOKE DETECTORS ADJUSTED, AND THE SYSTEM PLACED INTO OPERATION. AIR BALANCE WORK SHALL BE PERFORMED BY QUALIFIED PERSONNEL LISTED WITH NEBB OR AABC. FURNISH THE FOLLOWING START-UP BALANCE INFORMATION IN TWO (2) COPIES TO THE OWNER/ARCHITECT FOR REVIEW PRIOR TO PROJECT CLOSE: SUPPLY/EXHAUST CFM AT EACH DIFFUSER/REGISTER (USING FLOW HOOD), OUTSIDE AIR QUANTITY TO EACH HVAC UNIT, DISCHARGE/RETURN AIR TEMPERATURES AT THE HVAC UNIT (FOR BOTH HEATING AND COOLING MODE), AND THE HVAC MOTOR AMP DRAW. FURNISH OWNER WITH WRITTEN CERTIFICATION FROM THE HVAC EQUIPMENT SUPPLIER(S) THAT ALL EQUIPMENT HAS BEEN INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. INCLUDE THE COST OF ANY ADDITIONAL OPPOSED BLADE VOLUME DAMPERS, MOTOR SHEAVES, ETC. NECESSARY TO ACHIEVE AIR QUANTITIES LISTED. INCLUDE AN EXTENDED 90 DAY WARRANTY, DURING WHICH TIME THE ENGINEER MAY REQUEST A RECHECK OR RESETTING OF ANY AIR QUALITY, OR NOT MORE THAN TWO CHANGES OF NON-ADJUSTABLE SHEAVES TO OBTAIN DESIRED AIR QUANTITIES. CONTRACTOR SHALL MAKE ANY CHANGES IN PULLEYS, BELTS, OR ADDITIONAL DAMPERS REQUIRED FOR CORRECTED AIR BALANCE AS REQUIRED BY BALANCE AGENCY AT NO ADDITIONAL COST TO THE OWNER.

INSTRUCTIONS/ O&M MANUAL -
THE CONTRACTOR SHALL INSTRUCT THE OWNER IN THE PROPER OPERATION AND MAINTENANCE OF ALL INSTALLED HVAC EQUIPMENT. THE CONTRACTOR SHALL FURNISH A MINIMUM OF TWO (2) BOUND OPERATING AND MAINTENANCE MANUALS TO THE OWNER AT THE COMPLETION OF THE PROJECT. THE MANUAL SHALL INCLUDE: EQUIPMENT CAPACITY (INPUT AND OUTPUT), CONTROL AND/OR INTERLOCK WIRING DIAGRAMS, SEQUENCE OF OPERATION, PREVENTATIVE MAINTENANCE SCHEDULE, NAME, ADDRESS AND PHONE NUMBER OF THE LOCAL PRODUCT REPRESENTATIVE.

GUARANTEE -
ALL LABOR AND MATERIALS FURNISHED OR INSTALLED UNDER THIS SECTION SHALL CARRY A WRITTEN ONE (1) YEAR GUARANTEE BY THE MECHANICAL CONTRACTOR TO THE OWNER, COVERING MATERIALS AND WORKMANSHIP IN FULL. FURNISH EXTENDED FIVE (5) YEARS FACTORY PARTS AND LABOR WARRANTY ON ALL AIR CONDITIONING COMPRESSORS. EXISTING HVAC EQUIPMENT, DUCTWORK AND/OR HVAC COMPONENTS REUSED IN THE JOB ARE NOT COVERED UNDER THIS WARRANTY.

MECHANICAL GENERAL NOTES

1. PRIOR TO THE CONTRACTOR ORDERING OR PLACING ANY AIR CONDITIONING EQUIPMENT, DUCTWORK, OR AIR DEVICE, HE SHALL VERIFY LOCATION OF PLACEMENT WITH STRUCTURAL DRAWINGS AND CONFIRM WEIGHTS, DISCHARGE CONFIGURATION, SIZES, ELECTRICAL CHARACTERISTICS AND ANY OTHER DIMENSIONAL DATA WHICH MIGHT AFFECT THE SUCCESSFUL INSTALLATION OF THE MECHANICAL SYSTEM.
2. FURNISH CLEARANCES AS PER MANUFACTURER'S RECOMMENDATIONS.
3. F&I EQUIPMENT IDENTIFICATION AS TO THE SPACE OR AREA SERVED.
4. REFER TO ARCHITECTURAL DRAWINGS FOR ACCESS TO ROOF INSTALLED MECHANICAL EQUIPMENT.
5. PRIOR TO PENETRATION AND/OR INSTALLATION OF ANY ROOF TOP EQUIPMENT, CONTRACTOR IS TO COORDINATE WITH LANDLORD ROOF MONITOR. ALL ROOF WORK TO BE PERFORMED BY LANDLORD ROOF MONITOR CONTRACTOR. CONTRACTOR SHALL COORDINATE WITH ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO COMMENCING WORK.
6. FIELD COORDINATE SIZE AND PLACEMENT OF DRAIN LINES REQUIRED FOR ROOFTOP HEAT PUMPS, EVAPORATIVE COOLERS, FURNACES, HUMIDIFIERS, ETC., WITH PLUMBING CONTRACTOR TO ROUGH-IN.
7. F&I VIBRATION ISOLATORS FOR ALL MECHANICAL EQUIPMENT SUPPORTED FROM STRUCTURE.
8. NOTIFY GENERAL CONTRACTOR AND/OR ARCHITECT OF ANY DISCREPANCIES PRIOR TO ROUGH-IN.
9. ALL HVAC EQUIPMENT, INCLUDING EVAPORATIVE COOLERS, SHALL BE UL, ETL AND/OR AGA LISTED.
10. F&I ALL EXHAUST AIR DUCTS WITH BACKDRAFT DAMPER.
11. F&I AN ELECTRICAL INTERLOCK FOR MAKE-UP AIR UNITS AND ASSOCIATED EXHAUST FANS AS REQUIRED. SEE SCHEDULES.
12. KITCHEN HOOD AND EXHAUST DUCTWORK TO CONFORM TO NFPA-96 STANDARDS AND THE CURRENT MECHANICAL CODE FOR DOMESTIC AND SECTION 506 FOR COMMERCIAL KITCHENS.
13. SLOPE ALL HORIZONTAL EXHAUST DUCTS AT 1/4" PER FOOT TOWARDS HOOD INTAKE.
14. F&I CLEAN-OUT ACCESS PANELS AS SHOWN HAVING A FIRE RESISTIVE RATING EQUAL TO SHAFT ENCLOSURE.
15. EXTERNAL WELD ALL JOINTS AND SEAMS OF ALL KITCHEN EXHAUST DUCTS.
16. MECHANICAL CONTRACTOR TO COORDINATE EXACT KITCHEN HOOD OPENINGS WITH KITCHEN CONTRACTOR PRIOR TO ANY CONSTRUCTION.
17. F&I FIRE DAMPERS AT ALL PENETRATIONS THROUGH FIRE RATED WALLS, CEILINGS AND FLOOR. FIRE DAMPER AND FIRE DAMPER INSTALLATION SHALL CONFORM TO LOCAL BUILDING AND MECHANICAL CODE REQUIREMENTS AND SMACNA STANDARDS. F&I WITH ACCESS DOOR AS REQUIRED.
18. FLUE AND COMBUSTION AIR DUCTS PENETRATING ROOF STRUCTURE SHALL BE ENCLOSED IN ONE-HOUR SHAFT.
19. ALL TEMPERATURE CONTROLS ARE TO BE TESTED, ADJUSTED AND CALIBRATED FOR PROPER OPERATION.
20. MOUNT ALL THERMOSTATS AT 48" THROUGH 54" ABOVE FINISHED FLOOR. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT WITH THE ARCHITECT/OWNER. F&I WITH LOCKING COVER AS REQUIRED BY THE ARCHITECT AND/OR OWNER. F&I WITH PROGRAMMABLE THERMOSTAT.
21. INSTALL CLEANOUTS AT EVERY 90DEGREES TURN ON AIR CONDITIONING CONDENSATE DRAIN LINES.
22. KEEP ALL FLUES, VENTS THROUGH ROOF AND EXHAUST DUCTS A MINIMUM OF 10'-0" FROM OUTSIDE AIR INTAKES OR WINDOWS AND FROM ALL VERTICAL PORTIONS OF THE BUILDING.
23. ALL GAS VENTS SHALL BE U.L. LISTED TYPE 'B' DOUBLE WALL AS MANUFACTURED BY "METALBESTOS" OR EQUIVALENT.
24. COMBUSTION AIR DUCT OPENINGS TO BE COVERED WITH CORROSIVE RESISTANT SCREEN OF 1/4" MESH.
25. CONTRACTOR SHALL BALANCE AIR DISTRIBUTION TO WITHIN 10% OF VALUES LISTED ON DRAWINGS. CONTRACTOR SHALL FURNISH TENANT WITH A COPY OF FINAL HVAC AIR TEST AND BALANCE REPORT FROM INDEPENDENT NEBB ORABC CERTIFIED CONTRACTOR.
26. LIGHTING LOCATIONS TAKE PRECEDENCE OVER DIFFUSER LOCATION. CONTRACTOR SHALL MAKE NECESSARY ADJUSTMENTS TO DIFFUSERS TO AVOID ANY CONFLICT WITH LIGHTING LAYOUT. EXACT PLACEMENT OF DIFFUSERS AND REGISTERS TO BE COORDINATED WITH ARCHITECT AND CONTRACTORS.
27. UNDERCUT ALL DOORS TO ROOMS WHERE A SUPPLY DIFFUSER EXISTS BUT NO RETURN GRILLE IS PRESENT BY A MINIMUM OF 1". THIS WILL ALLOW FOR FREE MIGRATION OF RETURN AIR.
28. COORDINATE OPENINGS FOR GRILLES, REGISTERS, DIFFUSERS, AND DUCTWORK WITH FRAMING CONTRACTOR PRIOR TO ROUGH-IN.
29. F&I RADIUS ELBOWS, TURNING VANES, AND SPLITTER DAMPERS IN BRANCHES AND EXTRACTORS WHERE APPLICABLE. TURNING VANES SHALL BE INSTALLED IN ALL MITERED ELBOWS.
30. INSULATE FIRST TEN FEET (10') OF DUCTWORK WITH 1" THICK INTERNAL ACOUSTICAL INSULATION. INSULATE ALL SUPPLY AND RETURN AIR DUCTWORK, ALL EXTERIOR DUCTWORK AND OTHER DUCTWORK NOT WITHIN THE ENVELOPE OF THE AIR CONDITIONED SPACE.
31. ALL DUCTWORK SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH ASHRAE AND SMACNA STANDARDS AND IN CONFORMANCE WITH REQUIREMENTS OF LOCAL BUILDING AND MECHANICAL CODES. WHERE MORE THAN ONE REGULATION OR CODE APPLIES, THE MORE STRINGENT REQUIREMENT SHALL GOVERN.
32. FLEXIBLE DUCTWORK SHALL COMPLY WITH THE CLASS 1 REQUIREMENTS OF THE NFPA BULLETIN NO. 90A AND SHALL BE INSULATED WITH 1" FIBERGLASS, SUPPORTED BY HELICALLY WOUND STEEL WIRE WITH REINFORCED METALIZED OUTER JACKET RATED FOR USE IN PLENUMS. ATTACHMENT SHALL BE WITH WORM DRIVE CLAMPS. LENGTH SHALL NOT EXCEED 8'-0" F&I RIGID ROUND DUCTWORK FOR RUNS EXCEEDING 8'-0" IN TOTAL LENGTH.

    NOTE: FLEXIBLE DUCTWORK NOT ALLOWED AT EXPOSED LOCATIONS.
33. TAPE ALL DUCT JOINTS WITH CANVAS AND ARABOL ADHESIVE.
34. DUCTWORK CONSTRUCTION AND INSTALLATION INCLUDING SHEET METAL GAUGES, REINFORCEMENT, JOINT SEALING, AIR LEAKAGE AND DETAILS NOT SPECIFICALLY SHOWN ON DRAWINGS SHALL BE IN ACCORDANCE WITH THE CURRENT MECHANICAL CODE FOR LOW VELOCITY DUCT CONSTRUCTION STANDARDS.
35. ALL DUCT DIMENSIONS SHOWN ARE CLEAR DIMENSIONS INSIDE DUCT LINER.
36. TAKE-OFF FITTINGS SHALL BE BELL MOUTH SPIN-IN TYPE WITH QUADRANT DAMPER. F&I VOLUME DAMPER AT EACH AND EVERY SUPPLY AIR BRANCH DUCT TAKE-OFF.
37. IF ABOVE CEILING DUCTWORK IS FABRICATED OF SHEET METAL, HANGERS SHALL BE INSTALLED AS REQUIRED BY THE CURRENT MECHANICAL CODE.
38. MECHANICAL CONTRACTOR TO VERIFY THAT ALL DUCTWORK WILL FIT WHERE INDICATED WITHOUT INTERFERENCES.
39. DUCTS SHALL CONFORM TO DIMENSIONS ON THE DRAWINGS UNLESS LOCATION OF STRUCTURAL MEMBERS PROHIBIT. IN CASE OF A CHANGE IN DIMENSIONS, CROSS SECTIONAL AREAS SHALL BE MAINTAINED, AND A MAXIMUM OF 1:4 RATIO FOR RECTANGULAR DUCTS SHALL ALSO BE MAINTAINED. DUCT SIZES SHOWN ARE "CLEAR INSIDE" DIMENSIONS.

    NOTE: CONTRACTOR OPTION TO USE ROUND DUCT WITH THE SAME CUBIC INCH VOLUME.
40. EXHAUST DUCTS SHALL BE 26 GAUGE GALVANIZED STEEL. SEE MECHANICAL EQUIPMENT SCHEDULE OR FLOOR PLAN FOR SIZES AND TERMINATION POINT.
41. ALL "FACTORY MADE" DUCTS MUST BE CLASS "O" OR CLASS "1".
42. AIR CONDITIONING UNITS SERVING EVAPORATIVE COOLERS/MAKE-UP AIR UNITS SHALL BE FABRICATED FROM ALUMINUM SHEETS AND HAVE NO DUCT LINER.
43. ALL PENETRATIONS THROUGH DRAFT-STOPS TO BE SEALED.
44. FURNISH ALL LABOR, MATERIALS, TOOLS EQUIPMENT, TRANSPORTATION COSTS, RIGGING, FEES, PERMITS, CERTIFICATES OF INSPECTION, ETC., NECESSARY OR REASONABLE, AS REQUIRED FOR THE COMPLETE INSTALLATION OF ALL AIR CONDITIONING WORK. THE WORK SHALL BE IN STRICT ACCORDANCE WITH ASHRAE GUIDE, AND ALL LOCAL AND STATE CODES, ORDINANCES AND REGULATIONS.
45. UPON COMPLETION AND TESTING OF AIR CONDITIONING EQUIPMENT, THE CONTRACTOR SHALL REPLACE ALL CONSTRUCTION AIR FILTERS WITH NEW FILTERS OF THE SIZED SPECIFIED BY THE MANUFACTURER.
46. THE MECHANICAL CONTRACTOR SHALL ADEQUATELY SUPPORT, ERECT AND BALANCE ALL MATERIALS AND EQUIPMENT IN CONFORMANCE WITH LOCAL CODES AND HIGH STANDARDS OF CONSTRUCTION PRINCIPLES AND PRACTICES.
47. THE CONTRACTOR SHALL DO ALL THE NECESSARY CUTTING OF WALLS AND CEILING. NO STRUCTURAL MEMBER SHALL BE CUT WITHOUT PERMISSION FROM THE ARCHITECT AND THE ENGINEER. PATCH AROUND ALL OPENINGS TO MATCH EXISTING CONSTRUCTION. THE GENERAL CONTRACTOR SHALL BRING ALL SURFACES (FLOOR, WALLS AND CEILINGS) BACK TO ORIGINAL CONDITION AFTER MODIFICATIONS HAVE BEEN MADE.
48. INSTALL A COMPLETE AND WORKING MECHANICAL SYSTEM IN STRICT ACCORDANCE WITH THE CURRENT MECHANICAL CODE AND SMACNA STANDARDS.
49. COORDINATE EXACT LOCATION OF MECHANICAL EQUIPMENT, AIR DEVICES, PIPING, DUCTWORK, ETC., WITH PLUMBING, ELECTRICAL, STRUCTURAL, ARCHITECTURAL AND GENERAL CONTRACTOR'S DRAWINGS.
50. WORKMANSHIP: ALL EQUIPMENT APPURTENANCES, DEVICES AND PIPING SHALL BE INSTALLED IN CONFORMANCE WITH THE PROVISIONS AND INTENT OF THE CURRENT MECHANICAL CODE.
51. CONTRACTOR SHALL CHECK FOR PROPER OPERATION AND INSTALLATION, AND SHALL THOROUGHLY EXAMINE, CLEAN AND INSPECT ALL EXISTING EQUIPMENT PRIOR TO COMMENCING WORK. NOTIFY BUILDING OWNER OF ANY DYSFUNCTIONAL EQUIPMENT IMMEDIATELY.
52. CONTRACTOR SHALL INSURE THAT ALL EXISTING MECHANICAL EQUIPMENT IS IN SATISFACTORY WORKING CONDITION SO HE MAY MAKE PROVISIONS IN HIS BID TO ACCOMMODATE ANY REPAIRS AND/OR REPLACEMENTS REQUIRED.
53. CONTRACTOR MAY, AT HIS DISCRETION, REUSE ANY/ALL EXISTING EQUIPMENT NOT SPECIFICALLY NOTED TO BE REMOVED OR ABANDONED AS LONG AS SUCH EQUIPMENT SATISFACTORILY MEETS THE DESIGN REQUIREMENTS SET FORTH IN THESE DOCUMENTS.
54. SIZES SHOWN ON AIR DEVICES ARE MIN. SIZE REQUIRED. CONTRACTOR SHALL VERIFY ALL AIR DEVICE SIZES AND REPLACE WITH NEW SIZE AS NECESSARY. BALANCE ALL AIR DEVICES TO CFM NOTED OR AS REQUIRED TO FURNISH EVEN TEMPERATURES.
55. VERIFY EXACT SIZE, LOCATION, ROUTING, ETC., OF ALL EXISTING MECHANICAL EQUIPMENT, DUCTWORK, AIR DEVICES, THERMOSTATS, SENSORS, PIPING, ETC., WHICH ARE TO BE REMOVED, REPLACED, ABANDONED, REWORKED, ETC., AS REQUIRED AND AS SHOWN ON DRAWINGS.
56. ALL SALVAGEABLE ITEMS SHALL BE RETURNED TO THE OWNER. MECHANICAL CONTRACTOR SHALL RETURN ALL HVAC EQUIPMENT NOTED TO BE REMOVED UNDER THIS CONTRACT TO BUILDING OWNER.
57. PROJECT INVOLVES WORK IN AN EXISTING FACILITY. DRAWING IS DIAGRAMMATICAL AND IS NOT INTENDED TO SHOW EVERY OFFSET AND FITTING. CONTRACTOR SHOULD BE AWARE THAT EXISTING CONDITIONS MAY CONFLICT WITH PLANS. DURING DEMOLITION/CONSTRUCTION WORK, CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND BE PREPARED TO OFFSET OR REROUTE DUCTS WHERE NECESSARY.
58. ALL PATCHING AND/OR REPAIRING OF THE EXISTING WALLS, FLOORS, CEILINGS, ETC. DAMAGED DUE TO REMOVAL OF EXISTING EQUIPMENT OR INSTALLATION OF NEW EQUIPMENT SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR.
59. MECHANICAL CONTRACTOR TO VERIFY EXACT LOCATION, SIZE, AND CONDITION OF ALL EQUIPMENT, DUCTWORK, PIPING, ETC., PRIOR TO SUBMITTING A BID FOR DOING WORK ON THIS PROJECT AND REPORT ANY DISCREPANCIES TO THE ARCHITECT.
60. BEFORE BEGINNING ANY CUTTING OR DEMOLITION WORK, CONTRACTOR SHALL CAREFULLY SURVEY EXISTING WORK AND EXAMINE ALL DRAWINGS TO DETERMINE EXTENT OF THE WORK. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO INSURE AGAINST DAMAGE DUE TO EXISTING WORK TO REMAIN IN PLACE, TO BE RE-USED, OR TO REMAIN PROPERTY OF THE OWNER, AND ANY DAMAGE TO SUCH WORK SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO OWNER. CONTRACTOR SHALL CAREFULLY COORDINATE WORK OF THIS SECTION WITH OTHER WORK AND CONSTRUCT AND MAINTAIN SHORING, BRACING, AND SUPPORTS AS REQUIRED.
61. WHERE PIPING, DUCTWORK AND/OR EQUIPMENT IS TO BE REMOVED, REMOVE ALL ASSOCIATED HANGERS, SUPPORTS, INSULATION, ETC. VALVES SHALL REMAIN WHERE APPROPRIATE AND/OR ADDED WHERE REQUIRED.
62. NEW HVAC EQUIPMENT AND AIR DEVICES ARE REQUIRED TO MATCH EXISTING. CONTRACTOR TO FIELD VERIFY MANUFACTURER AND MODEL NUMBER OF EXISTING HVAC EQUIPMENT AND EXISTING AIR DEVICES AND USE SAME TYPE FOR NEW AND RENOVATED CONSTRUCTION.
63. CONTRACTOR MAY BE REQUIRED TO REPLACE EXISTING AIR DEVICE WITH NEW AIR DEVICE AS MAY BE REQUIRED BY DIFFERENT CEILING, DIFFERENT CFM REQUIREMENTS, DAMAGED AIR DEVICE, ETC.
64. CONTRACTOR SHALL VERIFY IN FIELD THAT ALL EQUIPMENT, DUCTWORK, AIR DEVICES, ETC. FOR EACH SYSTEM SERVE THE SAME ZONE AND THAT ANY ONE SYSTEM DOES NOT SERVE MORE THAN ONE TENANT. WHERE A CONFLICT OCCURS, THE ARCHITECT SHALL BE PROMPTLY NOTIFIED AND HIS/HER DECISION SHALL BE FINAL.
65. CONTRACTOR IS TO MAKE ARRANGEMENTS WITH ANY EXISTING TENANTS PRIOR TO CONSTRUCTION FOR ALLOWABLE CONSTRUCTION TIMES WITHIN THEIR SPACE.
66. NEW EQUIPMENT AND AIR DEVICES ARE REQUIRED TO MATCH EXISTING. CONTRACTOR TO FIELD VERIFY MANUFACTURER AND MODEL NUMBER OF EXISTING EQUIPMENT AIR DEVICES AND USE SAME TYPE FOR NEW AND RENOVATED CONSTRUCTION.
67. MANUFACTURERS AND MODEL NUMBERS LISTED ARE INTENDED TO ESTABLISH A MINIMUM QUALITY AND PERFORMANCE LEVEL. SUBSTITUTIONS WILL BE EVALUATED UPON REQUEST.
68. ALL ROOF MOUNTED EQUIPMENT WITHIN 10 FT OF THE ROOF LINE SHALL BE FULLY SCREENED BY PARAPET WALLS (OR APPROVED SCREENING) EQUAL TO OR GREATER THAN THE HIGHEST POINT ON THE MECHANICAL EQUIPMENT.
69. ALL ROOF MOUNTED EQUIPMENT SHALL BE PERMANENTLY MARKED IN AN APPROVED MANNER (SUNLIGHT RESISTANT) THAT UNIQUELY IDENTIFIES THE APPLIANCE AND THE AREA IT SERVES. AS REQUIRED BY THE CURRENT MECHANICAL CODE.
70. HVAC SYSTEM SHOWN IS BASED ON PREVIOUS T.I. DRAWINGS AND NOT ACTUAL FIELD MEASUREMENTS OR AS-BUILT DRAWINGS.
71. REMOVE ALL EXISTING HVAC DUCTWORK AND DIFFUSERS AND REPLACE WITH NEW AS SHOWN AND AS REQUIRED.

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01.20.22

COLORADO REGISTERED PROFESSIONAL ENGINEER
DARRELL ROY CASE
NUMBER 32485

Project No: 5510/ Store #6281
Domino's Pizza Bakery Store
Pizza Theater Tenant Improvement
640 Malley Drive., Northglenn, CO 80233
Mountainside Pizza, Inc.
5313 Paylor Lane, 34240
Lakewood Ranch, FL 34240
310.505.6222

ISSUED FOR PERMIT:
12.15.2021

REV:	DATE:	DESCRIPTION:

SHEET NAME:

MECHANICAL GENERAL NOTES AND SPECIFICATIONS

SHEET NUMBER:

M6.0

PLUMBING LEGEND

SYMBOL EXISTING	SYMBOL NEW	ABBREVIATION	DESCRIPTION
		ACD	AIR CONDITIONING CONDENSATE DRAIN
		CW	COLD WATER
		DHW	DOMESTIC HOT WATER (110°F)
140	140	DHW (140)	DOMESTIC HOT WATER (140°F)
		DHWR	DOMESTIC HOT WATER RETURN
G	G	G	NATURAL OR LIQUIFIED PETROLEUM GAS
		S	SANITARY
		S	SANITARY BELOW FLOOR/GRADE
SV	SV	ST	STORM DRAIN
V	V	V	VENT LINE

SYMBOL	ABBREVIATION	DESCRIPTION
	POC	POINT OF CONNECT TO EXISTING
	UP / DOWN	PIPE UP / DOWN
	FS	FLOOR SINK
	FD	FLOOR DRAIN
		FIXTURE TRAP W/ VENT CONN.
	HB / WHT	HOSE BIBB / WALL HYDRANT
	SOV / BV /GV	SHUT-OFF, BALL OR GATE VALVE
	SOV	SHUT-OFF VALVE IN VALVE BOX
	WM	WATER METER IN BOX
	VTR	VENT THRU ROOF
XX	CO / FCO / GCO	CLEANOUT / FLOOR / GRADE
GCO GCO	CO / FCO / GCO	2-WAY CLEANOUT / FLOOR / GRADE
WCO WCO	WCO	WALL CLEANOUT
POP	POP	PUMP OUT PORT
		PIPE TRANSITION
		FLOW DIRECTION

ABBREVIATIONS

ABBREV.	DESCRIPTION
A/C	ABOVE CEILING
A/G	ABOVE GRADE
ACD	CONDENSATE DRAIN
AFF	ABOVE FINISHED FLOOR
B/F	BELOW FLOOR
B/G	BELOW GRADE
BP	BACKFLOW PREVENTER
COTG	CLEANOUT TO GRADE
CW	DOMESTIC COLD WATER
DHW	DOMESTIC HOT WATER
DHWR	DOMESTIC HOT WATER RETURN
DU	DRAINAGE FIXTURE UNITS
F&I	FURNISH AND INSTALL
FCO	FLOOR CLEANOUT
FF	FINISHED FLOOR
GC	GAS COCK
GPM	GALLONS PER MINUTE
MPG	MEDIUM PRESSURE GAS PIPING
PRV	PRESSURE RELIEF VALVE
RD	ROOF DRAIN
RWL	RAIN WATER LEADER
SD	STORM DRAIN
UON	UNLESS OTHERWISE NOTED
VTR	VENT THRU ROOF
WCO	WALL CLEANOUT
WU	POTABLE WATER FIXTURE UNITS

NATURAL GAS DOMESTIC HOT WATER HEATER SCHEDULE

MARK	MAKE	MODEL NO.	GAS (MBH) INPUT	GAS (MBH) OUTPUT	FLOW RATE MIN (GPM)	FLOW RATE MAX (GPM)	EFF (%)	STOR. TANK (GAL)	WATER TEMP (°F) EWT	WATER TEMP (°F) LWT	WATER TEMP (°F) STOR	CONNECTION SIZES (IN) CW	DHW	GAS	COND DRAIN	FLUE	COMB AIR	ELECTRICAL V/PH/ HZ	NORMAL	STANDBY	FREEZE PROT.	MAX CURRENT	FUSE	OPER. WEIGHT (LBS)	REMARKS
IWH-1	NAVIEN	NAVIEN NPE-240A	199.9	191.9	0.26	4.6	96%	0.5	55	140	140	3/4	3/4	3/4	---	-	-	120/1/60	---	---	---	---	---	73	NOTES 1, 2, 3 & 5

NOTES:
1. FORCED AIR UNIT, 12 V DC TEMPERATURE CONTROLLER, UNIT ACTIVATION FLOW RATE OF 0.4 GPM & BUILT-IN RECIRCULATING PUMP.
2. BASED UPON AN ENERGY FACTOR FOR NATURAL GAS = 0.95
3. USE FEMALE UNTHREADED, SOCKETED ENDS, LONG TURN (SWEEP) ELBOWS FOR ALL CHANGES IN FLUE PIPE & COMBUSTION AIR PIPE DIRECTION CHANGES.
4. FORCED AIR UNIT, 12 V DC TEMPERATURE CONTROLLER & UNIT ACTIVATION FLOW RATE OF 0.4 GPM.
5. F&I W/OUTDOOR VENT KIT.
6. F& I (1) ECOCIRC 19-16 , 0.25 HP, 115/1/60 INLINE POTABLE WATER CIRCULATION PUMP

PLUMBING FIXTURES SCHEDULE

FIXTURE	DESIGNATION	MFR. AND MODEL NUMBER	FITTING AND CAPACITY	ACCESSORIES/REMARKS	COLD WATER	HOT WATER	WASTE	VENT SIZE
KITCHEN SINK	KS-1	AERO 3 COMPARTMENT SINK, 91.5"W X 30"D x 40"H, INCLUDING 7" BACKSPLASH, 14 GAUGE SS SINK. BOWL SIZE 18"W X 24"D X 14"D. UNIT DRILLED FOR FAUCET 8" O.C. AND CONFIGURED FOR RIGHT SIDE DISHWASHER MOUNTING. PROVIDED BY OWNER.	F&I AMERICAN STANDARD 4298.152 FAUCET W/AERATOR, ECONOMY SPRAYER, WALL BRACKET & ADD-ON FAUCET	F&I W/ DEARBORN 3785A STRAINER, WASTE LEVER; BRASS CRAFT SC4R19-Z LOOSE KEY ANGLE STOPS; E29 AERATOR; RISER TAILPIECE (AND MCGUIRE 8089 P-TRAP). SEE NOTE 2.	¾"	¾"	2"	1½"
MOP SINK	MS-1	MUSTEE 63P. PROVIDED BY GC.	ROUGH CHROME FINISHED FAUCET W/WALL BRACKET AND 30 INCH HOSE.	F&I W/VACUUM BREAKER, ¾" HOSE CONNECTION ON SPOUT/OUTLET AND MOP HANGER. SEE NOTE 2	¾"	¾"	3"	2"
HAND SINK	HS-1,2,3	AERO SS HAND SINK W/BACKSPLASH AND SPLASH GUARDS ON BOTH SIDES. PROVIDED BY OWNER.	FAUCET TO BE CHROME FINISHED W/KNEE CONTROLS AND AERATOR.	CW & DHW WATER HAMMER ARRESTERS; BRASS CRAFT SC4R19-Z LOOSE KEY ANGLE STOPS AND E29 AERATOR; RISER TAILPIECE AND P-TRAP & ARM W/CLEANOUT AND ESCUTCHEON. SEE NOTES 1 & 2.	½"	½"	2"	1½"
WATER CLOSET	WC-X	ZURN Z5555-K, FLOOR MOUNTED, ADA COMPLIANT, ELONGATED BOWL SIPHON JET WATER CLOSET. PROVIDED BY GC.	FLUSH TANK, 1.28GAL PER FLUSH	CHURCH SEAT 9500C, FRONT OPEN SEAT AND BRASS CRAFT SC4R19-Z LOOSE KEY ANGLE STOPS. SEE NOTE 2.	½"	---	3"	2"
LAVATORY	LV-X	VITROUS CHINA, ADA COMPLIANT LAVATORY WITH 4" CENTERS. ZURN MODEL # Z5340. PROVIDED BY GC.	ZURN Z81104-XL-3M FAUCET ON 4" CENTERS W/4" WRIST BLADES	SEE NOTES 1, 2, 3 & 4.	½"	½"	1¼"	1¼"
FLOOR SINK	FS-1&3	ZURN Z1751, PROVIDED BY GC.	FOR FINISHED FLOOR AREA	12" SQ TOP X 8" DEEP. SEE NOTE 7	---	---	3"	2"
FLOOR SINK	FS-2	ZURN FD-1749, PROVIDED BY GC.	FOR FINISHED FLOOR AREA	12" SQ TOP X 4" DEEP. SEE NOTES 6 & 7	---	---	2"	1½"
FLOOR DRAIN	FD-1	ZURN FD1-B-PB FLOOR DRAIN WITH 5" ROUND POLISHED BRASS TOP & ABS BODY, PROVIDED BY GC.	FOR FINISHED FLOOR AREA	F&I WITH OR ASSE 1072 APPROVED TRAP SEAL. SEE NOTES 5 & 6 (2" THROUGH 4").	---	--	2"	1½"
CLOTHES WASHER BOX	CWB-1	GUY GRAY #BB-200, PROVIDED BY GC.	F&I WITH CW & DHW WATER HAMMER ARRESTER	QUARTER TURN ½" SWEAT VALVES. STANDPIPE TO BE A MAXIMUM OF 30".	¾"	¾"	2"	1½"
DISH WASHER BOX	DWB-1	GUY GRAY MDWB1AB METAL WATER OUTLET BOX, PROVIDED BY GC.	F&I WITH DHW WATER HAMMER ARRESTER	QUARTER TURN ½" SWEAT VALVES.	---	½"	---	---

NOTES:
1. F&I W/ ½" WATTS LFMMV-**-M1 TEMPERATURE MIXING VALVE SET AT 110°F OUTPUT.
2. SHUT-OFF VALVES ON UPSTREAM SIDE OF CW & DHW LINES ABOVE CEILING.
3. BRASS CRAFT SC4R19-Z LOOSE KEY ANGLE STOPS W/FLEXIBLE SUPPLIES; Z8700 P-TRAP & Z8746-PC GRID STRAINER.
4. Z8946-3-NT ADA TRAP AND ARM W/CLEANOUT AND ESCUTCHEON; AND STOP & SUPPLY PROTECTORS FOR OFFSET GRID STRAINER.
5. 5" ROUND TOP, WITH CLAMPING COLLAR, ADJUSTABLE NICKEL BRONZE STRAINER ASSEMBLY, Z1012-FC DEEP-SEAL TRAP ADJUSTABLE C.I. FLOOR CLEANOUT & PLUG, AND ASSE 1072 APPROVED TRAP SEAL.
6. MODEL P2400X GREEN DRAIN WATERLESS TRAP SEAL.
7. WITH ACID RESISTANT BODY; NICKEL BRONZE DOME STRAINER; CLAMPING COLLAR; AND NON-TILT LOOSE GRATE WITH 1/2" SQUARE OPENINGS. ½ OR 3/4 GRATE AS REQUIRED BY SIZE AND NUMBER OF PIPES DISCHARGING TO UNIT.

WATER PRESSURE CALCULATION

ASSUMED AVAILABLE STATIC PRESSURE	65.0	PSI
PRESSURE DROP THRU METER	6.0	PSI
PRESSURE DROP @ BACKFLOW PREVENTER	6.0	PSI
AVAILABLE PRESS. ON HOUSE SIDE OF METER	53.0	PSI
ESTIMATED PIPE LENGTH - METER TO BLDG WALL	0	FT
EQUIV. LENGTH - METER TO BUILDING WALL	0	FT
P.D. - METER TO BUILDING WALL @ 6 PSIG/100 FT	0.0	PSI
PRESSURE AVAILABLE AT BUILDING WALL	53.0	PSI
PSI REQ. AT END OF THE LINE	30.0	PSI
PRESS. DROP @ THROUGH WATER HEATER	3.0	PSI
PRESS. DROP DUE TO PIPE ELEVATION CHANGES	4.3	PSI
REMAINING PRESSURE	15.7	PSI
SYSTEM LENGTH	125	FT
EQUIVALENT PIPE LENGTH	206	FT
ALLOWABLE LOSS/100FT OF PIPE: REMAINING PRESS. X 100FT / EQ. LENGTH OF PIPE	7.60	PSI

FIXTURE UNITS DOMESTIC WATER

FIXTURES	AMNT.	INDIVIDUAL FIXTURE UNITS TOT CW	CW PER FIXT	DHW PER FIXT	CUMMULATIVE FIXTURE UNITS CW MAIN	CW	DHW
LAVATORY (LV-X)	1	2.0	1.50	1.50	2.00	1.50	1.50
MOP SINK (MS-1)	1	3.0	2.25	2.25	3.00	2.25	2.25
HAND SINK (HS-X)	3	2.0	1.50	1.50	6.00	4.50	4.50
WATER CLOSET (WC-X)	1	2.0	2.00	-	2.00	2.00	-
CLOTHES WASHER BOX (CWB-1)	1	3.0	2.25	2.25	3.00	2.25	2.25
KITCHEN (KS-1)	1	4.0	3.00	3.00	4.00	3.00	3.00
DISHWASHER BOX (DWB-1)	1	1.5	-	1.50	1.50	-	1.50
TOTAL					21.50	15.50	15.00
GPM					25.0	17.8	17.5

NOTES AND FIELD CONDITIONS:
1. CONTRACTOR TO FIELD VERIFY SIZE AND LOCATION OF (E) CW PIPE TO BE AS INDICATED THESE DRAWINGS.
2. CONTRACTOR TO FIELD VERIFY AVAILABLE PRESSURE AT THE POINT OF CONNECTION (POC) TO THE CW SERVICE. POC TO CW PIPE TO BE AS INDICATED IN THESE PLANS AT THE BUILDING WALL.
3. CONTRACTOR SHALL VERIFY ACTUAL WATER PRESSURE AND PIPE LENGTHS PRIOR TO CONSTRUCTION. IF PRESSURE IS LESS THAN OR ACTUAL PIPE LENGTH IS MORE THAN LISTED ABOVE, CONTRACTOR SHALL CONTACT THE ENGINEER FOR PIPE SIZING EVALUATION. IF PRESSURE EXCEEDS 80 PSI, F&I A PRESSURE REDUCING VALVE.

POTABLE WATER PIPE SIZING

PIPE SIZE (IN)	FLUSH TANK F.U.	FLUSH VALVE F.U.	FLOW (GPM)
½	1.2	-	3.3
¾	4.9	-	9.3
1	12	-	16
1¼	29	8	23
1½	60	16	32
2	250	180	58

GENERAL NOTES:

1. ALL PLUMBING FIXTURES SHALL BE LABELED AS MEETING EPA WATER SENSE (WWW.EPA.GOV/WATERSENSE).
2. LOCATION OF PLUMBING FIXTURES SHALL BE DETERMINED FROM ARCHITECTURAL DRAWINGS.
3. BEFORE SUBMITTING BID, THE PLUMBING CONTRACTOR SHALL REVIEW THE ARCHITECTURAL DRAWINGS AND INCLUDE IN HIS BID AN AMOUNT TO FURNISH AND INSTALL ANY FIXTURES WHICH ARE SHOWN IN ADDITION TO FIXTURES SHOWN ON THE PLUMBING DRAWINGS.
4. CONTRACTOR SHALL VERIFY AND COORDINATE LOCATION OF ALL PLUMBING LINES WITH DUCTWORK AND ELECTRICAL SERVICES.
5. THE INSTALLATION OF ALL VALVES, UNIONS, THERMOMETERS, GAUGES, OR OTHER INDICATING OR RECORDING EQUIPMENT, OR SPECIALTIES REQUIRING FREQUENT READING, REPAIRS, ADJUSTMENT, INSPECTION, REMOVAL OR REPLACEMENT SHALL BE CONVENIENTLY AND ACCESSIBLY LOCATED WITH REFERENCE TO THE FINISHED BUILDING.
6. WHERE POSSIBLE, COMBINE PLUMBING VENTS TOGETHER SO AS TO MAKE THE MINIMUM NUMBER OF ROOF PENETRATIONS.
7. WATER CLOSETS IN PUBLIC TOILET ROOMS SHALL CENTER ON THE FINAL LAYOUT OF TOILET PARTITIONS AND BE INSTALLED AS INDICATED IN THE ARCHITECTURAL DRAWINGS.
8. ALL FLUE VENTS AND VTRS THROUGH ROOF SHALL BE A MINIMUM OF 10' FROM ALL AIR INTAKES AND EVAP. COOLERS.
9. CONTRACTOR SHALL NOT CUT HOLES IN STRUCTURAL MEMBERS WITHOUT FIRST SECURING WRITTEN APPROVAL FROM ARCHITECT.
10. CONTRACTOR SHALL INSTALL DIELECTRIC UNIONS AT CONNECTION OF DISSIMILAR METALS.
11. CONTRACTOR SHALL ROUGH-IN ALL WASTE AND SUPPLIES TO SPECIAL EQUIP. ACCORDING TO MANUFACTURERS SHOP DRAWINGS AND MAKE FINAL CONNECTIONS. ALL SUPPLIES SHALL BE VALVED.
12. COPPER POTABLE WATER PIPING VELOCITY: FOR PIPE SIZES < 2½" PIPE VELOCITY SHALL NOT TO EXCEED 6 FPS.
13. CONTRACTOR SHALL VERIFY INVERT ELEVATION OF SEWERS TO WHICH NEW WASTE LINES ARE TO BE CONNECTED PRIOR TO MAKING UP OR INSTALLING ANY OF THE NEW SANITARY SYSTEM.
14. FLASHED AND COUNTERFLASH ALL VTRS, PIPES AND FLUES THRU ROOF. MAKE PENETRATIONS WATER TIGHT.
15. WALL CLEANOUTS MAY BE SUBSTITUTED FOR FLOOR CLEANOUTS AT CONTRACTORS DISCRETION.

FIELD VERIFICATION NOTES:

1. THE PLUMBING CONTRACTOR SHALL VISIT THE SITE PRIOR TO BID TO FIELD VERIFY ALL EXISTING CONDITIONS WHICH MAY AFFECT HIS BID. THE FOLLOWING ITEMS SHALL BE VERIFIED.
   1.A. PLACEMENT SIZE CAPACITY MANUFACTURER AND CONDITION OF ALL EXISTING PLUMBING EQUIPMENT WITHIN SCOPE OF WORK, WHETHER SPECIFICALLY SHOWN OR NOT.
   1.B. SIZE AND LOCATION OF ALL EXISTING WASTE, GREASE WASTE, VENT, GAS AND WATER PIPING.
2. ALL REFERENCES IN THESE DRAWINGS TO EXISTING EQUIPMENT, FIXTURES AND PIPING TO BE VERIFIED BY THE CONTRACTOR PRIOR TO SUBMITTING THE BID. THE BID SHALL INCLUDE ANY AND ALL AMOUNTS REQUIRED TO ACCOMMODATE EXISTING CONDITIONS.
3. NO ALLOWANCES WILL BE MADE AFTER THE PROJECT HAS BEEN AWARDED FOR FAILURE TO VERIFY EXISTING CONDITIONS.
4. ANY DISCREPANCIES WHICH MAY AFFECT THE CONTRACTOR BID SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND ARCHITECT FOR DIRECTION.
5. PLUMBING ROUTINGS BASED ON OWNER'S SCHEMATICS OF LOCATION OF EXISTING FIXTURES AND SHELL DRAWINGS. CONTRACTOR RESPONSIBLE FOR VERIFICATION OF ACTUAL LOCATION OF SUPPLY LINES AND MAKING APPROPRIATE ADJUSTMENTS TO ACTUAL CONDITIONS IN THE FIELD.
6. CONTRACTOR SHALL VERIFY INVERT ELEVATION OF SEWERS TO WHICH NEW SANITARY LINES ARE TO BE CONNECTED BEFORE SUBMITTING THE BID.
7. PRIOR TO CONSTRUCTION VERIFY THE LOCATION OF THE HVAC/WALK-IN CONDENSATE FLOOR SINK. IF SLOPE AND DISTANCE OR IF IT IS INFEASIBLE TO DISPOSE OF WALK-IN COOLER CONDENSATE. USE A CONDENSATE PUMP.

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01.20.22

DARRELL ROY CARR NUMBER 32485 PROFESSIONAL ENGINEER

Project No: 5510/ Store #6281
Domino's Pizza Bakery Store
Pizza Theater Tenant Improvement
530 Malley Drive., Northglenn, CO 80233
Mountainside Pizza, Inc.
5313 Paylor Lane, 34240
Lakewood Ranch, FL 34240
310.505.6222

ISSUED FOR PERMIT:
12.23.2021

REV:	DATE:	DESCRIPTION:

SHEET NAME:
PLUMBING LEGEND, CALCULATIONS AND SCHEDULES

SHEET NUMBER:
P1.0

PRIOR TO THE COMMENCEMENT OF WORK, CONTRACTOR TO COORDINATE THE WORK REPRESENTED IN THIS SET OF DOCUMENTS WITH ALL TRADES. CONTRACTOR TO FIELD VERIFY CONDITION, LOCATION, SIZE, CAPACITY AND FLOW DIRECTION OF EXISTING SYSTEMS AND COMPONENTS BEING INCORPORATED INTO THE SYSTEMS AS INDICATED IN THESE DOCUMENTS.

ALL PIPE PENETRATIONS THROUGH BURIED STRUCTURAL ELEMENTS SHALL HAVE A PIPE SLEEVE AND SHALL BE MADE WATERTIGHT WITH A MODULAR SEAL SUCH AS LINKSEAL.

UNLESS OTHERWISE NOTED, ALL EQUIPMENT, MATERIAL AND SYSTEM COMPONENTS CONTAINED OR REFERED TO BY THESE DOCUMENTS ARE TO BE CONISDERED AS NEW TO BE FURNISHED AND INSTALLED (F&I) AS THUS.

SEE SHEETS P1.0, P5.0 AND MECHANICAL & ARCHITECTURAL DOCUMENTS FOR FURTHER REQUIREMENTS.

FOR PIPE SIZES NOT INDICATED, SEE PLUMBING FIXTURE SCHEDULE ON P1.0.

FOR DOMESTIC WATER SYSTEMS ONLY, PEX PIPING IS AN ACCEPTABLE SUBSTITUTION FOR COPPER TUBING UNLESS OTHERWISE NOTED.

LOW PRESSURE NATURAL GAS CALCULATION

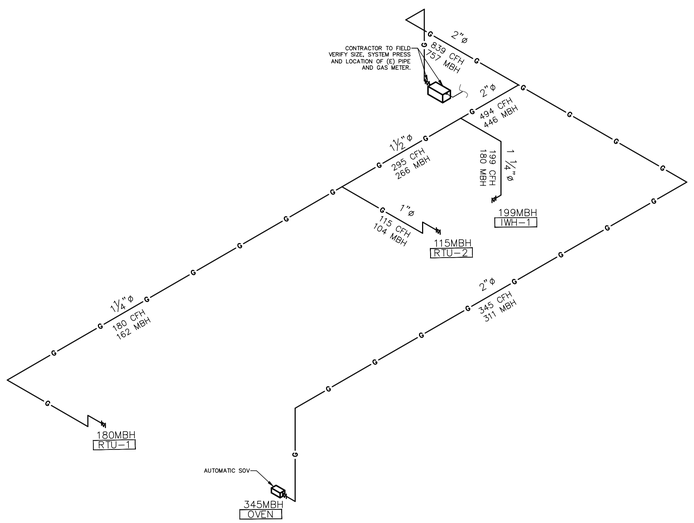
APPLIANCES	PIPE LENGTH (FT)	DEMAND (MBH)
WH-1 (199 MBH @ SEA LEVEL X 0.9 CORR. FACTOR)		180
OVEN (345 MBH @ SEA LEVEL X 0.9 CORR. FACTOR)		311
RTU-1 (180 MBH @ SEA LEVEL X 0.9 CORR. FACTOR)		162
RTU-2 (115 MBH @ SEA LEVEL X 0.9 CORR. FACTOR)		104
TOTAL		757
PIPE LENGTH FROM DEMISING WALL TO METER/PRV ASSEMBLY	10	
PIPE FITTINGS EQUIV. LENGTH FROM BLDG TO METER/PRV	15	
LENGTH OF PIPE IN TENANT SPACE	68	
EQUIV. LENGTH OF PIPE IN OR ON THE BUILDING	102	
TOTAL EQUIVALENT SYSTEM PIPE LENGTH	117	

NOTES:

1. PIPE SIZING BASED ON 2018 IFGC, TABLE 402.4(1) PIPE SIZING FOR PRESSURE LESS THAN 2 PSI, PRESSURE DROP OF 0.3" W.C. AND SPECIFIC GRAVITY OF 0.60.
2. CONTRACTOR SHALL VERIFY ACTUAL GAS PRESSURE AVAILABLE, PIPE LENGTHS, METER/PRV ASSEMBLY SIZE AND LOCATION PRIOR TO CONSTRUCTION. IF PRESSURE IS LESS THAN LISTED ABOVE, ACTUAL PIPE LENGTH IS MORE THAN LISTED ABOVE, CONTRACTOR SHALL CONTACT THE ENGINEER FOR PIPE SIZING EVALUATION. COORDINATE WITH LOCAL UTILITY.

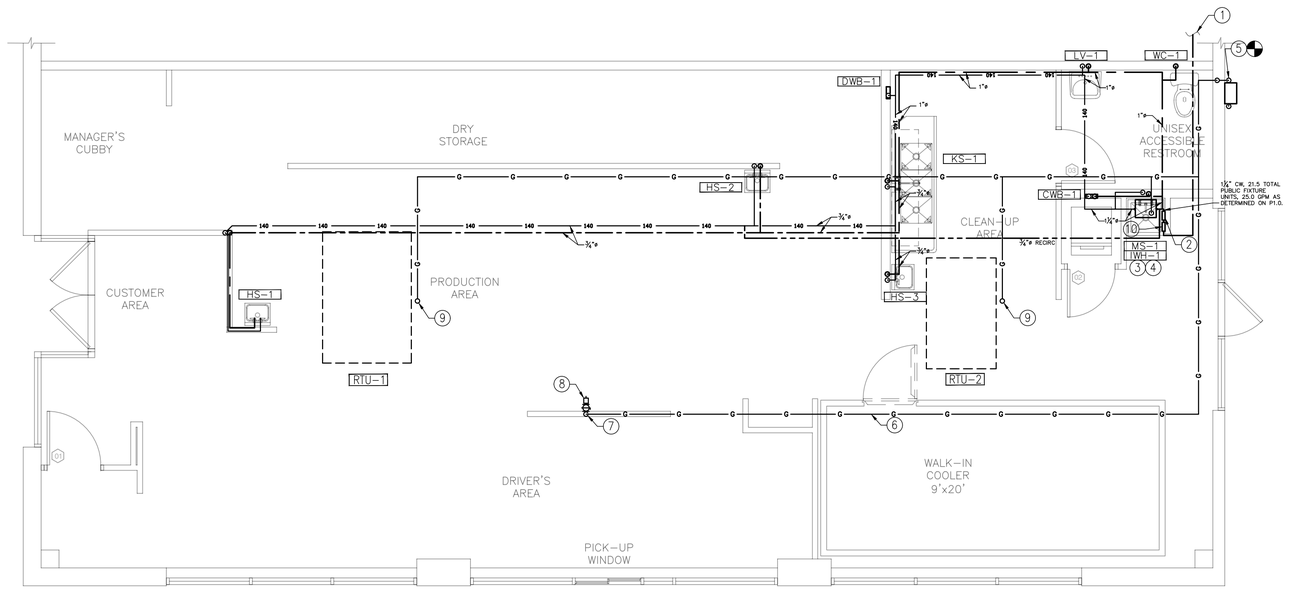
GENERAL GAS PIPING NOTES:

A. F&I UNIONS AT ALL VALVES AND DEVICES.



NATURAL GAS SCHEMATIC DIAGRAM

NO SCALE



POTABLE WATER & GAS PLUMBING PLAN

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

KEYED NOTES:

1. ROUTE COLD WATER PIPING TO CONNECT TO SERVICE WATER PIPING. FIELD VERIFY SIZE, LENGTH OF RUN FROM BUILDING WALL TO METER/PRV ASSEMBLY, CAPACITY, WATER PRESSURE AND LOCATION OF THE METER/PRV ASSEMBLY AND PIPE. ESTIMATED LENGTH OF PIPE FROM THE BUILDING WALL TO THE METER/PRV ASSEMBLY IS SHOWN IN CALCULATIONS ON SHEET P1.0. F&I NEW METER.
2. F&I WATTS LF009 BACKFLOW PREVENTER ABOVE MOP SINK. ROUTE RELIEF PIPE TO DISCHARGE ABOVE TO MOP SINK WITH 1" AIR GAP.
3. ALL DHW AND 8 FEET OF CW PIPING CONNECTED TO THE WATER HEATER SHALL BE INSULATED WITH 1" THICK INSULATION. INSULATION TO HAVE AN "R" RATING OF R=4.2 FOR PIPE SIZES < 1¼". PIPE SIZES >1" SHALL BE INSULATED WITH 1-1/2" THICK INSULATION HAVING AN "R" RATING NOT LESS THAN R=6.
4. SEE MECHANICAL SHEETS FOR VENT & COMBUSTION AIR.
5. RUN NEW GAS LINE IN CEILING TO NEW GAS METER/PRV ASSEMBLY (METER BANK). FIELD VERIFY SIZE, LENGTH OF RUN FROM THIS POINT TO METER/PRV ASSEMBLY; PIPE AND METER/PRV ASSEMBLY CAPACITY; GAS PRESSURE INLET AND OUTLET OF GAS METER/PRV ASSEMBLY; AND LOCATION OF THE METER AND PIPE. ESTIMATED LENGTH OF PIPE FROM THIS POINT TO METER/PRV ASSEMBLY IS SHOWN IN CALCULATIONS ON SHEET P1.0. CONNECT TO NEW METER/PRV ASSEMBLY AS DIRECTED BY LOCAL GAS UTILITY COMPANY.
6. OVEN DEDICATED GAS LINE.
7. GAS LINE TO DROP DOWN TO OVEN MANIFOLD.
8. AUTOMATIC SHUT OFF VALVE TO CUT GAS SUPPLY TO OVEN WHEN HOOD FIRE PROTECTION SYSTEM ACTIVATES.
9. GAS PIPE UP THRU ROOF. CONNECT TO UNIT ON ROOF. RUN GAS BACK TO GAS METER. SEE GAS PIPING SCHEMATIC DIAGRAM.
10. NEW WATER METER.

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01.20.22

COLORADO REGISTERED
DARRELL D. ROY CASE NUMBER 32485
PROFESSIONAL ENGINEER

Project No: 5510/ Store #6281
Domino's Pizza Bakery Store
Pizza Theater Tenant Improvement
530 Malley Drive., Northglenn, CO 80233
Mountainside Pizza, Inc.
5313 Paylor Lane, 34240
Lakewood Ranch, FL 34240
310.505.6222

ISSUED FOR PERMIT:
12.23.2021

REV:	DATE:	DESCRIPTION:

SHEET NAME:

POTABLE WATER & GAS PLUMBING PLAN

SHEET NUMBER:

P2.0

PRIOR TO THE COMMENCEMENT OF WORK, CONTRACTOR TO COORDINATE THE WORK REPRESENTED IN THIS SET OF DOCUMENTS WITH ALL TRADES. CONTRACTOR TO FIELD VERIFY CONDITION, LOCATION, SIZE, CAPACITY AND FLOW DIRECTION OF EXISTING SYSTEMS AND COMPONENTS BEING INCORPORATED INTO THE SYSTEMS AS INDICATED IN THESE DOCUMENTS.

ALL PIPE PENETRATIONS THROUGH BURIED STRUCTURAL ELEMENTS SHALL HAVE A PIPE SLEEVE AND SHALL BE MADE WATERTIGHT WITH A MODULAR SEAL SUCH AS LINKSEAL.

UNLESS OTHERWISE NOTED, ALL EQUIPMENT, MATERIAL AND SYSTEM COMPONENTS CONTAINED OR REFERED TO BY THESE DOCUMENTS ARE TO BE CONISDERED AS NEW TO BE FURNISHED AND INSTALLED (F&I) AS THUS.

SEE SHEETS P1.0, P5.0 AND MECHANICAL & ARCHITECTURAL DOCUMENTS FOR FURTHER REQUIREMENTS.

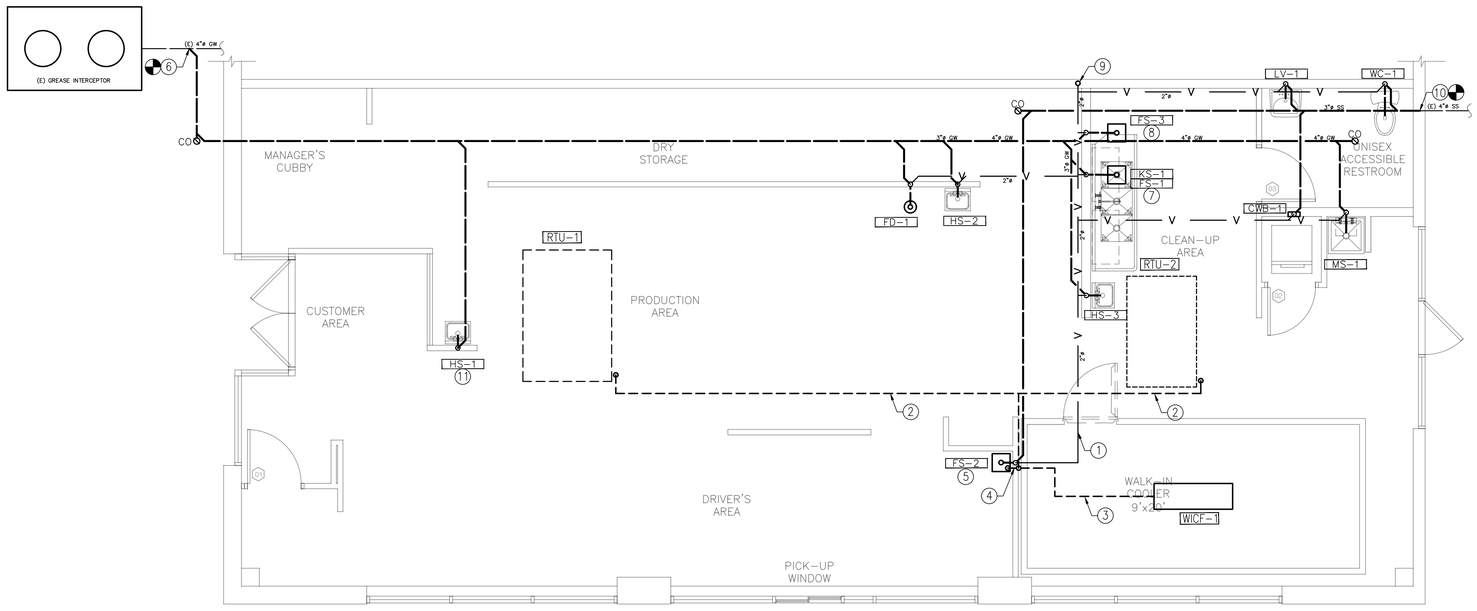
FOR PIPE SIZES NOT INDICATED, SEE PLUMBING FIXTURE SCHEDULE ON P1.0.

SANITARY SEWER FIXTURE UNITS

FIXTURES	AMNT.	DWFU EA.	SUB-TOTAL (DWFU)
LAVATORY (LV-X)	1	1	1
MOP SINK (MS-1)	1	2	2
HAND SINK (HS-X)	3	2	6
WATER CLOSET (WC-X)	1	4	4
FLOOR SINK (FS-1&3)	2	5	10
FLOOR SINK (FS-2)	1	2	2
FLOOR DRAIN (FD-1)	1	2	2
CLOTHES WASHER BOX (CWB-1)	1	2	2
KITCHEN (KS-1)	1	2	2
TOTALS	12		31

KEYED NOTES:

1. ACD PIPE DOWN FROM EQUIPMENT ON ROOF.
2. ¾" ACD PIPE TYPICAL U.O.N.
3. 1" ACD PIPE.
4. 1¼" ACD PIPE.
5. TERMINATE ACD PIPE OVER FS-2 WITH A MINIMUM AIR GAP OF 2X THE DIAMETER DRAINING PIPE.
6. POC TO (E) 4" GREASE WASTE LINE BELOW FLOOR. FIELD VERIFY SIZE, FLOW DIRECTION AND LOCATION.
7. KITCHEN 3-COMP SINK GREASE LINE TO DISCHARGE INDIRECTLY TO THE FLOOR SINK WITH A MINIMUM AIR GAP OF 2X THE DIAMETER DRAINING PIPE. DISCHARGE TO A LEGAL TRAP.
8. DISHWASHER TO DISCHARGE INDIRECTLY TO THE FLOOR SINK THROUGH MINIMUM 2" PVC OR COPPER PIPE WITH A MINIMUM AIR GAP OF 2X THE DIAMETER DRAINING PIPE. DISCHARGE TO A LEGAL TRAP.
9. 2½" VENT UP THRU ROOF TO 4" VTR. MAINTAIN MINIMUM 10'-0" FROM OUTSIDE AIR INTAKES.
10. POC TO (E) 4" SANITARY LINE BELOW FLOOR. FIELD VERIFY SIZE, FLOW DIRECTION AND LOCATION.
11. F&I WITH AIR ADMITTANCE VALVE FOR HAND SINK IN LOW HEIGHT WALL.



SANITARY SEWER PLUMBING FLOOR PLAN

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

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01.20.22

COLORADO REGISTERED DARRELL ROY GANT NUMBER 32485 PROFESSIONAL ENGINEER

Project No: 5510/ Store #6281
Domino's Pizza Bakery Store
Pizza Theater Tenant Improvement
530 Malley Drive., Northglenn, CO 80233
Mountainside Pizza, Inc.
5313 Paylor Lane, 34240
Lakewood Ranch, FL 34240
310.505.6222

ISSUED FOR PERMIT:
12.23.2021

REV:	DATE:	DESCRIPTION:

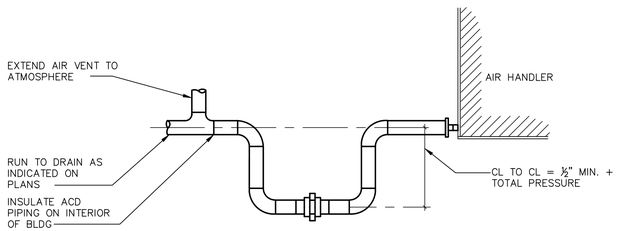
SHEET NAME:

SANITARY SEWER PLUMBING PLAN

SHEET NUMBER:

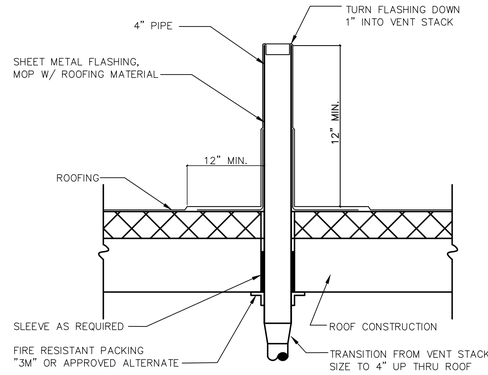
P2.1

THE DETAILS ON THIS SHEET ARE STANDARD DETAILS. NOT ALL DETAILS MAY BE RELEVANT TO THIS PROJECT.

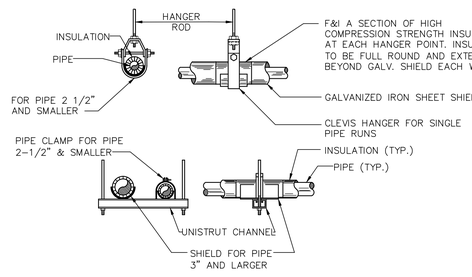


NOTE:
DRAIN PIPING TO BE MINIMUM UNIT CONNECTION SIZE. LARGER UNITS (+20 TONS) DRAIN PIPING (1) SIZE AS NOTED ON PLANS.

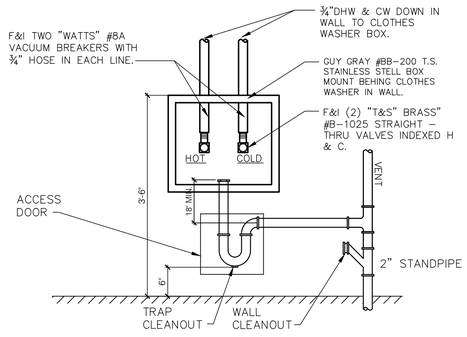
CONDENSATE TRAP DETAIL
NO SCALE



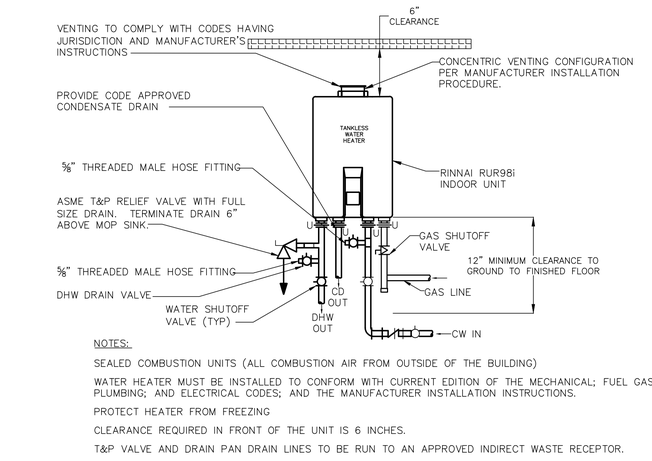
TYPICAL VENT THRU ROOF DETAIL
NO SCALE



TYPICAL WATER, DRAIN, WASTE AND VENT PIPE SUPPORT DETAIL
NO SCALE



CLOTHES WASHER BOX CONNECTION DETAIL
NO SCALE



NOTES:

SEALED COMBUSTION UNITS (ALL COMBUSTION AIR FROM OUTSIDE OF THE BUILDING)

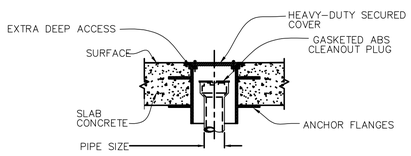
WATER HEATER MUST BE INSTALLED TO CONFORM WITH CURRENT EDITION OF THE MECHANICAL; FUEL GAS; PLUMBING; AND ELECTRICAL CODES; AND THE MANUFACTURER INSTALLATION INSTRUCTIONS.

PROTECT HEATER FROM FREEZING

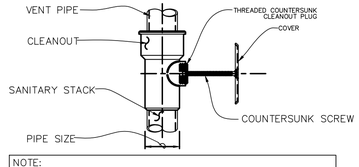
CLEARANCE REQUIRED IN FRONT OF THE UNIT IS 6 INCHES.

T&P VALVE AND DRAIN PAN DRAIN LINES TO BE RUN TO AN APPROVED INDIRECT WASTE RECEPTOR.

INSTANT DOMESTIC WATER HEATER DETAIL
NO SCALE



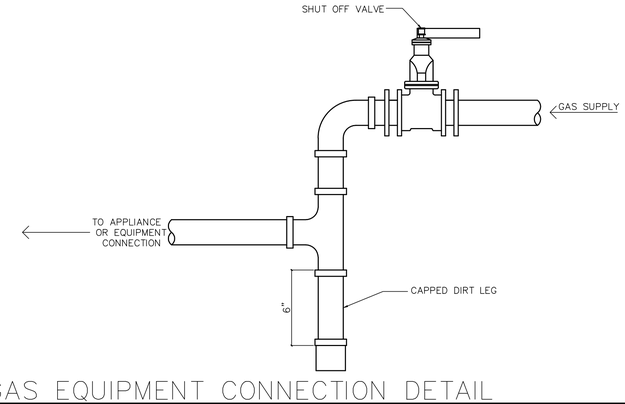
FLOOR FLOOR CLEANOUT



NOTE:
1. INSTALL CLEAN OUTS SO BOTTOM IS AT LEAST 7" ABOVE FINISHED FLOOR.

CLEANOUT TEE & ACCESS COVER

TYPICAL CLEANOUT DETAILS
NO SCALE



GAS EQUIPMENT CONNECTION DETAIL
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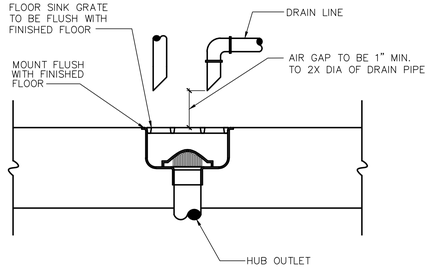

FLOOR SINK DETAIL
NO SCALE

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COLORADO REGISTERED DARRELL ROY CAIN NUMBER 32485 PROFESSIONAL ENGINEER

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ISSUED FOR PERMIT:
12.23.2021

REV:	DATE:	DESCRIPTION:

SHEET NAME:
PLUMBING DETAILS

SHEET NUMBER:
P3.0

Auto-Chlor SYSTEM

A5 WaterSaver™

Single Rack • Corner • Low Energy Dishmachine

- Auto-Chlor System's proprietary WaterSaver™ design uses as little as 1.04 gallons/rack
- Powerful 1 HP pump delivers high pressure spray and mechanical cleaning action for single pass cleaning performance
- Built in water pressure regulator provides consistent water usage and cleaning results
- Exclusive fill-through-the-pump feature flushes and cleans the wash pump and spray system with every cycle
- External sump and screen provide easy access for cleaning
- Regularly scheduled 28-day service ensures sparkling results, minimizes mechanical problems and reduces operating costs
- Benefiting from more than 75 years of improvements and dishwashing experience and knowledge

Energy Efficient

- Exceeds Energy Star requirements
- Low temperature chemical sanitizing saves energy
- No Booster Heater Required

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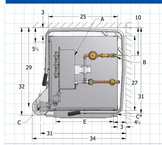
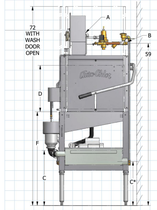
A5 WaterSaver™

Single Rack • Corner • Low Energy Dishmachine





Specifications

Standard 90 second cycle, 37 Rack/hr

A - Electrical -115 VAC, 60Hz, 1 PH
- 20A Dedicated Circuit Recommended
- Connects to Grounded Wall Outlet or ½" Conduit depending on local building codes

B - Water Consumption 1.04 gal/rack (38.4GPH)
- Water Supply Flow Rate 7.5 GPM Minimum
- Water Supply Temp 140˚F Recommended (120˚F Minimum Water Temperature)
- Water Supply Connection ½" NPT female
- Backflow protection provided by ASSE 1001 Vacuum Breaker

C - Drain Connection 2" MPT
- 20" above floor

C* - Optional Scrap Accumulator
- Connection 2" MPT
- Centerline 15½" above floor

D - Wash Cavity Clearance 17" Max Height

E - Rack Clearance - 20 ¼" between tracks
- Rack Size 20" x 20"

F - Table Height at Machine Entrance 34"

Available Options:
- Auto-Start
- Leg Extensions - 3"
- Vapor Removal System (VRX)
- 72 second cycle, 46 Racks/hr, 47.8 GPH
- 60 second cycle, 54 Racks/hr, 56.2 GPH
-Tall Hood 28" Max. Height Wash Cavity

Note: This unit does not produce heat or steam

NSF UL LISTED ACM30004 (072/13)

Total Service. Total Satisfaction.

Auto-Chlor SYSTEM autochlor.com

DISH WASHER PRODUCT DATA

NO SCALE

A. GENERAL NOTES

1. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND ALL OTHER SPECIFICATION SECTIONS, APPLY TO ALL PORTIONS OF THE PLUMBING RELATED WORK.
2. THE PLUMBING CONTRACTOR (PC) IS REQUIRED TO READ THE SPECIFICATIONS AND REVIEW ALL DOCUMENTATION AND DRAWINGS FOR ALL DIVISIONS OF WORK PRIOR TO BEGINNING WORK. THE PC IS RESPONSIBLE FOR THE COORDINATION OF THEIR WORK AND THE WORK OF THEIR SUBCONTRACTORS WITH ALL DIVISIONS OF WORK. IT IS THIS CONTRACTOR'S RESPONSIBILITY OF THE PC TO FURNISH COMPLETE SETS OF DOCUMENTS THEIR SUBCONTRACTORS.
3. THE PC IS RESPONSIBLE FOR SCHEDULING THE COMPLETION AND INSPECTION OF THEIR WORK AND THE WORK OF THEIR SUBCONTRACTORS TO COMPLY WITH THE CONSTRUCTION SCHEDULE.
4. THE PC SHALL VISIT THE SITE PRIOR TO SUBMITTAL OF BID TO DETERMINE CONDITIONS AFFECTING THE WORK. ANY ITEMS WHICH ARE NOT COVERED IN THE BID DOCUMENTS OR ANY PROPOSED SUBSTITUTIONS SHALL BE LISTED SEPARATELY AND QUALIFIED IN THE PC'S BID. SUBMITTAL OF A BID SHALL SERVE AS EVIDENCE OF KNOWLEDGE OF EXISTING CONDITIONS AND THE PERFORMANCE OF ANY MODIFICATIONS WHICH ARE REQUIRED TO MEET THE INTENT OF THE DOCUMENTS. MODIFICATIONS REQUIRED SHALL BE INCLUDED IN THE BID. FAILURE TO VISIT THE SITE DOES NOT RELIEVE THE PC OF THEIR RESPONSIBILITY IN PERFORMANCE OF WORK.

B. GENERAL REQUIREMENTS:

1. THE PC SHALL F&I ALL LABOR, MATERIALS, EQUIPMENT, SERVICES, TOOLS, TRANSPORTATION, AND FACILITIES NECESSARY TO F&I A COMPLETE PLUMBING SYSTEM AS INDICATED IN THESE DOCUMENTS AND AS REQUIRED BY JOB CONDITIONS. ALL WORK NECESSARY AND NOT SPECIFICALLY NOTED TO BE F&I BY OTHERS SHALL BE FURNISHED AND INSTALLED / OR COORDINATED BY THE PC.
2. ALL WORK SHALL BE PERFORMED IN A NEAT, PROFESSIONAL MANNER USING GOOD CONSTRUCTION PRACTICES AND AS INDICATED BY THESE DOCUMENTS.
3. UNLESS OTHERWISE NOTED, MATERIALS, PRODUCTS AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW, TESTED, LISTED AND SIZED IN CONFORMITY WITH REQUIREMENTS OF THE CURRENT CODES AND AS ENFORCED BY THE AUTHORITIES HAVING JURISDICTION (AHJ), WHICHEVER IS MORE STRINGENT.
4. ALL WORK SHALL BE INSTALLED SO AS TO BE READILY ACCESSIBLE FOR OPERATING, SERVICING, MAINTAINING AND REPAIRING. THE PC IS RESPONSIBLE FOR PROVIDING SUFFICIENT SERVICE ACCESS, AS INDICATED BY EQUIPMENT MANUFACTURER'S INSTRUCTIONS, TO ALL EQUIPMENT.
5. FIELD MEASURE AND DETERMINE THE ACTUAL FIELD CONDITIONS. FURNISH ALL REQUIRED OFFSETS, ADDITIONAL ELBOWS, SUPPORTS, COMPONENTS, ETC. AS REQUIRED TO INSTALL COMPLETE SYSTEMS.

C. CODES

1. ALL WORK SHALL COMPLY WITH THE CODES AND OTHER STATE, COUNTY, CITY AND LOCAL ORDINANCES, SAFETY AND HEALTH CODES AND NFPA CODES AS INDICATED HEREIN AND AS INDICATED ON SHEET G1.0 OF THESE DOCUMENTS. THE WORK PERFORMED TO CONFORM TO ALL APPLICABLE CODES, ORDINANCES, AND REGULATIONS. THE PC SHALL INCLUDE ANY CHANGES REQUIRED BY THE AHJ IN THEIR BID. IF THESE CHANGES ARE NOT INCLUDED IN THE BID, THEY MUST BE QUALIFIED AS A SEPARATE LINE ITEM IN THE BID. AFTER CONTRACT IS ISSUED, NO ADDITIONAL COST DUE TO CODE OR ORDINANCE ISSUES SHALL BE REIMBURSED TO THE PC.

D. LICENSES, PERMITS AND INSPECTION FEES

1. THE PC SHALL OBTAIN AND PAY FOR ALL LICENSES, PERMITS, INSPECTIONS AND FEES REQUIRED OR RELATED TO THE PERFORMANCE OF THEIR WORK.
2. FURNISH TO THE (OWNER) ALL CERTIFICATES OF INSPECTION AND FINAL INSPECTION APPROVAL AT COMPLETION OF PROJECT.

E. GUARANTEE

1. THE PC SHALL GUARANTEE ALL MATERIALS AND LABOR F&I UNDER THEIR CONTRACT AND SHALL MAKE GOOD, REPAIR DEFECTIVE MATERIALS, EQUIPMENT AND LABOR AT THEIR OWN EXPENSE. ANY DEFECTIVE MATERIAL, EQUIPMENT AND LABOR DISCOVERED WITHIN A PERIOD OF 12 MONTHS FROM THE DATE OF WRITTEN ACCEPTANCE OF THE WORK, AND AS INDICATED BY THE EXTENDED WARRANTIES FOR THE INDIVIDUAL EQUIPMENT SHALL BE REPAIRED OR REPLACED BY THE PC
2. HOT WATER HEATERS SHALL BE FURNISHED WITH A 5 YEAR HEAT EXCHANGER WARRANTY.

F. PHASING REQUIREMENTS (IF APPLICABLE)

1. THE PC SHALL INCLUDE IN THEIR BID ALL NECESSARY SERVICE REQUIRED TO KEEP THE OPERATING PORTION OF THE BUILDING'S (HVAC, PLUMBING AND SPRINKLER) SERVICES IN OPERATION. CONTRACTOR MUST SCHEDULE IN WRITING ONE WEEK PRIOR TO ANY SHUT DOWN OF THE HVAC, PLUMBING OR FIRE PROTECTION) SYSTEMS.
2. THE PC IS RESPONSIBLE FOR THE COORDINATION OF THE DEMOLITION OF EXISTING WORK AND THE RENOVATION WORK. COORDINATE WORK AFFECTING ANY EXISTING EQUIPMENT TO BE LEFT INTACT. THE PC SHALL REMOVE ALL EXISTING FIRE PROTECTION SYSTEMS, PLUMBING FIXTURES, PIPING SYSTEMS, REFRIGERANT SYSTEMS, HVAC SYSTEMS, AND ASSOCIATED ROOF CURBS OR RAILS NOT TO BE REUSED ON THIS PROJECT, UNLESS OTHERWISE NOTED . PC SHALL VERIFY ALL ABANDONED EQUIPMENT TO BE REMOVED (PIPES, DUCTWORK, EQUIPMENT, FIXTURES, ETC.) ARE NOT NEEDED BY OTHER PORTIONS OF THE BUILDING PRIOR TO THEIR REMOVAL. REPAIR THE ROOF MEMBRANE WHEN REMOVING ROOF CURBS, EQUIPMENT SLEEPERS, PIPES, DUCTS OR CONDUITS THROUGH THE ROOF.
3. ALL EXTRANEOUS ITEMS IN THE SPACE, ASSOCIATED WITH THE SPACE, OR ON THE ROOF AND NOT APPLICABLE TO THE WORK MUST BE REMOVED AND ROOF/WALL/FLOOR PATCHED/REPAIRED TO MATCH EXISTING SURROUNDINGS. EXISTING ABANDONED (PIPES, DUCTS OR EQUIPMENT) IN THE FLOOR, EMBEDDED IN CONCRETE, OR OTHERWISE INACCESSIBLE TO BE CUT OFF AND SEALED BELOW THE FLOOR OR WALL SURFACE, OR WITHIN THE FLOOR OR WALL WHEN THEY ARE NOT TO BE REUSED IN THIS PROJECT.
4. ABANDONED PIPING AND/OR DUCTWORK MUST BE REMOVED BACK TO IT'S POINT OF ORIGIN.
5. CONFIRM THE EXTENT OF DEMOLITION PRIOR TO BID AND INCLUDE IN BID PROPOSAL.

G. SLEEVE

1. THIS CONTRACTOR SHALL F&I PIPE SLEEVES. SLEEVES SHALL EXTEND THROUGH ITS RESPECTIVE FLOOR, WALL/PARTITION OR ROOF. SLEEVES THROUGH WALLS AND PARTITIONS SHALL BE CUT FLUSH WITH EACH SURFACE. SLEEVES PENETRATING FLOORS SHALL EXTEND 2" ABOVE THE FLOOR. SLEEVES PENETRATING ROOFS SHALL EXTEND 4" ABOVE ROOF SURFACE.
2. PC SHALL COORDINATE ANY CORE DRILLING OR CUTTING OF OPENINGS IN MASONRY FLOORS OR WALLS.
3. ALL SLEEVES AND OPENINGS THROUGH FIRE-RATED WALLS AND/OR FLOORS SHALL BE FIRE SEALED WITH CALCIUM SILICATE, SILICONE "RTV" FOAM, "3M" FIRE RATED SEALANTS OR APPROVED ALTERNATE. SLEEVES IN BEARING AND MASONRY WALLS, FLOORS, AND PARTITIONS SHALL BE STANDARD WEIGHT STEEL PIPE FINISHED WITH SMOOTH EDGES. FOR OTHER THAN MASONRY PARTITIONS, THROUGH SUSPENDED CEILINGS, OR FOR CONCEALED VERTICAL PIPING, SLEEVES SHALL BE NO. 22 U.S.G. GALVANIZED STEEL MINIMUM.

H. HANGERS

1. F&I HANGERS AND SUPPORTS FOR ALL PIPING AND EQUIPMENT IN ACCORDANCE WITH SMACNA, MSS, ASME, AND ASHRAE STANDARDS.
2. HANGERS SHALL INCLUDE ALL MISCELLANEOUS STEEL SUCH AS ANGLE IRON, BANDS, C-CLAMPS WITH RETAINING CLIPS, CHANNELS, HANGER RODS, ETC., NECESSARY FOR THE INSTALLATION OF WORK.
3. HANGERS SHALL BE FASTENED TO BUILDING STEEL/STRUCTURE, CONCRETE OR MASONRY. HANGING FROM METAL DECK IS NOT PERMITTED. HANGERS MUST BE ATTACHED TO UPPER CHORDS OF BAR JOISTS. WHERE INTERFERENCES OCCUR, THE PC SHALL INSTALL TRAPEZE TYPE HANGERS OR SUPPORTS WHICH SHALL BE LOCATED WHERE THEY DO NOT INTERFERE WITH ACCESS TO FIRE DAMPERS, VALVES, MAINTENANCE REQUIREMENTS AND OTHER EQUIPMENT.
4. HANGERS FOR ALL INSULATED PIPING SHALL BE SIZED AND INSTALLED FOR THE OUTER DIAMETER OF INSULATION. INSTALL 6" LONG SPLIT CIRCLE GALVANIZED SADDLE BETWEEN THE HANGER AND THE PIPE INSULATION. F&I HIGH DENSITY INSULATION INSERT BETWEEN THE SADDLE AND THE PIPE.
5. HANGERS AND PIPING OF DISSIMILAR METALS SHALL BE DI-ELECTRICALLY SEPARATED.

I. DIRT AND DUST CONTROL

1. PROTECT AREAS ADJACENT TO THE WORK BEING PERFORMED. SCREEN OFF ALL AREAS WHERE CONSTRUCTION IS TO TAKE PLACE FROM THE AREAS TO REMAIN INHABITED. INHABITED AREAS SHALL REMAIN DUST AND DEBRIS FREE DURING CONSTRUCTION.
2. CLEAN ALL AREAS OUTSIDE DESIGNATED CONSTRUCTION AREA WHICH MAY HAVE BECOME SOILED DUE TO CONSTRUCTION.

J. EQUIPMENT, PIPING, INSULATION AND INSTALLATION

1. REFER TO PLANS FOR SCHEDULES OF EQUIPMENT AND FIXTURES. AMERICAN STANDARD, KOHLER AND CRANE ARE CONSIDERED ACCEPTABLE AS EQUALS.
2. MAINTAIN A MINIMUM CLEARANCE OF 6" BETWEEN PLUMBING PIPING AND EQUIPMENT AND ALL FIRE/SMOKE RATED WALLS.
3. INSTALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. INSTALL UNITS LEVEL AND PLUMB, AT RIGHT ANGLES TO THE STRUCTURE. FIRMLY ANCHORED UNITS IN LOCATIONS INDICATED BY THE DOCUMENTS.
5. PIPING OF DISSIMILAR METALS SHALL BE DI-ELECTRICALLY SEPARATED WITH INSULATED FITTINGS.
6. FIELD VERIFY CONNECTION POINTS PRIOR TO SUBMITTING BID AND NOTIFY ENGINEER IF CONDITIONS ARE NOT AS SHOWN ON THE PLANS OR AS STATED IN THE SPECIFICATIONS. CONTRACTOR SHALL VERIFY THE OPERABILITY OF ENTIRE SYSTEM PRIOR TO TIE-IN AS FOLLOWS:
   a. SNAKE SANITARY FOR A DISTANCE OF 100 FEET AND REPORT ANY BLOCKAGE.
   b. TEST WATER PRESSURE TO INSURE MINIMUM PSI MATCHES MOST DEMANDING EQUIPMENT SUPPLIED.
7. INSULATE THE TRAP, SANITARY AND SUPPLY PIPES UNDER LAVATORIES WITH TRUEBRO MODEL 102W "HANDI LAV GUARD" INSULATION KIT OR EQUAL.
8. INSULATE AIR CONDITIONING CONDENSATE DRAIN LINES BELOW THE ROOF. INSULATION TO BE ½" THICK CLOSED CELL CONTINUOUS TUBE INSULATION BY AEROFLEX. CLOSURE SYSTEM AS RECOMMENDED BY THE MANUFACTURER.
9. INSTALL ALL NECESSARY PIPE HANGERS, SADDLES, AND CARRIERS TO PROPERLY SUPPORT ALL PIPING AND FIXTURES. HANGERS SHALL SUIT TYPE OF PIPING F&I AND BE SPACED AT A MAXIMUM SPAN OF 5 FEET.

K. POTABLE WATER PIPING

1. POTABLE WATER PIPING SHALL BE AS FOLLOWS:
   a. BELOW GRADE: TYPE 'K' ANNEALED COPPER TUBE. FOR PIPE SIZES 2 INCHES AND SMALLER. BRAZE ALL JOINTS.
   b. ALL OTHER: TYPE 'L' DRAWN TEMPERED COPPER TUBE WITH WROUGHT COPPER FITTINGS AND 95-5 TIN-ANTIMONY SOLDER.
2. INSULATE ALL HOT AND COLD WATER PIPING WITH MINIMUM 1" THICK (K=0.23 @ 75˚F) OR MORE AS MAY BE REQUIRED BY LOCAL CODES. FIBERGLASS PIPE INSULATION SHALL HAVE AN ALL SERVICE JACKET. MEET LOCAL CODES AND UL FLAME SPREAD AND SMOKE DEVELOPED RATING. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
3. STERILIZE WATER SYSTEM IN ACCORDANCE WITH LOCAL CODES.
4. TEST ENTIRE PLUMBING SYSTEM IN ACCORDANCE WITH THE CURRENT PLUMBING CODE.
5. F&I WATER PRESSURE REDUCING VALVE AS REQUIRED TO MAINTAIN A MAXIMUM WATER SERVICE PRESSURE ENTERING THE BUILDING AT 80 PSIG.
6. IF APPLICABLE, F&I METER AND REMOTE READER PER LOCAL UTILITIES REQUIREMENT.
7. VALVES: F&I BALL VALVE NIBCO SERIES 585-70 FOR SHUT-OFF VALVES.
8. F&I ACCESS PANELS WHERE REQUIRED FOR OPERATION, MAINTENANCE AND BALANCING OR PLUMBING EQUIPMENT.
9. F&I WATER HAMMER ARRESTORS AT EACH QUICK CLOSING VALVE AND AS OTHERWISE INDICATED IN THESE DRAWINGS.

L. SANITARY, WASTE, DRAIN AND VENT (DWV) PIPING

1. CONDENSATE DRAIN: F&I POLYVINYL CHLORINE (PVC) TYPE DWV, SCHEDULE 40 PLASTIC PIPE IN CONFORMANCE WITH STANDARD ASTM D2665.
2. BELOW GRADE DWV PIPING; ALL MATERIAL SHALL BE DWV QUALITY CAST IRON, COPPER, PVC OR ABS PIPING.
3. PRESSURE DWV PIPING: ALL MATERIAL SHALL BE DWV QUALITY CAST IRON.
4. ABOVE GRADE, IN CABINETRY, WALLS, ETC. SHALL BE DWV QUALITY CAST IRON, COPPER, PVC OR ABS PIPING.
5. VENTS THROUGH ROOF (VTR): MATERIAL SHALL BE DWV QUALITY CAST IRON PIPE.

M. GAS PIPING

1. FURNISH AND INSTALL A COMPLETE GAS PIPING SYSTEM.
2. GAS LINES SHALL BE BLACK STEEL, SCHEDULE 40, ASTM A-53, WITH MALLEABLE THREADED FITTINGS FOR 2" AND SMALLER, AND WITH WELDED JOINTS FOR 2-1/2" AND LARGER.
3. CORRUGATED STAINLESS STEEL TUBING SHALL BE LISTED IN ACCORDANCE WITH ANSI/CSA 6.26.
4. VENT PIPING AND FITTINGS USED TO CONNECT TO REMOTE VENT TERMINALS SHALL CONFORM TO ANSI/UL 651.
5. CONCEALED PIPING INSTALLED IN SOLID PARTITIONS, WALLS FLOORS OR CEILINGS SHALL BE INSTALLED IN CHASES OR CHANNELS WHICH HAVE COVERINGS TO ALLOW ACCESS TO THE PIPING.
6. GAS PIPING TO SHALL ENTER THE BUILDING THROUGH AN EXTERIOR WALL ABOVE GRADE. THE PIPE AT THE WALL PENETRATION SHALL BE PROTECTED AGAINST CORROSION BY AN INERT PIPE WRAP OR SLEEVE. IF A SLEEVE IS USED, THE ANNULAR SPACE BETWEEN THE SLEEVE & PIPE SHALL BE SEALED.
7. FOR LP. GAS PIPES, ISOLATE ABOVE GROUND PIPE FROM BELOW GROUND PIPE WITH AN APPROVED DIELECTRIC FITTING. DIELECTRIC FITTING TO BE PLACED ABOVE GROUND.
8. ALL EXTERIOR GAS PIPING SHALL BE MOUNTED A MINIMUM OF 3.5" ABOVE THE SURFACE BEING RUN UPON (ROOF, GROUND, ETC.).
9. FURNISH AND INSTALL A GAS COCK, DIRT LEG, AND UNION CONNECTION AT EACH PIECE OF EQUIPMENT.
10. SUPPORT PIPING EVERY 5 FEET OR AS DICTATED BY LOCAL CODES, WHICHEVER IS MORE STRINGENT.
11. ALL EXPOSED EXTERIOR GAS PIPING SHALL BE PAINTED WITH RUST-INHIBITING PAINT.
12. GAS PIPING INSTALLED IN RETURN AIR PLENUMS SHALL BE SLEEVED AND VENTED OR WELDED IN ACCORDANCE WITH THE LOCAL GAS COMPANY, LOCAL CODE AND APPLICABLE NFPA 54 CODES.
13. TESTING AND PURGING OF GAS PIPING SHALL BE DONE PER THE REQUIREMENTS OF THE LOCAL GAS COMPANY, LOCAL CODES AND APPLICABLE NFPA CODES.
14. CONTACT AND COORDINATE GAS SERVICE, METER AND REGULATOR REQUIREMENTS WITH THE LOCAL GAS COMPANY PRIOR TO BID. INCLUDE INSTALLATION COST OF GAS METER AND REGULATOR IN BID.

I. LABELS/PIPE MARKERS

1. FURNISH AND INSTALL PIPE IDENTIFICATION MARKERS ON ALL PIPES INSTALLED UNDER THIS CONTRACT. MARKERS SHALL BE A MINIMUM OF 1-1/2" X 8" AND IDENTIFIED IN ACCORDANCE WITH THE BACKGROUND AND LETTER COLORS ISSUED BY THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI). MARKERS SHALL BE MANUFACTURED BY CHAMPION AMERICA INC., BRADY, SETON, OR EQUAL.
2. PIPING SHALL BE IDENTIFIED AS FOLLOWS: POTABLE WATER, HOT WATER, VENT, SEWER, CONDENSATE, REFRIGERANT LIQUID, REFRIGERANT SUCTION, AND DIRECTIONAL ARROWS. ALL IDENTIFICATIONS MUST BE VISIBLE AT EQUIPMENT.

J. STEEL FRAMING FOR SUPPORT

1. F&I ALL NECESSARY STEEL FRAMING REQUIRED TO INSTALL ALL HVAC EQUIPMENT AS DESCRIBED OR IMPLIED ON THE DRAWINGS. ALL PENETRATIONS OF EXISTING STRUCTURE SHALL BE DONE AT THIS CONTRACTOR'S EXPENSE.

11. SYSTEM START-UP

1. THIS CONTRACTOR SHALL INCLUDE AS A BASE, 2-HOURS OF START-UP TIME PLUS AN ADDITIONAL 2-HOURS OF START-UP TIME PER HVAC UNIT SHOWN ON DRAWINGS.

L. FINAL INSPECTIONS

1. ASIDE FROM NORMAL INTERIM INSPECTIONS OF WORK IN PLACE, THE ENGINEER SHALL BE NOTIFIED (IN WRITING) TO INSPECT THE FINISHED INSTALLATION UPON COMPLETION FOR COMPLIANCE WITH THE PLANS, SPECIFICATIONS AND CODES. THE INSTALLING CONTRACTOR SHALL BE RESPONSIBLE TO BRING ALL ITEMS REPORTED BY THE ENGINEER INTO COMPLIANCE.

M. PROJECT CLOSEOUT DOCUMENTATION

1. AS PART OF THE PROJECT CLOSEOUT, FURNISH THE OWNER WITH A COMPLETE SET OF OPERATION & MAINTENANCE MANUALS. FURNISH MANUALS ON ALL SYSTEM COMPONENTS. AS A MINIMUM, MANUALS TO CONTAIN INFORMATION ON THE MAKE AND MODEL NUMBERS OF ITEMS AND MAINTENANCE SCHEDULE LISTING MANUFACTURER'S SUGGESTIONS ON THE FREQUENCY OF REQUIRED SERVICE ITEMS FOR ALL COMPONENTS.

GNICH ARCHITECTURE STUDIO
AN OREGON LIMITED LIABILITY COMPANY

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01.20.22

COLORADO REGISTERED ROY CARR NUMBER 32485 PROFESSIONAL ENGINEER

Project No: 5510/ Store #6281

Domino's Pizza Bakery Store
Pizza Theater Tenant Improvement
530 Malley Drive., Northglenn, CO 80233
Mountainside Pizza, Inc.
5313 Paylor Lane, 34240
Lakewood Ranch, FL 34240
310.505.6222

ISSUED FOR PERMIT:
12.23.2021

REV:	DATE:	DESCRIPTION:

SHEET NAME:

PLUMBING SPECIFICATIONS AND DETAILS.

SHEET NUMBER:

P4.0

Construction Bid Sheet

Store #: 6281
Store Name: Northglenn
Store Address: 640 Malley Dr.

Submitted by Creative Construction January 14, 2022

Item #	Description	Line Item Cost	Division Total
01	**General Conditions**		
01-010	Builders Risk Insurance		
01-020	Workers Comp & GL Insurance		
01-030	Bonds		
01-110	Project Executive & Staff		
01-120	Sr. Project Manager		
01-130	Project Manager		
01-140	Superintendent		
01-145	Assistant Project Manager		
01-150	Project Engineer		
01-155	Project Coordinator		
01-160	M.E.P. Coordinator		
01-210	Plans & Specs Reproduction		
01-310	Gas & Oil / Travel Expense		
01-410	Safety Director		
01-420	PPE		
01-430	Temp. Labor / General Labor		
01-440	Temp. Toilets	$ 1,150.00	
01-450	Temp. First Aid		
01-460	Temp. Fire Protection		
01-470	Temp. Signage		
01-480	Temp. Barricades & Fencing	$ 700.00	
01-510	Material Testing		
01-610	Hoisting		
01-620	Small Tools / Consumables		
01-630	Equipment Rental		
01-710	Dumpster / Trash Removal	$ 2,000.00	
01-810	General Project Clean Up (includes except deliveries)	$ 2,400.00	
01-820	Final Clean	$ 1,150.00	
01-910	As-Built Drawings		
01-920	Close Out Documents		
Other			
Other			
	Subtotal:		$ 7,400.00

Item #	Description	Line Item Cost	Division Total
02	**Sitework**		
02-010	Demo - Slab Cut For MEP's	$ 3,120.00	
02-020	Demo - General (Floors / Walls / Ceilings)	$ 2,510.00	
02-030	Demo - Exterior Asphalt/Concrete		
02-110	Shoring		
02-510	Exterior - Asphalt		
02-520	Exterior - Concrete	$ 13,340.00	
02-610	Landscaping		
02-620	Irrigation		
09-910	Maintenance of Traffic		
Other			
Other			
	Subtotal:		$ 18,970.00
03	**Concrete**		
03-010	Concrete - MEP Pour Back	$ 2,410.00	
03-020	Concrete - General (Slab / Column / Beam)		
Other			
Other			
	Subtotal:		$ 2,410.00
04	**Masonry**		
04-010	Block Work		
04-020	Brick Work		
Other			
Other			
	Subtotal:		$ -
05	**Metals**		
05-010	Structural Steel		
05-510	SS Handrails (At Child Step)		
05-520	SS Wall and Corner Trim (includes TVs & mounts)	$ 29,590.00	
05-530	SS Base		
05-540	SS Cap For Manager's Desk		
05-810	Access Ladder / Stairs		
Other			
Other			
	Subtotal:		$ 29,590.00
06	**Wood & Plastics**		
06-010	Backing & Blocking	$ 725.00	
06-510	Install POS Cabinets	$ 500.00	
06-610	Corian At Sneeze Guard	$ 1,000.00	
06-810	Manager's Desk	$ 210.00	
Other			
Other			
	Subtotal:		$ 2,435.00

Item #	Description	Line Item Cost	Division Total
07	**Thermal & Moisture Protection**		
07-010	Framing / Structural Support		
07-020	Decking		
07-110	Roofing	$ 4,495.00	
07-210	Insulation		
07-510	Wall Cap		
07-520	Gutters & Downspouts		
07-530	Roof Curbs		
07-810	Misc. Patching		
07-820	Sealants & Caulking		
Other			
Other			
	Subtotal:		$ 4,495.00
08	**Doors & Windows**		
08-010	HM Doors & Frames	$ 3,025.00	
08-110	Store Front / Glass Doors	$ 2,800.00	
08-210	Door Hardware - General		
08-220	Door Hardware - Mag Lock		
08-510	Curtain Wall System		
08-610	Sneeze Guard System	$ 2,386.00	
08-710	Drive Thru Window	$ 7,375.00	
Other			
Other			
	Subtotal:		$ 15,586.00
09	**Finishes**		
09-010	Metal Stud Framing	$ 5,925.00	
09-020	Drywall	$ 4,440.00	
09-030	Concrete Board / Plywood		
09-210	Floor Prep		
09-220	Tile - Floor	$ 11,475.00	
09-230	Tile - Wall	$ 7,470.00	
09-410	Acoustical Ceilings	$ 5,965.00	
09-510	FRP	$ 6,943.00	
09-610	Exterior Siding		
09-810	Painting - Interior	$ 1,170.00	
09-820	Painting - Exterior		
Other	Purchase Tile, Plus Freight	$ 8,519.00	
Other			
	Subtotal:		$ 51,907.00

Item #	Description	Line Item Cost	Division Total
10	**Specialties**		
10-010	Install signage and graphics	$ 150.00	
10-110	Fire Extinguishers		
10-210	Toilet Accessories	$ 490.00	
Other			
Other			
	Subtotal:		$ 640.00
11	**Equipment**		
11-010	Oven / Hood Installation		
11-020	Walk-In Cooler Installation	$ 8,250.00	
11-110	Kitchen Equip. Installation	$ 1,210.00	
11-120	Computer / Monitor Installation		
Other			
Other			
	Subtotal:		$ 9,460.00
12	**Furnishings**		
12-010	Shades		
12-020	Window Tint		
Other			
Other			
	Subtotal:		$ -
13	**Special Construction**		
13-010	Ansul System		
Other			
Other			
	Subtotal:		$ -
14	**Conveying**		
N/A			
	Subtotal:		$ -
15	**Mechanical**		
15-010	Plumbing	$ 36,900.00	
15-020	Rinnai System		
15-030	Gas Piping		
15-040	Grease Interceptor		
15-410	Fire Sprinkler System		
15-700	HVAC	$ 56,513.00	
Other			
Other			
	Subtotal:		$ 93,413.00

Item #	Description	Line Item Cost	Division Total
16	**Electrical**		
16-010	Electrical	$ 46,928.00	
16-110	Data Communications		
16-210	Fire Alarm		
Other			
Other			
	Subtotal:		$ 46,928.00
17	**Additional Costs**		
17-010	Permit		
17-110	Sales Tax		
17-120	Use Tax		
17-510	Overhead	$ 8,000.00	
17-520	Profit	$ 28,794.00	
Other			
Other			
	Subtotal:		$ 36,794.00
	Total:		**$ 320,028.00**

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303-519-2086
info@newstylecontracting.com

January 18, 2022

PROPOSAL

ATTN: Joseph Vanasco

RE: **DOMINO'S PIZZA**
640 MALLEY DRIVE

Gentlemen:

In response to your request, we've prepared pricing for the referenced project. This proposal is based on drawings prepared by Gnich Architecture Studio, LLC who provided Architectural, Mechanical, Electrical, & Plumbing plans dated 12/23/2021. The proposed cost, a list of qualifications, clarifications and an itemized cost breakdown follows:

I. PROJECT COSTS

BASE BID..... ..... $ 380,000.00

TOTAL BID..... ..... $ 380,000.00

II. QUALIFICATIONS & CLARIFICATIONS

A. INCLUSIONS

1. All interior remodel items in accordance with the construction drawings and supplemental instructions given by the owner. All interior demolition not shown on construction drawings is included.
2. Due to COVID-19, construction material supply chain issues and material pricing fluctuations this bid is good for 7 days from the proposal date listed above. After 7 days all pricing will have to be re-verified.

B. EXCLUSIONS

1. Payment and Performance Bond.
2. Bid Bond.
3. Builder's risk insurance.
4. All use tax or special construction tax associated with renovations.
5. Cold weather conditions.
6. Permit Expediting.
7. Scope of work changes arising out of permit plan review.

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8. Union labor.
9. Testing/special inspections.
10. Third party inspections, including any inspections required for exterior concrete work.
11. Offsite construction.
12. Any ROW work.
13. Asphalt paving.
14. Any trash enclosure work.
15. All primary utility work.
16. All utility fees associated with construction.
17. Metal railings.
18. New grease trap and or all work associated with existing grease trap. Grease trap is shown to be existing.
19. Land scaping.
20. Roof flashing and sheetmetal.
21. Knox Box.
22. Roof ladder.
23. Toilet partitions.
24. All work associated with the water leak in the SE corner of the suite.
25. Hazardous materials demolition.
26. Existing Leaks in Roof and damage to new construction caused by Roof leak.
27. All structural work that could be associated with the roof loading of two rooftop units.
28. All structural work, no structural drawings were provided at the time of bid.
29. Grease hoods/Ansul package.
30. Make Up Air Unit. Captive Air System with Hood.
31. Kitchen hood fire suppression permitting.
32. In wall (Exterior wall / Demising wall) or above ceiling insulation.
33. Roller shades / mini blinds.
34. Awnings/canopies.
35. Soda and ice machine equipment supply and install.
36. All signage materials.
37. Menu board materials.
38. Kitchen equipment supply and install.
39. Furniture package supply.
40. Millwork package supply.
41. Office equipment and office millwork supply.
42. Existing perimeter wall fire blocking or fire caulking.
43. Freezer / cooler package supply.
44. Soda Machine, Ice Machine, Refrigerant and Line Sets.
45. Security, sound, P.O.S., data, and voice systems.
46. Fire alarm system.
47. Fire suppression system.
48. Existing contaminated materials disposal and removal.

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III. DRAWINGS UPON WHICH THIS PROPOSAL IS BASED

Number	Title	Date
	Architectural Drawings	
G1.0	Cover Sheet	12/23/2021
G2.0	Construction Specifications / Accessibility Details	12/23/2021
FLS1.0	Fire / Life Safety Plan	12/23/2021
A1.0	Equipment Layout / Counter Cabinets / Schedules	12/23/2021
A2.0	Partition & Finish Plan/Details/Material Sched./Door Sched.	12/23/2021
A3.0	Reflected Ceiling Plan / Details	12/23/2021
A4.0	Interior Elevations / Art Package Schedule	12/23/2021
A5.0	Interior Details	12/23/2021
A6.0	Interior Details	12/23/2021
	Electrical Plans	
E1.0	Electrical One Line Diagram / Panel Schedule / Calcs.	12/23/2021
E2.0	Electrical Lighting Plan	12/23/2021
E3.0	Electrical Power Plan	12/23/2021
	Mechanical Plan	
M1.0	Mechanical Schedule / Calcs. & Legend	12/23/2021
M2.0	Mechanical Plan	12/23/2021
M3.0	Mechanical Details & Sequence of Operations	12/23/2021
M4.0	Mechanical Details	12/23/2021
M5.0	Mechanical Energy Certificate	12/23/2021
M6.0	Mechanical General Notes & Specifications	12/23/2021
	Plumbing Plans	
P1.0	Plumbing Legend Calcs, & Schedule	12/23/2021
P2.0	Potable Water & Gas Plumbing Plan	12/23/2021
P2.1	Sanitary Sewer Plumbing Plan	12/23/2021
P3.0	Plumbing Details	12/23/2021
P4.0	Plumbing Specifications & Details	12/23/2021

The proposed project has a projected schedule of Forty-Seven (47) days. We appreciate the opportunity to provide this pricing and look forward to working with you on this project.

Sincerely,

NEW STYLE CONTRACTING
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info@newstylecontracting.com

Kevin Ling
New Style Contracting

Attorneys' Fees- New Style Contracting will have the right to collect from the accepting party its reasonable costs and necessary disbursements and attorneys' fees incurred in enforcing this agreement.

TEAM WOW!

Construction Bid Sheet

Store #: 6281
Store Name: Northglenn
Store Address: 640 Malley Dr.

Item #	Description	Line Item Cost	Division Total
01	**General Conditions**	$ 24,650.00	
01-010	Builders Risk Insurance		
01-020	Workers Comp & GL Insurance		
01-030	Bonds		
01-110	Project Executive & Staff		
01-120	Sr. Project Manager		
01-130	Project Manager		
01-140	Superintendent		
01-145	Assistant Project Manager		
01-150	Project Engineer		
01-155	Project Coordinator		
01-160	M.E.P. Coordinator		
01-210	Plans & Specs Reproduction		
01-310	Gas & Oil / Travel Expense		
01-410	Safety Director		
01-420	PPE		
01-430	Temp. Labor / General Labor		
01-440	Temp. Toilets		
01-450	Temp. First Aid		
01-460	Temp. Fire Protection		
01-470	Temp. Signage		
01-480	Temp. Barricades & Fencing		
01-510	Material Testing		
01-610	Hoisting		
01-620	Small Tools / Consumables		
01-630	Equipment Rental		
01-710	Dumpster / Trash Removal		
01-810	General Project Clean Up		
01-820	Final Clean		
01-910	As-Built Drawings		
01-920	Close Out Documents		
Other			
Other			
	Subtotal:		$ 25,650.00

Item #	Description	Line Item Cost	Division Total
02	**Sitework**		
02-010	Demo - Slab Cut For MEP's	$ 6,100.00	
02-020	Demo - General (Floors / Walls / Ceilings)	$ 9,500.00	
02-030	Demo - Exterior Asphalt/Concrete	$ 5,400.00	
02-110	Shoring	EXCLUDED	
02-510	Exterior - Asphalt	$ 2,500.00	
02-520	Exterior - Concrete	$ 13,000.00	
02-610	Landscaping	EXCLUDED	
02-620	Irrigation	EXCLUDED	
09-910	Maintenance of Traffic	In 02-520	
Other	Striping	$ 1,100.00	
Other			
	Subtotal:		$ 37,600.00
03	**Concrete**		
03-010	Concrete - MEP Pour Back	$ 5,400.00	
03-020	Concrete - General (Slab / Column / Beam)	EXCLUDED	
Other	Floor Grind for Tile	$ 1,400.00	
Other	Sawcut for HVAC	$ 500.00	
	Subtotal:		$ 7,300.00
04	**Masonry**		
04-010	Block Work	EXCLUDED	
04-020	Brick Work	EXCLUDED	
Other			
Other			
	Subtotal:		$ -
05	**Metals**		
05-010	Structural Steel (Half Wall Support)	$ 750.00	
05-510	SS Handrails (At Child Step)	EXCLUDED	
05-520	SS Wall and Corner Trim	$ 18,500.00	
05-530	SS Base	IN 05-520	
05-540	SS Cap For Manager's Desk	IN 05-520	
05-810	Access Ladder / Stairs	EXCLUDED	
Other			
Other			
	Subtotal:		$ 19,250.00
06	**Wood & Plastics**		
06-010	Backing & Blocking	$ 2,500.00	
06-510	Install POS Cabinets	$ 3,500.00	
06-610	Corian At Sneeze Guard	$ 1,600.00	
06-810	Manager's Desk	$ 3,500.00	
Other			
Other			
	Subtotal:		$ 11,100.00

Item #	Description	Line Item Cost	Division Total
07	**Thermal & Moisture Protection**		
07-010	Framing / Structural Support	EXCLUDED	
07-020	Decking	EXCLUDED	
07-110	Roofing	$ 3,500.00	
07-210	Insulation	EXCLUDED	
07-510	Wall Cap	EXCLUDED	
07-520	Gutters & Downspouts	EXCLUDED	
07-530	Roof Curbs	IN 07-110	
07-810	Misc. Patching	$ 750.00	
07-820	Sealants & Caulking	$ 500.00	
Other			
Other			
	Subtotal:		$ 4,750.00
08	**Doors & Windows**		
08-010	HM Doors & Frames	$ 2,800.00	
08-110	Store Front / Glass Doors	$ 15,900.00	
08-210	Door Hardware - General	In 08-010	
08-220	Door Hardware - Mag Lock	In 08-010	
08-510	Curtain Wall System	EXCLUDED	
08-610	Sneeze Guard System	IN 08-610	
08-710	Drive Thru Window	IN 08-610	
Other	Access Doors	$ 500.00	
Other			
	Subtotal:		$ 19,200.00
09	**Finishes**		
09-010	Metal Stud Framing	In 09-020	
09-020	Drywall	$ 19,600.00	
09-030	Concrete Board / Plywood	In 09-020	
09-210	Floor Prep	$ 31,300.00	
09-220	Tile - Floor	In 09-210	
09-230	Tile - Wall	In 09-210	
09-410	Acoustical Ceilings	$ 5,600.00	
09-510	FRP	$ 8,700.00	
09-610	Exterior Siding	EXCLUDED	
09-810	Painting - Interior	$ 3,500.00	
09-820	Painting - Exterior	EXCLUDED	
Other			
Other			
	Subtotal:		$ 68,700.00

Item #	Description	Line Item Cost	Division Total
10	**Specialties**		
10-010	Install signage and graphics	In 06-510	
10-110	Fire Extinguishers	EXCLUDED	
10-210	Toilet Accessories	$ 1,100.00	
Other	Signs	$ 250.00	
Other			
	Subtotal:		$ 1,350.00
11	**Equipment**		
11-010	Oven / Hood Installation	EXCLUDED	
11-020	Walk-In Cooler Installation (Including Refrig.)	$ 5,000.00	
11-110	Kitchen Equip. Installation	In 06-510	
11-120	Computer / Monitor Installation	In 06-510	
Other			
Other			
	Subtotal:		$ 5,000.00
12	**Furnishings**		
12-010	Shades	EXCLUDED	
12-020	Window Tint	EXCLUDED	
Other	Washer/Dryer	$ 1,900.00	
Other			
	Subtotal:		$ 1,900.00
13	**Special Construction**		
13-010	Ansul System	EXCLUDED	
Other			
Other			
	Subtotal:		$ -
14	**Conveying**		
N/A			
	Subtotal:		$ -
15	**Mechanical**		
15-010	Plumbing	$ 44,100.00	
15-020	Rinnai System		
15-030	Gas Piping	In 15-010	
15-040	Grease Interceptor	EXCLUDED	
15-410	Fire Sprinkler System	EXCLUDED	
15-700	HVAC	$ 50,600.00	
Other			
Other			
	Subtotal:		$ 94,700.00

Item #	Description	Line Item Cost	Division Total
16	**Electrical**		
16-010	Electrical	$ 57,500.00	
16-110	Data Communications	Conduit & Boxes	
16-210	Fire Alarm	EXCLUDED	
Other	Air Curtain	$ 3,000.00	
Other			
	Subtotal:		$ 60,500.00
17	**Additional Costs**		
17-010	Permit	EXCLUDED	
17-110	Sales Tax on materials purchased by GC	$ 3,615.00	
17-120	Use Tax	EXCLUDED	
17-510	Overhead	In 17/520	
17-520	Profit	$ 17,885.00	
Other	Final Clean	$ 1,500.00	
Other			
	Subtotal:		$ 23,000.00
	Total:		**$ 380,000.00**

Construction Bid Sheet

Store #: 6281
Store Name: Northglenn
Store Address: 640 Malley Dr.

Item #	Description	Line Item Cost	Division Total
01	**General Conditions**		
01-010	Builders Risk Insurance	$ -	
01-020	Workers Comp & GL Insurance	$ -	
01-030	Bonds	$ -	
01-110	Project Executive & Staff	$ -	
01-120	Sr. Project Manager	$ -	
01-130	Project Manager	$ -	
01-140	Superintendent	$ 21,500.00	
01-145	Assistant Project Manager	$ -	
01-150	Project Engineer	$ -	
01-155	Project Coordinator	$ -	
01-160	M.E.P. Coordinator	$ -	
01-210	Plans & Specs Reproduction	$ 150.00	
01-310	Gas & Oil / Travel Expense	$ 13,000.00	
01-410	Safety Director	$ -	
01-420	PPE	$ -	
01-430	Temp. Labor / General Labor	$ 1,500.00	
01-440	Temp. Toilets	$ 500.00	
01-450	Temp. First Aid	$ -	
01-460	Temp. Fire Protection	$ -	
01-470	Temp. Signage	$ -	
01-480	Temp. Barricades & Fencing	$ -	
01-510	Material Testing	$ -	
01-610	Hoisting	$ -	
01-620	Small Tools / Consumables	$ -	
01-630	Equipment Rental	$ -	
01-710	Dumpster / Trash Removal	$ 4,000.00	
01-810	General Project Clean Up	$ 1,100.00	
01-820	Final Clean	$ 1,500.00	
01-910	As-Built Drawings	$ -	
01-920	Close Out Documents	$ -	
Other		$ -	
Other		$ -	
	Subtotal:		$ 43,250.00

Item #	Description	Line Item Cost	Division Total
02	**Sitework**		
02-010	Demo - Slab Cut For MEP's	$ 6,500.00	
02-020	Demo - General (Floors / Walls / Ceilings)	$ 7,500.00	
02-030	Demo - Exterior Asphalt/Concrete	$ -	
02-110	Shoring	$ -	
02-510	Exterior - Asphalt	$ -	
02-520	Exterior - Concrete	$ -	
02-610	Landscaping	$ -	
02-620	Irrigation	$ -	
09-910	Maintenance of Traffic	$ -	
Other		$ -	
Other		$ -	
	Subtotal:		$ 14,000.00
03	**Concrete**		
03-010	Concrete - MEP Pour Back	$ 7,200.00	
03-020	Concrete - General (Slab / Column / Beam)	$ -	
Other		$ -	
Other		$ -	
	Subtotal:		$ 7,200.00
04	**Masonry**		
04-010	Block Work	$ -	
04-020	Brick Work	$ -	
Other		$ -	
Other		$ -	
	Subtotal:		$ -
05	**Metals**		
05-010	Structural Steel	$ -	
05-510	SS Handrails (At Child Step)	$ -	
05-520	SS Wall and Corner Trim	$ 11,500.00	
05-530	SS Base	$ 2,850.00	
05-540	SS Cap For Manager's Desk	$ 1,200.00	
05-810	Access Ladder / Stairs	$ -	
Other		$ -	
Other		$ -	
	Subtotal:		$ 15,550.00
06	**Wood & Plastics**		
06-010	Backing & Blocking	$ 2,500.00	
06-510	Install POS Cabinets	Included	
06-610	Corian At Sneeze Guard	$ 900.00	
06-810	Manager's Desk	Included	
Other	Carpentry	$ 8,500.00	
Other			
	Subtotal:		$ 11,900.00

Item #	Description	Line Item Cost	Division Total
07	**Thermal & Moisture Protection**		
07-010	Framing / Structural Support	$ -	
07-020	Decking	$ -	
07-110	Roofing	$ 6,500.00	
07-210	Insulation	$ 1,500.00	
07-510	Wall Cap	$ -	
07-520	Gutters & Downspouts	$ -	
07-530	Roof Curbs	$ -	
07-810	Misc. Patching	$ -	
07-820	Sealants & Caulking	$ -	
Other		$ -	
Other		$ -	
	Subtotal:		$ 8,000.00
08	**Doors & Windows**		
08-010	HM Doors & Frames	$ 4,580.00	
08-110	Store Front / Glass Doors	$ -	
08-210	Door Hardware - General	$ -	
08-220	Door Hardware - Mag Lock	$ -	
08-510	Curtain Wall System	$ -	
08-610	Sneeze Guard System	$ 1,200.00	
08-710	Drive Thru Window	$ 7,500.00	
Other		$ -	
Other		$ -	
	Subtotal:		$ 13,280.00
09	**Finishes**		
09-010	Metal Stud Framing	$ 17,500.00	
09-020	Drywall	$ 11,500.00	
09-030	Concrete Board / Plywood	$ -	
09-210	Floor Prep	$ 1,200.00	
09-220	Tile - Floor	$ 36,500.00	
09-230	Tile - Wall	Included	
09-410	Acoustical Ceilings	$ 8,500.00	
09-510	FRP	$ 7,500.00	
09-610	Exterior Siding	$ -	
09-810	Painting - Interior	$ 4,800.00	
09-820	Painting - Exterior	$ -	
Other		$ -	
Other		$ -	
	Subtotal:		$ 87,500.00

Item #	Description	Line Item Cost	Division Total
10	**Specialties**		
10-010	Install signage and graphics	Included	
10-110	Fire Extinguishers	$ 650.00	
10-210	Toilet Accessories	$ 800.00	
Other		$ -	
Other		$ -	
	Subtotal:		$ 1,450.00
11	**Equipment**		
11-010	Oven / Hood Installation	$ 4,500.00	
11-020	Walk-In Cooler Installation	$ 4,000.00	
11-110	Kitchen Equip. Installation	Included	
11-120	Computer / Monitor Installation	Excluded	
Other		$ -	
Other		$ -	
	Subtotal:		$ 8,500.00
12	**Furnishings**		
12-010	Shades	$ -	
12-020	Window Tint	$ -	
Other		$ -	
Other		$ -	
	Subtotal:		$ -
13	**Special Construction**		
13-010	Ansul System	Excluded	
Other		$ -	
Other		$ -	
	Subtotal:		$ -
14	**Conveying**		
N/A		$ -	
	Subtotal:		$ -
15	**Mechanical**		
15-010	Plumbing	$ 52,950.00	
15-020	Rinnai System	Included	
15-030	Gas Piping	Included	
15-040	Grease Interceptor	Included	
15-410	Fire Sprinkler System	Excluded	
15-700	HVAC	$ 45,700.00	
Other		$ -	
Other		$ -	
	Subtotal:		$ 98,650.00

Item #	Description	Line Item Cost	Division Total
16	**Electrical**		
16-010	Electrical	$ 58,500.00	
16-110	Data Communications	Excluded	
16-210	Fire Alarm	Excluded	
Other		$ -	
Other		$ -	
	Subtotal:		$ 58,500.00
17	**Additional Costs**		
17-010	Permit	Excluded	
17-110	Sales Tax	Excluded	
17-120	Use Tax	Excluded	
17-510	Overhead	$ 11,034.00	
17-520	Profit	$ 25,745.00	
Other			
Other			
	Subtotal:		$ 36,779.00
	Total:		**$ 404,559.00**