PUBLIC NOTICE

CITY OF BERKLEY, MICHIGAN REGULAR MEETING OF THE CITY PLANNING COMMISSION

Tuesday, September 23, 2025 7:00PM — City Hall Council Chambers Information: 248-658-3320

CALL TO ORDER
PLEDGE OF ALLEGIANCE
ROLL CALL
APPROVAL OF AGENDA
APPROVAL OF MINUTES — Meeting minutes of August 26, 2025
COMMUNICATIONS
CITIZEN COMMENTS
OLD BUSINESS

NEW BUSINESS

 PUBLIC HEARING PSU-04-25: 3462 Greenfield Rd.: The applicant, Blue RX, LLC, is requesting special land use approval to occupy a tenant space for retail pharmacy use in the Residential Corridor District.

LIAISON REPORTS COMMISSIONER / STAFF COMMENTS ADJOURN

Notice: Official Minutes of the City Planning Commission are stored and available for review at the office of the City Clerk. The City of Berkley will provide necessary reasonable auxiliary aids and services, such as signers for the hearing impaired and audio tapes of printed materials being considered at the meeting, to individuals with disabilities at the meeting upon four working days notice to the city. Individuals with disabilities requiring auxiliary aids or services should contact the city by writing or calling: City Clerk, ADA Contact, Berkley City Hall, 3338 Coolidge, Berkley, Michigan 48072, (248) 658-3300.

You can watch the meeting on Channel 10 for both Comcast and WOW, at http://www.youtube.com/CityofBerkley or http://www.berkleymich.org/livestream.

THE REGULAR MEETING OF THE BERKLEY CITY PLANNING COMMISSION WAS CALLED TO ORDER AT 7:00 PM, AUGUST 26, 2025 AT BERKLEY CITY HALL BY CHAIR LISA KEMPNER.

The minutes from this meeting are in summary form capturing the actions taken on each agenda item. To view the meeting discussions in their entirety, this meeting is broadcasted on the city's government access channel, WBRK, every day at 9AM and 9PM. The video can also be seen, on-demand, on the city's YouTube channel: https://www.youtube.com/user/cityofberkley

DRAFT

PRESENT: Lisa Hamameh Mike Woods

Shiloh Dahlin Lisa Kempner Eric Arnsman

ABSENT: Josh Stapp

Joe Bartus

ALSO PRESENT: Kristen Kapelanski, Community Development Director

APPROVAL OF AGENDA

Community Development Director Kapelanski noted that the election of officers should be added to the agenda.

Motion by Commissioner Hamameh to approve the amended agenda with the election of officers added as item number six and supported by Commissioner Arnsman.

Voice vote to approve the agenda

AYES: 5 NAYS: 0

ABSENT: Bartus, Stapp

MOTION CARRIED

* * * * * * * * *

APPROVAL OF THE MINUTES

Motion by Commissioner Hamameh to approve the minutes of the May 27, 2025 regular Planning Commission meeting and supported by Commissioner Arnsman.

Voice vote to approve the meeting minutes of May 27, 2025.

AYES: 5 NAYS: 0

ABSENT: Bartus, Stapp

MOTION CARRIED

* * * * * * *

COMMUNICATIONS

Community Development Director Kapelanski shared that the latest issue of the Michigan Association of Planning magazine was provided for the Commissioners. Also included in the packet was a report from the Michigan Municipal League and SEMCOG showcasing ideas to spur development on West Twelve Mile from near Tyler to Greenfield.

CITIZEN COMMENTS
NONE

OLD BUSINESS
NONE

NEW BUSINESS

* * * * * * * *

1. <u>PUBLIC HEARING PSU-02-25: 2114 Eleven Mile Rd.:</u> The applicant, F & L Berkley, LLC, is requesting special land use approval for a gas station/convenience store in the Flex District on the northwest corner of Eleven Mile Rd. and Henley Ave.

Community Development Director Kapelanski presented the special land use request noting no changes to the site are proposed. She highlighted the special land use review standards and a needed variance for a deficient pump island setback. She noted that since the site was not being altered, dimensional and general standards from the zoning did not apply as the site and any dimensional requirements would be considered non-conforming. Since this was a special land use, the standards for special land uses and the automotive uses would apply.

The Planning Commission asked some clarifying questions confirming the distinction between a non-conforming use and non-conforming structures. Community Development Director Kapelanski confirmed that if a service use was proposed, the applicant would need to receive special land use approval for that use at a future time.

The applicant's attorney, Ellis Freatman, confirmed no changes to the site are proposed and a service station use was not proposed. The applicant has no objection to providing planters or light shielding as suggested in the staff review. The applicant, Fadi Kajy, stated that there would be one employee per shift. The hours of operation would be 6AM to 11PM.

Chair Kempner opened the public hearing at 7:13PM.

No one wished to speak and no correspondence was received.

Chair Kempner closed the public hearing at 7:14PM.

The Commission discussed the existing screen wall, which covers the majority of the rear property line. They confirmed with the applicant that the vegetation would be trimmed. Community Development Director Kapelanski confirmed that the area not covered by the screen wall was an existing non-conforming condition. The Commission agreed that the location of the garage on the adjacent residential property also helped to buffer the residence.

The Commission asked that a barrier be added to the parking area along Henley to provide a buffer from the sidewalk. The applicant agreed he could do that. The Commission suggested planters as a buffer option to protect the area and to provide greenspace. The applicant said he would be willing to place planter(s) there but would want to confirm it wouldn't conflict with the operation of the underground tanks in that area.

The Commission went through the special land use and all agreed that all standards were met.

Motion by Commissioner Hamameh and supported by Commissioner Dahlin to recommend approval of PSU-02-25 2114 W. Eleven Mile Rd. with the following findings:

• The proposed plan meets the standards of approval in Chapter 138, Section 10.03; And the following conditions:

- The applicant obtaining a variance from the Zoning Board of Appeals for the front yard setback;
- Shielding of the lights, as required by the ordinance;
- The trees and shrubs along Henley Ave. to be trimmed to accommodate the corner clearance requirements; and
- The installation of substantial landscaping planters along Henley Ave. to clearly delineate the sidewalk to
 the extent practicable as determined appropriate by the Community Development Director. Alternatively,
 converting a portion of the pavement adjacent to Henley Ave. in the northeast corner to some sort of
 greenspace.

Roll call vote on the motion to approve PSU-02-25 2114 W. Eleven Mile Rd.

AYES: 5 NAYS: 0

ABSENT: Bartus, Stapp

MOTION CARRIED

2. PUBLIC HEARING An ordinance to amend Article 2 Definitions, Article 6 Site Design Based Districts, Article 9 General Provisions, Article 11 Sign Regulations, Article 14 Off-Street Parking Loading and Access Standards and Article 25 Site Plan Review Procedures and Requirements of Chapter 138 Zoning of the Berkley Code of Ordinances to add definitions for business services and live/work units, to clarify site area governs site layout, to clarify the reviewer for fences, to allow ground-mounted solar energy systems in residential districts, to clarify regulations for residential driveways, to modify the width requirements for attached garages, to clarify regulations for detached accessory buildings and swimming pools, to clarify regulations for window signs and temporary signs, to clarify clear vision zone requirements, to add regulations for areas of residential parking and recreational vehicles, to clarify requirements for where on-street parking may be counted as individual business parking and to clarify requirements and procedures for pre-application and preliminary site plan review.

Community Development Director Kapelanski presented the amendments and referenced her staff review for a list of the included items. These are amendments that have come up in the course of staff using the ordinance and responding to property inquiries, residential zoning certificate requests, et cetera.

Chair Kempner opened the public hearing at 7:50PM.

No one wished to speak and no comments were received.

Chair Kempner closed the public hearing at 7:50PM.

Chair Kempner asked that the next round of amendments clarify when a site plan is required for special land use application. Commissioner Dahlin asked that at a minimum, a scaled sketch plan be provided. Community Development Director Kapelanski said she would add this to the next round of amendments.

Motion by Commissioner Dahlin and supported by Commissioner Woods to recommend approval of the first round of zoning ordinance cleanup amendments listed in the August 26, 2025 Planning Commission agenda.

Roll call vote on the motion to recommend approval of the zoning ordinance amendments

AYES: 5 NAYS: 0

ABSENT: Bartus, Stapp

MOTION CARRIED

3. Community Development Annual Report

Community Development Director Kapelanski presented the Community Development Department Annual Report.

Motion by Commissioner Arnsman and supported by Commissioner Dahlin to accept the Community Development Department Annual Report for Fiscal Year 24/25.

Voice vote on the motion to accept the Community Development Annual Report.

AYES: 5 NAYS: 0

ABSENT: Bartus, Stapp

MOTION CARRIED

4. Planning Commission Bylaws and Rules of Procedure

Community Development Director Kapelanski pointed out the changes suggested for the Bylaws and Rules of Procedure to comply with the Board and Commission Handbook recently approved by the City Council.

Motion by Commissioner Woods and supported by Commissioner Dahlin to approved the revised Bylaws and Rules of Procedure.

Voice vote on the motion to approve the Bylaws and Rules of Procedure.

AYES: 5 NAYS: 0

ABSENT: Bartus, Stapp

MOTION CARRIED

5. Discussion of Training Needs

Community Development Director Kapelanski pointed out that the State's Redevelopment Ready Communities program requires a joint board and commissions meeting be held every year. She thought this could be an opportunity for joint training between some combination of the Planning Commission, City Council and Zoning Board of Appeals.

The Commission suggested exploring special land use consideration and motion making training for the Planning Commission and City Council, and parliamentary procedure training for the Planning Commission, City Council and Zoning Board of Appeals.

6. Election of Officers

Chair Kempner said she would be happy to continue serving as Chair.

Motion by Commissioner Hamameh and supported by Commissioner Dahlin to nominate Lisa Kempner to continue as Chair of the Planning Commission.

Voice vote on the motion to approve Lisa Kempner as Chair of the Planning Commission.

AYES: 5 NAYS: 0

ABSENT: Bartus, Stapp

MOTION CARRIED

Commissioner Dahlin said she would be willing to serve as Vice-Chair.

Motion by Commissioner Woods and supported by Commissioner Hamameh to nominate Shiloh Dahlin as the Vice-Chair of the Planning Commission.

Voice vote on the motion to approve Shiloh Dahlin as Vice-Chair of the Planning Commission.

AYES: 5 NAYS: 0

ABSENT: Bartus, Stapp

MOTION CARRIED

Commissioner Arnsman said he would be willing to serve as Secretary.

Motion by Commissioner Dahlin and supported by Commissioner Hamameh to nominate Eric Arnsman as the Secretary of the Planning Commission.

Voice vote on the motion to approve Eric Arnsman as the Secretary of the Planning Commission.

AYES: 5 NAYS: 0

ABSENT: Bartus, Stapp

MOTION CARRIED

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LIAISON REPORT

Commissioners provided updates on the Chamber of Commerce, the Downtown Development Authority and Zoning Board of Appeals.

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COMMISSIONER COMMENTS

NONE

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STAFF COMMENTS

NONE

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ADJOURNMENT

Motion to adjourn by Commissioner Dahlin, supported by Commissioner Arnsman.

Voice vote for adjournment

AYES: 5 NAYS: 0

ABSENT: Bartus, Stapp

With no further business, the meeting was adjourned at 8:15PM.



MEMORANDUM

To: Planning Commission

From: Kristen Kapelanski, Community Development Director

Subject: PSU-04-25 3462 Greenfield Rd.

Date: September 23, 2025

Background

- The applicant is proposing to occupy a vacant suite at the recently constructed office building at 3462 Greenfield with a pharmacy use.
- The zoning of the property is Residential Corridor District, which permits pharmacies as special land uses.
- Drive-throughs are not permitted and one is not proposed.
- The Planning Commission is required to recommend approval/denial of the special land use request and hold the required public hearing.
- No site improvements are proposed and the plans are for reference purposes only.

Summary

An analysis of the special land use standards is provided in the staff review.

Recommendation

Any motions recommending approval of the special land use request should reference the standards in Chapter 138, Section 10.03 and include any conditions the Planning Commission chooses to add.



APPLICATION FOR SPECIAL LAND USE REVIEW

NOTICE TO APPLICANT: Applications for Special Land Use review by the Planning Commission must be submitted to the City of Berkley Building Department in *substantially complete form* at least 30 days prior to the Planning Commission's meeting at which the application will be considered. The application must be accompanied by the data specified in the Zoning Ordinance, including fully dimensioned site plans, plus the required review fee.

The Planning Commission will hold the required *public hearing* and will make a recommendation to the City Council. Special Land Use approval shall be obtained from the City Council.

The Planning Commission meets the fourth Tuesday of the month at 7:00pm in the Council Chambers at the City of Berkley City Hall, 3338 Coolidge Hwy, Berkley, MI 48072. The City Council meets the first and third Mondays of the month at 7:00pm in the Council Chambers at the City of Berkley City Hall, 3338 Coolidge Hwy, Berkley, MI 48072.

TO BE COMPLETED B	Y APPLICANT:
I (We), the undersigned, following information to	do hereby respectfully request Special Land Use Review and provide the assist in the review:
Project Name:	Rhone Pharmacy
Applicant:	Blue Rx LLC
Mailing Address:	635 Hibiscus St, Apt 611, West Palm Beach, Fl 33401
Telephone:	
Email:	
Property Owner(s), if diff	ferent from Applicant: North Green Trust
Mailing Address:	1359-Davis Ave. Birmingham, Ml. 48009
Telephone:	
Email:	
Applicant's Legal Interes	t in Property: Lease

Updated April 2025

LOCATION OF PROPERTY: Street Address: 3462 Greenfield Rd, Suite 102, Berkley, MI 48072 Nearest Cross Streets: Greenfield Rd and W 12. Mile Rd Sidwell Number(s): PROPERTY DESCRIPTION: Provide lot numbers and subdivision: ______ Property Size (Square Feet): _____ (Acres): _____ **EXISTING ZONING DISTRICT** (please check): □ R-1AB ☐ Community Centerpiece ☑ Residential Corridor ☐ R-1CD □ Downtown □ Woodward Corridor □ R-2 ☐ Flex ☐ Cemetery □ R-M ☐ Gateway Corridor □ Parking Overlay □ R-M-H Street Type: ☑ Corridor □ Downtown ☐ Walkable Area ☐ Residential Present Use of Property: -Medical-and Professional Pharmacy and related services Proposed Use of Property: Is the property located within the Downtown Development Authority? ☐ Yes ☑ No PROJECT DESCRIPTION: The creation of a retail pharmacy focused on providing medical prescription medication and medication management services Does the proposed project / use of property require Site Plan Approval? ☐ Yes ☑ No Does the proposed project require Variance(s) from the Zoning Board of Appeals? ☐ Yes ☑ No

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PLEASE COMPLETE	THE FOLLOWIN	G CHART:		
Type of Development	Number of Units	Gross Floor Area	Number of Parking Spaces On Site	Number of Employees on Largest Shift
Attached Residential	The state of the s	AND A SHARE OF SHARE SHEET AND SHEET	SII SIKS	A SIDE SIDE
Office	6	600	17	2
Commercial				
Industrial				
Other				
onsider the following a pecified in Section 138	standards. Please 8-10.03	address how the p		
onsider the following s pecified in Section 138 1. The proposed of Yes, provide	standards. Please 8-10.03 use will promote ti	address <i>how</i> the p	roposed use satisfies socially and economic	each standard, as ally desirable manner
1. The proposed Yes, providing medical and	standards. Please 8-10.03 use will promote to ng a local come medication ca	address how the p he use of land in a s munity pharmacy re through indivi	roposed use satisfies socially and economic	each standard, as ally desirable manner
onsider the following s pecified in Section 13i 1. The proposed if Yes, providing medical and 2. The proposed if Yes, the location	standards. Please 8-10.03 use will promote to ng a local com- medication ca use is necessary f	address how the posterior the public convertible dense area with a second convertible	roposed use satisfies socially and economic provides localized dualized care nience at that location with a high number of	each standard, as ally desirable manner dand focused
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Updated April 2025

5.	The proposed	d use will not cause injury to other property in the neighborhood.
	No, Pharm	acies provide the community with vital medication needs esp
	in a long te	rm care setting.
PROF	ESSIONALS W	HO PREPARED PLANS:
A.	Name:	Tim Fought
	Mailing Addre	ss: 24045 Woodland Drive Southfield, MI. 48034
	Telephone:	248.514.7612
	Email:	timothy fought <tfoughtarchitectllc@gmail.com></tfoughtarchitectllc@gmail.com>
	Design Respo	ensibility (engineer, surveyor, architect, etc.): Architect
B.	Name:	
	Mailing Addre	ss:
	Telephone:	*.
	Email:	
	Design Respo	nsibility:
SUBMI	T THE FOLLO	1
1.	A PDF electror surveyor and a	nic copy of a complete set of plans, sealed by a registered architect, engineer, or any supporting documents, emailed to planning@berkleymi.gov.
2.	Proof of prope	rty ownership (title insurance policy or registered deed with County stamp).

PLEASE NOTE: The applicant, or a designated representative, MUST BE PRESENT at all scheduled meetings, or the Special Land Use request may be tabled due to lack of representation.

Failure to provide true and accurate information on this application shall provide sufficient grounds to deny approval of a Special Land Use application or to revoke any permits granted subsequent to the Site Plan Approval.

We encourage applicants to make a presentation of the proposed project to the Planning Commission and City Council, as appropriate. To assist in this effort, we have available for your use at meetings a projector, laptop computer and screen. This will allow the Planning Commission and audience to be fully engaged so they can give your project the attention it deserves. Planning Commission and City Council meetings are recorded and televised.

PROPERTY OWNER'S APPROVAL: (Initial each line)
NG I hereby authorize and give permission for the City of Berkley to install one or more temporary signs on my property, in order to notify the public of the required public hearing related to the Special Land Use request.
NG I hereby authorize the employees and representatives of the City of Berkley to enter upon and conduct an inspection and investigation of the above referenced property in relation to the above request.
APPLICANT'S ENDORSEMENT: (Initial each line)
AP All information contained therein is true and accurate to the best of my knowledge.
AP I acknowledge that the Planning Commission will not review my application unless all information in this application and the Zoning Ordinance has been submitted.
AP I acknowledge that the City and its employees shall not be held liable for any claims that may arise as a result of acceptance, processing or approval of this Special Land Use application.
If an application is withdrawn more than three (3) weeks prior to the meeting date, 90% of the fee will be refunded. If the application is withdrawn less than three (3) weeks prior to the meeting, no refund will be given.

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00	
1 Com	08/19/2025
Signature of Applicant	Date
Akshar Patel	
Applicant Name (Print)	
	08/19/2025
Signature of Applicant	Date
Applicant Name (Print)	
dull	8/19/25
Signature of Property Owner Authorizing this Applica	ation Date
North Green Trust	
Property Owner Name (Print)	
19	
OFFICE USE ONLY	
Received 8 19-25 Receipt #	Meeting Date Case # PSU-04-a

Fee: \$1,000.00

FLOOR PLAN INTERIOR WALL DIMENSIONS
SCALE: 1/4"=1'-0"

THIS DOCUMENT AND SUBJECT
MATTER CONTANED THEREN IS
PROPRETARY AND IS NOT TO BY
USED OR REPRODUCED WITHOUT
THE WRITTEN PERMISSION OF
T. FOUGHT & ASSOCIATES LLC

SPEC OFFICE SPACE MATTE PROPRIED 3462 3478 GRENFIELD RD THE WEED CONTROL OF THE WILLIAM TO THE W

FLOOR PLAN & EXTERIOR ELEVATIONS

NUCHT & ASSOCIATES LLC
OODLAND DR, SOUTHFIELD, MI 48034

ISSUED:

BIDS & PERMITS
05/24/2022

REVISED PER
CITY COMMENTS
07/12/2022
08/22/2022
09/23/2022

REVISED
02/13/2024
04/11/2024

08/22/2022 09/23/2022 REVISED 02/13/2024 04/11/2024 T.J.F.

DO NOT SCALE
PRINTS - USE
FIGURED
DIMENSIONS ONLY

JOB NO.

JOB NO.
T2021024

34 GREENFIELD OFFICE

Proposed: OFFICE BUILDING

3462-3478 Greenfield Rd. Berkley, MI 48702

Owners: GREEN TRUST

1359 Davis Ave. Birmingham, MI 48009

Architect: T. FOUGHT & ASSOCIATES LLC

24045 Woodland Dr. Southfield, MI 48076 P: (248)514-7612

Project No. T2021014

CODE INFORMATION:

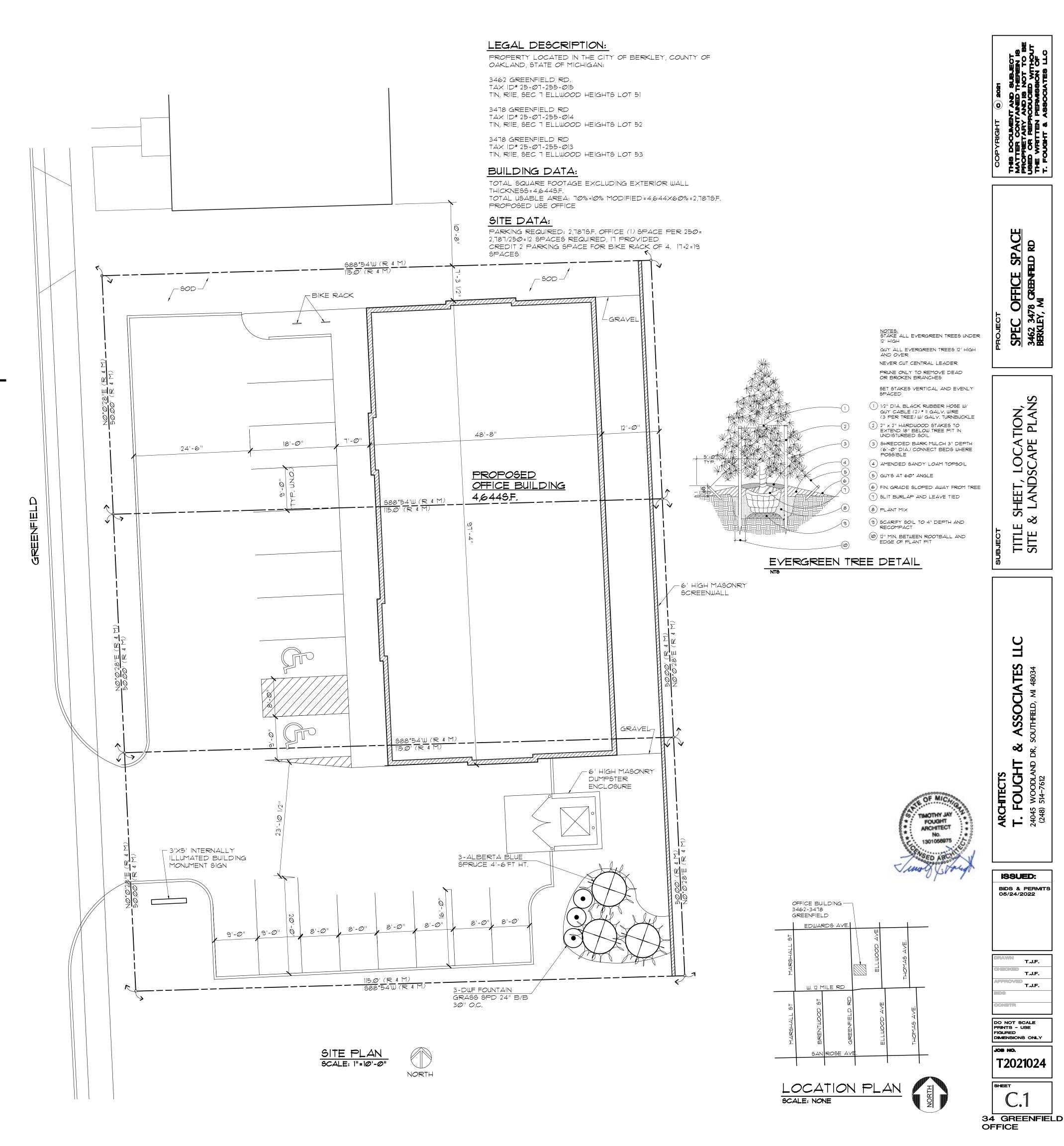
BUILDING CODES: 2015 MICHIGAN BUILDING CODE - ICC/ANSI A117.1-2009 2018 MICHIGAN PLUMBING CODE 2015 MICHIGAN MECHANICAL CODE 2017 NATIONAL ELECTRICAL CODE (W/ MICHIGAN AMENDMENTS) 2015 MICHIGAN UNIFORM ENERGY CODE PART 10A ANSI/ASHRAE/IESNA STANDARD 90.1 2012 INTERNATIONAL FIRE CODE W/ AMENDMENTS

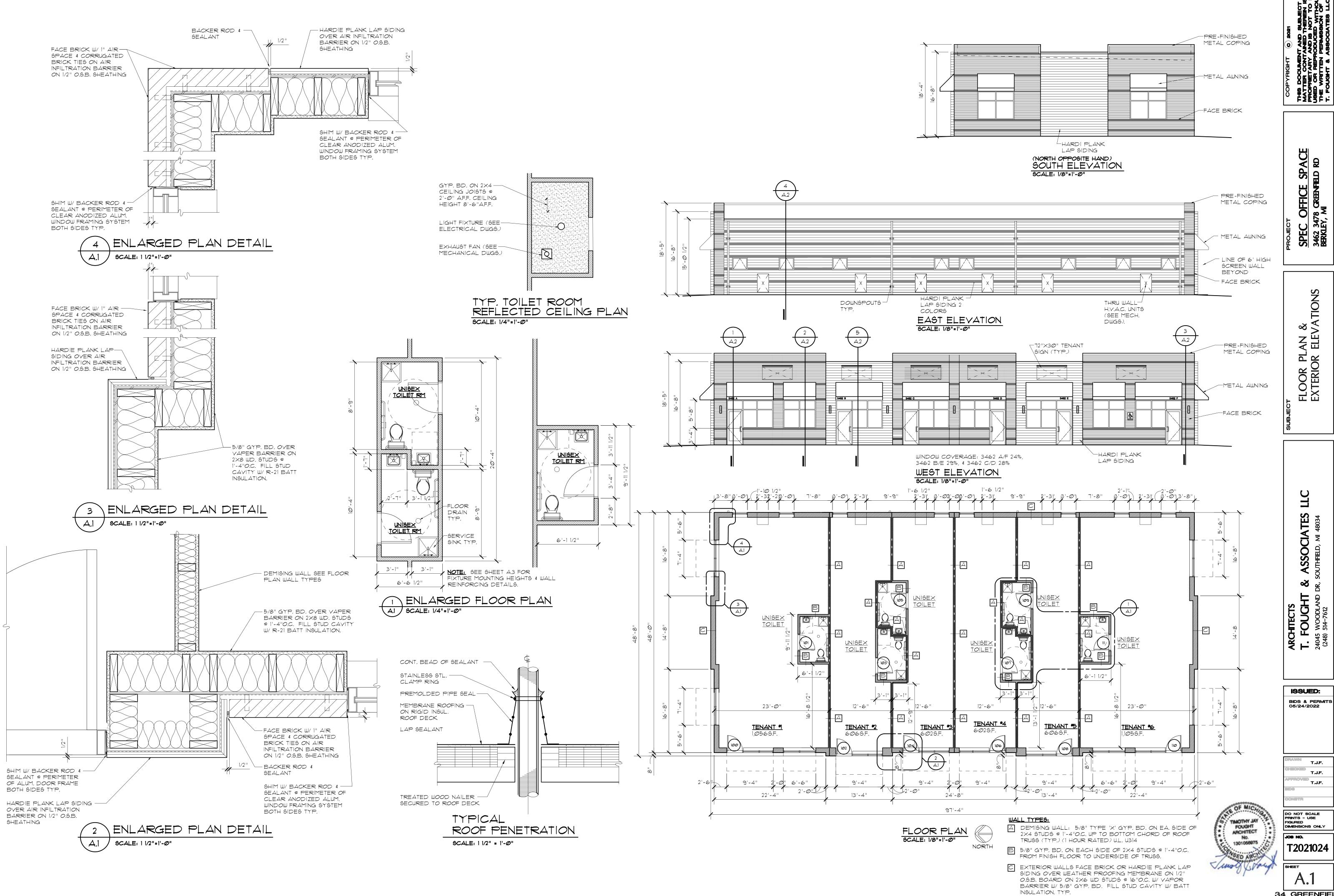
SCOPE OF WORK

THIS PROJECT INVOLVES NEW BUILD FOR OFFICE BUILDING.

SHEET INDEX

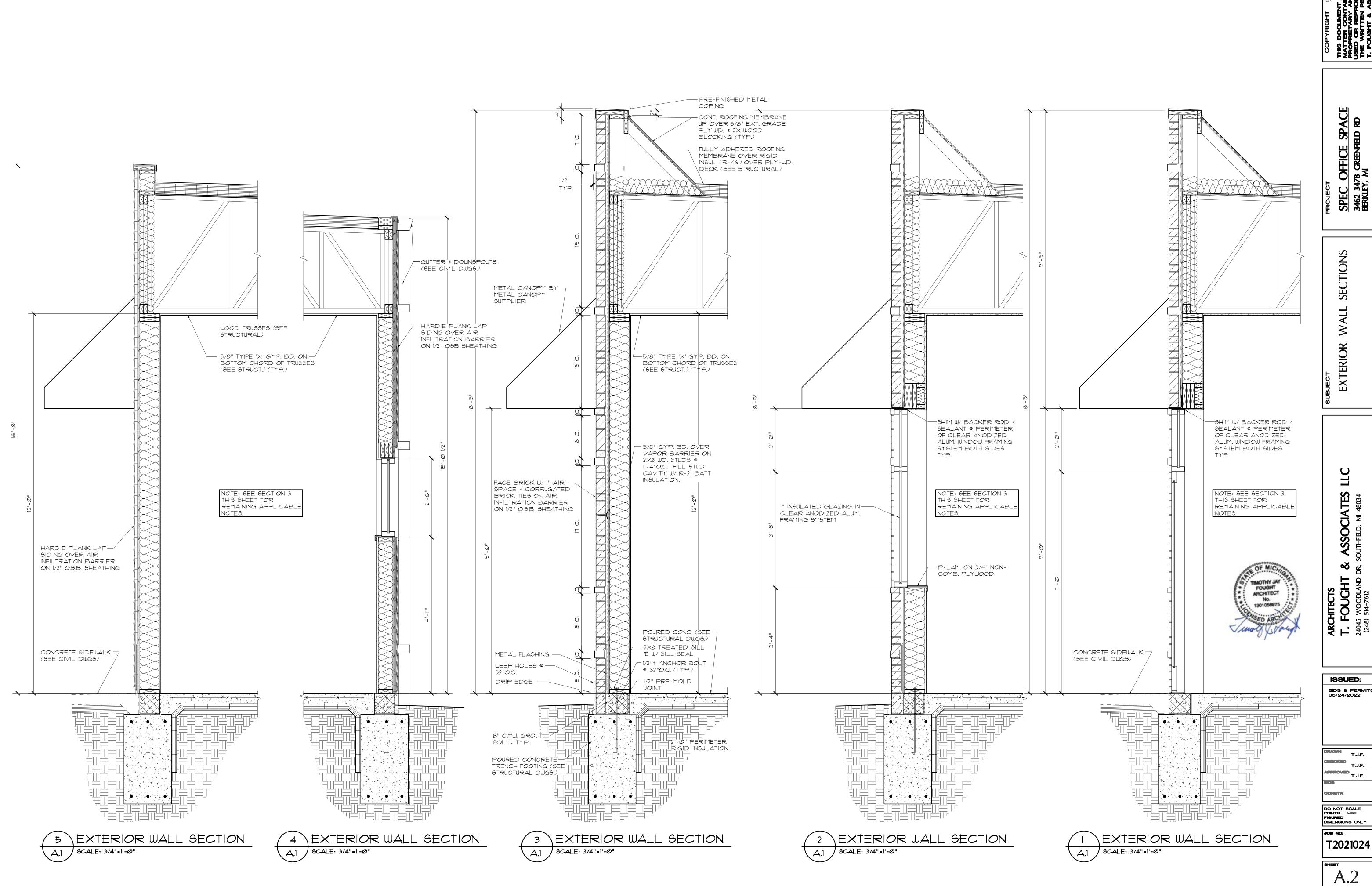
TITLE SHEET, LOCATION, SITE, & LANDSCAPE PLANS FLOOR PLAN, EXTERIOR ELEVATIONS, ENLARGED PLAN & DETAILS EXTERIOR WALL SECTIONS A.3 DOOR SCHEDULE, BARRIER FREE MOUNTING HEIGHTS & DETAILS GENERAL NOTES SN.1 GENERAL NOTES SN.2 FOUNDATION PLAN & DETAILS S.2 ROOF FRAMING PLAN & DETAILS MECHANICAL LEGENDS, SYMBOLS, & SHEET INDEX OVERALL DOMESTIC WATER & GAS PIPING FLOOR PLAN OVERALL HYAC FLOOR PLAN MECHANICAL SCHEDULES M.4.1 MECHANICAL DETAILS MECHANICAL SPECIFICATIONS ELECTRICAL RISER DIAGRAM, SCHEDULE & SYMBOL LIST $\exists \mathscr{Q}$ SITE PLAN LIGHTING & POWER PLANS





34 GREENFIELD

OFFICE



SP

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ISSUED: BIDS & PERMITS 05/24/2022

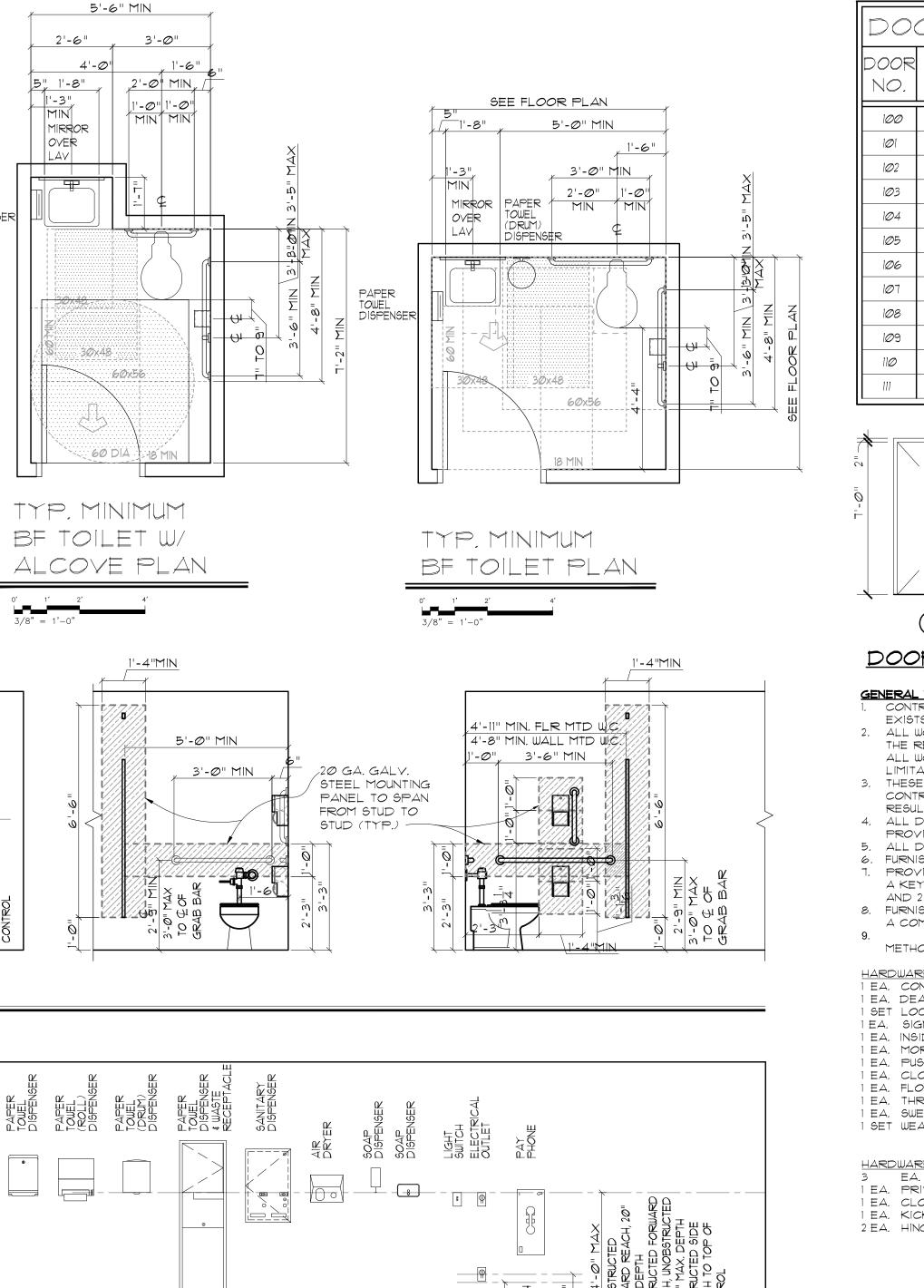
T.J.F.

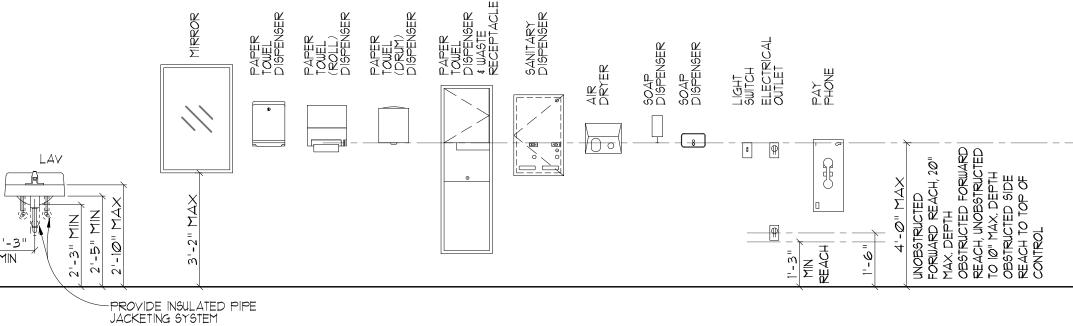
T.J.F. T.J.F.

T2021024

DO NOT SCALE PRINTS - USE FIGURED DIMENSIONS ONLY

T2021024





TYPICAL BARRIER FREE MOUNTING HEIGHTS

2'-8"MIN

1'-4" 1'-4"

20 GA. GALV.

STEEL MOUNTING

PANEL TO SPAN

FROM STUD TO

STUD (TYP.)

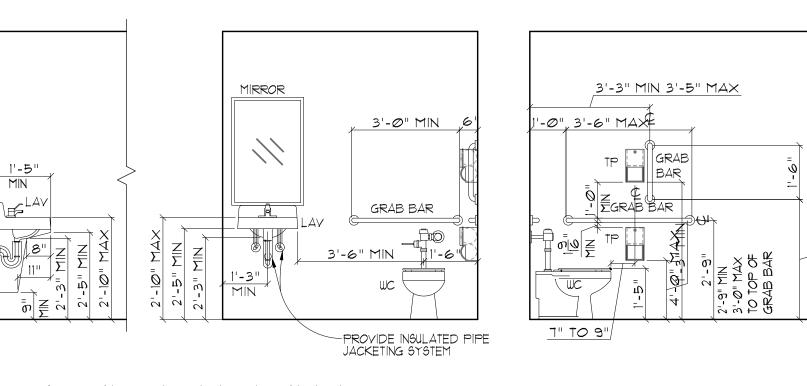
1'-6" 1'-6"

0' 1' 2'

1'-4" 1'-4"

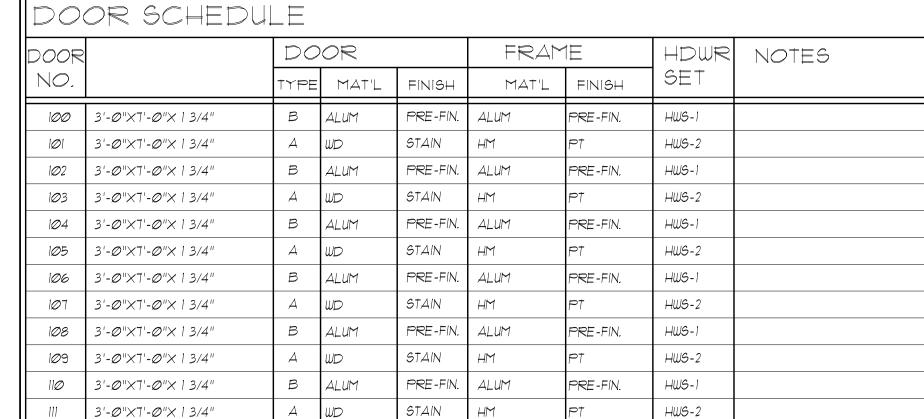
TYP, WALL MOUNTED EQUIPMENT ANCHORAGE ELEVATIONS

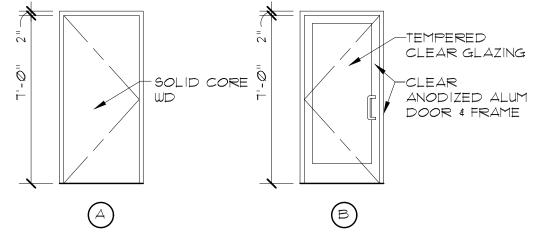
8"8"



BARRIER FREE TOILET







DOOR TYPES

- GENERAL NOTES:

 I. CONTRACTOR SHALL VERIFY ALL EXISTING FIELD CONDITIONS AND NOTIFY ARCHITECT IMMEDIATELY IF THAT WHICH EXISTS DIFFERS FROM THAT WHICH IS SHOWN ON DRAWINGS. 2. ALL WORK TO COMPLY WITH CURRENT FEDERAL, STATE AND LOCAL CODES, LAWS AND ORDINANCES.
- THE REQUIREMENTS OF ICC/ANSI AIIT.I AND THE AMERICANS WITH DISABILITIES ACT (ADA) ARE TO BE FULLY SATISFIED. ALL WORK SHALL MEET THE MOST STRINGENT REQUIREMENTS OF BOTH INCLUDING, BUT NOT LIMITED TO CLEARANCES, LIMITATIONS, ACCESSORIES, ETC.
- 3. THESE DRAWINGS ARE PREPARED IN ACCORDANCE WITH THE LIMITED SERVICES FOR WHICH THE ARCHITECT WAS CONTRACTED. THE ARCHITECT MAKES NO REPRESENTATION THAT THE INTERPRETATION OF THESE DOCUMENTS WILL
- RESULT IN COMPLETE COMPLIANCE WITH THE ADA. 4. ALL DOORS REQUIRED TO BE LABELED SHALL BE SET IN LABELED FRAMES AND IDENTIFIED WITH UL LABEL AND BE
- PROVIDED WITH APPROVED SELF-CLOSING DEVICES AND POSITIVE LATCHING HARDWARE. 5. ALL DESIGNATED EXIT DOORS SHALL BE EQUIPPED WITH THE REQUIRED EGRESS HARDWARE.
- 6. FURNISH HARDWARE AS SCHEDULED WITHOUT SUBSTITUTION, NO ALTERNATES WILL BE APPROVED. PROVIDE PDQ2 CORES: KEYED TO MASTER SYSTEM, INCLUDE KEY CONFERENCE AND KEY SYSTEM SCHEDULE. FURNISH A KEYED CORE AND TWO CUT KEYS FOR EACH LOCKING DEVICE SPECIFIED. ADDITIONAL PROVIDE 6 MASTER KEYS AND 2 CONTROL KEYS TOTAL.
- 8. FURNISH AND PROVIDE ALL NECESSARY REINFORCEMENTS, BRACKETS, FASTENERS, SPACERS AND FILLERS TO PROVIDE A COMPLETE FUNCTIONING OPENING.

689 PBB

26D PDQ

26D PDQ

689 PDQ

AL REESE

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26D PBB

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689 PDQ

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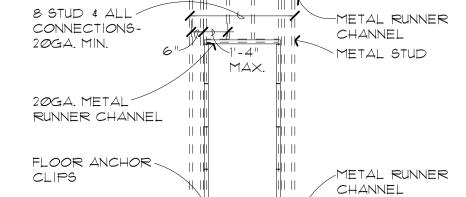
PROVIDE COMPLETE SHOP DRAWINGS, SUBMITTALS AND CUT SHEETS COMPLYING WITH DHI PRESCRIBED METHODS AND VERTICAL FORMAT DOUBLE SPACED HARDWARE SCHEDULE.

HARDWARE SET ! - DEADBOLT + PUSH PULL BAR (LOCK / UNLOCK) + CLOSER

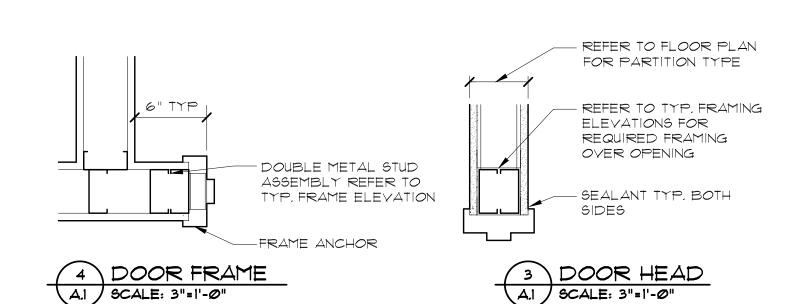
- I EA. CONTINUOUS HINGE CG31 I EA. DEAD BOLT MS18506 X REQUIRED FACEPLATE, STRIKE & BACKSET I SET LOCK STATUS INDICATOR LI-4089
- I EA. SIGN (THESE DOORS TO REMAIN UNLOCKED DURING BUSINESS HOURS) I EA. INSIDE THUMB TURN 112607 + COLLAR
- I EA. MORTISE CYLINDER 15307 X 15207-1 PDQ2 X TRIM RING I EA. PUSH PULL BAR II57147 \times 4 134 MOUNT AT LOOSE ENDS
- I EA. CLOSER 1101 BC PA X DB REGULAR ARM (PULL SIDE MOUNT) I EA. FLOOR STOP 1441 -MOUNT AFT OF FOOT TRAFFIC
- 1 EA. THRESHOLD S205A
- I EA. SWEEP 354A -MOUNT PULL SIDE
- I SET WEATHERSTRIP BY DOOR AND FRAME SUPPLIER

HARDWARE SET 2 - PRIVACY SET (LOCK / UNLOCK) + CLOSER EA. BUTT HINGE BB81 4 1/2" imes 4 1/2"

- I EA. PRIVACY SET SD 176 BSN I EA. CLOSER 5501 BC PA REGULAR ARM (PULL SIDE MOUNT)
- I EA. KICKPLATE 90 10 imes 2" LDW B4E
- 2 EA. HINGE PIN 1512









MPCWT2. IN ADDITION TO THE ABOVE, THE LICENSED ENGINEER FOR THE METAL PLATE CONNECTED WOOD TRUSS MANUFACTURER IS THE SOLE PARTY RESPONSIBLE FOR THE COMPLIANCE OF THE DESIGN OF THE METAL PLATE CONNECTED WOOD TRUSS WITH ALL REQUIREMENTS OF THESE CONTRACT DOCUMENTS AND THE LOCAL BUILDING CODE AND THE JURISDICTION. SHOULD THERE BE ANOTHER CONTRACT WITH LANGUAGE THAT ASSIGNS DESIGN RESPONSIBILITIES IN CONTRADICTION TO THESE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL ENGAGE THE SERVICES OF A LICENSED STRUCTURAL ENGINEER, REGISTERED IN THE STATE OF MICHIGAN, THAT WILL OVERSEE THE WORK OF THE TRUSS MANUFACTURER AND THEIR LICENSED ENGINEER, AND REVIEW AND APPROVE THE TRUSS DESIGN AND CERTIFY THE DESIGN TO BE CODE COMPLIANT. IF SHOP DRAWINGS ARE SUBMIT WITHOUT THE REVIEW OF A THIRD PARTY LICENSED ENGINEER, THE STRUCTURAL ENGINEER OF RECORD WILL ASSUME THAT THERE IS NO CONTRACT IN PLACE THAT SUPERCEDES NOR CONTRADICTS THE REQUIREMENTS OF THESE CONTRACT DOCUMENTS.

MPCWT3. THE METAL PLATE CONNECTED WOOD TRUSS MANUFACTURER AND THEIR LICENSED ENGINEER ARE SOLELY RESPONSIBLE FOR THE ADEQUACY AND PERFORMANCE OF THE SUPERSTRUCTURE AND IS RESPONSIBLE TO DETERMINE ALL DEAD AND CODE-REQUIRED LIVE LOADS (INCLUDING WIND, SEISMIC, AND OTHER ATMOSPHERIC LOADS) THAT ARE TO BE APPLIED TO THE STRUCTURE FOR ITS ORIGINAL DESIGN. THIS INCLUDES, BUT IS NOT LIMITED TO, HUNG MECHANICAL AND ELECTRICAL SYSTEMS, SUCH AS FANS, LIGHTING, SOUND SYSTEMS, TO NAME THREE, AND HUNG ARCHITECTURAL FEATURES AND SHALL ACCOMMODATE THE LOCALIZED STRESSES THAT MAY GOVERN THE ACTUAL DESIGN OF A COMPONENT.

MPCWT4. THE STRUCTURAL ENGINEER OF RECORD UNDERSTANDS THAT STANDARD DISCLAIMERS EXIST UPON TRUSS DESIGN DRAWINGS THAT THE TRUSS MANUFACTURER NOR THEIR LICENSED ENGINEER ARE ABLE TO EDIT. ANY DISCLAIMER, OR PORTION OF A DISCLAIMER, THAT DOES NOT COMPLY WITH THESE CONTRACT DOCUMENTS WILL BE CROSSED OUT OR OTHERWISE MODIFIED TO TO BECOME COMPLIANT WITH THESE CONTRACT DOCUMENTS.

MPCWT5. ALL PARTIES MUST UNDERSTAND THAT THE LATERAL FORCE RESISTING SYSTEM FOR A BUILDING IS NOT THE PERMANENT BRACING SYSTEM FOR INDIVIDUAL TRUSS MEMBERS THAT MOST METAL PLATE WOOD TRUSSES REQUIRE FOR THEIR INDIVIDUAL STABILITY. THIS STATEMENT IS MADE TO CLARIFY THE TERMINOLOGY OF THE ANSI/TPI WHICH REFERS TO THE LATERAL FORCE RESISTING SYSTEM FOR A BUILDING AS PERMANENT BRACING, WHICH MAY BE CONFUSING FOR SOME.

MPCWT6. THE TRUSS MANUFACTURER'S LICENSED ENGINEER SHALL BE EXPERIENCED IN THE DESIGN OF WOOD TRUSS STRUCTURES AND LICENSED IN THE STATE OF MICHIGAN, AS REQUIRED BY THE BUILDING CODE AND STATE LAWS. THE ENGINEER SHALL CLOSELY FOLLOW THE DESIGN INTENT OF THE TRUSS ROOF STRUCTURE AS DOCUMENTS. SHOWN IN THE CONTRACT DOCUMENTS. ALL METAL PLATE CONNECTED WOOD TRUSS SHOP DRAWINGS SHALL BE SEALED AND SIGNED FOR SUBMISSION, THIS WILL CONFIRM THAT THE CONTRACTOR'S ENGINEER IS IN COMPLIANCE WITH MICHIGAN LAW. ANY INDICATION THAT THE WORK WILL BE SIGNED AND SEALED AFTER REVIEW A PRELIMINARY REVIEW IMPLIES NON-COMPLIANCE.

MPCWT1. METAL PLATE CONNECTED WOOD TRUSSES SHALL CONFORM TO THE SPECIFICATIONS OF THE TRUSS PLATE INSTITUTE (TPI), AMERICAN FOREST PRODUCTS ASSOCIATION (AFPA) AND NATIONAL DESIGN STANDARD (NDS) SPECIFICATIONS. ALL CONNECTOR PLATES SHALL BE GALYANIZED. LUMBER USED IN TRUSSES SHALL MEET THE REQUIREMENTS OF FRAMING LUMBER NOTED ABOVE. MINIMUM PROPERTIES SHALL BE AS FOLLOWS:

FOR CHORD MEMBERS: Fb = 1,250 PSI Fv = 70 PSI

E = 1,500,000 PS FOR WEB MEMBERS:

Fb = 875 PSI Fv = 70 PSI E = 1,400,000 PS

MPCWT8. ROOF TRUSSES AND CONNECTIONS SHALL BE DESIGNED TO SUPPORT THE SUPERIMPOSED LOADS OR FORCES INDICATED ON THE CONTRACT DOCUMENTS WITH A MAXIMUM TOTAL LOAD DEFLECTION OF L/360 OR 1" MAXIMUM. (THEORETICAL DEFLECTION VALUES SHALL BE ADJUSTED FOR THE EFFECTS OF LONG TERM CREEP PRIOR TO COMPARING TO THE INDICATED ALLOWABLE AND MAXIMUM DEFLECTIONS.)

MPCWT9. METAL PLATE CONNECTED WOOD TRUGG SHALL BE BROUGHT TO BEAR DIRECTLY ABOVE A WALL STUD, CERTAIN (SPECIFICALLY DETAILED) EXCEPTIONS APPLY. FURTHER, THE METAL PLATE CONNECTED WOOD TRUSS MANUFACTURER SHALL NOT SPECIFY ANY TRUSS WHERE THE REQUIRED BEARING DEPTH EXCEEDS THE WIDTH OF THE WALL OR OTHER SUPPORT MEMBER. THE METAL PLATE CONNECTED WOOD TRUSS MANUFACTURER SHALL NOT SPECIFY ANY TRUSS WHERE THE BEARING WIDTH DOES NOT PROVIDE SUFFICIENT AREA AND THE BEARING PRESSURE EXCEEDS THE ALLOWABLE COMPRESSION PERPENDICULAR TO GRAIN OF THE SPECIFIED TOP PLATE (405 PSI FOR HEM-FIR/425 PSI FOR SPF LUMBER).

MPCWTIO. CONSTRUCTION PHASE ENGINEERING IS REQUIRED TO SPECIFY THE TEMPORARY AND PERMANENT BRACING SYSTEM FOR THE METAL PLATE CONNECTED WOOD TRUGGEG. THE CONTRACTOR SHALL ENGAGE A QUALIFIED ENGINEER EXPERIENCED IN THE DESIGN OF WOOD TRUSS STRUCTURES AND LICENSED IN THE STATE REQUIREMENTS FOR FASTENING OF, AND TO, THIS PRODUCT. OF MICHIGAN, TO PERFORM THIS WORK. TEMPORARY AND PERMANENT BRACING FOR TRUSS STABILITY SHALL BE DESIGNED, SPECIFIED, AND INSPECTED BY THE CONTRACTOR'S LICENSED ENGINEER, REGISTERED IN THE STATE OF MICHIGAN, AND EXPERIENCED IN SUCH WORK. TEMPORARY BRACING SHALL, AT A MINIMUM, FOLLOW ALL GUIDELINES OF THE WOOD TRUSS COUNCIL OF AMERICA'S TPI-1, HANDLING, INSTALLATION AND BRACING OF METAL PLATE CONNECTED WOOD TRUSSES FOR TEMPORARY AND PERMANENT BRACING.

MPCWTII. IF A THIRD PARTY LICENSED ENGINEER IS RETAINED, THE CONTRACTOR'S LICENSED ENGINEER SHALL REVIEW ALL SHOP DRAWINGS PREPARED FOR THE FABRICATION AND ERECTION OF THE METAL PLATE CONNECTED WOOD TRUSSES. THE CONTRACTOR'S LICENSED ENGINEER SHALL VERIFY THAT THE SHOP DRAWINGS MEET WITH THE DESIGN INTENT AND THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND BUILDING CODE. THE CONTRACTOR'S LICENSED ENGINEER SHALL APPLY THEIR "REVIEW STAMP" ON ALL SHOP DRAWINGS TO CONFIRM THIS REVIEW. THE THIRD PARTY ENGINEER SHALL SEAL AND SIGN ALL SHOF DRAWINGS THAT HAVE BEEN PREPARED UNDER THEIR SUPERVISION.

MPCWT12. THE METAL PLATE CONNECTED WOOD TRUSS MANUFACTURER SHALL UNDERSTAND THAT THE REGISTERED DESIGN PROFESSIONAL RESPONSIBLE TO SPECIFY A PERMANENT BRACING SYSTEM MAY NEED TO REQUIRE REVISION TO TRUSS PROFILES TO ATTAIN A CONSISTENT PERMANENT BRACING SYSTEM. MPCWT13. PROVIDE SIMPSON H3 TIE AT EACH END OF TRUSS.

ROUGH CARPENTRY / DIMENSIONAL AND ENGINEERED LUMBER
RCLI. AT TIMES, CONNECTIONS MAY BE SPECIFIED AS A SIMPSON STRONG. TIE BY ITS MODEL NUMBER THEN AN UNDERBAR. THE UNDERBAR INDICATES THE DEPTH OF THE CONNECTION WHICH IS TO MATCH THE NOMINAL DEPTH OF THE MEMBER THE CONNECTION WILL BE ACCEPTING, WHICH IS UNKNOWN. THEREFORE, WHERE A 2 imes 6MEMBER 16 REQUIRED, THE UNDEBAR BECOMES A 6, A 2×8 REQUIRES THE UNDERBAR TO BECOME AN 8, AND 50 ON. ALSO, AT TIME, THE ACRONYM SST IS USED, FOLLOWED BY MODEL NUMBER FOR A SIMPSON STRONG TIE

RCL2. WOOD FRAMING, FABRICATION, AND INSTALLATION SHALL CONFORM WITH THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE, THE "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION," AND THE TIMBER CONSTRUCTION MANUAL. SHOULD CONTRACTOR REQUIRE ANY GUIDANCE TO COMPLY WITH THE REQUIREMENTS OF THESE PUBLICATIONS, THEY SHALL RETAIN THE SERVICES OF A LICENSED ENGINEER, REGISTERED IN THE STATE OF MICHIGAN, TO PROVIDE SUCH GUIDANCE. THE LATERAL STABILITY FOR THIS RESIDENCE SHALL BE ATTAIN THROUGH COMPLIANCE WITH THE MICHIGAN RESIDENTIAL CODE, 2015, SECTION R602.10. SHOULD CONTRACTOR REQUIRE ANY GUIDANCE TO COMPLY WITH THE REQUIREMENTS OF THIS SECTION, THEY SHALL RETAIN THE SERVICES OF A LICENSED ENGINEER, REGISTERED IN THE STATE OF MICHIGAN, TO PROVIDE SUCH GUIDANCE.

RCL3. ALL LUMBER SHALL COMPLY WITH DOC PS 20, "AMERICAN SOFTWOOD LUMBER STANDARD," AND WITH APPLICABLE GRADE RULES OF INSPECTION AGENCIES CERTIFIED BY ALSC'S BOARD OF REVIEW.

RCL4. ALL FASTENERS SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS FOR MATERIAL AND MANUFACTURE: PLACED DURING "WINTER" MUST BE PROTECTED FROM FREEZING. RCL4.1. NAILS, WIRE, BRADS, AND STAPLES SHALL CONFORM WITH FEDERAL SPECIFICATION FF-N-105.

RCL4.2. WOOD SCREW SHALL CONFORM WITH ASME B18.6.1. RCL4.3. LAG BOLTS SHALL CONFORM WITH ASME B18.2.1.

RCL4.4. BOLTS AND THREADED ROD SHALL CONFORM WITH ASTM A3ØT.

RCL5. FRAMING LUMBER 2" THICK OR LESS SHALL BE STRESS RATED OR GRADED FOR THE SPECIES AS SCHEDULED WITH A MOISTURE CONTENT OF NINETEEN PERCENT OR LESS. ALL FRAMING LUMBER SHALL BE SPRUCE-PINE-FIR WITH MINIMUM PROPERTIES SHALL BE AS FOLLOWS:

Fy = 135 PSI E = 1,4*00,000* PSI

(SPRUCE-PINE-FIR HAS BEEN SPECIFIED BASED UPON ITS HISTORICAL, DIMENSIONAL STABILITY. THE CONTRACTOR MAY CHOOSE TO PROPOSE AN ALTERNATE MATERIAL FOR USE BUT WILL NEED TO PROVE THE DIMENSIONAL STABILITY OF THAT MATERIAL.)

RCL6. ROOF SHEATHING SHALL BE APA STRUCTURAL I RATED PLYWOOD SHEATHING, EXTERIOR OR EXPOSURE I, CONTINUOUS OVER TWO OR MORE SPANS WITH LONG DIMENSION ACROSS SUPPORTS AND SPAN RATED FOR CONDITIONS AND LOADS INDICATED. FASTEN WITH 16d REING SHANK COMMON NAILS Ø'-6" ON CENTER AT EDGES OF EACH SHEET AND 1'-0" ON CENTER AT INTERMEDIATE SUPPORTS. STAGGER PANELS. ROOF SHEATHING SHALL BE INSTALLED USING SIMPSON STRONG TIE PSCL PANEL SHEATHING CLIP BETWEEN EACH

RCL7. WALL SHEATHING SHALL BE APA STRUCTURAL I RATED SHEATHING, EXTERIOR OR EXPOSURE 1, CONTINUOUS OVER TWO OR MORE SPANS WITH LONG DIMENSION ACROSS SUPPORTS AND SPAN RATED FOR CONDITIONS AND LOADS INDICATED. FASTEN WITH 16d RING SHANK COMMON NAILS Ø'-6" ON CENTER AT EDGES OF EACH SHEET AND I'-O" ON CENTER AT INTERMEDIATE SUPPORTS. STAGGER PANELS. RCL8. WALL/CEILING GYPSUM BOARD SHALL BE 5/8 INCH THICK. FASTEN WITH 8d COOLER NAILS

RCL9. GLUED LAMINATED TIMBER (GLULAM) SHALL BE DESIGNED AND FABRICATED IN ACCORDANCE WITH APA H815, OR AS APPROVED BY BUILDING CODE. ADHESIVES SHALL CONFORM TO ASTM D 2559. MINIMUM PROPERTIES SHALL BE AS FOLLOWS:

OR WALLBOARD NAILS \emptyset' -6" ON CENTER AT EDGES AND INTERMEDIATE SUPPORTS.

Fb = 2.400 PSI Fv = 1,650 PSI

E = 1800.000 PSI Fc = 425 PSI (TENSION OR COMPRESSION FACE)

RCLIØ. LAMINATED VENEER LUMBER (LVL) SHALL BE LUMBER MANUFACTURED BY LAMINATING WOOD VENEERS IN A CONTINUOUS PRESS USING AN EXTERIOR-TYPE ADHESIVE COMPLYING WITH ASTM D 2559, AND CURED UNDER PRESSURE TO PRODUCE MEMBERS WITH GRAIN OF STRANDS PARALLEL TO THEIR LENGTHS AND COMPLYING WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. MINIMUM PROPERTIES SHALL BE AS FOLLOWS:

Fb = 2,800 PSI Fy = 285 PSI E = 1,800,000 PSI

RCLII. ANY DIMENSIONAL DISCREPANCIES THAT MAY EXIST BETWEEN THE SPECIFIED FRAMING SHALL BE ACCOMMODATED BY MASONITE SHIMS, FOR EXAMPLE A 2XI2 MAY BE SPECIFIED ALONG WITH 11 7/8" I-JOISTS AND 11 7/8" LVL'S. HERE THERE MAY BE UP TO THREE DIFFERENT (ACTUAL) DEPTHS OF LUMBER AND MASONITE SHIMS ARE REQUIRED.

RCL12. UNLESS NOTED OTHERWISE, REFER TO INTERNATIONAL BUILDING CODE TABLE 23/04.9.1 FOR MINIMUM NAILING REQUIREMENTS. ALL NAILS SHALL BE COMMON WIRE NAILS.

RCL13. ALL CONNECTIONS FOR FLUSH FRAMING SHALL BE ACCOMPLISHED USING SIMPSON STRONG TIE CONNECTORS. WHERE A SIMPSON STRONG TIE CONNECTOR IS SPECIFIED, PROVIDE THE SPECIFIED CONNECTOR AND INSTALL TO PROVIDE ITS MAXIMUM CAPACITY. SHOULD THE CONTRACTOR WISH TO INSTALL USING "ALTERNATE NAILS," A GREATER CAPACITY CONNECTOR MUST BE PROVIDED SO THAT THE ALTERNATE NAILS CREATE A CONNECTION OF EQUAL OR GREATER CAPACITY. (ONLY "ALTERNATE NAILS" THAT HAVE BEEN TESTED, AND CAPACITIES DETERMINED BY SIMPSON STRONG TIE SO THAT EQUAL ALTERNATES CAN BE DETERMINED, ARE 34POTENTIALLY% ACCEPTABLE AS ALTERNATES.) WHERE NO HANGER IS SPECIFIED, THE CONTRACTOR SHALL PROVIDE A CONNECTOR CAPABLE OF SUPPORTING THE CONNECTION AS DETERMINED THROUGH ENGINEERED CALCULATIONS OR BASED UPON THE MAXIMUM ALLOWABLE

RCL14. WHERE BEARING AND JACK STUDS ARE REQUIRED, THESE WALL STUDS SHALL CONTINUE TO THE FOUNDATION OR BEARING/JACK STUDS SPECIFIED ON FLOORS BELOW. USING THE SPECIFIED QUANTITY AND MATERIAL OF STUDS, WHERE BEARING AND/OR JACK STUDS BEAR UPON JACK AND/OR BEARING STUD FOR A LOWER FLOOR, OR A HEADER, THIS OBVIOUSLY SUPERCEDES THE NEED TO BEAR THE BEARING AND/OR JACK STUDS UPON THE FOUNDATION. WHERE A ROOF OR FLOOR TRUSS SPACE EXISTS, THE BEARING AND/OR JACK STUDS SHALL BE PLACED WITHIN THIS

RCLIS, TYPICALLY, THE REQUIRED QUANTITY OF BEARING STUDS IS SPECIFIED, IN THE ABSENCE OF A SPECIFIED NUMBER OF BEARING STUDS, THE CONTRACTOR SHALL PROVIDE ADDITIONAL BEARING STUDS, AS REQUIRED. ADDITIONAL BEARING STUDS SHALL BE PROVIDED TO ASSURE AXIAL STRESSES BECOME NO MORE THAN 200 PSI ON 2x4 BEARING WALLS AND NO MORE THAN 400 PSI ON 2x6 BEARING WALLS, UNLESS NOTED OR DETAILED OTHERWISE. THE CONTRACTOR'S LICENSED ENGINEER MAY BE ABLE TO INCREASE THE ALLOWABLE AXIAL STRESS BY PERFORMING CALCULATIONS, SEALED, SIGNED, AND SUBMIT TO THE ARCHITECT FOR RECORD. THE BEARING FORCE SHALL BE DETERMINED BY MULTIPLYING THE AREA OF THE HEADER BY THE ABOVE INDICATED FV. THIS FORCE MAY BE REDUCED BY ONE-THIRD FOR DIMENSIONAL LUMBER. THE ENGINEER OF RECORD WOULD BE PLEASED TO ACCEPT ANY INQUIRY WHERE A QUANTITY OF BEARING STUDS HAS NOT BEEN SPECIFIED BY THE BUILDING CODE OR THE CONTRACT

RCLIG. HOLES IN WALL STUDS SHALL NOT EXCEED ONE INCH IN DIAMETER, AND SHALL BE IN THE MIDDLE ONE-THIRD OF THE STUD. HOLES IN JOISTS, RAFTERS, OR GIRDERS SHALL NOT EXCEED TWO INCHES IN DIAMETER AND SHALL BE IN THE MIDDLE ONE-THIRD OF MEMBER ALONG ITS DEPTH AND LENGTH. DO NOT NOTCH FLOOR OR WALL MEMBERS WITHIN THE SPAN OR AT CONNECTIONS UNLESS OTHERWISE SHOWN.

RCLIT. UNLESS NOTED OTHERWISE, DO NOT COUNTERSINK BOLTS OR FASTENERS INTO WOOD. PROVIDE WASHERS WITH BOLTS THAT ARE A MINIMUM OF TWO TIMES THE DIAMETER OF THE BOLT.

RCLIS. LATERAL STABILITY FOR COMMERCIAL CONSTRUCTION IS SPECIFIED WITHIN THE BUILDING CODE. THE CONTRACTOR SHALL PROVIDE ONE OF THE BRACED WALL SYSTEMS (WITHIN SECTION 23/08.9, WALL FRAMING) FOR EACH PLANE OF EXTERIOR WALL. SHOULD THE ARCHITECTURAL REQUIREMENTS PROHIBIT THE USE OF ANY OF THESE SYSTEMS, THE CONTRACTORS LICENSED ENGINEER SHALL PROVIDE GUIDANCE TO OBTAIN LATERAL STABILITY

RCL19. PRESSURE TREAT SILL PLATES WITH WATERBORNE PRESERVATIVES TO A MINIMUM RETENTION OF 0.40 PCF. AFTER TREATMENT, KILN-DRY LUMBER TO A MAXIMUM MOISTURE

RCL2Ø. WHEN TREATED LUMBER 19 IN CONTACT WITH STEEL (BOLT9, NAIL9, FASTENERS, HANGERS, ETC.), STEEL SHALL BE G-185 GALVANIZED OR STAINLESS. DIMENSIONAL LUMBER BOLTED TO STEEL BEAMS AND COLUMNS SHALL BE UNTREATED, OR PROTECTIVE COATINGS EQUIVALENT TO G-185 SHALL BE APPLIED TO THE STEEL.

RCL21. PROVIDE LUMBER TREATED WITH WOOD-PRESERVATIVE-TREATING MATERIAL OF ONE OF THE FOLLOWING ACCEPTABLE PRODUCTS BY THE NOTED MANUFACTURERS: ACQ-PRESERVE, J.H. BAXTER AND COMPANY ACQ-PRESERVE, CHEMICAL SPECIALTIES, INC. WOLMANIZED, ARCH WOOD PROTECTION INC.

NATURE WOOD, OSMOSE WOOD PRESERVING, INC. CONSULT THE MANUFACTURER OF THE CHOSEN TREATMENT FOR MATERIAL AND FINISH

CCA, HOOVER TREATED WOOD PRODUCTS, INC

STRUCTURAL STEELSTLI. SHOP DETAILS, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE REQUIREMENTS OF AISC "SPECIFICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES", AND AISC "DETAILING FOR STEEL CONSTRUCTION".

STL2, SUBSTITUTION: SIZES MAY BE SUBSTITUTED, SUBMIT REQUEST(S) REQUEST FOR SUBSTITUTION AND STRUCTURAL ENGINEER OF RECORD WILL CONSIDER AND DETERMINE IF SUBSTITUTION CAN

STL3. STRUCTURAL STEEL SHALL CONFORM TO THE YIELD STRENGTH (FY) LISTED BELOW:

STL3.1. WIDE FLANGE SHAPES, ASTM A992, 50 KSI STL3.2. RECTANGULAR HOLLOW STRUCTURAL SHAPES, ASTM A500, GRADE B, 46 KSI 3TL3.3. CIRCULAR HOLLOW STRUCTURAL SHAPES, ASTM A500, GRADE B, 42 KSI STL3.4. BASE PLATES, WHERE SPECIFIED AS SUCH, ASTM A572, 50 KSI STL3.5. ALL OTHER PLATES AND SHAPES, ASTM A36, 36 KSI

STL4. ANCHOR RODS SHALL CONFORM TO ASTM F1554, UON.

STL5.BOLTS SHALL CONFORM TO ASTM F3125/A325, UON, HEAVY HEX NUTS TO ASTM A563C, AND WASHERS TO ASTM F436 WASHERS, ROUND, TYPE 1.

STL6. ALL WELDING SHALL BE DONE WITH APPROPRIATE E10 SERIES ELECTRODES COMPATIBLE WITH THE NEW AND EXISTING STEEL AND SHALL CONFORM TO THE REQUIREMENTS OF THE "CODE FOR WELDING IN BUILDING CONSTRUCTION" OF THE AMERICAN WELDING SOCIETY

STLT. REFER TO ARCHITECTURAL CONTRACT DOCUMENTS, AND CONTRACT DOCUMENTS FROM OTHER DISCIPLINES, FOR STEEL PLATES, ANGLES, ETC., ATTACHED TO BEAMS, FRAMES, ETC., FOR SUPPORT OF FASCIA AND OTHER CONSTRUCTION.

WITHOUT SIGNED AND SEALED, TO SCALE SKETCHES PREPARED UNDER THE DIRECT SUPERVISION OF THE CONTRACTOR'S LICENSED STRUCTURAL ENGINEER. CONCRETE (NORMAL WEIGHT) FOR FOUNDATIONS, UNLESS OTHERWISE NOTED ON DRAWING, SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH PER THE FOLLOWING CONCRETE MIX

GUIDELINES SECTION AT 28 DAYS. ALL CONCRETE FOR THIS WORK SHALL BE PLACED WITH SIX

STL8. NO FIELD MODIFICATION TO THE FABRICATED MEMBER OR CONNECTION IS ALLOWED

PERCENT (PLUS OR MINUS ONE PERCENT) AIR ENTRAINED WITHIN THE CONCRETE. CONCRETE CONC2. CONCRETE BAR REINFORCEMENT SHALL BE NEW BILLET STEEL CONFORMING TO ASTM A615 (6*0,000* PSI YIELD). WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185, AND SHALL BE FURNISHED AND PLACED IN FLAT SHEETS. CONCRETE BAR REINFORCEMENT FOR WELDED

REINFORCEMENT CONNECTIONS SHALL CONFORM TO ASTM A706. ALL ASTM STANDARDS SHALL BE LATEST EDITION. CONC3. UNLEGG OTHERWISE NOTED, CONCRETE CONSTRUCTION SHALL CONFORM TO THE FOLLOWING AMERICAN CONCRETE INSTITUTE (ACI) STANDARDS, AMERICAN STANDARDS FOR

TESTING AND MATERIALS (ASTM) STANDARDS, AMERICAN WELDING SOCIETY (AWS) STANDARDS,

AND CONCRETE REINFORCING STEEL INSTITUTE (CRSI) STANDARDS: ACI 121 - "QUALITY ASSURANCE SYSTEMS FOR CONCRETE CONSTRUCTION" ACI 211 - "STANDARD PRACTICE FOR SELECTING PROPORTIONS FOR CONCRETE"

ACI 301 - "SPECIFICATIONS FOR STRUCTURAL CONCRETE BUILDINGS ACI 302 - "GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION" ACI 304 - "GUIDE FOR MEASURING, MIXING, TRANSPORTING AND PLACING CONCRETE.

ACI 304.2 - "PLACING CONCRETE BY PUMPING METHODS" ACI 305 - "HOT WEATHER CONCRETING" ACI 306 - "COLD WEATHER CONCRETING" ACI 309 - "GUIDE FOR CONSOLIDATING CONCRETE"

ACI 315 - "DETAILS AND DETAILING OF CONCRETE REINFORCING" ACI 318 - "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE"

ACI 341 - "RECOMMENDED PRACTICE FOR CONCRETE FORMWORK" ACI 503.2 - "STANDARD SPECIFICATION FOR BONDING PLASTIC CONCRETE TO HARDENED

CONCRETE WITH A MULTI-COMPONENT EPOXY ADHESIVE" ACI SP-15 - "FIELD REFERENCE MANUAL" WHICH INCLUDES ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS"

ACI SP-66 - "ACI DETAILING MANUAL ASTM C227 - "TEST METHOD FOR POTENTIAL ALKALI REACTIVITY OF CEMENT-AGGREGATE COMBINATIONS"

AWS D1.4 - "STRUCTURAL WELDING CODE REINFORCING" CRSI (DA4) - "MANUAL OF STANDARD PRACTICE" CRSI (PI) - "PLACING REINFORCING BARS"

CONC4. BY SUBMITTING CONCRETE MIX DESIGNS AND/OR PROPORTIONS PREPARED BY THEIR SUPPLIER, THE CONTRACTOR CERTIFIES THAT THEY HAVE REVIEWED AND APPROVED SAME AND THAT THEY DEEM THE CONCRETE WORKABLE AND THAT THE MIX PROPORTIONS HAVE LED TO SUCCESSFUL RESULTS, STRENGTH AND FINISH, IN THEIR PAST EXPERIENCE. MIX DESIGNS SHALL BE SUBMIT TO THE ARCHITECT WITH RECENT HISTORICAL DATA (DATA FROM THE PAST WENTY-FOUR MONTHS) OR WITH THE RESULTS FROM THE TWENTY-EIGHT DAY TRIAL MIXTURES RUN FOR THE PROJECT. (THESE ARE THE MINIMUM REQUIREMENTS SET FORTH BY THE AMERICAN CONCRETE INSTITUTE.) DUE OF THE FACT THAT THE CONCRETE CONTRACTOR AND THEIR CHOSEN CONCRETE SUPPLIER ARE THE SOLE PARTIES RESPONSIBLE FOR CONCRETE STRENGTH, AND THAT, TYPICALLY, MIX PROPORTIONS ARE SUBMIT IN LIEU OF MIX DESIGNS, THE CONTRACTOR AND CONCRETE SUPPLIER MAY CHOOSE TO SUBMIT TYPICAL MIX PROPORTIONS FOR REVIEW, BY SUBMITTING MIX PROPORTIONS, THE CONTRACTOR AND CONCRETE SUPPLIER ACCEPT THE FACT THAT THIS NOTE PROVIDING THEM WITH THE REQUIRED SPECIAL PERMISSION TO PROCEED WITHOUT THE ACI REQUIRED MIX DESIGN IS DONE AT THE CONTRACTORS OWN RISK AND VOLITION. (CONCRETE WITH INADEQUATE STRENGTH OR OTHER SPECIFIED PROPERTIES MAY NEED TO BE REMOVED AND REPLACED AT NO COST TO THE OWNER), THE PROPORTIONS WILL BE REVIEWED AGAINST HISTORICAL DATA (AVAILABLE TO US) AND OTHER INDUSTRY STANDARDS, GUIDELINES, AND ENGINEERING JUDGEMENT. THE ADEQUACY OF THE CONCRETE WOULD THEN BE VERIFIED WITH THE COMPRESSION TEST RESULTS. (PLEASE NOTE THAT THE ACCEPTANCE OF ANY CONCRETE, SUBMIT WITH MIX DESIGN OR MIX PROPORTIONS, OCCURS ONLY AFTER THE INDEPENDENT TESTING AND INSPECTION AGENCY HAS VERIFIED THE ADEQUACY OF THE CONCRETE THROUGH TESTING.)

CONC5. POZZOLANIC MATERIAL, SUCH AS FLY ASH AND GROUND, GRANULATED BLAST FURNACE SLAG (GGBFS), MAY NOT BE ADDED TO ANY CONCRETE THAT MAY BE EXPOSED TO VIEW WITHOUT THE APPROVAL OF THE ARCHITECT. THIS APPROVAL MAY REQUIRE A MOCK-UP, IF THE USE OF FLY ASH AND GGBFS IS DESIRED TO BE USED IN CONCRETE FOR THE PROJECT, THE FOLLOWING REQUIREMENTS APPLY:

CONC5.1. PROVIDE FLY ASH PER ASTM C618, TYPE C OR F. VERIFY THERE IS NO POTENTIAL ALKALI INTERACTION WITH PROPOSED AGGREGATES. IF POTENTIAL EXISTS, DO NOT USE FLY ASH OR USE A NON-REACTIVE AGGREGATE. CONC5.2. PROVIDE GROUND, GRANULATED BLAST FURNACE SLAG PER ASTM C989, GRADE 100 CONC5.3. CONCRETE SHALL NOT CONTAIN MORE THAN TWENTY-FIVE PERCENT FLY ASH, BY WEIGHT, FOR TOTAL CEMENT AND POZZOLANIC MATERIAL CONC5.4. CONCRETE SHALL NOT CONTAIN MORE THAN FORTY PERCENT GGBF6, BY WEIGHT, FOR TOTAL CEMENT AND POZZOLANIC MATERIAL. CONC5.5. THE COMBINED AMOUNT OF FLY ASH AND GGBFS MAY NOT EXCEED FIFTY PERCENT, TOTAL, AND SHALL BE PROVIDED IN EQUAL AMOUNTS.

CONC6. MINIMUM CONCRETE COVER SHALL BE (UNLESS OTHERWISE NOTED):

CONC6.1. UNFORMED SURFACES IN CONTACT WITH GROUND (FOOTING BOTTOMS): THREE INCHES. CONC6.2. SLABS ON GRADE: ONE INCH FROM TOP. CONC6.3, FORMED SURFACES IN CONTACT WITH GROUND OR EXPOSED TO THE WEATHER (PIERS, WALLS, PITS, ETC.): TWO INCHES. CONC6.4. NOTE: MAXIMUM DEVIATION FROM THESE REQUIREMENTS SHALL BE PLUS ONE-QUARTER INCH FOR SECTIONS TEN INCHES OR LESS AND PLUS ONE-HALF INCH FOR SECTIONS OVER TEN

CONCT. A POTENTIAL SLAB ON GRADE JOINTING PATTERN HAS BEEN SHOWN ON THE FOUNDATION PLAN. SHOULD THE CONTRACTOR AND OWNER WISH, ALTERNATE JOINTING PATTERNS MAY BE PROPOSED AND SHALL CONFORM WITH THE FOLLOWING, ALL SLABS ON GRADE SHALL HAVE CONTRACTION OR CONSTRUCTION JOINTS AT A MAXIMUM SPACING OF 24 TIMES THE SLAB "HICKNESS (SPACING NEED NOT BE LESS THAN 10'-0") EACH WAY, EXCEPT AS NOTED ON THE CONTRACT DOCUMENTS. MAINTAIN AN ASPECT RATIO OF NOT MORE THAN 1.5. REGARDLESS OF JOINT PATTERN USED, JOINT PATTERNS SHALL BE COORDINATED WITH ANY JOINTS IN FLOORING MATERIALS, SUCH AS TILE, AND WITH CHANGES IN FLOOR FINISH MATERIAL. REFER TO DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION REGARDING SLAB JOINTS.

CONCS, SIZES OF CONCRETE PLACEMENTS SHALL NOT EXCEED THE FOLLOWING UNLESS OTHERWISE INDICATED ON THE PLANS:

CONCS.I. WALLS AND CONTINUOUS WALL FOOTINGS - ONE HUNDRED FEET MAXIMUM LENGTH. CONCS.2. SLABS ON GRADE - PLACE IN ALTERNATING STRIP FASHION (CONSTRUCTION JOINTS ARE CONC8.3 SUPPORTED SLABS - PLACE IN SECTIONS, MAXIMUM AREA 6,000 SQUARE FEET. MAXIMUM LENGTH ONE HUNDRED FEET (ALL CONCRETE SLABS INCLUDING THOSE CAST ON METAL

CONC9. MINIMUM ELAPSED TIME BETWEEN ADJACENT CONCRETE PLACEMENTS SHALL BE AS REQUIRED TO ALLOW FOR FORM REMOVAL AND/OR THE ADEQUACY OF THE ADJACENT CONCRETE TO ACCEPT NEW WORK OR CONSTRUCTION ACTIVITY.

CONCIO. WALLS, PIERS, AND COLUMNS SHALL BE DOWELED TO FOOTINGS. WALL FOOTINGS AND CONCRETE COLUMN DOWELS SHALL BE SAME SIZE AS WALL AND COLUMN VERTICALS. CONCII. CONTINUOUS WALL FOOTINGS AND STEM WALLS SHALL BE PLACED MONOLITHICALLY

EXCEPT WHERE OTHERWISE SHOWN. NO HORIZONTAL CONSTRUCTION JOINTS ARE TO BE MADE, UNLESS SHOWN OR OTHERWISE NOTED. CONCI2. PROVIDE A SHEAR KEY ONE-THIRD OF THE DEPTH OF STRUCTURAL MEMBER AT CONSTRUCTION JOINTS. SEE TYPICAL DETAILS FOR ADDITIONAL REINFORCING AT CONSTRUCTION JOINTS. PROVIDE A BENTONITE WATER STOP IN ALL BELOW GRADE CONSTRUCTION JOINTS.

CONCI3. WHERE CONTINUOUS BARS ARE CALLED FOR, THEY SHALL BE RUN CONTINUOUSLY AROUND CORNERS (OR CORNER BARS PROVIDED) AND LAPPED AT NECESSARY SPLICES. THESE SUPPLEMENTARY BARS SHALL MATCH THE SIZE AND SPACING OR QUANTITY OF THE TYPICAL,

CONCI4. TESTING OF CONCRETE SHALL BE DONE FOR EACH 100 CUBIC YARDS OR FRACTION THEREOF, AND SHALL INCLUDE BUT IS NOT LIMITED TO SLUMP, AIR CONTENT CONCRETE EMPERATURE, UNIT WEIGHT, AND COMPRESSIVE STRENGTH. ALL TESTING SHALL FOLLOW ASTI

CONCIS. ADMIXTURES SHALL CONTAIN NO MORE THAN Ø.1 PERCENT WATER-SOLUBLE CHLORIDE IONS BY MASS OF CEMENTITIOUS MATERIAL. DO NOT USE ADMIXTURES CONTAINING CALCIUM

CONCIS.I. WATER-REDUCING ADMIXTURE: ASTM C494, TYPE A. CONCID.2. HIGH-RANGE, WATER-REDUCING ADMIXTURE: ASTM C494, TYPE F CONCI5.3. WATER-REDUCING AND ACCELERATING ADMIXTURE: ASTM C494, TYPE E CONCID.4. WATER-REDUCING AND RETARDING ADMIXTURE: ASTM C494, TYPE D CONCIS.5. AIR-ENTRAINING ADMIXTURE: ASTM C260

CONCIG. REPAIR AND PATCH DEFECTIVE AREAS AS DIRECTED BY GENERAL CONTRACTOR

CONCIT. COORDINATE FINISH OF ALL FOUNDATION WORK, INCLUDING SLABS ON GRADE, WITH ARCHITECTURAL AND FLOORING SUPPLIER'S REQUIREMENTS.

CONCI8. LAP ALL REINFORCING AS INDICATED IN DETAILS. PROVIDE CORNER BARS FOR ALL HORIZONTAL REINFORCING. PROVIDE DOWELS FROM FOOTING EQUAL IN SIZE AND NUMBER TO VERTICAL WALL OR PIER REINFORCING (UNO). CONCI9. ALL EXPOSED EDGES OF CONCRETE PIERS, BEAMS, AND WALLS SHALL BE CHAMFERED

CONC20. COORDINATE PLACEMENT OF ANCHOR RODS WITH FOUNDATION REINFORCING. ALL COLUMN ANCHOR RODS SHALL BE INSTALLED USING TEMPLATES AND SETTING DRAWINGS. NO TILTED OR MISPLACED BOLTS WILL BE ACCEPTED. NOTIFY ARCHITECT/ENGINEER FOR APPROVAL OF ANY CORRECTIVE ACTION. TOLERANCES FOR THE INSTALLATION OF THE ANCHOR BOLTS SHALL BE IN ACCORDANCE WITH AISC "CODE OF STANDARD PRACTICE" GUIDELINES.

CONCRETE MIX GUIDELINES

AIR ENTRAINMENT

EXPOSED TO WEATHER

MINIMUM COMPRESSIVE STRENGTH LARGE AGGREGATE (NOT TO EXCEED) SLUMP (MEASURED WITHOUT ADMIXTURES) AIR ENTRAINMENT YPICAL (NOT TO EXCEED) EXPOSED TO WEATHER

3,500 PSI THREE INCHES MAXIMUM TWO PERCENT SIX PERCENT PLUS OR MINUS ONE PERCENT

SLABS-ON-GRADE - INTERIOR MINIMUM COMPRESSIVE STRENGTH LARGE AGGREGATE (NOT TO EXCEED) SLUMP (MEASURED WITHOUT ADMIXTURES)

4,000 PSI THREE INCHES MAXIMUM SIX PERCENT PLUS OR MINUS ONE PERCENT

REINFORCED HOLLOW CONCRETE MASONRY

RCMI. MINIMUM MASONRY STRENGTH SHALL BE I'M = 2,000 PSI. UNITS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH ON THE NET AREA OF 2,800 PSI. EXCEPTION: IF PRISM TESTS ARE PERFORMED IN ACCORDANCE WITH ASTM E 441 METHOD B UNITS OF LESSER STRENGTH MAY BE USED TO ACHIEVE THE REQUIRED I'm.

RCM2. MORTAR SHALL BE PORTLAND CEMENT MORTAR IN ACCORDANCE WITH ASTM C 270, TYPE

RCM3. GROUT SHALL BE "FINE GROUT" IN ACCORDANCE WITH ASTM C 476. GROUT STRENGTH SHALL BE f'c = 3,000 PSI MIN. RCM4. REINFORCEMENT: ASTM A 615 GRADE 60.

RCM5. UNLESS OTHERWISE NOTED, MASONRY CONSTRUCTION SHALL CONFORM TO THE FOLLOWING AMERICAN CONCRETE INSTITUTE (ACI) STANDARDS AND AMERICAN STANDARDS FOR TESTING AND MATERIALS (ASTM) STANDARDS:

ACI 530/ASCE 5 AND ACI 530.1/ASCE 6 - BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES AND SPECIFICATIONS FOR MASONRY STRUCTURES. ASTM C 144 - STANDARD SPECIFICATION FOR AGGREGATE FOR MASONRY MORTAR. ASTM C 150 - STANDARD SPECIFICATION FOR PORTLAND CEMENT. ASTM C 201 - STANDARD SPECIFICATION FOR HYDRATED LIME FOR MASONRY PURPOSES. ASTM C 270 - STANDARD SPECIFICATION FOR MORTAR FOR UNIT MASONRY ASTM C 404 - STANDARD SPECIFICATION FOR AGGREGATES FOR MASONRY GROUT. ASTM C 416 - STANDARD SPECIFICATION FOR GROUT FOR MASONRY. ALL STANDARDS REFERENCED SHALL BE LATEST, CODE-APPROVED EDITIONS.

RCM6. GROUT SOLID ALL MASONRY BELOW GRADE.

RCM7. ALL STRUCTURAL STEEL LINTELS SHALL BE HOT DIP GALVANIZED. UPON COMPLETION OF THE ERECTION OF THESE STRUCTURAL STEEL LINTELS, ALL DAMAGE TO THE GALVANIZED COATING SHALL BE REPAIRED USING A HIGH ZINC DUST CONTENT PAINT FOR REPAIR OF GALVANIZED SURFACES, COMPLYING WITH M.I. SPEC. MIL-P-21035. AN ACCEPTABLE PRODUCT 15 ZRC COLD GALVANIZING COMPOUND BY ZRC CHEMICAL COMPANY. THIS SHALL INCLUDE THE REPAIR OF SURFACES DAMAGED BY WELDING.

FOUNDATIONS DNI. A SUBSURFACE INVESTIGATION HAS BEEN PERFORMED ON THIS SITE BY MCDOWELL AND ASSOCIATES. THE SUBSURFACE INVESTIGATION IS MCDOWELL JOB NUMBER 22-035, DATED FEBRUARY 16, 2022. THE GEOTECHNICAL INSPECTION AGENCY RESPONSIBLE TO PERFORM QUALITY CONTROL TESTING DURING CONSTRUCTION SHALL REVIEW THE SUBSURFACE INVESTIGATION REPORT PRIOR TO SUBMITTING THEIR PROPOSAL FOR THE WORK, SHOULD THE GEOTECHNICAL INSPECTION AGENCY HAVE ANY CONCERN(S) WITH REGARD TO THE INFORMATION CONTAINED WITHIN THE SUBSURFACE INVESTIGATION, THE CONCERN(S) SHALL BE NOTED WITH THEIR PROPOSAL FOR THE WORK. RECOMMENDATION(S) FOR ANY NECESSARY ADDITIONAL NVESTIGATION(S) REQUIRED TO ADDRESS (AND ELIMINATE) THE NOTED CONCERNS, TOO, SHALL ACCOMPANY THE GEOTECHNICAL INSPECTION PROPOSAL FOR THE WORK. ANY COSTS ASSOCIATED WITH THE ADDITIONAL INVESTIGATION(S) SHALL BE INDICATED WITHIN THE PROPOSAL FOR WORK.

FDN2. THE GEOTECHNICAL TESTING AND INSPECTION AGENCY SHALL REVIEW THE CONTRACT DOCUMENTS AND THE AFOREMENTIONED SOIL REPORT PRIOR TO PREPARING THEIR PROPOSAL FOR THE WORK, SHOULD THE GEOTECHNICAL INSPECTION AGENCY RESPONSIBLE TO PERFORM QUALITY CONTROL TESTING DURING CONSTRUCTION HAVE ANY CONCERN(S) WITH WITH THE REQUIREMENTS SPECIFIED WITH THE PLANS AND SECTIONS, THE CONCERN(S) SHALL BE NOTED WITH THEIR PROPOSAL FOR THE WORK, RECOMMENDATION(S) FOR CHANGES TO THE CONTRACT DOCUMENTS SHALL ACCOMPANY THE GEOTECHNICAL INSPECTION PROPOSAL FOR THE WORK, THE ABSENCE OF ANY NOTED CONCERNS SHALL CONSTITUTE THE GEOTECHNICAL INSPECTION AGENCY APPROVAL OF THE WORK PROPOSED WITH THE CONTRACT DOCUMENTS.

FDN3. THE FOUNDATIONS FOR THIS BUILDING HAVE BEEN DESIGNED TO EXERT A 3,000 POUND PER SQUARE FOOT PRESSURE AT DUE TO CODE-REQUIRED MINIMUM BUILDING LOADS, FOOTINGS SHALL BE PLACED UPON A SOIL HAVING A MINIMUM NET ALLOWABLE BEARING CAPACITY AS NOTED ABOVE. THE BEARING ELEVATION INDICATED ON PLANS SHALL BE VERIFIED AND APPROVED BY THE GEOTECHNICAL ENGINEER RESPONSIBLE FOR QUALITY CONTROL DURING CONSTRUCTION. THE GEOTECHNICAL ENGINEER RESPONSIBLE FOR QUALITY CONTROL DURING CONSTRUCTION IS SOLELY RESPONSIBLE TO DETERMINE THE BEARING ELEVATION AND THE ACTUAL NET ALLOWABLE BEARING CAPACITY.

FDN4. SHOP DRAWINGS FOR FOUNDATION REINFORCEMENT, WHEN SUBMIT WITHOUT DIMENSIONS, DIMENSIONED DETAILS, COMPLETE MATERIAL INFORMATION, OR WHICH REQUIRE SHOP OR FIELD PERSONNEL TO REFER TO THE CONTRACT DOCUMENTS WILL BE REVIEWED, AS A COURTESY. SHALL BE UNDERSTOOD THAT, BY SUBMITTING SHOP DRAWINGS IN SUCH CONDITION IS NOT IN CONFORMANCE WITH THESE CONTRACT DOCUMENTS AND THE COST FOR ANY REPARATION, NCLUDING ANY ASSOCIATED INSPECTION AND/OR ENGINEERING COSTS, SHALL BE BORNE BY TH CONTRACTOR, ADDITIONAL COSTS ARE NOT LIMITED TO COSTS ASSOCIATED WITH WORK THAT DOES NOT COMPLY WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, ADDITIONAL COSTS MAY BE BORNE, FOR EXAMPLE, BY THE INDEPENDENT TESTING AND INSPECTION AGENCY SINCE THEIR PERSONNEL WILL NEED TO REVIEW VARIOUS SOURCES (SOURCES BEYOND THE SHOP DRAWINGS AND CONTRACT DOCUMENTS) TO COMPLETE THEIR WORK.

FDN5. FILL TO UNDERSIDE OF SLAB ON GRADE, OR VAPOR BARRIER IF ONE EXISTS, PAVEMENT AND FOUNDATION WITH WELL GRADED CLEAN GRANULAR FILL, MAXIMUM SIZE TWO INCHES AND LESS THAN FIVE PERCENT PASSING NUMBER TWO HUNDRED SIEVE.

FDN6. "SUB-GRADE" AND FILL SHALL BE PLACED IN UNIFORM LIFTS, APPROPRIATE TO THE MATERIAL AND METHOD OF COMPACTION, COMPACTED TO MINIMUM NINETY-FIVE PERCENT OF MODIFIED PROCTOR (A6TM D-1551). THE INDEPENDENT TESTING AND INSPECTION AGENCY IS THE SOLE PARTY RESPONSIBLE TO DETERMINE THE DEPTH OF THE AFOREMENTIONED UNIFORM LIFT BASED UPON THE SOIL ENCOUNTERED AND THE CONTRACTOR'S METHOD OF COMPACTION. FDNJ. NO FOOTINGS SHALL BE PLACED IN WATER OR ON FROZEN GROUND.

FDN8. DURING WINTER CONSTRUCTION, PROVIDE FROST PROTECTION FOR FOOTING AND AREA WITHIN THREE FEET OF THE FOOTING PERIMETER. PROTECT FOOTINGS IN ORDER TO PREVENT FREEZING AND HEAVING OF THE BEARING STRATUM.

FDN9. FINISHED EXCAVATIONS AND BEARING GRADES SHALL BE INSPECTED AND APPROVED BY THE GEOTECHNICAL INSPECTION AGENCY BEFORE ANY CONCRETE IS PLACED.

OVER EXPOSED "SUB-GRADES" SHALL BE AVOIDED. PROVIDE PROPER DRAINAGE AND

:DNIØ. EXPOSED "SUB-GRADE" SOILS ARE TYPICALLY SENSITIVE TO DISTURBANCE AND STRENGTH DEGRADATION WHEN HIGH MOISTURE CONTENTS ARE PRESENT. CONSTRUCTION TRAFFIC

GRADING TO AVOID CREATING LOW AREAS WHERE WATER CAN GATHER ON THE "SUB-GRADES". FDNII. NO BACKFILLING AGAINST FOUNDATION WALLS AND/OR GRADE BEAMS SHALL BE DONE JNTIL CONCRETE HAS ATTAINED SEVENTY-FIVE PERCENT OF ITS TWENTY-EIGHT DAY STRENGTH. BEFORE BACKFILLING, PROVIDE BRACING FOR WALLS OR WALL BUTTRESSES AND GRADE BEAMS SUSTAINING MORE THAN 2'-0" OF UNBALANCED EARTH PRESSURE. THIS BRACING IS TO REMAIN UNTIL THE PERMANENT RESTRAINTS BECOME EFFECTIVE.

FDN12. CONCRETE FOR FOOTINGS AND GRADE BEAMS MAY BE PLACED AT CONTRACTOR'S OPTION INTO UNFORMED TRENCHES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MINIMIZE SLOUGHING OF SIDEWALLS. WHERE SLOUGHING OCCURS, REMOVE SLOUGHED SOIL AND/OR OVER EXCAVATE. CUT TRENCH FOOTING SIDES IN VERTICAL MANNER TO NOT ALLOW TRENCH FOOTING TO "MUSHROOM OUT" NEAR THE TOP.

. SHOP DRAWINGS SHALL BE SUBMIT ON 24" X 36" SHEETS, EXCEPT FOR MATERIAL DATA AND CONCRETE MIX DESIGNS OR PROPORTIONS, SHOP DRAWINGS SHALL BE SUBMIT IN ADOBE PDF FORMAT AND SHALL NOT BE SCANNED NOR SENT VIA FACSIMILE. BY SUBMITTING SHOP DRAWINGS TO THE ARCHITECT FOR REVIEW (OR THE THE GENERAL CONTRACTOR OR CONSTRUCTION MANAGER FOR REVIEW), THE CONTRACTOR (INCLUDING THE GENERAL CONTRACTOR OR CONSTRUCTION MANAGER) AGREE TO THE CONDITIONS SET FORTH BY THESE CONTRACT DOCUMENTS AND, WITH OR WITHOUT THEIR WRITTEN APPROVAL, AGREE THAT THEY ARE INDEED THE APPROVER OF SHOP DRAWINGS AND THAT THE WORK AND/OR MATERIALS DESCRIBED WITHIN THE SUBMITTAL ARE, TO THEIR KNOWLEDGE, FULLY COMPLIANT WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. BY SUBMITTING ANY MATERIAL FOR REVIEW. THE CONTRACTOR IS APPROVING THE MATERIAL AS ACCEPTABLE TO THEM FOR THEIR MEANS AND METHODS AND CONSTRUCT-ABILITY.

5D2. SHOP DRAWING PREPARATION IS A NECESSARY STEP FOR ALL TYPES OF CONSTRUCTION. THESE SHOP DRAWINGS MUST BE PREPARED INDEPENDENTLY FROM THE CONTRACT DOCUMENTS. THAT IS TO SAY, COPYING THE CONTRACT DOCUMENTS, IN WHOLE OR IN PART, AND SUBMITTING AS A SHOP DRAWING IS UNACCEPTABLE. (COPYING INCLUDES THE IMPORTATION OF PDF'S INTO CAD FILES.) SHOP DRAWINGS WHICH DIRECT THE CONTRACTOR TO REFER TO THE CONSTRUCTION DOCUMENTS ARE UNACCEPTABLE. IT WILL BE ASSUMED THAT INDUSTRY STANDARDS, WHEN REFERENCED UPON SHOP DRAWINGS, WILL BE PROVIDED TO SHOP AND FIELD PERSONNEL.

5D3. SHOP DRAWINGS ARE TO BE PREPARED TO A LEVEL OF QUALITY SUCH THAT SHOP AND FIELD PERSONNEL MAY FABRICATE AND ASSEMBLE THE STRUCTURE WITHOUT THE CONTRACT DOCUMENTS, THE INTENT IS TO ELIMINATE ANY AND ALL UNCERTAINTY PRIOR TO RELEASING INSTRUCTIONS AND MATERIAL TO FIELD PERSONNEL FOR INSTALLATION, SHOP DRAWINGS SHALL BE DRAWN ACCURATELY AND TO SCALE. USE OF STANDARD OR TYPICAL DETAILS IS NOT APPROPRIATE WITHIN SHOP DRAWINGS. WHEN SHOP DRAWINGS ARE SUBMIT THAT ARE NOT PREPARED TO THIS LEVEL OF QUALITY, THE SHOP DRAWINGS WILL BE REVIEWED AS A COURTESY, HOWEVER, THE CONTRACTOR, BY SUBMITTING SUCH WORK, DOES SO AT THEIR OWN RISK AND VOLITION. CONTRACTORS SHALL BE PREPARED TO RETAIN THE SERVICES OF A LICENSED STRUCTURAL ENGINEER TO BE AVAILABLE, ON SITE, TO CLARIFY THE WORK FOR THEIR FIELD PERSONNEL AS WELL AS FOR PERSONNEL FOR THE INDEPENDENT TESTING AND INSPECTION

9D4. FOR EACH SUBMITTAL, THE GENERAL CONTRACTOR SHALL, PRIOR TO SUBMISSION, IDENTIFY THE PRIMARY SUBCONTRACTOR THAT WILL BE RESPONSIBLE TO REVIEW ALL SHOP DRAWINGS PRIOR TO SUBMISSION TO THE GENERAL CONTRACTOR FOR THEIR REVIEW. FOR EXAMPLE, A STRUCTURAL STEEL DETAILER MAY BE RETAINED BY A FABRICATOR AND/OR ERECTOR, TO PREPARE SHOP DRAWINGS. THE PRIMARY SUBCONTRACTOR IS REQUESTED TO REVIEW AND APPROVE ALL SHOP DRAWING PRIOR TO SUBMISSION TO THE GENERAL CONTRACTOR FOR THEIR REVIEW. THE FABRICATOR IS RESPONSIBLE TO REVIEW (AND APPROVE) THE SHOP DRAWINGS TO VERIFY THE DETAILS MATCH THOSE THEY WISH TO PRODUCE IN THEIR SHOP AND THE ERECTOR MUST REVIEW (AND APPROVE) THE SHOP DRAWINGS TO VERIFY THE DETAILS MATCH THOSE THEY WISH TO ERECT. FURTHER, THERE MAY OPEN WEB STEEL JOISTS AND STEEL DECK REQUIRED FOR THE WORK, THE PRIMARY SUBCONTRACTOR IS RESPONSIBLE TO COMPLETELY REVIEW (AND APPROVE) ALL SHOP DRAWINGS FROM THESE BUILDING COMPONENT SUPPLIERS.

9D5. ALL SHOP DRAWINGS SHALL BE REVIEWED FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS BY THE GENERAL CONTRACTOR (OR CONSTRUCTION MANAGER), AND PRIMARY SUBCONTRACTOR, PRIOR TO SUBMITTING TO THE ARCHITECT AND INDICATE THEIR REVIEW AND APPROVAL. WHERE THERE IS AN ERECTOR INVOLVED, AND IS NOT NECESSARILY THE PRIMARY SUBCONTRACTOR, THE ERECTOR SHALL ALSO REVIEW AND APPROVE THE SHOP DRAWINGS PRIOR TO SUBMISSION TO THE ARCHITECT FOR REVIEW. THE PARTY THAT HAS CONTRACTED A SUBCONTRACTOR TO PREPARE SHOP DRAWINGS OR SUPPLY MATERIAL IS THE APPROVER OF THE WORK. WHERE THERE IS NO OTHER PARTY THAT HAS OVERSIGHT OVER A CONTRACTOR, THE APPROVER OF THE SHOP DRAWINGS IS THE GENERAL CONTRACTOR OR CONSTRUCTION MANAGER. THE PRIMARY SUBCONTRACTOR, ET AL, AND GENERAL CONTRACTOR SHALL CLEARLY INDICATE THEIR APPROVAL OF THE SHOP DRAWINGS, EITHER ON THE SHOP DRAWINGS OR ON A TRANSMITTAL.(SHOP DRAWINGS REJECTED BY EITHER PARTY SHALL BE REVISED PRIOR TO SUBMITTING TO THE ARCHITECT FOR REVIEW.) IN RARE OCCASIONS, SHOP DRAWINGS SUBMIT WITHOUT A STATEMENT OF APPROVAL, OR WITH NO OR MINIMAL REVIEW COMMENTS, WILL BE ASSUMED AS APPROVED WITHOUT, OR WITH, COMMENTS, THIS ASSUMPTION WILL BE INDICATED WITHIN OUR SUBMITTAL OR THE SUBMITTAL WILL BE RETURNED WITHOUT REVIEW WITH THE REQUEST TO DOCUMENT THE REVIEW AND APPROVAL BY THE PREVIOUSLY DEFINED APPROVER.

SD6. SHOULD ANY INFORMATION BE SUBMIT TO THE ARCHITECT FOR REVIEW MISSING THE REQUESTED STATEMENT OF REVIEW AND APPROVAL BY ANY OR ALL REQUESTED PARTIES, THE 6HOP DRAWINGS WILL BE REVIEWED, AS A COURTESY, AND RETURNED WITH REVIEW COMMENTS. THE RESPONSIBILITY FOR THE COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS REMAINS WITH THE CONTRACTOR, AND THE ENFORCEMENT OF COMPLIANCE WITH THE CONTRACT DOCUMENTS WITH THE GENERAL CONTRACTOR. THE GENERAL CONTRACTOR SHOULD RECOGNIZE THAT IT IS IN THEIR BEST INTEREST, AND IN THE BEST INTEREST OF THE OWNER, THAT THEIR SUBCONTRACTORS REVIEW AND APPROVE THE SHOP DRAWINGS FOR THE WORK. THE INTENT OF THE REVIEW IS FOR THE PRIMARY SUBCONTRACTOR TO REVIEW THE INFORMATION TO ASSURE THAT IT MEETS WITH THEIR STANDARD SHOP AND FIELD PROCEDURES AND CAPABILITIES AND THAT WHAT THE DETAILER IS PROPOSING IS CONSTRUCT-ABLE. THE INTENT OF THE REVIEW FOR THE ERECTOR TO REVIEW THE INFORMATION TO ASSURE THAT IT MEETS WITH THEIR STANDARD FIELD PROCEDURES AND CAPABILITIES AND THAT WHAT THE DETAILER IS PROPOSING IS CONSTRUCT-ABLE.

SD7. SHOP DRAWINGS PREPARED BY A MATERIAL SUPPLIER (OR A DETAILING SUBCONTRACTOR) FOR A CONTRACTOR SHALL BE REVIEWED BY THAT CONTRACTOR FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS PRIOR TO SUBMITTING. AN EXAMPLE WOULD BE A CONCRETE REINFORCING STEEL SUPPLIER THAT PREPARES THE REINFORCING STEEL SHOP DRAWINGS FOR THE CONCRETE SUBCONTRACTOR. ANOTHER EXAMPLE IS A STEEL FLOOR/ROOF DECK SUPPLIER THAT PREPARES THE STEEL DECK SHOP DRAWINGS FOR THE STRUCTURAL STEEL SUBCONTRACTOR, ALL INQUIRIES BY THE MATERIAL SUPPLIER AND/OR DETAILER MUST BE RESPONDED TO BY THE SUBCONTRACTOR. ALL WORK THAT IS DEFERRED TO A "THIRD PARTY" WILL BE BORNE BY THE SUBCONTRACTOR THAT ENGAGED THE SERVICES OF THE DETAILING OR MATERIAL SUPPLIER.

5D8. CONTRACTUAL DISCLAIMERS BETWEEN CONTRACTORS ARE NOT (NECESSARILY) APPLICABLE TO THE CONTRACT BETWEEN THE OWNER AND THE CONTRACTOR AND SHALL NOT APPEAR ON THE SHOP DRAWINGS.

5D9. ALL DIMENSIONAL INQUIRY (AND FIELD MEASURING OF EXISTING STRUCTURES) SHALL BE MADE OF THE ARCHITECT PRIOR TO SUBMITTING SHOP DRAWINGS TO THE ENGINEER OF RECORD FOR REVIEW. REQUESTS ON SHOP DRAWINGS TO PROVIDE DIMENSIONS THAT MUST BE COORDINATED WITH OTHER DISCIPLINES AND/OR TRADES SHALL BE RESPONDED TO ON THE SHOP DRAWINGS BY THE GENERAL CONTRACTOR PRIOR TO SUBMITTING TO THE ARCHITECT FOR REVIEW. THE ENGINEER OF RECORD, CANNOT ACCEPT THE RESPONSIBILITY FOR THE ADEQUACY OF ANY BUILDING COMPONENT SHOWN ON A SHOP DRAWINGS SUBMIT WITH MISSING INFORMATION. SDIØ. REVIEW OF DIMENSIONS WILL NOT OCCUR WITHIN EACH AND EVERY SUBMITTAL

SDII. IT IS ASSUMED THAT NOTES ON SHOP DRAWINGS FOR WORK "BY OTHERS" ARE ACCEPTABLE TO THE GENERAL CONTRACTOR (OR CONSTRUCTION MANAGER) AND, UNLESS NOTED OTHERWISE, WILL INDEED BE PROVIDED "BY OTHERS" AND WILL NOT BE EXCLUDED FROM THE FINISHED

5D12. SHOP DRAWINGS WILL BE REVIEWED TO THE DEGREE WE DEEM NECESSARY. WE WILL REVIEW ERECTION PLANS FOR ACCURACY, PIECE DRAWINGS WILL LIKELY ONLY BE SPOT CHECKED. THE REVIEW OF SHOP DRAWINGS, PRODUCT DATA, AND/OR SAMPLES IS FOR GENERAL CONFORMANCE WITH DESIGN CONCEPT AND WITH THE INFORMATION PROVIDED BY THE CONTRACT DOCUMENTS, THIS REVIEW DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF ANY DEVIATION FROM THE CONTRACT DOCUMENTS.

9D13. SHOP DRAWINGS WILL, IN GENERAL, BE REVIEWED ONLY ONCE. DUE TO LITIGATION WITHIN THE CONSTRUCTION INDUSTRY, THE STRUCTURAL ENGINEER OF RECORD CANNOT DEMARCATE THE SHOP DRAWINGS AS "APPROVED" NOR "REJECTED." THE GENERAL CONTRACTOR (OR CONSTRUCTION MANAGER) WILL DETERMINE THE COURSE OF ACTION THAT THE SUBCONTRACTOR SHALL FOLLOW. SHOULD THE GENERAL CONTRACTOR WISH TO HAVE THE SHOP DRAWINGS RESUBMIT, THE STRUCTURAL ENGINEER OF RECORD WILL PERFORM A SINGLE RE-REVIEW. ALL REVISIONS SHALL BE CLEARLY HIGHLIGHTED WITHIN REVISION CLOUDS.

SD14. WHILE THE ARCHITECT NOR ENGINEER ARE THE APPROVER OF THE SHOP DRAWINGS PREPARED FOR THE WORK, WHERE THERE ARE QUESTIONS FOR THE APPROVER WHERE IT APPEARS THAT INPUT FROM THE ARCHITECT OR ENGINEER COULD HELP EXPEDITE AN ANSWER, WE WILL PROVIDE INFORMATION FOR THE CONSIDERATION OF THE APPROVER FOR THEM TO PROVIDE DIRECTION TO THEIR SUPPLIER, DETAILER, OR EMPLOYEE. OUR RESPONSE SHALL NOT BE MISCONSTRUED AS AN ACCEPTANCE OF THE ROLE OF APPROVER.

SDI5. ALL SUBCONTRACTORS SHALL FIELD VERIFY ALL WORK POINTS AND DIMENSIONS PRIOR TO PREPARING SHOP DRAWINGS. (VERIFICATION SHALL INCLUDE ANY EXISTING CONSTRUCTION AS WELL AS ANY NEW CONSTRUCTION ALREADY IN PLACE.) SHOULD SUBCONTRACTOR OR MATERIAL SUPPLIER CHOOSE TO PROCEED WITH THEIR WORK PRIOR TO THIS VERIFICATION AND, SHOULD ANY PROBLEM ARISE IN THE FIELD BECAUSE THE VERIFICATION HAS NOT BEEN PERFORMED, THE RESPONSIBILITY TO ENGINEER, SUPPLY REQUIRED MATERIAL, AND PERFORM ANY REPARATION SHALL BE BORNE BY THE PRIMARY SUBCONTRACTOR FOR THE DEFICIENT PORTION OF WORK. REQUESTS FOR INFORMATION, CLARIFICATION, AND/OR ALTERNATE

RFI. THE GENERAL CONTRACTOR SHALL REVIEW ALL REQUESTS FOR INFORMATION, CLARIFICATION, AND/OR ALTERNATE PRIOR TO SUBMISSION AND SHALL INCLUDE WHAT THEY BELIEVE TO BE THE CORRECT AND/OR THEIR DESIRED RESPONSE TO THE INQUIRY. THE GENERAL CONTRACTOR SHALL VERIFY THAT ALL NECESSARY INFORMATION HAS BEEN INCLUDED WITH THE SUBMITTAL, INCLUDING, BUT NOT LIMITED TO, SIGNED AND SEALED CALCULATIONS FOR ANY AND ALL REQUESTS FOR ALTERNATE.

RF2. THE GENERAL CONTRACTOR SHALL REVIEW ALL REQUESTS FOR ALTERNATES AND INDICATE WHETHER OR NOT THEY APPROVE OF THE ALTERNATE, THE INTENT IS TO ASSURE THAN THE GENERAL CONTRACTOR HAS PERFORMED A THOROUGH REVIEW AND DISCUSSED THE ALTERNATE WITH OTHER TRADES THAT THE ALTERNATE WILL INEVITABLY AFFECT.

RF3. REQUESTS FOR ALTERNATES SHALL BE SUBMIT IN ADOBE PDF FORMAT AND SHALL NOT BE SCANNED NOR SENT VIA FACSIMILE.

RF4. REQUESTS FOR ALTERNATES SHALL BE REVIEWED AND APPROVED BY ALL DIRECTLY AFFECTED SUB-CONTRACTORS (INCLUDING THE ERECTOR, AS APPLICABLE) AND MATERIAL SUPPLIERS, FOR EXAMPLE, A LICENSED ENGINEER FOR THE FABRICATOR OR ERECTOR IS REQUESTED TO PREPARE THE REQUEST FOR ALTERNATE, THEREFORE, THE FABRICATOR AND ERECTOR SHALL REVIEW AND APPROVE THE REQUEST FOR ALTERNATE PRIOR TO SUBMISSION TO THE GENERAL CONTRACTOR. IF THE REQUEST FOR ALTERNATE AFFECTS THE DECK AND/OR JOIST MANUFACTURER, THE LEAD SUB-CONSULTANT (TYPICALLY THE FABRICATOR), SHALL COORDINATE THEIR ALTERNATE WITH THEIR DECK SUPPLIER, ET AL, PRIOR TO SUBMISSION TO THE GENERAL CONTRACTOR. THE GENERAL CONTRACTOR SHALL THEN REVIEW AND APPROVE THE ALTERNATE, IN ACCORDANCE WITH NOTE RF2.

PROJECT TESTING AND INSPECTION
PTII. IT IS ASSUMED THERE WILL BE AN INDEPENDENT TESTING AND INSPECTION AGENCY VERIFYING THE CONFORMANCE OF THE WORK PERFORMED WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND AS MAY BE ALTERED OR OTHERWISE CLARIFIED BY SHOP DRAWINGS. THIS AGENCY IS THE SOLE PARTY THAT CAN PROVIDE SUCH VERIFICATION AND IS SOLELY RESPONSIBLE FOR THIS VERIFICATION, UPON COMPLETION OF THE PROJECT, TO INDEPENDENT TESTING AND INSPECTION AGENCY SHALL PROVIDE WRITTEN CERTIFICATION PREPARED SEALED AND SIGNED BY A LICENSED ENGINEER REGISTERED IN THE STATE OF MICHIGAN, THAT HAS OVERSEEN THE WORK PERFORMED BY PERSONNEL OF THE TESTING AND INSPECTION AGENCY, THAT THE PROJECT HAS BEEN COMPLETED PER THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, SHOP DRAWINGS, BUILDING CODE, AND ANY SUPPLEMENTARY REQUIREMENTS OF THE LOCAL CODE OFFICIAL.

PTI2. IT IS ASSUMED THAT THE INDEPENDENT TESTING AND INSPECTION AGENCY WILL NOTIFY THE ARCHITECT, ENGINEER, AND THE CONTRACTOR IMMEDIATELY UPON DETERMINING WORK THAT DOES NOT MEET WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, WHEN DEFECTIVE WORK IS FOUND. THE CONTRACTOR AND THEIR LICENSED ENGINEER SHALL DETERMINE A POTENTIAL COURSE OF ACTION AND/OR REPAIR. THE CONTRACTOR AND THEIR LICENSED ENGINEER SHALL THEN PROPOSE REPARATIONS TO THE GENERAL CONTRACTOR (OR CONSTRUCTION MANAGER). ONCE ALL PARTIES AGREE, REPARATIONS SHALL THEN BE SUBMIT TO THE ARCHITECT FOR

THE TESTING AND INSPECTION AGENCY IS NOT MERELY A REPORTING SERVICE. THE AGENCY IS AN INVALUABLE TOOL FOR THE CONTRACTOR, GENERAL CONTRACTOR (OR CONSTRUCTION MANAGER). AND ARCHITECT TO ASSURE THE REQUIREMENTS OF THE CONTRACT DOCUMENTS HAVE BEEN MET AND A SAFE AND USABLE STRUCTURE WILL BE CONSTRUCTED FOR ITS POTENTIAL

PTI3. IN GENERAL, THE REPORTS FROM THE INDEPENDENT TESTING AND INSPECTION AGENCY WILL NOT BE REVIEWED BY THE ENGINEER OF RECORD, WE ASSUME WE WILL BE CONTACTED DIRECTL' AND IMMEDIATELY BY THE LICENSED ENGINEER FOR THE TESTING AND INSPECTION AGENCY, AS IS REQUESTED ABOVE

PORTION OF THE CONSTRUCTION, THIS SHALL BE VERIFIED BY THE INDEPENDENT TESTING AND NSPECTION AGENCY'S LICENSED ENGINEER AS THEY REVIEW EACH REPORT PRIOR TO SUBMISSION FOR RECORD. EACH REPORT SHALL BE SUBMIT ELECTRONICALLY WITH A UNIQUE FILE PTIS. THE INDEPENDENT TESTING AND INSPECTION AGENCY SHOULD BE PREPARED TO PRESENT

ADDITIONAL TESTING THAT MAY BE REQUIRED TO PROVIDE SUCH REQUESTED EVIDENCE SHALL

PTI4. EACH REPORT PREPARED BY THE INDEPENDENT TESTING AND INSPECTION AGENCY SHALL

PROVIDE A CLEAR AND UNAMBIGUOUS STATEMENT OF THE ADEQUACY OF EACH PARTICULAR

BE BORNE BY THE CONTRACTOR AND/OR INDEPENDENT TESTING AND INSPECTION AGENCY. PTIG. THE INDEPENDENT TESTING AND INSPECTION AGENCY SHALL NOT SUBMIT REPORTS CONTAINING REPRODUCTION(6) OF ANY PORTION OF THE CONSTRUCTION DOCUMENTS THAT CONTAIN THE TITLE BLOCK IDENTIFYING ANY OF THE REGISTERED DESIGN PROFESSIONALS OF RECORD NOR CORPORATE IDENTIFICATION OF ANY KIND.

EVIDENCE, UPON REQUEST, TO CONFIRM THE ADEQUACY OF ANY PORTION OF WORK, ANY

ISSUED: **BIDS & PERMIT** 05/24/2022

> T.J.F. T.J.F. T.J.F.

DO NOT SCALE PRINTS - USE FIGURED DIMENSIONS ONLY

T2021024

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CONSTRUCTION PHASE ENGINEERING/PERFORMANCE SPECIFIED PORTIONS OF WORK SUBMITTAL. EACH LICENSED, CONSTRUCTION PHASE ENGINEER SHALL, UPON REQUEST OF THE LOCAL BUILDING CODE OFFICIAL, OWNER, ARCHITECT OR ENGINEER, BE PREPARED TO SUBMIT THEIR WORK FOR THE APPROVAL OF THE LOCAL BUILDING CODE OFFICIAL, IT SHALL NOT BE MISCONSTRUED THAT, SHOULD THE LOCAL BUILDING CODE OFFICIAL NOT REQUEST A REVIEW OF

THE WORK OF THE LICENSED CONSTRUCTION PHASE ENGINEER, THAT ANY PROFESSIONAL LIABILITY FOR THE WORK DOES NOT APPLY. NOT ALL LOCAL BUILDING CODE OFFICIALS CHOOSE TO REVIEW ALL CONTRACT DOCUMENTS AND/OR DEFERRED SUBMITTALS.

CPE2. PORTIONS OF WORK FOR ITEMS SUCH AS "STOREFRONTS" AND CURTAINWALL SYSTEMS AND THEIR ATTACHMENT TO THE STRUCTURE, WINDOWS AND DOORS AND THEIR ATTACHMENT TO THE STRUCTURE, STRUCTURAL STEEL STAIRS, LADDERS, AND/OR HANDRAIL/GUARDRAIL SYSTEMS AND THEIR ATTACHMENT TO THE STRUCTURE, STRUCTURAL STEEL JOISTS, METAL PLATE CONNECTED WOOD TRUSSES, PRECAST CONCRETE HOLLOWCORE PLANK, COLD-FORMED STEEL FRAMING AND SHAFT WALLS AND THEIR ATTACHMENT TO THE STRUCTURE, ATTACHMENT OF ANY/ALL WALL SYSTEM TO THE STRUCTURES, INSULATED METAL PANEL WALL SYSTEMS AND ITS ATTACHMENT TO THE STRUCTURE, EXTERIOR INSULATED FACADE SYSTEMS AND ITS ATTACHMENT TO THE STRUCTURE, AND ANY DESIRED ALTERNATES TO THE REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS (TO NAME A FEW ITEMS) REQUIRE ENGINEERING AFTER CONTRACT AWARD AND SHALL BE DEFINED AS "PERFORMANCE SPECIFIED" PORTIONS OF WORK, SUCH WORK REQUIRES A LICENSED STRUCTURAL ENGINEER TO PERFORM CALCULATIONS AND OVERSEE THE PREPARATION OF SHOP DRAWINGS TO COMPLETE THE SPECIFIED DESIGN.

CPE3. BY SUBMITTING SHOP DRAWINGS, THE MATERIAL/BUILDING COMPONENT SUPPLIER AND/OR INSTALLER (AS GENERAL DISCUSSED IN NOTE CPEI) ATTESTS THAT THEIR LICENSED ENGINEER HAS HAD FULL OVERSIGHT ON THE PROJECT, FROM THE DAY THE CONTRACT DOCUMENTS WERE FIRST PROVIDED TO THE BUILDING COMPONENT MANUFACTURER, FURTHER, THE MATERIAL/BUILDING COMPONENT SUPPLIER AND/OR INSTALLER (AS GENERAL DISCUSSED IN NOTE CPE2) ATTESTS THAT THEIR LICENSED ENGINEER HAS BEEN PROVIDED ALL CONTRACT DOCUMENTS AND HAS COMPLIED WITH SAME. IN ADDITION, ANY SUB-CONTRACTUAL AGREEMENT "HAT CONTRADICTS THE REQUIREMENTS OF THESE CONTRACT DOCUMENTS AND LIMITS THE LIABILITY, IN ANY WAY, OF THE LICENSED ENGINEER FOR THE MATERIAL/BUILDING COMPONENT SUPPLIER AND/OR INSTALLER (AS GENERAL DISCUSSED IN NOTE CPE2), THE ENTIRE SUB-CONTRACTUAL AGREEMENT BECOMES NULL AND VOID AND THE REQUIREMENTS OF THESE CONTRACT DOCUMENTS SHALL GOVERN.

CPE4. IF ANY LICENSED ENGINEER FOR A MATERIAL/BUILDING COMPONENT SUPPLIER AND/OR INSTALLER (AS GENERAL DISCUSSED IN NOTE CPE2) CHOOSES TO SUBMIT ANY SHOP DRAWING WITHOUT A SIGNATURE AND SEAL, IT SHALL NOT BE MISCONSTRUED AS RELIEF FROM ANY REQUIREMENT OF THESE CONTRACT DOCUMENTS. REVIEW OF SHOP DRAWINGS THAT HAVE NOT BEEN SIGNED AND SEALED WILL BE PERFORMED AS A COURTESY UNDER THE ASSUMPTION THAT THE LICENSED ENGINEER FOR THE MATERIAL/BUILDING COMPONENT SUPPLIER AND/OR INSTALLER (AS GENERAL DISCUSSED IN NOTE CPE2) HAS, IN EVERY OTHER WAY, ACCEPTED, FULLY, THE REQUIREMENTS OF THESE CONTRACT DOCUMENTS AND WILL, AS REQUIRED BY LAW, SUBMIT THE SIGNED AND SEALED SHOP DRAWINGS, FOR THE APPROVAL OF THE LOCAL BUILDING CODE OFFICIAL, AS A DEFERRED SUBMITTAL.

CPE5. THE LICENSED STRUCTURAL ENGINEER FOR THESE PORTIONS OF WORK IS REQUESTED TO DETERMINE CODE REQUIRED LOADS, AND LOAD COMBINATIONS, AS REQUIRED FOR THEIR PORTION OF WORK, NOTE THAT THE MINIMUM REQUIREMENTS OF THE BUILDING CODE ARE JUST THAT, MINIMUM REQUIREMENTS. THESE CONTRACT DOCUMENTS SPECIFY (OR CLARIFY) OUR (EXPERIENCE BASED) RECOMMENDATIONS FOR MINIMUM REQUIREMENTS TO BE USED FOR THIS

CPE6. IT IS ASSUMED THAT THE LICENSED STRUCTURAL ENGINEER CARRIES FULL PROFESSIONAL LIABILITY COVERAGE IN THE AMOUNT OF ONE MILLION DOLLARS PER CLAIM AND AN AGGREGATE OF TWO MILLION DOLLARS.

CPET. THE LICENSED STRUCTURAL ENGINEER FOR THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE ADEQUACY OF THE PORTION OF WORK HE/SHE IS PERFORMING. THE LICENSED STRUCTURAL ENGINEER FOR THE CONTRACTOR SHALL PREPARE, OR OVERSEE THE PREPARATION OF, ALL ENGINEERING CALCULATIONS, REVIEW ALL SHOP DRAWINGS, AND CERTIFY THAT THE WORK HAS BEEN FABRICATED AND INSTALLED PER HIS/HER DESIGN INTENT AND THE DESIGN INTENT OF THESE CONTRACT DOCUMENTS.

CPET.I. CALCULATIONS SHALL BE PREPARED AND MAY BE REQUESTED SUBMIT, SEALED AND SIGNED, FOR RECORD AND/OR CONFIRMATION THAT THEY HAVE BEEN PERFORMED. CALCULATIONS SUBMIT WITHOUT REQUEST WILL NOT BE REVIEWED FOR ANY REASON. CPE1.2. ALL SHOP DRAWINGS SHALL BE REVIEWED BY THE LICENSED STRUCTURAL ENGINEER FOR THE CONTRACTOR PRIOR TO THEIR SUBMISSION TO THE ARCHITECT FOR REVIEW. THE LICENSED STRUCTURAL ENGINEER FOR THE CONTRACTOR MAY CHOOSE SEAL AND SIGN THE SHOP DRAWINGS OR APPLY A "REVIEW STAMP" TO THEM INDICATING THE SHOP DRAWINGS WERE REVIEWED AND MET WITH THEIR DESIGN CRITERIA. REVIEW COMMENTS BY THE LICENSED STRUCTURAL ENGINEER FOR THE CONTRACTOR, WHILE ENCOURAGED, SHOULD BE MINIMAL FOR THE SHOP DRAWINGS SUBMIT TO THE ARCHITECT FOR REVIEW. (IN OTHER WORDS, IF THE LICENSED STRUCTURAL ENGINEER FOR THE CONTRACTOR HAS MADE MANY REVIEW COMMENTS, THE SHOP DRAWINGS SHALL BE RETURNED TO THE CONTRACTOR FOR REVISION PRIOR TO SUBMITTING THEM TO THE ARCHITECT FOR REVIEW.) CPE1.3. THE LICENSED STRUCTURAL ENGINEER FOR THE CONTRACTOR IS RESPONSIBLE FOR ALL FIELD INQUIRIES MADE BY HIS/HER CONTRACTOR. THIS MAY INCLUDE INVESTIGATION OF INQUIRIES THAT ARE THE RESULT OF DIFFICULTIES CREATED BY HIS/HER OR ANOTHER CONTRACTOR THIS MAY INCLUDE INVESTIGATION OF INQUIRIES FROM OTHER CONTRACTORS THAT ARE THE RESULT OF DIFFICULTIES CREATED BY HIS/HER CONTRACTOR. CPE1.4. THE LICENSED STRUCTURAL ENGINEER FOR THE CONTRACTOR SHALL BE PREPARED TO, UPON REQUEST, VISIT THE SITE TO CONFIRM THE WORK HAS BEEN SATISFACTORILY PERFORMED PER HIS/HER DESIGN INTENT, UPON COMPLETION OF THE WORK. (THE LICENSED STRUCTURAL ENGINEER FOR THE CONTRACTOR MAY NEED TO PERFORM ADDITIONAL CALCULATIONS TO PERIFY THE ADEQUACY OF THE AS-BUILT WORK. THE LICENSED STRUCTURAL ENGINEER MAY NEED TO REQUIRE THE CONTRACTOR TO REMEDY ANY WORK HE/SHE MAY DEEM INSUFFICIENT.) THE ICENSED STRUCTURAL ENGINEER FOR THE CONTRACTOR SHALL PREPARE AND SUBMIT A SEALED AND SIGNED LETTER CERTIFYING THAT PORTION OF WORK HAS BEEN DESIGNED PER THE MICHIGAN, TO ENGINEER SUCH REPAIR(S). THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY MINIMUM REQUIREMENTS OF THE BUILDING CODE AND THE INSTALLATION MEETS WITH SAID REQUIREMENTS AND THEIR DESIGN INTENT.

CPES. IF IT APPEARS THAT THE LICENSED ENGINEER FOR THE CONTRACTOR IS NOT FAMILIAR WITH EXISTING CONDITIONS, HE/SHE SHALL BE PREPARED TO, UPON REQUEST, VISIT THE SITE PRIOR TO A SECOND REVIEW OF SHOP DRAWINGS.

CPE9. THE LICENSED ENGINEER FOR A CONTRACTOR SHALL NOT SPECIFY ANY BUILDING COMPONENT THAT WILL OVERSTRESS ANY OTHER PORTION OF THE BUILDING, TWO EXAMPLES

CPE9.1 THE LICENSED STRUCTURAL ENGINEER FOR THE WOOD TRUSS SUPPLIER SHALL NOT SPECIFY A BEARING CONNECTION THAT WILL OVERSTRESS THE TOP PLATES PROVIDED. THE LICENSED ENGINEER SHALL SPECIFY SUFFICIENT BEARING LENGTH AND WIDTH SUCH THAT THE PLATES PROVIDED ARE NOT OVERSTRESSED.

CPEIO. OTHER PORTIONS OF WORK SHOWN ARCHITECTURALLY AND NOT INCLUDED WITHIN THE STRUCTURAL CONTRACT DOCUMENTS ARE SUBJECT TO THESE GENERAL REQUIREMENTS FOR PERFORMANCE SPECIFIED WORK. WHEN IN DOUBT DURING BIDDING, A CONTRACTOR SHOULD ASSUME A LICENSED STRUCTURAL ENGINEER IS REQUIRED AND INCLUDE SUCH COSTS, AS AN ALTERNATE, WITH THEIR BID. WHEN IN DOUBT DURING CONSTRUCTION, THE CONTRACTOR SHOULD MAKE AN INQUIRY WITH ARCHITECT THROUGH THE GENERAL CONTRACTOR FOR CLARIFICATION. THIS INQUIRY COULD SAVE THE CONTRACTOR MUCH RE-WORK IF IT IS DETERMINED THAT A PORTION OF WORK IS TO BE OVERSEEN BY A LICENSED STRUCTURAL ENGINEER.

MISCL STRUCTURAL CONTRACT DOCUMENTS SHOW SOME ARCHITECTURAL INFORMATION WHICH IS SHOWN FOR REFERENCE ONLY, ANY DISSIMILARITY WITH FINAL ARCHITECTURAL CONTRACT DOCUMENTS SHALL BE ASSUMED UNINTENTIONAL, HOWEVER, THE CONTRACTOR SHOULD VERIFY INTENT WITH ARCHITECT PRIOR TO STARTING ANY WORK, SOME INFORMATION IN STRUCTURAL

MISC2. THE INFORMATION CONTAINED WITHIN THESE CONTRACT DOCUMENTS REPRESENTS INTELLECTUAL PROPERTY THAT HAS PROVIDED AS A PROFESSIONAL SERVICE FOR THE SPECIFIC USE TO DESCRIBE THE REQUIREMENTS FOR THIS PROJECT, REPRODUCTION, IN WHOLE OR IN PART, IS STRICTLY PROHIBITED.

MISC3. ALL WORK SHALL COMPLY WITH FEDERAL, STATE, AND LOCAL CODES.

SECTIONS IS NOT DRAWN TO SCALE.

MISC4. THESE STRUCTURAL CONTRACT DOCUMENTS PROVIDE THE REQUIREMENTS FOR A BUILDING CODE COMPLIANT STRUCTURE. ALL SUB CONTRACTORS SHALL REVIEW THE CONTRACT DOCUMENTS FOR POTENTIAL CONCERNS REGARDING CONSTRUCTION "MEANS AND METHODS" REQUIREMENTS, ET AL. AND NOTIFY THE ARCHITECT WITH THEIR PROPOSAL FOR WORK OF ANY POTENTIAL AFFECT TO THE COST FOR THEIR WORK, PROJECT SAFETY AND COMPLIANCE WITH ALL FEDERAL STATE, AND LOCAL REGULATIONS IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR, SHOULD THE CONTRACTOR FAIL TO NOTIFY THE ARCHITECT OF ANY SUCH CONCERNS, THESE CONCERNS WILL BE ASSUMED TO BE MINIMAL AND ACCOMMODATED WITHIN THEIR BID PRICE, AND NO ADDITIONAL INFORMATION OR COSTS WILL BE NECESSARY FOR THE CONTRACTOR TO PERFORM THE WORK.

MISCS. THE CONTRACTOR SHALL RETAIN THE SERVICES OF A LICENSED STRUCTURAL ENGINEER, REGISTERED WITH THE STATE OF MICHIGAN, TO PROVIDE A COMPLETE TEMPORARY BRACING DESIGN FOR THE STABILITY OF THE BUILDING DURING CONSTRUCTION. THE SHORING DESIGN SHALL MEET THE REQUIREMENTS OF ASCE 37 (DESIGN LOADS ON STRUCTURES DURING CONSTRUCTION)

MISCS. THE STRUCTURAL CONTRACT DOCUMENTS SHOW A PORTION OF THE WORK TO BE PERFORMED BY THE CONTRACTOR. SUPPLEMENTARY REQUIREMENTS FOR STRUCTURAL STEEL CONCRETE, ETC. MAY BE FOUND WITHIN THE CONTRACT DOCUMENTS OF OTHER DISCIPLINES AND REMAINS THE RESPONSIBILITY OF THE CONTRACTOR.

MISCT. THESE NOTES ARE COMPLEMENTARY TO THE SPECIFICATIONS AND SHALL BE USED IN CONJUNCTION WITH THE SPECIFICATIONS.

MISCS. EVERY EFFORT HAS BEEN MADE TO PROVIDE COMPLETE AND UNAMBIGUOUS INFORMATION ON THE CONTRACT DOCUMENTS. THE STRUCTURAL CONTRACT DOCUMENTS ARE NOT INTENDED TO STAND ALONE. CONTRACT DOCUMENTS PREPARED BY THE ARCHITECT AND OTHER BUILDING DISCIPLINES CONTAIN REQUIREMENTS THAT AFFECT THE STRUCTURAL CONTRACT DOCUMENTS. THE INFORMATION WITHIN THESE CONTRACT DOCUMENTS, THEREFORE, MAY CONTAIN AMBIGUOUS INFORMATION. ANY SUCH AMBIGUITY SHALL BE DOCUMENTED BY THE CONTRACTOR AND SUBMITTED WITH THE BID PRICE. THE CONTRACTOR SHALL INCLUDE AN ALLOWANCE FOR ANY SUCH AMBIGUITY ALONG WITH WHAT WAS ASSUMED AS THE BASIS FOR THE ALLOWANCE. AMBIGUITIES SHALL NOT BE LIMITED TO THOSE BETWEEN DRAWING AND SPECIFICATIONS AND CONTRACT DOCUMENTS OF OTHER DISCIPLINES. AMBIGUITIES DISCUSSED HERE SHALL ALSO INCLUDE INCOMPLETE INFORMATION.) PRIOR TO SUBMISSION OF BIDS, THE CONTRACTORS SHALL SUBMIT A WRITTEN REQUEST FOR THE NECESSARY CLARIFICATION OR SUPPLEMENTARY INFORMATION REQUIRED BY THE CONTRACTOR TO PROCEED WITH THE WORK. THIS REQUEST SHALL BE SUBMIT TO THE GENERAL CONTRACTOR OR CONSTRUCTION MANAGER WHO WILL THEN SUBMIT THE REQUEST TO THE ARCHITECT. THE GENERAL CONTRACTOR OR CONSTRUCTION MANAGER WILL ATTACH TO THIS WRITTEN REQUEST THE CONTRACTOR'S LIST OF ASSUMPTIONS FOR 3. SNOW LOADS BIDDING SO THAT THE ARCHITECT MAY DETERMINE THE ADEQUACY OF THE CONTRACTORS BID ASSUMPTION. IN THE ABSENCE OF THIS DOCUMENT, THE ARCHITECT WILL DETERMINE WHICH AMBIGUOUS REQUIREMENT GOVERNS AND THE CONTRACTOR SHALL PROVIDE AT NO ADDITIONAL COST TO THE OWNER. IN THE ABSENCE OF THIS DOCUMENT, THE ARCHITECT WILL DETERMINE THAT WHICH COULD HAVE BEEN ASSUMED FROM THE CONTRACT DOCUMENTS WHERE THE CONTRACT DOCUMENTS INCLUDE INCOMPLETE INFORMATION. THE BASIS FOR THIS DETERMINATION SHALL BE HAT THE CONTRACTOR SHOULD HAVE INCLUDED AN ALLOWANCE BASED UPON SIMILAR INFORMATION PROVIDED ELSEWHERE.

MISC9. THE FULLY COMPLETED STRUCTURE HAS BEEN DESIGNED TO BE STABLE AND CAPABLE OF RESISTING ALL CODE REQUIRED LOADS, TO THE BEST OF ANY STRUCTURAL ENGINEER'S ABILITY. THE CONTRACTOR REMAINS RESPONSIBLE FOR ALL MEANS AND METHODS ISSUES SUCH

MISCO.I. TO DETERMINE THE ERECTION AND PLACING PROCEDURES AND SEQUENCES. MISC9.2. TO ENSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENTS DURING ERECTION BY PROVIDING TEMPORARY SUPPORTS, SUCH AS TEMPORARY BRACING, SHORING, GUYS AND TIE MISC9.3. TO PROVIDE TEMPORARY SUPPORTS AND THEY SHALL REMAIN UNTIL ALL STRUCTURAL COMPONENTS ARE IN PLACE, COMPLETED, AND HAVE REACHED THEIR REQUIRED DESIGN

MISCIØ. VERIFY THE SIZES, LOCATIONS, ELEVATIONS AND DETAILS OF EXISTING CONDITIONS THAT AFFECT THE WORK. INFORM THE ARCHITECT OF ANY DISCREPANCIES IN DIMENSIONS, SIZES, LOCATIONS, AND CONDITIONS BEFORE PROCEEDING WITH THE WORK. ("EXISTING CONDITIONS" CAN NCLUDE NEW CONSTRUCTION PLACED IN EARLIER PHASES.)

MISCII. PROVIDE SHORING, BRACING, UNDERPINNING, AND ANY OTHER MEANS REQUIRED TO PROTECT AND MAINTAIN THE SAFETY, INTEGRITY AND STABILITY OF ALL EXISTING AND NEW CONSTRUCTION.

MISCI2. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS AT THE SITE, INCLUDING UTILITIES, SERVICES, ETC., AND SHALL BE FULLY RESPONSIBLE FOR ANY DAMAGE HE CAUSES TO THE PROPERTY, EXISTING AND NEW CONSTRUCTION, AND FOR ANY UNAUTHORIZED DISRUPTIONS TO THE OWNER'S NORMAL USE OF UTILITIES, SERVICES AND THE SURROUNDING

MISCI3. SEE ARCHITECTURAL, MECHANICAL AND ELECTRICAL CONTRACT DOCUMENTS, AND SHOP DRAWINGS FOR SIZE AND LOCATION OF WALL AND FLOOR OPENINGS, WALL OFFSETS, STAIR DETAILS, PIPES, VENTS, DUCTS, CONDUIT, AND OTHER OPENINGS AND DETAILS NOT SHOWN ON THE STRUCTURAL CONTRACT DOCUMENTS.

MISCI4. TYPICAL DETAILS, WHEN USED, APPLY TO ALL CONTRACT DOCUMENTS AND SHALL BE USED EXCEPT WHERE OTHERWISE SHOWN OR NOTED. EVERY EFFORT HAS BEEN MADE TO PROVIDE THE CONTRACTOR WITH COMPLETE AND UNAMBIGUOUS DETAILS. SINCE IT IS NOT POSSIBLE TO CUT EACH AND EVERY DETAIL, THE DETAILS CUT SHALL APPLY TO SIMILAR CONDITIONS ELSEWHERE.

MISCIS. THESE DOCUMENTS ATTEMPT TO PROVIDE AS COMPLETE A "PICTURE" AS IS HUMANLY POSSIBLE FOR BIDDING PURPOSES. IT IS NOT THE INTENT OF THESE DOCUMENTS TO REQUIRE THE CONTRACTOR TO FOREGO THEIR NORMAL METHOD OF OPERATION. CONTRACTORS WISHING TO DISCUSS POTENTIAL EQUAL CONSTRUCTION SHOULD NOT HESITATE SUGGEST ANY ALTERNATE. ALL ALTERNATE REQUESTS MUST BE SUBMIT TO THE GENERAL CONTRACTOR OR CONSTRUCTION MANAGER FOR THEIR ACCEPTANCE. THE CONTRACTOR SHALL SUBMIT THESE REQUESTS FOR ALTERNATES PRIOR TO PREPARING SHOP DRAWINGS TO ELIMINATE THE POSSIBILITY THAT AN LTERNATE IS NOT DEEMED EQUAL. THE BUILDING'S STRUCTURAL ENGINEER OF RECORD HAS SOLE DISCRETION AS TO THE EQUALITY OF ANY PROPOSED ALTERNATE. MISCIG. THE ENGINEERING FOR ALTERNATES (AS DESCRIBED ABOVE) IS THE RESPONSIBILITY OF

THE CONTRACTOR AND SHALL BE SUBJECT TO THE REQUIREMENTS OF CONSTRUCTION PHASE ENGINEERING. IT SHALL NOT BE ASSUMED THAT THE ENGINEER OF RECORD WILL PERFORM THE ENGINEERING FOR ANY ALTERNATE, WHETHER DEEMED POTENTIALLY EQUAL OR OTHERWISE, UNLESS THE ENGINEER OF RECORD INDICATES, IN WRITING, THAT THE ALTERNATE DOES NOT REQUIRE ADDITIONAL ENGINEERING TO PROVE EQUALITY. THE CONTRACTOR SHALL, UPON REQUEST, RETAIN THE SERVICES OF A LICENSED STRUCTURAL ENGINEER, REGISTERED WITH THE STATE OF MICHIGAN, TO ENGINEER SUCH ALTERNATE(S). THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DELAY ASSOCIATED WITH THEIR REQUESTED ALTERNATE.

MISCIT. ANY WORK THAT IS NOT PLACED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS IS SUBJECT TO REPAIR. THE ENGINEERING FOR ANY WORK PERFORMED THAT IS DEEMED UNACCEPTABLE IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE SUBJECT TO THE REQUIREMENTS OF CONSTRUCTION PHASE ENGINEERING. IT SHALL NOT BE ASSUMED THAT THE ENGINEER OF RECORD WILL PERFORM THE ENGINEERING FOR ANY WORK THAT IS NOT PLACED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL, UPON REQUEST, RETAIN THE SERVICES OF A LICENSED STRUCTURAL ENGINEER, REGISTERED WITH THE STATE OF DELAY ASSOCIATED WITH THE REPAIR(S) TO THEIR WORK.

MISCIS. WHEN CONTRACT ALTERNATES ARE INCORPORATED INTO THE WORK, THE CONTRACTOR'S AND THEIR LICENSED ENGINEER SHALL AGREE TO DEFEND, INDEMNIFY, AND HOLD THE OWNER, CONSTRUCTION MANAGER, ARCHITECT, AND STRUCTURAL ENGINEER OF RECORD HARMLESS FROM ALL CLAIMS, INJURIES, DAMAGES, LOSSES, EXPENSES, AND ATTORNEY'S FEES ARISING OUT OF THE USE OF ANY ALTERNATE TO THE CONSTRUCTION DOCUMENTS.

MISCI9. DIMENSIONS THAT DEPEND UPON SPECIFIC EQUIPMENT PURCHASED, SUCH AS WINDOW, DOOR, AND ELEVATOR OPENINGS AND MECHANICAL EQUIPMENT, TO NAME A FEW, MUST BE COORDINATED BETWEEN SUB CONTRACTORS PRIOR TO SUBMITTING OR PREPARING SHOP DRAWINGS. REQUESTS ON SHOP DRAWINGS TO PROVIDE SUCH DIMENSIONS SHALL BE RESPONDED TO ON THE SHOP DRAWINGS BY THE GENERAL CONTRACTOR PRIOR TO SUBMITTING TO THE ARCHITECT FOR REVIEW. FAILURE TO RESPOND TO SUCH INQUIRY MAY RESULT IN THE RETURN OF A SET OF SHOP DRAWINGS, TO THE GENERAL CONTRACTOR, WITHOUT REVIEW. WHEREVER POSSIBLE, THE GENERAL CONTRACTOR SHOULD COORDINATE THESE ITEMS, AS EARLY AS POSSIBLE, THROUGH THE DISTRIBUTION OF CERTIFIED MANUFACTURER'S SHOP DRAWINGS.

MISC20. EVERY EFFORT HAS BEEN MADE TO PROVIDE THE CONTRACTOR WITH NECESSARY DIMENSIONS ON THE CONTRACT DOCUMENTS. WHERE A DIMENSION IS NOT PROVIDED, THE CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST FOR CLARIFICATION OF DIMENSION(6) THAT HAS (HAVE)NOT BEEN PROVIDED AND OBTAIN A WRITTEN RESPONSE PRIOR TO SUBMITTING THEIR

MISC21. THESE CONTRACT DOCUMENTS DEFINE THE REQUIREMENTS FOR THIS WORK AS WELL AS DESIGN RESPONSIBILITIES FOR PORTIONS OF WORK WHETHER THEY ARE "PERFORMANCE SPECIFIED" OR NOT. THESE CONTRACT DOCUMENTS, AND THE BUILDING CODE AS WELL, MAY REFER TO STANDARDS AND/OR GUIDELINES. TYPICALLY, THESE STANDARDS ARE PREPARED BY MANUFACTURING AND/OR MARKETING ASSOCIATIONS, REFERENCE TO THESE STANDARDS AND GUIDELINES ARE FOR QUALITY OF WORK AND FOR GENERAL PHYSICAL DESIGN CRITERIA. USE OF THESE STANDARDS AND GUIDELINES SHALL NOT INCLUDE ANY CRITERIA WITH REGARD TO DESIGN RESPONSIBILITIES, OR DESIGN LOADS, IF INCLUDED THEREIN. ANY DESIGN RESPONSIBILITIES AND/OR DESIGN LOAD RECOMMENDATIONS FOUND WITHIN SUCH GUIDELINES IS SUBJECT TO WRITTEN VERIFICATION (CLEAR AND UNAMBIGUOUS ACCEPTANCE) FROM THE INTERNATIONAL CODE COUNCIL AND/OR THE MINIMUM DESIGN LOADS ON BUILDINGS AND OTHER STRUCTURES STANDARDS COMMITTEE OF THE CODES AND STANDARDS DIVISION OF THE STRUCTURAL ENGINEERING INSTITUTE.

CODE SUMMARY VERNING BUILDING CODE:

MICHIGAN BUILDING CODE 2015 INCORPORATING THE 2015 EDITION OF THE INTERNATIONAL

2. ROOF WOOD TRUSS DESIGN LOADS:

2.1 TOP CHORD: DL = 10 PSF, LL = 20 PSF 2.2 BOTTOM CHORD: DL = 10 PSF, LL = 10 PSF (NOT SIMULTANEOUS WITH TOP CHORD LIVE LOAD) 2.3 TOTAL LOAD DEFLECTION SHALL NOT EXCEED SPAN/360

2.4 ROOF TRUSSES PARALLEL TO AND OVER SHEAR WALLS SHALL BE DESIGNED TO

HORIZONTALLY TRANSFER THE LATERAL LOADS TO THE SHEAR WALL BELOW

3.1. GROUND SNOW LOAD, Pg = 25 PSF 3.2. FLAT-ROOF SNOW LOAD, PF=17.5 PSF 3.3. SNOW EXPOSURE FACTOR, Ce = 1.0 3.4. SNOW LOAD THERMAL FACTOR, Ct = 1.2

3.6. ROOF SLOPE FACTOR, Cs = 1.0

3.5. SNOW LOAD IMPORTANCE FACTOR, Is = 1.0

4. DESIGN WIND LOAD FOR STRUCTURAL FRAME (ALL WIND FORCES ARE ULTIMATE LOADS, AS SPECIFIED WITHIN THE MICHIGAN BUILDING CODE. FOR EXAMPLE, WIND LOADS CARRY A 0.6 LOAD FACTOR IN ASD LOAD COMBINATIONS.)

4.1. BASIC WIND SPEED: Valt = 115 MPH, Vasd = 90 MPH

4.2. IMPORTANCE FACTOR: Iw = 1.0 BUILDING CATEGORY: I

4.3. EXPOSURE: B 4.4 INTERNAL PRESSURE COEFFICIENT: +/- Ø.18 4.5. VELOCITY PRESSURE, Qz = 34.0 PSF

4.6. MAIN WIND-FORCE-RESISTING SYSTEM PRESSURE (WINDWARD PLUS LEEWARD) H = HEIGHT: UP TO 20' 20 PSF

4.7. MAIN WIND-FORCE-RESISTING SYSTEM PRESSURE (ROOF) -22.20 PSF 5. DESIGN WIND LOAD FOR EXTERIOR COMPONENTS AND CLADDING

PLEASE NOTE THAT THE WIND LOADS PROVIDED ARE UN-FACTORED LOADS CALCULATED FROM THE MICHIGAN BUILDING CODE AND ASCE 7. FOR EXAMPLE, WIND LOADS CARRY A 0.6 LOAD

FACTOR IN ASD LOAD COMBINATIONS.

5.1. TYPICAL EXTERIOR WALL SURFACE: +20.3/-22.1 PSF 5.2. EXTERIOR WALL SURFACE AT CORNERS, WITHIN TEN FEET OF EACH CORNER OF THE BUILDING: 5.3. PARAPET: +74.2/-49.9 PSF

5.3. TYPICAL ROOF SURFACE: +8.5/-22.6 PSF. 5.4. ROOF SURFACE WITHIN TEN FEET OF THE EDGE OF THE ROOF (NOT AT CORNERS): +9.4/ -3Ø.1 5.5. ROOF SURFACE AT CORNERS (INTERSECTION OF TEN FOOT PERIMETER AREAS): +9.4/ -41.3

6. DESIGN SEISMIC LOAD

6.1 SEISMIC IMPORTANCE FACTOR: le= 1.0

SEISMIC USE GROUP: I 6.2 MAPPED SPECTRAL RESPONSE ACCELERATIONS: So = 0.0954 SI = 0.0441

6.4 SITE COEFFICIENTS, Fa = 1.6, Fv = 2.4 MAX. CONSIDERED SPECTRAL RESPONSE ACCELERATIONS, Sms = 0.153, Sml = 0.101 SPECTRAL RESPONSE COEFFICIENTS: Sds = Ø.102, Sd1 = Ø.012 6.5 SEISMIC DESIGN CATEGORY: B

6.6 BASIC SEISMIC-FORCE-RESISTING SYSTEM: LIGHT-FRAME (WOOD) WALLS SHEATHED WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR RESISTANCE, R=6.5, Cd=4.00 6.7 SEISMIC RESPONSE COEFFICIENT (Cs): Cs = 0.0157 6.8 DESIGN BASE SHEAR: 4,320 POUNDS 6.9 ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE METHOD

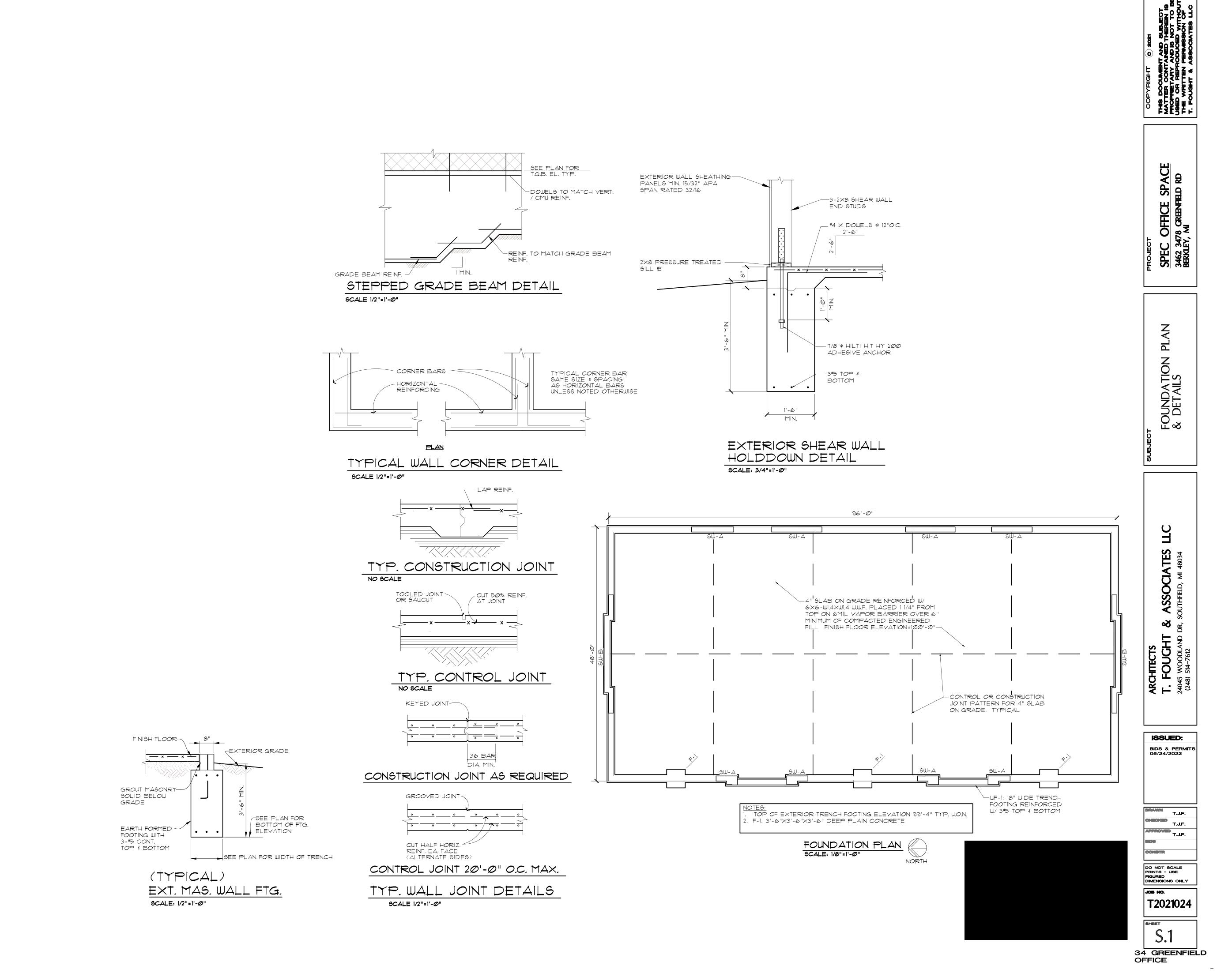
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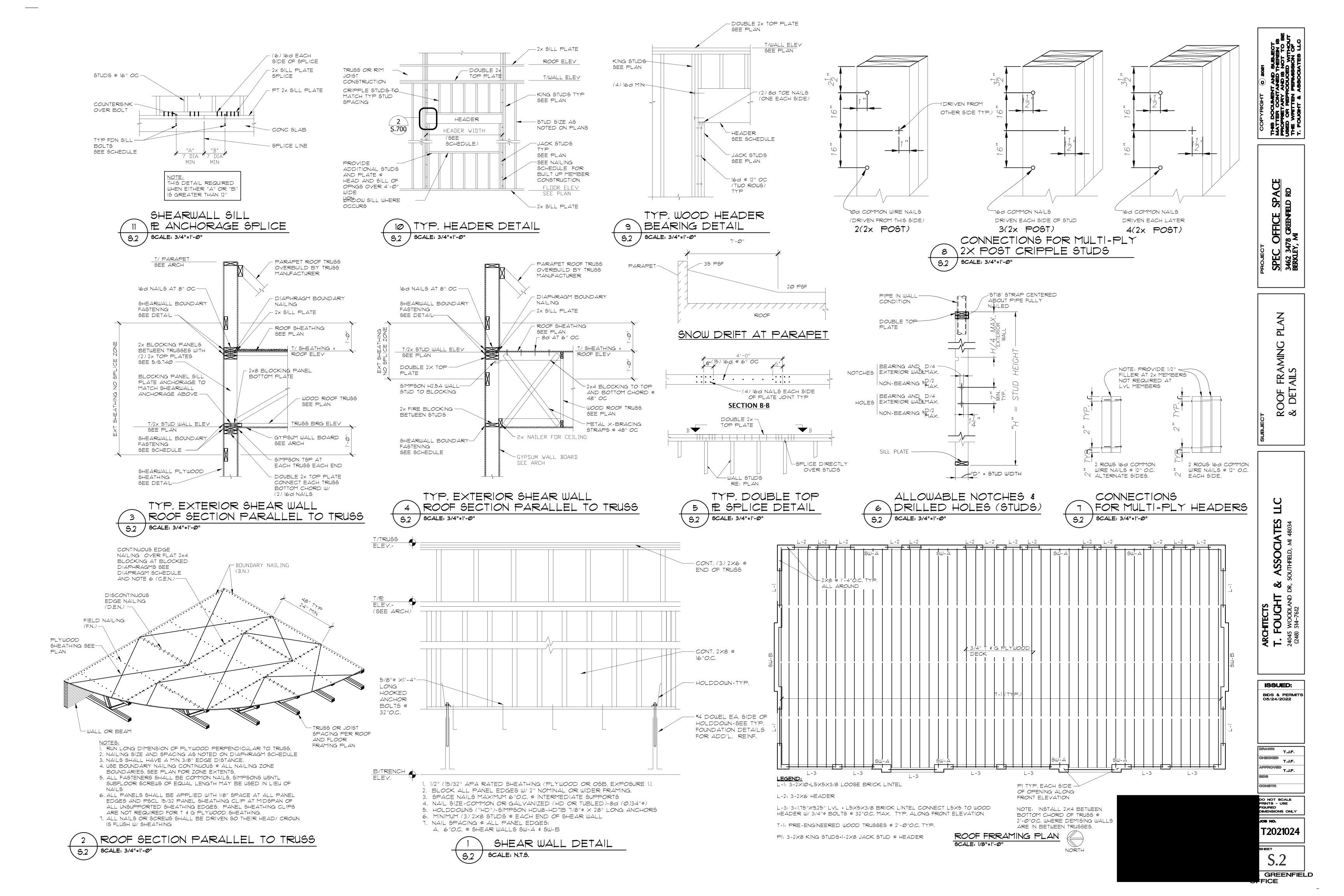
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GENERAL MECHANICAL NOTES:

- 1. COORDINATE THE INSTALLATION OF THE MECHANICAL SYSTEMS WITH OTHER TRADES TO ENSURE A NEAT AND ORDERLY INSULATION. INSTALL DUCTWORK AND PIPING AS TIGHT TO STRUCTURE AS POSSIBLE. COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS. COORDINATE INSTALLATION OF DUCTWORK AND PIPING TO AVOID CONFLICTS WITH ELECTRICAL PANELS, LIGHTING FIXTURES, ETC. ANY MODIFICATIONS REQUIRED DUE TO LACK OF COORDINATION WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO EXTRA COST TO THE OWNER.
- 2. ALL NEW MECHANICAL EQUIPMENT SHOWN ON THE MECHANICAL PLANS SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR UNLESS OTHERWISE NOTED.
- 3. NEW MECHANICAL EQUIPMENTS, DUCTWORK, AND PIPING ARE SHOWN AT APPROXIMATE LOCATIONS. FIELD MEASURE FINAL DUCTWORK AND PIPING LOCATIONS PRIOR TO FABRICATION AND MAKE ADJUSTMENTS AS REQUIRED TO FIT THE DUCTWORK AND PIPING WITHIN THE AVAILABLE SPACE. VERIFY THAT FINAL EQUIPMENT LOCATIONS MEET MANUFACTURER'S RECOMMENDATIONS REGARDING SERVICE CLEARANCE AND PROPER AIRFLOW CLEARANCE AROUND EQUIPMENT.
- 4. REFER TO ARCHITECTURAL DRAWINGS FOR RELATED CONSTRUCTION DETAILS AS APPLICABLE TO THE HVAC SYSTEM. VERIFY CHASES AND PENETRATIONS SHOWN ON ARCHITECTURAL DRAWINGS THAT ARE INTENDED FOR DUCTWORK AND PIPING MEET REQUIREMENTS.
- 5. INSTALL DUCTWORK AND PIPING PARALLEL TO BUILDING COLUMN LINES UNLESS OTHERWISE SHOWN OR NOTED.
- 6. OVERHEAD HANGERS AND SUPPORTERS FOR EQUIPMENT, DUCTWORK, AND PIPING SHALL BE FASTENED TO BUILDING JOISTS OR BEAMS. DO NOT ATTACH HANGERS AND SUPPORTS TO THE ABOVE FLOOR SLAB OR ROOF EXCEPT WHERE CONCRETE INSERTS IN CONCRETE SLABS ARE ALLOWED BY THE SPECIFICATIONS.
- 7. COORDINATE LOCATION OF EQUIPMENT SUPPORTERS WITH LOCATION OF EQUIPMENT ACCESS PANELS/DOORS TO ENABLE SERVICE OF EQUIPMENT AND/OR FILTER REPLACEMENT.
- 8. SEAL PENETRATIONS THROUGH THE BUILDING COMPONENTS IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. FIREPROOF PENETRATIONS THROUGH FIRE RATED COMPONENTS IN ACCORDANCE WITH U.L. REQUIREMENTS.
- 9. COORDINATE THE EXACT MOUNTING SIZE AND FRAME TYPE OF DIFFUSERS, REGISTERS, AND GRILLES WITH THE SUPPLIER TO MEET THE CEILING, WALL, AND DUCT INSTALLATION REQUIREMENTS.
- 10. ADJUST LOCATION OF CEILING DIFFUSERS, REGISTERS, AND GRILLES AS REQUIRED TO ACCOMMODATE FINAL CEILING GRID AND LIGHTING LOCATIONS.
- 11. LOCATE AND SET THERMOSTATS AT LOCATIONS SHOWN ON PLANS. VERIFY EXACT LOCATIONS WITH ARCHITECTS PRIOR TO INSTALLATION. INSTALL DEVICES WITH TOP OF DEVICE AT MAXIMUM 48" AFF TO MEET ADA REQUIREMENTS UNLESS NOTED OTHERWISE ON PLANS. MECHANICAL CONTROLS CONTRACTOR SHALL INSTALL WIRING IN CONDUIT PROVIDED BY DIVISION 16. AT A MINIMUM, PROVIDE CONDUIT IN THE WALL FROM THE JUNCTION BOX TO 6" ABOVE THE CEILING.

	MECHANICAL SHEET INDEX
SHEET No.	DESCRIPTION
M.O	MECHANICAL LEGENDS, SYMBOLS, & SHEET INDEX.
M.1.0	OVERALL SANITARY & VENT PLUMBING FLOOR PLAN.
M.1.1	OVERALL DOMESTIC WATER & GAS PIPING FLOOR PLAN
M.2	OVERALL HVAC FLOOR PLAN.
M.4.0	MECHANICAL SCHEDULES.
M.4.1	MECHANICAL DETAILS.
M.5	MECHANICAL SPECIFICATIONS

NOT ALL SYMBOLS AND ABBREVIATIONS ARE APPLICABLE TO THIS PROJECT

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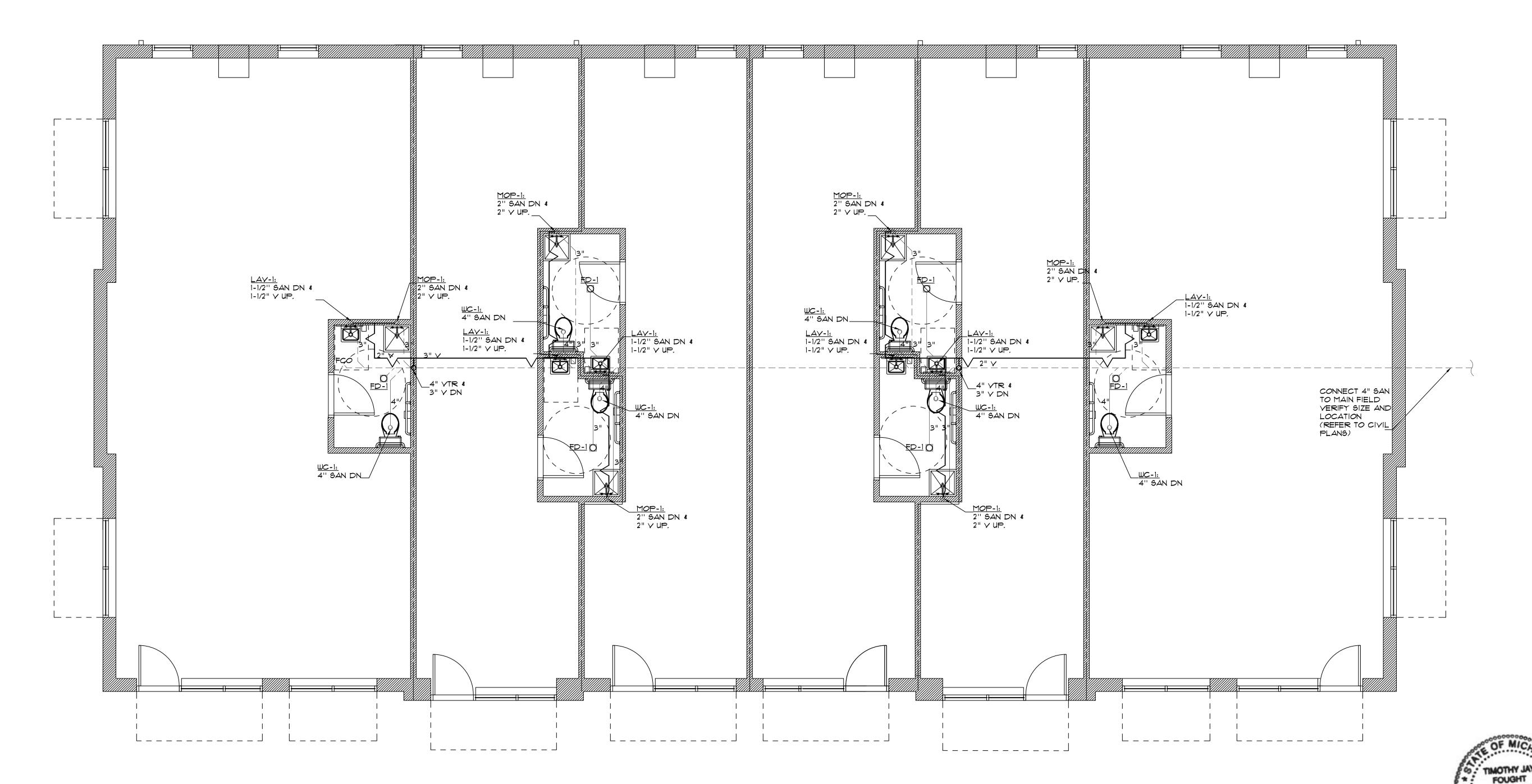
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- 1. DRAWINGS ARE DIAGRAMMATIC ONLY AND REPRESENT THE GENERAL SCOPE OF THE WORK, PRIOR TO SUBMITTING BID, VISIT THE JOB SITE TO OBSERVE THE EXISTING CONDITIONS OF THE PROJECT. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND PLANS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS, NOTIFY ARCHITECT OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
- 2. PROVIDE A CONSTRUCTION RECORD SET OF "AS-BUILT"
 DOCUMENTS TO THE ARCHITECT REFLECTING ANY VARIANCES OF
 INSTALLED PIPING LOCATIONS OR EQUIPMENT CONTRARY TO THE
 CONSTRUCTION DOCUMENTS, REFER TO SPECIFICATIONS.
- 3. PROVIDE TO THE ARCHITECT A COPY OF INSPECTION REPORTS AND APPROVAL CERTIFICATES FROM LOCAL AND STATE INSPECTIONS, REFER TO SPECIFICATIONS.
- 4. INSTALLATION SHALL COMPLY WITH LEGALLY CONSTITUTED CODES AND THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.
- 5. PLANS AND SPECIFICATIONS GOVERN WHERE THEY EXCEED CODE REQUIREMENTS.6. VERIFY LOCATION AND DEPTH OF UTILITIES AT POINTS OF
- CONNECTION BEFORE START OF PIPING INSTALLATION.
- REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF PLUMBING FIXTURES.

- 8. DO NOT SCALE FLOOR PLANS FOR EXACT HORIZONTAL LOCATION OF PIPE ROUTING.
- 9. INSTALL CONCEALED PIPING TIGHT TO THE STRUCTURE AND AS HIGH AS POSSIBLE, INSTALL EXPOSED PIPING TIGHT TO THE STRUCTURE, WALL OR CEILING AND AS HIGH AS POSSIBLE. COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS.
- 10. PIPING IN FINISHED AREAS SHALL BE ROUTED CONCEALED ± EXPOSED PIPING, WHERE NECESSARY, SHALL BE ROUTED AS HIGH AS POSSIBLE AND TIGHT TO WALLS.
- 11. COORDINATE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
- 12. COORDINATE PIPE ROUTING AWAY FROM ELECTRICAL PANELS.
 DO NOT INSTALL PIPING OVER ELECTRICAL PANELS.
- 13. COORDINATE ALL ROOF PENETRATIONS WITH OTHER TRADES, MAINTAIN 25' MINIMUM CLEARANCE FROM ALL AIR INTAKES, MAINTAIN 2' CLEARANCE FROM ALL OTHER EQUIPMENT.
- 14. INSULATE LAST 25 LINEAL FEET OF NEW AND EXISTING VENT PIPING INSIDE BUILDING PER SPECIFICATIONS AT VENT THRU ROOF PENETRATIONS WITHIN SCOPE.
- 15. RUN SANITARY LINE WITH 1/8" SLOPE.



OVERALL SANITARY & VENT PLUMBING FLOOR PLAN SCALE: 1/4"=1'-0"



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3462 3478 GRENFIED RD
REKLIEY MI

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T.J.F.
CHECKED T.J.F.
APPROVED T.J.F.

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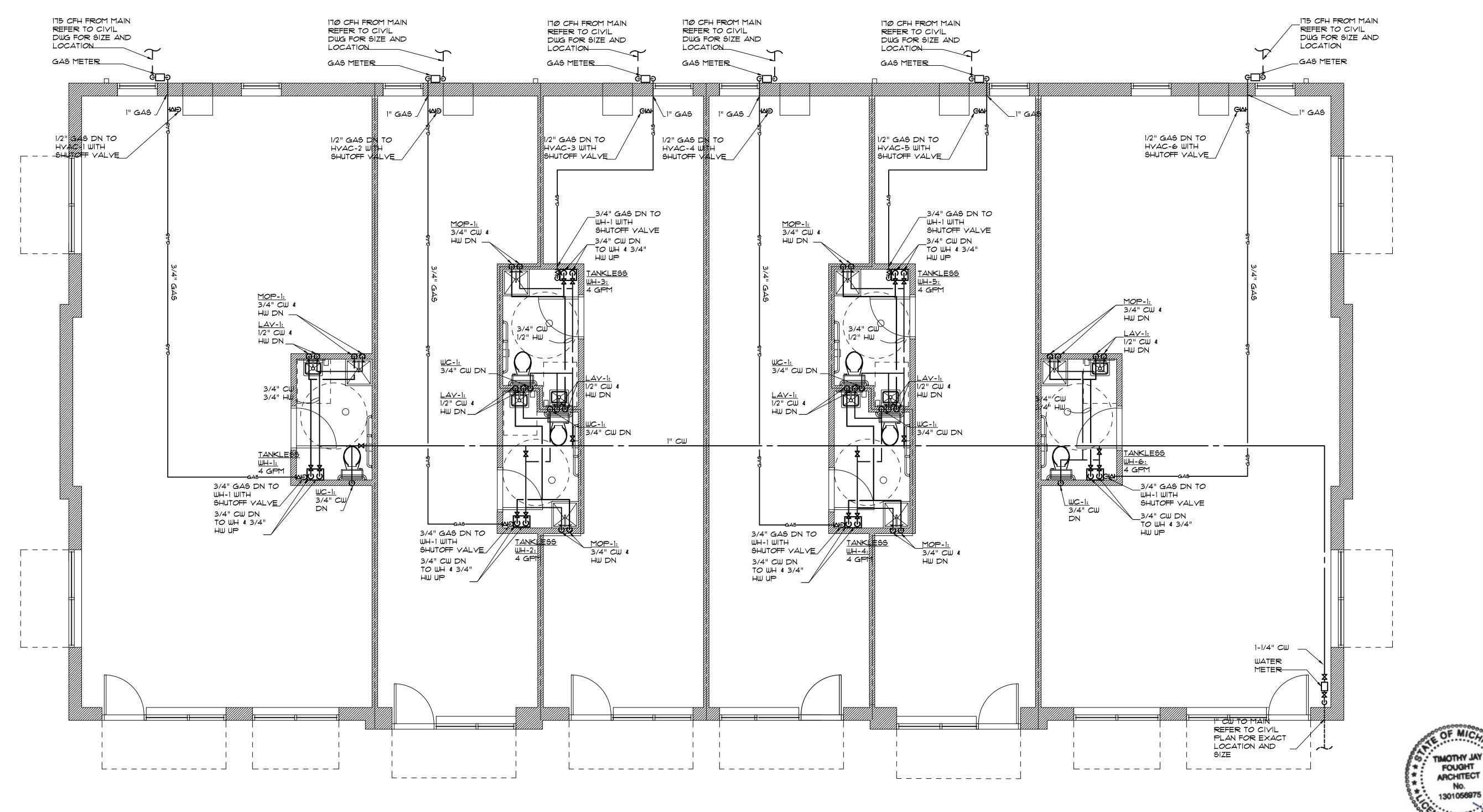
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- 4. INSTALLATION SHALL COMPLY WITH LEGALLY CONSTITUTED CODES AND THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.
- 5. PLANS AND SPECIFICATIONS GOVERN WHERE THEY EXCEED CODE REQUIREMENTS.
- 6. DO NOT SCALE FLOOR PLANS FOR EXACT HORIZONTAL LOCATION OF PIPE ROUTING.
- PROVIDE TRANSITION ADAPTER COUPLINGS FOR CONNECTION OF PVC DWV TO CAST IRON SANITARY, WASTE AND VENT PIPE AT SLAB ON GRADE.

- 8. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF PLUMBING FIXTURES.
- 9. INSTALL CONCEALED PIPING TIGHT TO THE STRUCTURE AND AS HIGH AS POSSIBLE. INSTALL EXPOSED PIPING TIGHT TO THE STRUCTURE, WALL OR CEILING AND AS HIGH AS POSSIBLE. COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS.
- 10. PROVIDE SHUT OFF VALVE AT EACH FIXTURE AND EQUIPMENT. VALVES SHALL BE LINE SIZE UNLESS OTHERWISE NOTED.
- 11. PIPING IN FINISHED AREA SHALL BE ROUTED CONCEALED ± EXPOSED PIPING, WHERE NECESSARY, SHALL BE ROUTED AS HIGH AS POSSIBLE AND TIGHT TO WALLS.
- 12. COORDINATE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
- 13. CLEAN FAUCET AERATORS AND PIPE STRAINERS PRIOR TO TURNING BUILDING OVER TO THE OWNER.
- 14. COORDINATE PIPE ROUTING AWAY FROM ELECTRICAL PANELS.

 DO NOT
- INSTALL PIPING OVER ELECTRICAL PANELS.
- 15. COORDINATE ALL ROOF PENETRATIONS WITH OTHER TRADES.
 MAINTAIN 25' MINIMUM CLEARANCE FROM ALL AIR INTAKES.
 MAINTAIN 2' CLEARANCE FROM ALL OTHER EQUIPMENT.
- 16. WATER HAMMER ARRESTORS SHALL BE SIZE "A" UNLESS NOTED OTHERWISE.



OVERALL DOMESTIC WATER & GAS PIPING FLOOR PLAN SCALE: 1/4"=1'-0"



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APPROVED
T.J.F.

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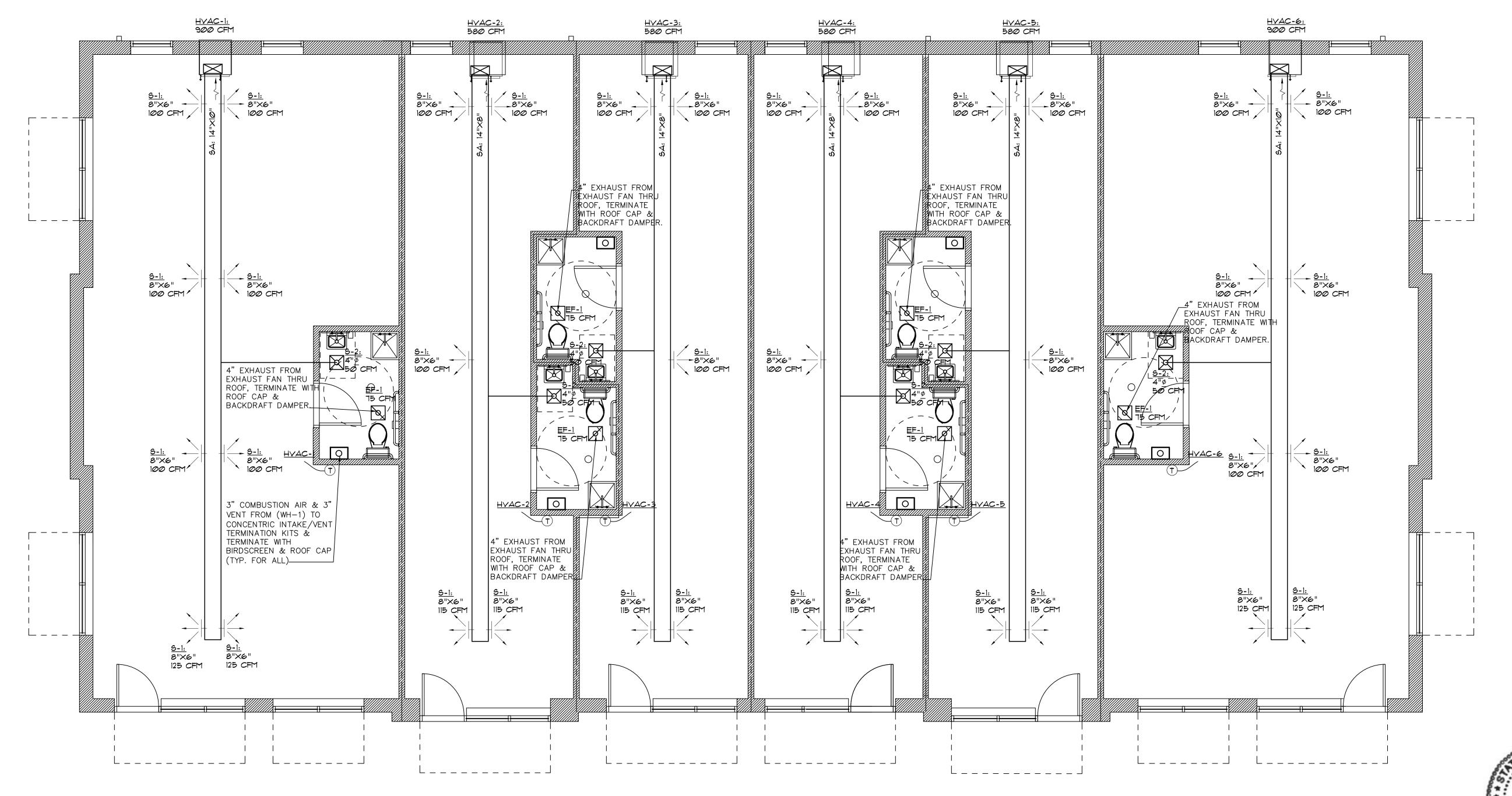
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- 2. ALL NEW MECHANICAL EQUIPMENT SHOWN ON THE MECHANICAL PLANS SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR UNLESS OTHERWISE NOTED.
- 3. REFER TO ARCHITECTURAL DRAWINGS FOR RELATED CONSTRUCTION DETAILS AS APPLICABLE TO THE HYAC SYSTEM. VERIFY CHASES AND PENETRATIONS SHOWN ON ARCHITECTURAL DRAWINGS THAT ARE INTENDED FOR DUCTWORK AND PIPING MEET REQUIREMENTS.
- 4. OVERHEAD HANGERS AND SUPPORTERS FOR EQUIPMENT, DUCTWORK, AND PIPING SHALL BE FASTENED TO BUILDING JOISTS OR BEAMS. DO NOT ATTACH HANGERS AND SUPPORTS TO THE ABOVE FLOOR SLAB OR ROOF EXCEPT WHERE CONCRETE INSERTS IN CONCRETE SLABS ARE ALLOWED BY THE SPECIFICATIONS.
- 5. SEAL PENETRATIONS THROUGH THE BUILDING COMPONENTS IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. FIREPROOF PENETRATIONS THROUGH FIRE RATED COMPONENTS IN ACCORDANCE WITH U.L. REQUIREMENTS.

- 6. COORDINATE THE EXACT MOUNTING SIZE AND FRAME TYPE OF DIFFUSERS, REGISTERS, AND GRILLES WITH THE SUPPLIER TO MEET THE CEILING, WALL, AND DUCT INSTALLATION REQUIREMENTS.
- ADJUST LOCATION OF CEILING DIFFUSERS, REGISTERS, AND GRILLES AS REQUIRED TO ACCOMMODATE FINAL CEILING GRID AND LIGHTING LOCATIONS.
- 8. PROVIDE A PREFABRICATED RECTANGULAR/ROUND BRANCH DUCT TAKEOFF FITTING WITH MANUAL BALANCING DAMPER AND LOCKING QUADRANT FOR BRANCH DUCT CONNECTIONS AND TAKE-OFFS TO INDIVIDUAL DIFFUSERS, REGISTERS AND GRILLES.
- 9. BRANCH DUCTWORK TO AIR OUTLETS SHALL BE SAME SIZE AS OUTLET NECK SIZE UNLESS OTHERWISE NOTED.
- 10. REFER TO SPECIFICATIONS FOR DUCTWORK AND PIPING INSULATION REQUIREMENTS. DUCT SIZES ON MECHANICAL PLANS INDICATE CLEAR INSIDE AIRFLOW DIMENSIONS.
- 11. FLEXIBLE DUCTWORK SHALL NOT EXCEED 5'-0" IN LENGTH AND SHALL BE INSTALLED AND SUPPORTED TO AVOID SHARP BENDS AND SAGGING. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- 12. IN EXPOSED AREA (NO CEILING). PROVIDE PREFABRICATED SPIRAL ROUND DUCT OF SIZES AS SHOWN ON DWG UNLESS OTHERWISE NOTED.
- 13. COORDINATE LOCATION OF EQUIPMENT SUPPORTERS WITH LOCATION OF EQUIPMENT ACCESS PANELS/DOORS TO ENABLE SERVICE OF EQUIPMENT AND/OR FILTER REPLACEMENT.
- 14. PROVIDE 1/2" UNDERCUT DOORS FOR ALL THE INTERIOR RESTROOMS TO ALLOW MAKE UP AIR THRU THE ROOMS.



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



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SUBJECT
OVERALL HVAC FLOO
PLAN

DRAWN T.J.F.

CHECKED T.J.F.

APPROVED T.J.F.

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				UNIT	ARY HVAC	UNIT:	SCHE	DULE					
TAG	MANUFACTURER & MODEL NO.	AREA SERVED	HEATING	CAPACITY	COOLING CAP. 80DEG, DB/67DEG, WB	SUPPLY FAN	MIN. OA.		ELECTRICAL		WEIGHT	SEER	NOTES & ACC.
70000		Control Section Control	INPUT	OUTPUT	TOTAL MBH	(CFM)	(CFM)	VOLTS/PH/HZ	MCA	MOCP	(LB)	117.07.10	11011001100
HVAC-1 &6	MAGIC PAK/HWC9N5512P30B	SEE PLAN	55	51.5	27.4	900	135	208-1-60	21.3	30	339.0	12.0	A, B, C, D, E, F, G
HVAC-2,3,4&5	MAGIC PAK /HWC8N4812P18A	SEE PLAN	48	38	17.4	580	80	208-1-60	12.4	15	313.0	12.0	A, B, C, D, E, F, G
NOTES:	W C		9.		70	8 48		99 30		10	12 13		100
Α	FIRESTAT ON UNITS BELOW 200	0 CFM					F	CONDENSATE	DRAIN TUBI	NG THRU LOU	VER		
В	DIGITAL, PROGRAMMABLE REM	OTE THERMOSTA	T.			1	G	DISCONNECT S	WITCH				
С	MOUNT ON PLATFORM (PROVID	DED BY OTHERS)				1		0 3					
D	THROWAY FILTER					7.							
E	WALL SLEEVE KIT IF REQUIRED C	HECK WITH MAN	JFACTURER:	s									

ITEM FIXTURE ITEM			MANUFACTURER &	ACCESSORIES	PIPE C	ONNECTIO	ONS SIZES (INCH)
TIEN	FIXTURE	TTEIVI	MODEL NUMBER	ACCESSORIES	WASTE	VENT	COLD W.	HOT W
WC-1	WATER CLOSET	FLOOR MOUNTED TANK TYPE WATER CLOSET	MANSFIELD WATER CLOSET "SUMMIT" MODEL: 382-387	MANSFIELD, TANK TYPE TOILET 1.28 GPF, BEMIS 1655-SSC SEAT	4"	2	1/2"	-
LAV-1	LAVATORY	PUBLIC WALL MOUNT LAVATORY	AMERICAN STANDARD WALL HUNG LAVATORY "DECLYN"	FAUCET: AMERICAN STANDARD TWO HANDLE CENERESET FAUCET "COLONY SOFT" MODEL 2275.509 AERATOR: AMERICAN STANDARD V05 DRAIN: MCGUIRE #155A SUPPLY: MCGUIRE #H170BV-LR 1/4 TURN P-TRAP: MCGUIRE #8872C-17T 1-1/2" CHROME PLATED BRASS.	1-1/2"	1-1/2"	1/2"	1/2"
MOP-1	MOP SINK	MOP SINK	MOP SINK MUSTEE 63M SERVICE BASIN ONE PIECE	OVERSIZED MOP SINK: 24"x24"x10" INCLUDES 1 HEAVY DUTY SERVICE FAUCET: #63.600A THREE SPRING LOADED HANDED HOLDERS.	3"	2"	1/2"	1/2"
MX-1	MIXING VALVE	THERMOSTATIC MIXING VALVE.	WATTS USG-B	ASSE 1070 THERMOSTATIC MIXING VALVE	-	-	1/2"	1/2"

APPROVED PLUMBING HARDWARE MANUFACTURERS: AMERICAN STANDARD, DELTA, KOHLER, CHICAGO, SLOAN, ZURN, TOTO.

(FIXTURES TO BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE "BARRIER FREE DESIGN REQUIREMENTS OF THE MICHIGAN CONSTRUCTION CODE".

	TANKLESS WATER HEATER SCHEDULE											
TAG	BASIS OF DESIGN	MODEL	SERVICE	LOCATION	MAXGPM	INPUT BTU/HR	GPM @ 90 DEG. F. RISE	GAS CON.	COMBUSTION INLET AND VENT SIZE	NOTES & ACC.		
WH-1	AO SMITH	ATI-140H-N	SEE PLAN	SEE PLAN	6.6	120,000	3	1/2"	3"	A, B, D, E, F, G		
NOTES	5:	9.5	3	(i)		SX	100		į.			
Α	P & T RELIEF TO FD											
В	WALL MOUNTED											
С	NOT USED											
D	CONCENTRIC VENT KIT	T THRU ROOF										
E	NATURAL GAS											
F	120V DISCONNECT SW	/ITCH										
G	EXPANSION TANK											
н	NOT USED											

			E)	KHAUS	T FAI	N SCH	HEDL	JLE			
SNO.	TAG	BASIS OF DESIGN	MODEL	SERVICE	LOCATION	CAPACITY (CFM)	ESP "WC	RPM	ELECTRICAL VOLT/PH/HZ	WATTS / AMPS	NOTES /ACCESSORIES
1	EF-1	GREENHECK	SP-A90	RESTROOM	CEILING	75	0.25	870	120/1/60	20 W	A,C,D,E
NOT	E:					5.435		indistriction	Alfahin shinas s		
A	PROV	DE FACTORY MOUN	TED DISCONI	NECT SWITCH V	WITH THER	MAL OVER	OAD PRO	TECTIO	ON		
В	CONT	RACTOR TO FURNIS	H COMBINAT	ION STARTOR	/ DISCONN	ECT SWITC	Н				
С	VERIF	Y MODEL NUMBER	WITH MANU	FACTURER EQU	IPMENT SU	JBMITTAL	100				
D	INTER	LOCK FAN OPERATI	ON WITH LIG	HT SWITCH							
-	CD 411	ITY BACKDRAFT DA	MADED								

G	RILL	E, RI	EGIS	TER & DI	FFUS	ER SC	HEDULE
TAG	BASIS OF DESIGN	MODEL	SERVICE	MOUNTING	OVERALL SIZE	NECK SIZE	
S-1	TITUS	301 RL	SUPPLY	DUCT MOUNTED	SEE PLAN	SEE PLAN	A,B,C
5-2	TITUS	OMNI	SUPPLY	CEILING	12"x12"	SEE PLAN	A,C
NOTE	:						
Α	WHITE FIN	IISH					
В	22.5 DEGR	EE DEFLE	CTION				
С	OPPOSED	BLADE D	AMPER				

GAS LOADS										
S.#	ITEM	QTY	GAS LOAD (CFH)	TOTAL GAS						
CAS METER 1	HVAC-1	1	55	175						
GAS METER 1	WH-1	1	120	175						
GAS METER 2	HVAC-2	1	48	160						
	WH-2	1	120	168						
CAS METER 2	HVAC-3	1	48	100						
GAS METER 3	WH-3	1	120	168						
CAS METER A	HVAC-4	1	48	450						
GAS METER 4	WH-4	1	120	168						
CACAGETER	HVAC-5	1	48	100						
GAS METER 5	WH-5	1	120	168						
CAS METER S	HVAC-6	1	55	175						
GAS METER 6	WH-6	1	120	175						

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MECHANICAL SCHEDULES

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(248) 514-7612

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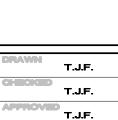
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FOUGHT
ARCHITECT
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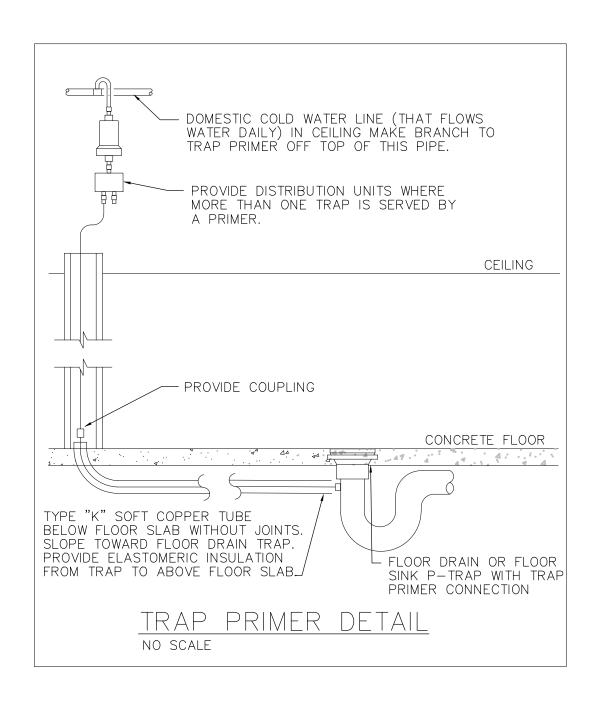


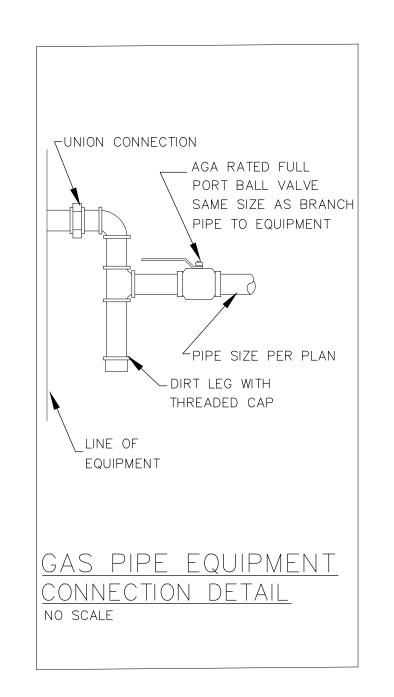
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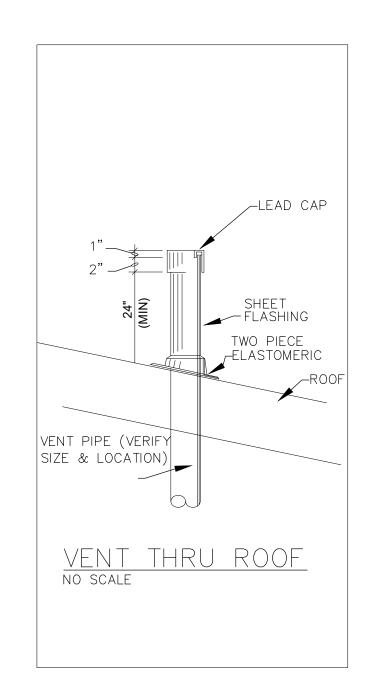
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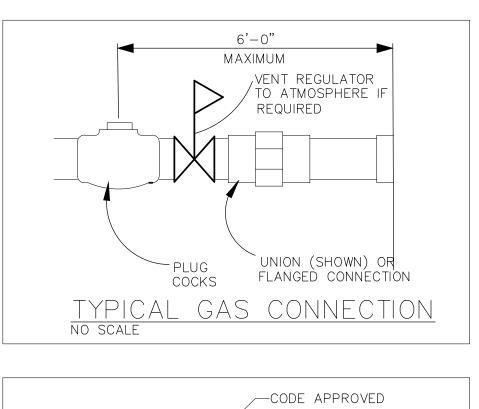
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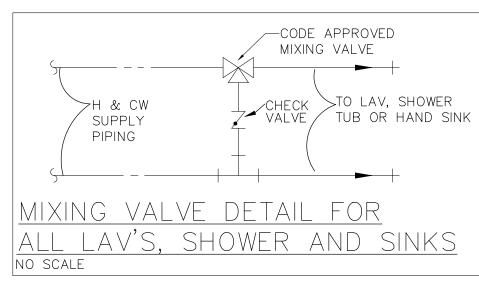
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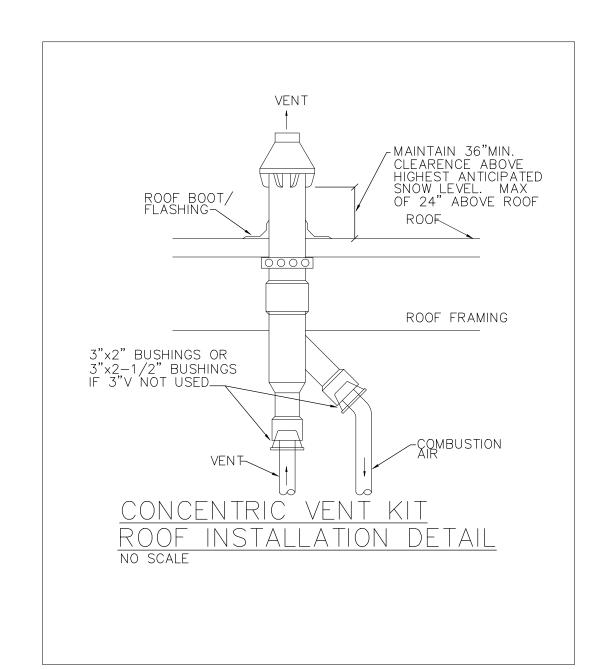


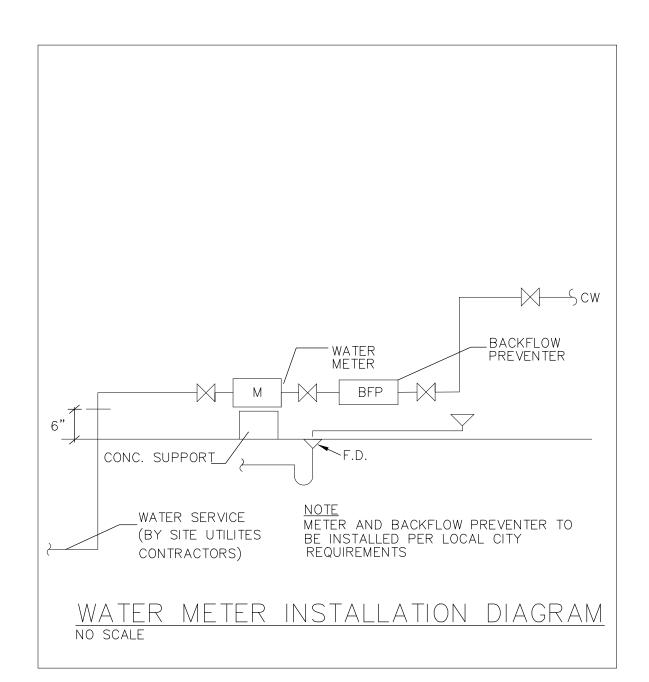


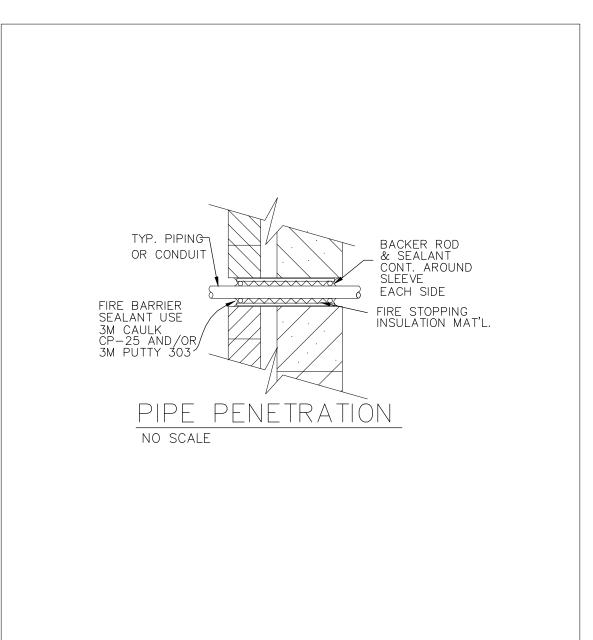


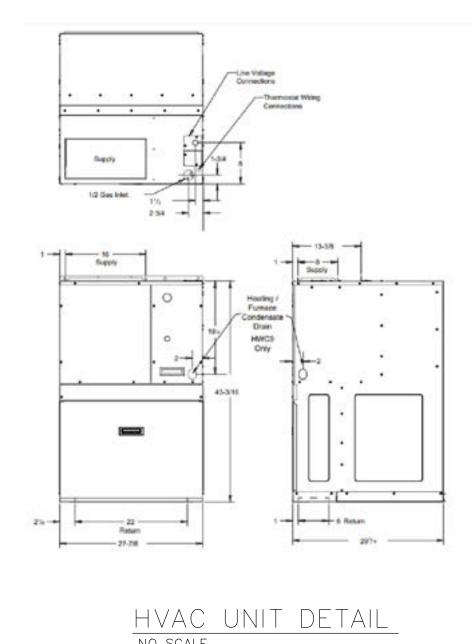




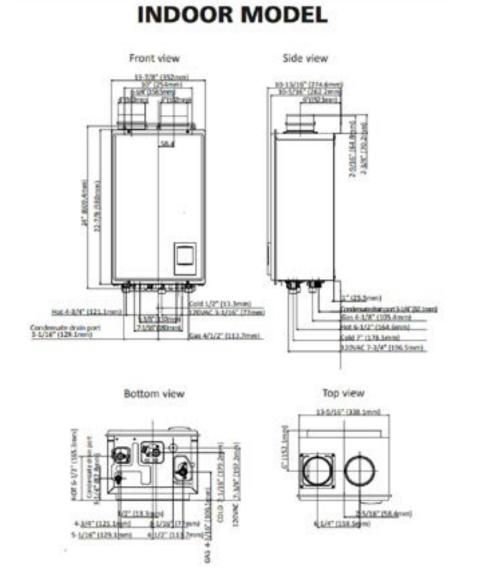












TANKLESS WATER HEATER DETAIL NO SCALE



THE WORK SHALL BE DONE IN ACCORDANCE WITH BEST PRACTICE SO AS TO CONTRIBUTE TO EFFICIENCY OF OPERATION AND MINIMUM MAINTENANCE AND SHALL BE INSTALLED WITH PROPER ACCESSIBILITY. THE MATERIALS AND EQUIPMENT, INCLUDING ALL NECESSARY ACCESSORIES, SHALL BE PUT INTO PROPER ADJUSTMENT SO THAT THE COMPONENT PARTS FUNCTION TOGETHER AS A WORKABLE SYSTEM . THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL EQUIPMENT, MATERIALS AND OPERATIONS AS INDICATED EITHER ON THE DRAWINGS OR CONTAINED HEREIN OR AS MAY BE REASONABLY IMPLIED BY EITHER TO ACCOMPLISH THE COMPLETE INSTALATION.

PROVIDE ALL MATERIALS, EQUIPMENT, LABOR AND INCIDENTIALS NECESSARY FOR COMPLETE AND OPERABLE MECHANICAL SYSTEMS. PROVIDE ALL NECESSARY TESTS AND PAY FOR ALL FEES, PERMITS, INSPECTIONS, ETC. AS REQUIRED BY LOCAL AUTHORITIES. SECURE PERMITS, INSPECTIONS AND BONDS. PERFORM ALL TESTS REQUIRED.

UPON COMPLETION OF HE WORK, OBTAIN AND SEND CERTIFICATES OF INSPECTION AND APPROVALTO THE ARCHITECT/OWNER, PAY ALL FEES AND EXPENSES FOR PERMITS, LICENSES, TESTS AND INSPECTIONS.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR THAT HIS WORK IS INSTALLED IN THE MOST DIRECT AND WORKMANLIKE MANNER AND THAT INTERFERENCE IS AVOIDED.

THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND INDICATIVE OF THE EQUIPMENT AND SYSTEMS TO BE INSTALLED AND THE SCALE OF THE DRAWINGS IT IS POSSIBLE TO INDICATE THE EXACT LOCATION AND ROUTING OF MECHANICAL WORK, UNLESS REFERENCE DIMENSIONS ARE SPECIFICALLY INDICATED ON DRAWINGS. DEVIATIONS FROM CONTRACT DRAWING LAYOUT IN ORDER TO AVOID INTERFERENCES WITH OTHER TRADES, OR OTHER MECHANICAL WORK SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT, WITH NO INCREASE IN CONTRACT PRICE. ALL COSTS FOR REMOVAL AND RELOCATION OF MECHANICAL WORK RESULTING FROM FAILURE TO COORDINATE WITH OTHER TRADES SHALL BE PAID BY THE MECHANICAL SUBCONTRACTOR

INSTALLATION SHALL CONFORM TO ALL LOCAL UTILITY COMPANIES, BEFORE SUBMITTING HIS BID, THE CONTRACTOR SHALL CHECK WITH EACH UTILITY (WATER, SEWER, ETC.) AND SHALL DETERMINE FROM THEM ALL EQUIPMENT AND CHARGES WICH THEY WILL REQUIRE. INCLUDE COST OF SAME IN THE BID.

ALL EQUIPMENT IS TO BE U.L. LISTED AND LABELED.

EACH TRADE SHALL BE RESPONSIBLE FOR IT'S OWN CLEAN-UP. COORDINATE WITH THE ARCHITECTURAL TRADES (A.T.). UNLESS OTHERWISE NOTED, ALL CUTTING SHALL BE PROVIDED BY THE M.T. AND PATCHING BY THE A.T. ROOF PENETRATIONS ARE TO BE PERFORMED BY THE OWNE'S (LANDLORD'S) ROOFER AND PAID FOR BY THE M.T. COORDINATE ALL OPENINGS WITH THE A.T.

FURNISH ELECTRIC MOTORS AND CONTROL DEVICES IN CONNECTION WITH THE VARIOUS PIECES OF MOTOR-DRIVEN EQUIPMENT SPECIFIEDIN MECHANICAL WORK SECTIONS AS SPECIFIED HEREIN. ALL MOTORS SHALL BE OF THE "PREMIUM" HIGH EFFICIENCY TYPE. AIR SYSTEMS BALANCING IS REQUIRED. REFER TO THE HVAC SPECIFICATIONS.

FURNISH THE OWNER WITH TWO COPIES OF OPERATION/MAINTENANCE MANUALS FOR ALL EQUIPMENT AND PROVIDE FULL OPERATION INSTRUCTIONS TO THE OWNERS PERSONNEL. GUARANTEE: THE M.T. SHALL REPAIR OR REPLACE ANY PART OF THE MECHANICAL SYSTEMS INSTALLATION WHICH MAY FAIL WITHIN A PERIOD OF ONE YEAR AFTER FINAL ACCEPTANCE.

PIPING SYSTEM-COMMON REQUIREMENTS: A. INSTALL PIPING ACCORDING TO THE FOLLOWING REQUIREMENTS SPECIFYING PIPING SYSTEMS.

- B. DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF PIPING SYSTEMS. INDICATED LOCATIONS AND ARRANGEMENTS WERE USE TO SIZE PIPE AND CALCULATE FRICTION LOSS, EXPANSION, PUMP SIZING, AND OTHER DESIGN CONSIDERATIONS. INSTALL PIPING AS INDICATED UNLESS DEVIATIONS TO LAYOUT ARE APPROVED ON COORDINATION DRAWINGS.
- C. INSTALL PIPE PARALLEL WITH LINES OF BUILDING.
- D. ALLOW FOR EXPANSION AND CONTRACTION OF PIPING.
- E. PROVIDE UNIONS, VALVES, HANGERS, SUPPORTS AND OTHER APPURTENANCES AS REQUIRED FOR COMPLETE INSTALLATION.
- F. PROVIDE ACCESS TO ALL VALVES, CONTROL DEVICES, DAMPERS AND REHEAT BOX CONTROL
- G. PROVIDE VIBRATION ISOLATORS AT ALL MECHANICAL EQUIPMENT ITEMS PRODUCING VIBRATIONS.
- H. PROVIDE ALL STEEL NECESSARY FOR MECHANICAL EQUIPMENT SUSPENSION AND FRAMED OPENINGS. COMPLY WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) REQUIREMENTS
- I. PROVIDE INDEPENDENT ISOLATION VALVES AT EVERY BRANCH. MULTIFUNCTIONAL VALVES ARE
- J. INSTALL PIPING IN CONCEALED LOCATIONS, UNLESS OTHERWISE INDICATED AND EXCEPT IN EQUIPMENT ROOMS AND SERVICE AREAS.
- K. INSTALL PIPING INDICATED TO BE EXPOSED AND PIPING IN EQUIPMENT ROOMS AND SERVICE AREAS AT RIGHT ANGLES OR PARALLEL TO BUILDING WALLS. DIAGONAL RUNS ARE PROHIBITED UNLESS SPECIFICALLY INDICATED OTHERWISE.
- L. INSTALL PIPING ABOVE ACCESSIBLE CEILINGS TO ALLOW SUFFICIENT SPACE FOR CEILING PANEL
- M. INSTALL PIPING TO PERMIT VALVE SERVICING. N INSTALL PIPING AT INDICATED SLOPES
- O. INSTALL PIPING FREE OF SAGS AND BENDS.
- P. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS. T-DRILL SYSTEM
- FOR MECHANICALLY FORMED TEE CONNECTIONS AND COUPLINGS, AND VICTAULIC HOLE CUT
-). INSTALL PIPING TO ALLOW APPLICATION OF INSULATION.
- R. PIPING SHALL NOT PROJECT BEYOND WALLS OR STEEL LINES NOR SHALL IT HANG BELOW SLABS MORE THAN IS ABSOLUTELY NECESSARY. PARTICULAR ATTENTION SHALL BE PAID TO THE REQUIRED CLEARANCES. S. OFFSET PIPING WHERE REQUIRED TO AVOID INTERFERENCE WITH OTHER WORK, TO PROVIDE
- GREATER HEADROOM OR CLEARANCE, OR TO CONCEAL PIPE MORE READILY. OFFSETS SHALL BE PROPERLY DRAINED OR TRAPPED WHERE NECESSARY T. PROVIDE SWING JOINTS AND EXPANSION BENDS WHEREVER REQUIRED TO ALLOW THE PIPING
- TO EXPAND WITHOUT UNDUE STRESS TO CONNECTIONS OR EQUIPMENT. U. ISOLATE PIPE FROM THE BUILDING CONSTRUCTION TO PREVENT TRANSMISSION OF VIBRATION
- TO THE STRUCTURE AND TO ELIMINATE NOISE. V. EXPOSED PIPING AROUND FIXTURES OR IN OTHER CONSPICUOUS PLACES SHALL NOT SHOW TOOL MARKS AT FITTINGS.
- W. DO NOT ROUTE PIPING THROUGH TRANSFORMER VAULTS OR ABOVE TRANSFORMERS PANELBOARDS, OR SWITCHBOARDS, INCLUDING THE REQUIRED SERVICE SPACE FOR THIS EQUIPMENT, UNLESS THE PIPING IS SERVING THIS EQUIPMENT. X. SELECT SYSTEM COMPONENTS WITH PRESSURE RATING EQUAL TO OR GREATER THAN SYSTEM
- OPERATING PRESSURE. Y. ECCENTRIC REDUCING COUPLINGS SHALL BE PROVIDED IN ALL CASES WHERE AIR OR WATER POCKETS WOULD OTHERWISE OCCUR DUE TO A REDUCTION IN PIPE SIZE. ECCENTRIC
- COUPLINGS SHALL MAKE THE PIPE FLUSH ON THE TOP FOR WATER LINES. Z. INSTALL ESCUTCHEONS FOR PENETRATIONS OF WALLS, CEILINGS, AND FLOORS ACCORDING TO THE FOLLOWING: 1. NEW PIPING:
- b. CHROME-PLATED PIPING: ONE-PIECE, CAST-BRASS TYPE WITH POLISHED CHROME-PLATED
- c. BARE PIPING AT WALL AND FLOOR PENETRATIONS IN FINISHED SPACES: ONE-PIECE,

a. PIPING WITH FITTING OR SLEEVE PROTRUDING FROM WALL: ONE—PIECE, DEEP—PATTERN

- CAST-BRASS TYPE WITH POLISHED CHROME-PLATED FINISH. d. BARE PIPING AT CEILING PENETRATIONS IN FINISHED SPACES: ONE-PIECE, CAST-BRASS
- TYPE WITH POLISHED CHROME-PLATED FINISH.
- e. BARE PIPING IN UNFINISHED SERVICE SPACES: ONE-PIECE, CAST-BRASS TYPE WITH ROUGH-BRASS FINISH.
- f. BARE PIPING IN EQUIPMENT ROOMS: ONE-PIECE, CAST-BRASS TYPE. AA. ALL PIPES EXTENDING THROUGH THE ROOF SHALL BE FLASHED WITH SIX POUND LEAD FLASHING EXTENDING 6 INCHES BEYOND THE PIPE, WELDED TO A LEAD SLEEVE EXTENDED UP

AROUND THE VENT PIPES, AND ROLLED OVER INTO THE PIPE

- AB. INSTALL SLEEVES FOR PIPES PASSING THROUGH CONCRETE AND MASONRY WALLS AND CONCRETE FLOOR AND ROOF SLABS.
- 1. SLEEVES PLACED IN FLOORS SHALL BE FLUSH WITH THE CEILING AND SHALL HAVE PLANED, SQUARE ENDS, EXTENDING 2 INCHES ABOVE THE FINISHED FLOOR, UNLESS
- OTHERWISE SPECIFIED OR DETAILED. 2. WHERE SLEEVES PASS THROUGH REINFORCED CONCRETE FLOORS, THEY SHALL BE PROPERLY SET IN POSITION BEFORE THE CONCRETE IS POURED, AND SHALL BE
- MAINTAINED IN POSITION BY THE CONTRACTOR UNTIL THE CONCRETE IS SET. 3. PIPES PASSING THROUGH ABOVE GRADE FLOOR SLABS AND MASONRY WALLS SHALL HAVE THE SPACE BETWEEN THE PIPE OR INSULATION AND THE SLEEVE PACKED WITH
- NON-ASBESTOS WICKING OR OTHER SUITABLE, APPROVED, NON-COMBUSTIBLE MATERIAL. 4. PIPES PASSING THROUGH WALLS OF MECHANICAL EQUIPMENT ROOMS SHALL BE MADE GAS-TIGHT BY CAULKING THE SPACE BETWEEN THE PIPE AND SLEEVE WITH A FIBER SATURATED WITH AN APPROVED TYPE OF PLASTIC MATERIAL.
- AC. FIRE-BARRIER PENETRATIONS: MAINTAIN INDICATED FIRE RATING OF WALLS. PARTITIONS. CEILINGS, AND FLOORS AT PIPE PENETRATIONS. SEAL PIPE PENETRATIONS WITH FIRESTOP MATERIALS. REFER TO DIVISION 07 SECTION "PENETRATION FIRESTOPPING" FOR MATERIALS. AD. VERIFY FINAL EQUIPMENT LOCATIONS FOR ROUGHING-IN.
- AE. REFER TO EQUIPMENT SPECIFICATIONS IN OTHER SECTIONS OF THESE SPECIFICATIONS FOR ROUGHING-IN REQUIREMENTS.
- AF. ALL NEW DOMESTIC WATER PIPING AND EQUIPMENT SHALL BE DISINFECTED WITH CHLORINE FOR 24 HOURS, AND TER SAMPLE SHALL BE TAKEN NO SOONER THAN 24 HOURS AFTER FLUSHING, FROM VARIOUS OUTLETS, AND FROM THE MAIN WATER ENTRY AS A BASELINE.

- THE WORK INCLUDED IN THE CONTRACT SHALL CONSIST OF FURNISHING, INSTALLING, LASTING AND GUARANTEEING OF THE FOLLOWING WORK:
- 2.POWER VENTILATOR. 3. DOMESTIC TANKLESS WATER HEATER.
- 4. PIPING / PLUMBING. 5. DUCTWORK AND HVAC ACCESSORIES,
- 6. TEST, ADJUSTMENT AND ACCEPTANCE.
- 1. <u>Magic-Pak unit:</u>

SUBMITTALS

- PART 1: GENERAL
- 1.1 SECTION INCLUDES
- 1.2 RELATED SECTIONS
- A. SECTION 15050 COMMON WORK RESULTS FOR HVAC.
- B. SECTION 16050 COMMON WORK RESULTS FOR ELECTRICAL.

A. GAS HEATING/ ELECTRIC COOLING PACKAGED UNITS. (HWC)

- A. ANSI/AHRI 210/240: PERFORMANCE RATING OF UNITARY AIR-CONDITIONING & AIR-SOURCE AND HEAT PUMP EQUIPMENT.
- A. SUBMIT UNDER PROVISIONS OF SECTION 01300 ADMINISTRATIVE REQUIREMENTS.
- B. PRODUCT DATA: MANUFACTURER'S DATA SHEETS ON EACH PRODUCT TO BE USED, INCLUDING:
- PREPARATION INSTRUCTIONS AND RECOMMENDATIONS. STORAGE AND HANDLING REQUIREMENTS AND RECOMMENDATIONS
- INSTALLATION METHODS C. SHOP DRAWINGS AND WIRING SCHEMATICS: PROVIDE DETAILED PHYSICAL LAYOUT AND WIRING
- GAS HEATING/ ELECTRIC COOLING ALL-IN-ONE UNITS A. HWC V-SERIES MODEL UNITS: GAS HEATING / ELECTRIC SINGLE-PACKAGE AIR CONDITIONERS (SPAC)
 - a. CERTIFIED ANSI/AHRI 210/240: PERFORMANCE RATING OF UNITARY AIR-CONDITIONING &
 - AIR-SOURCE AND HEAT PUMP EQUIPMENT.

AS MANUFACTURED BY ALLIED AIR ENTERPRISÉS LLC, A LENNOX INTERNATIONAL INC. COMPANY.

- b. COMPLETELY SELF-CONTAINED HEATING AND COOLING PACKAGE.
- 1) NO OUTSIDE CONDENSING UNIT.
- 2) NO EXTERNAL REFRIGERANT LINES. 3) NO SEPARATE COOLING COIL. 4) NO SEPARATE VENTING SYSTEM.
- 5) NO ADDITIONAL DRAIN PAN REQUIRED c. PRE-WIRED AND PRE-CHARGED.
- d. DRAIN PAN IS INFUSED WITH ANTIMICROBIAL PROTECTION. e. INDIVIDUALLY METERED AND CONTROLLED
- f. SLIDE-OUT COOLING SECTION.
- g. INTERNAL VENT SYSTEM (DIRECT VENT). 2. REFRIGERANT SYSTEM:
- a. R410-A REFRIGERANT
- b. RIFLED COPPER TUBING WITH LANCED FIN COILS. HEAT EXCHANGER:
- c. STANDARD STAINLESS-STEEL HEAT EXCHANGER.
- a. ATTRACTIVE NEUTRAL—TONED FINISH.
- b. WALL SLEEVE AS SCHEDULED OR INDICATED. c. OPTIONAL DECORATIVE EXTRUDED ALUMINUM LOUVER AS SCHEDULED OR INDICATED.
- a. MULTISPEED MOTOR FOR WIDE AIRFLOW RANGE
- b. ELECTRICALLY COMMUTATED MOTOR (ECM) FOR MAXIMUM EFFICIENCY.
- c. DYNAMICALLY BALANCED BLOWER WITH RESILIENT MOTOR MOUNTS FOR SMOOTH AND QUIET OPERATION.
- d. INTERNAL WASHABLE FILTER. e. UPGRADE MERV 8 FILTER.
- CONTROLS a. COLOR CODED WIRING FOR EASY SERVICE.
- 8. INSTALLATION:
- a. EASY TO INSTALL AND SERVICE. b. EXTERNAL UTILITY CONNECTIONS FOR GAS AND HIGH AND LOW VOLTAGE LINES.
- a. 5 YEAR LIMITED WARRANTY ON ALL PARTS.
- b. 20 YEAR WARRANTY ON STAINLESS STEEL HEAT EXCHANGER
- PART 3 EXECUTION
- A. DO NOT BEGIN INSTALLATION UNTIL WALL OPENINGS AND ROUGH—IN HAVE BEEN PROPERLY PREPARED.
- B. IF PREPARATION IS THE RESPONSIBILITY OF ANOTHER INSTALLER, NOTIFY ARCHITECT OF UNSATISFACTORY PREPARATION BEFORE PROCEEDING
- A. PREPARE CONDITIONS USING THE METHODS RECOMMENDED BY THE MANUFACTURER FOR ACHIEVING THE BEST RESULT FOR THE OPERATION UNDER THE PROJECT CONDITIONS.
- A. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. TEST FOR PROPER OPERATION AND ADJUST AS REQUIRED UNTIL SATISFACTORY RESULTS ARE OBTAINED.
- 3.4 PROTECTION A. PROTECT INSTALLED PRODUCTS UNTIL COMPLETION OF PROJECT.
- B. TOUCH-UP, REPAIR OR REPLACE DAMAGED PRODUCTS BEFORE SUBSTANTIAL COMPLETION.

END OF SECTION

2. POWER VENTILATORS:

- FURNISH AND INSTALL CEILING EXHAUST FAN THAT IS FACTORY FABRICATED AND ASSEMBLED WITH CAPACITY AS SCHEDULED.
 - a. PROVIDE HANGING VIBRATION ISOLATORS AND NECESSARY ACCESSORIES. COORDINATE LOCATION AND DIMENSIONS, PROVIDE WALL LOUVER WHERE APPLICABLE
 - b. PROVIDE THE FOLLOWING ACCESSORIES: DISCONNECT SWITCH, BIRD SCREEN AND BACK DRAFT, FACTORY SET TO CLOSE WHEN FAN STOPS
 - c. FANS SHALL COMPLY WITH "UL" 705 "POWER VENTILATORS" AND SHALL BE LISTED AND LABLED. MOTOR AND ELECTRICAL ACCESSORIES SHALL COMPLY WITH NEMA STANDARDS AND "NFPA 10" NATIONAL ELECTRICAL CODE.
- 3. DOMESTIC TANKLESS WATER HEATERS:
- FURNISH AND INSTALL GAS TANKLESS WATER HEATER THAT IS FACTORY TESTED AND A. UNIT SHALL BE "UL" LISTED AND LABELED AND COMPLY WITH THE LATEST "PRESSURE
- VESSEL CODES". B. UNITS SHALL BE PLUMBED AND WIRED PER MANUFACTURERS WRITTEN INSTRUCTIONS. C. APPROVED MANUFACTURERS: AO SMITH, BRADFORD WHITE & LOCHINYAR

d. ACCEPTABLE MANUFACTURERS: COOK, GREENHECK AND ACME.

4. PLUMBING SPECIFICATIONS:

INSTRUCTIONS.

SEWERS ARE TO BE PITCHED DOWN IN DIRECTION OF FLOW AT 1/8" PER FOOT UNLESS OTHERWISE NOTED. PITCH VENT PIPING UP, WATER PIPING SHALL BE PITCHED TO FACILITATE DRAINAGE.

PROVIDE MINIMUM 10 PIPE DIAMETERS DISTANCE BETWEEN FIXTURE CONNECTIONS TO HORIZONTAL UNDERGROUND WASTE OR SOIL STACKS. MINIMUM 3" SIZE FOR ALL UNDERGROUND SEWERS. NATURAL GAS PIPING: STD WEIGHT BLACK STEEL, FABRICATED AND INSTALLED IN ACCORDANCE WITH "NFPA 54" AND "ASTM A55" PROVIDE SCREWED GALVANIZED MALLEABLE IRON FITTING IN ACCORDANCE WITH ANSI BIG5 CLASS 150. CONNECT GAS

PIPING WITH DRIPLEG AND SHUT OFF GAS VALVE, COMPLY WITH MANUFACTURERS

NEW PLUMBING SERVICES ARE TO CONNECT TO EXISTING STUBS OR MAINS, FIELD VERIFY EXACT SIZE AND LOCATIONS. ALL PIPING SHALL BE CONCEALED UNLESS NOTED OR APPROVED BY THE ARCHITECT. EXPOSED PIPING SERVING PLUMBING FIXTURES SHALL BE CHROME PLATED. PROVIDE CLEANOUTS AT THE BASE OF ALL WASTE STACKS AND RAIN CONDUCTORS,

CHANGES IN DIRECTION GREATER THAN 45 DEGREES AND 50 FEET ON CENTER ON STRAIGHT RUNS. PROVIDE BRANCH LINE SHUT-OFF VALVES ON DOMESTIC WATER PIPING TO EACH GROUP OF PLUMBING FIXTURES OR EQUIPMENT. PROVIDE CHROME PLATED RIGID SUPPLIES WITH LOOSE KEY STOPS AT EACH FIXTURE.

ALL HOSE END FITTINGS ARE TO BE FURNISHED WITH WATTS 84 VACUUM BREAKERS OTHER BACKFLOW PREVENTION INCLUDES WATTS 9BD AT VENDING MACHINES, ICE MAKERS, ETC., AS INDICATED ON THE DRAWINGS AND/OR AS REQUIRED BY THE LOCAL ALL VALVES ARE TO BE TYPES AS RECOMMENDED BY THE MANUFACTURER FOR THE

INTENDED SERVICE AND SHALL BE PROPERLY RATED FOR PRESSURE AND TO PREVENT ELECTROLYTIC CORROSION, PROVIDE INSULATED COUPLINGS WHERE DISSIMILAR METALS ARE JOINED. COUPLINGS SHALL BE EQUAL TO LOCHINVAR "V-LINE" WITH AN INERT, NON-CONDUCTIVE, LINED-IMPREGNATED LAMINATE MATERIAL AND

THREADED TO NPS STANDARDS. COUPLINGS SHALL BE SUITABLE FOR HYDROSTATIC PRESSURE UP TO 300 PSI AND 225 DEGREE F. TEMPERATURE. PROVIDE WATER HAMMER ARRESTERS (SHOCK ABSORBERS) EQUAL TO ZURN Z-1700 OR SIOUX CHIEF 600 SERIES AT ALL QUICK CLOSING VALVES AND AT ENDS OF PIPING MAINS SERVING PLUMBING FIXTURES. ARRESTER CASING AND BELLOWS SHALL BE OF TYPE 304 STAINLESS STEEL CONSTRUCTION OR COPPER TUBE STYLE WITH LUBRICATED POLYPRO PISTON.

CORRUGATED STAINLESS STEEL TUBING MAY ALSO USED WHERE APPROVED BY LOCAL CODE. CONTRACTOR SHALL SUPPLY COMPLETE SYSTEM DESIGN DRAWING INDICATING LAYOUT, PIPE SIZING, PRESSURE DROP CALCULATIONS AND A COPY OF THE CURRENT MANUFACTURE'S INSTALLATION GUIDE. CORRUGATED STAINLESS STEEL TUBING SHALL BE MANUFACTURED FROM ASTM A240, TYPE 304 STAINLESS STEEL WITH A MINIMUM WALL THICKNESS OF 0.010". THE SYSTEM SHALL COMPLY WITH ANSI LC-1. FITTINGS SHALL BE MANUFACTURED FROM 360 BRASS ASTM B316 WITH INCORPORATE A DOUBLE WALL FLARE FOR GAS TIGHT SEAL. TUBING SHALL HAVE A UV RESISTANT POLYETHYLENE JACKET THAT ALSO MEETS ASTM E84 FOR SMOKE AND FLAME. TUBING SYSTEM SHALL BE INSTALLED PER LOCAL CODE BY A MANUFACTURE CERTIFIED INSTALLER.

PIPE INTERIOR CLEANING: PROVIDE ALL NECESSARY LABOR, MATERIALS AND EQUIPMENT TO FLUSH THE LISTED PIPING SYSTEM WITH CLEAN WATER AT A MINIMUM VELOCITY OF 6 FEET/SECOND UNTIL DIRTY WATER DOES NOT APPEAR AT THE OUTLETS. USE OPEN END BRANCHES, SETTLING BASINS, PUMPS, OR TEMPORARY FILTERS AS SUITABLE FOR THE JOB CONDITIONS AND AS THE REASONABLE DISPOSAL OF FLUSHING WATER PERMITS. THE CONTRACTOR HAS THE OPTION OF HIGH PRESSURE HYDRAULIC JET CLEANING IN LIEU OF FLUSHING, PROTECT ALL VALVES AND DEVICES FROM DAMAGE DURING THE CLEANING OPERATION.

ALL DOMESTIC WATER SYSTEMS SHALL BE PURGED OF DELETERIOUS MATTER AND DISINFECTED PRIOR TO UTILIZATION. THE METHOD TO BE FOLLOWED SHALL BE AS PRESCRIBED BY THE HEALTH AUTHORITY HAVING JURISDICTION, OR IN THE ABSENCE OF A PRESCRIBED METHOD, THE PROCEDURE IN EITHER AWWA C651 OR AWWA C652 OR AS FLUSH OUT SYSTEM FIRST, THEN HOLD A SOLUTION MIXTURE OF 50 PPM OF CHLORINE/ WATER FOR A 24 HOUR PERIOD OR THE SYSTEM SHALL BE FILLED WITH WATER/CHLORINE

STAND FOR AT LEAST 3 HOURS, DRAIN SYSTEMS AND FLUSH WITH CLEAN WATER UNTIL THE CHLORINE IS PURGED FROM THE SYSTEM. CHLORINATION PROCEDURES SHALL CONFORM TO AWWA C651 OR AWWA C652. REPEAT CHLORINATION AS NECESSARY UNTIL NO CONTAMINANTS REMAIN IN THE SYSTEM. PROVIDE PIPE CONTENT AND FLOW DIRECTION IDENTIFICATION LABELS EQUAL TO SETON SETMARK ON ALL PIPE MAINS, ADJACENT TO EACH VALVE, AT EACH FITTING, AT BUILDING ENTRANCE, AT LEAST ONCE IN EACH ROOM AND AT INTERVALS NO LONGER THAN 20 FEET. TEXT TO BE 2" HIGH ON PIPES 4" AND LARGER AND 3/4" HIGH ON PIPES 3" AND

SOLUTION CONTAINING AT LEAST 200 PPM OF CHLORINE AND ALLOWED T REMAIN TO

PROVIDE VALVE TAGS FOR EACH VALVE, TAGS ARE TO BE AT LEAST I" DIAMETER, 1/8" THICK LAMINATED PLASTIC WITH 3/8" HIGH BLACK CHARACTERS ON WHITE FACE OR ENGRAVED BRASS. ATTACH TAGS WITH "S" HOOKS. CONSECUTIVELY NUMBER WITH PREFIX "P". AT COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE REPRODUCIBLE TRANSPARENCY "AS-BUILT" DRAWINGS OF ALL PLUMBING WORK

UNDERGROUND SEWERS AND VENTS SHALL BE STANDARD WEIGHT CAST IRON SOIL PIPE WITH COMPRESSION TYPE FITTINGS OR SCHEDULE 40 PVC. ABOVEGROUND WASTE AND VENT PIPING SHALL BE CAST IRON WITH NO-HUB JOINTS OR SCHEDULE 40 GALVANIZED STEEL, SCHEDULE 40 PVC MAY BE USED ABOVEGROUND WHERE CODE PERMITS. ALL PIPING IN RETURN AIR PLENUMS SHALL BE PLENUM RATED WITH MAXIMUM FLAME SPREAD RATING OF 25 AND SMOKE DEVELOPED RATING OF 50 OR

DOMESTIC WATER PIPING 2-1/2" AND SMALLER SHALL BE TYPE "L" HARD DRAWN COPPER WITH LEAD-FREE SOLDER TYPE FITTINGS AND/OR PEX TUBING MEETING THE REQUIREMENTS OF ASTMF876 AND APPROVED BY LOCAL AUTHORITIES . 3" AND LARGER SHALL BE THE SAME MATERIAL AS THE WATER SERVICE, DUCTILE IRON MEETING ASTM A311 OR OTHER AS APPROVED BY THE LOCAL WATER DEPARTMENT. REFER TO CIVIL ENGINEERING DRAWINGS AND SPECIFICATIONS. ALL UNDERFLOOR PIPING IS TO BE TYPE "K" COPPER WITH NO JOINTS.

NATURAL GAS PIPING: STD WEIGHT BLACK STEEL, FABRICATED AND INSTALLED IN ACCORDANCE WITH "NFPA 54" AND "ASTM A55" PROVIDE SCREWED GALVANIZED MALLEABLE IRON FITTING IN ACCORDANCE WITH ANSI BIG5 CLASS 150. CONNECT GAS PIPING WITH DRIPLEG AND SHUT OFF GAS VALVE, COMPLY WITH MANUFACTURERS INSTRUCTIONS.

WATER, SEWER AND VENT PIPING SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE ON CLEVIS TYPE HANGERS SPACED IN ACCORDANCE WITH ASHRAE GUIDE RECOMMENDATIONS, PIPE SUPPORT SPACING FOR NATURAL GAS PIPING SHALL BE IN ACCORDANCE WITH THE INTERNATIONAL FUEL GAS CODE. THE PLUMBING TRADES SHALL BE RESPONSIBLE FOR THE FIRE-STOPPING OF ALL HOLES ASSOCIATED WITH THE PLUMBING IN FIRE RATED WALLS FLOORS AND ROOF WRAP EACH RISER, PIPE, ETC., WITH NON-COMBUSTIBLE MATERIAL AND FILL ALL FLOOR OPENINGS WITH A MINIMUM OF 5" OF INTUMESCENT FIRE-STOPPING MATERIAL EQUAL TO 3M OR FIBERFRAX "FIRE PUTTY". PIPES REQUIRING INSULATION SHALL BE INSULATED BEFORE PLACING FIRE-STOPPING MATERIAL.

SLEEVE ALL PIPING PASSING THROUGH STRUCTURAL FOUNDATIONS. PLUMBING SPECIALTIES PLUMBING SPECIALTIES SHALL BE JOSAM, J.R. SMITH, WADE, MIFAB, SIOUX CHIEF OR ZURN. CLEANOUTS: THREADED BRASS PLUGS WITH ZURN Z-1460-9 STAINLESS STEEL COVER IN WALLS AND Z-1400-2 NICKEL BRONZE SCORIATED COVER IN FLOORS. FLOOR DRAINS: SEE PLUMBING FIXTURE SCHEDULE.

TRAP SEALS SHALL BE PROVIDED FOR ALL FLOOR DRAINS, FLOOR SINKS AND OTHERS TO PREVENT TRAP EVAPORATION, SEALS SHALL BE EQUAL TO SURESEAL, SIZED TO MATCH THE DRAIN TRAP. TRAP PRIMERS SHALL BE MIFAB, SMITH OR ZURN Z-1022 "SANI-GARD", ALL BRONZE BODY WITH INTERNAL VACUUM BREAKER, ANTI-BACK-SIPHON DESIGN, NON-LIMING OPERATING ASSEMBLY, REPLACEABLE VALVE SEAT, GASKETED BRONZE COVER. CHROME PLATED FINISH. LOCATE TRAP PRIMER VALVES ON THE NEAREST DOMESTIC

CONTRACTOR HAS THE OPTION OF USING TRAP PRIMERS OR TRAP SEAL DEVICES AS

COLD WATER MAIN SERVING THE SPACE AND PIPE TO FLOOR DRAIN TRAP PRIMER PROVIDE HEAT TRAPS IN BOTH HOT AND COLD WATER PIPE RISERS AT WATER HEATERS UNLESS TRAPS ARE INTEGRAL WITH THE HEATERS.

PLUMBING FIXTURES SHALL BE AS MANUFACTURED BY AMERICAN STANDARD, CRANE DELTA, KOHLER, SLOAN OR MANSFIELD COMPLETE WITH ALL STANDARD ACCESSORIES. FIXTURES TO BE WHITE VITREOUS CHINA UNLESS NOTED PLUMBING FIXTURES FOR PHYSICALLY HANDICAPPED USE SHALL BE MOUNTED AND

PIPED PER STATE OF MICHIGAN "BARRIER FREE CODE" (ADA) REQUIREMENTS AND PROVIDED WITH DELTA, LEONARD, POWERS "HYDROGUARD" SERIES 480 (BRASS SCREWED) OR WATTS MMY SWEAT JOINT OR THREADED UNION TEMPERING VALVES TO SUPPLY MAXIMUM 110 DEGREE HOT WATER. PROVIDE ADJUSTMENT CAP WITH LOCKING FEATURE. VALVES SHALL COMPLY WITH ASSE

JOINTS BETWEEN PLUMBING FIXTURES AND WALLS OR COUNTERTOPS SHALL BE FILLED WITH WHITE PLASTIC SEAM COMPOUND EQUAL TO DE WITT "TUB AND TILE CAULK". FAUCETS AND CONTROL VALVES SHALL BE AS MANUFACTURED BY DELTA, SPEAKMAN, SYMMONS, LEONARD, AMERICAN STANDARD, KOHLER, MOEN, GROHE OR CHICAGO FAUCET, CHROME PLATED ALL METAL UNLESS OTHERWISE NOTED. FLUSH VALVES SHALL

BE CHROME PLATED AS MANUFACTURED BY SLOAN, SPEAKMAN, DELTA OR ZURN.

5. <u>DUCTWORK AND ACCESSORIES:</u>

<u>GENERAL</u>

FACILITATE AIR BALANCE.

SUPPLY, RETURN AND EXHAUST AIR DUCTWORK SHALL BE GALVANIZED STEEL, CONSTRUCTED OF PROPER PRESSURE CLASSIFICATION GAUGES AND INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS, MINIMUM 2" PRESSURE RATING FOR LOW

SYSTEMS THAT UTILIZE ROLL-FORMED FLANGES, CORNER PIECES, GASKET AND CLEAT DUCT JOINTS MAY BE INDIVIDUALLY REMOVED. SEAL ALL JOINTS WITH UL 181 B-M LISTED JOINT SEALANT EQUAL TO DUCTMATE PROSEAL, HARDCAST OR AIRSEAL FOR THE APPROPRIATE PRESSURE CLASSIFICATION, TEMPERATURE AND WEATHER-RESISTANCE. ROUND DUCT FITTINGS AND ELBOWS SHALL BE JOINED USING SLIP-JOINT FITTINGS, FITTING SHALL HAVE A STOP BEAD TO LOCATE FITTING INSIDE PIPE. ALL PIPE TO PIPE CONNECTIONS REQUIRE A SLIP COUPLING THAT FITS INSIDE BOTH MATING SECTIONS, SEAL

RECTANGULAR DUCT JOINTS SHALL BE CONNECTED WITH DUCTMATE 25/35/45 JOINT

ALL JOINTS WITH UL 1818-M LISTED JOINT SEALANT EQUAL TO DUCTMATE PROSEAL, HARDCAST OR AIRSEAL FOR THE APPROPRIATE PRESSURE CLASSIFICATION, TEMPERATURE AND WEATHER-RESISTANCE. EXPOSED SPIRAL DUCTWORK SHALL BE DOUBLE WALL INSULATED.

DUCTWORK FITTINGS SHALL BE PER SMACNA RECOMMENDATIONS. RADIUS TURNS ON SUPPLY AIR DUCTS SHALL BE 1-1/2 TIMES DUCT WIDTH MINIMUM. WHERE SPACE OR CLEARANCE REQUIRES THE USE OF MITERED TURNS, PROVIDE HIGH PERFORMANCE DOUBLE THICKNESS TURNING VANES EQUAL TO AERO/DYNE "HEP" AND VOLUME DAMPERS. REFER TO DETAILS ON THE DRAWINGS. PROVIDE FACTORY MANUFACTURED TEST HOLE UNITS IN DUCTWORK WHERE REQUIRED TO

ALL DUCTWORK AND PIPING INSIDE THE BUILDING IS TO BE SUSPENDED FROM THE TOP CORD OF BAR JOIST AT PANEL POINTS ONLY. DO NOT CONNECT TO THE ROOF DECK. DUCTS AND PIPES LOCATED ON THE ROOF ARE TO BE MOUNTED ON PATE PIPE OR EQUIPMENT CURBS. EQUIPMENT CURBS TO BE TYPE ES-I OR ES-5 FOR INSULATED ROOFS. CONTRACTOR HAS THE OPTION TO USE MIRO INDUSTRIES OR PORTABLE PIPE HANGERS, INC. PILLOW BLOCK PIPE STANDS IN LIEU OF THE PATE PIPE CURBS. DUCT SIZES INDICATED ON THE DRAWINGS ARE CLEAR INSIDE DIMENSIONS.

PROVIDE DUCT VOLUME DAMPERS AT EACH BRANCH CONNECTION TO DIFFUSERS AND REGISTERS FOR PROPER AIR SYSTEMS BALANCING. REFER TO DETAILS OF THE DRAWING. PROVIDE GRAVITY BACKDRAFT DAMPERS FOR ALL EXHAUST FANS AND BUILDING PRESSURE RELIEF VENTS (UNLESS OTHERWISE NOTED.) USE COUNTERBALANCE WEIGHTS TO

SET OPERATION PRESSURE ON RELIEF DAMPERS. THE CONTRACTOR HAS THE OPTION OF USING EQUIVALENT SIZE ROUND DUCT (NOT FLEXIBLE DUCT) WHERE SPACE PERMITS.

NO OUTDOOR AIR INTAKES ARE TO BE LOCATED WITHIN 10 FEET OF EXHAUST FAN DISCHARGE OR PLUMBING VENTS, FIELD VERIFY

PROVIDE FLEXIBLE CONNECTORS ON ALL DUCT CONNECTIONS TO AIR HANDLING UNITS MAXIMUM FLAME SPREAD/SMOKE DEVELOPED RATING NOT TO EXCEED 25/50. FLEXIBLE CONNECTORS SHALL BE MINIMUM 8" LONG, MADE OF TWO LAYERS OF 8 OZ. OR ONE LAYER OF 16 OZ. NEOPRENE COATED CLOTH WITH AIRTIGHT SEAMS. FASTEN WITH BOLTED

PAINT ALL DUCTWORK, STRUCTURAL MEMBERS, CONDUIT, ETC., VISIBLE BEHIND GRILLES (ESPECIALLY EGG-CRATE) MATTE BLACK. REFER TO ARCHITECTURAL PAINTING

AT COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE REPRODUCIBLE TRANSPARENCY "AS-BUILT" DRAWINGS OF ALL HVAC WORK. FLEXIBLE AIR DUCT (INSULATED) SHALL BE CLEVAFLEX OR FLEXMASTER TYPE 5, U.L.-181

LISTED, LOW PRESSURE RATED (6") WITH A TRILAMINATE OF ALUMINUM FOIL, FIBERGLASS

AND POLYESTER INNER LINER ON GALVANIZED STEEL HELIX WITH R-5.0 (6.0 X 8.0)

FIBERGLASS INSULATION WITH 25/50 FIRE RETARDANT VAPOR BARRIER JACKET. FLEXIBLE AIR DUCT (NON-INGULATED) SHALL BE CLEVAFLEX OR FLEXMASTER TYPE NI 45, U.L -181 LISTED, LOW AND HIGH PRESSURE RATED WITH 25/50 FIBERGLASS CLOTH FABRIC ON GALVANIZED (ALUMINUM) (STAINLESS) STEEL HELIX. ALL CONNECTIONS ARE TO BE MADE WITH ADJUSTABLE CLAMPS AND TAPED AIR TIGHTFLEXIBLE DUCT SHALL ONLY BE USED WHERE CONCEALED ABOVE CEILINGS.

PROVIDE FIRE DAMPERS EQUAL TO UNITED ENERTECH, PHILLIPS, RUSKIN, AMERICAN WARMING, GREENHECK OR AIR BALANCE 119BL WITH BLADES OUT OF THE AIR STREAM, WHERE SHOWN ON THE DRAWINGS AND/OR WHERE REQUIRED TO MAINTAIN WALL OR FLOOR FIRE RATING. 1-1/2 HOUR, 2 HOUR OR 3 HOUR RATING AS REQUIRED TO MAINTAIN THE FIRE INTEGRITY OF THE WALL OR FLOOR. 165 DEGREE F. LINK, WHERE DAMPERS ARE PROVIDED AT WALL GRILLES OR REGISTERS, GRILLES ARE TO BE THE SAME OVERALL SIZE OF THE DAMPER.

DIFFUSER & REGISTER DIFFUSERS AND REGISTERS SHALL BE MANUFACTURED BY PRICE, CARNES, TUTTLE \$ BAILEY, TITUS OR KRUEGER. PROVIDE DAMPERS AT EACH DIFFUSER AND REGISTER. PROVIDE PLASTER FRAME FOR LAY-IN TYPE DIFFUSERS MOUNTED IN GYPSUM BOARD

CEILINGS. BAKED OFF-WHITE ENAMEL FINISH UNLESS NOTED. SEE DRAWING SCHEDULE.

ROUND BRANCH CONNECTIONS TO DIFFUSERS MAY BE MADE WITH SPIN-IN FITTINGS WITH

YOLUME DAMPERS AND SCOOP EQUAL TO FLEXMASTER FL/DB FOR SHEET METAL DUCT.

8. TESTS, ADJUSTMENTS AND ACCEPTANCE:

UPON COMPLETION OF THE ERECTION OF ALL EQUIPMENT AND ALL WORK SPECIFIED HEREIN AND/OR SHOWN ON THE APPROVED SHOP DRAWINGS, OR AT SUCH TIME AS DIRECTED BY THE ARCHITECT, THIS SUBCONTRACTOR SHALL START ALL APPARATUS MAKE NECESSARY TESTS AS DIRECTED AND AS SPECIFIED HEREIN, AND MAKE COMPLETE ADJUSTMENTS OF ALL ITEMS OF EQUIPMENT BEFORE ACCEPTANCE BY THE ARCHITECT TO WHOSE REPRESENTATIVE THIS SUBCONTRACTOR SHALL DEMONSTRATE (BY PERFORMANCE) ALL OF THE VARIOUS APPARATUS AND EQUIPMENT. START UP AND ADJUSTMENT OF EQUIPMENT SHALL INCLUDE ALL EQUIPMENT FURNISHED AND INSTALLED BY THIS CONTRACTOR.

MANUFACTURER'S AUTHORIZED PERSONNEL MUST BE PRESENT AT THE START-UP AND CALIBRATION OF THE ROOFTOP HYAC UNITS.

WORK UNDER THIS SECTION OF THE SPECIFICATIONS SHALL NOT BE CONSIDERED COMPLETE UNTIL THIS SUBCONTRACTOR HAS OBTAINED REQUIRED INSPECTIONS, CONDUCTED PERFORMANCE TESTS, MADE NECESSARY ADJUSTMENTS AND HAS SUBMITTED SATISFACTORY EVIDENCE OF COMPLIANCE. THE ARCHITECT SHALL MAKE SPOT CHECKS TO DETERMINE THE ACCURACY AND COMPLETENESS OF FINAL ADJUSTMENTS, SHOULD SPOT CHECKS INDICATE MORE THAN A REASONABLE DEVIATION FROM DESIGN DRAWINGS AND REQUIREMENTS, THIS SUBCONTRACTOR SHALL REPEAT TESTS AND ADJUSTMENTS TO THE SATISFACTION OF THE ARCHITECT. DURING THE TESTING PERIOD, THIS SUBCONTRACTOR SHALL MAINTAIN ON THE JOB A COMPETENT INDIVIDUAL, THOROUGHLY FAMILIAR WITH ALL PHASES OF THE HEATING AND VENTILATION SYSTEMS, FOR AS LONG AS MAY BE REQUIRED TO THOROUGHLY ADJUST ALL OF THE SYSTEMS AND TO DEMONSTRATE TO THE ARCHITECT AND/OR ENGINEER THAT THEY ARE FUNCTIONING

PROPERLY. TEMPERATURE CONTROL WIRING AND CONTROL TESTING SHALL BE BY TEMPERATURE CONTROLS CONTRACTOR. THE AIR SYSTEMS ARE TO BE BALANCED TO WITHIN 5% OF THE QUANTITIES INDICATED ON

PREPARE AN AIR BALANCE REPORT COMPLETE WITH AN 8-1/2" imes 11" SKETCH OF EACH SYSTEM ON FORMS SIMILAR TO AABC OR NEBB AND SCHEDULE EACH OUTLET, FAN, FERMINAL UNIT, ETC. INCLUDE SUCTION AND DISCHARGE STATIC PRESSURES AND OUTDOOR AIR, RETURN AIR AND MIXED AIR TEMPERATURES AT EACH FAN, SUBMIT (6) COPIES OF THE REPORT TO THE LANDLORD.

BALANCE IS TO BE PERFORMED BY AN INDEPENDENT AND CERTIFIED SYSTEMS

INSULATION SPECIFICATIONS GENERAL INSULATION SHALL BE INSTALLED ON ALL PIPING AND DUCTWORK SYSTEMS WHERE SPECIFIED BELOW. INSULATION PRODUCTS SHALL BE MANUFACTURED BY OWENS CORNING, CERTAINTEED, JOHNS-MANVILLE OR KNAUF AND INSTALLED PER MANUFACTURERS

INGULATION MATERIALS SHALL MEET CURRENT ASHRAE 90,1 REQUIREMENTS INCLUDING MAXIMUM FLAME SPREAD RATING OF 25 AND SMOKE DEVELOPED RATING OF 50 OR DUCTWORK THAT IS ACOUSTICALLY LINED SHALL NOT BE INSULATED.

INSULATION PRODUCTS ALL DOMESTIC HOT AND COLD WATER PIPING EXCEPT FOR SHORT RUNS TO FIXTURES SHALL BE INSULATED WITH I" THICK FIBERGLASS INSULATION WITH VAPOR BARRIER. TAPE JOINTS AND COVER ELBOWS WITH PRE-FABRICATED PVC OR ALUMINUM ELBOW WRAPS. NOTE THAT PVC IS NOT TO BE USED IN CEILING SPACES USED AS RETURN AIR PLENUMS. REFRIGERANT COPPER PIPES ASSOCIATED WITH MSP-1 SHALL BE INSULATED THROUGHOUT WITH ARMAFLEX THICKNESS I". AT THE CONTRACTOR'S OPTION, CLOSED CELL POLYMER FOAM INSULATION EQUAL TO ARMAFLEX OR NOMACO MAY BE USED ON DOMESTIC WATER PIPING. 3/4" THICKNESS FOR PIPES UP TO 1-1/4" IN SIZE AND 1" THICK FOR PIPES 1-1/2" AND LARGER. PHYSICALLY HANDICAPPED LAVATORIES SHALL BE PROVIDED WITH "P" TRAP AND WATER INSULATION KITS EQUAL TO TRUEBRO "HANDI-LAY-GUARD". INSULATION SHALL THOROUGHLY COVER THE HOT AND COLD WATER AND WASTE PIPES FROM THE LAVATORY TO THE WALL ESCUTCHEONS AND PROVIDE ACCESS TO WATER ANGLE STOP VALVES. WHITE FINISH. ALL CONCEALED INDOOR HEATING AND/OR COOLING SUPPLY AND RETURN AIR DUCTWORK SHALL BE INSULATED WITH 1-1/2" THICK FIBERGLASS INSULATION WITH YAPOR BARRIER, TAPE ALL

9. FIRE PROTECTION PERFORMANCE SPECIFICATIONS:

BALANCE CONTRACTOR.

GENERAL SYSTEM SHALL BE SIZED PER NFPA STANDARDS, BUILDING CONSTRUCTION AND OCCUPANCY AND BE IN ACCORDANCE WITH THE OWNER'S (LANDLORD'S) CRITERIA AND INSURING AGENCY. THE CONTRACTOR SHALL HYDRAULICALLY DESIGNED SYSTEM FOR THE ENTIRE BUILDING (UNLESS OTHERWISE INDICATED) IN ACCORDANCE WITH NFPA-13R AND THE AUTHORITY HAVING JURISDICTION.

JOINTS WITH VAPOR BARRIER TAPE, MINIMUM INSTALLED "R" VALUE TO BE 4.2.

CONTRACTOR SHALL BE LICENSED IN THE STATE OF MICHIGAN FOR THE DESIGN AND INSTALLATION OF FIRE PROTECTION SYSTEMS. CONTRACTOR SHALL PREPARE SHOP DRAWINGS OF THE COMPLETE INSTALLATION AND SUBMIT FOR APPROVAL TO THE LOCAL FIRE MARSHAL AND TO THE OWNER'S INSURING

PIPING SHALL BE SCHEDULE 40, BLACK STEEL PIPE WITH SPRINKLER PATTERN CAST-IRON SCREWED AND SCREWED FLANGE FITTINGS, 175 PSI S.W.P. UL APPROVED. CONTRACTOR SHALL HAVE OPTION TO USE APPROVED LESSER WALL THICKNESS PIPE AND ROLL GROOVE TYPE COUPLINGS EQUAL TO VICTAULIC OR TOTAL LOCK.

PROVIDE SLEEVES FOR ALL PIPING PASSING THROUGH WALLS. PROVIDE AND INSTALL ALL HANGERS OF APPROVED TYPE. INSTALLATION SHALL

PROVIDE AND INSTALL UL LISTED VALVES.

CONFORM TO NFPA STANDARD NO. 13 R

SPRINKLER HEADS SHALL BE "QUICK RESPONSE" TYPE AS MANUFACTURED BY GRINNELL CENTRAL, STAR, VIKING OR AUTOMATIC SPRINKLER CORP. OF AMERICA. SEMI-RECESSED PENDANT STYLE WITH CHROME FINISH BODY AND ESCUTCHEON IN AREAS WITH LAY-IN CEILINGS, WHITE FLUSH CONCEALED TYPE IN GYPSUM BOARD CEILINGS AND STANDARD BRASS UPRIGHT STYLE IN EXPOSED AREAS. STANDARD 165 DEGREE RATING UNLESS SPECIFIED OR REQUIRED FOR HIGHER TEMPERATURE AREAS. PROVIDE WIRE CAGE GUARDS ON HEADS WHERE REQUIRED.

PROVIDE TWO (2) SPARE HEADS OF EACH TYPE USED, COMPLETE WITH NECESSARY

RISER ROOM OR OTHER LOCATION AS SELECTED BY THE ARCHITECT.

TOOLS AND STORAGE CABINET, PROPERLY MARKED, SECURED TO WALL IN SPRINKLER

WATER FLOW SWITCHES PROVIDE WATER FLOW SWITCHES AS REQUIRED BY DESIGN WITH CONTACTS AND WITH AN ADJUSTABLE TIME DELAY MECHANISM BETWEEN THE PADDLE OPERATED STEM AND THE ALARM INITIATING CONTACT TO ABSORB BRIEF WATER MOVEMENTS DUE TO THE WIDE RANGE OF WATER PRESSURE OR NUMEROUS SURGES.

TYPE, CONFORMING TO THE RULES AND REGULATIONS OF ALL THE APPLICABLE LOCAL CODES OR ANY OTHER CODES HAVING JURISDICTION. CONTRACTOR SHALL WIRE THE WATER FLOW SWITCHES TO ALARM BELLS, OR HORNS AND STROBES, INSIDE AND OUTSIDE, AND TO SUPERVISORY PANEL.

WATER FLOW SWITCHES SHALL BE 24 YOLT, SINGLE PHASE, SHALL BE AN APPROVED

FLUSH OUT AND TEST SYSTEMS PER NFPA REGULATIONS.

DESIGN BASIS SHALL BE ORDINARY HAZARD. ALL WORK RELATED TO THE SPRINKLER SYSTEM SHALL BE IN ACCORDANCE WITH THE FIRE INSURANCE UNDERWRITERS REQUIREMENTS AND THE REQUIREMENTS OF N.F.P.A., AND LOCAL FIRE MARSHAL. BEFORE STARTING ANY WORK ON THE SPRINKLER SYSTEM, THE CONTRACTOR SHALL SUBMIT A COMPLETE SET OF ENGINEERED REPRODUCIBLE SPRINKLER PLANS BEARING THE APPROVAL OF THE FIRE INSURANCE UNDERWRITER, THE ARCHITECT AND THE LOCAL FIRE MARSHAL

SPRINKLER SYSTEM SHALL BE TESTED AT A WATER PRESSURE OF 200 PSIG FOR A PERIOD OF WO (2) HOURS AND SHALL HAVE ALL FACILITIES FOR PROPER DRAINAGE AND ANY NECESSARY TEST VALVES, ORIFICES, OR EQUIPMENT REQUIRED BY AUTHORITIES HAVING JURISDICTION. UPON COMPLETION OF THE SYSTEM AND ON POSSESSION OF PREMISES, THE CONTRACTOR SHALL SUBMIT A WRITTEN CERTIFICATE TO THE OWNER FROM THE UNDERWRITER STATING THAT THE SYSTEM WAS INSPECTED AND APPROVED.

COORDINATE AND ADVISE THE ELECTRICAL CONTRACTOR OF ELECTRICAL REQUIREMENTS FOR ALARMS, FLOW SWITCHES, TAMPER SWITCHES, GONGS, ETC. ALL ELECTRICAL WORK REQUIRED MUST BE INCLUDED IN THE BASE BID.

ISSUED: BIDS & PERMIT 05/24/2022

> T.J.F. T.J.F. T.J.F. DO NOT SCALE

YAL YHTOMIT

FOUGHT

ARCHITECT

No.

1301056975

DIMENSIONS ONLY

PRINTS - USE

34 GREENFIELD **OFFICE**

ISSUED:
BIDS & PERMITS
05/24/2022

DRAWN
T.J.F.
CHECKED
T.J.F.
APPROVED
T.J.F.

DO NOT SCALE PRINTS - USE FIGURED DIMENSIONS ONLY

JOB NO.
T2021024

E.O

34 GREENFIELD

OFFICE

RP-A AND F 120/208V. 3 PHASE 4 WIRE 100A. MCB LOAD IN KILO-VOLT-AMPS LOAD DESCRIPTION LOAD DESCRIPTION AIC HTG KIT MIS MTS RCP LTG CB P CKT PH CKT P CB LTG RCP MTS MIS KIT HTG AIC 0.65 20 1 1 A 2 1 20 LIGHTING 0.18 RECEPTACLE 3 RECEPTACLES TYPICAL FOR HVAC-1 AND 6 SPARE SPARE 20 1 13 A 14 3 SPARE SPARE 20 1 15 B 16 5 SPARE SPARE 7 SPARE SPARE 20 1 17 C 18 3 SPARE 20 1 25 A 26 25 SPARE SPARE 7 SPARE SPARE 29 SPARE 1 SPARE SPARE 33 SPACE SPARE SPACE SPACE 20 1 37 A 38 1 20 20 1 39 B 40 1 20 20 1 41 C 42 1 20 7 SPACE SPACE 9 SPACE SPACE 1 SPACE SPACE DEMAND KILO-VOLT-AMPS FACTORS LOAD TYPE A B C TOTA A B C TOTA MOTORS (MTS) 0.65 0 0 0 0 0 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 1 0 1 1 0 1 1 0 1 0 1 MISCELLANEOUS (MIS) 1.00 MSCELLANEOUS NEMA ENCLOSURE TYPE NUMBER 0 0 0 0 HEATING (HTG) 0.65 ISOLATED GROUND BUS 2 0 0 2 AIR CONDITIONING (AC) AIR CONDITIONING 0.65 HANDLE ATTACHMENT 0 0 2 0.65 ARC-FAULT PROTECTION 0 0 0 0 RECEPTACLES NEC220 RECEPTACLES EQUIPMENT GROUND BAR 0 1 0 1.00 LIGHTING BUS MATERIAL 1 0 1 2 ALARMSWITCHES CONNECTED kVA (phase) EMAND KVA SHUNT TRIP CIRCUIT BREAKER CONNECTED AMPS (phase) GROUND FAULT INTERRUPTER EMAND AMPS (phase) CONNECTED AMPS (L-N)

NO	LOAD DESCRIPTION	LOAD IN KILO-VOLT-AMPS							20 20 10 10 10 10							LOAD IN KILO-VOLT-AMPS								714
		A/C	HTG	КІТ	MIS	MTS	RCP	LTG	CB	P	СКТ	PH	CKT	P	CB	LTG	RCP	MTS	MIS	ЮТ	HTG	LOAD DESCRIPT	LOAD DESCRIPTION	N NC
	LIGHTING							0.65	20	1	1	A	2	1	20		1.08						RECEPTACLE	2
	RECEPTACLES						0.90		20	1	3	В	4	1	20				0.10				WH-1	4
	TYPICAL FOR HVAC-2, 3, 4 AND 5	1.04							15	2	5	C	6	1	20								SPARE	6
	TIPOLE FOR HAD-2, 3, 4 AID 3		1.04							-	7	A	8	1	20								SPARE	
	SPARE								20	1	9	В	10	1	20								SPARE	1
1	SPARE								20	1	11	C	12	1	20								SPARE	1
	SPARE								20	1	13	A	14	1	20								SPARE	1
,	SPARE								20	1	15	В	16	1	20								SPARE	1
	SPARE								20	1	17	C	18	1	20								SPARE	1
	SPARE			y - 1					20	1	19	A	20	1	20								SPARE	2
	SPARE								20	1	21	В	22	1	20								SPARE	2
	SPARE								20	1	23	C	24	1	20								SPARE	2
	SPARE								20	1	25	A	26	1.	20								SPARE	1
	SPARE								20	1.	27	В	28	1	20								SPARE	- 2
	SPARE								20	1	29	C	30	1	20								SPARE	3
1	SPARE								20	1	31	A	32	1	20							1	SPARE	3
1	SPACE								20	1	33	В	34	1	20								SPARE	3
5	SPACE								20	1	35	C	36	1	20								SPACE	3
,	SPACE								20	1	37	A	38	1	20								SPACE	3
-	SPACE	1							20	1	39	В	40	1	20						-		SPACE	- 4
	SPACE								20	1	41	c	42	1	20		7						SPACE	4
1			_		_													_						
1	CONNECTED KILO-VOLT-AMPS							AND					EMAN	D KIL	.0-701	LT-AMPS		Š			/	AC	CCESSORIES	
	LOAD TYPE	A	В	C	TOTAL		FACT	ORS	LOAD TYPE					A.	В	C	TOTAL		Х	SURFAC	CE			
1	MOTORS (MTS)	0	0	0	0		0.6	55	MOTORS					0	0	.0	0			FLUSH	on recover	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
1	MISCELLANEOUS (MIS)	0	0	0	0		1.0	00				0	0	0	0			NEMAE	NEMA ENCLOSURE TYPE NUMBER					
	HEATING (HTG)	1	0	0	1		0.6	35		HEAT	TING	35500		_[1	0	0	1			ISOLATI	ED GRO	DUND BUS	
1	AIR CONDITIONING (AIC)	0	0	1	1		0.6	35			OND	TION	NG		0	0	1	1					CHMENT	
1	KITCHEN	0	0	0	0	1	0.6			KITC					0	0	0	0				-	ROTECTION	
1	RECEPTACLES	1	1	0	2		NEC	2007/			EPTAC	LES		_[1	1	0	2					ROUND BAR	
	LIGHTING	1	0	0	1		1.0	00	LIGHTING			1	1	0	0	1		-	BUSIM	interpretation in				
													4							ALARM				
1	CONNECTED kVA (phase)	3	1	1	5		I		DEMAND kVA					1	2	1	1	4			SHUNT TRIP CIRCUIT BREAKER			
1	CONNECTED AMPS (phase) CONNECTED AMPS (L-N)	13	5	5	13						AND A		phase)	12	5 8	3	11			GROUN	D FAUL	TINTERRUPTER	

— (2)-4"C. (EMPTY) TO

COORDINATE CONDUIT SIZE, QUANTITY AND

POLE LOCATION WITH

UTILITY COMPANY.

UTILITY POLE,

_(8)-4"C. (EMPTY)

		ELECTRICAL LEGEND
SYMBOL	TYPE	DESCRIPTIONS
\$		SWITCH
\$3		THREE WAY SWITCH
\$os		SWITCH WITH BUILT-IN OCCUPANCY SENSOR
Φ		DUPLEX RECEPTACLE
•		DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER
∇		DATA OUTLET
		2×4 LED LIGHT FIXTURE
0		RECESSED CEILING LED LIGHT DOWNLIGHT
⋄		MOTOR
\Box	"EM"	EMERGENCY LIGHT FIXTURES, UNIVERSAL MOUNT, 2-LED HEADSS, BUILT-IN BATTERY/CHARGER
	"×"	EXIT SIGN, BUILT-IN BATTERY/CHARGER, 2-LED HEADS
(OS)		CEILING MOUNTED OCCUPANCY SENSOR

LIGHTING FIXTURE SCHEDULE

"L2" LED WALL MOUNTED SIGN LIGHT FIXTURE AS SELECTED BY OWNER.

MYOLT, LITHONIA: EUC2C-HO OR APPROVED EQUAL.

"DL" LED DOWNLIGHT FIXTURE AS SELECTED BY OWNER.

"TL" TRACK LIGHT FIXTURE AS SELECTED BY OWNER.

SELECTED BY OWNER

DESCRIPTION

"LI" LED WALL SCONCE LIGHT FIXTURE, FINISH AS SELECTED BY ARCHITECT, FIXTURE AS

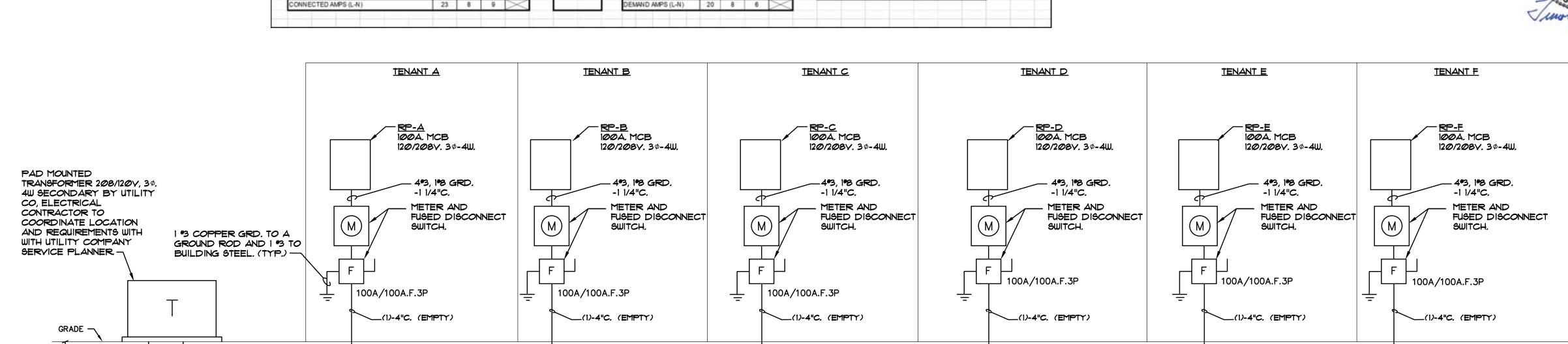
"EBU" SURFACE CEILING MOUNTED BATTERY OPERATED 67. LED EMERGENCY LIGHTING

"XA" COMBINATION EXIT/EMERGENCY LED FIXTURE WITH 6V DC, HIGH OUTPUT BATTERY,

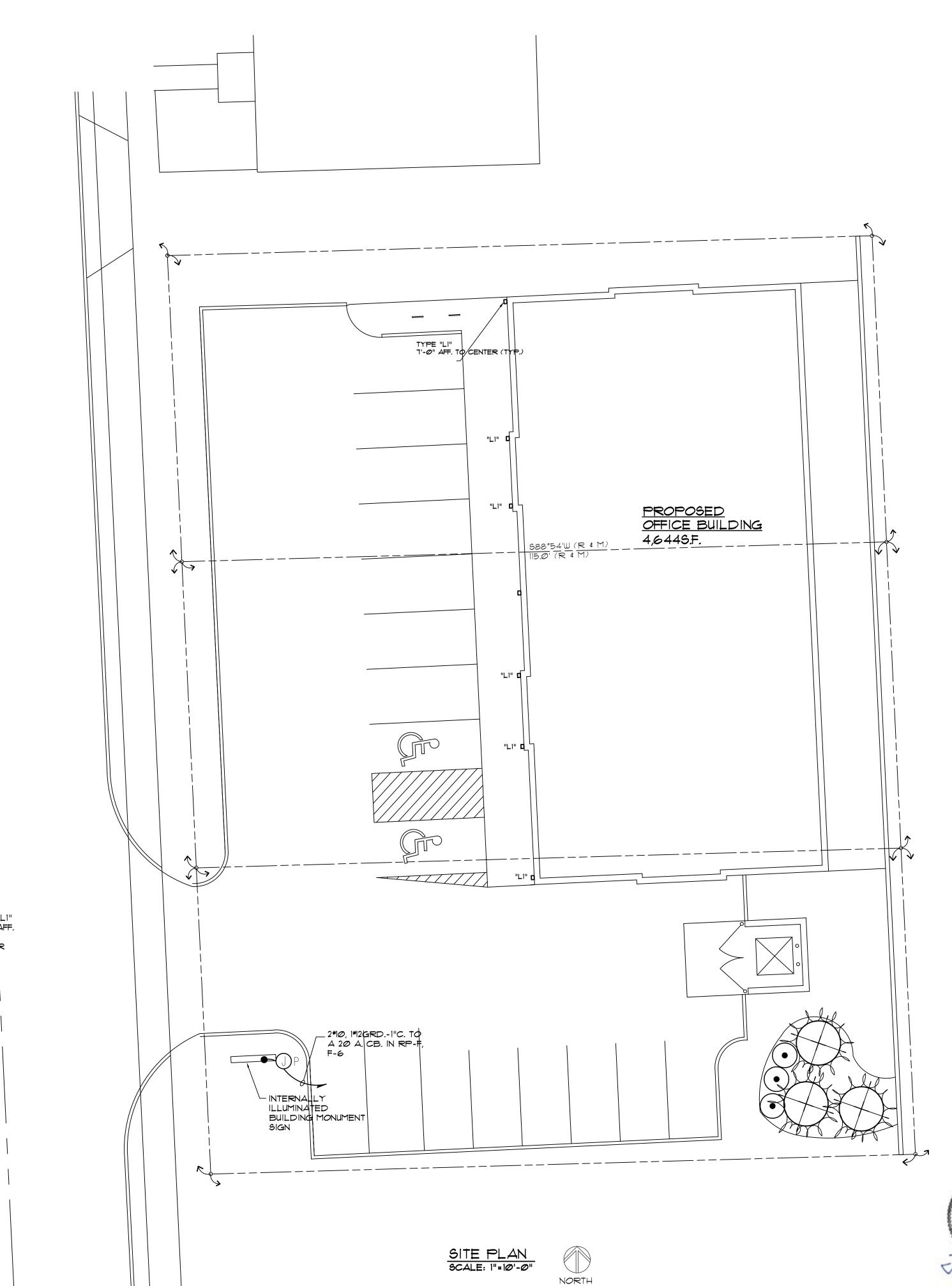
LETTERS, 2-LED HEADS, MYOLT. LITHONIA QUANTUM SERIES ELA-QUP

FIXTURE, SEALED BATTERY, SOLID STATE CHARGER, TEST SWITCH & PILOT LIGHT,

TWO EMERGENCY HEADS AND EXTERIOR LED REMOTE HEAD, WHITE HOUSING. RED



ELECTRICAL RISER DIAGRAM



DO NOT SCALE PRINTS - USE FIGURED DIMENSIONS ONLY

ISSUED:

BIDS & PERMITS 05/24/2022

T.J.F. T.J.F.

T.J.F.

ILC

34 GREENFIELD OFFICE

| HVAC-2 | 208Y.10 | 12.4 MCA | B-5,7 | HVAC-5 | 208V.10 | 12.4 MCA | E-5,7 | HVAC-3 | 208V.10 | 12.4 MCA | C-5,7 THVAC-4 208V.10 12.4 MCA D-5,7 UTILITY METER (TYP.) RP-E HVAC-6 208V.10 21.3 MCAD F-5,7 ^LHVAC-1 208V.1¢ 21.3 MCA A-5,7 I "EBU" (TYP) A-3 LEBU" <u>TENANT F</u> TENANT D F-4 <u>TENANT A</u> <u>TENANT B</u> L"EBU" TYPE "L1"
1"-0" AFF.
TO
CENTER
(TYP.) TYPE "LI" T'-0" AFF. TO CENTER (TYP.) -ELECTRICAL FLOOR PLAN

SCALE: 1/8"=1'-0"

NORTH

VVU

label size 1" x 2 5/8" compatible with Avery @5160/8160

label size 1" x 2 5/8" compatible with Avery @5180/8180 £ilomette do format 25 x mm x 67 mm.compatible evec Avery @5150/8160



Occupant 15526 W 12 MILE RD SOUTHFIELD MI 48076 3008 Occupant 4100 12 MILE RD BERKLEY MI 48072 3177 JAMES W SCHOFIELD 3577 ELLWOOD AVE BERKLEY MI 48072 3119

K & C DONUTS INC 37102 TURNBURRY DR LIVONIA MI 48152 4021 A & W OF BERKLEY 3830 RAVENA AVE ROYAL OAK MI 48073 6440 JAMES R PETERS SHANNON J PETERS 3611 ELLWOOD AVE BERKLEY MI 48072 3120

MARK A PENXA 3446 ELLWOOD AVE BERKLEY MI 48072 1130 JACOB LEIDER JEFFREY'S LEIDER 3446 THOMAS AVE BERKLEY MI 46072 1142 JAMES DRAIN 3560 GREENFIELD RD BERKLEY MI 48072 3132

BRIAN D GIFFORD 3541 THOMAS AVE BERKLEY MI 48072 3163 COUNTY OF OAKLAND 3338 COOLIDGE HWY BERKLEY MI 48072 1636 Occupant 3612 GREENFIELD RD BERKLEY MI 48072 3133

ELIZABETH LUCKER MARY MACHEN 3462 ELLWOOD AVE BERKLEY MI 48072 1130

ALCO GLASS & MIRROR INC. 4195 12 MILE RD BERKLEY MI 48072 1121 DALE MORRIS 3279 PRAIRIE ROYAL OAK MI 48073

Occupant 3461 THOMAS AVE BERKLEY MI 48072 1142 RONNIE JAMIL 4138 12 MILE RD BERKLEY MI 48072 1122 NATALIA NEMTSEVA 3596 GREENFIELD RO BERKLEY MI 48072 3132

3461 THOMAS AVE LLC 5836 TROTTER LN WEST BLOOMFIELD MI 48322 1835 Occupant 3462 GREENFIELD RD BERKLEY MI 48072 Occupant 29131 GREENFIELD RD SOUTHFIELD MI 48076 5831

Occupant 4141 12 MILE RD BERKLEY MI 48072 1121

NORTH GREEN TRUST 1359 DAVIS AVE BIRMINGHAM MI 48009 2075 ABRO PLAZA SOUTHFIELD LLC 3807 BEECHCREST ROCHESTER HILLS MI 48309 3595

DONALD F MOORE 1900 HICKORY VALLEY RD MILFORD MI 48380 4278 Occupant 4129 12 MILE RD BERKLEY MI 48072 1121 LINDA R CRUMBLEY 3596 ELLWOOD AVE BERKLEY MI 48072 3117

WILLIAM SEAMAN PHYLLIS D YOUNG 3461 ELLWOOD AVE BERKLEY MI 48072 1129 CALVIN KASSAB 6695 ARLINGTON DR WEST BLOOMFIELD MI 48322 2716 DAVID MILLER LINDSAY MILLER 3523 THOMAS AVE BERKLEY MI 48072 3163



WVSI

A40

label size 1" x 2 5/8" compatible with Avery @5160/8150 naisalnatera viewa seva eliataomeo mor ya x orim 83 tamiot ah effaubliš 0918/0918@ yrevAritivy elditagmos "8/8 Sx"T esie ledsi



JAMES REED 3559 ELLWOOD AVE **BERKLEY MI 48072 3119**

Occupant 29111 GREENFIELD RD SOUTHFIELD MI 48076 5831 Cocupent 29069 GREENFIELD RD SOUTHFIELD MI 48076 2225

TREVOR JOHN GAVAN 3505 THOMAS AVE BERKLEY MI 48072 3163 ABRO PLAZA SOUTHFIELD LLC 3807 BEECHCREST ROCHESTER HILLS MI 48309 3595 TIM DONUT US INC PO BOX 460389 HOUSTON TX 77058 8389

EDWARD SOSNOSKI JR 3493 THOMAS AVE BERKLEY MI 48072 1142

EILEEN KRUSE 3541 ELLWOOD AVE **BERKLEY MI 48072 3119** JARRETT SANDERS **OLIVIA SANDERS** 3493 ELLWOOD AVE **BERKLEY MI 48072 1129**

Occupant 3535 ELLWOOD AVE BERKLEY MI 48072 3119

Occupant 3510 GREENFIELD RD **BERKLEY MI 48072 3132** **ELIZABETH GLOVER** 3506 ELLWOOD AVE BERKLEY MI 48072 3117

CRAIG PEARCE 47335 ANCHOR DR MACOMB MI 48044 5404

GREENFIELD-BERKLEY LLC 21170 W 8 MILE RD STE 200 SOUTHFIELD MI 48076 6800

BROOKE KELTER 3477 THOMAS AVE BERKLEY MI 48072 1142

DEVAN SHAMO 3524 ELLWOOD AVE **BERKLEY MI 48072 3117**

MARY SMITH 3478 ELLWOOD AVE BERKLEY MI 48072 1130 Occupent 4150 12 MILE RD BERKLEY MI 48072 1122

MICHAEL C MOERMAN 3477 ELLWOOD AVE BERKLEY MI 48072 1129

Occupant 4129 12 MILE RD BERKLEY MI 48072 1121 RONNIE JAMIL WASIM JAMIL 4136 12 MILE RD BERKLEY MI 48072 1122

BENJAMIN HIRCHE 3540 ELLWOOD AVE BERKLEY MI 48072 3117

BATOOL KASSAB **EXPRESS COLLISION** 21470 COOLIDGE HWY OAK PARK MI 48237 3267

Occupant 15558 W 12 MILE RD **SOUTHFIELD MI 48076 3008**

Occupant 29095 GREENFIELD RD SOUTHFIELD MI 48076 2225

Occupant 3494 ELLWOOD AVE BERKLEY MI 48072 1130 **ABRO ELEVEN PROPERTY LLC** 3807 BEECHCREST **ROCHESTER MI 48309 3595**

ABRO PLAZA SOUTHFIELD LLC 3807 BEECHCREST ROCHESTER HILLS MI 48309 3595

RAMZI HAJO SR **87 PANAMA DR** WATERFORD MI 48327 3666 **GEVALIN GEGAJ** 4162 12 MILE RD **BERKLEY MI 48072 1122**



VVU

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AMANDA PRESTON 3540 GREENFIELD RD BERKLEY MI 46072 3132 Occupant 3560 ELLWOOD AVE BERKLEY MI 48072 3117

Occupant 4111 12 MILE RD BERKLEY MI 49072 1121 LAURA LAZAR ISRAEL LAZAR 26497 HEREFORD DR HUNTINGTON WOODS MJ 48070 1651

ROBERT E JONES CARLA M JONES 41870 CHATTMAN DR NOVI MI 48375 4225 OPAL FAIR 3605 ELLWOOD AVE BERKLEY MI 48072 3119

Occupant 4105 12 MILE RD BERKLEY MI 48072 1121 Occupant 4135 12 MILE RD BERKLEY MI 48072 1121

ROBERT E JONES CARLA M JONES 41870 CHATTMAN DR NOVI MI 48375 4226

DONALD F MOORE 1800 HICKORY VALLEY RD MILFORD MI 48380 4278

Occupant 28901 GREENFIELD RD SOUTHFIELD MJ 48076 7120 Occupant 4075 12 MILE RD BERKLEY MI 48072 1119

28901 GREENFIELD ROAD HOLDINGS LLC 900 19TH ST NW FL 8 WASHINGTON DC 20008 2106 GEZIM PLLUMAJ LIZE PLLUMAJ 42626 SILVERWOOD DR STERLING HEIGHTS MI 48314

JOSEPH REMEIKA 3578 ELLWOOD AVE BERKLEY MI 48072 3117

> Prime Management 1359 Davis Ave Birmingham, MI 48009

DENNIS W PETERSON 3678 GREENFIELD RD BERKLEY MI 46072 3132

STEVEN CARSON JULIE I SPECTOR 3595 ELLWOOD AVE BERKLEY MI 48072 3119







THE CITY OF BERKLEY Community Development Department 3338 Coolidge, Berkley, Michigan 48072 (248) 658-3320

NOTICE OF PUBLIC MEETING BERKLEY PLANNING COMMISSION

NOTICE IS HEREBY GIVEN, in accordance with Section 3.09 of Chapter 138 of the Berkley City Code, that there will be a meeting of the Berkley Planning Commission to be held at the City of Berkley in the Council Chambers, 3338 Coolidge Hwy, Berkley Michigan, on **Tuesday, September 23, 2025** at 7:00pm, or as near thereto as the matter may be reached.

APPLICATION PSU-04-25

Blue RX, LLC is requesting Special Land Use approval to occupy a tenant space for retail pharmacy use at 3462 Greenfield Rd. – Parcel 25-07-355-043 in the Residential Corridor District.

The complete application information is available for review at https://berkleymi.gov/community-development-projects.

Comments regarding the request may be made in person on the night of the meeting or may be made in writing. All written comments must be submitted to the Community Development Department or emailed to planning@berkleymi.gov before 5:00p.m on the date of the Planning Commission meeting.

You can watch the meeting: https://www.youtube.com/user/cityofberkley

KRISTEN KAPELANSKI COMMUNITY DEVELOPMENT DIRECTOR

THE CITY OF BERKLEY Community Development Department 3338 Coolidge, Berkley, Michigan 48072 (248) 658-3320

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KRISTEN KAPELANSKI COMMUNITY DEVELOPMENT DIRECTOR

Publish Once:

Royal Oak Tribune Friday, September 5, 2025



MEMORANDUM

To: Blue RX, LLC, Applicant

From: Kristen Kapelanski, Community Development Director

Subject: PSU-04-25: 3462 Greenfield Rd.

Date: August 29, 2025

The applicant has requested to operate a pharmacy in a tenant space at the recently developed office building at 3462 Greenfield Rd.

Background

The current zoning of the parcel is Residential Corridor. Pharmacy uses are considered retail (no drive-through allowed) in the Zoning Ordinance use classifications. The site type (medium) and street type (corridor) allow retail uses as special land uses in the Residential Corridor District.

The subject property was recently developed under the standards of the previous Zoning Ordinance.

Special Land Use Standards

Special land uses require the approval of the City Council after a recommendation from the Planning Commission. Standards listed in the ordinance for consideration of a special land use request are identified below. Staff comments are italicized.

- Compatibility with Adjacent Uses: The special land use must be designed and constructed in a manner harmonious with the character of adjacent properties and the surrounding area, as compared to the impacts of permitted uses. The impacts from a small pharmacy use would not be greatly different from those of a small office tenant, which was originally approved for the site. Additionally, adequate buffering has been provided from the residential uses to the rear and the site fronts a major thoroughfare.
- Compatibility with the Master Plan: The proposed special land use must be compatible and in
 accordance with the goals and objectives of the City of Berkley Master Plan and any associated
 sub-area and corridor plans, including the Downtown Master Plan. While the master plan
 recommends attached and multi-family residential uses for this area of the City, it is important to
 note that the site was recently approved for offices (under the old zoning ordinance) and office
 and retail uses exist along this corridor.
- Traffic Impact: The proposed special land use must be located and designed in a manner that will minimize the impact of traffic, taking into consideration the following: pedestrian access and safety; vehicle trip generation; types of traffic; access location and design; loading and unloading;

circulation; parking design; street and bridge capacity; and traffic operations at nearby intersections and access points. Efforts must be made to ensure that multiple transportation modes are safely and effectively accommodated in an effort to provide alternate modes of access and alleviate vehicular traffic congestion. The site fronts a major thoroughfare and traffic impacts from a pharmacy retail space will not lead to any concerns.

- **Impact on Public Services:** The proposed special land use must be adequately served by essential public facilities and services, such as streets, pedestrian or bicycle facilities, police and fire protection, drainage systems, refuse disposal, water and sewage facilities and schools. Such services must be provided and accommodated without an unreasonable public burden. *This is a recently developed site served by public utilities and with stormwater detention.*
- Compliance with Zoning Standards: The proposed special land use must be designed, constructed, operated and maintained to meet the stated intent of the zoning district and must comply with applicable ordinance standards. The applicant is intending to occupy this recently developed site as is. The site already contains buffering, landscaping and lighting that match or closely match current Zoning Ordinance standards. No alterations or additions are required to meet the intent of the Zoning Ordinance.
- **Impact on the Overall Environment:** The proposed special land use must not unreasonably impact the quality of the natural features and the environment in comparison to the impacts associated with typical permitted uses. The applicant is proposing to use an already developed site and no new environmental impacts are proposed.
- Special Land Use Approval Specific Requirements. The general standards and requirements
 of this section are basic to all uses authorized by special land use approval. The specific and
 detailed requirements relating to particular uses and area requirements must also be satisfied for
 those uses.
- **Additional Factors:** The following factors must also be considered by the Planning Commission when reviewing a special land use request.
 - The nature and character of the activities, processes, materials, equipment or conditions or operation, either specifically or typically associated with the use.
 - Vehicular circulation and parking areas.
 - Outdoor activity, storage and work areas. No outdoor storage or work areas are proposed.
 - o Hours of operation. The applicant should confirm the hours of operation.
 - Production of traffic, noise vibration, smoke, fumes, odors, dust, glare, light or other public nuisances.

General Zoning Ordinance Standards

Non-conforming Site Standards: Per Article 16 of the Zoning Ordinance, non-conforming lots
and structures may be used for a permitted or special land use in the applicable district provided
the non-conformity is not increased. Any additions or other site changes would need to comply
with current zoning ordinance standards. The applicant is not proposing any site changes.

- Special Land Use Considerations: Since a retail use (pharmacy) is considered a special land
 use in the Residential Corridor District, the Planning Commission and City Council have some
 discretion in determining if the site layout (as-is) meets the intent of the Zoning Ordinance and
 Master Plan. Given that the site was recently developed and provides greenspace and complies
 with lighting standards, no additional site updates are recommended by staff.
- Parking Requirements: The site was originally envisioned with professional and medical office tenants in mind and was parked per the parking standards in the previous Zoning Ordinance. This would be considered part of the non-conformities of the site. Since retail use is proposed (which is a special land use) and the site was not previously considered a retail site in terms of parking, parking requirements for retail use would apply and can be considered. The current Zoning Ordinance includes parking standards for general retail (which would be used for pharmacy) and office uses. The parking standards for general retail are less that what is required for office uses and the standard for office uses in general as been decreased when compared to the previous Zoning Ordinance requirements. Adequate parking is provided to accommodate this use.

Cc: Kim Anderson, Zoning Administrator