July 22, 2025

Lee's Summit Missouri
Development Services
ATTN: Joe Frogge
Carhartt – Lee's Summit
1744 NW Chipman Rd., Lee's Summit, MO 64081
Permit Number: PRCOM20252521

Please see below for responses to permit comments.

Licensed Contractors

Comment ID	Review Comment	Response
1	Lee's Summit Code of Ordinance, Section 7-130.10 – Business License. It shall be unlawful for any person to engage in the construction contracting business without first obtaining a business license as required under the applicable provisions of Chapter 28 of the Lee's Summit Code of Ordinances. Action required: Either a Class A or Class B license is required. Provide the company name of the licensed general contractor and the name, email address & phone number for the on-site contact.	Please see attached for license of project general contractor. General Contractor: Commercial Contractors, Inc. Onsite Contact: Paul Kilday T: 616. 403. 9191 E: Paul.Kilday@TeamCCI.net
2	Lee's Summit Code of Ordinance, Section 7-130.4 – Business License (excerpt) No person, other than a licensed contractor or employees of a licensed contractor, shall engage in electrical, plumbing, or mechanical business, construction, installation, or maintenance unless duly licensed in accordance with this section. Action required: MEP subcontractors are required to be listed on permit. Provide company names of licensed MEP contractors.	G.C. confirming MEP subcontractors, information to be provided shortly.

Building Plan Review

Comment ID	Review Comment	Response
1	2018 IBC 505.3.3 Guards. Equipment platforms shall have guards where required by Section 1013.2. Action required: Provide guards at equipment platform.	Sheet A1.1 has been updated to provide guard wall extending 42" above platform.
2	2018 IBC 1606.2 Design dead load. For purposes of design, the actual weights of materials of construction and fixed service equipment shall be used. In the absence of definite information, values used shall be subject to the approval of the building official. Action Required: Provide verification that either the weight of new roof top equipment is less than or equal to original equipment or provide engineer's report to verify that existing roof structure will support additional load.	Sheet S100 and S101 as well as signed/stamped structural calculations provided to accommodate new roof top equipment.

Please see attached sheets for above resolved review comments. Please see link below to full set with revised drawings.

Link: https://rgla.filegenius.com/downloadPublic/q8pdfqcii1eu3za

Kind Regards,

Sandi Leamon

Sandi Leamon
Program Manager
on behalf of Joseph A. Geoghegan, Jr.
Architect of Record

Commercial Contractors, Inc.
Licensing
16745 Comstock Street
GRAND HAVEN, MI 49417

BUSINESS LICENSE

Issuance No. LC23250443

EXPIRES :
05/31/2026

License is Hereby Granted to: Commercial Contractors, Inc.

Mayor

City Clerk

Subject to the provisions of all Ordinances now in force and
that may hereafter be passed by said City of Lee's Summit

THIS LICENSE MUST BE DISPLAYED IN A PROMINENT PLACE AND IS NON-TRANSFERABLE

DRAWING INDEX

7/21/2025	6/18/2025	SHEET #	SHEET NAME
●	●	G-0.0	COVER SHEET, CODE INFO, PROJECT DATA, & DIRECTORY
	●	G-0.1	SPECIFICATIONS & GENERAL NOTES
	●	G-0.2	DIVISION OF WORK & SYMBOL LEGEND
	●	D-1.1	DEMOLITION PLANS
	●	A-0.1	SCHEDULES
●	●	A-1.1	CONSTRUCTION PLAN, SCHEDULES, & NOTES
	●	A-1.2	FITTING ROOM PLAN, ELEVATIONS & DETAILS
	●	A-1.3	TOILET ROOM PLAN, ELEVATIONS & DETAILS
	●	A-1.4	CONSTRUCTION DETAILS
	●	A-2.1	REFLECTED CEILING PLAN & DETAILS
	●	A-3.1	EXTERIOR ELEVATION
	●	A-4.1	INTERIOR ELEVATIONS
	●	A-5.1	FINISH PLAN
	●	A-6.1	LOW VOLTAGE PLAN
	●	F-1.1	FIXTURE PLAN, SCHEDULE & NOTES
	●	F-1.2	FIXTURE DETAILS
	●	F-2.1	INTERIOR SIGNAGE & GRAPHICS PLAN, & DETAILS
	●	E-001	ELECTRICAL COVER SHEET
	●	E-100	ELECTRIC LIGHTING PLAN
	●	E-101	ELECTRIC LIGHTING - DETAILS
	●	E-200	ELECTRIC POWER PLAN
	●	E-300	ELECTRIC POWER - SINGLE LINE DIAGRAM
	●	E-301	ELECTRIC PANEL SCHEDULES
	●	E-400	ENERGY COMPLIANCE
	●	E-500	ELECTRICAL SPECIFICATIONS
	●	E-501	ELECTRICAL SPECIFICATIONS
	●	M-001	MECHANICAL COVER SHEET
	●	M-101	MECHANICAL DUCTWORK PLAN
	●	M-401	ENERGY COMPLIANCE
	●	M-402	ENERGY COMPLIANCE
	●	M-501	MECHANICAL SPECIFICATIONS
	●	M-502	MECHANICAL SPECIFICATIONS
	●	M-601	MECHANICAL DETAILS
	●	M-602	MECHANICAL SPECIFICATIONS
	●	P-001	PLUMBING COVER SHEET
	●	P-101	PLUMBING PLAN
	●	P-501	PLUMBING SPECIFICATIONS
	●	P-601	PLUMBING DETAILS & SCHEDULES
●		S100	GENERAL NOTES AND FRAMING PLAN
●		S101	DETAILS

- SHEET INDEX

FIXTURES - GRAND + BENEDICTS
C: MOLLY CROUSER
T: 503.233.6222
E: MOLLYC@GRAND-BENEDICTS.COM

LIGHTING - CITY LIGHTING
C: TOM MISPAGEL
T: 314.534.1090
E: TMISPAGEL@CITYLIGHTING.COM

LOCKS / SAFE - REDFORD LOCK SECURITY SOLUTIONS
C: DAVID BOILORE
T: 313.401.7004
E: DBOILORE@REDLORDLOCK.COM

SIGNAGE - VICTORY SIGN INDUSTRIES
C: DANA REYNOLDS
T: 706.820.6820
E: DREYNOLDS@VICTORYSIGN.COM

STOCK ROOM FIXTURES - PIPP MOBILE STORAGE SYSTEMS, INC.
C: KATY LOWRY
T: 616.988.4063
E: KLOWRY@PIPPMOBILE.COM

SENSORMATIC - JOHNSON CONTROLS
C: MH TOTH
T: 269.271.8401
E: MH.TOTH@JCI.COM

- VENDOR CONTACTS

LANDLORD - TENANT COORDINATOR
SUMMIT WOODS CROSSING
1700 NW CHIPMAN RD
LEE'S SUMMIT, MO 64081
C: JOSH GALICA
E: JGALICA@RAINIERCOMPANIES.COM

TENANT / OWNER
CARHARTT INC.
5750 MERCURY DRIVE
DEARBORN, MI 48126
C: MARK KASTNER
T: 313.212.7021
E: MKASTNER@CARHARTT.COM

ARCHITECT
JOSEPH A. GEOGHEGAN JR.
ROBERT G. LYON & ASSOCIATES, INC.
5100 RIVER ROAD, SUITE 125
SCHILLER PARK, IL 60176
PLEASE CONTACT PROGRAM MANAGER FOR ALL INQUIRIES.

PROGRAM MANAGER
RGLA SOLUTIONS, INC.
5100 RIVER ROAD, SUITE 125
SCHILLER PARK, IL 60176
C: SANDI LEAMON / ADRIAN TAFOLLA
P: 847.707.7452 / 847.916.2728
E: SLEAMON@RGLA.COM / ATAFOLLA@RGLA.COM

MEP ENGINEER
KLH ENGINEERS, PSC
333 EAST MAIN, SUITE 175
LEXINGTON, KY 40507
C: JORDAN LAYCOCK
T: 859.547.0242
E: JLAYCOCK@KLHENGRS.COM

1 STRUCTURAL ENGINEER
WALLACE DESIGN COLLECTIVE, PC
1703 WYANDOTTE STREET, SUITE 200
KANSAS CITY, MO 64108
C: DARCEY SCHUMACHER
T: 816.820.0365
E: DARCEY.SCHUMACHER@WALLACE.DESIGN

- PROJECT DIRECTORY

UPON AWARDING THE GENERAL CONTRACTOR'S CONTRACT, THE GENERAL CONTRACTOR MUST INFORM THE OWNER (CARHARTT) IN WRITING OF ALL MATERIALS AND EQUIPMENT WITH LEAD TIMES OF 4 WEEKS OR GREATER

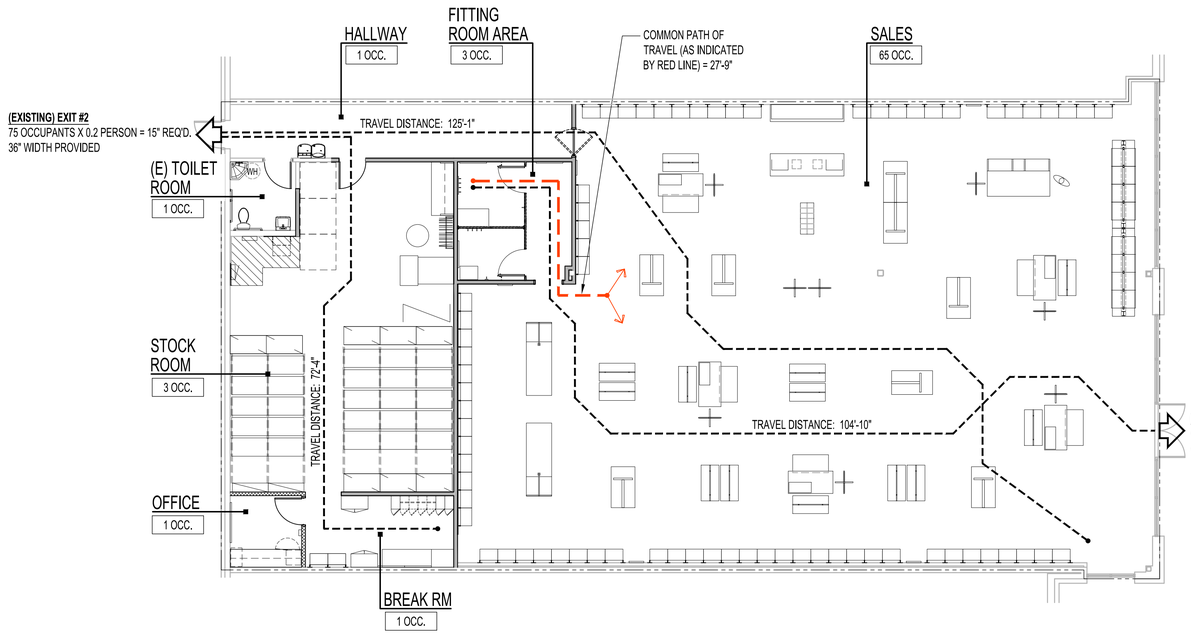
ALL CHANGE ORDERS TO BE APPROVED BY CARHARTT - MARK KASTNER - IN WRITING PRIOR TO PROCEEDING WITH WORK. ANY WORK COMPLETED WITHOUT AN APPROVED CHANGE ORDER WILL NOT BE PAID.

WORK UNDER SEPARATE PERMIT:
- SPRINKLER WORK
- FIRE ALARM
- STOREFRONT SIGNAGE

ALL MATERIAL SUBSTITUTIONS MUST OBTAIN OWNER AND ARCHITECT'S APPROVAL PRIOR TO COMMENCEMENT

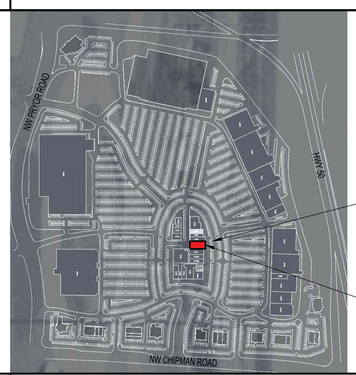
GC SHALL PROVIDE CARPENTER ON-SITE FOR ONE EIGHT-HOUR DAY AFTER TURNOVER FOR MISCELLANEOUS TASKS.

REQUIRED SUBCONTRACTORS:
VERIFY WITH MALL OPERATIONS MANAGER FOR ALL REQUIRED SUBCONTRACTORS.

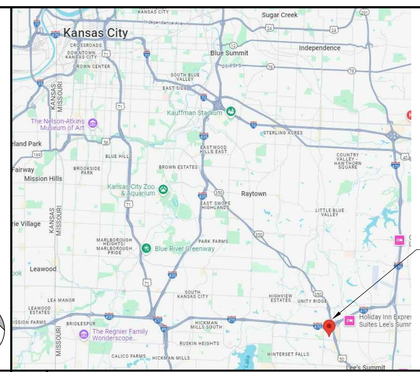


- EGRESS PLAN

SCALE 1/8"=1'-0"



- KEY PLAN



- VICINITY MAP

carhartt

SUMMIT WOODS CROSSING

1744 NW CHIPMAN ROAD
LEE'S SUMMIT, MO 64081

SCOPE OF WORK STATEMENT
THE INTENT OF THE SCOPE CONTAINED WITHIN THESE DOCUMENTS RELATES TO THE INTERIOR BUILD-OUT OF A MERCANTILE SPACE CONTAINED WITHIN AN EXISTING SHOPPING CENTER. PROPOSED WORK INCLUDES CONSTRUCTION AND INSTALLATION OF NEW NON-LOAD BEARING PARTITIONS, FIXTURES, FINISHES, LIGHTING, MECHANICAL, ELECTRICAL, AND PLUMBING.

PERMIT SCOPE INCLUDES
ONLY CHECKED BOXES
- ☒ BUILDING
- ☒ MECHANICAL
- ☒ ELECTRICAL
- ☒ PLUMBING
- ☐ SPRINKLER
- ☐ STOREFRONT SIGN

MALL TYPE
- ☐ COVERED MALL BUILDING
- ☒ EXTERIOR MALL
- ☐ STREET LOCATION

- SCOPE OF WORK

APPLICABLE CODES

BUILDING:	2018 INTERNATIONAL BUILDING CODE
ELECTRICAL:	2017 NATIONAL ELECTRICAL CODE
MECHANICAL:	2018 INTERNATIONAL MECHANICAL CODE
PLUMBING:	2018 INTERNATIONAL PLUMBING CODE
ACCESSIBILITY:	ICC/ANSI A117.1-2009
FIRE CODE:	2018 INTERNATIONAL FIRE CODE
ENERGY CODE:	2018 INTERNATIONAL ENERGY CONSERVATION CODE
EXISTING BUILDING CODE:	2018 INTERNATIONAL EXISTING BUILDING CODE

OCCUPANCY LOAD CALCULATIONS

GROSS AREA:	5,510 SQ.FT. (LEASED AREA)	
SALES AREA:	3,871 SQ.FT. / 60 SQ.FT. PER PERSON =	65
FITTING ROOM AREA:	181 SQ.FT. / 60 SQ.FT. PER PERSON =	3
TOILET ROOOM:	1 PRIVATE TOILET ROOM =	1
OFFICE	1 PRIVATE OFFICE =	1
HALLWAY	257 SQ.FT. / 300 SQ.FT. PER PERSON =	1
BREAK ROOM	181 SQ.FT. / 300 SQ.FT. PER PERSON =	1
STOCKROOM:	908 SQ.FT. / 300 SQ.FT. PER PERSON =	3
TOTAL OCCUPANCY:		75 PERSONS

BUILDING REQUIREMENTS

DESCRIPTION	CODE SECTION	REQUIREMENTS
USE GROUP:	IBC CHAPTER 3, SECTION 309	M (MERCANTILE)
NUMBER OF LEVELS:		LOCATED ON GROUND LEVEL OF 1 LEVEL
CONSTRUCTION TYPE:	IBC TABLE 601	TYPE II B
FIRE SPRINKLERS:	IBC SECTIONS 506.3, 903.1	FULLY SPRINKLERED
TENANT AREA:	IBC SECTION 507.3	5,510 SQ.FT. AREA OF WORK
OCCUPANT LOAD:	IBC SECTION 1004.1 & NFPA 101	75 PERSONS
NUMBER OF EXITS:	IBC TABLE 1006.3	2 REQUIRED
		2 PROVIDED
EXIT WIDTH:	IBC TABLE 1005.1	30" REQUIRED
		108" PROVIDED

- CODE AND BUILDING SUMMARY

STATEMENT OF COMPLIANCE
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND TO THE BEST OF MY PROFESSIONAL KNOWLEDGE THEY CONFORM TO THE CODES AND ORDINANCES OF LEE'S SUMMIT, MO.

JOSEPH A. GEOGHEGAN JR.
LICENSE # : A-2008008193
EXPIRATION DATE: 12/31/2026
SEAL:

- CERTIFICATION STATEMENT

RGLA
rgla solutions, inc.
5100 River Road, Ste 125
Schiller Park, IL 60176
p: 847.671.7452
f: 847.671.4200
www.rgla.com

REVISIONS:	DATE:
ISSUE FOR PERMIT, LANDLORD, PRICING	06/18/25
REV 1 - PERMIT REVISIONS 1	07/21/25

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retail architecture
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JOSEPH A. GEOGHEGAN JR. NUMBER 2006008193 ARCHITECT

carhartt
SUMMIT WOODS CROSSING
1744 NW CHIPMAN ROAD
LEE'S SUMMIT, MO 64081

COVER SHEET, CODE INFORMATION, PROJECT DATA, & DIRECTORY

DRAWN BY
SLS
CHECKED BY
SL
JOB NUMBER
25303
SHEET NAME
G-0.0

1. ALL WOOD FURRING AND BLOCKING SHALL BE FIRE-RETARDENT TREATED - TYPICAL.
2. ALL DIMENSIONS TO BE TO FINISHED SURFACES UNLESS NOTED OTHERWISE. GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN FIELD AND COORDINATE DIMENSIONS WITH VARIOUS TRADES BEFORE FABRICATION OR PURCHASE OF FIXTURES, MILLWORK, COUNTERS, ETC.
3. REQUIREMENTS AND DESIGN DATA SHALL BE FOLLOWED ENTIRELY, REGARDLESS OF WHETHER THEY ARE GIVEN BY BOTH THE SPECIFICATIONS AND DRAWINGS OR BY EITHER ONE ONLY.
4. SHOP DRAWINGS PREPARED BY SUPPLIERS AND SUBCONTRACTORS SHALL BE REVIEWED BY THE GENERAL CONTRACTOR PRIOR TO SUBMITTAL TO ARCHITECT.
5. CONTRACTORS TO ASSUME FULL RESPONSIBILITY, UNRELIEVED BY REVIEW OF SHOP DRAWINGS AND BY SUPERVISION OR PERIODIC OBSERVATION OF CONSTRUCTION, FOR THE FOLLOWING:
   - 5.1. COMPLIANCE WITH CONTRACT DOCUMENTS.
   - 5.2. DIMENSIONS TO BE CONFIRMED AND CORRELATED ON THE JOB SITE AND BETWEEN INDIVIDUAL DRAWINGS OR SETS OF DRAWINGS.
   - 5.3. COORDINATION OF THE VARIOUS TRADES.
   - 5.4. SAFE CONDITIONS AT THE JOB SITE.
6. UNLESS OTHERWISE NOTED, ALL DETAILS, SECTIONS AND NOTES ON DRAWINGS ARE INTENDED TO BE TYPICAL FOR SIMILAR SITUATIONS ELSEWHERE.
7. GC TO PROVIDE FIRE EXTINGUISHERS TO MEET LOCAL CODE REQUIREMENTS.

A GENERAL NOTES

- LIGHT METAL STRUCTURAL PARTITION BOTTOM TRACKS MAY BE FASTENED TO CONCRETE SLAB USING LOW-VELOCITY POWER DRIVEN PINS FOLLOWING THE MANUFACTURER'S INSTALLATION RECOMMENDATIONS UNLESS OTHERWISE NOTED. THE FASTENING SYSTEM USED SHALL BE AS MANUFACTURED BY HILTI (ICBO REPORT NO. ESR-2269) OR APPROVED EQUAL. PINS SHALL HAVE A MINIMUM SHANK DIAMETER OF 0.157", A MINIMUM LENGTH OF 1-1/8", AND SHALL BE SPACED AT 16" O.C. MAXIMUM.
- THE TOP TRACK OF EACH FULL HEIGHT WALL SHALL BE ATTACHED DIRECTLY TO THE FRAMING WHEN THE WALL IS PERPENDICULAR TO FRAMING AND TO BLOCKING BETWEEN FRAMING @ 4'-0" O.C. WHEN THE WALL IS PARALLEL TO THE FRAMING.
- PROVIDE MIN. 2'-0" HIGH CEMENT BOARD @ FLOOR BEHIND ALL FIBERGLASS REINFORCED PANELS.
- PROVIDE CEMENT BOARD UNDER ALL WALL TILE WHERE APPLICABLE.
- ALL BRACING AND SUSPENDED COMPONENTS ARE FROM STRUCTURE (NOT FROM DECK). DO NOT PENETRATE THROUGH DECK ABOVE.
- GYPSUM BOARD SHALL BE ATTACHED WITH #6 SCREWS MINIMUM UNLESS NOTED OTHERWISE.

B PARTITION NOTES

NOTE:
A. COORDINATE WALL TYPE WITH SECTIONS AND PLANS. NOTIFY ARCHITECT OF DISCREPANCIES PRIOR TO ISSUING BIDS.
B. 5/8" WATER RESISTANT GYP. BD. IS TO BE USED IN ALL AREAS WHERE EXPOSED TO MOISTURE OR WATER SUCH AS TOILET ROOM, MOP SINKS, ETC.

NON-BEARING METAL STUD SCHEDULE

STUD SIZE*	SPACING	MAX. HEIGHT (W/ FLEXIBLE FINISH)
362S162-18	16" O.C.	13'-6"
362S162-33	16" O.C.	21'-1"
362S162-43	12" O.C.	25'-0"
600S162-33	16" O.C.	30'-0"

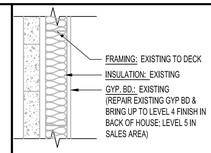
*STUDS BY ANGELES METAL SYSTEMS, ICBO NO.1715 OR APPROVED EQUAL

C STUD SCHEDULE

NOTE:
G.C. TO CALL CARHARTT PM DURING FRAMING STAGE TO DISCUSS ANY FIELD DIMENSIONS DISCREPANCIES PRIOR TO FRAMING. ESPECIALLY OVERALL SALES FLOOR AND STOCKROOM DIMENSIONS. FAILURE TO DO SO CAN RESULT IN G.C. RE-FRAMING AT THEIR EXPENSE

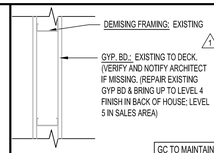
NOTE:
PRIOR TO FRAMING G.C. SHALL VERIFY NEW WALLS DO NOT CONFLICT WITH EXISTING HVAC DROPS & PIPES. FAILURE TO DO SO CAN RESULT IN G.C. RE-FRAMING AT THEIR EXPENSE

NOTE:
ALL EXISTING WALLS IN SALES AREA TO BE BROUGHT UP TO LEVEL 5 FINISH.



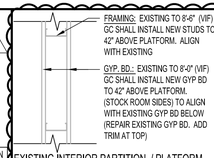
EXTERIOR PARTITION

WALL TYPE A



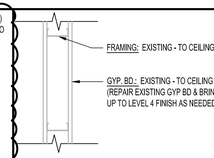
EXISTING DEMISING PARTITION

WALL TYPE A1



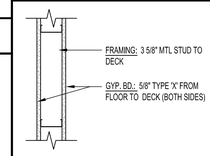
EXISTING INTERIOR PARTITION / PLATFORM GUARD

WALL TYPE A2



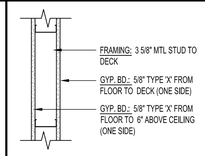
EXISTING INTERIOR PARTITION

WALL TYPE A3



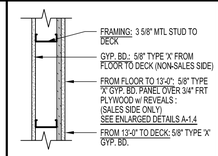
FULL HEIGHT PARTITION

WALL TYPE C



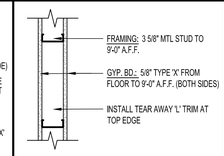
FULL HEIGHT PARTITION

WALL TYPE C1



FULL HEIGHT PARTITION - PANT WALL

WALL TYPE D



PARTIAL HEIGHT PARTITION

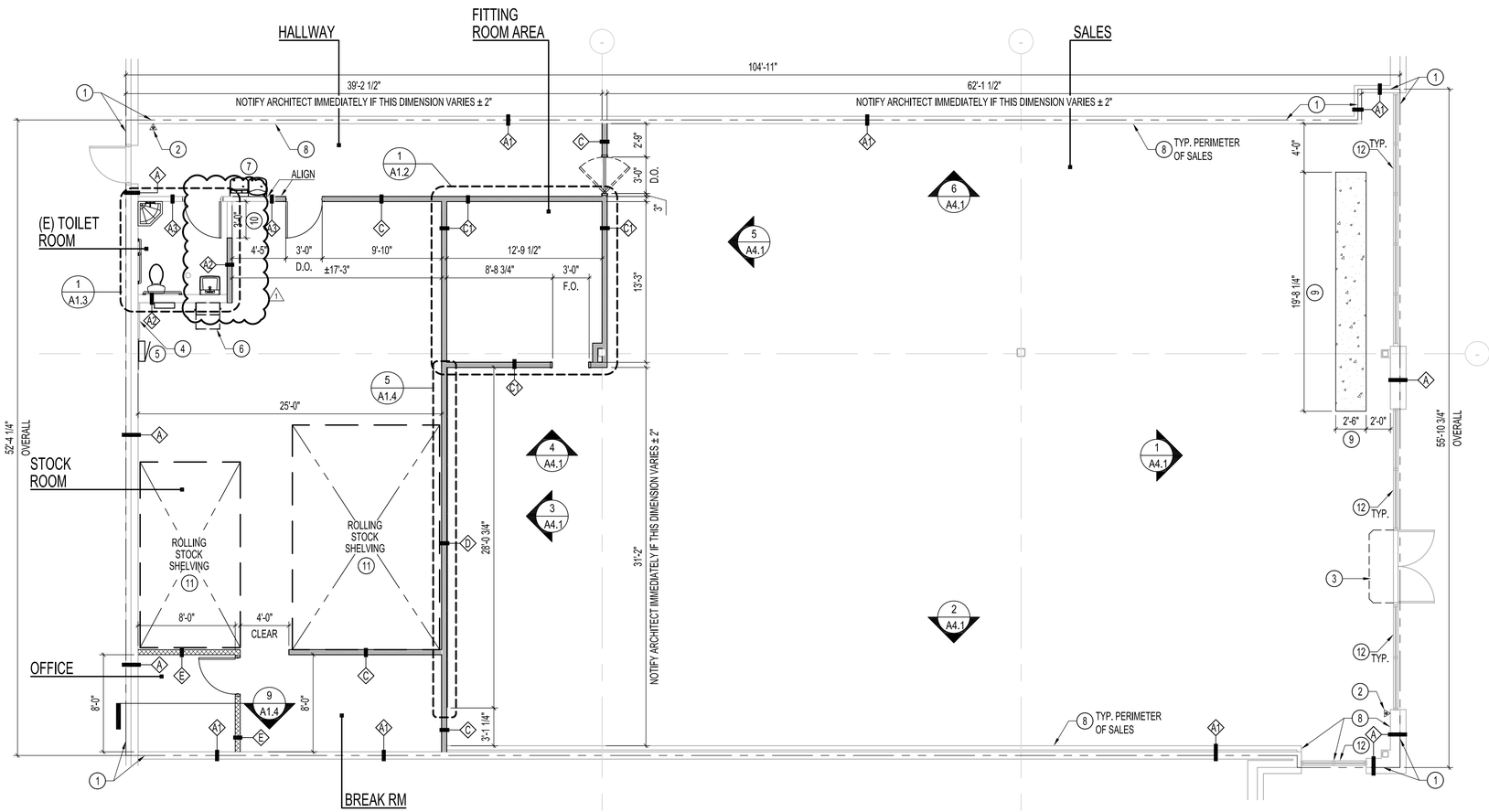
WALL TYPE E

3 WALL TYPES

SCALE 1"=1'-0"

1. TENANT LEASE LINE
2. FIRE EXTINGUISHER - COORDINATE LOCATIONS WITH FIRE MARSHAL
3. SAWCUT GROOVE IN CONCRETE SLAB PER DETAIL 8/A1.4
4. EXISTING 3/4" 'CDX' F.T. PLYWOOD TO REMAIN
5. ELECTRICAL PANELS - SEE ELECTRICAL SHEETS. INSTALL 3/4" 'CDX' F.T. PLYWOOD IF NOT EXISTING
6. LOCATION OF NEW DATA RACK.
7. NEW WATER FOUNTAIN / BOTTLE FILLER
8. NOTIFY ARCHITECT IMMEDIATELY IF EXISTING STUDS OR GYP. BD. DOES NOT EXTEND TO DECK.
9. G.C. TO PROVIDE CONCRETE FOR BASE OF WINDOW FIXTURE. FORMWORK IS PROVIDED WITH FIXTURE. EACH BASE IS 30" W. X 6" H.
10. G.C. SHALL PROVIDE ACCESS TO WATER HEATER ON PLATFORM ABOVE MOP SINK.
11. G.C. TO ENSURE THAT CONCRETE IS LEVEL TO WITHIN 1/8" VARIATIONS AT AREAS UNDER ROLLING SHELVES. VERIFY EXACT LOCATIONS W/ FIXTURE PLAN. ROLLING SHELVES EQUIPMENT IS 2,000-3,000 PSI. VERIFY EXACT CONCRETE LEVELING REQUIREMENTS W/ ARCHITECT & SHELVING VENDOR PRIOR TO CONSTRUCTION.
12. G.C. SHALL INSTALL NEW SEALANT AT BOTTOM OF GLAZING AFTER TILE IS REMOVED.

- KEY NOTES



1 CONSTRUCTION PLAN / FINISH PLAN

SCALE 3/16" = 1'-0"

RGLA
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REVISIONS:	DATE:
ISSUE FOR PERMIT, LANDLORD, PRICING	06/18/25
REV 1 - PERMIT REVISIONS	07/21/25

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JOSEPH A. LYON JR. NUMBER A-008908 ARCHITECT STATE OF MISSOURI

carhartt

SUMMIT WOODS CROSSING

1744 NW CHIPMAN ROAD
LEE'S SUMMIT, MO 64081

CONSTRUCTION PLAN, SCHEDULE & NOTES

DRAWN BY	SLS
CHECKED BY	SL
JOB NUMBER	25303
SHEET NAME	A-1.1

DESIGN LOADS

1.	BUILDING CODE	2018 BUILDING CODE
2.	RISK CATEGORY	II
3.	MINIMUM ROOF LIVE LOAD	20 PSF
4.	GROUND SNOW LOAD	20 PSF
5.	WIND	
	A. BASIC WIND SPEED, (3-SEC GUST) VULT	109 MPH
	B. EXPOSURE CATEGORY	C
6.	SEISMIC	
	A. MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETERS, Ss	0.099
	B. MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETERS, S1	0.068
	C. SITE CLASS (ASSUMED)	D

GENERAL

1. THE SIZE AND LOCATION OF EQUIPMENT PADS AND PENETRATIONS THROUGH THE STRUCTURE FOR MECHANICAL, ELECTRICAL AND PLUMBING WORK SHALL BE COORDINATED WITH THE APPROPRIATE CONTRACTOR(S). PENETRATIONS SHALL BE SUBJECT TO APPROVAL BY THE ARCHITECT/ENGINEER.
2. STRUCTURAL ELEMENTS ARE NON-SELF SUPPORTING AND REQUIRE INTERACTION WITH OTHER ELEMENTS FOR STABILITY AND RESISTANCE TO LATERAL FORCES. FRAMING AND WALLS SHALL BE TEMPORARILY BRACED BY THE CONTRACTOR UNTIL PERMANENT BRACING, FLOOR AND ROOF DECKS, AND WALLS HAVE BEEN INSTALLED AND CONNECTIONS BETWEEN THESE ELEMENTS HAVE BEEN MADE.
3. STRUCTURAL DRAWINGS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE METHOD OF CONSTRUCTION, UNLESS NOTED OTHERWISE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND OPERATION OF CONSTRUCTION AND SAFETY PRECAUTIONS AND PROGRAMS INCIDENTAL THERETO.
4. ARCHITECTURAL, MECHANICAL AND ELECTRICAL COMPONENTS AND SYSTEMS SHALL BE DESIGNED AND CONSTRUCTED TO RESIST SEISMIC FORCES AS DETERMINED IN CHAPTER 13 OF ASCE 7.
5. CONTRACTOR IS RESPONSIBLE FOR STRUCTURAL INTEGRITY AND STABILITY OF EXISTING STRUCTURE DURING DEMOLITION AND NEW CONSTRUCTION. CONTRACTOR SHALL RETAIN THE SERVICES OF A PROFESSIONAL ENGINEER REGISTERED IN THE PROJECT STATE TO DESIGN TEMPORARY SHORING AS REQUIRED.
6. VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO FABRICATION OF STRUCTURAL ITEMS. IF ANY DISCREPANCIES ARE FOUND BETWEEN WHAT IS SHOWN ON THE PLANS AND WHAT EXISTS IN THE FIELD, CONTACT THE ARCH/ENGR. OF RECORD TO DETERMINE WHAT SHOULD BE DONE TO MATCH EXISTING CONDITIONS AS REQUIRED. BEGINNING OF STEEL FABRICATION MEANS ACCEPTANCE OF EXISTING CONDITIONS.
7. DIMENSIONS AND DETAILS OF THE EXISTING STRUCTURE ARE BASED UPON LIMITED FIELD SURVEY. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND REPORT TO THE ENGINEER ANY VARIATIONS FROM THE DATA SHOWN HEREIN FOR POSSIBLE REDESIGN.
8. BEFORE OR CONCURRENT WITH EXCAVATIONS FOR THE FOUNDATIONS ADJACENT TO THE EXISTING BUILDING, PROVIDE ADEQUATE SUPPORT TO THE EXISTING SUBBASE OF THE EXISTING SLAB AND THE FOUNDATIONS TO PREVENT UNDERMINING.
9. DURING WELDING OR ANY OTHER CONSTRUCTION ACTIVITY THAT GENERATES SPARKS OR INTENSE HEAT, THE CONTRACTOR SHALL PROVIDE ADEQUATE FIRE PROTECTION TO THE EXISTING STRUCTURE AND CONTENTS.
10. USE ONLY DIMENSIONS INDICATED ON THE DRAWINGS. DO NOT SCALE DRAWINGS OR USE ANY DIMENSIONS TAKEN FROM ELECTRONIC DRAWING FILES.
11. ASSUME EQUAL SPACING IF NOT INDICATED ON DRAWINGS.

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL MEET THE FOLLOWING MINIMUM YIELD STRESS (FY):

		YIELD	ASTM SPECIFICATION
A.	W, WT SHAPES:	50 KSI	A992
B.	BARS, PLATES, CHANNELS, ANGLES:	36 KSI	A36
C.	SQUARE, RECTANGULAR HSS:	50 KSI	A500, GRADE C
D.	ROUND HSS:	46 KSI	A500, GRADE C
E.	STRUCTURAL STEEL PIPE:	35 KSI	A53, GRADE B
F.	ANCHOR RODS:	36 KSI	F1554
G.	ALL-THREAD RODS:	36 KSI	A36
H.	HEADED STUD ANCHORS:	5 KSI TENSILE STRESS	A108, GRADES 1010-1020

2. WELDING SHALL MEET ANSI / AWS D1.1, STRUCTURAL WELDING CODE LATEST REVISION. ELECTRODES SHALL BE 70 KSI, LOW HYDROGEN.
3. ALL CONNECTIONS NOT FULLY DETAILED ON THE STRUCTURAL DRAWINGS SHALL BE DESIGNED AND DETAILED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED, EMPLOYED OR RETAINED BY THE STEEL FABRICATOR. THE DESIGN AND DETAILING SHALL COMPLY WITH ALL APPLICABLE CODES AND SPECIFICATION SECTIONS.
4. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR INCLUDING THE COSTS FOR ALL MISCELLANEOUS STEEL IN THEIR BID REGARDLESS OF WHETHER THOSE ITEMS ARE INDICATED ON THE STRUCTURAL DRAWINGS. THESE COSTS SHALL INCLUDE BUT ARE NOT LIMITED TO MISCELLANEOUS STEEL ITEMS SHOWN ON ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS.

EXISTING CONSTRUCTION CONDITIONS

1. WORK WITH EXISTING STRUCTURES REQUIRES THOROUGH COORDINATION OF THE CONTRACT DOCUMENTS WITH EXISTING CONDITIONS. THE CONTRACTOR MUST VERIFY ALL RELEVANT EXISTING CONDITIONS, DIMENSIONS, ELEVATIONS, DETAILS, ETC., BEFORE THE START OF WORK. THE CONTRACTOR MUST REPORT ANY DEVIATIONS FROM CONDITIONS OR DIMENSIONS SHOWN ON THE CONTRACT DOCUMENTS TO THE ARCHITECTURAL DESIGN PROFESSIONAL AND THE STRUCTURAL DESIGN PROFESSIONAL TO REVIEW THE DESIGN AND FOR POSSIBLE REVISION OF THE CONTRACT DOCUMENTS. BEGINNING FABRICATION MEANS ACCEPTANCE OF EXISTING CONDITIONS.
2. THE NATURE OF STRUCTURAL DEMOLITION OR STABILIZATION IS INHERENTLY UNCERTAIN. THE EXACT CONDITION AND CAPACITY OF EACH STRUCTURAL ELEMENT CANNOT BE VERIFIED BEFORE THE START OF WORK. IT IS IMPERATIVE TO REPORT ANY ELEMENT WITH QUESTIONABLE STRUCTURAL INTEGRITY TO THE ARCHITECTURAL DESIGN PROFESSIONAL AND THE STRUCTURAL DESIGN PROFESSIONAL FOR IMMEDIATE REVIEW.
3. NO ATTEMPT HAS BEEN MADE TO DEFINE EACH SPECIFIC STRUCTURAL ELEMENT THAT MUST BE REMOVED, ENHANCED, OR REPLACED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW THE CONDITION OF INDIVIDUAL ELEMENTS (PARTICULARLY RAFTERS, JOISTS, AND STRUCTURAL DECK BOARDS) TO DETERMINE WHICH ELEMENTS CAN BE SALVAGED, WHICH ELEMENTS MUST BE REPLACED, AND WHICH ELEMENTS ARE QUESTIONABLE. THE CONTRACTOR SHOULD CONSULT WITH THE ARCHITECTURAL DESIGN PROFESSIONAL AND THE STRUCTURAL DESIGN PROFESSIONAL TO DETERMINE THE APPROPRIATE PROCEDURE FOR ELEMENTS IN QUESTIONABLE CONDITION.
4. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN AND ERECTION OF ALL SHORING, BRACING, AND PROTECTION MEASURES NECESSARY TO SAFEGUARD AND MAINTAIN THE EXISTING STRUCTURE DURING DEMOLITION AND CONSTRUCTION. THE CONTRACTOR SHALL SUBMIT A DETAILED PLAN FOR THE SHORING, BRACING, AND PROTECTION OF THE EXISTING CONSTRUCTION FOR REVIEW BY THE DESIGN PROFESSIONAL. THE REVIEW OF THE SUBMITTAL BY THE STRUCTURAL DESIGN PROFESSIONAL IS ONLY FOR GENERAL CONFORMANCE WITH THE CONTRACT DOCUMENTS. THE PLAN MUST INCLUDE THE PROPOSED CONSTRUCTION SEQUENCE. THE SHORING, BRACING, AND PROTECTION PLAN MUST BE SIGNED AND SEALED BY AN ENGINEER LICENSED IN THE PROJECT JURISDICTION.
5. DURING WELDING OR ANY OTHER CONSTRUCTION ACTIVITY THAT GENERATES SPARKS OR INTENSE HEAT, THE CONTRACTOR SHALL PROVIDE ADEQUATE FIRE PROTECTION TO THE EXISTING STRUCTURE AND CONTENTS.
6. THE EXISTENCE OF UNDERGROUND STRUCTURES AND UTILITIES IS NOT KNOWN. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE OWNER OR NECESSARY AUTHORITY AND LOCATING ALL UNDERGROUND STRUCTURES AND UTILITIES.
7. NO REINFORCING SHALL BE CUT WITHOUT THE APPROVAL OF THE STRUCTURAL DESIGN PROFESSIONAL. ADDITIONAL REINFORCEMENT OF THE SLAB MAY BE REQUIRED FOR NEW PENETRATIONS. CLUSTERED PENETRATIONS MAY NEED TO BE SEPARATED OR REGROUPED DEPENDING ON THE CONFIGURATION OF THE SLAB REINFORCING.
8. PENETRATIONS ARE NOT PERMITTED IN PRIMARY STRUCTURAL MEMBERS (BEAMS AND COLUMNS) WITHOUT THE STRUCTURAL DESIGN PROFESSIONAL'S WRITTEN PERMISSION.
9. THE CONTRACTOR SHALL USE METHODS AND TAKE PRECAUTIONS TO PREVENT OVERCUTTING FOR ANY NEW PENETRATIONS. SUGGESTED METHODS INCLUDE SAW CUTTING WITH CORED HOLES AT THE CORNERS OF NEW PENETRATIONS OR USING CONCRETE CHAINSAWS WITH PLUNGE-CUTTING CAPABILITIES.
10. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO THE EXISTING REINFORCING. ANY REPAIR PROCEDURES NOT DETAILED IN THE CONTRACT DOCUMENTS MUST BE SUBMITTED FOR REVIEW BY THE STRUCTURAL DESIGN PROFESSIONAL. THE SUBMITTAL MUST BE SIGNED AND SEALED BY A LICENSED ENGINEER IN THE PROJECT JURISDICTION.

REQUIRED SPECIAL INSPECTIONS

IN ADDITION TO THE REGULAR INSPECTIONS REQUIRED BY SECTION 110, THE FOLLOWING ITEMS WILL ALSO REQUIRE SPECIAL INSPECTION IN ACCORDANCE WITH SECTION 1705 OF THE 2018 BUILDING CODE.

ITEM	SECTION
STEEL CONSTRUCTION	1705.2

DURING WELDING OR ANY OTHER CONSTRUCTION ACTIVITY THAT GENERATES SPARKS OR INTENSE HEAT, THE CONTRACTOR SHALL PROVIDE ADEQUATE FIRE PROTECTION TO THE EXISTING STRUCTURE AND CONTENTS. AS A MINIMUM:
- REMOVE COMBUSTIBLE MATERIALS FROM AREAS OF WELDING AND SPARKS.
- PROVIDE FIRE PROOF BLANKETS AND SHIELDS TO CONTAIN SPARKS WHERE COMBUSTIBLE MATERIALS CANNOT BE REMOVED.
- PROVIDE A FIRE SAFETY OBSERVER WITH A FIRE EXTINGUISHER ON BOTH THE ROOF AND BELOW THE ROOF DURING WELDING NEAR THE ROOF STRUCTURE.

LEGEND

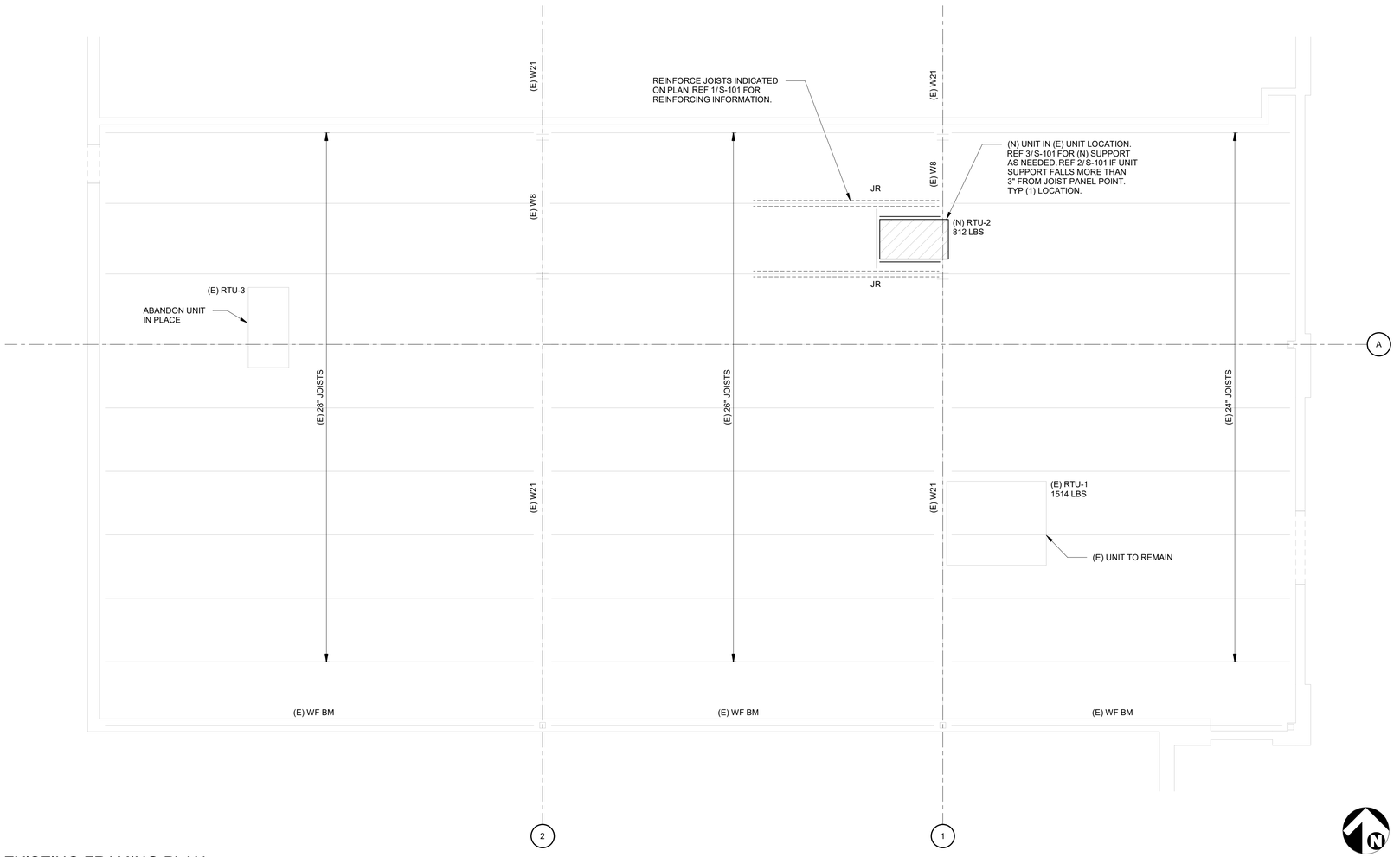
(E) - DENOTES EXISTING
(N) - DENOTES NEW
FV - DENOTES FIELD VERIFY
JR - DENOTES JOIST REINFORCING, REF 1/S-101
XXK - JOIST
WXX - WIDE FLANGE

- DENOTES EXISTING UNIT TO REMAIN

- DENOTES NEW UNIT IN EXISTING LOCATION

FIELD VERIFICATION NOTE

VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO FABRICATION OF STRUCTURAL ITEMS. EXISTING PORTION OF PLANS ARE FROM LIMITED EXISTING DRAWINGS, WHICH MAY OR MAY NOT REFLECT ACTUAL AS-BUILT CONDITIONS OR DIMENSIONS. IF ANY DISCREPANCIES ARE FOUND BETWEEN WHAT IS SHOWN ON THE PLANS AND WHAT EXISTS IN THE FIELD, CONTACT ARCHITECT AND ENGINEER TO DETERMINE WHAT SHOULD BE DONE TO MATCH EXISTING CONDITIONS AS REQUIRED. BEGINNING OF STEEL FABRICATION MEANS ACCEPTANCE OF EXISTING CONDITIONS. REF GENERAL NOTES.



1 EXISTING FRAMING PLAN
3/16" = 1'-0"

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1703 wyandotte street, suite 200
kansas city, missouri 64108
816.421.8282 · 800.364.5858

RGLA
rgla solutions, inc.
5100 River Road, Ste 125
Schiller Park, IL 60176
p: 847.671.7452
f: 847.671.4200
www.rgla.com

REVISION	DATE
ISSUE FOR PERMIT, LANDLOADRD, PRICING	06/18/25
STRUCTURAL REVISION 1	07/21/25

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retail architecture
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f. 847.671.4200
www.rgla.com

STATE OF MISSOURI
DARCEY L. SCHUMACHER
NUMBER PE-2009024305
PROFESSIONAL ENGINEER

SEAL: 07.21.2025

carhartt

SUMMIT WOODS CROSSING

1744 NW CHIPMAN ROAD
LEE'S SUMMIT, MO 64081

GENERAL NOTES AND FRAMING PLAN

DRAWN BY	
AML	
CHECKED BY	
RLH	
JOB NUMBER	
25303	
SHEET NAME	
S-100 1	

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kansas city, missouri 64108
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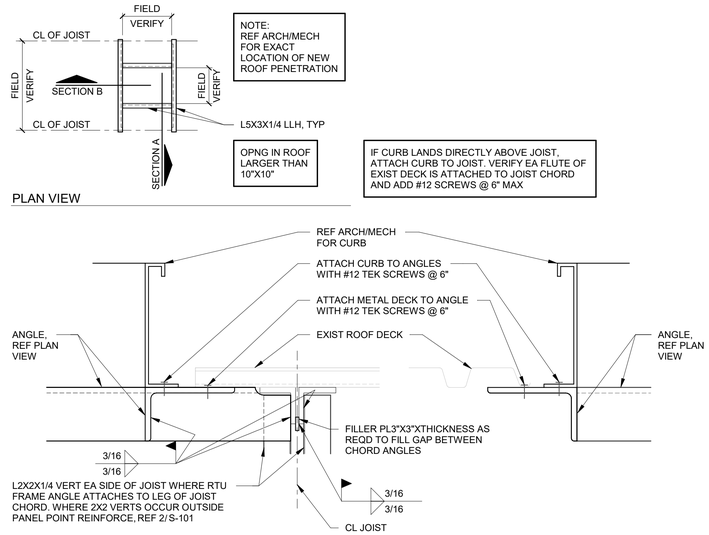
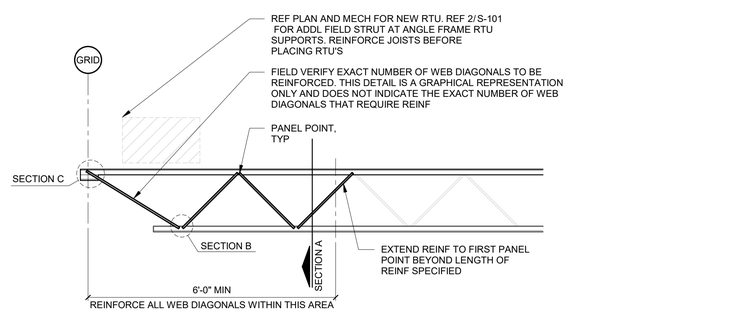
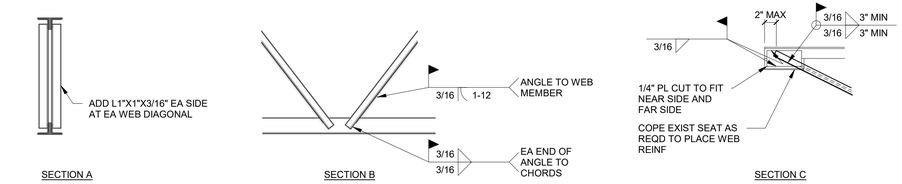


3 RTU SUPPORT FRAMING
3/4" = 1'-0"

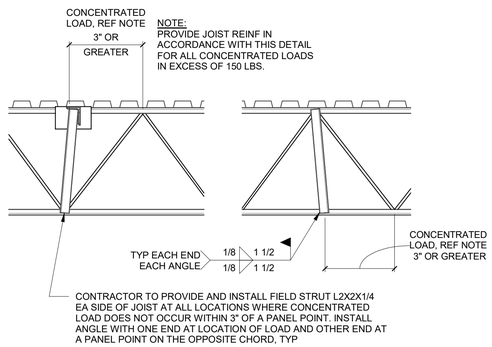


JOIST ELEVATION



JOIST DETAILS

1 JOIST REINFORCING DETAIL
3/4" = 1'-0"



2 JOIST PANEL POINT DETAIL
3/4" = 1'-0"

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5100 River Road, Ste 125
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REVISION	DATE
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STATE OF MISSOURI
DARCEY L. SCHUMACHER
NUMBER PE-2009034295
PROFESSIONAL ENGINEER

SEAL: 07.21.2025

carhartt

SUMMIT WOODS CROSSING

1744 NW CHIPMAN ROAD
LEE'S SUMMIT, MO 64081

DETAILS

DRAWN BY
AML
CHECKED BY
RLH
JOB NUMBER
25303
SHEET NAME
S-101

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CARHARTT REMODEL
LEE'S SUMMIT, MO
PROJECT NO. 2520281

STRUCTURAL CALCULATIONS
UNIT ANALYSIS

07.21.2025

DARCEY SCHUMACHER, P.E.
ENGINEER OF RECORD

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00 DESIGN CRITERIA

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CODE CHECK

DATE: 7/15/25

TO:

PHONE: FAX:

ATTN: EMAIL:

PROJECT: # 2520281 Carhartt Remodel -- Lee's Summit, Missouri

BY: PHONE VISIT OTHER TIME:

ITEM	DESCRIPTION	RESPONSE	
1. GOVERNING CODE			
A.	Local Building Code:	2018	IBC -- International Building Code
B.	Local Amendments:		
C.	Do State Building Code Requirements Differ?		
D.	Observations Required to be performed by EOR?		
E.	Special Inspections Final Report Required for Certificate of Occupancy?		
2. ROOF LIVE LOAD			
A.	Minimum Roof Live Load:	20 psf	
3. SNOW LOAD			
A.	Ground Snow Load, Pg:	20 psf	
B.	Minimum Snow Load Applied to Roof:		
4. WIND LOAD			
A.	Design Wind Speed:	109 mph	
B.	Risk Category	II	
5. SEISMIC LOAD			
A.	Mapped Spectral Response Acceleration, Ss:	.099	(short period, 0.2s)
B.	Mapped Spectral Response Acceleration, S1:	.068	(long period, 1.0s)
6. FROST DEPTH			
A.	Minimum Bearing Depth | Frost:		

REMARKS:

Please notify the undersigned if the above information is incorrect or incomplete.

FROM: Rachel Humphrey

CC:

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Development Services
Doing Business
Design
Development Process
Design Criteria
Access Management Code
Building Codes and Amendments
Design & Construction Manual (Infrastructure)
Development Policies
Unified Development Ordinance
Stormwater BMP O&M Manual
Construction
Community Outreach
Community Development Block Grant
Fair Housing
Neighborhood Services

Building Codes and Amendments

NOTICE: the City of Lee's Summit adopted the following 2018 Codes, which go into effect on April 1, 2019. All projects received after this date will be subject to the applicable 2018 Codes.

On January 8, 2019, the Lee's Summit City Council adopted new building code regulations (Ordinance #8536) and a new fire code (Ordinance #8537). These ordinances adopt provisions from the following nationally published construction codes:

- 2018 International Building Code
- 2018 International Plumbing Code
- 2018 International Mechanical Code
- 2018 International Fuel Gas Code
- 2018 International Residential Code
- 2018 International Fire Code
- 2017 National Electrical Code
- ICC/ANSI A117.1-2009, Accessible and Usable Buildings and Facilities

These codes can be purchased on-line at the ICC Store, or by calling the International Code Council Store at 1.800.786.4452.

Contact the Development Services Department for any questions related to the building related regulations at 816.969.1200 or the Fire Department at 816.969.1300 with any International Fire Code questions.

Development Services

220 SE Green
Lee's Summit, MO 64063

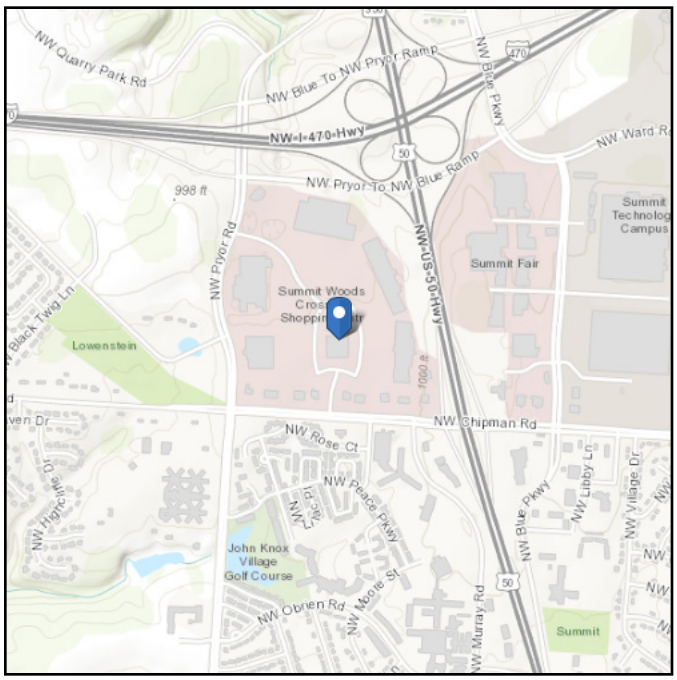
Phone: 816.969.1200
Fax: 816.969.1221
Monday - Friday 8 a.m. - 5 p.m. (except holidays)

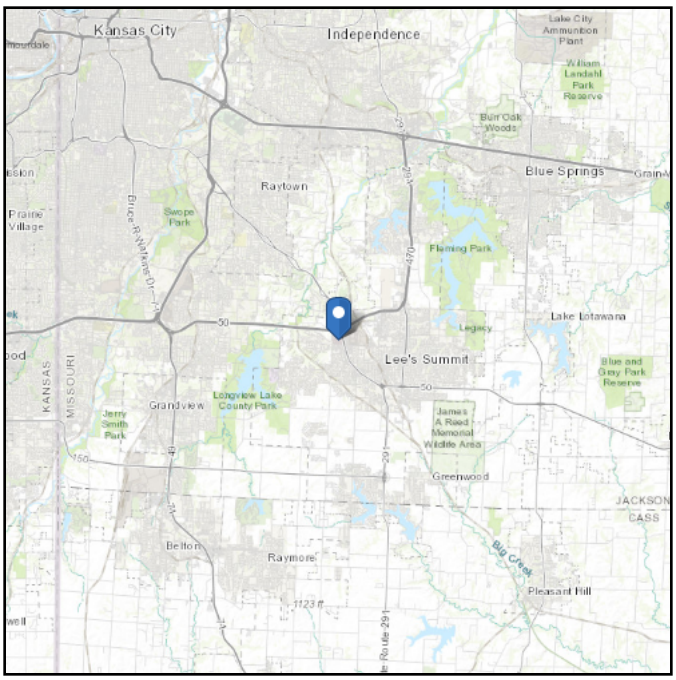
Contact Development Services

ASCE Hazards Report

Address:
1744 NW Chipman Rd
Lees Summit, Missouri
64081

Standard:	ASCE/SEI 7-16	**Latitude:**	38.928281
Risk Category:	II	**Longitude:**	-94.408664
Soil Class:	D - Default (see Section 11.4.3)	**Elevation:**	990.0953955117917 ft (NAVD 88)





Wind

Results:

Wind Speed	109 Vmph
10-year MRI	76 Vmph
25-year MRI	83 Vmph
50-year MRI	88 Vmph
100-year MRI	94 Vmph

Data Source:	ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed:	Tue Jul 15 2025

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is not in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2.

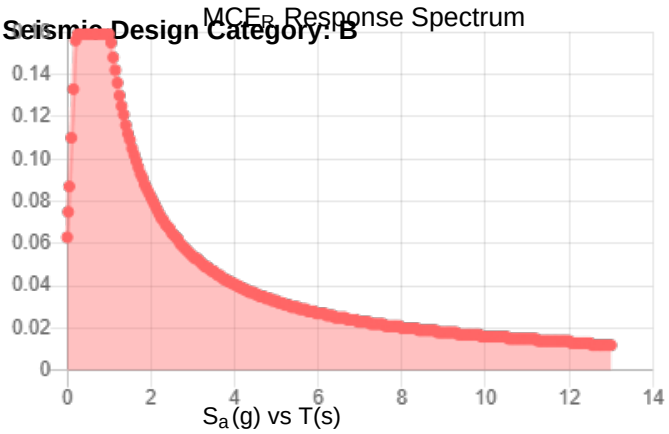
Seismic

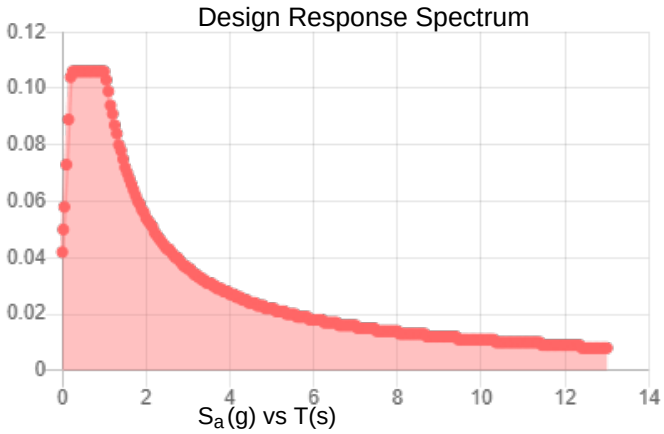
Site Soil Class: D - Default (see Section 11.4.3)

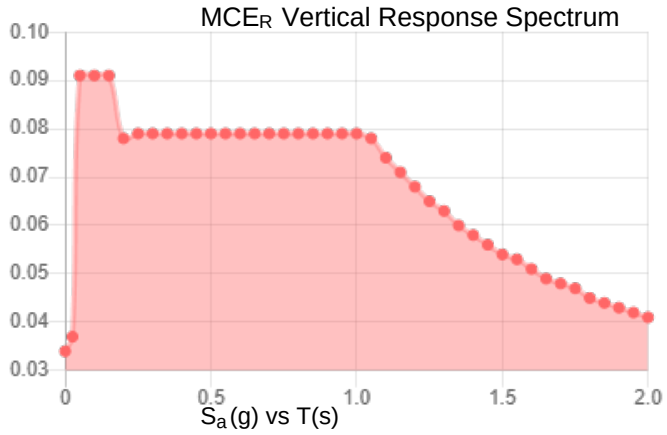
Results:

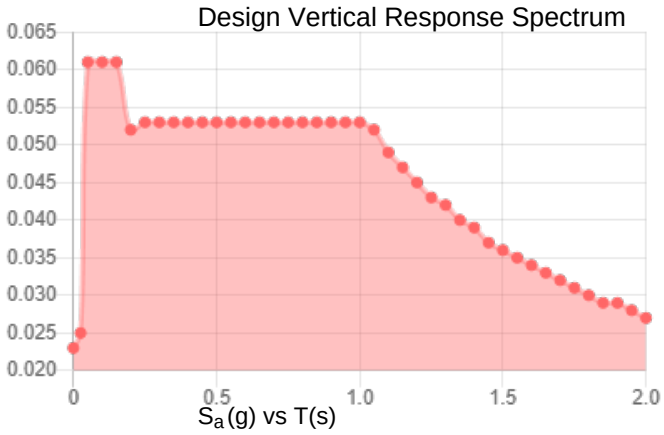
S_S :	0.099	S_{D1} :	0.109
S_1 :	0.068	T_L :	12
F_a :	1.6	PGA :	0.047
F_v :	2.4	PGA_M :	0.075
S_{MS} :	0.159	F_{PGA} :	1.6
S_{M1} :	0.163	I_e :	1
S_{DS} :	0.106	C_v :	0.7

Seismic Design Category: B









Data Accessed: **Tue Jul 15 2025**

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

Snow

Results:

Ground Snow Load, p_g:	20 lb/ft^2
Mapped Elevation:	990.1 ft
Data Source:	ASCE/SEI 7-16, Table 7.2-8
Date Accessed:	Tue Jul 15 2025

Values provided are ground snow loads. In areas designated "case study required," extreme local variations in ground snow loads preclude mapping at this scale. Site-specific case studies are required to establish ground snow loads at elevations not covered.

Snow load values are mapped to a 0.5 mile resolution. This resolution can create a mismatch between the mapped elevation and the site-specific elevation in topographically complex areas. Engineers should consult the local authority having jurisdiction in locations where the reported ‘elevation’ and ‘mapped elevation’ differ significantly from each other.

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01 UNIT ANALYSIS

wallace design collective

Date 7/21/25 Sheet No. of

Job CARHARTT

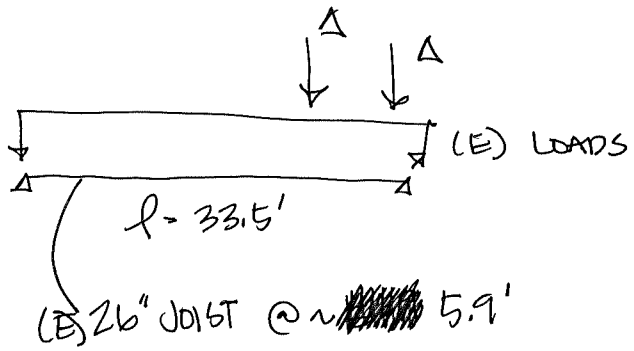
Subject UNIT ANALYSIS RLH

CHECK IMPACT OF (N) UNIT IN (E) LOCATION ON (E) STRUCTURE. COMPARE STRESSES FROM (N) LOADS TO (E) CONDITION. IF STRESSES INCREASE ≥5%, REINFORCE JOISTS PER IEBC.

UNIT	(E) WT	(N) WT	Δ WT	Δ CORNER
1	1514#			
2	500#	812# (UNIT) + 61# (CURB) = 873#	373#	93.25#
3	ABANDON IN PLACE			SAY 100#

■ (E) DEAD LOAD

MEMBRANE	1
INSULATION	5
SL DECK	2
JOISTS	2
MECH/ELEC	3
SPRINKLER	2
CEILING	1
	Σ 16psf



SEE FOLLOWING SHEET FOR ANALYSIS & REQUIRED REINFORCING.

▨ LL = 20psf

* CONTROLS OVER SL

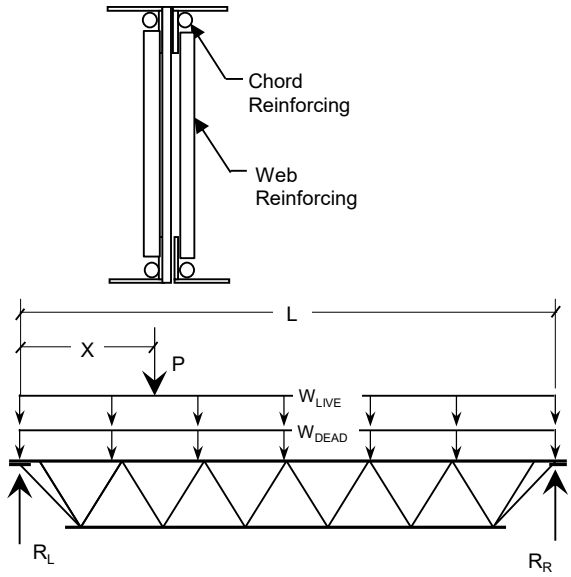
WALLACE DESIGN PROGRAM

Revised 08/24/15, Matthew Gebhardt

Date	7/21/2025	Sheet No.	of
Project	Carhartt		
Subject	New Unit		

OPEN WEB STEEL JOIST REINFORCING

AISC 360-05 ASD, SJI TD #12



1. Input

Joist Size =
Depth, d = **26** in - (For SP & other seires, enter d,
Total Load Capacity = **212.4** plf TL, and LL. For std. K, H, & LH,
Live Load Capacity = **118** plf leave blank to import from SJI.)

Length, L = **33.50** ft
Tributary Width, s = **5.90** ft

Dead Load, w_{dead} = **16** psf
Const Dead Load = **16** psf - (Tot DL on joist during reinf)
Live Load, w_{live} = **20** psf - (or snow load)
Collateral Load, w_{col} = **0** psf

Point Loads:

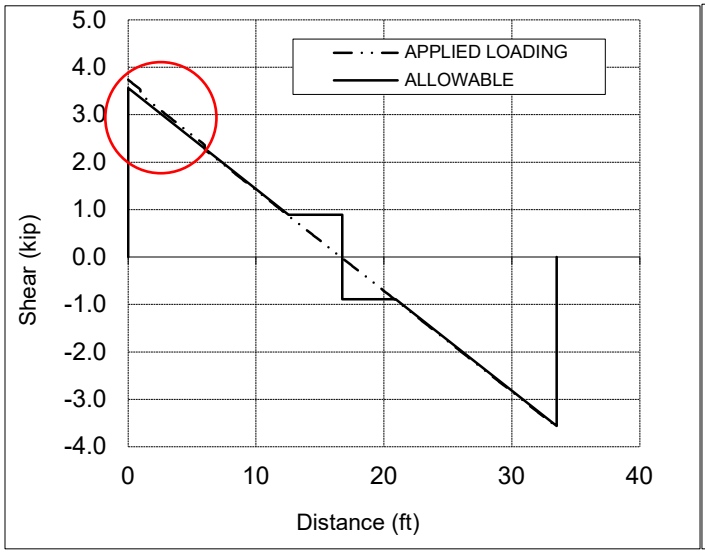
	1	2	3	4	5	6
P (lb)	**100**	**100**	**0**	**0**	**0**	**0**
X (ft)	**1.00**	**6.00**	**0.00**	**0.00**	**0.00**	**0.00**

Point Load Type: **DEAD** (DEAD, or LIVE)

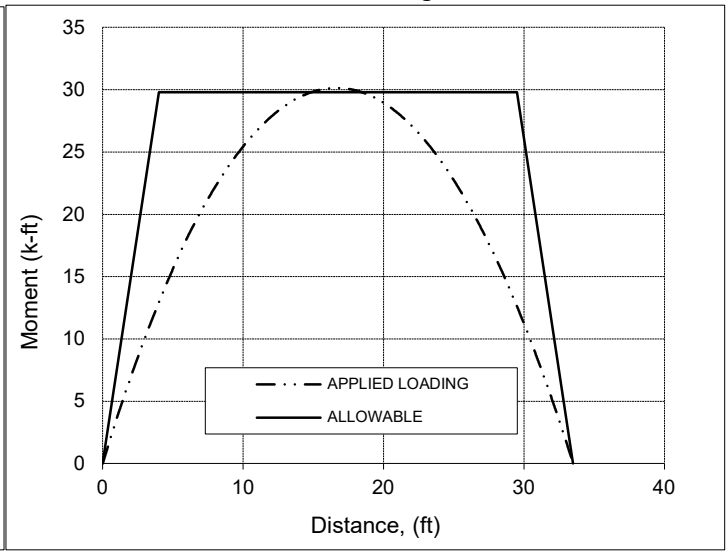
2. Calculation Summary

Load Conditions:		Joist Capacities:	
Dead Load, W_{dead} =	94.4 plf	Depth, d =	26 in
Live Load, W_{live} =	118.0 plf	Total Load Capacity =	212.4 plf
Collateral Load, W_{col} =	0.0 plf	Live Load Capacity =	118.0 plf
Total Load, W_{tot} =	212.4 plf		
		Prestress in joist, f_p =	7.1% (due to in-place dead load)
Left Reaction R_L =	3.7 kips	Allowable Shear =	3.6 kips (at end)
Right Reaction, R_R =	3.6 kips	Allowable Moment =	29.8 k-ft
Max Moment =	30.1 k-ft	Stress Reversal =	0.1 ft (left side)

Shear Diagram



Moment Diagram



5% Overloaded (w/o reinforcing)

STRESS INCREASE >5%, JOIST REINFORCING REQUIRED PER IEBC

1.2% Overloaded (w/o reinforcing)

STRESS INCREASE <5%, NO JOIST REINFORCING REQUIRED PER IEBC

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OPEN WEB STEEL JOIST REINFORCING

3. Reinforcement Calculations

Shear

Add'l Shear Force Req'd =	+/- 0.18	kips	
Force in Web Members:			
Tension =	0.31	kips	
Compression =	0.20	kips	

Reinforcing Capacity

Tension =	11.83	kips	**o.k.**
Compression =	4.39	kips	**o.k.**
Weld Capacity =	9.54	kips	**o.k.**

5% Overloaded (w/o reinforcing)

Input

Web Reinforcing Size:	**L1X1X3/16** (ea side)
Weld Size =	**0.1875** in (tot ea member,
Weld Length =	**1.00** in ea end)

Moment

Add'l Moment Req'd =	0.35	k-ft	
Add'l Chord Force Req'd =	+/- 0.17	kips	

Reinforcing Capacity

Tension =	4.42	kips	**o.k.**
Compression =	0.51	kips	**o.k.**

1.2% Overloaded (w/o reinforcing)

Input

Chord Reinforcing Size:	**3/8" ROD** (2 top and bottom)
Weld Spacing (Unbraced L) =	**24** in

Deflection (Total Load)

Unreinforced Deflection =	1.82	in (L/220)
Reinforced Deflection =	1.15	in (L/348)

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OPEN WEB STEEL JOIST REINFORCING

REACTIONS

REACTION LEFT	JOIST #	DEAD (LB)	LIVE (LB)	COLLAT. (LB)	P1 (LB)	P2 (LB)	P3 (LB)	P4 (LB)	P5 (LB)	P6 (LB)	TOTAL LIVE (LB)	TOTAL (LB)
	1.0	1581.2	1976.5	0.0	97.0	82.1	0.0	0.0	0.0	0.0	**2155.6**	**3736.8**

REACTION RIGHT	JOIST #	DEAD (LB)	LIVE (LB)	COLLAT. (LB)	P1 (LB)	P2 (LB)	P3 (LB)	P4 (LB)	P5 (LB)	P6 (LB)	TOTAL LIVE (LB)	TOTAL (LB)
	1.0	1581.2	1976.5	0.0	3.0	17.9	0.0	0.0	0.0	0.0	**1997.4**	**3578.6**

SUMMARY OF CALCULATIONS

	SHEAR											Reinf	Zero Shear
X	DEAD	LIVE	COLLAT	P1	P2	P3	P4	P5	P6		TOTAL	Location	Location
0.0	1581.2	1976.5	0.0	97.0	82.1	0.0	0.0	0.0	0.0		3736.8	Reinf	
1.0	1483.2	1854.0	0.0	-3.0	82.1	0.0	0.0	0.0	0.0		3416.2	Reinf	
2.0	1388.3	1735.4	0.0	-3.0	82.1	0.0	0.0	0.0	0.0		3202.8	Reinf	
3.0	1293.4	1616.8	0.0	-3.0	82.1	0.0	0.0	0.0	0.0		2989.3	Reinf	
4.1	1198.5	1498.2	0.0	-3.0	82.1	0.0	0.0	0.0	0.0		2775.8	Reinf	
5.1	1103.7	1379.6	0.0	-3.0	82.1	0.0	0.0	0.0	0.0		2562.4	Reinf	
6.1	1008.8	1261.0	0.0	-3.0	-17.9	0.0	0.0	0.0	0.0		2248.9		
7.1	913.9	1142.4	0.0	-3.0	-17.9	0.0	0.0	0.0	0.0		2035.5		
8.1	819.1	1023.8	0.0	-3.0	-17.9	0.0	0.0	0.0	0.0		1822.0		
9.1	724.2	905.2	0.0	-3.0	-17.9	0.0	0.0	0.0	0.0		1608.5		
10.1	629.3	786.6	0.0	-3.0	-17.9	0.0	0.0	0.0	0.0		1395.1		
11.1	534.4	668.1	0.0	-3.0	-17.9	0.0	0.0	0.0	0.0		1181.6		
12.1	439.6	549.5	0.0	-3.0	-17.9	0.0	0.0	0.0	0.0		968.1		
13.1	344.7	430.9	0.0	-3.0	-17.9	0.0	0.0	0.0	0.0		754.7		
14.1	249.8	312.3	0.0	-3.0	-17.9	0.0	0.0	0.0	0.0		541.2		
15.1	155.0	193.7	0.0	-3.0	-17.9	0.0	0.0	0.0	0.0		327.8		
16.1	60.1	75.1	0.0	-3.0	-17.9	0.0	0.0	0.0	0.0		114.3		16.7
17.1	-34.8	-43.5	0.0	-3.0	-17.9	0.0	0.0	0.0	0.0		-99.2		
18.1	-129.7	-162.1	0.0	-3.0	-17.9	0.0	0.0	0.0	0.0		-312.6		
19.1	-224.5	-280.7	0.0	-3.0	-17.9	0.0	0.0	0.0	0.0		-526.1		
20.1	-319.4	-399.3	0.0	-3.0	-17.9	0.0	0.0	0.0	0.0		-739.6		
21.1	-414.3	-517.8	0.0	-3.0	-17.9	0.0	0.0	0.0	0.0		-953.0	Reinf	
22.1	-509.1	-636.4	0.0	-3.0	-17.9	0.0	0.0	0.0	0.0		-1166.5	Reinf	
23.1	-604.0	-755.0	0.0	-3.0	-17.9	0.0	0.0	0.0	0.0		-1379.9	Reinf	
24.2	-698.9	-873.6	0.0	-3.0	-17.9	0.0	0.0	0.0	0.0		-1593.4	Reinf	
25.2	-793.8	-992.2	0.0	-3.0	-17.9	0.0	0.0	0.0	0.0		-1806.9	Reinf	
26.2	-888.6	-1110.8	0.0	-3.0	-17.9	0.0	0.0	0.0	0.0		-2020.3	Reinf	
27.2	-983.5	-1229.4	0.0	-3.0	-17.9	0.0	0.0	0.0	0.0		-2233.8	Reinf	
28.2	-1078.4	-1348.0	0.0	-3.0	-17.9	0.0	0.0	0.0	0.0		-2447.2	Reinf	
30.2	-1268.1	-1585.2	0.0	-3.0	-17.9	0.0	0.0	0.0	0.0		-2874.2	Reinf	
32.5	-1489.5	-1861.9	0.0	-3.0	-17.9	0.0	0.0	0.0	0.0		-3372.2	Reinf	
33.5	-1581.2	-1976.5	0.0	-3.0	-17.9	0.0	0.0	0.0	0.0		-3578.6	Reinf	

MAX SHEAR = 3737 LBS

<5% STRESS INCREASE

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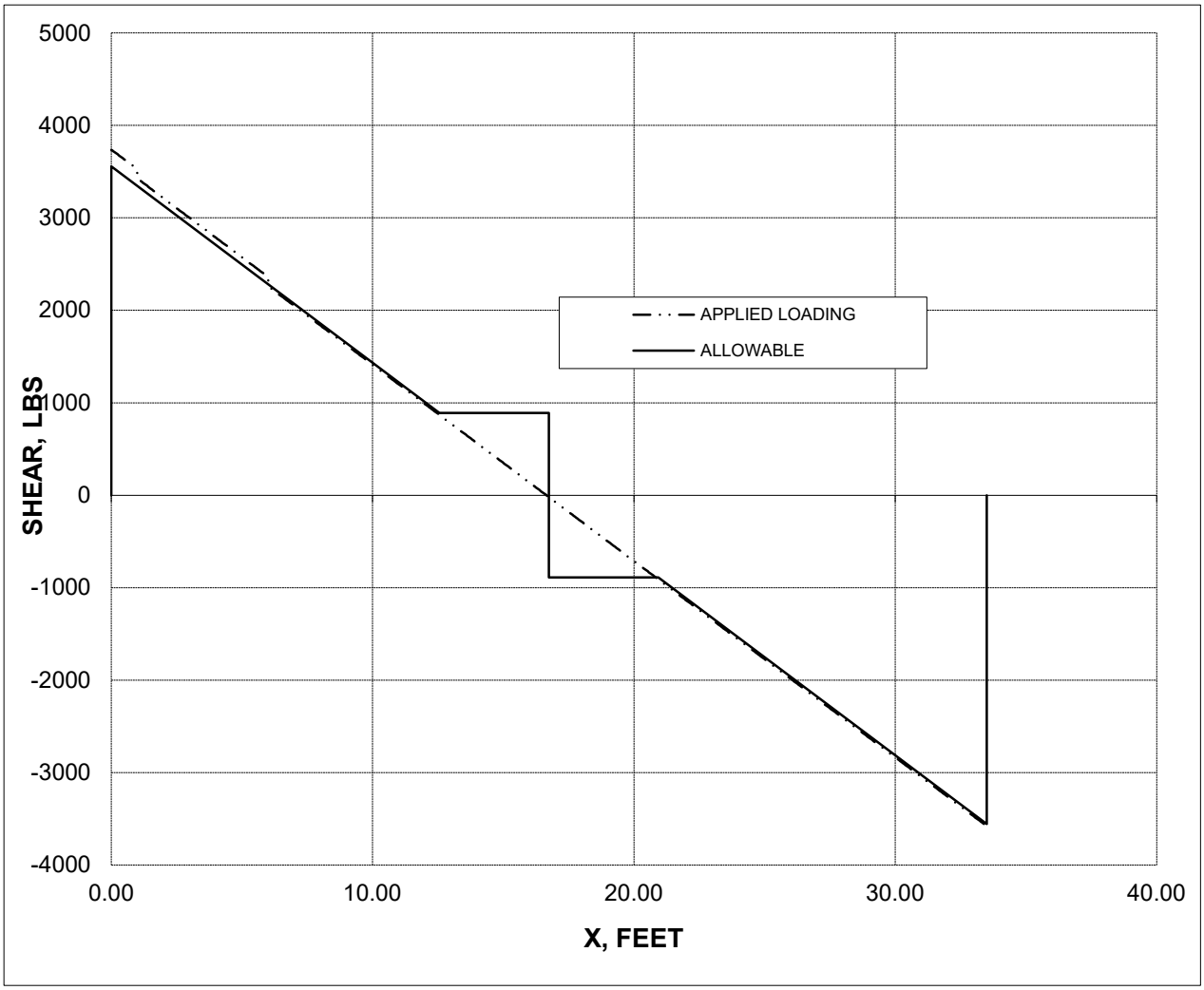
OPEN WEB STEEL JOIST REINFORCING

ALLOWABLE

WEQ =	212	PLF
Vr =	3557.7	LB
Vr min =	889.425	LB
MAX SHEAR =	3736.8	LB

ALLOWABLE

X	SHEAR
0	0
0	3557.7
12.5625	889.425
16.75	889.425
16.75	-889
20.94	-889
33.50	-3557.7
33.50	0



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OPEN WEB STEEL JOIST REINFORCING

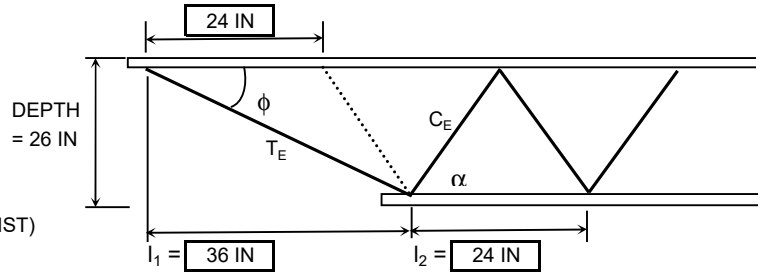
V_{MAX} = 3.74 KIPS (EVALUATED AT ENDS)
$V_{ALLOW} = W_{ALLOW}L/2$ = 3.56 KIPS

REQUIRED ADDITIONAL SHEAR FORCE (R_E)= MAX(V - V_{ALLOW}) = **0.18 KIPS** (AT 14.6 FT FROM LEFT END)

DETERMINE FORCE IN WEB MEMBER AT END OF JOIST

$\phi = 90\text{-}\tan^{-1}(l_1/d)$ = 35.8 DEGREES
$\alpha = \tan^{-1}(2d/l_2)$ = 65.2 DEGREES

$T_E = R_E/\sin\phi$ = **0.31 KIPS**
$C_E = T_E(\sin\phi)/\sin\alpha$ = **0.20 KIPS**



JOIST WEB MEMBER LAYOUT

TRY: L1X1X3/16 (EA. SIDE OF JOIST)
Fy = 36 KSI E = 29000 KSI
Fu = 58 KSI WELD: 0.188 1.00 IN (EA. MEMBER, EA. END)

CHECK END WEB REINF AND WELD FOR TENSION

AREA, Ag = 0.68 SQ IN (2 MEMBERS, ONE EACH SIDE)
YIELD, F'y = 33.44 KSI (F'y = Fy - fp, PRESTRESS OF EXISTING JOIST DUE TO DEAD LOAD)
V LAG, U = 0.6

TENSION CAPACITY = **11.83 KIP** **MEMBER OK FOR TENSION**
WELD CAPACITY = **9.54 KIP** **WELD OK FOR TENSION**

$$\frac{P_n}{\Omega_t} = \frac{F'_y A_g}{1.67} \le \frac{F_u U A_g}{2.00}$$

CHECK FIRST COMPRESSION WEB REINF AND WELD

LENGTH OF MEMBER = 28.6 IN
r_x = 0.297 IN
L/r_x = 96
(KL/r)' = 153 (FOR ANGLES ONLY)
KL/r = 153 (USED)
KL/r lim = 200
Fe = 12.30 KSI
Fcr = 10.79 KSI

COMP CAPACITY = **4.39 KIP** **MEMBER OK FOR COMPRESSION**
WELD CAPACITY = **9.54 KIP** **WELD OK FOR COMPRESSION**

Angles
$b/t \le \lambda_r$
$L/r_x \le 80 \rightarrow (KL/r)' = 72 + 0.75L/r$
$L/r_x > 80 \rightarrow (KL/r)' = 32 + 1.25L/r \le 200$

$$F_e = \frac{\pi^2 E}{(KL/r)^2}$$
$$F_e \ge 0.44F'_y \rightarrow F_{cr} = F'_Y (0.658)^{F'_y/F_e}$$
$$F_e < 0.44F'_y \rightarrow F_{cr} = 0.877F_e$$
$$\frac{P_n}{\Omega_c} = \frac{F_{cr} A_g}{1.67}$$