

ABI	ACCENT BUILT-IN	FAO	FINISHED ALL OVER	MAX	MAXIMUM	RM	ROOM
ACT	ACOUSTIC CEILING TILE	FE	FIRE EXTINGUISHER	MB	MERCHANDISE BAY	RO	ROUGH OPENING
AFF	ABOVE FINISH FLOOR	FEC	FIRE EXTINGUISHER CABINET	MDO	MEDIUM DENSITY OVERLAY	SBC	STANDARD BUILDING CODE
AL	ALUMINUM	FIN	FINISH	MECH	MECHANICAL	SCH	SCHEDULE
AVG	AVERAGE	FT	FEET	MFR	MANUFACTURER	SECT	SECTION
BD	BOARD	FL	FLOOR	MIN	MINIMUM	SHT	SHEET
BLDG	BUILDING	FLUOR	FLUORESCENT	MISC	MISCELLANEOUS	SIM	SIMILAR
воса	BUILDING OFFICIALS	FRT	FIRE RETARDANT TREATED	MLDG	MOLDING	SMF	STRUCTURAL METAL FRAMING
	CODE ADMINISTRATION	FS	FULL SIZE	MO	MASONRY OPENING	SPECS	SPECIFICATIONS
BR	BRASS	FSU	FREE STANDING UNIT	MR	MOISTURE RESISTANT	SQ	SQUARE
BRZ	BRONZE	FURN	FURNISH	MTL	METAL	SQ FT	SQUARE FEET
CAB	CABINET	FW	FEATURE WALL	MULL	MULLION	SQ IN	SQUARE INCHES
СН	CHROME	GA	GAUGE	NAT	NATURAL	SS	STAINLESS STEEL
CL	CENTER LINE	G.C.	CONTRACTOR	NIC	NOT IN CONTRACT	STD	STANDARD
CLG	CEILING	GL	GLASS	NFPA	NATIONAL FIRE PROTECTION	SUSP	SUSPENDED
CLR	CLEAR	GRG	GLASS REINFORCED GYPSUM	NO	ASSOCIATION NUMBER	SYS	SYSTEM
CMU	CONCRETE MASONRY UNIT	GWB	GYPSUM BOARD	NOM	NOMINAL	Т	THICK
COL	COLUMN	Н	HEIGHT	NTS	NOT TO SCALE	T&G	TONGUE AND GROOVE
CONC	CONCRETE	HC	HOLLOW CORE	OC	ON CENTER	TEL	TELEPHONE
CONST	CONSTRUCTION	HDW	HARDWARE	OFI	OWNER FURNISHED ITEM	TEMP	TEMPERATURE
CONT	CONTINUOUS	HDWD	HARDWOOD	OPNG	OPENING	TR	TREAD
D	DEEP	HOR	HORIZONTAL	OPP	OPPOSITE	TYP	TYPICAL
DEMO	DEMOLITION	HR	HANGRAIL	PL	PLASTIC LAMINATE	UBC	UNIFORM BUILDING CODE
DET	DETAIL	IN	INCH	PLBG	PLUMBING	UNO	UNLESS NOTED OTHERWISE
DIA	DIAMETER	INSUL	INSULATION	PLYWD	PLYWOOD	UR	URINAL
DIV PNL	DIVIDER PANEL	INT	INTERIOR	PNL	PANEL	VB	VAPOR BARRIER
DWG	DRAWING	JB	JUNCTION BOX	PT	PRESSURE TREATED	VIF	VERIFY IN THE FIELD
EA	EACH	L	LONG	QTY	QUANTITY	W	WIDE
ELEC	ELECTRIC	LAV	LAVATORY	R	RADIUS	WC	WATER CLOSET
EQ	EQUAL	LIN	LINEAR	REF	REFERENCE	WD	WOOD
EST	ESTIMATE	LL	LANDLORD	REQD	REQUIRED	WI	WROUGHT IRON
EXIST	EXISTING	LT	LIGHT	REV	REVISION	WT	WEIGHT
1							

W/O WITHOUT

# **CODE SUMMARY**

APPLICABLE CODES
BUILDING CODE
ACCESSIBILITY C

INTERNATIONAL BUILDING CODE, ED. 2015 & MA AMENDMENT CMR 780 9TH EDITION

CODE

248 CMR 10.00: UNIFORM STATE PLUMBING CODE PLUMBING CODE

LTG LIGHTING

MECHANICAL CODE INTERNATIONAL MECHANICAL CODE, ED. 2015 ELECTRICAL CODE NATIONAL ELECTRICAL CODE, ED. 2020

FIRE PROTECTION :	NFPA1, ED. 2021; & 527 CMR 1.00 INTERNATIONAL ENERGY CONSI	MASSACHUSETTS COMPREHENSIVE FIRE	CODE	
PROJECT NARRATIVE	DD PROCESSING BUILDING, ADDITION OF	FA LOADING DOCK AND MAIN ENTRANCE ON THE FIF	RST FLOOR, AND ADDITION OF 1	THE OFFICE SPACE ON THE SECOND FLOOR.
DESCRIPTION	CODE REFERENCE	REQUIREMENT	EXISTING	PROPOSED
ENERAL USE GROUP CONSTRUCTION TYPE	: 303 : TABLE 602	: F-1 : 2B	: F-1 : 2B	: F-1 : 2A
NO. OF STORIES (BUILDING) HIGH RISE? COVERED MALL SPRINKLERED MANUAL FIRE ALARM SYSTEM AUTOMATIC FIRE ALARM SYSTEM	: TABLE 503 : 403.1 : 402.0 : 903.2.1.2 : 907.2.7 : PER MECHANICAL CODE		- : 2 : NO : NO : NO : YES : NO	: 2 : NO : NO : YES : YES : YES
EPARATIONS TENANT SEPARATION FINISH CLASSIFICATION	: TABLE 508.4 : TABLE 803.5	: NONE : ROOM WALLS CLASS C ROOM CEILINGS CLASS B EXIT CORRIDORS CLASS C	: 1-HR : CLASS C CLASS B CLASS C	: 1-HR : CLASS C CLASS B CLASS C
CCUPANT LOAD GROSS FLOOR AREA FLOOR AREA ALLOWANCE	: : 1004.1.1	: : MERCANTILE-STORAGE & SHIPPING BUSINESS AREA (100 GSF)	: - (300 GSF)	: 17,700 GROSS sq.ft. : 2,150 sq.ft. / 300 = 15,550 sq.ft. / 100 = 1
MAX OCCUPANT LOAD	:	:	:	
REQUIRED NUMBER OF EXITS MIN. EXIT SEPARATION MAXIUM EGRESS PATH EGRESS WIDTH (SERVING 50) > EGRESS WIDTH (SERVING =50) <	: TABLE 1021.1 : 1025.1 : TABLE 1016.1 : 1023.2 : 1023.2	: 2 : 188' (1/3 DIAG. = 62'-0") : 200 FEET : 44 INCHES : 36 INCHES	: 2 : 86' : 96' : 44" : 36"	: 3 : 86' : 96'-0" : 44" : 36"
UMBING FACILITIES  WATER CLOSETS  LAVATORY  DRINKING FOUNTAIN  UTILITY SINK	: TABLE 403.1 : TABLE 403.1 : TABLE 403.1 : TABLE 403.1	: 1/30 PER FEMALE, 1/60 PER MALE : 1/200 PER FEMALE, 1/200 PER MALE : 1/1,000 : 1		: 2 MALE/ 2 FEMALE : 2 MALE/ 2 FEMALE : NONE : 1

# **GENERAL NOTES**

#### **GENERAL NOTES:**

- ALL WORK SHALL COMPLY WITH THE INTERNATIONAL BUILDING CODE AND COMMONWEALTH OF MASSACHUSETTS STATE BUILDING CODE, THE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH STANDARDS AND ALL OTHER APPLICABLE REGULATIONS, LAWS, ORDINANCES, ETC. GOVERNING THIS WORK.
- PRIOR TO BUILDING, ALL CONTRACTORS MUST THOROUGHLY EXAMINE THE DRAWINGS AND SPECIFICATIONS AND INSPECT THE BUILDING TO FULLY UNDERSTAND THE FACILITY. DIFFICULTIES AND RESTRICTIONS AFFECTING THE EXECUTION OF THE WORK UNDER THIS CONTRACT. THE FAILURE OF ANY CONTRACTORS TO RECEIVE OR EXAMINE ANY FORM OF INSTRUMENT OR DOCUMENT OR TO VISIT THE SITE SHALL IN NO WAY RELIEVE ANY OBLIGATION WITH RESPECT TO THIS WORK. NO CLAIMS FOR ANY ADDITIONAL COST WILL BE ALLOWED DUE TO LACK OF FULL KNOWLEDGE OF EXISTING CONDITIONS.
- CONTRACTOR'S BID PRICE SHALL REFLECT ALL SPECIFIED WORK
- INFORMATION ON THESE PLANS ARE SCHEMATIC. INDIVIDUAL ROOF MANUFACTURES HAVE DIFFERENT DETAILS AND THESE MAY VARY DEPENDING ON WHICH MANUFACTURING SYSTEM IS SELECTED. CONTRACTOR SHOULD VISIT SITE TO ENSURE THAT HE IS FAMILIAR WITH THE PROJECT REQUIREMENT TO DO A COMPLETE ATTENTION SHOULD BE MADE AT THE MECHANICAL EQUIPMENT WITH RESPECT TO DISCONNECTION, MOVING, ROOF INSTALLATION AND
- ALL EXISTING CONDITIONS AND PLAN AND DETAIL DIMENSIONS SHOULD BE VERIFIED IN THE FIELD PRIOR TO COMMENCING THE WORK. THE CONTRACTOR SHALL NOTIFY THE CONTRACTING OFFICER OF ANY DISCREPANCIES FOUND IN THE PLANS OR SPECIFICATIONS BEFORE PROCEEDING WITH AFFECTED PART OF THE WORK.
- 6. THE GENERAL CONTRACTOR MUST RECONFIRM THE DIMENSIONS OF THE DEMISING PARTITIONS AND COLUMN LOCATIONS.
- THE GENERAL CONTRACTOR SHALL UPON INITIAL SITE VISIT VERIFY ALL EXISTING CONDITIONS (I.E., OVERALL DIMENSIONS, CONDITION OF CONCRETE SLAB, LOCATION OF SERVICES, STRUCTURE, CLEARANCES, ETC.) AND REPORT ANY DISCREPANCIES, OMISSIONS, OR OBSTRUCTIONS THAT WILL AFFECT THE LAYOUT OR DESIGN OF THE SPACE IMMEDIATELY TO THE OWNER OR OWNER'S PROJECT MANAGER.
- CONTRACTOR SHALL LAY OUT PARTITION LINES ON FLOOR AT BEGINNING OF JOB AND NOTIFY ARCHITECT OF ANY OMISSIONS OR DISCREPANCIES IN THE CONTRACT DOCUMENTS IMMEDIATELY.
- G.C. TO PATCH AND REPAIR EXISTING WALLS AFFECTED BY DEMOLITION OR NEW CONSTRUCTION WITH LIKE CONSTRUCTION MATERIALS TO MATCH EXISTING.
- 10. THE CONTRACTOR SHALL TAKE ADEQUATE PRECAUTION TO PROTECT ADJOINING PROPERTY AND STRUCTURES FROM DAMAGE. ALL ABUTTING WORK SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO EXTRA COST TO THE OWNER.
- I1. IT IS NOT INTENDED THAT THESE DRAWINGS SHOW EVERY CUT, CONDITION ETC., OF THIS SYSTEM. HOWEVER, THE CONTRACTOR SHALL FURNISH A COMPLETE PRODUCT IN ACCORDANCE WITH THE BEST PRACTICE OF THE TRADE AND IN STRICT CONFORMANCE WITH ALL APPLICABLE INTERNATIONAL CODE AND STATE BUILDING CODE REGULATIONS.
- 12. CONTRACTOR SHALL ADHERE TO A SCHEDULE FOR ALL WORK WHICH DOES NOT INTERFERE WITH NORMAL OPERATIONS OF THE FACILITY.
- 13. CONTRACTOR SHALL ENSURE THAT MEMBRANE ROOFING MANUFACTURE'S REPRESENTATIVE IS PRESENT ON SITE DURING INSTALLATION OF THE ENTIRE ROOF.
- 14. ROOF SLOPES AS NOTED ON DRAWINGS ARE BASED ON AVAILABLE EXISTING INFORMATION. CONTRACTOR SHALL VERIFY ALL ELEVATIONS AND SLOPES AND SUBMIT TO DESIGNER ALL EXISTING ELEVATIONS PRIOR TO INSTALLATION OF INSULATION. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE MINIMUM SLOPES TOWARDS ROOF FRAMING AS NOTED. USE

TAPERED INSULATION AT FLAT AREAS AS REQUIRED TO ACHIEVE POSITIVE SLOPES.

- 15. COMPLETE SYSTEM WARRANTIES INCLUDING ROOFING, INSULATION AND OTHER RELATED ITEMS ARE REQUIRED FOR THIS PROJECT. REFER TO MANUFACTURER'S SPECIFICATION.
- 16. DO NOT PUT DISSIMILAR METALS IN CONTACT WITH EACH OTHER.
- UNLESS SPECIFICALLY NOTED AS EXISTING, ALL ITEMS ARE NEW.
- 18. USE ONLY MASONRY MATERIALS FOR MASONRY PATCHING AND USE ONLY ROOFING MATERIALS FOR ROOF WORK.

#### BUILDING LANDLORD GENERAL NOTES

A FULL SET OF APPROVED CONSTRUCTION DOCUMENTS INCLUDING BUT NOT LIMITED TO FIRE ALARM DRAWINGS, FIRE SPRINKLER DRAWINGS, STRUCTURAL ENGINEERING DRAWINGS, DOCUMENTS AND CALCULATIONS ALONG WITH THE MASTER PERMIT AND SUB-CONTRACTOR PERMITS IS REQUIRED TO BE SUBMITTED TO THE LANDLORD PRIOR TO COMMENCING WITH ANY IMPROVEMENTS.

-STRUCTURAL, STAMPED PLANS AT THE TENANTS' SOLE EXPENSE ARE REQUIRED FOR EQUIPMENTS/MATERIAL LOADS HEAVY ENOUGH TO CAUSE DEFLECTION/DAMAGE TO THE LANDLORD'S STRUCTURE.

-ANY AND ALL ROOF WORK WILL BE PERFORMED BY THE LANDLORD'S PREFERRED ROOFING CONTRACTOR AT TENANT'S SOLE COST

MAINTAIN ACCESS TO ANY AND ALL LANDLORD POINTS OF MAINTENANCE FOR CLEAN OUTS, ELECTRICAL JUNCTION BOXES, ETC. - ALL ROOF TOP EQUIPMENT IS REQUIRED TO BE LABELED, INCLUDED BUT NOT LIMITED TO HVAC,

EXHAUST FANS, KITCHEN HOOD FANS, ETC. THE LABEL SHALL BE BLACK IN COLOR AND SHALL BE A MINIMUM OF 3" IN HEIGHT IN A VISIBLE LOCATION. THE LABEL SHALL STATE THE TENANT UNIT NUMBER. · A FULLY ADHERED TOP OR PVC ROOF WALKWAY MATS COMPATIBLE WITH THE EXISTING ROOF SYSTEM IS REQUIRED TO BE INSTALLED SURROUNDING ALL ROOFTOP EQUIPMENT.

-A A COMPATIBLE GREASE MAT IS REQUIRED TO BE INSTALLED AROUND ROOF TOP GREASE EXHAUST SYSTEM. THE SIZE WILL BE DETERMINE BY THE GREASE HOOD EXHAUST USE AND ROOF MEMBRANE MANUFACTURE RECOMMENDATIONS.

- A NEW ROOF SUPPORTS SHALL BE CONSTRUCTED FOR ELECTRICAL/CONDENSATE LINE AND IS REQUIRED TO BE COMPATIBLE WITH THE EXISTING ROOF MEMBRANE. -ALL ELECTRICAL EQUIPMENT AND GEAR IS REQUIRED TO BE LABELED INCLUDING BUT NOT LIMITED TO

PANELS, DISCONNECTS, METERS ETC. THE LABEL SHALL BE BLACK IN COLOR AND SHALL BE A MINIMUM OF 2" IN HEIGHT IN A VISIBLE LOCATION, THE LABEL SHALL STATE THE TENANT UNIT NUMBER. - ALL EXTERIOR WALL PENETRATION SHALL BE MADE WATERTIGHT AND BE FINISHED TO MATCH THE SURROUNDING WALL FINISHES.

- NO EXPOSED WIRES OR CONDUIT IS ALLOWED ON THE EXTERIOR OF THE STRUCTURE WITHOUT WRITTEN PERMISSION FROM THE LANDLORD.

- ATTACHMENT TO THE UNDERSIDE OF THE ROOF/PAN DECK ARE PROHIBITED.

THE TENANT WILL ULTIMATELY BE LIABLE FOR ANY DAMAGE OCCURRING TO ANY LANDLORD COMMON UTILITIES THAT MAY BE WITHIN THE TENANT SPACE AFTER TAKING POSSESSION.

-THE FIRE RATING OF ALL EXISTING DEMISING WALLS MUST BE MAINTAINED.

-LANDLORD REQUIRES A CERTIFIED COPY OF THE AS-BUILT DRAWINGS UPON COMPLETION OF CONSTRUCTION AND FINAL INSPECTION BY THE AUTHORITY HAVING JURISDICTION.

-4" OR 6" PVC TUBE CAPPED ON THE BOTTOM END AND A CLEAN OUT ON THE TOP END TO HOUSE THE HARD COPY OF THE AS BUILT PLANS MUST BE INSTALLED IN A UTILITY ROOM OR BY THE MAIN ELECTRICAL PANEL. LABEL THE TUBE "AS-BUILTS" DO NOT REMOVE"

-LANDLORD REQUIRES A SIGNED/COMPLETED ELECTRONIC PDF COPY OF THE CERTIFICATE OF OCCUPANCY AND CERTIFICATE OF COMPLETION.

-LANDLORD REQUIRES EVIDENCE THE TENANT GREASE WASTE/SEWER LINES HAVE BEEN RODDED AND ARE FREE AND CLEAR TO THE MAIN AFTER CONSTRUCTION WAS COMPLETE. -DEVIATIONS FROM THE APPROVED CONSTRUCTION DOCUMENTS SHALL REQUIRE THE REVIEW AND

APPROVAL OF THE LANDLORD. - CONTRACTOR'S WORK THAT PREVENTS THE SURROUNDING TENANTS FROM QUITE ENJOYMENT OF THEIR SPACE IS PROHIBITED AND IS REQUIRED TO BE COORDINATED WITH THE LANDLORD TO BE

CONDUCTED AFTER OPERATING HOURS. -THE EXTERIOR AREAS OF THE BUILDING SHALL BE KEPT CLEAN AND CLEAR OF DEBRIS.

- ALL SURFACES AND AREAS ARE REQUIRED TO BE PROTECTED FROM DAMAGE BY THE DUMPSTER.

# **DOCUMENT LIST**

SHEET

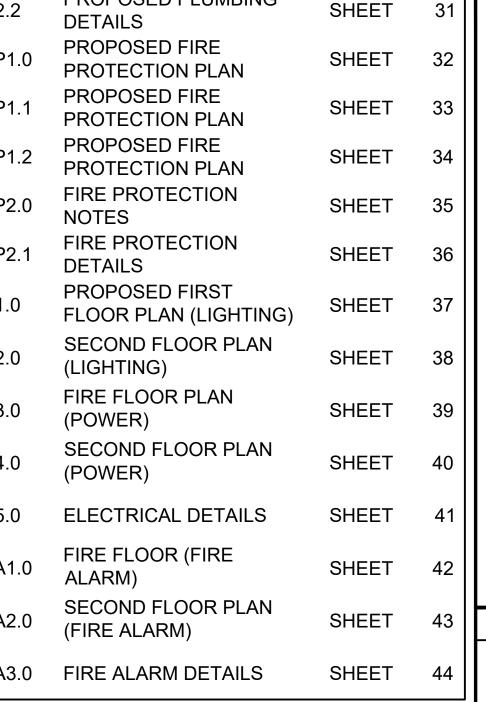
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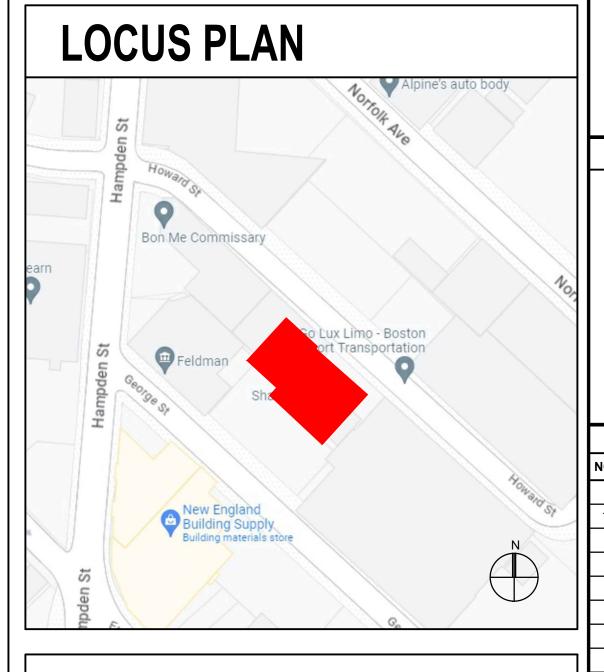
TITLE SHEET

SURVEY PLOT PLAN

C-1	SURVEY PLOT PLAN	SHEET	2
A0.1	WALL TYPES AND SCHEDULES	SHEET	3
A1.0	PROPOSED SITE PLAN	SHEET	4
A1.1	EXISTING FIRST FLOOR PLAN (PARTIAL LEFT)	SHEET	5
A1.2	EXISTING FIRST FLOOR PLAN (PARTIAL RIGHT)	SHEET	6
A1.3	EXISTING SECOND FLOOR PLAN	SHEET	7
A1.4	PROPOSED FIRST FLOOR PLAN (PARTIAL LEFT SIDE)	SHEET	8
A1.5	PROPOSED FIRST FLOOR PLAN (PARTIAL RIGHT SIDE)	SHEET	9
A1.6	PROPOSED SECOND FLOOR PLAN	SHEET	10
A1.7	PROPOSED ROOF PLAN	SHEET	11
A2.1	EXISTING EXTERIOR ELEVATIONS	SHEET	12
A2.2	PROPOSED EXTERIOR ELEVATIONS	SHEET	13
A3.1	PROPOSED BUILDING SECTIONS	SHEET	14
A3.2	PROPOSED WALL SECTIONS	SHEET	15
S0.0	STRUCTURAL GENERAL NOTES	SHEET	16
S1.0	FOUNDATION PLAN	SHEET	17
S1.1	SECOND FLOOR FRAMING PLAN	SHEET	18
S1.2	ROOF FRAMING PLAN	SHEET	19
S2.0	BRACING ELEVATIONS	SHEET	20
S3.0	STRUCTURAL DETAILS	SHEET	21
S3.1	STRUCTURAL DETAILS	SHEET	22
H1.0	PROPOSED HVAC PLAN	SHEET	23
H1.2	PROPOSED HVAC PLAN	SHEET	24
H2.1	HVAC NOTES & SCHEDULES	SHEET	25
H2.2	HVAC DETAILS	SHEET	26
P1.0	PROPOSED PLUMBING PLAN	SHEET	27
P1.1	PROPOSED PLUMBING PLAN	SHEET	28
P1.2	PROPOSED PLUMBING PLAN	SHEET	29
P2.1	PROPOSED PLUMBING DETAILS	SHEET	30

P2.2	PROPOSED PLUMBING DETAILS	SHEET
FP1.0	PROPOSED FIRE PROTECTION PLAN	SHEET
FP1.1	PROPOSED FIRE PROTECTION PLAN	SHEET
FP1.2	PROPOSED FIRE PROTECTION PLAN	SHEET
FP2.0	FIRE PROTECTION NOTES	SHEET
FP2.1	FIRE PROTECTION DETAILS	SHEET
E1.0	PROPOSED FIRST FLOOR PLAN (LIGHTING)	SHEET
E2.0	SECOND FLOOR PLAN (LIGHTING)	SHEET
E3.0	FIRE FLOOR PLAN (POWER)	SHEET
E4.0	SECOND FLOOR PLAN (POWER)	SHEET
E5.0	ELECTRICAL DETAILS	SHEET
FA1.0	FIRE FLOOR (FIRE ALARM)	SHEET
FA2.0	SECOND FLOOR PLAN (FIRE ALARM)	SHEET
FA3.0	FIRE ALARM DETAILS	SHEET

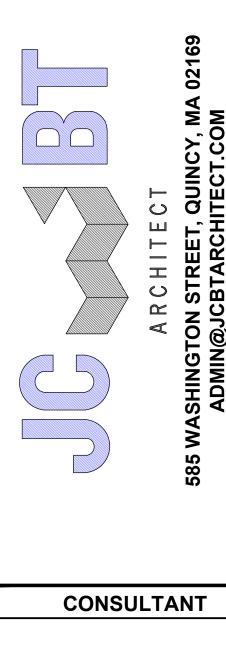




SHANGHAI CORP FACTORY

25 HOWARD STREET

ROXBURY, MA



REGISTRATION



J.C. LANDLORD COMMENTS 1/	DATI		
J.C. LANDLORD COMMENTS 1/			
	7/202		

**REVISIONS** 

# **SHANGHAI CORP**

**PROJECT** 

SHANGHAI CORP **FACTORY ADDITION** 

25 HOWARD ST ROXBURY, MA

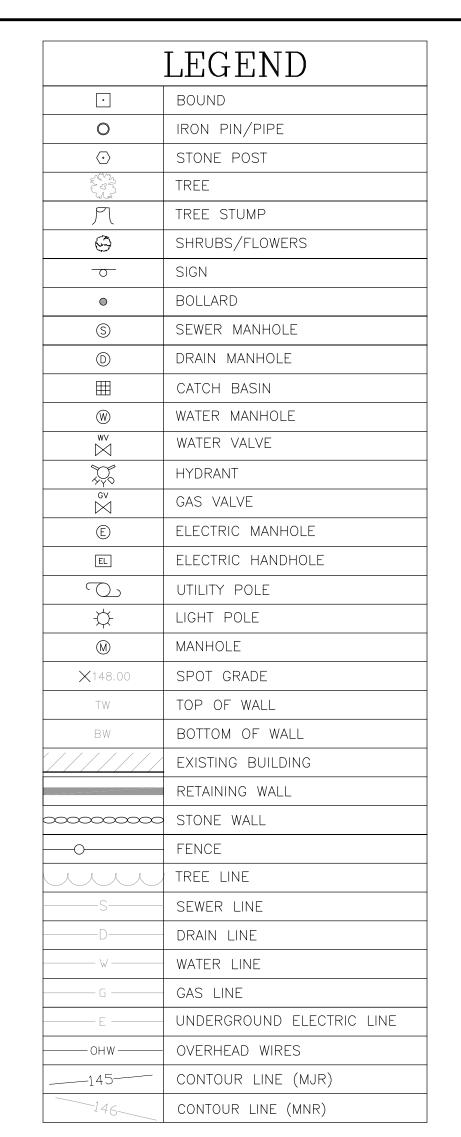
PROJECT NO. 21217

SHEET TITLE

TITLE

SHEET

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× 25.86

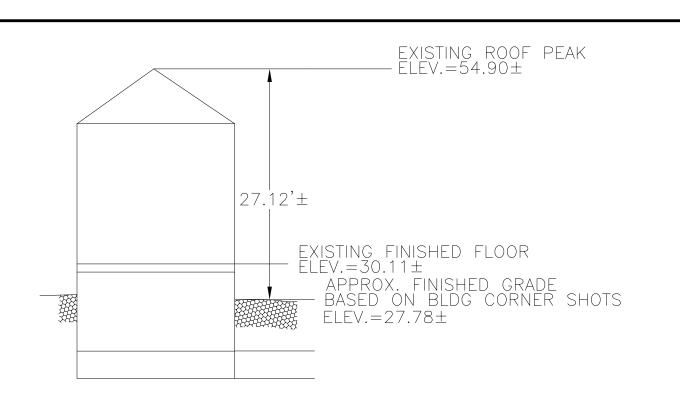
× 26.29



- 1. INFORMATION SHOWN ON THIS PLAN IS THE RESULT OF A FIELD SURVEY PERFORMED BY PETER NOLAN & ASSOCIATES LLC AS OF 12/16/2021.
- 2. MASTER DEED REFERENCE: BOOK 39126, PAGE 85 PLAN REFERENCE: PLAN BOOK 7262, PLAN 174 OF 1957 PLAN REFERENCE: PLAN BOOK 2006, PLAN 166
- 3. THIS PLAN IS NOT INTENDED TO BE RECORDED.

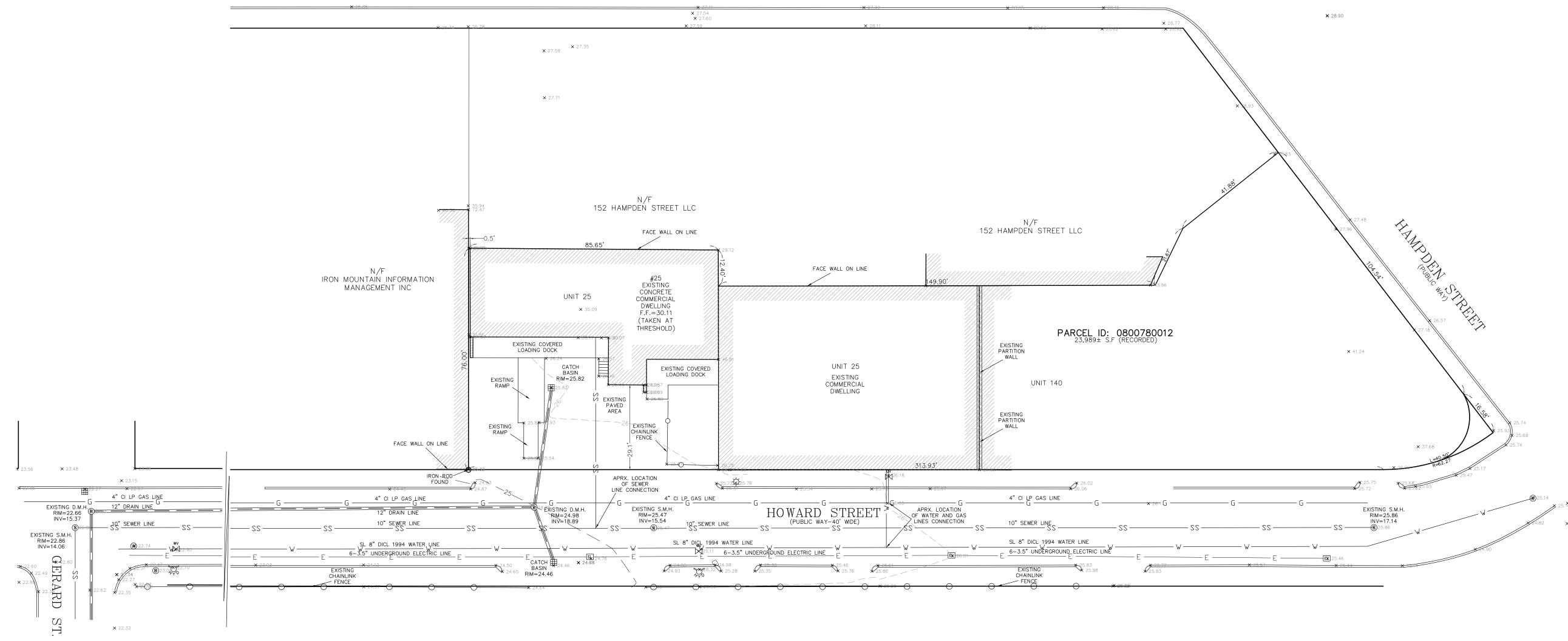
SUFFOLK COUNTY REGISTRY OF DEEDS

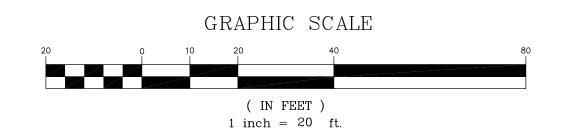
- 4. I CERTIFY THAT THE DWELLING SHOWN IS NOT LOCATED WITHIN A SPECIAL FLOOD HAZARD ZONE. IT IS LOCATED IN ZONE X, ON FLOOD HAZARD BOUNDARY MAP NUMBER 25025C0079J, IN COMMUNITY NUMBER: 250286, DATED 3/16/2016.
- 5. THIS PLAN DOES NOT SHOW ANY UNRECORDED OR UNWRITTEN EASEMENTS WHICH MAY EXIST. A REASONABLE AND DILIGENT ATTEMPT HAS BEEN MADE TO OBSERVE ANY APPARENT USES OF THE LAND; HOWEVER THIS NOT CONSTITUTE A GUARANTEE THAT NO SUCH EASEMENTS EXIST.
- 6. FIRST FLOOR ELEVATIONS ARE TAKEN AT THRESHOLD.
- 7. NO RESPONSIBILITY IS TAKEN FOR ZONING TABLE AS PETER NOLAN & ASSOCIATES LLC ARE NOT ZONING EXPERTS. TABLE IS TAKEN FROM TABLE PROVIDED BY LOCAL ZONING ORDINANCE. CLIENT AND/OR ARCHITECT TO VERIFY THE ACCURACY OF ZONING ANALYSIS.
- 8. THE ELEVATIONS SHOWN ARE BASED ON CITY OF BOSTON DATUM.



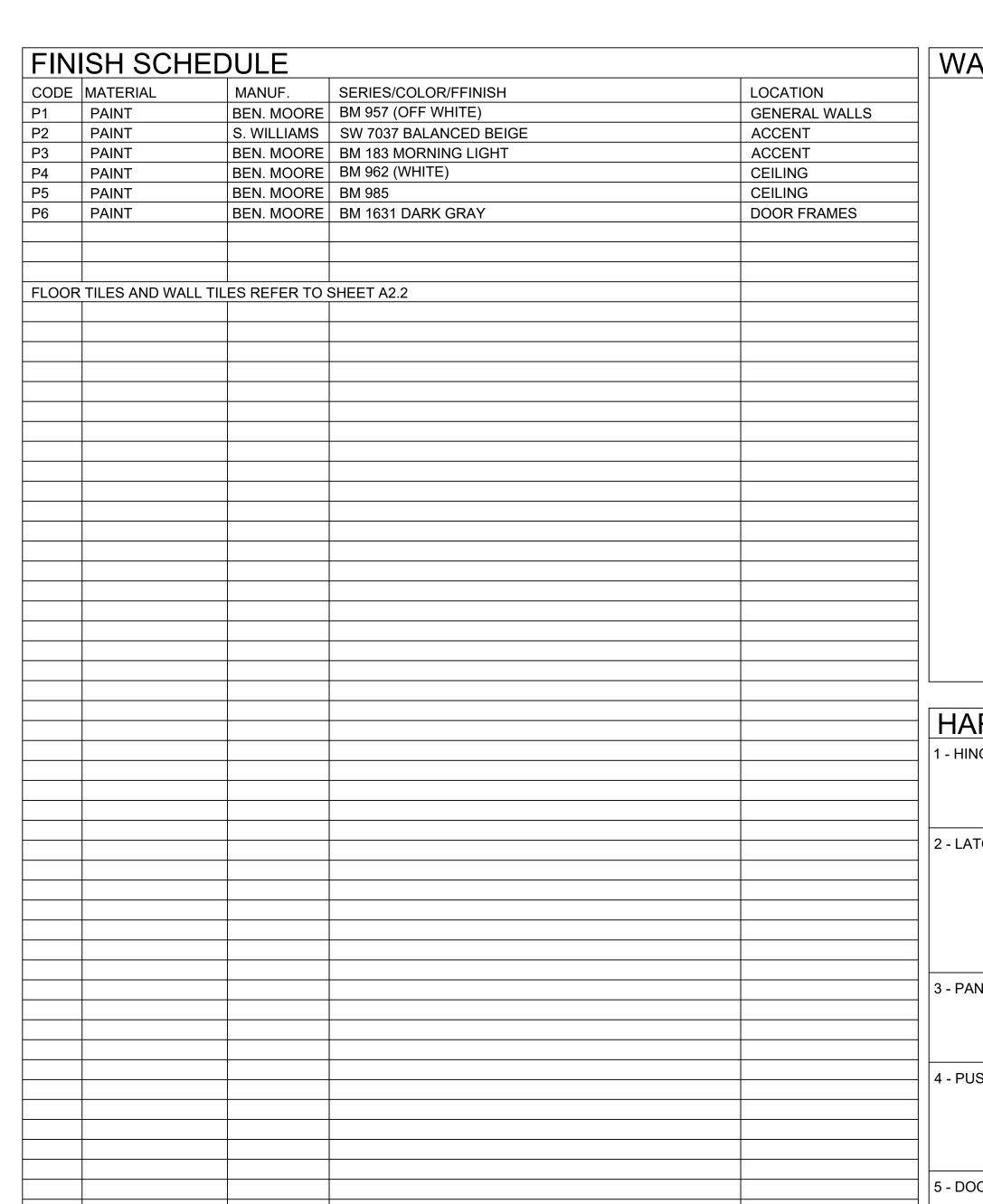
EXISTING PROFILE
NOT TO SCALE

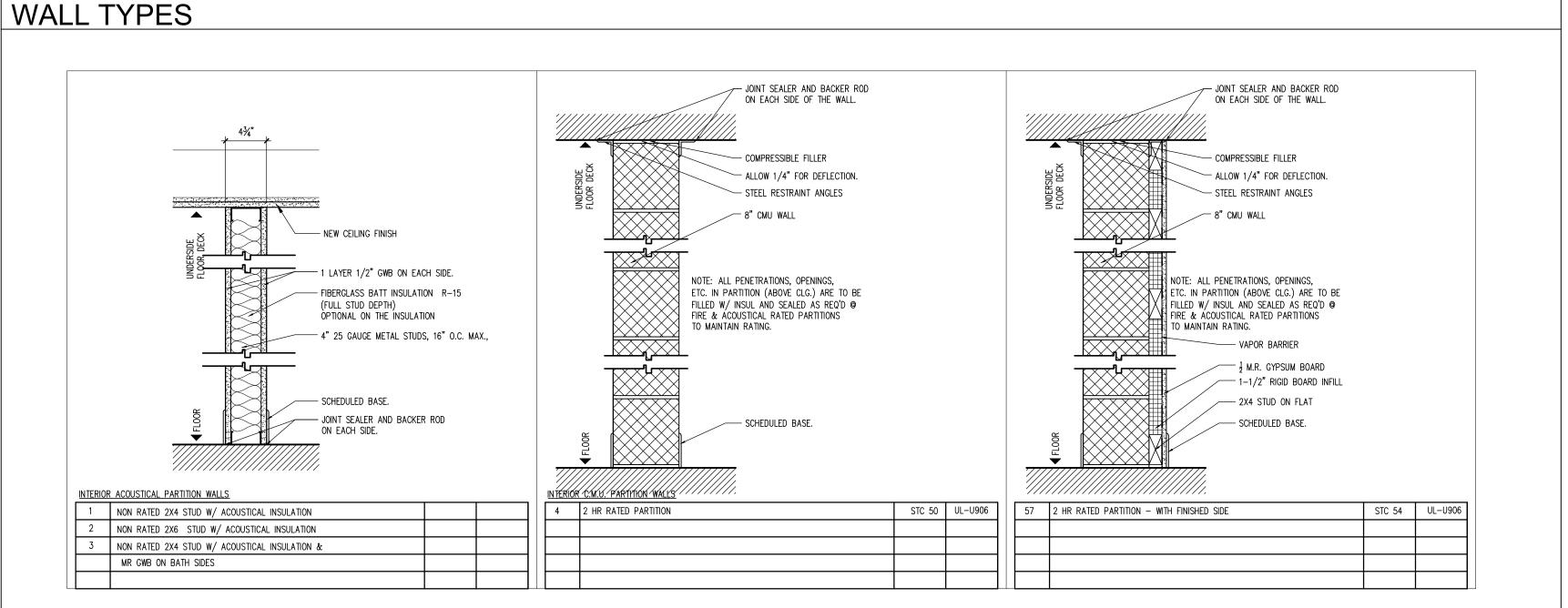
GEORGE STREET





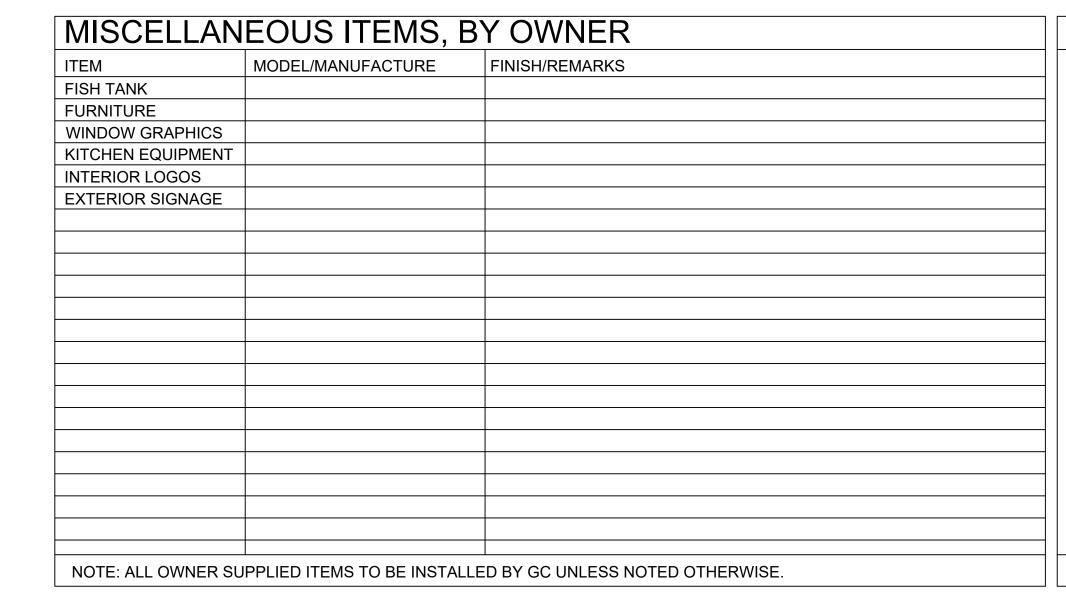
SCALE 1"=20'					TH OF MASSA
DATE 1/24/2022	REV	DATE	REVISION	BY	PETER J.
SHEET  1  PLAN NO.  1 OF 1		V	No. 49185 No. 49185 OVAL LAND SHEET		
CLIENT:  DRAWN BY			SHEET NO.		
CHKD BY ETS APPD BY PJN		LA	TER NOLAN & ASSOCIATES LLC  ND SURVEYORS/CIVIL ENGINEERING CONSULTANTS  80 JEWETT STREET, SUITE 2 NEWTON, MA 02458  : 857 891 7478/617 782 1533 FAX: 617 202 569  AIL: pnolan@pnasurveyors.com		

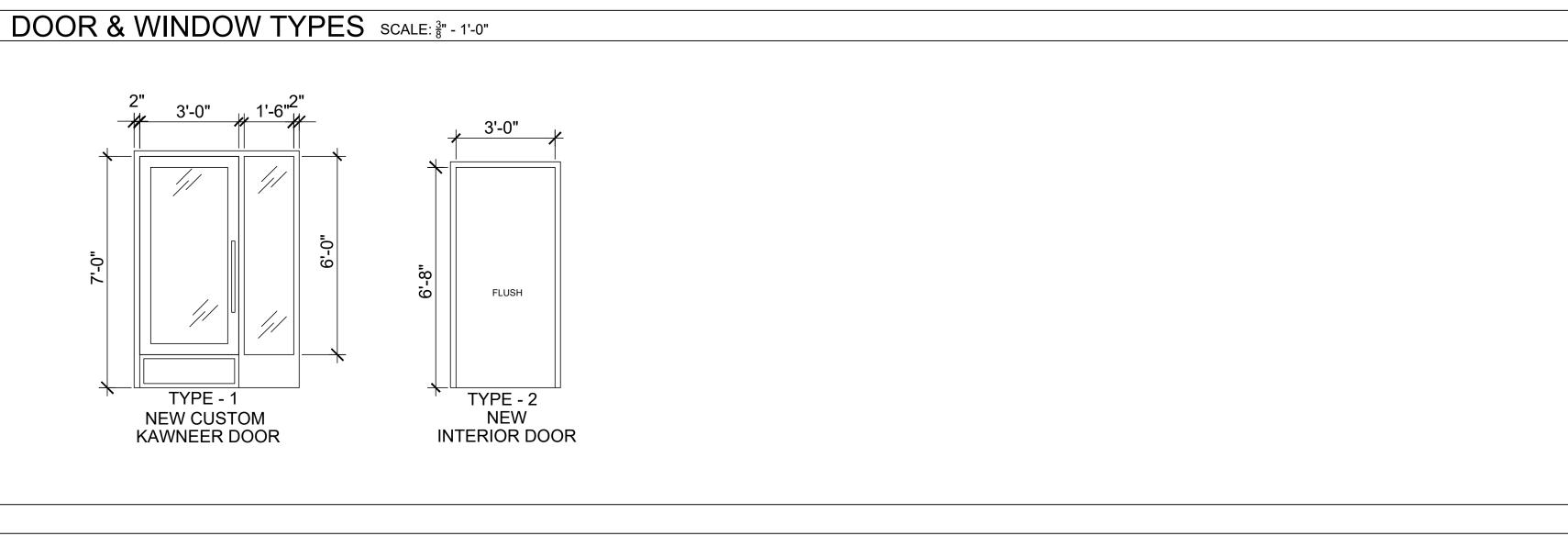


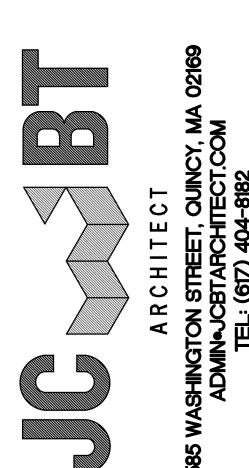


HARDW	ARE LEGEND	
1 - HINGE	STANLEY: A - FIVE KNUCKLE HEAVY WEIGHT BALL BEARING HINGE PROVIDE QUANTITY TO CORRESPOND WITH DOOR HEIGHT AND WIDTH, 3 MINIMUM.	SATIN S.S.
2 - LATCHSET	SCHLAGE "D" SERIES CHROME PLATE; "SPARTA" HC 625 LEVER  A - OFFICE FUNCTION B - CLASSROOM FUNCTION C - PASSAGE FUNCTION D - STOREROOM FUNCTION E - CORRIDOR FUNCTION F - PRIVACY FUNCTION G - DEADBOLT	SATIN CHROME
3 - PANIC/EXIT	VON DUPRIN A - SERIES 55 CROSSBAR EXIT DEVICE	SATIN S.S.
4 - PUSH/PULL	BALDWIN ENGRAVED SQUARE EDGE  A - 8" X 16" PUSH PLATE. 4" X 16" PLATE W/ 2554 PULL B - ELMES T3015-01-034 S.S. BRUSHED FINISH WITH POLISH PULL-SIDE ONLY C - ELMES T3004-01-024-P2025; SS. W/ HAIRLINE AND POLISH CUSTOM LENGTH (7'-10" DOOR) PULL 4"X16" PUSH PLATE	SATIN S.S.
5 - DOORSTOP	IVES A - CHROME CONCEALED WALL MOUNT B - CHROME FLOOR MOUNT	SATIN

	DOOR & HARDWARE SCHEDULE																		
	REF	DOOR						FRAM	1E			НА	RD'	WA	RE			F	REMARKS
		LOCATION	TYPE	LBL	SIZE	MATL.	FIN.	JAMB	HEAD	MATL.	FIN.	1	2	3	4	5			
	01	MAIN ENTRY	1		3'-4"X7'-10"	ALUM/GLS	BRONZE	KAWN	NEER TRI	FAB VG 4	51T			Α	С				
	02	VESTIBULE	1		3'-4"X7'-10"	ALUM/GLS	BRONZE	KAWN	NEER TRI	FAB VG 4	51T			Α	С				
$\frac{1}{1}$	03	RESTROOM	2		3'-0"X6'-8"	WOOD	PAINTED	2"	2"	H.M.	PTD.	Α	F		AB	Α			
	04	RESTROOM	2		3'-0"X6'-8"	WOOD	PAINTED	2"	2"	H.M.	PTD.	Α			AB	Α			
	05	INTERIOR DOOF	2		3'-0"X6'-8"	WOOD	PAINTED	2"	2"	H.M.	PTD.	Α			AB	Α			
	EX	VARIES															 		
4																			
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CONSULTANT

REGISTRATION



	REVISIONS							
NO.	BY DESCRIPTION DA							
PROJECT								

# SHANGHAI CORP.

SHANGHAI CORP **FACTORY ADDITION** 

25 HOWARD ST. ROXBURY, MA

PROJECT NO. 21217

SHEET TITLE

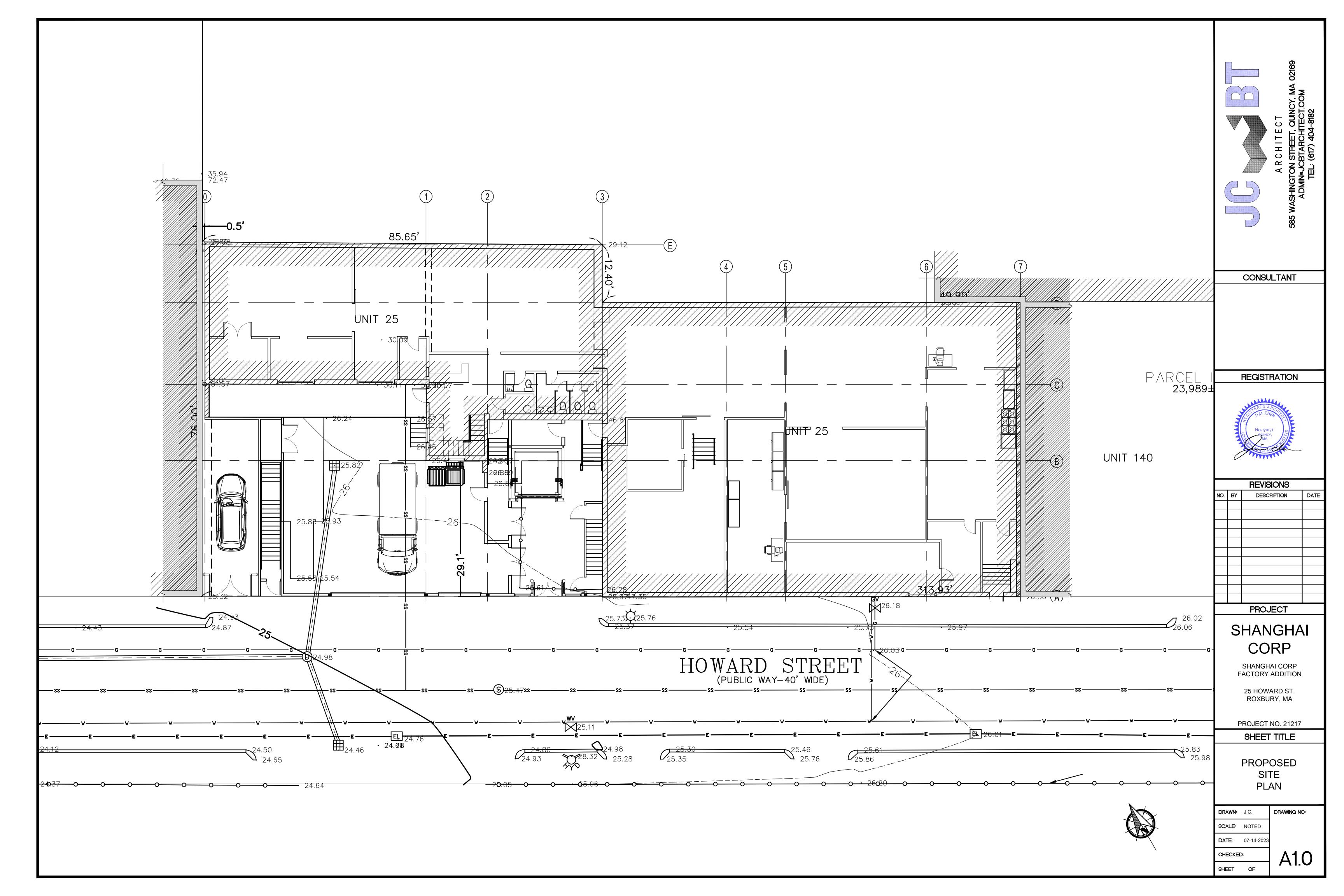
PROPOSED WALL TYPES

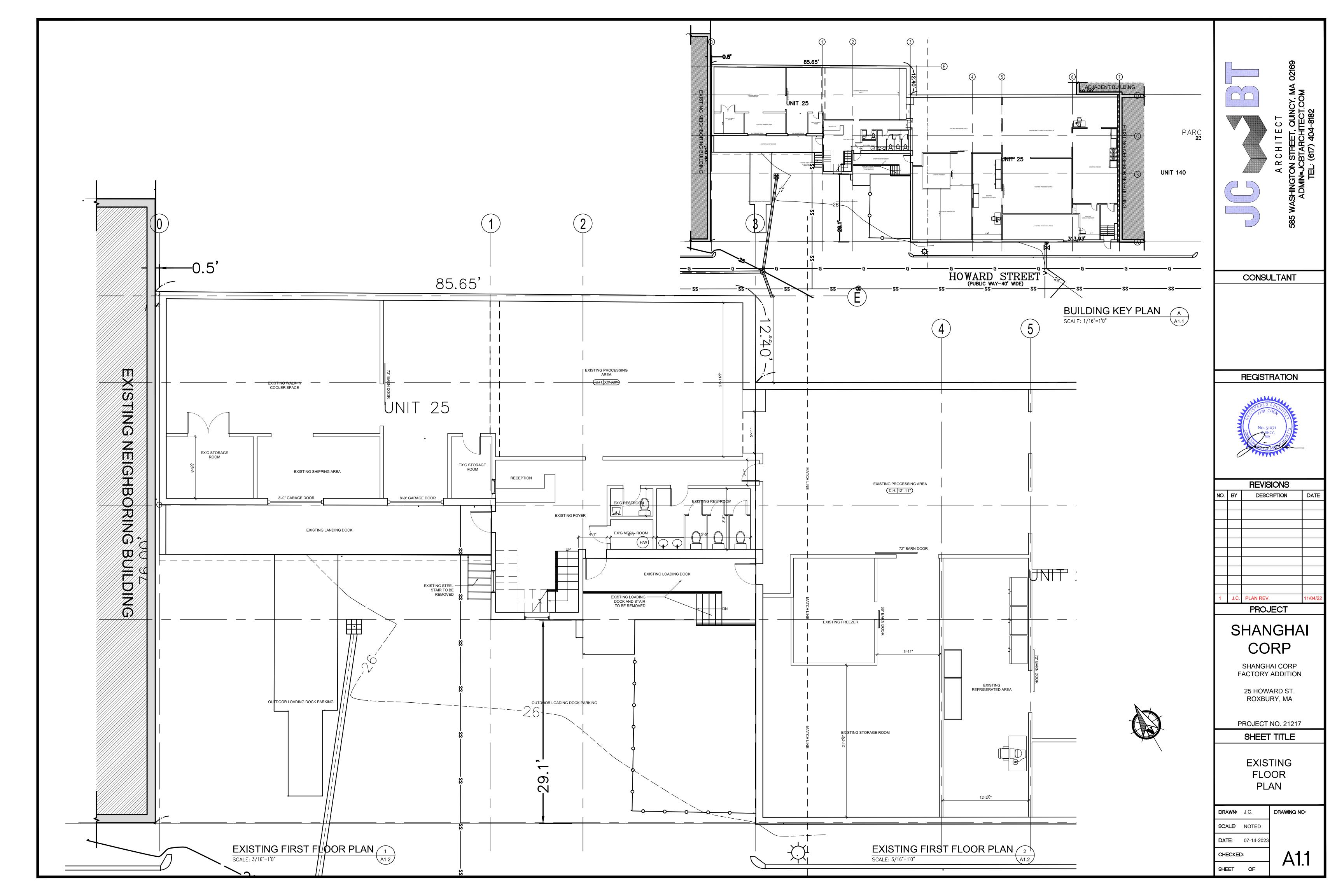
& SCHEDULES

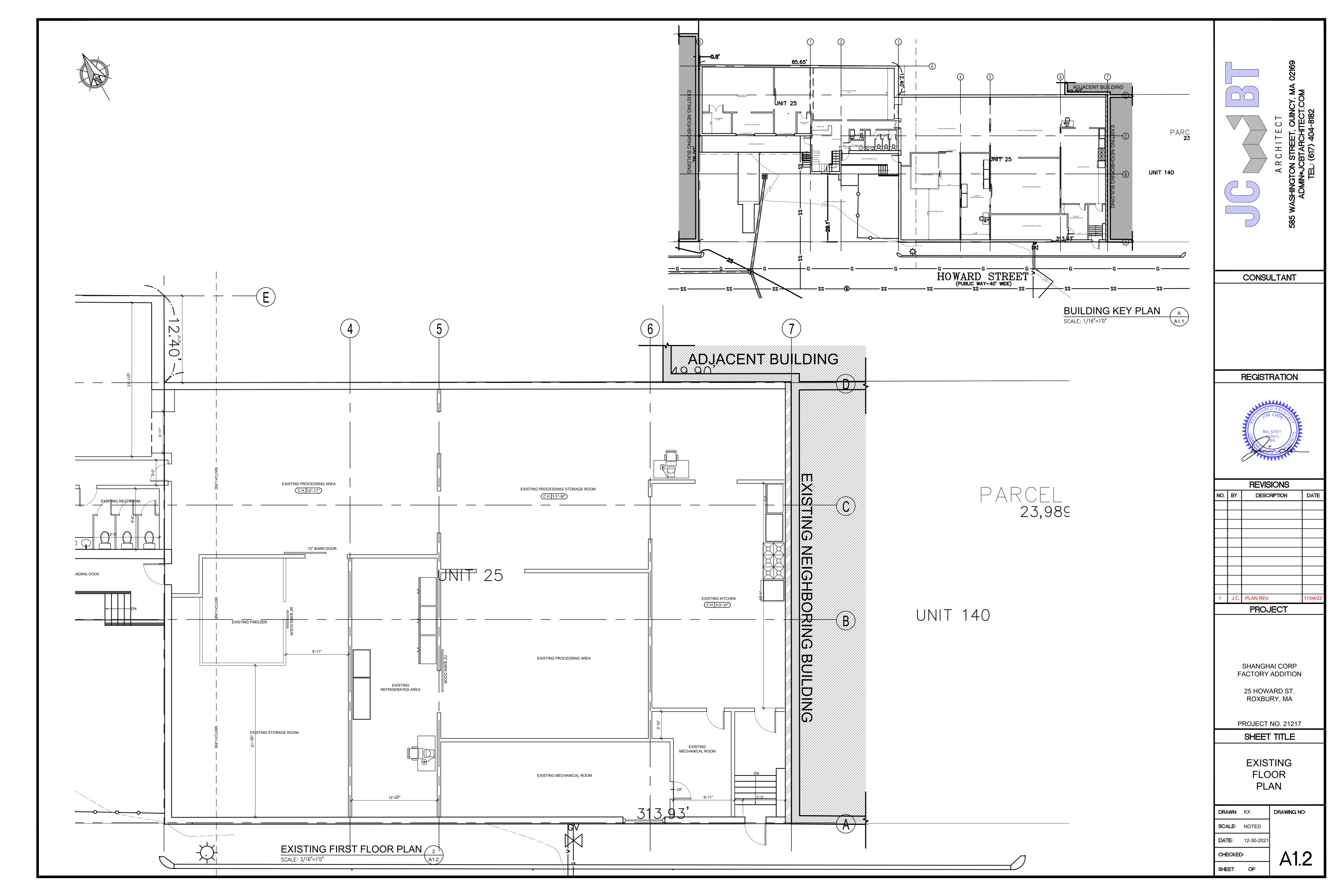
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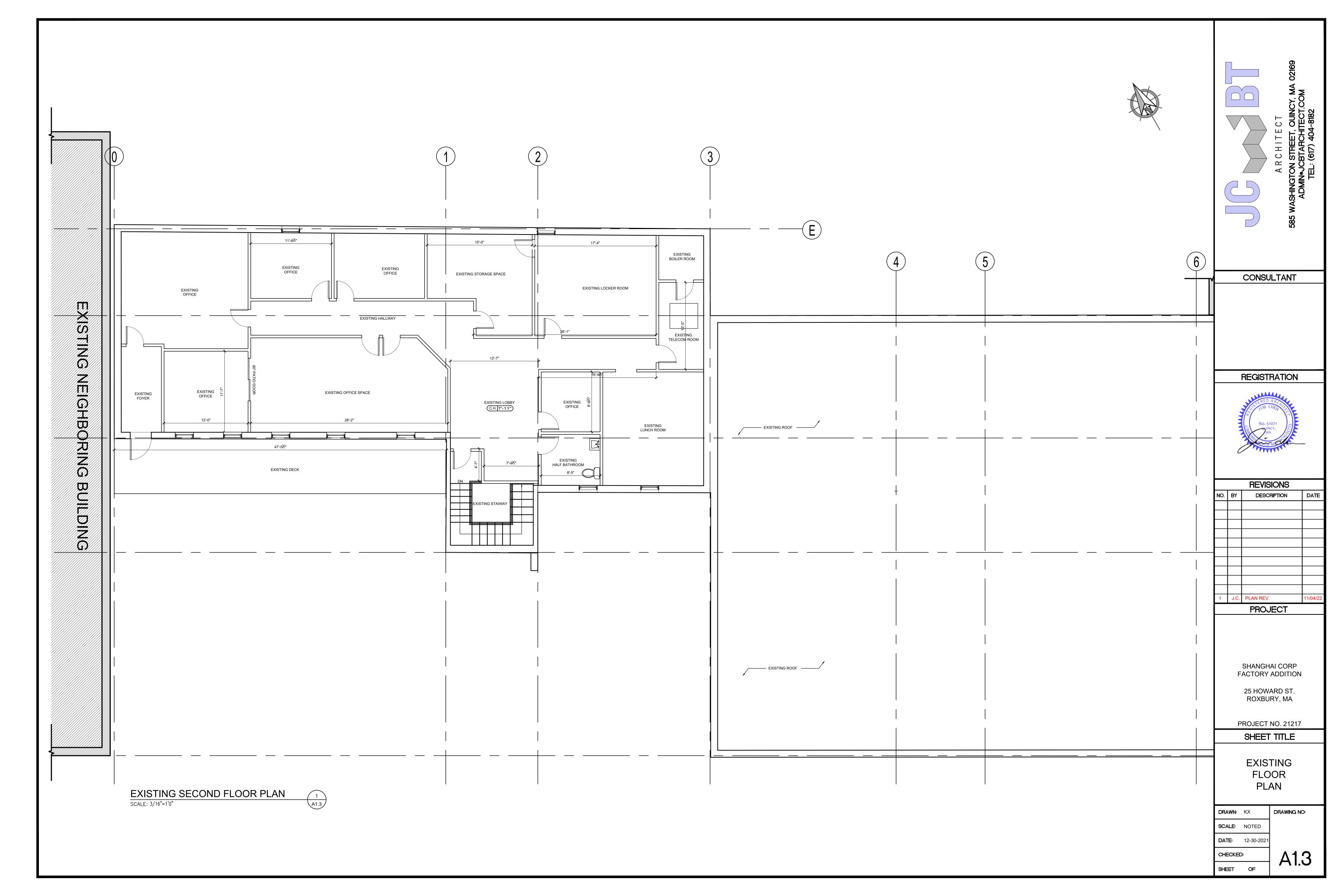
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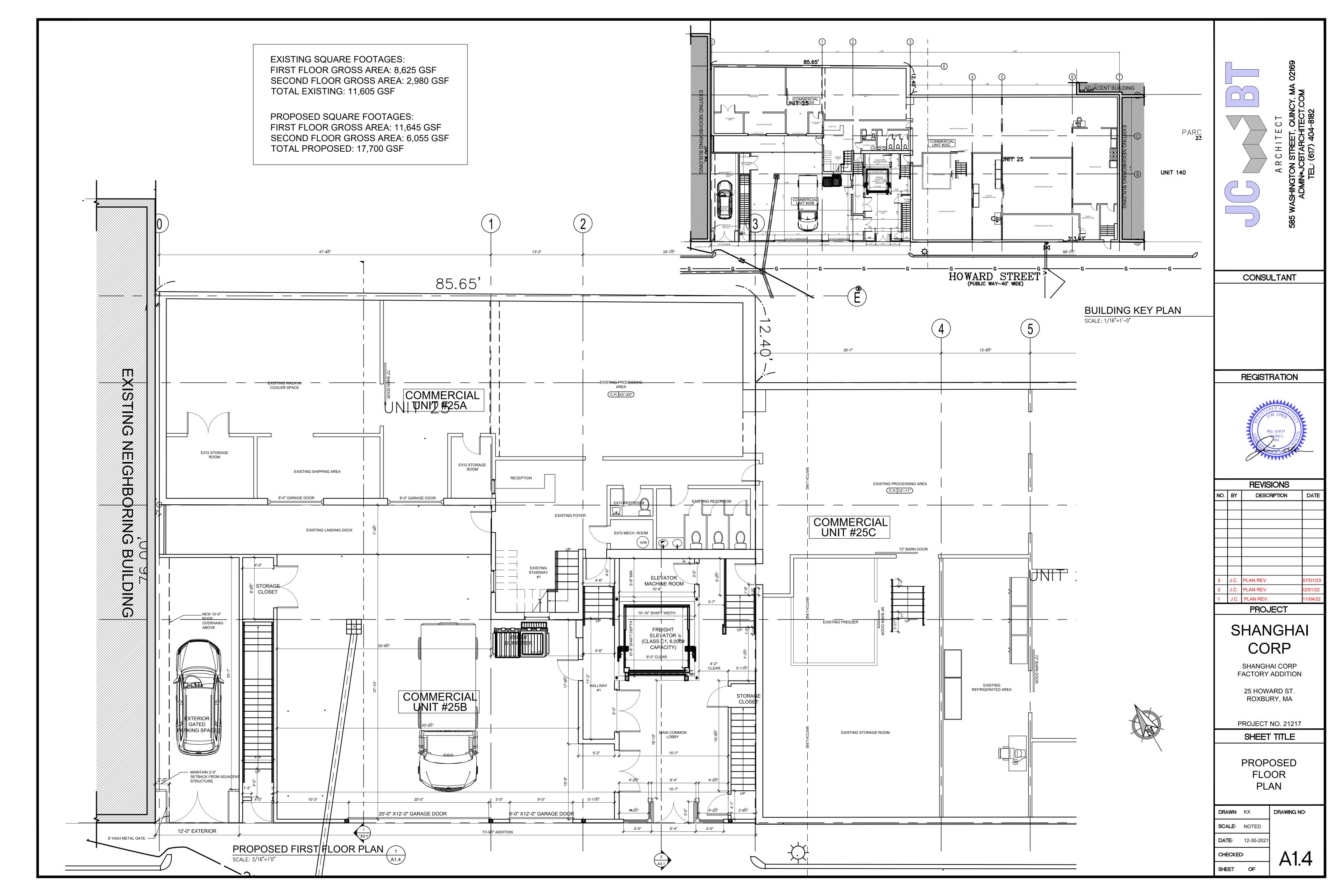
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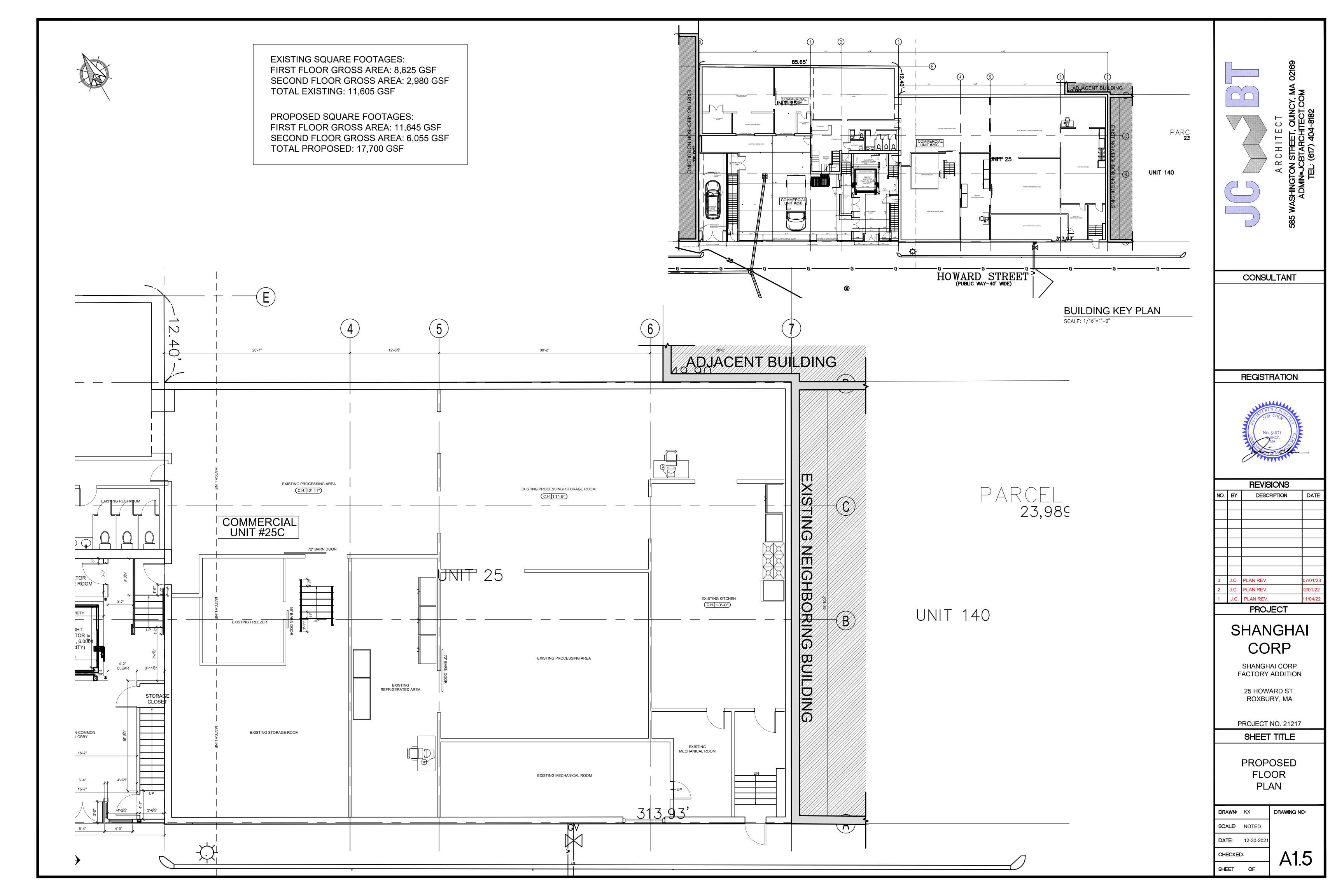


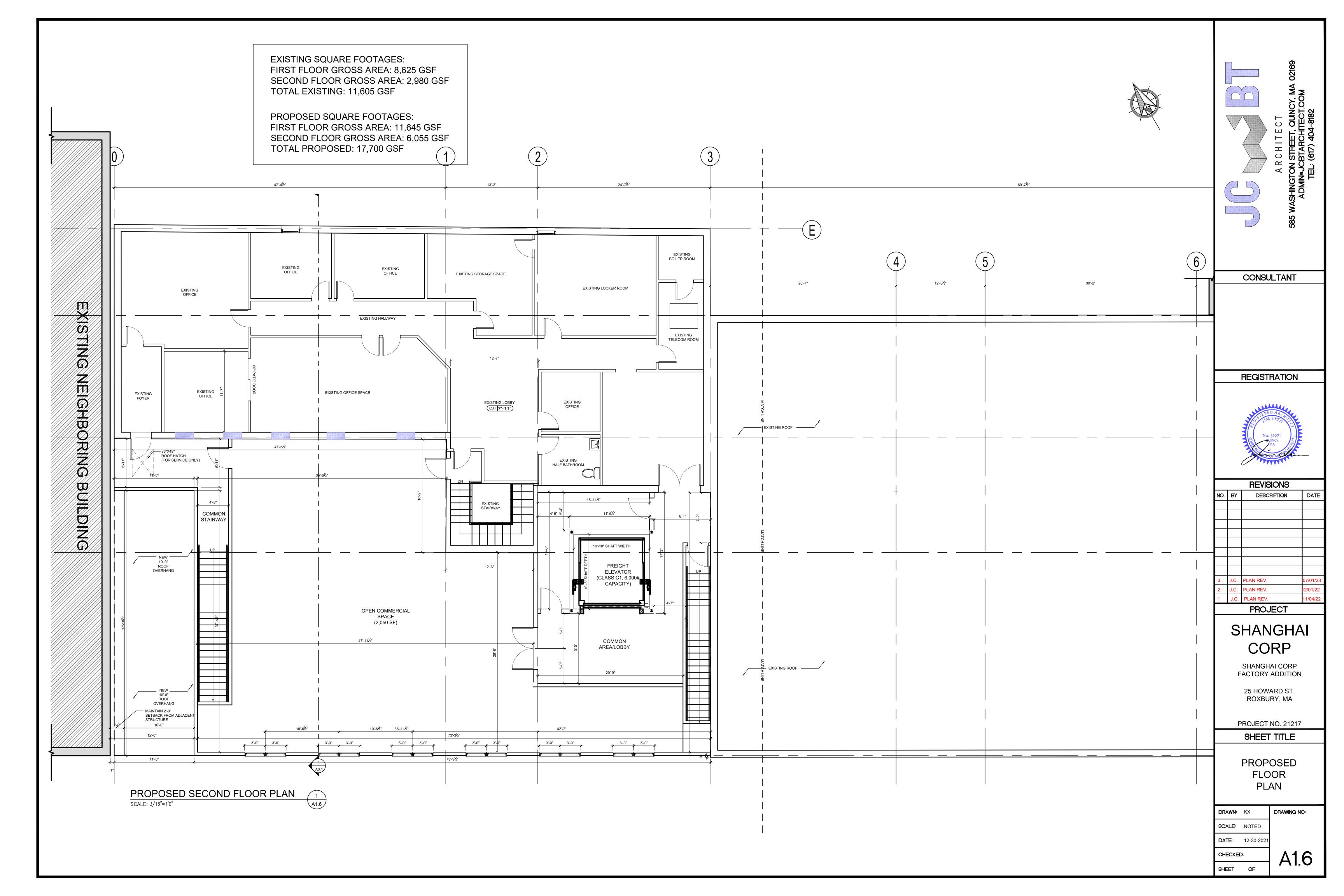


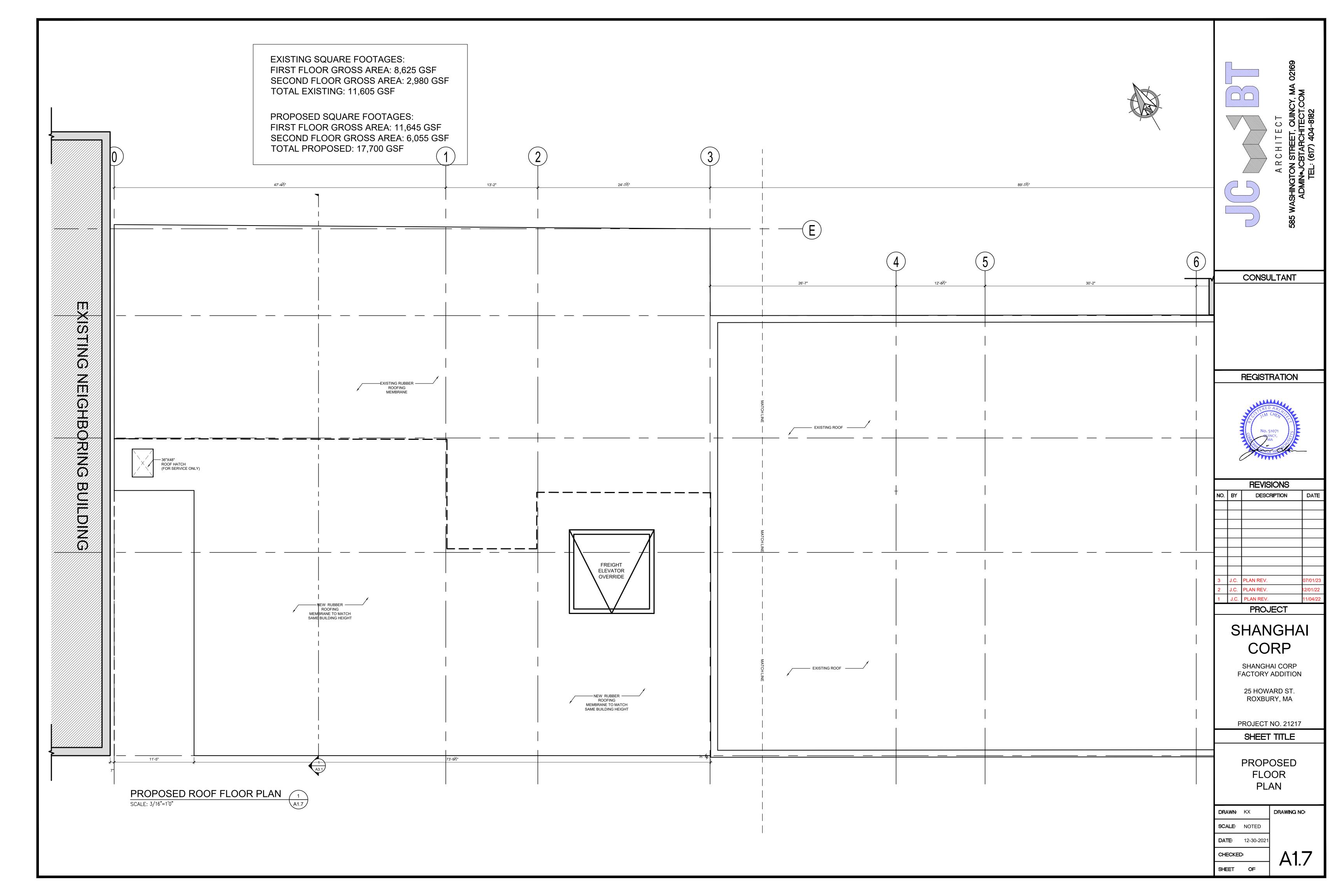


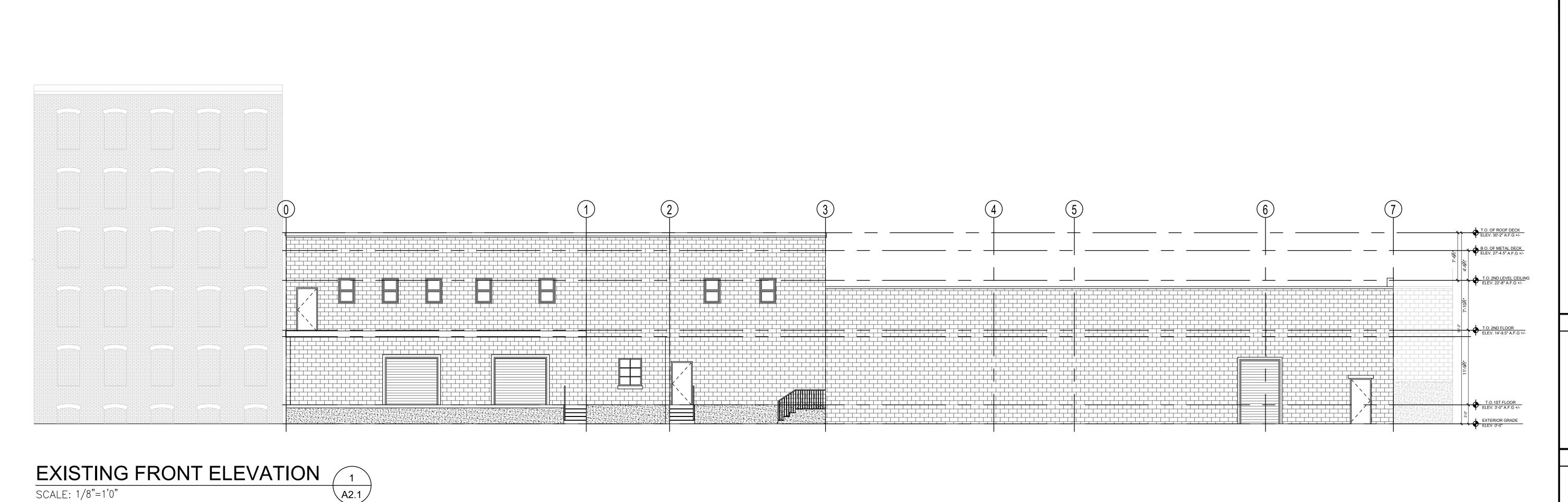


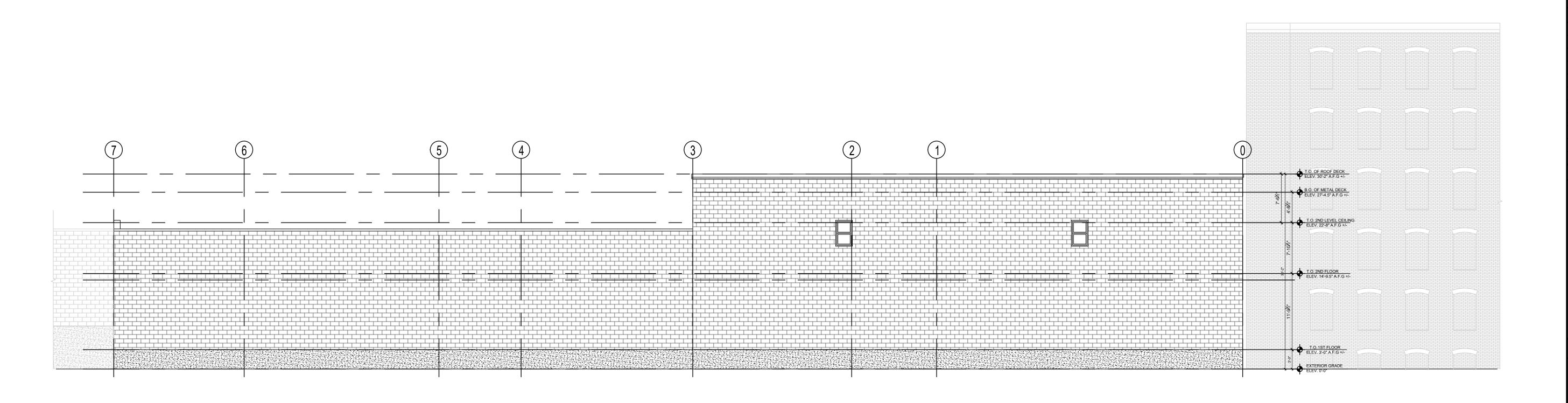








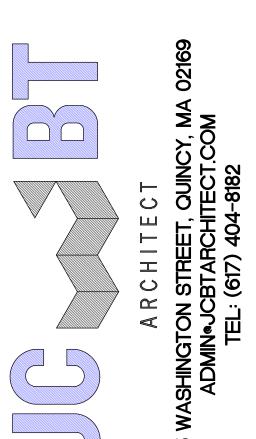




**EXISTING REAR ELEVATION** 

A2.1

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REGISTRATION



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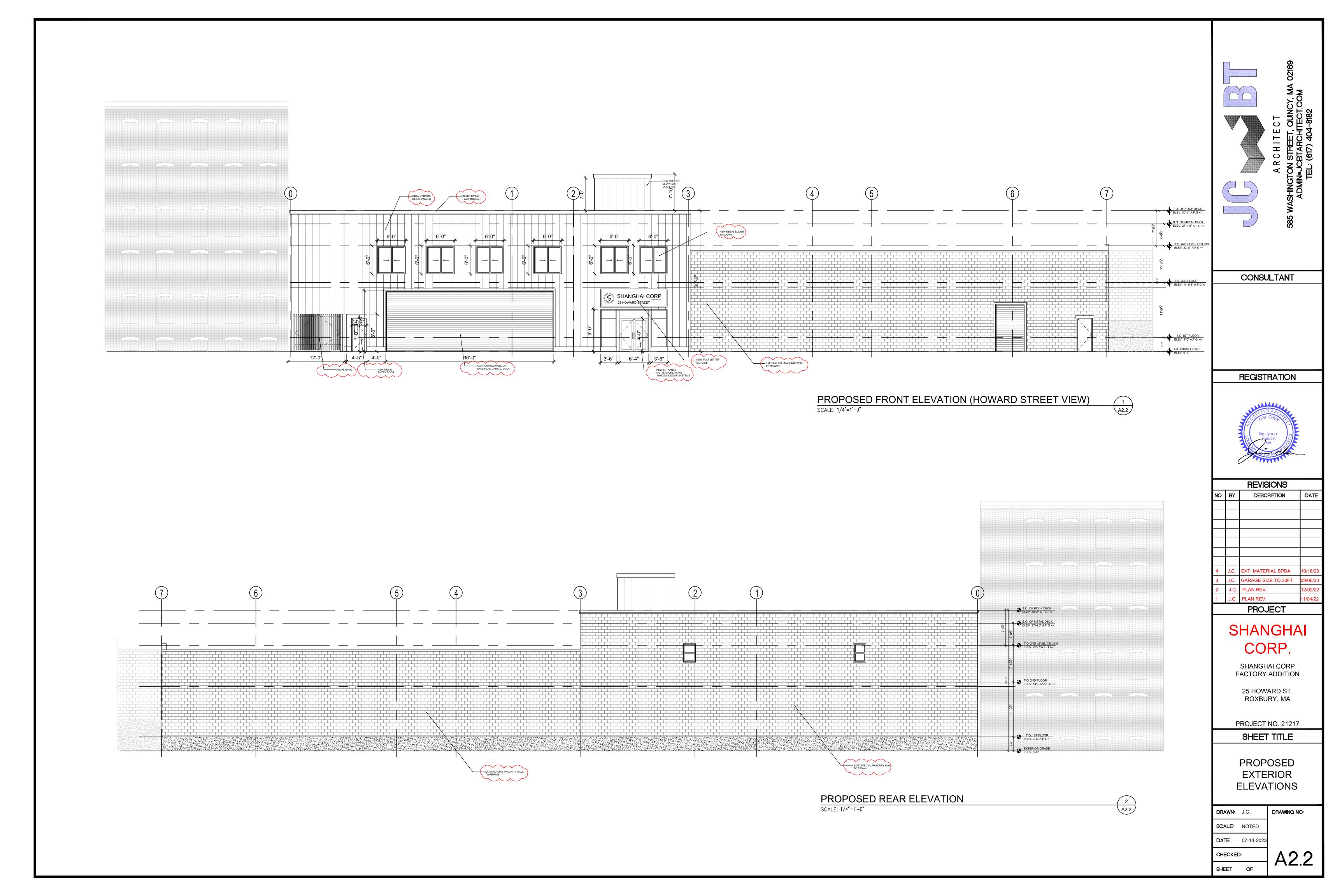
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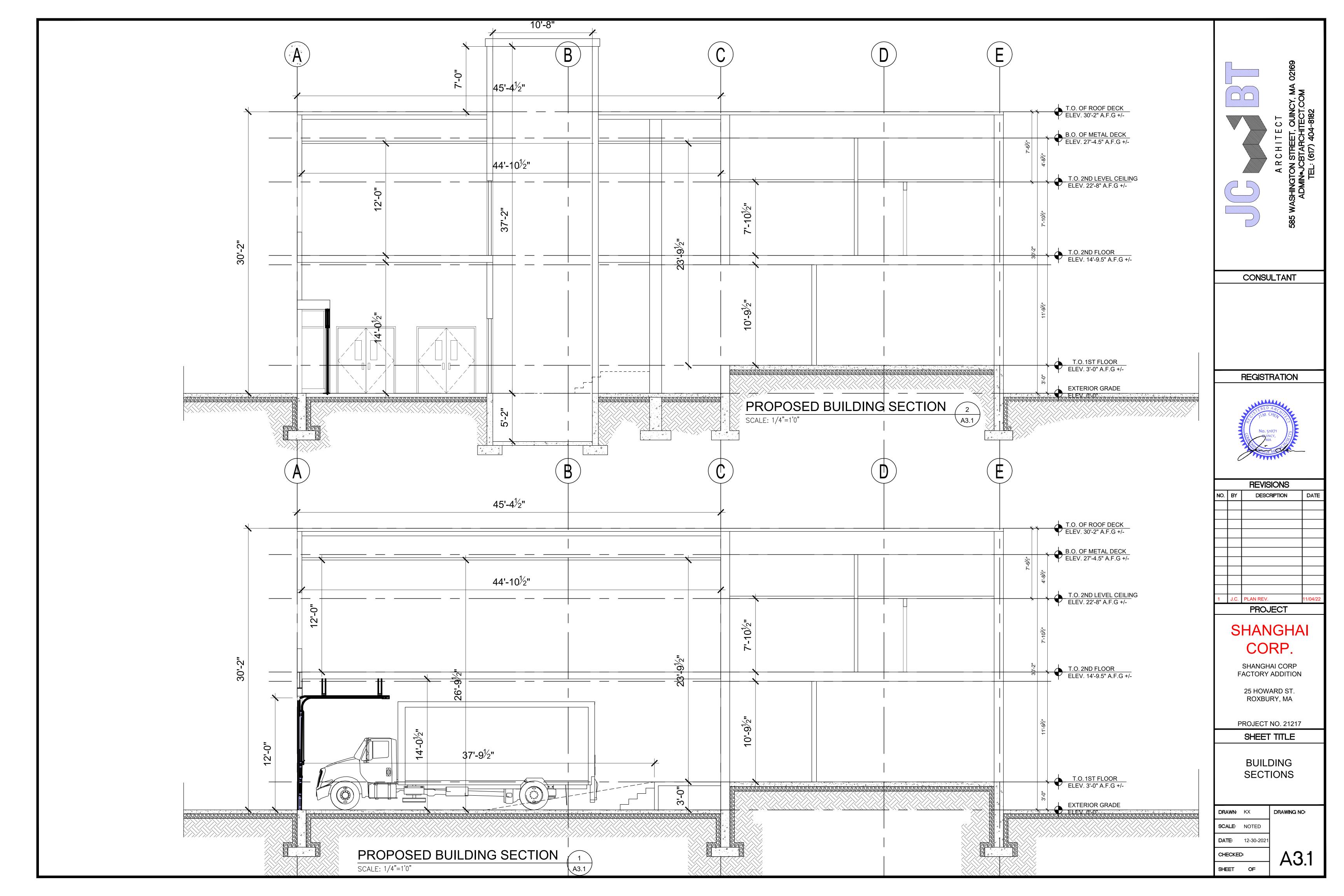
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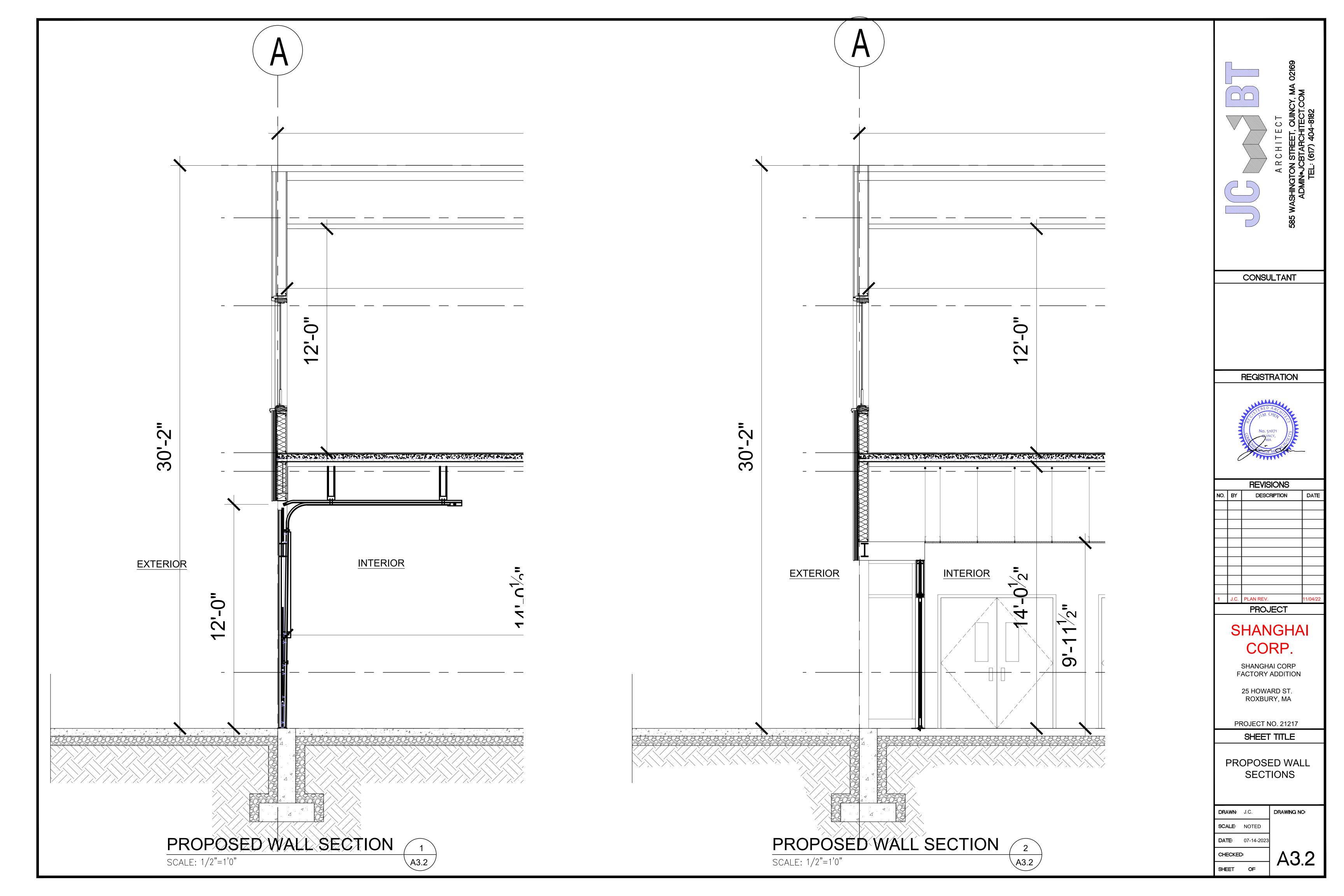
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A2.1







- INTERNATIONAL BUILDING CODE.CONTRACTOR MUST BUILD EXACTLY WHAT IS SHOWN ON STRUCTURAL DRAWINGS. ANY PROPOSED DEPARTURES FROM WHAT IS INDICATED MUST BE REVIEWED AND APPROVED WITH THE ENGINEER PRIOR TO CONSTRUCTION. ALL UNAUTHORIZED
- CHANGES TO THE APPROVED DRAWINGS MUST BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL REVIEW ALL THE CONSTRUCTION DOCUMENTS AND SPECIFICATIONS FOR THIS PROJECT AND IS ENTIRELY RESPONSIBLE FOR:
- COORDINATING THE WORK OF ALL TRADES. VERIFYING ALL THE PROPOSED AND EXISTING BUILDING AND SITE CONDITIONS, CONFIRMING ALL NEW AND EXISTINGBUILDING DIMENSIONS, ELEVATIONS, AND MEASUREMENTS, FRAMING CONDITIONS, MEASUREMENTS AND ALL OTHER RELATED PROPOSED AND EXISTING BUILDING CONDITIONS.
- ENGINEER'S DESIGN IS DERIVED FROM ASSUMED FIELD CONDITIONS. ANY DISCREPANCIES BETWEEN MUST IMMEDIATELY BE BROUGHT TO THE ENGINEER'S
- ATTENTION PRIOR TO ANY CONSTRUCTION. i. THE CONTRACTOR SHALL CAREFULLY VERIFY ALL DIMENSIONS AND CONDITIONS SHOWN ON DRAWINGS PRIOR TO COMMENCEMENT OF THE WORK, AND
- SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES BETWEEN ENGINEERING AND ARCHITECTURAL DOCUMENTS. PRINCIPAL OPENINGS THROUGH THE FRAMING ARE SHOWN ON THESE DRAWINGS. THE GENERAL
- CONTRACTOR SHALL EXAMINE THE STRUCTURAL AND MECHANICAL DRAWINGS FOR THE REQUIRED OPENINGS AND SHALL VERIFY SIZE AND LOCATION OF ALL OPENINGS WITH THE MECHANICAL . CONTRACTOR. PROVIDING ALL OPENINGS REQUIRED BY THE MECHANICAL, ELECTRICAL, OR PLUMBING TRADES SHALL BE A PART OF THE GENERAL
- CONTRACT, WHETHER OR NOT SHOWN IN THE STRUCTURAL DRAWINGS. ANY DEVIATION FROM THE OPENINGS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR REVIEW.
- . TYPICAL DETAILS AND NOTES SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE APPLICABLE TO ALL PARTS OF THE STRUCTURAL WORK UNLESS SPECIFICALLY NOTED OTHERWISE.
- 10. THE CONTRACTOR IS RESPONSIBLE FOR ALL MEANS AND METHODS OF TEMPORARY SHORING, BRACING, OR OTHERWISE PROTECTING ANY PORTION OF THE STRUCTURE, SITE AND UTILITIES FROM DAMAGE DURING CONSTRUCTION. THE ENGINEER IS SPECIFYING THE FINISHED CONDITION ONLY, WITHOUT
- ASSUMING KNOWLEDGE NOR RESPONSIBILITY FOR HOW THE CONTRACTOR WILL ACHIEVE THIS RESULT 11. FOR EXACT LOCATIONS OF FLOOR AND ROOF OPENINGS, POSTS, ETC., SEE ARCHITECTURAL DRAWINGS.

#### FOUNDATIONS

- EXCAVATE TO LINES AND GRADES REQUIRED TO PROPERLY INSTALL THE FOUNDATIONS AS REQUIRED BY THE STRUCTURAL ENGINEER.
- ALL FOOTINGS SHALL BE PLACED ON INORGANIC, UNDISTURBED SOIL OR CONTROLLED STRUCTURAL BACKFILL. FOOTING ELEVATIONS GIVEN ARE NOT TO BE CONSTRUED AS LIMITING IN ANY WAY TO THE DEPTH OF EXCAVATION REQUIRED TO REACH ADEQUATE BEARING.
- NO FOUNDATION SHALL BE PLACED IN WATER OR FROZEN GROUND. CONTRACTOR IS REQUIRED TO ENSURE DRY AND UNFROZEN CONDITION POST POURING UNTIL THE CONCRETE HAS REACHED 75% OF ITS SPECIFIED DESIGN STRENGTH. EXTERIOR FOOTINGS SHALL BE PLACED ON APPROVED SOIL AT A MINIMUM DEPTH OF 4 FEET, OR AS MODIFIED BY THE STRUCTURAL ENGINEER, BELOW THE
- OF THE STRUCTURAL ENGINEER. . SOIL BEARING CAPACITY: FOOTINGS MUST BE PLACED ON SOIL WITH A MINIMUM BEARING CAPACITY OF 3000 POUNDS PER SQUARE FOOT. PER TABLE
- 1806.2 PRESUMPTIVE LOAD BEARING VALUES.

LOWEST ADJACENT GROUND EXPOSED TO FREEZING. ANY ADJUSTMENT OF FOOTING ELEVATIONS DUE TO FIELD CONDITIONS MUST HAVE THE APPROVAL

- BACKFILL BELOW FOOTINGS AND SLABS SHALL BE MADE WITH APPROVED GRANULAR MATERIALS PLACED IN 6" LAYERS. LAYERS SHALL BE COMPACTED TO 96% DENSITY AT OPTIMUM MOISTURE CONTENT, AS DEFINED BY ASTM D1557.
- PROVIDE FOUNDATION DRAINAGE, WATERPROOFING/DAMP-PROOFING, AND FOUNDATION WALL INSULATION AS INDICATED ON THE CIVIL/DRAINAGE

8. PROVIDE METAL OR PVC SLEEVES IN THE FOUNDATION WALLS FOR SEWER, GAS, ELECTRIC, AND WATER LINES, AS REQUIRED.

#### CONCRETE

- 1. ALL CONCRETE WORK SHALL BE PERFORMED IN CONFORMANCE WITH THE LATEST EDITION OF ACI-318, "BUILDING CODE REQUIREMENTS FOR REINFORCED
- ALL CONCRETE SHALL BE CONTROLLED CONCRETE, MIXED AND PLACED UNDER THE SUPERVISION OF A CONCRETE TESTING AGENCY APPROVED BY THE OWNER. CONCRETE SHALL BE NORMAL WEIGHT OR LIGHT WEIGHT CONCRETE, AS INDICATED, WITH A SAND AND GRAVEL AGGREGATE, TYPE I OR TYPE II PORTLAND CEMENT AND HAVING A MINIMUM COMPRESSIVE STRENGTH (f'c) IN 28 DAYS AS FOLLOWS UNLESS INDICATED ON PLANS
  - 4000 PSI (NORMAL WT. BASEMENT WALLS & PIERS. 3000 PSI (NORMAL WT.
  - 4000 PSI (NORMAL WT. EXTERIOR SLABS EXPOSED TO WEATHER ..... 4000 PSI (NORMAL WT.
  - CONCRETE NOT OTHERWISE SPECIFIED ........3000 PSI (NORMAL WT.)
- MAXIMUM DENSITY OF NORMAL WEIGHT CONCRETE SHALL BE 150 POUNDS PER CUBIC FOOT. MAXIMUM DENSITY OF LIGHT WEIGHT CONCRETE SHALL BE 110
- REINFORCING STEEL: TYPICAL ASTM A615, GRADE 60. FIELD BENT ASTM A615, GRADE 40 WELDED WIRE FABRIC ASTM A185
- REINFORCING STEEL SHOP DRAWINGS SHALL BE PREPARED AND SUBMITTED TO THE ARCHITECT FOR APPROVAL. THESE DRAWINGS SHALL SHOW COMPLETE AND ACCURATE BAR LAYOUT, SIZES, OPENINGS, ACCESSORIES, AND ALL OTHER INFORMATION NECESSARY FOR COMPLETE AND ACCURATE
- FABRICATION AND PLACEMENT OF REINFORCING STEEL. THE CONTRACTOR SHALL SUBMIT A CONCRETE MIX DESIGN TO THE OWNER FOR APPROVAL AT LEAST TWO WEEKS PRIOR TO THE FIRST PLACEMENT.
- CONTRACTOR SHALL PROVIDE A CONCRETE POURING SEQUENCE TO THE ARCHITECT AND ENGINEER FOR REVIEW AND APPROVAL 7 DAYS PRIOR TO CONCRETE PLACEMENT.
- : INSPECTION AND TESTING OF CAST-IN-PLACE CONCRETE WORK WILL BE PERFORMED BY AN INDEPENDENT TESTING AGENCY, UNDER A SEPARATE CONTRACT WITH THE OWNER. IF CONCRETE FAILS, CONTRACTOR SHALL PROMPTLY REPLACE CONCRETE MATERIALS OR REDO WORK WHICH HAS BEEN
- REJECTED BY ARCHITECT AND/OR TESTING AGENCY, AT NO EXPENSE TO THE OWNER. INSPECTION AND APPROVAL BY THE OWNER OR THEIR REPRESENTATIVE SHALL IN NO WAY RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO
- PROVIDE QUALITY CONTROL, MATERIALS, AND WORKMANSHIP E. FULLY INSURING THAT THIS WORK WILL CONFORM TO THE CONTRACT REQUIREMENTS.
- 9. SAMPLING AND TESTING FOR QUALITY ASSURANCE DURING THE PLACEMENT OF CONCRETE MAY INCLUDE THE FOLLOWING, AS DIRECTED BY THE
- ARCHITECT. SAMPLES WILL BE MADE AT THE POINT OF DISCHARGE FROM THE READY-MIX TRUCK. 10. SLUMP TEST, COMPLYING WITH ASTM C143; ONE TEST FOR EACH SET OF COMPRESSION STRENGTH TEST SPECIMENS. SLUMP AT THE POINT OF DISCHARGE
- FROM THE READY-MIX TRUCK SHALL BE 3-5". 11. COMPRESSION TEST SPECIMENS, COMPLYING WITH ASTM C31; ONE SET OF 4 STANDARD CYLINDERS FOR EACH COMPRESSION STRENGTH TEST. ONE SET OF CYLINDERS SHALL BE TAKEN FROM THE FIRST FOOTING POUR, AND TWO SETS SHALL BE TAKEN DURING FOUNDATION WALL POURS, AT AN INTERVAL
- CHOSEN BY THE ARCHITECT 12. COMPRESSION STRENGTH TESTS SHALL COMPLY WITH ASTM C39; ONE SPECIMEN TESTED AT 7 DAYS, 2 SPECIMENS TESTED AT 28 DAYS, AND 1 SPECIMEN
- RETAINED IN RESERVE FOR LATER TESTING IF REQUIRED 13. ALL CONCRETE EXPOSED TO THE WEATHER OR POSSIBLE FREEZE/THAW ACTION SHALL CONTAIN AN AIR ENTRAINMENT ADMIXTURE.
- 14. CONCRETE FLOOR SLABS ON METAL DECK SHALL HAVE LIGHT-WEIGHT COARSE AGGREGATE, SAND FINE AGGREGATE AND TYPE I OR II PORTLAND CEMENT,
- 15. ALL CONCRETE SHALL BE PLACED WITHOUT HORIZONTAL CONSTRUCTION JOINTS, EXCEPT WHERE SPECIFICALLY NOTED. VERTICAL CONSTRUCTION JOINTS AND STOPS IN SHORED CONCRETE WORK SHALL BE MADE AT MIDSPAN. HORIZONTAL REINFORCEMENT. SHALL BE CONTINUOUS THROUGH VERTICAL
- CONSTRUCTION JOINTS. 16. GROUT UNDER COLUMN BASE PLATES AND UNDER OTHER BEARING PLATES SHALL BE NON-SHRINK, NONMETALLIC GROUT WITH A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI AT 3 DAYS.NON-SHRINK GROUT SHALL BE "EMBECO 153" BY MASTER BUILDERS, SONOGROUT" BY SONNEBORN BUILDING PRODUCTS, "FIVE STAR GROUT" BY U.S. GROUT CORPORATION, OR EQUAL AS APPROVED BY THE ARCHITECT AND ENGINEER.
- 17. ALL KEYS SHALL BE 2"X4" (NOMINAL) UNLESS OTHERWISE SHOWN ON THE DRAWINGS. 18. REFER TO THE ARCHITECTURAL DRAWINGS FOR CONCRETE FINISHES WHERE FINISH IS NOT SPECIFIED, CONFORM TO REQUIREMENTS OF ACI 301-
- SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS.
- 19. SEE ARCHITECTURAL DRAWINGS FOR DOOR AND WINDOW OPENINGS. DRIPS, WASHES, REGLETS, CONCRETE FINISHES, MASONRY ANCHORS, AND FOR MISCELLANEOUS EMBEDDED PLATES, BOLTS, ANCHORS, ANGLES, ETC.
- 20. THE PLACEMENT OF SLEEVES, OUTLET BOXES, BOX-OUTS, ANCHORS, ETC.,FOR THE MECHANICAL, ELECTRICAL, AND PLUMBING TRADES IS THE RESPONSIBILITY OF THE TRADE INVOLVED. HOWEVER, ANY BOX-OUTS NOT COVERED BY TYPICAL DETAILS IN THE STRUCTURAL DRAWINGS SHALL BE SUBMITTED FOR APPROVAL
- 21. UNLESS OTHERWISE NOTE, COVER TO REINFORCING BARS SHALL AS INDICATED BELOW.
- 22. CONCRETE CAST AGAINST AND PERMANENTLY IN CONTACT WITH EARTH . 23. CONCRETE IN CONTACT WITH EARTH OR WEATHER
- 24. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH EARTH, FOR SLABS, WALLS & BEAMS ....... 11/2"

#### **ROUGH CARPENTRY**

- 1. ALL ROUGH CARPENTRY WORK SHALL BE EXECUTED IN CONFORMANCE WITH THE 9TH EDITION OF THE MASSACHUSETTS BUILDING CODE FOR (MBC) AND
- THE INTERNATIONAL RESIDENTIAL CODE (IRC). REFER TO THE MBC AND IRC FOR FRAMING COMPONENTS NOT SPECIFIED IN PLANS AND SECTIONS. NOTIFY THE ENGINEER OF ANY COMPONENT NOT
- DEFINED IN EITHER THE MBC AND IRC OR IN THESE DRAWINGS. : REFER TO THE IRC FASTENER SCHEDULE FOR STRUCTURAL MEMBERS TABLE 2304.10.1 FOR CONNECTION FASTENING NOT IDENTIFIED IN THESE PLANS OR DETAILS.
- 4. WHEN NOT OTHERWISE IDENTIFIED, ALL WOOD BEAMS, JOISTS, RAFTERS, HEADERS, STRINGERS, PLATES, AND SILLS SHALL BE SPRUCE PINE FIR #2 OR
- BETTER, WITH A MINIMUM Fb = 875 PSI (SINGLE USE) AND Fb = 1000 PSI (REPETITIVE USE), AND E SHALL BE 1,4000,000 PSI OR BETTER.
- WOOD STUDS MAY BE EASTERN HEMLOCK, EASTERN SPRUCE, OR HEM-FIR, GRADED "STUD" GRADE, #2 OR BETTER. LVL BEAMS, AS NOTED ON PLANS, SHALL HAVE A MINIMUM Fb = 3100 PSI, E = 2,000,000 PSI, AND Fv = 285 PSI. LVL BEAMS SHALL BE "VERSALAM" BY BOISE
- CASCADE. NO SUBSTITUTIONS WILL BE ACCEPTED, UNLESS THE ENGINEER SPECIFICALLY APPROVES ANOTHER PRODUCT SUBMITTED BY THE CONTRACTOR. WOOD "I" BEAMS SHALL BE BY BOISE CASCADE. NO SUBSTITUTIONS WILL BE ACCEPTED, UNLESS THE ENGINEER SPECIFICALLY APPROVES ANOTHER PRODUCT SUBMITTED BY THE CONTRACTOR. MANUFACTURER'S RECOMMENDATIONS FOR BEARING, REINFORCING, CUTS, CANTILEVERS, FASTENING, ETC.,
- SHALL BE STRICTLY ADHERED TO. ENGINEERED WOOD POSTS (VERSA COLUMNS), AS NOTED ON PLANS, SHALL BE VERSA-LAM 1.7 2650.
- PLYWOOD WALL SHEATHING, ROOF SHEATHING, AND SUBFLOORING SHALL BE APA GRADE, TRADEMARKED C-D INTERIOR WITH EXTERIOR GLUE SUBFLOORING SHALL BE 3/4" THICK TONGUE AND GROOVE, AND SHALL BE GLUED TO FLOOR JOISTS WITH AN APPROVED ADHESIVE PRIOR TO NAILING. ROOF SHEATHING SHALL BE 5/8" THICK, WALL SHEATHING SHALL BE 1/2" THICK AND SHEATHING FOR FLAT ROOFS SHALL BE 3/4" THICK.
- 10. ALL WOOD HAVING DIRECT CONTACT WITH CONCRETE OR MASONRY, AND WHEREVER WOOD IS WITHIN 8" OF FINISHED GRADE OR PART OF OPEN DECK CONSTRUCTION. SHALL BE PRESSURE TREATED. 11. ALL METAL CONNECTORS INCLUDING JOIST AND BEAM HANGERS AND COLUMN CAP AND BASES SHALL BE BY SIMPSON STRONG-TIE CORP. THE
- CONTRACTOR SHALL STRICTLY ADHERE TO MANUFACTURER'S FASTENING REQUIREMENTS. CONTRACTOR TO VERIFY ALL CONNECTOR SIZES TO FRAMING ELEMENTS BEFORE ORDERING. 12. UNLESS DETAILED OR SPECIFIED OTHERWISE ON THE PLANS, HEADERS AND BEAMS SHALL BE SUPPORTED BY AT LEAST ONE JACK STUD AND ONE KING
- STUD 13. FOR WOOD JOIST SPANS UP TO 14 FEET, PROVIDE A SINGLE ROW OF FULL DEPTH BLOCKING BETWEEN JOISTS AT MIDSPAN. FOR SPANS EXCEEDING 14 FEET,
- PROVIDE TWO ROWS OF FULL DEPTH BLOCKING BETWEEN JOISTS AT THIRD POINTS OF THE SPAN. 14. GABLE-END WALL STUDS IN CATHEDRAL, PARTIAL CATHEDRAL, OR HIGH CEILING SPACES SHALL SPAN UNINTERRUPTED FROM THE FLOOR PLATE TO THE UNDERSIDE OF THE ROOF RAFTERS. THEY SHOULD NOT BE INTERRUPTED BY ANY HORIZONTAL PLATES OR BEAMS, UNLESS NOTED OTHERWISE ON THE
- DRAWINGS. 15. MEMBERS WITHIN BUILT-UP BEAMS, WHETHER MADE OF SAWN OR ENGINEERED LUMBER, SHALL ONLY BE SPLICED OVER SUPPORTS.
- 16. PROVIDE SIMPSON H2.5 HURRICANE TIE BETWEEN EACH SLOPING 2x RAFTER BOTTOM AND ITS BEARING POINT.
- 17. PROVIDE SIMPSON H8 HURRICANE TIE BETWEEN EACH I-JOIST ROOF RAFTER BOTTOM & ITS BEARING POINT. 18. CONTRACTOR SHALL CAREFULLY COORDINATE THE WORK OF ALL TRADES TO MINIMIZE THE NEED FOR CUT, BORED OR NOTCHED IN FRAMING LUMBER.
- STRUCTURAL FLOOR MEMBERS SHALL NOT BE CUT, BORED OR NOTCHED IN EXCESS OF THE LIMITATIONS SPECIFIED IN THE BUILDING CODE WITHOUT WRITTEN APPROVAL FROM THE ENGINEER. 19. AT WOOD POSTS LANDING ON FLOOR DECK, PROVIDE SOLID VERTICAL WOOD BLOCKING WITHIN DECK SANDWICH TO LINK UPPER POST WITH LOWER
- SUPPORT. BLOCKING TO MATCH UPPER POST SIZE. 20. SET LVL BEAMS THAT FRAME FLUSH WITH DIMENSIONED LUMBER JOISTS 3/8" BELOW THE TOP OF JOISTS TO ALLOW FOR JOIST SHRINKAGE. WHERE
- BEARING WALLS OR POSTS LAND ON THESE BEAMS, INFILL GAP WITH 3/8" PLYWOOD FOR SOLID BEARING. 21. BEAMS COMPRISED OF 3 LVLS OR MORE SHALL BE BOLTED TOGETHER WITH A MINIMUM OF 2-1/2" BOLTS AT 16" ON CENTER OR 3-1/4" DIAMETER SELF
- TAPPING LAG SCREWS AT 16" ON CENTER, ALTERNATING INSERTION SIDES, FOLLOW MANUF. SPECS, UNLESS NOTED OTHERWISE ON DRAWING. 22. IN ADDITION TO THE FLOOR JOIST SHOWN IN THE PLANS, CONTRACTOR SHALL INSTALL DOUBLE JOISTS UNDER ALL PARTITIONS WALLS RUNNING PARALLEL TO THE DIRECTION OF FRAMING.
- 23. MINIMUM BEAM BEARING TO BE 3 INCHES UNLESS NOTED OTHERWISE ON PLAN.

#### STRUCTURAL STEEL

- 1. STRUCTURAL STEEL WORK SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRIUCTION, "MANUAL OF STEEL CONSTRUCTION"
- 14TH EDITION ASD AMERICAN INSTITUTE OF STEEL CONSTRUCTION "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS
- RESEARCH COUNCIL OF STRUCTURAL CONNECTIONS "SPECIFICATION FOR A325 OR A490
- 4. STRUCTURAL WELDING CODE AWS D1.1/D1.1M

CONDITION AS DETERMINED BY THE ENGINEER

- 5. STRUCTURAL STEEL SHALL BE DETAILED IN ACCORDANCE WITH "DETAILING FOR STEEL CONSTRUCTION (AISC)". 6. STRUCTURAL STEEL DETAILS NOT SPECIFICALLY SHOWN SHALL BE TAKEN AS BEING SIMILAR TO THOSE SHOWN FOR THE MOST NEARLY SIMILAR
- STRUCTURAL STEEL SHALL BE NEW STEEL CONFORMING TO THE FOLLOWING: UNLESS NOTED OTHERWISE: ASTM A992 GRADE 50 (FY = 50 KSI) 8. HIGH STRENGTH BOLTS: ASTM A325 OR ASTM A490.
- BOLTED CONNECTIONS SHALL BE AS FOLLOWS:
- A. MINIMUM BOLT DIAMETER -3/4" UNLESS SPECIFICALLY NOTED OTHERWISE B. TWO BOLTS MINIMUM
- C. STANDARD HOLES IN WEBS OF BEAMS 9. SHEAR CONNECTIONS FOR MOMENT CONNECTED MEMBERS SHALL BE HIGH STRENGTH BOLTS SIZED AS SLIP CRITICAL SHEAR CONNECTIONS.
- 10. SIMPLE SHEAR CONNECTIONS SHALL BE HIGH STRENGTH BOLTS SIZED AS BEARING TYPE CONNECTIONS. 11. WELDED CONNECTIONS SHALL BE MADE BY APPROVED CERTIFIED WELDERS USING FILLER METAL CONFORMING TO E70XX
- 12. WELDS SHALL DEVELOP THE FULL STRENGTH OF THE MATERIALS BEING WELDED, UNLESS NOTED OTHERWISE, EXCEPT THAT FILLET WELDS SHALL BE A MINIMUM OF I/4". 13. BEAM CONNECTIONS, UNLESS NOTED OTHERWISE, SHALL PROVIDE CONNECTION CAPACITY AS FOLLOWS: BEAMS: SUPPORT A REACTION 'R'
- EQUAL TO 60% OF THE TOTAL UNIFORM LOAD CAPACITY OF BEAM FOR A GIVEN SHAPE, SPAN, AND GRADE OF STEEL PER "ALLOWABLE LOADS ON BEAMS" PART 2, AISC MANUAL OF STEEL CONSTRUCTION. 14. ENDS OF COLUMNS AT SPLICES AND AT OTHER BEARING CONNECTIONS SHALL BE 'FINISHED TO BEAR' TO COMPLETE TRUE BEARING.
- 15. PROVIDE STIFFENERS 'FINISHED TO BEAR' UNDER ALL LOAD CONCENTRATIONS ON SUPPORTING MEMBERS, OVER COLUMNS, AND WHERE 16. PROVIDE TEMPORARY ERECTION BRACING AND SUPPORTS TO HOLD STRUCTURAL STEEL FRAMING SECURELY IN POSITION. SUCH TEMPORARY
- BRACING AND SUPPORTS SHALL NOT BE REMOVED UNTIL PERMANENT BRACING AND MOMENT CONNECTIONS HAVE BEEN CONSTRUCTED. 17. STRUCTURAL STEEL FRAMING SHALL BE TRUE AND PLUMB BEFORE CONNECTIONS ARE FINALLY BOLTED OR WELDED 18. FIELD CUTTING OF STRUCTURAL STEEL OR ANY FIELD MODIFICATIONS OF STRUCTURAL STEEL SHALL NOT BE MADE WITHOUT PRIOR WRITTEN
- APPROVAL BY THE CONSTRUCTION MANAGER FOR EACH SPECIFIC CASE. 19. STRUCTURAL STEEL SHALL BE PAINTED IN THE SHOP WITH ONE COAT OF PRIMER. 20. STRUCTURAL STEEL MEMBERS AND CONNECTIONS EXPOSED TO THE WEATHER IN THE FINAL CONDITION SHALL BE GALVANIZED. OTHER STEEL
- SHALL BE GALVANIZED AS INDICATED ON THE DRAWINGS. 21. STEEL CONTRACTOR SHALL PROVIDE AND INSTALL ALL STEEL ANGLE FRAMES REQUIRED PROVIDING SUPPORT OF METAL DECK AROUND ALL ROOF OPENINGS AND ROOF DRAINS.
- 22. STRUCTURAL STEEL SHOP DRAWINGS SHALL BE PREPARED AND SUBMITTED TO THE ARCHITECT FOR APPROVAL. THESE DRAWINGS SHALL SHOW COMPLETE AND ACCURATE MEMBER LAYOUT, SIZES, GRADE, DIMENSIONS, CONNECTIONS, OPENINGS, ACCESSORIES, AND ALL OTHER INFORMATION NECESSARY FOR COMPLETE AND ACCURATE FABRICATION AND ASSEMBLY OF THE MEMBERS. PROVIDE TEMPLATES OR LOCATIONS DRAWINGS FOR INSTALLATION OF ANCHOR BOLTS. A SUBMITTAL SHALL BE STAMPED MY A REGISTERED PROFESSIONAL ENGINEER IN
- 23. NO CUTTING OF OR OPENINGS THROUGH STEEL WILL BE PERMITTED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER

#### WELDING NOTES

- 1. ALL WELDS SHALL BE AWS D1.1 PREQUALIFIED JOINTS. WHERE JOINTS ARE NOT QUALIFIED BY AWS D1.1, SUBMIT QUALIFICATION PROCEDURE TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
- WELDER SHALL BE CERTIFIED FOR WELDS HE IS RESPONSIBLE FOR. CERTIFICATION SHALL BE PROVIDED TO ENGINEER UPON REQUEST.
- WELDS SHALL BE INSPECTED AND TESTED BY THE FABRICATOR IN ACCORDANCE WITH AWS D1.1 AND THE FOLLOWING
- 4. ALL WELDS SHALL BE VISUALLY INSPECTED BY AN AWS CERTIFIED WELDING INSPECTOR (CWI). 5. ALL FULL PENETRATION WELDS SHALL BE NON-DESTRUCTIVELY TESTED BY AN ULTRASONIC AND MAGNETIC PARTICLE TESTING TECHNIQUES AS

- 1. MASONRY CONSTRUCTION SHALL CONFORM TO "BUILDING CODE REQUIREMENTS AND FOR CONCRETE MASONRY CONSTRUCTION (ACI 530.05ASCE 5-05/TMS 602-05) AND SPECIFICATIONS FOR MASONRY STRUCTURES AND RELATED COMMENTARIES (ACI 530/530.1-05/ASCE 605/TMS
- 2. MASONRY UNITS SHALL CONFORM TO ASTM C55 OR ASTM C90 AND ARE SAMPLED AND TESTED IN ACCORDANCE WITH ASTM C140. F'm = 1500PSI.
- 3. THICKNESS OF BED JOINTS DOES NOT EXCEED 5/8"
- 4. MORTAR FOR BLOCK WALL CONSTRUCTION SHALL BE TYPE M OR S CONFORMING TO ASTM C270. 5. GROUT FOR PIERS AND BLOCK WALLS SHALL CONFORM TO ASTM C476 WITH A MINIMUM COMPRESSIVE STRENGTH OF 2000 psi DETERMINED IN
- ACCORDANCE WITH THE PROVISIONS OF ASTM C1019. . REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60, EXCEPT BARS TO BE WELDED SHALL CONFORM TO ASTM A706.
- 7. WIRE FOR JOINT REINFORCING SHALL CONFIRM TO ASTM A82, YIELD POINT = 70 ksi (MIN). 8. UNLESS NOTED OTHERWISE ON PLANS, PROVIDE THE FOLLOWING MINIMUM REINFORCEMENT:#5 @ 32" OC VERTICAL AND #9 GA. LADDER OR
- 9. PROVIDE BOND BEAMS WITH 1-#5 CONTINUOUS, AT THE TOP OF FOUNDATION WALLS AND THE TOP OF PARAPETS, AT EACH FLOOR LEVEL, AND
- WHERE SHOWN ON THE DRAWINGS. MAXIMUM SPACE BETWEEN HORIZONTAL BOND BEAMS SHALL NOT EXCEED 8'-0". 10. UNLESS NOTED OTHERWISE ON PLANS, PROVIDE THE FOLLOWING ADDITIONAL VERTICAL REINFORCEMENT IN THE CELL IMMEDIATELY ADJACEN TO EACH SIDE OF A MASONRY OPENING AND IN THE CELL OF DISCONTINUOUS WALLS. THESE BARS ARE TO EXTEND FULL HEIGHT OF THE WALL OR IN THE CASE OF MASONRY OPENING AT MULTI-STORY WALLS, FROM STORY TO LEVEL ABOVE TO STORY LEVEL BELOW THE OPENING. 6" AND
- 12. THE MINIMUM LENGTH OF LAP FOR REINFORCING BARS EMBEDDED IN GROUT IS 48 BAR DIAMETERS, UNLESS SHOWN OTHERWISE ON THE **DRAWINGS**
- 13. PLACE REINFORCING BARS BEFORE GROUTING, PLACE GROUT IN LIFTS NOT EXCEEDING 5 FEET, CONSOLIDATE EACH LIFT BY MECHANICAL VIBRATION. THE NEXT LIFT OF THE POUR MAY BE MADE AFTER THE INITIAL WATER LOSS AND RECONSOLIDATION OF THE PRIOR LIFT, WHILE IT IS
- 14. PROPERLY SECURE REINFORCING BARS TO MAINTAIN THE POSITIONS INDICATED ON THE DRAWINGS. BARS TO BE LOCATED IN CENTER OF CELLS UNLESS OTHERWISE NOTED. 15. ALL CMU SHALL BE BRACED DURING CONSTRUCTION FOR THE GOVERNING CODE LATERAL DESIGN LOADS UNTIL PERMANENT RESTRAINTS HAVE
- BEEN INSTALLED. 16. INSPECTION AND TESTING OF MASONRY WORK WILL BE PERFORMED BY AN INDEPENDENT TESTING AGENCY, UNDER A SEPARATE CONTRACT WITH THE OWNER. IF THE MASONRY FAILS, CONTRACTOR SHALL PROMPTLY REPLACE MATERIALS OR REDO WORK WHICH HAS BEEN REJECTED
- BY ARCHITECT, ENGINEER AND/OR TESTING AGENCY, AT NO EXPENSE TO THE OWNER. 17. THE FOLLOWING STEPS ARE TO BE FOLLOWED WHEN LAYING MASONRY IN THE TEMPERATURES STATED BELOW:
- 40 32 DEG F (MEAN DAILY AIR TEMPERATURE)

11. EXTEND ADDITIONAL REINFORCEMENT A MINIMUM OF 36 BAR DIAMETERS BEYOND THE OPENING.

 HEAT MIXING WATER OR AGGREGATE TO 70° F. PROTECT MASONRY FROM RAIN OR SNOW FOR 24 HOURS.

8"CMU WALLS - 1-#510" AND 12" CMU WALLS - 2-#6

APPROVED BY THE ENGINEER UNLESS NOTED OTHERWISE.

- 32 20 DEG F (MEAN DAILY AIR TEMPERATURE)
- HEAT MIXING WATER AND AGGREGATE TO 70° F PROVIDE WIND BRACING FOR WIND VELOCITY IN EXCESS OF 15 M.P.H.
- COVER MASONRY WITH INSULATING BLANKETS FOR 24 HOURS AND PROVIDE HEAT SOURCES ON BOTH SIDES OF MASONRY CONSTRUCTION.
- BELOW 20° F (MEAN DAILY AIR TEMPERATURE)
- HEAT MIXING WATER & AGGREGATE TO 70° F.
- PROVIDE ENCLOSURES AND HEAT TO MAINTAIN 40° MINIMUM TEMPERATURE TEMPERATURE OF MASONRY UNITS MUST BE 40° F MINIMUM WHEN LAID. MAINTAIN MASONRY

#### ABOVE 40° F FOR 24 HOURS BY ENCLOSURES AND SUPPLEMENTAL HEAT.

## UNIT MASONRY

- 1. HOLLOW MASONRY BLOCK SHALL CONFORM TO ASTM C-90, GRADE N, AND SHALL BE NORMAL WEIGHT. MINIMUM COMPRESSIVE STRENGTH OF BLOCK f'c = 2500 PSI. MASONRY ASSEMBLY SHALL ACHIEVE A COMPRESSIVE STRENGTH f'm = 1500 PSI.
- MORTAR SHALL COMPLY WITH ASTM C-270, AND SHALL BE TYPE N OR S. GROUT SOLID ALL CELLS CONTAINING VERTICAL STEEL. REFER TO STRUCTURAL DRAWINGS FOR STEEL SIZE AND SPACING. CELLS SHALL BE
- CLEAN AND FREE OF MORTAR AND OTHER MATERIALS, TO PERMIT THE FREE VERTICAL FLOW OF GROUT. GROUTING SHALL OCCUR IN 4'-0" PROVIDE 4 #6 DOWELS, HOOKED INTO FOOTINGS, IN EACH MASONRY PIER. MASONRY PIER CELLS SHALL BE FULLY GROUTED. CELLS SHALL BE
- CLEAN AND FREE OF MORTAR AND OTHER MATERIALS, TO PERMIT THE FREE VERTICAL FLOW OF GROUT THROUGH THE PIER. GROUTING SHALL OCCUR IN 4'-0" LIFTS MAXIMUM. PROVIDE HOT-DIPPED GALVANIZED STEEL LINTEL ANGLES IN ACCORDANCE WITH THE FOLLOWING SCHEDULE. PROVIDE 6 INCHES OF BEARING
- PER END OF LINTEL: ONE ANGLE PER 4" WIDTH OF MASONRY
- R.O<u><</u>3'-0" L 3-1/2 x 3-1/2 x 1/4" R.O<4'-0" L 4 x 3-1/2 x 1/4"

#### R.O<5'-0" L 4 x 3-1/2 x 5/16" R.O<6'-0" L 5 x 3-1/2 x 5/16" R.O<u><</u>8"-0" L 6 x 3-1/2 x 5/16"

**ELEVATION VIEW** 

# BEAMS IDENTIFIED AS MULTI-SPAN CONTINUOUS EXAMPLE: (2-SPAN), (3-SPAN) ETC. (NO SPAN IDENTIFICATION INDICATES SINGLE SPAN BEAM) - 3-9 1/2" LVL (2-SPAN CONT.)

NO SEAM IN BEAM OVER POST

MULTIPLE SPAN BEAM LEGEND

#### (E) = EXISTING (\*) SPAN = JOIST OR BEAM RUNS CONTINUOUS OVER SUPPORTS FOR (\*) SPANS NUMBER OF STUDS IF APPLICABLE SIZE OF STUD OR DIMENSION OF SOLID POST **TYPE OF POST**: P = POST, J = JACK, K = KING VC = VERSA COLUMN, LC = LALLY COLUMN

**HSS** = HOLLOW STRUCTURAL SECTION

**BW** = BEARING WALL

**FVP** = FLAT VALLEY PLATE

POST LEGEND

#### METAL DECK

1. STEEL ROOF DECK SHALL BE AS MANUFACTURED BY VULCRAFT OR APPROVED EQUAL. STEEL SHALL CONFORM TO ASTM A446 GRADE "A" GALVANIZED. THE MINIMUM YIELD STRENGTH SHALL BE AT LEAST 33,000 PSI.

#### METAL ROOF DECK SCHEDULE

DECK GAUGE	SDI DECK TYPE	DECK DEPTH (in)	SHEET (in)	WIDTH (in.4)	MIN Ix (in.3)	MIN Sx
22	WR	1.5	36	.167	.186	
CONN @ SUPPORTS (W/N)	CONN @ S PARALLEL EDGES (in)		REQ'D CAPAC (PLF)			
36/4	12	3	250			

SUPPORT AND PARALLEL EDGE CONNECTIONS SHALL BE MADE WITH 5/8" DIAMETER PUDDLE WELDS AT THE SPACING NOTED IN

- 3. GALVANIZING FOR ALL DECK PRODUCTS SHALL CONFORM TO ASTM A525, CLASS G60.
- METAL DECK
- SHALL SHOW COMPLETE AND ACCURATE DECK LAYOUT, DIMENSIONS, GAUGES, FASTENING REQUIREMENTS, SECTIONS, OPENINGS, ACCESSORIES, AND ALL OTHER INFORMATION NECESSARY FOR COMPLETE AND ACCURATE FABRICATION AND ERECTION OF THE DECK.
- DECK SHALL BE WELDED TO SUPPORTS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. AT THE MINIMUM WELDING SHALL CONSIST OF 5/8" DIAMETER PUDDLE WELDS SPACED 12" O.C. AT INTERMEDIATE SUPPORTING MEMBERS AND 6"
- 8. METAL DECKING ATTACHED TO CONCRETE SUPPORTS WITH #12x11/2" SELF-TAPING CONCRETE SCREW @ 12"OC.
- 9. CONTRACTOR SHALL SUPPLY ALL METAL DECK ACCESSORIES INCLUDING, BUT NOT LIMITED TO, LIGHT GAUGE ANGLES, POUR STOPS, SUMP AND DRAIN PANS AND CLOSURES.

### **COMPOSITE METAL FLOOR**

- 1. STEEL DECK SHALL BE AS MANUFACTURED BY VULCRAFT STEEL DECK OR APPROVED EQUAL. THE MINIMUM YIELD STRENGTH
- SHALL BE AT LEAST 50 KSI. 2. DECKING ALONE SHALL BE CAPABLE OF SUPPORTING THE WETY WEIGHT OF CONCRETE PLUS CONSTRUCTION LOADS WITHOUT REQUIRING INTERMEDIATE SHORING FOR ALL SPAN CONDITIONS

#### COMPOSITE SLAB

SLAB THICKNESS	SLAB REINF	CONCRETE TYPE
4"	6x6-W2.1xW2.1 **	NORMAL WEIGHT
** PROVIDE #4(	5'-0")@18"OC TYPICAL A[	ODITIONAL REINFORCING OVER GIRDERS

#### COMPOSITE METAL DECK SCHEDULE

DECK GAUGE	SDI DECK TYPE	DECK DEPTH (in)	SHEET WIDTH (in)	MIN Ix (in.4)	
20	VLI	11/2"	36	.409	.346

- 3. SUPPORT AND PARALLEL EDGE CONNECTIONS SHALL BE MADE WITH 5/8" DIAMETER PUDDLE WELDS AT THE SPACING NOTED IN
- THE TABLE ABOVE 4.  $\,$  SIDELAP CONNECTIONS SHALL BE MADE WITH #10 TEK SCREWS AT THE SPACING NOTED IN THE TABLE ABOVE 5. GALVANIZING FOR ALL DECK PRODUCTS SHALL CONFORM TO ASTM A525, CLASS G60.
- . METAL DECK SHALL EXTEND OVER THREE OR MORE SPANS WHEREVER POSSIBLE. 7. INSTALLATION OF METAL DECK SHALL BE IN ACCORDANCE WITH THE STEEL DECK INSTITUTE MANUAL OF CONSTRUCTION WITH METAL DECK. 8. METAL DECK SHOP DRAWINGS SHALL BE PREPARED AND SUBMITTED TO THE ARCHITECT FOR APPROVAL. THESE DRAWINGS SHALL SHOW COMPLETE AND ACCURATE DECK LAYOUT, DIMENSIONS, GAUGES, FASTENING REQUIREMENTS, SECTIONS,
- OPENINGS, ACCESSORIES, AND ALL OTHER INFORMATION NECESSARY FOR COMPLETE AND ACCURATE FABRICATION AND ERECTION OF THE DECK. A SUBMITTAL SHALL BE STAMPED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF MASSACHUSETTS.

### **COMPOSITE STEEL BEAMS**

- 1. ALL BEAMS SHALL HAVE SHEAR STUDS SPACED AT 2'-0" OC MAX WHETHER SHOWN OR NOT 2. COMPOSITE STEEL BEAMS DO NOT REQUIRE SHORING DURING PLACEMENT OF CONCRETE SLABS, UNLESS NOTED OTHERWISE
- **SHEAR STUDS**

#### I. SHEAR STUDS SHALL BE FUSION WELDED, HEADED STUDS OF HIGH STRENGTH STEEL 2. UNLESS NOTED OTHERWISE STUDS SHALL HAVE A SHANK DIAMETER OF 3/4"

SEISMIC RESISTING SYSTEM:

- 3. RATED SHEAR CONNECTOR CAPACITY, FOR USE WITH METAL DECK, SHALL BE A MINIMUM OF 15.9 KIPS PER CONNECTOR
- **EARTHQUAKE LOAD** PER MASSACHUSETTS STATE BUILDING CODE SEISMIC SITE CLASS: C SEISMIC DESIGN CATEGORY: B
- UNREINFORCED MASONRY SHEAR WALLS (IEBC) R = 1.25Cd = 1.25
- OMEGA = 1.25

### ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE SEISMIC COEFFICIENT: Ss=0.29 S1=0.068

# **COMMON BALCONIES & DECKS**

# MASSACHUSETTS STATE BUILDING CODE: 105 MPH, EXPOSURE B

## **ABBREVIATIONS**:

DIAG - DIAGONAL

DN - DOWN

ADD'L - ADDITIONAL	EQSP -	- EQUAL SPACES
BLKG - BLOCKING	EF -	EACH FACE
BM - BEAM	EW -	EACH WAY
BTM - BOTTOM	FDN -	FOUNDATION
BRG - BEARING	FIN -	FINISH
BTWN - BETWEEN	FLG -	FLANGE
BW - BEARING WALL	FTG -	FOOTING
CLG - CEILING	HORIZ	-HORIZONTAL
COL - COLUMN	HDR -	HEADER
CONC - CONCRETE	JST -	JOIST
CONN - CONNECTION	LSL -	LAMINATED STRAND LUMBER
CONT - CONTINUOUS	LVL -	LAMINATED VENEER LUMBER

LW - LONG WAY

MAX - MAXIMUM

MIN - MINIMUM

- **GROUND SNOW LOAD:** STAIRS & EXITS: 100 PSF CORRIDORS @ 1ST FLOOR ONLY 100 PSF CORRIDORS ABOVE THE 1ST FLOOR 80 PSF RESIDENTIAL AREAS & CORRIDORS SERVING THEM 40 PSF BALCONIES & DECKS (SERVING A SINGLE UNIT) 40 PSF

DESIGN LOADS PER MASSACHUSETTS STATE BUILDING CODE

45 PSF

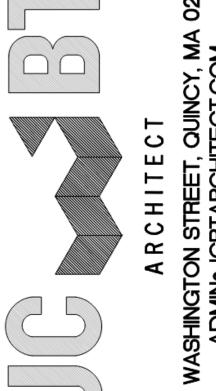
100 PSF

# WIND LOADS

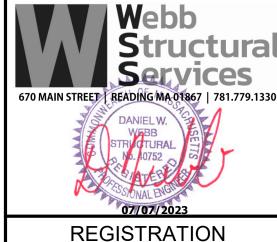
LIVE LOADS

DEAD LOAD WEIGHT OF MATERIALS AND CONSTRUCTION

- MFR MANUFACTURER NTS - NOT TO SCALE OC - ON CENTER PL - PLATE PT - PRESSURE TREATED REQ - REQUIRED SPEC - SPECIFICATION SW - SHEAR WALL TFN - TOP FLANGE NAILER TYP - TYPICAL UON - UNLESS OTHERWISE NOTED VERT - VERTICAL
  - WS STRUCTURAL GRADE WOOD SCREW 3/8" DIAMETER, UNLESS NOTED OTHERWISE, SIMPSON SDS OR TIMBERLOK OR SIMILAR



CONSULTANT



REVISIONS NO. | BY | DESCRIPTION

> SHANGHAI CORP **FACTORY ADDITION**

> > 25 HOWARD ST

ROXBURY, MA

PROJEC1

WSS # 23021

SHEET TITLE

**GENERAL NOTES** 

SCALE: 1/4" = 1'-0" 07.07.23

DRAWNING NO:

CHECKED: SHEET OF

THE TABLE ABOVE 2. SIDELAP CONNECTIONS SHALL BE MADE WITH #10 TEK SCREWS AT THE SPACING NOTED IN THE TABLE ABOVE

ROOF DECK SHALL EXTEND OVER THREE OR MORE SPANS WHEREVER POSSIBLE. 5. INSTALLATION OF METAL DECK SHALL BE IN ACCORDANCE WITH THE STEEL DECK INSTITUTE MANUAL OF CONSTRUCTION WITH METAL DECK SHOP DRAWINGS SHALL BE PREPARED AND SUBMITTED TO THE ARCHITECT FOR APPROVAL. THESE DRAWINGS

O.C. AT EDGE SUPPORTS UNLESS NOTED OTHERWISE ON PLANS.

10. A SUBMITTAL SHALL BE STAMPED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF MASSACHUSETTS.

# STATEMENT OF SPECIAL INSPECTIONS

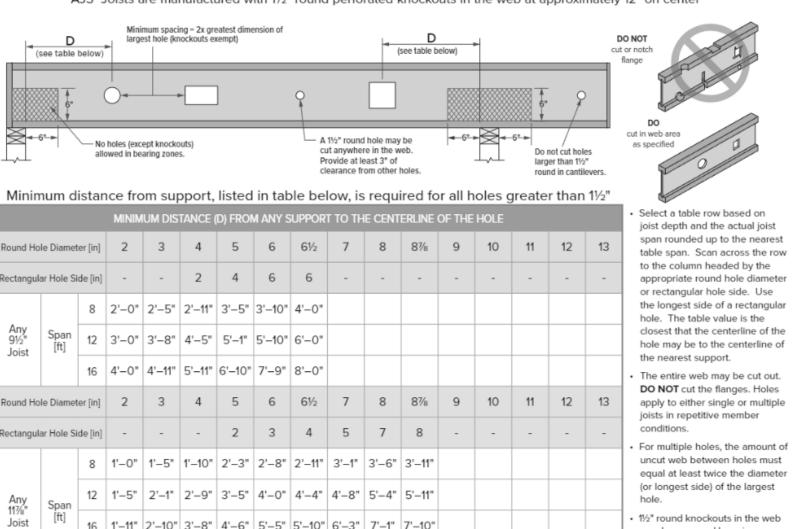
PRIOR TO GROUTING, VERIFY THAT THE

CHECK IF REQUIRED	INCDECTION TACK	a.	i .		
	INSPECTION TASK (STANDARD & CODE REFERENCE)	CONTINUOUS INSPECTION	PERIODIC INSPECTION	SPECIAL INSPECTIONS FIRM	NOTES & SCOPE
	VERIFICATION OF SOILS 1705.6 & CHAPTER 18 IBC			TESTING LAB	
	VERIFY MATERIALS BELOW FOOTINGS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY		$\boxtimes$	TESTING LAB	
$\boxtimes$	VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL		$\boxtimes$	TESTING LAB	
	PERFORM CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS		$\boxtimes$	TESTING LAB	
	VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF CONTROLLED FILL			TESTING LAB	
	PRIOR TO PLACEMENT OF CONTROLLED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERTY			TESTING LAB	
		N AND FILLING			
CHECK IF EQUIRED	INSPECTION TASK (STANDARD & CODE REFERENCE)	CONTINUOUS INSPECTION	PERIODIC INSPECTION	SPECIAL INSPECTIONS FIRM	NOTES & SCOPE
	VERIFY MATERIALS BELOW SHALLOW FOUNDATION ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY		$\boxtimes$	TESTING LAB	
	VERIFY EXCAVATION ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL		$\boxtimes$	TESTING LAB	
	PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS			TESTING LAB	
	VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESS DURING PLACEMENT AND COMPACTION OF COMPACTED MATERIAL			TESTING LAB	
	PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY		$\boxtimes$	TESTING LAB	
		CONSTRUCTION			
CHECK IF REQUIRED	INSPECTION TASK (STANDARD & CODE REFERENCE)	CONTINUOUS INSPECTION	PERIODIC INSPECTION	SPECIAL INSPECTIONS FIRM	NOTES & SCOPE
	INSPECT REINFORCEMENT, INCLUDING PRETESTING TENDONS, AND VERIFY PLACEMENT. (ACI 318: 3.5, 7.1-7.7, IBC SECTION1913.4)			TESTING LAB	
	REINFORCING BAR WELDING: A. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A 706; B. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"; C. INSPECT ALL OTHER WELDS (IBC TABLE 1704.3, ITEM 5B. AWS: D1.4, ACI 318:			TESTING LAB	
	3.5.2) INSPECT ANCHORS CAST IN CONCRETE. (IBC				
	SECTION 1911.5)			TESTING LAB	
$\boxtimes$	INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS A. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS. B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.A		$\boxtimes$		
$\boxtimes$	VERIFY USE OF REQUIRED DESIGN MIX. (ACI 318: CH.4, 5.2-5.4, 1904.2.2, IBC SECTION 1913.2, 1913.3)			TESTING LAB	
$\boxtimes$	PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE. (ASTM C 172, ASTM C 21, ACI 318: 5.6, 5.8, IBC SECTION 1913.10)			TESTING LAB	
	INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES. (ACI 318: 5.9, 5.10, IBC SECTION 1913.9)			TESTING LAB	
	VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES. (ACI 318: 5.11, 5.13, IBC SECTION 1913.9)		$\boxtimes$	TESTING LAB	
	INSPECTION OF PRESTRESSED CONCRETE: A. APPLICATION OF PRESTRESSING FORCES; AND B. GROUTING OF BONDED PRESTRESSING			TESTING LAB	
	TENDONS. (ACI 318: 18.20, ACI 318: 18.18.4)  INSPECT ERECTION OF PRECAST CONCRETE MEMBERS. (ACI 318: CH.16)			TESTING LAB	
	VERIFICATION OF IN-SITU CONCRETE, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE, AND PRIOR TO REMOVAL OF SHORES AND FORMS FORM BEAMS AND STRUCTURAL SLABS. (ACI 318: 6.2)			TESTING LAB	
$\boxtimes$	INSPECT FORM WORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED. (ACI 318: 6.1.1)			TESTING LAB	
	STRUCTURAL MASONRY (QUALIT	Y ASSURANCE F	PROGRAM, LEVI	EL B)	
CHECK IF	INSPECTION TASK (STANDARD & CODE REFERENCE)	CONTINUOUS INSPECTION	PERIODIC INSPECTION	SPECIAL INSPECTIONS FIRM	NOTES & SCOPE
	VERIFICATION OF SLUMP FLOW AND VSI AS	INOFECTION	INOFECTION		SUUPE
	DELIVERED TO THE SIDE IN ACCORDANCE WITH ART. 1.5 B.1.b3  VERIFICATION OF F'M AND F'ACC PRIOR TO			TESTING LAB	
	CONSTRUCTION, EXCEPT WHERE SPECIFICALLY EXEMPTED BY THE OCDE  VERIFY COMPLIANCE WITH THE APPROVED				
	SUBMITTALS				
$\boxtimes$	AS MASONRY CONSTRUCTION BEGINS, VERIFY THE FOLLOWING ARE INCOMPLIANCE.  A. PROPORTIONS OF SITE-PREPARED MORTAR. B. CONSTRUCTION OF MORTAR JOINTS. C. GRADE AND SIZE OF PRESTRESSING TENDONS AND ANCHORAGES. D. LOCATION OF REINFORCEMENT, CONNECTORS,			TESTING LAB	

	PRIOR TO GROUTING, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE: A. GROUT SPACE B. GRADE, TYPE AND SIZE OF REINFORCEMENT AND ANCHOR BOLTS, AND PRESTRESSING TENDONS, AND ANCHORAGES. C. PLACEMENT OF REINFORCEMENT, CONNECTORS, AND PRESTRESSING TENDONS AND ANCHORAGES. D. PROPORTIONS OF SITE-PREPARED GROUT AND PRESTRESSING TENDONS AND ANCHORAGES. E. CONSTRUCTION OF MORTAR JOINTS.SEC 2108.9.2.11, ITEM 2, SEC. 2104.3, 2104.4, ACI 318: SEC. 1.15.4, 2.1.2, SEC. 2.1.8.6.2, ACI 3.3G			TESTING LAB	
	ART. 2.4, 3.4, ART. 1.8  VERIFY DURING CONSTRUCTION: A. SIZE AND LOCATION OF STRUCTURAL ELEMENTS B. TYPE, SIZE, AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION. C. WELDING OF REINFORCEMENT. D. PREPARATION, CONSTRUCTION, AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMP. BELOW 40°F OR HOT WEATHER (TEMP ABOVE 90°) E. APPLICATION AND MEASUREMENT OF PRESTRSSING FORCE. F. PLACEMENT OF GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS IN IN COMPLIANCE. SEC. 1.12, ART. 3.2D, ART. 3.4, ART. 2.6B, ART. 3.3B			TESTING LAB	
	GROUT PLACEMENT SHALL BE VERIFIED TO ENSURE COMPLIANCE WITH CODE AND CONSTRUCTION PROVISIONS. ART. 3.5			TESTING LAB	
$\boxtimes$	PREPARATION OF ANY REQUIRED GROUP SPECIMENS, MORTAR SPECIMENS AND/OR PRISMS SHALL BE OBSERVED. SEC. 2105.3, 2105.4, 2105.5, ART.1.5			TESTING LAB	
$\boxtimes$	COMPLIANCE WITH REQUIRED INSPECTION PROVISIONS OF THE CONSTRUCTION DOCUMENTS AND THE APPROVED SUBMITTALS SHALL BE VERIFIED, ART, 1.5			TESTING LAB	
		JRAL STEEL			
$\boxtimes$	SPECIAL INSPECTION AND NONDESTRUCTIVE TESTING OF STRUCTURAL STEEL ELEMENTS IN BUILDINGS, STRUCTURES AND PORTIONS THEREOF SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE INSPECTION REQUIREMENTS OF AISC 360 CHAPTER N				
NOTE OUA	 LTIY CONTROL AS SPECIFIED IN AISC 360 SHALL BE PRO	VIDED BY THE F	ABRICATOR ANI	D ERECTOR. QUALITY AS	SSURANCE
	ED IN AISC 306 SHALL BE PROVIDED BY OTHERS				
			ME INSPECTION		
	ED IN AISC 306 SHALL BE PROVIDED BY OTHERS  HIGH-STRENGTH BOLTING A  INSPECTION TASK		ME INSPECTION  PERIODIC INSPECTION	SPECIAL INSPECTIONS FIRM	
AS SPECIFI	ED IN AISC 306 SHALL BE PROVIDED BY OTHERS  HIGH-STRENGTH BOLTING A  INSPECTION TASK	AND STEEL FRAM	PERIODIC	SPECIAL	NOTES & SCOPE
CHECK IF REQUIRED	INSPECTION TASK (STANDARD & CODE REFERENCE)  INSPECTED IN ACCORDANCE WITH AISC SPECIFICATIONS (ASTMA 325 OR ASTMA 490) BOLTS MUST BE IN ACCORDANCE WITH AISC ASD	AND STEEL FRAM	PERIODIC INSPECTION	SPECIAL INSPECTIONS FIRM	
CHECK IF REQUIRED	INSPECTION TASK (STANDARD & CODE REFERENCE)  INSTALLATION OF HIGH STRENGTH BOLTS SHALL BE INSPECTED IN ACCORDANCE WITH AISC SPECIFICATIONS (ASTMA 325 OR ASTMA 490) BOLTS MUST BE IN ACCORDANCE WITH AISC ASD OR AISC LRFD  MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS, AND WASHER. (A) IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTIONS DOCUMENTS. (B) MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED. ASTM, AISC ASD, SEC.	CONTINUOUS INSPECTION	PERIODIC INSPECTION	SPECIAL INSPECTIONS FIRM TESTING LAB	
CHECK IF REQUIRED	INSPECTION TASK (STANDARD & CODE REFERENCE)  INSTALLATION OF HIGH STRENGTH BOLTS SHALL BE INSPECTED IN ACCORDANCE WITH AISC SPECIFICATIONS (ASTMA 325 OR ASTMA 490) BOLTS MUST BE IN ACCORDANCE WITH AISC ASD OR AISC LRFD  MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS, AND WASHER. (A) IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTIONS DOCUMENTS. (B) MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED. ASTM, AISC ASD, SEC. A3.4, AISC LRFD, SEC. A3.3  INSPECTION OF HIGH-STRENGTH BOLTING: BEARING-TYPE CONNECTIONS. AISC LRFD SEC.	CONTINUOUS INSPECTION	PERIODIC INSPECTION	SPECIAL INSPECTIONS FIRM  TESTING LAB  TESTING LAB	
CHECK IF REQUIRED	INSPECTION TASK (STANDARD & CODE REFERENCE)  INSTALLATION OF HIGH STRENGTH BOLTS SHALL BE INSPECTED IN ACCORDANCE WITH AISC SPECIFICATIONS (ASTMA 325 OR ASTMA 490) BOLTS MUST BE IN ACCORDANCE WITH AISC ASD OR AISC LRFD  MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS, AND WASHER. (A) IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTIONS DOCUMENTS. (B) MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED. ASTM, AISC ASD, SEC. A3.4, AISC LRFD, SEC. A3.3  INSPECTION OF HIGH-STRENGTH BOLTING: BEARING-TYPE CONNECTIONS. AISC LRFD SEC. M2.5, IBC SECTION 1704.3.3  INSPECTION OF HIGH-STRENGTH BOLTING: SLIP-CRITICAL CONNECTIONS. AISC LRFD SEC.	CONTINUOUS INSPECTION	PERIODIC INSPECTION	SPECIAL INSPECTIONS FIRM  TESTING LAB  TESTING LAB	
AS SPECIFICATION OF THE CHECK IF REQUIRED	INSPECTION TASK (STANDARD & CODE REFERENCE)  INSTALLATION OF HIGH STRENGTH BOLTS SHALL BE INSPECTED IN ACCORDANCE WITH AISC SPECIFICATIONS (ASTMA 325 OR ASTMA 490) BOLTS MUST BE IN ACCORDANCE WITH AISC ASD OR AISC LRFD  MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS, AND WASHER. (A) IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTIONS DOCUMENTS. (B) MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED. ASTM, AISC ASD, SEC. A3.4, AISC LRFD, SEC. A3.3  INSPECTION OF HIGH-STRENGTH BOLTING: BEARING-TYPE CONNECTIONS. AISC LRFD SEC. M2.5, IBC SECTION 1704.3.3  INSPECTION OF HIGH-STRENGTH BOLTING: SLIP-CRITICAL CONNECTIONS. AISC LRFD SEC. M2.5, IBC SECTION 1704.3.3  MATERIAL VERIFICATION OF STRUCTURAL STEEL: (A) IDENTIFICATION OF MARKING TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS. (B) MANUFACTURER'S CERTIFIED MILL TEST REPORTS. ASTM A 6 OR ASTM A 568, IBC SECTION 1708.4  MATERIAL VERIFICATION OF WELD FILLER MATERIALS. (A) IDENTIFICATION OF MARKINGS TO CONFORM TO ASTM SPECIFICATION IN THE APPROVED CONSTRUCTIONS (B) MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED. AISC LRFD, SEC. A3.5	CONTINUOUS INSPECTION	PERIODIC INSPECTION	SPECIAL INSPECTIONS FIRM  TESTING LAB  TESTING LAB  TESTING LAB  TESTING LAB	
AS SPECIFICATION OF THE CHECK IF REQUIRED	HIGH-STRENGTH BOLTING A  INSPECTION TASK (STANDARD & CODE REFERENCE)  INSTALLATION OF HIGH STRENGTH BOLTS SHALL BE INSPECTED IN ACCORDANCE WITH AISC SPECIFICATIONS (ASTMA 325 OR ASTMA 490) BOLTS MUST BE IN ACCORDANCE WITH AISC ASD OR AISC LRFD  MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS, AND WASHER. (A) IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTIONS DOCUMENTS. (B) MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED. ASTM, AISC ASD, SEC. A3.4, AISC LRFD, SEC. A3.3  INSPECTION OF HIGH-STRENGTH BOLTING: BEARING-TYPE CONNECTIONS. AISC LRFD SEC. M2.5, IBC SECTION 1704.3.3  INSPECTION OF HIGH-STRENGTH BOLTING: SLIP-CRITICAL CONNECTIONS. AISC LRFD SEC. M2.5, IBC SECTION 1704.3.3  MATERIAL VERIFICATION OF STRUCTURAL STEEL: (A) IDENTIFICATION OF MARKING TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS. (B) MANUFACTURER'S CERTIFIED MILL TEST REPORTS. ASTM A 6 OR ASTM A 568, IBC SECTION 1708.4  MATERIAL VERIFICATION OF WELD FILLER MATERIALS. (A) IDENTIFICATION OF MARKINGS TO CONFORM TO ASTM SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS (B) MANUFACTURER'S CERTIFICATE OF COMPLIANCE	CONTINUOUS INSPECTION	PERIODIC INSPECTION	SPECIAL INSPECTIONS FIRM  TESTING LAB  TESTING LAB  TESTING LAB  TESTING LAB	

# AJS® Joist Hole Location & Sizing

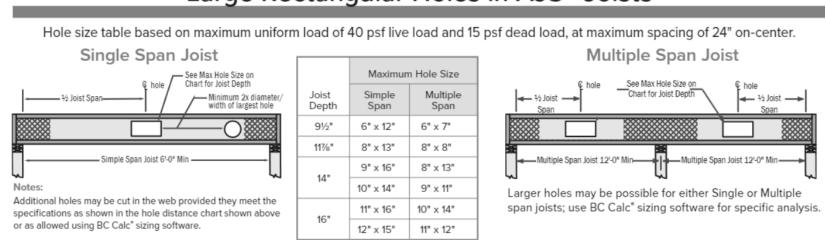
AJS\* Joists are manufactured with 11/2" round perforated knockouts in the web at approximately 12" on center



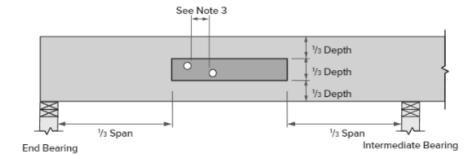
Hole Si	de [in]	-	-	-	2	3	4	5	7	8	-	-	-	-	-	conditions.
	8	1'-0"	1'-5"	1'–10"	2'-3"	2'-8"	2'-11"	3'-1"	3'-6"	3'–11"						<ul> <li>For multiple holes, the amount uncut web between holes mus equal at least twice the diamet</li> </ul>
Span	12	1'-5"	2'-1"	2'-9"	3'-5"	4'-0"	4'-4"	4'-8"	5'-4"	5'-11"						(or longest side) of the largest hole.
[ft]	16	1'-11"	2'–10"	3'-8"	4'-6"	5'-5"	5'–10"	6'-3"	7'-1"	7'–10"						1½" round knockouts in the well may be removed by using a
	20	2'-5"	3'-6"	4'-7"	5'-8"	6'-9"	7'-3"	7'–10"	8'-11"	9'–10"						short piece of metal pipe and hammer.
Diamete	er [in]	2	3	4	5	6	61/2	7	8	8%	9	10	11	12	13	<ul> <li>Holes may be positioned verti- cally in the web, provided they don't extend into either flange.</li> </ul>
Hole Sid	de [in]	-	-	-	-	2	3	3	5	6	6	8	9	-	-	This table was designed to apply to design conditions
	8	1'-0"	1'-1"	1'-2"	1'-4"	1'-8"	1'-11"	2'-1"	2'-6"	2'-10"	2'-11"	3'-4"	3'-9"			covered by uniform load PLF tables only, shown elsewhere
	12	1'-0"	1'-1"	1'-4"	2'-0"	2'-7"	2'-11"	3'-2"	3'–10"	4'-4"	4'-5"	5'-0"	5'-7"			in this publication. Use BC Calc® software to check other
Span [ft]	16	1'-0"	1'-1"	1'-10"	2'-8"	3'-5"	3'–10"	4'-3"	5'–1"	5'-9"	5'-11"	6'-8"	7'-6"			hole sizes or holes under othe design conditions, including joists supporting concentrated
	20	1'-0"	1'-3"	2'-4"	3'-4"	4'-4"	4'–10"	5'-4"	6'-4"	7'-3"	7'-4"	8'-5"	9'-5"			loads. It may be possible to exceed the limitations of this
	24	1'-0"	1'-7"	2'-9"	4'-0"	5'-2"	5'–10"	6'-5"	7'-8"	8'-8"	8'–10"	10'-1"	11'-3"			table by analyzing a specific application with the BC Calc®
Diamet	er [in]	2	3	4	5	6	61/2	7	8	8%	9	10	11	12	13	software.
Hole Si	de [in]	-	-	-	-	-	-	2	3	5	5	6	8	9	10	
	8	1'-0"	1'-1"	1'-2"	1'-2"	1'-3"	1'-3"	1'-3"	1'-8"	2'-0"	2'-1"	2'-5"	2'-10"	3'-2"	3'-7"	
	12	1'-0"	1'-1"	1'-2"	1'-2"	1'-4"	1'-8"	1'-11"	2'-6"	3'-0"	3'-1"	3'-8"	4'-3"	4'-10"	5'-5"	
Span [ft]	16	1'-0"	1'-1"	1'-2"	1'-2"	1'-10"	2'-2"	2'-7"	3'-4"	4'-0"	4'-2"	4'-11"	5'-8"	6'-5"	7'-2"	
	20	1'-0"	1'-1"	1'-2"	1'-4"	2'-3"	2'-9"	3'-3"	4'-3"	5'-1"	5'-2"	6'-2"	7'-1"	8'-1"	9'-0"	
		41 0"	41. 45	41 0"	41 7-											

# Large Rectangular Holes in AJS® Joists

24 | 1'-0" | 1'-1" | 1'-2" | 1'-7" | 2'-9" | 3'-4" | 3'-11" | 5'-1" | 6'-1" | 6'-3" | 7'-4" | 8'-6" | 9'-8" | 10'-10"



# Allowable Holes in Versa-Lam® LVL Beams



- Square and rectangular holes are not permitted.
- Round holes may be drilled or cut with a hole saw anywhere within the shaded area of the beam.
   The horizontal distance between adjacent holes must be at least two times the size of the
- The horizontal distance between adjacent holes must be at least two times the size of the larger hole.
   Do not drill more than three access holes in any four foot long section of beam.
- - by the provisions of the National Design Specification\* for Wood Construction.

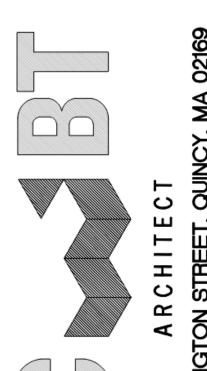
    7. Beams deflect under load. Size holes to provide clearance where
  - 8. This hole chart is valid for beams supporting uniform load only.

    For beams supporting concentrated loads or for beams with larger holes, use BC Calc® sizing software (www.BCCalc.com) or contact Boise Cascade EWP Engineering.

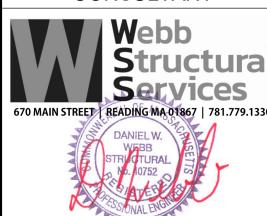
#### I-JOIST ACCEPTABLE ALTERNATIVES

JOIST SERIES	DEPTH	FLANGE		ACCEPTABL	MIN. EI	MOMENT AND SHE	AR		
JOIST SERIES	DEPIR	FLANGE	ILT	NORDIC	LPI	GP	El x 106 [lb-in2]	Moment [ft-lbs]	Shear [lbs]
AJS 140	9-1/2"	2-1/2" FIR	TJI 210	NORDIC NI-40x	LPI 20 PLUS	GPI 40 / WI40	182	2450	1160
AJS 20	9-1/2"	2-1/2" FIR		NORDIC NI-60	LPI 32 PLUS		232	3395	1160
BCI 6500s 1.8	9-1/2"	2-9/16" LVL		NORDIC NI-60	LPI 32 PLUS		220	3505	1575
AJS 25	9-1/2"	3-1/2" FIR		NORDIC NI-80	LPI 42 PLUS		322	5370	1160
AJS 140	11-7/8"	2-1/2" FIR	TJI 210	NORDIC NI-40x	LPI 20 PLUS	GPI 40 / WI40	310	3175	1490
AJS 20	11-7/8"	2-1/2" FIR	TJI 360	NORDIC NI-60	LPI 32 PLUS	WI 60	394	4400	1490
BCI 6500s 1.8	11-7/8"	2-5/16" LVL	TJI 360	NORDIC NI-60	LPI 32 PLUS	WI 60	365	4495	1675
BCI 60s 2.0	11-7/8"	2-5/16" LVL	TJI 560	NORDIC NI-80	LPI 42 PLUS	WI 80	450	6235	1675
AJS 25	11-7/8"	3-1/2" FIR	TJI 560	NORDIC NI-80	LPI 42 PLUS	WI 80	545	6960	1490
BCI 90s 2.0	11-7/8"	3-1/2" LVL			LPI 56		675	9550	2150
AJS 140	14"	2-1/2" FIR	TJI 210	NORDIC NI-40x	LPI 20 PLUS	GPI 40 / WI40	457	3825	1790
AJS 20	14"	2-1/2" FIR	TJI 360	NORDIC NI-60	LPI 32 PLUS	WI 60	578	5295	1790
BCI 6500s 1.8	14"	2-9/16" LVL	TJI 230	NORDIC NI-60	LPI 32 PLUS	WI 60	365	4495	1675
BCI 60s 2.0	14"	2-5/16" LVL	TJI 360	NORDIC NI-80	LPI 36	WI 80	450	6235	1675
AJS 25	14"	3-1/2" FIR	TJI 560	NORDIC NI-80	LPI 42 PLUS	WI 80	798	8380	1790
BCI 90s 2.0	14"	3-1/2" LVL	TJI 560	NORDIC NI-90	LPI 42 PLUS	WI 80	675	9550	2150
AJS 140	16"	2-1/2" FIR	TJI 210	NORDIC NI-60	LPI 20 PLUS	WI 60	623	4435	2065
AJS 20	16"	2-1/2" FIR	TJI 360	NORDIC NI-60	LPI 32 PLUS	WI 60	786	6140	2065
BCI 6500s 1.8	16"	2-5/16" LVL	TJI 360	NORDIC NI-60	LPI 32 PLUS	WI 60	720	6085	2175
BCI 60s 2.0	16"	2-5/16" LVL	TJI 560	NORDIC NI-80	LPI 42 PLUS	WI 80	895	8520	2175
AJS 25	16"	3-1/2" FIR	TJI 560	NORDIC NI-80	LPI 42 PLUS	WI 80	1082	9720	2065
BCI 90s 2.0	16"	3-1/2" LVL	TJI 560	NORDIC NI-90			1330	13050	2550

NOTE: FOR ALTERNATIVE NOT SHOWN REFER TO MINIMUM DESIGN PROPERTIES



CONSULTANT



REGISTRATION

PROJECT

SHANGHAI CORP

FACTORY ADDITION

25 HOWARD ST. ROXBURY, MA

WSS # 23021

SHEET TITLE

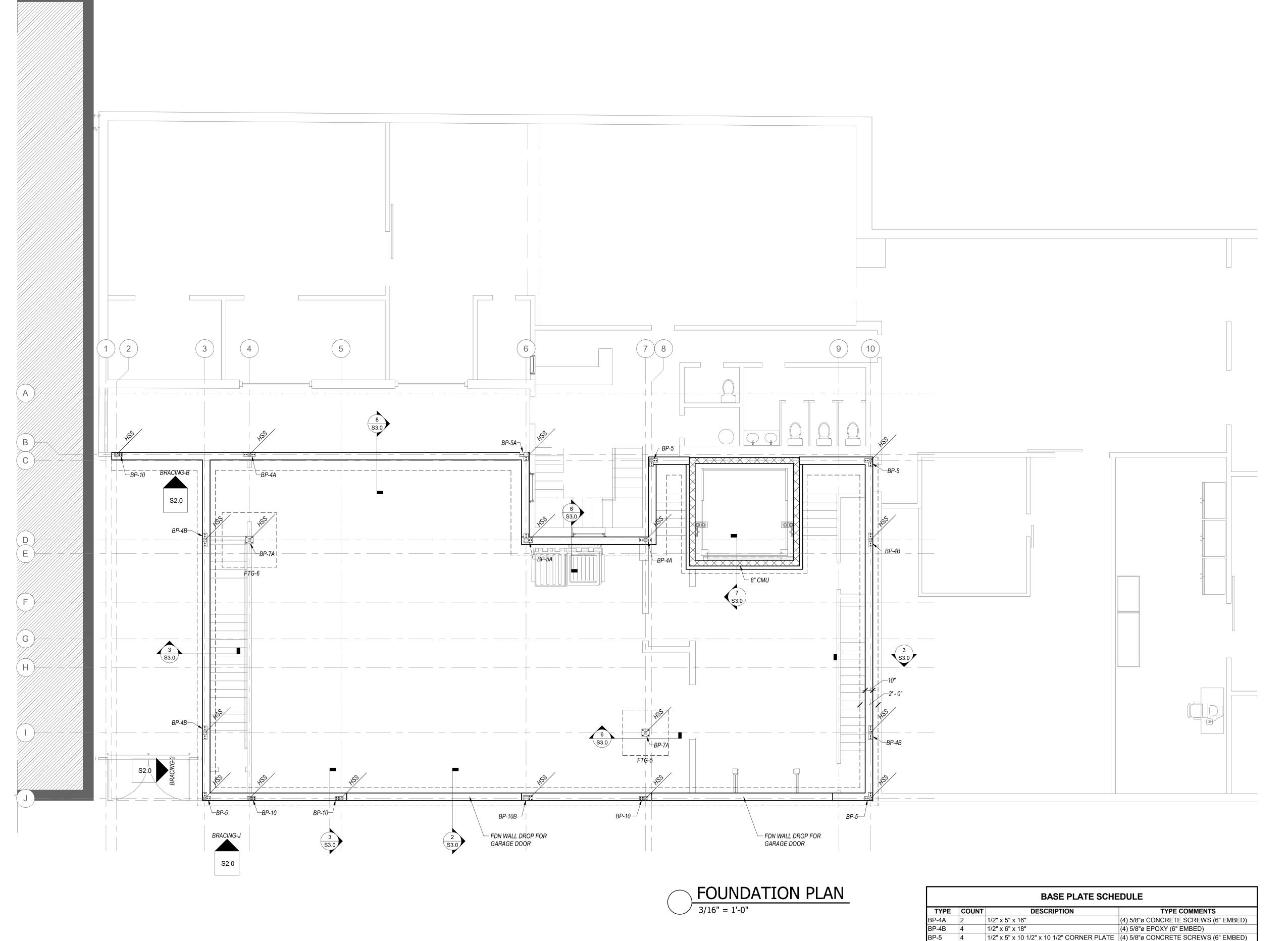
JOIST HOLE INFO & SPECIAL INSPECTION

DRAWN: DRAWNING NO:

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

DATE: 07.07.23

CHECKED:
SHEET OF



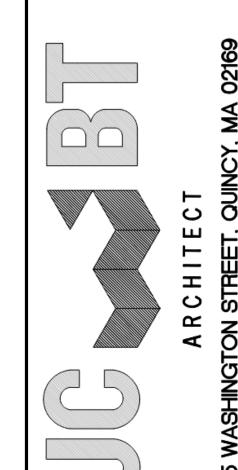
FOUNDATION NOTES:

1. REFERENCE ARCHITECTURAL PLANS FOR FOUNDATION DIMENSIONS AND ELEVATIONS NOT SHOWN

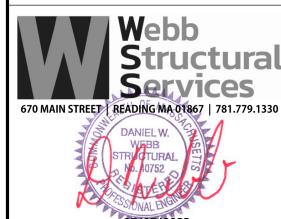
2. GENERAL CONTRACTOR SHALL NOTIFY ARCHITECT AND ENGINEER OF ANY TOP OF WALL ELEVATION AND DIMENSION DEVIATIONS BETWEEN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS

	BASE PLATE SCHEDULE										
TYPE	COUNT	DESCRIPTION	TYPE COMMENTS								
BP-4A	2	1/2" x 5" x 16"	(4) 5/8"ø CONCRETE SCREWS (6" EMBED)								
BP-4B	4	1/2" x 6" x 18"	(4) 5/8"ø EPOXY (6" EMBED)								
BP-5	4	1/2" x 5" x 10 1/2" x 10 1/2" CORNER PLATE	(4) 5/8"ø CONCRETE SCREWS (6" EMBED)								
BP-5A	2	1/2" x 6" x 11 1/2" x 11 1/2" CORNER PLATE	(4) 5/8"ø CONCRETE SCREWS (6" EMBED)								
BP-7A	2	1/2" x 10" x 10"	(4) 5/8"ø CONCRETE SCREWS (6" EMBED)								
BP-10	4	1/2" x 5" x 11"	(4) 5/8"ø CONCRETE SCREWS (6" EMBED)								
BP-10B	1	1/2" x 7" x 13"	(4) 5/8"ø CONCRETE SCREWS (6" EMBED)								

FOOTING SCHEDULE								
TYPE	TYPE COUNT LENGTH WIDTH THICKNESS REBAR							
FTG-5	1	5' - 0"	5' - 0"	1' - 0"	5-#6 EW BTM			
FTG-6	1	6' - 0"	6' - 0"	1' - 4"	5-#6 EW BTM			



CONSULTANT



REGISTRATION

	REVISIONS							
NO.	BY	DESCRIPTION	DATE					
-	-	-	-					
	PROJECT							

SHANGHAI CORP FACTORY ADDITION

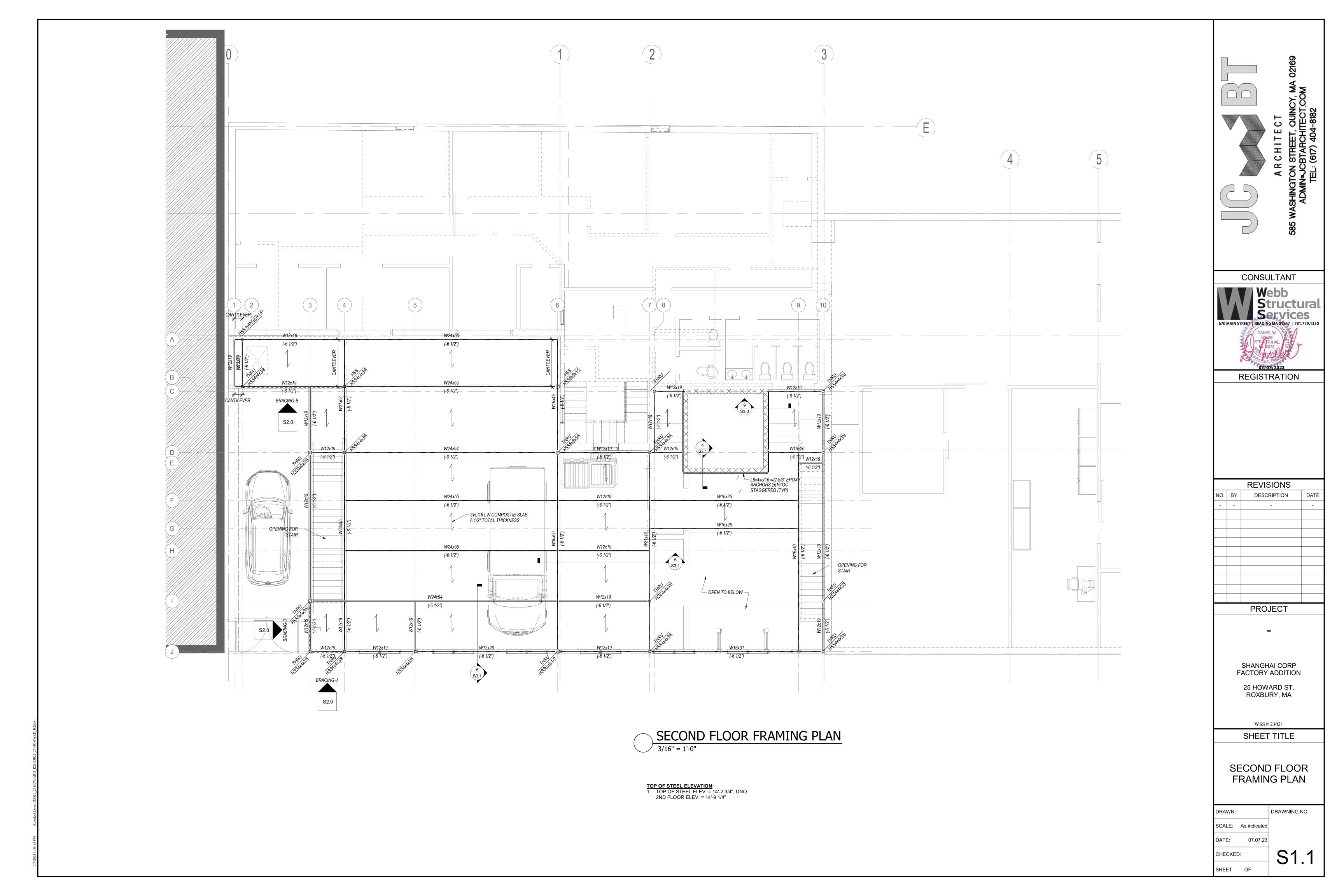
25 HOWARD ST. ROXBURY, MA

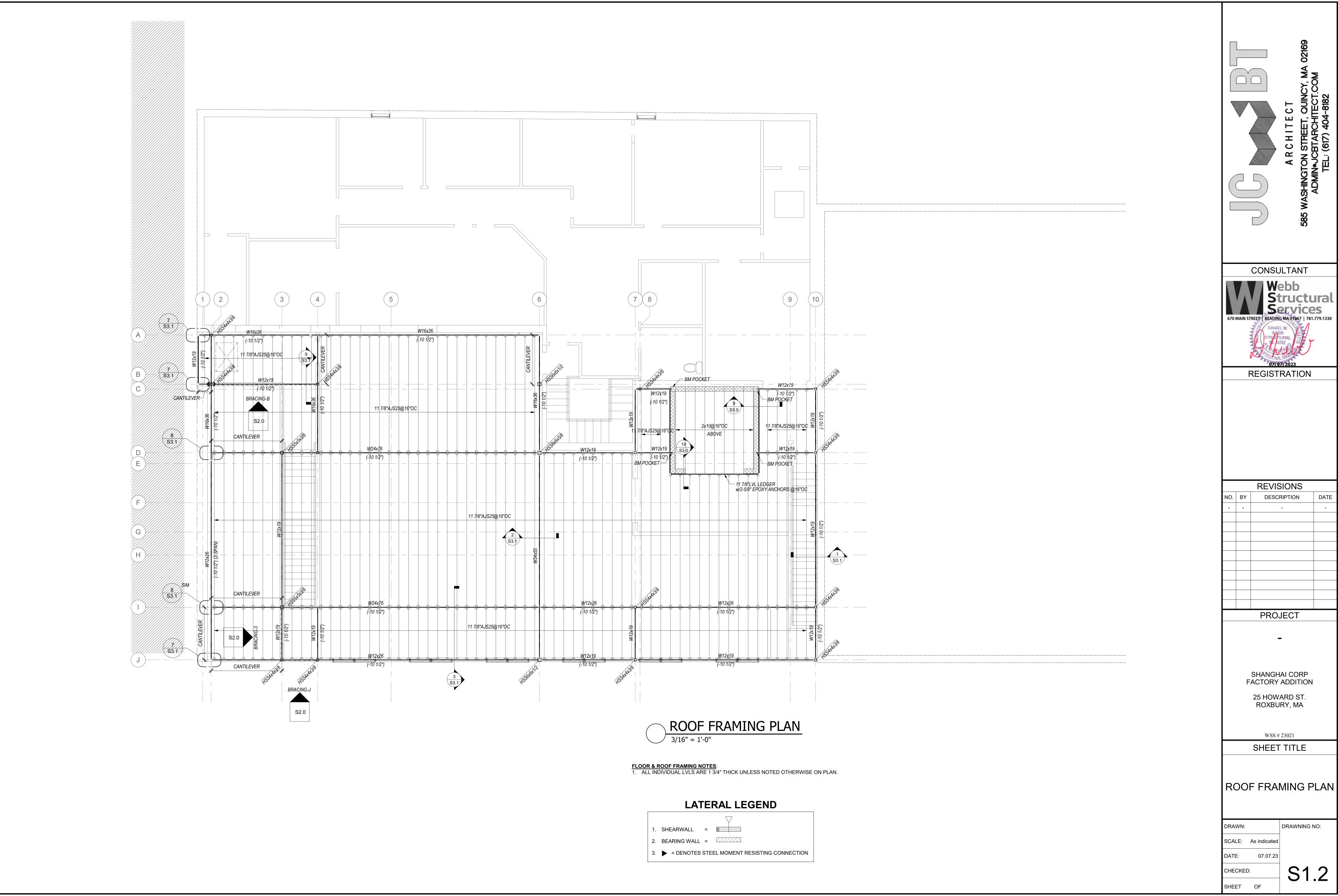
WSS # 23021 SHEET TITLE

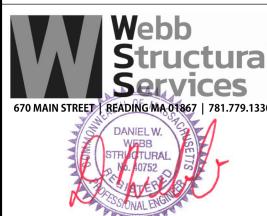
FOUNDATION PLAN

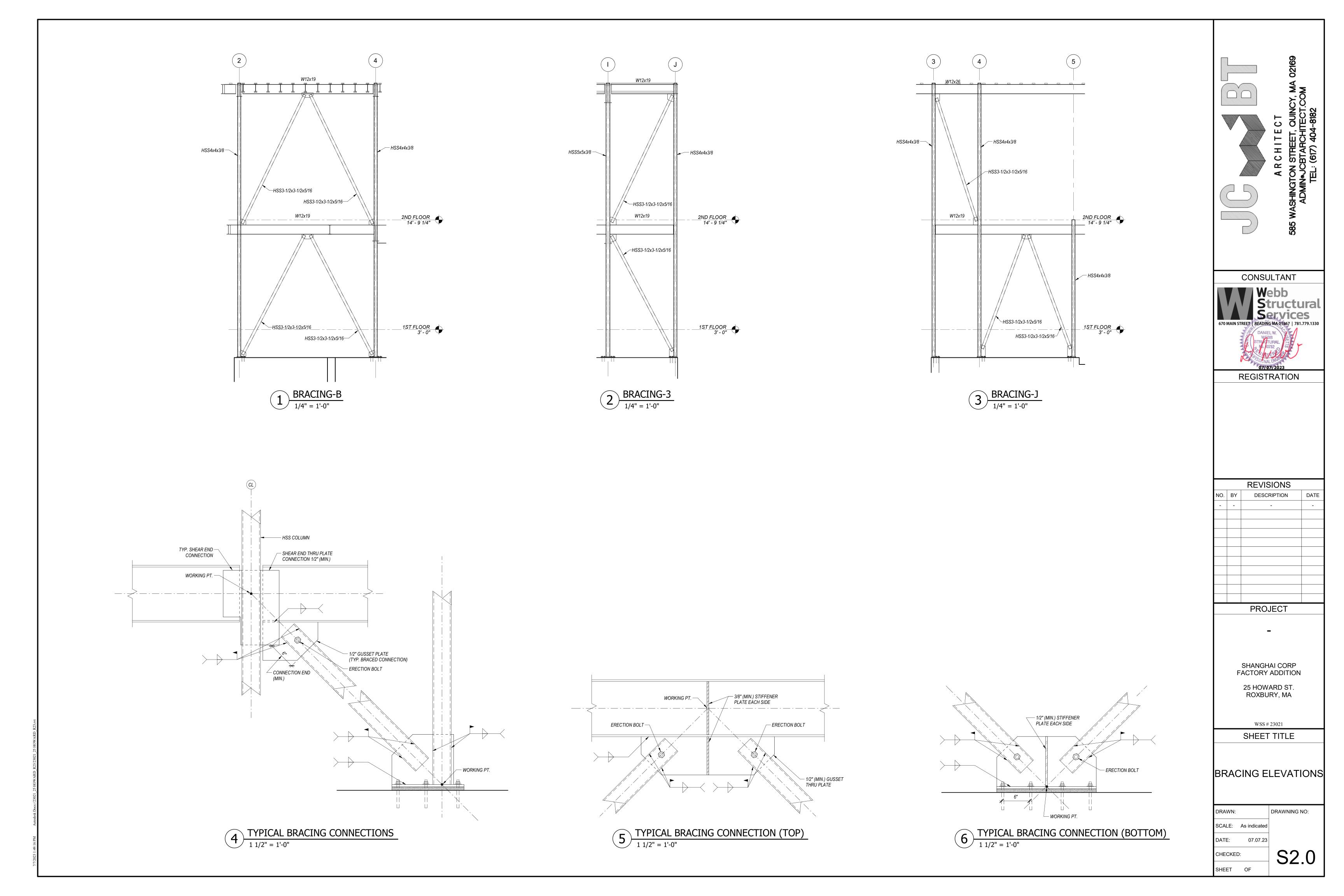
DRAWN: DRAWNING NO: SCALE: As indicated DATE: 07.07.23 CHECKED:

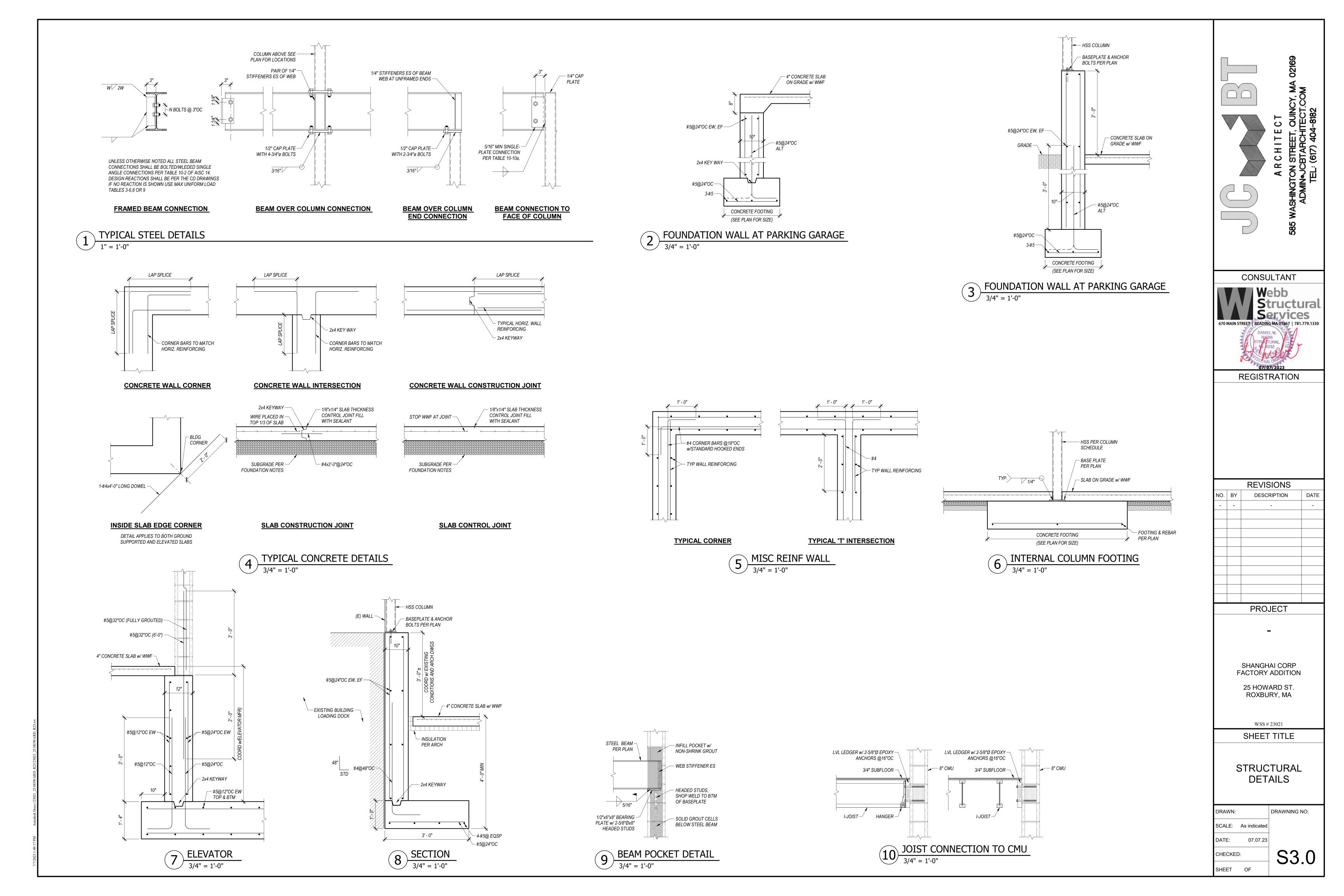
SHEET OF

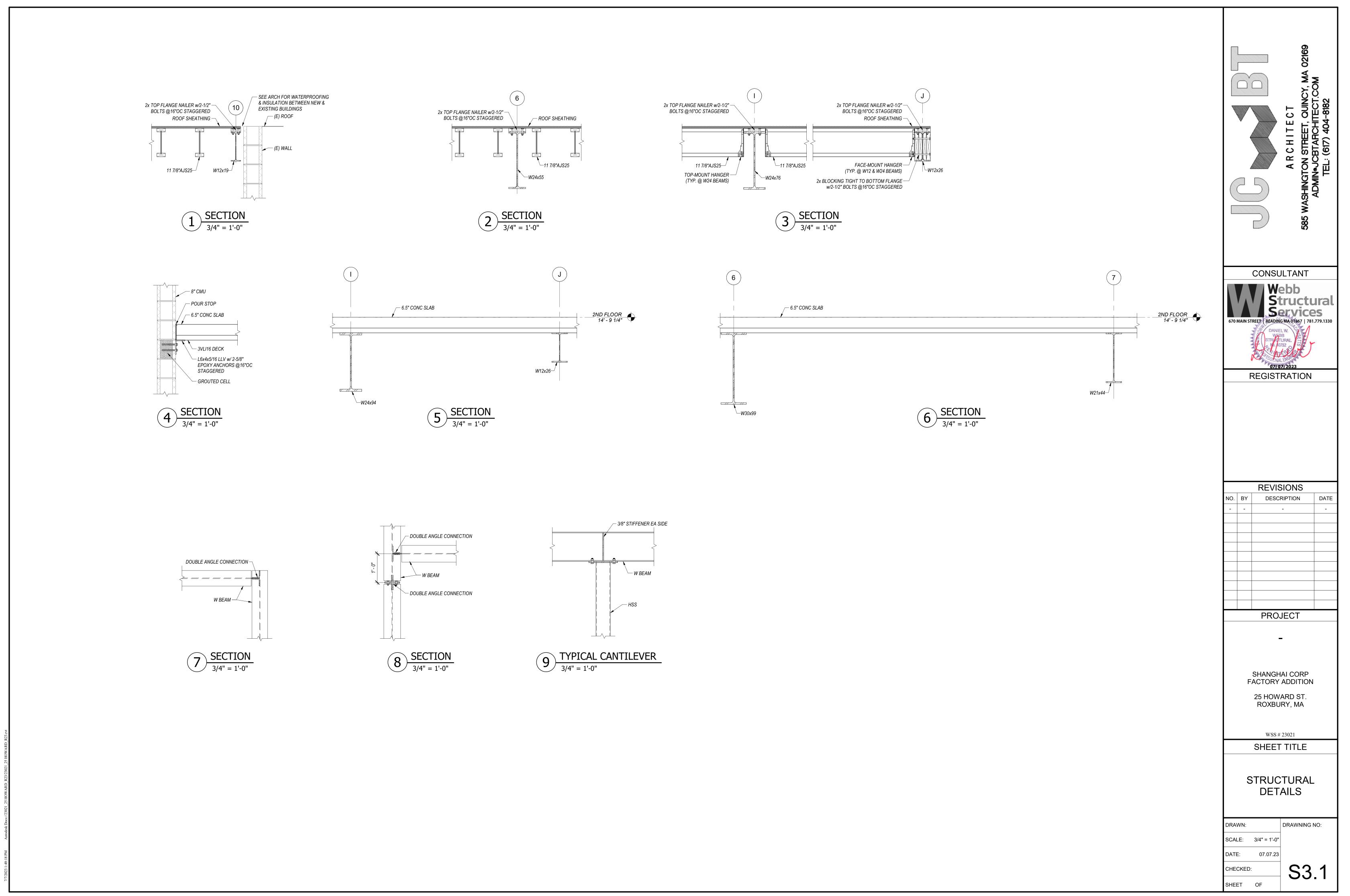


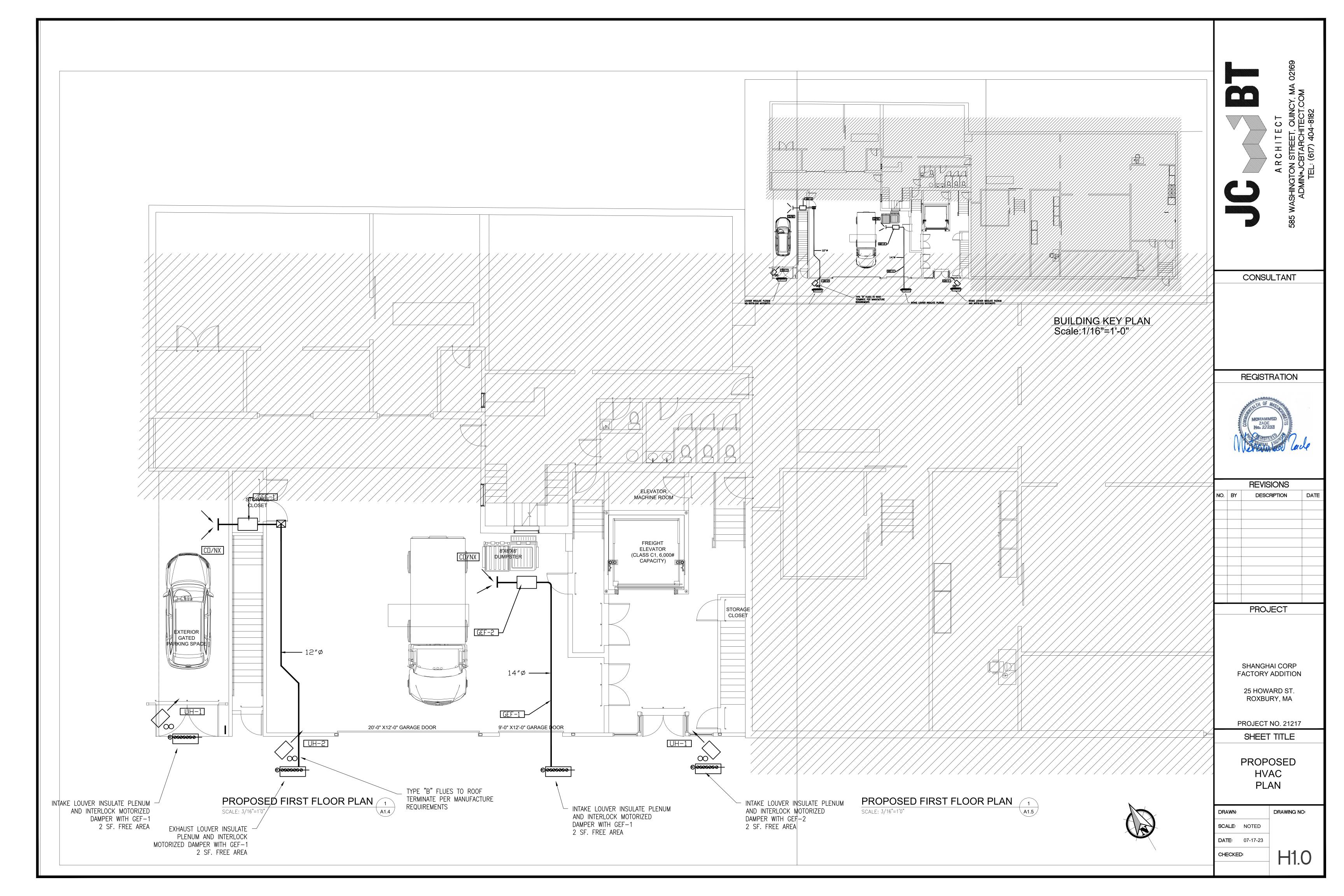


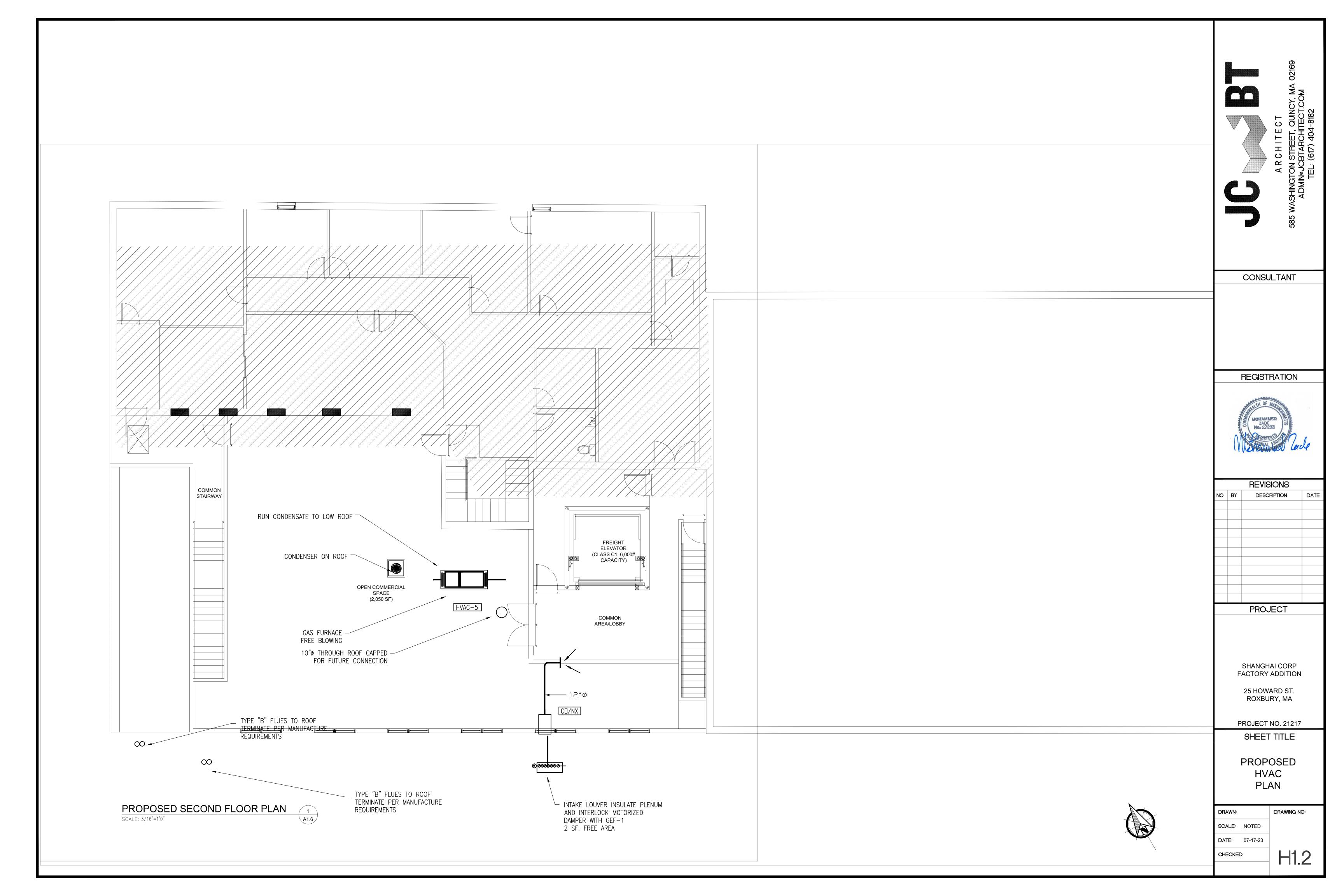












LOLIND			
$\square$	SUPPLY AIR DUCT UP	CH/HWR	CHILLED OR HOT WATER RETURN
	SUPPLY AIR DUCT DOWN	EH/HWS	CHILLED OR HOT WATER SUPPLY
	RETURN AIR DUCT UP	CWR	CONDENSER WATER RETURN PIPE
	RETURN AIR DUCT DOWN	CWS	CONDENSER WATER SUPPLY PIPE
	VOLUM DAMPER	———нwr——	HOT WATER RETURN PIPE
MD	MOTORIZED DAMPER	———HWS———	HOT WATER SUPPLY PIPE
FD	FIRE DAMPER	D	CONDENSATE DRAIN PIPE
	1" LINED DUCTWORK		PIPE UP
		<del></del> ə	PIPE DOWN
	RETURN OR EXHAUST AIR REGISTER		BALL VALVE
図	SUPPLY AIR DIFFUSER	<b>──</b> ⋈──	GATE VALVE
Φ .	THERMOSTAT	<b>──</b> ₹	CHECK VALVE
RTU-#	ROOFTOP UNIT		STRAINER UNION 7. WAY, CONTROL MANYE
EHU-#	ENERGY RECOVERY UNIT	—————————————————————————————————————	3-WAY CONTROL VALVE 2-WAY CONTROL VALVE
G.C.	GENERAL CONTRACTOR	<del></del>	BALANCING VALVE
P.C.	PLUMBING CONTRACTOR	<u> </u>	THERMOMETER
E.C.	ELECTRICAL CONTRACTOR	<u> </u>	PRESSURE GAUGE
DN.	DOWN		FLEXIBLE PIPE CONNECTION

LEGEND:	(N)A - ZZZ  CFM TYPE QUANTITY				
TYPE	DESCRIPTION	MODEL (BASED ON TITUS)	NEC SIZE	MAX CFM	MAX NO
A	ROUND CEILING DIFFUSER	TITUS TMR	8x8	175	14
A1	LOUVER FACE CEILING DIFFUSER FOR 2'x2' LAY-IN CEILING INSTALLATION. PROVIDE ROUND TO SQUARE ADAPTOR.	TITUS TDCA, BORDER 3	6x6 9x9 12x12 15x15 18x18	150 250 450 650 900	18 18 18 18 18
В	DOUBLE DEFLECTION REGISTER FOR SHEET ROCK CEILING INSTALLATION. PROVIDE ROUND TO SQUARE ADAPTOR.	TITUS 272RS	10x6 12x6 20x6 18x10	150 250 400 650	10 14 16 18
E	DOUBLE DEFLECTION GRILLE FOR SHEET ROCK CEILING OR WALL INSTALLATION. PROVIDE ROUND TO SQUARE ADAPTOR AS NEEDED	TITUS, 25 RL, BORDER 3	10x10 12x6 20x6 18x10	150 250 400 650	10 14 16 18
F	PERFORATED 24x24 FACE RETURN GRILLE FOR 2'x2' LAY—IN CEILING INSTALLATION. PROVIDE ROUND TO SQUARE ADAPTOR AS NEEDED	TITUS PAR	6x6 8x8 12x12	150 250 375	18 18 18

#### PROVIDE HANDS OFF AUTO SWITCH FOR ALL MECHANICAL EQUIPMENT

### GENERAL NOTES:

1. SHOULD ANY CONTRADICTION, AMBIGUITY, ERROR, INCOSISTENCY, OMMISION OR INCOMPLETE SYSTEM APPEAR IN OR BETWEEN ANY OF CONTRACT DOCUMENTS THE CONTRACTOR SHALL, BEFORE SUBMITTING THE FINAL BID AND SIGNING THE CONTRACT FOR CONSTRUCTION, NOTIFY THE ARCHITECT AND REQUEST A WRITTEN RESOLUTION AS TO WHICH METHODS OR MATERIALS WILL BE REQUIRED. IN THE EVENT OF CONFLICTING REQUIREMENTS OF STANDARDS, DRAWINGS AND SPECIFICATIONS, THE CONTRACTOR SHALL COMPLY WITH THE MORE STRINGENT REQUIREMENTS. BEFORE SUBMITTING THE FINAL BID AND THE SIGNING THE CONTRACT FOR THE CONSTRUCTION THE CONTRACTOR SHALL OBTAIN A WRITTEN INTERPRETATION FROM THE ARCHITECT. IN NO CASE SHALL THE CONTRACTOR PROCEED WITH THE AFFECTED WORK UNTIL ADVISED BY THE ARCHITECT.

IF THE CONTRACTOR FAILS TO MAKE A REQUEST FOR INTERPRETATION OR RESOLUTION NO EXCUSE WILL BE ACCEPTED FOR FAILURE TO CARRY OUT THE WORK IN A SATISFACTORY MANNER, AS INTERPRETED BY THE ARCHITECT. THIS GENERALLY MEANS THE USE OF THE HIGHEST QUALITY MATERIAL, MOST EXPENSIVE WAY OF PERFORMING WORK AND PROVIDING COMPLETE FUNCTIONING SYSTEM FOR PROPER OPERATION.

EACH AND EVERY TRADE OR SUBCONTRACTOR WILL BE DEEMED TO HAVE FAMILIARIZED THEMSELVES WITH ALL THE CONTRCAT DOCUMENTS OF THIS PROJECT, INCLUDING ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND SITE WORK, AND TO HAVE VISITED THE SITE, SO AS TO AVOID ERRORE, DMMISIONS AND MISINTERPRETATIONS. RELATED INFORMATION MAY BE PROVIDED ON CONTRACT DOCUMENTS OTHER THAN THOSE ASSOCIATED WITH THE SUBCONTRACTOR'S TRADE, THE CONTRACTOR IS RESPONSABLE FOR COORDNATING RELATED WORK OF ALL THE CONTRACT DOCUMENTS. NO ADDITIONAL COMPENSATION WILL BE AUTHORIZED FOR ALLEGED ERRORS, OMMISSIONS AND MISINTERPRETATIONS WHETHER THEY ARE A RESULT OF FAILURE TO OBSERVE THIS REQUIREMENT

2. ALL PENETRATIONS OF ASSEMBLIES EXPOSED TO THE EXTERIOR ENVIRONMENT SHALL BE SEALED WITH FOAM SEALANT OR EQUIVALENT SEALER TO PROVIDE ZERO AIR INFILTRATION. COORDINATE WITH FIRE STOPPING REQUIREMENTS.

3. NO COMPONENT OF ANY SYSTEM SHALL RUN THROUGH THE STAIR ENCLOSURE THAT DOES NOT RELATE TO OR SERVE THE STAIR ENCLOSURE

#### BRANCH DUCT SCHEDULE

SIZE	MAX. CFM
6" DIA	100
7" DIA	150
8" DIA	200
9" DIA	300
10" DIA	400

NOTE: MAXIMUM FLEXIBLE DUCT LENGTH

SHALL BE 4 FT.

### LOUVER NOTES

LOUVER DIMENSIONS SHALL BE COORDINATED WITH ARCHITECTURAL DRAWINGS AND FIELD CONDITIONS LOUVERS SHALL BE AMCA CERTIFIED FOR WIND DRIVEN RAINS BLADES SHALL BE 4" DEEP MOUNTED BETWEEN 35-45 DEGREES WITH DRAINABLE BLADE AND DRAINABLE HEAD PROVIDE BIRD SCREENS IN COMPLIANCE WITH IMC 401 PROVIDE CLOR ANODIZED LOUVER PER ARCHITECTS DIRECTION LOUVERS SHALL BE AS MANUFACTURED BY GREENHECK MODEL EHH 401 SERIES

#### INSULATION NOTES

CONTRACTOR SHALL FOLLOW THE MOST STRINGENT INSULATION REQUIREMENT FOR EACH ITEM

THE FOLLOWING SYSTEMS SHALL BE INSULATED. DUCT LINER SHALL BE CLOSED CELL TYPE, GERM PROOF

IECC 2015 REQUIREMENTS:

1. HEATING HOT WATER MAINS AND BRANCHES: PIPING < 1" REQUIRES 1 1/2" INSULATION PIPING > 1½" REQUIRES 2" INSULATION

2. SUPPLY & RETURN DUCTWORK FROM HVAC UNITS: 1 1/2" INSULATION MIN. R-6

#### LEED/ASHRAE 2013 REQUIREMENTS:

1. HEATING HOT WATER MAINS AND BRANCHES: PIPING < 1 1/2" REQUIRES 1½" INSULATION PIPING > 1½" REQUIRES 2" INSULATION

2. SUPPLY & RETURN DUCTWORK FROM HVAC UNITS: 1" INSULATION MIN. R-6

## GENERAL INSULATION REQUIREMENTS:

1: ALL LINED SUPPLY, RETURN AND TRANSFER DUCTWORK SHALL BE 1" DUCT LINER -DUCT INSUALTION SHALL CONTINUE OVER DUCT AT LINED POINT -FIRST 10' OF SUPPLY AND RETURN FOR ALL ERU'S AND HVAC UNITS

CONDENSATE DRAIN: 1"

ALL DUCTWORK IN CEILING SPACE SHALL HAVE R-6 INSULATION,

4. REFRIGERANT PIPING ¾" ARAMFLEX

ALL DUCTWORK ON ROOF OR UNCONDITIONED SPACE SHALL BE INSULATED WITH R-12 INSULATION AND COVERED WITH EPDM ROOFING MATERIAL FOR WATER TIGHT INSTALLATION.

#### O & NO2 DETECTION AND CONTROL SYSTEM

Provide and install IN TEC Controls Multi-Point Gas Detection controller (MGC series) with Carbon Monoxide (CO) and Nitrogen Dioxide (NO2) remote sensors as indicated:

### Controller (MGC):

A. The control panel shall provide continuous monitoring of the designated gas levels in the assigned area and control the ventilation system. The control panel shall have status indicator LED's located on the front; Red = Fail, Yellow = Alarm. The control panel shall include a two-line, backlit LCD display of 16 characters, at 1 digit resolution. The controller shall be NRTL performance tested and certified to ANSI/UL 2017. The controller shall continuously detect the surrounding air for any traces of carbon monoxide and nitrogen dioxide gas. The controller shall be factory set to 50 PPM for CO and 2PPM for NO2 for the low alarm and 100 PPM for CO and 5 PPM for NO2 for the high alarm. When 50 PPM CO and or 2 PPM NO2 is reached, the sensor shall activate the low alarm relay and the corresponding ventilation equipment, such as the exhaust fans, dampers, etc. If the gas level continues to increase to 150 PPM CO and or 5 PPM NO2 and maintain that PPM reading for a duration of 10 minutes (adjustable), the high alarm shall activate the associated remote devices, such as the horn/strobe and any other audio/visual alarms, etc. The sensor shall continue to monitor the specified gas and it shall not be possible to reset the alarm until the gas level has dropped either 4 or 10% below the alarm set points, as selected.

#### CARBON MONOXIDE (CO) SENSOR/TRANSMITTER

B. The carbon monoxide sensor/transmitter shall provide monitoring of the Carbon Monoxide levels in the parking garage. The sensors shall be electrochemical type and shall have plug—in technology. The sensor range shall be 0-250 ppm carbon monoxide. Each sensor/transmitter shall cover 7,500 square feet of the garage floor and placement shall be applied strategically and appropriately per floor plan requirement. The sensor/transmitter shall be contained in a NEMA 4X metal enclosure. The enclosure for the sensor/transmitter shall be installed on walls or columns approximately 5 feet above the floor. If the level of Carbon Monoxide reaches 50 PPM in the area of detection, the low alarm shall activate and the exhaust fans will be started. If the level of CO increases to 150 PPM, the high alarm shall activate.

#### NITROGEN DIOXIDE (NO2) SENSOR/TRANSMITTER

C. The Nitrogen Dioxide sensor/transmitter shall provide monitoring of the Nitrogen Dioxide levels present in diesel exhaust in the parking garage. The sensors shall be electrochemical type and have plug-in technology. The sensor range shall be 0-10 ppm Nitrogen Dioxide. Each sensor/transmitter shall cover 7,500 square feet of the garage floor and placement shall be applied strategically and appropriately per floor plan requirement. The sensor/transmitter shall be contained in a NEMA 4X enclosure. The enclosure with the sensor/transmitter shall be installed on walls or columns approximately 5 feet above the floor. If the level of NO2 reaches 2 PPM, the low alarm shall activate. If the level of NO2 increases to 5 PPM, the high alarm shall activate.

GAR	RAGE E	XHAUST	FAN									
TAG	LOCATION	SERVICE	TYPE	DRIVE	CFM	SP	RPM	HP	V/ø	ROOF OPENING&DIMENSIONS	GREENHECK MODEL	CONTROLS
GEF-1	GARAGE	EXHAUST	ROOF	BELT	2,500	.375"	890	3/4	208/1	18-1/2" X 18-1/2"	GB-161-7	CO_SENSOR/MANUAL
GEF-2	GARAGE	EXHAUST	WALL	BELT	5,000	0.375	830	3/4	208/1	38X38X40" DEEP	SB-2H30-7	CO SENSOR/MANUAL
GEF-3	GARAGE	EXHAUST	WALL	BELT	5,000	0.375	830	3/4	208/1	38X38X40" DEEP	SB-2H30-7	CO SENSOR/MANUAL

NOTE: 1. PROVIDE WALL HOUSING WITH GUARD, MOTORIZED DAMPER, DAMPER GUARD, DISCONNECT SWITCH AND STARTER WITH ALL FANS.

2. INTERLOCK WITH CO DETECTION SYSTEM 3. PROVIDE INSULATED CURB WITH GEF-1

-HOSE ASSEMBLY WITH LFT RETRACTOR

4. PROVIDE VFD FOR GEF-1&2 FOR LOW SPEED CONTINUOUS OPERATION AND HIGH ON ACTIVATION ON CO SENSOR

VEH	IICULAI	R EXHAU	ST FA	N SCH	[EDUL]	E						
TAG	LOCATION	SERVICE	TYPE	DRIVE	CFM	SP	RPM	HP	V/ø	EQUIPMENT DIMENSION	CARMON MODEL	CONTROLS
VEF-1	AS SHOWN	GARAGE	ROOF	BELT	1,500	1.5"	1403	2	208/3ø	33"x36"x35"	CMB-25	CONTROL PANEL

NOTE: 1. PROVIDE WEATHER GUARD, DAMPER GUARD, DISCONNECT SWITCH AND STARTER WITH ALL FANS. 2. WITHOTHERE EXCHAPATE EXCHAPATE SYSTEM PROVIDE THE FOLLOWING FOR EACH GARAGE BAY

	GAS	FIRE	DL	JNIT	HEA	ATER	₹ S	CHE	DULE		
TAG	LOCATION	TYPE	MBH INPUT	MBH OUTPUT	CFM	HP	RPM	V/0	VENT	DIM-WEIGHT	MODEL (REZNOR)
UH-1	AS SHOWN	GAS FIRED	100	97	1350	1/4	1750	115/1	4" INL./4" EXH.	20HX50WX40L-230LBS	UDAS-100
UH-2	AS SHOWN	GAS FIRED	75	62	960	.06	1750	115/1	4" INL./4" EXH.	20HX50WX40L-230LBS	UDAS-75
UH-3	AS SHOWN	GAS FIRED	250	234	3202	1/4	1750	115/1	6" INL./4" EXH.	20HX50WX40L-230LBS	UEAS-250
					_						

NOTE: 1) PROVIDE COMPLETE VERTICAL OR HORIZONTAL VENT/COMBUSTION AIR KIT 2) PROVIDE WALL MOUNTED THERMOSTAT.

SPL	IT SY	STE	M	GΔ	S F	FIRE		HVAC		VIT.	SC	HEC	) U L [	_ (\	/FD	IND	00R-	$-\top$	WO STAGE COMP) 90%	% FURNACE
				NDOO	R SEC	CTION	(VFD)							CONDE	NSING	SECTIO	NC			
TAG	NOM. CAP. TON	CFM	ESP IN	FAN HP	TOT. MBH	SENS. MBH	GAS FI	JRN(MBH) OUTPUT	FLUE	V/ø	FLA	MCA	MOCP	V/ø	EER	SEER	STRETCH SEER	DB	MODEL (BASED ON CARRIER)	INDOOR
HVAC-5	5	1800	.5	3/4	57	41	80	72	70 FT	115/1	29.6	35	50	208/1	12.6	15.5	15.0-YES	72	58MVC120-20 W/24APA7-060 AND MATCHING COIL	18"WX28"DX40"H+12" COIL

WITH EACH INDOOR UNIT PROVIDE

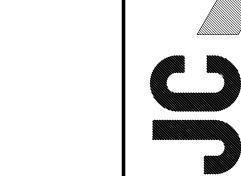
-HONEYWELL T-7300 THERMOSTAT, ACID NEUTRALIZER, AIR FILTER, COMBUSTION AIR INTAKE AND EXHAUST FLUE PIPES, CONDENSATE DRAINS SHALL BE TYPE "L" COPPER WITH 1 1/2" FIBERGLASS INSULATION RUN TO INDIRECT WASTE ABOVE BATHROOM CEILING.

PROVIDE ZONE CONTROL AS REQUIRED TO MATCH NUMBER OF MOTORIZED DAMPERS

WHEN RUN IN UNCONDITIONED SPACES PROVIDE MINIMUM 1" INSULATION FOR THE FLUE/VENT PIPES TO MATCH MAXIMUM LENGHTS ON FLUE LENGHT (INCLUDES 6 ELBOWS) PROVIDE REFRIGERANT LINES BETWEEN INDOOR AND OUTDOOR UNITS AS REQUIRED PER MANUFACTURER'S RECOMMENDATIONAS. PROVIDE 3/4" ARMORFLEX INSULATION ON

PROVIDE MERV 8 FILTER (MERV 6 FOR ESTAR) AND MERV 13 FOR LEED PROJECTS

ELEC	CTRIC	C HEAT	TER SCHE	DULE
TYPE	KW	VOLT/PH	DIMENSIONS	MODEL NUMBER-COLOR BY ARCH
RWH-1	1	120/1		Q'MARK#CRA 1512-T2
RWH-2	2	120/1	19"HX16"WX4"D	Q'MARK# MCSSARWH1802/HTWHS1
RWH-4	4	208/1	19"HX16"WX4"D	Q'MARK# MCSSARWH4808/HTWHS1
SWH-4	4	208/1	19"HX16"WX4"D	Q'MARK# MCSSARWH4808/HTWHSM
EBB-2	0.4	120/1		Q'MARK#QMK-2512W-W/T'STAT
EBB-3	0.75	120/1		Q'MARK#QMK-2513W-W/T'STAT
EBB-4	1	120/1		Q'MARK#QMK-2514W-W/T'STAT
EBB-6	1.5	120/1		Q'MARK#QMK-2516W-W/T'STAT
UH-5	5	208/1		Q'MARK#MUH-35-W/T'STAT
CCH-4	4	208/1		Q'MARK#CDF548-W/T'STAT



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SHANGHAI CORP FACTORY ADDITION

25 HOWARD ST. ROXBURY, MA

PROJECT NO. 21217

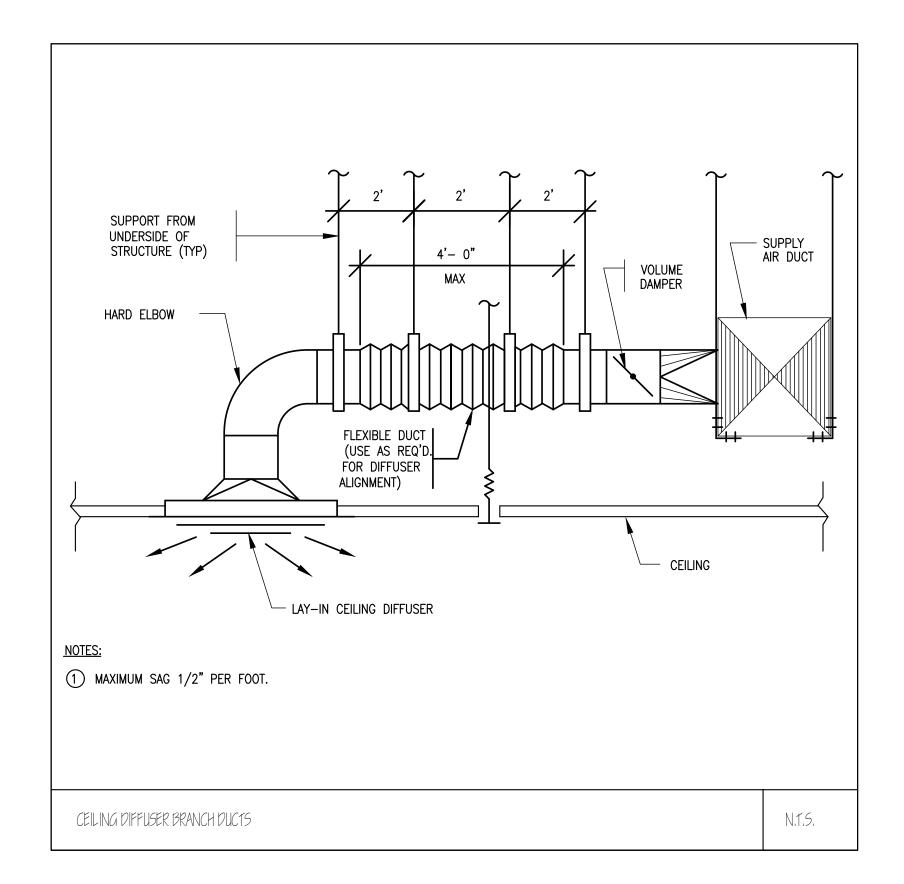
**HVAC NOTES** 

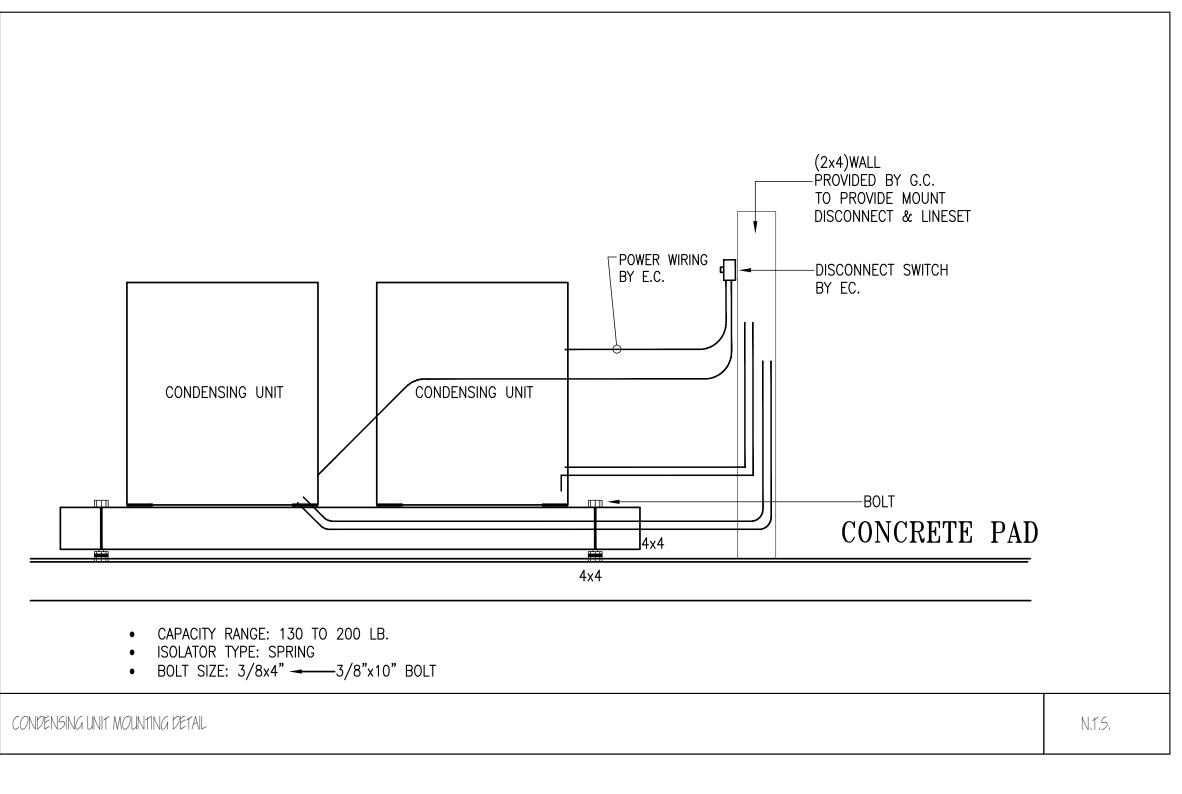
& SCHEDULES

SHEET TITLE

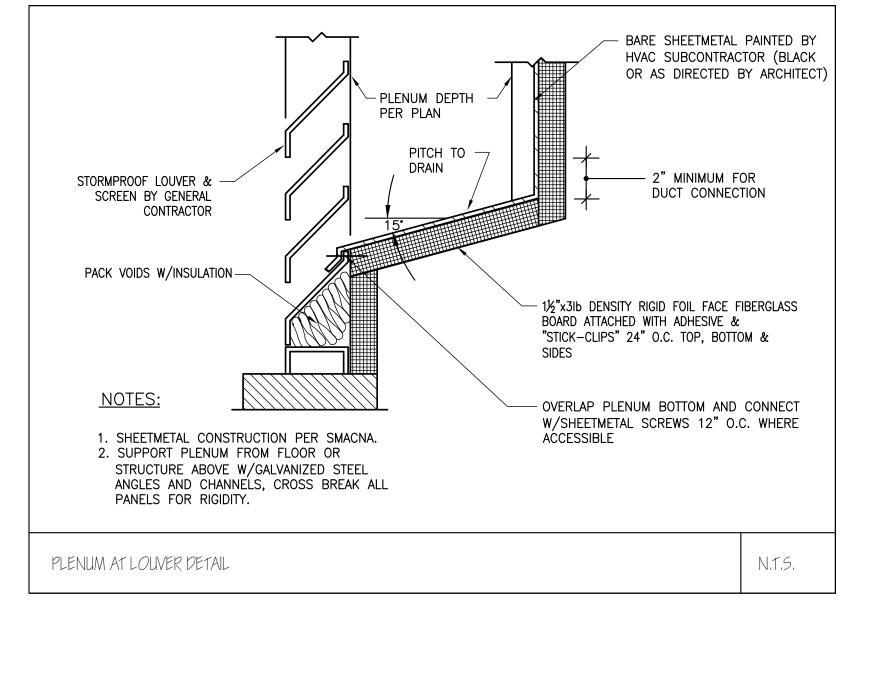
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CANT FLASHING & COUNTER FLASHING BY G.C.



VOLUME DAMPER. BUCKLEY ASSOC. MODEL BM.

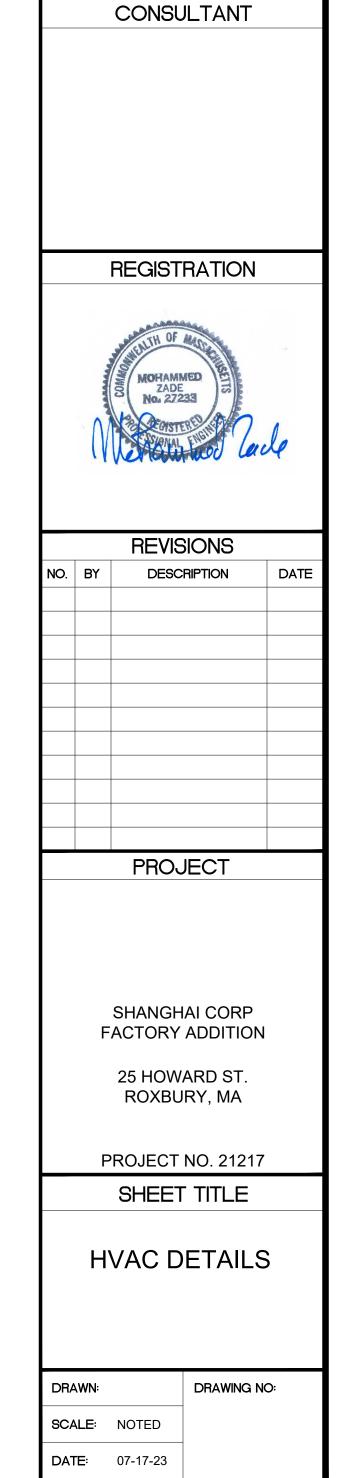
DIFFUSER BRANCH DETAIL

N.T.S.

BRANCH DUCT -

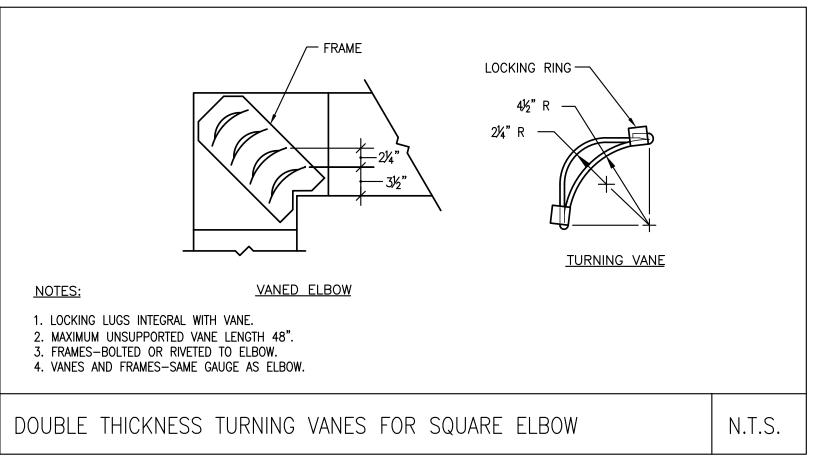
BRANCH DUCT DETAIL

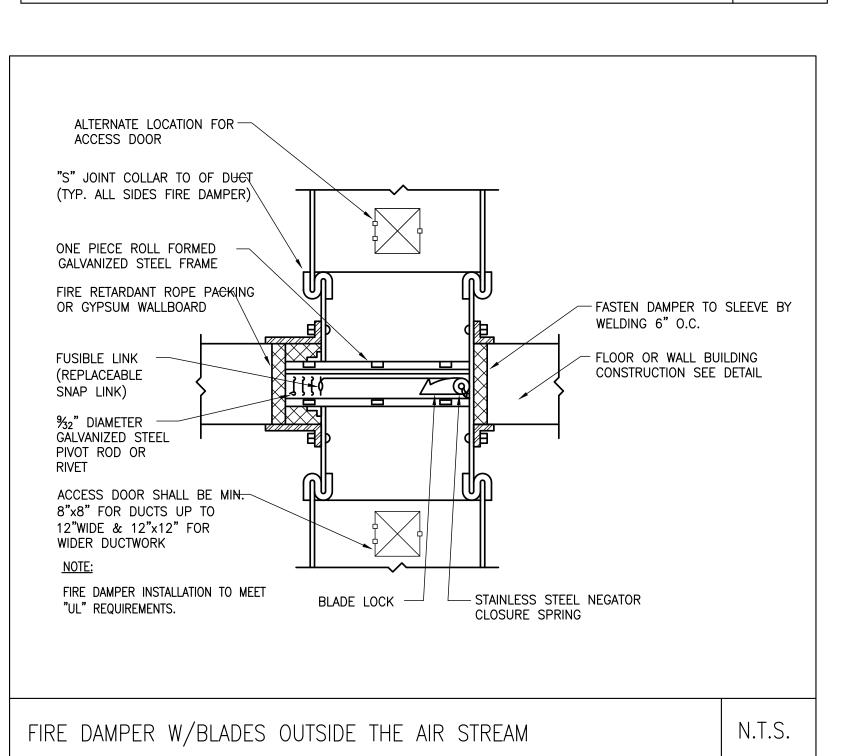
DUCT WORK DETAILS

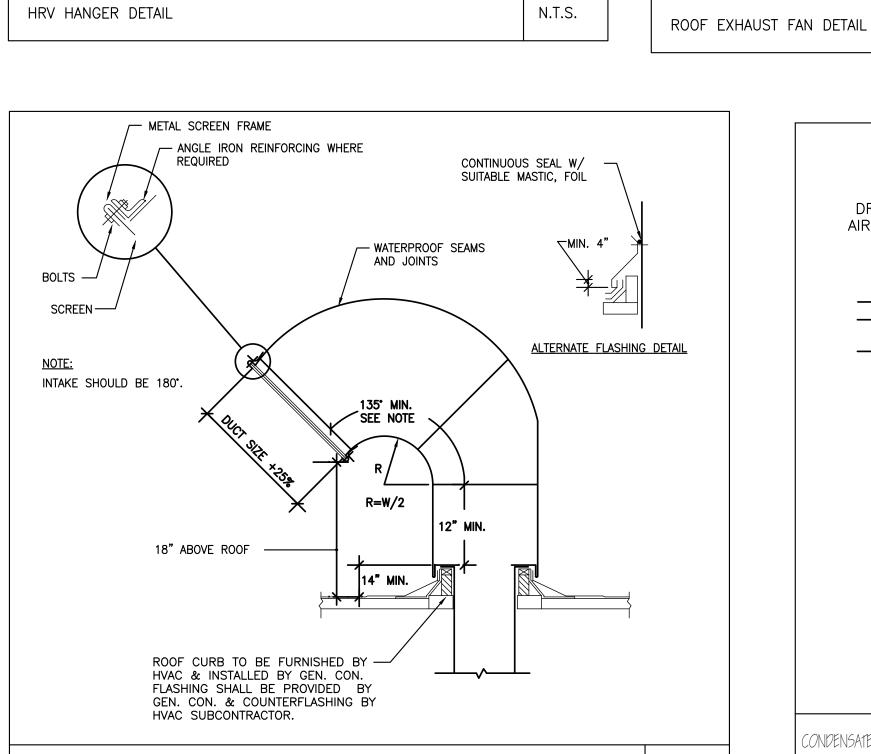


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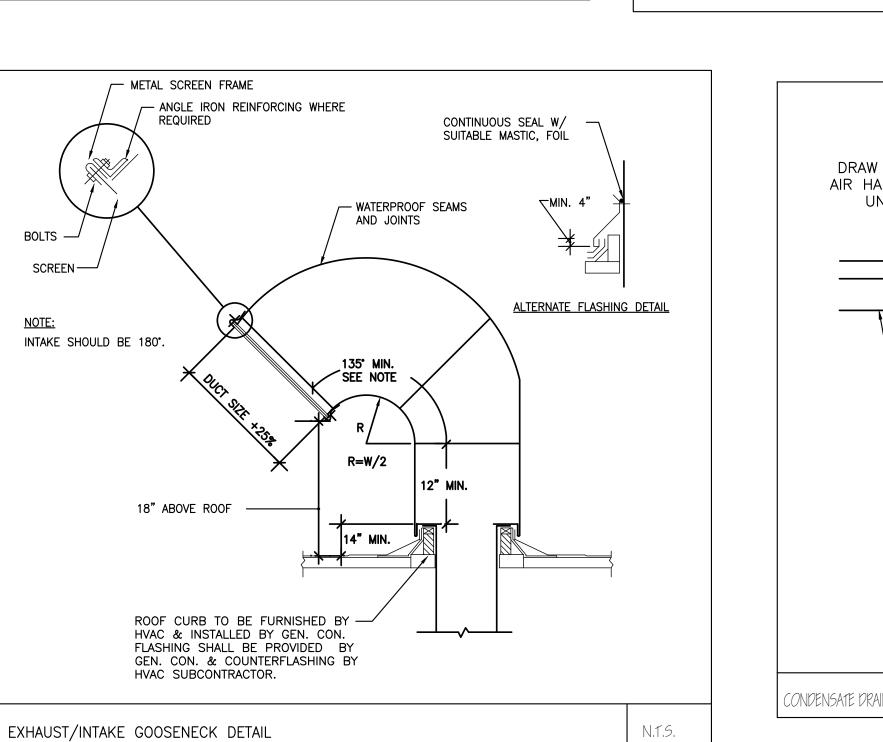
FLEXIBLE ——— CONNECTION (TYP.)

**ELEVATION** 

COMBINATION SPRING

NEOPRENE VIBRATION

DOUBLE DEFLECTION

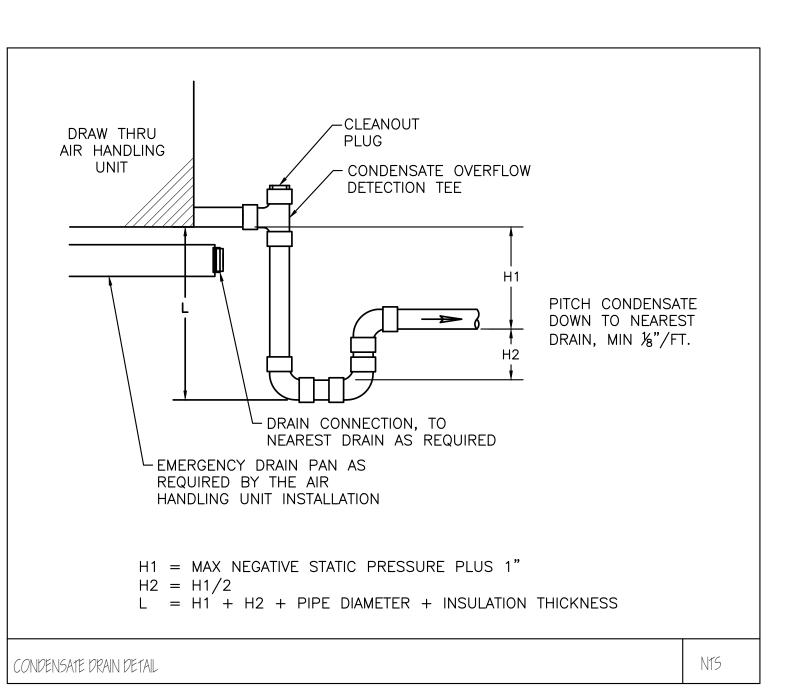


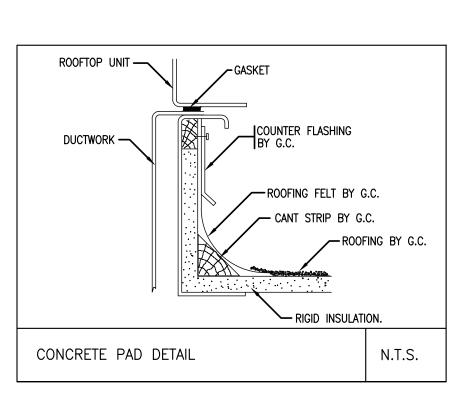
-SPRING ISOLATOR (TYP.)

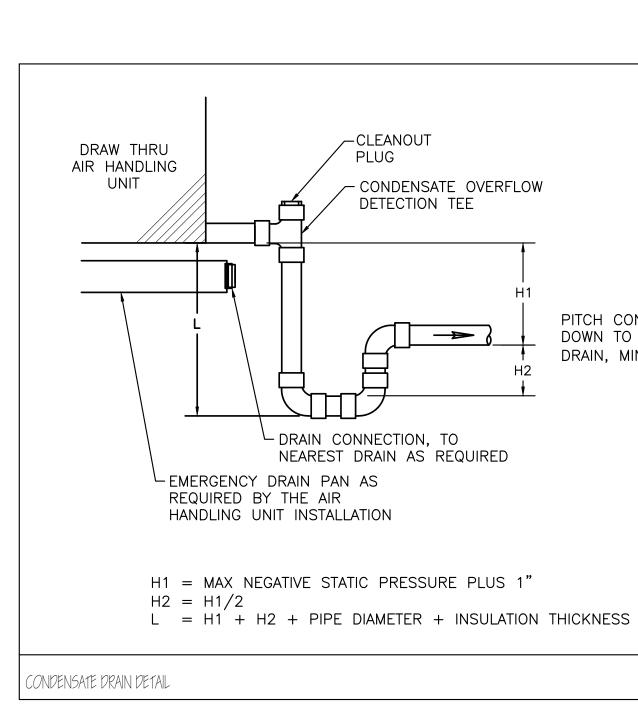
RECTANGULAR

TRANSITION (TYP.)

TO ROUND





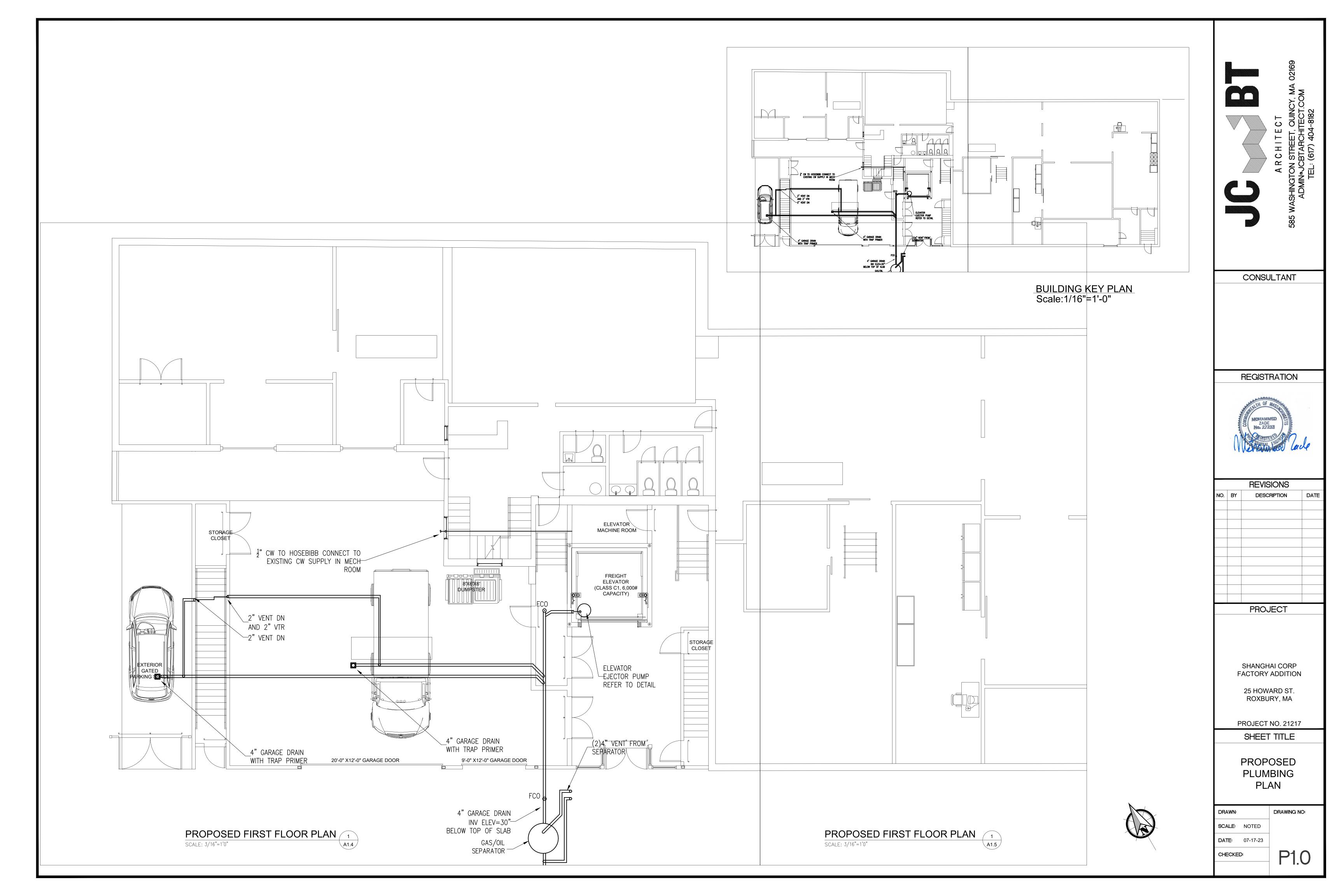


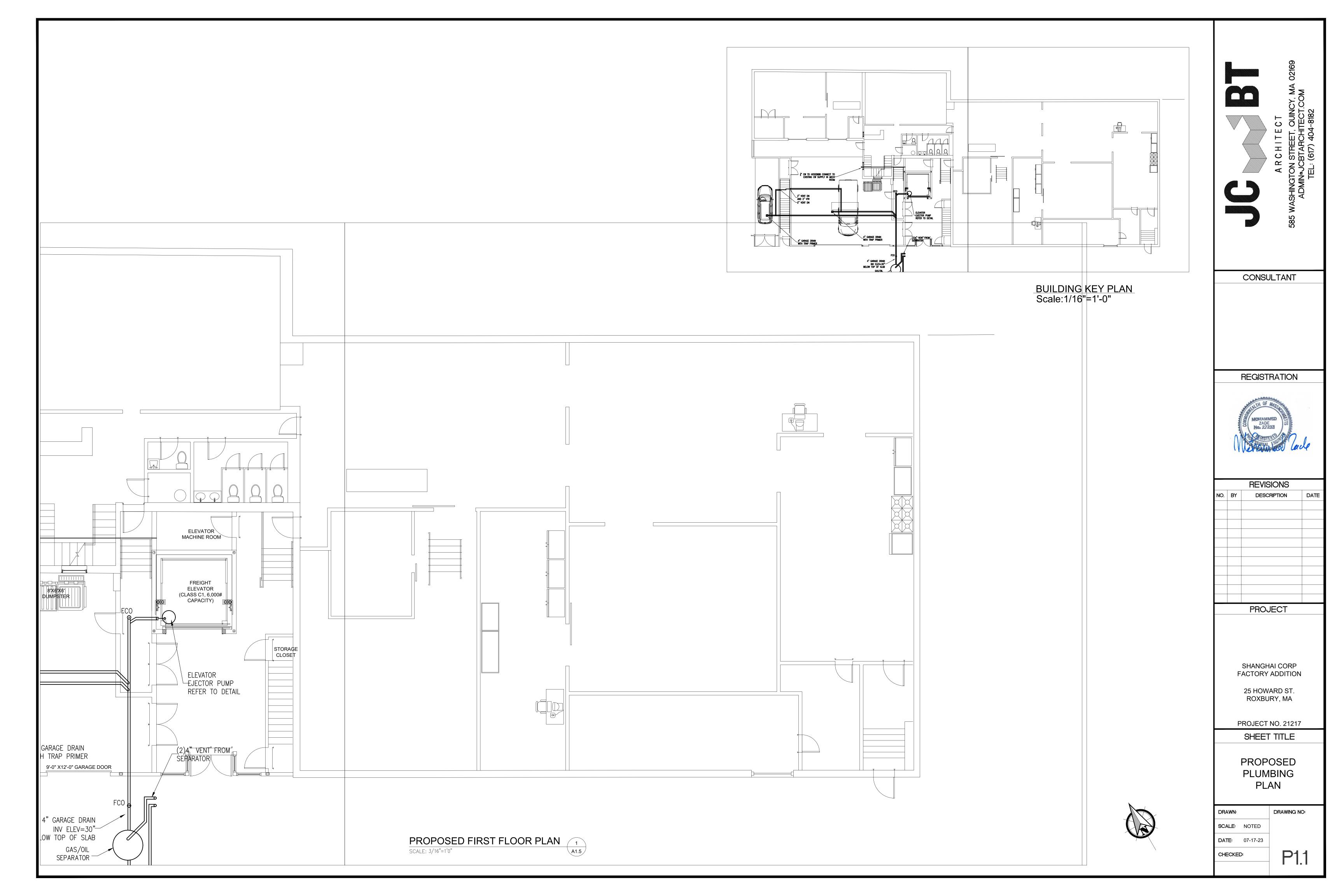
ROOF EXH.FAN

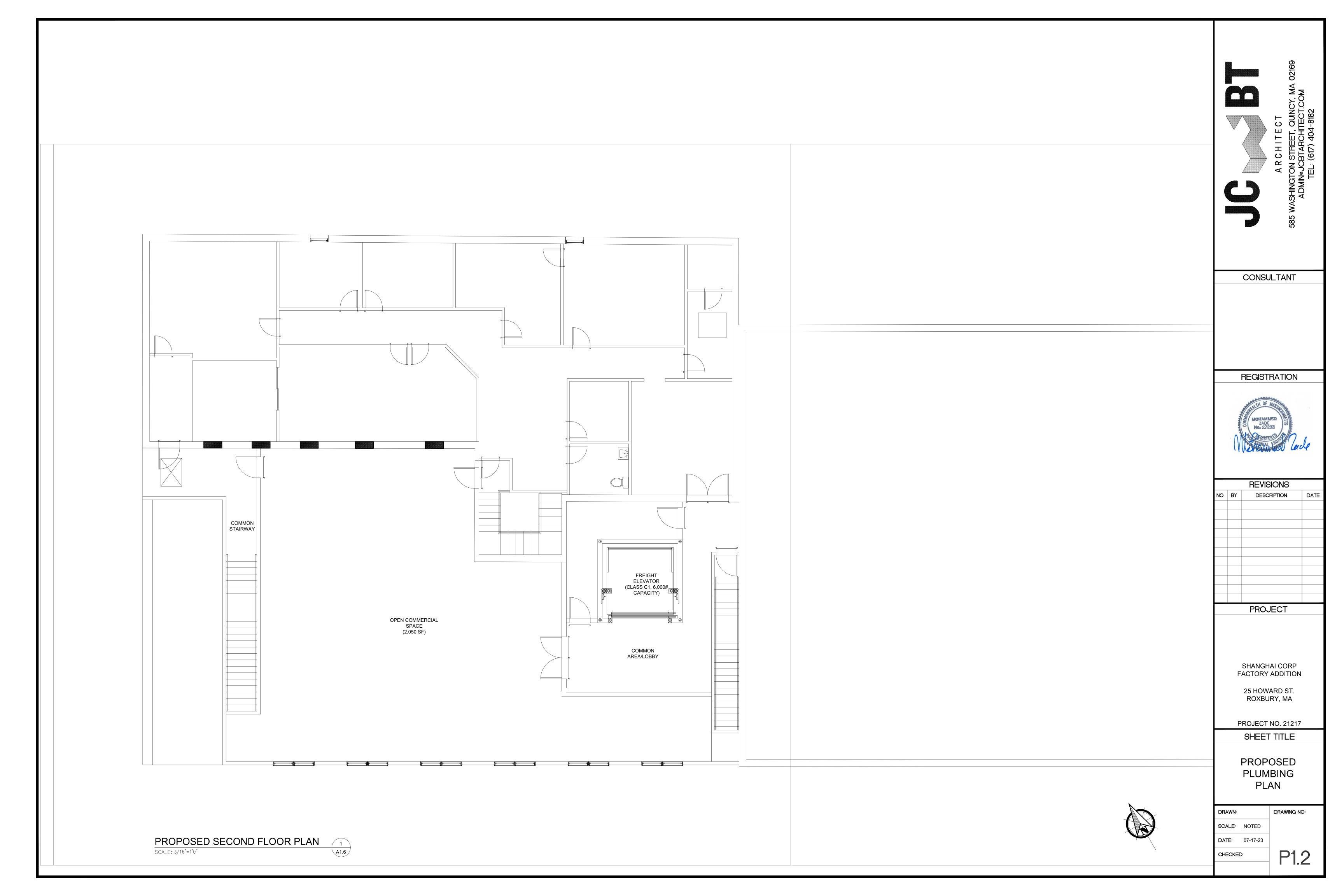
CURB PROVIDED BY FAN MANUFACTURER

N.T.S.

— MOTOR OPERATED DAMPER







## GENERAL NOTES

1) FOR EXACT LOCATION OF PLUMBING FIXTURES SEE ARCHITECTURAL DRAWINGS.

2) EXAMINE ALL CONTRACT DRAWINGS, GERNERAL CONDITIONS AND SPECIFICATIONS WHICH MAY AFFECT THE WORK.

3) ALL PLUMBING WORK MUST BE COORDINATED WITH ALL OTHER TRADES BEFORE PROCEEDING WITH INSTALLATION.
4) CHECK INVERT ELEVATIONS AND EXACT LOCATIONS OF ALL OUTSIDE UTILITIES BEFORE INSTALLING ANY UNDERGROUND.

4) CHECK INVERTIBLE VATIONS AND EXACT LOCATIONS OF ALL OUTSIDE UTILITIES BEFORE INSTALLING ANY UNDER 5) NO CHANGES ARE TO BE MADE IN PLUMBING LAYOUT WITHOUT WRITTEN PERMISSION OF THE ARCHITECT.

6) NO PIPING SHALL RUN EXPOSED IN FINISHED AREAS.

7) ALL PLUMBING SYSTEM SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE LOCAL AND STATE PLUMBING CODES.

8) ROUGHING DIMENSIONS OF TOILET FIXTURES MUST BE COORDINATED WITH GENERAL CONTRACTOR.

9) INSTALL ALL HOT AND COLD WATER PIPING AS PER SPECIFICATIONS.

10) INSTALL SHUTOFF GATE VALVES ON ALL BRANCH SUPPLY LINES AND AT THE BASE OF HOT AND COLD WATER RISERS.

11) PLUMBING CONTRACT SHALL REQUIRES PANELS TO ACCESS THE CONCEALED PLUMBING CLEANOUTS, DRAINS, DEVICES AND CONTROLS.

ACCESS PANELS SHALL BE FIRE RATED TO MATCH THE PENETRATING PARTITION OR CEILING TYPE. GENERAL CONTRACTOR SHALL INSTALL THE

ACCESS PANELS.

12) INSTALL ALL FLOOR CLEANOUTS TO CLEAR EQUIPMENT.

12) INSTALL ALL FLOOR CLEANOUTS TO CLEAR EQUIPMENT.

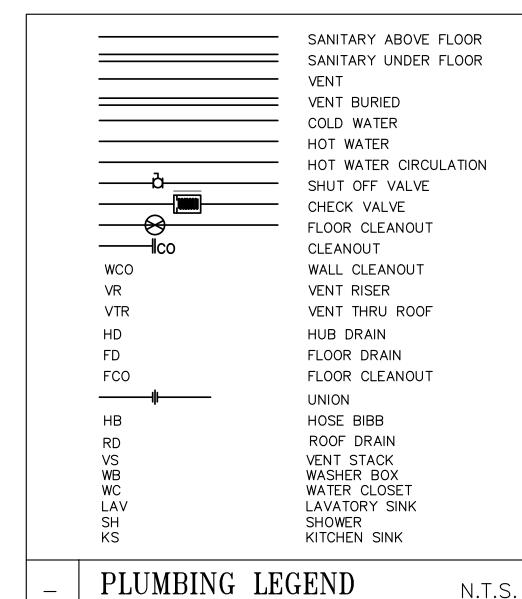
13) PLUMBING CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES AND CHARGES IN CONNECTION WITH THE WORK.

14) PLUMBING CONTRACTOR SHALL PROVIDE WATERTIGHT SLEEVES FOR ALL PIPES PASSING THRU BASEMENT WALLS.

15) INSTALL CLEANOUTS AT THE BASE OF ALL SANITARY STACKS.16) INSTALL ALL HORIZONTAL RUNS OF PIPING AS HIGH AS POSSIBLE, PITCH ALL WATER PIPING TO DRAIN, DRAW OFFS AT ALL POINTS.

17) PLUMBING CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS TO OUTSIDE UTILITIES.

18) FOR PIPE SIZES NOT SHOWN ON PLANS SEE DETAILS & RISER DIAGRAMS.



## PIPING MATERIAL NOTES

SANITARY AND VENT: BELOW GROUND: SWCI WITH PUSH ON JOINTS.

ABOVE GROUND:

-SWCI WITH HUSKY 4-BAND CLAMPS

WATER PIPING: TYPE "L" COPPER WITH 95-5 SOLDER JOINTS

GAS PIPING: SCHEDULE 40 ER/ERW BLACK STEEL WITH THREADED

JOINTS OR WELDED.

## **GENERAL NOTES:**

1. SHOULD ANY CONTRADICTION, AMBIGUITY, ERROR, INCONSISTENCY, OMISSION OR INCOMPLETE SYSTEM APPEAR IN OR BETWEEN ANY OF CONTRACT DOCUMENTS THE CONTRACTOR SHALL, BEFORE SUBMITTING THE FINAL BID AND SIGNING THE CONTRACT FOR CONSTRUCTION, NOTIFY THE ARCHITECT AND REQUEST A WRITTEN RESOLUTION AS TO WHICH METHODS OR MATERIALS WILL BE REQUIRED. IN THE EVENT OF CONFLICTING REQUIREMENTS OF STANDARDS, DRAWINGS AND SPECIFICATIONS, THE CONTRACTOR SHALL COMPLY WITH THE MORE STRINGENT REQUIREMENTS.

BEFORE SUBMITTING THE FINAL BID AND THE SIGNING THE CONTRACT FOR THE CONSTRUCTION THE CONTRACTOR SHALL OBTAIN A WRITTEN INTERPRETATION FROM THE ARCHITECT. IN NO CASE SHALL THE CONTRACTOR PROCEED WITH THE AFFECTED WORK UNTIL ADVISED BY THE ARCHITECT.

IF THE CONTRACTOR FAILS TO MAKE A REQUEST FOR INTERPRETATION OR RESOLUTION NO EXCUSE WILL BE ACCEPTED FOR FAILURE TO CARRY DUT THE WORK IN A SATISFACTORY MANNER, AS INTERPRETED BY THE ARCHITECT. THIS GENERALLY MEANS THE USE OF THE HIGHEST QUALITY MATERIAL, MOST EXPENSIVE WAY OF PERFORMING WORK AND PROVIDING COMPLETE FUNCTIONING SYSTEM FOR PROPER OPERATION.

EACH AND EVERY TRADE OR SUBCONTRACTOR WILL BE DEEMED TO HAVE FAMILIARIZED THEMSELVES WITH ALL THE CONTRACT DOCUMENTS OF THIS PROJECT, INCLUDING ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND SITE WORK, AND TO HAVE VISITED THE SITE, SO AS TO AVOID ERROR, OMISSIONS AND MISINTERPRETATIONS. RELATED INFORMATION MAY BE PROVIDED ON CONTRACT DOCUMENTS OTHER THAN THOSE ASSOCIATED WITH THE SUBCONTRACTOR'S TRADE. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING RELATED WORK OF ALL THE CONTRACT DOCUMENTS. NO ADDITIONAL COMPENSATION WILL BE AUTHORIZED FOR ALLEGED ERRORS, OMISSIONS AND MISINTERPRETATIONS WHETHER THEY ARE A RESULT OF FAILURE TO OBSERVE THIS REQUIREMENT OR NOT.

2. ALL PENETRATIONS OF ASSEMBLIES EXPOSED TO THE EXTERIOR ENVIRONMENT SHALL BE SEALED WITH FOAM SEALANT OR EQUIVALENT SEALER TO PROVIDE ZERO AIR INFILTRATION. COORDINATE WITH FIRE STOPPING REQUIREMENTS.

3. NO COMPONENT OF ANY SYSTEM SHALIRUN THROUGH THE STAIR ENCLOSURE THAT DOES NOT RELATE TO OR SERVE THE STAIR ENCLOSURE.

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SHANGHAI CORP FACTORY ADDITION

25 HOWARD ST. ROXBURY, MA

PROJECT NO. 21217

SHEET TITLE

PLUMBING NOTES

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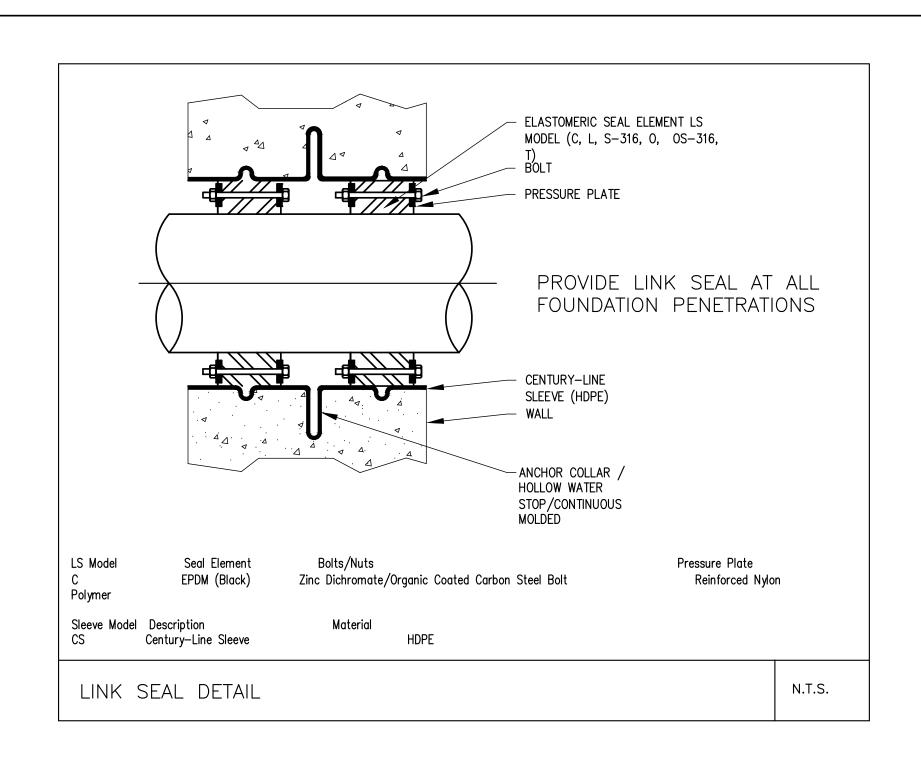
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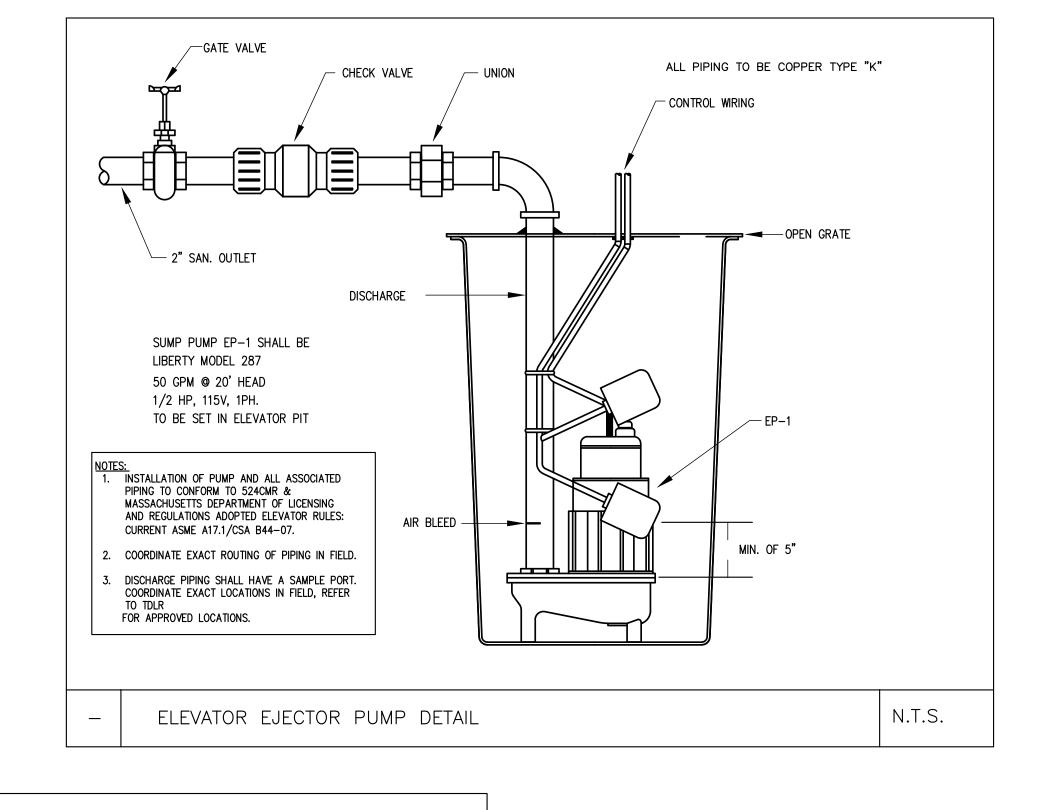
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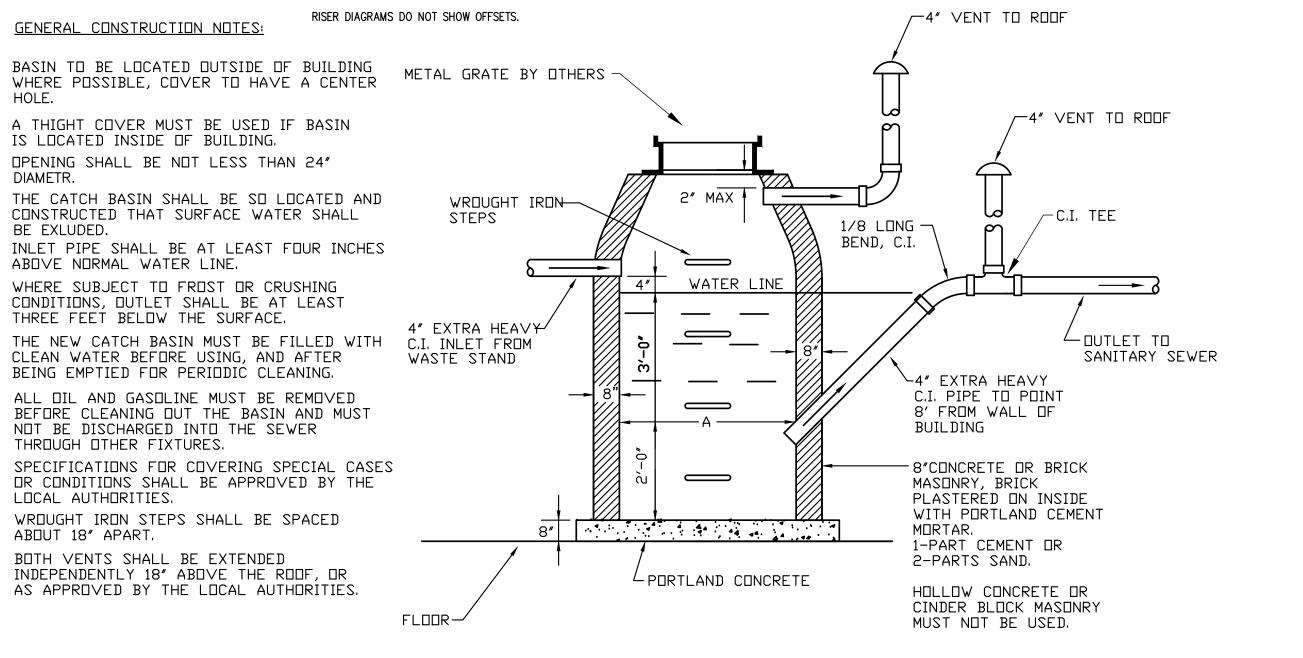






INLET	D	Α	В
4"	3'-6"ø	3'-0"	2'-6"
5"	3'-6"ø 3'-6"x3'-6" 4'-0"ø 4'-0"x4'-0" 4'-6"ø	5'-0" 5'-0" 3'-6" 3'-0" 3'-0"	4'-6" 4'-6" 3'-0" 2'-6" 2'-0"
6"	4'-0"ø 3'-0"x4'-0" 4'-6"ø 4'-6"x4'-6" 5'-0"ø 5'-0"x5'-0"	5'-0" 4'-0" 4'-0" 3'-6" 3'-0" 3'-0"	4'-6" 3'-6" 3'-0" 2'-6" 2'-6"
8"	5'-0"ø 5'-6"x5'-0" 6'-0"ø 6'-0"x5'-0" 6'-6"ø 6'-6"x6'-6"	6'-0" 4'-6" 4'-0" 3'-0" 3'-6" 3'-0"	5'-0" 4'-0" 3'-6" 2'-0" 3'-0" 2'-6"

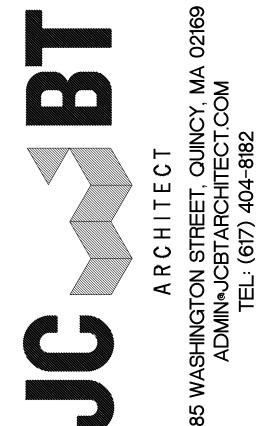
- ALL INLET TRAPS TO BE PROVIDED IN ACCORDANCE WITH 248 CMR 10.00
- FOR INLETS LARGER THAN 10" THE DESIGN AND DIMENSIONS WILL BE DETERMINED FOR EACH PARTICULAR CASE.
- PRE-CAST SEPERATORS ARE TO HAVE ALL SPECIFIED HOLES EITHER CORE-BORED OR CAST IN PLACE.
- CIRCULAR BASINS ARE RECOMMENDED.



GASOLINE AND SAND TRAP

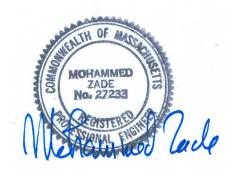
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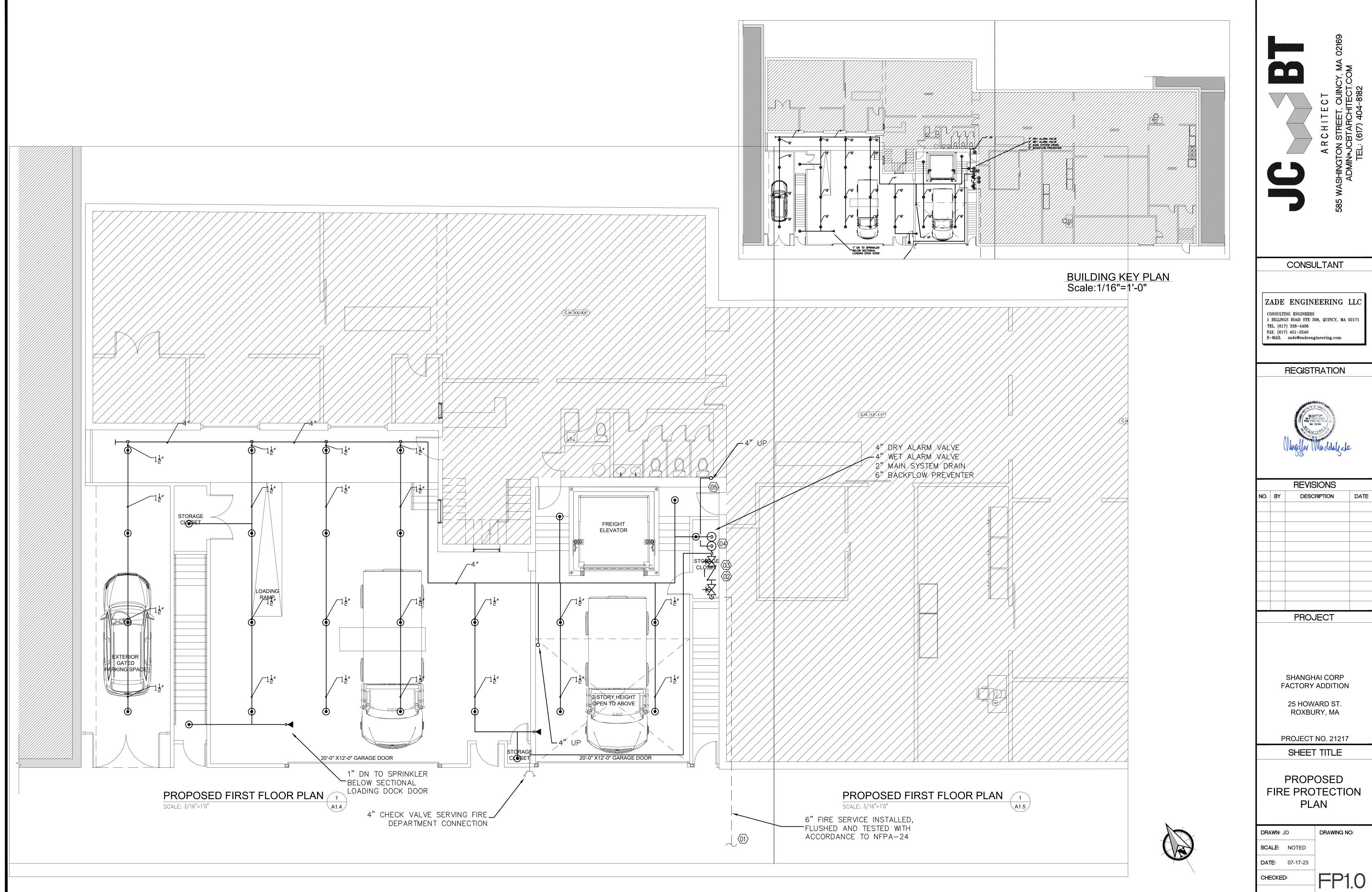
SHANGHAI CORP FACTORY ADDITION

25 HOWARD ST. ROXBURY, MA

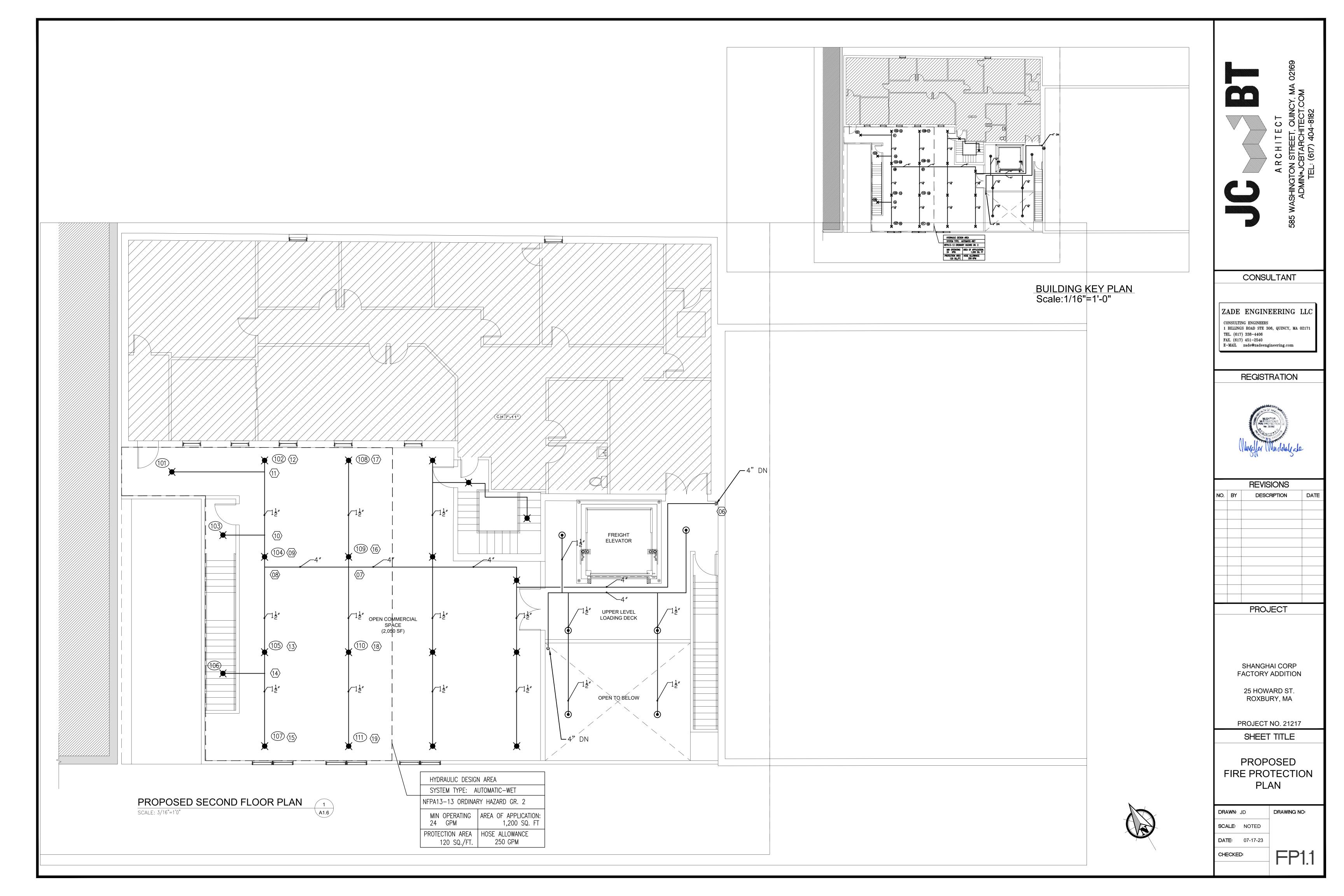
PROJECT NO. 21217 SHEET TITLE

**PLUMBING DETAILS** 

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#### <u>DESIGN CRITERIA</u>

THE AUTOMATIC FIRE SUPPRESSION SYSTEM HAS BEEN DESIGNED PER NFPA-13 2013, CMR 780 WITH AMENDMENTS

THE DRAWINGS ARE INTENDED TO BE DIAGRAMMATIC IN NATURE AND MAY NOT DEPICT EVERY COMPONENT REQUIRED TO FURNISH A FULLY CODE COMPLIANT SYSTEM. THE FIRE PROTECTION CONTRACTOR IS REQUIRED TO PROVIDE ALL MATERIAL AND LABOR TO FURNISH A FULLY CODE COMPLIANT SYSTEM PER NFPA-13 2013

1. PIPE AND FITTINGS SHALL CONFORM TO THE LATEST ANSI, ASTM, NFPA AND AWWA STANDARDS INCLUDING LATEST AMENDMENTS AND SHALL BE LISTED FOR USE WITH FIRE SPRINKLER SYSTEMS

2. SEE MATERIAL SCHEDULE ON DETAIL SHEET

#### HANGERS AND SUPPORTS

1. HANGERS AND SWAY BRACING WHERE REQUIRED, SHALL BE INSTALLED TO MEET NFPA AND LOCAL STATE BUILDING CODE COMPLIANCE AS TO LOCATION, SPACING, AND MAXIMUM LOADS.

2. HANGER MATERIAL SHALL BE COMPATIBLE WITH PIPING MATERIALS WITH WHICH IT COMES INTO CONTACT.

3. HANGERS SHALL BE INSTALLED, IN ADDITION TO THE ABOVE, AT ALL CHANGES OF DIRECTION (HORIZONTAL AND VERTICAL), VALVES AND EQUIPMENT CONNECTIONS. HANGERS SHALL BE LOCATED SO THAT THEIR REMOVAL IS NOT REQUIRED TO SERVICE, ASSEMBLE OR REMOVE EQUIPMENT.

4. HORIZONTAL RUNS MAY USE BAND HANGERS UP TO 4" SIZE. PIPING LARGER THAN 4" SHALL BE PROVIDED WITH CLEVIS TYPE.

5. ALL RODS, CLAMPS, NUTS, WASHERS, SHIELDS AND HANGERS IN ALL AREAS SHALL BE ELECTRO-GALVANIZED COATED STEEL.

1. SHUTOFF VALVES ON THE ABOVEGROUND FIRE PROTECTION SYSTEM SHALL BE UL, FM BUTTERFLY OR OS&Y GATE VALVES, AS INDICATED, ON SIZES 2-1/2" AND LARGER, VALVES UP TO 2" SHALL BE UL, FM BALL VALVES. ALL ISOLATION / CONTROL VALVES SHALL BE MONITORED.

2. CHECK VALVES SHALL BE 175-POUND CLASS FOR FIRE PROTECTION.

3. VALVES SHALL BE PROVIDED WITH SEATS SUITABLE FOR THE SERVICE INTENDED.

4. VALVES SHALL BE AS MANUFACTURED BY NIBCO, VICTAULIC, WALLWORTH, MILWAUKEE OR APPROVED EQUAL. MANUFACTURERS MODEL NUMBERS REFERENCED BELOW ARE USED TO INDICATE A TYPE.

5. ALL VALVES SPECIFIED HEREIN SHALL BE UL/FM APPROVED, 175 PSI MINIMUM WORKING PRESSURE. ALL CONTROL VALVES SHALL BE PROVIDED WITH TAMPER SWITCH.

#### AUTOMATIC SPRINKLERS

MATERIAL AND QUALITY TO BE PROVIDED.

1. SPRINKLER HEADS: QUICK RESPONSE, BULB TYPE, AND STYLE AS INDICATED OR REQUIRED BY THE APPLICATION. UNLESS OTHERWISE INDICATED.

2. IN ALL OPEN AREAS, WHERE ELECTRICAL EQUIPMENT IS LOCATED, AN APPROVED TYPE SHIELD, TO KEEP WATER OFF THE ELECTRICAL EQUIPMENT, SHALL BE PROVIDED.

3. PROVIDE ALL SPRINKLER HEADS WITH PROTECTIVE CAGE.

CLOSED UP, FURRED IN, OR COVERED BEFORE TESTING.

4. PROVIDE IN THE VALVE ROOM, A FINISHED STEEL CABINET SUITABLE FOR WALL MOUNTING, WITH HINGED COVER AND SPACE FOR 6 SPARE SPRINKLER HEADS PLUS SPRINKLER HEAD WRENCH.

1. PRIOR TO INSTALLATION FIRE PROTECTION CONTRACTOR SHALL FURNISH COMPLETE TIER II SHOP DRAWINGS AND HYDRAULIC CALCULATIONS BASED ON A RECENT HYDRANT FLOW TEST FOR APPROVAL

1. ALL LABOR, MATERIALS, INSTRUMENTS, DEVICES AND POWER REQUIRED FOR TESTING SHALL BE PROVIDED BY THIS CONTRACTOR. THE TESTS SHALL BE PERFORMED IN THE PRESENCE AND TO THE SATISFACTION OF THE ENGINEER, GENERAL CONTRACTOR AND THE LOCAL FIRE DEPARTMENT AND SUCH OTHER PARTIES, AS MAY HAVE LEGAL JURISDICTION. NO PIPING IN ANY LOCATION SHALL BE

2. WHERE PORTIONS OF PIPING SYSTEMS ARE TO BE COVERED OR CONCEALED BEFORE COMPLETION OF THE PROJECT, THOSE PORTIONS SHALL BE TESTED SEPARATELY IN THE MANNER SPECIFIED HEREIN FOR THE RESPECTIVE ENTIRE SYSTEM.

3. ANY PIPING OR EQUIPMENT THAT HAS BEEN LEFT UNPROTECTED AND SUBJECT TO MECHANICAL OR OTHER INJURY IN THE OPINION OF THE GENERAL CONTRACTOR SHALL BE RE TESTED IN PART OR IN

4. THE ENGINEER RETAINS THE RIGHT TO REQUEST A RECHECK OR RESETTING OF ANY PUMP OR INSTRUMENT BY THIS CONTRACTOR DURING THE GUARANTEE PERIOD AT NO ADDITIONAL COST TO THE

5. REPAIR, OR IF DIRECTED, REPLACE ANY DEFECTIVE WORK WITH NEW WORK WITHOUT EXTRA CHARGE TO THE CONTRACT. REPEAT TESTS AS DIRECTED, UNTIL THE WORK IS PROVEN TO MEET THE REQUIREMENTS SPECIFIED HEREIN.

6. RESTORE TO ITS FINISHED CONDITION ANY WORK, DAMAGED OR DISTURBED, PROVIDED BY OTHER CONTRACTORS AND ENGAGE THE ORIGINAL CONTRACTOR TO DO THE WORK OF RESTORATION TO THE DAMAGED OR DISTURBED WORK.

7. THIS CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR AND ANY INSPECTORS HAVING JURISDICTION, A MINIMUM OF 48 HOURS IN ADVANCE OF MAKING ANY REQUIRED TESTS SO THAT ARRANGEMENTS MAY BE MADE FOR THEIR PRESENCE TO WITNESS HIS SCHEDULED TESTS.

8. TESTING SHALL BE IN ACCORDANCE WITH NFPA-13 "STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS".

#### 9. EACH SYSTEM SHALL BE TESTED TO A HYDROSTATIC PRESSURE OF 200 PSI FOR TWO HOURS.

BY THE ENGINEER OF RECORD. FINAL AFFIDAVITS CANNOT BE ISSUED WITHOUT APPROVED SHOP DRAWINGS

10. FLUSHING OF ALL BURIED SUPPLY PIPING SHALL BE PERFORMED AT A MINIMUM RATE OF 880 GPM FOR SYSTEMS WITH A 6" SERVICE.

11. ALL WATER FLOW DETECTING DEVICES AND CIRCUITS SHALL BE FLOW TESTED THROUGH THE INSPECTOR'S TEST CONNECTION AND ACTIVATE WITHIN FIVE MINUTES OF INITIATION.

12. ALL FLOW TESTS ON THE FIRE PROTECTION SYSTEMS SHALL BE PERFORMED IN THE PRESENCE OF THE AUTHORITY HAVING JURISDICTION.

13. SPRINKLER FLOW TEST DISCHARGE AND FLUSHING WATER DISCHARGE SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR AND THE LOCAL FIRE DEPARTMENT OR PUBLIC WORKS AS TO ACCEPTABLE DISCHARGE POINTS PRIOR TO SCHEDULING OF FLUSHING AND TESTS. THIS CONTRACTOR SHALL PROVIDE ALL HOSE AND EQUIPMENT NECESSARY TO PERFORM THE REQUIRED TESTING AND

#### AS BUILT DRAWINGS AND CONTRACTOR CERTIFICATES

1. CONTRACTOR SHALL HAVE, ON HAND, AT TIME OF FINAL INSPECTION BY THE AUTHORITY HAVING JURISDICTION, FOR TEMPORARY / FINAL CERTIFICATE OF OCCUPANCY, ALL COMPLETED CERTIFICATES OF MATERIAL AND TESTING FOR ABOVEGROUND AND UNDERGROUND PIPING AS WELL AS THE AS-BUILT DRAWINGS OF THE FIRE PROTECTION INSTALLATION.

2. THE FIRE PROTECTION CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE ENGINEER OF RECORD AT SUCH A TIME WHERE THE INSTALLATION HAS PROGRESSED TO 90% AND PRIOR TO WALLS BEING CLOSED FOR INSPECTION.

#### PATCHING, REPLACEMENT AND MODIFICATION OF EXISTING WORK

1. AFTER INSTALLATION OF PIPELINES, THE CONTRACTOR SHALL NEATLY PATCH, REPAIR, AND/OR REPLACE EXISTING WORK WHERE DAMAGED, REMOVED OR ALTERED FOR PIPE LINE INSTALLATION. THIS WORK SHALL BE SIMILAR AND EQUAL IN QUALITY TO THE WORK REMOVED OR DAMAGED, UNLESS OTHERWISE SHOWN OR SPECIFIED. SUCH WORK SHALL INCLUDE PATCHING AND REPLACEMENT OF EXISTING PIPING AT POINTS OF CONNECTION TO NEW PIPING, PATCHING OF INSULATION, AND WHEREVER ANY SUCH PATCHING WORK IS INDICATED ON THE DRAWINGS OR OTHERWISE REQUIRED.

1. GENERAL: INSTALL FIRE PROTECTION SPECIALTY VALVES, FITTINGS, AND SPECIALTIES IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS, NFPA 13 AND 14, AND THE AUTHORITY HAVING JURISDICTION.

2. USE PROPER TOOLS TO PREVENT DAMAGE DURING INSTALLATIONS.

3. ALL PENDENT MOUNTED SPRINKLERS SHALL BE INSTALLED ON RETURN BENDS.

4. ALL SPRINKLERS INSTALLED IN ACOUSTICAL CEILING TILES SHALL BE CENTERED IN TILES WHERE APPLICABLE.

5. COORDINATE AND VERIFY DRAFT CURTAINS ARE INSTALLED AS REQUIRED BY SPRINKLER HEAD SPECIFICATIONS

6. CONTRACTOR IS RESPONSIBLE TO PROVIDE 100% SPRINKLED BUILDING INCLUDING ALL COMBUSTIBLE CONCEALED SPACES WHETHER SHOWN ON THIS PLAN OR NOT

7. NO WORK SHALL COMMENCE BEFORE HAVING FULL APPROVAL FROM THIS OFFICE

## FIRE PROTECTION SPECIFICATION

#### FIRE PROTECTION SPECIFICATION

THIS IS A PERFORMANCE SPECIFICATION AND REQUIRES THE FIRE PROTECTION CONTRACTOR TO FURNISH A FULL SET OF NFPA-13-13 WORKING DRAWINGS FOR REVIEW AND APPROVAL BY THE ENGINEER OF RECORD PRIOR TO INSTALLATION

2. SPRINKLER PIPING SHALL BE SCH.10/40 BLACK STEEL WITH 125 LB. CAST IRON THREADED/GROOVED JOINTS WHERE EXPOSED.

3. SPRINKLER HEADS IN UNFINISHED AREAS SHALL BE UPRIGHT TYPE SPRINKLERS WITH HEAD CAGES

4. APPLY AND OBTAIN PERMIT AND APPROVAL FROM LANDLORD'S INSURANCE COMPANY, FIRE DEPARTMENT AND STATE AND LOCAL AUTHORITIES.

5. COORDINATE WITH FULL PLAN SET AND ARCHITECTURAL REFLECTED CEILING PLAN FOR THE LOCATION OF SPRINKLER HEADS.

6. COORDINATE SPRINKLER WORK WITH OTHER DISCIPLINES. SINCE PERFORMANCE OF SPRINKLER SYSTEM IS AFFECTED BY OBSTRUCTIONS AND NOT OTHER WAY AROUND. THIS CONTRACTOR SHALL COORDINATE ALL LIGHTING FIXTURE LOCATIONS AND TYPES AND OTHER OBSTRUCTIONS PRIOR TO ANY WORK DONE.

THE SYSTEM SHALL BE HYDROSTATICALLY TESTED AT NOT LESS THAN 200 PSI PRESSURE FOR 2 HOURS. THERE WILL BE NO VISIBLE LEAKAGE WHEN THE SYSTEM IS SUBJECTED TO THE HYDROSTATIC PRESSURE TEST.

8. GUARANTEE ALL WORK AND MATERIAL FOR ONE YEAR FROM THE DATE OF ACCEPTANCE.

FIRE PROTECTION MATERIAL SCHEI	JC	JL	Ε																
SYSTEM				P	IPE						F	'ITT	ING	S		J	OIN	ITS	
NOTES:  1. COMPONENT PRESSURE RATING TO MATCH EXISTING  2. ALL MATERIALS SELECTED ON THIS SCHEDULE MUST BE APPROVED BY THE ENGINEER & LOCAL AUTHORITIES  2. ALL MATERIALS SELECTED ON THIS SCHEDULE MUST BE APPROVED BY THE ENGINEER & LOCAL AUTHORITIES	BLAZEMASTER CPVC	LE IRON	HEAVY	STEEL SCHED 10	SCHED	STEEL SCHED 80	BLACK	2	ZI	NOS	BLAZEMASTER CPVC	LINED	GALVANIZED	VICTAULIC	DUCTILE IRON	THREADED	MECH.JOINT-FLANGED	GROOVED	SLIP
BURIED BUILDING FIRE SERVICE		•					•		•								•		
RESIDENTIAL CROSS MAINS	•										•								•
RESIDENTIAL BRANCH LINES	•									(	•								•
ARM-OVER & DROPS	•									(	•								•
SPRINKLER DRAIN PIPE					•			•					•					•	
DRY SPRINKLER SYSTEM																			

FLOW TEST	<u>DATA</u>		
STATIC RESIDUAL FLOW		90 PSI 87 PSI 1,584 GPM	
DATE: 3/10/	2021		
LOCATION: 14	5 HOWARD	ST.	

# PREPARATION OF SHOP DRAWINGS:

PER 780CMR 901.2.1

SPRINKLER CONTRACTOR SHALL PREPARE TIER ii SHOP DRAWINGS INCLUDING PIPING & HYDRAULIC CALCULATIONS, AND SHALL SUBMIT TO THE ENGINEER FOR APPROVAL PRIOR TO THE START OF WORK. ENGINEER SHALL CERTIFY SYSTEM INSTALLATION FOR CODE COMPLIANCE AT PROJECT COMPLETION.

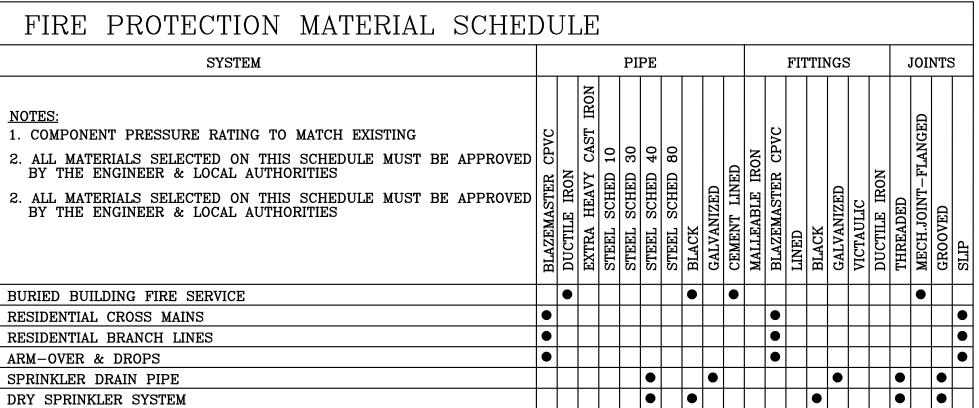
PIPE RISE

VERIFY IN FIELD

FIRE SPRINKLER LEGEND

SYM	POSITION	FINISH	TEMP	K	NPT
0	UPRIGHT	BRASS	155*	5.60	1/2"
$\boxtimes$	UPRIGHT	BRASS	155°	16.8	3/4"
	PENDENT	CONCEALED	155°	5.60	1/2"
$\triangleright$	DRY SIDEWALL	CONCEALED	155°	5.60	1/2"
•	DRY PENDENT	CONCEALED	155°	5.60	1/2"

FIRE PROTE	CTION ABBREVIATIONS	FIRE	PROTECTION LEGEND
DSW	DRY SIDEWALL	SYMBOL	DESCRIPTION
DCVA DIA	DOUBLE CHECK VALVE ASSEMBLY DIAMETER	<b>_</b>	SUPERVISED BUTTERFLY VALVE
DR ETR	DRAIN EXISTING TO REMAIN	大元本	DOUBLE CHECK VALVE ASSEMBLY
FHV	FIRE HOSE VALVE	内	SUPERVISED DS&Y GATE VALVE
IT	INTERMEDIATE TEMPERATURE	₹FS	FLOW ALARM SWITCH
FP FS	FIRE PROTECTION FLOW SWITCH		SPRINKLER ZONE CONTROL ASSEMBLY (SEE DETAIL)
SP	STANDPIPE	•	PUMP (FIRE DR JDCKEY)
GV GAL	GATE VALVE GALLONS	$\Diamond$	DRY ALARM VALVE
GALV	GALVANIZED	Č	WET ALARM VALVE
GPM	GALLONS PER MINUTE		CHECK VALVE
MAX MIN	MAXIMUM MINIMUM		DRAIN VALVE
NTS	NOT TO SCALE		FIRE VALVE ASSEMBLY 2-1/2"W X 2-1/2" X 1-1/2"
DN	PIPE DROP	<u> </u>	PRESSURE GAUGE
PSI	POUNDS PER SQUARE INCH		HYDRAULIC JUNCTION POINT
PRV	PRESSURE REDUCING VALVE	(XXX)	HYDRAULIC DISCHARGE NODE
RV	RELIEF VALVE		
SPK	SPRINKLER		
TS	TAMPER SWITCH		
1			







CONSULTANT

ZADE ENGINEERING LLC

CONSULTING ENGINEERS 1 BILLINGS ROAD STE 306, QUINCY, MA 02171 TEL. (617) 338-4406 FAX. (617) 451-2540 E-MAIL zade@zadeengineering.com

REGISTRATION



		REVISIONS	
NO.	BY	DESCRIPTION	DATE
		PROJECT	

SHANGHAI CORP FACTORY ADDITION

25 HOWARD ST. ROXBURY, MA

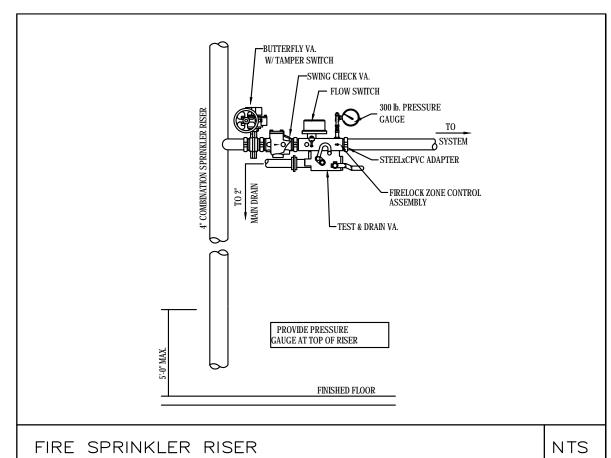
PROJECT NO. 21217

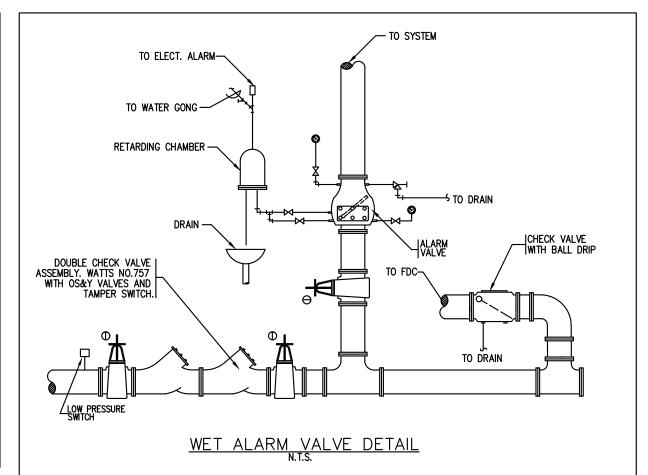
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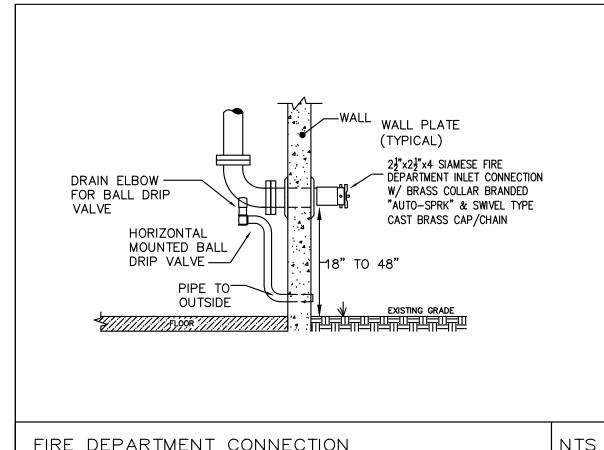
FIRE PROTECTION NOTES

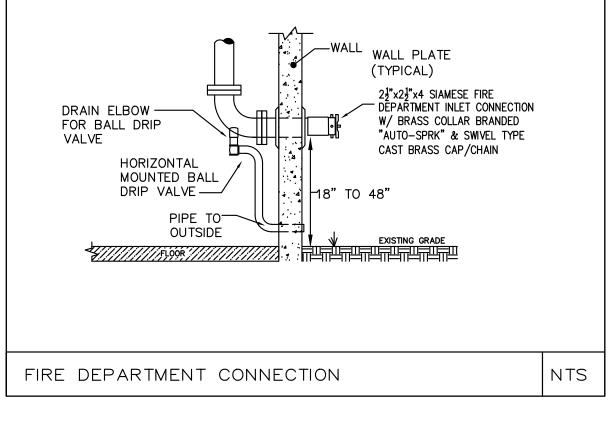
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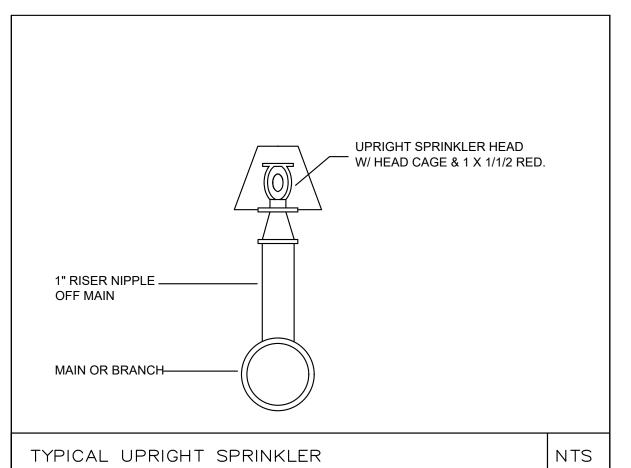
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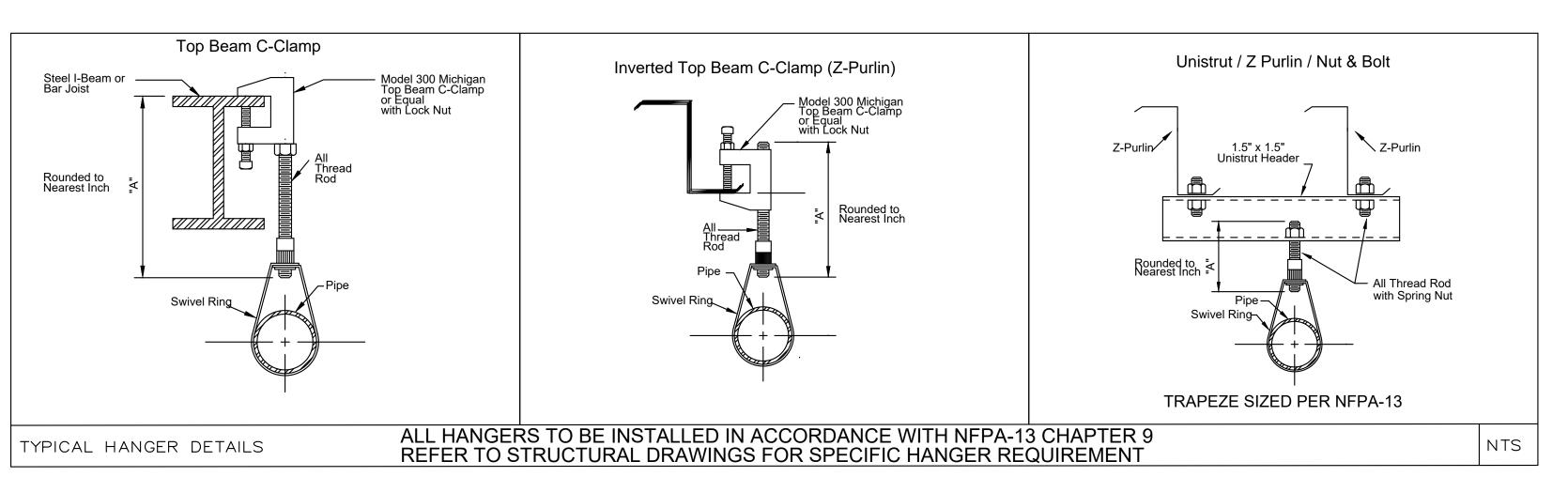




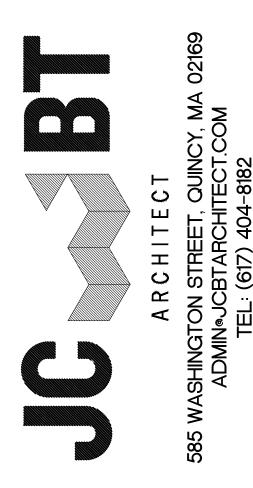












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REGISTRATION



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SHANGHAI CORP FACTORY ADDITION

25 HOWARD ST. ROXBURY, MA

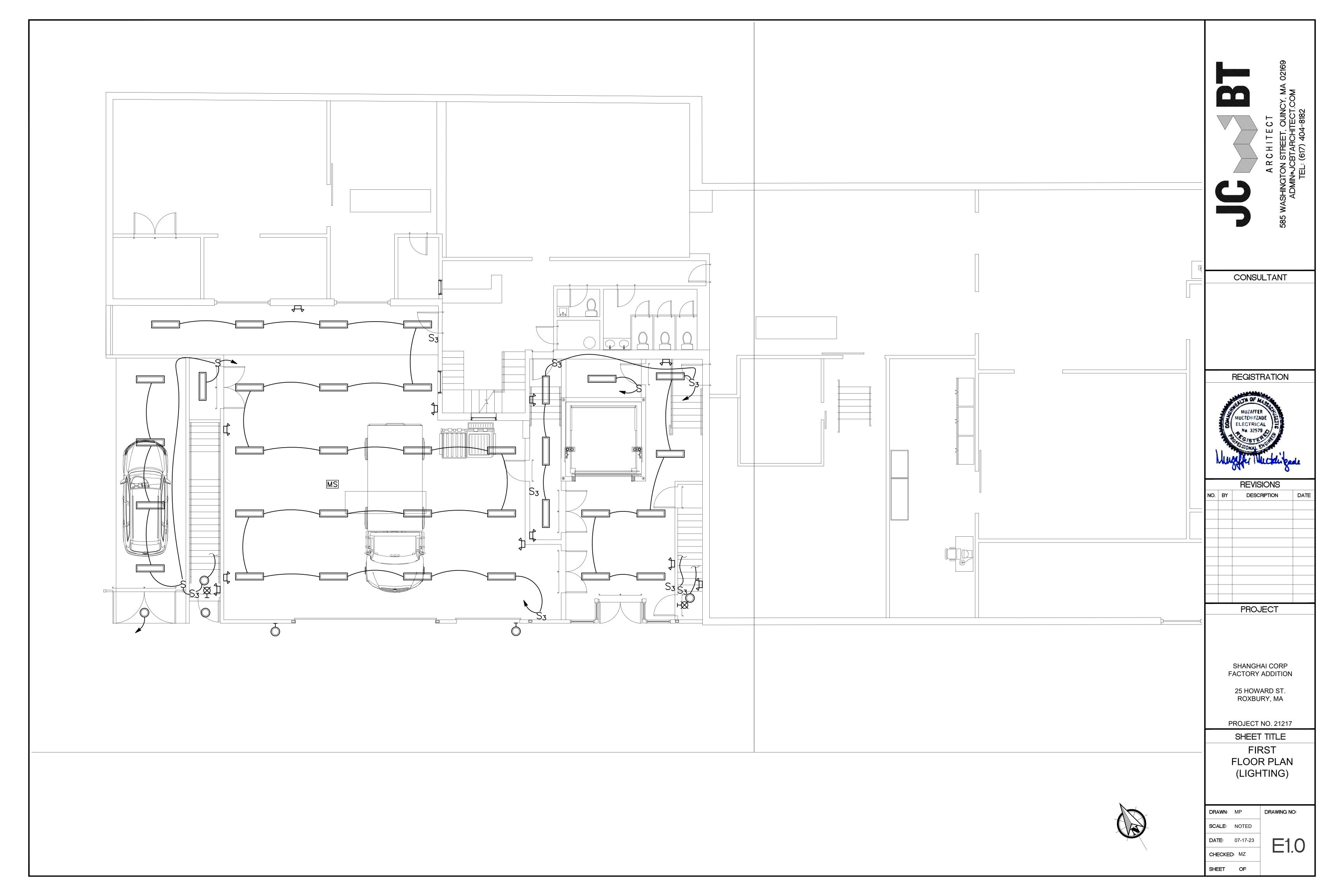
PROJECT NO. 21217

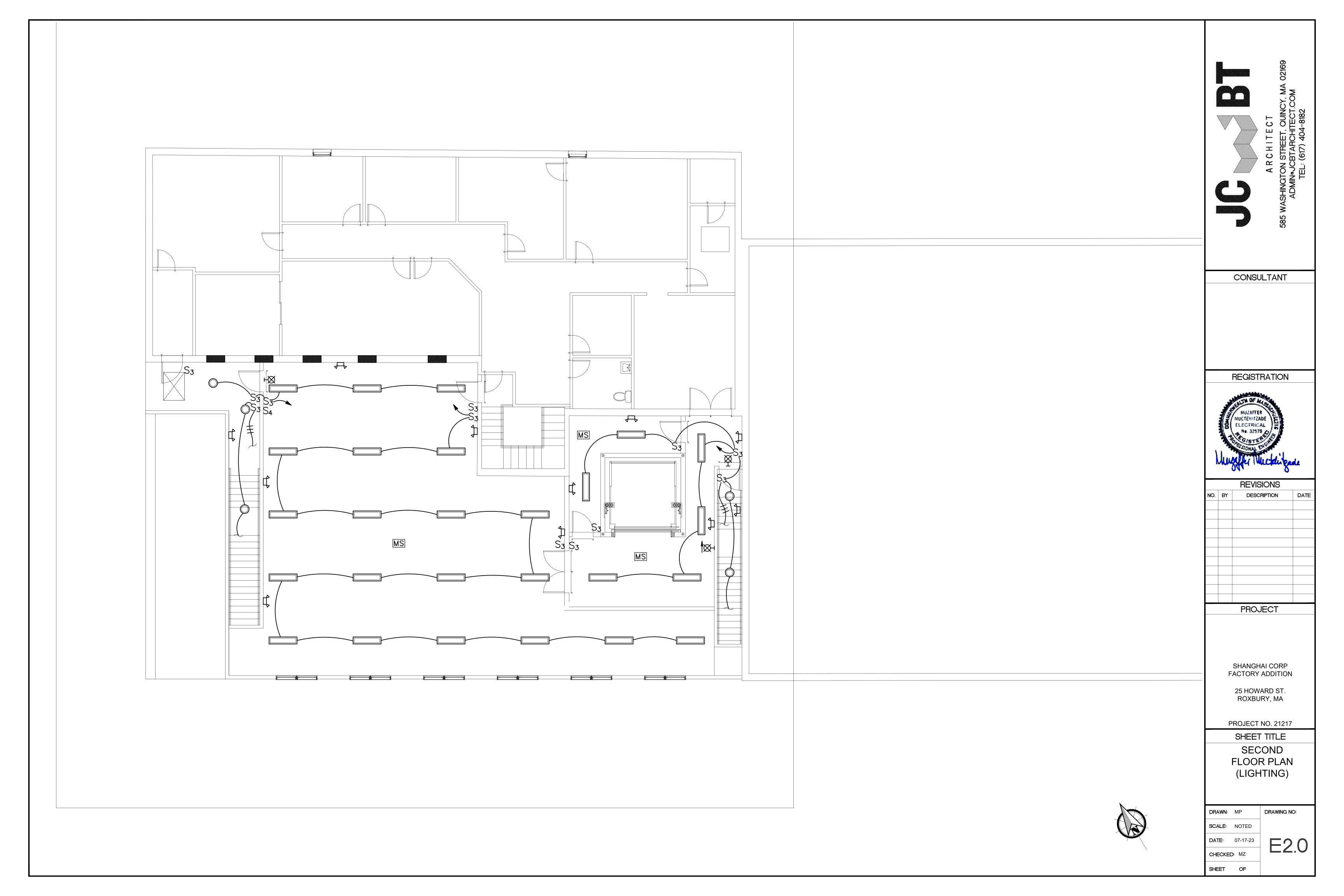
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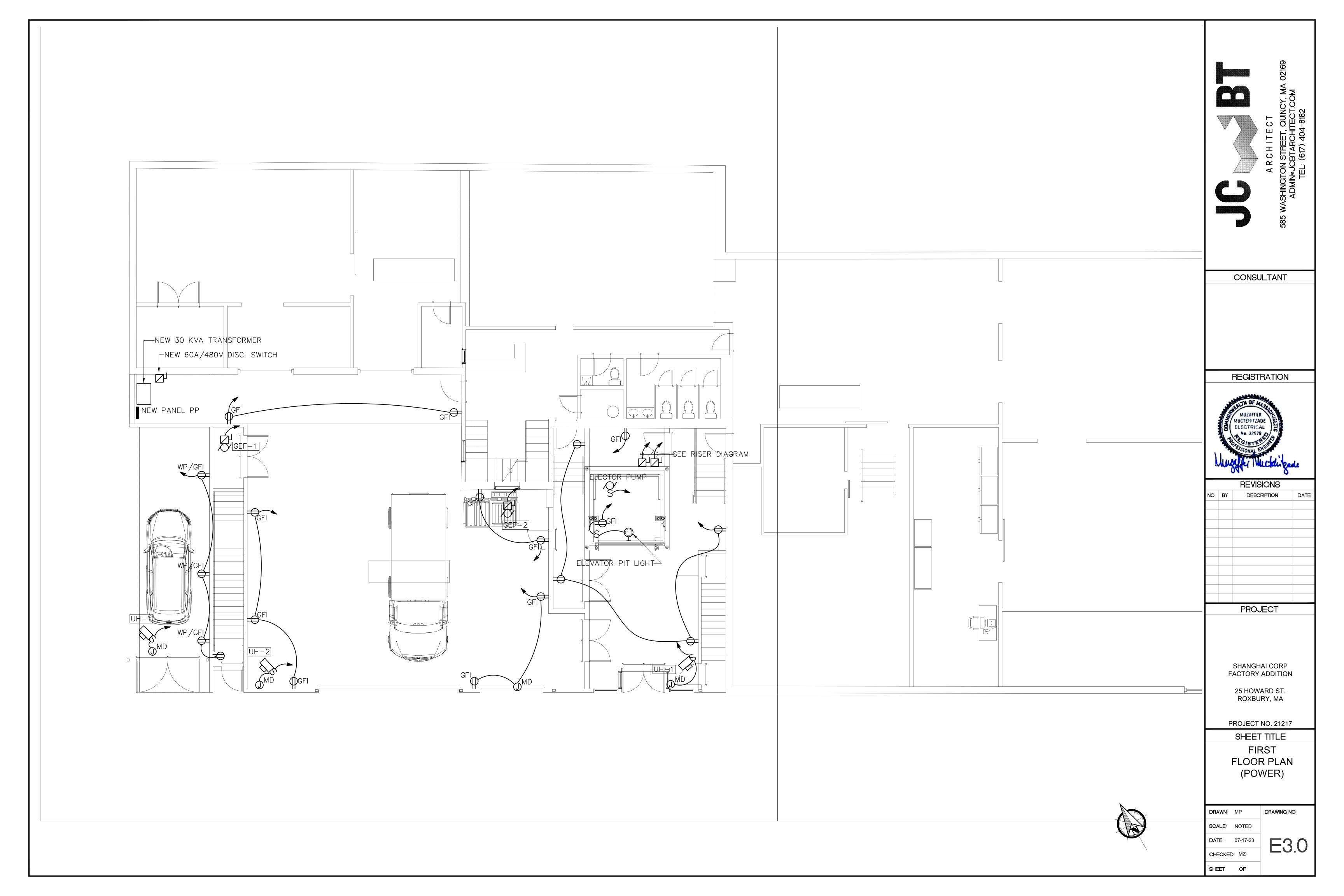
FIRE PROTECTION **DETAILS** 

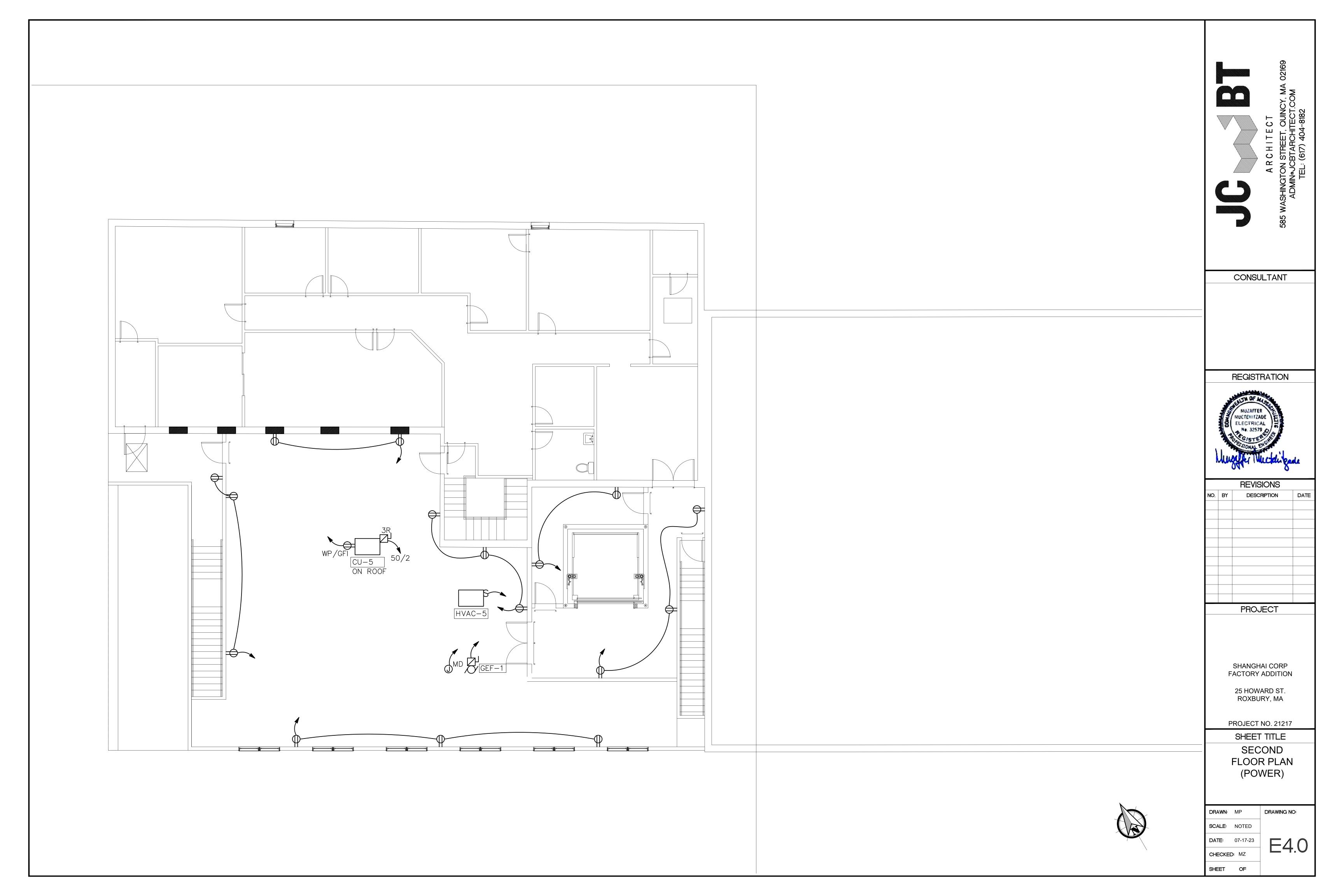
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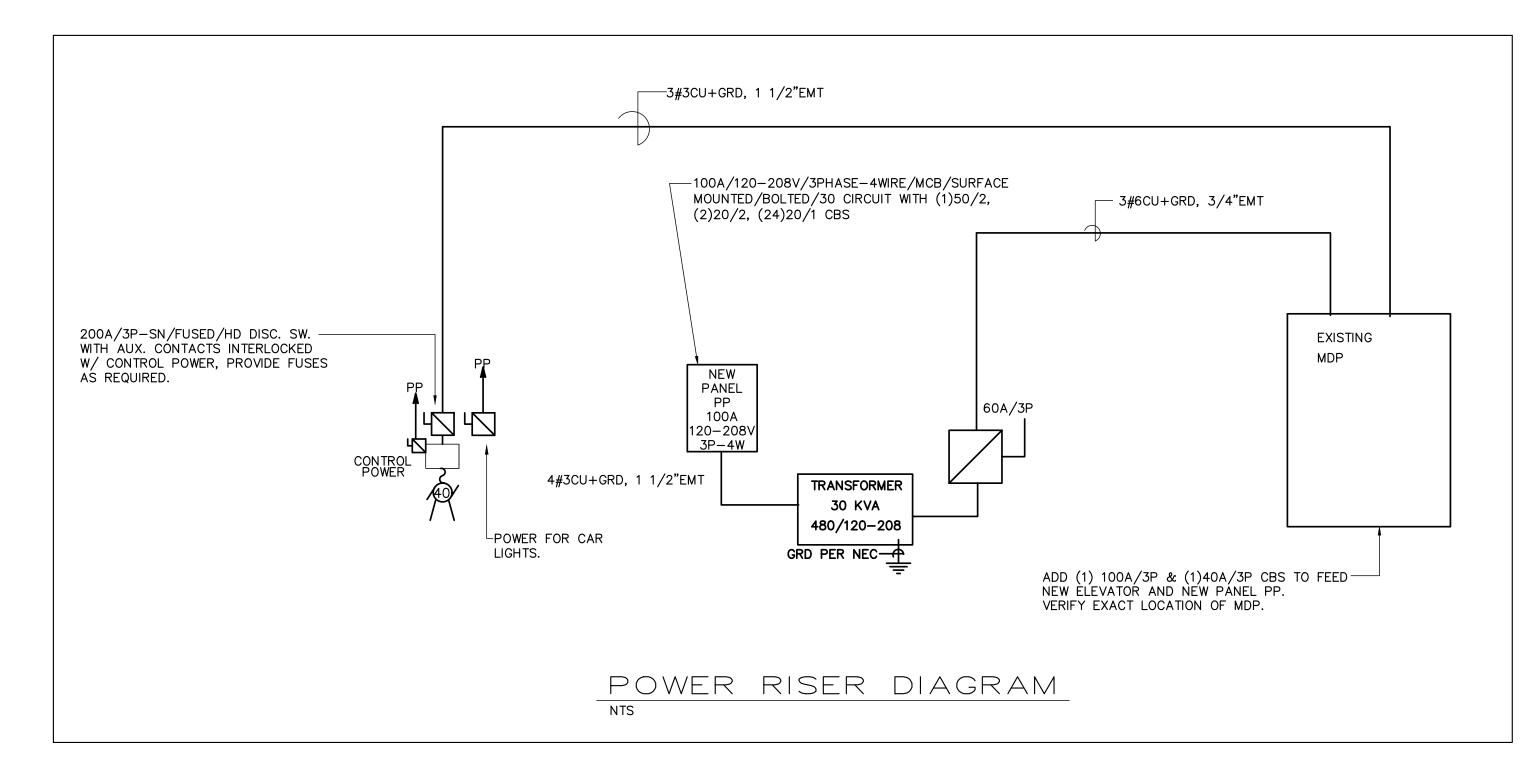






		FIXTUE	RE	SCHEDULE	
TYPE	MANUFACTURER	CATALOG NUMBER	VOLT	LAMP	DESCRIPTION
	LITHONIA	ZL1D L48 3000LM FST 40K	120	LED	4' PENDANT MOUNTED
0	CARRY \$100/-	PER FIXTURE	120	LED	SURFACE MOUNTED DOWN LIGHT
P	CARRY \$100/-	PER FIXTURE	120	LED	EXTERIOR WALL SCONCE
	EMERGI-LITE	PRO2VM	120		EMERGENCY LIGHT WITH BUILT-IN BATTERY
Ø	EMERGI-LITE	LEDPXN1/2R	120		EXIT SIGN

LAMPS AND BALLASTS SHALL BE IN COMPLIANCE WITH LOCAL UTILITY COMPANY REBATE PROGRAMS, SPECIFICATIONS ABOVE FOR THE FIXTURE TYPE ONLY FLUORESCENT FIXTURES SHALL HAVE ELECTRONIC BALLASTS THD LESS THAN %15 FIXTURES MOUNTED IN INSULATED CEILINGS, EC SHALL PROVIDE HOODS TO KEEP INSULATION AWAY



LOCATION OF ALL MECHANICAL EQUIPMENTS AND ELECTRICAL CHARACTERISTICS SHALL BE COORDINATED WITH MECHANICAL CONTRACTOR PRIOR TO ANY WORK DONE. ALL EQUIPMENT RELATING TO MECHANICAL COMPONENTS SHALL BE ORDERED ONLY AFTER THE APPROVAL OF MECHANICAL EQUIPMENT SHOP DRAWINGS

UNLESS NOTED OTHERWISE ALL WIRING SHALL BE #12AWG, Cu, AND FED FROM PANEL PP VIA 20A/1P C.B. CIRCUITS LONGER THAN 100FT SHALL BE #10 CU

NO EXPOSED WIRING IS ALLOWED,
ALL CONCEALED WIRING UNLESS NOTED SHALL BE "MC".

ALL WIRING IN BLOCK WALLS SHALL BE CONCEALED, RUN

IN CONDUIT.

WIRING IN ALL EXPOSED AREAS SHALL BE IN METALLIC RACEWAYS AS WIREMOLD OR EQUAL. RACEWAYS SHALL BE PAINTED AS DIRECTED BY THE ARCHITECT. SURFACE RACEWAYS SHALL CLOSELY FOLLOW THE SURFACE AND WRAP AROUND THE BEAMS AS REQUIRED. PRIOR TO ANY INSTALLATION, SUBMIT LAYOUT SKETCH INDICATING PROPOSED ROUTING FOR APPROVAL. ARCHITECT HAS THE RIGHT TO MODIFY OR CHANGE LAYOUT AS NEEDED. ANY CHANGES PRIOR TO ANY INSTALLATION SHALL BE AT NO CHANGE TO CONTRACT PRICE.

EXACT LOCATION AND TYPES OF ALL LIGHTING FIXTURES, MOUNTING HEIGHTS AND MOUNTING DETAILS SHALL BE COORDINATED WITH ARCHITECTURAL REFLECTED CEILING PLANS AND ANY CONFLICTS SHALL BE BROUGHT TO ARCHITECT'S ATTENTION PRIOR TO ANY WORK DONE. OBTAIN LATEST COPY OF THE CEILING PLAN FROM ARCHITECT PRIOR TO ANY WORK DONE.

TO MEET IECC CONTRACTOR SHALL PROVIDE IN EACH SPACE (EXCEPT CORRIDORS, BATHROOMS AND UTILITY/MECHANICAL ROOMS), CEILING MOUNTED OCCUPANCY SENSOR TO CONTROL LIGHTS IN THE SPACE. INSTALL SELF CONTAINED TYPE OR RELAY TYPE CEILING MOUNT SENSORS AS REQUIRED TO MATCH LOAD AND VOLTAGE CHARACTERISTICS. LOCATE SENSOR IN CEILING AWAY FROM THE DOOR NOT TO PICK UP NUICANCE ACTIVATION.

IN AREAS WHERE FIXTURES ARE MOUNTED INTO INSULATED CEILINGS, THIS CONTRACTOR SHALL PROVIDE HOODS, 3" LARGER THAN FIXTURES TO KEEP INSULATION AWAY FROM THE FIXTURES AND TO MAINTAIN INSULATION INTEGRITY OF THE CEILING, SEE ARCHITECTURAL DRAWINGS FOR AREAS WHERE THESE HOODS MAY BE REQUIRED.

CONNECT ALL EXIT SIGNS AND EMERGENCY
BATTERIES TO LOCAL LIGHTING CIRCUIT AHEAD
OF ANY CONTROLS TYPICAL FOR ALL AREAS

WHERE CEILING IS FIRE RATED, ALL RECESSED FIXTURES AND EXHAUST FANS SHALL BE INSTALLED WITH FIRE RATED ENCLOSURES 3" MINIMUM LARGER THAN FIXTURES TO MAINTAIN INTEGRITY OF CEILING FIRE RATING AND COOLING OF THE FIXTURES.

COORDINATE LOCATION OF SURFACE MOUNTED LIGHT FIXTURES WITH SPRINKLER CONTRACTOR PRIOR TO ANY INSTALLATION

# SYMBOL LIST

CEILING MOUNTED LIGHT FIXTURE.

WALL MOUNTED LIGHT FIXTURE.

2'X2' OR 2'X4' FLUORESCENT LIGHT FIXTURE.

1'x4' FLUORESCENT WALL/CEILING MOUNTED LIGHT FIXTURE.

SINGLE POLE LIGHT SWITCH

THREE-WAY LIGHT SWITCHES

 $S_{\rm D}$  dimmer switch minimum 1000w or as required per circuit

DUPLEX RECEPTACLE, 120V,18" AFF.

DUPLEX RECEPTACLE WITH GROUND FAULT INTERRUPTER 8" ABOVE COUNTER TO Q

120V DOUBLE DUPLEX CONVENIENCE RECEPTACLE

DUPLEX RECEPTACLE ABOVE COUNTER, 8" ABOVE COUNTER TO Q.

TELEPHONE JACK COMPLETE W/JACK AND COVER, ('W' WALL MOUNTED @ 4'-0" A.F.F)

TELE/DATA OUTLETS, COMPLETE W/JACK AND COVER, HEIGHT AT 182" TO C AFF.

CABLE TV OUTLET, COMPLETE W/JACK AND COVER, HEIGHT AT 18" TO G AFF.

// MOTOR

FUSED DISCONNECT SWITCH, (3R RAIN-PROOF).

STARTER

SYSTEM TYPE SMOKE DETECTOR

S DUCT SMOKE DETECTOR W/REMOTE TEST SWITCH

HEAT DETECTOR

FIRE ALARM PULL AND A/V DEVICE

F FIRE ALARM PULL STATION CENTERLINE 4'-0" AFF

FIRE ALARM AUDIO/VISUAL UNIT. MTD. @ 6'-8" AFF

FIRE ALARM LIGHT. MTD. @ 6'-8" AFF

TYPICAL WIRING, DIAGONAL LINES INDICATES QUANTITY OF CONDUCTORS.

HOMERUN TO PANEL WITH CONDUCTOR.(HOT, NEUTRAL, GROUND)

) JUNCTION BOX

LIGHTING & POWER PANEL, RECESSED

FACP FIRE ALARM CONTROL PANEL

TS TAMPER SWITCH

TAMPER SWITCH
FLOW SWITCH

RACEWAY CONCEALED IN CEILING, PLENUM OR WALLS

RACEWAY CONCEALED IN SLAB (FLOOR)

UNIVERSAL MOUNTING EXIT SIGN (DOUBLE FACED), ARROWS AS INDICATED.

EMERGENCY LIGHT WITH BUILT-IN BATTERY.

OCCUPANCY SENSOR

MS

## ELECTRICAL SPECIFICATIONS

### 1.1 General

- A. The General Conditions and Drawings issued for this Project shall be considered
- as part of the Electrical Specifications.

  B. The term "This Contractor" as used under this
- B. The term "This Contractor" as used under this Section and wherever used on the Drawings shall mean the Electrical Contractor.

#### 1.2 Scope of Work

A. The work under this Specification includes the furnishing of all labor and material as specified herein and as shown on the Drawings necessary to install a complete and ready for operation. Manufacturer's catalogue numbers are shown for reference purposes only. They are meant to provide a general description of the design and quality of materials required. Equivalent products by other manufacturers will be considered.

#### 1.3 Codes and Specifications

- A. The work shall be conducted in accordance with the latest rules and regulations of the State of MASSACHUSETTS and the local codes as most recently issued, OSHA codes, National Electrical Codes and NFPA.
- B. All exposed wiring shall be in electric metallic tubing. All concealed wiring shall be in accordance with local codes.
- C. All branch circuit conductors shall be copper, minimum #12 AWG size THHN or THWH as required, 600V rated.
- D. All feeder conductors shall be copper, AWG size as noted XHHW insulation, 600V.

#### 1.4 Coordination of Work

- A. The Contractor shall schedule and coordinate his work with all trades involved to insure proper installation and operation.
- B. The Contract Drawings are diagrammatic only and indicate the extent, general locations and arrangement of the piping and wiring of equipment. The exact locations shall be coordinated with Architectural Drawings and Documents of other trades.
- C. This Contractor shall verify fixture mounting and location against plans, elevations and detail drawings. Exact location of all fixtures shall be confirmed with owner's representative prior to rough—in.
- D. Submit Shop Drawings and product data within thirty (30) days after award of the Contract. Check, stamp and mark with project name submittals before
- transmitting to Architect. Indicate deviations from Contract Documents.

  E. This Contractor shall give notices, file plans, obtain permits and licenses, pay fees and back charges, and obtain the necessary approvals from authorities
- that have jurisdiction.

  F. Material and equipment shall be UL, ASME and AGA approved for intended service.

  G. Guarantee work in writing for one year from date of final acceptance. Report
- or replace defective materials or installation at no cost to Owner. Correct damage caused in making necessary repairs and replacements under guard at no cost to the Owner.
- H. Submit guarantee to Architect before final payment.



A R C H I T E C T

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NO.	BY	DESCRIPTION	DATE

PROJECT

SHANGHAI CORP

**FACTORY ADDITION** 

ROXBURY, MA

25 HOWARD ST.

PROJECT NO. 21217
SHEET TITLE

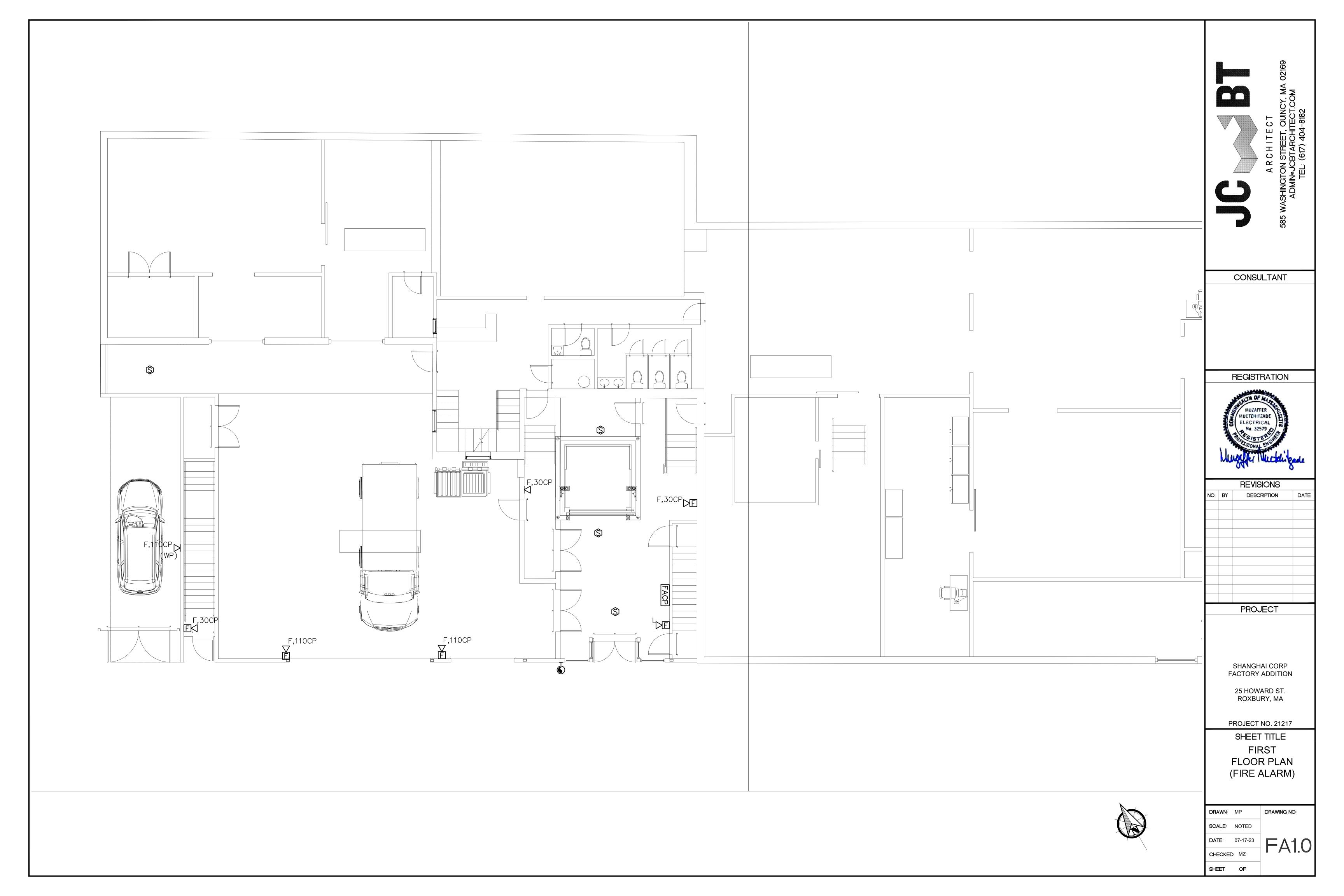
ELECTRICAL DETAILS

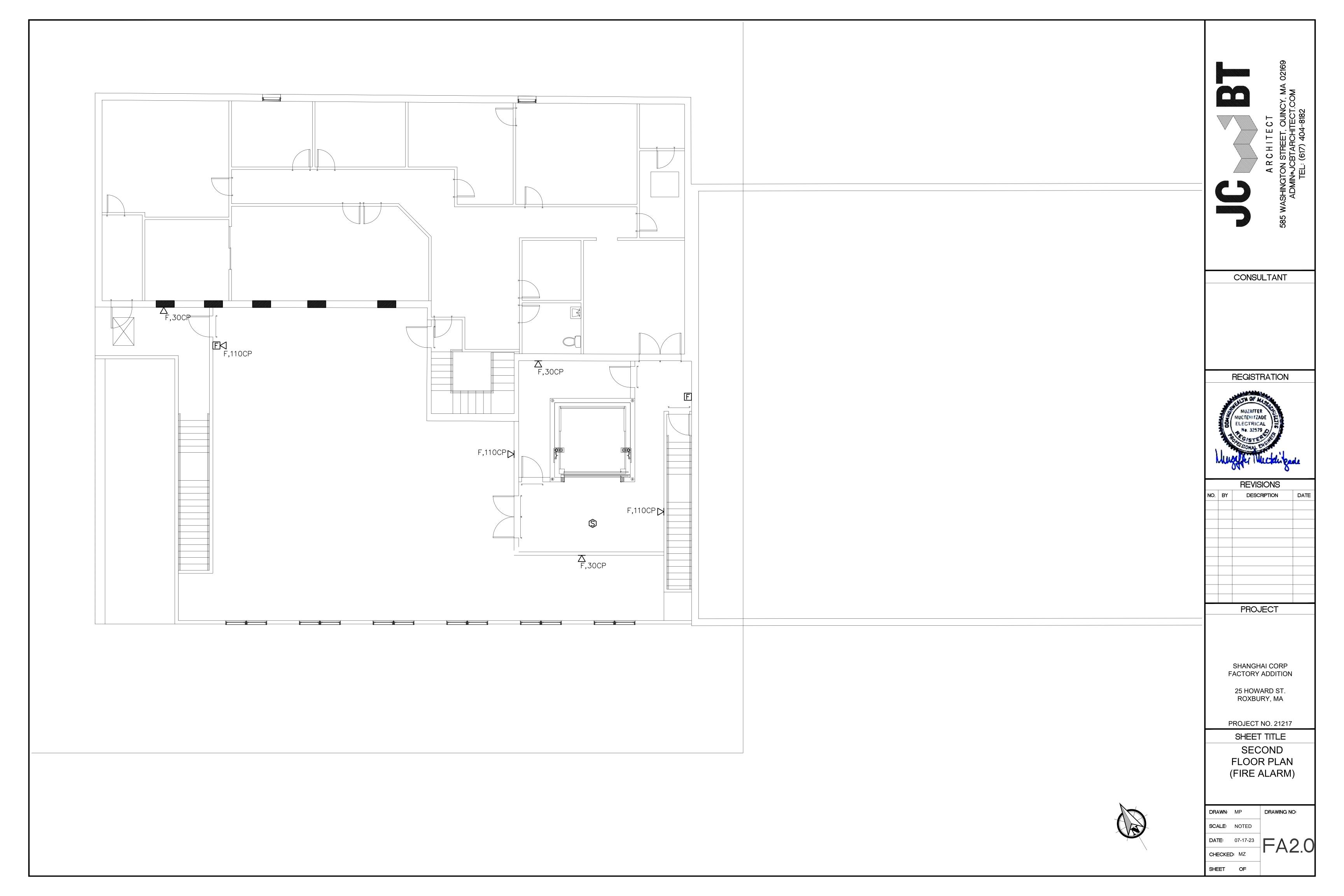
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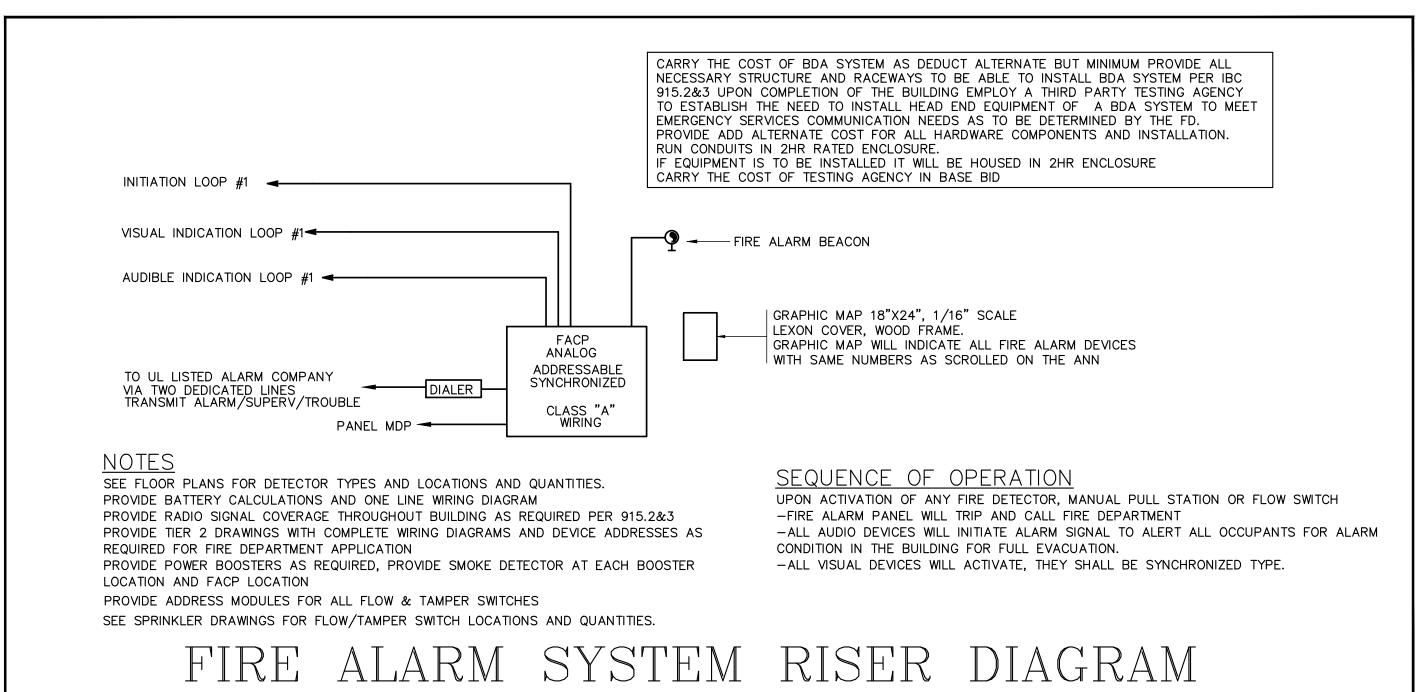
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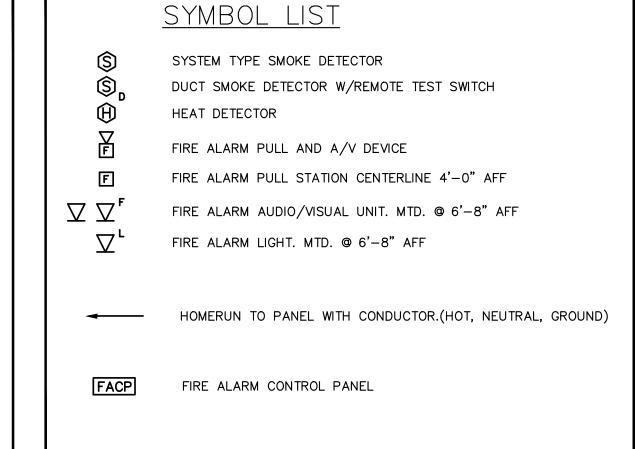
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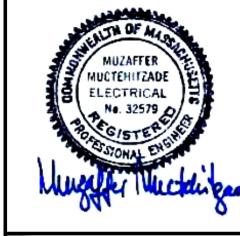




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SHANGHAI CORP FACTORY ADDITION

25 HOWARD ST. ROXBURY, MA

PROJECT NO. 21217

SHEET TITLE

FIRE ALARM **DETAILS** 

DRAWING NO:

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SHEET OF