#### STRUCTURAL NOTES

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#### **GOVERNING CODE**

2024 OHIO BUILDING CODE (REFERENCES IBC 2021 & ASCE-7 16)

ESIGN LOADS			
FLOOR LOAD (SIDEWALK REPLACEMENT). A. SLAB AND DECK (ALLOWANCE NOT MADE FOR FRAMING DEFLECTION)	100	PSF	
B. CONCRETE TOPPING SLAB (5" MAX THICKNESS)	65	PSF	
C. STEEL FRAMING	5	PSF	
D. CEILING	2	PSF	
E. SPRINKLERS	3	PSF	
F. DUCTS, LIGHTS, MISC. MECHANICAL	_5_	PSF	
TOTAL LOAD ON FLOOR FRAMING	180	PSF	
G. SIDEWALK UNIFORM LIVE LOAD	250	PSF	
H. SIDEWALK CONCENTRATED LIVE LOAD	8000	LBS	

- 2. WIND LOAD AND SEISMIC LOAD (PER ASCE 7)
- A. WIND AND SEISMIC FORCES WERE NOT CONSIDERED IN THE ORIGINAL DESIGN OF THIS HISTORIC STRUCTURE. THE SCOPE OF RENOVATION TO THE STRUCTURE WILL NOT AFFECT EITHER THE APPLIED LOADS TO THE EXISTING STRUCUTRE OR THE CAPACITY OF THE LATERAL FORCE RESISTING SYSTEM.

#### CONSTRUCTION AND SAFETY

- 1. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. SHOULD ANY DISCREPANCY BE FOUND, CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER IMMEDIATELY OF THE CONDITION.
- 2. CONTRACTOR SHALL BRACE ENTIRE STRUCTURE AS REQUIRED DURING DEMOLITION AND CONSTRUCTION TO MAINTAIN STABILITY UNTIL THE STRUCTURE IS COMPLETE AND FUNCTIONING AS THE DESIGNED UNIT.
- ENGINEER SHALL NOT BE RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OF CONSTRUCTION SELECTED BY CONTRACTOR.
- 4. THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND IS NOT LIMITED TO NORMAL WORKING HOURS. WHEN ON SITE, THE ENGINEER IS RESPONSIBLE FOR HIS/HER OWN SAFETY BUT HAS NO RESPONSIBILITY FOR THE SAFETY OF OTHER PERSONNEL OR SAFETY CONDITIONS AT THE SITE.

#### **CONCRETE**

- 1. CONCRETE WORK AND TESTING, AS PERFORMED BY "QUALIFIED FIELD TESTING TECHNICIANS" AND "QUALIFIED LABORATORY TECHNICIANS", SHALL CONFORM TO ALL REQUIREMENTS OF ACI 301-16, "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS", EXCEPT AS MODIFIED BY THE SUPPLEMENTAL REQUIREMENTS BELOW. REPORTS FROM TESTS REQUIRED BY SECTION 1.6 OF ACI 301-16 SHALL BE SUBMITTED TO STRUCTURAL ENGINEER, ARCHITECT, OWNER, CONTRACTOR, CONCRETE SUPPLIER, AND BUILDING OFFICIAL.
- 2. CONCRETE WORK IN COLD WEATHER SHALL CONFORM TO ALL REQUIREMENTS OF ACI 306.1-90 "STANDARD SPECIFICATION FOR COLD WEATHER CONCRETING" AND ACI 306R-16 "GUIDE TO COLD WEATHER CONCRETING".
- 3. CONCRETE WORK IN HOT WEATHER SHALL CONFORM TO ALL REQUIREMENTS OF ACI 305.1-14 'SPECIFICATION FOR HOT WEATHER CONCRETING" AND ACI 305R-10 "GUIDE TO HOT WEATHER CONCRETING". THE AIR TEMPERATURE, RELATIVE HUMIDITY, CONCRETE TEMPERATURE, AND WIND SPEED SHALL BE ENTERED INTO NOMOGRAPH FIGURE 4.2 IN ACI 305R-10 TO DETERMINE IF PRECAUTIONS AGAINST PLASTIC SHRINKAGE ARE REQUIRED.
- 4. CONCRETE MIX DESIGNS SHALL BE SUBMITTED FOR EACH TYPE OF CONCRETE TO THE STRUCTURAL ENGINEER FOR APPROVAL IN ACCORDANCE WITH ACI 301-16 SECTION 4.2.3.4 FIELD TEST DATA OR TRIAL MIXTURES. SUBMITTAL DATA MUST INCLUDE FIELD TEST DATA FROM AT LEAST 10 TESTS OR A THREE POINT CURVE GENERATED USING TRIAL MIXTURES.
- 5. SUBMIT SHOP DRAWINGS FOR REINFORCING STEEL.
- 6. MATERIALS: (fc BASED ON 28 DAY UNLESS NOTED)
- A. CONCRETE FOR FLOOR SLABS ON METAL DECK: fc = 4000 PSI AT 28 DAYS, 1800 PSI AT 3 DAYS, NORMAL WEIGHT AGGREGATE. MINIMUM CEMENTITIOUS-MATERIALS CONTENT PER ACI 301-16 TABLE 4.2.2.1, PLASTICIZING OR WATER REDUCING ADMIXTURE REQUIRED, MAXIMUM WATER/CEMENTITIOUS RATIO = 0.50. MINIMUM CEMENTITIOUS-MATERIALS CONTENT REQUIREMENT PER TABLE 4.2.2.1 MAY BE WAIVED IF A HISTORY OF FINISHING QUALITY. APPEARANCE, DURABILITY, AND SURFACE HARDNESS IS SUBMITTED OR IF A TEST SLAB OF AT LEAST 8 FEET X 8 FEET IS PLACED AT THE JOB SITE USING JOB MATERIALS, EQUIPMENT, AND PERSONNEL AND EVALUATION RESULTS SUBMITTED.
- B. REINFORCING STEEL:
- DEFORMED BARS: ASTM A615, ASTM A706, OR ASTM A996 (A996 BARS FROM RAIL STEEL SHALL BE TYPE R), 60 KSI YIELD. ii. ASTM A706 DEFORMED BARS REQUIRED FOR ALL WELDED REINFORCING BARS.
- iii. WELDED WIRE REINFORCEMENT: ASTM A1064, FLAT SHEETS ONLY.
- C. FLY ASH: ASTM C618, TYPE F OR C. WHEN USED, FLY ASH-TO-TOTAL CEMENTITIOUS RATIO SHALL BE 15% MINIMUM. WHEN USED IN INTERIOR SLABS, FLY ASH-TO-TOTAL CEMENTITIOUS RATIO SHALL BE 25% MAXIMUM.
- D. GROUND GRANULATED BLAST FURNACE SLAG: ASTM C989. TOTAL GROUND GRANULATED BLAST FURNACE SLAG -TO- TOTAL CEMENTITIOUS RATIO SHALL NOT EXCEED 50% MAXIMUM.
- E. FLY ASH, NATURAL POZZOLANS, SILICA FUME, OR GROUND GRANULATED BLAST FURNACE SLAG: WHEN EXPOSED TO DEICING CHEMICALS, LIMIT THE MAXIMUM WEIGHT TO THE PERCENTAGES OF THE TOTAL WEIGHT OF CEMENTITIOUS MATERIALS GIVEN IN TABLE 4.2.1.1.b OF ACI 301-16.
- F. PLASTICIZING ADMIXTURE: ASTM C1017.
- G. WATER REDUCING ADMIXTURE: ASTM C494.
- H. CHLORIDE CONTENT OF CONCRETE: LIMIT TOTAL CHLORIDE ION CONTENT TO AMOUNT INDICATED IN TABLE 4.2.2.7.d OF ACI 301-16 (EXPOSURE CLASS C0 UNLESS NOTED OTHERWISE). ADMIXTURES CONTAINING CHLORIDE ARE NOT PERMITTED IN REINFORCED CONCRETE OR CONCRETE CONTAINING METALS.
- 7. IF CONCRETE ARRIVES AT THE POINT OF DELIVERY WITH A SLUMP BELOW THAT WHICH WILL RESULT IN THE SPECIFIED SLUMP AT THE POINT OF PLACEMENT AND IS UNSUITABLE FOR PLACING AT THAT SLUMP, THE SLUMP MAY BE ADJUSTED ONCE ONLY TO THE REQUIRED VALUE BY ADDING WATER UP TO THE AMOUNT ALLOWED IN THE ACCEPTED MIXTURE PROPORTIONS. ADDITION OF WATER SHALL BE IN ACCORDANCE WITH ASTM C94. DO NOT EXCEED THE SPECIFIED WATER-CEMENTITIOUS MATERIAL RATIO OR SLUMP IN THE APPROVED MIX DESIGN. DO NOT ADD WATER TO CONCRETE DELIVERED IN EQUIPMENT NOT ACCEPTABLE FOR MIXING. AFTER PLASTICIZING OR WATER REDUCING ADMIXTURES ARE ADDED TO THE CONCRETE AT THE SITE TO ACHIEVE FLOWABLE CONCRETE, DO NOT ADD WATER TO THE CONCRETE. MEASURE SLUMP (AND AIR CONTENT OF AIR ENTRAINED CONCRETE), AFTER SLUMP ADJUSTMENT, TO VERIFY COMPLIANCE WITH SPECIFIED REQUIREMENTS.
- 8. SLUMP SHALL BE MEASURED PRIOR TO THE ADDITION OF ADMIXTURES AND AFTER THE ADDITION OF ADMIXTURES.

- 9. REINFORCING BARS SHALL HAVE CLEAR COVER AS INDICATED ON THE DRAWINGS. WHERE NOT INDICATED, PROVIDE MINIMUM CLEAR COVER PER ACI-318.
- 10. LAP SPLICE REINFORCING BARS AS FOLLOWS UNLESS NOTED OTHERWISE
- A. HORIZONTAL BARS #6 AND SMALLER WITH MORE THAN 12" OF CONCRETE BELOW 64 BAR DIAMETERS
- B. HORIZONTAL BARS #6 AND SMALLER WITH LESS THAN 12" OF CONCRETE BELOW, AND ALL OTHER BARS - 50 BAR DIAMETERS
- C. HORIZONTAL BARS #7 AND LARGER WITH MORE THAN 12" OF CONCRETE BELOW 80 BAR DIAMETERS
- OTHER BARS 62 BAR DIAMETERS
- 11. ROUGHENED SURFACES, WHERE INDICATED, SHALL EITHER BE: A. ROUGHENED TO A FULL AMPLITUDE OF APPROXIMATELY 1/4" AND BE CLEAN AND FREE OF LAITANCE .:
- B. FORMED BY EXPANDED METAL LEAVE-IN-PLACE MESH. SUBMIT PRODUCT INFORMATION FOR APPROVAL.
- 12. REINFORCING BARS SHALL BE FREE OF DIRT AND FORM RELEASE AGENTS.
- 13. THE ELEVATED CONCRETE SLAB ON METAL DECK SHALL BE PLACED IN A MANNER TO ACHIEVE A UNIFORM SLAB THICKNESS. THE STEEL FLOOR FRAMING HAS NOT BEEN DESIGNED TO SUPPORT THE WEIGHT OF ANY ADDITIONAL CONCRETE DUE TO JOIST AND GIRDER DEFLECTION.
- 14. MACHINE TROWEL FINISH FLOOR SLAB AND CURE USING "CURE AND SEAL" TYPE CURING COMPOUND MEETING ASTM C1315, VOC COMPLIANT, 25% MINIMUM SOLIDS CONTENT. FOR APPLICATIONS EXPOSED TO SUNLIGHT USE LIGHT BROOM FINISH AND ACRYLIC BASED CURING COMPOUND.
- 15. FLOOR SLAB-ON-GRADE SHALL CONFORM TO THE FOLLOWING SURFACE PROFILE TOLERANCES PER ASTM E-1155 AND ACI 117-10:
- A. Ff (FLATNESS) FI (LEVELNESS) SPECIFIED OVERALL VALUE 25 MINIMUM LOCAL VALUE 18
- 16. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR WATERPROOFING AND INSULATION **REQUIREMENTS.**
- 17. AT SLAB AND WALL OPENING CORNERS AND REENTRANT CORNERS, PROVIDE (1) #5 BAR IN EACH FACE PARALLEL TO EACH EDGE EXTENDING A MINIMUM OF 2'-0" PAST EDGE OF OPENING. THIS STEEL MAY BE OMITTED IF TYPICAL WALL STEEL EXCEEDS THIS MINIMUM REQUIREMENT.
- 18. SEE PLAN AND METAL DECK SCHEDULE FOR SLAB SUPPORTED ON METAL DECK REINFORCEMENT.
- 19. WHERE BRITTLE FLOOR FINISHES ARE TO BE APPLIED TO FLOOR SLABS, COORDINATE CONTRACTION JOINT LOCATIONS WITH FLOOR FINISH JOINT LOCATIONS AND ARCHITECT.
- 20. CONDUITS AND PIPES OF ALUMINUM SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE UNLESS EFFECTIVELY COATED TO PREVENT ALUMINUM-CONCRETE REACTION OR ELECTROLYTIC ACTION BETWEEN ALUMINUM AND STEEL.
- **POST INSTALLED ANCHORS**
- 1. INSTALLATION: INSTALL ANCHORS PER EVALUATION REPORT AND MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII).
- 2. CONNECTIONS TO EXISTING REINFORCED CONCRETE OR MASONRY: PRIOR TO DRILLING, VERIFY LOCATIONS OF EXISTING REINFORCING BARS USING A REBAR DETECTOR. NOTIFY ENGINEER PRIOR TO INSTALLATION IF ANCHOR LOCATIONS CONFLICT WITH EXISTING REINFORCING BARS. DO NOT DRILL THROUGH REINFORCING BARS.
- 3. TESTING AND INSPECTION: REFER TO EVALUATION REPORTS FOR ADDITIONAL TESTING AND INSPECTION REQUIREMENTS.
- 4. SUBSTITUTIONS: SUBSTITUTIONS COMPLYING WITH SPECIFIED ACCEPTANCE CRITERIA MAY BE CONSIDERED. SUBMIT EVALUATION REPORT DEMONSTRATING COMPLIANCE WITH GOVERNING CODE AND SPECIFIED ACCEPTANCE CRITERIA PRIOR TO INSTALLATION.
- 5. ADHESIVE ANCHORS:
- A. ANCHOR RODS: ASTM F1554, GRADE 36, HOT-DIPPED GALVANIZED, UNLESS NOTED OTHERWISE. SIZE AND EMBEDMENT AS INDICATED ON DRAWINGS.
- B. ADHESIVE IN CONCRETE: HILTI "HIT-RE 500 V3" EPOXY (EVALUATION REPORT: ICC-ES ESR-3814) OR HILTI "HIT-HY 200-A" HYBRID ADHESIVE (EVALUATION REPORT: ICC-ES ESR-3187). SUBSTITUTES COMPLYING WITH ACCEPTANCE CRITERIA ICC-ES AC308 AND ACI 355.4 FOR USE IN CRACKED CONCRETE MAY BE CONSIDERED.
- ADHESIVE IN GROUT FILLED CONCRETE MASONRY: HILTI "HIT-HY 270" ADHESIVE ANCHOR SYSTEM (EVALUATION REPORT: ICC-ES ESR-4143). SUBSTITUTES COMPLYING WITH ACCEPTANCE CRITERIA ICC-ES AC58 FOR USE IN GROUT FILLED CONCRETE MASONRY WALLS MAY BE CONSIDERED.
- D. ADHESIVE IN UNREINFORCED MASONRY (MULTI-WYTHE SOLID BRICK WALLS): HILTI "HIT-HY 270" ADHESIVE ANCHOR SYSTEM (EVALUATION REPORT: ICC-ES ESR-4144. INSTALL WITH SCREEN TUBE(S) AS REQUIRED IN EVALUATION REPORT. SUBSTITUTES COMPLYING WITH ACCEPTANCE CRITERIA ICC-ES AC60 FOR USE IN UNREINFORCED MASONRY ELEMENTS MAY BE CONSIDERED.
- E. VERIFY THAT THE SHELF LIFE OF THE ADHESIVE HAS NOT BEEN EXCEEDED ON THE DATE OF INSTALLATION.

# STRUCTURAL STEEL

1. MATERIALS (UNLESS NOTED OTHERWISE)

- A. W-SHAPES: ASTM A992, Fy = 50 KSI
- B. PLATES AND ROLLED SHAPES OTHER THAN W-SHAPES: ASTM A36, Fy = 36 KSI
- C. BOLTS: ASTM F3125, GRADE A325-N, 3/4" DIAMETER (UNLESS NOTED OTHERWISE)
- D. ANCHOR RODS: ASTM F1554, GRADE 36
- E. FIELD WELDS: AWS E70XX, LOW HYDROGEN ELECTRODES
- F. NON-SHRINK NON-METALLIC GROUT: CRD-C-621 AND ASTM C1107 FOR INTERIOR AND EXTERIOR APPLICATIONS, FLUID TYPE. LIMIT GYPSUM CONTENT TO 1.5% MAXIMUM AT EXTERIOR APPLICATIONS.
- 2. ALL DETAILING, FABRICATION, AND ERECTION SHALL CONFORM TO AISC SPECIFICATIONS FOR "DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", AND THE AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES", LATEST EDITION
- FABRICATOR QUALIFICATIONS: STRUCTURAL STEEL FABRICATOR SHALL PARTICIPATE IN THE AISC QUALITY CERTIFICATION PROGRAM, AND SHALL BE DESIGNATED AS AN AISC-CERTIFIED PLANT, CATEGORY STD.
- 4. SUBMITTALS
- A. STRUCTURAL STEEL SHOP DRAWINGS
- 5. CONNECTIONS:
- A. BOLTED CONNECTIONS ARE TO BE INSTALLED SNUG TIGHT UNLESS OTHERWISE NOTED. PRETENSIONED BOLTS SHALL USE DIRECT-TENSION INDICATING WASHERS (ASTM F959) OR TENSION-CONTROL, HIGH-STRENGTH BOLT-NUT-WASHER ASSEMBLIES (ASTM F 1852).

- D. HORIZONTAL BARS #7 AND LARGER WITH LESS THAN 12" OF CONCRETE BELOW, AND ALL

## 20 13

- B. FIELD CONNECTIONS SHALL BE BOLTED EXCEPT WHERE WELDED CONNECTIONS ARE INDICATED ON THE STRUCTURAL DRAWINGS.
- C. WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWS D1.1:2010)
- 6. PAINT AND PROTECTION:
  - A. NEW STRUCTURAL STEEL MEMBERS SUPPORTING SIDEWALK: HOT DIP GALVANIZE PER ASTM A123 AFTER FABRICATION. COATING WEIGHT PER PARAGRAPH 5.1 OF ASTM A123 AND A153. FABRICATE ASSEMBLIES PER ASTM A143, A384, AND A385. AFTER ERECTION, REPAIR DAMAGED AREAS AND WELDS MADE AFTER GALVANIZING IN ACCORDANCE WITH ASTM A780 WITH ORGANIC ZINC RICH PAINT COMPLYING WITH DOD-P-21035 OR MIL-P-26915, MULTIPLE COATS TO DRY FILM THICKNESS OF 4 MILS. FILL EXPOSED VENT AND DRAIN HOLES, NOT INDICATED AS WEEP HOLES, BY PLUGGING WITH ZINC SOLDER AND FILING OFF SMOOTH.
  - B. CLEANING AND PAINTING EXISTING STEEL SURFACES SUPPORTING SIDEWALK: PREPARE SURFACES PER SSPC-SP6 "COMMERCIAL BLAST CLEANING". PAINT WITH ZINC RICH URETHANE PRIMER WITH NOT LESS THAN 80% ZINC IN DRIED FILM (TNEMEC SERIES 94-H20) WITH A DRY FILM THICKNESS OF 2.5 TO 3.5 MILS. FINISH PAINT WITH 2 COATS OF ALIPHATIC ACRYLIC POLYURETHANE (TNEMEC SERIES 1095). SUBSTITUTES MAY BE CONSIDERED. SUBMIT MANUFACTURER'S DATA PRIOR TO SURFACE PREPARATION.

## STEEL DECKING (05-31-00)

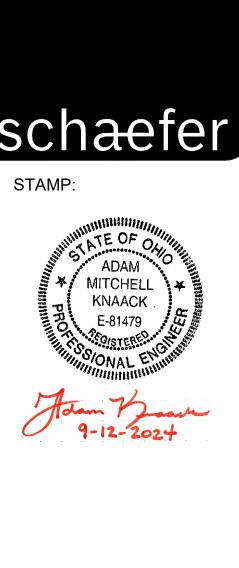
- 1. THE DESIGN, FABRICATION, AND ERECTION OF ALL STEEL DECK SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF THE SPECIFICATIONS OF THE STEEL DECK INSTITUTE.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW BY ENGINEER. FABRICATION SHALL NOT BEGIN PRIOR TO SHOP DRAWING APPROVAL BY ENGINEER.
- 3. MATERIALS:
  - DECK FOR CONCRETE FORM: SEE PLAN AND METAL DECK SCHEDULE FOR SIZE, GAGE, MIN Fy, AND REQUIRED SUPPORT FASTENERS AND SIDELAP FASTENERS. GALVANIZED COATING CONFORMING TO ASTM A653 G90.
  - B. SELF DRILLING SCREWS (SDS): HEX WASHER HEAD SELF-DRILLING TAPPING SCREWS (ASTM C1513) MANUFACTURED FROM CARBON STEEL (ASTM A510, MIN GRADE 1018). ZINC PLATING SHALL MEET MINIMUM CORROSION RESISTANCE REQUIREMENTS OF ASTM F1941.
- 4. METAL DECK SHALL BE PROVIDED TO RUN CONTINUOUS OVER AT LEAST 3 SPANS EXCEPT AS NOTED OTHERWISE.
- 5. CONNECT METAL DECK TO STRUCTURAL MEMBERS, INCLUDING PERIMETER ANGLES.
- MINIMUM METAL DECK END BEARING ON SUPPORTS = 1 1/2".
- 7. LAP ENDS OF ROOF DECK AND CONCRETE FORM DECK 4" MINIMUM. BUTT ENDS OF COMPOSITE FLOOR DECK.
- 8. WELDING OF METAL DECK SHALL BE IN ACCORDANCE WITH AWS D1.3-08.

# SPECIAL INSPECTIONS

- SPECIAL INSPECTIONS ARE REQUIRED BY SECTION 1704 OF THE REFERENCED BUILDING CODE. THE INTENT OF SPECIAL INSPECTIONS IS TO VERIFY THE COMPLIANCE OF MATERIALS, INSTALLATION, FABRICATION, ERECTION AND/OR PLACEMENT OF COMPONENTS WITH THE COMPLETED SET OF CONSTRUCTION DOCUMENTS AND REFERENCED STANDARDS. IT IS THE RESPONSIBILITY OF ALL PARTIES INVOLVED TO BECOME FAMILIAR WITH THE SPECIAL INSPECTION REQUIREMENTS SET FORTH IN CHAPTER 17 OF THE REFERENCED BUILDING CODE. SPECIAL INSPECTIONS SHALL BE PROVIDED BY THE OWNER OR THE OWNER'S AGENT AND SHALL NOT BE CONSIDERED IN THE SCOPE OF WORK OF THE CONTRACTOR.
- A. THE FOLLOWING SCHEDULE OF SPECIAL INSPECTIONS FOR STRUCTURAL WORK (SEE SHEET S002) HAS BEEN PREPARED IN ACCORDANCE WITH SECTIONS 106.1 AND 1704 OF THE REFERENCED BUILDING CODE. SEE OTHERS FOR SPECIAL INSPECTION REQUIREMENTS FOR NON-STRUCTURAL WORK. THE SPECIAL INSPECTOR(S) SHALL COORDINATE WITH THE OWNER CONTRACTORS, AND DESIGN PROFESSIONALS AND SCHEDULE ALL INSPECTIONS ACCORDINGLY.

ABBREVIA	TIONS
ARCH =	ARCHITECT
B/ =	BOTTOM OF
BLDG =	BUILDING
BOT =	BOTTOM
BRG =	BEARING
CFS =	COLD-FORMED STEEL
CJ =	CONTRACTION JOINT
CJP =	COMPLETE JOINT PENETRATION
CL =	CENTER LINE
CLR =	CLEAR
CLSM =	CONTROLLED LOW STRENGTH MATERIAL
	CONCRETE MASONRY UNIT
	COLUMN
	CONCRETE
	CONTINUOUS
DEG or ° =	
	DIAMETER
EA = EF =	EACH EACH FACE
EL =	ELEVATION
	EMBEDMENT
ENID – EQ =	
EXIST =	
	EXPANSION
	FOUNDATION
	FAR SIDE
FTG =	
GA =	GAGE
GALV =	GALVANIZED
GT =	GIRDER TRUSS
HORIZ =	HORIZONTAL
JST BRG =	JOIST BEARING
Ld =	TENSION DEVELOPMENT LENGTH OF
	REINFORCING BAR IN CONCRETE
Ld-CMU =	TENSION DEVELOPMENT LENGTH OF REINFORCING BAR IN GROUTED CMU
Ldc =	COMPRESSION DEVELOPMENT LENGTH OF
	REINFORCING BAR IN CONCRETE
LDH =	LONG DIMENSION HORIZONTAL
Ldh =	HOOKED BAR TENSION DEVELOPMENT
	LENGTH OF REINFORCING BAR IN CONCRETE
LDV =	LONG DIMENSION VERTICAL
LLH =	
LLV =	LONG LEG VERTICAL
Ls =	LAP SPLICE LENGTH OF REINFORCING BAR IN CONCRETE
Ls-CMU =	LAP SPLICE LENGTH OF REINFORCING BAR IN
-	GROUTED CMU
Lsc =	COMPRESSION LAP SPLICE LENGTH OF
	REINFORCING BAR IN CONCRETE
LSL =	
LVL =	
MCJ = MED -	MASONRY CONTROL JOINT
MFR =	
NS =	NEAR SIDE
oc = OPNG =	ON CENTER OPENING
OPNG = P/T =	POST-TENSION
P/1 – PE =	PRE-ENGINEERED
PEMB =	PRE-ENGINEERED METAL BUILDING
PJP =	PARTIAL JOINT PENETRATION
PL =	PLATE
PSL =	PARALLEL STRAND LUMBER
PT =	PRESSURE TREATED
 RD =	ROOF DRAIN
REINF =	REINFORCING
RTU =	ROOF TOP UNIT
SDS =	SELF DRILLING SCREWS
SIM =	SIMILAR
SL =	STEP LEDGE
SPA =	SPACE or SPACES
SRD =	SECONDARY ROOF DRAIN
STIFF =	STIFFENER
STL =	STEEL
STW =	STEP TOP OF WALL
T/ =	
UNO =	
VB = VERT =	VERTICAL BRACING VERTICAL
	VERIFY IN FIELD
w/ =	WITH
WP =	WORK POINT
	·
	LEGEND

	LEGEND	
SYMBOL	DESCRIPTION	REFERENCE
n	COLUMN LINE DESIGNATION	N
	FACE OF BUILDING	
Kn	KEYNOTE MARK	
-	ELEVATION INDICATION	
Dn	- DECK MARK	SHEET S201



STRUCTURAL ENGINEERS

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5th ST & WALNUT ST STREETSCAPE
432 WALNUT STREET CINCINNATI, OH 45202
ENGINEER: AMK MODELER: BLC CHECKED BY: AMK
ISSUE/REVISION/SUBMISSION NO DATE DESCRIPTION
PROJECT NUMBER: <b>2418.91</b>
SHEET NAME:
GENERAL NOTES
DATE: <b>9/12/2024</b>
SHEET:

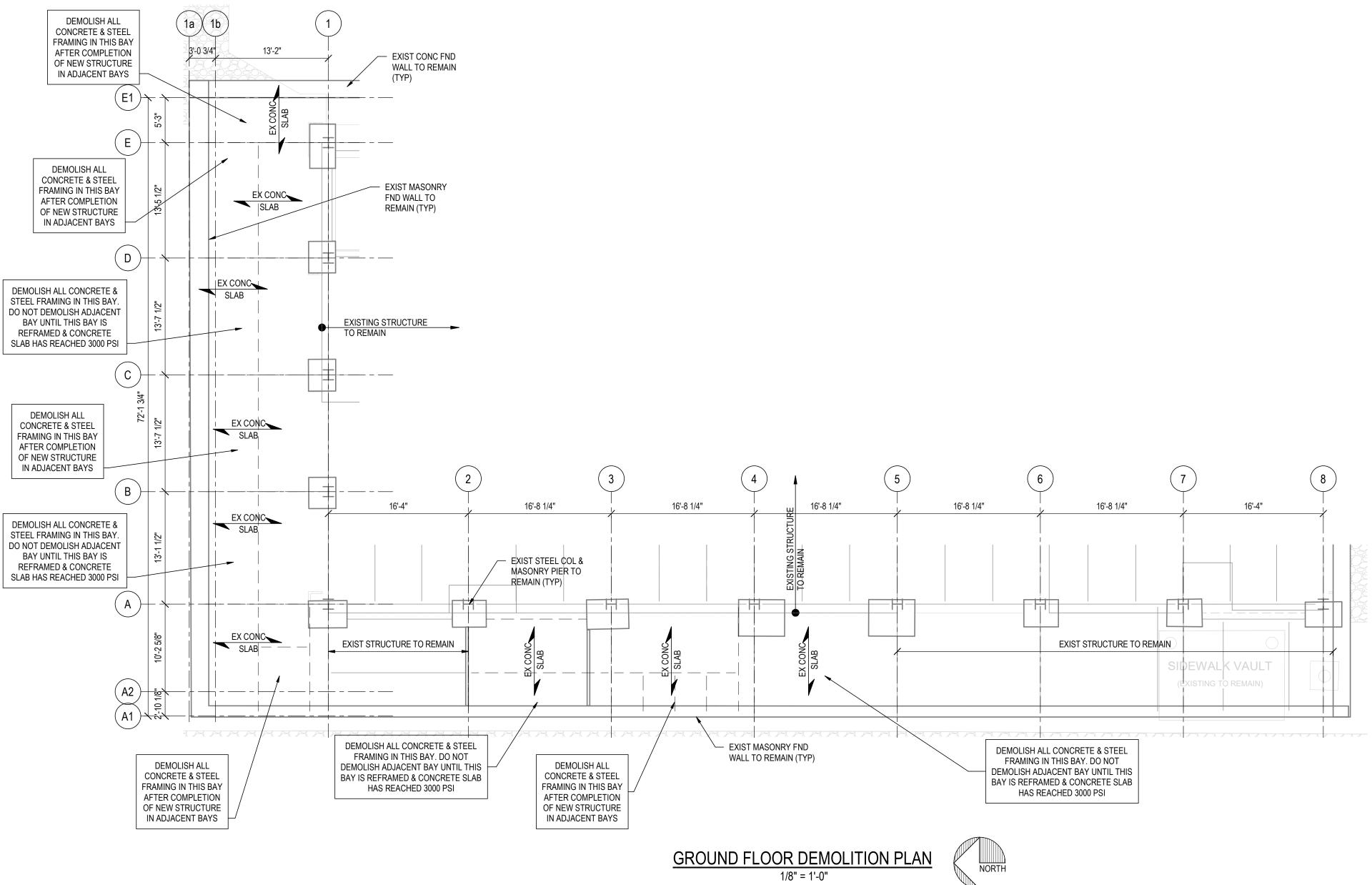
	SCHEDULE OF SPECIAL INSPECTION S					SCHEDULE OF SPECIAL INSPEC	CTION SE		- 1705.2	2.1 STRUCTUP	AL STEEL		SCHEDULE OF SPECIAL INSPECTION SERVIC	CES - 1705.2.2 COI D FORM		<
		ERVICES - 1705.3 CON Extent	Agency		Item	Sub Item / Scope	Observe	Extent	N1/A	<b>Agency</b> Qualifications	Comments	ltem	Sub Item / Scope	Extent	Agency	Comments
Item In-Plant Special Inspections (Precast		Cont. Periodic N/A	Qualifications	Comments Special inspections on the premises of the fabricator's shop are not required provided	In-Plant Special Inspections	Fabrication and implementation procedures: In addition to special inspections provided on site, provide special inspections indicated below on the	Observe	Perform	N/A		Special inspections on the premises of the fabricators shop are not required provided the fabricator is an <i>Approved Fabricator</i> in		<ul> <li>a. Verify compliance of materials (deck and all deck accessories)</li> <li>with construction documents, including profiles, material,</li> <li>perperties, and base metal thickness</li> </ul>	Observe Perform N/A	Qualifications Testing Agency	Comments
Concrete)	indicated below on the premises of fabricator's shop. Verify that the fabricator maintains detailed fabrication and quality control procedures.	X	As Noted Below	the fabricator is an <i>Approved Fabricator</i> in accordance with section 1704.2.5.1. Fabricator is required to submit documentation/certification that they are an <i>Approved Fabricator</i> .	1. Fabricator and	premises of fabricator's shop. Verify that the fabricator maintains detailed fabrication and quality control procedures.		`	Х		accordance with section 1704.2. Fabricator is required to submit documentation/certification that they are an <i>Approved Fabricator</i> .	2. Inspection Tasks Afte Deck Placement	<ul> <li>b. Document acceptance or rejection of deck and deck accessories</li> <li>a. Verify compliance of deck and all deck accessories installation with construction documents</li> </ul>	X X	Testing Agency	
1. Reinforcing steel	<ul> <li>a. Mild Reinforcing Steel: Inspect size, spacing, cover, positioning and grade of reinforcing steel: Verify that reinforcing bars are free of</li> </ul>				erector documents	chapter N, paragraph 3.2 for compliance with construction documents		Х		Schaefer Submittal Review			<ul> <li>b. Verify deck materials are represented by the mill certifications that comply with the construction documents</li> <li>c. Document acceptance or rejection of installation of deck and</li> </ul>	X		
	form oil or other deleterious materials. Inspect bar laps and mechanical splices. Verify that bars are adequately tied and supported on chairs or bolsters. Verify welded wire fabric is	x	Testing Agency		3. Embedments	Verify diameter, grade, type, length, embedment. See		X		Testing Agency Testing Agency		3. Inspection Prior to Welding	deck accessories a. Welding procedure specifications (WPS) available b. Manufacturer certifications for welding consumables available		Testing Agency	
	supported per construction documents. Reference ACI 318: 20, 25.2, 25.3, 26.6-1-26.6-3, and IBC 1908.4.				4. Verify compliance with construction	Table 1705.3 for anchorsVerify member locations, braces, stiffeners, andapplication of joint details at each connection comply		x		Testing Agency			c. Material Identification (type/grade) d. Check Welding Equipment	X X	AWS Certified Welding Inspector	
2. Welding of	<ul> <li>b. Prestress Steel: Inspect size, spacing, cover, and position of prestressing tendons:</li> <li>a. Verify weldability of reinforcing bars other than ASTM A706.</li> </ul>	X	Testing Agency		documents 5.4-1. Visual Welding Inspection - Inspection	with construction documents 1. Welding procedure specifications (WPS) available		X				4. Inspection Tasks During Welding	a. Use of qualified welders. b. Control and handling of welding consumables.	X X	<b>Testing Agency</b> AWS Certified Welding	
Reinforcing Steel	Reference ACI 318: 26.6.4 and AWS D1.4 b. Inspect single pass fillet welds, maximum 5/16"		Testing Agency Testing Agency AWS - Certified		Tasks Before Welding:	<ol> <li>Manufacturer certifications for welding consumables available.</li> <li>Material Identification:</li> </ol>	X	Х				5 loss at a Table Aft	c. Environmental conditions d. WPS followed	X X	Inspector	
	c. Inspect all other welds	x	Welding Inspector Testing Agency AWS - Certified Welding Inspector			<ul> <li>4. Fit up of Groove Welds (Including Joint Geometry): Inspection shall include Joint preparation, Dimensions (alignment, root opening, roof face, and bevel), Cleanliness (condition of steel surfaces), Tacking (tack</li> </ul>	×			Testing Agency AWS - Certified Welding Inspector		5. Inspection Tasks Afte	<ul> <li>a. Verify size and location of welds, including support, sidelap, and perimeter welds.</li> <li>b. Weld meets visual inspection criteria.</li> <li>c. Verify repair activities.</li> </ul>	X X X X	<b>Testing Agency</b> AWS Certified Welding Inspector	
3. Cast in Place Anchor Rods	Inspect size, position and embedment of cast in place bolts and anchor rods. Inspect concrete placement and consolidation around anchors. Reference ACI 318: 17.8.2	x	Testing Agency			weld quality and location), Backing type and fit (if applicable)						6. Inspection Tasks Price to Mechanical Fastening	<ul> <li>d. Document acceptance or rejection of welds</li> <li>a. Manufacturer installation instructions are available for mechanical fasteners.</li> </ul>	X X		
4. Post Installed Anchors (Anchors installed in Hardened Concrete)	<ul> <li>a. Adhesive anchors installed in horizontally or upwardly inclined</li> <li>orientations to resist sustained tension loads. Inspect type and size</li> <li>of anchor, concrete type and compressive strength, hole cleaning</li> <li>procedures, anchor embedment, anchor spacing and edge</li> </ul>	x	Testing Agency	Reference evaluation report (identified in project general notes) for additional inspection scope required by manufacturer.	5.4-2. Visual Welding	<ol> <li>Configuration and Finish of Access Holes:</li> <li>Fit-up of Fillet Welds</li> <li>Use of Qualified Welders:</li> </ol>	X X X					7. Inspection Tasks	<ul> <li>b. Proper tools are available for fastener installation</li> <li>c. Proper storage for mechanical fasteners</li> <li>a. Fasteners are positioned as required</li> </ul>	X X X	Testing Agency	
	distances, and tightening torque (where applicable). Reference ACI 318: 17.8.2.4 b. Mechanical anchors and adhesive anchors not defined in 4.a.				Inspection - Inspection Tasks During Welding:	<ol> <li>Control and Handling of Welding Consumables: Packaging and Exposure control)</li> <li>No welding over cracked tack welds.</li> </ol>	X					During Mechanical Fastening	b. Fasteners are installed in accordance with manufacturer's instructions	X	Testing Agency	
	Inspect type and size of anchor, concrete type and compressive strength, hole cleaning procedures, anchor embedment, anchor	x	Testing Agency			<ol> <li>Environmental Conditions: Wind speed within limits, and Precipitation and temperature.</li> </ol>	X X			Testing Agency		8. Inspection Tasks Afte Mechanical Fastening	<ul> <li>a. Check spacing, type, and installation of support fasteners</li> <li>b. Check spacing, type, and installation of sidelap fasteners</li> <li>c. Check spacing, type, and installation of perimeter fasteners</li> </ul>			
5. Mix Design	spacing and edge distances, and tightening torque (where applicable). Reference ACI 318: 17.8.2 Review concrete batch tickets and verify compliance with approved					WPS Followed: Observe Settings on welding equipment, Travel speed, Selected welding materials, Shielding gas type/flow rate, Preheat applied, Interpass	x			AWS - Certified Welding Inspector			d. Verify repair activities	X X	Testing Agency	
6. Sampling and	mix design. Verify that water added at site, if permitted by construction documents, does not exceed that allowed by mix design. At the time fresh concrete is sampled to fabricate specimens for	x	Testing Agency			temperature maintained (min and max), and Proper position (F,V,F,OH) Welding Techniques: Interpass and final cleaning, Each pass within profile limitations, Each pass meets quality	X						e. Document acceptance or rejection of mechanical fasteners			
	strength tests, perform slump and air content tests as required by construction documents, and determine the temperature of concrete. Reference ASTM C 172, ASTM C31, ACI 318 19, 26.4.3,	x	Testing Agency		5.4-3. Visual Welding Inspection - Inspection	requirements. 1. Welds Cleaned:	× X									
	26.4.4, and IBC 1904.1, 1904.2, 1908.2, 1908.3				Tasks After Welding	<ol> <li>Size, Length, and Location of Welds:</li> <li>Welds meet visual acceptance criteria: Crack prohibition, Weld/base-metal fusion, Crater cross</li> </ol>		X								
7. Concrete and Shotcrete Placemen	Inspect concrete and shotcrete placement for proper application t techniques. Reference ACI 318: 26.5 and IBC 1908.6, 1908.7, and 1908.8. Verify that concrete conveyance and depositing avoids segregation or contamination. Verify that concrete is properly	x	Testing Agency			section, Weld profiles, Weld size, Undercut, Porosity. 4. Arc strikes:		X X		<b>Testing Agency</b> AWS - Certified						
8. Curing and	Inspect for maintenance of specified curing temperature and					<ol> <li>k-area</li> <li>Backing Bar Removal and weld tabs removal (if</li> </ol>		X		Welding Inspector						
Protection	techniques. Inspect cold weather and hot weather protection procedures as applicable. Reference ACI 318: 26.5.3-26.5.5 and IBC 1908.9.	x	Testing Agency			required): 7. Repair Activities: 8. Document acceptance or rejection of welded joint or		X X								
	<ul> <li>a. Application of Prestressing Forces: Inspect placement, stressing, grouting and protection of post-tensioning tendons. Verify that tendons are correctly positioned, supported, tied and wrapped. Record tendon elongations. Reference ACI 318: 26.10.2</li> </ul>	x	Testing Agency		5.5 Non-destructive Testing of Welds	member <b>1. CJP Groove Welds:</b> Ultrasonic testing shall be performed on 100 percent of CJP groove welds subject					Perform NDT for both in field and shop welds.					
10. Duese to conserve	b. Grouting of Bonded Prestressing Tendons in the Seismic- Force Resisting System: Reference ACI 318: 26.10.1	X	Testing Agency			to transversely applied tension loading in butt, T- and corner joints, in materials 5/16 in thick or greater. Ultrasonic testing in materials less than 5/16 in thick is not required. Reduction of Rate of Ultrasonic Testing is		x								
Erection	<ul> <li>Inspect erection of precast concrete including member configuration, connections, welding and grouting. Reference ACI 318: Ch 26.9</li> <li>Verify concrete strength prior to the removal of shores and forms</li> </ul>	X	Testing Agency			permitted if the conditions of AISC 360-10 Appendix N.5.e are met. <b>2. Access Holes:</b> Thermally cut surfaces of access holes shall be tested using Magnetic Particle Testing or				<b>Testing Agency</b> AWS - Certified Welding Inspector	Perform NDT for both in field and shop welds.					
Situ Concrete Strength 12. Formwork	from beams and structural slabs and prior to the stressing of tendons in post-tensioned concrete. Reference ACI 318: 26.10.2 & 26.11.11.2 Inspect formwork for shape, location and dimensions of the	x	Testing Agency			Penetration Testing, when the flange thickness exceeds 2 inches for rolled shapes or when the web thickness exceeds 2 inches for built up shapes.		х		weiding inspector						
Geometry	concrete member being formed. Reference ACI 318: 26.11		Testing Agency			<b>3. Weld Joints Subjected to Fatigue:</b> Welded joints requiring weld soundness to be established by Radiographic or Ultrasonic Inspections. Reduction rate		х			Perform NDT for both in field and shop welds.					
					5.6-1. Inspection of Bolting: Inspection	is prohibited.  1. Manufacturer's certifications available for fastener materials.		Х		Testing Agency						
					Tasks Prior to Bolting	<ol> <li>2. Fasteners marked in accordance with ASTM requirements</li> <li>3. Proper fasteners selected for the joint detail (grade, trac, and hold leagth if threads are evolved from above</li> </ol>	X			Testing Agency						
						<ul><li>type, and bolt length if threads are excluded from shear plane).</li><li>4. Proper bolting procedure selected for joint detail.</li></ul>	X X			Testing Agency Testing Agency						
						5. Connecting elements: Verify elements are fabricated properly, including the appropriate faying surface condition and hole preparation, if specified, meets the	x			Testing Agency						
						applicable requirements 6. Pre-installation verification testing conducted for fastener assemblies and methods used 7. Proper storage provided for bolts, nuts, washers,	X			Testing Agency Testing Agency						
					5.6-2. Inspection of Bolting: Inspection	and other fastener components 1. Fastener assemblies, of suitable condition, placed in all holes and washers (if required) are properly	X			Testing Agency						
					Tasks During Bolting	positioned 2. Joint brought to the snug tight condition prior to the pretensioning operation 3. Fastener component not turned by the wrench	X			Testing Agency						
						<ol> <li>Fastener component not turned by the wrench prevented from rotating</li> <li>Bolts are pretensioned in accordance with the RCSC specification, progressing systematically from most</li> </ol>	X X			Testing Agency Testing Agency						
					5.6-3. Inspection of Bolting: Inspection Tasks After Bolting	rigid point toward free edges 1. Document accepted and rejected connections:		x		Testing Agency						
					6.1 Inspection of Steel Elements of Composite	<ol> <li>Placement and installation of steel deck.</li> <li>Placement and installation of steel headed stud</li> </ol>			Х	Testing Agency						
					Construction Prior to Concrete Placement	<ol> <li>Placement and installation of steel neaded stud anchors.</li> <li>Document acceptance or rejection of steel elements</li> </ol>			X X	Testing Agency Testing Agency						
					7. Inspection of Steel Frame	verify compliance with details shown on construction documents including bracing, stiffeners, member	х			Testing Agency						
						locations, and proper application of joint details at each connection										

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WALNUT ST STREETSCAPE
432 WALNUT STREET CINCINNATI, OH 45202
ENGINEER: AMK MODELER: BLC CHECKED BY: AMK
ISSUE/REVISION/SUBMISSION NO DATE DESCRIPTION
PROJECT NUMBER: <b>2418.91</b>
SHEET NAME:
SPECIAL INSPECTIONS
date: <b>9/12/2024</b>
SHEET:
<b>S002</b>

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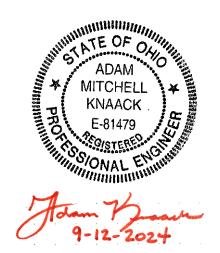
## CONSTRUCTION AND SAFETY

- 1. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. SHOULD ANY DISCREPANCY BE FOUND, CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER IMMEDIATELY OF THE CONDITION.
- 2. CONTRACTOR SHALL BRACE ENTIRE STRUCTURE AS REQUIRED DURING DEMOLITION AND CONSTRUCTION TO MAINTAIN STABILITY UNTIL THE STRUCTURE IS COMPLETE AND FUNCTIONING AS THE DESIGNED UNIT.
- 3. ENGINEER SHALL NOT BE RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OF CONSTRUCTION SELECTED BY CONTRACTOR.
- 4. THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND IS NOT LIMITED TO NORMAL WORKING HOURS. WHEN ON SITE, THE ENGINEER IS RESPONSIBLE FOR HIS/HER OWN SAFETY BUT HAS NO RESPONSIBILITY FOR THE SAFETY OF OTHER PERSONNEL OR SAFETY CONDITIONS AT THE SITE.



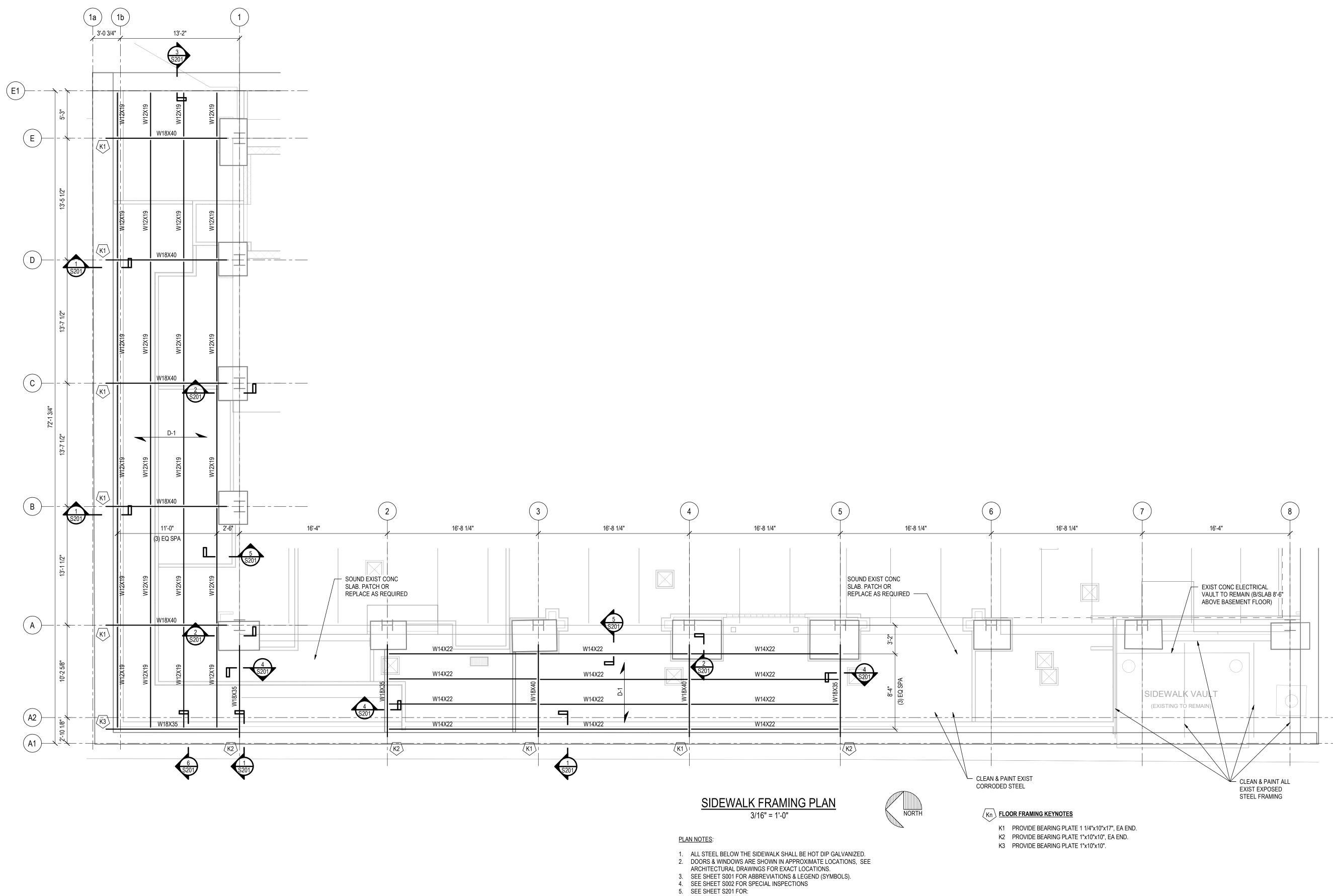
# schaeter

STAMP:



5th ST & WALNUT ST STREETSCAPE
432 WALNUT STREET CINCINNATI, OH 45202
ENGINEER: AMK MODELER: BLC CHECKED BY: MAH
NO DATE DESCRIPTION
PROJECT NUMBER: <b>2418.91</b>
SHEET NAME: STRUCTURAL DEMOLITION PLANS
DATE: <b>9/12/2024</b>
SHEET: <b>SD101</b>

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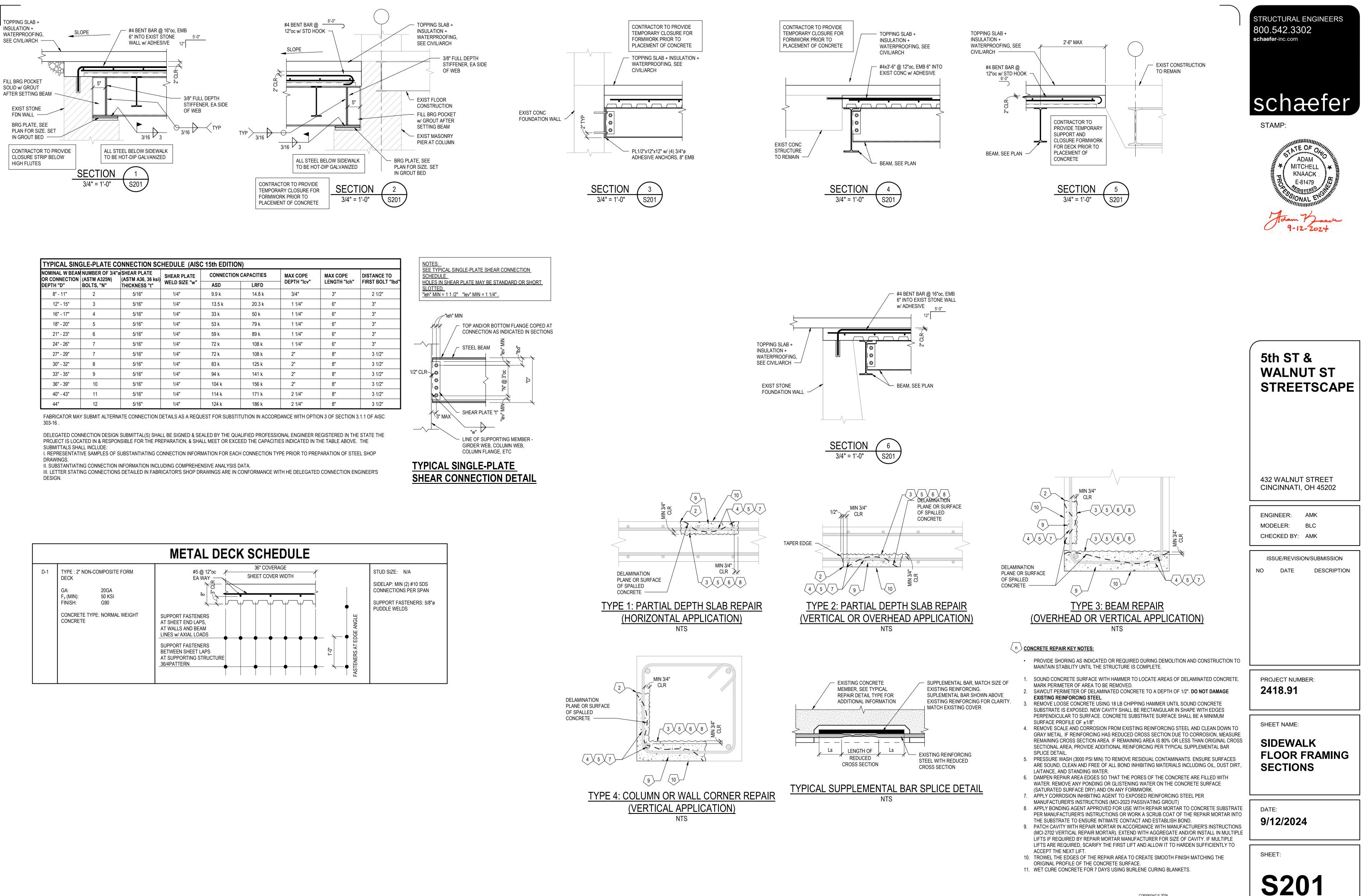




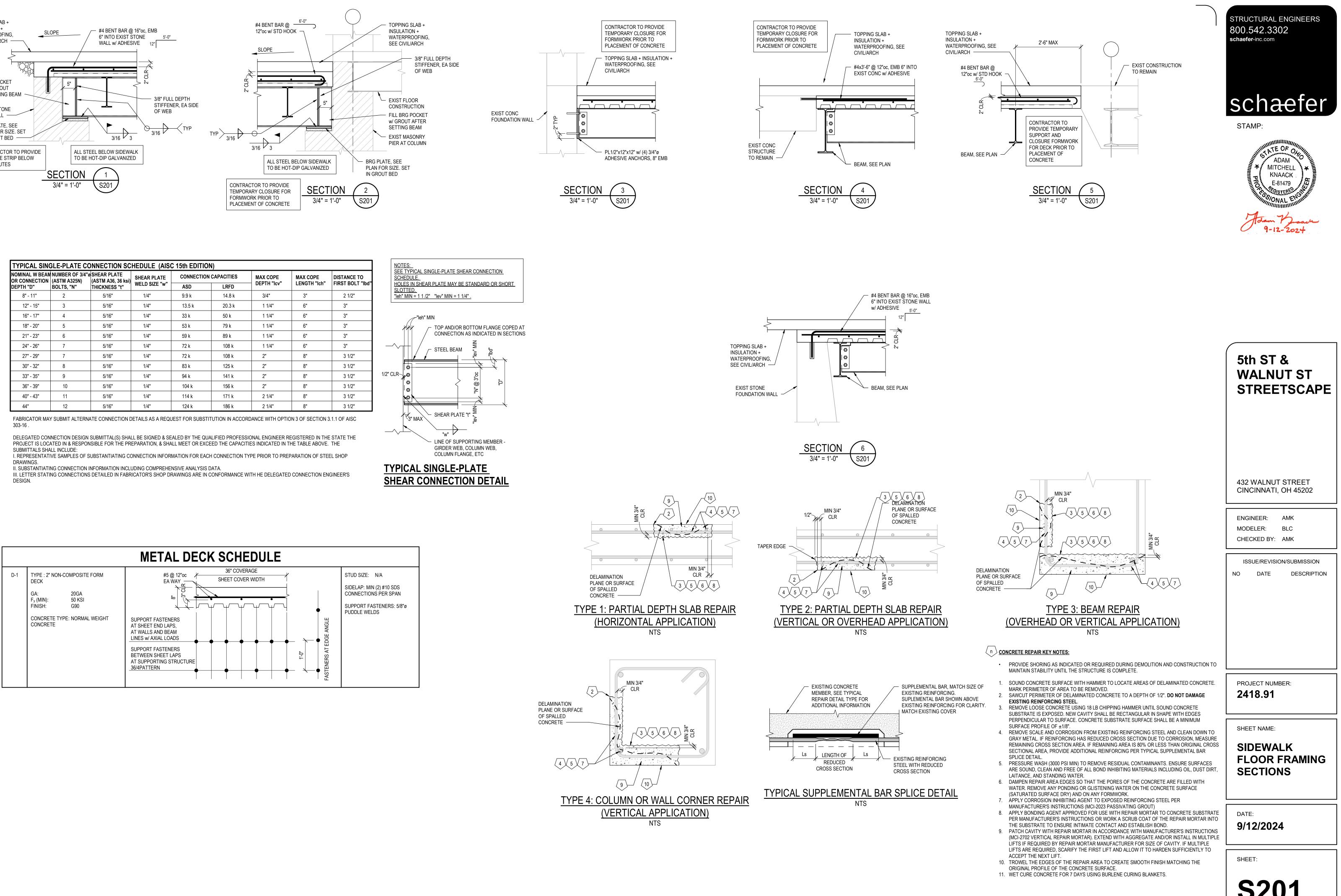
A. METAL DECK SCHEDULE B. STEEL BEAM CONNECTION SCHEDULE 6. REFER TO THE CONCRETE REPAIR DETAILS PROVIDED ON S201. AREAS NOTED ON PLAN WERE VISIBLE DURING INITIAL SITE VISIT, BUT OTHER AREAS THROUGHOUT WILL BE UNCOVERED FURTHER DURING CONSTRUCTION/DEMOLOTION. REPAIR DETAILS PROVIDED ARE BASIS FOR REPAIR PROCESS BUT ADDITIONAL DETAILS MAY BE PROVIDED AS ADDITIONAL LOCATIONS ARE UNCOVERED. NOTIFY EOR AS EXISTING SIDEWALK FRAMING IS UNCOVERED FOR ADDITIONAL REPAIR DETAILS NOT COVERED BY THE ONES PROVIDED ON S201.



	5th ST & WALNUT ST STREETSCAPE
	432 WALNUT STREET CINCINNATI, OH 45202 ENGINEER: AMK MODELER: BLC
	CHECKED BY: AMK ISSUE/REVISION/SUBMISSION NO DATE DESCRIPTION
	PROJECT NUMBER: 2418.91
	SHEET NAME: SIDEWALK FRAMING PLAN
	DATE: <b>9/12/2024</b>
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TYPICAL SIN	GLE-PLATE C	ONNECTION SC	HEDULE (AISO	C 15th EDITIO	ON)				
OMINAL W BEAM NUMBER OF 3/4"Ø SHEAR PLATE R CONNECTION (ASTM A325N) (ASTM A36, 36 ksi)		SHEAR PLATE	N CAPACITIES	MAX COPE	MAX COPE	DISTANCE TO			
DEPTH "D"	BOLTS, "N"	THICKNESS "t"	WELD SIZE "w"	ASD	LRFD	DEPTH "lcv"		LENGTH "Ich"	FIRST BOLT "Ibd"
8" - 11"	2	5/16"	1/4"	9.9 k	14.8 k	3/4"	3"	2 1/2"	
12" - 15"	3	5/16"	1/4"	13.5 k	20.3 k	1 1/4"	6"	3"	
16" - 17"	4	5/16"	1/4"	33 k	50 k	1 1/4"	6"	3"	
18" - 20"	5	5/16"	1/4"	53 k	79 k	1 1/4"	6"	3"	
21" - 23"	6	5/16"	1/4"	59 k	89 k	1 1/4"	6"	3"	
24" - 26"	7	5/16"	1/4"	72 k	108 k	1 1/4"	6"	3"	
27" - 29"	7	5/16"	1/4"	72 k	108 k	2"	8"	3 1/2"	
30" - 32"	8	5/16"	1/4"	83 k	125 k	2"	8"	3 1/2"	
33" - 35"	9	5/16"	1/4"	94 k	141 k	2"	8"	3 1/2"	
36" - 39"	10	5/16"	1/4"	104 k	156 k	2"	8"	3 1/2"	
40" - 43"	11	5/16"	1/4"	114 k	171 k	2 1/4"	8"	3 1/2"	
44"	12	5/16"	1/4"	124 k	186 k	2 1/4"	8"	3 1/2"	



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