ABBREVIATIONS

(ALL ABBREVIATIONS SHOWN ARE NOT NECESSARILY USED ON THE DRAWINGS)

A

A/E	ARCHITECT/ENGINEER
ACI	AMERICAN CONCRETE INSTITUTE
ADDL	ADDITIONAL
ADJ	ADJACENT
AFF	ABOVE FINISH FLOOR
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ALT	ALTERNATE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APPROX	APPROXIMATE (-LY)
ARCH	ARCHITECTURAL, ARCHITECT
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWS	AMERICAN WELDING SOCIETY

B

BC	BOTTOM CHORD
BLDG	BUILDING
BM	BEAM
BOD	BOTTOM OF DECK
BOT	BOTTOM
BP	BASE PLATE
BRG	BEARING
BS	BOTH SIDES
BVL	BEVELED
BW	BOTH WAYS

C

C	COMPRESSION, CHANNEL SHAPE
CG	CENTER OF GRAVITY
CJ	CONSTRUCTION JOINT
CL	CENTERLINE
CLR	CLEAR, CLEARANCE
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS, CONTINUED
CONTR	CONTRACTOR
CONX	CONNECTION

D

DETL	DETAIL
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DL	DEAD LOAD
DN	DOWN
DO	DITTO
DWG	DRAWING (-S)
DWL	DOWEL

E

EA	EACH
EF	EACH FACE
EJ	EXPANSION JOINT
ELEC	ELECTRICAL
ELEV, EL	ELEVATION
EMBED	EMBEDMENT, EMBEDDED
ENGR	ENGINEER
EQ	EQUAL, EARTHQUAKE
EQUIP	EQUIPMENT
ES	EACH SIDE
EW	EACH WAY
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR

F

FD	FLOOR DRAIN
FDN	FOUNDATION
FF	FINISH FLOOR
FIN	FINISH (-ED)
FLR	FLOOR
FS	FAR SIDE
FT	FOOT/FEET
FTG	FOOTING

G

GA	GAGE OR GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
GC	GENERAL CONTRACTOR

H

HEE	HOOK EACH END
HORIZ	HORIZONTAL
HP	HIGH POINT
HSA	HEADED STUD ANCHOR
HSS	HOLLOW STRUCTURAL SECTION

I

IN	INCH (-ES)
INFO	INFORMATION
INT	INTERIOR

J

JST	JOIST
JT	JOINT

K

K	KIPS (1000 LBS)
KSI	KIPS PER SQUARE INCH

L

L	ANGLE SHAPE
LB, #	POUND
LD	DEVELOPMENT LENGTH
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LONG	LONGITUDINAL
LP	LOW POINT
LVL	LEVEL

M

MAX	MAXIMUM
MC	MISCELLANEOUS CHANNEL SHAPE
MECH	MECHANICAL
MEP	MECHANICAL, ELECTRICAL, PLUMBING
MFR	MANUFACTURE (-R)
MIN	MINIMUM
MISC	MISCELLANEOUS
MT	STRUCTURAL TEE CUT FROM MISC STEEL
MTL	METAL

N

N/A	NOT APPLICABLE
NF	NEAR FACE
NS	NEAR SIDE
NTS	NOT TO SCALE

O

OC	ON CENTER
OPNG	OPENING (-S)
OPP	OPPOSITE
OH	OPPOSITE HAND

P

PERP	PERPENDICULAR
PL	PLATE
PLBG	PLUMBING
PLF	POUNDS PER LINEAR FOOT
PREFAB	PREFABRICATED
PRELIM	PRELIMINARY
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH

R

RAD	RADIUS
RD	ROOF DRAIN
RE:, REF	REFER TO
REINF	REINFORCE (-D,-ING,-MENT)
REQD	REQUIRED
REV	REVISION

S

SCHED	SCHEDULE(D)
SDI	STEEL DECK INSTITUTE
SECT	SECTION
SHT	SHEET
SIM	SIMILAR
SPEC	SPECIFICATION(S)
SSL	SHORT SLOTTED (HOLES)
STD	STANDARD
STIFF	STIFFENER
STIR	STIRRUP
STL	STEEL
STR	STRUCTURAL
STRUCT	STRUCTURE

T

T/	TOP OF
T&B	TOP & BOTTOM
TEMP	TEMPERATURE, TEMPORARY
THRD	THREADED
THRU	THROUGH
TOC	TOP OF CONCRETE
TOS	TOP OF STEEL
TYP	TYPICAL

U

UNO	UNLESS NOTED OTHERWISE

V

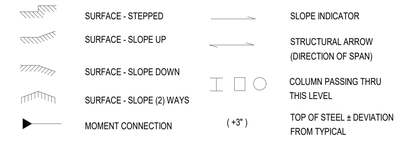
VERT	VERTICAL

W

W/	WITH
W/O	WITHOUT
WP	WORK POINT
WT	WEIGHT, STRUCTURAL TEE CUT FROM WIDE FLANGE BEAM

STRUCTURAL SYMBOLS

(ALL SYMBOLS SHOWN ARE NOT NECESSARILY USED ON THE DRAWINGS)



THE FOLLOWING SYMBOLS ARE USED TO REPRESENT THE MATERIALS SHOWN ON THE STRUCTURAL DRAWINGS. REFER TO SPECIFICATIONS AND GENERAL NOTES FOR MATERIAL QUALITIES REQUIRED.

SPECIAL INSPECTIONS

PRCOM20204900

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD	IBC REFERENCE
CONCRETE CONSTRUCTION				
1. INSPECTION OF REINFORCING STEEL AND PLACEMENT.	-	X	ACI 318: 3.5, 7.1-7.7	1910.4
2. INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH TABLE 1705.2.2, ITEM 2B.	-	-	AWS D1.4, ACI 318: 3.5.2	-
3. INSPECTION OF ANCHORS CAST IN CONCRETE WHERE ALLOWABLE LOADS HAVE BEEN INCREASED OR WHERE STRENGTH DESIGN IS USED.	-	X	ACI 318: 8.1.3, 21.2.8	1908.5, 1909.1
4. INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS.	-	X	ACI 318: 3.8.6, 8.1.3, 21.2.8	1909.1
5. VERIFYING USE OF REQUIRED DESIGN MIX.	-	X	ACI 318: CH. 4, 5.2-5.4	1904.2, 1910.2, 1910.3
6. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	-	ASTM C 172, ASTM C31, ACI 318: 5.6, 5.8	1910.10
7. INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	-	ACI 318: 5.9, 5.10	1910.6, 1910.7, 1910.8
8. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	-	X	ACI 318: 5.11-5.13	1910.9
9. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	-	X	ACI 318: 6.1.1	-
10. VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	-	X	ACI 318: 6.2	-
STEEL CONSTRUCTION				
1. INSPECTION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE INSPECTION REQUIREMENTS OF AISC 360.	-	-	AISC 360 CH. N	-
2. INSPECTION OF COLD FORMED STEEL STRUCTURAL FRAMING SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE INSPECTION REQUIREMENTS OF AISI S240.	-	-	AISI 240 CH. D	-
MASONRY CONSTRUCTION				
1. MASONRY CONSTRUCTION SHALL BE INSPECTED AND VERIFIED IN ACCORDANCE WITH TMS 402 / ACI 530 / ASCE 5 AND TMS 602 / ACI 530.1 / ASCE 6 QUALITY ASSURANCE PROGRAM REQUIREMENTS.				
WOOD CONSTRUCTION				
1. SPECIAL INSPECTIONS OF THE FABRICATION PROCESS OF PREFABRICATED WOOD STRUCTURAL ELEMENTS AND ASSEMBLIES SHALL BE IN ACCORDANCE WITH IBC SECTION 1704.2.5. SPECIAL INSPECTIONS OF SITE-BUILT ASSEMBLIES SHALL BE IN ACCORDANCE WITH THIS SECTION.				
SOIL				
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	-	X		
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	-	X		
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	-	X		
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	-		
5. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	-	X		
WIND RESISTANCE				
1. WIND RESISTING COMPONENTS:				
A. ROOF CLADDING	-	X		
B. WALL CLADDING	-	X		
	X	-		

CONTINUOUS MEANS FULL-TIME OBSERVATION OF WORK. PERIODIC MEANS PART-TIME OR INTERMITTENT OBSERVATION OF WORK AND AT THE COMPLETION OF WORK. ALL OTHER INSPECTIONS NOT LISTED ABOVE BUT REQUIRED BY IBC OR THE CLIENT SHALL BE PERFORMED.

1. THE OWNER SHALL ASSIGN AND EMPLOY ONE OR MORE SPECIAL INSPECTORS TO PROVIDE INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED IN THE SPECIAL INSPECTIONS TABLE ABOVE PER SECTION 1705 OF THE IBC. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION. THESE INSPECTIONS ARE IN ADDITION TO THE INSPECTIONS SPECIFIED IN THE PROJECT SPECIFICATIONS.
2. SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS AND PROVIDE SPECIAL INSPECTION REPORTS. THE SPECIAL INSPECTORS OR CONTRACTOR SHALL SUBMIT INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS DONE IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THE DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO COMPLETION OF THAT PHASE OF WORK. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED AT A POINT IN TIME AGREED UPON BY THE PERMIT APPLICANT AND THE BUILDING OFFICIAL PRIOR TO THE START OF WORK.
3. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE SPECIAL INSPECTOR REGARDING INDIVIDUAL INSPECTIONS FOR ITEMS LISTED IN THE SPECIAL INSPECTIONS TABLE ABOVE AND AS NOTED ON THE BUILDING DEPARTMENT APPROVED PLANS. ADEQUATE NOTICE AND ACCESS TO APPROVED PLANS SHALL BE PROVIDED SO THAT THE SPECIAL INSPECTOR HAS TIME TO BECOME FAMILIAR WITH THE PROJECT.
4. FABRICATORS OF STRUCTURAL, LOAD-BEARING MEMBERS AND ASSEMBLIES SHALL CONFORM TO THE REQUIREMENTS OF SECTION 1704.2.5 OF THE IBC.

Joe Frogge

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
01/13/2021

ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229
p 614.898.7100
f 614.898.7570
www.msconsultants.com

WHATABURGER
PROTOTYPE 20-M

1460 NE Douglas St
Lee's Summit, Missouri

WHATABURGER

STATE OF MISSOURI
CRAIG E. METZGER
NUMBER
PE-2019031268
PROFESSIONAL ENGINEER

PROFESSIONAL OF RECORD:
Craig E. Metzger No 2019031268
Exp Date: 12/31/21

REV	DESCRIPTION	DATE
	Issued for Bid/Permit	12/21/20
1	REV-1 Plan Review	01/27/21

Project No.: 40497-01

Client Project No.:

Drawing Title:

SYMBOLS, ABBREVIATIONS & SPECIAL INSPECTIONS

Date: 10/30/2020 *Phase:* BID/PERMIT

Designed: CEM
Drawn : CLS
Checked : CEM

Drawing No.:
S0.1

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
04/13/2021

GENERAL NOTES

1 (revision)

1. BUILDING AND DESIGN CODES:
   - A. 2018 INTERNATIONAL BUILDING CODE
   - B. ASCE 7-16: MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
   - C. ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES
   - D. ACI 318: BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, LATEST EDITION
   - E. AISC 360: SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, LATEST EDITION
   - F. AISC MANUAL OF STEEL CONSTRUCTION, LATEST EDITION
   - G. AISI 2007: SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS
   - H. AMERICAN WELDING SOCIETY, WELDING CODES
   - I. TMS 402/ACI 530/ASCE 6: BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES, LATEST EDITION
   - J. NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION, LATEST EDITION
2. OCCUPANCY CATEGORY — II
3. LIVE LOADS:
   - A. FLOOR — 100 PSF
   - B. ROOF — 20 PSF
4. WIND LOADS:
   - A. BASIC WIND SPEED (3 SECOND GUST) — 115 MPH (ULTIMATE)
   - B. IMPORTANCE FACTOR, I — 1.0
   - C. EXPOSURE CATEGORY — C
   - D. INTERNAL PRESSURE COEFFICIENT, GCpi — +/- 0.18
   - E. DESIGN WIND PRESSURES (COMPONENTS & CLADDING)

		SURFACE PRESSURE (PSF)		
		50 SF AREA	100 SF AREA	150 SF AREA
WALL ZONES	INTERIOR	+10.0 / -16.4	+10.0 / -15.9	+10.0 / -15.9
	END	+10.0 / -22.0	+10.0 / -18.9	+10.0 / -18.9
	CORNER	+10.0 / -26.4	+10.0 / -18.9	+10.0 / -18.9
ROOF ZONES	INTERIOR	+14.3 / -15.6	+13.6 / -14.9	+13.2 / -14.5
	END	+14.3 / -18.0	+13.6 / -16.6	+13.2 / -15.7
	CORNER	+14.3 / -18.0	+13.6 / -16.6	+13.2 / -15.7

   a. (+) VALUES INDICATE PRESSURES TOWARDS THE BUILDING. (-) VALUES INDICATE PRESSURES AWAY FROM THE BUILDING.
   b. FOR SMALLER TRIBUTARY AREAS, LOADS WILL BE LARGER THAN SHOWN. CALCULATE PER CODE REQUIREMENTS.
   c. WIDTH OF END ZONES — 4.5 FT

   - F. ANALYSIS PROCEDURE — ENVELOPE PROCEDURE FOR LOW-RISE BUILDINGS
5. SNOW LOADS
   - A. GROUND SNOW LOAD, P_g — 20 PSF
   - B. SNOW EXPOSURE FACTOR, C_e — 1.0
   - C. IMPORTANCE FACTOR, I — 1.0
   - D. THERMAL FACTOR, C_t — 1.0
6. SEISMIC LOADS:
   - A. IMPORTANCE FACTOR, I — 1.0
   - B. RISK CATEGORY — II
   - C. MAPPEL SPECTRAL RESPONSE ACCELERATIONS — S_S = 0.114, S_1 = 0.067
   - D. SITE CLASS — D
   - E. DESIGN SPECTRAL RESPONSE ACCELERATIONS — S_{DS} = 0.121, S_{D1} = 0.107
   - F. SEISMIC DESIGN CATEGORY — B
   - G. BASIC SEISMIC FORCE RESISTING SYSTEM — STRUCTURAL STEEL SYSTEM NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
   - H. DESIGN BASE SHEAR — 0.044W
   - I. SEISMIC RESPONSE COEFFICIENT — C_S = 0.044
   - J. RESPONSE MODIFICATION FACTOR — 3
   - K. ANALYSIS PROCEDURE — EQUIVALENT LATERAL FORCE PROCEDURE
7. GENERAL REQUIREMENTS:
   - A. SPECIFICATIONS ARE PART OF THE CONSTRUCTION DOCUMENTS AND MUST BE USED IN CONJUNCTION WITH THE DRAWINGS. WHERE REQUIREMENTS INDICATED ON THE STRUCTURAL DRAWINGS DIFFER FROM THE SPECIFICATIONS, NOTIFY A/E.
   - B. VERIFY EXISTING CONDITIONS AND DIMENSIONS PRIOR TO BEGINNING WORK OR FABRICATING MATERIALS. NOTIFY A/E OF DISCREPANCIES BEFORE PROCEEDING WITH ANY PHASE OF WORK.
   - C. VERIFY WITH OTHER DISCIPLINE DRAWINGS THE LOCATION OF CHASES, INSERTS, OPENINGS, SLEEVES, FINISHES, DEPRESSIONS, PADS, AND WALL OPENINGS.
   - D. DO NOT SCALE DRAWINGS FOR THE PURPOSE OF ESTABLISHING DIMENSIONS.
   - E. DETAILS LABELED "TYPICAL DETAILS" ON DRAWINGS APPLY TO SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. SUCH DETAILS APPLY WHETHER OR NOT DETAILS ARE REFERENCED AT EACH LOCATION. NOTIFY A/E OF CONFLICTS REGARDING APPLICABILITY OF "TYPICAL DETAILS".
   - F. DO NOT LOAD THE SLAB-ON-GRADE OR SUPPORTED SLAB WITH ERECTION CRANES OR ERECTION EQUIPMENT. THE SLABS HAVE NOT BEEN DESIGNED FOR CRANE LOADS AND WILL REQUIRE AN INCREASE IN THICKNESS AND/OR REINFORCEMENT. SUBMIT FOR A/E REVIEW A PROPOSED CRANE SUPPORT PLAN FOR SLABS PRIOR TO COMMENCING WORK.
   - G. DO NOT STORE OR STACK CONSTRUCTION MATERIALS ON SUPPORTED SLABS, ELEVATED FLOORS, OR ROOFS IN EXCESS OF 80 PERCENT OF LIVE LOAD. GENERAL CONTRACTOR WILL BE RESPONSIBLE AND ENSURE THAT ALL SUB-CONTRACTORS ARE INFORMED AND DO NOT VIOLATE THIS IMPORTANT REQUIREMENT. AVOID IMPACT WHEN PLACING MATERIALS ON POURED OR ERECTED FLOORS OR ROOF.
   - H. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. UNLESS INDICATED OTHERWISE, THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION. PROVIDE ALL MEASURES REQUIRED TO PROTECT THE STRUCTURE, WORKMEN, AND OTHER PERSONS DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT ARE NOT LIMITED TO, BRACING, SHORING FOR CONSTRUCTION EQUIPMENT, SHORING FOR THE BUILDING, FORMS AND SCAFFOLDING, SHORING OF RETAINING WALLS AND OTHER TEMPORARY SUPPORTS AS REQUIRED.
   - I. PRINCIPAL OPENINGS THROUGH THE FRAMING ARE SHOWN ON DRAWINGS. EXAMINE THE ARCHITECTURAL AND MECHANICAL DRAWINGS FOR THE REQUIRED OPENINGS AND PROVIDE FOR REQUIRED OPENINGS WHETHER SHOWN ON THE STRUCTURAL DRAWINGS OR NOT. VERIFY SIZE AND LOCATION OF ALL OPENINGS WITH THE MECHANICAL CONTRACTOR. BRING ANY DEVIATION FROM THE OPENINGS SHOWN ON THE STRUCTURAL DRAWINGS TO THE ENGINEER'S ATTENTION FOR APPROVAL
   - J. COORDINATE AND PROVIDE ALL MISCELLANEOUS FRAMING MEMBERS SHOWN ON THE ARCHITECTURAL DRAWINGS. THESE MEMBERS MAY NOT BE SHOWN ON THE STRUCTURAL DRAWINGS.
   - K. ARCHITECTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS AND SYSTEMS SHALL BE DESIGNED AND CONSTRUCTED TO RESIST SEISMIC FORCES AS DETERMINED IN CHAPTER 13 OF ASCE 7.

FOUNDATION NOTES

1. REFER TO THE GEOTECHNICAL REPORT AND SPECIFICATIONS FOR GENERAL REQUIREMENTS OF EARTHWORK, OVER EXCAVATION, SUBGRADE PREPARATION, FILL AND COMPACTION, WATERPROOFING AND OTHER PERTINENT REQUIREMENTS AND INFORMATION.
2. FOUNDATION DESIGNS AND SUBGRADE PREPARATION ARE BASED UPON THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT NUMBER 02205198 (REV 1) BY TERRACON, DATED SEPTEMBER 2, 2020.
3. FOOTING DESIGNS ARE BASED ON AN ALLOWABLE SOIL BEARING PRESSURE OF 2500 PSF (FACTOR OF SAFETY = 3). THE ALLOWABLE SOIL BEARING PRESSURE MAY BE INCREASED BY ONE-THIRD WHEN CONSIDERING TOTAL LOADS, INCLUDING LOADS OF SHORT DURATION SUCH AS WIND FORCES. FOOTINGS SHALL BEAR IN SPECIFIED BEARING MATERIAL AS NOTED IN THE GEOTECHNICAL REPORT.
4. CONTRACTOR AND TESTING LABORATORY REPRESENTATIVE SHALL READ THE GEOTECHNICAL REPORT AND BECOME THOROUGHLY FAMILIAR WITH SITE AND SUBGRADE INFORMATION. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING EXACT QUANTITIES OF CUT AND FILL FOR ESTIMATING AND CONSTRUCTION. SUBGRADE SHALL BE PREPARED AS NOTED IN THE GEOTECHNICAL REPORT.
5. ARRANGE FOR OWNER'S INDEPENDENT TESTING AGENCY TO MONITOR CUT AND FILL OPERATIONS, AND PERFORM FIELD DENSITY AND MOISTURE CONTENT TESTS TO VERIFY COMPACTION AND APPROVE FOOTING SUBGRADE PRIOR TO PLACING CONCRETE. CUT AND FILL OPERATIONS SHALL BE INSPECTED AND APPROVED BY A GEOTECHNICAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED.
6. A QUALIFIED AND REGISTERED GEOTECHNICAL ENGINEER, LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED AND WORKING FOR THE TESTING LABORATORY, SHALL DETERMINE CONFORMANCE OF THE FOUNDATION BEARING STRATA WITH THE FOUNDATION DESIGN CRITERIA ABOVE, AND ALL OTHER CONTRACT DOCUMENTS, AND VERIFY SIZE, REINFORCING STEEL, THICKNESS, EMBEDMENT DEPTH, AND REMOVAL OF CUT MATERIAL. TESTING LABORATORY SHALL NOTIFY CONTRACTOR AND A/E OF ANY CONDITIONS NOT IN ACCORDANCE WITH FOUNDATION DESIGN CRITERIA OR CONTRACT DOCUMENTS.
7. USE ONLY STRUCTURAL FILL MATERIAL AS NOTED IN THE GEOTECHNICAL REPORT FOR FILL BELOW THE BUILDING. EXTEND FILL AT LEAST FIVE FEET BEYOND THE BUILDING PERIMETER ON ALL SIDES. REFER TO THE GEOTECHNICAL REPORT FOR THE DEPTH OF THE STRUCTURAL FILL MATERIAL AND COMPACTION REQUIREMENTS.
8. MAINTAIN SUBGRADE AND FILL MOISTURE CONTENT UNTIL FOUNDATIONS ARE PLACED.
9. DO NOT PLACE GRADE BEAMS, WALLS, FOOTINGS OR SLABS AGAINST SUBGRADE CONTAINING FREE WATER, FROST, OR ICE.
10. MAINTAIN PROPER SITE DRAINAGE DURING CONSTRUCTION TO ENSURE SURFACE RUNOFF AWAY FROM STRUCTURES AND TO PREVENT PONDING OF SURFACE RUNOFF NEAR THE STRUCTURES.
11. KEEP OPEN EXCAVATIONS AROUND BUILDING DRY. BACKFILL AGAINST FOUNDATIONS AND GRADE BEAMS AS SOON AS PRACTICAL. PUMP WATER OUT OF OPEN EXCAVATIONS IF FLOODING OCCURS PRIOR TO BACKFILLING.
12. PROTECT PIPES AND CONDUITS RUNNING THRU WALLS AND SLABS WITH 1/2 INCH EXPANSION MATERIAL. LOWER CONTINUOUS FOOTINGS AND GRADE BEAMS PERPENDICULAR TO PIPE RUNS, TO ALLOW PIPES TO PASS ABOVE THE FOOTINGS OR THOUGH THE GRADE BEAMS. ALTERNATIVELY, PROVIDE A CONCRETE JACKET IF PIPES ARE LOW ENOUGH TO BE PLACED BELOW THE FOOTINGS AND GRADE BEAMS. LOWER FOOTINGS AND GRADE BEAMS PARALLEL TO PIPE RUNS TO AVOID SURCHARGE ONTO ADJACENT TRENCH EXCAVATIONS.
13. PLACE FOUNDATIONS WITHIN 8 HOURS AFTER EXCAVATION. DO NOT LEAVE EXCAVATION OPEN OVERNIGHT.
14. AVOID DAMAGING EXISTING UNDERGROUND UTILITIES SUCH AS WATER MAINS, SANITARY SEWERS, BURIED CABLES, ETC., WHICH MIGHT EXTEND ACROSS OR ADJOING THE SITE.
15. REFER TO CIVIL DRAWINGS FOR LIMITS OF EXCAVATIONS.

CONCRETE NOTES

1. PROVIDE CONCRETE AS SHOWN BELOW. PROVIDE BATCH MIXING, TRANSPORTATION, PLACING AND CURING OF CONCRETE IN ACCORDANCE WITH RECOMMENDATIONS OF ACI 301, ACI 318 AND ASTM C94. USE TYPE I PORTLAND CEMENT UNLESS OTHERWISE NOTED. PROVIDE ADMIXTURES AND SPECIAL REQUIREMENTS AS SPECIFIED.
   - A. NORMAL WEIGHT (150 PCF), F'c = 3,000 PSI CONCRETE AT 28 DAYS
     - a. SLAB-ON-GRADE, GRADE BEAMS, FOOTINGS
     - b. ALL CONCRETE NOT SPECIFICALLY COVERED
2. REFER TO THE SPECIFICATIONS FOR MAXIMUM WATER/CEMENT RATIOS, MINIMUM CEMENT CONTENTS AND OTHER MIX DESIGN REQUIREMENTS. PROVIDE CONCRETE MIXES DESIGNED BY A QUALIFIED TESTING LABORATORY FOR REVIEW AND APPROVAL BY THE STRUCTURAL ENGINEER.
3. PROVIDE CONSTRUCTION AND CONTROL JOINTS AS INDICATED ON THE DRAWINGS. HORIZONTAL CONSTRUCTION JOINTS ARE NOT ALLOWED UNLESS SPECIFICALLY NOTED OR APPROVED BY THE STRUCTURAL ENGINEER. NOTIFY THE STRUCTURAL ENGINEER OF PROPOSED CONSTRUCTION JOINT OR CONTROL JOINT LOCATIONS WHICH ARE DIFFERENT OR IN ADDITION TO JOINTS INDICATED ON THE DRAWINGS. PROVIDE 6,000-SQUARE FOOT MAXIMUM AREA OF CONCRETE PLACEMENT IN THE SLAB BETWEEN CONSTRUCTION JOINTS. PROVIDE 75-FOOT MAXIMUM SPACING OF CONSTRUCTION JOINTS IN GRADE BEAMS. PROVIDE GRADE BEAM CONSTRUCTION JOINTS IN MIDDLE 1/3 OF THE SPAN. WHEN A BEAM INTERSECTS A GIRDER WITHIN THE MIDDLE 1/3 OF THE GIRDER'S SPAN, OFFSET THE JOINT IN THE GIRDER A DISTANCE EQUAL TO TWICE THE WIDTH OF THE BEAM.
4. WHERE DOWELS ARE SHOWN ON THE DRAWINGS, BUT NOT SIZED, PROVIDE DOWELS THAT MATCH SIZE AND LCOATION OF MAIN REINFORCING STEEL AND LAP SPLICE WITH THE MAIN REINFORCING STEEL. REINFORCING BARS SHALL BE SPLICED AS NOTED IN THE REINFORCING LAP SCHEDULE.
5. CHAMFER EXPOSED EDGES 3/4 INCH UNLESS OTHERWISE NOTED.
6. WIRE BRUSH AND CLEAN CONSTRUCTION JOINTS PRIOR TO POURING NEW CONCRETE.
7. REFERENCE THE APPROPRIATE DISCIPLINE'S DRAWINGS FOR SUB SLAB PIPING, FLOOR DRAINS, AND SLAB AND WALL PENETRATIONS.
8. PROVIDE ADEQUATE STRUCTURAL FRAMING AS APPROVED BY THE STRUCTURAL ENGINEER FOR MECHANICAL OPENINGS THROUGH THE SLABS, WALLS, AND FLOOR DECK. OPENINGS ARE NOT PERMITTED THROUGH BEAMS UNLESS SPECIFICALLY DETAILED.
9. FOR PIPE INSTALLED HORIZONTALLY WITHIN SLABS, UNLESS SPECIFICALLY INDICATED IN THE STRUCTURAL DRAWINGS OR APPROVED BY THE STRUCTURAL ENGINEER. FOR PIPES INSTALLED HORIZONTALLY WITHIN THE SLAB, PROVIDE MAXIMUM OUTSIDE DIAMETER OF 30 PERCENT OF THE SLAB THICKNESS. PLACE CONDUIT OR PIPE BETWEEN THE TOP AND BOTTOM LAYERS OF REINFORCEMENT WITHIN THE CENTER THIRD OF THE SLAB. DO NOT SPACE CONDUITS OR PIPES CLOSER THAN 3 DIAMETERS OR WIDTHS ON CENTER.

REINFORCING STEEL NOTES

1. PROVIDE DETAILING, FABRICATION, AND INSTALLATION OF REINFORCING AND ACCESSORIES IN ACCORDANCE WITH ACI 315 AND ACI 318.
2. COORDINATE PLACEMENT OF CAST-IN-PLACE EMBEDS AND ANCHOR RODS. SET ANCHOR RODS WITH A TEMPLATE. SECURELY ATTACH EMBED ITEMS TO FORMWORK OR REINFORCING.
3. PROVIDE CLASS "B" REINFORCEMENT SPLICES FOR CONTINUOUS REINFORCEMENT. PROVIDE STANDARD 90-DEGREE HOOKS IN ACCORDANCE WITH ACI 318, UNLESS OTHERWISE NOTED. STAGGER SPLICES UNLESS SPECIFICALLY NOTED.
4. MAINTAIN THE FOLLOWING CONCRETE COVERAGE FOR REINFORCING STEEL UNLESS OTHERWISE NOTED:
   - A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH - 3 INCHES
   - B. CONCRETE EXPOSED TO WEATHER
     - a. NO. 6 AND LARGER - 2 INCHES
     - b. NO. 5 AND SMALLER - 1-1/2 INCHES
   - C. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND
     - a. SLABS AND WALLS
       - • NO. 14 AND NO. 18 - 1-1/2 INCHES
       - • NO. 11 AND SMALLER - 3/4 INCH
     - b. BEAM STIRRUPS - 1-1/2 INCHES
5. DO NOT WELD OR BEND REINFORCEMENT IN THE FIELD UNLESS SPECIFICALLY SHOWN OR APPROVED BY STRUCTURAL ENGINEER.
6. WHEN SPECIFICALLY APPROVED, PROVIDE WELDED REINFORCEMENT IN ACCORDANCE WITH ASTM A706. USE LOW HYDROGEN ELECTRODES FOR WELDING OF REINFORCEMENT IN CONFORMANCE WITH "WELDING REINFORCEMENT STEEL, METAL INSERTS AND CONNECTIONS IN REINFORCED CONCRETE CONSTRUCTION", AMERICAN WELDING SOCIETY, AWS D1.4.
7. PROVIDE CONTINUOUS HORIZONTAL WALL REINFORCEMENT WITH 90-DEGREE BENDS AND EXTENSIONS AT CORNERS AND INTERSECTIONS AS SHOWN ON TYPICAL BAR PLACING DETAILS.
8. PROVIDE BAR SUPPORT ACCESSORIES IN ACCORDANCE WITH THE LATEST ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES. SUPPORT BEAM REINFORCING ON BEAM BOLSTERS SPACED NOT MORE THAN 4 FEET ON CENTER.
9. PROVIDE BAR SUPPORTS WITH PLASTIC COATED LEGS OR HOT DIP GALVANIZING AFTER FABRICATION FOR CONCRETE EXPOSED TO VIEW. PROVIDE STAINLESS STEEL BAR SUPPORTS FOR CONCRETE TO RECEIVE A SANDBLAST FINISH.

POST-INSTALLED ANCHOR NOTES

1. ANCHORS INSTALLED IN HARDENED CONCRETE TO BE USED ONLY WHERE SPECIFIED ON THE CONSTRUCTION DOCUMENTS. CONTRACTOR SHALL OBTAIN APPROVAL FROM THE A/E PRIOR TO INSTALLING POST-INSTALLED ANCHORS IN PLACE OF MISSING OR MISPLACED CAST-IN-PLACE ANCHORS. PLACE POST-INSTALLED ANCHORS SUCH THAT THEY AVOID CONFLICTING WITH EXISTING REBAR. WHERE INDICATED, PROVIDE THE FOLLOWING POST-INSTALLED ANCHOR:
   - A. EPOXY ADHESIVE ANCHORS: HILTI HIT-HY 200 SYSTEM FOR ANCHORAGE TO CONCRETE
     - a. ALLOWABLE ANCHOR SUBSTITUTIONS SHALL BE SUBMITTED TO THE A/E WITH INFORMATION DEMONSTRATING THAT THE ANCHOR SUBSTITUTION PROVIDES EQUAL OR GREATER PERFORMANCE VALUES.
2. INSTALL ANCHORS IN ACCORDANCE WITH THE CURRENT ICBO REPORT FOR THE ANCHORS AND THE MANUFACTURER'S RECOMMENDATIONS. ALL ANCHORS SHALL BE INSTALLED BY A MANUFACTURER CERTIFIED INSTALLER.
3. INSTALL ANCHORS PERPENDICULAR TO THE FACE OF THE CONCRETE. DEVIATION FROM PERPENDICULAR GREATER THAN 10 DEGREES IS UNACCEPTABLE.
4. CREATE A TEMPLATE AT EACH ANCHOR CONNECTION LOCATION PRIOR TO FABRICATING HOLES IN CONNECTION PLATES. MAKE TEMPLATE BY LOCATING EXISTING REBAR WITH THE HELP OF A PACHOMETER. REPOSITION ANCHORS A MAXIMUM OF 1 1/2 INCHES AS REQUIRED TO AVOID CONFLICTS WITH EXISTING REINFORCEMENT.
5. FILL ALL ABANDONED HOLES WITH EPOXY GROUT.
6. PROVIDE HOLES IN CONNECTION PLATES NO MORE THAN 1/16 OF AN INCH LARGER THAN THE ANCHOR DIAMETER. IF LARGER HOLES ARE NEEDED FOR ERECTION PURPOSES, PROVIDE PLATE WASHERS WELDED TO THE CONNECTION PLATE TO TRANSFER THE BOLT LOAD.
7. CLEAN DRILLED HOLES FREE OF DEBRIS/DUST AND INSPECT PRIOR TO APPLYING EPOXY AND INSTALLING ANCHORS.

STRUCTURAL STEEL NOTES

1. PROVIDE STRUCTURAL STEEL OF THE FOLLOWING ASTM DESIGNATIONS UNLESS OTHERWISE NOTED:
   - A. STRUCTURAL STEEL WIDE FLANGE AND WT SHAPES - ASTM A 992 (GRADE 50)
   - B. STRUCTURAL STEEL STANDARD SHAPES, CHANNELS AND ANGLES - ASTM A 36
   - C. EDGE ANGLES, BENT PLATES, HANGER AND BRACES - ASTM A 36
   - D. STRUCTURAL PIPE - ASTM A 53, GRADE B
   - E. STRUCTURAL TUBING (SQUARE OR RECTANGULAR) - ASTM A 500, GRADE C
   - F. BASE PLATES AND MISCELLANEOUS STEEL PLATES - ASTM A 36
   - G. CONNECTION MATERIALS:
     - a. BEAM COLUMN STIFFENER PLATES AND DOUBLER PLATES TO MATCH THE GRADE STEEL OF STRUCTURAL ELEMENT.
     - b. ALL CONNECTION MATERIALS, EXCEPT AS OTHERWISE NOTED HEREIN OR IN THE DRAWINGS, INCLUDING BEARING PLATES, GUSSET PLATES, STIFFENER PLATES, ANGLES, ETC. - ASTM A 36
   - H. HIGH STRENGTH BOLTS - ASTM A 325 OR ASTM F1852
   - I. HARDENED STEEL WASHERS - ASTM F 436
   - J. ANCHOR RODS - ASTM F1554, GRADE 55
   - K. HEAVY HEX NUTS - ASTM A 563
   - L. HEADED STUD ANCHORS TO CONFORM TO THE REQUIREMENTS OF ASTM A 29/A 29M, AWS D1.1, AND SECTION A3.6 OF AISC 360 SPECIFICATION.
2. WELD MINIMUM SIZE AND STRENGTH
   - A. PROVIDE MINIMUM SIZE OF FILLET WELDS AS SPECIFIED IN TABLE J2.4 OF THE AISC MANUAL. USE 1/4 INCH FILLET WELD UNLESS NOTED OTHERWISE.
   - B. PROVIDE MINIMUM EFFECTIVE THROAT THICKNESS OF PARTIAL PENETRATION GROOVE WELDS AS SPECIFIED IN TABLE J2.3 OF THE AISC MANUAL.
   - C. DEVELOP THE FULL TENSILE STRENGTH OF THE MEMBER ELEMENT JOINED ON ALL SHOP AND FIELD WELDS UNLESS OTHERWISE NOTED ON THE DRAWINGS.
   - D. WHERE CONNECTIONS ARE NOTED ON DRAWINGS AS MOMENT CONNECTIONS, PROVIDE WELDS TO DEVELOP FULL FLEXURAL CAPACITY OF THE LESSER MEMBER.
   - E. PROVIDE ELECTRODES FOR FIELD OR SHOP WELDING THAT CONFORM TO AWS D1.1 CLASS E70XX.
3. PROVIDE MINIMUM OF TWO BOLTS PER CONNECTION. MINIMUM BOLT DIAMETER TO BE 3/4 INCH.
4. PROVIDE BOLTS, NUTS AND WASHERS THAT ARE HOT DIP GALVANIZED ACCORDING TO ASTM A 153, CLASS C WHEN USED TO CONNECT STEEL ELEMENTS THAT ARE HOT DIP GALVANIZED AFTER FABRICATION.
5. PROVIDE SIMPLE SHEAR CONNECTIONS FOR STEEL CONNECTIONS NOT OTHERWISE SPECIFIED UTILIZING HIGH STRENGTH BEARING BOLTS IN SINGLE OR DOUBLE SHEAR. PROVIDE DOUBLE ANGLE OR SINGLE PLATE SHEAR TAB BOLTED CONNECTIONS.
   - A. UNLESS LARGER REACTION IS SHOWN ON DRAWINGS, PROVIDE MINIMUM DESIGN FORCES AS FOLLOWS:
     - a. NONCOMPOSITE BEAMS: BEAM-TO-BEAM OR BEAM-TO-COLUMN CONNECTION TO DEVELOP THE REACTION OF CONNECTED BEAM. OBTAIN END REACTION FROM UNIFORM LOAD TABLES OF THE AISC MANUAL OF STEEL CONSTRUCTION. PROVIDE MINIMUM SHEAR CAPACITY OF 12,000 POUNDS FOR BEAMS 8 INCHES AND 10 INCHES DEEP. PROVIDE MINIMUM SHEAR CAPACITY OF 8,000 POUNDS FOR BEAMS LESS THAN 8 INCHES DEEP.
   - B. ADD TO REACTIONS LISTED ABOVE LOADS OR REACTIONS OF MEMBERS SUPPORTED BY BEAM WITHIN THREE FEET OF BEAM END AND VERTICAL COMPONENTS OF FORCES IN BRACE MEMBERS FRAMING INTO BEAM.
6. STEEL FABRICATION
   - A. FABRICATE AND ASSEMBLE STRUCTURAL MEMBERS/ASSEMBLIES IN SHOP TO GREATEST EXTENT POSSIBLE.
   - B. CAMBER OF STRUCTURAL STEEL MEMBERS IS INDICATED ON THE DRAWINGS. WHERE POSSIBLE, CAMBER OF BEAMS TO BE APPLIED BY COLD BEND PROCESS. CAMBER INDICATED ON DRAWINGS ARE INTENDED TO BE FINAL CAMBER AT TIME OF ERECTION, AND WITHIN A TOLERANCE OF MINUS ZERO TO PLUS 1/8 INCH FOR EACH TEN FEET OF MEMBER LENGTH.
   - C. SPLICING OF STRUCTURAL STEEL MEMBERS IS PROHIBITED WITHOUT PRIOR APPROVAL BY THE A/E.
   - D. STEEL FABRICATOR SHALL BE RESPONSIBLE FOR ALL ERRORS OF DETAILING ON THE SHOP DRAWINGS, ERRORS IN FABRICATION, AND THE CORRECT FITTING OF STRUCTURAL STEEL MEMBERS.
7. CONFORM TO THE AISC CODE OF STANDARD PRACTICE, FOR ERECTION TOLERANCES. FIELD MODIFICATION TO STRUCTURAL STEEL IS PROHIBITED WITHOUT PRIOR APPROVAL BY THE A/E.
8. CLEAN STEEL OF RUST, LOOSE MILL SCALE AND OTHER FOREIGN MATERIALS WHERE REQUIRED FOR FABRICATION, FITTING UP, OR WELDING.
9. DO NOT CUT STRUCTURAL STEEL MEMBERS FOR THE WORK OF OTHER TRADES WITHOUT PRIOR REVIEW AND APPROVAL OF THE A/E.
10. AFTER FABRICATION, HOT DIP GALVANIZE STRUCTURAL STEEL AND THEIR CONNECTIONS PERMANENTLY EXPOSED TO THE OUTSIDE. SUCH ITEMS INCLUDE BUT ARE NOT LIMITED TO:
    - A. SHELF ANGLES
    - B. PARAPET WALL SUPPORTING MEMBERS
    - C. SCREEN WALL SUPPORTING MEMBERS
    - D. EMBEDDED PLATES IN CONCRETE
    - E. BUILDING CLADDING SUPPORT STEEL
    - F. ALL OTHER STEEL MEMBERS EXPOSED TO WEATHER
11. EXAMINE THE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR OTHER ITEMS THAT REQUIRE HOT DIPPED GALVANIZATION.
12. PROVIDE NON-SHRINK/NON-METALLIC GROUT FOR BASE PLATES WITH MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 8000 PSI.
13. SUBMIT CALCULATIONS FOR CONNECTION DESIGNS NOT DETAILED ON DRAWINGS. DESIGN CONNECTIONS UNDER THE SUPERVISION OF A REGISTERED PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED.
14. THE STRUCTURAL STEEL FABRICATOR MUST FURNISH STEEL SHOP DRAWINGS FOR ARCHITECT'S AND STRUCTURAL ENGINEER'S REVIEW PRIOR TO FABRICATION. SHOP DRAWINGS MUST INCLUDE WELDING PROCEDURES, TESTING PROGRAMS FOR WELDING AND HIGH STRENGTH BOLTING, COATING MATERIAL, AND ERECTION SEQUENCE ON SHOP DRAWINGS.
15. MILL STEEL COLUMN ENDS TO FIT FLUSH WITH BASE PLATE, CAP PLATE, AND END PLATES. FIELD ASSEMBLY OF THESE STEEL ELEMENTS TO THE COLUMNS IS PROHIBITED.
16. BE RESPONSIBLE FOR ANY TEMPORARY SHORING OR BRACING DURING CONSTRUCTION PHASE PRIOR TO COMPLETING CONNECTIONS AND POURING FLOOR SLABS.

WOOD FRAMING NOTES

1. WOOD FRAMING SHALL MEET THE FOLLOWING MINIMUM STRESS PROPERTIES UNLESS NOTED OTHERWISE:

	MEMBER SIZE	BENDING F_b (PSI)	TENSION PARALLEL TO GRAIN F_t (PSI)	SHEAR PARALLEL TO GRAIN F_v (PSI)	COMPRESSION PERPENDICULAR TO GRAIN F_c (PSI)	COMPRESSION PARALLEL TO GRAIN F_c (PSI)	ELASTIC MODULUS E (PSI)
SOUTHERN PINE #2 OR BETTER	2x6	1,000	600	175	565	1,400	1,400,000
	2x10	800	475	175	565	1,300	1,400,000
	2x12	750	450	175	565	1,250	1,400,000
ROSBORO GLULAM X-BEAM	SEE DWGS	2,400	-	265	650	-	1,800,000

2. PROVIDE SIMPSON STRONG-TIE CONNECTORS OR EQUIVALENT FOR WOOD FRAMING CONNECTIONS TO SUPPORTING MEMBERS. USE STRONG-TIE CONNECTORS AND NAILS OF APPROPRIATE SIZE AND CAPACITY FOR THE SUPPORTED MEMBER AND INSTALL ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
3. ALL ROOF AND EXTERIOR WALL SHEATHING SHALL BE APA RATED CDX PLYWOOD WITH EXTERIOR GLUE (EXPOSURE 1) OR ORIENTED STRAND BOARD (OSB) WITH EXTERIOR GLUE (EXPOSURE 1), AND SHALL BEAR THE STAMP OF AN APPROVED TESTING AGENCY.
4. INSTALL ROOF SHEATHING WITH THE LONG DIMENSION OF THE PANEL PERPENDICULAR TO SUPPORTS UNLESS NOTED OTHERWISE, AND WITH PANEL CONTIUOUS OVER TWO OR MORE SPANS. STAGGER END JOINTS.
5. ALL ROOF SHEATHING SHALL BE APA RATED EXPOSURE 1 CDX PLYWOOD SHEATHING WITH A MINIMUM THICKNESS OF 5/8 INCH, DOC PS-1 OR PS-2, WITH A SPAN RATING OF AT LEAST 32/16 NAILED WITH 10d GALVANIZED COMMON NAILS AT 4 INCHES ON CENTER AT PANEL EDGES AND 12 INCHES ON CENTER AT INTERMEDIATE SUPPORTS. 10d NAILS SHALL HAVE A MINIMUM 0.148 INCH DIAMETER AND 1 1/2 INCHMINIMUM PENETRATION INTO SUPPORTING FRAMING.
6. OUTSIDE OF EXTERIOR WALLS SHALL BE SHEATHED WITH APA RATED EXPOSURE 1 OSB OR CDX PLYWOOD SHEATHING WITH A MINIMUM THICKNESS OF 5/8 INCH, DOC PS-1 OR PS-2, AND FASTENED TO WALL STUDS WITH 10d GALVANIZED COMMON NAILS AT 6 INCHES ON CENTER AT EDGES AND 12 INCHES ON CENTER AT INTERMEDIATE SUPPORTS. PROVIDE BLOCKING AT UNSUPPORTED PANEL EDGES. 10d NAILS SHALL HAVE A MINIMUM OF 0.148 INCH DIAMETER AND 1 1/2 INCH MINIMUM PENETRATION INTO SUPPORTING FRAMING.
7. INSTALL JOISTS, RAFTERS, HEADERS AND BEAMS "CROWN UP."
8. ALL JOISTS SHALL HAVE DIAGONAL BRIDGING OR FULL DEPTH BLOCKING AT 8 FEET ON CENTER MAXIMUM ALONG THE SPAN AND AT SUPPORTING BEAMS OR WALLS.
9. CUTTING, BORING OR NOTCHING OF FRAMING MEMBERS, IF REQUIRED, SHALL CONFORM TO THE LIMITATIONS PRESCRIBED BY THE IBC AND MAY BE DISALLOWED FOR SOME FRAMING MEMBERS BY THE A/E.
10. ALL WOOD IN CONTACT WITH CONCRETE AND EXTERIOR MASONRY SHALL BE PRESSURE TREATED.
11. REFER TO THE IBC FOR MINIMUM FASTENING CRITERIA. ALL NAILS TO BE COMMON WIRE SIZE. NAILING SHALL COMPLY WITH REQUIREMENTS OF NAILING SCHEDULE UNLESS NOTED OTHERWISE.
12. MOISTURE CONTENT OF ALL WOOD MEMBERS SHALL NOT EXCEED 19%.

PRE-ENGINEERED TRUSS NOTES

1. ALL TRUSSES CALLED OUT IN THE DRAWINGS SHALL BE PRE-ENGINEERED, MANUFACTURED TRUSSES. TRUSSES SHALL CONFORM TO THE SPACING, DIMENSIONS AND LAYOUTS CALLED OUT IN THESE NOTES AND ON THE PLANS AND SHALL BE DESIGNED FOR SPECIFIED LOADINGS.
2. MAXIMUM LIVE LOAD DEFLECTION FOR TRUSSES NOT TO EXCEED L/360. MAXIMUM TOTAL LOAD DEFLECTION NOT TO EXCEED L/240 OR 3/4 INCH, WHICHEVER IS GREATER.
3. TRUSSES AND CONNECTOR PLATES SHALL BE DESIGNED IN ACCORDANCE WITH THE LATEST REVISION OF THE TRUSS PLATE INSTITUDE SPECIFICATIONS. TRUSS MANUFACTURER SHALL DESIGN THE TRUSS TO WALL CONNECTIONS, U.N.O. ON THE DETAILS. PROVIDE FRAMING ANCHORS AND/OR TRUSS HANGERS AS REQUIRED AND AS SHOWN ON THE DRAWINGS.
4. PROVIDE TRUSS SHOP DRAWINGS, INSTALLATION DRAWINGS, AND CALCULATIONS PREPARED BY THE TRUSS MANUFACTURER IN ACCORDANCE WITH ALL APPLICABLE CODES, ORDINANCES, ETC.
5. CONTINUOUSLY BRACE AND SUPPORT TRUSSES DURING UNLOADING TO PREVENT EXCESSIVE STRESS ON THE JOINTS. DO NOT PERMIT TRUSSES TO DROP, SAG, OR BE SUPPORTED IN A DIRECTION PERPENDICULAR TO THE TRUSS PLANE. INSTALL TRUSSES IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS, INCLUDING PROPER HANDLING, SAFETY PRECAUTIONS, TEMPORARY BRACING DURING ERECTION AND ALL OTHER SAFEGUARDS.
6. INSTALL ALL PERMANENT CHORD BRACING REQUIRED BY TRUSS SHOP DRAWINGS (TYPICALLY 3 ROWS OF 2x4 - FULL LENGTH OF BUILDING).
7. INSPECT ALL TRUSSES AFTER INSTALLATION FOR DAMAGE. NOTIFY A/E IMMEDIATELY OF DAMAGED TRUSSES. REMOVE AND REPLACE ALL DAMAGED TRUSSES.
8. TRUSSES ARE A DEFERRED SUBMITTAL ITEM AND CONTRACTOR IS REQUIRED TO COMPLETE THE FOLLOWING:
   - A. FIRST, THE TRUSS PLANS AND CALCULATIONS, SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE WHERE THE PROJECT IS LOCATED, SHALL BE SUBMITTED TO THE A/E FOR REVIEW BEFORE SUBMITTING TO THE BUILDING DEPARTMENT. SECOND, THE SHOP DRAWINGS SHALL BE SUBMITTED WITH A NOTATION INDICATING THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED BY THE A/E AND HAVE BEEN FOUND TO BE IN GENERAL CONFORMANCE TO THE BUILDING DESIGN. THE TRUSS DESIGN SHALL BE APPROVED BY THE BUILDING DEPARTMENT BEFORE THE TRUSSES ARE FABRICATED. GENERAL CONTRACTOR SHOULD PLAN FOR REVIEW TIME BY BOTH THE A/E AND BUILDING OFFICIAL IN THE CONSTRUCTION SCHEDULE.

ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229
p 614.898.7100
f 614.898.7570
www.msconsultants.com

WHATABURGER
PROTOTYPE 20-M

1460 NE Douglas St
Lee's Summit, Missouri

WHATABURGER

STATE OF MISSOURI
CRAIG E. METZGER
NUMBER
PE-2019031268
PROFESSIONAL ENGINEER

PROFESSIONAL OF RECORD:
Craig E. Metzger No 2019031268
Exp Date: 12/31/21

REV	DESCRIPTION	DATE
	Issued for Bid/Permit	12/21/20
1	REV-1 Plan Review	01/27/21

Project No.: 40497-01
Client Project No.:
Drawing Title:

GENERAL NOTES

Date: 10/30/2020 *Phase:* BID/PERMIT
Designed: CEM
Drawn : CLS
Checked : CEM
Drawing No.: S0.2

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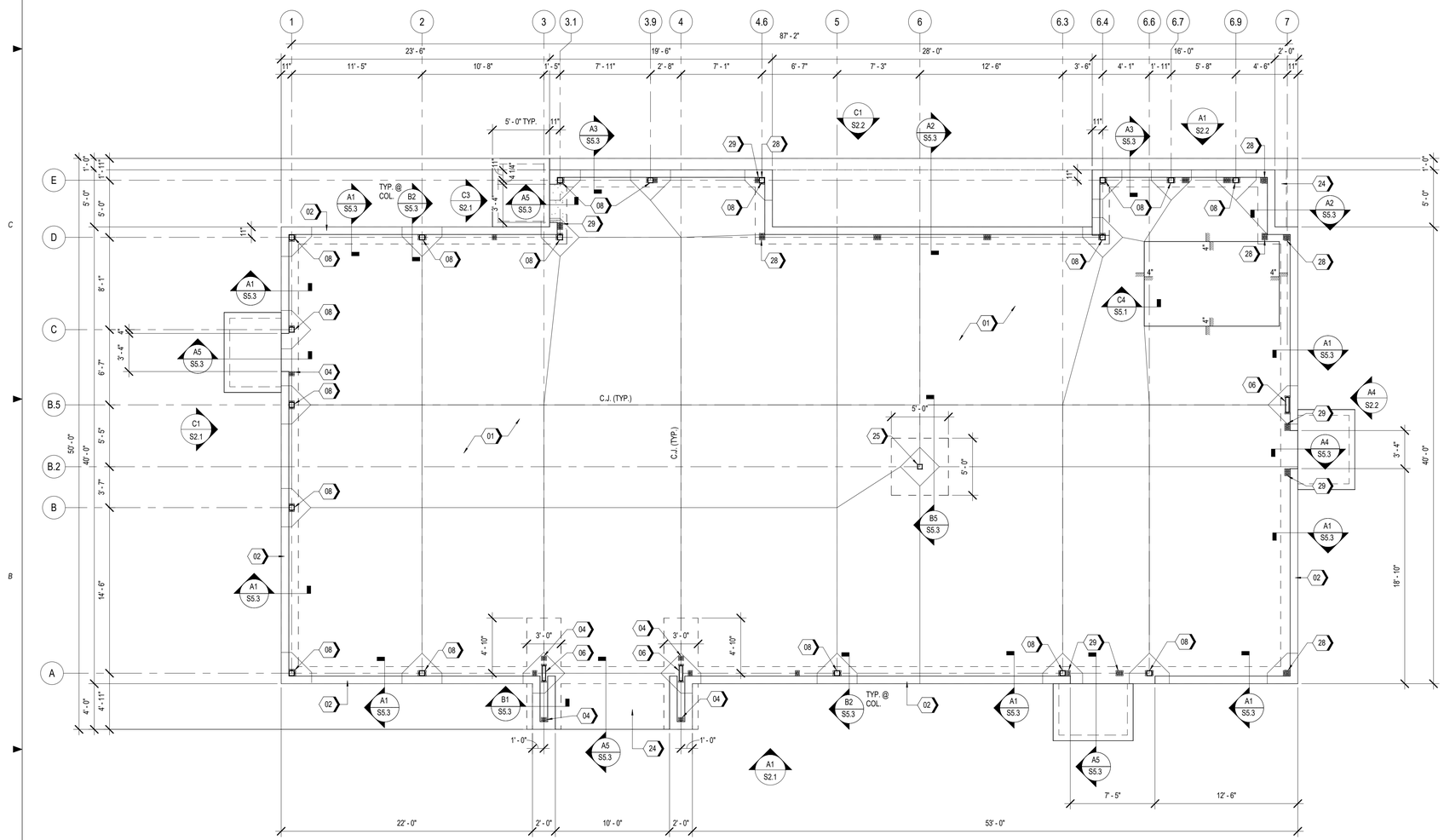

A1 FOUNDATION PLAN

3/16" = 1'-0"

PLAN NOTES

1. REFER TO SHEET S0.1 FOR GENERAL NOTES.
2. TOP OF STRUCTURAL SLAB ELEVATION CORRESPONDS TO ARCHITECTURAL FINISH FLOOR ELEVATION 100'-0" AND CIVIL ELEVATION 1019.25'.
3. C.J. INDICATES CONTROL JOINT. RE: A4/S5.1 FOR DETAILS.
4. PROVIDE 10 MIL POLYETHYLENE VAPOR BARRIOR IMMEDIATELY BELOW SLAB-ON-GRADE.
5. REFER TO THE GEOTECHNICAL REPORT FOR SUBGRADE PREPARATION.
6. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS AND SIZES OF ALL WALLS AND WALL OPENINGS.
7. COORDINATE ALL SLAB PENETRATIONS WITH ARCHITECTURAL AND MECHANICAL / ELECTRICAL / PLUMBING DRAWINGS.
8. AT CONDUIT PENETRATIONS AT GRADE BEAMS, PROVIDE ADDITIONAL (2) #5 REBAR 3" ABOVE AND BELOW CONDUIT.
9. RE: A3/S5.2 FOR NON-LOAD BEARING PARTITION WALL CONNECTION TO SLAB.
10. COORDINATE ALL EXTERIOR WALL STUD LOCATIONS WITH PRE-MANUFACTURED WOOD TRUSSES. A STUD IS REQUIRED TO BE LOCATE BELOW CENTERLINE OF EACH TRUSS U.N.O. ON ROOF FRAMING PLAN. LOCATE ANCHOR BOLTS TO AVOID STUDS/POSTS.
11. ALL EXTERIOR WALL STUDS ARE 2x6 STUDS SPACED AT 12" O.C. MAX., U.N.O. REFER TO ARCHITECTURAL DRAWINGS FOR INTERIOR WALL STUD SIZES AND SPACING.
12. RE: S5.2 FOR STEEL COLUMN BASE PLATE AND ANCHOR ROD SIZES AND DETAILS.

KEYNOTES

01	5" CONCRETE SLAB ON GRADE W/ #4 @ 18" O.C. EACH WAY.
02	8" WIDE x 4" TALL BRICK LEDGE, TYPICAL AROUND PERIMETER. OMIT AT DOORS.
04	(3) 2x6 STUD PACK. RE: A5/S5.2 FOR NAILING DETAILS.
06	HSS 16x4x5/16 COLUMN.
08	HSS 5-1/2x5-1/2x5/16 COLUMN.
24	PROVIDE 2% SLOPE AWAY FROM BUILDING AT TOP OF EXTERIOR SLAB-ON-GRADE.
25	HSS 5x5x1/4 COLUMN
28	TYPICAL CORNER STUD PACK. RE: A4/S5.2 FOR DETAIL.
29	HEADER SUPPORT STUDS. RE: C2/S5.2 AND A1/S5.2 FOR FRAMING DETAILS.

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
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01/13/2021

ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229
p 614.898.7100
f 614.898.7570
www.msconsultants.com

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1460 NE Douglas St
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WHATABURGER

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CRAIG E. METZGER
NUMBER
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Project No.: 40497-01

Client Project No.:

Drawing Title:

FOUNDATION PLAN

Date: 10/30/2020 *Phase:* BID/PERMIT

Designed: CEM
Drawn : CLS
Checked : CEM

Drawing No.: S1.1

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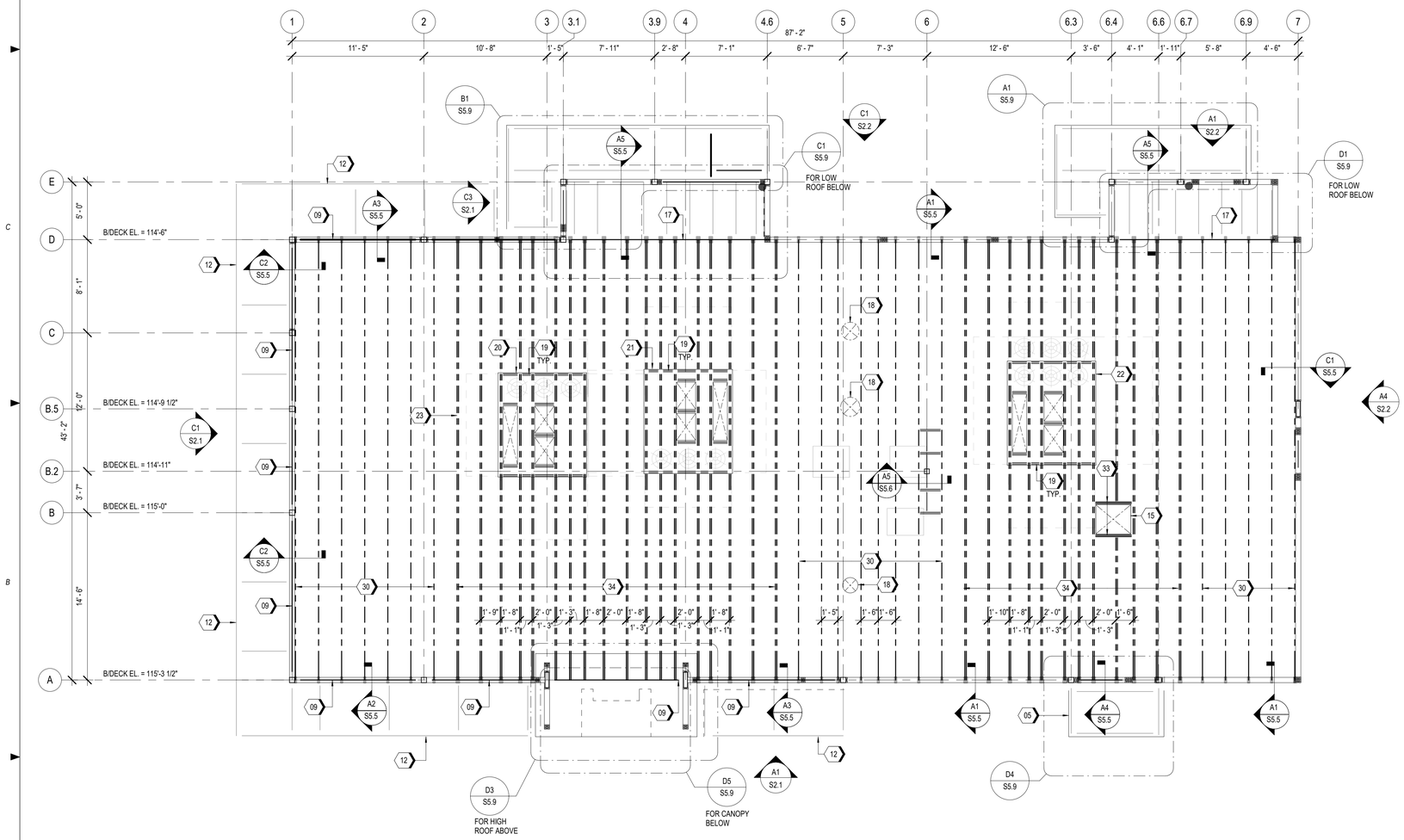

1 ROOF FRAMING PLAN
3/16" = 1'-0"

PLAN NOTES

1. REFER TO SHEET S0.1 FOR GENERAL NOTES.
2. COORDINATE LOCATIONS OF ALL WALLS AND WALL OPENINGS WITH ARCHITECTURAL DRAWINGS.
3. REFER TO MECHANICAL DRAWINGS FOR RTU DETAILS. RTU WEIGHTS NOT TO EXCEED XXXX LBS FOR RTU-1 AND XXXX LBS FOR RTU-2.
4. RE: B3/S5.2 FOR DIAPER CHANGING STATION DETAIL.
5. PROVIDE STUD PACK WITH HOLDDOWN AT ALL BUILDING CORNERS. SEE A4/S5.2 FOR DETAILS.
6. ALL NAILING SHALL CONFORM TO IBC TABLE 2304.10.1, U.N.O.
7. RE: C1/S5.2 FOR TYPICAL TOP PLATE SPLICE DETAIL AT ALL EXTERIOR WALLS.
8. RE: B4 & B5/S5.2 FOR TYPICAL CUTTING, NOTCHING, AND BORING OF WOOD STUDS.
9. PROVIDE 2x SOLID BLOCKING IN WALLS AS REQUIRED FOR REINFORCEMENT OF ALL GRAB BARS, RESTROOM FIXTURES, PLUMBING LINES, WALL BUMPERS, ETC. SEE ARCHITECTURAL AND KITCHEN INTERIOR ELEVATIONS FOR EQUIPMENT HEIGHTS AND LOCATIONS. SEE ARCHITECTURAL BUILDING AND WALL SECTIONS FOR LOCATIONS FOR ADDITIONAL BLOCKING REQUIREMENTS.
10. PROVIDE 2x6 SOLID BLOCKING BETWEEN WALL STUDS AT 4'-0" O.C.
11. PRE-MANUFACTURED ROOF WOOD TRUSSES TO BE SPACED AT 2'-0" ON CENTER, U.N.O. RE: S5.7 FOR TRUSS DIAGRAMS AND LOADING CRITERIA. DOUBLE TRUSSES UNDER MECHANICAL UNITS AND WHERE SHOWN ON PLAN.
12. REFER TO GENERAL NOTES FOR ROOF DECKING AND NAILING PATTERN.

KEYNOTES

05 EXTERIOR CANOPY BELOW. RE: S5.9 FOR ENLARGED FRAMING PLAN.
09 HSS 10x4x5/16 BEAM.
12 EXTERIOR SUNSHADE. RE: S5.10 FOR ENLARGED FRAMING PLAN.
13 HIGH ROOF ABOVE. RE: S5.9 FOR ENLARGED FRAMING PLAN.
15 ROOF HATCH. RE: ARCH.
17 5-1/2"x15" 24F-V4 GLULAM X-BEAM.
18 EXHAUST FAN OPENING IN ROOF DECK. RE: MECH. FOR SIZE. SHIFT LOCATION ACCORDINGLY TO AVOID ROOF FRAMING.
19 (2) 2x6 BTW. ROOF TRUSSES.
20 RTU 1. RE: MECH. MAX. WEIGHT = 2,000 LBS.
21 RTU 2. RE: MECH. MAX. WEIGHT = 2,000 LBS.
22 RTU 3. RE: MECH. MAX. WEIGHT = 2,400 LBS.
23 ROOF TOP SCREENWALL. RE: S5.6 FOR STRUCTURAL DETAILS. RE: ARCH. FOR FINISHES AND CLADDING.
30 30" DEEP PRE-MANUFACTURED WOOD ROOF TRUSS. RE: TRUSS DIAGRAM ON S5.7 FOR DETAILS.
33 (2) 30" DEEP PRE-MANUFACTURED SHORT WOOD ROOF TRUSSES, BACK-TO-BACK. RE: TRUSS DIAGRAM ON S5.7 FOR DETAILS.
34 (2) 30" DEEP PRE-MANUFACTURED WOOD ROOF TRUSSES, BACK-TO-BACK. RE: TRUSS DIAGRAM ON S5.7 FOR DETAILS.

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LEE'S SUMMIT, MISSOURI
01/13/2021

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Columbus, Ohio 43229
p 614.898.7100
f 614.898.7570
www.msconsultants.com

WHATABURGER PROTOTYPE 20-M

1460 NE Douglas St
Lee's Summit, Missouri

WHATABURGER

STATE OF MISSOURI
CRAIG E. METZGER
NUMBER
PE-2019031268
PROFESSIONAL ENGINEER

PROFESSIONAL OF RECORD:
Craig E. Metzger No 2019031268
Exp Date: 12/31/21

REV	DESCRIPTION	DATE
	Issued for Bid/Permit	12/21/20
1	REV-1 Plan Review	01/27/21

Project No.: 40497-01
Client Project No.:
Drawing Title:

ROOF FRAMING PLAN

Date: 10/30/2020 *Phase:* BID/PERMIT
Designed: CEM
Drawn : CLS
Checked : CEM
Drawing No.: S1.2

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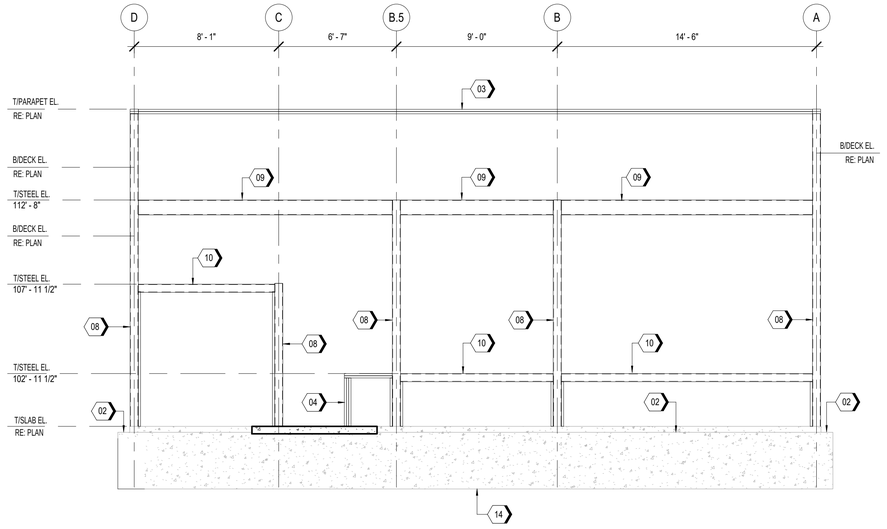
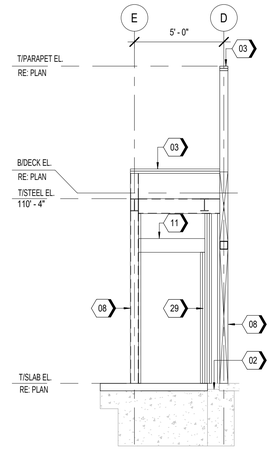
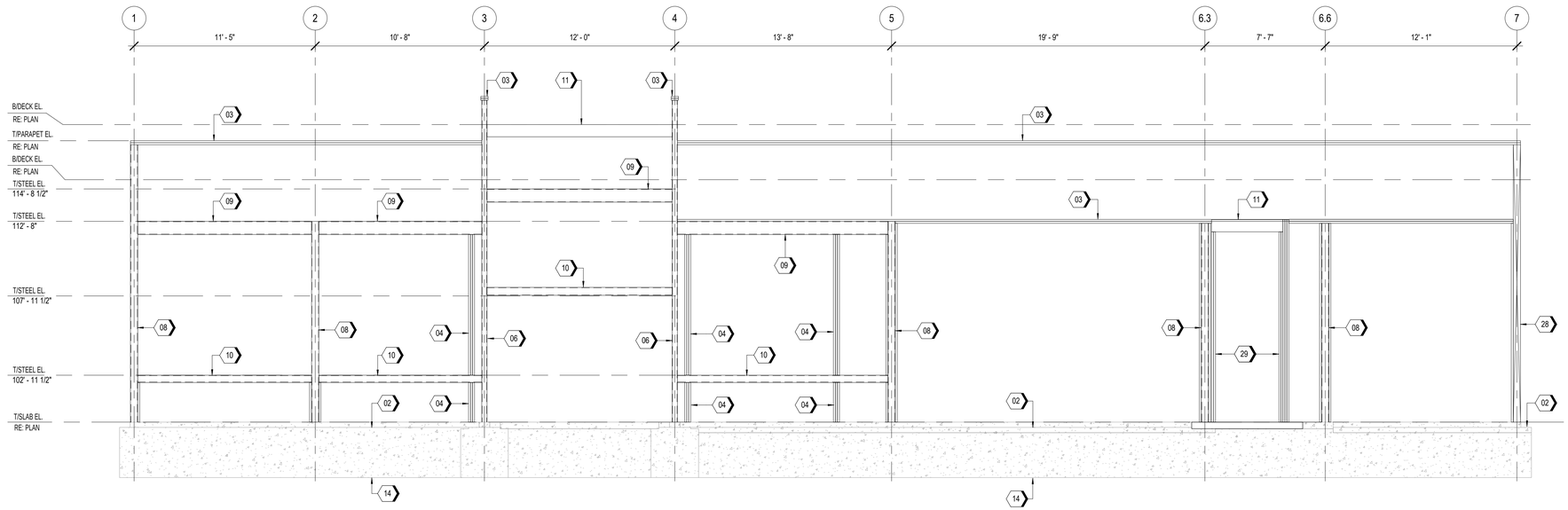


C1 PLAN WEST FRAMING ELEVATION
1/4" = 1'-0"



C3 PLAN NORTH FRAMING ELEVATION
1/4" = 1'-0"



A1 PLAN SOUTH FRAMING ELEVATION
1/4" = 1'-0"

KEYNOTES

02	8" WIDE x 4" TALL BRICK LEDGE, TYPICAL AROUND PERIMETER. OMIT AT DOORS.
03	DOUBLE 2x6 TOP PLATE.
04	(3) 2x6 STUD PACK. RE: A5/S5.2 FOR NAILING DETAILS.
06	HSS 16x4x5/16 COLUMN.
08	HSS 5-1/2x5-1/2x5/16 COLUMN.
09	HSS 10x4x5/16 BEAM.
10	HSS 5-1/2x5-1/2x5/16 BEAM.
11	HDR1, RE: C2/S5.2.
14	GRADE BEAM. REFER FOUNDATION PLAN FOR DETAILS.
28	TYPICAL CORNER STUD PACK. RE: A4/S5.2 FOR DETAIL.
29	HEADER SUPPORT STUDS. RE: C2/S5.2 AND A1/S5.2 FOR FRAMING DETAILS.

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Lee's Summit, Missouri

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CRAIG E. METZGER
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PROFESSIONAL ENGINEER

PROFESSIONAL OF RECORD:
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REV	DESCRIPTION	DATE
	Issued for Bid/Permit	12/21/20
1	REV-1 Plan Review	01/27/21

Project No.: 40497-01

Client Project No.:

Drawing Title:

FRAMING ELEVATIONS

Date: 10/30/2020 *Phase:* BID/PERMIT

Designed: CEM
Drawn : CLS
Checked : CEM

Drawing No.:
S2.1

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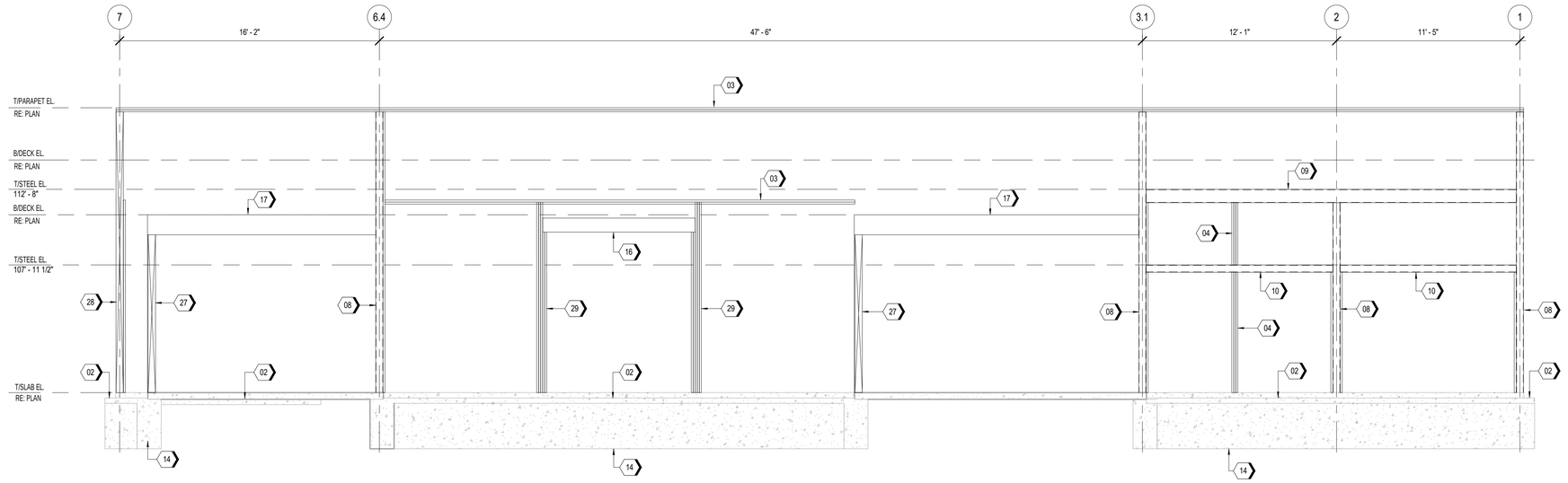
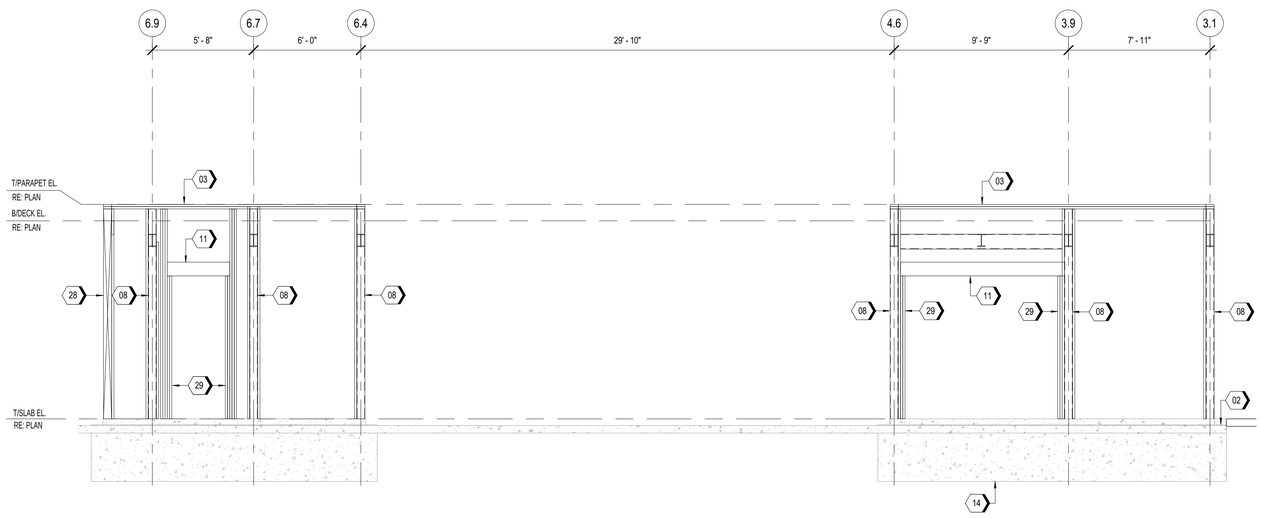
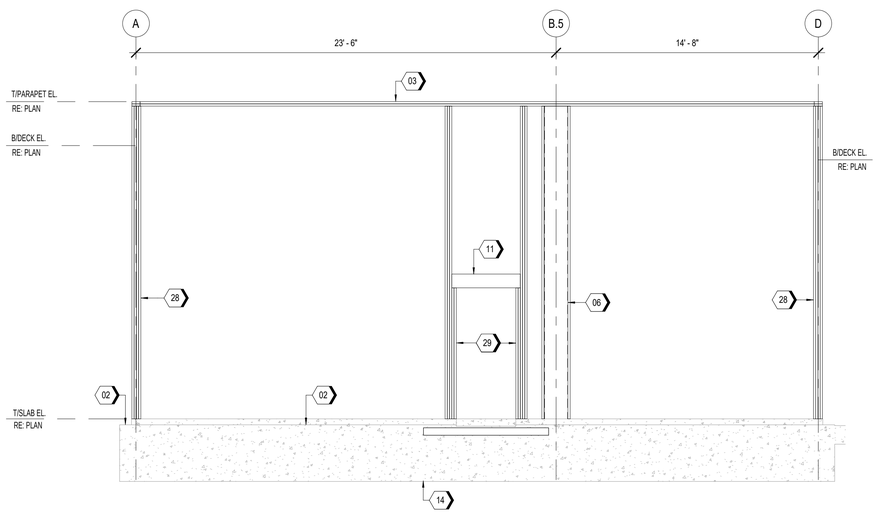


C1 PLAN NORTH FRAMING ELEVATION
1/4" = 1'-0"



A1 PLAN NORTH FRAMING ELEVATION
1/4" = 1'-0"



A4 PLAN EAST FRAMING ELEVATION
1/4" = 1'-0"

KEYNOTES

02	8" WIDE x 4" TALL BRICK LEDGE, TYPICAL AROUND PERIMETER. OMIT AT DOORS.
03	DOUBLE 2x6 TOP PLATE.
04	(3) 2x6 STUD PACK. RE: A5/S5.2 FOR NAILING DETAILS.
06	HSS 16x4x5/16 COLUMN.
08	HSS 5-1/2x5-1/2x5/16 COLUMN.
09	HSS 10x4x5/16 BEAM.
10	HSS 5-1/2x5-1/2x5/16 BEAM.
11	HDR1, RE: C2/S5.2.
14	GRADE BEAM. REFER FOUNDATION PLAN FOR DETAILS.
16	5 1/2"x10" 24F-V4 GLULAM X-BEAM.
17	5-1/2"x15" 24F-V4 GLULAM X-BEAM.
27	(4) 2x6 STUD PACK FOR GLULAM SUPPORT.
28	TYPICAL CORNER STUD PACK. RE: A4/S5.2 FOR DETAIL.
29	HEADER SUPPORT STUDS. RE: C2/S5.2 AND A1/S5.2 FOR FRAMING DETAILS.

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Project No.: 40497-01

Client Project No.:

Drawing Title:

FRAMING ELEVATIONS

Date: 10/30/2020 *Phase:* BID/PERMIT

Designed: CEM
Drawn : CLS
Checked : CEM

Drawing No.:

S2.2

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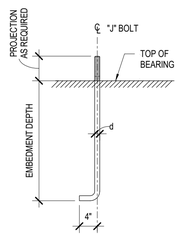
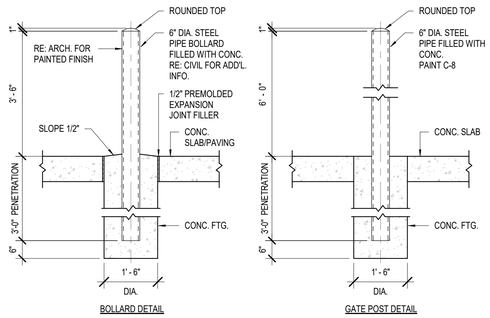
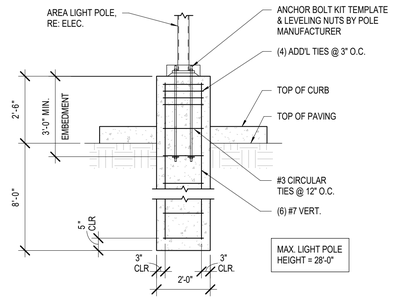


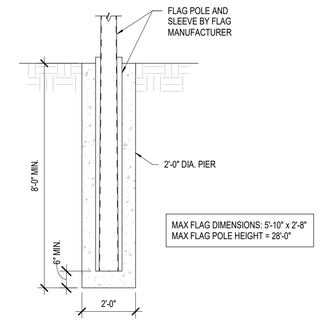
D2 ANCHOR BOLT DETAIL
NTS



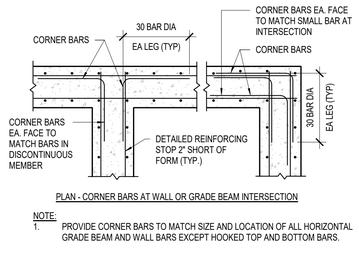
D3 TYP. BOLLARD/GATE POST DETAIL
NTS



D4 TYP. LIGHT POLE DETAIL
NTS



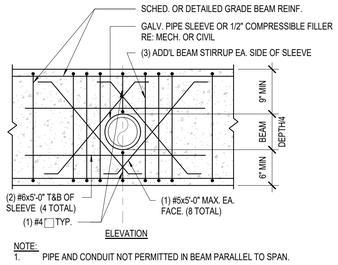
D5 TYP. FLAG POLE DETAIL
NTS



PLAN - CORNER BARS AT WALL OR GRADE BEAM INTERSECTION

NOTE:
1. PROVIDE CORNER BARS TO MATCH SIZE AND LOCATION OF ALL HORIZONTAL GRADE BEAM AND WALL BARS EXCEPT HOOKED TOP AND BOTTOM BARS.

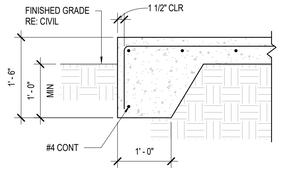
C1 TYPICAL CORNER BAR DETAIL
NTS



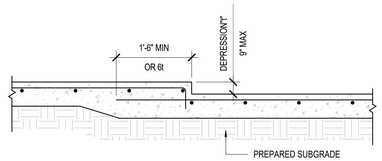
ELEVATION

NOTE:
1. PIPE AND CONDUIT NOT PERMITTED IN BEAM PARALLEL TO SPAN.

C2 TYPICAL SLEEVE IN GRADE BEAM
NTS

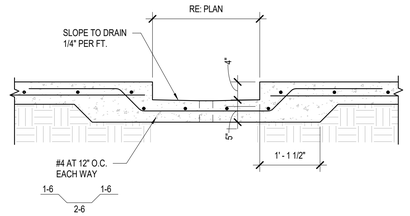


C3 TYP. CONCRETE TURNDOWN
NTS



SLAB DEPRESSION NOT GREATER THAN 9"

C4 TYP. SLAB-ON-GRADE DEPRESSION DETAIL
NTS



C5 SINK DETAIL
NTS

'Ld' TENSION DEVELOPMENT LENGTH FOR BEAM, SLAB, AND WALL REBARS (GRADE 60 UNCOATED BARS - NORMAL WEIGHT CONCRETE)

BAR SIZE	f'c=3000 psi		f'c=4000 psi		f'c=5000 psi		f'c=6000 psi		f'c=8000 psi	
	LdTOP	Ld BOT	LdTOP	Ld BOT	LdTOP	Ld BOT	LdTOP	Ld BOT	LdTOP	Ld BOT
# 3	1'-9"	1'-4"	1'-6"	1'-2"	1'-5"	1'-1"	1'-3"	1'-0"	1'-1"	1'-0"
# 4	2'-4"	1'-10"	2'-1"	1'-7"	1'-10"	1'-5"	1'-8"	1'-3"	1'-5"	1'-1"
# 5	3'-0"	2'-3"	2'-7"	2'-0"	2'-4"	1'-9"	2'-1"	1'-7"	1'-10"	1'-5"
# 6	3'-7"	2'-9"	3'-1"	2'-4"	2'-9"	2'-1"	2'-6"	1'-11"	2'-2"	1'-8"
# 7	5'-2"	4'-0"	4'-6"	3'-6"	4'-0"	3'-1"	3'-8"	2'-10"	3'-2"	2'-5"
# 8	5'-11"	4'-7"	5'-2"	3'-11"	4'-7"	3'-6"	4'-2"	3'-3"	3'-8"	2'-10"
# 9	6'-8"	5'-2"	5'-9"	4'-5"	5'-2"	4'-0"	4'-9"	3'-8"	4'-1"	3'-2"
# 10	7'-6"	5'-10"	6'-6"	5'-0"	5'-10"	4'-6"	5'-4"	4'-1"	4'-7"	3'-7"
# 11	8'-4"	6'-5"	7'-3"	5'-7"	6'-6"	5'-0"	5'-11"	4'-7"	5'-1"	3'-11"

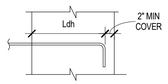
NOTES:
1. "TOP' BARS ARE HORIZONTAL REBARS WITH MORE THAN 12 IN OF FRESH CONCRETE CAST BELOW THE BARS AT THE DEVELOPMENT LENGTH.
2. 'Ld' FOR #3 AND #4 BARS IN SLAB OR WALL ARE CONSERVATIVE AND MAY BE REDUCED TO 0.75 TIMES.
3. FOR LIGHT-WEIGHT CONCRETE MULTIPLY THE TABULATED VALUES BY 1.3.

TENSION LAP SPLICES CLASS B FOR TOP & BOTTOM BARS (GRADE 60 UNCOATED BARS NORMAL WEIGHT CONCRETE)

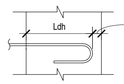
BAR SIZE	f'c=3000 psi		f'c=4000 psi		f'c=5000 psi		f'c=6000 psi		f'c=8000 psi	
	TOP	BOT	TOP	BOT	TOP	BOT	TOP	BOT	TOP	BOT
# 3	2'-4"	1'-9"	2'-0"	1'-6"	1'-10"	1'-5"	1'-8"	1'-4"	1'-5"	1'-4"
# 4	3'-1"	2'-4"	2'-8"	2'-1"	2'-5"	1'-10"	2'-2"	1'-8"	1'-11"	1'-5"
# 5	3'-10"	3'-0"	3'-4"	2'-7"	3'-0"	2'-4"	2'-9"	2'-1"	2'-4"	1'-10"
# 6	4'-8"	3'-7"	4'-0"	3'-1"	3'-7"	2'-9"	3'-3"	2'-6"	2'-10"	2'-2"
# 7	6'-9"	5'-2"	5'-10"	4'-6"	5'-3"	4'-0"	4'-9"	3'-8"	4'-2"	3'-2"
# 8	7'-9"	5'-11"	6'-8"	5'-2"	6'-0"	4'-7"	5'-5"	4'-2"	4'-9"	3'-8"
# 9	8'-8"	6'-8"	7'-6"	5'-9"	6'-9"	5'-2"	6'-2"	4'-9"	5'-4"	4'-1"
# 10	9'-10"	7'-6"	8'-6"	6'-6"	7'-7"	5'-10"	6'-11"	5'-4"	6'-0"	4'-7"
# 11	10'-11"	8'-4"	9'-5"	7'-3"	8'-5"	6'-6"	7'-8"	5'-11"	6'-8"	5'-1"

NOTE:
1. FOR CLASS 'A' SPLICE (PERMITTED ONLY WHEN NOT MORE THAN HALF THE BARS SPLICED AND SPLICES STAGGERED BY THE DISTANCE OF SPLICE LENGTH), USE SAME AS 'ld' = TENSION DEVELOPMENT LENGTH TABLE.

'Ldh' TENSION DEVELOPMENT (EMBEDMENT) LENGTH FOR STANDARD END HOOKS



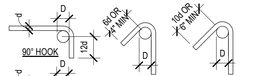
STANDARD 90° HOOK SIDE COVER ≥ 2 1/2"



STANDARD 180° HOOK SIDE COVER ≥ 2 1/2"

BAR SIZE	f'c = 3000 psi		f'c = 4000 psi		f'c = 5000 psi		f'c = 6000 psi		f'c = 7000 psi		f'c = 8000 psi	
	Ldh	0.7Lhb	Ldh	0.7Lhb	Ldh	0.7Lhb	Ldh	0.7Lhb	Ldh	0.7Lhb	Ldh	0.7Lhb
# 3	10"	7"	9"	6"	8"	6"	7"	6"	7"	6"	6"	6"
# 4	1'-2"	10"	1'-0"	8"	11"	7"	10"	7"	9"	6"	8"	6"
# 5	1'-5"	1'-0"	1'-3"	10"	1'-1"	9"	1'-0"	8"	11"	8"	10"	7"
# 6	1'-9"	1'-2"	1'-6"	1'-0"	1'-4"	11"	1'-3"	10"	1'-1"	9"	1'-1"	9"
# 7	2'-0"	1'-5"	1'-9"	1'-3"	1'-7"	1'-1"	1'-5"	1'-0"	1'-4"	11"	1'-3"	10"
# 8	2'-3"	1'-7"	2'-0"	1'-5"	1'-9"	1'-3"	1'-7"	1'-2"	1'-6"	1'-1"	1'-5"	1'-0"
# 9	2'-7"	1'-10"	2'-3"	1'-7"	2'-0"	1'-5"	1'-10"	1'-3"	1'-8"	1'-2"	1'-7"	1'-1"
# 10	2'-11"	2'-0"	2'-6"	1'-9"	2'-3"	1'-7"	2'-1"	1'-5"	1'-11"	1'-4"	1'-9"	1'-3"
# 11	3'-3"	2'-3"	2'-9"	1'-11"	2'-6"	1'-9"	2'-3"	1'-7"	2'-1"	1'-6"	2'-0"	1'-5"

NOTES:
1. Ldh = DEVELOPMENT LENGTH OF STANDARD HOOKS IN TENSION.
2. Ldh = Lhb UNLESS CONDITIONS OF ITEMS 3 ARE SATISFIED.
3. Ldh = 0.7 Lhb FOR #11 BARS AND SMALLER WHEN SIDE COVER (NORMAL TO PLAN OF HOOK) IS NOT LESS THAN 2 1/2" AND FOR 90° HOOKS, COVER ON BAR EXTENSION BEYOND HOOK IS NOT LESS THAN 2 INCHES.
4. HOOKS ARE NOT CONSIDERED EFFECTIVE FOR DEVELOPING BARS IN COMPRESSION.
5. Ldh SHALL BE MULTIPLIED BY 1.2 FOR EPOXY-COATED HOOKED BARS.



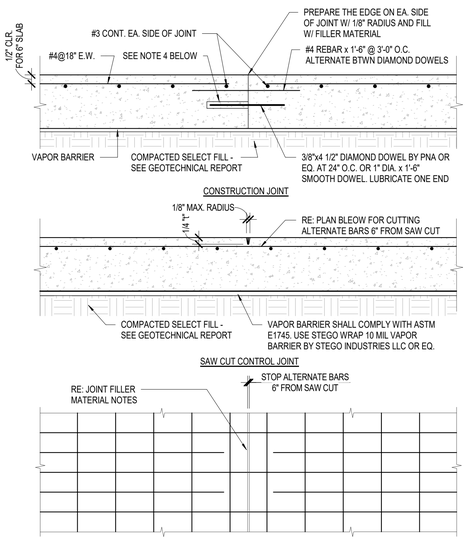
NOTE:
FOR 'D' ETC SEE CRSI HANDBOOK GOVERNING EDITION.

PRINCIPAL REINFORCING

BAR DIA	MIN "D"
#3	1 1/2"
#4	2"
#5	2 1/2"
#6	3"
#7	3 1/2"
#8	4"
#9	4 1/2"
#10	5"
#11	5 1/2"

NOTES:
1. BENDS SHALL BE MADE COLD.
2. #14 AND #18 BARS SHALL BE BEND-TESTED AND APPROVED PRIOR TO BENDING.

A1 TENSION SCHEDULE & BAR BENDS
NTS



A4 TYPICAL CONSTRUCTION / CONTROL JOINT SLAB-ON-GRADE
NTS

CONSTRUCTION JOINT NOTES:
1. REFER TO PLAN FOR SLAB THICKNESS (t) AND REINFORCEMENT.
2. SLAB REINFORCEMENT SHALL BE CHAIRED BY SOIL SUPPORT SLAB BOLSTERS.
3. DO NOT USE THE KEY JOINT FOR SCREEDING.
4. BREAK BOND BETWEEN NEW AND PREVIOUSLY PLACED SLAB BY SPRAYING OR PAINTING THE EXPOSED SIDE OF THE KEY AND DOWEL WITH CURING COMPOUND, ASPHALTIC EMULSION OR FORM OIL.
5. REFER TO GENERAL NOTES, GENERAL SPECIFICATIONS, AND DRAWINGS FOR SUB-FLOOR DRAINAGE SYSTEM, SUBGRADE PREPARATION AND/OR MUD SLAB AND VAPOR BARRIER REQUIREMENTS.
6. SUBGRADE SHALL BE FREE OF STANDING WATER AT THE TIME OF CONCRETE PLACEMENT.
7. LONG STRIP CONSTRUCTION METHOD SHALL BE USED IN PLACING CONCRETE FOR ALL SLABS ON GRADE. REFER TO SCHEMATIC PLAN FOR CONCRETE PLACING SEQUENCE.

JOINT SPACING NOTES:
1. PROVIDE CONTROL AND/OR CONSTRUCTION JOINTS AT EVERY COLUMN LINE AND IN BETWEEN THE COLUMN LINES SUCH THAT THE JOINT SPACING DOES NOT EXCEED 30 TIMES THE SLAB THICKNESS IN INCHES, UNLESS OTHERWISE NOTED. SUBMIT JOINT PLAN FOR ENGINEER'S APPROVAL.

FORMED CONTROL JOINT NOTES:
1. FORM CONTROL JOINTS BY INSERTING PRE-MOLDED STRIP INTO FRESH CONCRETE UNTIL TOP SURFACE OF STRIP IS FLUSH WITH SLAB SURFACE.
2. TOOL SLAB EDGES ROUND ON EACH SIDE OF INSERT.
3. AFTER CONCRETE HAS CURED, REMOVE INSERTS AND CLEAN GROOVE OF LOOSE DEBRIS.

DOWEL NOTES:
1. ALL DOWELS SHALL CONFORM TO ASTM A615.
2. DOWELS SHALL BE CAREFULLY ALIGNED AND SUPPORTED DURING CONCRETING OPERATIONS.

JOINT FILLER NOTES:
1. FILLER MATERIAL SHALL HAVE A MINIMUM SHORE HARDNESS OF 35, AND SHALL CONFORM TO ASTM D2240. JOINT FILLER SHALL BE APPROVED BY A/E PRIOR TO APPLICATION. APPROVED JOINT FILLER IS VULKEM 245 AS MANUFACTURED BY MAMECO INTERNATIONAL OR EUCO QWIK JOINT 200 BY THE EUCLID CHEMICAL COMPANY OR EQUAL.
2. WHERE POSSIBLE, FILLER MATERIAL SHALL BE APPLIED WHEN BUILDING IS UNDER PERMANENT TEMPERATURE CONTROL. THIS SHALL BE EITHER AT THE END OF CONSTRUCTION OF THE COMPLETE BUILDING SHELL, OR A MINIMUM OF 90 DAYS AFTER SLAB CONSTRUCTION.
3. FOLLOW STRICTLY THE MANUFACTURER'S RECOMMENDED PROCEDURES FOR APPLYING THE JOINT FILLER.

SAW CUT CONTROL JOINT NOTES:
1. MAKE HAND-TOOLED JOINTS AS SOON AS SLAB IS ABLE TO SUPPORT THE WEIGHT OF WORKERS AND SAWING EQUIPMENT WITHOUT DAMAGE TO FINISH SURFACE OF SLAB. SAW CUT JOINTS ARE TO BE MADE ABSOLUTELY PRIOR TO THE NEXT MORNING AFTER PLACEMENT.
2. CLEAN JOINT PRIOR TO FILLING JOINT.
3. LOCATE CONTROL JOINTS AT COLUMN LINES. MAXIMUM SPACING BETWEEN CONTROL JOINTS = 30 x SLAB THICKNESS IN INCHES. LOCATE CONTROL JOINTS BETWEEN COLUMNS AS REQ'D.

WHATABURGER PROTOTYPE 20-M

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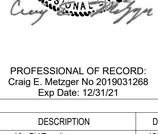
WHATABURGER



PROFESSIONAL OF RECORD:
Craig E. Metzger No 2019031268
Exp Date: 12/31/21

REV	DESCRIPTION	DATE
	Issued for Bid/Permit	12/21/20
1	REV-1 Plan Review	01/27/21

Project No.: 40497-01
Client Project No.:
Drawing Title:

TYPICAL DETAILS

Date: 10/30/2020 *Phase:* BID/PERMIT
Designed: CEM
Drawn : CLS
Checked : CEM
Drawing No.: S5.1

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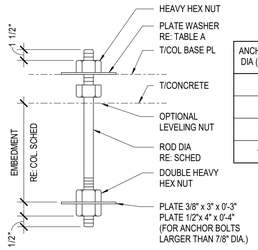


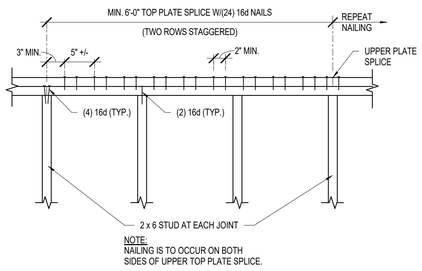
ANCHOR ROD DIA (INCHES)	HOLE DIA (INCHES)	MINIMUM WASHER SIZE
3/4	1 5/16	PL 3/8" x 1 7/8" x 1 7/8"
7/8	1 9/16	PL 3/8" x 2 1/4" x 2 1/4"
1	1 13/16	PL 1/2" x 2 5/8" x 2 5/8"
1 1/8	1 15/16	PL 5/8" x 2 7/8" x 2 7/8"

D1 TYP. ANCHOR ROD DETAIL
NTS

COLUMN SIZE	BASE PLATE t x L x W	ANCHOR RODS	ANCHOR ROD EMBEDMENT DEPTH
HSS16x4	1-1/2" x 12" x 1'-11"	(6) 1-1/8" DIA.	20"
HSS8x4	1" x 13" x 1'-3"	(4) 1" DIA.	20"
HSS6x6	1" x 13" x 1'-1"	(4) 1" DIA.	20"
HSS6x4	1" x 13" x 1'-1"	(4) 1" DIA.	20"
HSS5-1/2x5-1/2	1" x 12" x 1'-0"	(4) 1" DIA.	20"

REFER TO TYPICAL ANCHOR ROD DETAIL FOR ADD'L INFO.

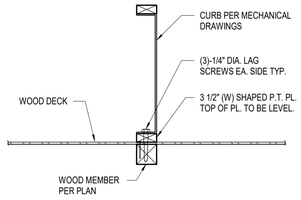
D2 BASE PLATE SCHEDULE
3/4" = 1'-0"



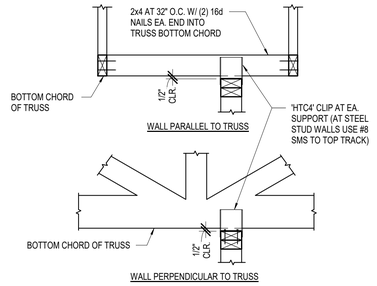
C1 TOP PLATE SPLICE
NTS

WOOD HEADER SCHEDULE			
MARK	SIZE	NO. OF JACK STUDS EACH SIDE	NO. OF KING STUDS EACH SIDE
HDR1	(3) 2x12	(2) 2x6	(3) 2x6
HDR2	(3) 2x10	(2) 2x6	(3) 2x6

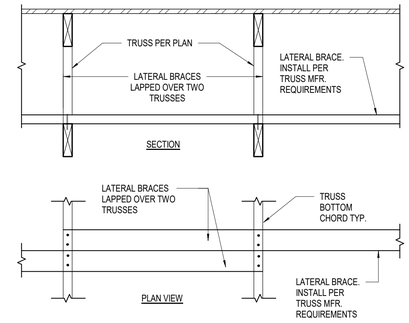
C2 WOOD HEADER SCHEDULE
NTS



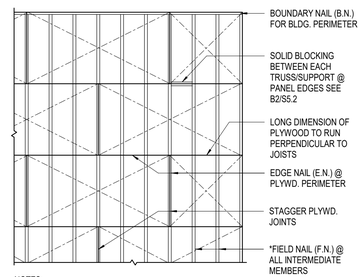
C3 MECHANICAL CURB ATTACHMENT
NTS



C4 INTERIOR NON-BEARING WALL SUPPORT
NTS

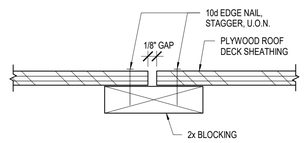


C5 BOTTOM CHORD TRUSS BRACING
NTS

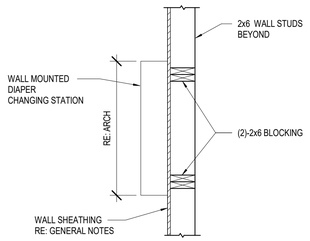


NOTES:
1. MIN. PLYWD. SHT. SIZE SHALL BE 2'-0" X 4'-0".
2. MIN. 3/8" NAILING EDGE DISTANCE.
3. EDGE NAIL (E.N.) O/ BEAMS AND AROUND ALL OPENINGS.
4. PROVIDE 2 x 6 BLOCKING AT 4'-0" O.C.

B1 ROOF NAILING PLAN
NTS

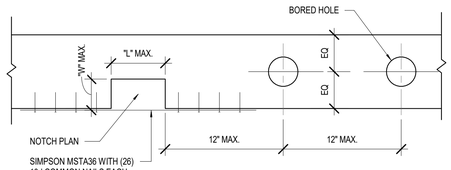


B2 PLYWOOD EDGE BLOCKING
NTS



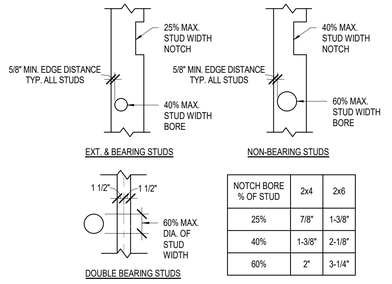
NOTE: DIAPER CHANGING STATION TO BE ATTACHED TO 2x6 WALL STUDS.

B3 DIAPER CHANGING STATION DETAIL
NTS



DOUBLE 2x TOP PLATES, 2x OR 3x SILL PLATES	NOTCHES			BORED HOLES
	MIN. SPACING	"L" MAX.	"W" MAX.	MAX. DIA.
2x4	6'-0"	3-1/2"	1-1/2"	1-1/4"
2x6	6'-0"	5-1/2"	2"	2"
2x8	6'-0"	5-1/2"	3"	3"

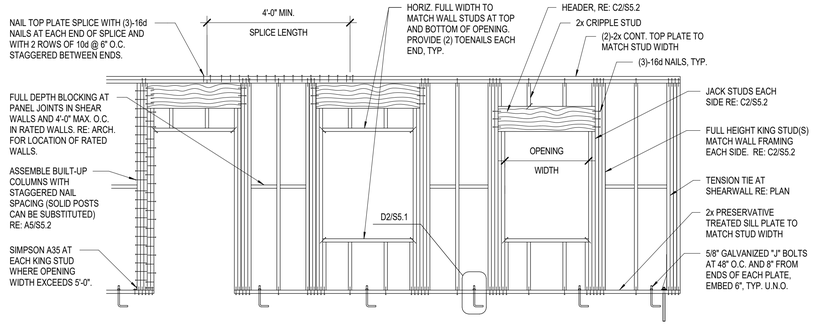
B4 ALLOW. PL. BORING/NOTCHING
NTS



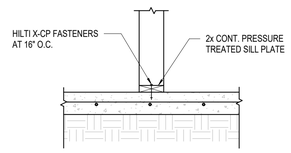
NOTCH BORE % OF STUD	2x4	2x6
25%	7/8"	1-3/8"
40%	1-3/8"	2-1/8"
60%	2"	3-1/4"

NOTES:
1. NOTCH & BORING NOT TO OCCUR IN SAME STUD SECTION.
2. NO MORE THAN 2 SUCCESSIVE DOUBLE STUDS MAY HAVE 60% MAX. BORED HOLES.

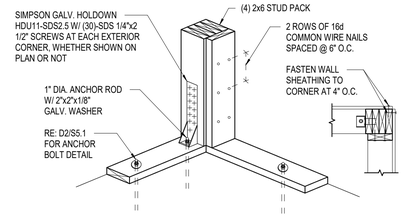
B5 ALLOW. STUD BORING/NOTCHING
NTS



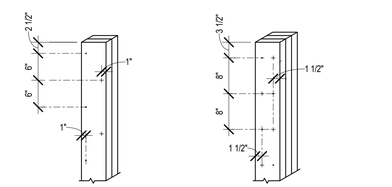
A1 TYPICAL WALL FRAMING
NTS



A3 TYP. INT. STUD WALL DETAIL
NTS



A4 TYP. CORNER STUD DETAIL
NTS



(2)-2x LAMINATIONS WITH ONE ROW OF STAGGERED 10d COMMON WIRE NAILS. (D=0.148",L=3")

(3)-2x LAMINATIONS WITH TWO ROWS OF 30d COMMON WIRE NAILS. (D=0.207",L=4 1/2")

"-" DENOTES NAILS DRIVEN FROM BACK FACE

A5 TYP. BUILT-UP COLUMN DETAIL
NTS

STATE OF MISSOURI
CRAIG E. METZGER
NUMBER PE-2019031268
PROFESSIONAL ENGINEER

PROFESSIONAL OF RECORD:
Craig E. Metzger No 2019031268
Exp Date: 12/31/21

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Project No.: 40497-01
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Drawing Title:

TYPICAL DETAILS

Date: 10/30/2020 *Phase:* BID/PERMIT
Designed: CEM
Drawn : CLS
Checked : CEM
Drawing No.: S5.2

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PROTOTYPE 20-M

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Lee's Summit, Missouri

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STATE OF MISSOURI
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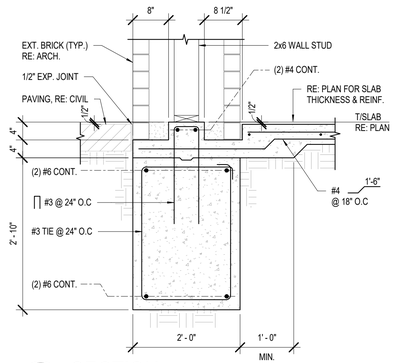
FOUNDATION DETAILS

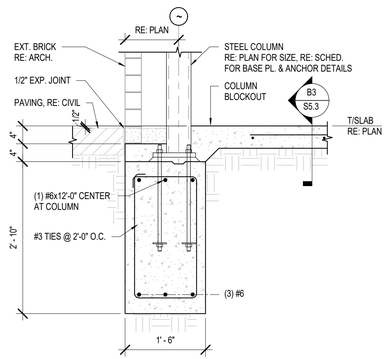
Date: 10/30/2020 *Phase:* BID/PERMIT

Designed: CEM
Drawn : CLS
Checked : CEM

Drawing No.: S5.3



B1 SECTION
3/4" = 1'-0"



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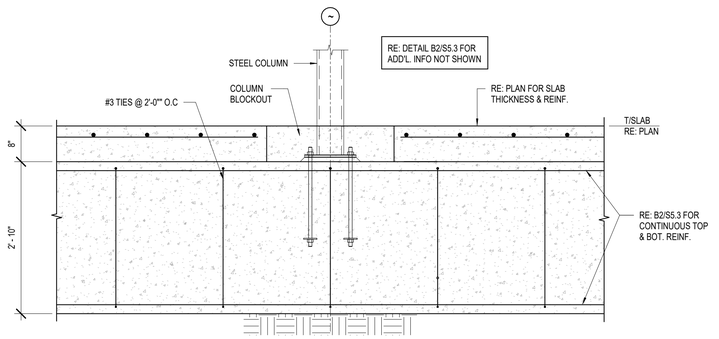

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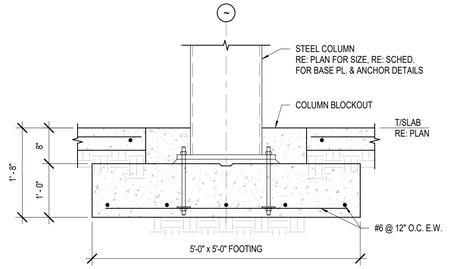

B5 SECTION
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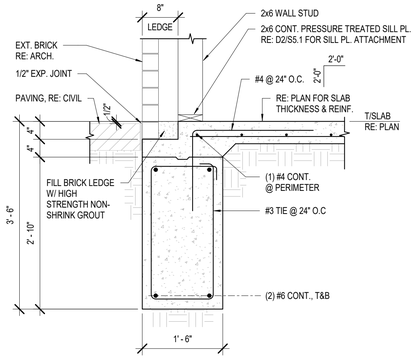

A1 SECTION
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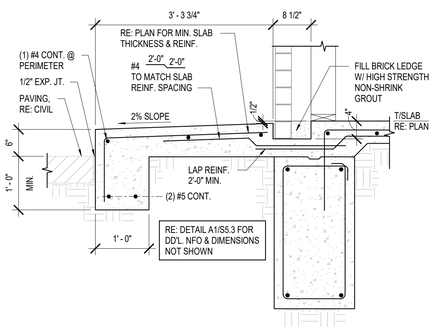

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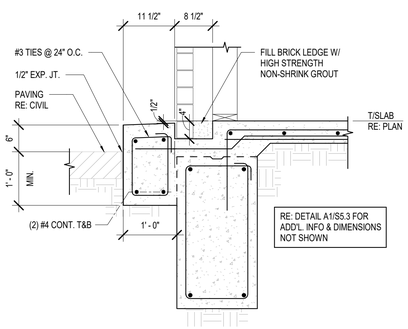

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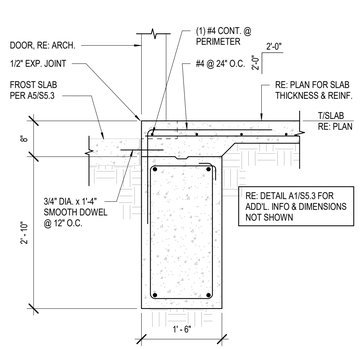

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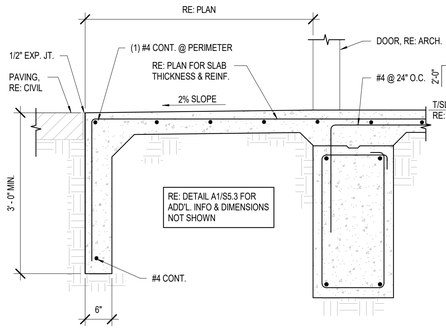

A5 SECTION
3/4" = 1'-0"

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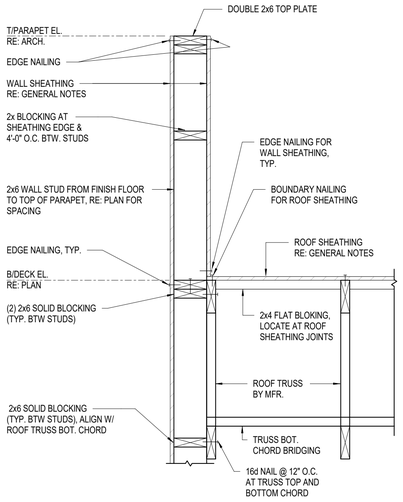

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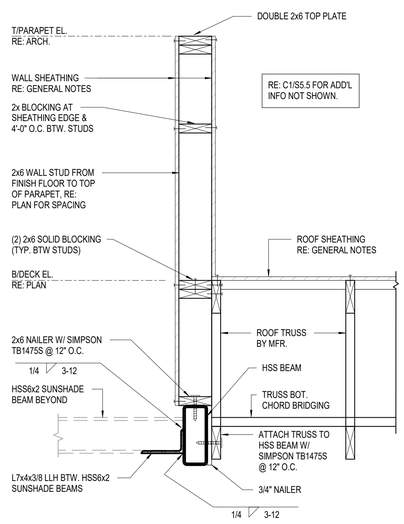

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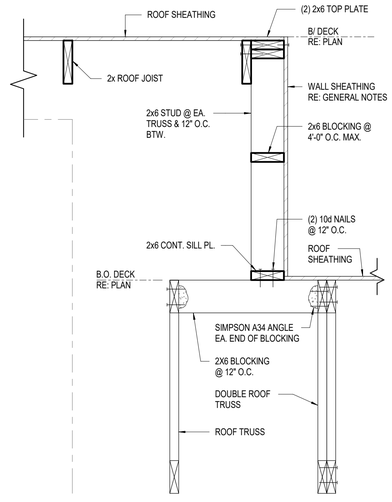

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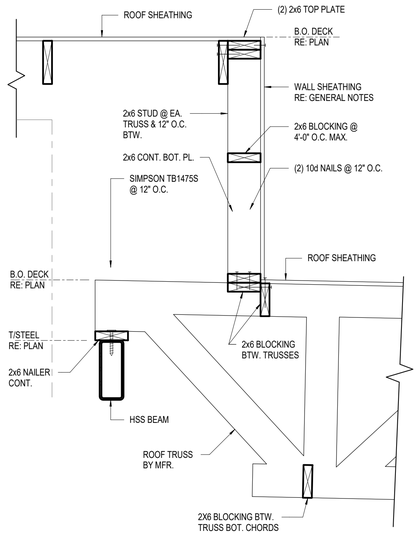

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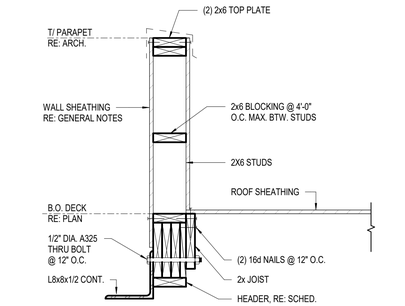

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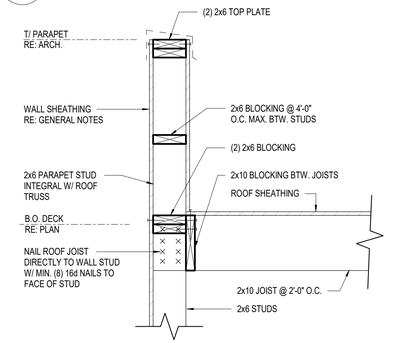

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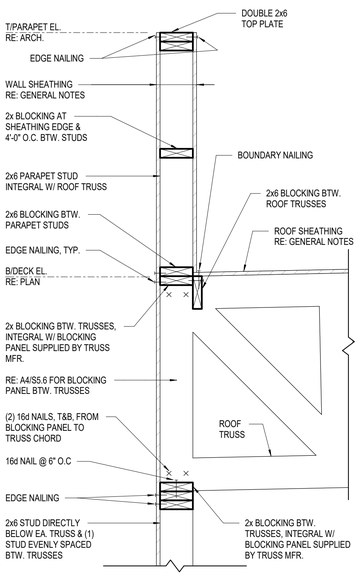

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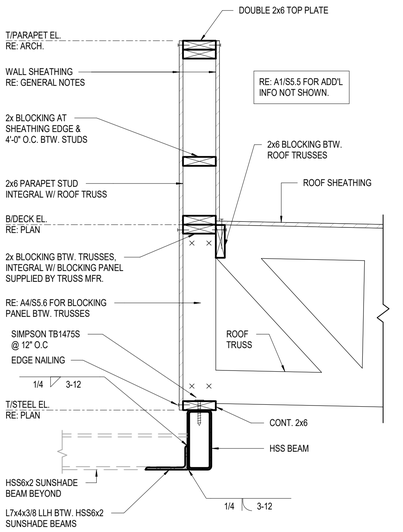

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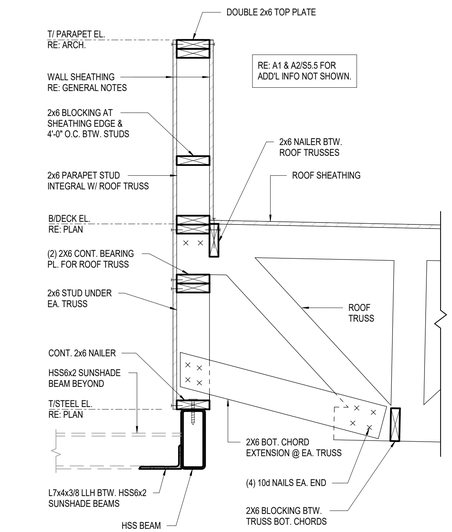

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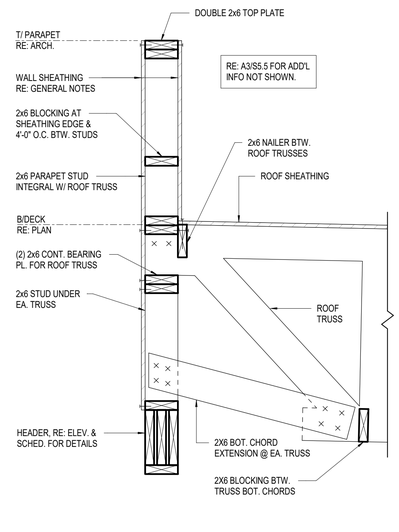

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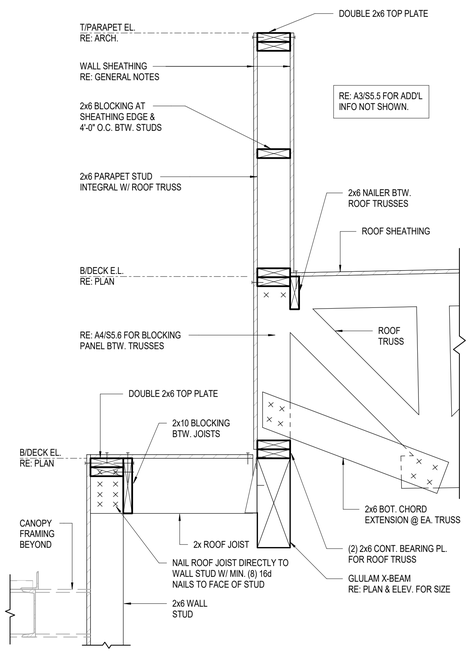

A5 SECTION
1" = 1'-0"

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FRAMING DETAILS

Date: 10/30/2020 *Phase:* BID/PERMIT

Designed: CEM
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Checked : CEM

Drawing No.: S5.5

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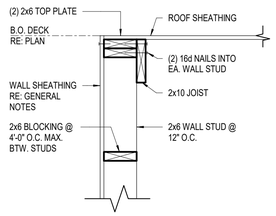

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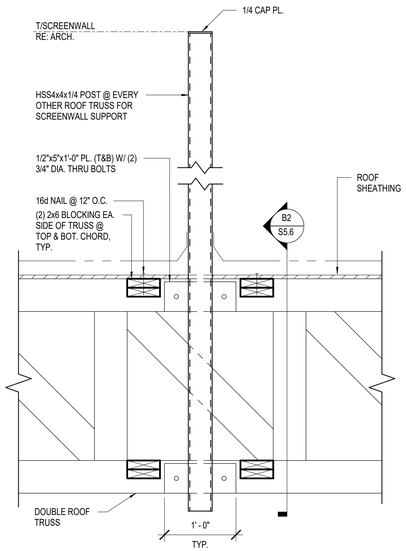
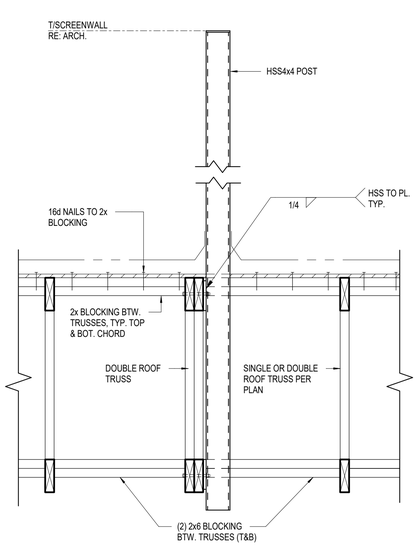


B1 ROOF SCREENWALL DETAIL
1" = 1'-0"



B2 ROOF SCREENWALL DETAIL
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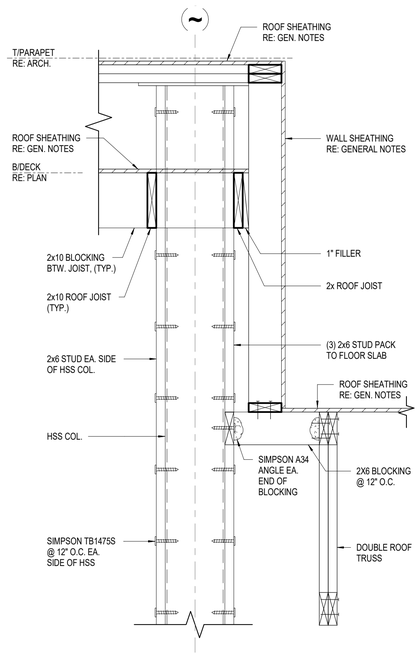

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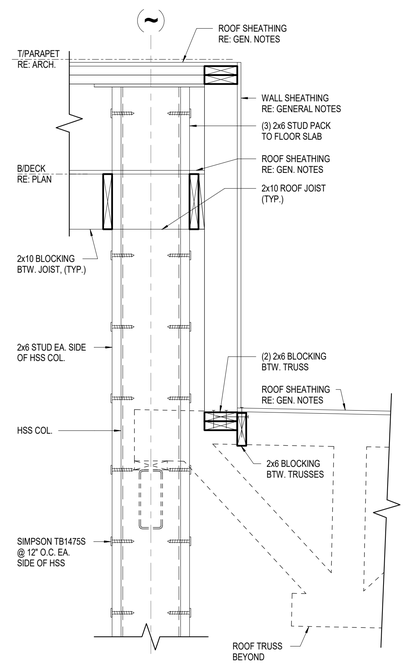

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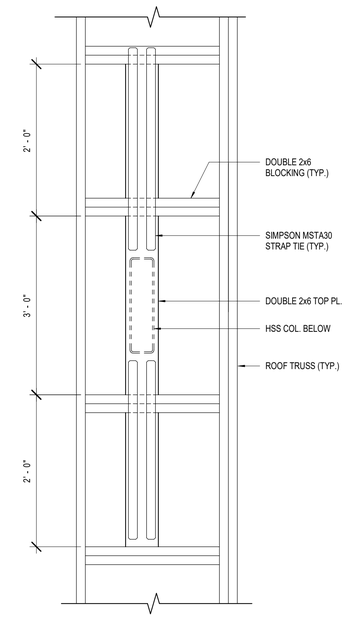
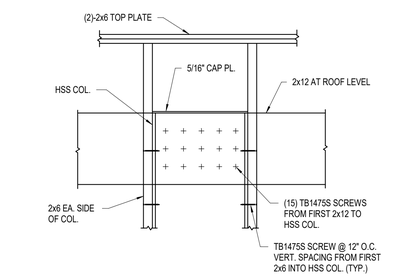
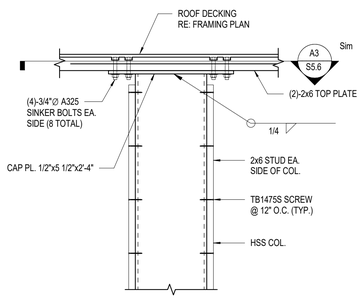


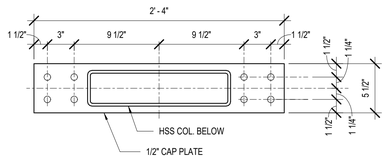
B5 DETAIL
1" = 1'-0"



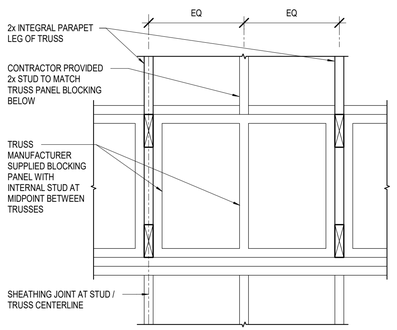
A1 CONNECTION DETAIL
1/2" = 1'-0"



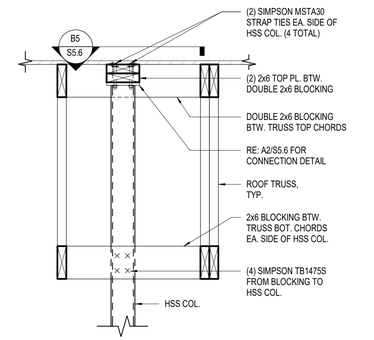
A2 CONNECTION DETAIL
1 1/2" = 1'-0"



A3 CONNECTION DETAIL
1 1/2" = 1'-0"



A4 FRAMING ELEV. AT TRUSS END
NTS



A5 SECTION
1" = 1'-0"

STATE OF MISSOURI
CRAIG E. METZGER
NUMBER PE-2019031268
PROFESSIONAL ENGINEER

PROFESSIONAL OF RECORD:
Craig E. Metzger No 2019031268
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REV	DESCRIPTION	DATE
	Issued for Bid/Permit	12/21/20
1	REV-1 Plan Review	01/27/21

Project No.: 40497-01

Client Project No.:

Drawing Title:

FRAMING DETAILS

Date: 10/30/2020 *Phase:* BID/PERMIT

Designed: CEM
Drawn : CLS
Checked : CEM

Drawing No.: S5.6

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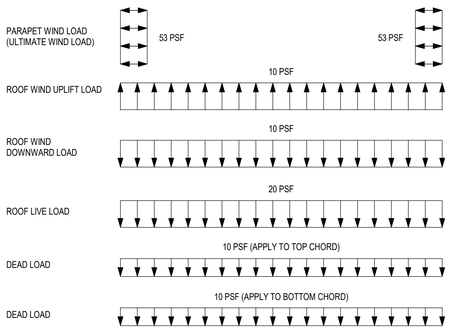
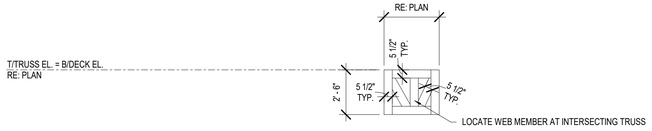
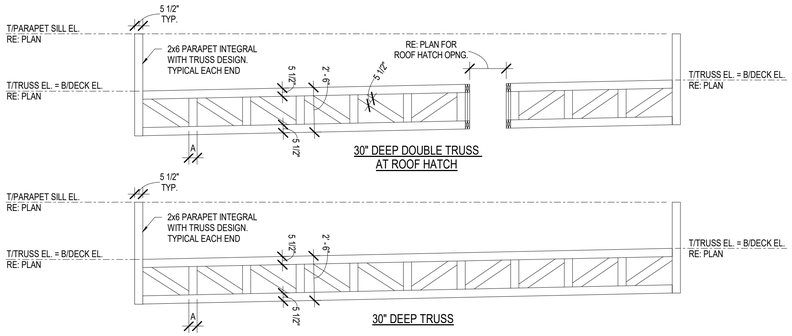


NOTE:
1. ACCOUNT FOR MECHANICAL ROOF TOP UNIT LOADS IN THE TRUSS DESIGN. LOADS ARE NOT INCLUDED IN THE ABOVE LOADING DIAGRAM. WEIGHT AND LOCATION OF UNITS ARE SHOWN ON THE ROOF FRAMING PLAN. VERIFY THESE LOADS WITH THE MECHANICAL SUPPLIER BEFORE DESIGNING TRUSS.

C1 TRUSS DESIGN CRITERIA
NTS

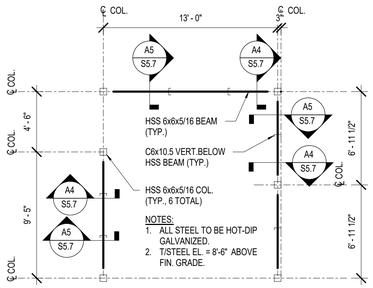


30" DEEP SHORT DOUBLE TRUSS
AT ROOF HATCH

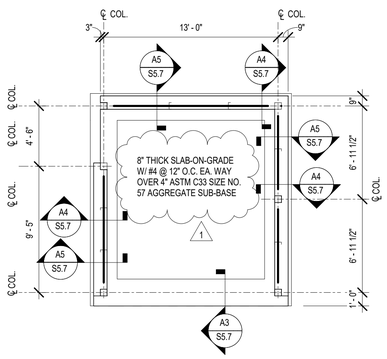


NOTES:
1. ALL PRE-MANUFACTURED WOOD TRUSS MEMBERS SHALL BE COMPRISED OF MINIMUM 2x6 LUMBER.

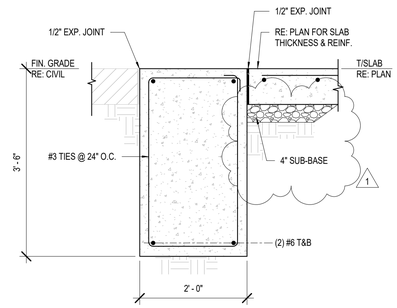
C2 PRE-MANUFACTURED ROOF TRUSS DIAGRAM
NTS



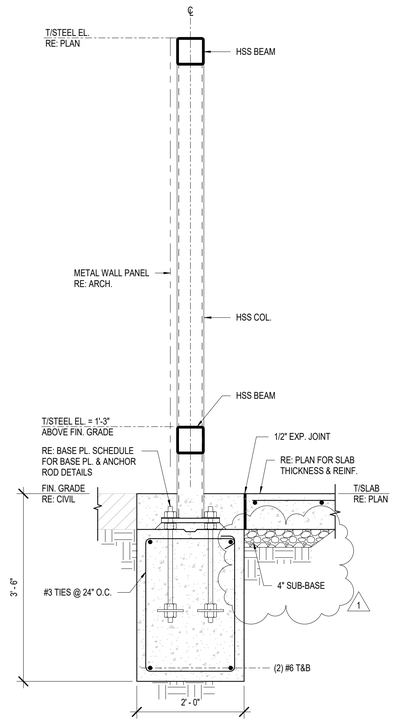
B1 TRASH ENCLOSURE FRAMING PLAN
3/16" = 1'-0"



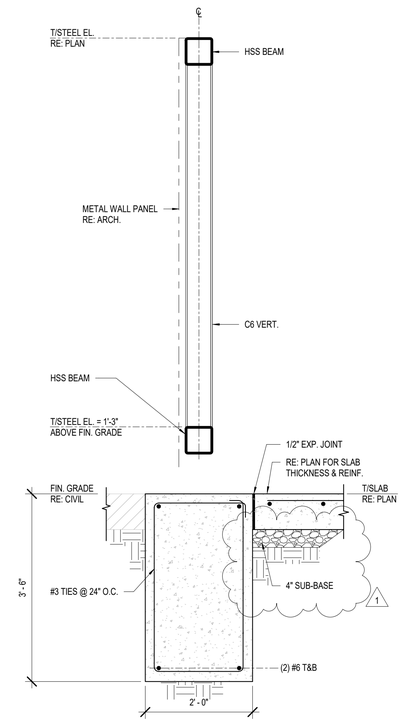
A1 TRASH ENCLOSURE FOUNDATION PLAN
3/16" = 1'-0"



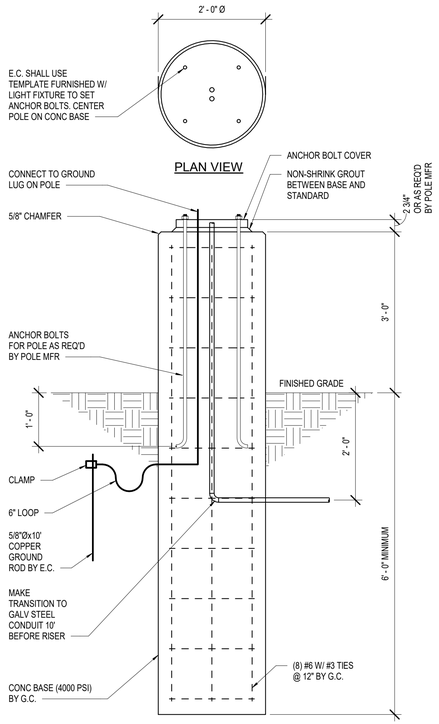
A3 SECTION
3/4" = 1'-0"



A4 SECTION
3/4" = 1'-0"



A5 SECTION
3/4" = 1'-0"



C5 LIGHT POLE BASE
3/4" = 1'-0"

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WHATABURGER
PROTOTYPE 20-M

1460 NE Douglas St
Lee's Summit, Missouri

WHATABURGER

STATE OF MISSOURI
CRAIG E. METZGER
NUMBER
PE-2019031268
PROFESSIONAL ENGINEER

PROFESSIONAL OF RECORD:
Craig E. Metzger No 2019031268
Exp Date: 12/31/21

REV	DESCRIPTION	DATE
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Project No.: 40497-01
Client Project No.:
Drawing Title:

FRAMING DETAILS

Date: 10/30/2020 *Phase:* BID/PERMIT
Designed: CEM
Drawn : CLS
Checked : CEM
Drawing No.: S5.7

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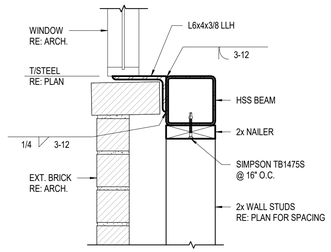
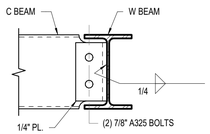
WHATABURGER PROTOTYPE 20-M

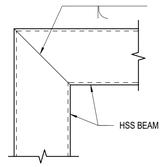
1460 NE Douglas St
Lee's Summit, Missouri



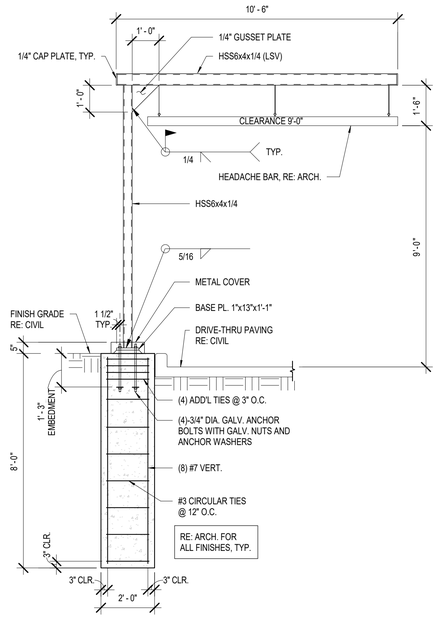
D1 DETAIL
1 1/2" = 1'-0"



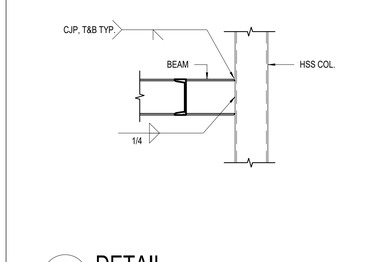
C1 DETAIL
1 1/2" = 1'-0"



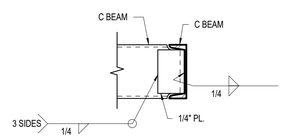
C2 DETAIL
1 1/2" = 1'-0"



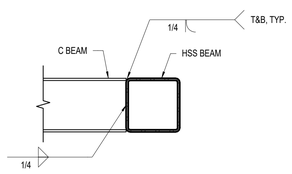
C5 HEADACHE BAR DETAIL
3/8" = 1'-0"



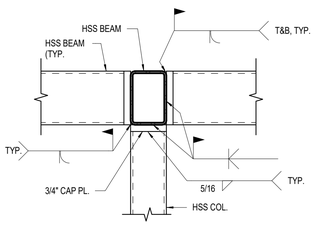
B1 DETAIL
1" = 1'-0"



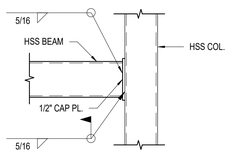
B2 DETAIL
1 1/2" = 1'-0"



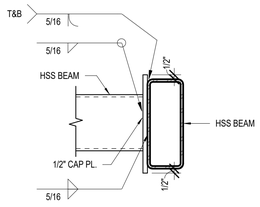
B3 DETAIL
1 1/2" = 1'-0"



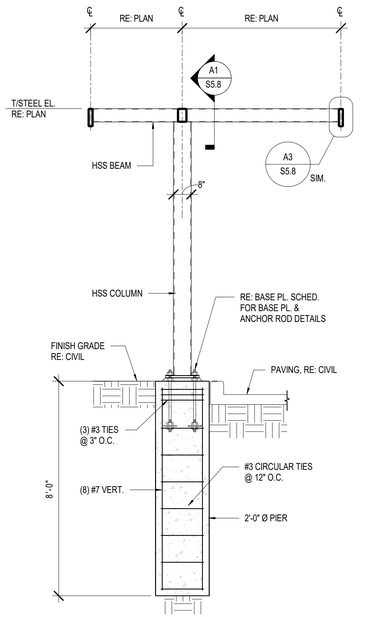
A1 DETAIL
1 1/2" = 1'-0"



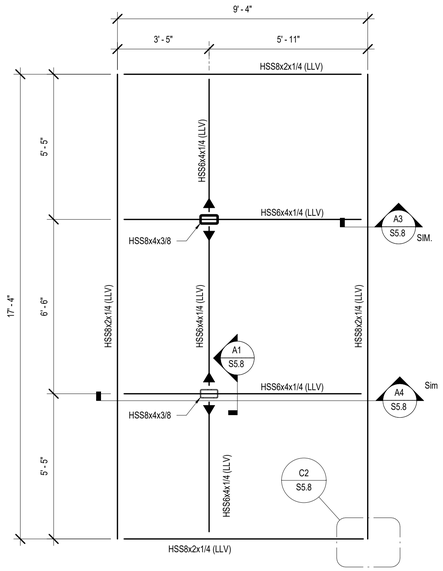
A2 DETAIL
1" = 1'-0"



A3 DETAIL
1 1/2" = 1'-0"



A4 SECTION
3/8" = 1'-0"



A5 DRIVE-THRU MENU BOARD CANOPY FRAMING PLAN
3/8" = 1'-0"

NOTES:
1. ALL STEEL TO BE HOT-DIP GALVANIZED.
2. ALL DIMENSIONS SHOWN ARE TO CENTERLINE OF MEMBER.
3. T/STEEL EL. = 10'-2".

STATE OF MISSOURI
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NUMBER
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PROFESSIONAL ENGINEER

PROFESSIONAL OF RECORD:
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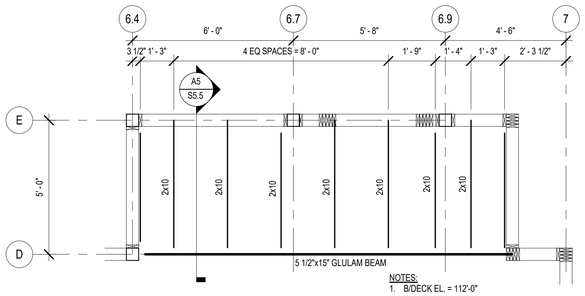
REV	DESCRIPTION	DATE
	Issued for Bid/Permit	12/21/20
1	REV-1 Plan Review	01/27/21

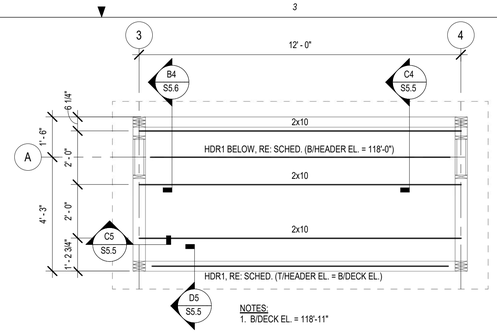
Project No.: 40497-01
Client Project No.:

Drawing Title:
FRAMING DETAILS

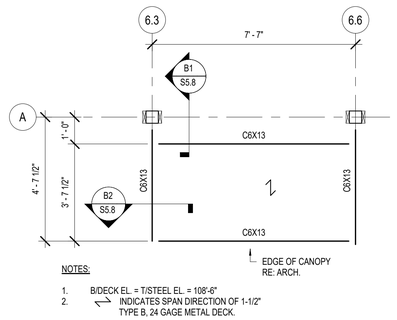
Date: 10/30/2020 *Phase:* BID/PERMIT
Designed: CEM
Drawn : CLS
Checked : CEM
Drawing No.: S5.8



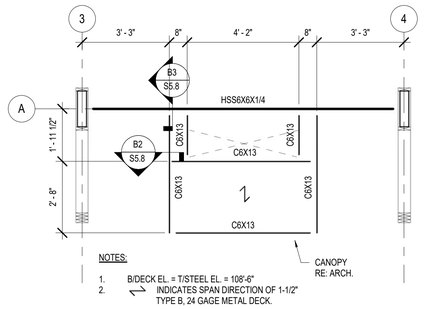
D1 ENLARGED PLAN
3/8" = 1'-0"



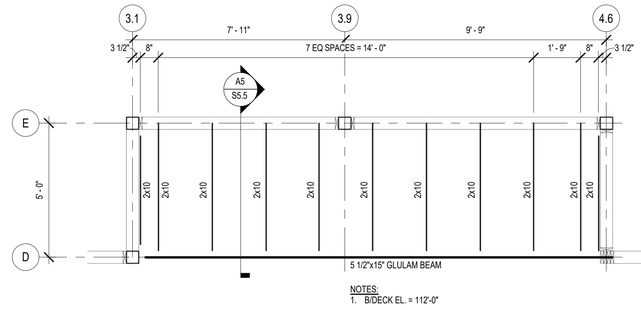
D3 ENLARGED PLAN
3/8" = 1'-0"



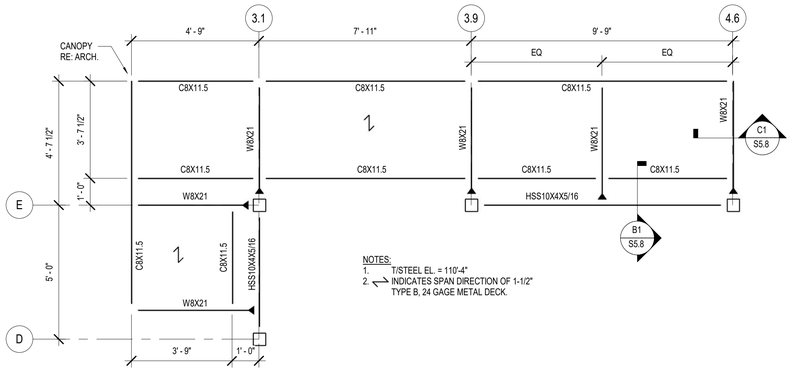
D4 ENLARGED PLAN
3/8" = 1'-0"



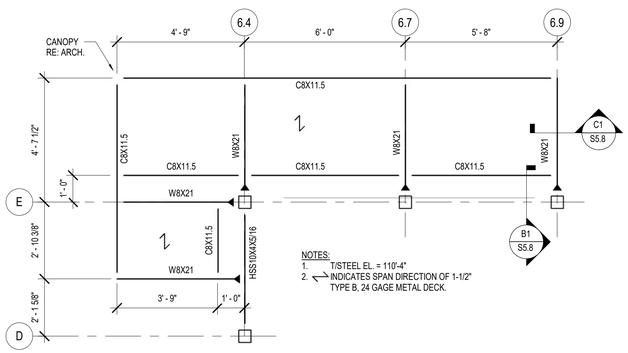
D5 ENLARGED PLAN
3/8" = 1'-0"



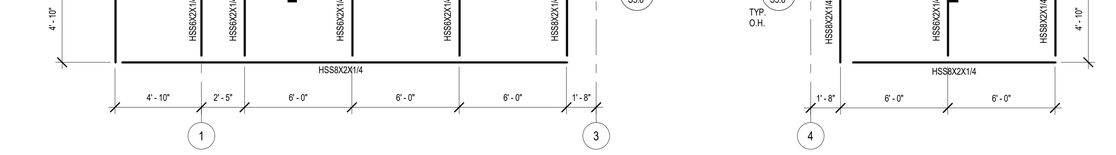
C1 ENLARGED PLAN
3/8" = 1'-0"



B1 ENLARGED PLAN
3/8" = 1'-0"



A1 ENLARGED PLAN
3/8" = 1'-0"



A3 SUNSHADE FRAMING PLAN
1/4" = 1'-0"

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WHATABURGER PROTOTYPE 20-M

1460 NE Douglas St
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Drawing Title:

ENLARGED PLANS

Date: 10/30/2020 *Phase:* BID/PERMIT
Designed: CEM
Drawn : CLS
Checked : CEM
Drawing No.: S5.9