LOT 7, BUILDING 31

3140 SW Longview Blvd
Lee's Summit, MO 64081

PERMIT SET

GENERAL NOTES

1. GENERAL CONTRACTOR AND ALL OTHER CONTRACTORS WORKING ON THIS CONSTRUCTION PROJECT SHALL MEET ALL APPLICABLE CODE REQUIREMENTS. ALL CONSTRUCTION AND MATERIALS SHALL COMPLY WITH ANY AND ALL APPLICABLE CODES, REGULATIONS, DIRECTIVES AND LAWS. CONTRACTOR SHALL BE KNOWLEDGEABLE OF ALL CITY REGULATIONS AND CODE ISSUES AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT UPON DISCOVERY OF ANY DISCREPANCIES ON THE DOCUMENTS OR CONDITIONS OF THE PROJECT SITE.

2. SUBSTANTIAL COMPLETION SHALL BE ESTABLISHED ON DELIVERY OF OCCUPANCY PERMIT. FINAL COMPLETION SHALL BE DEEMED COMPLETED WHEN ALL PUNCH LIST ITEMS ARE COMPLETED AND APPROVED, ALL SUPPORT EQUIPMENT INSTALLED AND COMPLETE. OWNER WILL DETERMINE FINAL COMPLETION.

3. THE RESPONSIBILITIES CONCERNING THE PREPARATION AND REVIEW OF THE APPLICATION FOR PAYMENT AND PAYMENT SCHEDULE SHALL BE ADDRESSED IN THE AGREEMENTS BETWEEN THE OWNER, ARCHITECT, AND CONTRACTOR.

4. THE ARCHITECT WILL BE AVAILABLE TO THE OWNER AND CONTRACTOR DURING CONSTRUCTION. THE ARCHITECT WILL ASSIST THE OWNER AND/OR CONTRACTOR IN OBTAINING A BUILDING PERMIT.

5. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE CONSTRUCTION PROCESS, MATERIAL VERIFICATION, AND WORKER SAFETY.

6. THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR DETAILS AND ACCURACY, FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, AND FOR TECHNIQUES OF ASSEMBLY.

7. ALL CUTTING AND PATCHING SHALL BE PERFORMED IN A NEAT AND WORKMAN LIKE MANNER. ANY EXISTING FINISHES DISTURBED OR DAMAGED BY THE CONTRACTOR OR TRADES UNDER CONTRACT DURING THE COURSE OF THE WORK SHALL BE REPAIRED TO MATCH EXISTING.

8. NO SUBSTITUTES OF SPECIFIED CONSTRUCTION ITEMS, EQUIPMENT AND FINISHES WILL BE ALLOWED WITHOUT WRITTEN APPROVAL FROM THE OWNER AND ARCHITECT.

9. ALL BIDDING CONTRACTOR(S) SHALL VISIT THE SITE OF THE PROPOSED WORK AND FULLY ACQUAINT THEMSELVES WITH THE EXISTING CONDITIONS OF THE PROJECT SITE, AS THEY CURRENTLY EXIST, SO THEY MAY FULLY UNDERSTAND THE FACILITIES, DIFFICULTIES AND RESTRICTIONS PRIOR TO SUBMITTING ANY BIDS.

10. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH SCHEDULING INFORMATION PRIOR TO CONSTRUCTION, WHICH WILL BE UPDATED IF THERE ARE ANY CHANGES.

11. ALL REQUIRED COMMUNICATION SHALL BE THROUGH THE ARCHITECT AND OWNER.

12. DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOBSITE. INFORMATION CONTAINED IN THESE DRAWINGS IS GENERAL AND NOT BASED ON EXISTING DOCUMENTS AND FIELD MEASUREMENTS. THE INFORMATION CONTAINED HEREIN MAY REQUIRE ADJUSTMENTS OR MODIFICATIONS TO CONFORM TO EXISTING CONDITIONS AND DESIGN INTENT OF DOCUMENTS. THE CONTRACTOR MUST NOTIFY ARCHITECT OF ANY CONFLICTS AND/OR VARIATIONS.

13. CONTRACTOR SHALL FURNISH & INSTALL ALL ITEMS SHOWN ON THE DRAWINGS UNLESS SPECIFICALLY NOTED OTHERWISE.

18. ALL CONTRACTORS SHALL GUARANTEE ALL WORK EXECUTED UNDER THIS CONTRACT; BOTH AS TO MATERIAL AND WORKMANSHIP, FOR A PERIOD OF TWELVE MONTHS AFTER DATE OF SUBSTANTIAL COMPLETION. IN ADDITION, ANY DAMAGE TO ADJACENT AREAS/SURFACES CAUSED BY FAULTY MATERIALS OR WORKMANSHIP SHALL ALSO BE REPAIRED TO THE OWNER'S SATISFACTION AT NO ADDITIONAL COST.

20. CONTRACTOR TO INSTALL ALL MATERIAL PER MANUFACTURERS' REQUIREMENTS, UL RATING REQUIREMENTS, SPECIFIC TRADE GUIDELINES, INDUSTRY STANDARDS, AND BUILDING CODES. ALL NEW FINISHES TO COMPLY WITH IBC CHAPTER 8.

21. PROVIDE SIGNAGE MEETING ADA REQUIREMENTS AND LOCATIONS DICTATED BY THE CITY AND LOCAL CODES. DESIGN, CONTENT, AND LOCATIONS SHALL BE PROVIDED TO THE OWNER AND ARCHITECT PRIOR TO INSTALLATION.

25. THE CONTRACTOR MUST SUBMIT TO OWNER AN INSURANCE CERTIFICATE WITH MINIMUM COVERAGE OF $1,000,000 IN GENERAL LIABILITY OR EQUAL. THIS CERTIFICATE MUST NAME THE OWNER AS ADDITIONAL INSURED.

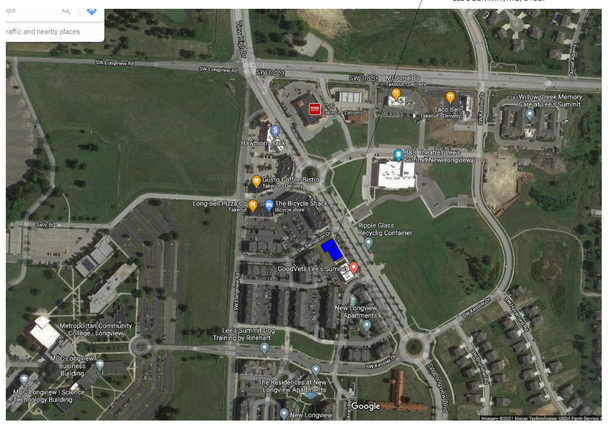
26. ALL CHANGES, DEVIATIONS, MODIFICATIONS, ADDITIONS OR DELETIONS FROM THE CONTRACT OF CONSTRUCTION OF APPROVED ARCHITECTURAL PLANS SHALL BE APPROVED BY THE OWNER AND ARCHITECT.

27. DIMENSIONS ARE FROM OUTSIDE FACE OF FULL BED MASONRY, OR FROM FACE OF MTL STUD ON ALL OTHER MATERIALS, UNLESS NOTED OTHERWISE. (THIN BRICK & THIN STONE VENEERS ARE DIMENSIONED TO FACE OF STUD).

28. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING ALL INTERIOR SURFACES AND EXTERIOR DEBRIS SPECIFIC TO CONSTRUCTION ACTIVITIES PRIOR TO OCCUPANCY OF THE SPACES BY THE OWNER. ADDITIONAL CLEANING FOLLOWING THE RECONCILIATION OF PUNCHLIST ITEMS SHALL ALSO BE INCLUDED. FINAL CLEANUP SHALL CONSIST OF THE FOLLOWING:

a. REMOVE ALL CONSTRUCTION DEBRIS, UNUSED MATERIALS, TOOLS, ETC.
b. CLEAN INTERIOR AND EXTERIOR SURFACES OF STOREFRONT GLASS AND FRAMES
c. CLEAN ALL FLOORS
d. REPLACE ALL FILTER MEDIA IN HVAC SYSTEMS

LOCATOR PLAN



DRAWING SYMBOLS

WALL SECTION — 1 / A101 — SIM

ELEVATION MARKS (EXTERIOR // INTERIOR) — 1// A101 — 1/ A101 SIM.

ELEVATION MARKS (EXTERIOR // INTERIOR) — 1 / A1.1 — SIM

REVISION MARK + CLOUD — A

ROOM TAG — Room name 101

ELEVATION MARK — LEVEL 1 100'-0"

CONSTRUCTION KEYNOTE — 1

GLAZING FRAME MARK — A10

GLAZING MARK — GL1

DOOR MARK — 101A

WINDOW MARK — W1

WALL PARTITION TYPE — P4

FLOOR TRANSITION

EXISTING PARTITION

NEW PARTITION

DEMOLITION PARTITION

PROJECT TEAM

OWNER:
BOX REAL ESTATE DEVELOPMENT
3175 SW Rockbridge Dr
Lee's Summit, MO 64081
CONTACT: RUSSELL PEARSON
P: 816 589 4415
E: russell@nai-heartland.com

MEP:
JSC ENGINEERS
1901 NW Blue Pkwy tower-3rd floor
Unity Village, MO 64065
CONTACT: JUSTIN SMOTHERS
P: 816 272 5289
E: jsmothers@jscengineers.com

CONTRACTOR:
TBD

STRUCTURAL :
STAND STRUCTURAL ENGINEERING, INC.
8234 ROBINSON ST
OVERLAND PARK, KS 66204
CONTACT: JOHN FUNK
P: 913 214 2169
E: jfunk@stand-sei.com

ARCHITECTURAL:
CLOCKWORK
423 DELAWARE ST. SUITE 102
KANSAS CITY, MO 64105
CONTACT: JEFF WINDMEYER
P: 660 815 1316
E: jeff@clockwork-ad.com

CIVIL:
SCHLAGEL ASSOCIATES
14920 W. 107TH ST.
LENEXA, KS 66215
CONTACT: JEFFREY SKIDMORE
P: 913 492 5158
E: js@schlagelassociates.com

SHEET INDEX

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423 DELAWARE, STE 102
KANSAS CITY, MISSOURI 64105
www.clockwork-ad.com

LOT 7, BUILDING 31
3140 SW LONGVIEW BLVD
LEE'S SUMMIT, MO, 64081

STATE OF MISSOURI
CHRISTIAN J. ARNOLD
NUMBER A-2003027158
ARCHITECT

REV	ISSUE	DATE
	Permit Submittal	05.17.2021

TITLE SHEET

A000

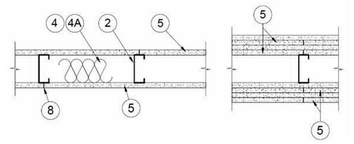
20.01.N.LV BUILDING 31

Design No. U419

May 28, 2020

Nonbearing Wall Ratings — 1, 2, 3 or 4 Hr (See Items 4 & 5 through 5K)

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Floor and Ceiling Runners —** (Not Shown) — For use with Item 2 — Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min depth to accommodate stud size, with min 1-1/4 in. long legs, attached to floor and ceiling with fasteners 24 in. OC max.

2. **Steel Studs —** Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

3. **Wood Structural Panel Sheathing —** (Optional, For use with Item 5 Only) — (Not Shown) — 4 ft wide, 7/16 in. thick oriented strand board (OSB) or 15/32 in. thick structural 1 sheathing (plywood) complying with DOC PS1 or PS2, or APA Standard PRP-108, manufactured with exterior glue, applied horizontally or vertically to the steel studs. Vertical joints centered on studs, and staggered one stud space from wallboard joints. Attached to studs with flat-head self-drilling tapping screws with a min. head diam. of 0.292 in. at maximum 6 in. OC. in the perimeter and 12 in. OC. in the field. When used, gypsum panels attached over OSB or plywood panels and fastener lengths for gypsum panels increased by min. 1/2 in.

4. **Batts and Blankets* —** (Required as indicated under Item 5) — Mineral wool batts, friction fitted between studs and runners. Min nom thickness as indicated under Item 5.

4C. **Fiber, Sprayed* —** (Optional) and as an alternate to Batts and Blankets (Item 4B) where insulation is required - Spray applied granulated mineral fiber material. The fiber is applied with adhesive at a minimum density of 4.0 pcf to completely fill the wall cavity in accordance with the application instructions supplied with the product. See **Fiber, Sprayed** (CCAZ).
AMERICAN ROCKWOOL MANUFACTURING, LLC — Type Rockwool Premium Plus

5. **Gypsum Board* —** Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. The thickness and number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are as follows:

Gypsum Board Protection on Each Side of Wall

Rating, Hr	Min Stud Depth, in. Items 2, 2C, 2D, 2F, 2G, 2O	No. of Layers & Thkns of Panel	Min Thkns of Insulation (Item 4)
1	3-1/2	1 layer, 5/8 in. thick	Optional
1	2-1/2	1 layer, 1/2 in. thick	1-1/2 in.
1	1-5/8	1 layer, 3/4 in. thick	Optional
2	1-5/8	2 layers, 1/2 in. thick	Optional
2	1-5/8	2 layers, 5/8 in. thick	Optional
2	3-1/2	1 layer, 3/4 in. thick	3 in.
3	1-5/8	3 layers, 1/2 in. thick	Optional
3	1-5/8	2 layers, 3/4 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 1/2 in. thick	Optional
4	2-1/2	2 layers, 3/4 in. thick	2 in.

CGC INC — 1/2 in. thick Type C, IP-X2 or IPC-AR; WRC, 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX or WRC; 3/4 in. thick Types IP-X3 or ULTRACODE

UNITED STATES GYPSUM CO — 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type SCX, SGX, SHX, WRX, IP-X1, AR, C, WRC, FRX-G, IP-AR, IP-X2, IPC-AR; 3/4 in. thick Types IP-X3 or ULTRACODE

USG BORAL DRYWALL SFZ LLC — 1/2 in. Type C; 5/8 in. Types C, SCX, SGX, ULTRACODE

USG MEXICO S A DE C V — 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX, WRC or; 3/4 in. thick Types IP-X3 or ULTRACODE

When Item 7B, **Steel Framing Members***, is used, Nonbearing Wall Rating is limited to 1 Hr. Min. stud depth is 3-1/2 in., min. thickness of insulation (Item 4) is 3 in., and two layers of gypsum board panels (1/2 in. or 5/8 in. thick) shall be attached to furring channels as described in Item 6. One layer of gypsum board panels (1/2 in. or 5/8 in. thick) attached to opposite side of stud without furring channels as described in Item 6.

6. **Fasteners —** (Not Shown) — For use with Items 2 and 2F - Type S or S-12 steel screws used to attach panels to studs (Item 2) or furring channels (Item 7). **Single layer systems:** 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 8 in. OC when panels are applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. **Two layer systems:** First layer- 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels or 2-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC with screws offset 8 in. from first layer. **Three-layer systems:** First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in., 5/8 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below. **Four-layer systems:** First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 24 in. OC. Fourth layer- 2-5/8 in. long for 1/2 in. thick panels or 3 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below.

7. **Furring Channels —** (Optional, Not Shown, for single or double layer systems) — Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 steel screws. Not for use with Item 5A.

7A. **Framing Members* —** (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below:
a. **Furring Channels —** Formed of No. 25 MSG galv steel, 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.

b. **Steel Framing Members* —** Used to attach furring channels (Item 7Aa) to studs (Item 2). Clips spaced max. 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to studs with No. 8 x 9/16 in. minimum self-drilling, S-12 steel screw through the center hole. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels.
PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75).

7B. **Framing Members* —** (Optional, Not Shown) — As an alternate to Item 7, for single or double layer systems, furring channels and Steel Framing Members on only one side of studs as described below:
a. **Furring Channels —** Formed of No. 25 MSG galv steel, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Batts and Blankets placed in stud cavity as described in Item 5. Two layers of gypsum board attached to furring channels as described in Item 5. Not for use with Item 5A.

7G. **Framing Members* —** (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below:
a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-23/32 in. wide by 7/8 in. or 1-1/2 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.

b. **Steel Framing Members* —** Used to attach furring channels (Item 7Ga) to studs (Item 2). Clips spaced max. 48 in. OC. Clips secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center hole. Furring channels are friction fitted into clips.
CLARKDIETRICH BUILDING SYSTEMS — Type ClarkDietrich Sound Clip

8. **Joint Tape and Compound —** Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layers. Paper tape, nom 2 in. wide, embedded in first layer of compound over all joints of outer layer panels. Paper tape and joint compound may be omitted when gypsum panels are supplied with a square edge.

9. **Siding, Brick or Stucco —** (Optional, Not Shown) — Aluminum, vinyl or steel siding, brick veneer or stucco, meeting the requirements of local code agencies, installed over gypsum panels. Brick veneer attached to studs with corrugated metal wall ties attached to each stud with steel screws, not more than each sixth course of brick.

10. **Caulking and Sealants* —** (Optional, Not Shown) — A bead of acoustical sealant applied around the partition perimeter for sound control.
UNITED STATES GYPSUM CO — Type AS

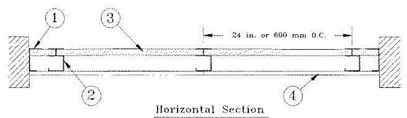
Design No. U415

July 12, 2018

Nonbearing Wall Ratings — 1, 2, 3 or 4 Hr

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

System A — 1 Hr.



Horizontal Section

1. **Floor, Side and Ceiling Runners —** "J" - shaped runner, min 2-1/2 in. deep (min 4 in. deep when System C is used), with unequal legs of 1 in. and 2 in., fabricated from min 24 MSG (min 20 MSG when Item 4A, 4B, 4C, 4D or 7 are used) galv steel. Runners positioned with short leg toward finished side of wall. Runners attached to structural supports with steel fasteners located not greater than 2 in. from ends and not greater than 24 in. OC. "E" - shaped studs (Item 2A) may be used as side runners in place of "J" - shaped runners.

2. **Steel Studs —** "C-H" - shaped studs, min 2-1/2 in. deep (min 4 in. deep when System C is used), fabricated from min 25 MSG (min 20 MSG when Items 2D, 4A, 4B, 4C, 4D or 7 is used) galv steel. Cut to lengths 3/8 to 1/2 in. less than floor-to-ceiling height and spaced 24 in. or 600 mm OC (max 16 in. OC when Items 4A, 4B, 4C, or 4D are used).

3. **Gypsum Board* —** Gypsum liner panels, nom 1 in. thick, 24 in. or 600 mm (for metric spacing) wide. Panels cut 1 in. less in length than floor to ceiling height. Vertical edges inserted in "H" portion of "C-H" studs or the gap between the two 3/4 in. legs of the "E" studs. Free edge of end panels attached to long leg of vertical "J" - runners with 1-5/8 in. long Type S steel screws spaced not greater than 12 in. OC. When wall height exceeds liner panel length, liner panel may be butted to extend to the full height of the wall. Horizontal joints need not be backed by steel framing. In System I, butt joints in liner panels are staggered min 36 in. Butt joints backed with 6 in. by 22 in. strips of 3/4 in. thick gypsum wallboard (Item 4). Wallboard strips centered over butt joints and secured to liner panels with six 1-1/2 in. long Type G steel screws, three screws along the 22 in. dimension at the top and bottom of the strips.

CGC INC — Type SLX

UNITED STATES GYPSUM CO — Type SLX

USG BORAL DRYWALL SFZ LLC — Type SLX

USG MEXICO S A DE C V — Type SLX

4. **Gypsum Board* —**

System A — 1 Hr

Gypsum panels, with beveled, square or tapered edges, nom 5/8 in. thick; 48 in. or 1200 mm wide, applied vertically or horizontally, attached to studs with 1 in. long Type S steel screws spaced 12 in. when installed vertically or 8 in OC when installed horizontally. Horizontal joints need not be backed by steel framing.

CGC INC — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

UNITED STATES GYPSUM CO — Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULIX, ULX, WRC, WRX, USGX. When ULIX is used insulation, Item 6, **Batts and Blankets*** is required and minimum stud depth is 4 in.

USG BORAL DRYWALL SFZ LLC — Types C, SCX, SGX, USGX

USG MEXICO S A DE C V — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

Gypsum panels, with beveled, square or tapered edges, nom 3/4 in. thick, 4 ft wide (or 1200 mm for metric spacing) wallboard with square or tapered edges. Total of four layers to be used. First and second (inner) layers applied vertically or horizontally over the steel studs. Horizontal joints need not be backed by steel framing. When applied vertically, joints centered over studs and staggered min 24 in., otherwise all joints staggered min 12 in. First layer secured to studs with 1-1/4 in. long Type S self-drilling, self-tapping bugle-head steel screws spaced 24 in. OC. Second layer secured to studs with 2-1/4 in. long Type S self-drilling, self-tapping bugle-head steel screws spaced 12 in. OC. Third layer applied vertically over the furring channels (Item 2C) with a 1-1/4 in. long Type S self-drilling, self-tapping bugle-head steel screws spaced 12 in. OC. Fourth layer applied vertically or horizontally with 2-1/4 in. long Type S self-drilling, self-tapping bugle-head steel screws spaced 12 in. OC. When applied vertically, joints to be staggered min 24 in. from third layer, otherwise all joints staggered min 12 in.

CGC INC — Types IP-X3 or ULTRACODE

UNITED STATES GYPSUM CO — Types IP-X3 or ULTRACODE

USG BORAL DRYWALL SFZ LLC — Type ULTRACODE

USG MEXICO S A DE C V — Types IP-X3 or ULTRACODE

5. **Joint Tape and Compound —** (Not Shown)

Systems A, B, C, E, F, G, H, I

Joints on outer layers of gypsum boards (Item 4 and 4A) covered with paper tape and joint compound. Paper tape and joint compound may be omitted when gypsum boards are supplied with square edges. Exposed screw heads covered with joint compound.

6. **Batts and Blankets* —**

(Optional) — Mineral wool or glass fiber batts partially or completely filling stud cavity. Any mineral wool or glass fiber batt mineral bearing the UL Classification Marking as to Fire Resistance.

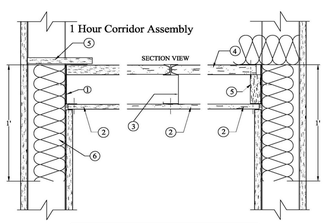
System A With Type ULIX Gypsum Boards

Placed in stud cavities, any min. 3-1/2 in. thick glass fiber insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. See **Batts and Blankets (BKNV or BZJZ) Categories** for names of Classified companies.

AER-09038

One Hour Corridor Ceiling or Underside Stair Applications, See Figure 8

1. A minimum 2-1/2-in deep 24 gauge J-runner attached horizontally to perimeter or boundary walls with a power actuated fasteners.
2. Gypsum Wall Board:
   a. For a one (1) hour assembly: Attach one (1) layer of 5/8-in thick SHEETROCK® Brand FIRECODE® Core Gypsum Panel (Type X), to the underside of the "Corridor Ceiling" of the C-H stud and the perimeter J-runners. Use 1-in long Type S screws that are spaced 12-in o.c. in the field and at the edges.
3. Install the C-H studs perpendicular to the J-runner spaced 24-in o.c. with the C-section of the C-H stud facing downward towards the corridor side of the assembly with two (2) screws a minimum 1/2-in long Type S-12 screws, one on each side.
4. 1-in thick SHEETROCK® Brand Gypsum Liner Panel - Friction-fitted in "H" portion of C-H studs.
5. Ripper Board:
   a. Where the liner panel (item 4) is cut short to be installed, gaps must be filled by using a strip of 1-in thick SHEETROCK Brand Gypsum Liner Panel.
   b. As an alternative you can use mineral fiber insulation to prevent exposure to the top leg of the J-runner that forms the ceiling
   c. Where the wall section extends above the corridor ceiling, above corridor height a rip of board must be used to cap the opening between studs and a strip of mineral fiber insulation as described in item 6 must be used.
6. In order to prevent the passage of heat and gases, a 12-in long strip of mineral fiber insulation must be used to fill in the stud cavity of the walls.



1-Hour Exit Corridor Ceiling and Stair Soffits[1]	
Single layer 5/8-in gypsum panels	Maximum Span
212CH25-18[2,3]	8-ft - 6-in
212CH20-34[2,3]	10-ft - 4-in
400CH25-18[2,3]	9-ft - 3-in
400CH20-34[2,3]	14-ft - 11-in
600CH20-34[2,3]	20-ft - 10-in

Notes:
1. Based on L/240 allowable deflection with studs at 24-in o.c. and JR24 runner.
2. J-Runner connection to wallbuilding must meet or exceed 189-lbs capacity at every stud location (24-in o.c.).
3. J-Runner connection to wallbuilding must meet or exceed 386-lbs capacity at every stud location (24-in o.c.).

Figure 8 - One Hour Corridor Ceiling or Underside Stair Assembly and Limiting Spans

Design No. U905

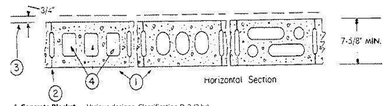
March 02, 2020

Bearing Wall Rating — 2 HR.

Nonbearing Wall Rating — 2 HR

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



Horizontal Section

1. **Concrete Blocks* —** Various designs. Classification D-2 (2 hr).
See **Concrete Blocks** category for list of eligible manufacturers.

2. **Mortar —** Blocks laid in full bed of mortar, nom. 3/8 in. thick, of not less than 2-1/4 and not more than 3-1/2 parts of clean sharp sand to 1 part Portland cement (proportioned by volume) and not more than 50 percent hydrated lime (by cement volume). Vertical joints staggered.

3. **Portland Cement Stucco or Gypsum Plaster —** Add 1/2 hr to classification if used. Where combustible members are framed in wall, plaster or stucco must be applied on the face opposite framing to achieve a max. Classification of 1-1/2 hr. Attached to concrete blocks (Item 1).

4. **Loose Masonry Fill —** If all core spaces are filled with loose dry expanded slag, expanded clay or shale (Rotary Kiln Process), water repellant vermiculite masonry fill insulation, or silicone treated perlite loose fill insulation add 2 hr to classification.

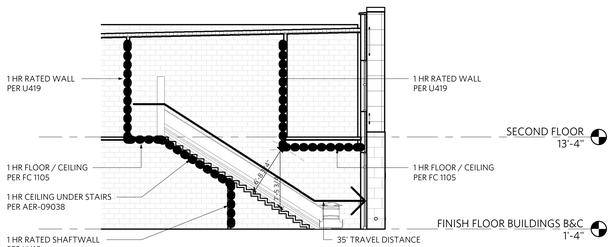
FLOOR-CEILING SYSTEMS, NONCOMBUSTIBLE

GA FILE NO. FC 1105	GENERIC	1 HOUR FIRE	50 to 54 STC SOUND

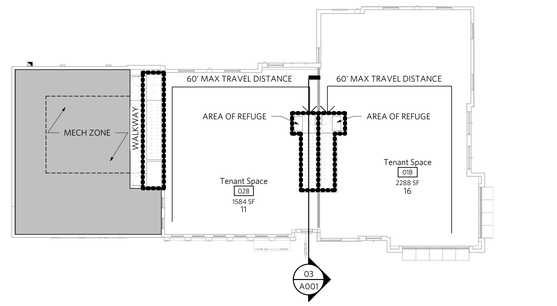
GYPSUM WALLBOARD, STEEL JOISTS, CONCRETE SLAB

One layer 1/2" type X gypsum wallboard or gypsum veneer base applied at right angles to 3 5/8" steel studs 24" o.c. with 1" Type S drywall screws 12" o.c. Studs wire tied with double strand 18 gage wire 8" o.c. to steel joists 24" o.c. supporting 3/8" rib metal lath and 2 1/2" concrete slab. (One hour restrained and unrestrained.)

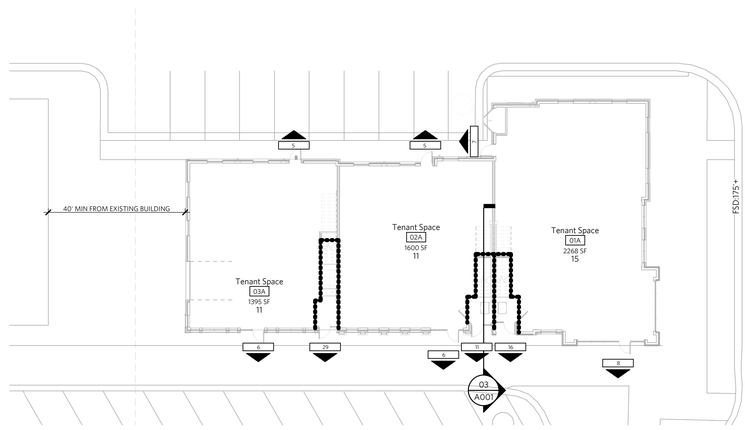
Approx. Ceiling Weight: 2 psf
Fire Test: FM FC-134, 12-16-69
Sound Test: See FC 2030 (NGC 4075, 3-25-69)



03 | Code Section - Interior Exit Stairs
1/8" = 1'-0"



02 | SECOND FLOOR LIFE SAFETY PLAN
1/16" = 1'-0"



01 | FIRST FLOOR LIFE SAFETY PLAN
1/16" = 1'-0"

CODE REVIEW

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

CHAPTER 3 *USE AND OCCUPANCY CLASSIFICATION*
BUSINESS, GROUP B

CHAPTER 5 *GENERAL BUILDING HEIGHTS AND AREAS [TABLE 503]*
GROUP: B
TYPE: IIB
ALLOWABLE HEIGHT: 55' ACTUAL: 34'
ALLOWABLE STORIES: 3 ACTUAL: 2
ALLOWABLE AREA: 23,000 ACTUAL: 6,175 SF

CHAPTER 6 *TYPE OF CONSTRUCTION*
IIB, UNPROTECTED

FIRE RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS [IBC 601]:

BUILDING ELEMENT	*RATING*
PRIMARY STRUCTURAL FRAME	0 HR
BEARING WALLS	
EXTERIOR	0 HR
INTERIOR	0 HR
NONBEARING WALLS	
EXTERIOR	0 HR
INTERIOR	0 HR
FLOOR CONSTRUCTION AND ASSOCIATED	0 HR
ROOF CONSTRUCTION AND ASSOCIATED	0 HR

FIRE RESISTANCE RATING REQUIREMENT FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE [IBC 602]:
GROUP B X>30 0 HR

CHAPTER 7 *FIRE AND SMOKE PROTECTION FEATURES*
MAXIMUM AREA OF EXTERIOR OPENINGS [IBC 705.8]

FIRE SEPARATION DISTANCE	*DEGREE OF OPENING PROTECTION*	*ALLOWABLE AREA*
30' OR GREATER	UNPROTECTED, NON-SPRINKLERED	NO LIMIT

706 - FIRE WALLS:
706.1.1 PARTY WALLS, EXCEPTION 2:
PARTY WALLS ARE NOT REQUIRED WHERE THE COMBINED AREAS ON BOTH SIDES OF THE WALL ARE LESS THAN THE ALLOWABLE AREA BY CODE (IN THIS INSTANCE, THE WHOLE BUILDING FALLS UNDER THE ALLOWABLE AREA. THE INTENT IS TO HAVE SEPERATE OWNERSHIP OF EACH PORTION OF BUILDING).

CHAPTER 9 *FIRE PROTECTION SYSTEMS*
907 - FIRE ALARMS
907.2.2 GROUP B
FIRE ALARMS NOT REQUIRED AS THE BUILDING HAS FEWER THAN 500 TOTAL OCCUPANTS, AND THE LEVEL ABOVE HAS FEWER THAN 100 OCCUPANTS.

FIRE EXTINGUISHERS TO BE PROVIDED IN ACCORDANCE WITH THE IBC
NFPA 10 REQUIRED SMOKE DETECTORS TO BE PROVIDED
ALL PROVIDED AND INSTALLED BY GENERAL CONTRACTOR

CHAPTER 10 *MEANS OF EGRESS*
BUILDING AREAS AND OCCUPANT LOAD [IBC 1004]:
BASED ON BUSINESS FUNCTION:
1 OCC PER 150 SF.
ROOFTOP PATIO BASED ON ASSEMBLY WITHOUT FIXED SEATS
1 OCC PER 15 SF
AREAS AND OCCUPANCIES INDICATED ON PLAN

EXIT ANAYSIS:
GROUND LEVEL:
2 MEANS OF ACCESSIBLE EGRESS PROVIDED, MINIMUM OF 1 REQUIRED.
MAXIMUM TRAVEL DISTANCE TO EXIT NOT EXCEED 75'

SECOND LEVEL:
TABLE 1006.3.3(2) - ONE EXIT ACCESS ALLOWABLE WITH FEWER THAN 29 OCCUPANTS & TRAVEL DISTANCE NOT TO EXCEED 75'
INTERIOR EXIT STAIRS USED DUE DUE TO LONGER TRAVEL DISTANCE.

1023 - INTERIOR EXIT STAIRS
1023.2 - CONSTRUCTION
STAIRS CONNECTING LESS THAN 4 STORIES TO HAVE A 1HR FIRE BARRIER
1023.4 - OPENINGS
PER TABLE 716.1(2) - DOORS TO BE 60 MIN RATED
1023.7 - INTERIOR EXIT STAIRS EXTERIOR WALLS
NON-RATED, NON PROTECTED.
NO WALLS / BUILDINGS WITHIN LESS THAN 180 DEGREES.

1009.3.3 - AREA OF REFUGE AT TOP OF EXIT ACCESS STAIRS

EGRESS WIDTH PER OCCUPANT SERVED [IBC 1005], WITHOUT SPRINKLER:
STAIRWAYS .3 INCHES PER OCC.
OTHER EGRESS COMPONENTS .2 INCHES PER OCC.

OCCUPANT LOAD TO BE POSTED IN CONSPICUOUS LOCATION.

CHAPTER 29 PLUMBING SYSTEMS
TBD AS PART OF TENANT FINISHES
EACH TENANT SPACE TO PREPPED FOR FUTURE FIXTURE LOCATIONS

LOCAL JURISDICTION
CITY OF LEE'S SUMMIT, MISSOURI

ZONING N/A

CODE LEGEND

101 AREA TAG
1 HOUR RATED
PRIMARY EXIT ACCESS
435 EXIT LOAD

clockwork
423 DELAWARE, STE 102
KANSAS CITY, MISSOURI 64105
www.clockwork-ad.com

LOT 7, BUILDING 31
3140 SW LONGVIEW BLVD
LEE'S SUMMIT, MO, 64081

STATE OF MISSOURI
CHRISTIAN J. ARNOLD
NUMBER A-2003027158
ARCHITECT

REV	ISSUE	DATE
	Permit Submittal	05.17.2021

CODE PLANS & ANALYSIS

A001

LOT 3
TOWER PARK COMMERCIAL-PHASE 2
OWNER: GALE COMMUNITIES INC

LOT 5
TOWER PARK COMMERCIAL-PHASE 2
LOTS 5,6,7, TRACTS A&B

510 SW TOWER PARK DRIVE
(OWNER: JVM NEW LONGVIEW LLC)

460 SW LONGVIEW BLVD
(OWNER: JVM NEW LONGVIEW LLC)

LOT 6
TOWER PARK COMMERCIAL-PHASE 2
LOTS 5,6,7, TRACTS A&B

SW. SENSATION DRIVE
SW. LONGVIEW BLVD.
SW. TOWER PARK DR.
SW. 3RD STREET
SW. LONGVIEW RD
VIEW HIGH DRIVE

EXISTING APARTMENT BLDG.
EXISTING GARAGE
EXISTING 5,390 SQ. FT. BUILDING

EXISTING MANHOLE
EXISTING WATER LINE
EXTG. FIRE HYDRANT
EXTG. CURB (TO REMAIN)
5' CONC. WALK
SAWCUT REMOVE EX. CURB & INSTALL NEW COMM. CONC. DRIVE APRON PER CITY STANDARDS.
RECONSTRUCT TYPE "A" WHEELCHAIR RAMP
EX. SAN. SWR. MANHOLE
EXISTING FIBER OPTIC LINE TO BE RELOCATED BY UTIL.
EXTG. FIBER VAULT TO BE ADJUSTED OR RELOCATED AS REQ'D. FOR NEW DRIVE APRON/CURB (VERIFY WITH UTILITY)
CONC. WALK/RAMP (MAX. SLOPE = 1:20)
CONC. WALK
PROPOSED BUILDING 2-STORY
1st Floor = 5,985 S.F.
2nd Floor = 4,250 S.F.
Total = 10,235 S.F.
CONC. WALK
CONC. PATIO AREA
BIKE RACK
REMOVE APPROX 21 L.F. CONC. CURB & GUTTER
4'Ø ST. MH
4x4 GRATE INLET
LOT LINE
SAWCUT EXTG. PAVEMENT & REMOVE APPROX. 320 S.F. OF EXTG. ASPHALT PAVEMENT
EXISTING STORM SEWER
NEW TRASH ENCL. (RE: ARCH.)
CONC. APRON @ FRONT OF TRASH ENCLOSURE
REMOVE APPROX 10 L.F. CONC. CURB & GUTTER
EXTG TRASH ENCL. TO REMAIN
EXTG DRIVE/PARKING
EXISTING STORM SEWER TO REMAIN
EXISTING STORM SEWER JUNCTION BOX
SAWCUT/REMOVE/REPLACE EX. CONC. WALK AS REQ'D FOR NEW SAN. SERVICE (SEE UTIL PLAN; C4.0)
EXTG. HANDICAPPED PARKING STALLS AND SIGNS
EXISTING WATER
EXISTING STORM SEWER CURB INLET #29
EXISTING SANITARY SEWER
EX. SAN. SWR. MANHOLE A6
EXTG. FIRE HYDRANT
EXISTING FIBER OPTIC
EXISTING STORM SEWER CURB INLET #30
BM-1004
EX. STORM CURB INLET
EXISTING CURB (TO REMAIN)
80' R/W
78' R/W
60' R/W

28.00' 6.33' 11.00' 9.50' 6.33' 7.33' 81.00' 24.00' 17.50' 30.00' 9.50' 5' 11.16' 5.50' 4.33' 5.67' 19.00' 7.00' 5' 6.25' 12.75' 4.75' 6.75' 0.75' 1.15' 0.75'

PROJECT LOCATION

SECTION 10-T47-R32
LOCATION MAP
SCALE 1" = 2000'

Parcel ID:
62-420-29-09-00-0-00-000

SITE DATA TABLE

LOT AREA: 29,886 SQ. FT. (0.69 AC)

	EXISTING	PROPOSED
BUILDING AREA	5,390 S.F. (18.03%)	11,535 S.F. (38.60%)
PAVEMENT/DRIVE AREA	6,407 S.F. (21.44%)	13,437 S.F. (44.96%)
OPEN/LANDSCAPE AREA	18,089 S.F. (60.53%)	4,914 S.F. (16.44%)

Site Information:

Legal Description:

Lot 7, TOWER PARK COMMERCIAL - PHASE 2, Lots 5, 6, 7, Tracts A and B, a subdivision in Lee's Summit, Jackson County, Missouri.

Lot Area: 29,886 Square Feet (0.69 Ac.)

Property Address (North Building):
420-440 SW Longview Blvd.
Lee's Summit, Missouri 64081

Existing Floor Area Ratio (F.A.R.) = 0.18
Proposed Floor Area Ration (F.A.R.) = 0.52

Current Zoning: PMIX - Planned Mixed Use
Proposed Zoning: PMIX - Planned Mixed Use - No Change

Current Use: Commercial (Extg. Vet-Clinic South) - Vacant (North)
Proposed Use: Commercial - (Extg. Vet-Clinic South) - Commercial/Retail (North)

Required Parking: 3.15 Stalls/1,000 Square Feet*

Total Office/Retail Area: = 15,625 Square Feet
15,625/1,000 x 3.15 = 49.21
Total Parking Required: = 49 Stalls

Total Parking Required: = 49 Stalls

(#) Proposed Parking: 49 Stalls (2 handicap-accessible stalls)
Includes 18 Stalls at Adjacent Street Frontage (East)
31 stalls at West/Southwest side of Lot 7

* - Referenced Shared Parking Analysis (submitted under separate cover by owner)
- Required Parking: Per PMIX Zoning District, parking requirements are established per approved Preliminary Plan. Shared parking and cross access agreements have been established per development area regulations/declarations to accommodate differing parking demands and offset peak hours among development tenants

PAVEMENT LEGEND:

- PROPOSED ASPHALT PAVEMENT
- EXISTING ASPHALT PAVEMENT
- PROPOSED 4" CONCRETE SIDEWALK
- PROPOSED CONCRETE PAVEMENT
- EXISTING CONCRETE SIDEWALK
- TYPE CG-1 CURB & GUTTER
- TYPE CG-1 CURB & GUTTER - DRY
- CONC. RIBBON CURB
- EXISTING CURB & GUTTER
- REMOVE EXISTING ASPHALT PAVEMENT
- REMOVE EXISTING CONC. CURB AND GUTTER

OIL/GAS WELL NOTE:

There are no Oil or Gas Wells located on this property as reported on the Missouri Department of Natural Resources Oil and Gas Permits website. It is the responsibility of the Owner/Developer to report and verify all Oil and Gas Wells discovered on the project site.

NOTE:
NO PART OF THE PROJECT LIES WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD INSURANCE RATE MAP NUMBER 29095C0414G DATED JANUARY 20, 2017.

MISSOURI ONE CALL SYSTEM
1-800-344-7483 or 811
mo1call.com

PROJECT BENCHMARK:

MONUMENT FOUND
CHISELED "SQUARE" ON STORM CURB INLET #30 AT NORTHWEST INTERSECTION OF SW. TOWER PARK DRIVE AND SW. LONGVIEW BOULEVARD.

NORTHING: 998893.4148
EASTING: 2803318.5413

ELEV. 1004.09

0 20' 40'
SCALE: 1" = 20'

SCHLAGEL
ENGINEERS PLANNERS SURVEYORS LANDSCAPE ARCHITECTS
14920 W. 107th Street • Lenexa, Kansas 66215
(913) 492-6400 • Fax (913) 492-0400
WWW.SCHLAGELASSOCIATES.COM
Missouri State Certificates of Authority
#E2000030800-F #LA2001055237 #LS2000208859-F

PREPARED BY:

STATE OF MISSOURI
JEFFREY T. SKIDMORE
NUMBER PE-2012001125
NATIONAL ENGINEER
3-15-21

SCHLAGEL & ASSOCIATES, P.A.

TOWER PARK COMM. - LOT 7 - NORTH BLDG.
FINAL DEVELOPMENT PLANS

420 SW LONGVIEW LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
A	
B	
C	
D	
E	
F	
G	

DRAWN BY: ####
CHECKED BY: ####
DATE PREPARED: 03/15/2021
PROJ. NUMBER: 20-106

SITE PLAN

SHEET
C1.0

LOT 3
TOWER PARK COMMERCIAL-PHASE 2
OWNER: GALE COMMUNITIES INC

SW. SENSATION DRIVE

SW. LONGVIEW BLVD.

SW. TOWER PARK DR.

EXISTING APARTMENT BLDG.

EX. SAN. SWR. MANHOLE

FIN. FL.=1008.00

FIN. FL.=1006.67

EXISTING 5,390 SQ. FT. BUILDING

EXTG DRIVE/PARKING

EXISTING GARAGE

BM-1004

LOT 5
TOWER PARK COMMERCIAL-PHASE 2
LOTS 5,6,7, TRACTS A&B

510 SW TOWER PARK DRIVE
(OWNER: JVM NEW LONGVIEW LLC)

460 SW LONGVIEW BLVD
(OWNER: JVM NEW LONGVIEW LLC)

LOT 6
TOWER PARK COMMERCIAL-PHASE 2
LOTS 5,6,7, TRACTS A&B

SCALE: 1" = 20'

GRADING LEGEND:

*EXX.XX	EXTG. SPOT ELEVATION
XX.XX	PROPOSED TOP OF CURB ELEV.
XX.XX	PROPOSED PAVEMENT GRADE ELEV. OR LIP OF CURB ELEVATION
F.F.E.	FINISHED FLOOR ELEVATION
1023	EXISTING CONTOUR
1023	PROPOSED CONTOUR

* - ALL SIDEWALKS TO BE INSTALLED WITH A 1.5% MAXIMUM CROSS SLOPE.

PAVEMENT LEGEND:

	PROPOSED ASPHALT PAVEMENT
	EXISTING ASPHALT PAVEMENT
	PROPOSED 4" CONCRETE SIDEWALK
	PROPOSED CONCRETE PAVEMENT
	EXISTING CONCRETE SIDEWALK
	TYPE CG-1 CURB & GUTTER
	TYPE CG-1 CURB & GUTTER - DRY
	CONC. RIBBON CURB
	EXISTING CURB & GUTTER
	REMOVE EXISTING ASPHALT PAVEMENT
	REMOVE EXISTING CONC. CURB AND GUTTER

GRADING NOTES:

1. NO EDGE DRAINS OR UNDERDRAINS ARE INDICATED BEHIND THE CURBS. OWNER SHOULD CONSIDER THE INSTALLATION OF UNDERDRAINS DUE TO THE IRRIGATION OF GREENSPACE AREAS OF THE SITE.
2. RECOMMEND A GEOTECHNICAL ENGINEER REVIEW ALL EARTHWORK ACTIVITY TO MAKE SURE RECOMMENDATIONS IN GEOTECHNICAL REPORT ARE FOLLOWED.
3. PRIOR TO PLACEMENT OF CURB AND GUTTER AND PAVEMENT, GEOTECHNICAL ENGINEER MUST APPROVE SUBGRADE IN WRITTEN FORM TO THE OWNER AND PROJECT ENGINEER.
4. ALL UTILITY INSTALLATIONS UNDER PAVED AREAS MUST BE COMPACTED AS PER THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER AND/OR GEOTECHNICAL REPORT.
5. ALL CONSTRUCTION SHALL COMPLY WITH THE CITY OF LEE'S SUMMIT TECHNICAL SPECIFICATIONS.
6. EXISTING TOPOGRAPHY SHOWN AS ESTABLISHED FROM BASE SURVEY PREPARED BY SCHLAGEL AND ASSOCIATES, P.A. - VERIFY GRADES PRIOR TO COMMENCEMENT OF GRADING AND CONSTRUCTION ACTIVITIES. NO ADDITIONAL MONEY WILL BE PAID FOR HAUL-IN OR HAUL-OFF OF MATERIAL.
7. ALL ROCK, CONCRETE, ASPHALT, TREE, BRUSH, ETC. TO BE REMOVED AS A PART OF THE PROJECT CONSTRUCTION SHALL BE DISPOSED OF BY THE GRADING CONTRACTOR AND SHALL BE A SUBSIDIARY OBLIGATION OF THE CONTRACT. THE GRADING CONTRACTOR IS ALSO RESPONSIBLE FOR ALL GRADING ON THE SITE INCLUDING THE MANIPULATION OF THE EXCESS DIRT MATERIAL THAT WAS LEFT ALONG THE SEWER TRENCHES. THE COST FOR THIS WORK WILL BE INCLUDED IN THE LUMP SUM FEE FOR GRADING.
8. ENTIRE PROJECT SHALL BE LEFT IN A MOWABLE CONDITION. ALL DISTURBED AREAS SHALL BE SEEDED & MULCHED AS PER PROJECT REQUIREMENTS. ALL DISTURBED AREAS WITHIN THE PUBLIC STREET RIGHT-OF-WAY SHALL BE SODDED IN COMPLIANCE WITH THE CITY OF LEE'S SUMMIT TECHNICAL SPECIFICATIONS AND MUNICIPAL CODE.
9. THE CONTRACTOR SHALL PROVIDE FOR POSITIVE DRAINAGE AWAY FROM BUILDINGS AND SIDEWALKS AT ALL TIMES.
10. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ALL PROPERTY CORNERS. ANY PROPERTY CORNERS DISTURBED OR DAMAGED BY GRADING ACTIVITIES SHALL BE RESET BY A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF MISSOURI, AT THE CONTRACTOR'S EXPENSE.

NOTE:
NO PART OF THE PROJECT LIES WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD INSURANCE RATE MAP NUMBER 29095C0414G DATED JANUARY 20, 2017.

MISSOURI ONE CALL SYSTEM
1-800-344-7483 or 811
mo1call.com

PROJECT BENCHMARK:

MONUMENT FOUND
CHISELED "SQUARE" ON STORM CURB INLET #30 AT NORTHWEST INTERSECTION OF SW. TOWER PARK DRIVE AND SW. LONGVIEW BOULEVARD.

NORTHING: 998893.4148
EASTING: 2803318.5413

ELEV. 1004.09

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#E2000030800-F #LA2001055237 #LS2000208859-F

PREPARED BY:

STATE OF MISSOURI
JEFFREY T. SKIDMORE
NUMBER PE-2021060125
PROFESSIONAL ENGINEER
3-15-21

SCHLAGEL & ASSOCIATES, P.A.

TOWER PARK COMM. - LOT 7 - NORTH BLDG.
FINAL DEVELOPMENT PLANS

420 SW LONGVIEW LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
1	
2	
3	
4	
5	
6	

DRAWN BY: ####
CHECKED BY: ####
DATE PREPARED: 03/15/2021
PROJ. NUMBER: 20-106

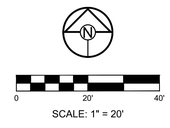
GRADING PLAN

SHEET
C2.0

LOT 3
COMMERCIAL-PHASE 2
E COMMUNITIES INC

T 5
MMERCIAL-PHASE 2
TRACTS A&B

ER PARK DRIVE
IEW LONGVIEW LLC)



NOTE:
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PROJECT BENCHMARK:

MONUMENT FOUND
CHISELED "SQUARE" ON STORM CURB INLET #30
AT NORTHWEST INTERSECTION OF SW. TOWER
PARK DRIVE AND SW. LONGVIEW BOULEVARD.

NORTHING: 998893.4148
EASTING: 2803318.5413

ELEV. 1004.09

Schlagel & Associates, P.A.

Project Name:	Tower Park - Lot 7 - Phase 2			Curb Type:	CG-1
Project #:	20-106			City:	Lee's Summit
Time:	6/23/2020 12:51				
Design Storm:	100				
"K" Value:	1.25				
"F" Factor:	1.00				

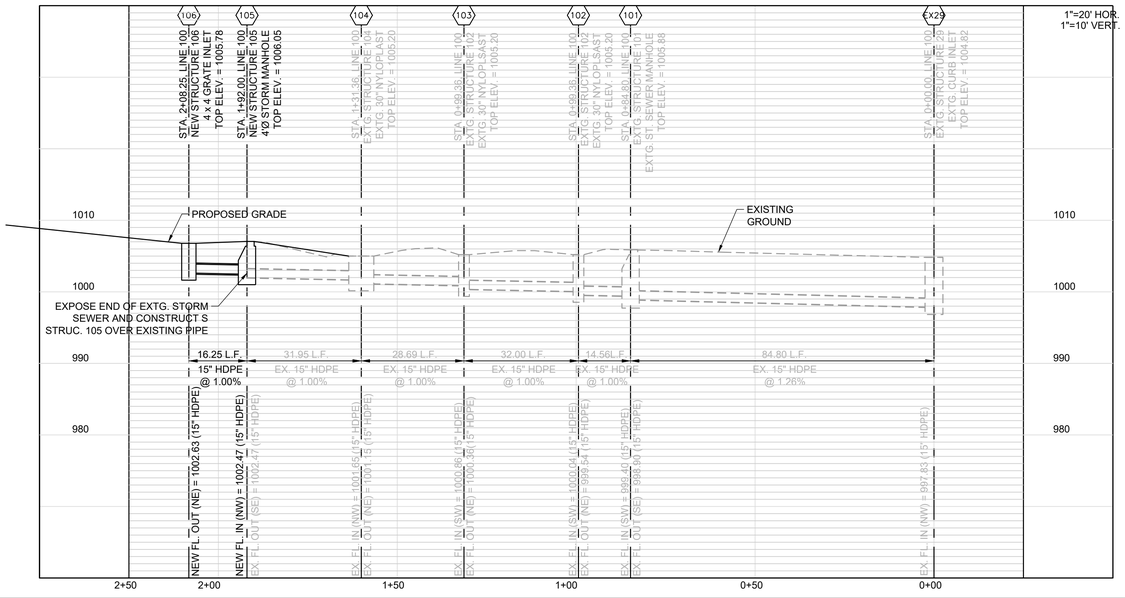
Runoff Calculations

Inlet #	Area (acres)	"C" Value	Cumul. Area (acres)	Cumul. CxA	Tc	Intensity	Runoff To Inlet	Cumul. Runoff	Pipe Cap.	Pipe Vel.	Up Piped Inlet 1	Up Piped Inlet 2	Up Area (acres)	Up CxA
LINE 100														
101	0.00	0.81	0.62	0.50	5.4	10.17	0.00	6.39	7.86	6.40			0.00	0.00
102	0.03	0.81	0.62	0.50	5.3	10.19	0.31	6.40	7.00	5.70			0.00	0.00
103	0.03	0.81	0.59	0.48	5.2	10.23	0.31	6.11	7.00	5.70			0.00	0.00
104	0.24	0.81	0.56	0.45	5.1	10.28	2.46	5.80	7.86	6.40			0.00	0.00
105	0.00	0.81	0.32	0.26	5.0	10.30	0.00	3.34	7.00	5.70			0.00	0.00
106	0.32	0.81	0.32	0.26	5.0	10.32	3.34	3.34	7.00	5.70			0.00	0.00

Pipe Properties

Up Inlet	Down Inlet	Pipe Type	"n" Value	Pipe Size	Length	Slope %	Drop In Inlet	FL Up	FL Down	Inlet Top	HGL Elev.
									DS TAILWATER @ STR #		FREE
101		PEP	0.012	15	84.80	1.26	0.50	998.90	997.83	1005.88	1000.19
102	101	PEP	0.012	15	14.56	1.00	0.50	999.54	999.40	1005.20	1000.84
103	102	PEP	0.012	15	32.00	1.00	0.50	1000.36	1000.04	1005.20	1001.63
104	103	PEP	0.012	15	28.69	1.00	0.50	1001.16	1001.00	1006.52	1002.76
105	104	PEP	0.012	15	31.95	1.00	0.50	1001.97	1001.65	1006.05	1002.86
106	105	PEP	0.012	15	16.25	1.00	N/A	1002.63	1002.47	1005.75	1003.52

STORM LINE 100 PROFILE



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ENGINEERS PLANNERS SURVEYORS LANDSCAPE ARCHITECTS
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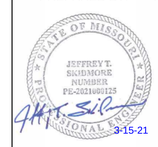
(816) 259-2050 • Fax (816) 259-2057
WWW.SCHLAGELASSOCIATES.COM
Missouri State Certificates of Authority
#E2000030800-F #LA2001055237 #LS2000208859-F

PREPARED BY:



SCHLAGEL & ASSOCIATES, P.A.

TOWER PARK COMM. - LOT 7 - NORTH BLDG.
FINAL DEVELOPMENT PLANS

420 SW LONGVIEW LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION

DRAWN BY: ####
CHECKED BY: ####
DATE PREPARED: 03/15/2021
PROJ. NUMBER: 20-106

STORM SEWER PLAN AND PROFILE

SHEET
C3.0

LOT 3
TOWER PARK COMMERCIAL-PHASE 2
OWNER: GALE COMMUNITIES INC

SW. SENSATION DRIVE

EXISTING FIRE HYDRANT

EXTG. 8" WAT. MAIN

EXTG ELEC. SECTIONALIZER (VERIFY LOCATION IN FIELD)

EXTG. FIBER VAULT TO BE ADJUSTED OR RELOCATED AS REQ'D. FOR NEW DRIVE APRON (VERIFY WITH UTILITY)

1" WATER METER/METER PIT PER DETAIL WAT-11 ON SHEET CX.

EXISTING FIBER OPTIC LINE TO BE RELOCATED BY UTIL.

1" WAT. SERV. CONN. TAP @ EXTG. 8" MAIN PER DETAIL WAT-11 ON SHEET CX.

FIN. FL.=1008.00

VERIFY WATER SERV. ENTRANCE LOCTION W/PLUMBING PLANS

EX. SAN. SWR. MANHOLE

EXTG. 8" WAT. MAIN

1 1/2" TYPE "K" CU. WATER SERVICE (42" DEPTH MIN.)

INSTALL 11 L.F. - 4" PVC (SDR-26, RUBBER GASK. JTS.) @ 9.09% SLOPE

BLDG. INV.=1002.00

PROPOSED SECONDARY ELECTRICAL CONDUIT/CONDUCTORS - VERIFY SIZE WITH ELECTRICAL PLANS

ELECTRICAL SERVICE ENTRANCE EQUIPMENT - VERIFY FINAL LOCATION W/ELECTRICAL PLANS

EXISTING APARTMENT BLDG.

FIN. FL.=1006.67

PROPOSED STORM SEWER EXTENSION

EXTG. STORM SEWER

EXTG. STORM SEWER

EXTG ELEC. TRANSFORMER LOCATION (VERIFY LOCATION IN FIELD)

EXTG. ELECTRICAL SERVICE ENTRANCE EQUIPMENT - VERIFY LOCATION IN FIELD

EXISTING GARAGE

EXTG. SECONDARY ELECTRICAL CONDUIT/CONDUCTORS - (VERIFY LOCATION IN FIELD)

EXISTING 5,390 SQ. FT. BUILDING

LOT 5
TOWER PARK COMMERCIAL-PHASE 2
LOTS 5,6,7, TRACTS A&B

510 SW TOWER PARK DRIVE
(OWNER: JVM NEW LONGVIEW LLC)

STA. 19+40.63
EXTG. SAN. MH A7
TOP EL.=1009.50
INV. IN (N)(W)=990.60
INV. OUT (SE)=990.10

EX. 71.5 L.F. - 4" SAN. SEWER LATERAL W/RISER(PER AS-BUILT RECORDS)

EX. 4" PVC SAN. LATERAL

EXTG. 4" SERV. TEE @ STA. 18+06 (PER AS-BUILT PLANS)

SAWCUT/REMOVE/REPLACE EX. CONC. WALK AS REQ'D FOR NEW SAN. SERVICE

E.O.S INV.=1001.0 (PER AS-BUILT PLANS)

SW. LONGVIEW BLVD.

SW. LONGVIEW BLVD.

EXTG. 8" PVC SAN. SEWER @ 1.03% SLOPE

206'± BDS

EXTG. ST. SEWER

EXTG. 12" WATER MAIN

STA. 16+00.95
EXTG. SAN. MH A6
TOP EL.=1005.90
INV. IN (NW)=986.60
INV. OUT (SE)=986.20

EXISTING FIRE HYDRANT

BM-1004

SW. TOWER PARK DR.

460 SW LONGVIEW BLVD
(OWNER: JVM NEW LONGVIEW LLC)

LOT 6
TOWER PARK COMMERCIAL-PHASE 2
LOTS 5,6,7, TRACTS A&B

NOTE:
NO PART OF THE PROJECT LIES WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD INSURANCE RATE MAP NUMBER 29095C0414G DATED JANUARY 20, 2017.

MISSOURI ONE CALL SYSTEM

1-800-344-7483 or 811
mo1call.com

PROJECT BENCHMARK:

MONUMENT FOUND
CHISELED "SQUARE" ON STORM CURB INLET #30 AT NORTHWEST INTERSECTION OF SW. TOWER PARK DRIVE AND SW. LONGVIEW BOULEVARD.

NORTHING: 998893.4148
EASTING: 2803318.5413

ELEV. 1004.09

UTILITY INFORMATION & CONTACTS:

Missouri Gas Energy
Attn: Lucas Walls
3025 Southeast Clover Drive
Lee's Summit, Missouri 64082
Phone: (816) 969-2218
Email: lucas.walls@sug.com

Kansas City Power & Light
Attn: Phillip Ingram
1300 Hamblen Road
Lee's Summit, Missouri 64081
Phone: (816) 347-4339
Email: phillip.ingram@kcpl.com

Sewer and Water - City of Lee's Summit
220 SE Green Street
Lee's Summit, Missouri 64063
Phone: (816) 969-1900
Email: publicworks@cityofls.net

AT&T
Attn: Herb Upshaw
9444 Nall Avenue
Overland Park, Kansas 66207
Phone: (913) 383-4929
Email: hu4112@att.com

811
Missouri One Call - 1-800-344-7483

UTILITY STATEMENT:

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDON. THE SURVEYOR FURTHER DOES NOT WARRANTY THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

SCHLAGEL
ENGINEERS PLANNERS SURVEYORS LANDSCAPE ARCHITECTS
14920 W. 107th Street • Lenexa, Kansas 66215
(913) 492-5158 • Fax (913) 492-8400
WWW.SCHLAGEL-ASSOCIATES.COM
Missouri State Certificates of Authority
#E2000030800-F #LA2001005237 #LS2002008859-F

PREPARED BY:

STATE OF MISSOURI
JEFFREY T. SKIDMORE
NUMBER PE-2021000125
PROFESSIONAL ENGINEER

3-15-21

SCHLAGEL & ASSOCIATES, P.A.

TOWER PARK COMM. - LOT 7 - NORTH BLDG.
FINAL DEVELOPMENT PLANS

420 SW LONGVIEW LEE'S SUMMIT, MISSOURI

DESCRIPTION	REVISION DATE

DRAWN BY: ####
CHECKED BY: ####
DATE PREPARED: 03/15/2021
PROJ. NUMBER: 20-106

SITE UTILITY PLAN

SHEET
C4.0

SCALE: 1" = 20'

LOT 3
TOWER PARK COMMERCIAL-PHASE 2
OWNER: GALE COMMUNITIES INC

SW. SENSATION DRIVE

APPROX. LIMITS OF DISTURBANCE (0.40 AC.)

FIN. FL.=1008.00

EX. SAN. SWR. MANHOLE

CONSTRUCTION FENCE

EXISTING APARTMENT BLDG.

APPROX. LIMITS OF DISTURBANCE (0.40 AC.)

SW. LONGVIEW BLVD.

CONSTRUCTION FENCE

FIN. FL.=1006.67

CONSTRUCTION FENCE

APPROX. LIMITS OF DISTURBANCE (0.40 AC.)

LOT 5
TOWER PARK COMMERCIAL-PHASE 2
LOTS 5,6,7, TRACTS A&B

510 SW TOWER PARK DRIVE
(OWNER: JVM NEW LONGVIEW LLC)

EXISTING GARAGE

EXTG DRIVE/PARKING

EXISTING 5,390 SQ. FT. BUILDING

BM-1004

SW. TOWER PARK DR.

460 SW LONGVIEW BLVD
(OWNER: JVM NEW LONGVIEW LLC)

LOT 6
TOWER PARK COMMERCIAL-PHASE 2
LOTS 5,6,7, TRACTS A&B

NOTE:
NO PART OF THE PROJECT LIES WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD INSURANCE RATE MAP NUMBER 29095C0414G DATED JANUARY 20, 2017.

MISSOURI ONE CALL SYSTEM
1-800-344-7483 or 811
mo1call.com

PROJECT BENCHMARK:

MONUMENT FOUND
CHISELED "SQUARE" ON STORM CURB INLET #30 AT NORTHWEST INTERSECTION OF SW. TOWER PARK DRIVE AND SW. LONGVIEW BOULEVARD.

NORTHING: 998893.4148
EASTING: 2803318.5413

ELEV. 1004.09

EROSION AND SEDIMENT CONTROL STAGING CHART

PROJECT STAGE	BMP PLAN REF. NO	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
A - PRIOR TO LAND DISTURBANCE	1	CONSTRUCTION ENTRANCE & STAGING AREA	D	MAINTAIN, REPAIR, OR REPLACE AS NECESSARY
	2	SILT FENCE (PRIOR TO LAND DISTURBANCE)	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
	3	EXISTING INLET PROTECTION (GRAVEL CURB INLET SEDIMENT TRAP)	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
B - MASS GRADING	4	SILT FENCE (DURING CONSTRUCTION)	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
C - UTILITY CONSTRUCTION	5	CONCRETE WASHOUT AREA	E	MAINTAIN, REPAIR, OR REPLACE AS NECESSARY
	6	INLET PROTECTION (SILT FENCE)	D/E	PLACE SILT FENCE AROUND ALL STORM SEWER STRUCTURES / YARD AREA STORM STRUCTURES PRIOR TO TOPS BEING PLACED SILT FENCE REMOVED & REPLACE WITH #7 BELOW WITH PLACEMENT OF TOPS AND/OR STABLIZATION OF DRAINAGE AREAS.
D - AFTER PAVING OPERATIONS	7	INLET PROTECTION (GRAVEL FILTER BAGS)	E	BOARDS SHALL BE PLACED IN FRONT OF INLET OPENING FROM THE TIME SILT FENCE IS REMOVED UNTIL SUCH TIME THAT THE CURB / THROAT IS POURED. PLACE GRAVEL FILTER BAGS AT THE OPENING OF ALL CURB INLETS IMMEDIATELY AFTER THE INLET THROATS ARE POURED
	8	SILT FENCE (AFTER CURB CONSTRUCTION)	E	PLACE WHERE INDICATED, REPAIR OR REPLACE AS NECESSARY AND REMOVE ONLY WHEN GRADED AREAS HAVE SUFFICIENT GROUND COVER ESTABLISHED
	9	SEEDING AND MULCHING	E	ALL DISTURBED AREAS AFTER 14 DAYS OF CONSTRUCTION INACTIVITY
E - UNTIL CLOSURE OF LAND DISTURBANCE PERMIT	10			ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES MAY BE REQUIRED ANY TIME CURRENT MEASURES ARE FOUND TO BE INEFFECTIVE.

DISTURBED AREA = 0.40 A.C.

SITE SPECIFIC NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATION.
2. THERE ARE NO WETLANDS, NATURAL OR ARTIFICIAL WATER STORAGE DETENTION AREAS IN THE PROJECT AREA.
3. NO PART OF THE PROJECT LIES WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD INSURANCE RATE MAP NUMBER 29095C0414G DATED JANUARY 20, 2017.
4. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IMPLEMENTED ACCORDING TO THE BMP STAGING CHART.
5. ADDITIONAL EROSION CONTROL MAY BE REQUIRED BY THE CITY ENGINEER AT ANY TIME EXISTING MEASURES ARE FOUND TO BE INEFFECTIVE OR PROBLEMATIC AREAS ARE NOTED IN THE FIELD.
6. STABILIZATION OF DISTURBED AREAS MUST, AT A MINIMUM, BE INITIATED IMMEDIATELY WHENEVER ANY CLEARING, GRADING, EXCAVATING, OR OTHER SOIL DISTURBING ACTIVITIES HAVE PERMANENTLY CEASED ON ANY PORTION OF THE SITE, OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS. THE DISTURBED AREAS SHALL BE PROTECTED FROM EROSION BY STABILIZING THE AREA WITH MULCH OR OTHER SIMILARLY EFFECTIVE SOIL STABILIZING BMPS. INITIAL STABILIZATION ACTIVITIES MUST BE COMPLETED WITHIN 14 DAYS AFTER SOIL DISTURBING ACTIVITIES CEASE.
7. ALL PERIMETER SILT FENCE, EARTH DIKES, SEDIMENT BASINS, AND ROCK CONSTRUCTION ENTRANCES WILL BE INSTALLED BEFORE GRADING OPERATIONS BEGIN.
8. SILT FENCE AND EARTH DIKES THAT ARE PLACED BEFORE GRADING BEGINS WILL BE MAINTAINED BY THE GRADING CONTRACTOR.
9. AREAS WITHIN PUBLIC RIGHT-OF-WAY SHALL BE SODDED IMMEDIATELY AFTER CONSTRUCTION IS COMPLETE.

LEGEND

- TEMPORARY STORAGE AREA FOR EXCESS MATERIAL
- TEMP. CONSTRUCTION ENTRANCE AND STAGING AREA
- CONCRETE WASHOUT AREA
- SILT FOAM DIKE - STAKED & INSTALL PER MFR'S RECOMMENDATIONS
- ROCK DITCH CHECK
- GRAVEL CURB INLET SEDIMENT TRAP
- SILT SOCK / ROCK SOCK / SOCK WATTLE
- 1 BMP PLAN REF. NO.
- SF1 SILT FENCE (PRIOR TO LAND DISTURBANCE)
- SF2 SILT FENCE (DURING CONSTRUCTION)
- x CONSTRUCTION FENCE
- LIMITS OF DISTURBANCE
- 965 EXISTING CONTOURS
- 965 PROPOSED CONTOURS
- STRAW BALE DITCH CHECK
- GRAVEL FILTER FOR STORM SEWER STRUCTURES ONLY

N

0 20' 40'
SCALE: 1" = 20'

SCHLAGEL
ENGINEERS PLANNERS SURVEYORS LANDSCAPE ARCHITECTS
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WWW.SCHLAGEL-ASSOCIATES.COM
Missouri State Certificate of Authority #E2002003800-F #LA2001005237 #LS2002008859-F

PREPARED BY:

STATE OF MISSOURI
JEFFREY T. SKIDMORE
NUMBER PE-2021000125
PROFESSIONAL ENGINEER
3-15-21

SCHLAGEL & ASSOCIATES, P.A.

TOWER PARK COMM. - LOT 7 - NORTH BLDG.
FINAL DEVELOPMENT PLANS

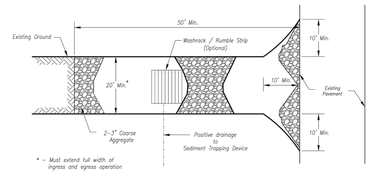
420 SW LONGVIEW LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION

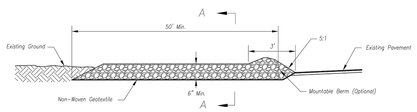
DRAWN BY: ####
CHECKED BY: ####
DATE PREPARED: 03/15/2021
PROJ. NUMBER: 20-106

EROSION CONTROL PLAN

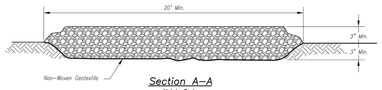
SHEET
C5.0



Plan View
Not to Scale



Side Elevation
Not to Scale



Section A-A
Not to Scale

Notes for Construction Entrance:

1. Avoid locating on steep slopes, at curves on public roads, or downhill of disturbed area.
2. Remove all vegetation and other unsuitable material from the foundation area, grade, and crown for positive drainage.
3. If slope towards the public road exceeds 2%, construct a 6- to 8-inch high ridge with 3H:1V side slopes across the foundation approximately 15 feet from the edge of the public road to divert runoff from it.
4. Install pipe under the entrance if needed to maintain drainage ditches along public roads.
5. Place stone to dimensions and grade as shown on plans. Leave surface sloped for drainage.
6. Divert all surface runoff and drainage from the entrance to a sediment control device.
7. If conditions warrant, place geotextile fabric on the graded foundation to improve stability.

Maintenance for Construction Entrance:

1. Reshape entrance as needed to maintain function and integrity of installation. Top dress with clean aggregate as needed.

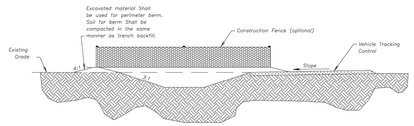
CONSTRUCTION ENTRANCE

Notes for Concrete Washout:

1. Concrete washout areas shall be installed prior to any concrete placement on site.
2. Concrete washout area shall include a flat subsurface pit sized relative to the amount of concrete to be placed on site. The slopes leading out of the subsurface pit shall be 3:1. The vehicle tracking pad shall be sloped towards the concrete washout area.
3. Vehicle tracking control is required at the access point to all concrete washout areas.
4. Signs shall be placed at the construction site entrance, washout area and elsewhere as necessary to clearly indicate the location(s) of the concrete washout area(s) to operators of concrete truck and pump rigs.
5. A one-piece impervious liner may be required along the bottom and sides of the subsurface pit in sandy or gravelly soils.

Maintenance for Concrete Washout:

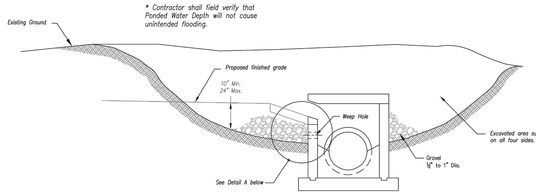
1. Concrete washout materials shall be removed once the materials have filled the washout to approximately 75% full.
2. Concrete washout areas shall be enlarged as necessary to maintain capacity for wasted concrete.
3. Concrete washout water, wasted pieces of concrete and all other debris in the subsurface pit shall be transported from the job site in a water-tight container and disposed of properly.
4. Concrete washout areas shall remain in place until all concrete for the project is placed.
5. When concrete washout areas are removed, excavations shall be filled with suitable compacted backfill and topsoil, any disturbed areas associated with the installation, maintenance, and/or removal of the concrete washout areas shall be stabilized.

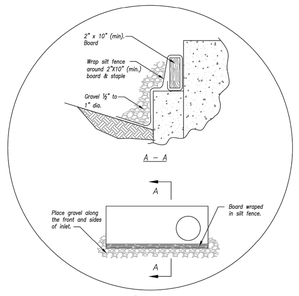


CONCRETE WASHOUT

Construction Entrance modified from 2015 Overland Park Standard Details for Erosion and Sediment Control; Concrete Washout modified from 2009 City of Great Bend Standard Drawings.

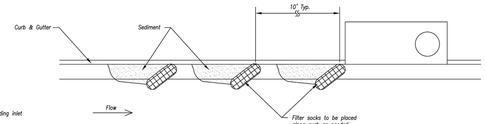
AMERICAN PUBLIC WORKS ASSOCIATION
KANSAS CITY METRO CHAPTER
CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT
STANDARD DRAWING NUMBER ESC-01
ADOPTED: 10/24/2016





Detail A

EARLY STAGE CURB INLET
(Open Box and Prior to Pouring Curb and Inlet Throat)



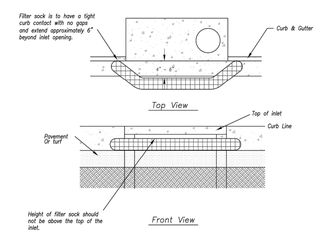
On Grade Curb Inlet Protection

Notes:

1. Immediately following inlet construction and prior to construction of curb and inlet throat, protect inlet opening by installing 2" X 10" (min.) board wrapped in silt fence. Structures shall have excavated storage area on all four sides to allow settling of sediment (Early Stage Curb Inlet).
2. When inlet is completed and curb poured, filter socks or approved equal should be used (Late Stage Curb Inlet). Straw wattles are not approved for curb inlet use.
3. Contractor to field verify ponding water shall not create a traffic hazard.

Maintenance:

1. Remove deposited sediment from excavated storage areas when available storage has been reduced by 20%.
2. Remove deposited sediment from filter socks or similar when any accumulation of sediment is visible.
3. Repair or replace as necessary to maintain function and integrity of installation.

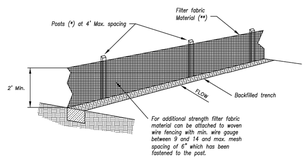


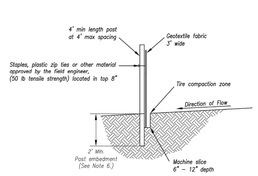
Sump Inlet Sediment Filter

LATE STAGE CURB INLET
(After Pouring Curb and Inlet Throat)

Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.

AMERICAN PUBLIC WORKS ASSOCIATION
KANSAS CITY METRO CHAPTER
CURB INLET PROTECTION
STANDARD DRAWING NUMBER ESC-06
ADOPTED: 10/24/2016





(*) POSTS
- MIN. LENGTH 4'
- HARDWOOD 1 ½" x 1 ½"
- NO.2 SOUTHERN PINE 2 ½" x 2 ½"
- STEEL 1.33 LB/FT

(**) – Geotextile Fabric shall meet the requirements of AASHTO M288

SILT FENCE DETAILS
Not to Scale

Notes:

1. In order to contain water, the ends of the silt fence must be turned uphill (Figure A).
2. Long perimeter runs of silt fence must be limited to 100'. Runs should be broken up into several smaller segments to minimize water concentrations (Figure A).
3. Long slopes should be broken up with intermediate rows of silt fence to slow runoff velocities.
4. Attach fabric to upstream side of post.
5. Install posts a minimum of 2' into the ground.
6. Trenching will only be allowed for small or difficult installation, where slicing machine cannot be reasonably used.

Maintenance:

1. Remove and dispose of sediment deposits when the deposit approaches ½ the height of silt fence.
2. Repair as necessary to maintain function and structure.

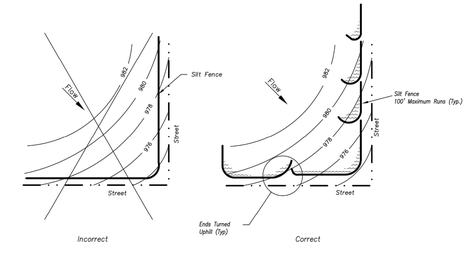
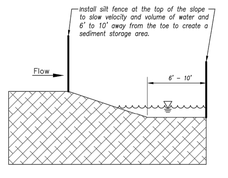
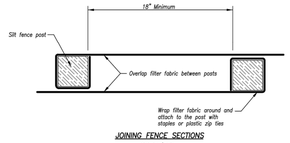


Figure A



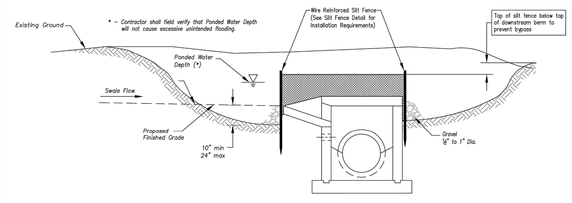


JOINING FENCE SECTIONS
Not to Scale

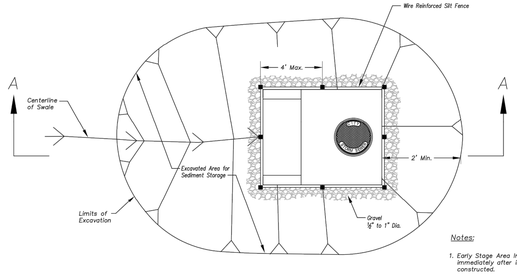
SILT FENCE LAYOUT
Not to Scale

Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.

AMERICAN PUBLIC WORKS ASSOCIATION
KANSAS CITY METRO CHAPTER
SILT FENCE
STANDARD DRAWING NUMBER ESC-03
ADOPTED: 10/24/2016



Section A–A
Not to Scale

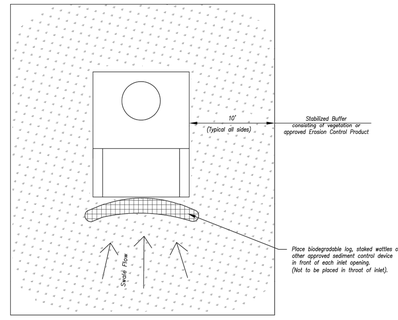


Plan
Not to Scale

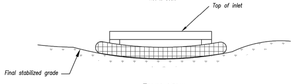
EARLY STAGE AREA INLET
(All open boxes and inlets not at final grade)

Notes:

1. Early Stage Area Inlet Sediment Barrier to be installed immediately after inlet or junction box is constructed.
2. Silt fence shall remain in place until excavated area is removed and Late Stage Area Inlet is being installed.
3. Backfill excavated area ONLY after final grading of the site. Stabilization of the site is to immediately follow.
4. Wire reinforced silt fence may be used in place of silt fence attached to wood frame.



Plan
Not to Scale



Front View

LATE STAGE AREA INLET
(Area inlets at final grade and existing inlets)

Maintenance:

1. Remove deposited sediment from excavated storage areas when available storage has been reduced by 20%.
2. Remove deposited sediment from filter socks or similar when any accumulation of sediment is visible.
3. Repair or replace as necessary to maintain function and integrity of installation.

Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.

AMERICAN PUBLIC WORKS ASSOCIATION
KANSAS CITY METRO CHAPTER
AREA INLET AND JUNCTION BOX PROTECTION
STANDARD DRAWING NUMBER ESC-07
ADOPTED: 10/24/2016

SCHLAGEL
ENGINEERS PLANNERS SURVEYORS LANDSCAPE ARCHITECTS
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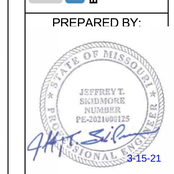
Missouri State Certificates of Authority
#E2000030800-F #LA2001005237 #LS2002008859-F

PREPARED BY:



SCHLAGEL & ASSOCIATES, P.A.

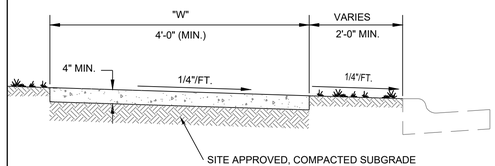
TOWER PARK COMM. - LOT 7 - NORTH BLDG.
FINAL DEVELOPMENT PLANS
420 SW LONGVIEW LEE'S SUMMIT, MISSOURI

DESCRIPTION	REVISION DATE

DRAWN BY: ####
CHECKED BY: ####
DATE PREPARED: 03/15/2021
PROJ. NUMBER: 20-106

EROSION CONTROL DETAILS

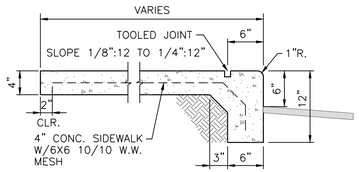
SHEET
C6.0



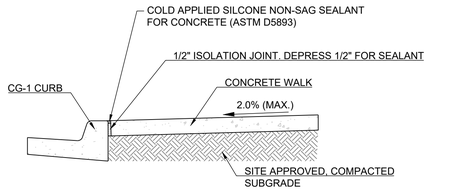
NOTES:

1. TYPE 1 JOINTS SHALL BE PLACED "W" CENTERS.
2. TYPE THREE JOINTS SHALL BE PLACED AT 250' CENTERS AND WHERE WALK ABUTS EXISTING CONCRETE.
3. ALL CONCRETE SHALL BE KCMMB-4K.
4. WHEN UTILITY SERVICE BOXES, METER BOXES, ETC. WHICH MEASURE LESS THAN 1 FT. SQUARE MUST BE PLACED IN THE SIDEWALK, THE UTILITY SERVICE BOXES, ETC. SHALL BE NO CLOSER TO ANY EDGE OF THE SIDEWALK PANEL THAN 1 FT.
5. WHEN UTILITY BOXES, METER BOXES, ETC. GREATER THAN 1 FT. IN ANY DIMENSION MUST BE PLACED IN THE SIDEWALK, THEY SHALL BE PLACED IN THE CORNER OF THE SIDEWALK PANEL.
6. AN ISOLATION JOINT SHALL BE PLACED BETWEEN THE CONCRETE AND ANY UTILITY BOX, ETC. WHICH IS PLACED IN THE SIDEWALK.
7. NO SECTION OF SIDEWALK LESS THEN 12" IN ANY DIMENSION. (HORIZONTAL)
8. AB-3 MAY BE USED AS A LEVELING COURSE. AB-3 MUST BE MOIST (MIN. 5% MOISTURE) AND COMPACTED. DEPTH OF LEVELING COURSE SHALL NOT EXCEED 6". CLEAN ROCK WILL NOT BE ALLOWED.

TYPICAL CONCRETE SIDEWALK DETAILS



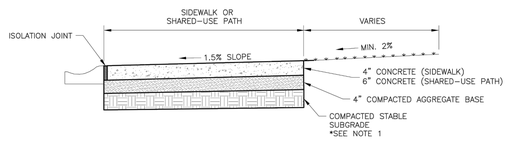
INTEGRAL CURB/SIDEWALK DETAIL



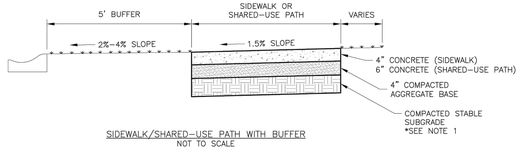
A. Expansion- and Isolation-Joint-Filler Strips: ASTM D994, D1751 or D1752.

B. Cold Applied Joint Sealant : Single Component, Nonsag, Silicone Joint Sealant for Concrete: ASTM D5893, Type NS

SIDEWALK @ BACK OF CURB DETAIL



SIDEWALK/SHARED-USE PATH WITHOUT BUFFER
NOT TO SCALE



SIDEWALK/SHARED-USE PATH WITH BUFFER
NOT TO SCALE

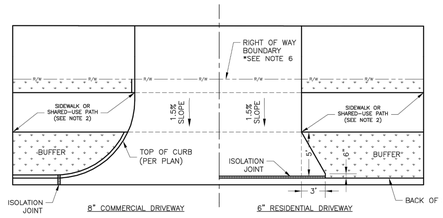
GENERAL NOTES:

1. SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
2. 1.5% CROSS SLOPE MUST BE MAINTAINED THROUGH DRIVEWAYS.
3. KCMMB 4K CONCRETE MIX SHALL BE REQUIRED FOR ALL SIDEWALKS AND SHARED-USE PATHS OR AS APPROVED BY THE CITY INSPECTOR.
4. ALL SIDEWALKS SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG).
5. AN EXPANSION JOINT SHALL BE PLACED AT A MAXIMUM OF 150 FT. CONSTRUCTION JOINTS SHALL BE PLACED THE SAME WIDTH OF SIDEWALK, BUT NO GREATER THAN 10 FT.
6. SHARED-USE PATH WIDTH SHALL BE 10 FT. WIDE.
7. SIDEWALK FINISHING (NO PICTURE FRAMING) AS DIRECTED BY CITY INSPECTOR.
8. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.

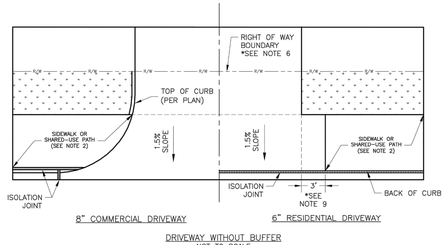
LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

SIDEWALK/SHARED-USE PATH DETAIL

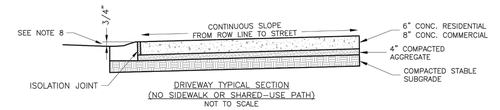
Date: 04/17 | Drawn By: MJF | Checked By: DL | GEN-2



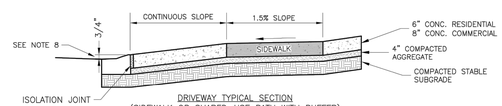
DRIVEWAY WITH BUFFER
NOT TO SCALE



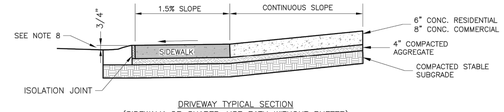
DRIVEWAY WITHOUT BUFFER
NOT TO SCALE



DRIVEWAY TYPICAL SECTION
(NO SIDEWALK OR SHARED-USE PATH)
NOT TO SCALE



DRIVEWAY TYPICAL SECTION
(SIDEWALK OR SHARED-USE PATH WITH BUFFER)
NOT TO SCALE



DRIVEWAY TYPICAL SECTION
(SIDEWALK OR SHARED-USE PATH WITHOUT BUFFER)
NOT TO SCALE

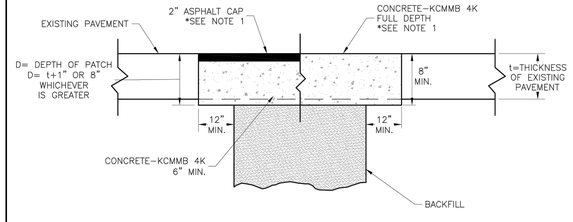
GENERAL NOTES
1. SUBGRADE SHALL BE STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
2. ALL DRIVE APPROACHES SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG) FOR SLOPE REQUIREMENTS WHEN SIDEWALK IS REQUIRED (SEE ADA RAMP RETROFIT DETAIL).
3. JOINT AT BACK OF CURB LINE SHALL BE AN ISOLATION JOINT FOR RESIDENTIAL DRIVEWAYS.
4. KCMMB 4K CONCRETE MIX IS REQUIRED FOR ALL CURBS.
5. COMMERCIAL DRIVEWAYS AND DRIVEWAY APPROACHES, IN THE PUBLIC RIGHT OF WAY, SHALL BE KCMMB 4K CONCRETE MIX.
6. A JOINT MUST BE INSTALLED AT THE RIGHT OF WAY BOUNDARY FOR PROPERTY DELINEATION.
7. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.
8. ¾" FROM TOP OF CURB TO FLOWLINE AT DRIVEWAY (TYPE CG-1 CURB ONLY). MUST MAINTAIN ORIGINAL FLOWLINE OF CURB.
9. SIDEWALK ADJOINING CURB SHALL BE 6" THICK, EXTENDING 3' FROM THE DRIVEWAY.
10. THE MAXIMUM WIDTH OF A RESIDENTIAL DRIVEWAY IS 36 FEET WITHIN THE RIGHT OF WAY.

LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO

Project | Sheet Name: DRIVEWAY DETAIL

Drawn By: MJF | Checked By: DL | Date: 04/17 | Proj. #: | GEN-1



TRENCHING/PATCHING DETAIL
NOT TO SCALE

NOTE:

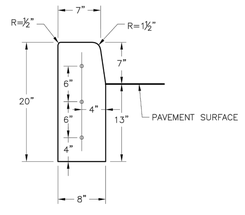
1. ASPHALT CAP OR FULL DEPTH CONCRETE SHALL BE DETERMINED BY CITY INSPECTOR.

LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

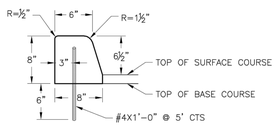
TRENCHING/PATCHING ROADWAYS DETAIL

Date: 04/17 | Drawn By: MJF | Checked By: DL | GEN-5

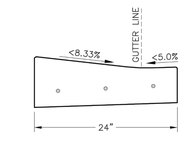
GENERAL NOTE:
ALL NEW CURB AND GUTTER SHALL BE INSTALLED ON AN AGGREGATE BASE, A STABILIZED SUBGRADE OR GEOGRID EXTENDING A MINIMUM OF 1 FOOT (1.0') BEHIND THE BACK OF CURB.



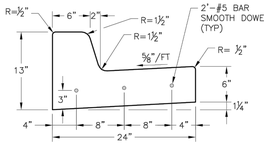
STRAIGHT CURB
(TYPE C-1)



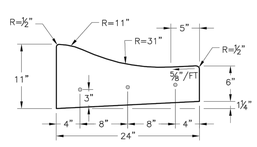
DOWELLED CURB
(TYPE DC)



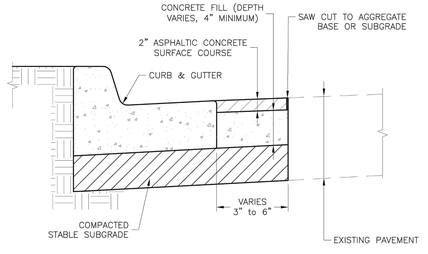
CURB & GUTTER DETAIL AT RAMP
(ADA SLOPE REQUIREMENTS)



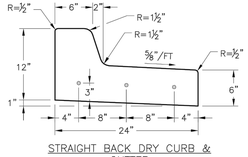
STRAIGHT BACK CURB & GUTTER
(TYPE CG-1)



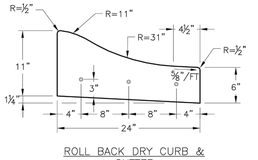
ROLL BACK CURB & GUTTER
(TYPE CG-2)



CURB REPLACEMENT DETAIL



STRAIGHT BACK DRY CURB & GUTTER
(TYPE CG-1 DRY)



ROLL BACK DRY CURB & GUTTER
(TYPE CG-2 DRY)

GENERAL NOTES

1. ¾" ISOLATION JOINTS WITH 3 (2'-#5 BAR) SMOOTH DOWELS SHALL BE PLACED AT RADIUS POINTS AND AT 150' INTERVALS. THESE DOWEL BARS SHALL BE GREASED AND WRAPPED ON ONE END WITH EXPANSION TUBES.
2. 3" DEEP CONTRACTION JOINTS SHALL BE INSTALLED AT APPROXIMATELY 10' INTERVALS. THESE JOINTS SHALL PASS ACROSS THE ENTIRE CURB SECTION.
3. CONCRETE FILL SHALL HAVE UNIFORM AND SMOOTH FINISH
4. KCMMB 4K CONCRETE SHALL BE USED FOR ALL CURB.
5. ASPHALTIC CONCRETE SURFACE COURSE SHALL CONFORM TO STANDARD SPECIFICATIONS SECTION 2205.2.
6. CURBS FOR NEW STREETS SHALL BE BUILT ON ASPHALT OR AGGREGATE BASE AS SHOWN IN TYPICAL SECTION DETAIL.
7. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.

LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO

Project | Sheet Name: CURB & GUTTER DETAIL

Drawn By: MJF | Checked By: DL | Date: 04/17 | Proj. # | GEN-4

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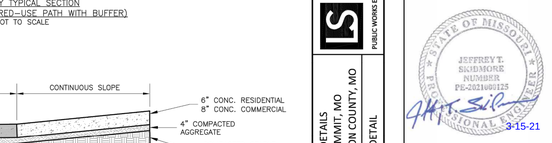
PREPARED BY:



SCHLAGEL & ASSOCIATES, P.A.

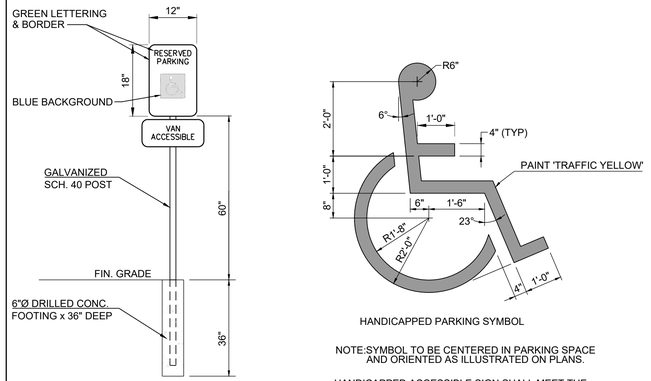
TOWER PARK COMM. - LOT 7 - NORTH BLDG.
FINAL DEVELOPMENT PLANS
420 SW LONGVIEW LEE'S SUMMIT, MISSOURI

DESCRIPTION	REVISION DATE
	1
	2
	3
	4
	5
	6
	7
	8

DRAWN BY: ####
CHECKED BY: ####
DATE PREPARED: 03/15/2021
PROJ. NUMBER: 20-106

SIDEWALK & CURB DETAILS

SHEET
C7.0



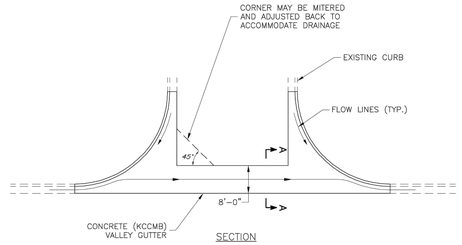
HANDICAP SIGN
(SEE PLAN FOR LOCATION)

HANDICAPPED PARKING SYMBOL

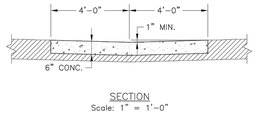
NOTE:SYMBOL TO BE CENTERED IN PARKING SPACE AND ORIENTED AS ILLUSTRATED ON PLANS.

HANDICAPPED ACCESSIBLE SIGN SHALL MEET THE REQUIREMENTS AS SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES - SIGN R7-8.

TYPICAL HANDICAPPED PARKING DETAILS



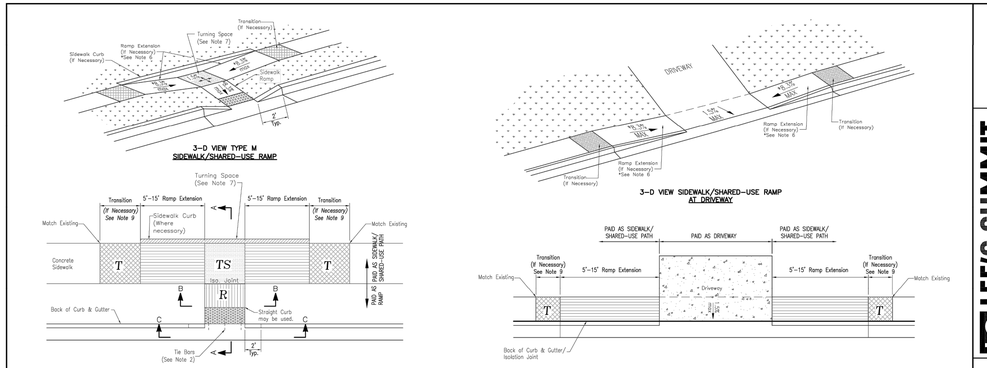
SECTION



SECTION
Scale: 1" = 1'-0"

VALLEY GUTTER DETAIL
Intersection of Two Public Streets

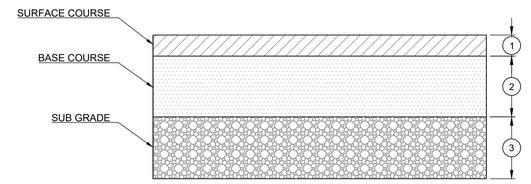
LS	**LEE'S SUMMIT** MISSOURI PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063	Date: 04/17 Drawn By: MJF Checked By: DL
	VALLEY GUTTER DETAIL	GEN-7



SIDEWALK/SHARED-USE PATH & SIDEWALK/SHARED-USE RAMP NOTES:

1. CURB RAMP OPENING, NOT INCLUDING FLARES, SHALL MATCH EXISTING SIDEWALK WIDTH AND OPENING SHALL BE AT LEAST 48" WIDE.
2. USE 18" LONG #4 EPOXY COATED TIE BARS @ 24" O.C. EMBED TIE BARS 9" IN EACH DIRECTION.
3. ALL RAMPS, SIDEWALKS, SHARED-USE PATHS SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
4. LONGITUDINAL JOINT SPACING TO MATCH WIDTH OF SIDEWALK.
5. ISOLATION JOINTS SHALL BE PLACED WHERE WALK ABUTS DRIVEWAYS AND SIMILAR STRUCTURES, AND 150' CENTERS MAX.
6. ADA MAXIMUM RAMP SLOPE = 8.33% ADA MAXIMUM CROSS SLOPE = 2.0% *SIDEWALK EXCEPTION: WHERE EXISTING ROAD PROFILE GRADE DOES NOT ALLOW RAMP TO MEET RAMP SLOPE REQUIREMENT OF 8.33% OR LESS, THE RAMP SHALL BE EXTENDED TO A LENGTH OF 15 FEET TO MATCH EXISTING SIDEWALK. CROSS SLOPE OF RAMP SHALL BE 1.5%, ±0.5%.
7. TURNING SPACES SHALL BE 1.5%, ±0.5% SLOPE IN ANY DIRECTION. TURNING SPACES SHALL HAVE A MINIMUM 4'x4' TURNING AREA. TURNING SPACES, WITH A SIDEWALK CURB, SHALL HAVE A 5' TURNING AREA PERPENDICULAR TO THE SIDEWALK CURB.
8. FOR RETROFIT WORK, SLOPES TO BE DETERMINED IN FIELD BY CONTRACTOR AND APPROVED BY CITY INSPECTOR
9. RAMP EXTENSION AREA SHALL NOT BE USED AS TRANSITION TO EXISTING SIDEWALK. ANY TRANSITIONS REQUIRED TO MATCH RAMPS TO EXISTING SIDEWALK SHALL REQUIRE REMOVAL AND REPLACEMENT OF ADDITIONAL SIDEWALK BEYOND THE RAMP AREA. SIDEWALK TRANSITION LENGTH SHALL BE EQUAL TO OR GREATER THAN THE WIDTH OF THE EXISTING SIDEWALK. RAMP EXTENSIONS SHALL BE A CONTINUOUS SLOPE.
10. ALL SIDEWALK AND RAMP CONSTRUCTION SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG).

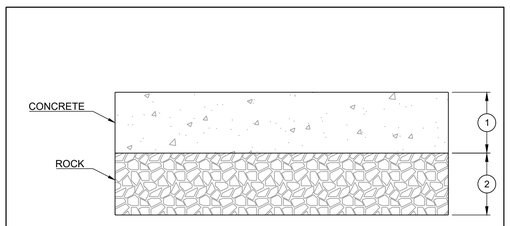
LS	**LEE'S SUMMIT** MISSOURI PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063	Drawn By: MJF Checked By: DL Date: 04/17 Proj. #:
Project:	STANDARD DETAILS CITY OF LEE'S SUMMIT, MO LEE'S SUMMIT, JACKSON COUNTY, MO	
Sheet Name:	ADA RAMP RETROFIT DETAIL	GEN-3B



PARKING AREAS	DRIVE AREAS	HEAVY DUTY DRIVE AREAS
1 1.5" - KCAPWA TYPE 5	1 1.5" - KCAPWA TYPE 5	1 1.5" - KCAPWA TYPE 5
2 4" - KCAPWA TYPE 5	2 4" - KCAPWA TYPE 5	2 5" - KCAPWA TYPE 5
3 6" - GRANULAR BASE AND 6" FLYASH TREATED SUBGRADE	3 6" - GRANULAR BASE AND 6" FLYASH TREATED SUBGRADE	3 6" - GRANULAR BASE AND 6" FLYASH TREATED SUBGRADE

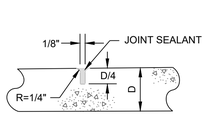
The pavement subgrades be proofrolled and the moisture content and density of the top 12 inches of subgrade be checked within two days prior to commencement of actual paving operations. If any significant event, such as precipitation, occurs after proofrolling, the subgrade should be reviewed by qualified personnel immediately prior to placing the pavement. The subgrade should be in its finished form at the time of the final review.

ASPHALT PAVEMENT SECTION

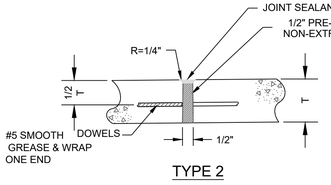


DRIVE AND PARKING AREAS	TRASH AREA
1 6" - 4000 PSI PCC PAVEMENT	1 8" - 4000 PSI PCC PAVEMENT
2 4" - 3/4" CLEAN ROCK	2 4" - 3/4" CLEAN ROCK

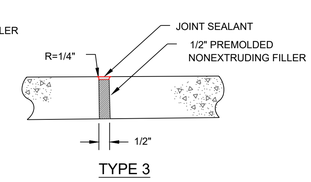
CONCRETE PAVEMENT SECTION



TYPE 1



TYPE 2



TYPE 3

NOTES:

1. TYPE 1 JOINTS MAY BE CONSTRUCTED WITH A GROOVING TOOL OR WITH A CONCRETE SAW AFTER THE CONCRETE IS SET.
2. TYPE 1 JOINTS SHALL BE SPACE TO EQUAL THE WIDTH OF THE SIDEWALK.

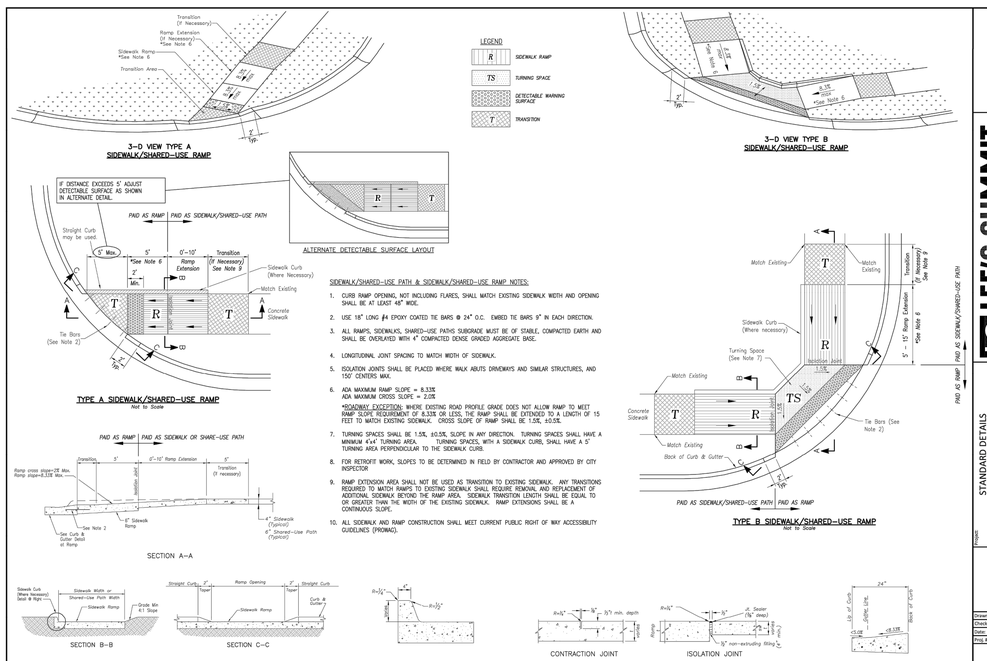
NOTES:

1. TYPE 2 JOINTS SHALL BE PLACED @ ALL P.C.'s, P.T.'s AND TRANSITIONS, AND WHERE NEW WALK TIES INTO EXISTING WALK.
2. SMOOTH BARS SHALL BE 24" LONG.

NOTE:

1. TYPE 3 JOINTS SHALL BE PLACED WHERE NEW CONCRETE ABUTS EXISTING CONCRETE AND IN AREAS WHERE DOWEL BARS ARE NOT REQUIRED BY THE ENGINEER.

TYPICAL CONCRETE PAVEMENT - JOINT DETAILS



SIDEWALK/SHARED-USE PATH & SIDEWALK/SHARED-USE RAMP NOTES:

1. CURB RAMP OPENING, NOT INCLUDING FLARES, SHALL MATCH EXISTING SIDEWALK WIDTH AND OPENING SHALL BE AT LEAST 48" WIDE.
2. USE 18" LONG #4 EPOXY COATED TIE BARS @ 24" O.C. EMBED TIE BARS 9" IN EACH DIRECTION.
3. ALL RAMPS, SIDEWALKS, SHARED-USE PATHS SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
4. LONGITUDINAL JOINT SPACING TO MATCH WIDTH OF SIDEWALK.
5. ISOLATION JOINTS SHALL BE PLACED WHERE WALK ABUTS DRIVEWAYS AND SIMILAR STRUCTURES, AND 150' CENTERS MAX.
6. ADA MAXIMUM RAMP SLOPE = 8.33% ADA MAXIMUM CROSS SLOPE = 2.0% *SIDEWALK EXCEPTION: WHERE EXISTING ROAD PROFILE GRADE DOES NOT ALLOW RAMP TO MEET RAMP SLOPE REQUIREMENT OF 8.33% OR LESS, THE RAMP SHALL BE EXTENDED TO A LENGTH OF 15 FEET TO MATCH EXISTING SIDEWALK. CROSS SLOPE OF RAMP SHALL BE 1.5%, ±0.5%.
7. TURNING SPACES SHALL BE 1.5%, ±0.5% SLOPE IN ANY DIRECTION. TURNING SPACES SHALL HAVE A MINIMUM 4'x4' TURNING AREA. TURNING SPACES, WITH A SIDEWALK CURB, SHALL HAVE A 5' TURNING AREA PERPENDICULAR TO THE SIDEWALK CURB.
8. FOR RETROFIT WORK, SLOPES TO BE DETERMINED IN FIELD BY CONTRACTOR AND APPROVED BY CITY INSPECTOR
9. RAMP EXTENSION AREA SHALL NOT BE USED AS TRANSITION TO EXISTING SIDEWALK. ANY TRANSITIONS REQUIRED TO MATCH RAMPS TO EXISTING SIDEWALK SHALL REQUIRE REMOVAL AND REPLACEMENT OF ADDITIONAL SIDEWALK BEYOND THE RAMP AREA. SIDEWALK TRANSITION LENGTH SHALL BE EQUAL TO OR GREATER THAN THE WIDTH OF THE EXISTING SIDEWALK. RAMP EXTENSIONS SHALL BE A CONTINUOUS SLOPE.
10. ALL SIDEWALK AND RAMP CONSTRUCTION SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG).

LS	**LEE'S SUMMIT** MISSOURI PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063	Drawn By: MJF Checked By: DL Date: 04/17 Proj. #:
Project:	STANDARD DETAILS CITY OF LEE'S SUMMIT, MO LEE'S SUMMIT, JACKSON COUNTY, MO	
Sheet Name:	ADA RAMP RETROFIT DETAIL	GEN-3A

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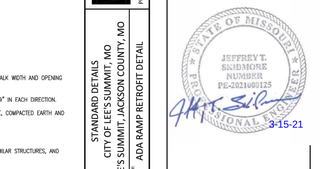
PREPARED BY:



SCHLAGEL & ASSOCIATES, P.A.

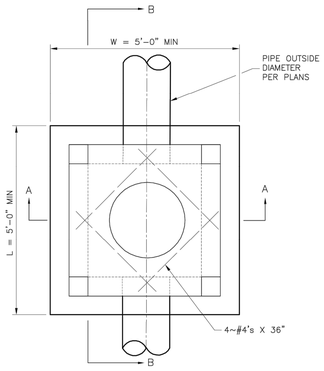
TOWER PARK COMM. - LOT 7 - NORTH BLDG.
FINAL DEVELOPMENT PLANS
420 SW LONGVIEW LEE'S SUMMIT, MISSOURI

DESCRIPTION	REV/ISION DATE

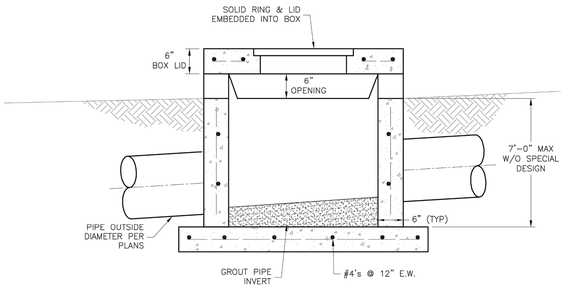
DRAWN BY: ####
CHECKED BY: ####
DATE PREPARED: 03/15/2021
PROJ. NUMBER: 20-106

PAVEMENT DETAILS

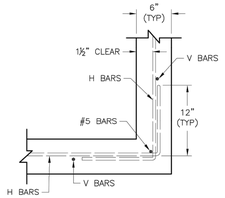
SHEET
C8.0



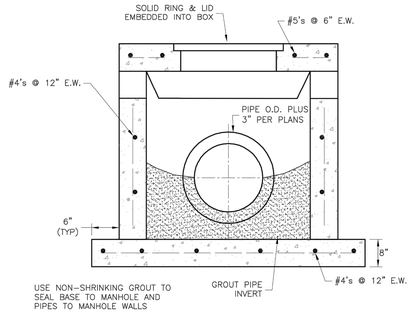
PLAN VIEW



SECTION B-B



WALL CORNER DETAIL



SECTION A-A

GENERAL NOTES:

1. LOCATE RING AND COVER OVER OUTLET ON BLANK WALL.
2. USE ¾" CHAMFER ON ALL EXPOSED CONCRETE CORNERS.
3. FLOOR OF INLET GROUTED AND SHAPED TO MATCH PIPE INVERT TO PROVIDE SMOOTH FLOW.
4. STEPS REQUIRED AT 16" O.C. WHEN DEPTH FROM TOP OF CASTING TO INVERT EXCEEDS 3' ON BLANK WALL IF POSSIBLE.
5. BOXOUTS WILL NOT BE ALLOWED TO PROJECT THROUGH THE CORNERS OF THE STRUCTURE.
6. THE MINIMUM REINFORCING SHALL BE 1 H-BAR OVER A CAST-IN-PLACE PIPE AND 2 H-BARS OVER A PRECAST BOXOUT.
7. SHOW FIELD INLET ORIENTATION ON PLANS PLUS NUMBER AND SIDE OF OPENINGS.
8. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON-SHRINKABLE GROUT AND REMOVABLE FOR FUTURE MAINTENANCE.
9. FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

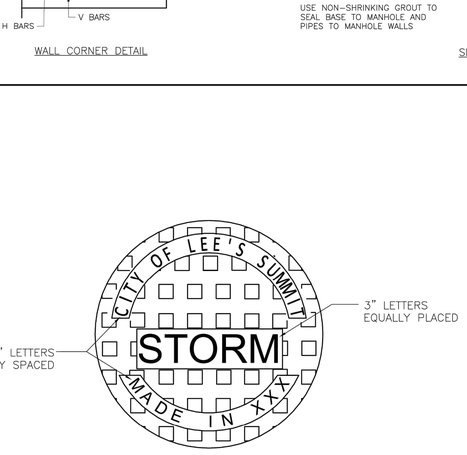
STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO

FIELD INLET DETAIL

Sheet Name:

Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #:

STM-2



STANDARD 24" MANHOLE COVER
MINIMUM WEIGHT = 160 LB
NOTE: PICK HOLES NOT SHOWN

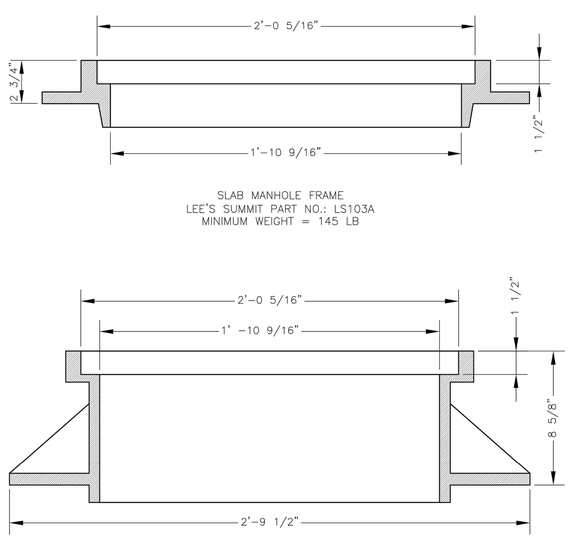
*COVER AND FRAME MODEL INFORMATION REFER TO THE STORMWATER APPROVED PRODUCT LIST.

LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STORM MANHOLE COVER DETAIL

Date: 04/17
Drawn By: MJF
Checked By: DL

STM-6



SLAB MANHOLE FRAME
LEE'S SUMMIT PART NO.: LS103A
MINIMUM WEIGHT = 145 LB

STANDARD 24" MANHOLE FRAME
LEE'S SUMMIT PART NO.: LS101A
MINIMUM WEIGHT = 250 LB

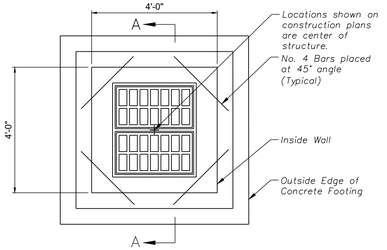
*COVER AND FRAME MODEL INFORMATION REFER TO THE STORMWATER APPROVED PRODUCTS LIST.

LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

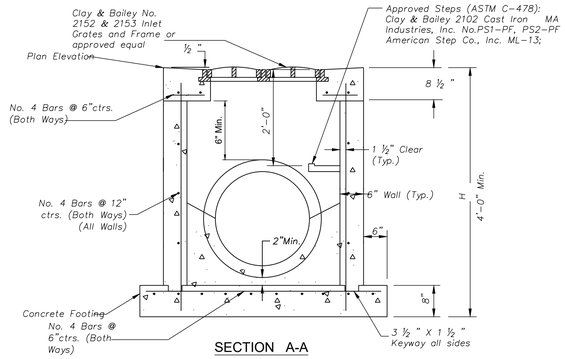
STORM MANHOLE FRAME DETAIL

Date: 04/17
Drawn By: MJF
Checked By: DL

STM-7



PLAN



SECTION A-A

YARD/GRATE INLET DETAILS

NOTES:

General

1. All storm sewer structures shall be pre-cast or poured in place. If pre-cast structures are used for publicly financed, maintained or administered construction, the tops shall be poured in place and the wall steel shall be left exposed to a height 2" below the finish top elevation, or as directed by the Project Engineer.
2. Pre-cast shop drawings are to be approved by the Project Engineer Prior to casting.
3. Do not scale these drawings for dimensions or clearances. Any questions regarding dimensions shall be brought to the attention of the city Engineer prior to construction.
4. The first dimension listed in the construction notes is the "L" dimension. The second dimension is the "W" dimension. The concrete thickness and reinforcement shown is for boxes with ("L"+"H") and ("W"+"H") less then or equal to 20. For boxes with either of these calculations greater than 20, a special design is required.

Concrete

5. Concrete used in this work shall be KCMMB4K, as approved by the Kansas City Metropolitan Materials Board, unless noted otherwise.
6. Concrete construction shall meet the applicable requirements of Standard Specifications for State Road and Bridge Construction, Kansas Department of Transportation, latest edition, unless noted otherwise.
7. Inlet floors shall be shaped with non-reinforced concrete inverts to provide smooth flow.
8. Bevel all exposed edges with 3/4" triangular molding.

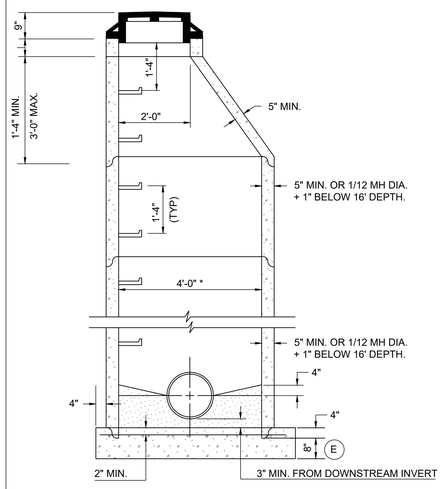
Reinforcing Steel

9. Reinforcing steel shall be new billet, minimum Grade 40 as per ASTM A615, and shall be bent cold.
10. All dimensions relative to reinforcing steel are to centerline of bars. 2" clearance shall be provided throughout unless noted otherwise. Tolerance of +/- 1/8" shall be permitted.
11. All lap splices not shown shall be a minimum of 40 bar diameters in length.
12. All reinforcing steel shall be supported on fabricated steel bar supports @ 3'-0" maximum spacing.
13. All dowels shall be accurately placed and securely tied in place prior to placement of bottom slab concrete. Sticking of dowels into fresh or partially hardened concrete will not be acceptable.

Construction

14. The bottom slab shall be at least 24 hours old before placing sidewall concrete. All sidewall forms shall remain in place a minimum of 24 hours after sidewalls are poured before removal, and after removal shall be immediately treated with membrane curing compound.
15. Pipe connections to pre-cast structures shall have a minimum of 6" of concrete around the entire pipe within 2' of the structure.
16. Material selection and compaction requirements for backfill around structures shall be as specified in the project manual.

STORM SEWER - GRATE INLET DETAIL



* UNLESS OTHERWISE NOTED ON PLANS

GENERAL NOTES:

All manhole rings shall be set in a minimum of two (2) rows of 3/4 to 1 inch pre-formed bitumastic joint sealer.

All manhole rings to be placed in pavement or in areas to be subsequently paved shall have "Machined Horizontal Bearing Surfaces" and shall comply with Class #25 as established in ASTM A-48.

The inside diameter of the manhole shall be 4'-0" for pipe diameters from 8" thru 24" and shall be 5'-0" for pipe diameters from 27" thru 36".
All manhole bases (pre-cast or poured-in-place) shall have No. 4 reinforcing bars placed on 12" centers both ways.

All standard manhole rings and covers to be Deeter 1315-jcs, Neenah NF-15360009/B (frame) and NF-15360010/B (cover), or approved equal.

All manhole rings and covers shown in plans to be "bolt-down" to be Clay & Bailey Manufacturing Co. No. 20140R, Neenah R-1915-F2 or approved equal. An extra payment for furnishing "bolt-down" ring and cover as shown in plans will not be made, but shall be considered as subsidiary to the item, "Standard Manhole -6".

Standard cast iron manhole steps to be Clay & Bailey Manufacturing Co. No. 2102 or approved equal. Steel core, plastic coated steps may be used (M.A. Ind., Inc. No. PS1-PF, PS2-PF, or approved equal).

Maximum grade adjustment allowable is 12". Minimum allowable vertical thickness for precast concrete grade adjustment ring is 2".

Concrete used in this work shall be KCMMB4K, as approved by the Kansas City Metropolitan Materials Board.

GENERAL NOTES FOR PRE-CAST MANHOLES

1. Reinforcement in all sections shall equal or exceed A.S.T.M. C-478 specifications.
2. Mastic material to be used at all sections joints. O-Rings may be used for joints below the cone section, but the cone section itself shall not have O-ring joints.
3. Approved gasket and concrete mortar to be used around pipe in knock-outs.

STORM SEWER - MANHOLE DTL.

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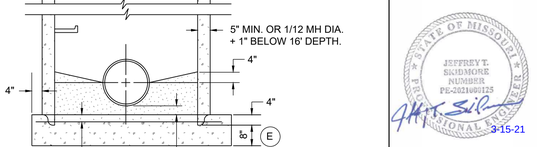

SCHLAGEL & ASSOCIATES, P.A.

TOWER PARK COMM. - LOT 7 - NORTH BLDG.
FINAL DEVELOPMENT PLANS

420 SW LONGVIEW LEE'S SUMMIT, MISSOURI

REVISION	DATE	DESCRIPTION
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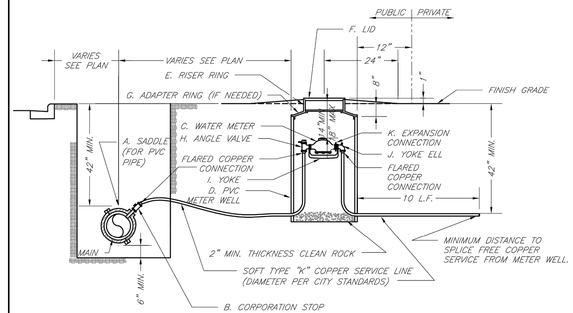
7		
8		

DRAWN BY: ####
CHECKED BY: ####
DATE PREPARED: 03/15/2021
PROJ. NUMBER: 20-106

STORM SEWER DETAILS

SHEET

C9.0



TYPICAL METER INSTALLATION – 2" AND SMALLER
NOT TO SCALE

NOTES:

1. METER INSTALLATION SHALL NOT BE LOCATED IN AREAS SUBJECT TO VEHICULAR TRAFFIC OR IN CONCRETE PAVEMENT WITHOUT CITY APPROVAL.
2. IF METER IS TO BE LOCATED OTHER THAN IN FRONT OF PROPERTY LINE, CITY APPROVAL SHALL BE OBTAINED.
3. CITY TO FURNISH ITEMS A–K.
4. NO OTHER EQUIPMENT SHALL BE INSTALLED IN THIS PIT.
5. 42" MINIMUM BURY DEPTH FOR ALL SERVICE LINES.
6. EXCAVATION FOR TAP TO EXPOSE 4 LINEAR FEET OF MAIN.
7. NO SPLICES ALLOWED BETWEEN METER AND MAIN.
8. SERVICE CONNECTION TAP AT APPROXIMATELY 45 DEGREES.
9. LID AND RISER RING SHALL BE SET SO THAT GROUND WATER WILL DRAIN AWAY FROM THE WELL.
10. CONTACT WATER UTILITIES, 816–969–1900, FOR REQUIREMENTS OF A METER LARGER THAN 2"

LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

SERVICE CONNECTION/METER WELL

Date: 02/13
Drawn By: JN
Checked By: DL
FILE: WAT–11
Rev: 1/14
Rev:

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PREPARED BY:

STATE OF MISSOURI
JEFFREY T. SKIDMORE
NUMBER PE-2021008125
PROFESSIONAL ENGINEER
3-15-21

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TOWER PARK COMM. - LOT 7 - NORTH BLDG.
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420 SW LONGVIEW LEE'S SUMMIT, MISSOURI

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DRAWN BY:	####
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PROJ. NUMBER:	20-106

UTILITY DETAILS

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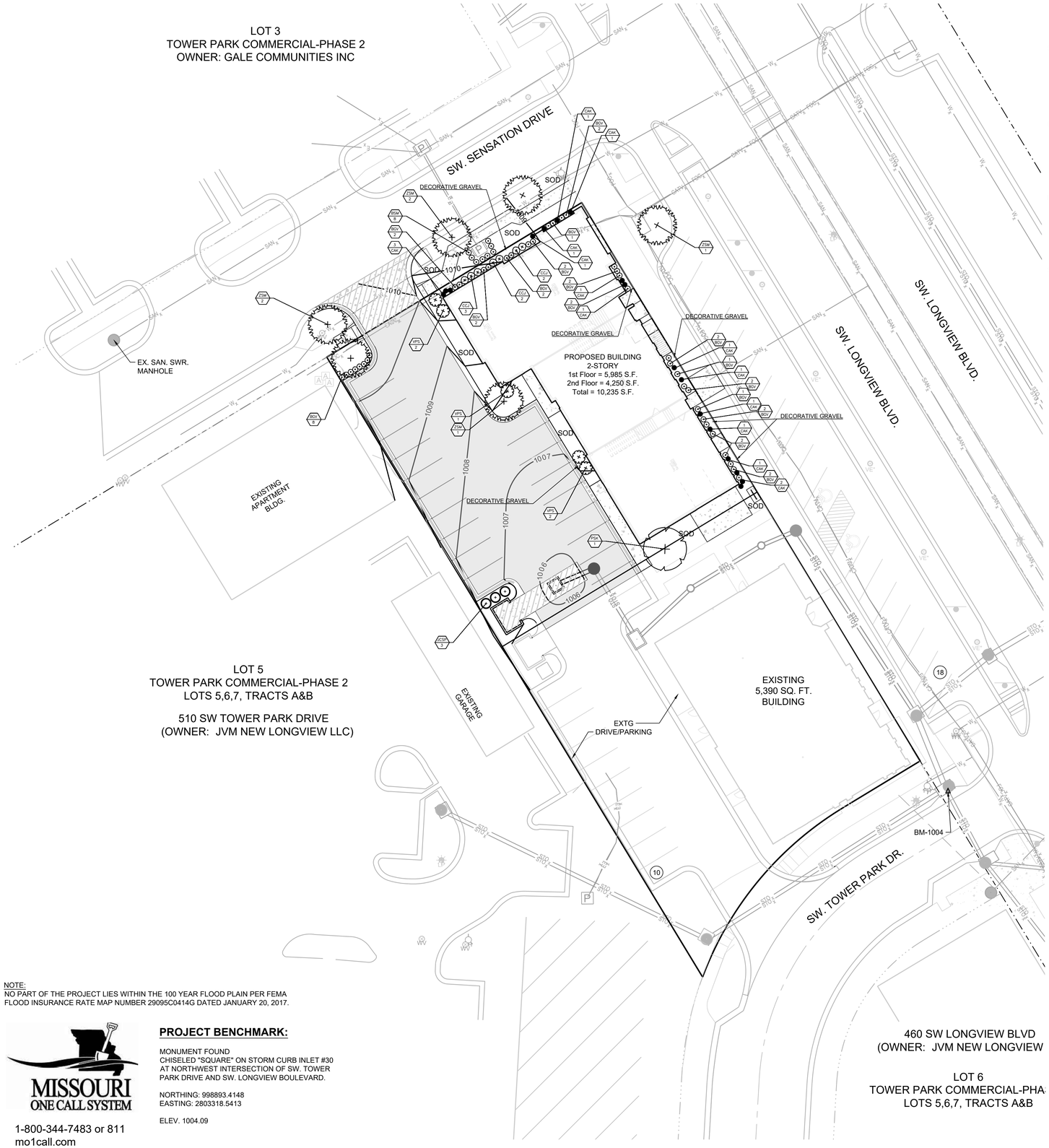

SHADE TREES

ZSM	6 EA.	Zelkova serrata 'Musashino'	Musashino Columnar Zelkova	2.5" Cal.	B&B

ORNAMENTAL TREES

PSK	1 EA.	Prunus serrulata 'Kwansan'	Kwansan Flowering Cherry	1.5" Cal.	B&B

EVERGREEN TREES

JCSP	3 EA.	Juniperus chinensis 'Spartan'	Spartan Juniper	6' ht.	B&B

SHRUBS

BGV	37 EA.	Buxus x 'Green Velvet'	Green Velvet Boxwood	5 gal.	Cont.
BSM	8 EA.	Buxus sempervirens 'Monrue' Plant Patent #15,243	Green Tower Boxwood	5 gal.	Cont.
CCJ	7 EA.	Caryopteris x clandonensis 'Janice' PPAF	Lil Miss Sunshine™ Bluebeard	5 gal.	Cont.
VPS	5 EA.	Viburnum plicatum tomentosum 'Summer Snowflake'	Summer Snowflake Viburnum	5 gal.	Cont.

GRASSES

CAK	17 EA.	Calamagristis x acutifolia 'Karl Foerster'	Karl Foerster Grass	2 gal.	Cont.

NOTES:

1. UTILITY INFORMATION SHOWN IS DESIGNED LOCATION OR LOCATIONS BASED ON UTILITY LOCATES. AS BUILT LOCATIONS MAY VARY. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES PRIOR TO COMMENCING LANDSCAPE INSTALLATION. NOTIFY THE LANDSCAPE ARCHITECT OF ANY CONFLICTS OR OBSTRUCTIONS.
2. QUANTITIES INDICATED ON THE PLAN ARE FOR CONVENIENCE ONLY. CONTRACTOR SHALL VERIFY ALL PLANT QUANTITIES PRIOR TO PLANTING. NOTIFY THE LANDSCAPE ARCHITECT OF ANY DISCREPANCIES. THE PLAN QUANTITIES AND NUMBER OF SYMBOLS SHALL SUPERSEDED QUANTITIES IN THE SCHEDULE
3. ALL PLANT MATERIAL SHALL COMPLY WITH THE CITY OF LEE'S SUMMIT STANDARDS AND ANSI A60.1 THE AMERICAN STANDARD FOR NURSERY STOCK.
4. ALL TREES SHALL MEET THE SIZE REQUIREMENTS OF THE LEE'S SUMMIT ORDINANCE. ALL TREES SHALL BE CALLIPERED AND UNDERSIZED TREES SHALL BE REJECTED.
5. ALL SHRUBS TO BE UTILIZED FOR SCREENING SHALL BE 24" HEIGHT AT TIME OF PLANTING.
6. ALL PLANTING BEDS CONTAINING SHRUBS, GROUND COVER, PERENNIALS, ANNUALS SHALL BE IN A PLANTING BED WITH 3" MIN. DEPTH OF MULCH AND A "V-CUT" EDGE.
7. ALL TREES SHALL HAVE A MIN. 3 FT. DIA. AREA THAT HAS 3" MIN. DEPTH OF WOOD MULCH.
8. ALL TURF AREAS SHALL BE SODDED UNLESS INDICATED ON THE PLANS.
9. ANY DEVIATION FROM THE APPROVED LANDSCAPE PLAN SHALL REQUIRE WRITTEN APPROVAL OF THE LANDSCAPE ARCHITECT AND THE CITY OF LEE'S SUMMIT, PRIOR TO INSTALLATION.
10. THE LANDSCAPE ARCHITECT AND OWNER SHALL APPROVE GRADES AND CONDITION OF SITE PRIOR TO SODDING OPERATIONS.
11. INSTALLATION AND MAINTENANCE OF LANDSCAPING SHALL COMPLY WITH THE CITY OF LEE'S SUMMIT STANDARDS.
12. ALL PLANT MATERIAL SHALL BE INSTALLED TO ALLOW A MINIMUM CLEARANCE BETWEEN PLANT AND ADJACENT PAVEMENT OF 1 FT. FOR PERENNIALS AND GROUNDCOVER AND 1.5 FT. FOR SHRUBS. A 2 FT. CLEARANCE(4 FEET FROM BACK OF CURB TO THE CENTER OF SHRUB)FOR CAR OVERHANG IS REQUIRED AT ALL PARKING ISLANDS AND PERIMETERS.
13. AFTER COMPLETE INSTALLATION OF ALL PLANT MATERIAL AND SOD THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT THAT THE WORK IS COMPLETE AND READY FOR REVIEW. THE LANDSCAPE ARCHITECT SHALL REVIEW THE LANDSCAPE INSTALLATION TO DETERMINE COMPLIANCE WITH THE APPROVED PLANS. WHEN THE LANDSCAPE INSTALLATION MEETS THE REQUIREMENTS OF THE APPROVED PLAN, THE LANDSCAPE ARCHITECT SHALL PROVIDE A SIGNED AND SEALED LETTER TO THE CITY STATING THAT ALL LANDSCAPE PLANTINGS HAVE BEEN INSTALLED PER THE APPROVED PLAN.
14. ALL EXTERIOR GROUND OR BUILDING MOUNTED EQUIPMENT (MECHANICAL, ELECTRICAL AND/OR TELEPHONE CABINETS), TRANSFORMERS, AIR CONDITIONING UNITS, ETC. SHALL BE SCREENED FROM PUBLIC VIEW BY INSTALLING FIVE SEA GREEN JUNIPERS EVENLY SPACED AROUND THE PERIMETER. FINAL LOCATION OF ANY EQUIPMENT SHALL BE DETERMINED AND VERIFIED WITH THE FINAL DESIGN AND PERMITTING OF THE PROJECT.
15. ALL ROOFTOP EQUIPMENT SHALL BE SCREENED FROM PUBLIC VIEW WITH AN ARCHITECTURAL TREATMENT COMPATIBLE WITH THE BUILDING AND INTEGRAL TO THE OVERALL APPEARANCE OF THE BUILDING.

NOTE:
NO PART OF THE PROJECT LIES WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD INSURANCE RATE MAP NUMBER 29095C0414G DATED JANUARY 20, 2017.

MISSOURI ONE CALL SYSTEM
1-800-344-7483 or 811
mo1call.com

PROJECT BENCHMARK:

MONUMENT FOUND
CHISELED "SQUARE" ON STORM CURB INLET #30
AT NORTHWEST INTERSECTION OF SW. TOWER
PARK DRIVE AND SW. LONGVIEW BOULEVARD.

NORTHING: 998893.4148
EASTING: 2803318.5413

ELEV. 1004.09

0 20' 40'
SCALE: 1" = 20'

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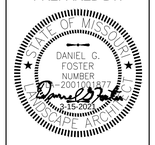

Daniel G. Foster
Landscape Architect
MO# LA-2001001877
SCHLAGEL & ASSOCIATES, P.A.

TOWER PARK COMM. - LOT 7 - NORTH BLDG.
FINAL DEVELOPMENT PLANS
420 SW LONGVIEW LEE'S SUMMIT, MISSOURI

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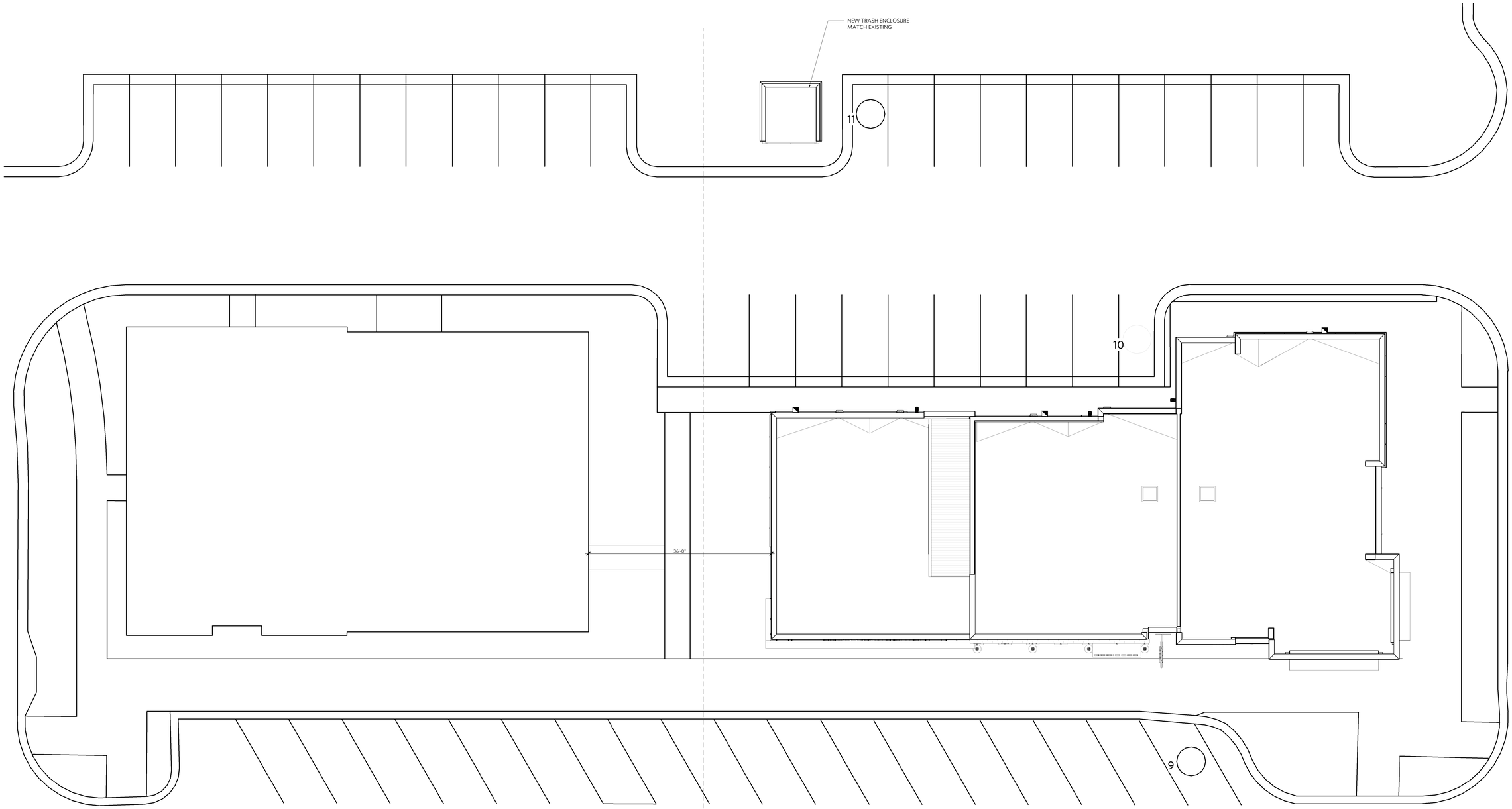
DRAWN BY: ####
CHECKED BY: ####
DATE PREPARED: 03/15/2021
PROJ. NUMBER: 20-106

LANDSCAPE PLAN

SHEET
L1.0

SITE PLAN NOTES

A. REFER TO CIVIL DOCUMENTS FOR ADDITIONAL SITE RELATED SCOPE
B. PROTECT ANY EXISTING PLANT MATERIALS TO REMAIN FROM DAMAGE DURING CONSTRUCTION
C. ALL ROUGH GRADED SURFACES SHALL CONTAIN NO ROCKS GREATER THAN 3" IN ANY DIMENSION. CONTRACTOR SHALL NOT LEAVE ANY EXCESSIVE GRAVEL OR CONCRETE RUBBLE ON SITE.
D. PROVIDE ALL STRIPING AND SIGNAGE AS SHOWN. REFER TO CIVIL FOR DETAILS AND ADDITIONAL LOCATIONS.
E. PROVIDE ALL SIDEWALKS AND WALK OUT PADS AS SHOWN. REFER TO CIVIL FOR DETAILS AND SPECIFICATIONS.



NOTE: PLAN IS FOR REFERNCE ONLY
RE: CIVIL FOR DETAILS

01 | ARCHITECTURAL SITE PLAN
1/8" = 1'-0"

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LOT 7, BUILDING 31

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LEE'S SUMMIT, MO, 64081

REV	ISSUE	DATE
	Permit Submittal	05.17.2021

ARCHITECTURAL
SITE PLAN

AS100

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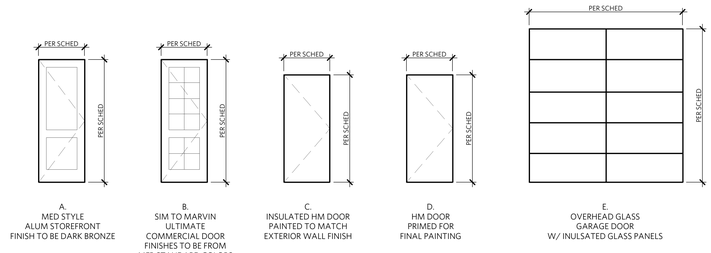
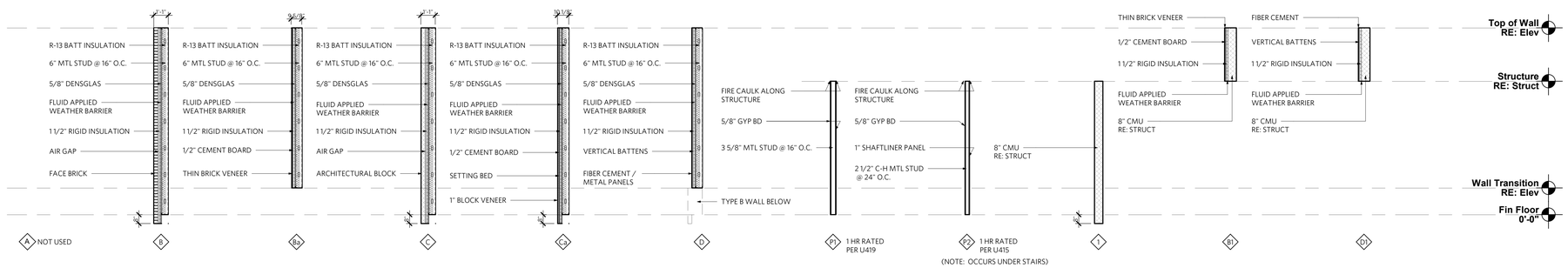
DOOR AND FRAME SCHEDULE

	DOOR						FRAME			
MARK	TYPE	LEAF(S)	WIDTH	HEIGHT	MATL	THICK	MATL	HDWR	RATING	COMMENTS
00	C	PAIR	6'-0"	7'-0"	Insul HM	0'-1 3/4"	HM			Insulated HM Door in HM Frame. To have Keyed Lock.
01A	A	SINGLE	3'-0"	8'-0"	Alum	0'-1 3/4"	Alum			Medium Style Storefront w/ Panic Hardware
01B	B	SINGLE			Clad-Wd	0'-1 3/4"	Alum			Sim to Marvin Ultimate Commercial Door
01C	C	SINGLE	3'-0"	7'-0"	Insul HM	0'-1 3/4"	HM			Insulated HM Door in HM Frame w/ Panic Hardware. To have Keyed Lock.
01D	D	SINGLE	3'-0"	7'-0"	HM	0'-1 3/4"	HM		60min	HM Door in HM Frame. To have Keyed Lock
01E	D	SINGLE	3'-0"	7'-0"	HM	0'-1 3/4"	HM		60min	Solid Core WD Door in HM Frame w/ Panic Hardware.
02A	A	SINGLE	3'-0"	8'-0"	Alum	0'-1 3/4"	HM			Medium Style Storefront w/ Panic Hardware
02B	B	SINGLE			Clad-Wd	0'-1 3/4"	Alum			Sim to Marvin Ultimate Commercial Door
02C	C	SINGLE	3'-0"	7'-0"	Insul HM	0'-1 3/4"	HM			Insulated HM Door in HM Frame w/ Panic Hardware. To have Keyed Lock.
02D	D	SINGLE	3'-0"	7'-0"	HM	0'-1 3/4"	HM		60min	HM Door in HM Frame. To have Keyed Lock
02E	D	SINGLE	3'-0"	7'-0"	HM	0'-1 3/4"	HM		60min	Solid Core WD Door in HM Frame w/ Panic Hardware.
03A	A	SINGLE	3'-0"	8'-0"	Alum	0'-1 3/4"	Alum			Medium Style Storefront w/ Panic Hardware
03B	B	SINGLE			Clad-Wd	0'-1 3/4"	Alum			Sim to Marvin Ultimate Commercial Door
03C	C	SINGLE	3'-0"	7'-0"	Insul HM	0'-1 3/4"	HM			Insulated HM Door in HM Frame w/ Panic Hardware. To have Keyed Lock.
03D	E		10'-0"	10'-0"	Alum	0'-1 1/2"	Alum			Sim to Overhead Door Alum Glass Door 511 w/ 1/2" Insulated Glass
03E	C	SINGLE	3'-0"	7'-0"	Insul HM	0'-1 3/4"	Alum		60min	Insulated HM Door in HM Frame. To have Keyed Lock.
03F	C	SINGLE	3'-0"	7'-0"	Insul HM	0'-1 3/4"	HM		60min	Insulated HM Door in HM Frame. To have Keyed Lock.



2 Door Types
1/4" = 1'-0"



1 WALL TYPES
1/4" = 1'-0"

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CHRISTIAN J. ARNOLD
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DOOR SCHEDULE & WALL TYPES

A010

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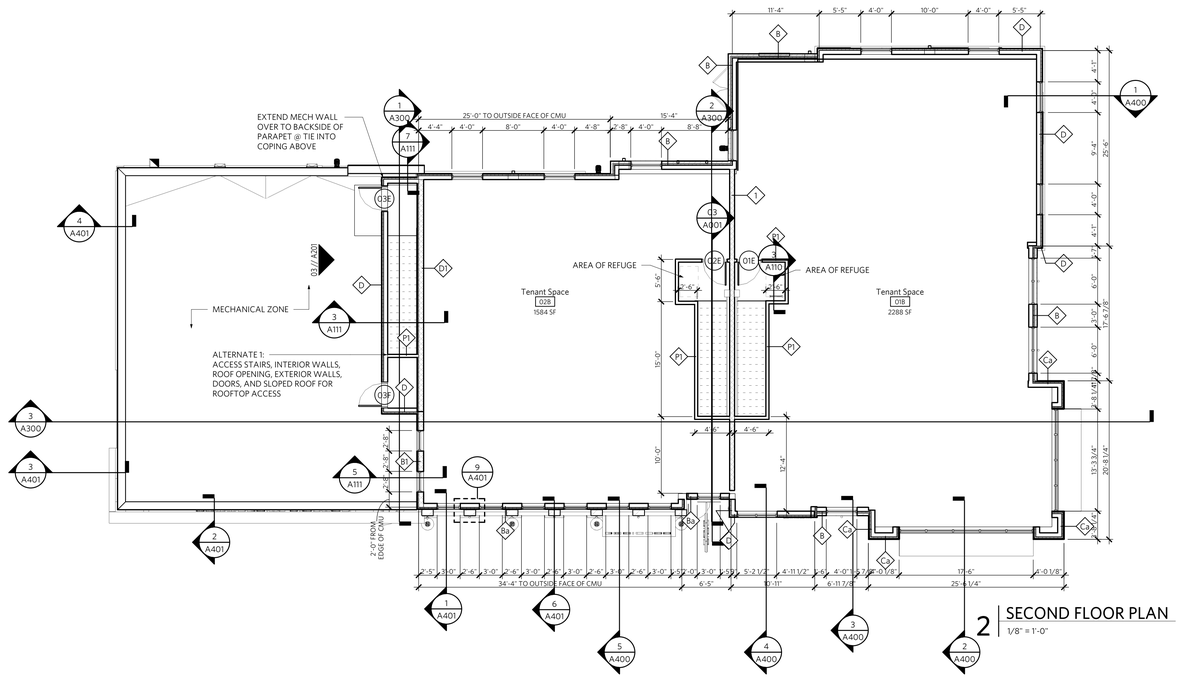
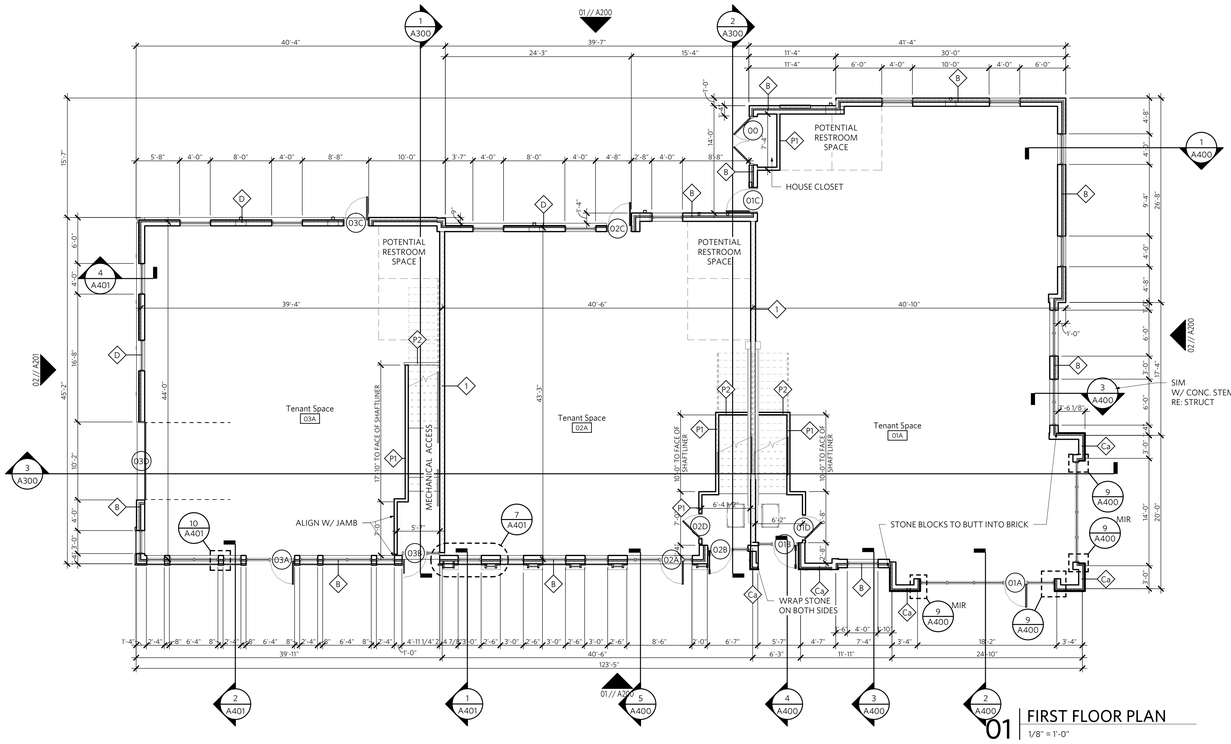
GENERAL NOTES-FLOOR PLAN

1. CONTRACTOR TO COORDINATE ALL MEP AND STRUCTURAL REQUIREMENTS.
2. CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND PROVIDING ALL BLOCKING AS REQUIRED FOR KITCHEN EQUIPMENT, TENANT PROVIDED TV, LIGHT FIXTURES, RESTROOM ACCESSORIES, ETC.
3. CONFIRM DIMMERS AND SWITCHING WITH MEP.
4. PROVIDE CONDUIT AND PULL STRING FOR IT/AV/SECURITY WORK AS REQUIRED. COORDINATE WITH MEP & IT/AV/SECURITY.
5. WINDOWS ARE TO BE CENTERED UNLESS DIMENSIONED OTHERWISE.
6. EGRESS DOORS TO HAVE MINIMUM WIDTH 32" BETWEEN THE FACE OF DOOR AND THE STOP WHEN OPEN 90°
7. ALL DIMENSIONS FROM FULL BED MASONRY UNIT WALLS, ARE FROM OUTER FACE OF MASONRY. ALL DIMENSIONS FROM OTHER WALL TYPES, ARE FROM FACE OF MTL STUD.



2 SECOND FLOOR PLAN

1/8" = 1'-0"



01 FIRST FLOOR PLAN

1/8" = 1'-0"

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FLOOR PLANS

A101

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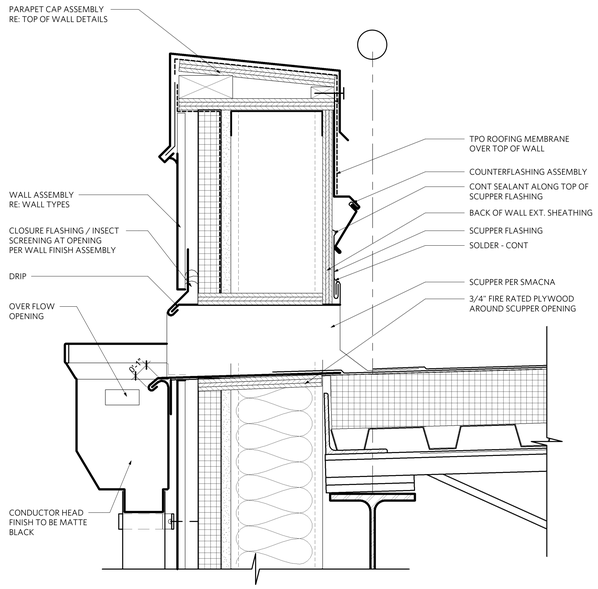
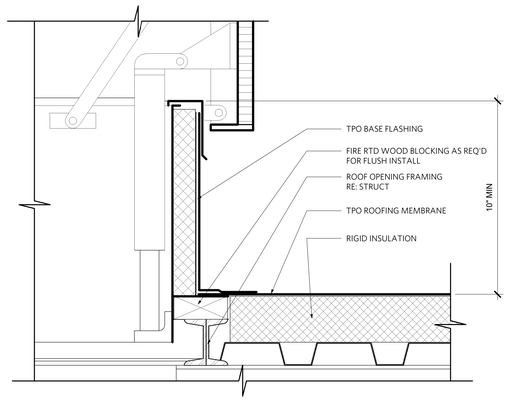
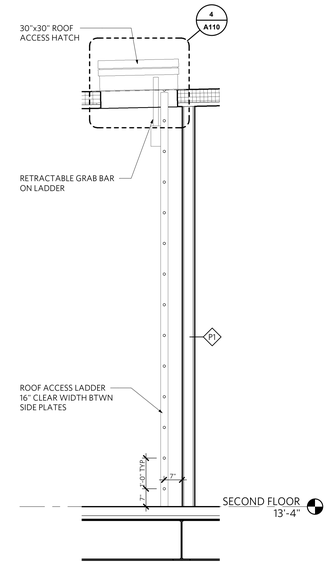


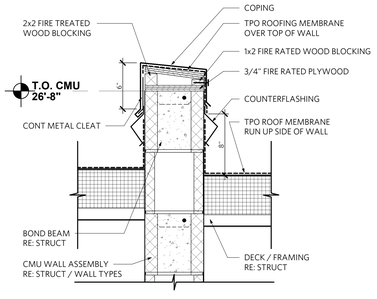
5 | Thru-Wall Scupper @ Metal Stud
3" = 1'-0"



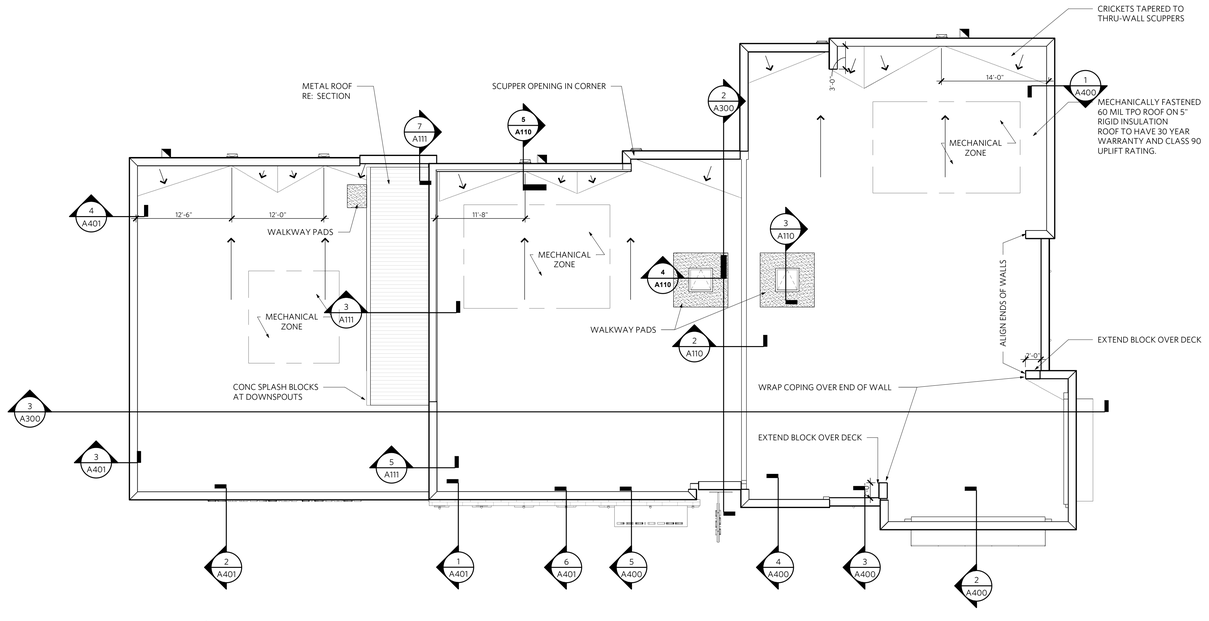
4 | Roof Hatch at Single Ply Roof
3" = 1'-0"



3 | Section - Roof Access Ladder
1/2" = 1'-0"



2 | Roof Detail - Demising Wall Cap
1 1/2" = 1'-0"



1 | ROOF PLAN
1/8" = 1'-0"

GENERAL NOTES-ROOF PLAN

A. PROVIDE BOOTS AT ALL RTU'S AND SLEEVES AT ALL ROOF PENETRATIONS. INSTALL PER MANUFACTURERS INSTALLATION INSTRUCTIONS.
B. COORDINATE RTU CURB AND REINFORCEMENT WITH STRUCTURAL
C. PROVIDE CRICKET (ISO OR EPS) AT HIGH SIDE OF ALL RTU'S.
D. PROVIDE MINIMUM INSULATION VALUES FOR CLIMATE ZONE PER GENERAL INFORMATION / CODE REVIEW.
E. AT PARAPET WALL CAP, PROVIDE ALUMINUM BRAKE METAL WALL CAP WITH CONTINUOUS CLEAT, RE: SMACNA ARCHITECTURAL SHEET METAL MANUAL 2003 FIGURE3-4A. COLOR PER EXTERIOR ELEVATIONS
F. WHERE DISSIMILAR METALS WILL CONTACT EACH OTHER OR CORROSIVE SUBSTRATES, PROTECT AGAINST GALVANIC REACTION BY COATING CONTACT SURFACES WITH BITUMINOUS COATING OR BY OTHER PERMANENT SEPARATION AS RECOMMENDED BY FABRICATOR OR MANUFACTURER OF DISSIMILAR METALS.
G. WHERE INSTALLING METAL FLASHING DIRECTLY ON CEMENTITIOUS OR WOOD SUBSTRATES, INSTALL A COURSE OF FELT UNDERLAYMENT AND COVER WITH A SLIP SHEET OR INSTALL A POLYETHYLENE UNDERLAYMENT.
H. INSTALL SHEET METAL TRIM WITHOUT OIL CANNING, BUCKLING AND TOOL MARKS.
I. INSTALL SHEET METAL FLASHING AND TRIM TRUE TO LINE AND LEVELS INDICATED. PROVIDE UNIFORM, NEAT SEAMS WITH MINIMUM EXPOSURE OF SOLDER, WELDS AND ELASTOMERIC SEALANT.
J. INSTALL SHEET METAL FLASHING AND TRIM TO FIT SUBSTRATES AND TO RESULT IN WATERTIGHT PERFORMANCE. VERIFY SHAPES AND DIMENSIONS OF SURFACES TO BE COVERED BEFORE FABRICATING SHEET METAL.

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ROOF PLAN

A110

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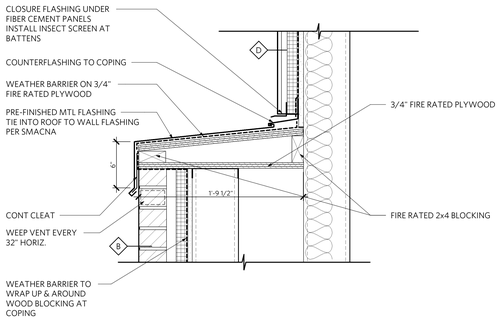
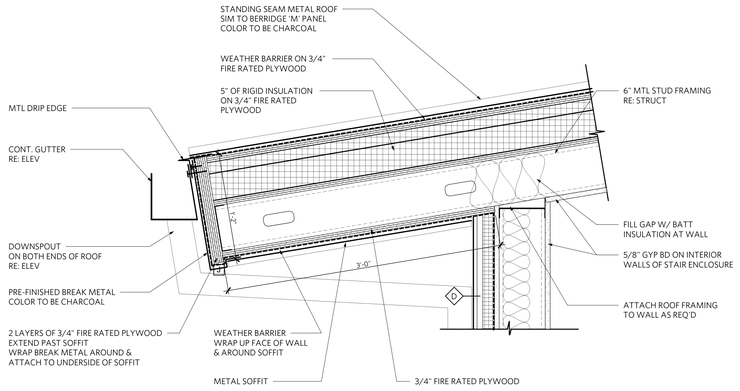
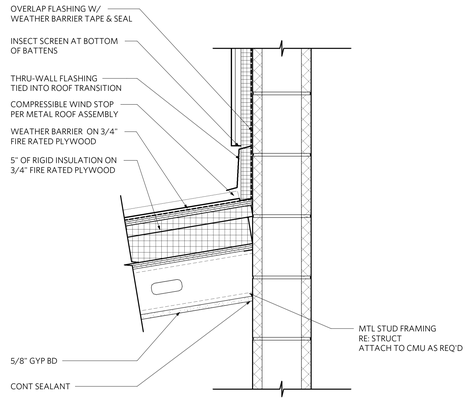


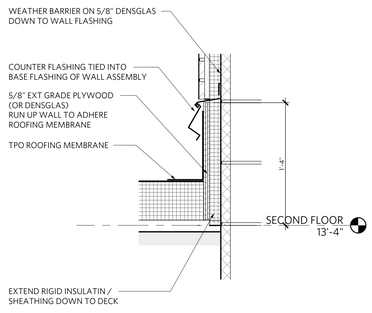
7 | Roof Detail - Coping to Mech Access
1 1/2" = 1'-0"



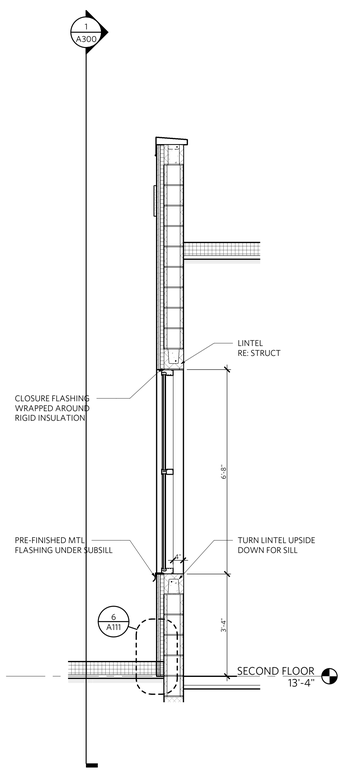
1 | Roof Detail - Edge of Shed Roof
1 1/2" = 1'-0"



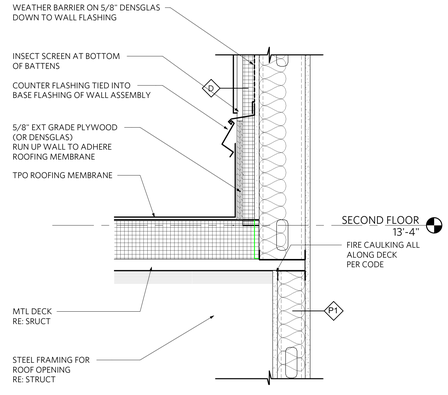
2 | Roof Detail - Shed Roof Connection to Wall
1 1/2" = 1'-0"



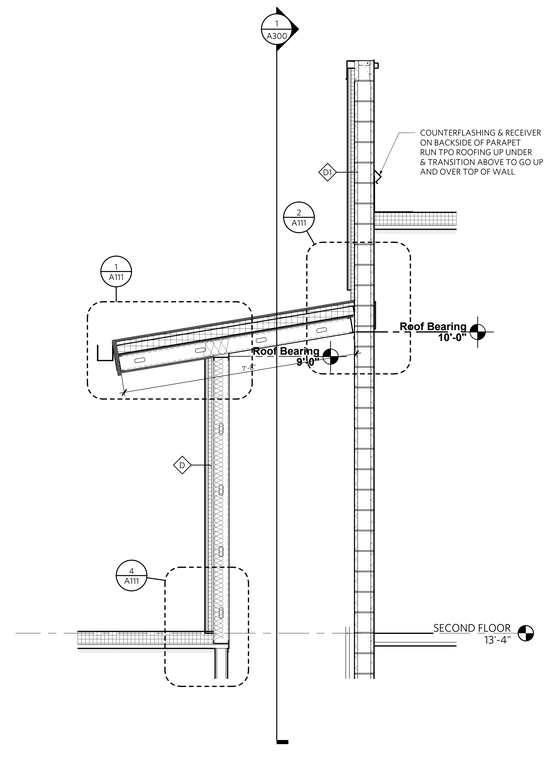
6 | Roof Detail - Transition to Brick Wall
1 1/2" = 1'-0"



5 | Wall Section - Brick Wall above Lower Roof
1/2" = 1'-0"



4 | Roof Detail - Roof to Access Stair Wall
1 1/2" = 1'-0"



3 | Wall Section - Mechanical Access Stair Cover
1/2" = 1'-0"

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ROOF PLAN DETAILS

A111

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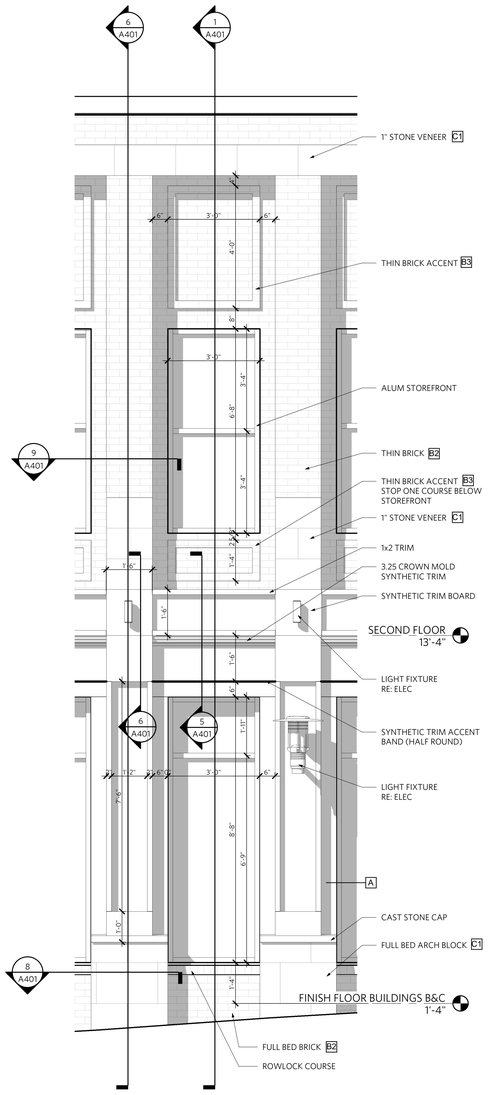
GENERAL NOTES-EXTERIOR ELEVATION

1. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS AND REPORT TO ARCHITECT ANY CONFLICTS THAT MAY AFFECT DESIGN INTENTIONS SHOWN ON PROJECT DOCUMENTS.
2. SEAL AROUND PERIMETER OF ALL EXTERIOR OPENINGS - AS RECOMMENDED BY THE SYSTEM MANUFACTURERS RECOMMENDATIONS. CONFIRM FENETRATION WATER MANAGEMENT SYSTEM AND LOCATION OF WEEPS, IF PRESENT, PRIOR TO APPLYING SEALANT. SEALANT TO MATCH ADJACENT FINISH.
3. PROVIDE FLASHING AT ALL HEADERS (DOOR + WINDOW). RUN BENEATH WALL SYSTEM MINIMUM OF 8" ABOVE OPENING AND ATTACH WITH NON-GALVANIC MECHANICAL FASTENERS.
4. REFER TO CIVIL FOR FILL AND GRADING REQUIREMENTS.
5. MATCH OPENINGS @ BRICK VENEER TO MODULE, ADJUST TRIM ACCORDINGLY.
6. COORDINATE CLADDING DETAILS WITH MANUFACTURER'S BEST PRACTICES, COORDINATE WITH ARCHITECT PRIOR TO PROCUREMENT AND INSTALLATION.
7. USE PRESSURE TREATED LUMBER WHERE IN CONTACT WITH CONCRETE OR MASONRY.
8. ROUGH OPENING HEIGHTS ARE FROM TOP OF SUB FLOOR, NOT FINISHED FLOOR.



02 | DD - NORTH ELEVATION
1/4" = 1'-0"

EXTERIOR MATERIAL LEGEND

A **PAINTED SYNTHETIC CLADDING - SMOOTH FINISH**
CONTRACTOR OPTION
USED TO RECREATE TRADITIONAL WOOD CLADDING
COLOR TBD

B **BRICK - FULL BED OR THIN VENEER PER WALL TYPE AS MANUFACTURED BY ENDICOTT CLAY PRODUCTS & DISTRIBUTED BY KC BRICK. TEXTURE TO BE VELOUR**
COLOR TO BE:
- B1 - GOLDEN SANDS
- B2 - COPPER CANYON
- B3 - LIGHT SANDSTONE
- B4 - MANGANESE BROWN

C **ARCHITECTURAL MASONRY UNIT**
CORDOVA STONE AS MANUFACTURED BY TRENWYTH.
- C1 - ALABASTER - COMBO GROUNDFACE / CHISEL FACE. SIZE TO BE: 16"x24" (RE: WALL TYPES FOR THIN VENEER OR FULL BED)
- C2 - BUFF - GROUND FACE SIZE TO BE: 1"x16"x24"
- C3 - MIDNIGHT - GROUND FACE SIZE TO BE: 4"x8"x24"
- C4 - ALABASTER - GROUNDFACE SIZE TO BE: 1"x12"x24"

D **FIBER CEMENT PANELS**
SIM TO NICHIHA - ILLUMINATION
COLORS BASED ON SHERWIN WILLIAMS
TAN - SW 7038 BALANCED BEIGE
BLACK - SW 7069 IRON ORE

E **FIBER CEMENT SIDING**
SIM TO NICHIHA - SAVANAH SMOOTH
COLORS BASED ON SHERWIN WILLIAMS
BLACK - SW 7069 IRON ORE
GREY - SW 7017 DORIAN GRAY
GREEN - SW 6179 ARTICHOKE

F **FIBER CEMENT SIDING**
SIM TO NICHIHA - VINTAGE WOOD
COLOR TO BE CEDAR

G **CAST STONE DETAILING**
COLOR SELECTED FROM SAMPLES

H **METAL COPING**
COLOR TO BE DARK BRONZE & PARCHMENT

NOTE: COLOR BASED ON STANDARD BERRIDGE COLORS. ACTUAL COPING COLOR NAME MAY DIFFER

J **CANOPY SOFFIT**
V-PANEL AS MANUFACTURED BY BERRIDGE.
COLOR TO BE CHARCOAL
(OR SIM)

K **METAL PANEL**
B-6 AS MANUFACTURED BY BERRIDGE.
COLOR TO BE MATTE BLACK
(OR SIM)

ALUMINUM STOREFRONT
SIM TO KAWNEER TRIFAB VERSAGLAZE 451T - CENTER GLAZED
COLOR TO BE DARK BRONZE

NOTE:
ALL PRE-FINISHED METAL FLASHING, SHEET METAL, & OTHER FLASHING REQ'D BETWEEN MATERIAL CHANGES OR CANOPY OR ROOF TRANSITIONS TO BE SIMILAR IN COLOR TO BERRIDGE'S DARK BRONZE - UNO

SUBMIT SAMPLES ON ALL EXTERIOR MATERIALS LISTED ABOVE FOR ARCHITECTS APPROVAL.

01 | DD - WEST ELEVATION
1/4" = 1'-0"

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CHRISTIAN J. ARNOLD
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EXTERIOR ELEVATIONS

A200

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GENERAL NOTES-EXTERIOR ELEVATION

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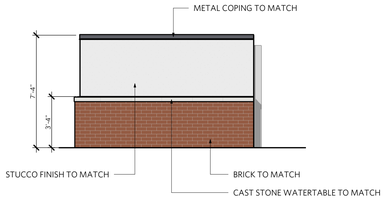
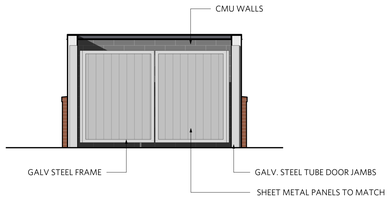
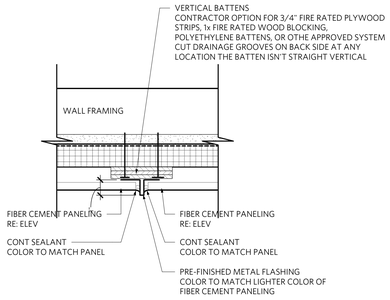


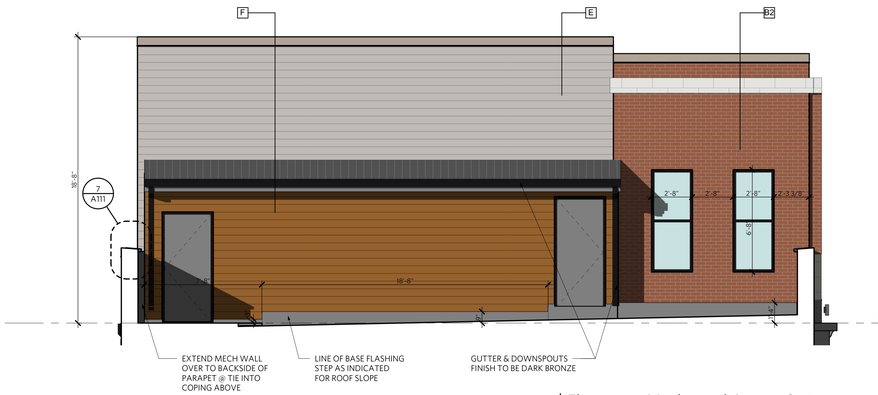


NOTE: IT IS THE INTENT TO MATCH THE EXISTING TRASH ENCLOSURE IN ITS ENTIRETY

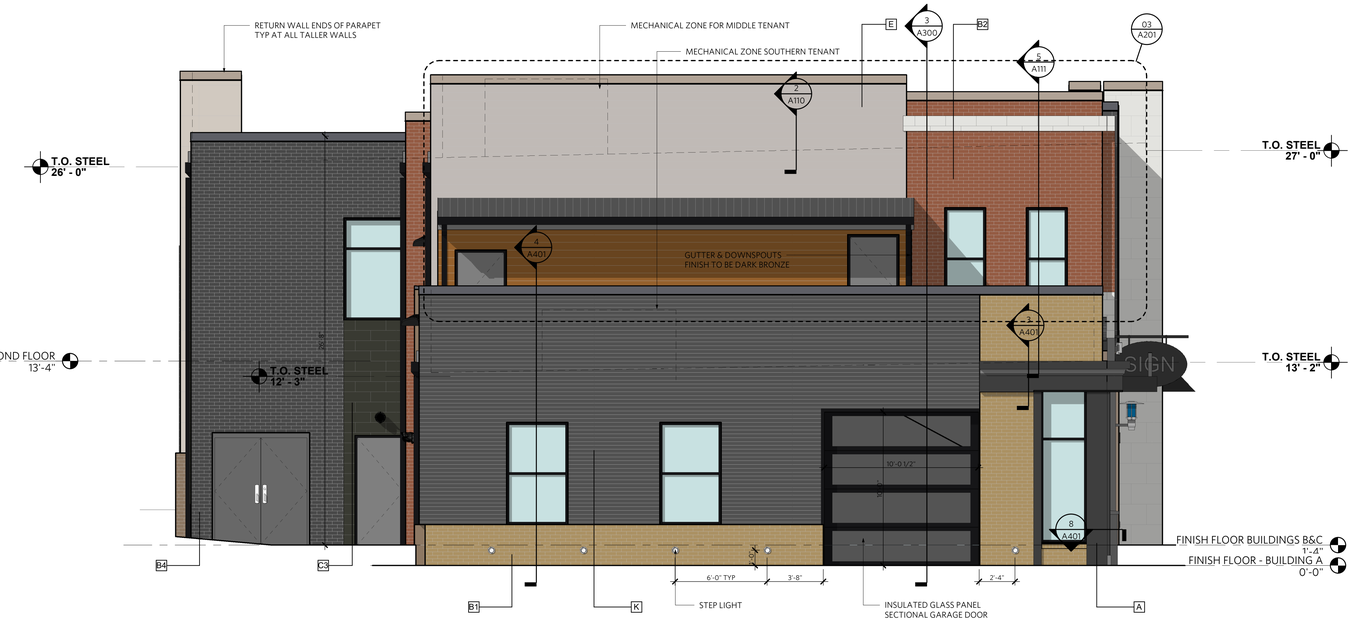
05 | Elevation - Trash Enclosure - Side
1/4" = 1'-0"

04 | Elevation - Trash Enclosure - Front
1/4" = 1'-0"





03 | Elevation - Mechanical Access Stair
1/4" = 1'-0"



02 | SOUTH ELEVATION
1/4" = 1'-0"

01 | EAST ELEVATION
1/4" = 1'-0"

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1	PDP Review	08.26.2020

EXTERIOR ELEVATIONS

A201

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EXTERIOR IMAGERY

A210

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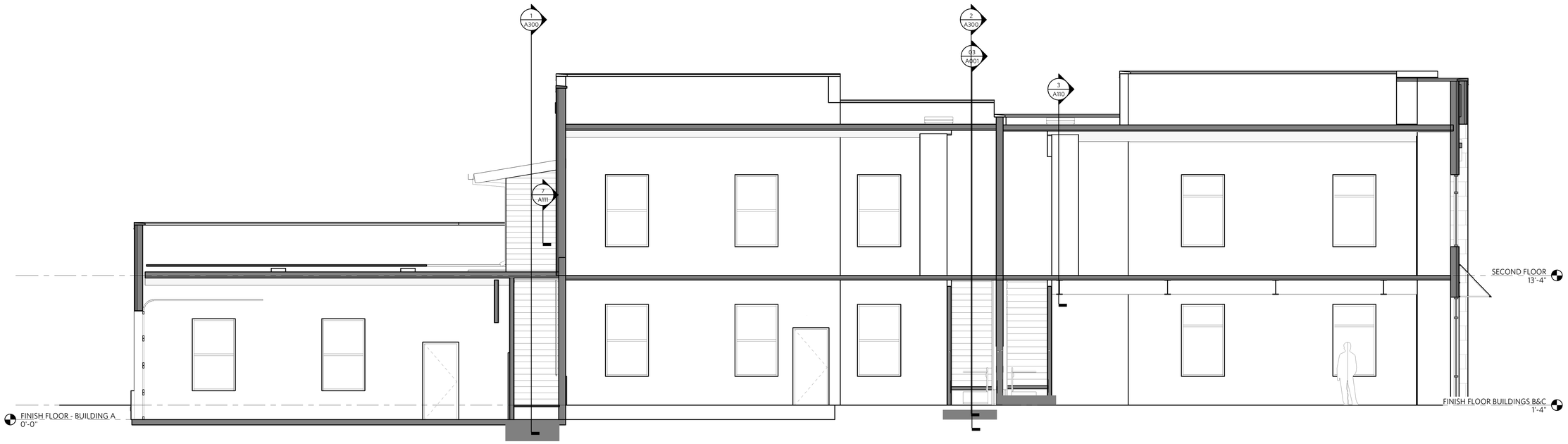
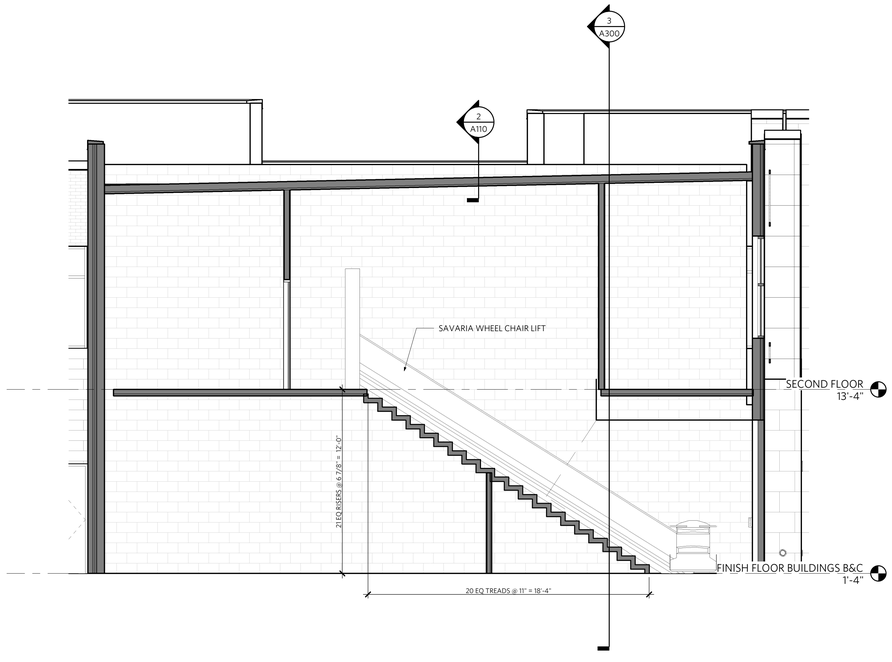
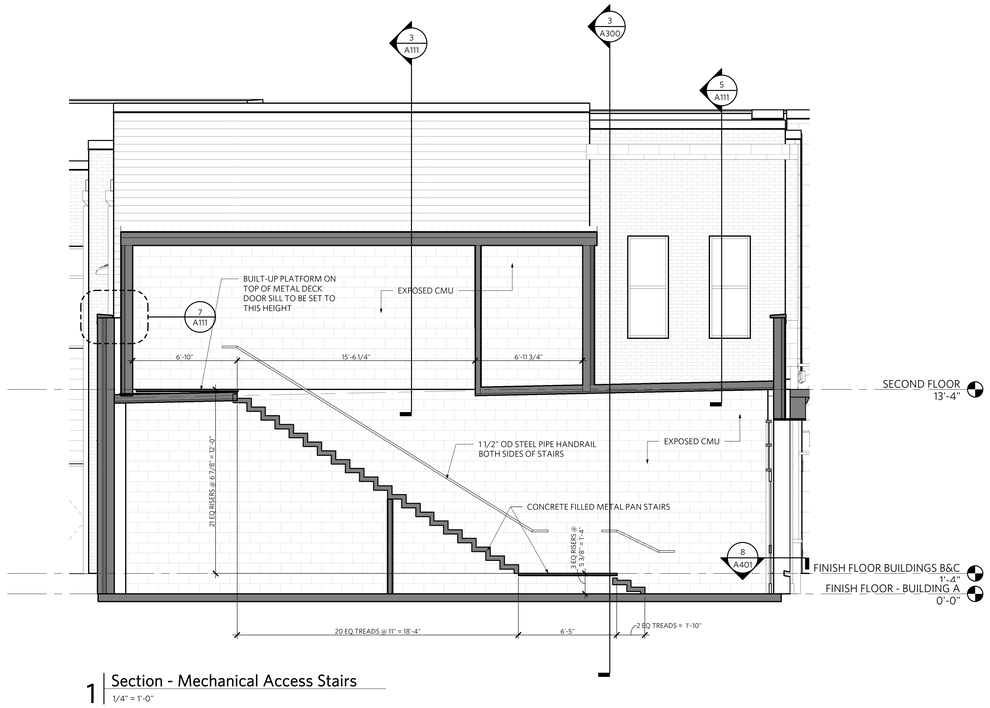


3 | Section - Through Building
1/4" = 1'-0"



2 | Section - Stair Access to 2nd Floor
1/4" = 1'-0"



1 | Section - Mechanical Access Stairs
1/4" = 1'-0"

LOT 7, BUILDING 31

3140 SW LONGVIEW BLVD
LEE'S SUMMIT, MO, 64081

STATE OF MISSOURI
CHRISTIAN J. ARNOLD
NUMBER A-2003027158
ARCHITECT

REV	ISSUE	DATE
	Permit Submittal	05.17.2021

BUILDING SECTIONS

A300

20.01 NLV BUILDING 31

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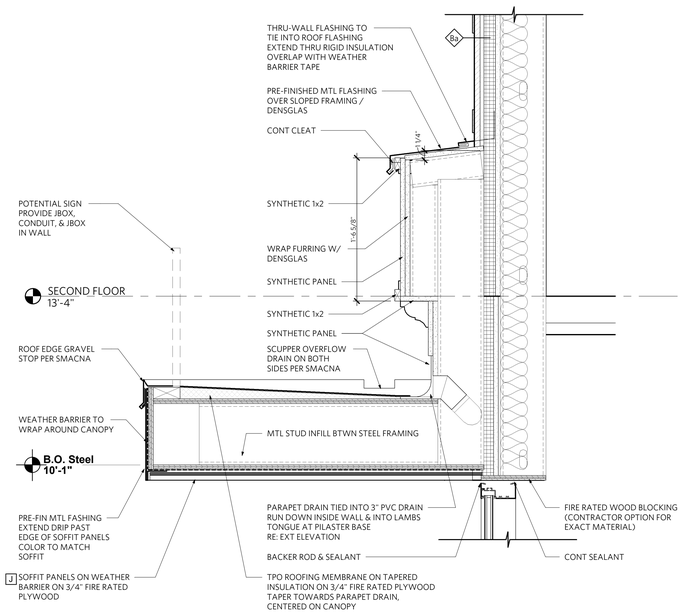
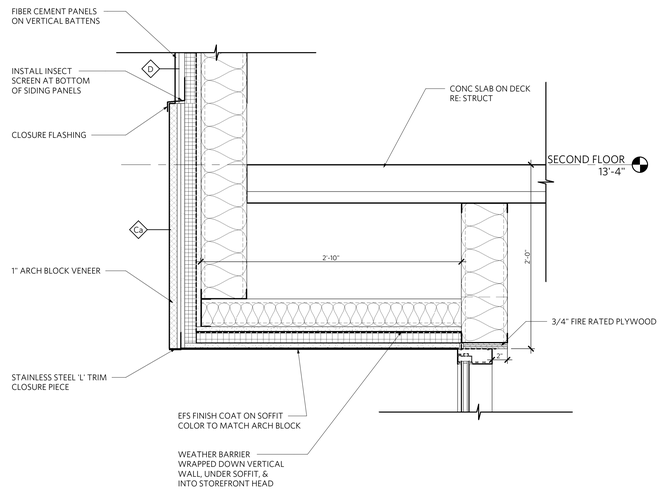
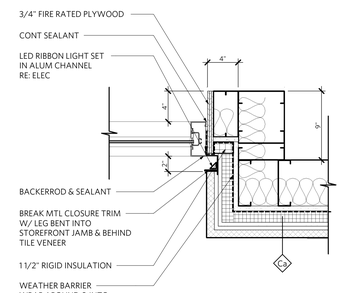


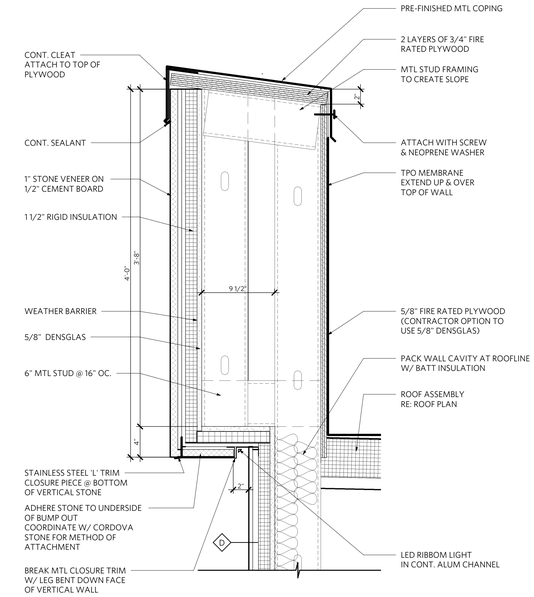
8 | Detail - Mtl Stud Eyebrow
1 1/2" = 1'-0"



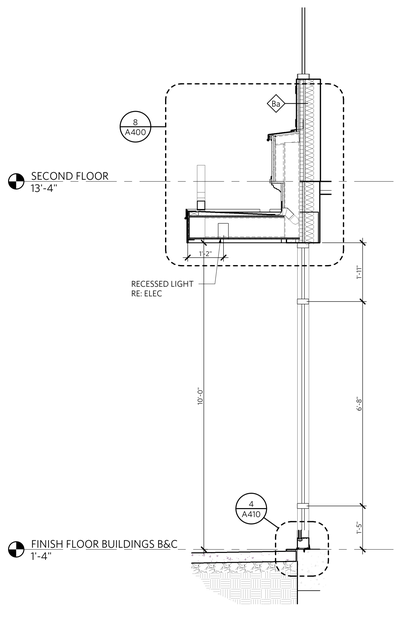
7 | Detail - Block Above Recessed Entry
1 1/2" = 1'-0"



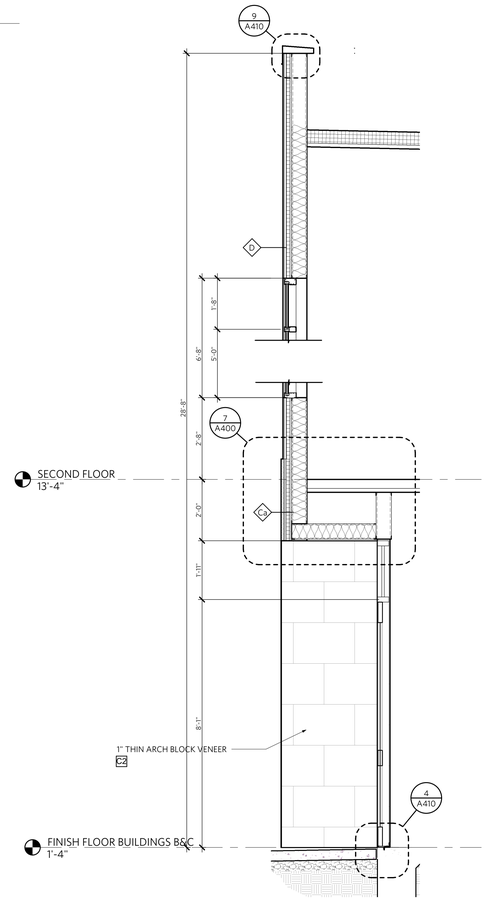
9 | Plan Detail - Light Cove at Corner Tower
1 1/2" = 1'-0"



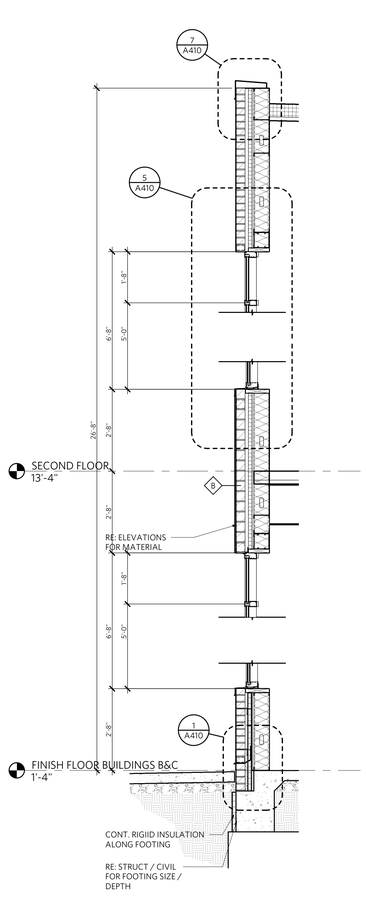
6 | Detail - Block Above Entry at Corner
1 1/2" = 1'-0"



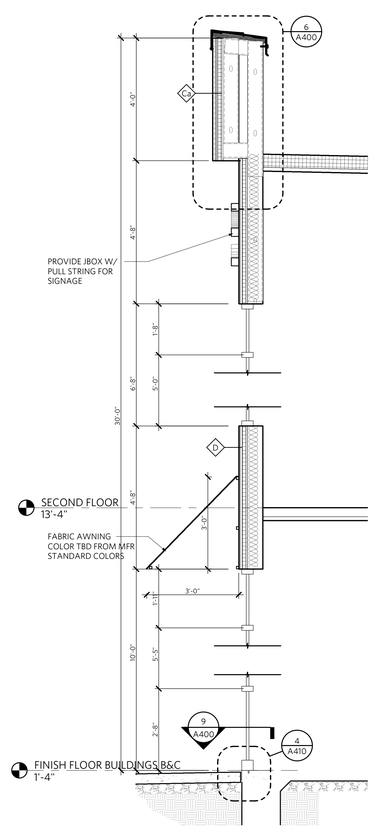
5 | Wall Section - Eyebrow at Entry
1/2" = 1'-0"



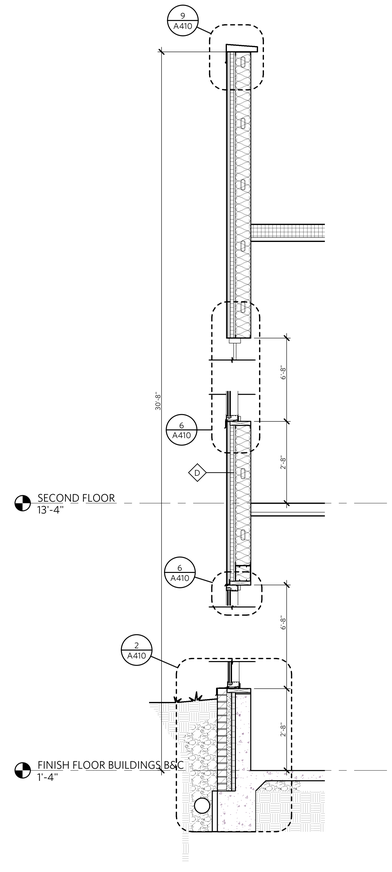
4 | Wall Section - Entry Recess
1/2" = 1'-0"



3 | Wall Section - Typical Brick
1/2" = 1'-0"



2 | Wall Section - Stone & Cement Board Entry
1/2" = 1'-0"



1 | Wall Section - Concrete Stem Wall - NW Corner
1/2" = 1'-0"

LOT 7, BUILDING 31

3140 SW LONGVIEW BLVD
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WALL SECTIONS

A400

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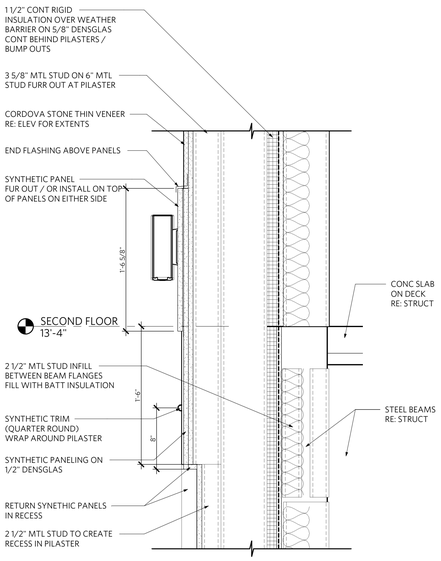
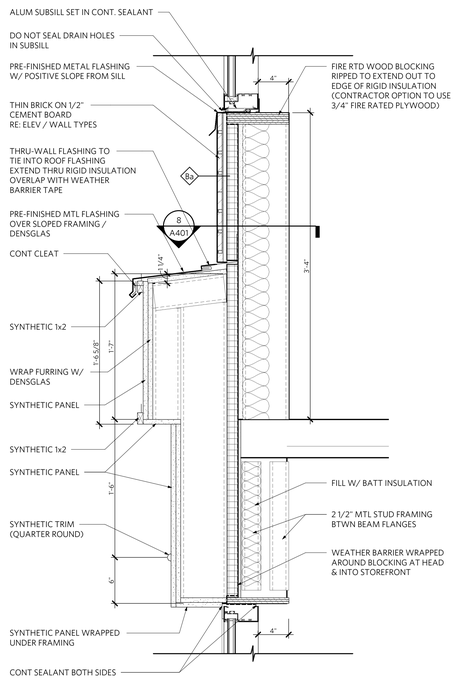
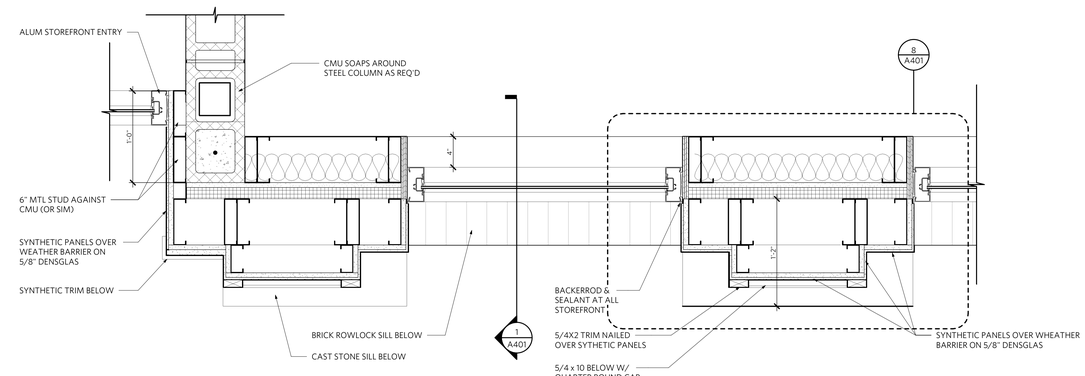


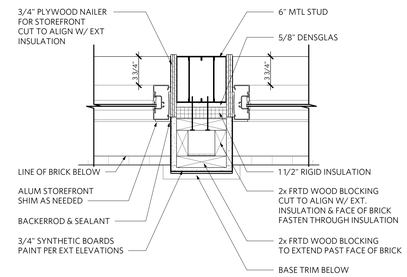
6 | Detail - Thin Stone Above Synthetic Trim
1 1/2" = 1'-0"



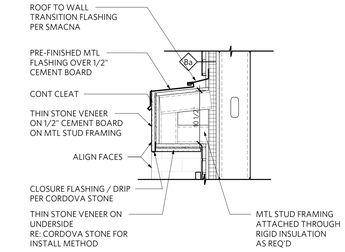
5 | Detail - Thin Brick Above Synthetic Trim
1 1/2" = 1'-0"



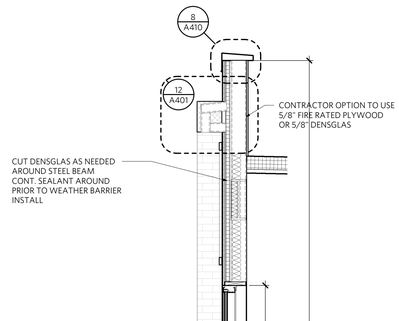
7 | Plan Detail - Synthetic Paneling Pilasters above Stone
1 1/2" = 1'-0"



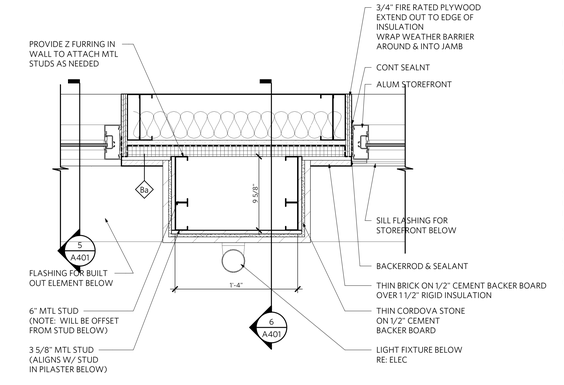
10 | Plan Detail - Jamb at Wood Trim
1 1/2" = 1'-0"



12 | Detail - Thin Stone Over Window
1" = 1'-0"

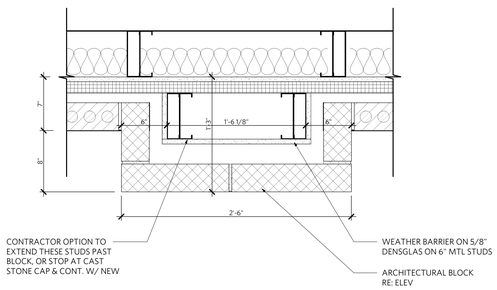


1 | Wall Section - Brick Two-Story - Front
1/2" = 1'-0"

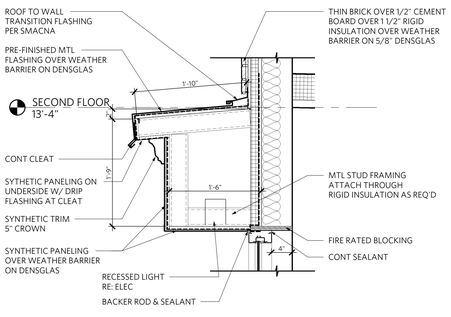


NOTE: NOTES ON ONE SIDE OF PILASTER APPLIES TO OTHER SIDE ALSO. U.N.O.

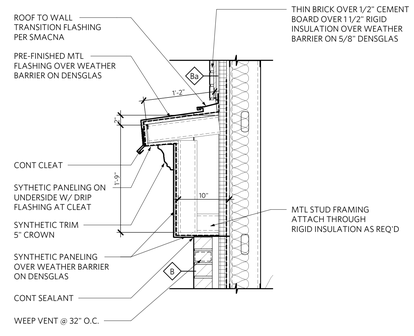
9 | Plan Detail - Brick Pilasters
1 1/2" = 1'-0"



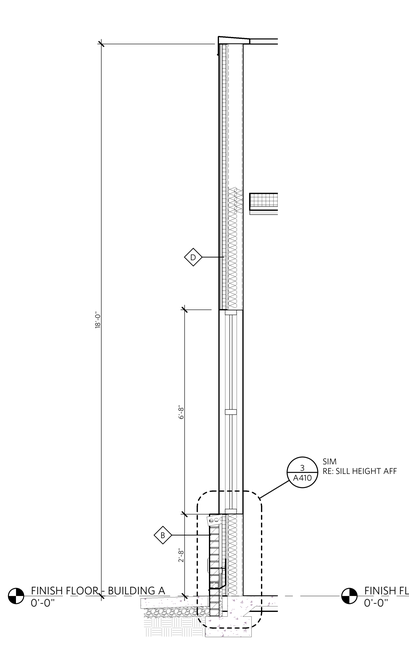
8 | Detail - Architectural Block Pilasters
1 1/2" = 1'-0"



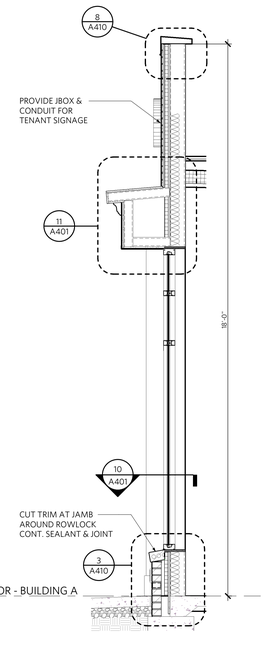
11 | Detail - Alum Head at Boxed Out Awning
1" = 1'-0"



3 | Wall Section - Single Story - Brick Return
1" = 1'-0"



4 | Wall Section - Single Story - Metal Panel Above Brick
1/2" = 1'-0"



2 | Wall Section - Single Story Front
1/2" = 1'-0"

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WALL SECTIONS
A401

20.01.NLV BUILDING 31

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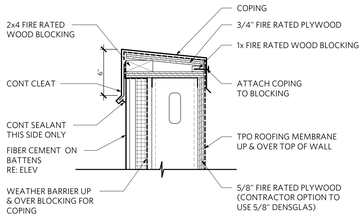
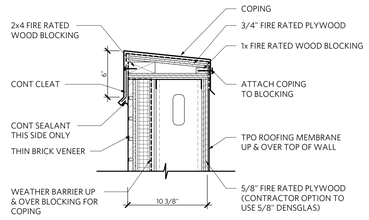
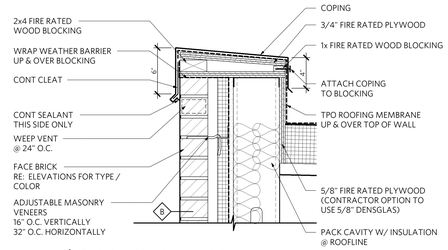


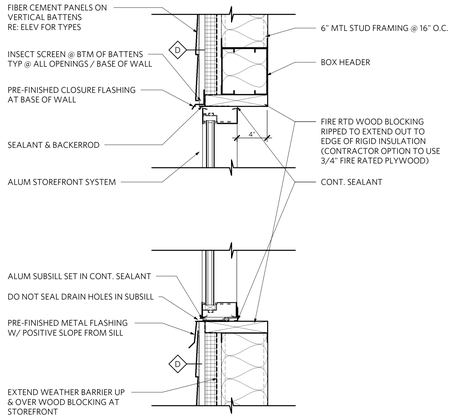
9 | Detail - Coping at Fiber Cement Wall
1 1/2" = 1'-0"



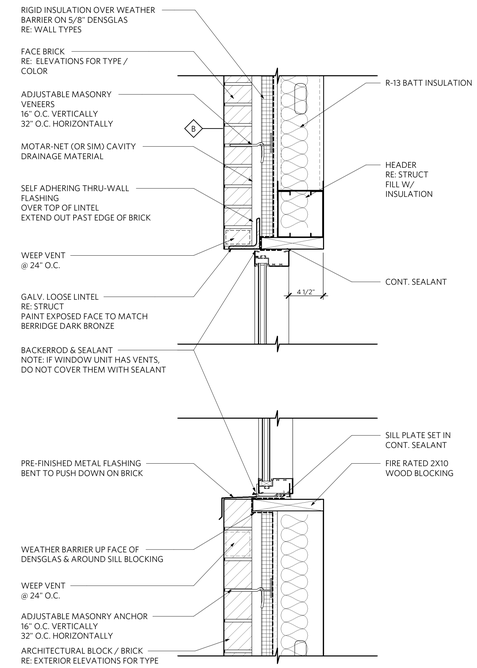
8 | Detail - Coping at Top of Thin Brick Wall
1 1/2" = 1'-0"



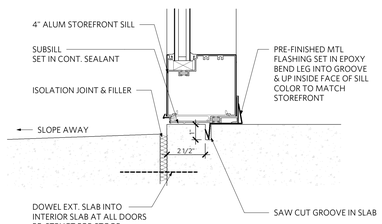
7 | Detail - Coping at Brick Wall
1 1/2" = 1'-0"



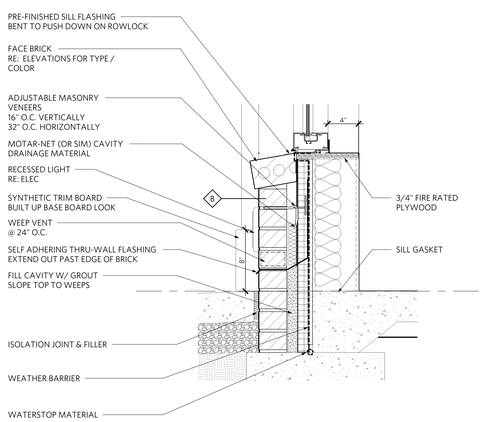
6 | Detail - Alum Storefront in Fiber Cement
1 1/2" = 1'-0"



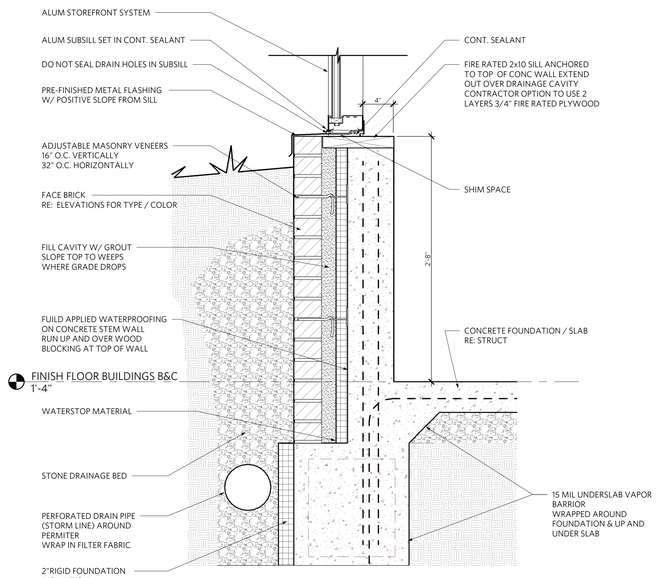
5 | Detail - Storefront in Brick
1 1/2" = 1'-0"



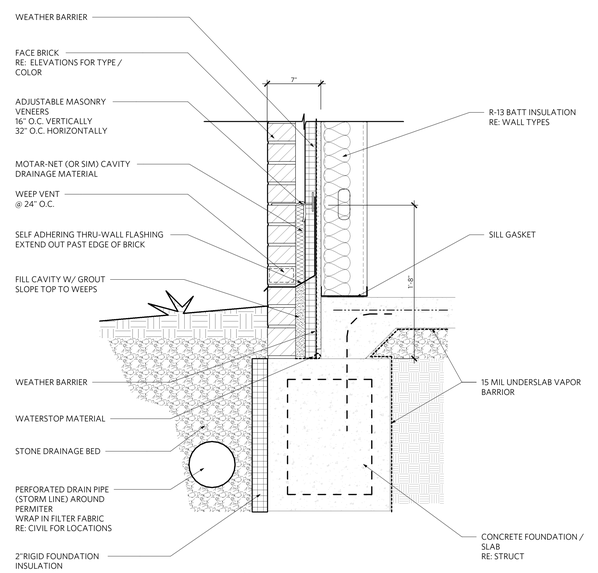
4 | Detail - Alum Sill at Grade
3" = 1'-0"



3 | Detail - Alum Sill at Rowlock
1 1/2" = 1'-0"



2 | Section Detail - Base of Wall at Concrete Stem Wall
1 1/2" = 1'-0"



NOTE:
COORDINATE W/ WALL TYPES FOR WALL ASSEMBLY

1 | Detail - Base of Masonry Wall
1 1/2" = 1'-0"

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WALL SECTION DETAILS

A410

20.01 NLV BUILDING 31

STRUC ABREVIATIONS	
	Abrev Text
A.R.	ANCHOR ROD
ADDNL	ADDITIONAL
ADJ	ADJACENT
AESS	ARCHITECTURALLY EXPOSED STRUC STL
AFF	ABOVE FINISH FLOOR
ALT	ALTERNATE
ARCH	ARCHITECT OR ARCHITECTURAL
atat	PLUS OR MINUS
B/	BOTTOM OF
B/W	BETWEEN
BLDG	BUILDING
BLKG	BLOCKING
BM	BEAM
BOT	BOTTOM
BRG	BEARING
CF	COLD FORMED METAL FRAMING
CHKD	CHECKED
CIP	CAST IN PLACE
CJ	CONTROL JOINT
CJP	COMPLETE JOINT PENETRATION
CL	CENTERLINE
CLR	CLEAR
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONT	CONTINUOUS
CTR	CENTER
db	DIA OF REINF BAR, DIA OF BOLT
DBA	DEFORMED BAR ANCHOR
DBL	DOUBLE
DIA	DIAMETER
DIAG	DIAGONAL
DIR	DIRECTION
DWL	DOWEL
EA	EACH
EE	EXTENDED END
EJ	EXPANSION JOINT
EL	ELEVATION
ENGR	ENGINEER
EOD	EDGE OF DECK
EOS	EDGE OF SLAB
EQ	EQUAL
EQP	EQUIPMENT
EW	EACH WAY
EXIST	EXISTING
EXT	EXTERIOR
F.V.	FIELD VERIFY
FLG	FLANGE
FLR	FLOOR
FND	FOUNDATION
FS	FAR SIDE
FTG	FOOTING
G.C.	GENERAL CONTRACTOR
GA	GAGE
GALV	GALVANIZED
GB	GRADE BEAM
HORIZ	HORIZONTAL
HSA	HEADED STUD ANCHOR
HSS	HOLLOW STRUCTURAL SECTION
IF	INSIDE FACE
INT	INTERIOR
JST	JOIST
k	KIPS (1000 LBS)
LCE	COMPRESSION EMBEDMENT LENGTH
LCS	COMPRESSION LAP SPLICE LENGTH
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LTE	TENSION EMBEDMENT LENGTH
LTS	TENSION LAP SPLICE LENGTH
LW	LIGHTWEIGHT
MAS	MASONRY
MATL	MATERIAL
MFCR	MANUFACTURER
MTL	METAL
NIC	NOT IN CONTRACT
NS	NEAR SIDE
NS	NON-SHRINK
NTS	NOT TO SCALE
O.F.	OUTSIDE FACE
OC	ON CENTER
OH	OPPOSITE HAND
OVS	OVERSIZED
P/C	PRECAST
PAF	POWDER ACTUATED FASTENER
PEN	PENETRATION
PERP	PERPENDICULAR
PL	PLATE
PLF	POUNDS PER LINEAL FOOT
PMB	PRE-ENGINEERED METAL BUILDING
PREFAB	PREFABRICATED
PRELIM	PRELIMINARY
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
R.F.	RIGID FRAME
RC	REINFORCED CONCRETE
RE: OR REF	REFER TO
REINF	REINFORCING
REQD	REQUIRED
SC	SLIP CRITICAL
SDS	SELF DRILLING SCREW
SIM	SIMILAR
SLV	SHORT LEG VERTICAL
SOG	SLAB ON GRADE
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STIR	STIRRUPS
STL	STEEL
SW	SHEAR WALL
SYM	SYMMETRIC
T&B	TOP AND BOTTOM
T/	TOP OF
TOS	TOP OF STEEL
TRANS	TRANSVERSE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
W/	WITH
W/O	WITHOUT
WF	WIDE FLANGE
WP	WORK POINT
WWF	WELDED WIRE FABRIC

STRUCTURAL DESIGN CRITERIA (2012 IBC AND ASCE 7-10):

1. BUILDING OCCUPANCY RISK CATEGORY II.

2. LIVE LOADS [UNIFORM (PSF) / POINT LOADS (KIPS)]:
-- ROOF:……………………………………...............20 PSF / 300#
-- OFFICES:……………………………...................50 PSF + 15 PSF PARTITIONS / 2.0 K
-- UPPER LEVEL CORRIDORS...............................80 PSF / 2.0 K
-- GROUND LEVEL SLAB ....100 PSF / 2.0 K
-- STAIRS ....100 PSF / 300#
-- LOBBIES ....100 PSF / 2.0 K

3. ROOF SNOW LOAD:
-- GROUND SNOW LOAD (Pg):……………………...20 PSF
-- FLAT ROOF SNOW LOAD (Pf): ....15.4 PSF W/ DRIFT
-- MIN UNIFORM ROOF SNOW LOAD (Pm):..........20 PSF (NO DRIFT OR RAIN)
-- RAIN ON SNOW SURCHARGE (Prs) ....5.0 PSF
-- SNOW EXPOSURE FACTOR (Ce):………………..1.0, EXPOSURE B & C
-- SNOW LOAD IMPORTANCE FACTOR (Is):..........1.0
-- THERMAL FACTOR (Ct):…………………………....1.1 (just above freezing)

4. WIND DESIGN DATA:
-- BASIC WIND SPEED (3 SEC GUST):……………..109 MPH
-- WIND IMPORTANCE FACTOR (Iw):………………..1.0
-- WIND EXPOSURE:…………………………………..C
-- DIRECTIONALITY FACTOR (Kd) 0.85
-- INTERNAL PRESSURE COEFF:…………………..0.18
-- COMPONENTS AND CLADDING WIND (ULTIMATE 1.0*W) PRESSURES (BASED ON TRIB 10 S.F., EXP. B. MAY BE REDUCED FOR COMPONENTS WITH LARGER TRIB PER BLDG CODE):
WALLS AT CORNERS & EDGES:…………………+20 / -39 PSF
ALL OTHER MAIN WALL CONDITIONS:…………+20 / -32 PSF
ROOF CORNERS:…...............................……….....+16 / -83 PSF
ROOF EDGES: ....+16 / -61 PSF
ALL OTHER MAIN ROOF CONDITIONS:…………+16 / -46 PSF

5. EARTHQUAKE DESIGN DATA:
-- SEISMIC IMPORTANCE FACTOR (Ie):…….........1.0
-- MAPPED SPECTRAL RESP ACCEL (Ss / S1):.....0.1 / 0.07
-- SITE CLASS:…………………………………………C
-- SPECTRAL RESPONSE COEFF (Sds / Sd1):……0.09 / 0.07
-- SEISMIC DESIGN CATEGORY:……………………B
-- SEISMIC FORCE RESISTING SYSTEM:…………R=3, STEEL NOT SPECIFICALLY DETAILED FOR SEISMIC, INTERMEDIATE MASONRY SHEAR WALLS
-- DESIGN BASE SHEAR:……………………………15 K (ELF AND ASD)
-- SEISMIC RESPONSE COEFF (Cs):………………0.043
-- ANALYSIS PROCEDURE:…………………………..ELF

6. GUARD RAILS:..50 PLF, AND/OR 200# CONCENTRATED LOAD APPLIED IN ANY DIRECTION.

STRUCTURAL GENERAL NOTES:

1. DESIGN AND CONSTRUCTION SHALL CONFORM TO THE "INTERNATIONAL BUILDING CODE, 2018 EDITION". REFER TO THE SPECIAL STRUCTURAL INSPECTION NOTES FOR ADDITIONAL REQUIREMENTS.

2. CONTRACTOR TO VERIFY ALL DIMENSIONS, ELEVATIONS AND EXISTING CONDITIONS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT IMMEDIATELY.

3. IF DISCREPANCIES EXIST BETWEEN STRUCTURAL PLANS, ARCHITECTURAL PLANS, OTHER PLANS, OR SPECIFICATIONS, THE CONTRACTOR OR SUBCONTRACTOR SHALL PROVIDE A WRITTEN REQUEST FOR CLARIFICATION FROM THE ARCHITECT AND/OR ENGINEER PRIOR TO PROCEEDING WITH THE WORK

4. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETED. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO EXECUTE AND DETERMINE FINAL ERECTION PROCEDURES, SEQUENCING AND TO INSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES WHATEVER SHORING, SHEETING, TEMPORARY BRACING, GUYING OR TIE DOWNS WHICH MIGHT BE NECESSARY.

5. THE STRUCTURE AND FOUNDATIONS ARE NOT DESIGNED FOR FUTURE EXPANSION.

6. FABRICATORS AND SUPPLIERS SHALL CLEARLY NOTE AND HIGHLIGHT CHANGES MADE IN SHOP DRAWINGS, WHICH DO NOT COMPLY WITH THE CONTRACT DOCUMENTS.

7. COLUMNS, BEAMS, JOISTS, OR TRUSSES SHALL NOT BE FIELD CUT OR TRIMMED FOR ANY REASON WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.

8. HOLES, PIPES, SLEEVES, ETC. NOT SHOWN ON THE DRAWINGS MUST BE REVIEWED BY THE ARCHITECT BEFORE PLACEMENT THROUGH STRUCTURAL MEMBERS.

9. IF MECHANICAL AND ELECTRICAL EQUIPMENT SIZES, WEIGHTS, OR LOCATIONS DO NOT COINCIDE WITH EQUIPMENT SHOWN ON THE PLANS, COORDINATE ADJUSTMENTS WITH THE ARCHITECT.

10. NO AREA OF THE STRUCTURE SHALL BE LOADED WITH CONSTRUCTION MATERIALS OR EQUIPMENT THAT EXCEEDS FINAL DESIGN CRITERIA.

11. BEAMS, COLUMNS, WALLS AND FOOTING CENTERS SHALL BE CENTERED UNDER SUPPORTING MEMBERS (TYPICAL UNLESS NOTED).

12. FOR DEFERRED SUBMITTALS, SHOP DRAWINGS AND CALCULATIONS SEALED BY A STRUCTURAL ENGINEER LICENSED TO PRACTICE IN THE JURISDICTION OF THE PROJECT SHALL BE FURNISHED TO THE ENGINEER OF RECORD FOR REIVEW.

DEFERRED SUBMITTALS ARE AS FOLLOWS:
A. PRE-ENGINEERED METAL STAIRS
B. COLD-FORMED FRAMING
C. METAL BAR JOISTS
D. STEEL CONNECTIONS
E. PRE-ENGINEERED CANOPIES

13. TYPICAL DETAILS ARE SHOWN ON SHEETS DESIGNATED "S0XX". THE INCLUDED TYPICAL DETAILS MAY OR MAY NOT BE CUT / REFERENCED ON PLANS OR SECTIONS, BUT ARE TO BE USED AS APPLICABLE.

EARTHWORK AND FOUNDATIONS:

1. THE FOLLOWING GEOTCHNICAL ASSUMPTIONS USED IN THE STRUCTURAL DESIGN FOR THIS PROJECT ARE BASED ON THE GEOTECHNICAL REPORT FOR THE ADJACENT SITE (PROJECT NO. G20-18-095 BY KANSAS CITY TESTING AND ENGINEERING DATED MAY 3, 2018). THESE ASSUMPTIONS ARE TO BE VERIFIED BY A GEOTECHNICAL ENGINEER FOR THE NEW BUILDING SITE.

2. ALL FOOTINGS SHALL BEAR A MINIMUM DEPTH BELOW GRADE OF 3'-0" ON COMPACTED OR ENGINEERED FILL CAPABLE OF SUPPORTING AN ALLOWABLE BEARING PRESSURE OF 2,000 PSF PER THE GEOTECHNICAL REPORT. DEEPEN FOOTINGS, AND REMOVE AND REPLACE SOFT SOILS WITH ENGINEERED FILL AS REQUIRED TO PROVIDE THIS MINIMUM DEPTH AND SUITABLE BEARING.

3. UNDERCUT THE PAD TO A DEPTH OF 12-INCHES BELOW BOTTOM OF FLOOR SLAB ELEVATION AND REPLACE WITH LOW-VOLUME-CHANGE MATERIALS PER THE GEOTECHNICAL REPORT. PROOFROLL OR USE TEST PITS IN SLAB ON GRADE AREAS.

4. FILL PLACEMENT, COMPACTION, AND SOIL BEARING TESTS SHALL BE PERFORMED BY A GEOTECHNICAL ENGINEER PRIOR TO INSTALLING FOOTINGS TO ENSURE DESIGN ALLOWABLE BEARING VALUES AND SLAB SUBGRADE REQUIREMENTS ARE SATISFIED. IF ACTUAL SITE CONDITIONS DO NOT SATISFY THESE REQUIREMENTS, COORDINATE ADJUSTMENTS WITH ARCHITECT/ENGINEER/ GEOTECHNICAL ENGINEER

5. SURFACE WATER SHALL NOT BE ALLOWED TO STAND ADJACENT TO OR DRAIN TOWARDS THE FOUNDATION AND SLAB SUBGRADES UNDER ANY CIRCUMSTANCES. PAVEMENTS OR GRADED SOILS AT THE PERIMETER OF THE BUILDING, EXCEPT AS REQUIRED AT EXITS OR AS NOTED, SHALL BE SLOPED AWAY AT 5% OR 6" MIN FOR THE FIRST TEN FEET AND AS REQUIRED TO PROVIDE POSITIVE DRAINAGE.

6. FOOTINGS MAY BE POURED TO NEAT LINES OF EXCAVATIONS PROVIDING VERTICAL LINES OF EXCAVATIONS CAN BE MAINTAINED DURING CONCRETE PLACEMENT.

7. FOUNDATION WALL BACKFILL SHALL NOT BE UNBALANCED BY MORE THAN TWO FEET ON EITHER SIDE AT ANY TIME. BASEMENT WALL AND RESTRAINED RETAINING WALL BACKFILL SHALL NOT BE PLACED, UNLESS THE WALL IS ADEQUATELY BRACED. RETAINING WALL AND BASEMENT WALL BACKFILL SHALL BE FREE DRAINING GRANULAR BACKFILL ACCEPTABLE TO THE GEOTECHNICAL ENGINEER.

CONCRETE AND MASONRY REINFORCING STEEL:

1. SUBMIT SHOP DRAWINGS FOR REBAR. ALL REINFORCING BARS SHALL MEET ASTM A615 GRADE 60.

2. ALL MESH SHALL MEET ASTM A-185: LAP A MINIMUM OF 8" OR ONE FULL MESH, WHICHEVER IS GREATER.

3. REINFORCING BARS QUANTITIES SHOWN ARE FOR ESTIMATING PURPOSES ONLY.

4. CONCRETE PROTECTION FOR REINFORCEMENT SHALL BE ¾" CLEAR FOR SLABS, 2" CLEAR FOR FORMED SURFACES AND 3" CLEAR FOR FOOTINGS (TYPICAL UNLESS NOTED).

5. CONTRACTOR SHALL VERIFY THAT ALL REINFORCEMENT, SLAB DOWELS, INSERTS, SLEEVES AND EMBEDDED ITEMS ARE PROPERLY LOCATED AND RIGIDLY SECURED PRIOR TO CONCRETE PLACEMENT, "WET STICKING" DOWELS WILL NOT BE ALLOWED.

6. REINFORCEMENT SHALL BE DETAILED IN ACCORDANCE WITH THE LATEST A.C.I. DETAILING MANUAL BY A QUALIFIED AND EXPERIENCED FIRM AND PERSON. PLACE AND SUPPORT REINFORCEMENT WITH ACCESSORIES: MAXIMUM SPACING - 48" CENTERS (PLASTIC-TIPPED LEGS FOR EXPOSED SURFACES). USE 3" SBP SUPPORTS AT ALL FOOTINGS.

CAST IN PLACE CONCRETE:

1. SUBMIT PROPOSED MIXED DEIGNS OF EACH TYPE FOR REVIEW.
REQUIRED MINIMUM CONCRETE COMPRESSIVE STRENGTHS AT 28 DAYS:

a. FOOTING AND GRADEBEAM CONCRETE………………..4000 PSI
b. BASEMENT / FOUNDATION WALL CONCRETE………….4000 PSI
c. SLAB ON GRADE AND STRUC SLAB ABOVE GRADE…..4000 PSI

2. ALL CONCRETE MIX DESIGNS SHALL HAVE WATER TO CEMENT RATIOS LESS THAN 0.52, WITH A MAXIMUM 60/40 FINE TO COARSE AGGREGATE RATIO. CONCRETE MIX DESIGNS THAT DO NOT CONFORM TO THE ABOVE STANDARD AND/OR CONTAIN WATER REDUCING ADMIXTURES SHALL BE SUBMITTED WITH APPROPRIATE TEST DATA PER A.C.I.. ALL CONCRETE SHALL BE IN CONFORMANCE WITH THE LATEST A.C.I. 301 STANDARDS PUBLICATION.

3. EXTERIOR CONCRETE (FLOOR SLABS, WALLS, ETC) SHALL HAVE 6% (PLUS/MINUS 1%) ENTRAINED AIR.

4. CHAMFER ALL EXPOSED CONCRETE EDGES 3/4" (VERIFY WITH ARCHITECT).

5. NO ALUMINUM SHALL BE EMBEDDED IN ANY CONCRETE.

6. NO CALCIUM CHLORIDE SHALL BE USED IN CONCRETE

7. THE DESIGN, CONSTRUCTION, AND SAFETY OF ALL FORMWORK IS THE RESPONSIBILITY OF THE CONTRACTOR

8. ALL CONCRETE IS REINFORCED UNLESS SPECIFICALLY NOTED AS UNREINFORCED. REINFORCE ALL CONCRETE NOT OTHERWISE SHOWN WITH THE SAME REINFORCING AS SIMILAR SECTIONS OR AREAS.

9. CONSTRUCTION JOINTS IN GRADE BEAMS, CONTINUOUS FOOTINGS, AND WALLS THAT DO NOT CHANGE DIRECTION SHALL BE SPACED NO GREATER THAN 60'-0". INTERMEDIATE CONTROL JOINTS SHALL BE SPACED AT 25'-0" MAX FOR WALLS. CONTROL JOINTS IN WALLS SHALL ALSO BE LOCATED 15'-0" FROM CORNERS AND AT CHANGES IN WALL THICKNESS

10. WHERE FRESH CONCRETE IS DEPOSITED AGAINST HARDENED CONCRETE (GREATER THAN 8 HRS OLD), CLEAN EXISTING SURFACE OF LAITANCE AND FOREIGN MATERIAL AND DAMPEN THE EXISTING SURFACE. IF REQUIRED, ROUGHEN EXISTING CONCRETE TO ¼" AMPLITUDE.

11. SLABS ON GRADE SHALL BE 4" THICK MINIMUM ON 4" OF GRANULAR FILL. REINF SLAB WITH 6 X 6-W2.1xW2.1 W.W.F. OR #3 BARS @ 18" OC EA WAY. PLACE REINF IN UPPER 1/3 OF SLAB THICKNESS. AT INTERIOR SLABS, A 10 MIL VAPOR BARRIER SHALL BE PLACED BETWEEN THE CONCRETE AND GRANULAR BASE AND CARE SHOULD BE TAKEN DURING CURING TO PREVENT SLAB CURLING. THIS NOTE SHALL BE TYPICAL UNLESS NOTED OTHERWISE

12. SAW CUT JOINTS OR KEYED CONSTRUCTION JOINTS IN SLABS ON GRADE SHALL BE SPACED TO DIVIDE THE SLAB INTO PANELS NOT TO EXCEED 225 SQUARE FEET. THE LONGER DIMENSION OF EACH PANEL SHALL NOT EXCEED THE SHORTER DIMENSIONS BY MORE THAN 40%. JOINTS SHALL BE LOCATED AT COLUMN CENTERLINES WHERE POSSIBLE. SPACING BETWEEN JOINTS SHALL NOT EXCEED 15 FEET. CONTRACTOR SHALL SUBMIT JOINT LAYOUT TO ARCHITECT FOR APPROVAL. REFER TO TYP DETAIL RC-001A.

13. REINFORCEMENT SHALL BE CONTINUOUS AND LAPPED 53 BAR DIAMETERS (2' -6" MIN.) EXCEPT AS NOTED AND PROVIDE CORNER BARS OF SAME SIZE AND SPACING.

14. MINIMUM REINFORCING AROUND CONCRETE WALL OPENINGS 2'-0" OR GREATER (TYPICAL UNLESS NOTED): 2 - #5, EXTEND REINF 2'-0" PAST OPENINGS. PROVIDE 2-#5 x 4'-0" DIAGONAL BARS AT CORNERS

15. CONTRACTOR SHALL COORDINATE ALL CURING COMPOUNDS WITH FLOOR FINISH REQUIREMENTS TO ENSURE COMPATIBILITY.

16. FOUNDATION CONTRACTOR TO ENSURE PROPER ANCHOR ROD PROJECTION AND THAT ANCHOR RODS ARE HELD SECURELY IN POSITION PRIOR TO CONCRETE PLACEMENT. INSTALL ANCHOR RODS TO THE STRICT DIMENSIONAL TOLERANCES PER AISC REQUIREMENTS. STRUCTURAL STEEL COLUMN ANCHOR RODS SHALL BE SET WITH A RIGID TEMPLATE.

17. AGGREGATES AND/OR CONCRETE MIXES SHALL BE CERTIFIED TO BE FREE OF AND ELIMINATE DAMAGE OF CONCRETE DUE TO ALKALI-SILICA REACTION OR ALKALI-AGGREGATE REACTIONS WHEN EXPOSED TO SOILS AND/OR AN EXTERIOR ENVIRONMENT.

18. ALL CONCRETE MIX DESIGNS EXPOSED TO AN EXTERIOR ENVIRONMENT SHALL MEET THE REQUIREMENTS OF THE KANSAS CITY METRO MATERIALS BOARD (KCMMB) OR THE JOHNSON COUNTY CONCRETE BOARD (JCCB).

SPECIAL INSPECTIONS

1. PROVIDE SPECIAL STRUCTURAL INSPECTIONS AND VERIFICATIONS BY A THIRD PARTY MEETING THE REQUIRMENTS OF CHAPTER 17 OF THE BUILDING CODE AND THE BUILDING OFFICAL.

2. SPECIAL INSPECTORS SHALL BE QUALIFIED AND FURNISH THEIR REPORTS IN A TIMELY MANNER TO THE CONTRACTOR, BUILDING OFFICALS, ARCHITECT, AND/R ENGINEER

3. SHOULD INSPECTOR IDENTIFY ANY DISCREPANCY, THEY SHAL NOTIFY CONTRACTOR FIRST, AND THEN ARCHT/ ENGINEER IMMEDIATELY THEREAFTER IF CORRECTIVE ACTION IS NEEDED.

4. SPECIAL INSPECTIONS AS REQUIRED BY CODE:
A. STEEL: SECTION 1705.2, AISC 360, AND TABLE 1705.2.2. PERIODIC OBSERVATIONS OF CONNECTION, ALL BRACED-FRAME CONNECTIONS, WELDERS & FIELD WELDING.
B. CONCRETE: SECTION 1705.3 AND TABLE 1705.3 CONCRETE MATERIAL SAMPLING AND TESTING, REBAR OBSERVATIONS. TAKE SET OF (3) CYLINDERS FOR EVERY 50 C.Y., BUT NOT LESS THAN ONE SET OF SAMPLES PER DAY'S WORK AND PER MIX.
C. EARTHWORK: FOUNDATION BEARING, EXCAVATION, FILL PLACEMENT.

STRUCTURAL STEEL:

1. SUBMIT SHOP DRAWINGS FOR STEEL.
STRUCTURAL STEEL SHAPES AND PLATE MATERIAL REQUIREMENTS (TYPICAL UNLESS NOTED OTHERWISE):

a. WIDE FLANGE SHAPES - ASTM A992 (FY = 50 KSI MIN.)
b. CHANNELS, ANGLES, AND PLATES: - ASTM A36 (FY = 36 KSI MIN)
c. RECTANGULAR HSS - ASTM A500, GR B (FY = 46 KSI)
d. ANCHOR RODS - ASTM F1554 (FY = 36 KSI MIN.),

2. STRUCTURAL STEEL SHALL BE NEW AND MEET THE 15TH EDITION A.I.S.C. "SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS AND BRIDGES", AND THE "CODE OF STANDARD PRACTICES FOR STEEL BUILDINGS AND BRIDGES", EXCLUDING SECTION 4.4.1.B.

3. THE STRUCTURAL STEEL FABRICATOR SHALL BE AN AISC QUALITY CERTIFIED COMPANY FOR THE CATEGORY OF WORK IN THIS PROJECT OR PROVIDE A QUALITY ASSURANCE PLAN AND SPECIAL INSPECTIONS AS DEFINED IN THE CODE.

4. USE STANDARD AISC FRAMING CONNECTIONS WITH A325-N BOLTS, F436 WASHERS, AND A563 HEAVY-HEX NUTS AS REQUIRED, UNLESS NOTED OTHERWISE. CONNECTIONS SHALL BE DESIGNED FOR (ASD) REACTIONS SHOWN ON PLAN. WHERE NO REACTIONS ARE SHOWN, CONNECTIONS SHALL BE DESIGNED FOR A MINIMUM OF 10K (ASD).

5. BOLTS IN MOMENT AND BRACED FRAME CONNECTIONS SHALL BE PRE-TENSIONED. ALL A490 BOLTS SHALL BE PRE-TENSIONED. OTHER BOLTED CONNECTIONS USING A325 BOLTS MAY BE SNUG-TIGHTENED, UNLESS NOTED OTHERWISE.

6. STEEL BEAMS SHALL BE FABRICATED WITH MILL CAMBER UP.

7. WELDING SHALL CONFORM TO THE CURRENT AND APPLICABLE AWS STANDARDS AND BE COMPLETED BY AN AWS CERTIFIED WELDER. ALL WELDS SHALL UTILIZE E70xx ELECTRODES. SHOP DRAWINGS SHALL SHOW FIELD WELDS, AS APPROPRIATE.

a. AWS D1.1 - STRUCTURAL WELDING CODE - STEEL
b. AWS D1.3 - STRUCTURAL WELDING CODE - SHEET STEEL
c. AWS D1.6 - STRUCTURAL WELDING CODE - STAINLESS STEEL

8. WELD SIZES SHALL BE INCREASED TO MEET THE REQUIRED EFFECTIVE THROAT WIDTH IF GAPS EXIST AT THE FAYING SURFACE

9. NO COLUMN OR BEAM SPLICES, UNLESS CLEARLY INDICATED ON THE STRUCTURAL DRAWINGS, WILL BE ALLOWED WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.

10. SEE ARCHITECTURAL PLANS FOR FIREPROOFING & FINISHING REQUIREMENTS, AND COORDINATE STEEL PRIMING & COATINGS ACCORDINGLY.

11. GROUT WHERE INDICATED ON PLANS AT BASE PLATES SHALL BE NON-METALLIC NON-SHRINK WITH A MINIMUM COMPRESSIVE STRENGTH OF 6000 PSI AT 28 DAYS CONFORMING TO ASTM C1107

12. ALL POST-INSTALLED ANCHORS WHERE NOTED SHALL BE MANUFACTURED BY SIMPSON STRONG-TIE OR HILTI, INC. AND INSTALLED PER MANUFACTURER'S SPECIFICATIONS. SUBSTITUTIONS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL WITH APPROPRIATE IC-ES EVALUATION REPORTS.

13. ALL STEEL NOT PROTECTED FROM WEATHER AND WHOLLY WITHIN A CONDITIONED SPACE (INCLUDING ALL MASONRY LINTELS) SHALL BE HOT DIPPED GALVANIZED PER ASTM A123.

OPEN WEB STEEL BAR JOISTS:

1. OPEN-WEB STEEL JOISTS SHALL BE ENGINEERED AND MANUFACTURED BY AN SJI-CERTIFIED COMPANY TO CONFORM TO THE CURRENT SJI SPECIFICATIONS AND SJI REQUIREMENTS.

2. SUBMIT SHOP DRAWINGS FOR JOIST. DESIGN, DETAIL AND INSTALL JOIST-BRIDGING IN ACCORDANCE WITH SJI REQUIREMENTS, PROVIDING X-BRIDGING AT LOCATIONS WHERE HORIZONTAL BRIDGING IS DISCONTINUOUS AND INTERRUPTED. INSTALL ADDITIONAL ROW OF BOTTOM CHORD BRIDGING AT EACH END OF JOISTS AT THE FIRST BOTTOM CHORD PANEL POINTS AS REQUIRED FOR NET WIND UPLIFT.

3. BOLT OR WELD ALL JOISTS TO BEARINGS PER SJI GUIDELINES, INCLUDING BOTTOM CHORD EXTENSIONS AND CONNECTIONS AT COLUMN LINES PER SJI AND PER OSHA REQUIREMENTS.

4. REINFORCE WEBS OF JOISTS WITH ADDITIONAL ANGLES FIELD-WELDED PER THE TYPICAL DETAILS AT ALL LOCATIONS WHERE POINT LOADS OCCUR BETWEEN PANEL POINTS, INCLUDING AT EDGES AND CORNERS OF CURBS & FRAMES SUPPORTING ROOF TOP EQUIPMENT.

5. PROVIDE EXTENDED ENDS FOR SUPPORT OF ROOF DECK EDGE ANGLES THROUGHOUT THE PROJECT AS MAY BE REQUIRED. PROVIDE SPECIAL SLOPED BEARING SEATS WHERE NEEDED BASED ON ROOF SLOPES SHOWN IN ACCORDANCE WITH SJI.

6. WHERE SPECIAL "SP" JOISTS ARE INDICATED, DESIGN JOISTS FOR THE FOLLOWING, BUT IN NO CASE SHALL CHORD SIZES BE LESS THAN INDICATED ON THE FRAMING PLANS:
A. UNIFORM DEAD LOAD OF 15 PSF IN ADDITION TO SELF WT.
B. UNIFORM ROOF LIVE, SNOW, AND RAIN ON SNOW LOADS INDICATED IN STRUCT GENERAL NOTES.
C. SNOW DRIFTS AROUND PARAPETS AS FOLLOWS:
C.1. ALONG THE NORTH AND SOUTH PARAPETS WALLS A MAX TOTAL DRIFT OF 60 PSF, TAPERED DOWN OVER A LENGTH OF 10-FEET DOWN TO THE UNIFORM ROOF SNOW LOAD.
C.2. ALONG THE EAST-WEST PARAPET WALLS AND CENTER SCREENWALLS USE A MAX OF TOTAL OF 50 PSF, TAPERED DOWN OVER A LENGTH OF 8-FEET DOWN TO UNIFORM ROOF SNOW LOAD.
D. WIND NET UPLIFT.
E. SPECIAL HANGING POINT LOADS AND ROOF EQUIPMENT LOADS AS DENOTED ON THE FRAMING PLAN.

METAL DECK:

1. SUBMIT SHOP DRAWINGS FOR ALL METAL DECKING.
A. ROOF DECK: 1.5B 20 GA (FY = 33 KSI MIN), PAINTED, MIN. FASTENING PATTERN: 36/4 WITH 3 SIDELAPS PER SPAN (UNO)
B. COMPOSITE FLOOR DECK: 2" 20 GA (FY = 33 KSI MIN), G60 GALVANIZED, MIN FASTENING PATTERN: 36/4 WITH 3 SIDELAPS PER SPAN (UNO),

2. STEEL DECK MANUFACTURER SHALL BE A MEMBER OF THE STEEL DECK INSTITUTE (S.D.I.). ALL METAL DECK TO BE ERECTED PER MANUFACTURER REQUIREMENTS AND SPECIFICATIONS

3. DECK SHALL BE WELDED AT SUPPORTS WITH 5/8" DIA PUDDLE WELDS MIN. AND SIDELAP CONNECTIONS SHALL BE #10 TEK SCREWS MIN (UNO).

4. ALL METAL DECK HAS BEEN DESIGNED TO BE CONTINUOUS OVER 2 SPANS MINIMUM AND SHALL BEAR 2" MINIMUM ON STEEL SUPPORTS. FOR ONE OR TWO SPAN CONDITIONS CONTRACTOR SHALL PROVIDE SHORING AS REQUIRED OR FURNISH THICKER GAGE DECK TO SUPPORT ALL APPLICABLE LOADS. CONTRACTOR TO SUBMIT ALTERNATES FOR APPROVAL.

5. PROVIDE REINFORCING CHANNELS, STANDARD CLOSURES, CANT STRIPS, SUMP PANS, AND OTHER ACCESSORIES AS REQUIRED FOR A PROPERLY FINISHED JOB, EVEN IF NOT SPECIFICALLY SHOWN ON THE STRUCTURAL DRAWINGS. PROVIDE BEARING ANGLES WELDED TO COLUMNS AS REQUIRED TO SUPPORT METAL DECK.

6. ONE OPENING PER DECK SHEET, 6" OR LESS IN DIAMETER, IS PERMISSIBLE. HOLES LARGER THAN 6" IN DIAMETER OR MORE THAN ONE HOLE PER DECK SHEET REQUIRES REINFORCING PER SDI. HOLES LARGER THAN 12" (ROUND OR SQUARE) REQUIRE A STEEL FRAME

7. OPENINGS IN ROOF DECK TO BE FRAMED WITH L4x4x1/4 ANGLE. EXTEND ANGLES TO STRUCTURAL SUPPORTS, BLOCK VERTICAL LEGS AND FIELD WELD. TYPICAL UNLESS NOTED OTHERWISE.

LIGHT GAGE STRUCTURAL STEEL FRAMING NOTES:

1. SUBMIT SHOP DRAWINGS FOR CFMF.
LIGHT GAGE FRAMING MEMBERS SHALL HAVE THE FOLLOWING MINIMUM MATERIAL PROPERTIES: FY = 33 KSI FOR 18 GA AND LIGHTER MEMBERS, FY = 50 KSI FOR ALL DIAGONAL STRAP BRACING AND FOR 16 GA AND HEAVIER MEMBERS. ALL MATERIALS, CONNECTORS, FASTNERS SHALL BE GALVANIZED

2. ALL DESIGN, FABRICATION, AND ERECTION SHALL BE IN CONFORMANCE WITH AISI "SPECIFICATIONS FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS." LATERAL LOAD DEFLECTION SHALL BE LIMITED TO 1/600 OF THE SPAN AT LOCATIONS LATERALLY SUPPORTING MASONRY, MASONRY TILE, STONE OR SIMILAR PRODUCTS

3. ALL EXTERIOR OR LOAD BEARING INTERIOR STUDS SHALL BE 600S162-43 (6" DEEP 18 GA) AT 16 INCHES ON CENTER, UNLESS NOTED: REFER TO PLANS.

4. MINIMUM GAGE OF STRUCTURAL STUDS SHALL BE 43 mils (18 GAGE), UNLESS NOTED.

5. TRACKS SHALL BE SECURELY ANCHORED TO THE SUPPORTING STRUCTURE TO PROPERLY TRANSFER IMPOSED LOADS. MINIMUM GAGE OF TRACKS SHALL BE 43 mils (18 GAGE). DEFLECTION TRACKS AT EXTERIOR WALL SHALL BE 16 GA MINIMUM.

6. PROVIDE WALL STUD BRIDGING FOR EACH STUD AS RECOMMENDED BY THE MANUFACTURER. MAXIMUM SPACING SHALL BE 4'-0" CENTERS.

7. ALL FRAMING COMPONENTS SHALL BE CUT SQUARELY FOR ATTACHMENTS TO PERPENDICULAR MEMBER. MEMBERS SHALL BE HELD POSITIVELY IN PLACE UNTIL PROPERLY FASTENED.

8. NOTCHES OR SPLICES IN ANY STRUCTURAL STUDS WILL NOT BE PERMITTED.

9. DO NOT NOTCH, DRILL OR CUT ANY HOLES IN LOAD BEARING STUDS FOR ELECTRICAL OR MECHANICAL EQUIPMENT: USE EXISTING FABRICATED HOLES.

10. ALL WELDING SHALL BE PERFORMED BY WELDERS EXPERIENCED IN LIGHT GAGE STEEL FRAMING WORK. TOUCH UP ALL WELDS WITH GALVANIZE COATING.

11. SCREWS IN LIGHT GAGE FRAMING SHALL BE INSTALLED WITH MINIUM EDGE DISTANCES OF 1/2" AND MINIMUM SPACING BETWEEN SCREWS OF 3/4".

12. WHERE BACK-TO-BACK STUD COLUMNS ARE USED, ATTACH WITH #10 SCREWS @ 12" OC MAX, UNO.

13. LATERIAL BRACING MUST BE IN PLACE IN EACH DIRECTION BEFORE ANY LOAD IS APPLIED TO THE WALLSS & LEFT IN PLACE UNTIL THE WORK IS PERMANETLY STABILIZED.

14. PROVIDE FULL-DEPTH BLOCKING BETWEEN EACH JOIST AT BEARINGS OF CANTILEVERE JOISTS.

15. AT CANTILEVERS, HOLES ARE PROHIBITED FROM WEBS OF JOISTS AT OVERHANGS

NON-LOAD BEARING LIGHT GAGE STEEL FRAMING NOTES

1. METAL STUD MANUFACTURERS GENERALLY RECOMMEND HORIZONTAL BRIDGING OR STRAPPING TO BE PROPERLY INSTALLED AT 5 FT TO 6 FT OC, MECHANICALLY ATTACHED TO EACH STUD TO PREVENT DAMAGE DURING CONSTRUCTION, EVEN IF ONE SIDE OR BOTH SIDES ARE TO BE SHEATHED WITH RIGID FACING MATERIALS.

2. WHEN RIGID FACING MATERIALS ARE NOT ATTACHED TO EITHER SIDE, SUCH AS ABOVE CEILINGS, HORIZONTAL BRIDGING OR STRAPPING AT EACH FACE SHALL BE INSTALLED

3. WHERE THE TOP OF THE STUD WALLS TERMINATE AGAINST PRIMARY STRUCTURAL FRAMING, A "DEFLECTION TRACK" SHOULD BE USED TO ALLOW FOR VERTICAL MOVEMENT. ONE ROW OF THE RECOMMENDED HORIZONTAL BRIDGING SHALL BE PROPERLY INSTALLED BY MECHANICAL ATTACHMENTS TO EACH STUD AS CLOSE TO THE TOP AS POSSIBLE. ANY TEMPORARY SCREWS FROM THE TOP DEFLECTION TRACK TO THE METAL STUDS SHALL BE REMOVED AS SOON AS POSSIBLE TO ALLOW VERTICAL DEFLECTION OF THE PRIMARY FRAMING AND TO PREVENT DAMAGE TO THE STUD WALL. METAL STUDS SHOULD NEVER BE ATTACHED DIRECTLY TO HORIZONTAL STRUCTURAL FRAMING SYSTEMS WITHOUT A DEFLECTION TRACK OR VERTICALLY SLOTTED

CONCRETE MASONRY UNITS:

1. ALL MASONRY SHALL BE IN ACCORDANCE WITH ACI 530 / TMS 402. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR NON-STRUCTURAL BRICK REQUIREMENTS. INDIVIDUAL CMU'S SHALL BE PER ASTM C90, GROUT SHALL BE PER ASTM C476, MORTAR SHALL BE PER ASTM C270.
A. USE OF MASONRY CEMENT IS PROHIBITED.
B. USE OF AIR-ENTRAINING ADMIXTURES IS PROHIBITED.

2. MASONRY MATERIALS SHALL BE AS FOLLOWS:
A. f'm = 1,500 PSI MINIMUM. ALL UNITS SHALL BE LIGHT-WEIGHT BLOCK.
B. GROUT STRENGTH NOT LESS THAN 2,000 PSI. GROUT SHEAR WALLS SOLID.
C. MORTAR TYPE S. (USE TYPE M OR S, OR BETTER FOR PORTIONS BELOW-GRADE).

4. WHERE NOT OTHERWISE SHOWN, MINIMUM WALL REINFORCEMENT SHALL BE (1) #4 VERT AT 48" O.C. MAX. PROVIDE NOT LESS THAN 9-GAGE HORIZONTAL LADDER-TYPE REINFORCEMENT AT NOT MORE THAN 16" O.C. VERTICALLY, LAPPED 8" MINIMUM. DISCONTINUE HORIZ REINF AT CONTROL JOINT LOCATIONS. REBAR POSITIONERS SHALL BE USED FOR ALL VERTICAL BARS SUCH THAT A MINIMUM 3" OF SPACE IS MAINTAINED CLEAR FOR PLACEMENT OF GROUT.

5. ALL BLOCKS SHALL BE LAID IN RUNNING BOND.

6. GROUT SOLID ALL UNITS LOCATED BELOW FINISH FLOOR.
A. ALL GROUND-LEVEL SHEAR WALLS SHALL BE GROUTED SOLID.
B. GROUND POUR HEIGHTS SHALL NOT EXCEED 5'-0" UNLESS CLEAN-OUTS ARE PROVIDED AND INSPECTED. THE MAXIMUM GROUT POUR HEIGHT WITH CLEANOUTS SHALL NOT EXCEED 12'-0". STOP GROUT POURS AT 1-1/2" BELOW THE TOP OF THE CMU COURSE. CONSOLIDATE GROUT WITH VIBRATOR.

7. ALL OPENINGS IN NEW CONCRETE MASONRY WORK REQUIRE A BOND-BEAM LINTEL PER TYPICAL DETAILS AND PLANS.
A. GALVANIZED LOOSE-ANGLE STEEL LINTELS SHALL BE UTILIZED TO SUPPORT BRICK VENEER, AND WHERE CUTTING IN NEW OPENINGS IN EXISTING BRICK AND TILE WALLS.

8. PROVIDE CONTROL JOINTS AS SHOWN ON ARCHITECTURAL AND/OR STRUCTURAL DRAWINGS. WHERE NOT SHOWN OR OTHERWISE DENOTED, PROVIDE CONTROL JOINTS AT NOT MORE THAN 25'-0" O.C., LOCATED AT OPENINGS, AND NEAR CORNERS, AS SHOWN ON TYPICAL DETAILS.

9. PLACEMENT OF REINFORCEMENT SHALL OCCUR PRIOR TO PLACEMENT OF GROUT. ALL REINFORCEMENT IN STRUCTURAL AND SHEAR WALLS SHALL BE INSPECTED PRIOR TO GROUTING, AND ALL MATERIALS AND MATERIAL PLACEMENT INSPECTED AND TESTED.

10. EXTEND HORIZONTAL REINFORCEMENT IN BOND BEAMS, LINTELS AND SILL NOT LESS THAN 2'-0" PAST ENDS OF ALL OPENINGS.

11. PROVIDE LOOSE ANGLE STEEL LINTELS PER THE TYPICAL DETAILS.

12. REINFORCE BOND BEAMS W/ (1) #5 BAR MIN, UNLESS NOTED OTHERWISE.

SPECIAL INSPECTION OF STEEL CONSTRUCTION - TABLE 1704.3

REQ'D	VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
X	1. MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS AND WASHERS:		X
X	A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.		X
X	B. MANUFACTURES CERTIFICATE OF COMPLIANCE REQUIRED.		X
	2. INSPECTION OF HIGH-STRENGTH BOLTING:		X
	A. BEARING-TYPE BOLT CONNECTIONS		X
	B. PRE-TENSIONED AND SLIP-CRITICAL CONNECTIONS		X
X	3. MATERIAL VERIFICATION OF STRUCTURAL STEEL:		X
X	A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.		X
X	4. MATERIAL VERIFICATION OF WELD FILLER MATERIALS:		X
X	A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.		X
X	B. MANUFACTURES CERTIFICATE OF COMPLIANCE REQUIRED.		X
X	5. INSPECTION OF WELDING:		X
X	A. STRUCTURAL STEEL:		X
X	1) COMPLETE AND PARTIAL PENETRATION GROOVE WELDS	X	
	2) MULTI-PASS FILLET WELDS	X	
	3) SINGLE-PASS FILLED WELD >5/16"	X	
X	4) SINGLE-PASS FILLET WELDS <=5/16"		X
	5) FLOOR AND DECK WELDS		X
	B. REINFORCING STEEL:		X
	1) VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A706	X	
	2) WELDING OF REINFORCING STEEL RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES, AND BOUNDARY ELEMENTS OF SPECIAL REINFORCED CONCRETE SHEAR WALLS AND SHEAR REINFORCEMENT.	-	-
	3) WELDING OF SHEAR REINFORCEMENT	X	
	4) WELDING OF OTHER REINFORCING STEEL		X
	6. INSPECTION OF STL FRAME JOINT DETAILS FOR COMPLIANCE W/ APPROVED CONSTRUCTION DOCUMENTS:		X
	A. DETAILS SUCH AS BRACING AND STIFFENING		X
X	B. MEMBER LOCATIONS		X
X	C. GROUTING OF SHEAR LUGS AND BASEPLATES	X	
X	D. APPLICATION OF PROPER JOINT DETAILS AT EACH CONNECTION		X

SPECIAL INSPECTION OF CONCRETE CONSTRUCTION - TABLE 1704.4

REQ'D	VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
X	1. INSPECTION OF REINFORCING STEEL AND PLACEMENT		X
	2. INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH TABLE 1704.3, ITEM 5B	X	
X	3. INSPECT BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO AND DURING PLACEMENT OF CONCRETE	X	
X	4. VERIFYING USE OF REQUIRED MIX DESIGN		X
X	5. AT THE TIME FRESH CONC IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMP OF THE CONC	X	
X	6. INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	X	
X	7. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.		X
	8. INSPECTION OF PRESTRESSED CONCRETE		X
	9. ERECTION OF PRECAST CONCRETE MEMBERS		X
X	10. VERIFICATION OF IN-SITU CONCRETE STRENGTH PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS		X
X	11. INSPECT FORMWORK FOR SHAPE, LOCATION, AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED		X

SPECIAL INSPECTION OF SOILS - TABLE 1704.7

REQ'D	VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
X	1. VERIFY MATERIALS BELOW FOOTINGS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY		X
X	2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL		X
X	3. PERFORM CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS		X
X	4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF CONTROLLED FILL	X	
X	5. PRIOR TO PLACEMENT OF CONTROLLED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY		X

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JOHN E. FUNK
NUMBER E-2000173299
John E. Funk
05/17/21

REV	ISSUE	DATE
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STRUCTURAL GENERAL NOTES

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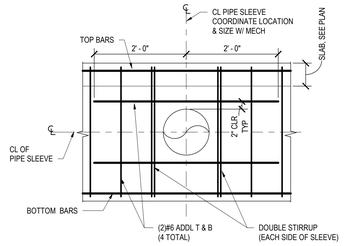
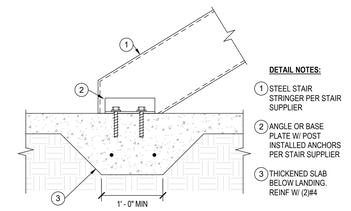
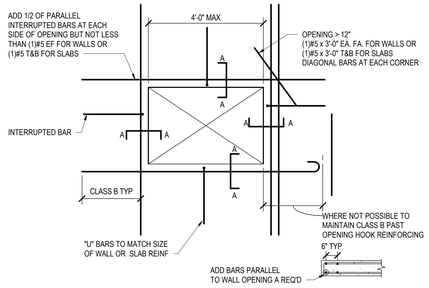


6 CONC BEAM PENETRATION DETAIL
3/4" = 1'-0"

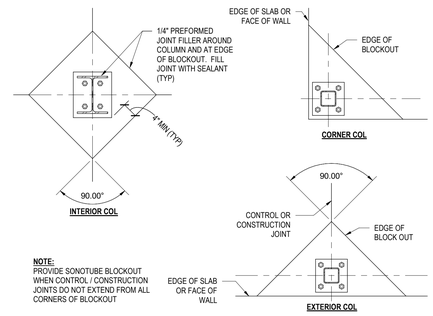


3 STAIR STRINGER ON SLAB-FOOTING
1" = 1'-0"



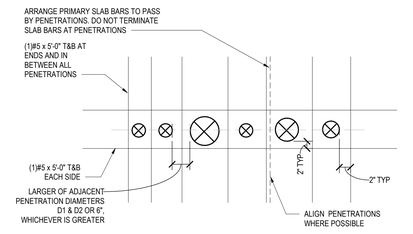
DETAIL NOTES:
1. SEE WALL ELEVATIONS OR PLANS FOR REINFORCEMENT AT LARGER OPENINGS.
2. CLUSTERS OF SMALL HOLES WHOSE OVERALL MEASUREMENT EXCEEDS 1'-0" SHOULD BE REINFORCED AS ONE OPENING.
3. WALLS CAN SPAN IN EITHER DIRECTION.

9 TYP WALL REINF AT OPENINGS
1/2" = 1'-0"



NOTE:
PROVIDE SONOTUBE BLOCKOUT WHEN CONTROL / CONSTRUCTION JOINTS DO NOT EXTEND FROM ALL CORNERS OF BLOCKOUT

5 RC-001B - SOG JOINTS AT COLS
3/4" = 1'-0"



DETAIL NOTE:
DETAIL DOES NOT APPLY FOR PENETRATIONS LARGER THAN 12" IN DIAMETER. SEE TYP SLAB OPENING DETAIL FOR SUCH PENETRATIONS.

2 TYP REINF AT SLAB PENETRATIONS
3/4" = 1'-0"

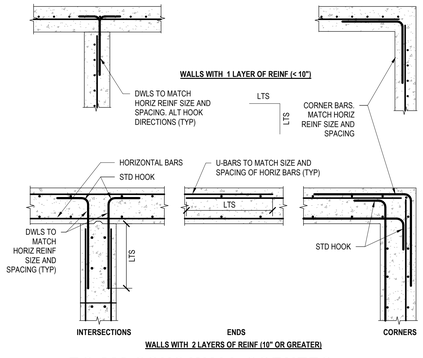
DEVELOPMENT AND LAP SPLICE SCHEDULE														
	F'c = 4000 psi							F'c = 5000 psi						
	EMBEDMENT			LAP SPLICE				EMBEDMENT			LAP SPLICE			
	COMPR	TENSION (LTE)		COMPR	TENSION (LTS)		HOOK	COMPR	TENSION (LTE)		COMPR	TENSION (LTS)		HOOK
BAR	(LCE)	TOP	OTHER	(LCS)	TOP	OTHER	(LDH)	(LCE)	TOP	OTHER	(LCS)	TOP	OTHER	(LDH)
#3	8	12	12	12	16	16	7	8	12	12	12	16	16	6
#4	9	18	14	15	24	18	9	9	17	13	15	22	17	8
#5	12	27	21	19	35	27	12	11	24	19	19	32	24	11
#6	14	37	28	23	48	37	14	14	33	25	23	43	33	13
#7	17	60	46	26	78	60	17	16	53	41	26	69	53	15
#8	19	74	57	30	96	74	19	18	66	51	30	86	66	17
#9	21	90	69	34	116	90	21	20	80	62	34	104	80	19
#10	24	108	83	38	140	108	24	23	96	74	38	125	96	22
#11	27	126	97	42	164	126	27	25	113	87	42	147	113	24

NOTES (PERTAINING TO TABLE):
A. TOP BARS ARE HORIZONTAL BARS THAT HAVE MORE THAN 12" OF FRESH CONCRETE CAST BELOW THEM.
B. ALL BARS THAT ARE NOT "TOP BARS" ARE "OTHER" BARS
C. ABBREVIATIONS:
-LCE -COMPRESSION EMBEDMENT LENGTH
-LTE -TENSION EMBEDMENT LENGTH
-LCS -COMPRESSION LAP SPLICE LENGTH
-LTS -TENSION LAP SPLICE LENGTH
-LDH -HOOKED BAR TENSION EMBEDMENT LENGTH
D. LENGTHS ARE BASED ON GRADE 60 UNCOATED BARS IN NORMAL-WEIGHT CONCRETE WITH 3/4 IN. CLEAR COVER
E. TENSION LAP SPLICE LENGTH 'LTS' IS FOR A 'CLASS B' SPLICE. IF 'CLASS A' SPLICE IS SPECIFICALLY NOTED ON PLANS OR DETAILS, TENSION EMBEDMENT LENGTH 'LTE' MAY BE USED IN PLACE OF 'LTS'.
F. TENSION EMBEDMENT AND SPLICE LENGTHS ASSUME CLEAR COVER CONTROLS, IF THE CENTER-TO-CENTER SPACING OF BARS IS LESS THAN 1.0"BAR DIAMETER + 2"COVER, LENGTHS MUST BE CALCULATED SEPERATELY PER ACI 318.
G. VALUES SHOWN ARE FOR SINGLE BARS AND BUNDLES OF TWO. LENGTHS FOR BUNDLES OF THREE OR MORE ARE TO BE CALCULATED SEPARATELY PER ACI 318
H. FOR GRADES OF BARS HIGHER THAN 60, VALUES ARE TO BE CALCULATED SEPARATELY PER ACI 318

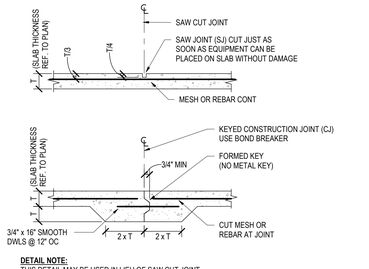
NOTES (GENERAL):
A. STAGGER ALL SPLICES 12 db MIN, BUT NOT LESS THAN 12"
B. ALL DIMENSIONS INDICATED IN TABLE ARE IN INCHES
C. BARS GREATER THAN #11 SHALL BE MECHANICALLY SPLICED
D. ALL SPLICES SHALL BE WIRED IN CONTACT STACKED VERTICAL.
E. IF BARS OF DIFFERENT SIZES ARE BEING SPLICED, THE SPLICE LENGTH FOR THE LARGER BAR SHALL BE USED

MULTIPLIERS:
ALL EMBEDMENT AND LAP SPLICE LENGTHS SHALL BE MULTIPLIED AS REQD BY THE MULIPLIERS BELOW. APPLY MULTIPLE MULTIPLIERS IF APPLICABLE.
1.3 – IF CONC CONTAINS LIGHT WEIGHT AGGREGATES
1.3 – IF EPOXY COATED REBAR USED
0.8 – IF CLEAR COVER IS GREATER THAN OR EQUAL TO 1.5 IN. (LTE AND LTS ONLY, LENGTH MAY NOT BE LESS THAN 12 IN.)

10 RC-004 SPLICE & DEVELOPMENT SCHEDULE
3/4" = 1'-0"

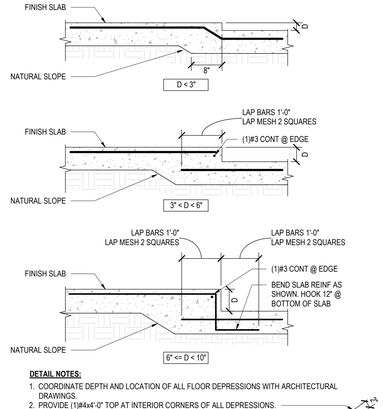


8 RC-003 CONC WALL CORNERS
1/2" = 1'-0"



DETAIL NOTE:
THIS DETAIL MAY BE USED IN LIEU OF SAW CUT JOINT

4 RC-001A - TYP SOG CONTROL JOINTS
3/4" = 1'-0"



DETAIL NOTES:
1. COORDINATE DEPTH AND LOCATION OF ALL FLOOR DEPRESSIONS WITH ARCHITECTURAL DRAWINGS.
2. PROVIDE (1)#4x4'-0" TOP AT INTERIOR CORNERS OF ALL DEPRESSIONS.

1 TYP SLAB ON GRADE FLOOR DEPRESSION
3/4" = 1'-0"

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STATE OF MISSOURI
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NUMBER E-2000173299
REGISTERED PROFESSIONAL ENGINEER
5/17/21

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TYPICAL DETAILS - CONCRETE

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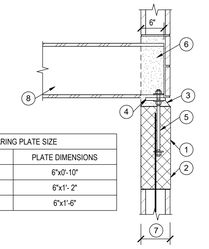
MASONRY LAP SPLICE SCHEDULE				
BAR SIZE	BAR CENTERED IN CELL			BAR @ EDGE OF CELL
	6" BLOCK	8" BLOCK	10" & 12" BLOCK	ALL BLOCK SIZES
3	24	24	24	4"
4	32	32	32	4"
5	40	40	40	4"
6	48	48	48	4"
7	56	56	56	8"

NOTES:
1. VALUES APPLY ONLY FOR MIN. MASONRY COMPRESSIVE STRENGTH (f'm) OF 1500 PSI.
2. LAP LENGTHS IN TABLE ABOVE ARE GIVEN IN INCHES
3. VALUES ONLY APPLY WHEN A SINGLE BAR IS WITHIN CELL
4. PROVIDE MECHANICAL SPLICES FOR #8 BARS AND LARGER

6 MASONRY LAP SPLICE SCHEDULE
1 1/2" = 1'-0"

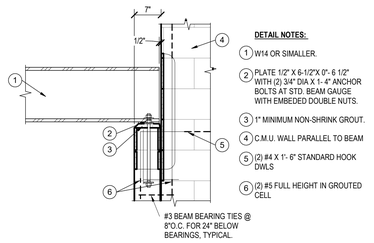


BEARING PLATE SIZE	
BEAM REACTION	PLATE DIMENSIONS
40K OR LESS	6"x0'-10"
60K OR LESS	6"x1'- 2"
80K OR LESS	6"x1'-6"

DETAIL NOTES:

1. TWO GROUTED CELLS FULL HEIGHT AT BEAM BEARING. REINFORCE WITH (1) #5 VERTICAL MINIMUM (U.N.O.) IN EACH CELL
2. TYPICAL BOND BEAM, OR 1-#5 X 4' - 0" HORIZONTAL IN 4' - 0" BOND BEAM, CENTERED BELOW BEAM.
3. 1" MINIMUM NON-SHRINK GROUT UNDER BEARING PLATE.
4. 3/4" THICK BEARING PLATE CENTERED ON WALL. REFER TO TABLE FOR SIZE.
5. (2) 3/4 DIA. X 1'-3" ANCHOR BOLTS AND DOUBLE NUTS.
6. GROUT POCKET SOLID AFTER INSTALLATION OF BEAM.
7. C.M.U. WALL THICKNESS. RE: PLAN
8. BEAM, RE: PLAN

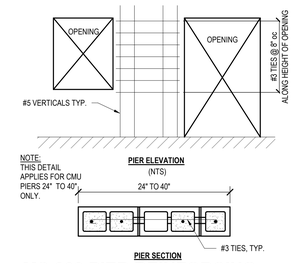
1 MS - BEAM BEARING CONN
3/4" = 1'-0"



DETAIL NOTES:

1. W14 OR SIMALLER.
2. PLATE 1/2" X 6-1/2"X 0'- 6 1/2" WITH (2) 3/4" DIA X 1- 4" ANCHOR BOLTS AT STD. BEAM GAUGE WITH EMBEDED DOUBLE NUTS.
3. 1" MINIMUM NON-SHRINK GROUT.
4. C.M.U. WALL PARALLEL TO BEAM
5. (2) #4 X 1'- 6" STANDARD HOOK DWLS
6. (2) #5 FULL HEIGHT IN GROUTED CELL

7 MS - BEAM BEARING CONNECTION
3/4" = 1'-0"



NOTE:
THIS DETAIL APPLIES FOR CMU PIERS 24" TO 40" ONLY.

PIER ELEVATION
(NTS)

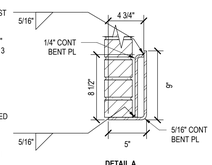
PIER SECTION

4 MS-009 PIER REINFORCING
3/4" = 1'-0"

LOOSE LINTEL SCHEDULE			
MARK	OPENING SIZE	LINTEL SIZE	BRG LEN
L1	UP TO 1'-8"	1/4" PL x WALL WIDTH - 1/2"	4"
L2	1'-9" TO 3'-0"	L 3-1/2" x 3-1/2" x 1/4"	4"
L3	3'-1" TO 4'-5"	L 4" x 3-1/2" x 5/16"	4"
L4	4'-6" TO 6'-3"	L 5" x 3-1/2" x 3/8"	4"
L5	6'-4" TO 8'-0"	L 6" x 3-1/2" x 3/8"	8"
L6	8'-1" TO 12'-0"	5/16" & 1/4" BENT PL (SEE DTL A)	8"

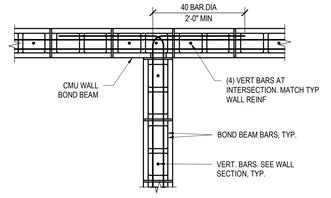
DETAIL NOTES:

1. HEIGHT OF MASONRY ABOVE LINTEL MUST BE MINIMUM OF 1/2 THE OPENING WIDTH
2. PROVIDE ONE STEEL LINTEL FOR EACH 4" THICKNESS OF MASONRY. (FOR EXAMPLE: 3 ANGLES FOR 12" OF WALL)
3. LINTELS SPECIFICALLY CALLED OUT ON DRAWINGS SHALL GOVERN OVER THIS SCHEDULE
4. ALL STEEL ANGLES SHALL BE GALVANIZED AND SHALL HAVE SHORT LEG HORIZONTAL (SLH)
5. L6 REQUIRES A 2" MIN AIR GAP TO FIT IN WALL CAVITY.

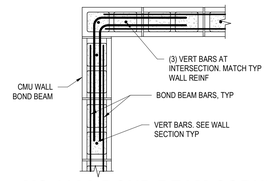


DETAIL A

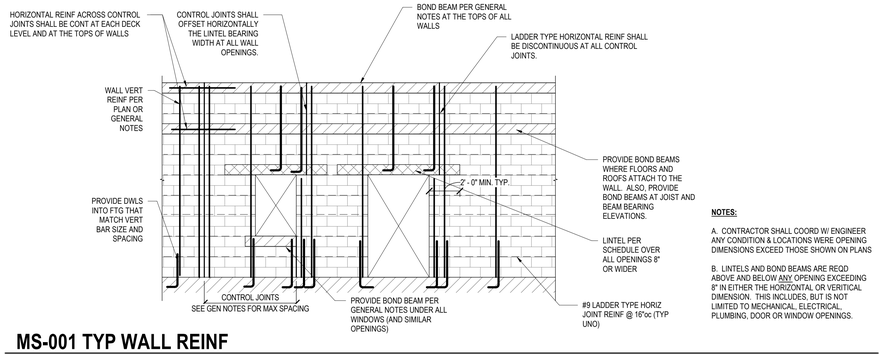
5 MS-311 BRICK LINTEL SCHEDULE
1 1/2" = 1'-0"



3 MS-002B BOND BEAM INTERSECTION
3/4" = 1'-0"



3. MS-002A BOND BEAM CORNERS
3/4" = 1'-0"



NOTES:

A. CONTRACTOR SHALL COORD W/ ENGINEER ANY CONDITION & LOCATIONS WERE OPENING DIMENSIONS EXCEED THOSE SHOWN ON PLANS

B. LINTELS AND BOND BEAMS ARE REQD ABOVE AND BELOW ANY OPENING EXCEEDING 8" IN EITHER THE HORIZONTAL OR VERITICAL DIMENSION. THIS INCLUDES, BUT IS NOT LIMITED TO MECHANICAL, ELECTRICAL, PLUMBING, DOOR OR WINDOW OPENINGS.

2 MS-001 TYP WALL REINF
1/4" = 1'-0"

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05-17-21

REV	ISSUE	DATE
	PERMIT	05/17/2021

TYPICAL DETAILS - MASONRY

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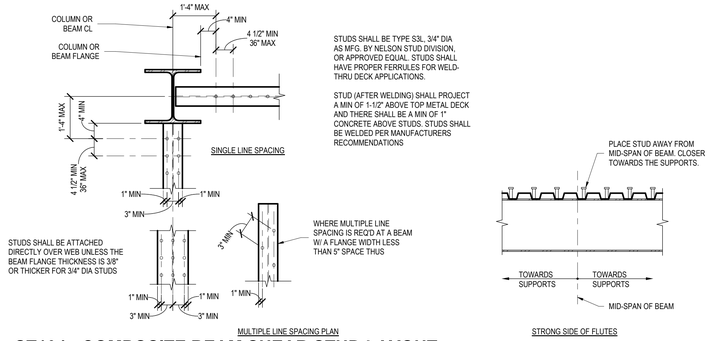
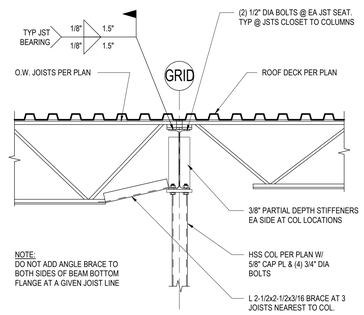
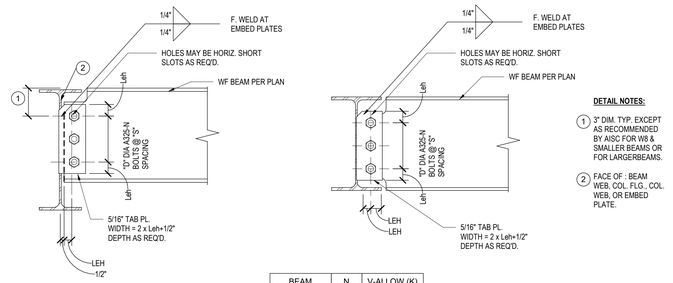


11 ST104 - COMPOSITE BEAM SHEAR STUD LAYOUT
3/4" = 1'-0"



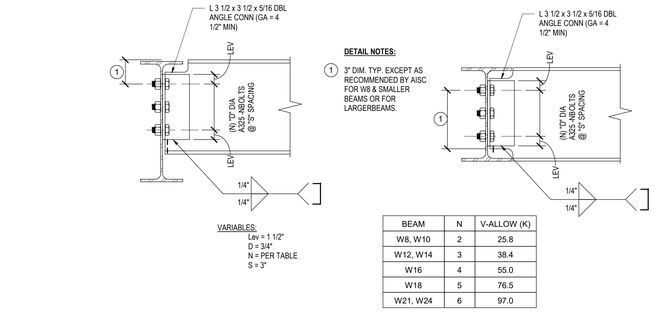
10 ST-204 - OW JST W/ L BRACE AT COL
3/4" = 1'-0"



BEAM	N	V-ALLOW (K)
W8, W10	2	12.6
W12, W14	3	22.4
W16	4	33.0
W18	5	41.3
W21, W24	6	52.8

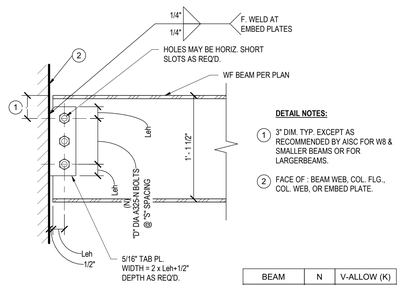
6 ST-211 TYP. SHEAR TAB CONN. OPTION 1
1 1/2" = 1'-0"

3 ST-001 - TYP ANCHOR ROD
3/4" = 1'-0"



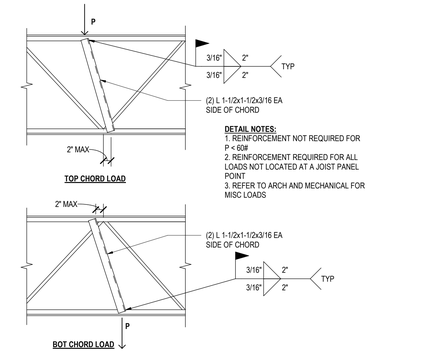
BEAM	N	V-ALLOW (K)
W8, W10	2	25.8
W12, W14	3	38.4
W16	4	55.0
W18	5	76.5
W21, W24	6	97.0

9 ST-210 TYP. DOUBLE ANGLE CONN. OPTION 2
1 1/2" = 1'-0"

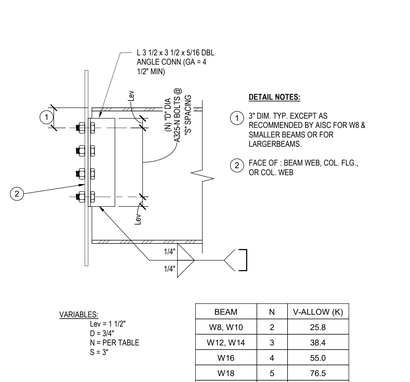


BEAM	N	V-ALLOW (K)
W8, W10	2	12.6
W12, W14	3	22.4
W16	4	33.0
W18	5	41.3
W21, W24	6	52.8

5 ST-004 - TYP SHEAR TAB CONN
1 1/2" = 1'-0"

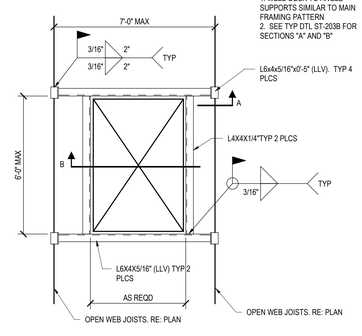


2 ST-206 - JOIST REINF AT PT LOAD
3/4" = 1'-0"

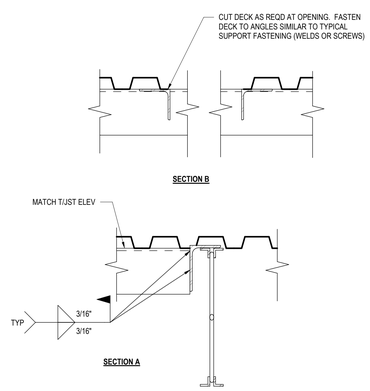


BEAM	N	V-ALLOW (K)
W8, W10	2	25.8
W12, W14	3	38.4
W16	4	55.0
W18	5	76.5
W21, W24	6	97.0

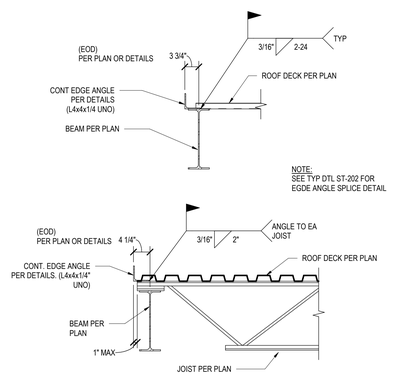
8 ST-005 DOUBLE ANGLE CONN
1 1/2" = 1'-0"



7 ST-203A - TYP ROOF OPENING
3/8" = 1'-0"



4 ST-203B - TYP ROOF OPENING
1 1/2" = 1'-0"



1 ST-201 - TYP EDGE ANGLE
3/4" = 1'-0"

LOT 7, BUILDING 31
3140 SW LONGVIEW BLVD
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STATE OF MISSOURI
JOHN E. FUNK
NUMBER E-20001173299
REGISTERED PROFESSIONAL ENGINEER
05/17/21

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TYPICAL DETAILS - STEEL

S050

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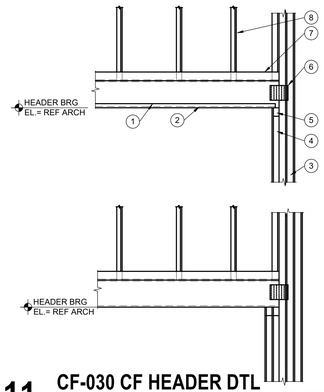
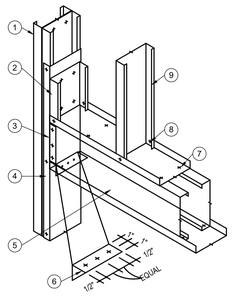


DETAIL NOTES:

1. HSS HEADER 8" TALL
2. CONT. BOTT. RUNNER TRACK (SEE SCHED. FOR SIZE)
3. FULL HEIGHT KING STUDS (SEE SCHED. FOR NUMBER)
4. BRG STUD (SEE LINTEL SCHED. FOR NUMBER)
5. 16 GA. RUNNER TRACK
6. SIMPSON TP57 EA. FACE. CENTER @ END OF IINTEL.
7. CONT. TOP RUNNER TRACK CONT. (SEE SCHED. FOR SIZE)
8. STUDS @ O.C.

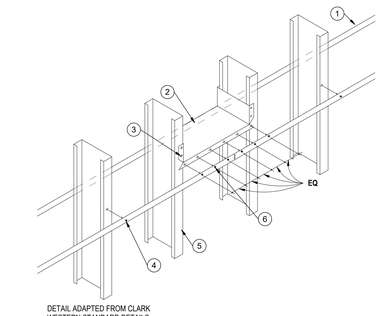
11 CF-030 CF HEADER DTL
1/2" = 1'-0"



DETAIL NOTES:

1. FULL HEIGHT JAMB STUDS. QUANTITY AND MEMBER SIZES AS REQ'D BY DESIGN
2. 6" LONG SECTION OF STUD ATTACHED TO JAMB W/ (4) #10-16 SCREWS.
3. 18G.A. MIN. TRACK HEADER CONNECTION
4. IF NO TRACK IN JAMB TYPE, CAP OPENING SIDE OF JAMB W/ TRACK ATTACHED W/ (1) #10-16 SCREW @ 12" OC IN EA LEG.
5. (2) UNPUNCHED STUDS. MEMBER SIZES AS REQ'D PER DESIGN.
6. CLIP ANGLE SIZE AS REQ'D PER DESIGN.
7. (2) #10-16 SCREWS @ 12" O.C.
8. (1) # 10-16 SCREW TYP. EACH FLANGE
9. CRIPPLE STUDS

7 CF-352 COLD FORMED HEADER DETAIL
3/4" = 1'-0"



DETAIL ADAPTED FROM CLARK WESTERN STANDARD DETAILS

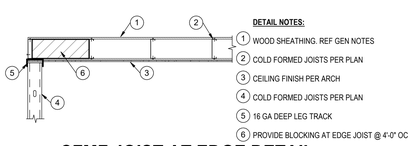
DETAIL NOTES:

1. 1-1/2" GA. STRAPPING ON EACH SIDE OF MEMBER (STRAPPING TO START END AND SPLICE AT SOLID BLOCKING)
2. MIN. 18 GA RUNNER TRACK SOLID BLOCKING @ 10'-0" O.C. MAX. MAKE RUNNER TRACK 8" LONGER THAN MEMBER INSIDE SPACING. CLIP FLANGES OF TRACK 4" FROM EACH END. BEND TRACK AT CLIPPED FLANGES.
3. ATTACH BLOCKING TO MEMBERS WITH (2) # 10-16 SCREWS IN EACH FLANGE AS SHOWN
4. (1) #10-16 SCREW IN EACH STUD FLANGE
5. TYP. COLD FROMED MEMBER
6. USE (6) # 10-16 SCREWS ON EACH SIDE OF BLOCKING.

BLOCKING NOTE

PLACE SOLID BLOCKING AT ENDS OF WALL OR FLOOR SYSTEM, ADJACENT TO OPENGINGS, AND AT 10'-0" oc MAX

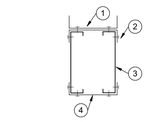
3 CF-003 STRAP BLOCKING
3/4" = 1'-0"



DETAIL NOTES:

1. WOOD SHEATHING. REF GEN NOTES
2. COLD FORMED JOISTS PER PLAN
3. CEILING FINISH PER ARCH
4. COLD FORMED JOISTS PER PLAN
5. 16 GA DEEP LEG TRACK
6. PROVIDE BLOCKING AT EDGE JOIST @ 4'-0" OC

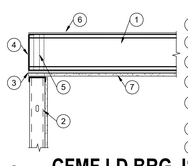
10 CFMF JOIST AT EDGE DETAIL
1/2" = 1'-0"



DETAIL NOTES:

1. 12 GA RUNNER
2. #10 SCREWS AT 12"OC
3. COLD FORMED STELL HEADER SEE SCHEDULE
4. 12GA RUNNER TOP AND BOTTOM

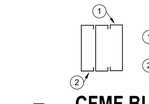
6 CFMF BOXED HEADER
1 1/2" = 1'-0"



DETAIL NOTES:

1. COLD FORMED JOISTS PER PLAN
2. COLD FORMED STUDS PER PLAN
3. 16 GA DEEP LEG TRACK
4. 18 GA CONT TRACK
5. PROVIDE WEB STIFFENERS OR CLIP ANGLE CONN TO TRACK AT BRG LOCATION.
6. WOOD SHEATHING PER GENERAL NOTES
7. CEILING FINISH PER ARCH

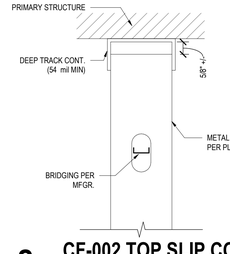
9 CFMF LD BRG JST DETAIL
1/2" = 1'-0"



DETAIL NOTES:

1. (2) FULL HEIGHT STUDS EACH SIDE, MATCH WALL STUD SIZE
2. (1) 14 GA JACK STUD WITH 2"FLANGE EACH SIDE OF OPENING

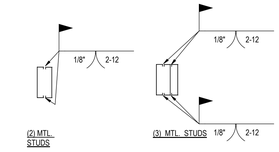
5 CFMF BUILT-UP JAMB
1 1/2" = 1'-0"



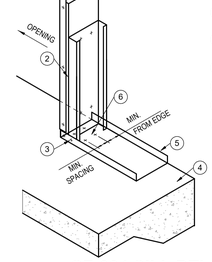
NOTE:

SPACE VERTICALLY @ 4'-0" O.C. MAX UNO.

8 CF-002 TOP SLIP CONN
1" = 1'-0"



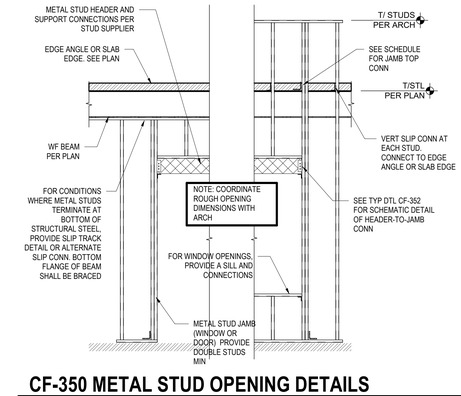
4 CFMF BUILT-UP STUD COLUMNS
3/4" = 1'-0"



DETAIL NOTES:

1. CAP OPENING SIDE OF JAMB W/ TRACK ATTACHED W/ (1)#10-16 SCREW @ 16" O.C. IN EACH LEG.
2. (2) FULL HEIGHT 18 GA JAMB STUDS. MATCH THE SIZE OF THE TYPICAL WALL STUDS.
3. (1) #10-16 SCREW @ EACH FLANGE.
4. CONCRETE SLAB
5. RUNNER TRACK
6. ATTACH TRACK END TO SLAB W/ (4) 0.145" DIA POWDER ACTIVATE FASTENERS (PAF) X 1-14" EXBED. PROVEDE 4" CLEAR BETWEEN EA PAF

2 CF-004 SILL DTL @ OPENINGS
3/4" = 1'-0"



1 CF-350 METAL STUD OPENING DETAILS
3/8" = 1'-0"

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JOHN E. FUNK
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05/17/21

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TYPICAL DETAILS - COLD FORMED

S055

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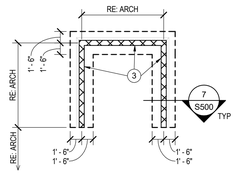
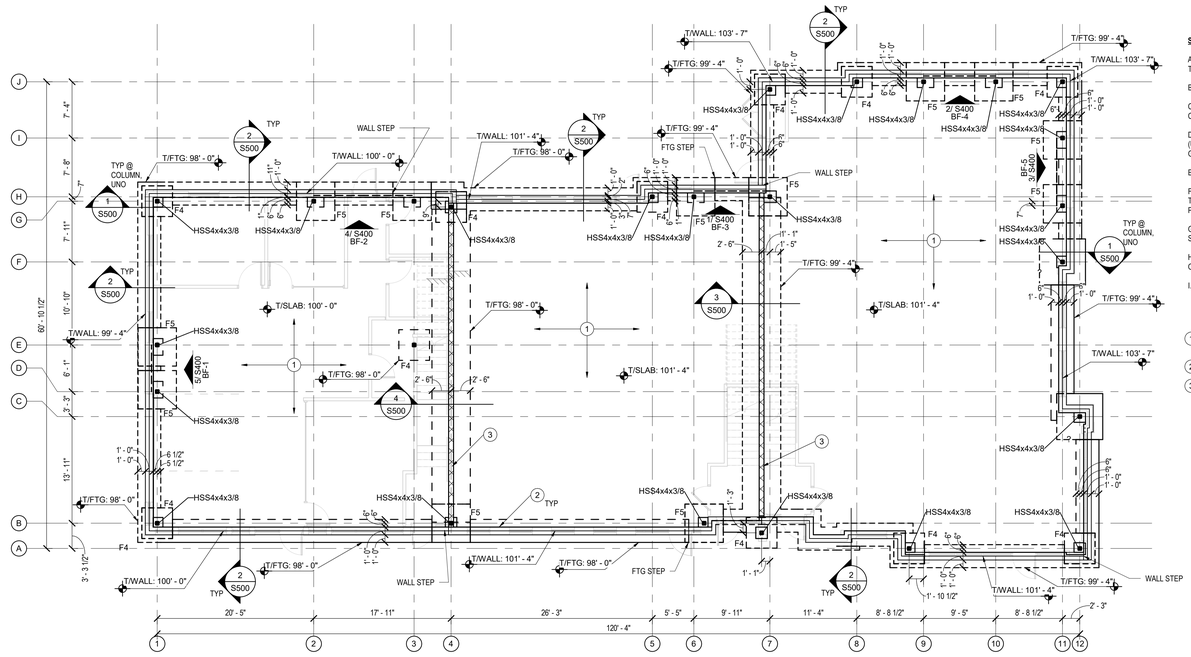


SPREAD FOOTING SCHEDULE				
TYPE	LENGTH	WIDTH	THICK	REINF
F4	4' - 0"	4' - 0"	1' - 0"	(4) #6 EA WAY, BOT
F5	5' - 0"	5' - 0"	1' - 2"	(5) #6 EA WAY, BOT
F6	6' - 0"	6' - 0"	1' - 4"	(7) #6 EA WAY, BOT



1 FOUNDATION PLAN
1/8" = 1'-0"

SHEET NOTES

A. REFERENCE SHEET S001 FOR STRUCTURAL GENERAL NOTES AND S0xx FOR TYPICAL STRUCTURAL DETAILS. REVIEW NOTES & DETAILS FOR APPLICABILITY.

B. SEE ARCHITECTURAL DRAWING FOR DETAILS & DIMENSIONS NOT SHOWN.

C. FINISH FLOOR ELEVATION = 100'-0" UNO (THIS CORRESPONDS TO 1006.67' PER CIVIL DRAWINGS).

D. THE BOTTOM OF ALL EXTERIOR FOOTING SHALL BE 3'-0" MIN. BELOW GRADE (UNLESS NOTED OTHERWISE). DEEPEN FOOTINGS AS REQUIRED. GRADE IS GENERALLY 6" BELOW FINISH FLOOR ELEVATION (COORDINATE WITH CIVIL)

E. PROVIDE BLOCKOUTS IN SLAB FOR COLS PER TYP DTL RC-001B.

F. SPREAD FOOTINGS DENOTED ON PLAN BY "Fx". REFER TO SCHEDULE ON THIS SHEET FOR SIZE AND REINFORCING. TOP OF FOOTING IS AS NOTED ON PLAN.

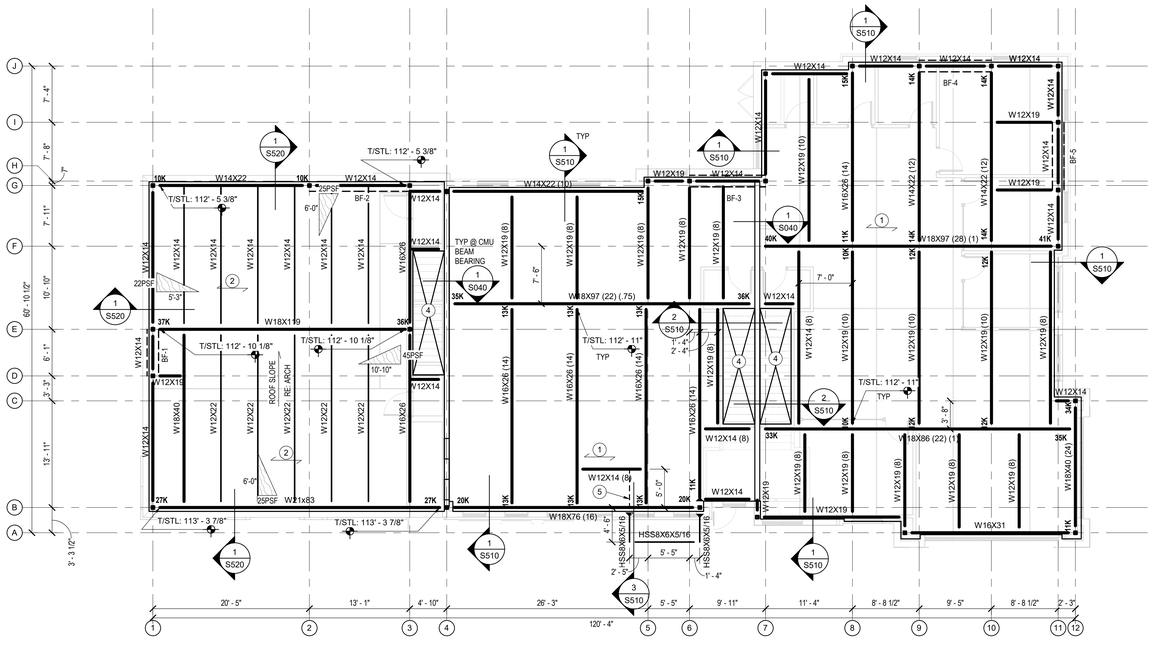
G. CONCRETE PILASTERS ARE DENOTED ON PLANS BY "Px". REFER TO SCHEDULE ON THIS SHEET FOR SIZE AND REINFORCING.

H. SLAB-ON-GRADE MAY BE LEFT OUT AND INSTALLED LATER AT OWNER'S OPTION.

I. COORDINATE BRICK LEDGE LOCATIONS AND HEIGHTS WITH ARCHITECT

PLAN NOTES:

1. 4" CONCRETE SLAB ON GRADE. RE:GENERAL NOTES FOR REINFORCING, GRANULAR FILL, VAPOR BARRIER AND JOINTING REQUIREMENTS
2. CFMF STUD WALL RE:GENERAL NOTES
3. 8" CMU WALL WITH #5 VERT BARS AT 48" OC. REFER TO GENERAL NOTES FOR HORIZ REINFORCMENT AND OTHER DETAILING REQUIREMENTS.



2 SECOND FLOOR FRAMING PLAN
1/8" = 1'-0"

GENERAL SHEET NOTES

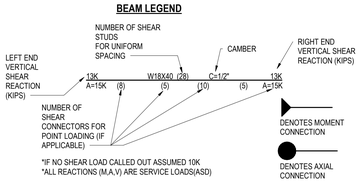
A. REFERENCE SHEET S001 FOR STRUCTURAL GENERAL NOTES AND S0XX FOR TYPICAL STRUCTURAL DETAILS. REVIEW NOTES & DETAILS FOR APPLICABILITY.

B. SEE ARCHITECTURAL DRAWING FOR DETAILS & DIMENSIONS NOT SHOWN.

2ND FLOOR PLAN NOTES:

1. 5" NW COMPOSITE SLAB (3" TOPPING OVER 2" 20GA COMPOSITE DECK). REINF W/ WWF 6X6-W2.1XW2.1
2. 1 1/2" 22 GA TYPE B PAINTED METAL DECK
3. NOT USED
4. STEEL STAIRS PER STAIR SUPPLIER. ALL STAIR HANGERS AND POSTS SHALL NOT INDUCE TORSION ONTO THE SUPPORTING STRUCTURE.
5. L4x4x1/4 KICKER

BEAM LEGEND



*IF NO SHEAR LOAD CALLED OUT ASSUMED 10K
*ALL REACTIONS (M,A,V) ARE SERVICE LOADS(ASD)

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FOUNDATION PLAN/ SECOND FLOOR FRAMING PLAN

S100

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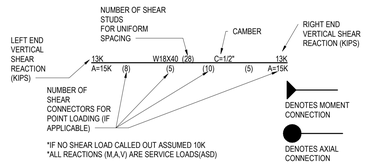
BEAM LEGEND



*IF NO SHEAR LOAD CALLED OUT ASSUMED 10K
*ALL REACTIONS (M,A,V) ARE SERVICE LOADS(ASD)

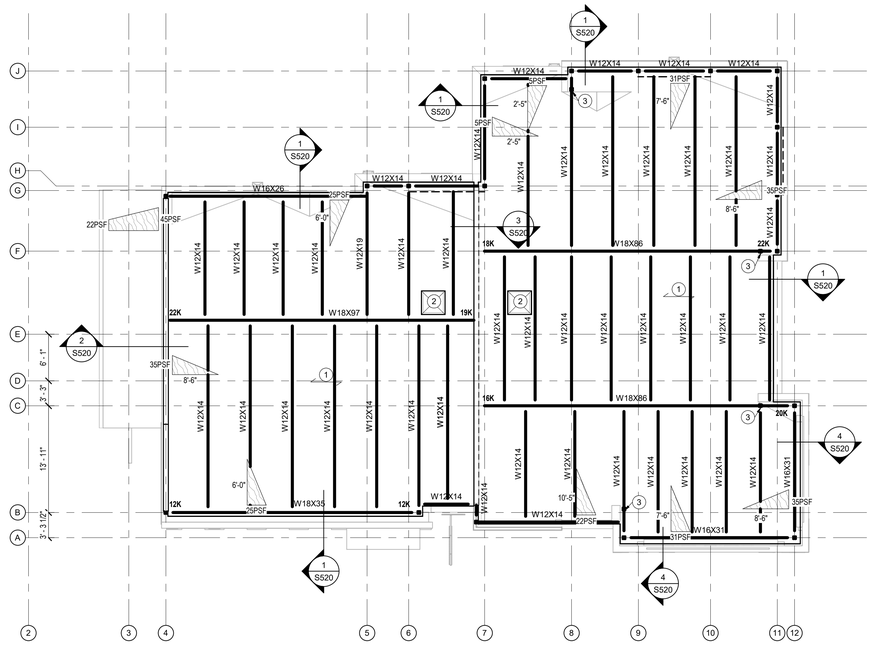
SHEET NOTES

A. REFERENCE SHEET S001 FOR STRUCTURAL GENERAL NOTES AND S0XX FOR TYPICAL STRUCTURAL DETAILS. REVIEW NOTES & DETAILS FOR APPLICABILITY.

B. SEE ARCHITECTURAL DRAWING FOR DETAILS & DIMENSIONS NOT SHOWN.

PLAN NOTES:

1. 1 1/2" X 22 GAGE ROOF DECK
2. DECK OPENING, RE: ROOF OPENING TYPICAL DETAILS FOR SUPPORT FRAMING
3. L4x4x3/8 PARAPET RETURN SUPPORT POST



NORTH

1 ROOF FRAMING PLAN

1/8" = 1'-0"

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JOHN E. FUNK
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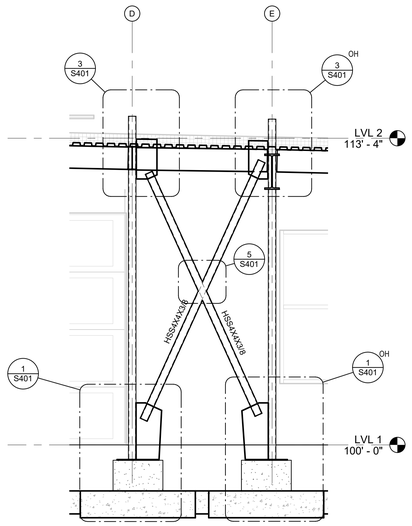
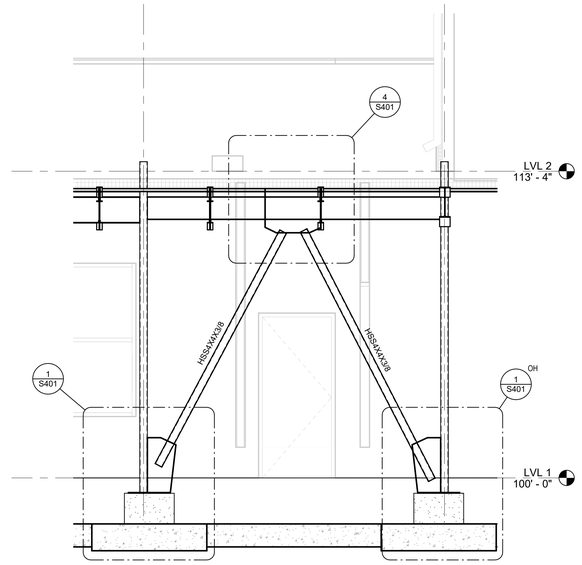
ROOF FRAMING PLAN

S102

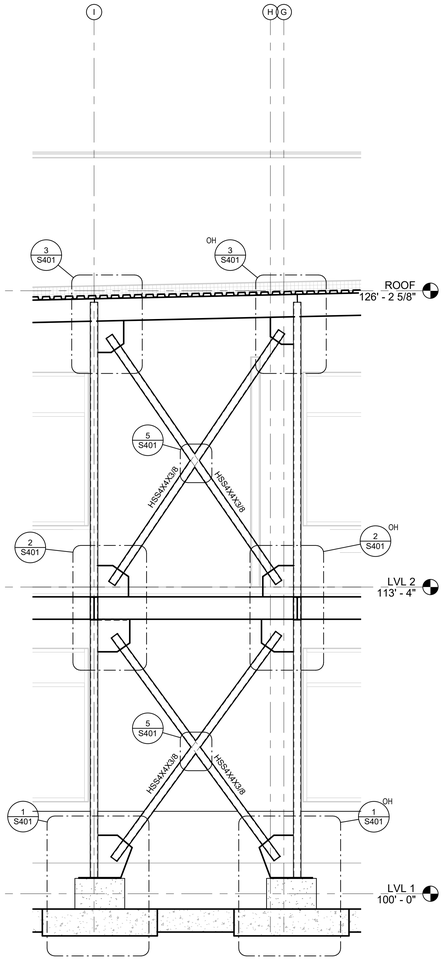
20291



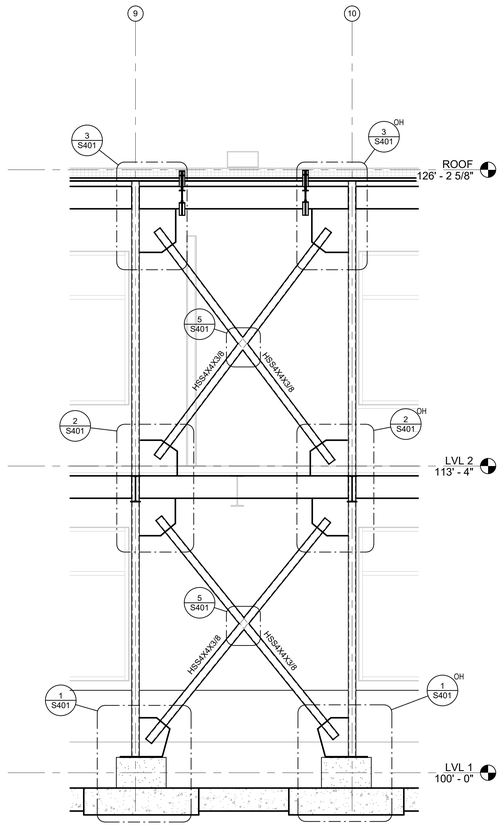
5 BF-1
3/8" = 1'-0"



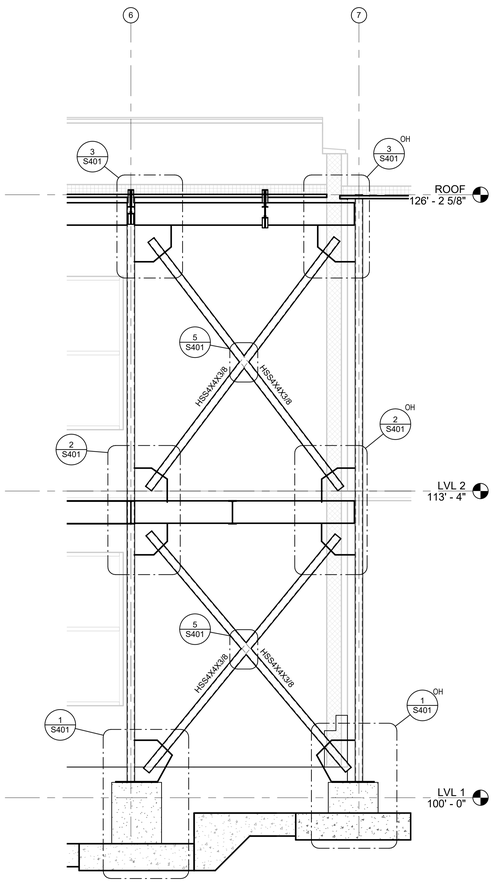
4 BF-2
3/8" = 1'-0"



3 BF-5
3/8" = 1'-0"



2 BF-4
3/8" = 1'-0"



1 BF-3
3/8" = 1'-0"

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JOHN E. FUNK
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BRACED FRAME ELEVATIONS

S400

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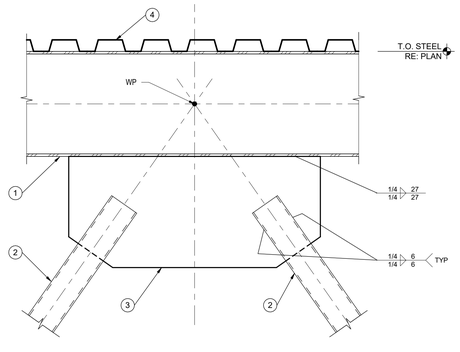
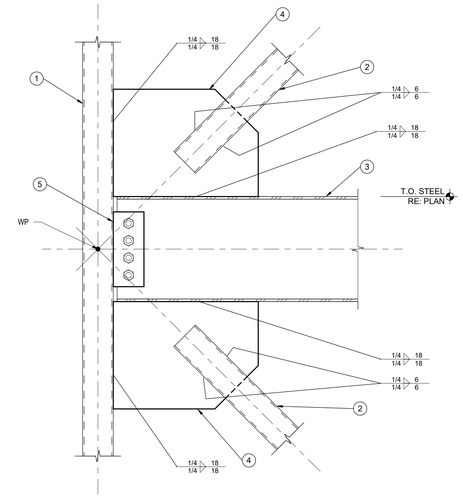


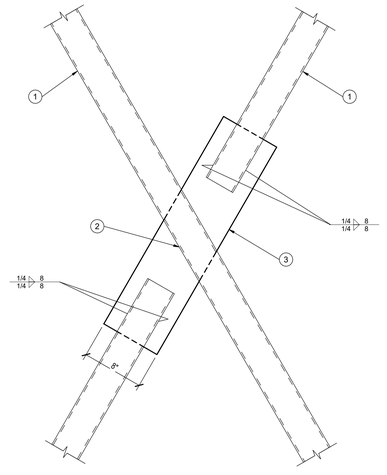
1. STEEL BEAM RE: PLAN
2. HSS BRACE SLOTTED AROUND GUSSET RE: ELEVATION
3. 3/4" THICK GUSSET PLATE
4. METAL DECK RE: PLAN FOR TYPE AND ORIENTATION

4 CHEVRON BRACED FRAME DETAIL
1 1/2" = 1'-0"



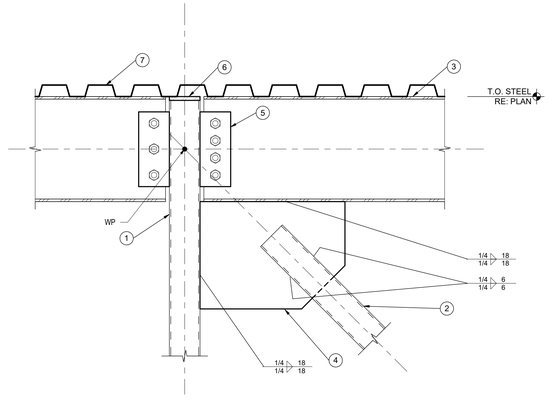
1. HSS COLUMN RE: PLAN
2. HSS BRACE SLOTTED AROUND GUSSET RE: ELEVATION
3. STEEL BEAM RE: PLAN
4. 3/4" THICK GUSSET PLATE
5. SHEAR TAB, PROVIDE MAXIMUM NUMBER OF 3/4"Ø BOLTS,

2 BRACED FRAME DETAIL AT FLOOR
1 1/2" = 1'-0"



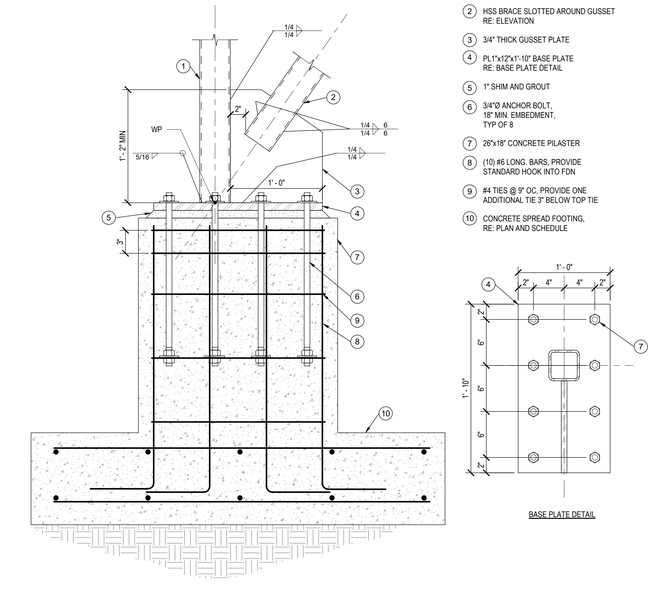
1. HSS BRACE RE: ELEVATION
2. SLOT CONTINUOUS BRACE TO ALLOW PLATE TO PASS THROUGH
3. PL3/4"x6" PLATE, CONTINUOUS THROUGH BRACE

5 BRACED FRAME X-BRACE CONNECTION
1 1/2" = 1'-0"



1. HSS COLUMN RE: PLAN
2. HSS BRACE SLOTTED AROUND GUSSET RE: ELEVATION
3. STEEL BEAM RE: PLAN
4. 3/4" THICK GUSSET PLATE
5. SHEAR TAB, PROVIDE MAXIMUM NUMBER OF 3/4"Ø BOLTS,
6. 1/2" THICK CAP PLATE
7. METAL DECK RE: PLAN FOR TYPE AND ORIENTATION

3 BRACED FRAME DETAIL AT ROOF
1 1/2" = 1'-0"



1. HSS COLUMN RE: PLAN AND SCHEDULE
2. HSS BRACE SLOTTED AROUND GUSSET RE: ELEVATION
3. 3/4" THICK GUSSET PLATE
4. PL1"x12"x1'-10" BASE PLATE RE: BASE PLATE DETAIL
5. 1" SHIM AND GROUT
6. 3/4"Ø ANCHOR BOLT, 18" MIN. EMBEDMENT, TYP OF 8
7. 26"x18" CONCRETE PILASTER
8. (10) #6 LONG. BARS, PROVIDE STANDARD HOOK INTO FDN
9. #4 TIES @ 9" OC, PROVIDE ONE ADDITIONAL TIE 3" BELOW TOP TIE
10. CONCRETE SPREAD FOOTING, RE: PLAN AND SCHEDULE

BASE PLATE DETAIL

1 BRACED FRAME BASE CONNECTION
1 1/2" = 1'-0"

LOT 7, BUILDING 31

3140 SW LONGVIEW BLVD
LEE'S SUMMIT, MO 64081

STATE OF MISSOURI
JOHN E. FUNK
NUMBER E-2000173299
REGISTERED PROFESSIONAL ENGINEER
05/17/21

REV	ISSUE	DATE
	PERMIT	05/17/2021

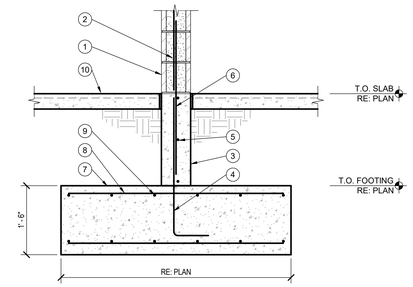
BRACED FRAME DETAILS

S401

20291

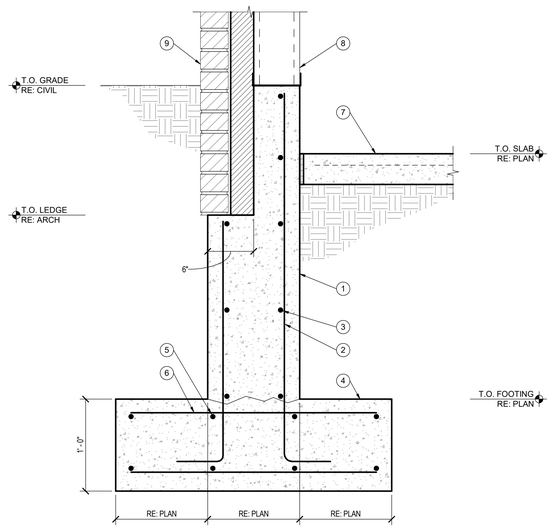
clockwork
423 DELAWARE, STE 102
KANSAS CITY, MISSOURI
64105
www.clockwork-ad.com

STAND STRUCTURAL ENGINEERING INC
8234 Robinson Street
Overland Park, KS 66204
913-214-2169
stand-sei.com



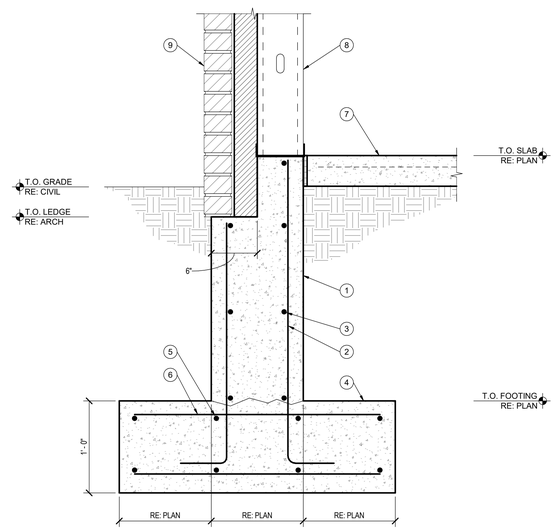
1. CMU SHEAR WALL RE: PLAN
2. #5 VERT BAR @ 48" OC
3. CONC STEM WALL
4. #5 DOWEL W/ STANDARD HOOK @ 12" OC
5. #5 HORIZ @ 12" OC
6. #5 DOWEL MATCH CMU VERT BAR SPACING, RE: 6/S040 FOR LAP LENGTH
7. CONCRETE FOOTING, RE: PLAN
8. #5 TRANS BAR @ 12" OC, TOP&BOT
9. #5xCONT. LONG BAR @12" OC, TOP&BOT
10. SLAB-ON-GRADE RE:PLAN

3 CMU WALL FOOTING
3/4" = 1'-0"



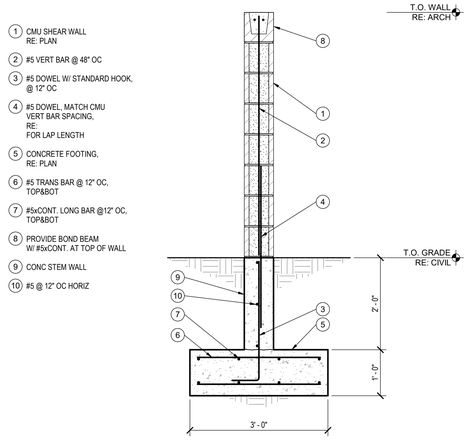
1. CONCRETE STEM WALL RE: PLAN
2. #5 @ 12" OC VERT BAR W/ STANDARD HOOK, EA FACE
3. #4 @ 12" OC HORIZ BAR, EA FACE
4. CONCRETE FOOTING RE: PLAN
5. (4) #5xCONT. LONG BARS, TOP&BOT
6. #5 TRANS BARS @ 12" OC, TOP&BOT
7. SLAB-ON-GRADE, RE: PLAN
8. 6" COLD FORMED STUD WALL BY OTHERES
9. BRICK FACADE RE: ARCH

5 STEM WALL DETAIL @ HIGH GRADE
1 1/2" = 1'-0"



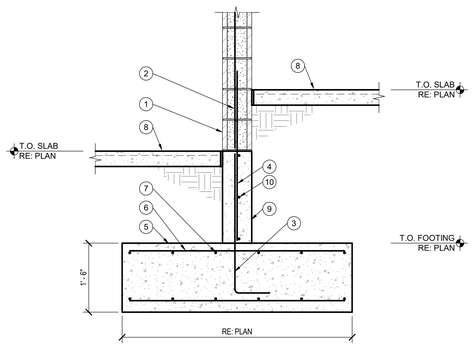
1. CONCRETE STEM WALL RE: PLAN
2. #5 @ 12" OC VERT BAR W/ STANDARD HOOK, EA FACE
3. #4 @ 12" OC HORIZ BAR, EA FACE
4. CONCRETE FOOTING RE: PLAN
5. (4) #5xCONT. LONG BARS, TOP&BOT
6. #5 TRANS BARS @ 12" OC, TOP&BOT
7. SLAB-ON-GRADE, RE: PLAN
8. 6" COLD FORMED STUD WALL BY OTHERES
9. BRICK FACADE RE: ARCH

2 STEM WALL DETAIL
1 1/2" = 1'-0"



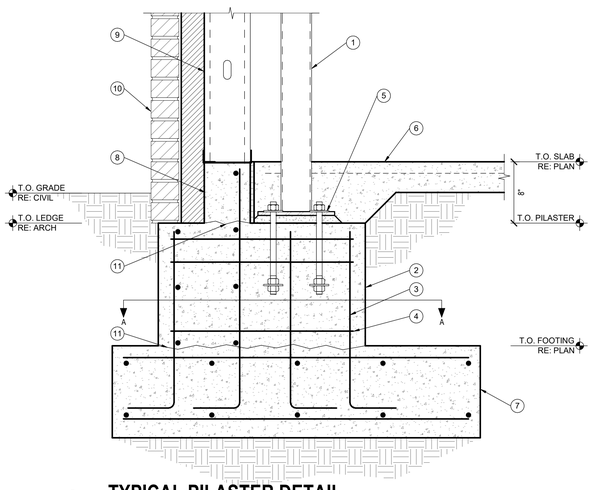
1. CMU SHEAR WALL RE: PLAN
2. #5 VERT BAR @ 48" OC
3. #5 DOWEL W/ STANDARD HOOK, @ 12" OC
4. #5 DOWEL, MATCH CMU VERT BAR SPACING, RE: FOR LAP LENGTH
5. CONCRETE FOOTING, RE: PLAN
6. #5 TRANS BAR @ 12" OC, TOP&BOT
7. #5xCONT. LONG BAR @12" OC, TOP&BOT
8. PROVIDE BOND BEAM W/ #5xCONT. AT TOP OF WALL
9. CONC STEM WALL
10. #5 @ 12" OC HORIZ

7 TRASH ENCLOSURE
3/4" = 1'-0"

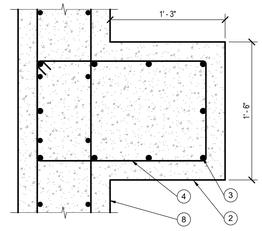


1. CMU SHEAR WALL RE: PLAN
2. #5 VERT BAR @ 48" OC
3. #5 DOWEL W/ STANDARD HOOK, @ 12" OC
4. #5 DOWEL, MATCH CMU VERT BAR SPACING, RE: 6/S040 FOR LAP LENGTH
5. CONCRETE FOOTING, RE: PLAN
6. #5 TRANS BAR @ 12" OC, TOP&BOT
7. #5xCONT. LONG BAR @12" OC, TOP&BOT
8. SLAB-ON-GRADE RE:PLAN
9. CONC STEM WALL
10. #5 @ 12" OC HORIZ

4 CMU WALL FOOTING @ SLAB STEP
3/4" = 1'-0"



1. STEEL COLUMN RE: PLAN
2. CONCRETE PILASTER
3. (10) #6 LONG. BARS W/ STANDARD HOOK
4. #3 TIES @ 9" OC, PROVIDE ONE EXTRA TIE 3" BELOW TOP TIE
5. PL1/2"x10"x10" BASE PLATE W/ (4) 3/4"Øx12" ANCHOR BOLTS, PROVIDE 1" SHIM AND GROUT BELOW BASE PLATE
6. SLAB-ON-GRADE RE: PLAN
7. CONCRETE FOOTING RE: PLAN
8. FOUNDATION WALL, RE: PLAN
9. 6" COLD FORMED STUD WALL BY OTHERS
10. BRICK FACADE, RE: ARCH
11. CONSTRUCTION JOINT @ CONTRACTORS OPTION



SECTION A-A

1 TYPICAL PILASTER DETAIL
1 1/2" = 1'-0"

LOT 7, BUILDING 31
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LEE'S SUMMIT, MO 64081

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JOHN E. FUNK
NUMBER E-2000173299
REGISTERED PROFESSIONAL ENGINEER
05/17/21

REV	ISSUE	DATE
	PERMIT	05/17/2021

FOUNDATION DETAILS

S500

20291

clockwork

423 DELAWARE, STE 102
KANSAS CITY, MISSOURI
64105
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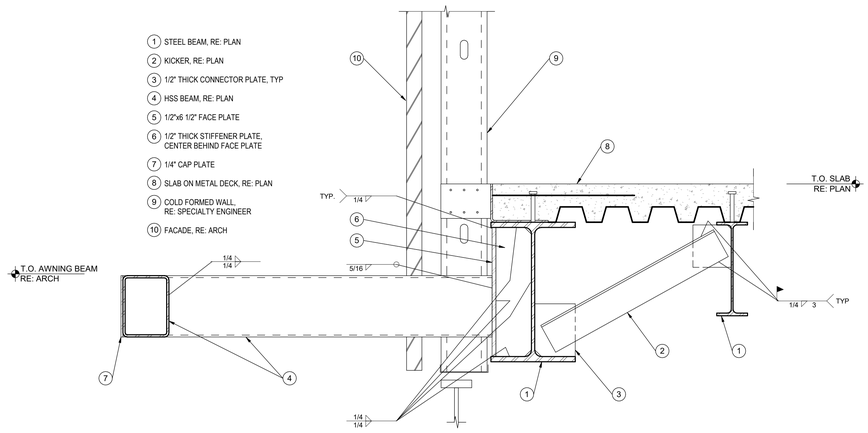
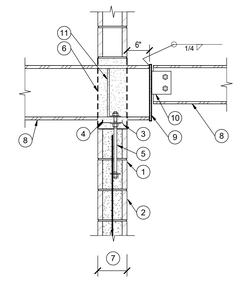


3 AWNING SUPPORT DETAIL

1 1/2" = 1'-0"

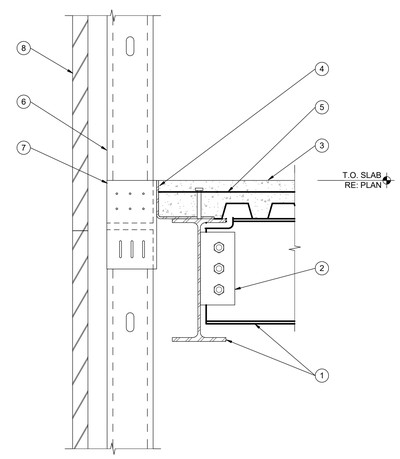


DETAIL NOTES:

1. CMU WALL, RE: PLAN
2. FULLY GROUT CELLS BELOW REACTION TO FOUNDATION
3. 1" MINIMUM NON-SHRINK GROUT UNDER BEARING PLATE.
4. 3/4"x6"x1'-6" BEARING PLATE CENTERED ON WALL.
5. (2) 3/4 DIA. X 1'-3" ANCHOR BOLTS AND DOUBLE NUTS.
6. GROUT POCKET SOLID AFTER INSTALLATION OF BEAM.
7. C.M.U. WALL THICKNESS. RE: PLAN
8. STEEL BEAM, RE: PLAN
9. 1/2" THICK END PLATE
10. SHEAR TAB CONNECTION, RE: GEN NOTES AND TYPICAL DETAILS
11. 1/2" THICK FULL HEIGHT STIFFENER EA SIDE

2 BEAM THROUGH CMU WALL DETAIL

3/4" = 1'-0"

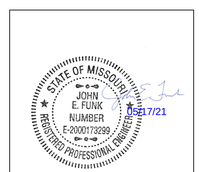


1 EXTERIOR WALL @ LEVEL 2

1 1/2" = 1'-0"

LOT 7, BUILDING 31

3140 SW LONGVIEW BLVD
LEE'S SUMMIT, MO 64081



REV	ISSUE	DATE
	PERMIT	05/17/2021

FLOOR FRAMING SECTIONS

S510

20291

clockwork

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KANSAS CITY, MISSOURI
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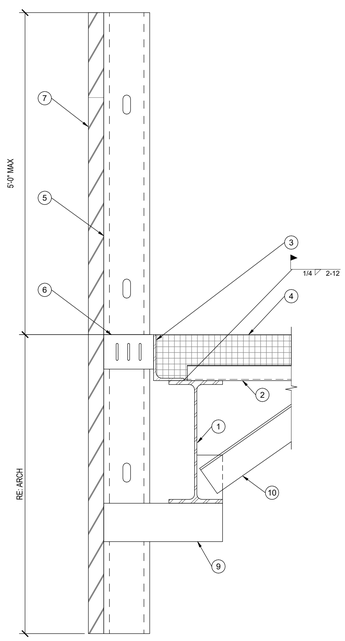
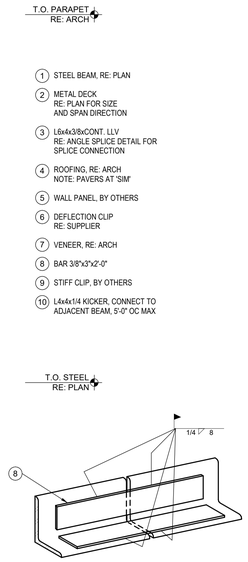


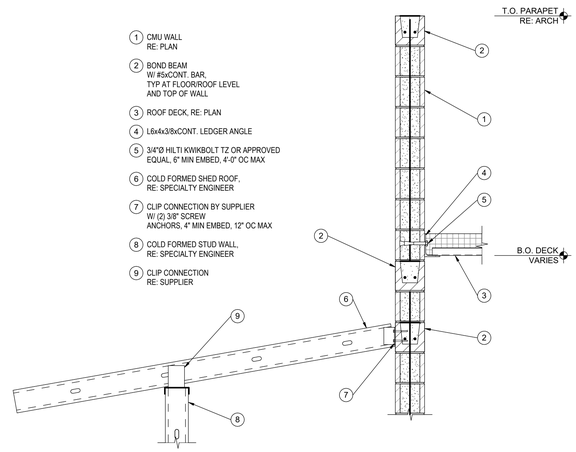


ANGLE SPLICE DETAIL

1. STEEL BEAM, RE: PLAN
2. METAL DECK
   RE: PLAN FOR SIZE
   AND SPAN DIRECTION
3. L6x4x3/8xCONT. LLV
   RE: ANGLE SPLICE DETAIL FOR
   SPLICE CONNECTION
4. ROOFING, RE: ARCH
   NOTE: PAVERS AT 'SIM'
5. WALL PANEL, BY OTHERS
6. DEFLECTION CLIP
   RE: SUPPLIER
7. VENEER, RE: ARCH
8. BAR 3/8"x3"x2'-0"
9. STIFF CLIP, BY OTHERS
10. L4x4x1/4 KICKER, CONNECT TO
    ADJACENT BEAM, 5'-0" OC MAX

4 EXTERIOR WALL AT ROOF PARAPET OVER OPENING

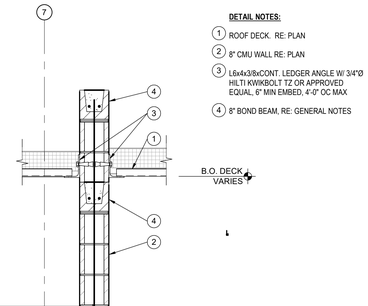
1 1/2" = 1'-0"



1. CMU WALL
   RE: PLAN
2. BOND BEAM
   W/ #5xCONT. BAR,
   TYP AT FLOOR/ROOF LEVEL
   AND TOP OF WALL
3. ROOF DECK, RE: PLAN
4. L6x4x3/8xCONT. LEDGER ANGLE
5. 3/4"Ø HILTI KWIKBOLT TZ OR APPROVED
   EQUAL, 6" MIN EMBED, 4'-0" OC MAX
6. COLD FORMED SHED ROOF,
   RE: SPECIALTY ENGINEER
7. CLIP CONNECTION BY SUPPLIER
   W/ (2) 3/8" SCREW
   ANCHORS, 4" MIN EMBED, 12" OC MAX
8. COLD FORMED STUD WALL,
   RE: SPECIALTY ENGINEER
9. CLIP CONNECTION
   RE: SUPPLIER

2 SHED ROOF DETAIL

3/4" = 1'-0"

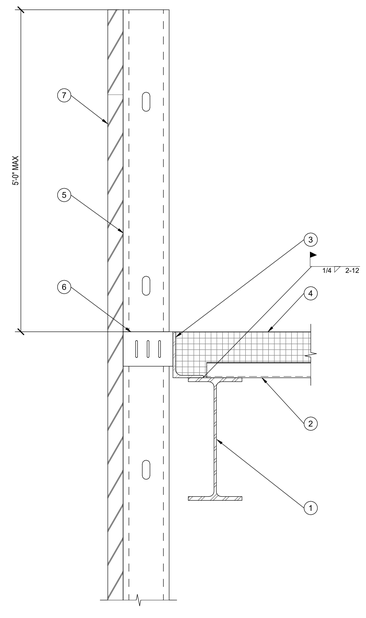


DETAIL NOTES:

1. ROOF DECK. RE: PLAN
2. 8" CMU WALL RE: PLAN
3. L6x4x3/8xCONT. LEDGER ANGLE W/ 3/4"Ø HILTI KWIKBOLT TZ OR APPROVED EQUAL, 6" MIN EMBED, 4'-0" OC MAX
4. 8" BOND BEAM, RE: GENERAL NOTES

3 SECTION

3/4" = 1'-0"



1. STEEL BEAM, RE: PLAN
2. METAL DECK
   RE: PLAN FOR SIZE
   AND SPAN DIRECTION
3. L6x4x3/8xCONT. LLV
   RE: ANGLE SPLICE DETAIL FOR
   SPLICE CONNECTION
4. ROOFING, RE: ARCH
   NOTE: PAVERS AT 'SIM'
5. WALL PANEL, BY OTHERS
6. DEFLECTION CLIP
   RE: SUPPLIER
7. VENEER, RE: ARCH
8. BAR 3/8"x3"xZ'-0"

ANGLE SPLICE DETAIL

1 EXTERIOR WALL AT ROOF PARAPET

1 1/2" = 1'-0"

LOT 7, BUILDING 31

3140 SW LONGVIEW BLVD
LEE'S SUMMIT, MO 64081

STATE OF MISSOURI
JOHN E. FUNK
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05/17/21

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ROOF FRAMING SECTIONS

S520

20291

UNIT HEATER SCHEDULE

MARK	LOCATION	MANUFACTURER	MODEL	TYPE	ELECTRICAL				NOTES
					AMPS	VOLTS	PH	KW	
EWH-1	HOUSE CLOSET	QMARK	LFK151F	FAN FORCED	12.5	120	1	1.5	A,B

NOTES:
A. PROVIDE WALL MOUNT BRACKET.
B. PROVIDE WITH INTEGRAL BIMETALLIC THERMOSTAT.

PLUMBING FIXTURE SCHEDULE

FD	FLOOR DRAIN: JAY R. SMITH # 2005L (-A), CAST IRON BODY AND CLAMPING COLLAR, ADJUSTABLE 6" ROUND NICKEL BRONZE STRAINER. PROVIDE WITH PROSET SYSTEMS "TRAP GUARD" INSERT FOR ACTUAL FLOOR DRAIN MODEL AND SIZE PROVIDED.
FPRH	ROOF HYDRANT: WOODFORD SRH, FREEZLESS ROOF HYDRANT WITH ANTI-SIPHON VACUUM BREAKER, 3/4" MALE HOSE THREAD, LEVER OPERATOR
RPZ1	REDUCED PRESSURE ZONE BACKFLOW PREVENTER: 1-1/2", WATTS # LF009QT, MEETING ASSE 1013, LEAD FREE CAST BRONZE BODY, QUARTER TURN TESTING COCKS, QUARTER TURN BALL VALVES, AND # 909AG AIR GAP FITTING.
RPZ2	REDUCED PRESSURE ZONE BACKFLOW PREVENTER: 1", WATTS # LF009QT, MEETING ASSE 1013, LEAD FREE CAST BRONZE BODY, QUARTER TURN TESTING COCKS, QUARTER TURN BALL VALVES, AND # 909AG AIR GAP FITTING.

MECHANICAL & PLUMBING SPECIFICATIONS

1. GENERAL PROVISIONS:
   A. PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE COMPLETE INSTALLATION OF THE PLUMBING AND MECHANICAL SYSTEMS OUTLINED.
   B. OBTAIN ALL PERMITS, FEES, LICENSES, INSPECTIONS, AND CERTIFICATIONS OF COMPLIANCE OR APPROVAL AS REQUIRED BY AUTHORITIES.
   C. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES AND REGULATIONS OF THE GOVERNMENTAL BODIES HAVING JURISDICTION OVER THE SITE.
   D. ALL TESTING REQUIRED BY AUTHORITIES SHALL BE CONSIDERED PART OF THIS WORK.
   E. DURING CONSTRUCTION, ALL FIXTURES, EQUIPMENT, PIPE, DUCT, ETC. SHALL BE COVERED, PLUGGED, OR CAPPED AS REQUIRED TO KEEP CLEAN AND UNDAMAGED. ALL DAMAGED ITEMS SHALL BE RESTORED TO ORIGINAL CONDITION OR REPLACED. ALL PROTECTIVE COVERING SHALL BE REMOVED BEFORE FINAL ACCEPTANCE.
   F. PROVIDE ALL NECESSARY CUTTING AND PATCHING OF WALLS, FLOORS, CEILINGS, AND ROOFS AS NECESSARY. PATCH AROUND ALL OPENINGS SHALL MATCH ADJACENT AREA. COORDINATE ALL ROOFING WORK WITH OWNER OR RESPONSIBLE PARTY, SO THAT THE EXISTING ROOFING WARRANTY WILL BE MAINTAINED.
   G. CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS AGAINST DEFECT FOR A PERIOD OF ONE YEAR FROM FINAL ACCEPTANCE.
   H. INSPECTION OF THE SITE: THIS CONTRACTOR SHALL THOROUGHLY ACQUAINT HIMSELF WITH THE MEP DRAWINGS, SPECIFICATIONS, DETAIL, AND THE SITE. THIS CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY SPECIAL OR UNUSUAL PROBLEMS, CONFLICTS, OR OBSTRUCTIONS THAT AFFECT HIS BID.
   I. FOR THE PURPOSE OF CLEARNESS AND LEGIBILITY, THE MECHANICAL AND PLUMBING DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC AND DO NOT SHOW ALL OFFSETS AND FITTINGS REQUIRED FOR INSTALLATION. DO NOT SCALE DRAWINGS. THE SIZE AND LOCATION OF EQUIPMENT IS SHOWN TO SCALE WHEREVER POSSIBLE. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DATA AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATION SECTIONS WHERE MECHANICAL WORK INTERFACES WITH OTHER TRADES.
   J. IN THE EVENT OF A CONFLICT OR INCONSISTENCY BETWEEN ITEMS INDICATED ON THE PLANS OR WITH CODE REQUIREMENTS, THE NOTE OR CODE WHICH PRESCRIBES AND ESTABLISHES THE MORE COMPLETE JOB OR HIGHER STANDARD SHALL PREVAIL.
   K. INSTALL MATERIALS AND SYSTEMS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND APPROVED SUBMITTALS. INSTALL MATERIALS IN PROPER RELATION WITH ADJACENT CONSTRUCTION AND WITH UNIFORM APPEARANCE FOR EXPOSED WORK. COORDINATE WITH WORK OF OTHER SECTIONS. COMPLY WITH APPLICABLE REGULATIONS AND CODE REQUIREMENTS. PROVIDE PROPER CLEARANCES FOR SERVICING.
   L. INCLUDE ALL BASIC MATERIALS AND CONSTRUCTION METHODS INCLUDING PIPES, PIPE FITTINGS, AND SPECIALTIES AND SUPPORTING DEVICES, VALVES, PIPE AND VALVE IDENTIFICATION, PUMPS, VIBRATION ISOLATION, ETC.
   M. FURNISH ADEQUATE ACCESS PANELS AND DOORS TO ALLOW FOR FUTURE PIPING ALTERATIONS, REPLACEMENT, AND MAINTENANCE OF PIPING. PROPERLY IDENTIFY ALL ACCESS PANELS AND DOORS.

2. OPERATION AND MAINTENANCE MANUALS:
   A. DURING THE COURSE OF CONSTRUCTION, COLLECT AND COMPILE OPERATING INSTRUCTIONS, WIRING DIAGRAMS, CATALOG CUTS, LUBRICATION AND PREVENTIVE MAINTENANCE INSTRUCTIONS, PARTS LISTS, ETC. FOR ALL EQUIPMENT FURNISHED UNDER THIS CONTRACT.
   B. ALL LITERATURE AND INSTRUCTIONS SHIPPED WITH THE EQUIPMENT SHALL BE SAVED FOR INCLUSION IN THE OPERATING AND MAINTENANCE MANUALS.
   C. ALL LITERATURE LISTED ABOVE AND ALL PAPERS LISTING WARRANTIES, ETC. SHALL BE BOUND IN A 3-RING BINDER AND LABELED WITH THE PROJECT NAME, ADDRESS, ARCHITECT, ENGINEER AND CONTRACTORS.

3. MANUFACTURERS:
   A. MANUFACTURERS, MODEL NUMBERS, ETC. INDICATED OR SCHEDULED ON THE DRAWINGS SHALL BE INTERPRETED AS HAVING ESTABLISHED A STANDARD OF QUALITY AND SHALL NOT BE CONSTRUED AS LIMITING COMPETITION. ARTICLES, FIXTURES, ETC. OF EQUAL QUALITY BY MANUFACTURERS SHALL BE ACCEPTABLE, SUBJECT TO STRUCTURAL AND ELECTRICAL CONSTRAINTS OF THE PROJECT DESIGN.
   B. THE ELECTRICAL SYSTEM DESIGN IS BASED IN PART ON THE SPECIFIED EQUIPMENT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE ELECTRICAL REQUIREMENTS OF THE EQUIPMENT BEING FURNISHED. ANY CHANGES TO THE ELECTRICAL SYSTEM DUE TO HVAC EQUIPMENT OTHER THAN THE SPECIFIED EQUIPMENT BEING FURNISHED SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.

4. MOTORS:
   A. PROVIDE THERMAL OVERLOAD PROTECTION FOR EACH MOTOR PROVIDED BY THIS WORK.

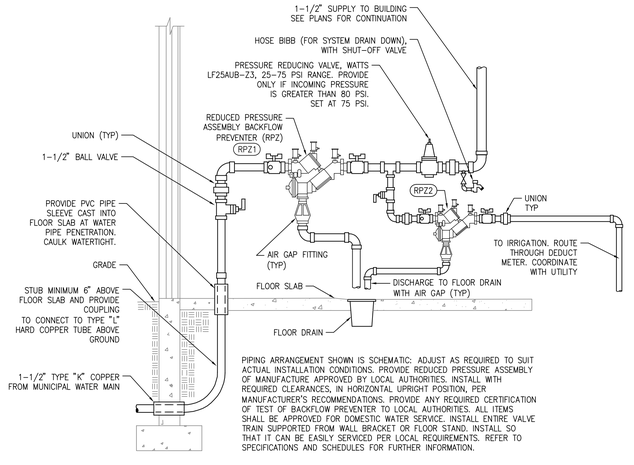
5. PLUMBING:
   A. PROVIDE AN APPROVED WATER HAMMER ARRESTOR FOR EACH PLUMBING FIXTURE SUPPLY AS REQUIRED BY FIXTURE MANUFACTURER.
   B. ALL EXPOSED PIPE IN FINISHED AREAS SHALL BE CHROME PLATED BRASS PIPE, NO FERROUS PIPE.
   C. PROVIDE CLEANOUTS AT EACH CHANGE IN DIRECTION AND AT 100 FOOT INTERVALS IN STRAIGHT RUNS.
   D. PROVIDE ACCESS PANELS FOR ALL CONCEALED VALVES AND TRAPS.
   E. CLEANOUTS:
      1. VINYL TILE FLOOR (FCO):JR SMITH #4140, OR EQUAL.
      2. QUARRY TILE FLOOR (FCO):JR SMITH #4200, OR EQUAL.
      3. CARPETED FLOOR (FCO):JR SMITH #4020-Y, OR EQUAL.
      4. UNFINISHED FLOOR (FCO):JR SMITH #4020, OR EQUAL.
      5. WALL (WCO):JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR.
      6. GRADE (GCO):JR SMITH #4256, OR EQUAL, WITH HEAVY DUTY CAST IRON BODY AND COVER.
   F. ALL SEWER PIPING LOCATED INSIDE THE BUILDING SHALL BE INSTALLED WITH THE FOLLOWING SLOPES.
      1. INSTALL 2-1/2" AND SMALLER PIPE AT 1/4" PER FOOT FALL.
      2. INSTALL 3" AND LARGER PIPE AT 1/8" PER FOOT FALL.
      3. CONDENSATE DRAIN SHALL BE INSTALLED AT 1/8" PER FOOT FALL.
   G. PROVIDE DIELECTRIC UNIONS WITH APPROPRIATE END CONNECTION TO MATCH THE PIPE SYSTEM IN WHICH INSTALLED (SOREWED, SOLDERED, OR FLANGED). PROVIDE DIELECTRIC UNIONS ON ALL PIPING CONNECTIONS TO HOT WATER HEATERS AND EXPANSION JOINTS.
   H. ALL SEWER PIPING LOCATED EXTERIOR TO THE BUILDING SHALL BE INSTALLED WITH THE FOLLOWING SLOPES.
      1. INSTALL 4" AND SMALLER PIPE AT A MINIMUM OF 2% SLOPE.
      2. INSTALL 6" AND LARGER PIPE AT A MINIMUM OF 1% SLOPE.

6. PIPING
   A. DOMESTIC COLD WATER (ABOVEGROUND).
      1. TYPE L HARD DRAWN COPPER TUBING, ASTM B-88 WITH WROUGHT BRONZE SOLDERED FITTINGS.
      2. GATE VALVE: CRANE #428 OR EQUAL.
      3. GLOBE VALVE: CRANE #7 OR EQUAL.
      4. BALL VALVE: CRANE #932 OR EQUAL.
   B. DOMESTIC COLD WATER, 1"-3" (UNDERGROUND).
      1. TYPE K HARD OR SOFT DRAWN COPPER TUBING, ASTM B-88 WITH WROUGHT BRONZE SOLDERING FITTINGS.
   C. SANITARY SEWER AND VENTS (UNDERGROUND, INTERIOR TO BUILDING).
      1. WASTE, DRAIN, VENT PIPE, AND FITTINGS ABOVE GROUND INSIDE OF THE BUILDING SHALL BE SERVICE WEIGHT HUB-AND-SPIGOT OR NO-HUB CAST IRON PIPE. SCHEDULE 40 DWV PVC SOLID PLASTIC PIPE MAY BE USED WHERE PERMITTED BY CODES. APPROVED PVC PIPING RUNNING IN RETURN AIR PLENUM SPACE SHALL BE INSTALLED WITH A 1-HOUR RATED COVERING OVER ALL PIPE, FITTINGS AND VALVES.
      4. SEWER LINES SHALL BE LOCATED IN GENERAL AS SHOWN ON THE DRAWINGS. THE EXACT LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR IN SUCH A MANNER AS TO MAINTAIN PROPER CLEARANCES AND SUFFICIENT SLOPE TO ENSURE DRAINAGE.
      5. VENT STACKS SHALL BE EXTENDED FULL SIZE THROUGH THE ROOF AND FLASHED WITH 4 POUND LEAD SHEETS TURNED DOWN INTO THE STACK AT LEAST 2" AND EXTENDED 12" IN ALL DIRECTIONS FROM THE PIPE AT THE ROOF LINE. VENTS THROUGH ROOF SHALL NOT BE LESS THAN 3". PVC PIPING SHALL NOT BE USED FOR VENT PIPING THROUGH THE ROOF. WHERE APPLICABLE FOR ROOFING SYSTEM USED, PROVIDE FLASHING VIA PLEATED EPDM CONE IN LIEU OF LEAD. ALL VENT STACKS IN OR AT OUTSIDE WALLS SHALL BE OFFSET 1'-6" MINIMUM FROM OUTSIDE WALLS BEFORE GOING THROUGH THE ROOF, TO FACILITATE FLASHING.
   D. STORM SEWER, SANITARY SEWER, SAND-OIL WASTE AND VENTS (EXTERIOR TO BUILDING)
      1. SEE CIVIL PLANS.
   E. ALL PIPE HANGERS AND SUPPORTS SHALL BE STANDARD PRODUCTS OF GRINNELL, FEE AND MASON, OR ANVIL. HANGER SPACING SHALL BE IN ACCORDANCE WITH MSS-SP-69.
   F. SLEEVES
      1. PROVIDE, SET, AND PROPERLY LOCATE PIPE SLEEVES AS REQUIRED FOR THIS WORK. ALL SLEEVES SHALL BE OF SUFFICIENT SIZE TO PERMIT PIPE MOVEMENT DUE TO EXPANSION AND CONTRACTION AND TO ACCOMMODATE PIPE INSULATION.
      2. INTERIOR PARTITIONS: 16 GAUGE GALVANIZED STEEL, PACK BETWEEN PIPE AND SLEEVE WITH FIRE SAFING AND CAULK AT EACH END WITH FIRE RESISTANT SEALANT.
      3. ROOF: PROSET OR EQUAL, MANUFACTURED PVC SCHEDULE 40 PIPE SLEEVE WITH WATERPROOF SEAL COORDINATE WITH ROOFING CONTRACTOR AND FLASH AS REQUIRED TO MAINTAIN ROOF WARRANTY.
      4. PLUMBING VENTS: FLASH ROOF VENT INTO ROOFING SYSTEM AS REQUIRED BY THE ROOFING CONTRACTOR TO MAINTAIN THE EXISTING ROOF WARRANTY. ALL PLUMBING VENT TERMINALS SHALL TERMINATE A MINIMUM OF 12" ABOVE ROOF OR EQUAL TO HEIGHT OF PARAPET, WHICHEVER IS GREATER.
   G. PROVIDE CHROME PLATED ESCUTCHEONS ON ALL PIPE ENTERING FINISHED AREAS.

7. INSULATION AND DUCT LINING:
   A. ALL INSULATIONS AND ACCESSORIES SHALL HAVE A FIRE HAZARD CLASSIFICATION WITH A FLAME SPREAD RATING OF NOT OVER 25, A FUEL CONTRIBUTION RATING OF NOT OVER 50, AND A SMOKE DEVELOPMENT RATING OF NOT OVER 50, IN ACCORDANCE WITH NFPA.
   B. PIPE INSULATION (ABOVE GRADE):
      1. THE PIPE INSULATION USED SHALL HAVE A THERMAL CONDUCTIVITY OF 0.27 BTU PER IN/HR•SQ-FT•°F OR LESS.
      2. FLEXIBLE CLOSED CELL ELASTOMERIC THERMAL INSULATION, UNSLIT OR PRESLIT WITH PRESSURE SENSITIVE ADHESIVE SYSTEM FOR CLOSURE AND VAPOR SEALING, EQUAL TO ARMSTRONG AP ARMAFLEX OR ARMAFLEX 2000.
      3. FOR NON CIRCULATING SYSTEMS THE FIRST 8 FEET OF INLET AND OUTLET PIPING BETWEEN THE TANK AND HEAT TRAP (INCLUDING THE HEAT TRAP) MUST BE INSULATED.
      4. INSULATION SCHEDULE:
         a. DOMESTIC COLD WATER: 1/2"
         b. DOMESTIC HOT WATER: 1"

8. TESTING, BALANCING AND CLEANING:
   A. ALL PIPING SHALL BE TESTED FOR LEAKS BEFORE BEING CONCEALED IN WALL CONSTRUCTION OR COVERED WITH INSULATION.
   B. SEWER AND VENT PIPING SHALL BE HYDROSTATICALLY TESTED WITH NO LESS THAN 10 FEET OF HEAD FOR A PERIOD OF NOT LESS THAN 15 MINUTES, PER THE LOCAL PLUMBING CODE, WITH NO LEAKS.
   C. DOMESTIC WATER PIPING SHALL BE HYDROSTATICALLY TESTED AT A PRESSURE OF NOT LESS THAN 1-1/2 TIMES THE OPERATING PRESSURE, BUT NOT LESS THAN 60 PSI, FOR A PERIOD OF NOT LESS THAN 2 HOURS, WITH NO LEAKS.
   D. BEFORE DOMESTIC WATER PIPING IS PLACED IN SERVICE, ALL DOMESTIC WATER DISTRIBUTION SYSTEMS, INCLUDING THOSE FOR COLD WATER AND HOT WATER SYSTEMS, SHALL BE FLUSHED, STERILIZED AND CHLORINATED IN ACCORDANCE WITH THE HEALTH DEPARTMENT REGULATIONS. THE SYSTEMS SHALL BE THOROUGHLY FLUSHED OF ALL DIRT AND FOREIGN MATTER, THEN FILLED WITH WATER TREATED WITH 50 PPM OF CHLORINE. DURING THE FILLING PROCESS, VALVES AND FAUCETS SHALL BE OPENED SEVERAL TIMES TO ASSURE TREATMENT OF THE ENTIRE SYSTEM. THE TREATED WATER SHALL BE LEFT IN THE SYSTEM FOR 24 HOURS AFTER WHICH TIME THE SYSTEM SHALL BE FLUSHED; IF THE RESIDUAL CHLORINE IS NOT LESS THAN 10 PPM, THE FLUSHING SHALL BE REPEATED. AFTER STERILIZATION SAMPLES OF WATER FROM THE SYSTEM SHALL BE APPROVED BY THE BOARD OF HEALTH.
   E. THE INSPECTION AUTHORITY HAVING JURISDICTION SHALL BE NOTIFIED AT LEAST 24 HOURS PRIOR TO PERFORMANCE OF ALL TESTS SO THAT THEY TESTS MAY BE WITNESSED IF DEEMED NECESSARY.
   F. DUCTWORK AND PIPING SHALL BE BALANCED BY QUALIFIED BALANCING PERSONNEL WHO HAVE PREVIOUS EXPERIENCE WITH BALANCING PROCEDURES AND ARE FAMILIAR WITH TESTING AND BALANCING PROCEDURES OF THE ASSOCIATED AIR BALANCE COUNCIL (AABC) OR NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB).
      1. BALANCING SHALL INCLUDE THE BALANCING OF THE EQUIPMENT AND AIR DISTRIBUTION SYSTEMS TO PROVIDE DESIGN QUANTITIES INDICATED AND VERIFICATION PERFORMANCE OF ALL EQUIPMENT AND AUTOMATIC CONTROLS.
      2. WITH IN 30 DAYS OF THE COMPLETION OF THE TESTING AND BALANCING WORK, SUBMIT THE TEST AND BALANCING REPORT BEARING THE SIGNATURE OF THE TEST AND BALANCE ENGINEER. THE REPORTS SHALL BE CERTIFIED PROOF THAT THE SYSTEMS HAVE BEEN TESTED, ADJUSTED, AND BALANCED IN ACCORDANCE WITH THE REFERENCED STANDARDS; ARE AN ACCURATE REPRESENTATION OF HOW THE SYSTEMS HAVE BEEN INSTALLED AND ARE OPERATING. REPORTS SHALL BE BOUND IN A VINYL BINDER AND THE BINDER LABELLED OR MAY BE AN ELECTRONIC PDF SUBMITTAL.

9. ELECTRIC WALL HEATERS
   A. UNIT SHALL INCLUDE ELECTRIC HEATING ELEMENTS WITH SAFETY AND DISCONNECT DEVICES AS REQUIRED BY NEC, INCLUDING RELAYS, CONTROLLERS AND REQUIRED EQUIPMENT TO FORM A COMPLETE AND FUNCTIONAL HEATER.
   B. ELEMENTS SHALL BE HEAVY DUTY ALUMINUM-FINNED, COPPER CLAD STEEL SHEATH. PROVIDE AUTOMATIC RESET THERMAL OVER-HEAT PROTECTION. THERMAL PROTECTOR SHALL BE LINEAR TYPE TO SENSE TEMPERATURES THE ENTIRE LENGTH OF HEATING ELEMENT.
   C. FANS SHALL BE DIRECT DRIVE USING PERMANENT SPLIT CAPACITOR TYPE MOTORS WITH BUILT-IN AUTOMATIC RESET MOTOR OVERLOAD PROTECTION.
   D. FURNISH INTEGRAL FAN DELAY SWITCH TO PREVENT DISCHARGE OF COLD AIR, BY DELAYING START-UP OF THE FAN MOTOR UNTIL HEATING ELEMENTS HAVE WARMED UP. FAN DELAY SWITCH SHALL MAINTAIN MOTOR OPERATION AFTER HEATING ELEMENTS HAVE BEEN DE-ENERGIZED TO DISSIPATE ANY RESIDUAL HEAT.



PIPING ARRANGEMENT SHOWN IS SCHEMATIC: ADJUST AS REQUIRED TO SUIT ACTUAL INSTALLATION CONDITIONS. PROVIDE REDUCED PRESSURE ASSEMBLY OF MANUFACTURE APPROVED BY LOCAL AUTHORITIES. INSTALL WITH REQUIRED CLEARANCES, IN HORIZONTAL UPRIGHT POSITION, PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE ANY REQUIRED CERTIFICATION OF TEST OF BACKFLOW PREVENTER TO LOCAL AUTHORITIES. ALL ITEMS SHALL BE APPROVED FOR DOMESTIC WATER SERVICE. INSTALL ENTIRE VALVE TRAIN SUPPORTED FROM WALL BRACKET OR FLOOR STAND. INSTALL SO THAT IT CAN BE EASILY SERVICED PER LOCAL REQUIREMENTS. REFER TO SPECIFICATIONS AND SCHEDULES FOR FURTHER INFORMATION.

DOMESTIC WATER SERVICE ENTRY

SCALE : NO SCALE

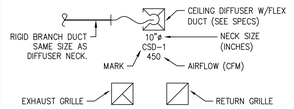
1

MECHANICAL SYMBOLS

THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS, ETC, ARE NECESSARILY USED ON THE DRAWINGS.

- SPIN-IN FITTING WITH MANUAL VOLUME DAMPER
- BRANCH DUCT WITH 45° RECTANGLE-ROUND BRANCH FITTING AND MANUAL VOLUME DAMPER
- ELBOW WITH TURNING VANES
- RETURN, EXHAUST, OR OUTSIDE AIR DUCT UP
- RETURN, EXHAUST, OR OUTSIDE AIR DUCT DOWN
- SUPPLY AIR DUCT UP
- SUPPLY AIR DUCT DOWN
- EQUIPMENT WITH FLEXIBLE DUCT CONNECTION
- MANUAL VOLUME DAMPER
- SQUARE TO ROUND TRANSITION
- DUCT TRANSITION
- BRANCH DUCT
- DUCT MOUNTED SMOKE DETECTOR (SD=SUPPLY/RD=RETURN)

FD	FIRE DAMPER	CO2	CARBON DIOXIDE SENSOR
FSD	FIRE SMOKE DAMPER	HS	HUMIDITY SENSOR
SD	SMOKE DAMPER	SP	STATIC PRESSURE SENSOR
MD	MOTORIZED DAMPER	TS	TEMPERATURE SENSOR
BD	BACKDRAFT DAMPER	H	HUMIDISTAT
VD	VOLUME DAMPER	T	THERMOSTAT



PLUMBING SYMBOLS

SYMBOL	DESCRIPTION
SS	SANITARY SEWER (ABOVE GRADE)
SS	SANITARY SEWER (BELOW GRADE)
GW	GREASE WASTE (BELOW GRADE)
CD	CONDENSATE DRAIN
V	VENT PIPING
G	G = GAS PIPING LESS THAN 2 PSI
MPG	MPG = GAS PIPING 2 PSI
CW	COLD WATER PIPING
HW	HOT WATER PIPING
HWR	RECIRCULATING HOT WATER
FW	FIRE WATER
	PIPE ELBOW DOWN
	PIPE ELBOW UP
	GATE VALVE
	RPZ BACKFLOW PREVENTER
	BALL VALVE
	STRAINER
	PRESSURE REDUCING VALVE
	PLUG VALVE
	CONTROL VALVE
	FLOOR CLEANOUT (FCO)
	CLEANOUT AT GRADE (GCO)
	WALL CLEANOUT (WCO)
	FLOOR DRAIN
	FLOOR SINK
	CAPPED PIPE
	HOSE BIB

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	MIN	MINIMUM
AFG	ABOVE FINISHED GRADE	N/C	NORMALLY CLOSED
AHU	AIR HANDLING UNIT	N/O	NORMALLY OPEN
BFF	BELOW FINISHED FLOOR	ORD	OVERFLOW ROOF DRAIN
BFG	BELOW FINISHED GRADE	PDI	PLUMBING DRAINAGE INSTITUTE
BOP	BOTTOM OF PIPE	PVC	POLYVINYL CHLORIDE
BOS	BOTTOM OF STRUCTURE	PRV	PRESSURE REDUCING VALVE
BTU	BRITISH THERMAL UNIT	RPM	REVOLUTIONS PER MINUTE
CFM	CUBIC FEET PER MINUTE	SF	SQUARE FEET
CFH	CUBIC FEET PER HOUR	TDH	TOTAL DYNAMIC HEAD
DN	DOWN	UL	UNDERWATER LABORATORIES, INC.
DFU	DRAINAGE FIXTURE UNIT	UNO	UNLESS NOTED OTHERWISE
EIR	EXISTING TO REMAIN	V	VOLT(S)
FD	FLOOR DRAIN	VCP	VITRIFIED CLAY PIPE
FFA	FROM FLOOR ABOVE	VS	VENT STACK
FFB	FROM FLOOR BELOW	VTR	VENT THROUGH ROOF
FF	FINISHED FLOOR	W/	WITH
FLA	FULL LOADS AMPS	W/O	WITHOUT
FLR	FLOOR	WC	WATER COLUMN
GPM	GALLON PER MINUTE	WS	WATER STACK
IE	INVERTED ELEVATION	WSFU	WATER SUPPLY FIXTURE UNIT
WC	INCHES OF WATER COLUMN		
kW	KILOWATT		
MAX	MAXIMUM		
MBH	1000 BTU PER HOUR		

ANNOTATION

- (#) PLAN WORK NOTE
- (RTU 1) MECHANICAL EQUIPMENT DESIGNATION (CONTRACTOR FURNISHED AND INSTALLED UNLESS NOTED OTHERWISE)
- (--) PLUMBING FIXTURE DESIGNATION
- CONNECTION POINT OF NEW WORK TO EXISTING
- (A / M1) DETAIL REFERENCE UPPER NUMBER INDICATED DETAIL NUMBER LOWER NUMBER INDICATES SHEET NUMBER

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MECHANICAL & PLUMBING SPECS & SYMBOLS

MP001

20.01 NLV BUILDING 31

GENERAL NOTES

A. DRAWINGS ARE DIAGRAMMATIC ONLY AND REPRESENT THE GENERAL SCOPE OF WORK. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND PLANS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER AND/OR OWNER OF CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.

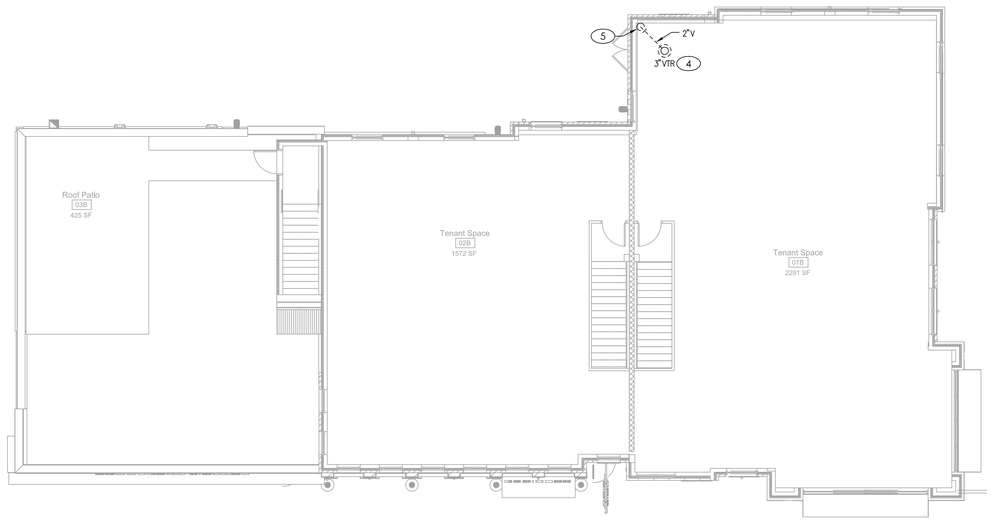
B. PROVIDE THE ARCHITECT AND OWNER WITH A COPY OF THE INSPECTION REPORTS AND APPROVAL CERTIFICATES FROM LOCAL AND STATE INSPECTIONS.

C. EXACT LOCATION AND ELEVATIONS OF ALL EXISTING UTILITIES SHALL BE VERIFIED PRIOR TO ANY INSTALLATION OR CONNECTIONS THEREOF.

D. COORDINATE PIPE ROUTING AWAY FROM ELECTRICAL PANELS. DO NOT INSTALL PIPING OVER ELECTRICAL PANELS.

(#) KEYED PLAN NOTES

1. 4" SANITARY TO UTILITY SERVICE. CONTRACTOR SHALL WORK WITH LOCAL WASTE WATER AUTHORITY AND BEAR ALL COST FOR INSTALLATION OF A NEW SEWER LINE CONNECTING INTO THE SEWER MAIN FOR A COMPLETE INSTALLATION. REFER TO CIVIL PLANS FOR CONTINUATION. COORDINATE INVERT ELEVATION WITH EXISTING SITE UTILITIES PRIOR TO START OF WORK.
2. INSTALL 4" SANITARY SEWER STUB-OUT AND CAP FOR FUTURE TENANT CONNECTION. EXTEND 4" PVC UP 6" ABOVE FINISHED FLOOR. PRIOR TO START OF WORK COORDINATE STUB-OUT LOCATION WITH OWNER.
3. 4"SS RISER FROM BELOW GRADE UP TO CEILING FOR FUTURE SECOND FLOOR TENANT CONNECTION. CAP 12" BELOW CEILING.
4. 2" VENT TO 3" VENT THRU ROOF. LOCATE MINIMUM 3'-0" FROM EDGE OF ROOF AND 10'-0" FROM RTU OUTSIDE AIR INTAKE. COORDINATE PIPE PENETRATION WITH ROOFING CONTRACTOR SO NOT TO VOID ROOF WARRANTY. SEAL ROOF PENETRATION WEATHERTIGHT.
5. 2"V RISER FROM FIRST FLOOR FIXTURES.

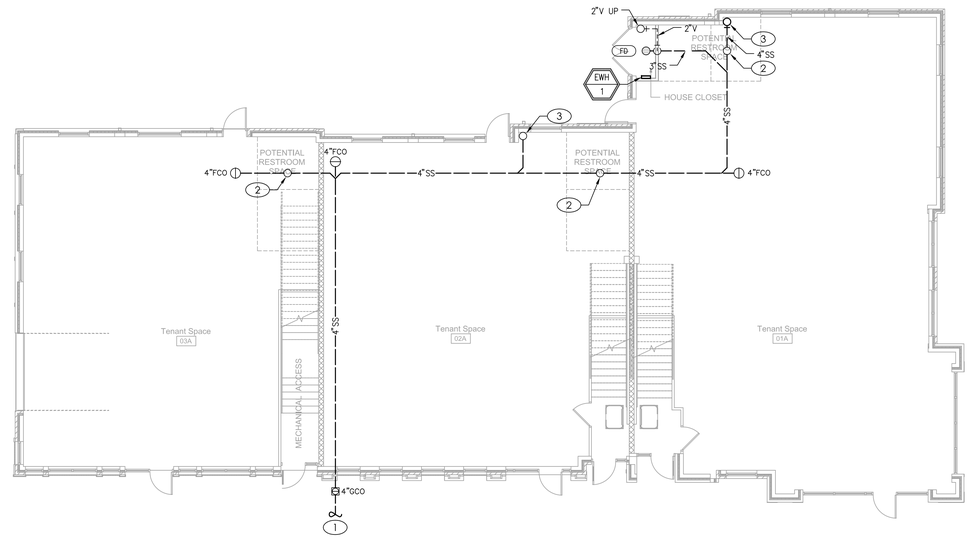


SECOND FLOOR WASTE & VENT PLAN

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

2

NORTH



FIRST FLOOR MECH, WASTE & VENT PLAN

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

1

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05-19-2021

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MECHANICAL & PLUMBING PLANS

MP101

20.01.NLV BUILDING 31

GENERAL NOTES

A. DRAWINGS ARE DIAGRAMMATIC ONLY AND REPRESENT THE GENERAL SCOPE OF WORK. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND PLANS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER AND/OR OWNER OF CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.

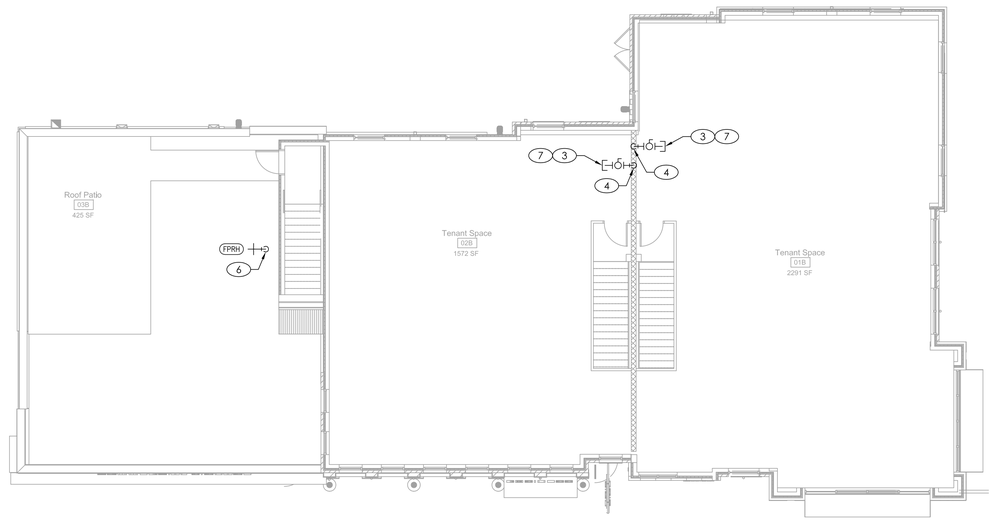
B. PROVIDE THE ARCHITECT AND OWNER WITH A COPY OF THE INSPECTION REPORTS AND APPROVAL CERTIFICATES FROM LOCAL AND STATE INSPECTIONS.

C. EXACT LOCATION AND ELEVATIONS OF ALL EXISTING UTILITIES SHALL BE VERIFIED PRIOR TO ANY INSTALLATION OR CONNECTIONS THEREOF.

D. COORDINATE PIPE ROUTING AWAY FROM ELECTRICAL PANELS. DO NOT INSTALL PIPING OVER ELECTRICAL PANELS.

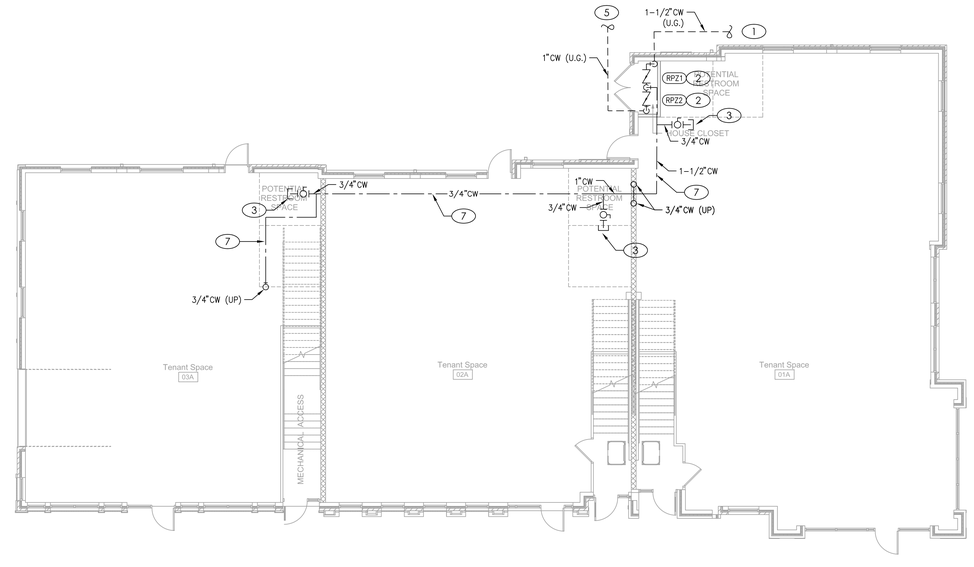
(#) KEYED PLAN NOTES

1. 1-1/2" DOMESTIC COLD WATER TO UTILITY SERVICE. SEE CIVIL PLANS FOR CONTINUATION. CONTRACTOR SHALL WORK WITH THE WATER COMPANY FOR THE INSTALLATION OF A NEW WATER MAIN ENTRANCE, INCLUDING TAP, METER, METER PIT, PIPING, ETC. FOR A COMPLETE INSTALLATION.
2. PROVIDE RPZ BACKFLOW PREVENTER AS SCHEDULED. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO INSTALLATION. INSTALL BACKFLOW PREVENTER 24" ABOVE FINISHED FLOOR (CENTERLINE ELEVATION) AND MINIMUM 12" CLEARANCE FRONT AND BACK. PROVIDE DRAIN FROM BFP TO FLOOR DRAIN AND DISCHARGE WITH AIR GAP. SEE INSTALLATION DETAIL ON SHEET MP001.
3. PROVIDE CAPPED 3/4"CW LINE IN CEILING SPACE FOR FUTURE TENANT.
4. 3/4"CW FROM FIRST FLOOR.
5. 1"CW TO IRRIGATION SYSTEM.
6. 3/4"CW TO FREEZE PROOF ROOF HYDRANT. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO START OF WORK.
7. COORDINATE PHASING OF TENANT IMPROVEMENT WORK WITH OWNER AT TIME OF CONSTRUCTION. PROVIDE HEAT TRACE FOR WATER LINE IF SHELL SPACE WILL REMAIN UNOCCUPIED. COORDINATE WITH ELECTRICAL CONTRACTOR AS REQUIRED.



SECOND FLOOR WATER & GAS PLAN 2

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



FIRST FLOOR WATER & GAS PLAN 1

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

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PLUMBING PLANS:
WATER & GAS

MP102

20.01.NLV BUILDING 31

ELECTRICAL SPECIFICATIONS

PART I – GENERAL

A. CONDITIONS

1. FURNISH AND INSTALL A COMPLETELY WIRED AND OPERATIONAL ELECTRICAL SYSTEM AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN, INCLUDING BUT NOT LIMITED TO, THESE MAJOR ITEMS.
   A. LIGHTING FIXTURES AS INDICATED AND SPECIFIED ON THE PLANS.
   B. ELECTRICAL PANELS, SERVICE, CONDUIT, WIRING, ETC., FOR ALL OUTLETS AND EQUIPMENT.
   C. TELEPHONE, TELEVISION, AND FIRE ALARM. OUTLETS AND CONDUIT AS INDICATED.

2. OBTAIN AND REVIEW ALL OTHER DRAWINGS INCLUDING REFLECTED CEILING PLAN, INTERIOR AND EXTERIOR ELEVATIONS, FURNITURE PLANS AND ALL MILL WORK DRAWINGS. COORDINATE INSTALLATION OF ALL ELECTRICAL DEVICES AND EQUIPMENT PRIOR TO ROUGH–IN.

3. OBTAIN SUBMITTAL AND SHOP DRAWINGS FROM OTHER TRADES AND EQUIPMENT TO COORDINATE INSTALLATION ACCORDINGLY.

4. INSTALLATION SHALL COMPLY WITH ALL CURRENT APPLICABLE CODES AND GOVERNING AGENCIES HAVING JURISDICTION.

5. FIRE ALARM SYSTEM, IF REQUIRED PER IBC, SHALL BE DESIGN–BUILD BY OWNER'S/GC'S FIRE ALARM CONTRACTOR. DESIGN SHALL BE IN ACCORDANCE WITH NFPA 72. FIRE ALARM CONTRACTOR SHALL SUBMIT STAMPED DRAWINGS TO AHJ FOR REVIEW AND APPROVAL. FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR TESTING AND VERIFYING THAT THE AUDIBILITY OF THE FIRE ALARM SYSTEM MEETS A MINIMUM OF 15 DBA ABOVE AMBIENT NOISE LEVELS. ADD HORNS WHERE REQUIRED TO MAINTAIN MINIMUM LEVELS.

6. PROVIDE FIRE STOP ON ALL PIPING THAT PENETRATES RATED WALLS. METHOD OF FIRE STOP SHALL MEET WALL RATING. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF FIRE RATED WALLS. THIS CONTRACTOR SHALL PROVIDE FIRE RATED ENCLOSURES AROUND ALL ROUGH–IN BOXES, PANELS, ETC. THAT ARE LOCATED IN FIRE RATED WALLS AND SHALL FIRE CAULK ALL OPENINGS IN RATED ASSEMBLIES.

B. RELATED WORK BY OTHERS

1. THE ELECTRICAL CONTRACTOR SHALL PROVIDE CONDUIT, TRENCH, AND BACKFILL FOR ELECTRICAL SERVICE ENTRANCE FROM THE MAIN SERVICE TO UTILITY POINT OF ELECTRICAL SERVICE. ELECTRICAL CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE ELECTRICAL SERVICE ENTRANCE WITH SERVING UTILITY COMPANY.
2. THE ELECTRICAL CONTRACTOR SHALL PROVIDE CONDUIT, TRENCH, AND BACKFILL FOR PRIMARY PHONE AND CATV SERVICE FROM THE TELEPHONE TERMINAL BOARD OR CABINET TO THE PHONE COMPANY AND CATV COMPANY POINT OF SERVICE COORDINATE WITH LOCAL UTILITY COMPANIES.

C. CODES, REGULATIONS, AND STANDARDS

1. THE INSTALLATION SHALL COMPLY WITH APPLICABLE LOCAL AND STATE CODES AND ORDINANCES, WITH THE REGULATIONS OF THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE AND WITH THE REQUIREMENTS OF THE POWER, TELEPHONE, AND CATV COMPANIES FURNISHING SERVICES TO THIS INSTALLATION.
2. THE LATEST EDITIONS OF THE FOLLOWING INDUSTRY STANDARDS, SPECIFICATIONS, AND CODES ARE MINIMUM REQUIREMENTS:
   A. THE NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION STANDARDS.
   B. THE NATIONAL ELECTRICAL CODE, INCLUDING LOCAL AMENDMENTS.
   C. UNDERWRITER LABORATORIES INCORPORATED STANDARDS.
   D. AMERICAN NATIONAL STANDARDS INSTITUTE.
   E. INTERNATIONAL BUILDING CODE.

D. INSPECTION OF SITE

1. PRIOR TO SUBMITTING A BID FOR ELECTRICAL WORK, THE CONTRACTOR SHALL VISIT THE SITE OF THE PROPOSED CONSTRUCTION AND SHALL THOROUGHLY ACQUAINT HIMSELF WITH EXISTING UTILITIES, AND WORKING CONDITIONS TO BE ENCOUNTERED, ETC. ALLOWANCE WILL NOT BE MADE FOR NONCOMPLIANCE WITH THIS CONDITION AFTER BIDDING.
2. ELECTRICAL INSTALLATION SHALL MEET THE EXISTING CONDITIONS.

E. STORAGE AND HANDLING OF MATERIAL

1. DELIVER MATERIALS AND EQUIPMENT TO THE PROJECT IN THE MANUFACTURER'S ORIGINAL, UNOPENED, LABELED CONTAINERS. PROTECT AGAINST MOISTURE, TAMPERING, OR DAMAGE FROM IMPROPER HANDLING OR STORAGE. CONTRACTOR SHALL PROTECT AND BE RESPONSIBLE FOR ANY DAMAGE TO WORK OR MATERIALS UNTIL FINAL ACCEPTANCE BY THE OWNER, AND SHALL MAKE GOOD WITHOUT COST TO THE OWNER, ANY DAMAGE OR LOSS THAT MAY OCCUR DURING THIS PERIOD.
2. ARRANGE FOR TIMELY DELIVERY OF MATERIALS AND EQUIPMENT TO THE JOB SITE IN ORDER TO MINIMIZE THE LENGTH OF TIME BETWEEN DELIVERY AND INSTALLATION.
3. COVER AND PROTECT ANY MATERIAL WHICH MAY BE AFFECTED BY THE WEATHER WHILE IN TRANSIT OR STORED AT THE PROJECT SITE. ANY MATERIAL FOUND DEFECTIVE OR NOT INSTALLED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS MAY BE REJECTED BY THE ENGINEER.

F. CLEANUP

1. KEEP THE PREMISES FREE FROM ACCUMULATION OF WASTE MATERIALS, OR RUBBISH CAUSED BY EMPLOYEES OR WORK UNDER THIS DIVISION OF THE SPECIFICATIONS. AT THE COMPLETION OF THE WORK REMOVE ALL SURPLUS MATERIALS, TOOLS, ETC., AND LEAVE THE PREMISES BROOM–CLEAN.

G. EXCAVATION, CUTTING, AND FITTING

1. PERFORM ALL EXCAVATION AND BACK FILLING REQUIRED FOR WORK PERFORMED UNDER THIS DIVISION OF THE SPECIFICATIONS. USE EXCAVATED MATERIALS FOR BACKFILL UNLESS OFF SITE MATERIALS ARE DEEMED NECESSARY.
2. PERFORM THE EXCAVATION, CUTTING, FITTING, REPAIRING, AND FINISHING OF THE WORK NECESSARY FOR THE INSTALLATION OF THE EQUIPMENT OF THIS SECTION. HOWEVER, NO CUTTING OF THE WORK OF OTHER TRADES OR OF ANY STRUCTURAL MEMBERS SHALL BE DONE WITHOUT THE CONSENT OF THE ARCHITECT.

H. DRAWINGS

1. THE DRAWINGS INDICATE THE GENERAL ARRANGEMENT AND LOCATIONS OF THE ELECTRICAL WORK DATA PRESENTED ON THESE DRAWINGS ARE AS ACCURATE AS PLANNING CAN DETERMINE, BUT FIELD VERIFICATION OF ALL DIMENSIONS, LOCATIONS, LEVELS, ETC., TO SUIT FIELD CONDITIONS IS REQUIRED. REVIEW ALL ARCHITECTURAL, STRUCTURAL, AND MECHANICAL DRAWINGS AND ADJUST ALL WORK TO MEET THE REQUIREMENTS OF CONDITIONS SHOWN. THE ARCHITECTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER ALL OTHER DRAWINGS. DISCREPANCIES BETWEEN DIFFERENT PLANS, OR BETWEEN DRAWINGS AND SPECIFICATIONS, OR REGULATIONS AND CODES GOVERNING THE INSTALLATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IN WRITING BEFORE THE DATE OF BID OPENING. IF DISCREPANCIES ARE NOT REPORTED, THE CONTRACTOR SHALL BID THE GREATER QUANTITY OR BETTER QUALITY, AND APPROPRIATE ADJUSTMENTS WILL BE MADE AFTER CONTRACT AWARD. CONTRACTOR SHALL BE RESPONSIBLE TO FIELD MEASURE AND CONFIRM MOUNTING HEIGHTS AND LOCATION OF ELECTRICAL EQUIPMENT WITH RESPECT TO COUNTERS, RADIATION, ETC. DO NOT SCALE DISTANCES OFF THE ELECTRICAL DRAWINGS, USE ACTUAL BUILDING DIMENSIONS.

I. COOPERATION WITH OTHER CONTRACTORS

1. COOPERATE WITH THE OTHER TRADES SO THAT THE INSTALLATION OF THE ELECTRICAL OUTLETS AND EQUIPMENT WILL BE PROPERLY COORDINATED. CONDUIT, LIGHTING FIXTURES, AND OTHER EQUIPMENT LOCATIONS SHALL BE VERIFIED WITH OTHER TRADES TO AVOID CONFLICT WITH THE PIPING, DUCTWORK, STEEL, BEAMS, OR OTHER OBSTRUCTIONS.
2. CAREFULLY VERIFY THE LOCATIONS OF THE OUTLET BOXES AND DETERMINE THAT THEY HAVE NOT BEEN DISTURBED DURING THE INSTALLATION OF MATERIALS OF OTHER TRADES.
3. COORDINATE THE LOCATION OF THE TRENCHES AND CONDUITS FOR ELECTRICAL AND TELEPHONE UTILITY SERVICES WITH THE GENERAL CONTRACTOR.
4. COORDINATE HVAC AND PLUMBING EQUIPMENT CONNECTION REQUIREMENTS WITH HVAC AND PLUMBING CONTRACTORS.

J. RECORD DRAWINGS

1. THE ELECTRICAL CONTRACTOR SHALL MAINTAIN A SET OF DRAWINGS AT THE JOB SITE FOR THE EXCLUSIVE PURPOSE OF MAINTAINING A RECORD OF ALL WORK INSTALLED AND TO SHOW ANY DEVIATIONS FROM THE WORK INDICATED ON THE DRAWINGS.
2. AT THE COMPLETION OF THE PROJECT, ONE SET OF REPRODUCIBLE DRAWINGS, SHOWING ALL RECORD CONDITIONS, SHALL BE DELIVERED TO THE OWNER FOR ACCEPTANCE PRIOR TO FINAL PAYMENT.

PART II – PRODUCTS AND EXECUTION

A. MATERIALS

1. ALL MATERIALS SHALL BE NEW AND OF QUALITY AS SPECIFIED ON THE PLANS OR SPECIFICATIONS AND MUST CARRY THE UNDERWRITER'S LABORATORIES APPROVAL COVERING THE PURPOSE FOR WHICH THEY ARE USED, IN ADDITION TO MEETING ALL REQUIREMENTS OF THE CURRENT APPLICABLE CODES AND REGULATIONS.

B. SHOP DRAWINGS AND APPROVALS

1. THE ITEMS SPECIFIED HEREIN AND ON DRAWINGS ARE USED AS A STANDARD OF QUALITY. ANY MATERIALS OF EQUAL QUALITY AND AESTHETIC VALUE WILL BE GIVEN CONSIDERATION AS A SUBSTITUTE FOR THE MATERIALS SPECIFIED. NO APPROVAL WILL BE GIVEN TO A SPECIFIC CATALOG NUMBER, MODEL, OR TYPE OF EQUIPMENT, PRIOR TO BIDDING. AFTER BIDDING, THE DECISION OF THE ARCHITECT AND/OR ENGINEER DETERMINING EQUAL MATERIALS WILL BE FINAL.
2. THE CONTRACTOR SHALL SUBMIT SEVEN (7) IDENTICAL BOUND SETS OF SHOP DRAWINGS ON THE FOLLOWING ITEMS:
   A. LIGHTING FIXTURE CUTS AND PERFORMANCE DATA.
   B. OUTLINE DRAWINGS AND DATA SHEETS OF EACH PANELBOARD, LOAD CENTERS, AND DISTRIBUTION PANELS.
   C. OUTLINE DRAWINGS OF ALL SWITCH GEAR COMPONENTS.
   D. WIRING DEVICES AND COVERPLATES.
   E. ALL CIRCUIT BREAKERS INSTALLED IN PANELBOARDS, LOAD CENTERS, AND DISTRIBUTION PANELS.
3. SUBMIT ITEMS AT ONE TIME IN A NEAT AND ORDERLY MANNER WITHIN 15 DAYS OF AWARD OF CONTRACT. PARTIAL SUBMITTALS WILL NOT BE ACCEPTABLE.

C. SYSTEM GROUNDING

1. GROUNDING SHALL COMPLY WITH REQUIREMENTS OF ARTICLE 250. ALL EXPOSED NONCURRENT CARRYING METALLIC PARTS OF ELECTRICAL EQUIPMENT, METALLIC RACEWAY SYSTEMS, METALLIC CABLE ARMOR, GROUNDING CONDUCTOR OF NONMETALLIC SHEATHED CABLES, GROUNDING CONDUCTOR IN NONMETALLIC RACEWAYS, AND GROUNDED CONDUCTORS OF THE WIRING SYSTEM SHALL BE GROUNDED.
2. GROUNDING CONDUCTOR (NEUTRAL) OF THE WIRING SYSTEM SHALL BE CONNECTED TO THE SYSTEM GROUNDING CONDUCTOR AT A SINGLE PLACE IN EACH SYSTEM BY REMOVABLE BONDING JUMPERS, SIZED ACCORDING TO THE APPLICABLE PROVISIONS OF THE NATIONAL ELECTRICAL CODE. THE GROUNDED CONDUCTOR (NEUTRAL) TO THE GROUNDING CONDUCTOR CONNECTION SHALL BE LOCATED IN THE ENCLOSURE FOR THE SYSTEM'S OVERCURRENT PROTECTION OR WHERE OTHERWISE INDICATED ON THE PLANS OR SPECIFICATIONS.
3. A GROUND BUS SEPARATE FROM THE NEUTRAL BUS SHALL BE PROVIDED IN ALL DISTRIBUTION PANELS AND PANELBOARDS. PROPER TORQUE ON GROUND BUS SHALL BE VERIFIED, PER MANUFACTURER'S RECOMMENDATIONS, PRIOR TO ENERGIZING EQUIPMENT.
4. GROUND BUSES AND NEUTRAL BUSES IN ALL DISTRIBUTION PANELS, LOAD CENTERS, PANELBOARDS, AND THOSE PROVIDED IN ANY EQUIPMENT SHALL BE ISOLATED EXCEPT WHERE REQUIRED TO BE CONNECTED AS SPECIFIED ABOVE FOR THE SERVICE ENTRANCE
5. WHEN INDICATED ON THE DRAWINGS, EQUIPMENT GROUNDING CONDUCTORS SHALL BE EXTENDED FROM THE GROUND BUS IN THE DISTRIBUTION EQUIPMENT TO THE RECEPTACLE, FIXTURE OR DEVICE LUGS WHERE THEY ARE PROVIDED. WHERE LUGS ARE NOT PROVIDED, EQUIPMENT GROUNDING CONDUCTORS SHALL BE CONNECTED TO EQUIPMENT ENCLOSURES. THE CONNECTIONS SHALL BE ARRANGED SUCH THAT REMOVAL OF THE RECEPTACLE, EQUIPMENT GROUND CONDUCTORS, OR GROUND JUMPERS FROM GROUND BUSING SHALL NOT AFFECT THE GROUND SYSTEM.
6. RACEWAYS MAY NOT BE USED AS A GROUNDING CONDUCTOR FOR POWER AND LIGHTING CIRCUITS. ALL CONDUIT SHALL HAVE SEPARATE CODE SIZED GREEN GROUND WIRE INSTALLED IN THE CONDUIT TO INSURE A CONTINUOUS GROUNDING PATH.
7. IN INACCESSIBLE LOCATIONS, MAKE CONNECTIONS BY EXOTHERMIC WELD PROCESS.
8. IN ACCESSIBLE LOCATIONS, CONNECTIONS SHALL BE MADE WITH BOLTED THROUGH, APPROVED SOLDERLESS BRONZE GROUNDING DEVICES.

D. WIRE

1. CONDUCTOR SIZES SHOWN ON THE DRAWINGS ARE BASED ON COPPER WIRE. UNLESS OTHERWISE SPECIFIED, ALL WIRE SHALL BE TYPE XHHW OR SE FOR FEEDERS OR BRANCH CIRCUITS LARGER THAN 4 AWG, TYPE THHN/THWN INSULATION FOR FEEDERS AND BRANCH CIRCUITS 4 AWG AND SMALLER. ALL BRANCH CIRCUIT WIRING SHALL BE COPPER.
2. ALUMINUM CONDUCTORS MAY BE UTILIZED FOR SERVICE ENTRANCE AND PANEL FEEDERS. CONDUCTORS SHALL BE ALUMINUM ALLOW AA–8000 SERIES.
3. THE WIRES SHALL BE MARKED WITH COLOR TO SIMPLIFY CIRCUIT IDENTIFICATION. UNLESS OTHERWISE REQUIRED BY LOCAL ORDINANCES GROUND WIRES SHALL BE GREEN, NEUTRAL WIRES SHALL BE 120V–WHITE, AND LIVE WIRES 208Y/120V AND 120/240 SHALL BE BLACK (PHASE A), RED (PHASE B), AND BLUE (PHASE C). CIRCUIT SHALL BE LABELED IN EACH J–BOX.
4. ALL CONDUCTORS SHALL BE RATED 600 VOLT.
5. SPLICES IN EXTERIOR PULL BOXES AND MANHOLES SHALL BE WEATHERPROOF USING "SCOTCHCAST" SPLICE KIT OR APPROVED EQUAL. SEAL ENDS OF CONDUITS AND DUCTS WITH "DUCTSEAL" OR APPROVED EQUAL.
6. PROVIDE SOLID CONDUCTOR FOR 12 AWG AND SMALLER.
7. ALL WIRING WITHIN RESIDENTIAL UNITS ONLY MAY BE TYPE NM CABLE.
8. NO WIRE SHALL BE INSTALLED IN THE CONDUIT SYSTEM UNTIL THE CONDUIT SYSTEM IS COMPLETE. USE MINERALAC NO. 100 OR EQUIVALENT AS A LUBRICANT TO FACILITATE THE INSTALLATION OF THE CONDUCTORS IN THE CONDUIT SYSTEM.
9. MC CABLE WITH COPPER CONDUCTORS AND GROUND WIRE MAY BE USED WHERE PERMITTED.

E. CONDUIT

1. ALL WIRING SHALL BE INSTALLED IN LISTED METALLIC CONDUIT EXCEPT AS PERMITTED IN OTHER SECTIONS. RGS, WITH A 20 MIL PVC COATING WILL BE USED WHEN IN CONTACT WITH EARTH. IMC MAY BE USED IN INDOOR LOCATIONS NOT IN CONTACT WITH THE EARTH. EMT MAY BE USED IN INDOOR LOCATIONS NOT IN CONTACT WITH EARTH, NOT IN CONCRETE SLABS OR WALLS AND NOT SUBJECT TO DAMAGE. PVC MAY BE USED IN OR BELOW CONCRETE AND DIRECT BURIED IN EARTH. FLEXIBLE STEEL CONDUIT SHALL BE USED FOR INDOOR FINAL CONNECTIONS TO EQUIPMENT IN LENGTHS NOT TO EXCEED 72". LIQUID–TIGHT FLEXIBLE STEEL CONDUIT SHALL BE FOR OUTDOOR FINAL CONNECTIONS TO EQUIPMENT NOT TO EXCEED 48".
2. WHERE CONDUIT ENTERS OUTLET BOXES, FIXTURES OR CABINETS, FIRMLY FASTEN WITH STEEL SET SCREW, COMPRESSION CONNECTORS, OR DOUBLE LOCKNUTS FOR GRC. ALL CONNECTIONS SHALL HAVE BUSHINGS OR INSULATED THROAT CONNECTORS. FIRMLY FASTEN CONDUIT TO THE BUILDING CONSTRUCTION. RUN EXPOSED CONDUIT PARALLEL TO THE BUILDING LINES, SUPPORTED BY APPROPRIATE HANGERS (UNISTRUT, T & B OR APPLETON, OR EQUAL).
3. COVER METALLIC CONDUIT IN CONTACT WITH EARTH WITH POLYETHYLENE TAPED SPIRAL WRAPPED, 1/2 LAPPED TO PROVIDE 20 MIL. THICKNESS. TAPE SHALL BE SCOTCH NO. 50 TAPE. CONDUIT AND DUCTS NOT UNDER BUILDINGS AND FEEDER DUCTS SHALL BE INSTALLED PER N.E.C. 300–5. MAKE JOINTS WITH COMPOUND TO BE WATERTIGHT.
4. SCHEDULE 40 PVC CONDUIT SHALL BE PERMITTED UNDERGROUND WITH PROPER FITTINGS, ALL UL APPROVED AND CEMENTED JOINTS. PENETRATIONS THROUGH FLOOR SLABS AND BENDS GREATER THAN 22° SHALL BE WRAPPED RIGID GALVANIZED STEEL ELBOWS.
5. FITTINGS AND CONDUIT BODIES SHALL BE STEEL. DIECAST FITTINGS ARE NOT ACCEPTABLE.
6. CONDUIT SIZES SHALL BE AS REQUIRED BY CODE AND AS INDICATED OR SPECIFIED.
7. ALL EMPTY CONDUIT SYSTEMS SHALL HAVE A 200 LB. TEST NYLON PULL STRING TO FACILITATE INSTALLATION OF FUTURE WIRE.
8. WIRING, CONDUITS, AND OUTLETS SHALL BE CONCEALED WITH THE BUILDING STRUCTURE, EXCEPT THAT CERTAIN MOTOR AND LIGHTING FEEDER CONDUITS MAY BE RUN EXPOSED IN CERTAIN AREAS AS INDICATED ON THE DRAWINGS.
9. CONDUIT PENETRATION THROUGH ROOF SHALL HAVE ROOF FLASHING WITH CAULK TYPE COUNTER FLASHING SLEEVE. INSTALLATION SHALL BE WATERTIGHT.
10. CONDUITS SHALL BE ROUTED PARALLEL AND PERPENDICULAR TO THE STRUCTURE.

F. OUTLET, PULL, AND JUNCTION BOXES

1. EACH SWITCH, LIGHT. RECEPTACLE OR OTHER OUTLET, INSTALLED IN RESIDENTIAL UNITS, SHALL BE PROVIDED WITH A CODE SIZED, PLASTIC OUTLET BOX. JUNCTION AND PULL BOXES SHALL BE CODE SIZED, PLASTIC OR METAL OUTLET BOX. ALL OTHER OUTLET BOXES SHALL BE STEEL
2. BOXES INSTALLED IN POURED CEMENT FLOORS SHALL BE FLUSH TYPE CAST IRON OR STEEL WITH WATERTIGHT GASKETED COVERS. WHERE BOXES ARE INSTALLED IN FLOORS WITH TILE OR CARPET FLOOR COVERING, COVERS SHALL BE OF THE RECESSED TYPE TO ACCOMMODATE THE FLOOR COVERING.
3. BOXES INSTALLED FOR THE ALARM, COMPUTER, AND SECURITY SYSTEM SHALL BE PROVIDED WITH APPROPRIATE COVER PLATES.
4. BOXES FOR TELEPHONE, COMPUTER, T.V., FIRE ALARM, SECURITY, AND SIMILAR SYSTEMS SHALL BE MINIMUM 2–1/8" DEEP.

G WIRING DEVICES

1. WALL SWITCHES SHALL BE SPECIFICATION GRADE AC SILENT TYPE SWITCHES, 20A 120/277 VOLT.
2. RECEPTACLES SHALL BE SPECIFICATION GRADE, DUPLEX TYPE. NEMA5–20R, 20 AMPERE, 120VOLT GROUNDED TYPE. SPECIAL APPLICATION RECEPTACLES SHALL BE INDICATED ON PLANS. MOUNT WITH THE GROUND DOWN.
3. DEVICE PLATES SHALL BE EQUAL TO SIERRA SMOOTH–LINE PLASTIC WALL PLATES. COLOR SHALL BE WHITE, UNLESS OTHERWISE NOTED.
4. RECEPTACLES IN OUTDOOR AND WET LOCATIONS SHALL BE INSTALLED WITH A HINGED OUTLET COVER/ENCLOSURE CLEARLY MARKED AND U.L. LISTED SUITABLE FOR WET LOCATIONS WHILE IN USE, EQUAL TO TAYMAC SPECIFICATION GRADE.

H. SERVICE ENTRANCE SECTION

1. THE SERVICE ENTRANCE EQUIPMENT SHALL BE AS INDICATED ON THE DRAWINGS. EQUIPMENT SHALL CARRY THE U.L. LABEL AND SHALL CONFORM TO THE POWER COMPANY REGULATIONS.
2. SERVICE ENTRANCE EQUIPMENT SHALL BE PROVIDED WITH A FULLY RATED COPPER OR ALUMINUM BUS. HORIZONTALLY TAPERED BUSSING SHALL NOT BE ALLOWED.

I. DISTRIBUTION PANELS

1. DISTRIBUTION PANELS SHALL BE PROVIDED WITH FULLY RATED COPPER OR ALUMINUM BUS. HORIZONTAL TAPERED BUSSING SHALL NOT BE ALLOWED
2. ACCEPTABLE MANUFACTURERS – CUTLER HAMMER, SEIMENS, SQUARE D OR GENERAL ELECTRIC
3. FACTORY ASSEMBLED DEAD FRONT, METAL ENCLOSED, AND SELF–SUPPORTING SWITCH BOARD ASSEMBLY CONFORMING T NEMA PB 2 AND UL 891, AND COMPLETE FROM INCOMING LINE TERMINALS TO LOAD SIDE TERMINATIONS.
4. LINE AND LOAD TERMINATIONS: ACCESSIBLE FROM FRONT ONLY OF THE SWITCH BOARD. SUITABLE FOR CONDUCTOR MATERIALS AND NUMBER OF CONDUCTORS USED.
5. BUS CONNECTIONS: BOLTED. ACCESSIBLE FROM FRONT FOR MAINTENANCE. PROVIDE BELLEVILLE WASHERS FOR PROPERLY TORQUE ALL CONNECTIONS
6. PROVIDE FULLY–RATED NEUTRAL BUS AND FULLY RATED GROUND BUS MATCHING MATERIAL USED FOR MAIN BUS.
7. FUTURE PROVISIONS: FULLY EQUIP SPACES FOR FUTURE DEVICES WITH BUSSING AND BUS CONNECTIONS SUITABLY INSULATED AND BRACED FOR SHORT CIRCUIT CURRENTS. CONTINUOUS CURRENT RATING AS INDICATED ON DRAWINGS.
8. ALL CIRCUIT BREAKERS SHALL BE BOLT–ON TYPE.

J. PANEL BOARDS

1. CIRCUIT BREAKER TYPE AS INDICATED ON DRAWINGS. UNLESS INDICATED OTHERWISE, ALL PANELS SHALL HAVE PANEL HAVE PANEL BOARD TYPE CONSTRUCTION WITH BOLT–ON CIRCUIT BREAKERS FOR 3ø PANELS
2. MANUFACTURERS SHALL BE GENERAL ELECTRIC, SQUARE D, SEIMENS, CUTLER–HAMMER WITH VOLTAGE, SIZES, AND RATINGS AS INDICATED ON DRAWINGS.
3. THE CIRCUIT BREAKERS SHALL BE OPERABLE IN ANY POSITION AND BE REMOVABLE FROM THE FRONT OF THE PANEL BOARD WITHOUT DISTURBING THE ADJACENT UNITS. BRANCH BREAKERS SHALL BE OF SUCH DESIGN THAT COMBINATION OF SINGLE–POLE, DOUBLE–POLE, AND THREE–POLE BREAKERS CAN BE ASSEMBLED ON THE SAME PANEL. EACH BRANCH CIRCUIT SHALL BE CLEARLY NUMBERED. BRANCH AND MAN TERMINALS SHALL BE SOLDERLESS TYPE. HANDLE TIES TO FORM MULTI–POLE BREAKERS NOT ACCEPTABLE.

K. LOAD CENTER

1. CIRCUIT BREAKER TYPE AS INDICATED ON DRAWINGS. MANUFACTURERS SHALL BE GENERAL ELECTRIC, SQUARE D, SIEMENS, CUTLER–HAMMER/EATON WITH VOLTAGE, SIZES, AND RATINGS AS INDICATED ON DRAWINGS.
2. THE CIRCUIT BREAKERS SHALL BE OPERABLE IN ANY POSITION AND BE REMOVABLE FROM THE FRONT OF THE PANEL BOARD WITHOUT DISTURBING THE ADJACENT UNITS. BRANCH BREAKERS SHALL BE OF SUCH DESIGN THAT COMBINATION OF SINGLE–POLE AND DOUBLE–POLE BREAKERS CAN BE ASSEMBLED ON THE SAME PANEL. EACH BRANCH CIRCUIT SHALL BE CLEARLY NUMBERED. BRANCH AND MAIN TERMINALS SHALL BE OF THE SOLDERLESS TYPE. HANDLE TIES TO FORM MULTI–POLE BREAKERS NOT ACCEPTABLE.
   A. CIRCUIT BREAKERS SHALL BE PLUG–IN TYPE
3. WIRE TERMINATION FOR PANEL BOARDS AND CIRCUIT BREAKERS SHALL BE LISTED AS SUITABLE FOR 75 DEGREES C.
4. PROVIDE A TYPEWRITTEN CIRCUIT INDEX BEHIND CLEAR PLASTIC COVER ON INSIDE OF DOOR. INFORMATION SHALL INCLUDE ROOM AND TYPE LOAD SERVED. ALL CIRCUIT BREAKERS SHALL BE IDENTIFIED, INCLUDING SPARES. INDEX CARD FRAME SHALL BE METAL, SECURED TO DOOR.
5. PANEL BOARDS/LOAD CENTERS TO BE PROVIDED WITH COPPER BUSSIING ONLY.

L. LIGHTING FIXTURES

1. PROVIDE ALL LIGHTING FIXTURES, WIRED AND CONNECTED. THE DRAWINGS INDICATE THE FIXTURES FOR EACH LOCATION. PROVIDE LAMPS FOR ALL FIXTURES. THE LAMPS SHALL BE BY THE SAME MANUFACTURER. VERIFY CEILING CONSTRUCTION BEFORE ORDERING RECESSED UNITS. PROVIDE PLASTER FRAMES AND HANGERS AS REQUIRED. CEILING CONSTRUCTION, ARCHITECTURAL ACCESSORIES, VOLTAGE, AND BALLASTS TO MEET THE EXISTING CEILING CONDITION.

M. LIGHTING CONTROL

1. FURNISH AND INSTALL TIME SWITCHES, PHOTOCELLS, CONTRACTORS AND FULL LIGHTING CONTROL SYSTEMS AS REQUIRED FOR LIGHTING CONTROLS INDICATED ON THE DRAWINGS.
2. TIME SWITCHES SHALL BE EQUAL TO PARAGON, GENERAL ELECTRIC, TORK, OR INTERMATIC AND SHALL HAVE SIZE AND NUMBER OF POLES AS REQUIRED.
3. PHOTOCELLS SHALL BE EQUAL TO TORK OR INTERMATIC WITH VOLTAGE AS INDICATED.

N. TELEPHONE AND CABLE TELEVISION SYSTEMS

1. TELEPHONE WALL OUTLETS SHALL CONSIST OF STANDARD BOXES MOUNTED 18" ABOVE THE FLOOR UNLESS OTHERWISE INDICATED. PROVIDE A TERMINAL MOUNTING BOARD FOR THE INCOMING SERVICE CABLE.
2. CABLE TELEVISION OUTLETS SHALL CONSIST OF STANDARD BOXES MOUNTED 18" ABOVE THE FLOOR UNLESS OTHERWISE INDICATED. PROVIDE A TERMINAL MOUNTING BOARD FOR THE INCOMING SERVICE CABLE.

O. GUARANTEE

1. GUARANTEE ALL MATERIAL FURNISHED AND ALL WORKMANSHIP PERFORMED FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE OF WORK. ANY DEFECTS DEVELOPING WITHIN THIS PERIOD, TRACEABLE TO MATERIAL FURNISHED AS A PART OF THIS SECTION OR WORKMANSHIP PERFORMED HEREUNDER, SHALL BE MADE GOOD AT NO EXPENSE TO THE OWNER.

SYMBOLS LEGEND

NOTE: THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS, ETC, ARE NECESSARILY USED ON THE DRAWINGS.

▭ ▭ ├─┤	FLUORESCENT OR LED FIXTURE (SEE SCHEDULE)
◩	FIXTURE WITH EMERGENCY BATTERY BALLAST UNIT
⊤	TRACK LIGHT
⊘	DOWNLIGHT FIXTURE WITH EMERGENCY BATTERY BALLAST UNIT
⊘⊣	WALL MOUNTED FIXTURE WITH EMERGENCY BATTERY BALLAST UNIT
○	DOWNLIGHT FIXTURE
○⊣	WALL MOUNTED FIXTURE
¤	PENDANT MOUNTED FIXTURE
◐	WALL WASHER
⊗	SINGLE FACE EXIT SIGN – UNIVERSAL MOUNTED
↕⊗	SINGLE FACE EXIT SIGN W/ DIRECTIONAL ARROWS – UNIVERSAL MTD
↕⊗↕	DOUBLE FACE EXIT SIGN W/ DIRECTIONAL ARROWS – UNIVERSAL MTD
⊷	DUAL HEADED EMERGENCY UNIT
⋈	COMBO DUAL HEADED EMERGENCY AND EXIT SIGN UNIT
A	LETTER INDICATES LIGHT FIXTURE AS INDICATED ON FIXTURE SCHED
S	SINGLE POLE SWITCH @ +48" UNLESS NOTED
S_{abc}	SWITCH BANK @ +48" UNLESS NOTED. LOWER CASE LETTER INDICATES FIXTURE CONTROLLED.
S_2	2 POLE SWITCH @ +48" UNLESS NOTED
S_3	3–WAY SWITCH @ +48" UNLESS NOTED
S_4	4–WAY SWITCH @ +48" UNLESS NOTED
S_D	DIMMER SWITCH – SIZE AS REQUIRED @ +48" UNLESS NOTED
S_{3D}	3–WAY DIMMER SWITCH – SIZE AS REQUIRED @ +48" UNLESS NOTED
S_{3Dxy}	3–WAY DIMMER SWITCH BANK @ +48" UNLESS NOTED. LOWER CASE LETTER INDICATES FIXTURE CONTROLLED.
S_S	SWITCH SENSOR @ +48" UNLESS NOTED
S_M	MANUAL MOTOR STARTER
(OS)	LOW VOLTAGE OCCUPANCY SENSOR – PROVIDE WITH ALL CONTROL UNITS AND EXTRA CONTROL CABLE
SOSa	WALL SWITCH WITH OCCUPANCY SENSOR. TWO BUTTON DIGITAL LOW VOLTAGE WALL SWITCH. PROVIDES ON/OFF/0–10V DIMMING. SWITCH @ +48" UNLESS NOTED. LOWER CASE LETTER INDICATES FIXTURE CONTROLLED.
SDa	TWO BUTTON DIGITAL LOW VOLTAGE WALL SWITCH. PROVIDES ON/OFF/0–10V DIMMING. SWITCH @ +48" UNLESS NOTED. LOWER CASE LETTER INDICATES FIXTURE CONTROLLED. PROVIDE EXTRA CONTROL CABLES NEEDED TO FIXTURE CONTROLLED.
LC	LIGHTING CONTACTOR
(P#)	LIGHTING CONTROLS POWER PACK (SEE LIGHTING CONTROLS SCHEDULE FOR TYPE INDICATED BY "#")
(DH)	DAYLIGHT SENSOR (SEE LIGHTING CONTROLS SCHEDULE)
((X))	OCCUPANCY SENSOR (SEE LIGHTING CONTROLS SCHEDULE FOR TYPE INDICATED BY "X")
▭	CAMERA
Ⓢ	SPEAKER
▶	TELEPHONE OUTLET@ +18" UNLESS NOTED
▷#	DATA OUTLET @ +18" UNLESS NOTED. # DENOTES CAT 5 CABLE COUNT
▶	COMBINATION TELEPHONE/DATA OUTLET @ +18" UNLESS NOTED
TV⊣	TELEVISION OUTLET @ +18" UNLESS NOTED
◇DD—	DUCT DETECTOR
(HD)	HEAT DETECTOR
(SD)	120 VOLT SMOKE DETECTOR WITH SOUNDER BASE AND BATTERY BACKUP
▱	AUXILIARY SYSTEM TERMINAL CABINET
▨	SWITCHBOARD, MOTOR CONTROL CENTER OR DISTRIBUTION BOARD
▬	3 PHASE, 4 WIRE PANELBOARD, UNO
Ⓖ	GENERATOR
T	TRANSFORMER
∅	MOTOR OUTLET
□┘	DISCONNECT SWITCH – SIZE AND TYPE NOTED
⊠┘	COMBINATION FUSED STARTER DISCONNECT SWITCH FUSE SIZE AS INDICATED, STARTER SIZE '1'
EF 1	MECHANICAL EQUIP. CONNECTION, SEE SCHED. ON MECH. PLAN
Ⓙ	JUNCTION BOX
———	CONDUIT RUN CONCEALED IN WALL OR ABOVE CEILING
– – – –	CONDUIT RUN BELOW FLOOR OR GRADE
≡⊜⊣	SPECIAL HEAVY DUTY RECEPTACLE – SIZE AS NOTED. @ +18" UNLESS NOTED
◒	1/2 SWITCHED RECEPTACLE @ +18" UNLESS NOTED
⊙	FIRE RATED POKE THRU WITH TYPE INDICATED
⊡	FLUSH FLOOR BOX WITH TYPE INDICATED
⊖	SINGLE RECEPTACLE @ +18" UNLESS NOTED
⊜	DUPLEX RECEPTACLE @ +18" UNLESS NOTED
⊕=	DOUBLE DUPLEX RECEPTACLE @ +18" UNLESS NOTED
⊜ GFI	GFI DUPLEX RECEPTACLE
⊜ S	FULL SWITCHED RECEPTACLE
⊕=	DUPLEX RECEPTACLE INSTALLED ABOVE COUNTERTOP
⊜ WP	DUPLEX RECEPTACLE WITH WEATHERPROOF COVERPLATE @ 18" UNLESS NOTED
P1–3,5,7	HOMERUN TO PANELBOARD, INFORMATION AT ARROWS ARE CIRCUIT NUMBERS AND PANELBOARD FOR TERMINATION. REFER TO ASSOCIATED NOTE FOR BRANCH CIRCUIT CONDUCTOR SIZES.
ς———ς	INDICATES 1/2" CONDUIT CONCEALED IN CEILING OR WALL WITH (3) CONDUCTORS. (1) PHASE, (1) NEUTRAL AND (1) GROUND WIRE. ALL ARE #12 AWG UNLESS NOTED OTHERWISE.
—///—	WHIP COUNT INDICATES NUMBER OF HOT CONDUCTORS
(E)	INDICATES EXISTING DEVICE TO REMAIN
▷⊠	COMBINATION FIRE ALARM HORN/STROBE WALL MOUNTED.
⊠	FIRE ALARM STROBE LIGHT WALL MOUNTED.
▷▣	COMBINATION FIRE ALARM HORN/STROBE CEILING MOUNTED.
▣	FIRE ALARM STROBE LIGHTS CEILING MOUNTED.
F	FIRE ALARM MANUAL PULL STATION WALL MOUNTED. INSTALL WITH TOP 48" AFF.
FAA	FIRE ALARM ANNUNCIATOR.
FACP	FIRE ALARM CONTROL PANEL.
②	FIRE ALARM SYSTEM CEILING SMOKE DETECTOR.

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ELECTRICAL SPECS & SYMBOLS

E001

GENERAL NOTES

A. REFER TO ARCHITECTURAL DRAWINGS AND ELEVATIONS FOR EXACT LOCATIONS AND MOUNTING HEIGHTS OF ALL LIGHTING FIXTURES.

B. REFER TO LIGHTING FIXTURE SCHEDULE FOR LIGHT FIXTURE TYPES AND REQUIREMENTS.

C. CONNECT ALL EXIT SIGNS AND EMERGENCY LIGHTING UNITS TO THE INDICATED CIRCUIT WITH A SEPARATE AND UN-SWITCHED CONDUCTOR BYPASSING ALL CONTROLS AND CONTACTORS. REFER TO MANUFACTURER'S WRITTEN INSTRUCTIONS FOR PROPER INSTALLATION AND TESTING.

D. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT COORDINATION AND CONFLICT ISSUES BE RESOLVED PRIOR TO INSTALLATION OF LIGHT FIXTURES.

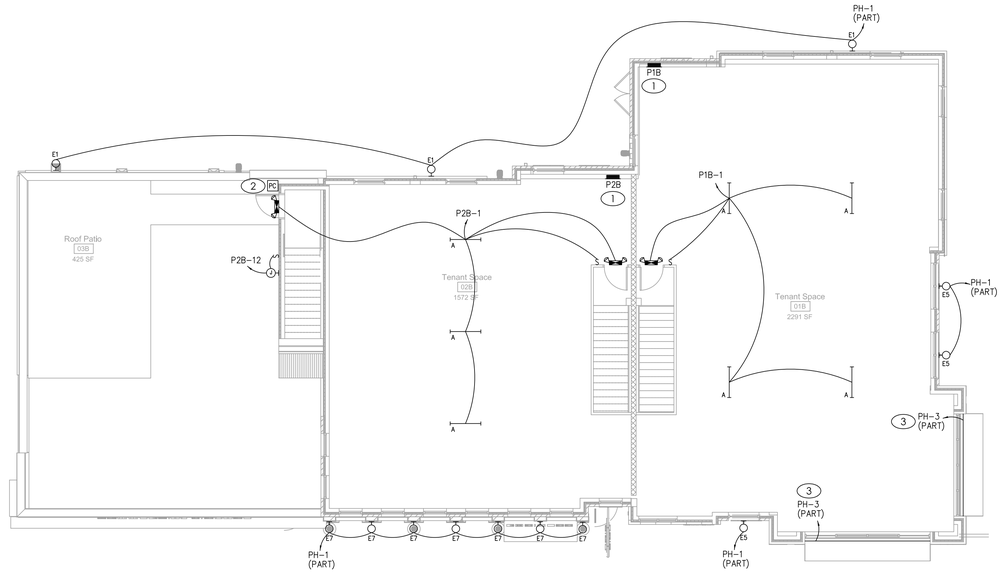
E. ROUTE ALL EXPOSED, RIGID CONDUIT TIGHT TO STRUCTURE, PARALLEL TO BUILDING LINES AND IN UNISTRUT CABLE/PIPE TRAY WHERE POSSIBLE. COORDINATE CONDUIT ROUTING AND INSTALLATION WITH OTHER TRADES PRIOR TO ROUGH-IN. SUPPORT CONDUIT FROM STRUCTURE NOT ROOF DECK. MAINTAIN 2" MIN SPACING FROM BOTTOM OF ROOF DECK TO PREVENT ROOFING SCREWS FROM PENETRATING CONDUITS.

F. THROUGH WIRING OF RECESSED LIGHT FIXTURES, IN SUSPENDED CEILINGS, IS NOT PERMITTED. CONNECT EACH LIGHT FIXTURE BY A WHIP TO A JUNCTION BOX. PROVIDE CABLE WHIPS OF SUFFICIENT LENGTH TO ALLOW FOR RELOCATING EACH LIGHT FIXTURE WITHIN A 5-FOOT RADIUS OF ITS INSTALLED LOCATION, BUT NOT EXCEEDING 6 FEET IN UNSUPPORTED LENGTH.

G. ALL INTERNALLY ILLUMINATED SIGNS SHALL BE PROVIDED WITH AN ACCESSIBLE DISCONNECTION MEANS. VERIFY EACH SIGN IS FURNISHED WITH AN INTEGRAL DISCONNECT SWITCH. PROVIDE WEATHERPROOF DISCONNECT SWITCHES WITHIN SIGHT OF ALL SIGNS AS REQUIRED. MAKE FINAL CONNECTION AS REQUIRED.

(#) KEYED PLAN NOTES

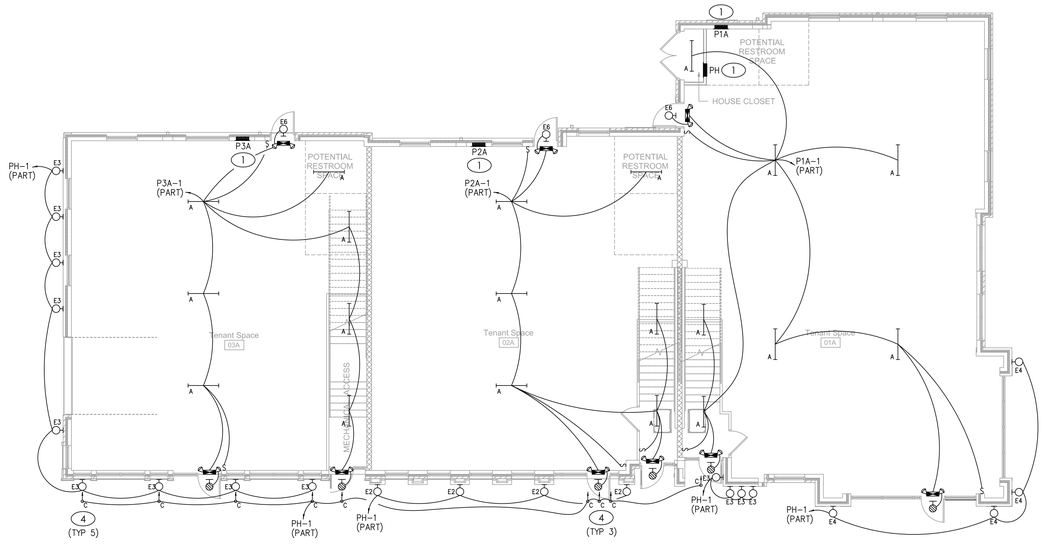
1. REFER TO SINGLE LINE DIAGRAM ON SHEET E-201 AND PANELBOARD SCHEDULES ON SHEET E-202 FOR MORE INFORMATION.
2. PHOTOCELL FOR CONTROL OF EXTERIOR LIGHTING FIXTURES. MOUNT PHOTOCELL TO TOP OF PARAPET AND POINT NORTH.
3. WET LOCATION LED TAPE LIGHT TO BE MOUNTED 45DEG CHANNEL ON EXTERIOR SIDE OF STRUCTURAL WINDOW FRAME. PROVIDE FIXTURES, DRIVERS/TRANSFORMERS, AND OTHER ACCESSORIES TO FILL LATERAL PORTION AT TOP OF WINDOW FRAME AND VERTICAL PORTIONS AT EACH SIDE OF WINDOW FRAME. PROVIDE INDIVIDUAL DRIVER/TRANSFORMER FOR EACH MANUFACTURER-RECOMMENDED STANDARD LENGTH OF FIXTURE. LOCATE DRIVERS ON INTERIOR SIDE OF WALL IN INCONSPICUOUS, ACCESSIBLE LOCATION. COORDINATE EXACT LOCATION OF DRIVER BANK AND MOUNTING WITH ARCHITECT PRIOR TO CONSTRUCTION. CONTROL VIA PHOTOCELL.
4. WET LOCATION LED DOWNLIGHT MOUNTED IN SOFFIT ABOVE. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION.



SECOND FLOOR LIGHTING PLAN

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

2



FIRST FLOOR LIGHTING PLAN

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

1

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64105
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MEP ENGINEER:

JSC ENGINEERS

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LOT 7, BUILDING 31

3140 SW LONGVIEW BLVD
LEE'S SUMMIT, MO, 64081

JUSTIN R. SMOTHERS
STATE OF MISSOURI
NUMBER PE-2012003568
PROFESSIONAL ENGINEER
05-19-2021

REV	ISSUE	DATE

ELECTRICAL PLANS: LIGHTING

E101

20.01.NLV BUILDING 31

GENERAL NOTES

A. DRAWINGS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED. REFER TO ARCHITECTURAL PLANS OR FIELD MEASUREMENTS FOR DIMENSIONS.

B. ALL WORK SHALL COMPLY WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE (NFPA 70) AND ALL LOCAL BUILDING CODES AND AMENDMENTS.

C. ALL ROOF AND WALL PENETRATIONS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR. PROVIDE ALL REQUIRED SLEEVES, FLASHINGS, CURBS, REINFORCED ANGLES, SUPPORTING FRAMES, ETC. UNLESS THEY ARE SPECIFICALLY CALLED OUT TO BE FURNISHED BY OTHERS.

D. COORDINATE ALL WORK WITH OTHER TRADES AND EXISTING CONDITIONS AS REQUIRED TO PROPERLY INSTALL ALL SYSTEMS AS INTENDED, WITHIN THE CONFINES OF THE SPACE AVAILABLE, AND WITHOUT INTERFERENCES.

E. THIS CONTRACTOR SHALL PERFORM ALL WORK INDICATED AND/OR AS REQUIRED FOR THE PROPER INSTALLATION AND OPERATION OF THE ELECTRICAL SYSTEMS.

F. THE ELECTRICAL SYSTEM DESIGN IS BASED IN PART ON THE SPECIFIED HVAC AND PLUMBING EQUIPMENT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE EXACT LOCATIONS AND ELECTRICAL REQUIREMENTS OF ALL EQUIPMENT BEING FURNISHED. ANY CHANGES TO THE ELECTRICAL SYSTEM DUE TO HVAC EQUIPMENT SUBSTITUTIONS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.

G. ALL POWER WIRING SHALL BE BY THE ELECTRICAL CONTRACTOR. ALL CONTROL WIRING SHALL BE ROUTED BY THE ELECTRICAL CONTRACTOR WITH FINAL CONTROL DEVICE (T-STATS) LANDINGS BY THE MECHANICAL CONTRACTOR.

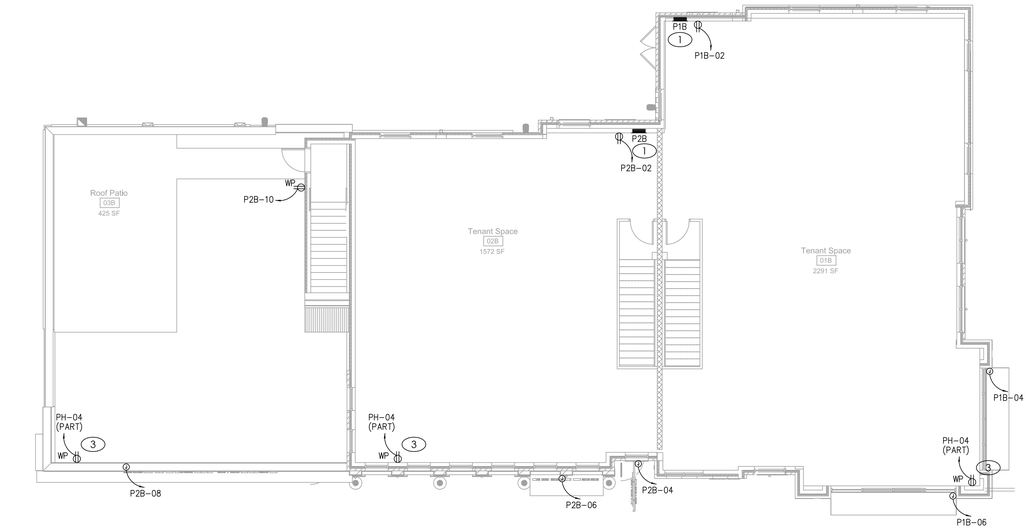
H. ALL WIRING SHALL BE IN APPROVED RACEWAY.

I. WIRE SIZE SHALL BE MINIMUM #12 AWG, THWN SOLID COPPER UNLESS OTHERWISE NOTED. PROVIDE GROUND WIRE WHERE REQUIRED BY CODE. INCREASE WIRE SIZE TO COMPENSATE FOR VOLTAGE DROP WHERE TOTAL LENGTH OF ANY BRANCH EXCEEDS 100 FEET.

K. FIRE ALARM, AUDIO/VIDEO AND SURVEILLANCE SYSTEMS BY OTHERS.

(#) KEYED PLAN NOTES

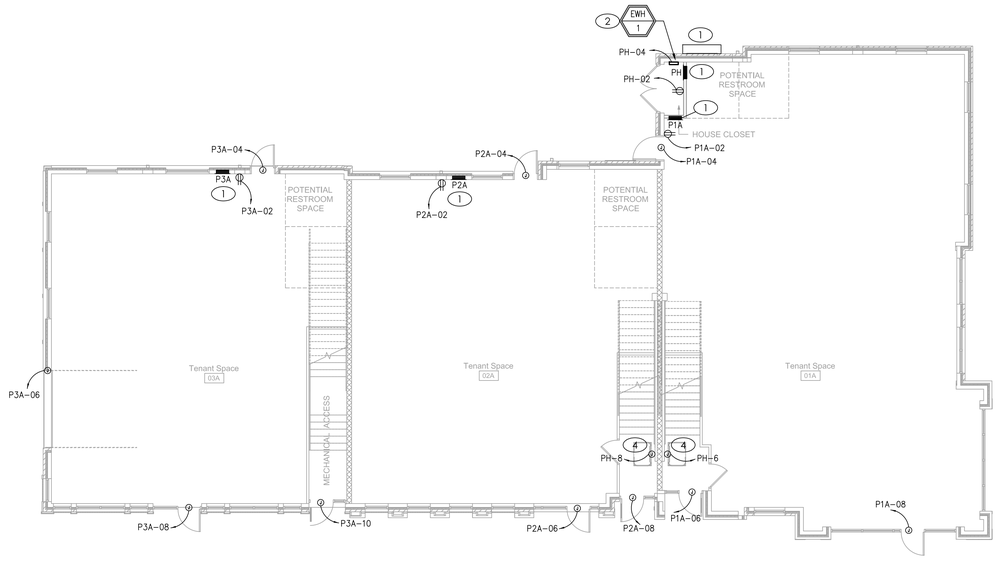
1. REFER TO SINGLE LINE DIAGRAM ON SHEET E-201 AND PANELBOARD SCHEDULES ON SHEET E-202 FOR MORE INFORMATION.
2. MAKE CONNECTION TO DIVISION 22/23 EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. COORDINATE ELECTRICAL CONNECTION WITH DIVISION 22/23 CONTRACTOR.
3. WEATHERPROOF RECEPTACLE AT PARAPET WALL FOR "CHRISTMAS LIGHT" LOAD. COORDINATE EXACT LOCATION WITH ARCHITECT PRIOR TO CONSTRUCTION.
4. JUNCTION BOX FOR HARDWIRE CONNECTION TO VERTICAL CHAIR LIFT. COORDINATE EXACT CONNECTION REQUIREMENTS WITH EQUIPMENT SPECIFICATIONS PRIOR TO CONSTRUCTION.



SECOND FLOOR POWER PLAN

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

2



FIRST FLOOR POWER PLAN

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

1

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3140 SW LONGVIEW BLVD
LEE'S SUMMIT, MO, 64081

STATE OF MISSOURI
JUSTIN R. SMOTHERS
NUMBER PE-2012003568
PROFESSIONAL ENGINEER

05-19-2021

REV	ISSUE	DATE

ELECTRICAL PLANS: POWER

E102

20.01.NLV BUILDING 31

ELECTRICAL LIGHTING SCHEDULE (OR EQUAL. VERIFY ALL SELECTIONS AND FINISHES WITH OWNER AND ARCHITECT PRIOR TO ORDERING).

FIXTURE TYPE	MANUFACTURER NAME	MANUFACTURER SERIES	VOLT AMPS	MOUNTING	LAMP TYPE	REMARKS	VOLT
A	LITHONIA	CSS 4' STRIP LIGHT	35.8	SUSPENDED	INCLUDED 3500K LED	4' LED STRIP LIGHT - COORDINATE MOUNTING WITH CEILING PER ROOM.	120
C	LITHONIA	WF4	10	RECESSED	INCLUDED 4000K LED	4" LED CAN LIGHT - WET LOCATION RATED	120
D	ELEMENTAL LED OR EQUAL	BLAZE BASICS LED TAPE LIGHT	3W/FT	SURFACE	INCLUDED 3000K LED	LED LINEAR TAPE LIGHT - 200LM/FT - 3000K - WET LOCATION RATED - PROVIDE DRIVERS/TRANSFORMERS AND OTHER ACCESSORIES AS NECESSARY TO MAKE COMPLETE SYSTEM IN ACCORDANCE WITH DESIGN INTENT - CONTROL VIA EXTERIOR PHOTOCELL	120
E1	LITHONIA	WDGE3-P3-40K-80CRI-R4-MVOLT-SRM-E1SWC	71	WALL SURFACE	INCLUDED 4000K LED	EXTERIOR WALL PACK	120
E2	LUMINIS	ECLIPSE EC613-EC6W	24	WALL SURFACE	INCLUDED 4000K LED	EXTERIOR ARCHITECTURAL WALL FIXTURE	120
E3	EATON	LUMIERE 1235E-SQ	4	WALL RECESSED	INCLUDED 4000K LED	EXTERIOR STEP LIGHT - PROVIDE WITH TRANSFORMERS/DRIVERS AS NECESSARY TO MAKE FULLY OPERATIONAL SYSTEM	12
E4	LUMINIS	NAUTILUX-LED NT854R	25	WALL RECESSED	INCLUDED 4000K LED	EXTERIOR STEP LIGHT	120
E5	LUMINIS	LUMISTIK CL325	20	WALL SURFACE	INCLUDED 4000K LED	EXTERIOR ARCHITECTURAL TUBE LIGHT	120
E6	LUMINIS	SCIROCCO-LED SR528	18	WALL SURFACE	INCLUDED 4000K LED	EXTERIOR EGRESS LIGHT	120
E7	LUMINIS	SYRIOS-LED SY300	13	WALL SURFACE	INCLUDED 3500K LED	EXTERIOR ARCHITECTURAL WALL UPLIGHT	120
	LITHONIA	ELM2-SD	5	SURFACE	INCLUDED LED	EMERGENCY EGRESS LIGHTING UNIT WITH 90 MIN. BATTERY PACK	120
	LITHONIA	LHQM-LED-R-SD	5	SURFACE	INCLUDED LED	EMERGENCY EXIT EGRESS COMBO LIGHTING UNIT WITH RED FACE EXIT SIGN AND 90 MIN. BATTERY PACK	120
	LITHONIA	ELA-8-T-QWP-L0309-SD	5	SURFACE	INCLUDED LED	OUTDOOR EMERGENCY REMOTE EGRESS LIGHTING UNIT	120

Short-Circuit and Voltage Drop Calculations

Distances are for calculation purposes only and shall not be used for contractor takeoffs nor bidding - Contractor shall notify Engineer of any field condition that results in a change of 10% or greater circuit distance

The following calculations are based on the "Point-by-Point" method where:
$ISC_{(2)} = ISC_{(1)} \times M_{(1)}$ M= 1/(1+f)
$ISC_{(1)}$ = short circuit current at fault point 1
$ISC_{(2)}$ = short circuit current at fault point 2

Feeder: $f_{(3\varnothing)} = \frac{1.732 \times L \times Isc}{C \times E}$
Feeder: $f_{(1\varnothing)} = \frac{2 \times L \times Isc}{C \times E}$

XFMR: $f_{(3\varnothing)} = \frac{IP(sca)x\ Vp \times 1.73 \times \%Z}{100{,}000 \times KVA}$
XFMR: $f_{(1\varnothing)} = \frac{IP(sca)x\ Vp \times \%Z}{100{,}000 \times KVA}$

$IS_{Total} = \frac{Vp \times M \times IP_{(sca)}}{Vs}$

VOLTAGE DROP (3Ø):
%VD= ((R x cos(arccos(pf)) + X x sin (arccos(pf))) x L/# x I x 1.73) / E
VOLTAGE DROP (1Ø):
%VD= ((R x cos(arccos(pf)) + X x sin(arccos(pf))) x 2 x L/# x I) / E

IP = Primary short circuit current
Vp = Primary voltage
IS= Secondary short circuit current
Vs= Secondary voltage
L = Length of circuit
C = "C" Factor from Bussman table where "C" = 1 / impedance per linear foot
E = Line to line volts

%VD CUM= Cumulative Voltage Drop from Fault Point 1 to Fault Point #
R= resistance in ohms per LF
X= reactances in ohms per LF

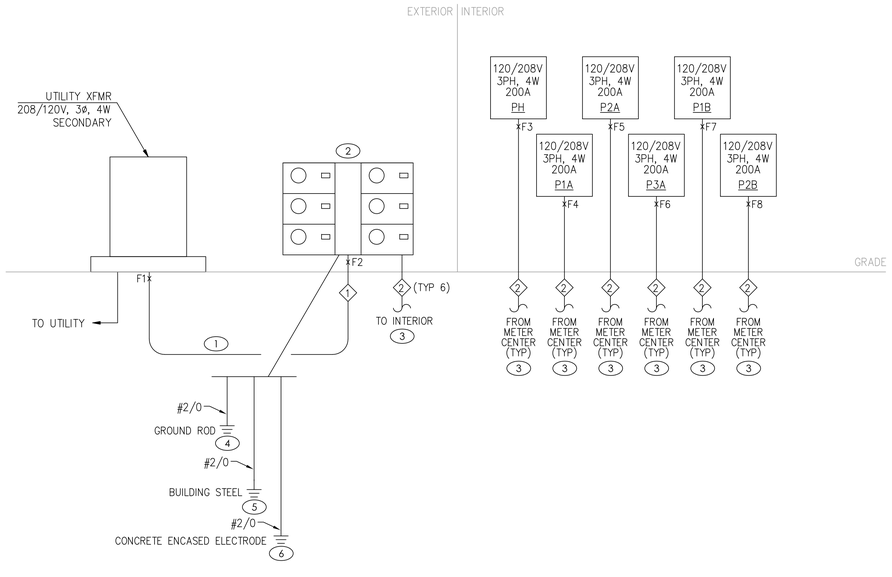
Feeder Types =
NM - Non Magnetic Conduit, M - Magnetic Conduit, FB - Feeder Busway, PB - Plug-in Busway, TX - Transformer

Date of Calculations: 09/22/2020
System Voltage: 208Y/120V - 3 phase

Fault Point (F#)	Bus/Feeder Description	Source (Fault Point)	Phase	Source Isc (amps)	Feeder: Conduit Type/ TX	Material	Quantity of Parallel Sets and Bus/ Phase & Neutral Size			Conductor 'C' Value	Busway 'C' Value	L-L Voltage (E)	Circuit Length (L)	Load Power Factor (pf)	Circuit Load (Amperage)	Conductor: Resistance (R)	Reactance (X)	Accos (pf) (Radians)	Transformer: Type	Degree Rise	kVA	New Xfmr Z	Existing Xfmr Z	Secondary Voltage	Tap Setting	f	M	Fault Current (amps)	Voltage Drop (%VD)	Cumulative Voltage Drop (%VD)	Fault Point (F#)
1	Utility Service Point	55,580 at the secondary of the utility transformer																												1
	Motor Contribution	300 The connected full load motor amps (includes compressors) on the system																												
2	TO MDP	1	3	57380	NM	AL	4	Set(s) of	350	AWG	16813	--	208	150	0.8	80	0.000061	0.000040	0.643501								1.066	0.48	27777	-0.18%	-0.18%	2
3	TO PNLBD 'PH'	2	3	27777	M	CU	1	Set(s) of	3/0	AWG	12844	--	208	20	0.8	4	0.000079	0.000052	0.643501								0.360	0.74	20422	-0.01%	-0.19%	3
4	TO PNLBD 'P1A'	2	3	27777	M	CU	1	Set(s) of	3/0	AWG	12844	--	208	30	0.8	15	0.000079	0.000052	0.643501								0.540	0.65	18034	-0.04%	-0.22%	4
5	TO PNLBD 'P2A'	2	3	27777	M	CU	1	Set(s) of	3/0	AWG	12844	--	208	70	0.8	15	0.000079	0.000052	0.643501								1.261	0.44	12287	-0.08%	-0.26%	5
6	TO PNLBD 'P3A'	2	3	27777	M	CU	1	Set(s) of	3/0	AWG	12844	--	208	100	0.8	11	0.000079	0.000052	0.643501								1.801	0.36	9917	-0.09%	-0.27%	6
7	TO PNLBD 'P1B'	2	3	27777	M	CU	1	Set(s) of	3/0	AWG	12844	--	208	35	0.8	19	0.000079	0.000052	0.643501								0.630	0.61	17038	-0.05%	-0.23%	7
8	TO PNLBD 'P2B'	2	3	27777	M	CU	1	Set(s) of	3/0	AWG	12844	--	208	55	0.8	16	0.000079	0.000052	0.643501								0.990	0.50	13955	-0.07%	-0.25%	8

SC/VD CALCULATIONS 2

SCALE : NO SCALE



FEEDER NUMBER	
1	(4) 4"C (PVC) W/ 4 #350 AL EACH
2	(1) 2"C W/ 4 #3/0 CU & 1 #6 CU GRND

1. PROVIDE NEW CONDUCTORS TO UTILITY TRANSFORMER. VERIFY EXACT LOCATION AND REQUIREMENTS WITH UTILITY PRIOR TO TRENCHING.
2. PROVIDE NEW UTILITY METER SECTION PER UTILITY REQUIREMENTS IN COORDINATION WITH SWITCHGEAR VENDOR. BASIS OF DESIGN IS GENERAL ELECTRIC TMP3SB10R MAIN BREAKER MODULE – BOTTOM CENTER FEED CONSTRUCTION – 1000A MCB, 65KAIC PROTECTED, 3PH, 4WIRE. PROVIDE WITH (6) TOTAL TENANT METER SOCKETS – BASIS OF DESIGN IS GENERAL ELECTRIC TMPR12322R – TWO STACKS OF (3) 225A METER SOCKETS ON EACH SIDE OF CENTER FEED SECTION. VERIFY ACTUAL METERING SCHEME IS PROPERLY SELECTED, APPROVED BY UTILITY, AND PRICED AS SUCH PRIOR TO BIDDING.
3. EXTEND TENANT SERVICE FEEDERS FROM EXTERIOR METER CENTER TO TENANT PANEL.
4. PROVIDE NEW GROUND PER NEC 250.52(A)(5). REFER TO DIAGRAM 2 THIS SHEET.
5. BOND PER NEC 250.52(A)(2). REFER TO DIAGRAM 2 THIS SHEET.
6. PROVIDE NEW GROUND PER NEC 250.52(A)(3). REFER TO DIAGRAM 2 THIS SHEET.

ELECTRICAL SINGLE LINE DIAGRAM 1

SCALE : NO SCALE

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LEE'S SUMMIT, MO, 64081

STATE OF MISSOURI
JUSTIN R. SMOTHERS
NUMBER PE-2012003568
PROFESSIONAL ENGINEER
05-19-2021

REV	ISSUE	DATE

ELECTRICAL DIAGRAMS & SCHEDULES

E201

20.01.NLV BUILDING 31

PANELBOARD: PH (NEW)

BUS AMPS: 225A
MAIN SIZE/TYPE: 200A MCB
VOLTS/PHASE: 208Y/120V, 3PH, 4W
SECTION: 1

FED FROM: MDP
AIC RATING: FCA +10% MINIMUM FULLY RATED
SERVES: HOUSE
MOUNTING: RECESSED
LOCATION: BACK OF HOUSE

LINE-SIDE LUGS: MECHANICAL
EQUIPMENT GROUND BUS

CKT NO.	DESCRIPTION	VOLTAMPS/PHASE A	B	C	WIRE NO.	BKR AMP	P	P	BKR AMP	WIRE NO.	VOLTAMPS/PHASE A	B	C	DESCRIPTION	CKT NO.
1	LTG - EXTERIOR VIA TC	1,200			12	20	1	1	20	12	180			RCPT - HOUSE CLOSET	2
3	LTG - EXTERIOR TAPE VIA TC		550		12	20	1	1	20	12		540		RCPT - PARAPET XMAS LIGHTS	4
5	SPARE					20	1	1	20	12			1,200	PWR - CHAIR LIFT 1	6
7	SPARE					20	1	1	20	12	1,200			PWR - CHAIR LIFT 2	8
9	SPARE					20	1	1	20					SPARE	10
11	SPARE					20	1	1	20					SPARE	12
13	SPARE					20	1	1	20					SPARE	14
15	SPARE					20	1	1	20					SPARE	16
17	SPARE					20	1	1	20					SPARE	18
19	SPARE						1	1						SPARE	20
21	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	22
23	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	24
25	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	26
27	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	28
29	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	30
31	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	32
33	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	34
35	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	36
37	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	38
39	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	40
41	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	42
	SUBTOTAL	1,200	550								1,380	540	1,200	SUBTOTAL	

		LOAD	CONN. VA	DF	LOAD	CONN. VA	DF	
TOTAL PHASE A - VA	2,580	COOLING		1.00	REFRIG		1.00	
AMPS	22	HEATING		0	SIGN/DISP		1.25	
TOTAL PHASE B - VA	1,090	LIGHTING	1,750	1.25	KITCHEN		1.00	
AMPS	9	RECEPTACLES	720	1.0/.5	EXISTING		1.00	
TOTAL PHASE C - VA	1,200	MOTORS	2,400	1.00	LRG MOTOR		1.25	TOTAL DEMAND
AMPS	10	SUPP HEAT		1.00	SHOW WNDW		1.25	5,308 VA
TOTAL PNLBD - VA	4,670	MISC EQUIP		1.00	LTG TRACK		1.00	15 A
AMPS	14							

PANELBOARD NOTES

PANELBOARD: P2A (NEW)

BUS AMPS: 225A
MAIN SIZE/TYPE: 200A MCB
VOLTS/PHASE: 208Y/120V, 3PH, 4W
SECTION: 1

FED FROM: MDP
AIC RATING: FCA +10% MINIMUM FULLY RATED
SERVES: P2A
MOUNTING: RECESSED
LOCATION: BACK OF HOUSE

LINE-SIDE LUGS: MECHANICAL
EQUIPMENT GROUND BUS

CKT NO.	DESCRIPTION	VOLTAMPS/PHASE A	B	C	WIRE NO.	BKR AMP	P	P	BKR AMP	WIRE NO.	VOLTAMPS/PHASE A	B	C	DESCRIPTION	CKT NO.
1	LTG - TENANT SPACE P2A	500			12	20	1	1	20	12	180			RCPT - BY PANEL	2
3	SPARE					20	1	1	20	12			1,200	PWR - SIGNAGE 1	4
5	SPARE					20	1	1	20	12			1,200	PWR - SIGNAGE 2	6
7	SPARE					20	1	1	20	12	1,200			PWR - SIGNAGE 3	8
9	SPARE					20	1	1	20					SPARE	10
11	SPARE					20	1	1	20					SPARE	12
13	SPARE					20	1	1	20					SPARE	14
15	SPARE					20	1	1	20					SPARE	16
17	SPARE					20	1	1	20					SPARE	18
19	SPARE					20	1	1	20					SPARE	20
21	SPARE						1	1						PROVISIONAL SPACE	22
23	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	24
25	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	26
27	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	28
29	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	30
31	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	32
33	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	34
35	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	36
37	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	38
39	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	40
41	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	42
	SUBTOTAL	500									1,380	1,200	1,200	SUBTOTAL	

		LOAD	CONN. VA	DF	LOAD	CONN. VA	DF	
TOTAL PHASE A - VA	1,880	COOLING		1.00	REFRIG		1.00	
AMPS	16	HEATING		0	SIGN/DISP	3,600	1.25	
TOTAL PHASE B - VA	1,200	LIGHTING	500	1.25	KITCHEN		1.00	
AMPS	10	RECEPTACLES	180	1.0/.5	EXISTING		1.00	
TOTAL PHASE C - VA	1,200	MOTORS		1.00	LRG MOTOR		1.25	TOTAL DEMAND
AMPS	10	SUPP HEAT		1.00	SHOW WNDW		1.25	5,305 VA
TOTAL PNLBD - VA	4,280	MISC EQUIP		1.00	LTG TRACK		1.00	15 A
AMPS	12							

PANELBOARD NOTES

SIGN/DISPLAY - SIGNAGE & DISPLAY CASE

PANELBOARD: P1B (NEW)

BUS AMPS: 225A
MAIN SIZE/TYPE: 200A MCB
VOLTS/PHASE: 208Y/120V, 3PH, 4W
SECTION: 1

FED FROM: MDP
AIC RATING: FCA +10% MINIMUM FULLY RATED
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MOUNTING: RECESSED
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LINE-SIDE LUGS: MECHANICAL
EQUIPMENT GROUND BUS

CKT NO.	DESCRIPTION	VOLTAMPS/PHASE A	B	C	WIRE NO.	BKR AMP	P	P	BKR AMP	WIRE NO.	VOLTAMPS/PHASE A	B	C	DESCRIPTION	CKT NO.
1	LTG - TENANT SPACE P1B	500			12	20	1	1	20	12	180			RCPT - BY PANEL	2
3	SPARE					20	1	1	20	12		1,200		PWR - SIGNAGE 1	4
5	SPARE					20	1	1	20	12			1,200	PWR - SIGNAGE 2	6
7	SPARE					20	1	1	20					SPARE	8
9	SPARE					20	1	1	20					SPARE	10
11	SPARE					20	1	1	20					SPARE	12
13	SPARE					20	1	1	20					SPARE	14
15	SPARE					20	1	1	20					SPARE	16
17	SPARE					20	1	1	20					SPARE	18
19	SPARE					20	1	1	20					SPARE	20
21	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	22
23	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	24
25	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	26
27	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	28
29	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	30
31	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	32
33	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	34
35	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	36
37	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	38
39	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	40
41	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	42
	SUBTOTAL	500										180	1,200	SUBTOTAL	

		LOAD	CONN. VA	DF	LOAD	CONN. VA	DF	
TOTAL PHASE A - VA	680	COOLING		1.00	REFRIG		1.00	
AMPS	6	HEATING		0	SIGN/DISP	2,400	1.25	
TOTAL PHASE B - VA	1,200	LIGHTING	500	1.25	KITCHEN		1.00	
AMPS	10	RECEPTACLES	180	1.0/.5	EXISTING		1.00	
TOTAL PHASE C - VA	1,200	MOTORS		1.00	LRG MOTOR		1.25	TOTAL DEMAND
AMPS	10	SUPP HEAT		1.00	SHOW WNDW		1.25	3,805 VA
TOTAL PNLBD - VA	3,080	MISC EQUIP		1.00	LTG TRACK		1.00	11 A
AMPS	9							

PANELBOARD NOTES

SIGN/DISPLAY - SIGNAGE & DISPLAY CASE

PANELBOARD: P1A (NEW)

BUS AMPS: 225A
MAIN SIZE/TYPE: 200A MCB
VOLTS/PHASE: 208Y/120V, 3PH, 4W
SECTION: 1

FED FROM: MDP
AIC RATING: FCA +10% MINIMUM FULLY RATED
SERVES: P1A
MOUNTING: RECESSED
LOCATION: BACK OF HOUSE

LINE-SIDE LUGS: MECHANICAL
EQUIPMENT GROUND BUS

CKT NO.	DESCRIPTION	VOLTAMPS/PHASE A	B	C	WIRE NO.	BKR AMP	P	P	BKR AMP	WIRE NO.	VOLTAMPS/PHASE A	B	C	DESCRIPTION	CKT NO.
1	LTG - TENANT SPACE P1A	500			12	20	1	1	20	12	180			RCPT - BY PANEL	2
3	SPARE					20	1	1	20	12		1,200		PWR - SIGNAGE 1	4
5	SPARE					20	1	1	20	12			1,200	PWR - SIGNAGE 2	6
7	SPARE					20	1	1	20	12	1,200			PWR - SIGNAGE 3	8
9	SPARE					20	1	1	20					SPACE	10
11	SPARE					20	1	1	20					SPACE	12
13	SPARE					20	1	1	20					SPACE	14
15	SPARE					20	1	1	20					SPACE	16
17	SPARE					20	1	1	20					SPACE	18
19	SPARE					20	1	1	20					SPACE	20
21	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	22
23	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	24
25	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	26
27	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	28
29	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	30
31	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	32
33	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	34
35	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	36
37	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	38
39	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	40
41	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	42
	SUBTOTAL	500									1,380	1,200	1,200	SUBTOTAL	

		LOAD	CONN. VA	DF	LOAD	CONN. VA	DF	
TOTAL PHASE A - VA	1,880	COOLING		1.00	REFRIG		1.00	
AMPS	16	HEATING		0	SIGN/DISP	3,600	1.25	
TOTAL PHASE B - VA	1,200	LIGHTING	500	1.25	KITCHEN		1.00	
AMPS	10	RECEPTACLES	180	1.0/.5	EXISTING		1.00	
TOTAL PHASE C - VA	1,200	MOTORS		1.00	LRG MOTOR		1.25	TOTAL DEMAND
AMPS	10	SUPP HEAT		1.00	SHOW WNDW		1.25	5,305 VA
TOTAL PNLBD - VA	4,280	MISC EQUIP		1.00	LTG TRACK		1.00	15 A
AMPS	12							

PANELBOARD NOTES

SIGN/DISPLAY - SIGNAGE & DISPLAY CASE

PANELBOARD: P2B (NEW)

BUS AMPS: 225A
MAIN SIZE/TYPE: 200A MCB
VOLTS/PHASE: 208Y/120V, 3PH, 4W
SECTION: 1

FED FROM: MDP
AIC RATING: FCA +10% MINIMUM FULLY RATED
SERVES: P2B
MOUNTING: RECESSED
LOCATION: BACK OF HOUSE

LINE-SIDE LUGS: MECHANICAL
EQUIPMENT GROUND BUS

CKT NO.	DESCRIPTION	VOLTAMPS/PHASE A	B	C	WIRE NO.	BKR AMP	P	P	BKR AMP	WIRE NO.	VOLTAMPS/PHASE A	B	C	DESCRIPTION	CKT NO.
1	LTG - TENANT SPACE P3A	500			12	20	1	1	20	12	180			RCPT - BY PANEL	2
3	SPARE					20	1	1	20	12		1,200		PWR - SIGNAGE 1	4
5	SPARE					20	1	1	20	12			1,200	PWR - SIGNAGE 2	6
7	SPARE					20	1	1	20	12	1,200			PWR - SIGNAGE 3	8
9	SPARE					20	1	1	20	12		180		RCPT - PATIO	10
11	SPARE					20	1	1	20	12			200	PWR - PATIO JBOX	12
13	SPARE					20	1	1	20					SPARE	14
15	SPARE					20	1	1	20					SPARE	16
17	SPARE					20	1	1	20					SPARE	18
19	SPARE					20	1	1	20					SPARE	20
21	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	22
23	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	24
25	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	26
27	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	28
29	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	30
31	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	32
33	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	34
35	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	36
37	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	38
39	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	40
41	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	42
	SUBTOTAL	500									1,380	1,380	1,400	SUBTOTAL	

		LOAD	CONN. VA	DF	LOAD	CONN. VA	DF	
TOTAL PHASE A - VA	1,880	COOLING		1.00	REFRIG		1.00	
AMPS	16	HEATING		0	SIGN/DISP	3,600	1.25	
TOTAL PHASE B - VA	1,380	LIGHTING	500	1.25	KITCHEN		1.00	
AMPS	12	RECEPTACLES	360	1.0/.5	EXISTING		1.00	
TOTAL PHASE C - VA	1,400	MOTORS		1.00	LRG MOTOR		1.25	TOTAL DEMAND
AMPS	12	SUPP HEAT		1.00	SHOW WNDW		1.25	5,685 VA
TOTAL PNLBD - VA	4,660	MISC EQUIP	200	1.00	LTG TRACK		1.00	16 A
AMPS	13							

PANELBOARD NOTES

SIGN/DISPLAY - SIGNAGE & DISPLAY CASE

PANELBOARD: P3A (NEW)

BUS AMPS: 225A
MAIN SIZE/TYPE: 200A MCB
VOLTS/PHASE: 208Y/120V, 3PH, 4W
SECTION: 1

FED FROM: MDP
AIC RATING: FCA +10% MINIMUM FULLY RATED
SERVES: P3A
MOUNTING: RECESSED
LOCATION: BACK OF HOUSE

LINE-SIDE LUGS: MECHANICAL
EQUIPMENT GROUND BUS

CKT NO.	DESCRIPTION	VOLTAMPS/PHASE A	B	C	WIRE NO.	BKR AMP	P	P	BKR AMP	WIRE NO.	VOLTAMPS/PHASE A	B	C	DESCRIPTION	CKT NO.
1	LTG - TENANT SPACE P3A	500			12	20	1	1	20	12	180			RCPT - BY PANEL	2
3	SPARE					20	1	1	20	12		1,200		PWR - SIGNAGE 1	4
5	SPARE					20	1	1	20	12			1,200	PWR - SIGNAGE 2	6
7	SPARE					20	1	1	20	12	1,200			PWR - SIGNAGE 3	8
9	SPARE					20	1	1	20	12		1,200		PWR - SIGNAGE 4	10
11	SPARE					20	1	1	20					SPARE	12
13	SPARE					20	1	1	20					SPARE	14
15	SPARE					20	1	1	20					SPARE	16
17	SPARE					20	1	1	20					SPARE	18
19	SPARE					20	1	1	20					SPARE	20
21	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	22
23	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	24
25	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	26
27	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	28
29	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	30
31	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	32
33	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	34
35	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	36
37	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	38
39	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	40
41	PROVISIONAL SPACE						1	1						PROVISIONAL SPACE	42
	SUBTOTAL	500										1,380	2,400	1,200	SUBTOTAL

		LOAD	CONN. VA	DF	LOAD	CONN. VA	DF	
TOTAL PHASE A - VA	1,880	COOLING		1.00	REFRIG		1.00	
AMPS	16	HEATING		0	SIGN/DISP	4,800	1.25	
TOTAL PHASE B - VA	2,400	LIGHTING	500	1.25	KITCHEN		1.00	
AMPS	20	RECEPTACLES	180	1.0/.5	EXISTING		1.00	
TOTAL PHASE C - VA	1,200	MOTORS		1.00	LRG MOTOR		1.25	TOTAL DEMAND
AMPS	10	SUPP HEAT		1.00	SHOW WNDW		1.25	6,805 VA
TOTAL PNLBD - VA	5,480	MISC EQUIP		1.00	LTG TRACK		1.00	19 A
AMPS	15							

PANELBOARD NOTES

SIGN/DISPLAY - SIGNAGE & DISPLAY CASE

ELECTRICAL PANELBOARD SCHEDULES

SCALE : NO SCALE

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MEP ENGINEER:

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ELECTRICAL DIAGRAMS & SCHEDULES

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