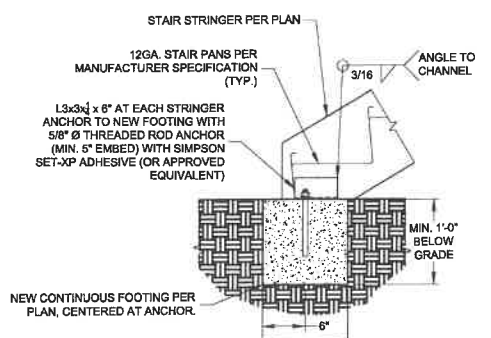
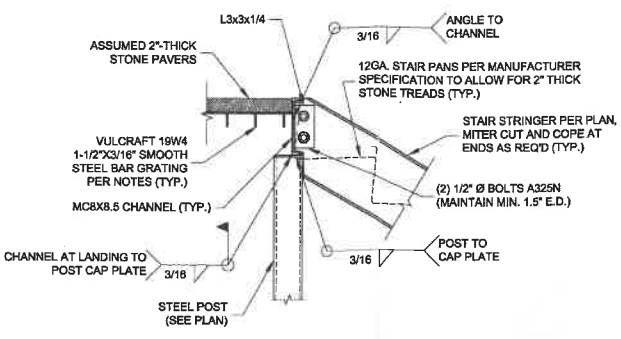


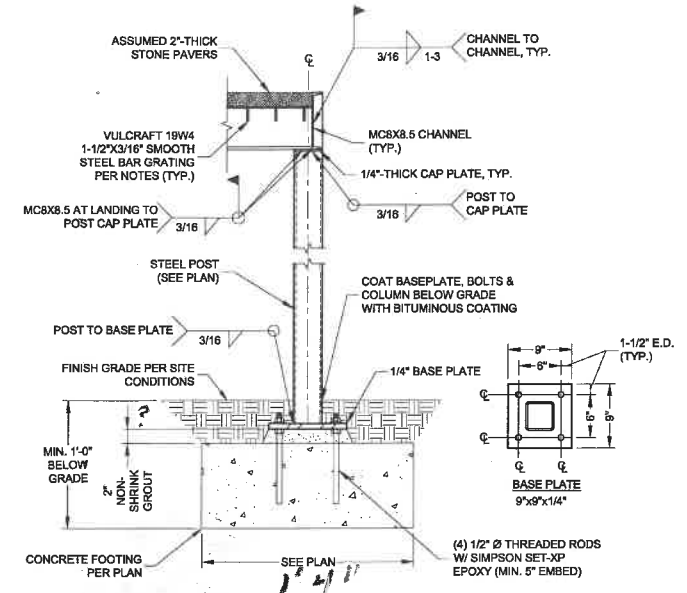
1 TYP. PLATFORM EDGE CHANNEL  
SCALE: N.T.S.



2 TYP. STRINGER BASE ATTACHMENT  
SCALE: N.T.S.



3 TYP. STRINGER ATTACHMENT  
SCALE: N.T.S.



4 TYP. STEEL POST ATTACHMENTS  
SCALE: N.T.S.

- DESIGN CRITERIA**
- 2018 NORTH CAROLINA STATE BUILDING CODES
  - ASCE 7-10
  - DESIGN LOADS
    - LIVE LOAD (STAIRS) = 40 PSF
    - LIVE LOAD (FLOOR) = 40 PSF
    - LIVE LOAD (DECK) = 40 PSF
    - GROUND SNOW LOAD = 15 PSF
    - ULTIMATE WIND VELOCITY = 115 MPH
    - EXPOSURE CATEGORY = B
    - ASSUMED GROUND BEARING CAPACITY 12" BELOW GRADE: 2,000 PSF (CONTRACTOR RESPONSIBLE FOR VERIFICATION)

- GENERAL NOTES**
- CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING EXISTING UNDERGROUND UTILITIES IN THE AREA OF CONSTRUCTION.
  - THE CONTRACTOR SHALL COORDINATE THEIR WORK ACTIVITIES WITH THE OWNER OR OWNER REPRESENTATIVE.
  - CONTRACTOR SHALL MAKE A CAREFUL INSPECTION OF THE SITE TO FAMILIARIZE HIM/HERSELF WITH THE ACTUAL CONDITIONS OF THE SITE PRIOR TO CONSTRUCTION.
  - CONTRACTOR SHALL CHECK AND VERIFY GIVEN DIMENSIONS, TAKE ADDITIONAL DIMENSIONS AS REQUIRED AND REPORT ANY INACCURACIES TO THE ENGINEER.
  - ALL WORK SHALL CONFORM TO THE CURRENT EDITIONS OF THE NORTH CAROLINA STATE BUILDING CODE, THE ASCE CODE, THE ACI BUILDING CODE (ACI 318), THE AMERICAN WELDING SOCIETY CODE, ALL APPLICABLE ASTM STANDARDS, AND LOCAL GUIDELINES. IN CASES OF CONFLICT, THE MOST STRINGENT REQUIREMENT SHALL GOVERN.
  - CONTRACTOR SHALL COORDINATE AND VERIFY THE SIZE, LOCATION, TYPE, AND DIRECTION OF ALL PADS, DEPRESSIONS, BOLTS, SLEEVES, ANCHORS, INSERTS, OPENINGS, ETC. TO BE SET OR CAST IN CONCRETE OR MASONRY PRIOR TO PLACEMENT.
  - CONTRACTOR SHALL COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO FOUNDATION LAYOUT AND FABRICATION OF ANY STRUCTURAL MEMBERS. DIMENSIONS SHOWN ARE BASED ON PRELIMINARY DRAWINGS PROVIDED BY THE ARCHITECT/CONTRACTOR AND/OR SITE INSPECTION. THESE DIMENSIONS SHOULD BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
  - CONTRACTOR SHALL DESIGN AND INSTALL ALL TEMPORARY SHORING REQUIRED TO STABILIZE NEW AND EXISTING STRUCTURES AND FOUNDATIONS UNTIL CONSTRUCTION IS COMPLETE.
  - OMISSIONS OR CONFLICTS BETWEEN VARIOUS ELEMENTS OF THE DRAWINGS, SPECIFICATIONS, NOTES, AND DETAILS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND RESOLVED BEFORE PROCEEDING WITH WORK.
  - THE DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THE STRUCTURE SHOWN IS STRUCTURALLY SOUND IN ITS COMPLETED FORM ONLY. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION.
  - APPLY TERMITE TREATMENT TO GROUND SURFACES WITHIN THE DEFINED SCOPE OF WORK AS REQUIRED BY CODE AND LOCAL BUILDING INSPECTOR.
  - ONLY SEALED DRAWINGS WITH MOST RECENT REVISIONS ARE APPLICABLE FOR CONSTRUCTION.
  - STRUCTURAL PLANS DO NOT INCORPORATE ADA, PLUMBING, MECHANICAL, ELECTRICAL, OR SITE FEATURES. ENGINEER'S SEAL APPLIES TO STRUCTURAL COMPONENTS ONLY.
  - SECTIONS AND DETAILS SHOWN AT LOCATIONS INDICATED ON PLAN ARE TYPICAL FOR OTHER SIMILAR CONDITIONS OF BUILDING, EVEN IF NO SECTION CUT IS INDICATED AT A SIMILAR CONDITION. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ALL DETAILS WITH OTHER TRADES, DISCIPLINES, AND ALL SECTIONS AND DETAILS WITHIN STRUCTURAL DOCUMENTS. CONTRACTOR SHALL COORDINATE THESE STRUCTURAL DRAWINGS WITH DRAWINGS OF OTHER DISCIPLINES. SHOULD CONFLICTS OR DEVIATIONS BE NOTED, THEY SHOULD BE IMMEDIATELY BROUGHT TO THE ATTENTION OF SUBJECT DESIGNERS FOR REVIEW.
  - IN THE CASE WHERE NEW STRUCTURE IS INTEGRATED INTO EXISTING STRUCTURE, THE EXISTING STRUCTURE IS TO REMAIN UNMODIFIED UNLESS EXPLICITLY DESCRIBED IN THE DESIGN PLANS. ANY DAMAGE TO EXISTING STRUCTURE IDENTIFIED DURING CONSTRUCTION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OR REVIEW PRIOR TO RESUMING WORK.

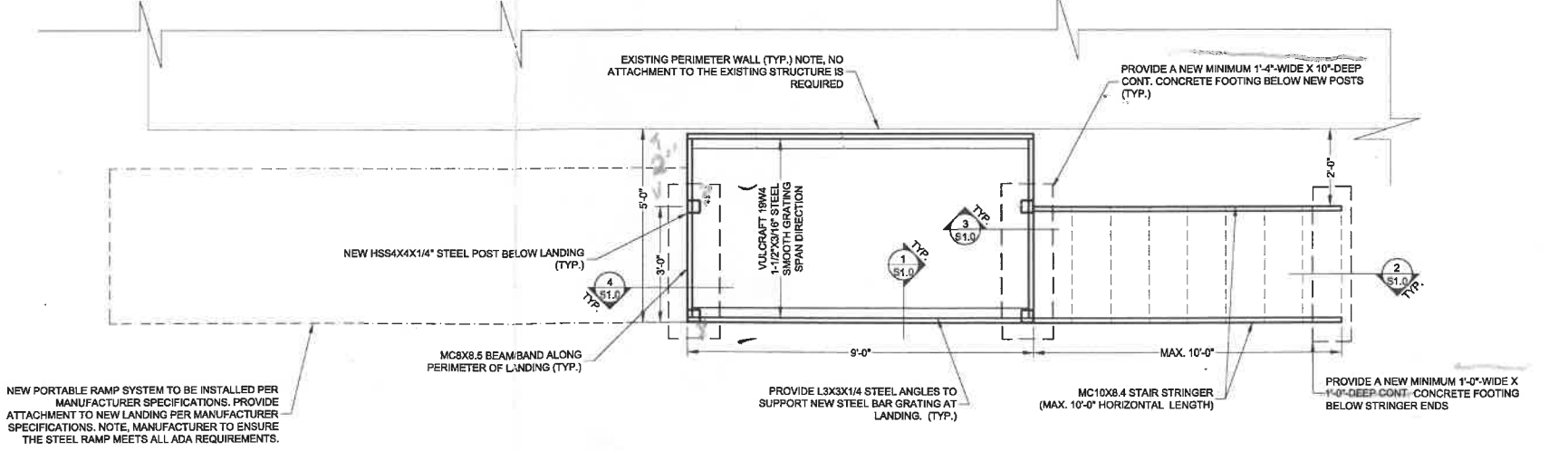
- SOIL FOUNDATIONS**
- ALL BOTTOM OF FOOTINGS SHALL BE CAST A MINIMUM OF 12" BELOW ORIGINAL GROUND LINE AND IN NO CASE ABOVE THE FROST LINE BASED ON 2018 NCBC AND LOCAL STANDARDS. NO FOOTINGS SHALL BE CAST ON LOOSE FILL MATERIAL.
  - ALL FILL SHALL BE PLACED IN 6" MAXIMUM LOOSE LIFTS AND SHALL BE COMPACTED TO A MINIMUM OF 95 PERCENT MAXIMUM DRY DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM D-888 (STANDARD PROCTOR METHOD). THIS REQUIREMENT SHALL BE INCREASED TO 98 PERCENT OF ASTM D-888 IN THE FINAL FOOT BENEATH FLOOR SLABS AND PAVEMENTS.
  - USE OF A SMOOTH EDGE BUCKET IS RECOMMENDED TO EXCAVATE FOR FOOTINGS. TOOTHED BUCKETS MAY ALLOW BEARING SOILS TO PERFORM INEFFECTIVELY AND ALLOW WATER TO SATURATE THE FOUNDATION SUB-GRADE.
  - ONCE FOOTINGS ARE ABLE TO HANDLE LATERAL LOADING, BACKFILL WITH ENGINEERED STONE OR NO. 57 STONE IN 6" UNIFORM LIFTS. EXTERIOR OF THE FOOTING MAY BE BACKFILLED WITH 6" UNIFORM LIFTS OF SUITABLE SOILS COMPACTED TO 85% OF THE DRY DENSITY BEYOND THE PLACEMENT OF THE FOOTING DRAIN.
  - A 10 MIL VAPOR BARRIER IS TO BE PLACED OVER THE ENTIRETY OF THE SUB-BASE, PRIOR TO PLACEMENT OF THE FLOOR INSULATION AND ANY CONCRETE SLAB-ON-GRADE. WITHIN CRAWL SPACES A MINIMUM 6-MIL VAPOR BARRIER SHALL BE INSTALLED ON BARE SOILS.

- CONCRETE NOTES**
- CONCRETE CONSTRUCTION SHALL COMPLY WITH ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" (LATEST EDITION), ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (LATEST EDITION), AND ACI 302 "GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION" (LATEST EDITION).
  - MIX DESIGN SHALL BE IN ACCORDANCE WITH ACI 318 (CURRENT EDITION).
  - MINIMUM CEMENT CONTENT = 500 LBS PER CUBIC YARD.
  - CONCRETE SHALL BE NORMAL WEIGHT CONCRETE AND SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS (4,000 PSI FOR SLABS-ON-GRADE).
  - MAXIMUM SLUMP = 4" PLUS OR MINUS 1" PRIOR TO THE ADDITION OF ADMIXTURES.
  - THE MAX. AGGREGATE SIZE SHALL BE 3/4" UNLESS MIX DESIGN IS APPROVED BY ENGINEER PRIOR TO PLACEMENT.
  - CONCRETE AGGREGATES SHALL COMPLY WITH ASTM C33 AND SHALL BE FREE OF CLAY, FOAM, LUMPS, OR OTHER DELETERIOUS SUBSTANCES.
  - CONCRETE SHALL BE CONSOLIDATED USING CONCRETE VIBRATOR IN ACCORDANCE WITH ACI 309R-05.
  - EXTERIOR SLABS SHALL HAVE 6% ± 1% AIR ENTRAINMENT. DO NOT USE AIR ENTRAINMENT ON INTERIOR SLABS (3% MAXIMUM AIR ENTRAINMENT). AIR ENTRAINMENT SHALL COMPLY WITH ASTM C260.
  - THE CONTROL JOINT SPACING SHALL BE A MAXIMUM OF 12' OR AS SHOWN ON PLANS FOR A 4" THICK SLAB. PLACE CONTROL JOINTS TO AVOID RE-ENTRANT CORNERS. MAKE SAWCUTS TO FORM WEAKEN PLANE CONTROL JOINTS AS SOON AS POSSIBLE.

- EPOXY ADHESIVE ANCHORS**
- ALL EPOXY SHALL BE SIMPSON BRAND "SET" EPOXY SYSTEM, OR APPROVED EQUAL, UNLESS NOTED OTHERWISE.
  - EPOXY ADHESIVES TO BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND INSTRUCTIONS.
  - ALL EPOXY ANCHOR BOLTS TO BE SIZED AS SHOWN IN NOTES/DETAILS AND SHALL CONFORM TO THE FOLLOWING:
    - ANCHOR BOLTS INTO FOUNDATION: ASTM F1554, GRADE 36
    - ALL OTHER APPLICATIONS: ASTM 307, U.N.O.
  - ALL EPOXY ANCHOR BOLTS AND REBAR DOWELS SHOULD BE CLEAN AND OIL FREE.
  - CONCRETE DUST SHALL BE REMOVED FROM ALL DRILLED HOLES BY USE OF A NYLON BRUSH AND OIL FREE COMPRESSED AIR. CORRECT PROCEDURE INVOLVES BLOWING THE DUST OUT OF THE HOLE, BRUSHING THE HOLE CLEAN, AND THEN BLOWING AGAIN.
  - DRILLED HOLES SHALL BE KEPT DRY AND ANY STANDING WATER MUST BE BLOWN OUT WITH OIL FREE COMPRESSED AIR, AND ALLOWED TO DRY PRIOR TO EPOXY INSTALLATION.
  - EPOXY SHALL NOT BE INSTALLED IN CONCRETE WHICH IS LESS THAN 7 DAYS OLD.
  - EPOXY ADHESIVES MUST BE ALLOWED THE FULL CURE TIME AS SPECIFIED BY THE MANUFACTURER PRIOR TO APPLICATION OF ANY LOAD AND ANCHOR BOLTS OR REBAR DOWELS MUST REMAIN UNDISTURBED DURING THIS SETTING PERIOD.
  - EPOXY ADHESIVE ANCHORS ARE NOT TO BE USED EXCEPT WHERE SPECIFICALLY INDICATED ON PLANS.

- STRUCTURAL STEEL:**
- FABRICATE AND ERECT ALL STRUCTURAL STEEL IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL OF BUILDINGS," WHERE THE MATERIAL USED CONSISTS OF PLATES, SHAPES OR BARS.
  - STRUCTURAL STEEL SHALL BE PAINTED IN ACCORDANCE WITH THE ARCHITECTURAL SPECIFICATIONS. STEEL COLUMNS BELOW GRADE THAT ARE NOT ENCASED IN CONCRETE SHALL BE FIELD PAINTED WITH A COAL/TAR EPOXY COMPOUND TO PREVENT CORROSION. DO NOT PAINT THE TOP FLANGE OF BEAMS THAT WILL RECEIVE SHEAR STUDS. DO NOT PAINT BEAMS OR COLUMNS THAT WILL RECEIVE SPRAY-ON FIREPROOFING.
  - THE STEEL USED SHALL HAVE THE FOLLOWING MINIMUM YIELD STRESS:
    - 50 KSI STRUCTURAL STEEL WIDE FLANGE (A992)
    - 35 KSI STRUCTURAL PIPE COLUMNS (A53 GR. B)
    - 46 KSI STRUCTURAL TUBE COLUMNS (A513 GRADE C)
    - 35 KSI MISCELLANEOUS SHAPES, BARS, PLATES AND CHANNELS
  - USE 3/4" DIAMETER A-325 BOLTS FOR ALL STEEL TO STEEL CONNECTIONS U.N.O. BOLTS SHALL BE TIGHTENED TO A SNUG TIGHT CONDITION U.N.O. THE SNUG TIGHT CONDITION IS DEFINED AS THE TIGHTNESS THAT EXISTS WHEN ALL PLIES OF A CONNECTION ARE IN FIRM CONTACT.
  - USE A307 ANCHOR BOLTS FOR ALL ANCHOR BOLTS U.N.O.
  - SHOP AND FIELD WELDS TO USE EPOX ELECTRODES. MINIMUM FILLET WELD SIZE TO BE 3/16" UNLESS NOTED OTHERWISE. ALL WELDS SHALL BE PREQUALIFIED IN CONFORMITY WITH THE AMERICAN WELDING SOCIETY'S CODE FOR WELDING IN BUILDING CONSTRUCTION (AWS D1.1). WELD LENGTH SCALED FOR ON PLANS ARE THE NET EFFECTIVE LENGTH REQUIRED. WELD SIZE SHALL BE AS MINIMUM, UNLESS NOTED OTHERWISE.
  - PROVIDE A MINIMUM 3/8" THICK STEEL BASE AND CAP PLATES FOR STEEL COLUMNS. ATTACH BASE/CAP PLATES WITH MINIMUM 3/16" FILLET WELDS.
  - ALL STRUCTURAL STEEL SHALL RECEIVE ONE SHOP COAT OF FABRICATORS STANDARD SHOP PRIMER.
  - ALL STEEL SHALL BE PROPERLY COATED WITH A CORROSION PROTECTION SYSTEM.

- STEEL BAR GRATING**
- NEW STEEL BAR GRATING SHALL CONSIST OF 19W4 1-1/2" DEEP GRATING, TO BE SMOOTH AND PAINTED BLACK. GRATING PANELS MUST BE INSTALLED WITH CROSS BARS ON TOP SIDE. DO NOT NOTCH BAR BEARING BARS AT SUPPORTS. (TYP. U.N.O.)
  - PROVIDE 1/4" NOMINAL CLEARANCE BETWEEN THE ENDS OF CROSS BARS ON RECTANGULAR GRATING AT ADJACENT PANELS AND AT EDGES. NOTE: 3/16" WIDE TOE PLATES MAY BE INSTALLED ALONG THE PERIMETER OF THE BAR GRATING AND SHOULD BE ATTACHED TO THE BEARING BARS WITH 3/4" LONG 3/16" FILLET WELDS OR 1" LONG 1/8" FILLET WELDS AT 1'-0" O.C.
  - PROVIDE A MIN. 1" BEARING OF THE BEARING BARS AT SUPPORTING MEMBERS. ATTACH GRATING TO SUPPORTING MEMBERS WITH 3/4" LONG 3/16" FILLET WELDS LOCATED APPROXIMATELY 6" FROM EACH SIDE OF PANEL (MIN. 4 LOCATIONS).
  - THE STEEL USED TO CONSTRUCT THE DECK UNITS SHALL HAVE A MINIMUM ALLOWABLE EXTREME FIBER STRESS OF 18,000 PSI. THE STEEL GRATING SHALL BE MANUFACTURED FROM STEEL CONFORMING TO ASTM A1011CS TYPE B.
  - DECK SHEETS WILL BE PLACED IN ACCORDANCE AND IN CONFORMANCE WITH THE DECK MANUFACTURER'S STANDARDS.
  - ALL STEEL BAR GRATING SHALL BE GALVANIZED.



STAIR LANDING FRAMING  
SCALE: 1/2" = 1'-0"

**GILES & FLYTHE**  
ENGINEERS  
7334 CHAPEL HILL ROAD, SUITE 200  
RALEIGH, NC 27607 (919) 465-3801  
NC LICENSE NO. C-2871



**BOX RESIDENCE**  
**FRONT STEEL STAIR LANDING**  
29 PARKWOOD LANE  
LILLINGTON, NC

**REVISIONS**

NO.	DATE	DESCRIPTION
0	08/06/2022	FOR CONSTRUCTION

SCALE: NO SCALE (U.N.O.)  
REVIEWED BY: HNL  
DRAWN BY: TLT  
DATE: SEPTEMBER 6, 2022

**S1.0**