# G E N E R A L  S T R U C T U R A L  N O T E S

## GENERAL CONSTRUCTION NOTES:

1. CONTRACTOR SHALL WORK THE STRUCTURAL PLANS IN CONJUNCTION WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS.
2. THE STRUCTURAL DRAWINGS ARE THE GUIDELINE FOR SHOP DRAWING THAT SHALL BE GENERATED BY CONTRACTOR AND MUST BE APPROVED BY THE STRUCTURAL ENGINEER.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ADJACENT STRUCTURES, STREETS AND SIDEWALKS DURING EXCAVATION AND CONSTRUCTION. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD. GENERAL CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS, LINES AND LEVELS OF ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR SIZE, SHAPE, WEIGHT AND LOCATION OF EQUIPMENT, SLAB, ROOF, WALL AND BEAM OPENINGS OR PENETRATIONS.
4. THE USE OF SCALE TO OBTAIN DIMENSIONS NOT SHOWN ON THESE PLANS IS STRICTLY FORBIDDEN. THE ENGINEER WILL NOT BE RESPONSIBLE FOR ERRORS RESULTING FROM SUCH ACTION.
5. CONTRACTOR TO LOCATE ALL EXISTING UTILITIES PRIOR TO EXCAVATION. REROUTE THE UTILITY LINES TO ACCOMMODATE NEW CONSTRUCTION.

## CODES:

FLORIDA BUILDING CODE 2020 .
ASCE 7-16
NDS -2015
OSHA STANDARDS
ACI 318-14
ACI 421.1-R92
A.I. S. C. MANUAL - 13TH EDITION
ACI 530-11
ACI 530.1-11

## DESIGN CRITERIA:

## WIND LOADS:

IN ACCORDANCE WITH ASCE 7-16:

| | |
|---|---|
| ULTIMATE WIND SPEED ---------- | 175 MPH |
| IMPORTANCE FACTOR ---------- | 1 |
| EXPOSURE CATEGORY ---------- | D |
| ENCLOSED BUILDING. ---------- | +/-0.18 |
| BUILDING CAT. ---------- | II |
| GUST FACTOR---------- | 0.85 |

## DESIGN LOADS:

IN ACCORDANCE WITH ASCE 7-10:

ROOF

| | |
|---|---|
| SUPER IMPOSED DEAD LOAD---------- | 20 psf |
| ROOF LIVE LOAD ---------- | 20 psf |

FLOOR

| | |
|---|---|
| SUPER IMPOSED DEAD LOAD---------- | 35 PSF |
| ROOF LIVE LOAD ---------- | 40 PSF |

BALCONIES

| | |
|---|---|
| SUPER IMPOSED DEAD LOAD---------- | 20 PSF |
| ROOF LIVE LOAD ---------- | 60 PSF |

STAIRS

| | |
|---|---|
| SUPER IMPOSED DEAD LOAD---------- | 20 PSF |
| ROOF LIVE LOAD ---------- | 100 PSF |

## ANCHOR RODS:

ALL ANCHOR RODS SHALL CONFORM TO ASTM A36-GALVANIZED WITH DOUBLE NUTS-ASTM A325- GALVANIZED (UNLESS OTHERWISE NOTED)

## WOOD MEMBERS:

STRUCTURAL WOOD COMPONENTS (BEAMS, JOISTS, RAFTERS, ETC.) SHALL HAVE THE FOLLOWING MINIMUM ALLOWABLE FIBER STRESSES OF NO. 1 SOUTHERN PINE CONFORMING TO THE LATEST EDITION OF NDS.

WOOD IN CONTACT WITH CONCRETE OR MASONRY , AND AT OTHER LOCATIONS AS SHOWN ON STRUCTURAL DRAWINGS, SHALL BE PROTECTED OR PRESSURE TREATED IN ACCORDANCE WITH AMERICAN WOOD PRESERVERS ASSOCIATION STANDARDS.

MEMBER SIZES SHOWN ARE NOMINAL UNLESS NOTED OTHERWISE.

ENGINEERED WOOD TRUSS SYSTEMS SHALL BE DESIGNED BY SUPPLIER'S SPECIALTY ENGINEER TO CONFIGURATION AND LOAD-CARRYING CAPACITY SHOWN ON DRAWINGS AND SPECIFICATIONS.

ALTERNATE TRUSS LAYOUTS ARE ACCEPTABLE ONLY AS CHANGE ORDER WHICH WILL INCLUDE ENGINEERING CHARGES FOR REDESIGN OF THE STRUCTURE BY THE ENGINEER OF RECORD.

SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION.

SHOP DRAWINGS SHALL SHOW AND SPECIFY CONNECTOR TYPES UTILIZED WITHIN TRUSSES, AS WELL AS CONNECTORS UTILIZED IN OTHER CONNECTIONS AND ATTACHMENTS BETWEEN TRUSSES OR COMPONENTS SUPPLIED AS PART OF THE ENGINEERED TRUSS SYSTEM. AN ERECTION DRAWING SHALL BE INCLUDED, IDENTIFYING TRUSS SYSTEM COMPONENTS, AS WELL AS PERMANENT BRACING REQUIRED FOR TRUSS DESIGN. ENGINEERED SHOP DRAWINGS SHALL BEAR THE SIGNATURE AND IMPRESSED SEAL OF A FLORIDA REGISTERED PROFESSIONAL ENGINEER AS THE SPECIALTY ENGINEER.

PLYWOOD ROOF SHEATHING IS DESIGNED AS A DIAPHRAGM AND SHALL COMPLY WITH APPLICABLE PROVISIONS OF CHAPTER 23 OF THE FLORIDA BUILDING CODE.

UNLESS SHOWN OTHERWISE, SPAN RATED PANELS SHALL BE FASTENED TO NOMINAL 2x SOUTHERN PINE FRAMING SPACED UP TO 24" 0/C
IN ACCORDANCE WITH THE FOLLOWING:
PANELS UP TO 1/2" THICK: 8d NAILS AT 6" O/C. EDGE, 12" O/C. ELSEWHERE.
PANELS UP TO 5/8" THICK: 10d NAILS AT 6" O/C. EDGE, 12" O/C. ELSEWHERE.
PANELS UP TO 3/4" THICK: 12d NAILS AT 6" O/C. EDGE, 12" O/C. ELSEWHERE.

HORIZONTAL BRACING OF TOP AND BOTTOM CHORD:
1. PROVIDE ONE ROW OF HORIZONTAL BRACING AS SHOWN EVERY 10'-0" OF SPAN OF TRUSS ("BR").
2. BRACING MEMBERS TO BE CONTINUOUS 2x4 WOOD MEMBERS AT SPLICE LOCATIONS, LAP BRACING MEMBERS OVER AT LEAST TWO TRUSSES.

DIAGONAL BRACING:
3. PROVIDE CROSS BRACING, AS SHOWN, AT EACH END OF EACH ROW OF PERMANENT HORIZONTAL BRACING, AND A NOT MORE THAN 30'-0" SPACING IN DIRECTION OF HORIZONTAL BRACING ("X").
4. BRACING MEMBERS TO BE 2x4 WOOD MEMBERS.

## THE TRUSS MANUFACTURER SHALL BE RESPONSIBLE FOR THE FOLLOWING:

DESIGN OF TRUSSES AND TRUSS-TO-TRUSS CONNECTIONS.
- DESIGN OF ANCHORAGE OF TRUSSES TO THE STRUCTURE.
- PROVIDE SHOP DRAWINGS INDICATING LOCATION, TYPE AND CAPACITIES OF ALL TRUSS CONNECTIONS.
CONNECTOR CAPACITIES SHALL BE EQUAL TO OR GREATER THAN THE REACTIONS SHOWN ON THE TRUSS DESIGN.
- DESIGN TRUSS CONNECTIONS TO RESIST BOTH UPLIFT AND HORIZONTAL FORCES IN COMBINATION WITH EACH OTHER.
- INCLUDE INTERACTION CHECK FOR ALL APPLICABLE LOAD CONDITIONS AT EACH CONNECTOR AS PART OF THE SHOP DRAWING SUBMITTAL.

## SOIL PREPARATION AND FOUNDATIONS:

FOOTINGS SHALL BE FOUNDED ON VIRGIN SOIL OR ON ENGINEERED FILL AT THE ELEVATIONS SHOWN WITH A DESIGN BEARING CAPACITY OF ???? (SOIL REPORT TO BE PERFORMED IN THIS ZONE).

ALL FOOTING SHALL BE INSPECTED AND APPROVED BY THE SOILS ENGINEER FOR THE BEARING CAPACITY INDICATED ABOVE PRIOR TO PLACING STRUCTURE.
KEEP FOUNDATION EXCAVATIONS FREE OF WATER AT ALL TIMES. REPLACE SOFT OR WEAKENED SOIL WITH STRUCTURAL FILL.
ALL AREAS OF NEW CONSTRUCTION SHALL BE STRIPPED OF EXISTING PLANT, TOP SOIL AND OTHER DELETERIOUS MATERIAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE APPROPRIATE DISPOSAL OF ALL UNSUITABLE MATERIAL.
EXCAVATED SOIL MAY BE USED AS BACKFILL IF FREE OF UNSATISFACTORY MATERIALS.
UNSATISFACTORY MATERIALS INCLUDE POTENTIALLY CONTAMINATED SOIL, TRASH, MUCK, ROOTS AND OTHER ORGANIC MATTER.
UNSATISFACTORY MATERIALS ENCOUNTERED ARE TO BE REMOVED TO A MINIMUM DISTANCE OF FIVE FEET OUTSIDE STRUCTURE PERIPHERY
FILL, BACKFILL AND ANY DISTURBED SOIL SHALL BE COMPACTED TO A MINIMUM OF 95% AASHO T-180C DENSITY AND SHALL CONFORM TO THE GEOTECHNICAL ENGINEER'S REQUIREMENTS.
SELECT FILL SHALL BE GRAVELLY SOILS, WELL-GRADED SANDS, AND SAND-GRAVEL MIXTURES RELATIVELY FREE OF PLASTIC FINES.
THE SURFACE OF THE EXISTING SOIL AND EACH LAYER OF COMPACTED FILL SHALL BE TESTED FOR DENSITY.

## MASONRY:

F'm FOR MASONRY WALLS SHALL BE 1500 PSI (U.O.N.)

BASED ON A UNIT MASONRY COMPRESSIVE STRENGTH OF (1900 PSI).

EXTERIOR CMU WALL MORTAR SHALL COMPLY WITH TYP "M".

INTERIOR, NON-LOAD BEARING CMU WALL MORTAR MAY BE TYPE "S".

SEE FLOOR PLANS FOR SCHEDULED WALL MARKS AND TYPICAL DETAILS FOR CONNECTION INFORMATION. SEE FLOOR PLANS FOR EXTERIOR CMU WALL VERTICAL REINFORCING.

CMU VERTICAL REINFORCING IS TO BE PLACED IN FINE MASONRY GROUT-FILLED CELLS. FINE MASONRY GROUT MUST COMPLY WITH ASTM C 476 (LATEST VERSION). WATER/ CEMENTITIOUS MATERIALS RATIO SHALL FALL BETWEEN 0.57- 0.65, SO THAT WHEN EXCESS MOISTURE IS ABSORBED BY THE CMU UNITS, THE RESULTANT STRENGTH IS NOT LESS THAN 3000 PSI. SUBMIT A PRISM TEST WITH THE DESIGN MIX, INDICATING FINAL STRENGTH CHARACTERISTICS.

CLEAN OUTS AT BOTTOM OF EACH LIFT OF REINFORCED CELLS SHALL BE PROVIDED. PROVIDE 20 GAGE HOT-DIPPED GALVANIZED DOVETAIL SLOTS VERTICALLY IN STRUCTURAL COLUMNS (AND TIE COLUMNS NOT PLACED INTEGRALLY WITH CMU WALLS) THAT ARE ABUTTED BY NON-LOAD BEARING MASONRY WALLS AND TIE MASONRY INTO COLUMNS WITH 1 IN. x 8 IN. x 16 GAGE CORRUGATED HOT-DIPPED GALVANIZED DOVETAIL ANCHORS.

LAP DOVETAIL ANCHORS WITH STANDARD HOT-DIPPED GALVANIZED 9 GAGE LADUR-TYPE DUR-O-WAL WITH CROSS RODS SPACED AT 16" C/C FOR REINFORCED MASONRY WALL. PLACE DOVETAIL ANCHOR AND DUR-O-WAL EVERY OTHER BLOCK COURSE.

FREE-STANDING MASONRY WALLS, PARAPETS, ETC., SHALL HAVE AN 8" x 8" CONCRETE CAP, REINFORCED WITH 2 #4 CONTINUOUS (U.O.N.).

REFER TO "TYPICAL REINFORCING PLACEMENT AT WINDOW OPENINGS" ON S0.01 FOR ADDITIONAL CMU REINFORCING INFORMATION.

ARCHITECTURAL MASONRY PIERS NOT DETAILED SHALL HAVE 1 #5 IN GROUT-FILLED CELLS AT EACH CORNER AND AN 8" THICK CONCRETE CAP WITH #4 @ 8" C/C -EACH WAY- CENTER

PROVIDE SHOP DRAWINGS FOR APPROVAL, INDICATING LOCATIONS OF REINFORCED GROUT-FILLED CMU CELLS AND MORTAR-FILLED CELLS ADJACENT TO CAST-IN-PLACE COLUMNS AND WALLS, WITH DETAILS FOR DOVETAIL SLOTS AND ANCHORS.

LOCATION OF MASONRY WALLS, WINDOW AND DOOR OPENINGS AND ANY OTHER MASONRY FEATURES ARE TO BE COORDINATED WITH ARCHITECTURAL DRAWINGS.

PROVIDE CONTROL JOINTS IN CMU WALLS AS SHOWN ON PLANS OR NOT TO EXCEED 40'-0" O/C SPACING OF JOINTS SHOULD BE COORDINATED W/ ARCHITECT. G.C. TO SUBMIT LOCATION PLAN FOR REVIEW AND APPROVAL. SEE DETAIL SHEET S0.01

## CONCRETE:

| | |
|---|---|
| FOUNDATIONS ---------- | 5,000 PSI |
| SLAB ON GRADE ---------- | 4000 PSI |
| TYPICAL FLOOR SLABS---------- | 5000 PSI (*1) |
| COLUMNS AND BEAMS ---------- | 5000 PSI |
| ALL CONCRETE NOT INDICATED ABOVE ---------- | 4000 PSI |
| TOPPING SLABS ---------- | 4000 PSI (*3) (*1) |

(*1)SEE REQUIREMENTS FOR BALCONY MOISTURE PROTECTION.

(*2) PROVIDE 0.4 WATER CEMENT RATIO AS PER ACI 4.2.2

(*3) PROVIDE 1.5 LB/CY MICRO FIBERMESH REINFORCING.(U.O.N.)

## OPENINGS IN SLABS:

ALL OPENINGS IN CONCRETE SLABS SHALL BE LOCATED, SIZED AND REINFORCED (WITH THE EXCEPTION OF SMALL OPENINGS AND/OR SLEEVES OF A SIZE THAT WILL NOT DISPLACE OR INTERRUPT THE CONTINUITY OF THE REINFORCING) AS SHOWN ON RESPECTIVE FLOOR PLANS AND DETAILS. ANY ALTERATIONS REQUIRE APPROVAL OF THE STRUCTURAL ENGINEER. (SEE TYPICAL SLAB OPENING DETAIL ON DRAWING S-0.1). G.C. TO PROVIDE ALLOWANCE FOR THE REINFORCING REQUIRED FOR ALL OPENINGS.

ALL OPENINGS REQUIRED BY OTHER TRADES ARE TO BE COORDINATED W/ARCH. & MECH. DWGS., AND ARE SUBJECT TO STRUCTURAL ENGINEERING APPROVAL.

## WELDED WIRE FABRIC:

SHALL CONFORM TO ASTM A185 AND BE PLACED AND SUPPORTED IN ACCORDANCE WITH ACI 301 RECOMMENDATIONS.

## JOINTS BETWEEN OLD AND NEW CONCRETE:

APPLY SIKA ARMATEC 110 BONDING AGENT AT CONSTRUCTION JOINTS AND POUR STRIPS. (EXCEPT SLABS ON GRADE)

## SHORING SYSTEMS:

THE FORM AND SHORING SYSTEM SHALL BE DESIGNED BY A FLORIDA REGISTERED ENGINEER IN ACCORDANCE WITH ACI 347 RECOMMENDED PRACTICE FOR CONCRETE FORMING.

SHORING AND RE-SHORING PLANS MUST BE SIGNED AND SEALED BY A FLORIDA REGISTERED ENGINEER AND SUBMITTED WITH CALCULATIONS. CALCULATIONS FOR THE RE-SHORING PROCESS MUST INCLUDE THE POURING AND THE STRIPPING CYCLE BASED ON THE CONSTRUCTION SCHEDULE. THE ASSUMED CONCRETE STRENGTH AT THE TIME OF STRIPPING ANY NEW SLAB AND MUST BE SUBSTANTIATED BY PROVIDING CONCRETE MIX DESIGN AND EXPECTED STRENGTH GAIN WITH AGE. THE CALCULATIONS MUST SHOW THAT THE SLABS SUPPORTING A NEW SLAB ARE NOT OVER-STRESSED BASED ON THE ASSUMED STRENGTH AND THE AGE AT THE TIME OF POURING.ALL RE-SHORING CALCULATIONS SHALL INCLUDE CALCULATIONS FOR MUD SILLS AND ANY CONSTRUCTION LOADING SUCH AS CONCRETE PLACING BOOM SUPPORT ETC.

FINAL SIGNED AND SEALED SHORING AND RESHORING DRAWINGS SHALL BE ISSUED TO THE ENGINEER OF RECORD FOR THE PROJECT AND THE THRESHOLD BUILDING INSPECTOR FOR HIS USE TO INSURE COMPLIANCE WITH THESE DRAWINGS. NO CONVENTIONALLY REINFORCED FLAT SLAB SHALL BE STRIPPED AND RESHORED UNTIL CONCRETE HAS ACHIEVED A MINIMUM OF 70% OF DESIGN STRENGTH AND 72 HOURS OF AGE. BASED ON THE LOWEST CONCRETE TEST. SPACE SPECIAL SHORING/RESHORING PROGRAMS & CALCULATION SHALL BE INCLUDED FOR TRANSFER SLABS.

## PRECAST/POURED-IN-PLACE CONCRETE LINTELS:

SEE TYPICAL DETAILS.

PROVIDE AN .8" X 8" POURED-IN-PLACE OR REINFORCED PRECAST "U" LINTEL AS MANUFACTURED BY F.E.C.P. CORP-CAST-CRETE DIVISION P.O.BOX 24567, TAMPA, FL 33623 N.O.A. NO. 17-0821.18 &17-0821.19 OR MOST CURRENT (NOA) FOR ALL MASONRY OPENINGS NOT FRAMED BY A CONCRETE BEAM WITH THE FOLLOWING ADDED REINFORCING:

POURED - IN -PLACE:

2#5 T & B ; #3 @ 4" TIES FOR SPANS UP TO 6'-4" WIDE.
2#5 T, 2#6 B; #3 @ 4" TIES FOR SPANS UP TO 8'-4" WIDE.
2#5 T, 2#7 B; #3 @ 4" TIES FOR SPANS UP TO 10'-4" WIDE.

PRECAST "U" LINTEL (ADDED REINFORCING):

ADD 1 #5 T&B FOR SPANS OF 7'-6" TO 10'-4"

FILL ALL "U" LINTELS WITH 3000 PSI PEAROCK MIX.

PROVIDE A MINIMUM 8" BEARING ON MASONRY AT EACH END. "U" LINTELS ARE MANUFACTURED WITH 5 1/2" LONG NOTCHES TO ACCOMMODATE VERTICAL REINFORCING AND CONCRETE FILLED CELLS. (SEE STANDARD DETAIL FOR POURED-IN-PLACE OR REINFORCED PRECAST "U" LINTEL CONNECTION' INFILLED EXTERIOR MASONRY WALLS SHALL BE PLACED WITH A 1/2" GAP BETWEEN THE TOP OF BLOCK AND SOFFIT OF SLAB UNTIL FLOOR ABOVE IS LOADED. AFTER SLAB ABOVE IS LOADED, PACK 1/2" GAP AS PER SPECIFICATIONS SECTION 04220.

INTERIOR MASONRY WALLS OVER 16 FEET IN HEIGHT SHALL BE REINFORCED WITH #5 @48" C/C IN CONCRETE FILLED CELLS. SEE PLANS AND NOTES FOR ANY TIE BEAM OR TIE COLUMN REQUIREMENTS.

## REINFORCING STEEL:

SHALL BE DEFORMED BARS. FREE FROM LOOSE RUST AND SCALE AND CONFORM-ING TO ASTM A 615, GRADE 60. COLUMN AND BEAM TIES SHALL CONFORM TO ASTM A 615, GRADE 60.

ALL ACCESSORIES SHALL HAVE UPTURNED LEGS, AND BE PLASTIC DIPPED AFTER FABRICATION. ACCESSORIES FOR REINFORCING SHALL BE IN ACCORDANCE WITH ACI, CURRENT EDITION.

SUPPORT BARS SHALL BE #5 OR GREATER, AND NOT SPACED MORE THAN 4'-0" C/C. SUPPORT BARS AND ENDS OF MAIN REINFORCING SHALL NOT EXTEND MORE THAN 1'-6" PAST OUTERMOST CHAIR OR SUPPORT BAR.

A MINIMUM OF 3 SUPPORT BARS AND 3 INDIVIDUAL HIGH CHAIRS FOR EACH SUPPORT BAR SHALL BE PROVIDED FOR TOP REINFORCING.

## REINFORCING STEEL ALLOWANCE

CONTRACTOR SHALL PROVIDE AN ALLOWANCE OF 1% OF THE TOTAL STEEL BUDGETED FOR THE PROJECT FOR THE ENGINEER OF RECORD TO USE AT HIS DISCRETION DURING CONSTRUCTION. CONTRACTOR SHALL GIVE CREDIT TO OWNER FOR ANY UNUSED PORTION OF THIS ALLOWANCE AT THE END OF THE CONSTRUCTION OF THE PROJECT. THIS REINFORCING IS IN ADDITION TO ANY REINFORCEMENT USED IN THE PLANS.

## CONCRETE CURING AIDS AND DUSTPROOFING COMPOUNDS:

APPLY A WATER-SOLUBLE SODIUM SILICATE BASED CONCRETE CURING AID, HARDENING AND DUSTPROOFING COMPOUND WITH FUGITIVE RED DYE, EQUAL TO SONOSIL BY DEGUSSA OR ENGINEER APPROVED EQUAL, TO ALL FRESHLY PLACED EXPOSED CONCRETE SLAB SURFACES. APPLICATION TO TAKE PLACE ON THE SAME DAY CONCRETE FINISHING HAS TERMINATED AND VISIBLE WATER HAS DISSIPATED. APPLY PRODUCT STRICTLY IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED INSTRUCTIONS.

## BALCONY MOISTURE PROTECTION:

ALL BALCONY REINFORCING SHALL BE PROTECTED AGAINST MOISTURE INTRUSION AS FOLLOWS:

1. CLEARANCE TO ALL BALCONY NEGATIVE (TOP) REINFORCING SHALL BE NO LESS THAN 1"
2. THE CONCRETE PLACED SHALL BE A DESIGN MIX USING A MAXIMUM WATER CEMENT RATIO OF 0.40 BY WEIGHT AND f'c NOT LESS THAN 5000 PSI FOR NORMAL WEIGHT CONCRETE.
3. REINFORCING STEEL BARS, STUD RAILS, SHEAR HEADS, SUPPORT BARS, BACKER BARS, TIE WIRE AND ACCESSORIES IN BALCONY SLABS, CURBS AND BEAMS MUST BE HOT DIPPED GALVANIZED.
4. PLACEMENT OF SLAB REINFORCEMENT SHALL BE UNDER THE SUPERVISION OF A FLORIDA REGISTERED ARCHITECT OR PROFESSIONAL ENGINEER.
5. BALCONY RAILINGS SHALL BE INSTALLED AS OUTLINED BELOW.

   SECURE RAILING POSTS TO THE CONCRETE SLAB WITH ONE OF THE FOLLOWING PRODUCTS:
   - COMBEXTRA HF BY FOSROC
   - SONOGROUT 10K BY SONNEBORN
   - POLYGROUT (HIGH PERFORMANCE EPOXY GROUT) BY TAMMS. SLOPE AWAY FROM RAILING POSTS IN ALL DIRECTIONS FOR POSITIVE DRAINAGE.

   FULLY COAT RAILING POSTS ENDS TO DEPTH OF GROUTED CONNECTIONS, TO PREVENT GALVANIC ACTION WITH ONE OF THE FOLLOWING PRODUCTS:
   - DURAL 304 BY TAMMS
   - SIKA DUR 32, HI-MOD.

## GARAGE ELEVATED SLAB PROTECTION:

FOR GARAGE ELEVATED SLABS AND RAMPS FOLLOW ARCHITECTURAL RECOMMENDATIONS.

## HELICAL PILES

THE HELICAL PILES PROVIDE ALLOWABLE COMPRESSIVE FORCE EQUAL TO 12 TONS AND ALLOWABLE UPLIFT FORCE EQUAL 6 TONS.
INSTALLED CAPACITIES TO BE VERIFIED ON SITE BY REGISTERED PROCESSIONAL ENGINEER.
MINIMUM DEPTH OF THE HELICAL ANCHOR EQUAL TO 20 ft.
ONE (1) SET OF SITE SPECIFIC SHOP DRAWINGS SEALED BY A REGISTERED PROFESSIONAL ENGINEER IN FLORIDA; ALSO, THE SHOP DRAWINGS SHALL INCLUDE:
a. HELICAL PILE/ANCHOR NUMBER, LOCATION, AND PATTERN BY ASSIGNED IDENTIFICATION NUMBER
b. HELICAL PILE/ANCHOR DESIGN LOAD
c. ASSUMED GEOTECHNICAL RESISTANCE FACTOR
d. TYPE AND SIZE OF HELICAL PILE/ANCHOR SHAFT
e. HELICAL CONFIGURATION (NUMBER AND DIAMETER OF HELICAL PLATES)
f. MINIMUM EFFECTIVE TORQUE REQUIREMENT
g. GROUT COLUMN DIAMETER AND LENGTH
h. CONNECTION DETAILS

## TERMITE PROTECTION:

PER FBC SECTION 1816, TERMITE PROTECTION SHALL PROVIDED BY REGISTERED TERMINTICIDES, INCLUDING SOIL APPLIED PESTICIDES, BAITING SYSTEMS, AND PESTICIDES APPLIED TO WOOD, OR OTHER APPROVED METHODS OF TERMITE PROTECTION LABELED FOR USE AS A PREVENTATIVE TREATMENT TO NEW CONSTRUCTION. UPON COMPLETION OF THE APPLICATION OF THE TERMITE PROTECTIVE TREATMENT, A CERTIFICATE OF COMPLIANCE SHALL BE ISSUED TO THE BUILDING DEPARTMENT BY THE LICENSED PEST CONTROL COMPANY THAT CONTAINS THE FOLLOWING STATEMENT: "THE BUILDING HAS RECEIVED A COMPLETE TREATMENT FOR THE PREVENTION OF SUBTERRANEAN TERMITES. TREATMENT IS IN ACCORDANCE WITH RULES AND LAWS ESTABLISHED BY FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES."

## METHODS & SAFETY:

THE STRUCTURAL ENGINEER OF RECORD DOES NOT POSSES NOR PRESUMES TO POSSES ANY KNOWLEDGE OR EXPERTISE IN MATTERS TO JOB SITE EMPLOYEE SAFETY, OSHA OR LABOR LAW REQUIREMENTS FOR A CONSTRUCTION PROJECT.SAFETY AND COMPLINCE WITH OSHA AND LABOR LAWS ARE THE ABSOLUTE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND HIS CONSULTANTS TO ADDRESS THESE MATTERS. THE STRUCTURAL ENGINEER OF RECORD SPECIALIZES IN STRUCTURAL DESIGN ONLY. THE BOARD OF PROFESSIONAL REGULATION FORBIDS HIM FROM ASSUMING RESPONSIBILITY OUTSIDE HIS AREA OF EXPERTISE.
THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL METHODS, PROCEDURES, AND SEQUENCES OF CONSTRUCTION. CONSTRUCTION SITE SAFETY, INCLUDING ALL ADEQUATE TEMPORARY BRACING AND SHORING, IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

## SYMBOL LEGEND

| SYMBOL | DENOTES |
|---|---|
| | COLUMN STARTS AT THIS LEVEL |
| | COLUMN OCCURS ABOVE AND BELOW THIS LEVEL |
| | COLUMN TERMINATES AT THIS LEVEL |
| | CONCRETE STRUCTURAL COLUMN TERMINATES AT THIS LEVEL AND TIE COLUMNS (TC) STARTS AT THIS LEVEL |
| | CONCRETE WALL OCCURS ABOVE THIS LEVEL |
| | CONCRETE WALL TERMINATES AT THIS LEVEL |
| | NON-BEARING BLOCK WALL AND/OR CONCRETE WALL |
| | CONCRETE BEARING BLOCK WALL WITH CONCRETE FILLED CELLS AS PER SCHEDULE (U.O.N.) |
| | CONCRETE BEARING BLOCK WALL TERMINATES AT THIS LEVEL |
| | SECONDARY POUR OR PRECAST |
| | EXPANDED POLYSTYRENE U.O.N. |
| -3' - 0" | TOP OF FOOTING OR PILE CAP |
| EL.+7'-0" | ELEVATION OF SLAB/BEAM/FOOTING ETC. |
| 1 / 101 | SECTION NUMBER / DRAWING NUMBER WHERE SECTION IS SHOWN |
| WF-XX | WALL FOOTING |
| SIM. | SIMILAR CONDITION |
| TYP. | TYPICAL CONDITION |
| CLR. | CLEAR DISTANCE BETWEEN ELEMENTS |
| C/C | CENTER TO CENTER DIMENSION |
| E.J. | EXPANSION JOINT |
| K.J. | COLD JOINT |
| C.J. | CONSTRUCTION JOINT |
| W.P. | WORKING POINT |
| TB | TIE BEAM |
| E.T.B. | EXISTING TIE BEAM |
| GB | GRADE BEAM |
| CONT. | CONTINUOUS CONDITION |
| U.O.N. | UNLESS OTHERWISE NOTED |
| CL | CENTERLINE OF ELEMENTS |
| SLOPE | DIRECTION OF FLOOR OR ROOF SLOPE |
| T. | TOP |
| B. | BOTTOM |
| (LO) | BELOW |
| (AB) | ABOVE |

## STRUCTURAL DRAWING INDEX & LOG

| | | PRELIMINARY SET 10.29.2021 |
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| S-1.01 | ROOF PLAN | ● |
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| S-3.00 | BEAM, COLUMNS, PLYWOOD & CONNECTOR SCHEDULES | ● |
| S-4.00 | COMPONENT & CLADDING WIND PRESSURES | ● |

Rolando M Roque Mesa

Digitally signed by Rolando M Roque Mesa
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Rolando M. Roque,
License #: 86571


SEAL:

ROLANDO M. ROQUE MESA ☆ LICENSE ☆ No. 86571 ☆ STATE OF FLORIDA ☆ PROFESSIONAL ENGINEER



PROJECT NAME:

**HOUSE RENOVATION AND ADDITION**

PROJECT ADDRESS

1300 LENOX ALTON ROAD

OWNER:

CONSULTANTS:

PROJECT NO.

92-2021

DATE

10-25-2021

REVISIONS

| Issue | Issue date / For |
|---|---|

SHEET TITLE

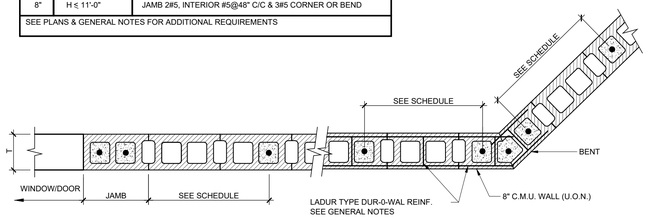
GENERAL NOTES

SHEET

S-0.00

## BEARING WALL SCHEDULE

| T | CLEAR HEIGHT | VERT. REINF. SPACING |
|---|---|---|
| 8" | H ≤ 11'-0" | JAMB 2#5, INTERIOR #5@48" C/C & 3#5 CORNER OR BEND |
| SEE PLANS & GENERAL NOTES FOR ADDITIONAL REQUIREMENTS | | |

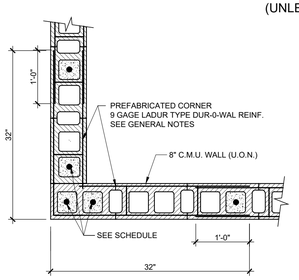



## TYPICAL EXTERIOR REINFORCED MASONRY WALL DETAILS

(UNLESS OTHERWISE NOTED IN PLANS)

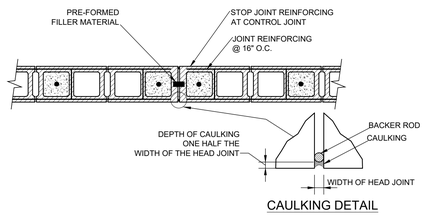
NOT TO SCALE

MASONRY f ' M = 1500 psi




## TYPICAL CORNER CONDITION

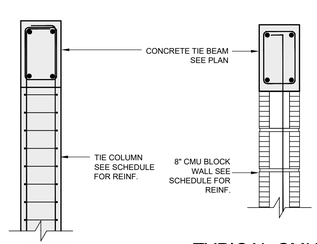
N.T.S.




CAULKING DETAIL

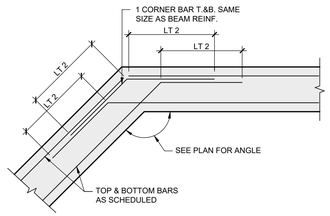
## TYPICAL CMU CONTROL JOINT

NOT TO SCALE




## TYPICAL TIE COLUMN - TIE BEAM CONNECTION

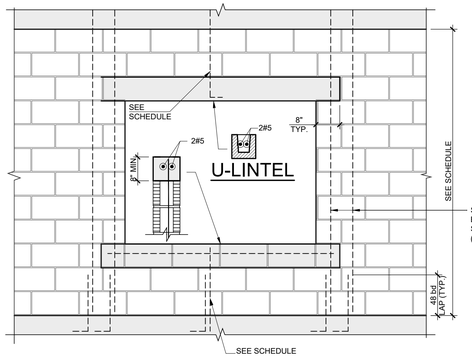
## TYPICAL CMU WALL - TIE BEAM CONNECTION



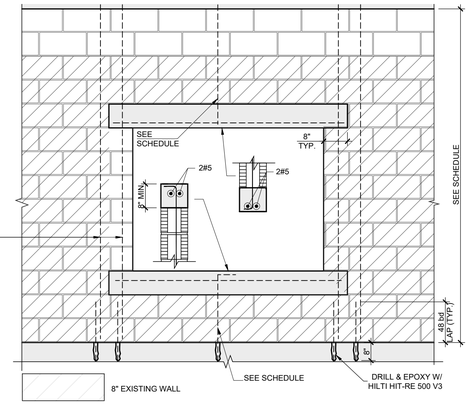

## TYPICAL BEAM CORNER DETAIL

NOT TO SCALE

NOTE: APPLIES TO STRUCTURAL, GRADE & TIE BEAM (TYP. U.O.N.)




## TYPICAL REINFORCING PLACEMENT AT WINDOW OPENINGS (UP TO 8'-0" WIDE ) NEW CMU WALL

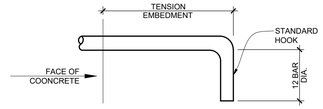



## TYPICAL REINFORCING PLACEMENT AT WINDOW OPENINGS AT EXISTING CMU WALL (UP TO 8'-0" WIDE ) EXISTING WALL EXTENDED

| f'c = 5000 PSI, NORMAL CONCRETE | | | | | |
|---|---|---|---|---|---|
| BAR SIZE | LAP CLASS | TOP BARS CATEGORY 1 | TOP BARS CATEGORY 2 | OTHER BARS CATEGORY 1 | OTHER BARS CATEGORY 2 |
| #3 | LD | 17 | 25 | 13 | 19 |
| | LT2 | 22 | 32 | 17 | 25 |
| #4 | LD | 22 | 33 | 17 | 25 |
| | LT2 | 29 | 43 | 22 | 33 |
| #5 | LD | 28 | 41 | 21 | 32 |
| | LT2 | 36 | 54 | 28 | 41 |
| #6 | LD | 33 | 50 | 25 | 38 |
| | LT2 | 43 | 65 | 33 | 50 |
| #7 | LD | 48 | 72 | 37 | 56 |
| | LT2 | 63 | 94 | 48 | 72 |
| #8 | LD | 55 | 83 | 42 | 64 |
| | LT2 | 72 | 108 | 55 | 83 |
| #9 | LD | 62 | 93 | 48 | 72 |
| | LT2 | 81 | 121 | 62 | 93 |
| #10 | LD | 69 | 103 | 53 | 80 |
| | LT2 | 90 | 134 | 69 | 103 |
| #11 | LD | 76 | 114 | 58 | 88 |
| | LT2 | 99 | 148 | 76 | 114 |
| #14 | LD | 97 | 145 | 74 | 111 |
| #18 | LD | 124 | 186 | 95 | 143 |

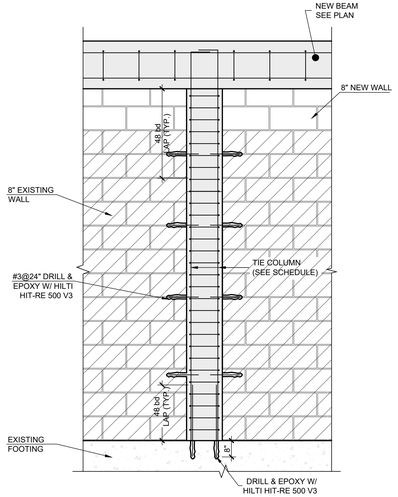
## TENSION EMBEDMENT LENGTH (with std. hook) SCHEDULE

| BAR SIZE | f'c = 3000 psi | | f'c = 4000 psi | | f'c = 5000 psi | | f'c = 6000 psi | | f'c = 7000 psi | | f'c = 8000 psi | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TOP | BOT | TOP | BOT | TOP | BOT | TOP | BOT | TOP | BOT | TOP | BOT |
| # 4 | 12" | 8" | 10" | 7" | 9" | 6" | 9" | 6" | 9" | 6" | 9" | 6" |
| # 5 | 14" | 10" | 13" | 9" | 12" | 8" | 10" | 7" | 10" | 7" | 10" | 7" |
| # 6 | 17" | 12" | 14" | 10" | 13" | 9" | 13" | 9" | 12" | 8" | 12" | 8" |
| # 7 | 20" | 14" | 17" | 12" | 16" | 11" | 14" | 10" | 13" | 9" | 13" | 9" |
| # 8 | 23" | 16" | 20" | 14" | 17" | 12" | 16" | 11" | 16" | 11" | 14" | 10" |
| # 9 | 26" | 18" | 21" | 15" | 20" | 14" | 19" | 13" | 17" | 12" | 16" | 11" |
| # 10 | 28" | 20" | 24" | 17" | 23" | 16" | 20" | 14" | 19" | 13" | 17" | 12" |
| # 11 | 31" | 22" | 27" | 19" | 24" | 17" | 23" | 16 | 21" | 15" | 20" | 14" |

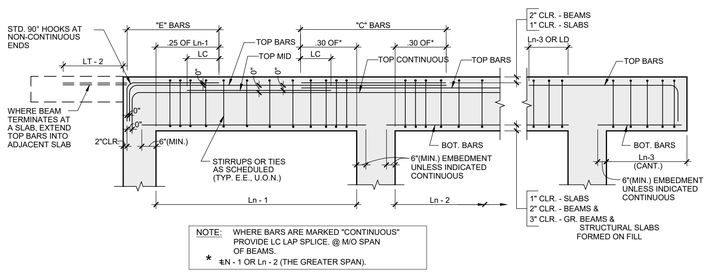



## TYPICAL TENSION EMBEDMENT DETAIL

NOT TO SCALE




## TYPICAL EXISTING WALL/TIE BEAM AND EXTENDED WALL CONNECTION




NOTE: WHERE BARS ARE MARKED "CONTINUOUS" PROVIDE LC LAP SPLICE. @ M/O SPAN OF BEAMS.

* 4'-N - 1 OR Ln - 2 (THE GREATER SPAN).

## TYPICAL REINFORCEMENT PLACEMENT DIAGRAM FOR BEAMS

NOT TO SCALE

| DEFINITIONS OF LAP/SPLICE CATEGORIES | |
|---|---|
| CATEGORY | DEFINITION |
| 1 | CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED NOT LESS THAN db, CLEAR COVER NOT LESS THAN db, AND STIRRUPS OR TIES THROUGHOUT Ld NOT LESS THAN THE CODE MINIMUM OR CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED NOT LESS THAN 2db, AND CLEAR COVER NOT LESS THAN db. |
| 2 | OTHER CASES |

NOTE:

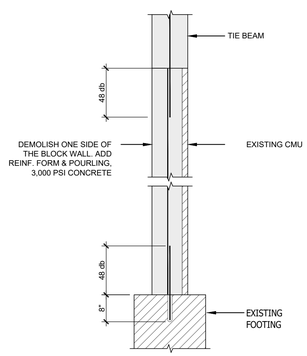
1. TOP BARS ARE DEFINED AS HORIZONTAL REINFORCEMENT SO PLACED THAT MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE DEVELOPMENT LENGTH OR SPLICE.
2. db STANDS FOR NOMINAL BAR DIAMETER.

| COMPRESSION LAP SPLICE "LC" |
|---|
| "LC" = 30 BAR DIAMETER FOR f'c > 3000 psi |
| **MINIMUM COMPRESSION DOWEL EMBEDMENT** |
| 22 BAR DIAMETER FOR f'c > 3000 psi |

LD = TENSION DEVELOPMENT LENGTH IN INCHES
LT2 = TENSION LAP SPLICE LENGTH IN INCHES
USE TABLES FOR GRADE 60 UNCOATED BARS

LAP SPLICES FOR SHEARWALLS
ALL SHEARWALL SHALL BE LT-2

## TENSION DEVELOPMENT & LAP SPLICE LENGTH SCHEDULES




## TYPICAL EXISTING CMU WALL - REINFORCEMENT DETAIL

Rolando M Roque Mesa

Digitally signed by Rolando M Roque Mesa
Date: 2021.12.06 10:25:23 -05'00'


Square structural engineers

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Rolando M. Roque,
License #: 86571


SEAL:

ROLANDO M. ROQUE MESA LICENSE No. 86571 STATE OF FLORIDA PROFESSIONAL ENGINEER



PROJECT NAME:

**HOUSE RENOVATION AND ADDITION**

PROJECT ADDRESS

1300 LENOX ALTON ROAD

OWNER:

CONSULTANTS:

PROJECT NO.

92-2021

DATE

10-25-2021

REVISIONS

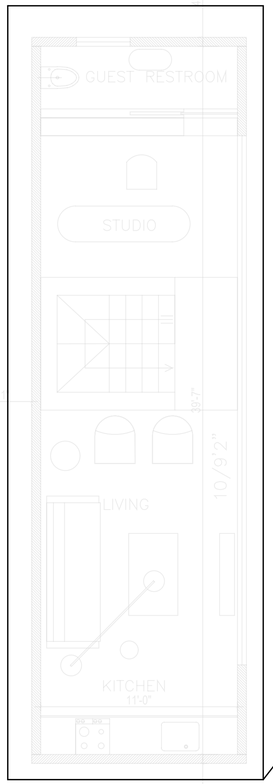
| Issue | Issue date / For |
|---|---|

SHEET TITLE

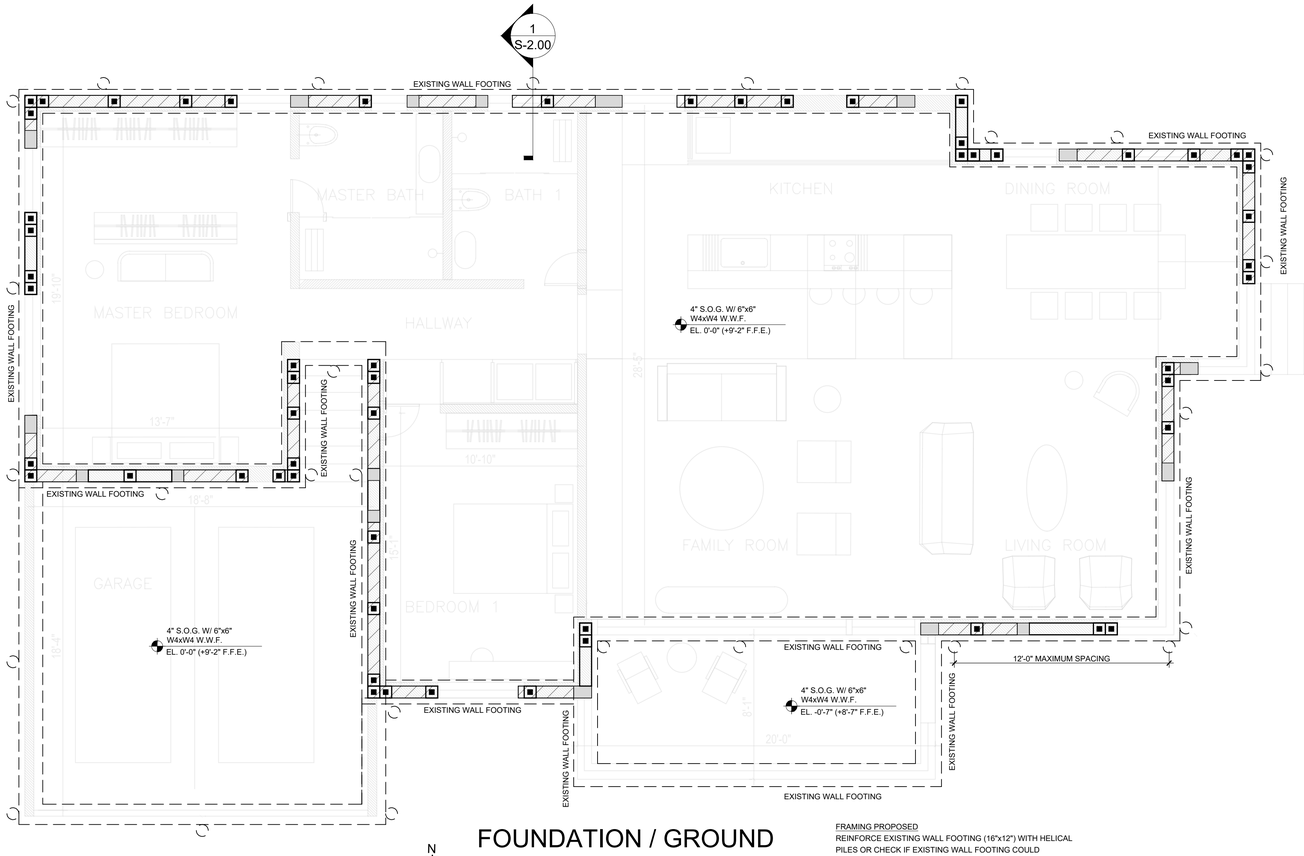
STANDARD DETAILS

SHEET

S-0.01




FRAMING PROPOSED
GRADE BEAM ON HELICAL PILES, PILES OR WALL FOOTING ACCORDING TO SOIL REPORT SHALL PROPOSE.
8" CMU BEARING WALL WITH TIE COLUMNS
8" RC SLAB



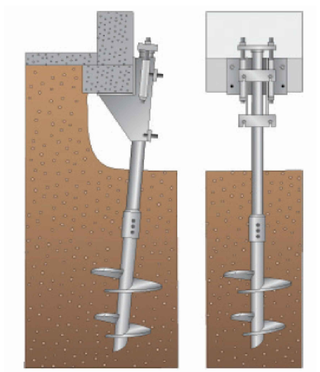

# FOUNDATION / GROUND FLOOR PLAN

Scale: 1/4":1'-0"

NOTE 1:
DRILL & EPOXY W/HILTI HIT-RE 500 V3 #3@16", L=6"

LEGEND:
Ø14" HELICAL PILE
EXISTING STRUCTURAL MEMBERS

FRAMING PROPOSED
REINFORCE EXISTING WALL FOOTING (16"x12") WITH HELICAL PILES OR CHECK IF EXISTING WALL FOOTING COULD SUPPORT NEW FORCES. A SOIL REPORT IS REQUIRED.
8" CMU BEARING WALL WITH TIE COLUMNS
8x12" TIE BEAM
PREFABRICATED WOOD TRUSSES @24".



HELICAL PILES CONNECTION TO EXISTING WALL FOOTING

Rolando M Roque Mesa
Digitally signed by Rolando M Roque Mesa
Date: 2021.12.06 10:25:34 -05'00'

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Rolando M. Roque, License #: 86571

SEAL:
ROLANDO M. ROQUE MESA LICENSE No. 86571 STATE OF FLORIDA PROFESSIONAL ENGINEER


TO THE BEST OF THE ARCHITECT OR ENGINEERS KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM CODES AND THE APPLICABLE FIRE SAFETY STANDARDS AT THE TIME OF THEIR PREPARATION AS DETERMINED BY THE LOCAL AUTHORITIES IN ACCORDANCE WITH SECTION 105 (F.B.C.) FLORIDA BUILDING CODE AND 633 FLORIDA STATUTES.

PROJECT NAME:
**HOUSE RENOVATION AND ADDITION**

PROJECT ADDRESS
1300 LENOX ALTON ROAD

OWNER

GROUND FLOOR / FOUNDATION PLAN

CONSULTANTS:

PROJECT NO.
92-2021

DATE
10-25-2021

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Issue Issue date / For

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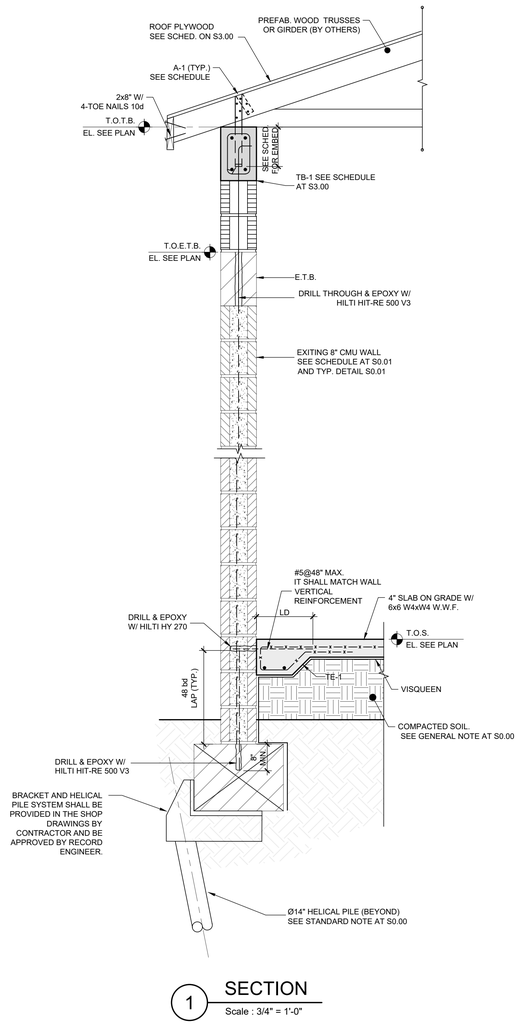
SHEET
S-1.00




1 SECTION

Scale : 3/4" = 1'-0"

Rolando M Roque Mesa

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Date: 2021.12.06 10:25:44 -05'00'

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PROFESSIONAL ENGINEER



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SECTIONS

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