09 January 2025

Addendum 2

NCSPA Shipping and Receiving
Morehead City, NC
NCSPA #10665
SCO #24-28316-01A

The following addendum shall supersede previous information and does hereby become part of the contract documents.

- Contractor to provide Termite Control. See attached specification 02282.
- MC cable is **NOT** allowed for this project.
- Clarification: All exposed wood treated posts and railings to be unpainted.
- See attached revised site plans (Sheet 2 Site Plan and Sheet 3 Grading and Drainage Plan):
    - ADA signage detail added to sheet 2 site plan.
    - Disregard relocation of existing building shown on Sheet 1 Existing Conditions. See also previous Addendum 1.
    - The Contractor shall be responsible for boring the new water line under the existing road. See utility notes on Sheet 2, Site Plan.
    - The Contractor shall be responsible for any/all Tap and Impact fees from the Town of Morehead City.
    - Sheet 2 Site Plan: The Alternate Pervious Parking Detail has been removed. Use Pervious Parking Detail.
    - Sheet 2 Site Plan: See Notes for Clarification of all proposed parking areas and drive aisles to be pervious concrete. (Forklift drive aisles to be conventional concrete.)
- Clarification, 07610: Standing seam roof panels to be 18" maximum width. Prefinished color to be selected from manufacturer standard color chart. All metal flashings to be prefinished to match roof
- Clarification: All lap siding, soffits and trim to be painted.
- See attached structural drawings.
    - SCO ID# added to all pages.
    - S1.1-S1.2, Special Inspection Removed
    - S1.1, Response modification factor and seismic base shears updated in structural notes.
    - S4.1, details 1/S4.1 and 2/S4.1 updated to FFE of 9.0.

- E.1: General notes, note 2 to read all service, feeder, and branch circuit conductors to be copper.
- E.3: New electrical panel to be relocated to opposite wall.
- E.4: Riser Wiring Schedule, Note 3:
    - Add – interconnect all grounding points as required per NEC 250.50
- Windows W-1, W-2, W-3, W-4 (exterior)-single sliding, to be impact resistant frames and glazing similar to Kawneer 8400TL Thermal Windows, or approved equal.

  W-4 inside Reception 100 can be similar to a drive thru service window such as Ready Access or Quick Serve or approved equal.

End of Addendum 2

SECTION 02282 - TERMITE CONTROL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions, Amendments to General Conditions, Supplementary Conditions and Sections in Division 1 of the Specifications apply to work of this Section.

1.2 DESCRIPTION

A. Work included but not limited to:
1. Furnish and install a complete "preconstruction" soils treatment under and adjacent to building to provide uniform toxic barrier in all routes of termite entry.

1.3 PROTECTION

A. Allow no disturbance of treated soil between application of poison and pouring of concrete, including protection against rain or snow.

1.4 GUARANTEE

A. Upon completion of soil treatment and as a condition of its final acceptance, furnish Owner written guarantee against subterranean termite infestation for a period of at least five years from acceptance date of project. Treat evidence of infestation within guarantee period at no cost to Owner.

PART 2 - PRODUCTS

2.1 SOIL TREATMENT SOLUTION

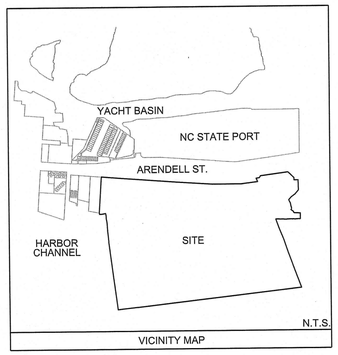
A. Use only termiticides, which bear a Federal registration number of the U.S. Environmental Protection Agency.

B. Soil Treatment Solution: Use an emulsible concentrate termiticide for dilution with water, specially formulated to prevent infestation by termites. Fuel oil will not be permitted as a dilutent.

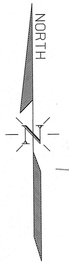
PART 3 - EXECUTION

3.1 Application shall be in strict accordance with manufacturer's label recommendations and as permitted by the Environmental Protection Agency and N.C. Department of Agriculture, Structural Pest Control Division.

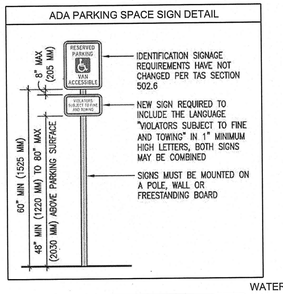
END OF SECTION 02282



VICINITY MAP



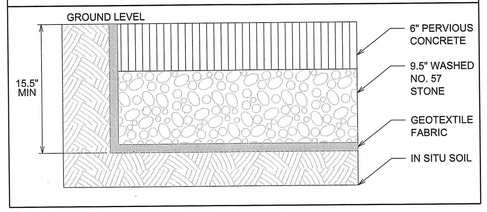
ADA PARKING SPACE SIGN DETAIL



PARKING/DRIVE AISLE NOTES

ALL AREAS WHERE PARKING/DRIVE AISLES ARE PROPOSED SHALL BE REMOVED OF EXISTING MATERIALS/OBJECTS AND THEN CONSTRUCTED IN ACCORDANCE TO THE PLANS AND DETAILS.

PERVIOUS PARKING DETAIL



NOTES

THE "TRUCK LANES" SHOWN ON THE PLAN ARE NOT SURVEYED AND WERE REFERENCED FROM AN AERIAL.

THERE ARE 3 LANES APPROXIMATELY 12' IN WIDTH.

THE PROPOSED BUILDING IS 1,815 SF WITH 330 SF OF THAT BEING A COVERED PORCH AREA.

ALL PROPOSED PARKING AREAS AND DRIVE ASILES ARE TO BE PERVIOUS CONCRETE.

THE BUILDING AND PARKING ADDITION DISTURBS APPROXIMATELY 8,767 SF OF EX. GRASSED AREA.

SITE IS LOCATED IN AE 6 FLOOD ZONE.

FEMA FLOOD MAP: 3720639600J (7/16/23)

DEVELOPMENT WHICH WILL TAKE PLACE WITHIN THE LIMITS OF THE 100 YEAR FLOODPLAIN AT ELEVATION AE 6 IS DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF EXECUTIVE ORDER NO. 123 - UNIFORM FLOODPLAIN MANAGEMENT POLICY.

UTILITY NOTES

CONTRACTOR SHALL CONTACT DUKE ENERGY REGARDING POWER TO THE PROPOSED BUILDING. THE SERVICE UTILITY POLE AND PANEL ON THE EAST SIDE OF THE BUILDING WILL REMAIN IN PLACE.

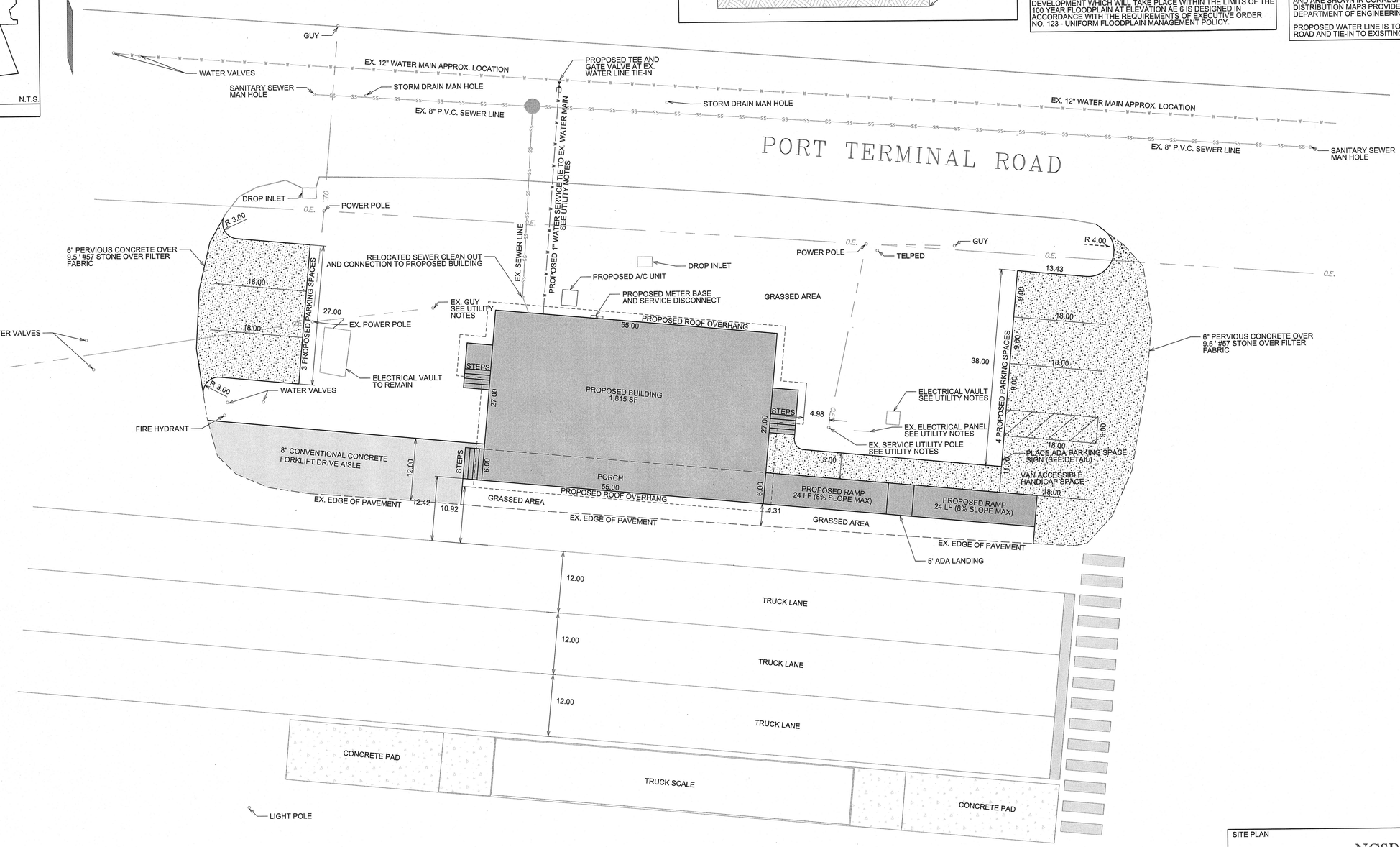
SANITARY SEWER RUNNING FROM THE PROPOSED BUILDING SHALL TIE INTO THE EXISTING CLEAN OUT ON THE NORTHWEST CORNER OF THE BUILDING.

SANITARY SEWER SERVICE SHALL TIE-IN AT SAME LOCATION OF PREVIOUS BUILDING TIE-IN. EXISTING SEWER SERVICE IS FUNCTIONING AND OPERATIONAL.

PROPOSED WATER SERVICE TO THE BUILDING IS APPROXIMATE AND SHALL BE FIELD VERIFIED TO DETERMINE IF THERE ARE ANY EXISTING SERVICE LINES ALREADY IN PLACE.

EXISTING WATER AND SEWER LINES SHOWN ARE APPROXIMATE AND ARE SHOWN IN CORRESPONDENCE WITH UTILITY DISTRIBUTION MAPS PROVIDED BY NORTH CAROLINA PORTS DEPARTMENT OF ENGINEERING.

PROPOSED WATER LINE IS TO BE BORED UNDERNEATH EXISTING ROAD AND TIE-IN TO EXISITING LINE.



BEFORE YOU DIG!
NC ONE CALL
(TOLL FREE)
811
(OR 1-800-632-4949)
IT'S THE LAW!

REVISIONS:			
No.	BY	DATE	DESCRIPTION
1	HPD	10/16/24	PER NC DOA
2	HPD	12/11/24	PER NC DOA
3	HPD	1/7/25	PER NC DOA

LEGEND

PROPOSED BUILDING	
CONVENTIONAL CONCRETE	
PERVIOUS CONCRETE	
OVERHEAD ELECTRIC	– O.E. –
WATER LINE	– W –
SEWER LINE	– SS –

SCO ID#: 24-28316-01A
SHEET # 2 OF 3
PROJECT #:PM2735-013
DESIGN FILE #: PORT SHIPPING AND RECIEVING.dgn

10' 5' 0' 10' 20'
SCALE: 1" = 10'

NORTH CAROLINA PROFESSIONAL SEAL 13343 ENGINEER RONALD D CULLIPHER

SITE PLAN

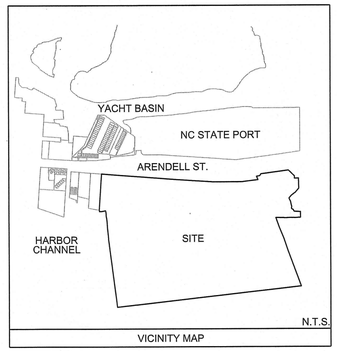
NCSPA
SHIPPING AND RECEIVING

MOREHEAD TWSP, CARTERET COUNTY, NORTH CAROLINA

CLIENT: NORTH CAROLINA PORTS
ADDRESS: 113 Arendell St, #208
Morehead City, NC 28557
PHONE: (252) 808-4235

THE CULLIPHER GROUP, P.A.
ENGINEERING & SURVEYING SERVICES
151A HIGHWAY 24
MOREHEAD CITY, N.C. 28557
(252) 773-0090 LICENSE NO. C-4482
RONALD D. CULLIPHER, P.E.

SURVEYED:	EGC
DRAWN:	HPD
CHECKED:	RDC
APPROVED:	RDC
DATE:	6/9/2024
SCALE:	1" = 10'



VICINITY MAP

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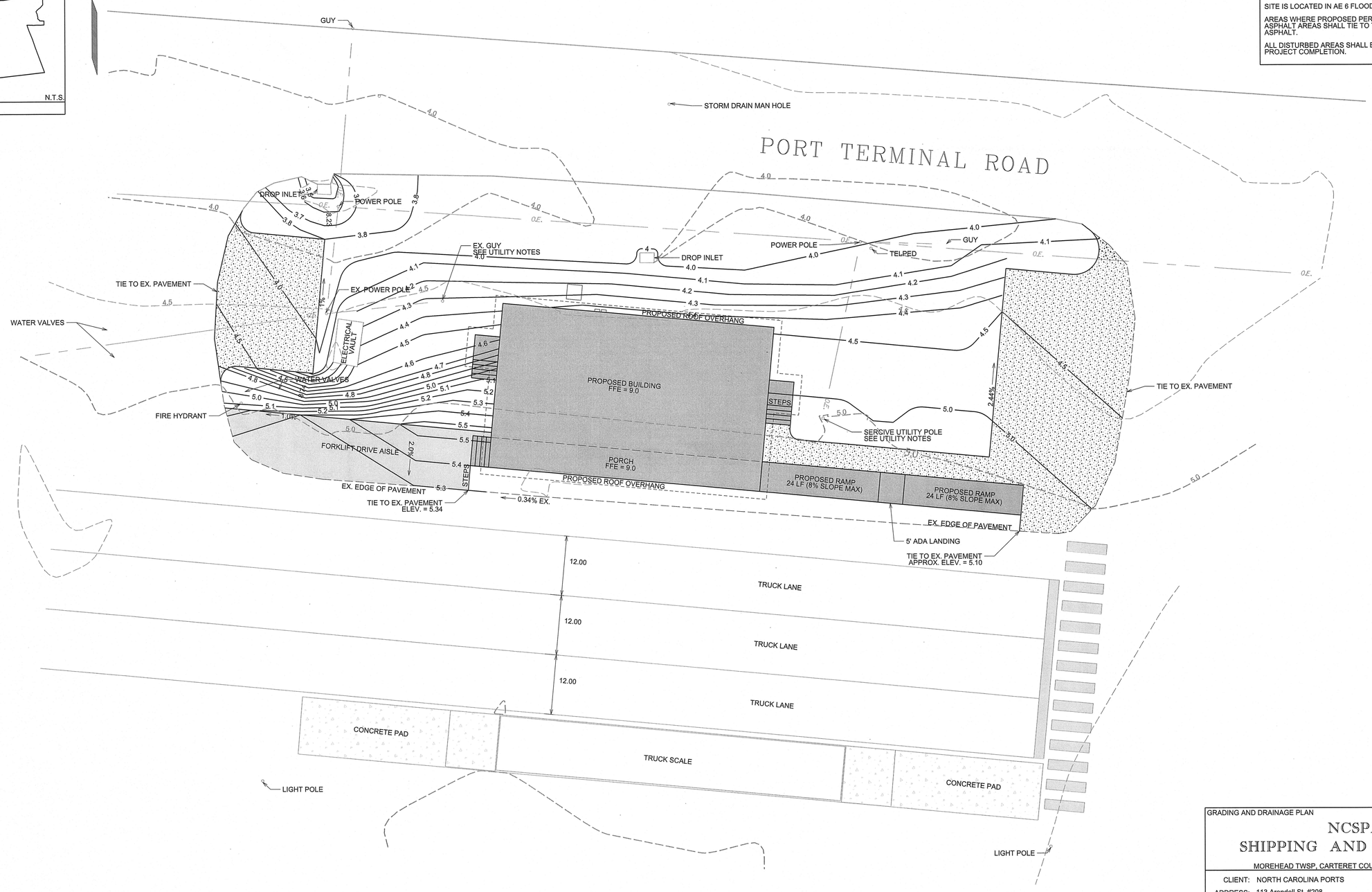
THE BUILDING AND PARKING ADDITION DISTURBS APPROXIMATELY 8,767 SF OF EX. GRASSED AREA.

N.C. STATE PROPERTY MUST BE LOCATED 2.0 FT. ABOVE THE EFFECTIVE FLOOD ZONE.

SITE IS LOCATED IN AE 6 FLOOD ZONE.

AREAS WHERE PROPOSED PERVIOUS CONCRETE MEETS EXISTING ASPHALT AREAS SHALL TIE TO THE ELEVATION OF THE EXISITNG ASPHALT.

ALL DISTURBED AREAS SHALL BE FINE GRADED AND SEEDED AT PROJECT COMPLETION.



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No.	BY	DATE	DESCRIPTION
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LEGEND	
PROPOSED BUILDING	
CONVENTIONAL CONCRETE	
PERVIOUS CONCRETE	
OVERHEAD ELECTRIC	– O.E. –
WATER LINE	– W –
SEWER LINE	– SS –
EXISTING CONTOUR	— 4.0 —
PROPOSED CONTOUR	— 4.0 —

10' 5' 0' 10' 20'
SCALE: 1" = 10'

GRADING AND DRAINAGE PLAN

NCSPA
SHIPPING AND RECEIVING

MOREHEAD TWSP, CARTERET COUNTY, NORTH CAROLINA

CLIENT: NORTH CAROLINA PORTS
ADDRESS: 113 Arendell St, #208
Morehead City, NC 28557
PHONE: (252) 808-4235

SURVEYED: EGC
DRAWN: HPD
CHECKED: RDC

THE CULLIPHER GROUP, P.A.
ENGINEERING & SURVEYING SERVICES
151A HIGHWAY 24
MOREHEAD CITY, N.C. 28557
(252) 273-0090 LICENSE NO. C-4482
RONALD D. CULLIPHER, P.E.

APPROVED: RDC
DATE: 7/9/2024
SCALE: 1" = 10'

NORTH CAROLINA PROFESSIONAL SEAL 13343 ENGINEER RONALD D. CULLIPHER

SCO ID#: 24-28316-01A

SHEET # 3 OF 3
PROJECT #:PM2735-013
DESIGN FILE #: PORT SHIPPING AND RECIEVING.dgn

STRUCTURAL NOTES

GENERAL NOTES:

1. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH JOB SPECIFICATIONS AND ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND SITE DRAWINGS. CONSULT THESE DRAWINGS FOR SLEEVES, DEPRESSIONS AND OTHER DETAILS NOT SHOWN ON STRUCTURAL DRAWINGS.

2. ALL DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD AND WITH ALL OTHER DRAWINGS. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK.

3. THE STRUCTURE IS DESIGNED TO BE SELF SUPPORTING AND STABLE AFTER THE BUILDING IS COMPLETE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO ENSURE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING ERECTION. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING (AND ACCOMPANYING FOOTINGS), GUYS OR TIEDOWNS.

4. ADDITIONAL OBSERVATIONS AS A RESULT OF REJECTION OF WORK COMPLETED AND/OR ADDITIONAL OBSERVATIONS DUE TO THE DEFICIENCIES IN WORK OBSERVED WILL BE AT THE EXPENSE OF THE CONTRACTOR.

5. ALL STRUCTURAL SHOP DRAWINGS TO BE REVIEWED BY JOB SUPERINTENDENT IN ADDITION TO ALL PERSONNEL DEEMED NECESSARY BY CONTRACTOR PRIOR TO SUBMITTAL TO ENGINEER FOR APPROVAL.

6. ALL SHOP DRAWING RESUBMITTALS SHALL INCLUDE A WRITTEN DETAILED LIST OF LOCATIONS AND DESCRIPTIONS OF ALL CHANGES MADE FROM PREVIOUS SUBMITTAL. LIST SHALL BE SPECIFIC AND GENERAL NOTES SUCH AS 'DIMENSIONS CORRECTED' ARE NOT ACCEPTABLE.

DESIGN CODES:

2018 NORTH CAROLINA STATE BUILDING CODE.

ACI 318-14 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY.

AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, ALLOWABLE STRESS DESIGN.

2015 NATIONAL DESIGN SPECIFICATIONS (NDS) FOR WOOD CONSTRUCTION

DESIGN LOADS:

THE STRUCTURAL SYSTEM FOR THIS BUILDING HAS BEEN DESIGNED WITH THE FOLLOWING SUPERIMPOSED LOADINGS:

ROOF:		
GROUND SNOW LOAD,	Pg =	10 psf
DESIGN ROOF SNOW LOAD,	Pf =	10 psf
SNOW EXPOSURE FACTOR,	Ce =	0.9
SNOW LOAD IMPORTANCE FACTOR,	Is =	1.0
THERMAL FACTOR,	Ct =	1.2
ROOF LIVE LOAD	20 psf	
DESIGN LIVE LOADS:		
FLOOR	100 psf	
WIND:		
BASIC WIND SPEED (3 SEC GUST)	144 mph	
EXPOSURE CATEGORY	D	
RISK CATEGORY	II	
WIND BASE SHEARS,	Vx =	9.6k
	Vy =	10.8k

COMPONENT & CLADDING:
ALL BUILDING COMPONENTS AND CLADDING ENGINEERED BY THE COMPONENT MANUFACTURER ARE TO BE DESIGNED BY THE MANUFACTURER'S ENGINEER FOR WIND LOADS DETERMINED PER THE NORTH CAROLINA STATE BUILDING CODE FOR THE BASIC DESIGN WIND VELOCITY, IMPORTANCE FACTOR AND EXPOSURE LISTED ABOVE.

SEISMIC:		
IMPORTANCE FACTOR,	Ie =	1.0
USE GROUP		I
MAPPED SPECTRAL RESPONSE ACCELERATIONS,	Ss =	0.119
	S1 =	0.06
SPECTRAL RESPONSE COEFF.,	Sds =	0.127
	Sd1 =	0.096
SEISMIC RESISTING SYSTEM: ORDINARY WOOD SHEATHED SHEAR WALLS		
DESIGN BASE SHEARS,	Vx =	1.86k
	Vy =	1.92k
SEISMIC RESPONSE COEFFICIENT	Cs =	N/A
RESPONSE MODIFICATION FACTOR	R =	6
ANALYSIS PROCEDURE USED:	EQUIV. LAT. FORCE	
DESIGN CATEGORY	B	
SITE CLASSIFICATION	D	

FOUNDATIONS:

FOUNDATIONS ARE DESIGNED FOR AN ALLOWABLE SOIL BEARING PRESSURE OF 1,500 psf. ON EXISTING SOILS. BEFORE CONSTRUCTION COMMENCES, SOIL BEARING CAPACITY SHALL BE VERIFIED BY A SUBSURFACE INVESTIGATION, A CERTIFIED TESTING LABORATORY, WHOSE REPORT SHALL INCLUDE ANALYSIS AND RECOMMENDATIONS FOR SITE PREPARATION IN ORDER TO BEAR THE FOUNDATION LOADS. ABOVE REPORT SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW BEFORE FOUNDATION CONSTRUCTION BEGINS.

PLUMBING SLEEVES:

MINIMUM SLEEVE SPACING SHALL BE TWO DIAMETERS CENTER TO CENTER TO THE LARGER SLEEVE OR 6" CLEAR BETWEEN SLEEVES, WHICHEVER IS GREATER. PRIOR TO CONSTRUCTION SLEEVE LOCATIONS AND SIZES SHALL BE APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.

CHEMICAL ANCHORS:

SHALL BE A POLYMER INJECTION SYSTEM SUCH AS RAMSET "EPCON", MOLLY "PARAMOUNT HVC", SIKA "SIKADUR INJECTION SEL", "HILTI-HIGH STRENGTH EPOXY", OR APPROVED EQUAL, INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS. INSTALLERS SHALL BE TRAINED BY THE MANUFACTURER'S REPRESENTATIVE.

ANCHOR BOLTS:

SHALL BE A36 THREADED ROD. PROVIDE HOT DIP GALVANIZE FINISH ON ALL ANCHOR BOLTS PERMANENTLY EXPOSED TO EXTERIOR.

CONCRETE TESTING:

1. CONCRETE TESTING SHALL BE PAID FOR BY THE OWNER. TESTING LABORATORY SHALL PERFORM THE FOLLOWING TESTS ON CAST-IN-PLACE CONCRETE:

A) ASTM C143 - "STANDARD TEST METHOD FOR SLUMP OF PORTLAND CEMENT CONCRETE."
B) ASTM C39 - "STANDARD TEST METHOD FOR COMPRESSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMENS." A SEPARATE TEST SHALL BE CONDUCTED FOR EACH CLASS, FOR EVERY 50 CUBIC YARDS (OR FRACTION THEREOF), PLACED PER DAY. REQUIRED CYLINDER(S) QUANTITIES AND TEST AGE AS FOLLOWS:

1 AT 7 DAYS
2 AT 28 DAYS

PROVIDE ONE ADDITIONAL RESERVE CYLINDER TO BE TESTED UNDER THE DIRECTION OF THE ENGINEER, IF REQUIRED. IF 28 DAY STRENGTH IS ACHIEVED, THE ADDITIONAL CYLINDER(S) MAY BE DISCARDED.

PENETRATIONS:

NO PENETRATIONS SHALL BE MADE IN ANY STRUCTURAL MEMBERS OTHER THAN THOSE LOCATED ON THESE DRAWINGS WITHOUT PREVIOUS APPROVAL OF THE ENGINEER.

CONCRETE MIX DESIGN:

1. SHALL BE MIX DESIGNED BY A RECOGNIZED TESTING LABORATORY TO ACHIEVE A STRENGTH AT 28 DAYS AS LISTED BELOW WITH A PLASTIC AND WORKABLE MIX:

3,000 psi -	FOUNDATION WALLS AND FOOTINGS
3,000 psi -	INTERIOR SLABS-ON-GRADE
4,000 psi -	ALL OTHER CONCRETE

2. SUBMIT PROPOSED MIX DESIGN WITH RECENT FIELD CYLINDER OR LAB TESTS FOR REVIEW PRIOR TO USE. MIX SHALL BE UNIQUELY IDENTIFIED BY MIX NUMBER OR OTHER POSITIVE IDENTIFICATION. CONCRETE SHALL COMPLY WITH ALL THE REQUIREMENTS OF ASTM STANDARD C94 FOR MEASURING, MIXING, TRANSPORTING, ETC. CONCRETE TICKETS SHALL BE TIME STAMPED WHEN CONCRETE IS BATCHED. THE MAXIMUM TIME ALLOWED FROM THE TIME THE MIXING WATER IS ADDED UNTIL IT IS DEPOSITED IN ITS FINAL POSITION SHALL NOT EXCEED ONE AND ONE HALF (1-1/2) HOURS. IF FOR ANY REASON THERE IS A LONGER DELAY THAN STATED ABOVE, THE CONCRETE SHALL BE DISCARDED. IT SHALL BE THE RESPONSIBILITY OF THE TESTING LAB TO NOTIFY THE OWNER'S REPRESENTATIVE AND THE CONTRACTOR OF ANY NONCOMPLIANCE WITH THE ABOVE. ALL SLABS SHALL BE CURED USING CURING COMPOUND MEETING ASTM STANDARD C309 TYPE 1 AND SHALL HAVE A FUGITIVE DYE. THE COMPOUND SHALL BE PLACED AS SOON AS THE FINISHING IS COMPLETED OR AS SOON AS THE WATER HAS LEFT THE UNFINISHED CONCRETE. ALL SCUFFED OR BROKEN AREAS IN THE CURING MEMBRANE SHALL BE RECOATED DAILY. CALCIUM CHLORIDES SHALL NOT BE UTILIZED; OTHER ADMIXTURES MAY BE USED ONLY WITH THE APPROVAL OF THE ENGINEER.

3. CONCRETE SHALL UTILIZE TYPE I/II CEMENT UNLESS OTHERWISE DIRECTED BY THE GEOTECHNICAL ENGINEER OR GEOTECHNICAL REPORT.

4. THE CONCRETE STRENGTHS SHOWN IN THE SECTION ABOVE AND IN THE SPECIFICATIONS ARE MINIMUM COMPRESSIVE STRENGTHS. THE ENGINEER SHALL DETERMINE IF THE CONCRETE IS ACCEPTABLE, OR TO BE REMOVED, OR TO RECEIVE SPECIAL CURING IF THE COMPRESSIVE STRENGTHS ARE LESS THAN SPECIFIED.

5. ALL CONCRETE EXPOSED TO WEATHER OR EARTH SHALL BE AIR ENTRAINED TO 5% TO 7%.

6. WATER REDUCING AGENTS MAY BE USED IN THE CONCRETE MIX. PLASTICIZERS AND SUPER-PLASTICIZERS MAY BE USED ONLY WHEN WRITTEN PERMISSION OF THE ENGINEER IS GIVEN.

7. NO SALTS OF ANY KIND MAY BE USED IN CONCRETE BEFORE OBTAINING THE ENGINEER'S WRITTEN PERMISSION FOR THEIR USE.

8. CONCRETE FOR TROWEL-FINISHED INTERIOR CONCRETE FLOORS SHALL NOT INCLUDE AN AIR-ENTRAINING ADMIXTURE; THE MAXIMUM AIR CONTENT IN THESE SLABS SHALL NOT EXCEED 3%.

CONCRETE AND REINFORCING PLACEMENT:

1. ALL CONCRETE SHALL BE PLACED IN ACCORDANCE WITH ACI 301 AND ACI 117 EXCEPT AS MODIFIED BELOW:

ACI 117 ITEM 4.3.1.1
ELEVATIONS OF SLABS-ON-GRADE TOP OF SLAB ELEVATION SHALL BE WITHIN A 3/8" ENVELOPE EITHER SIDE OF THE THEORETICAL DESIGN SURFACE.

ACI 117 ITEM 4.5.7
FLOOR FINISH TOLERANCES AS MEASURED BY PLACING A FREESTANDING (UNLEVELED) 10 FT. STRAIGHTEDGE ANYWHERE ON THE SLAB AND ALLOWING IT TO REST UPON TWO HIGH SPOTS WITHIN 28 DAYS AFTER SLAB CONCRETE PLACEMENT. THE GAP AT ANY POINT BETWEEN THE STRAIGHTEDGE AND THE FLOOR SHALL NOT EXCEED 1/4".

2. ALL REINFORCING STEEL TO BE ASTM A615, GRADE 60 (#4 AND LARGER), EXCEPT WHERE NOTED OTHERWISE. REINFORCING SHALL NOT BE WELDED.

3. WELDED WIRE FABRIC TO CONFORM TO ASTM A185 AND SHALL BE FREE FROM OIL, SCALE AND RUST. PLACE WWF IN ACCORDANCE WITH THE TYPICAL PLACING DETAILS OF ACI STANDARDS AND THE SPECIFICATIONS. MINIMUM LAPS SHALL BE ONE SPACE PLUS 2".

4. ALL REINFORCING STEEL BARS TO BE DETAILED AND PLACED IN ACCORDANCE WITH THE LATEST ACI MANUALS.

5. LAP ALL REINFORCING SPLICES IN CONCRETE A MINIMUM OF 48 BAR DIAMETERS OR 24 INCHES, WHICHEVER IS GREATER, UNLESS NOTE OTHERWISE ON DRAWINGS (CLASS B SPLICE).

6. PROVIDE CORNER BARS OF SAME BAR DIAMETER AS SPECIFIED FOR THE WALL, BEAM OR FOOTING. PROVIDE MINIMUM OF 40 BAR DIAMETER LAP FOR ALL CORNER BARS, UNLESS NOTED OTHERWISE.

7. PROVIDE FOUNDATION DOWELS AS SHOWN. MINIMUM SIZE DOWELS TO BE # 4, UNLESS OTHERWISE NOTED. ALL VERTICAL REINFORCING STEEL IN COLUMNS AND PIERS, OR VERTICAL REINFORCING IN WALLS, SHALL BE DOWELED INTO THE FOOTINGS WITH SAME SIZE AND QUANTITY DOWEL AS THE VERTICAL REINFORCING.

8. WHERE SHOWN ON THE DRAWINGS, PROVIDE WELD PLATES, WELDMENTS, OR CONCRETE INSERTS FOR FASTENING AND SECURING OTHER COMPONENTS. CONCRETE INSERTS SHALL BE FURNISHED BY THE CONTRACTOR REQUIRING THEM AND INSTALLED BY THE CONTRACTOR CASTING THE CONCRETE AROUND THEM. CLIP ANGLES SHALL BE FURNISHED BY THE CONTRACTOR REQUIRING THEM.

9. REINFORCING STEEL SHALL RECEIVE CONCRETE COVER AS FOLLOWS:

DESCRIPTION	MINIMUM COVER
CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"
EXPOSED TO EARTH OR WEATHER	
#6 THROUGH #18 BARS	2"
#5 BARS OR SMALLER	1 1/2"
NOT EXPOSED TO EARTH OR WEATHER OR IN CONTACT WITH THE GROUND, SLABS AND WALLS	
#11 BARS OR SMALLER	3/4"
#14 AND #18	1 1/2"
BEAMS AND COLUMNS	1 1/2"

10. PROVIDE TWO (2) #5'S, ONE AT EACH FACE, UNLESS NOTED OTHERWISE, AROUND ALL OPENINGS GREATER THAN 12"x12" IN CAST-IN-PLACE CONCRETE. EXTEND REINFORCING 2'-0" BEYOND OPENING IN BOTH DIRECTIONS. CONTACT ENGINEER FOR ALL OPENINGS GREATER THAN 12"x12" FOR DESIGN.

11. COLD WEATHER AND HOT WEATHER PROVISIONS OF ACI 306 AND 305 (CURRENT EDITIONS), RESPECTIVELY, SHALL BE MAINTAINED.

12. CONTRACTOR TO FURNISH AND INSTALL 500 LINEAR FT. EACH OF ADDITIONAL #4 & #5 REINFORCING STEEL TO BE USED AT ENGINEER'S DISCRETION.

FORMWORK AND SHORING:

NO STRUCTURAL CONCRETE SHALL BE STRIPPED UNTIL IT HAS REACHED AT LEAST TWO-THIRDS OF THE 28 DAY DESIGN STRENGTH. DESIGN, ERECTION AND REMOVAL OF ALL FORMWORK, SHORES AND RESHORES SHALL MEET THE REQUIREMENTS SET FORTH IN ACI STANDARDS 301 AND 347.

MASONRY PRISM TESTING:

1. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL CONSTRUCT THREE (3) TEST PRISMS FOR TESTING. THEY SHALL BE CONSTRUCTED OF TWO (2) 8"x8"x16" PRISMS FOR TESTING, ONE (1) ON TOP OF THE OTHER, JOINED WITH TYPE "S" MORTAR, AND FILLED WITH 3,000 psi CONCRETE GROUT. PRISMS SHALL BE CURED FOR 28 DAYS. NO REINFORCING SHALL BE USED IN THE CONSTRUCTION OF THE PRISMS.

2. PRISMS SHALL BE MADE OF THE SAME MATERIALS, UNDER THE SAME CONDITIONS, AND INSOFAR AS POSSIBLE, WITH THE SAME BONDING ARRANGEMENTS AS FOR THE STRUCTURE. THE MOISTURE CONTENT OF THE UNITS AT THE TIME OF LAYING, CONSISTENCY OF MORTAR, AND WORKMANSHIP SHALL BE THE SAME AS WILL BE USED IN THE STRUCTURE. THE VALUE OF f'm SHALL BE THE AVERAGE OF ALL SPECIMENS TESTED BUT SHALL BE NOT MORE THAN 125 PERCENT OF THE MINIMUM VALUE DETERMINED BY THE TEST, WHICHEVER IS LESS.

3. TESTING SHALL INCLUDE TESTS IN ADVANCE OF BEGINNING OPERATIONS AS DESCRIBED ABOVE, AND AT LEAST ONE (1) FIELD TEST DURING CONSTRUCTION FOR EACH 5,000 SQUARE FEET OF WALL, BUT NOT LESS THAN ONE (1) FIELD TEST MINIMUM IF TOTAL SQUARE FEET OF WALL FOR ENTIRE PROJECT IS LESS THAN 5,000 SF. ONLY WALLS INDICATED ON STRUCTURAL PLANS NEED BE TESTED.

4. THE COMPRESSIVE STRENGTH, f'm, SHALL BE COMPUTED BY DIVIDING THE ULTIMATE LOAD BY THE NET AREA OF THE MASONRY USED IN THE CONSTRUCTION OF THE PRISMS.

5. TEST PRISMS SHALL BE STORED FOR SEVEN DAYS IN AIR, AT A TEMPERATURE OF 70 DEGREES, PLUS OR MINUS 5 DEGREES, IN A RELATIVE HUMIDITY EXCEEDING 90%, AND THEN IN AIR AT A TEMPERATURE OF 70 DEGREES, PLUS OR MINUM 5 DEGREES, UNTIL TESTED. THOSE CONSTRUCTED IN THE FIELD SHALL BE STORED UNDISTURBED FOR FROM 48 TO 96 HOURS UNDER WET MATERIAL TO SIMULATE 90% HUMIDITY, THEN TRANSPORTED TO LABORATORY FOR CONTINUED CURING AS DESCRIBED ABOVE.

6. NOT LESS THAN THREE (3) PRISM SPECIMENS SHALL BE MADE FOR EACH FIELD TEST TO CONFIRM THAT THE MATERIALS ARE AS ASSUMED IN THE DESIGN. THE STANDARD AGE OF TEST SPECIMENS SHALL BE 28-DAYS, BUT 7-DAY TESTS MAY BE USED, PROVIDED THE RELATION BETWEEN THE 7-DAY AND 28-DAY STRENGTHS OF THE MASONRY IS ESTABLISHED BY ADEQUATE TEST DATA FOR THE MATERIALS USED.

MASONRY MATERIALS:

1. MASONRY UNITS SHALL MEET ASTM C90 TYPE I, GRADE N, FOR HOLLOW LOAD BEARING TYPE MASONRY WITH A UNIT STRENGTH OF 1,900 psi ON THE NET AREA (f'm = 1,500 psi).

2. MORTAR SHALL BE TYPE "M" (BELOW GRADE) OR "S" (ABOVE GRADE) AND SHALL MEET ASTM C270. GROUT SHALL BE 3,000 psi PEA-GRAVEL CONCRETE AND SHALL MEET ASTM C476. MORTAR MIX DESIGN SHALL BE TESTED PRIOR TO CONSTRUCTION USING MORTAR TEST CUBES, WITH 7-DAY STRENGTH OF LABORATORY MIX EXCEEDING THE 28-DAY SPECIFIED DESIGN STRENGTH. GROUT SHALL BE TESTED PRIOR TO CONSTRUCTED USING PRISMS AS DESCRIBED ABOVE.

MASONRY AND REINFORCED MASONRY PLACEMENT:

1. ALL MASONRY SHALL BE LAID IN RUNNING BOND UNLESS NOTED OTHERWISE. MATERIALS TO BE LAID AND MATERIALS TO BE BUILT UPON SHALL BE FREE FROM SNOW AND ICE.

2. PROVIDE HOOKED DOWELS INTO FOOTINGS FOR ALL VERTICAL REINFORCING ABOVE AS SHOWN IN THE DRAWINGS. LAP SPLICES A MINIMUM OF 48 BAR DIAMETERS. AT THE OPTION OF THE CONTRACTOR, DOWELS MAY BE DRILLED AND EPOXIED INTO FOOTING IN LIEU OF HOOKS. EPOXY SHALL BE AS NOTED ON THIS SHEET UNDER 'CHEMICAL ANCHORS,' 6" MIN. EMBEDMENT FOR #5 OR SMALLER DOWELS, 8" MIN. EMBEDMENT FOR #6 DOWELS.

3. PROVIDE DUR-O-WALL (OR EQUAL PER SPECIFICATIONS) LADDER OR TRUSS HORIZONTAL JOINT REINFORCEMENT AT EACH SECOND COURSE IN RUNNING BOND, AND EACH COURSE IN STACKED BOND, UNLESS NOTED OTHERWISE. DISCONTINUE HORIZONTAL JOINT REINFORCEMENT AT CONTROL JOINTS.

4. PROVIDE BOND BEAMS REINFORCED WITH (2) #5 BARS EVERY 6'-0" OF VERTICAL WALL, AT TOPS OF ALL MASONRY WALLS, AND WHERE SHOWN ON DRAWINGS. AT BOND BEAM CORNERS AND TEE JOINTS, PROVIDE BENT BARS TO MATCH QUANTITY AND BAR SIZE IN THE BOND BEAM. LAPS IN BOND BEAMS SHALL BE 48 BAR DIAMETERS OR A MINIMUM OF 2'-0", WHICHEVER IS GREATER.

5. WHERE SHOWN ON THE DRAWINGS, CORES IN CONCRETE BLOCK UNITS SHALL BE FILLED WITH 3,000 psi CONCRETE GROUT FROM TOP OF FOOTING TO BOTTOM OF BEARING, OR TO THE TOP OF WALL, DEPENDING ON THE CONDITION. INSPECTION OF OPENING AT BOTTOM IS REQURIED.

6. WHERE REINFORCING STEEL IS CALLED FOR IN FILLED CORES, IT SHALL EXTEND FROM TOP OF FOOTING TO BOTTOM OF BEARING, OR TOP OF WALL, DEPENDING ON CONDITION.

7. WHERE REINFORCING STEEL IS INTERRUPTED BY AN OPENING IN THE WALL, THE QUANTITY OF BARS INTERRUPTED ARE TO BE MOVED TO EACH SIDE OF THE OPENING, HALF OF REINFORCING TO ONE SIDE AND REMAINING HALF TO THE OTHER SIDE. REINFORCING SHALL BE FROM TOP OF FOOTING TO TOP OF WALL. PROVIDE A MINIMUM OF (2) #5 VERTICAL REINFORCING BARS AT EACH JAMB. SEE PLAN NOTES AND/OR DETAILS FOR VERTICAL REINFORCING SPACING.

8. WHERE VERTICAL REINFORCING STEEL IS SPLICED IN MASONRY, PROVIDE A MINIMUM OF 48 BAR DIAMETERS, LAP SPLICE, UNLESS NOTED OTHERWISE.

9. THE MINIMUM DISTANCE BETWEEN PARALLEL BARS, EXCEPT IN COLUMNS, SHALL BE NOT LESS THAN THE DIAMETER OF THE BAR EXCEPT THAT LAPPED SPLICES MAY BE WIRED TOGETHER. THE CENTER TO CENTER SPACING OF BARS WITHIN A COLUMN SHALL BE NOT LESS THAN 2 AND ONE-HALF TIMES THE BAR DIAMETER.

10. ALL BARS SHALL BE COMPLETELY EMBEDDED IN MORTAR OR CONCRETE. REINFORCEMENT EMBEDDED IN HORIZONTAL MORTAR JOINTS SHALL HAVE NOT LESS THAN 5/8" MORTAR COVERAGE FROM THE EXPOSED FACE. ALL OTHER REINFORCING SHALL HAVE A MINIMUM COVERAGE OF ONE BAR DIAMETER OVER ALL BARS, BUT NOT LESS THAN 3/4", EXCEPT WHERE EXPOSED TO WEATHER OR SOIL IN WHICH CASE THE MINIMUM COVERAGE SHALL BE 2".

11. WHERE REINFORCING IS SHOWN TO BE LOCATED ALONG TWO FACES OF A CONCRETE BLOCK WALL, THE CONTRACTOR SHALL BREAK OUT THE SHELL OF THE LOWEST CONCRETE BLOCK TO GAIN ACCESS TO THE REINFORCING STEEL. THE REINFORCED STEEL SHALL THEN BE WIRED INTO ITS CORRECT POSITION, AND THE ACCESS HOLE COVERED. THE CONCRETE GROUT FILL SHALL BE PUDDLED OR VIBRATED TO ASSURE COMPLETE FILLING OF THE CORE.

12. REINFORCED MASONRY PIERS AND COLUMNS SHALL HAVE THE REINFORCING STEEL ACCURATELY LOCATED BY WIRING THE TOP AND BOTTOM OF ALL VERTICAL STEEL INTO ITS CORRECT POSITION. PROVIDE AN ACCESS HOLE AT THE BOTTOM OF ALL COLUMNS OR PIERS.

13. ALL REINFORCED HOLLOW UNIT MASONRY SHALL BE BUILT TO PRESERVE THE UNOBSTRUCTED VERTICAL CONTINUITY OF THE CELLS TO BE FILLED. WALLS AND CROSS WEBS FORMING SUCH CELLS TO BE FILLED SHALL BE FULLBEDDED IN MORTAR TO PREVENT LEAKAGE OF CONCRETE GROUT. ALL HEAD (OR END) JOINTS SHALL BE SOLIDLY FILLED WITH MORTAR FOR A DISTANCE IN FROM THE FACE OF THE WALL OR UNIT NOT LESS THAN THE THICKNESS OF THE LONGITUDINAL FACE SHELLS. BOND SHALL BE PROVIDED BY LAPPING UNITS IN SUCCESSIVE VERTICAL COURSES OR BY EQUIVALENT MECHNICAL ANCHORAGE.

A) VERTICAL CELLS TO BE FILLED SHALL HAVE VERTICAL ALIGNMENT SUFFICIENT TO MAINTAIN A CLEAR, UNOBSTRUCTED CONTINUOUS VERTICAL CELL MEASURING NOT LESS THAN 2"x3".

B) CLEANOUT OPENINGS SHALL BE PROVIDED AT THE BOTTOM OF ALL CELLS TO BE FILLED AT EACH POUR OF CONCRETE WHERE SUCH CONCRETE POUR IS IN EXCESS OF 6' IN HEIGHT. ANY OVERHANGING MORTAR, OTHER OBSTRUCTION OR DEBRIS SHALL BE REMOVED AND/OR CLEANED AT TIME OF INSPECTION AND PRIOR TO CORE FILLING. INSPECT AND SEAL ALL OPENINGS BEFORE CONCRETING.

C) VERTICAL REINFORCEMENT SHALL BE HELD IN POSITION AT TOP AND BOTTOM AND AT INTERVALS NOT EXCEEDING 192 DIAMETERS OF THE REINFORCEMENT.

D) ALL CELLS CONTAINING REINFORCEMENT SHALL BE FILLED SOLIDLY WITH CONCRETE. CONCRETE SHALL BE POURED IN LIFTS OF 8' MAXIMUM HEIGHT. ALL CONCRETE SHALL BE CONSOLIDATED AT THE TIME OF POURING BY PUDDLING FOR LIFTS OF 4' OR LESS, OR BY VIBRATING FOR LIFTS GREATER THAN 4'. CONCRETE SHOULD LATER BE CONSOLIDATED AGAIN BY PUDDLING, BEFORE PLASTICITY IS LOST.

E) WHEN TOTAL CONCRETE POUR EXCEEDS 8' IN HEIGHT, THE CONCRETE SHALL BE PLACED IN 4' MAXIMUM LIFTS. MINIMUM CELL DIMENSION SHALL BE 3".

F) WHEN CONCRETING IS STOPPED FOR ONE HOUR OR LONGER, HORIZONTAL CONSTRUCTION JOINTS SHALL BE FORMED BY STOPPING THE POUR OF CONCRETE 1 1/2" BELOW THE TOP OF THE UPPERMOST UNIT.

14. PROVIDE A MINIMUM OF 8" BEARING FOR ALL MASONRY LINTELS.

15. WHERE LINTEL BLOCKS ARE USED IN LIEU OF HOLLOW CONCRETE BLOCKS, THE REINFORCING STEEL SHALL BE ANCHORED TO THE LOWER STEEL OR DOWELS AND THE LINTEL BLOCKS LAID AROUND THE STEEL. THE CONCRETE FILL SHALL BE INSTALLED IN LIFTS NOT TO EXCEED 2' IN HEIGHT. THE REINFORCING STEEL SHALL BE MAINTAINED IN THE SAME POSITION AS THE DOWELS. STOP THE POUR OF THE CONCRETE 1 1/2" BELOW THE TOP OF THE UPPERMOST UNIT.

16. SPECIFICATION REQUIREMENTS FOR COLD WEATHER AND HOT WEATHER MASONRY CONSTRUCTION SHALL BE MAINTAINED.

WOOD:

1. STRUCTURAL 2x WOOD COMPONENTS HAVE BEEN DESIGNED AS SOUTHERN YELLOW PINE (SYP) OR HEM-FIR (HF) NO. 2 OR BETTER AND SHALL HAVE THE FOLLOWING MINIMUM ALLOWABLE FIBER STRESSES AND PROPERTIES:

MODULAS OF ELASTICITY (E)	1,300,000 PSI
BENDING (Fb)	850 PSI
SHEAR (Fv)	75 PSI

2. WOOD IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PROTECTED OR PRESSURE TREATED IN ACCORDANCE WITH AITC-109.

3. MEMBER SIZES SHOWN ARE NOMINAL UNLESS NOTED OTHERWISE.

4. BOLTS IN WOOD ARE MACHINE BOLTS, UNLESS OTHERWISE NOTED. MACHINE BOLTS SHALL HAVE A SHANK DIAMETER WITHIN 1/64" OF THAT SPECIFIED. BOLTS ARE ASTM 307 STEEL. BOLT HOLES IN WOOD SHALL BE 1/32" OVERSIZE. WHERE STEEL IS CONNECTED TO WOOD, HOLES IN STEEL SHALL BE 1/16" OVERSIZE. PROVIDE STANDARD CUT WASHERS UNDER HEAD AND NUT WHERE BEARING IS AGAINST WOOD. WHERE STEEL SIDE PLATES ARE USED FOR CONNECTION, THE PLATE SHALL BE USED AS A TEMPLATE.

5. ALL WOOD ELEMENTS SHALL BE ATTACHED PER THE FASTENING SCHEDULE OF THE 2018 NCSBC (TABLE 2304.9.1) UNLESS OTHERWISE NOTED.

6. SEE ARCHITECTURAL DRAWINGS FOR WEATHER PROTECTION OF ALL EXPOSED WOOD MEMBERS.

WOOD SHEATHING:

1. PLYWOOD ROOF, FLOOR AND WALL SHEATHING ARE DESIGNED AS DIAPHRAGMS AND SHALL COMPLY WITH APPLICABLE PROVISIONS OF CHAPTER 23 OF THE 2018 NCSBC.

2. SHEATHING SHALL BE FASTENED IN ACCORDANCE WITH PLANS SHOWN SPECIAL NAILING REQUIREMENTS AND WITH THE APPROPRIATE SCHEDULE IN CHAPTER 23, UNLESS NOTED OTHERWISE.

3. IN GENERAL, SHEETS SHALL BE 4'-0"x8'-0" AND SHALL BE LAID WITH FACE PLIES ACROSS FRAMING MEMBERS AND WITH END JOINTS STAGGERED 4'-0". NO PANEL SHALL BE USED WHICH IS LESS THAN 24" IN WIDTH ON FLOORS AND ROOFS. SHEATHING SHALL BE CONTINUOUS ACROSS 2 SPANS, MINIMUM.

PRE-ENGINEERED WOOD ROOF TRUSSES:

1. ENGINEERED WOOD TRUSS SYSTEMS SHALL BE DESIGNED BY SUPPLIER TO THE CONFIGURATION AND LOAD-CARRYING CAPACITY SHOWN ON THE DRAWINGS AND SPECIFICATIONS. TRUSSES SHALL BE DESIGNED TO SUSTAIN SELF WEIGHT OF THE TRUSSES AND UNIFORM LOADS AS INDICATED ON THIS SHEET AND AS FOLLOWS:

A) TOP CHORD:
DEAD LOAD = 10 psf
LIVE LOAD = 20 psf
SNOW LOAD = 10 psf
WIND LOAD = SEE DESIGN LOADS

B) BOTTOM CHORD:
DEAD LOAD = 5 psf
LIVE LOAD = 10 psf

2. WIND LOAD: WHEN CALCULATING NET UPLIFT REACTIONS, USE MAXIMUM RESISTING DEAD LOAD EQUAL TO 6 PSF ON THE TOP CHORD AND 0 PSF ON THE BOTTOM CHORD.

3. ROOF TRUSSES SHALL BE DESIGNED FOR A MAXIMUM VERTICAL DEFLECTION OF L/360 LIVE LOAD AND L/240 TOTAL LOAD.

4. ALTERNATE TRUSS LAYOUTS ARE ACCEPTABLE ONLY AS A CHANGE ORDER WHICH WILL INCLUDE ENGINEERING CHARGES TO THE CONTRACTOR FOR REDESIGN FOR REVIEW PRIOR TO FABRICATION.

5. SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION. SHOP DRAWINGS SHALL SHOW AND SPECIFY ALL CONNECTOR TYPES UTILIZED WITHIN TRUSSES, AS WELL AS CONNECTORS UTILIZED IN ALL OTHER CONNECTIONS AND ATTACHMENTS BETWEEN TRUSSES OR COMPONENTS SUPPLIED AS PART OF THE ENGINEERED TRUSS SYSTEM. AN ERECTION DRAWING SHALL BE INCLUDED, IDENTIFYING ALL TRUSS SYSTEM COMPONENTS, AS WELL AS ALL PERMANENT BRACING REQUIRED FOR TRUSS DESIGN. SHOP DRAWINGS SHALL BEAR THE SIGNATURE AND SEAL OF A PROFESSIONAL ENGINEERED REGISTERED IN THE STATE OF THE PROJECT LOCATION.

WOOD FRAMING CONNECTORS:

1. CONNECTOR MODEL NUMBERS SHOWN ARE "Strong-Tie" CONNECTORS AS MANUFACTURERED BY "SIMPSON Strong-Tie Co.", 1450 DOOLITTLE DR., PO BOX 1568, SAN LEANDRO, CA 94577. SUBSTITUTIONS ARE ACCEPTABLE ONLY WITH THE APPROVAL OF THE STRUCTURAL ENGINEER.

2. ALL CONNECTORS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM-A653. CONNECTORS IN CONTACT WITH PRESSURE TREATED MATERIALS SHALL HAVE G-185 COATING. CONNECTORS NOT IN CONTACT WITH TREATED MATERIALS SHALL HAVE STANDARD G-60 COATING.

MANUFACTURED WOOD STRUCTURAL COMPONENTS:

1. MEMBERS DESIGNATED "LVL" SHALL BE LAMINATED VENEER LUMBER AS MANUFACTURED BY BOISE CASCADE CORPORATION (VERSA-LAM), TRUS JOIST CORPORATION (MICRO-LAM), ALPINE ENGINEERED PRODUCTS (ASI-LVL), MITEK WOOD PRODUCTS (GANG-LAM LVL), OR APPROVED EQUAL, AND SHALL HAVE THE FOLLOWING MINIMUM ALLOWABLE FIBER STRESSES AND PROPERTIES:

MODULAS OF ELASTICITY (E)	1,900,000 PSI
BENDING (Fb)	2,600 PSI
SHEAR (Fv)	285 PSI

2. MEMBERS DESIGNATED AS "GLU-LAM" SHALL BE STRUCTURAL GLUED LAMINATED TIMBER. MATERIAL, MANUFACTURE AND QUALITY CONTROL SHALL BE IN CONFORMANCE WITH ANSI/AITC-A190.1, "STRUCTURAL GLUED LAMINATED TIMBER." MEMBERS SHALL BE MARKED WITH A QUALITY CONTROL MARKING INDICATING CONFORMANCE WITH AITC-A190.1. ADHESIVE AND LAMINATIONS SHALL MEET THE REQUIREMENTS OF DRY CONDITION OF SERVICE, UNLESS OTHERWISE NOTED. A COAT OF END SEALER SHALL BE APPLIED TO ENDS OF MEMBERS IMMEDIATELY AFTER END TRIMMING. LAMINATING COMBINATIONS SHALL PROVIDE THE FOLLOWING MINIMUM ALLOWABLE FIBER STRESSES AND PROPERTIES:

MODULAS OF ELASTICITY (E)	1,800,000 PSI
BENDING (Fb)	2,400 PSI
SHEAR (Fv)	165 PSI
TENSION (Ft)	850 PSI
COMP. PERP. (Fc l)	470 PSI

STRUCTURAL ABBREVIATIONS:

ABBREV.	DEFINITION
AB	ANCHOR BOLTS
ADJ	ADJACENT
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
ARCH	ARCHITECT
BCX	BOTTOM CHORD EXTENSION
BFF	BELOW FINISHED FLOOR
BOT	BOTTOM
B.O.xx	BOTTOM OF xx
BOS	BOTTOM OF STEEL
BLDG	BUILDING
BM	BEAM
BRG	BEARING
CANT	CANTILEVER
CL	CENTERLINE
CJ	CONTROL JOINT
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CP	COMPLETE PENETRATION
d	NAIL PENNY WEIGHT
DBA	DEFORMED BAR ANCHOR
DBL	DOUBLE
DEG	DEGREE
DET,DTL	DETAIL
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DK	DECK
DN	DOWN
DWGS	DRAWINGS
DWL	DOWEL
EA	EACH
EF	EACH FACE
EJ	EXPANSION JOINT
EL, ELEV	ELEVATION
EMBED	EMBEDDED / EMBEDMENT
ENGR	ENGINEER
EOD	EDGE OF DECK
EOS	EDGE OF STEEL
EQ	EQUAL
EQUIP	EQUIPMENT
EW	EACH WAY
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
FIN	FINISH
FLR	FLOOR
FD	FLOOR DRAIN
FND	FOUNDATION
FOM	FACE OF MASONRY
FOW	FACE OF WALL
FS	FOOTING STEP
FTG	FOOTING
FV	FIELD VERIFY
GA	GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
HI	HIGH
HORZ	HORIZONTAL
HSE	HIGH STRENGTH EPOXY
HSS	HOLLOW STRUCTURAL SECTION
IF	INSIDE FACE
INT	INTERIOR
JT	JOINT
K	KIPS = 1000 LBS
KB	KNEE BRACE
KSI	KIPS PER SQUARE INCH
KLF	KIPS PER LINEAR FOOT
LBS	POUNDS
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LO	LOW
LOC	LOCATIONS
LSL	LAMINATED STRAND LUMBER
LVL	LAMINATED VENEER LUMBER
LW	LONG WAY
LWC	LIGHT WEIGHT CONCRETE
MAS	MASONRY
MAX	MAXIMUM
MC	MOMENT CONNECTION
MECH	MECHANICAL
MFR	MANUFACTURER
MID	MIDDLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MP	MASONRY PILASTER
MTL	METAL
No / #	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
NWC	NORMAL WEIGHT CONCRETE
OC	ON CENTER
OF	OUTSIDE FACE
OH	OPPOSITE HAND
OPNG	OPENING
PAF	POWDER ACTUATED FASTENER
PC	PRECAST
P/E	PRE-ENGINEERED
PL	PLATE
PLF	POUNDS PER LINEAR FOOT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSL	PARRALEL STRAND LUMBER
PT	PRESSURE TREATED
R	RADIUS
REF	REFERENCE
REINF	REINFORCEMENT
REQD	REQUIRED
REV	REVISION
SC	SLIP CRITICAL
SCHD	SCHEDULE
SDS	SELF DRILLING SCREW
SECT	SECTION
SHT	SHEET
SIM	SIMILAR
SL	SLAB
SOG	SLAB ON GRADE
SP	SPECIAL JOIST
SPEC	SPECIFICATION
SQ	SQUARE
STD	STANDARD
STL	STEEL
SW	SHORT WAY
SYM	SYMMETRICAL
TCX	TOP CHORD EXTENSION
T&B	TOP AND BOTTOM
TOC	TOP OF CONCRETE
TOS	TOP OF STEEL
TOW	TOP OF WALL
T.O.xx	TOP OF xx
THK	THICKNESS
TJ	TIE JOIST
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
VIF	VERIFY IN FIELD
WWF	WELDED WIRE FABRIC
WWM	WELDED WIRE MESH

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SCO ID#: 24-28316-01A

Project Name
NCSPA SHIPPING AND RECEIVING
MOREHEAD CITY, NC

Sheet Title
GENERAL NOTES

DESIGNED BY:	AJI
DRAWN BY:	AJI
APPROVED BY:	HMH
PROJECT #:	23-436
DATE:	06/18/2024

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1	SCO #24-28316-01A	09/30/2024
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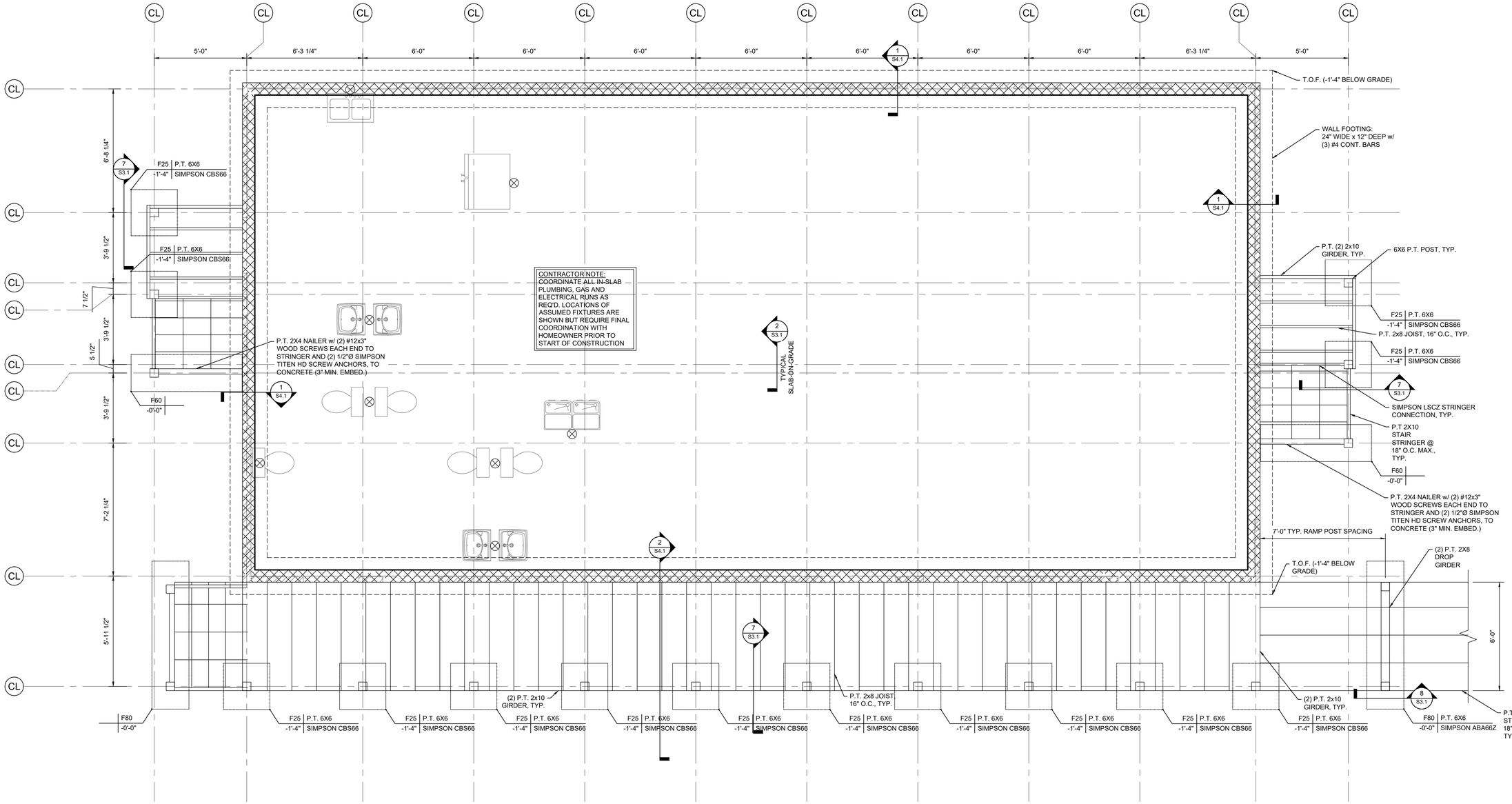

1 FOUNDATION PLAN

ARCH REF:1/A-1 Scale: 3/8" = 1'-0"
STRUC REF:

FOOTING MARK — COLUMN SIZE
F40 | W12x14
-1'-4" | BP1
TOP OF FOOTING ELEV. BELOW FINISHED FLOOR — BASEPLATE MARK

SPREAD FOOTING SCHEDULE

MARK	SIZE	REINFORCING
F25	2'-6"x2'-6"x12"	(4)-#3 E.W. TOP & BOT
F60	6'-0"x2'-0"x12"	(7)-#3 BOT LONG & (3) #3 BOT SHORT
F80	8'-0"x2'-0"x12"	(9)-#3 BOT LONG & (3) #3 BOT SHORT

FRAMING PLAN NOTES:

1. DENOTES LOAD BEARING WALL. ALL EXTERIOR WALLS SHALL BE SHEATHED WITH 7/16" APA 24/0 RATED CDX PLYWOOD SHEATHING WITH EDGE BLOCKING. NAIL SHEATHING WITH 8d NAILS @ 6" O.C. AT PANEL EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS.
2. DENOTES SHEAR WALL. ALL EXTERIOR SHEAR WALLS SHALL BE SHEATHED WITH 7/16" APA 24/0 RATED CDX PLYWOOD SHEATHING WITH EDGE BLOCKING. NAIL SHEATHING WITH 8d NAILS @ 4" O.C. AT PANEL EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS. PROVIDE (2) STUDS FULL HEIGHT OF WALL AT EACH END OF SHEAR WALL. TYP. FASTEN SHEATHING TO ALL ALL (2) STUDS WITH NAILS STAGGERED IN ACCORDANCE WITH SHEAR WALL FASTENER SPACING. HOLDDOWN AT EACH END OF ALL SHEAR WALL WITH SIMPSON HD9B w/ (1) 7/8"Ø BOLT (5" MIN. EMBED.)
3. ALL EXTERIOR WALL FRAMING TO BE 2x6, 16" O.C.. ALL INTERIOR FRAMING TO BE 2x4, UNLESS NOTED OTHERWISE.
4. ALL ROOF SHEATHING SHALL BE APA 32/16 SPAN RATED SHEATHING, 19/32" THICK (5/8" NOMINAL). PROVIDE H-CLIPS, U.N.O.
5. ALL STRUCTURAL MEMBERS SHALL BE ATTACHED IN ACCORDANCE WITH CHAPTER 23 OF THE 2018 NORTH CAROLINA STATE BUILDING CODE
6. ALL EXTERIOR, AND INTERIOR LOAD-BEARING HEADERS TO BE CONSTRUCTED w/ MIN. (2)-2x10 AND SUPPORTED BY (1) JACK STUDS AND (2) KING STUD UNLESS NOTED OTHERWISE.
7. PROVIDE SIMPSON H10A CLIPS AT THE ENDS OF ALL ROOF FRAMING MEMBERS U.N.O.

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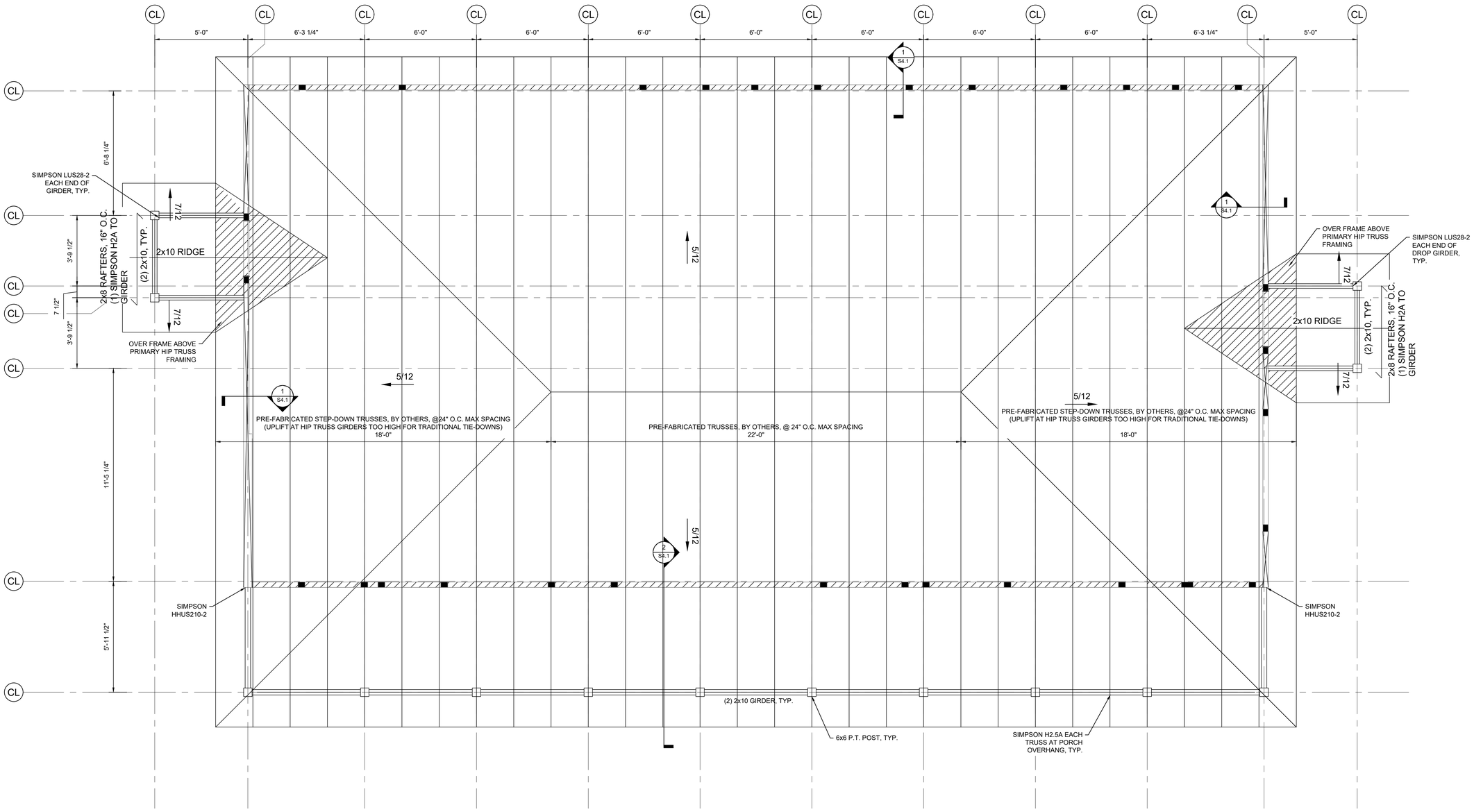

1 ROOF FRAMING PLAN

ARCH REF:1/A-1.1 Scale: 3/8" = 1'-0"

STRUC REF:

TRUSS DESIGN NOTES:

1. TRUSS MANUFACTURER SHALL BE RESPONSIBLE FOR FINAL TRUSS DESIGN, TO INCLUDE CALCULTIONS, LAYOUT, AND ALL NECESSARY BRACING AND BRIDGING DETAILS AS REQ'D. FOR PERMANENT STABILITY OF TRUSS SYSTEM.
3. TRUSSES AND THEIR COMPONENTS ARE TO BE DESIGNED TO RESIST THE COMPONENT AND CLADDING WIND PRESSURES OUTLINED ON SHEET S1.0.
4. TRUSSES ARE TO BE DESIGNED TO SUPPORT THE FOLLOWING SUPERIMPOSED LOADING UNLESS NOTED OTHERWISE:

TOP CHORD LL:	20 PSF
TOP CHORD DL:	10 PSF*
BOTTOM CHORD DL:	5 PSF*
NET UPLIFT (MAIN):	30.2 PSF
NET UPLIFT (PORCH):	85 PSF

*DEAD LOADS ARE CONSIDERED TO BE SUPERIMPOSED, AND DO NOT INCLUDE TRUSS SELF-WEIGHT

FRAMING PLAN NOTES:

1. ▨ DENOTES LOAD BEARING WALL. ALL EXTERIOR WALLS SHALL BE SHEATHED WITH 7/16" APA 24/0 RATED CDX PLYWOOD SHEATHING WITH EDGE BLOCKING. NAIL SHEATHING WITH 8d NAILS @ 6" O.C. AT PANEL EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS.
2. ▭ DENOTES SHEAR WALL. ALL EXTERIOR SHEAR WALLS SHALL BE SHEATHED WITH 7/16" APA 24/0 RATED CDX PLYWOOD SHEATHING WITH EDGE BLOCKING. NAIL SHEATHING WITH 8d NAILS @ 4" O.C. AT PANEL EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS. PROVIDE (2) STUDS FULL HEIGHT OF WALL AT EACH END OF SHEAR WALL. TYP. FASTEN SHEATHING TO ALL ALL (2) STUDS WITH NAILS STAGGERED IN ACCORDANCE WITH SHEAR WALL FASTENER SPACING. HOLDDOWN AT EACH END OF ALL SHEAR WALL WITH SIMPSON HD9B w/ (1) 7/8"Ø BOLT (5" MIN. EMBED.)
3. ALL EXTERIOR WALL FRAMING TO BE 2x6, 16" O.C.. ALL INTERIOR FRAMING TO BE 2x4, UNLESS NOTED OTHERWISE.
4. ALL ROOF SHEATHING SHALL BE APA 32/16 SPAN RATED SHEATHING, 19/32" THICK (5/8" NOMINAL). PROVIDE H-CLIPS, U.N.O.
5. ALL STRUCTURAL MEMBERS SHALL BE ATTACHED IN ACCORDANCE WITH CHAPTER 23 OF THE 2018 NORTH CAROLINA STATE BUILDING CODE
6. ALL EXTERIOR, AND INTERIOR LOAD-BEARING HEADERS TO BE CONSTRUCTED w/ MIN. (2)-2x10 AND SUPPORTED BY (1) JACK STUDS AND (2) KING STUD UNLESS NOTED OTHERWISE.
7. PROVIDE SIMPSON H10A CLIPS AT THE ENDS OF ALL ROOF FRAMING MEMBERS U.N.O.

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NORTH CAROLINA PROFESSIONAL CORPORATION FDR ENGINEERS, PLLC P-1418

SCO ID#: 24-28316-01A

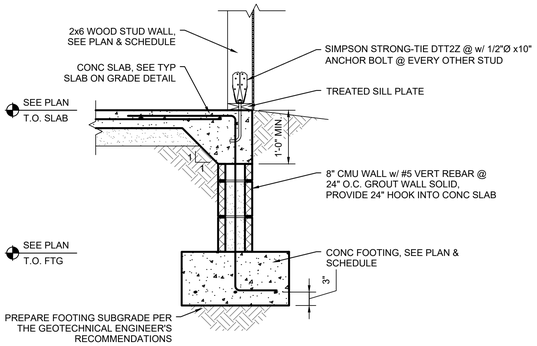
Project Name: NCSPA SHIPPING AND RECEIVING MOREHEAD CITY, NC

Sheet Title: ROOF FRAMING PLAN

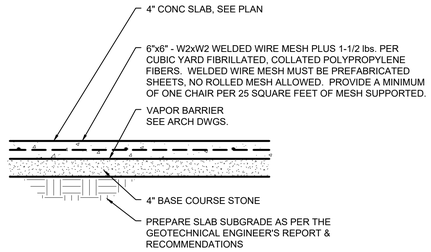
DESIGNED BY:	AJI
DRAWN BY:	AJI
APPROVED BY:	HMH
PROJECT #:	23-436
DATE:	06/18/2024

No.	Revision	Date
1	SCO #24-28316-01A	09/30/2024
2	SCO #24-28316-01A	01/03/2025

Sheet S2.2



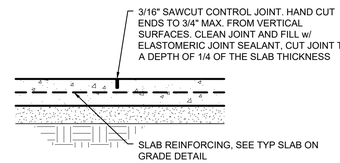
1 EXTERIOR CMU FOUNDATION WALL
(WOOD STUD WALL / MONO SLAB / NO BRICK)
SCALE: 3/4" = 1'-0"



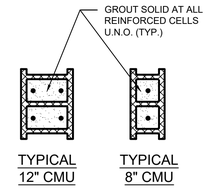
NOTES:
1. SEE ARCHITECTURAL DRAWINGS FOR SLOPES, DROPS, AND DRAIN LOCATIONS IN FLOOR SLABS.

2 4" SLAB ON GRADE DETAIL
SCALE: 3/4" = 1'-0"

NOTES:
1. CONTRACTORS OPTION - USE REMOVABLE CONTROL JOINT MATERIAL SUCH AS "ZIP STRIP", "STRESSLOCK", OR APPROVED EQUAL.
2. SLAB ON GRADE CONTROL JOINTS SHALL BE TOOLED OR SAWCUT. THE JOINT PATTERN SHALL BE APPROXIMATELY SQUARE AND LIMITED TO AN AREA NOT TO EXCEED 225 S.F. JOINTS SHALL BE CUT WITHIN 12 HOURS OF POURING SLAB. SEE PLAN FOR PROPOSED JOINT LAYOUT. FINAL JOINT LAYOUT TO BE DETERMINED BY THE GENERAL CONTRACTOR.



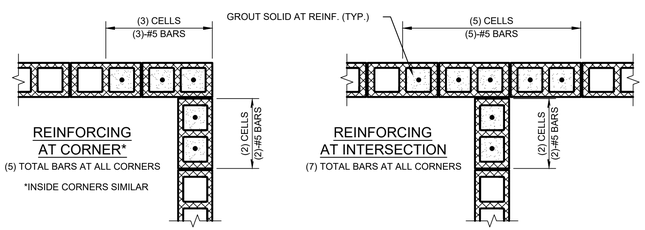
3 4" SLAB ON GRADE CONTROL JOINT
SCALE: 3/4" = 1'-0"



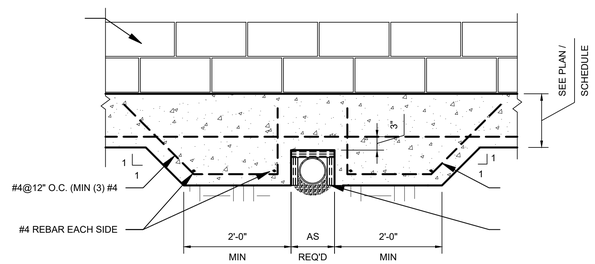
CMU WALL REINFORCING SCHEDULE			
APPLICATION	THICKNESS	VERT REINF	REMARKS
EXTERIOR WALLS	8" CMU	(1) #5 @ 32" O.C.	--

NOTES:
1. ALL MASONRY SHALL BE LAID IN RUNNING BOND UNLESS NOTED OTHERWISE.
2. LAP SPLICES A MINIMUM OF 48 BAR DIAMETERS.
3. PROVIDE DUR-O-WALL (OR EQUAL) LADDER OR TRUSS HORIZONTAL JOINT REINFORCEMENT AT EACH SECOND COURSE IN RUNNING BOND, AND EACH COURSE IN STACKED BOND, UNLESS NOTED OTHERWISE. DISCONTINUE HORIZONTAL JOINT REINFORCEMENT AT CONTROL JOINTS.
4. PROVIDE BOND BEAMS REINFORCED WITH (2) #5 BARS EVERY 6'-0" OF VERTICAL WALL, AT TOPS OF ALL MASONRY WALLS, AND WHERE SHOWN ON DRAWINGS. FIRST BOND BEAM MAY BE PLACED AT TOP OF DOOR OPENINGS, 8'-0" MAX. AT BOND BEAM CORNERS AND TEE JOINTS, PROVIDE BENT BARS TO MATCH QUANTITY AND BAR SIZE IN THE BOND BEAM. LAPS IN BOND BEAMS SHALL BE 48 BAR DIAMETERS OR A MINIMUM OF 2'-0", WHICHEVER IS GREATER.

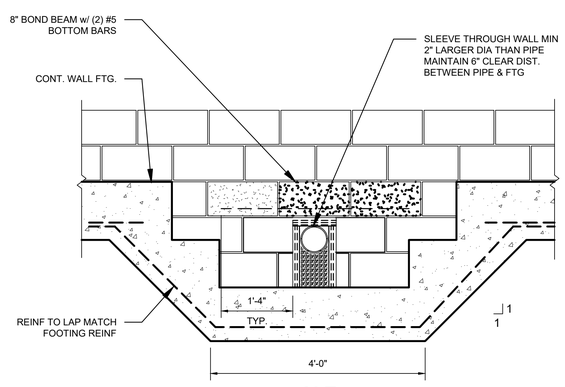
4 CMU WALL REINFORCING SCHEDULE
SCALE: 3/4" = 1'-0"



5 ADDITIONAL REINFORCING AT CORNERS AND INTERSECTIONS
SCALE: 3/4" = 1'-0"

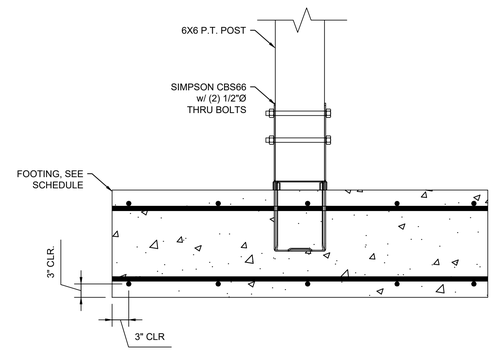


PIPE THRU FTG.

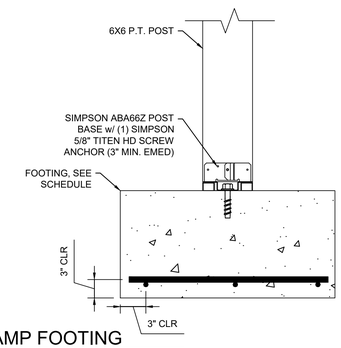


ALT

6 TYPICAL UTILITIES BELOW FOOTING
SCALE: 3/4" = 1'-0"



7 PORCH FOOTING
Scale: 1 1/2" = 1'-0"



8 RAMP FOOTING
Scale: 1 1/2" = 1'-0"

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SCO ID#: 24-28316-01A

Project Name
NCSPA SHIPPING AND RECEIVING
MOREHEAD CITY, NC

Sheet Title
FOUNDATION DETAILS

DESIGNED BY:	AJI
DRAWN BY:	AJI
APPROVED BY:	HMH
PROJECT #:	23-436
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1	SCO #24-28316-01A	09/30/2024
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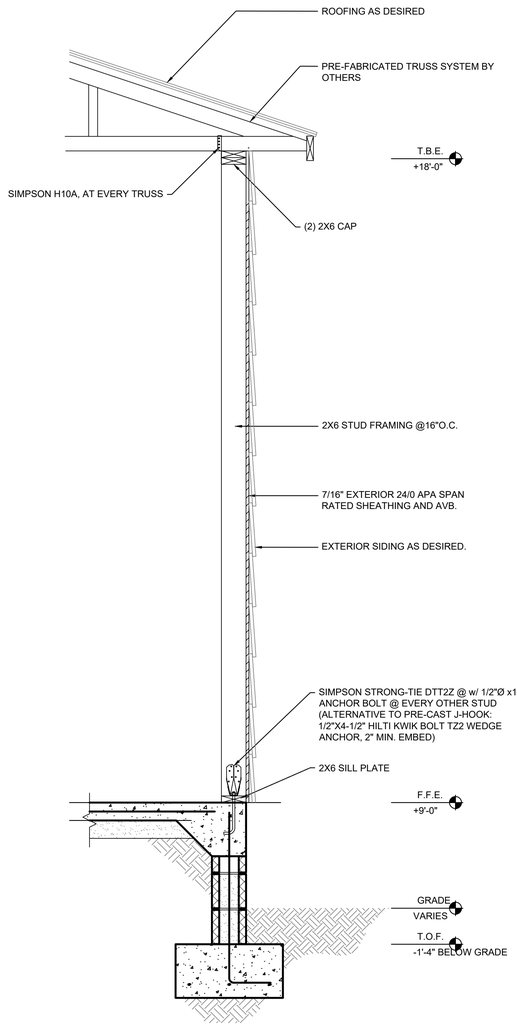
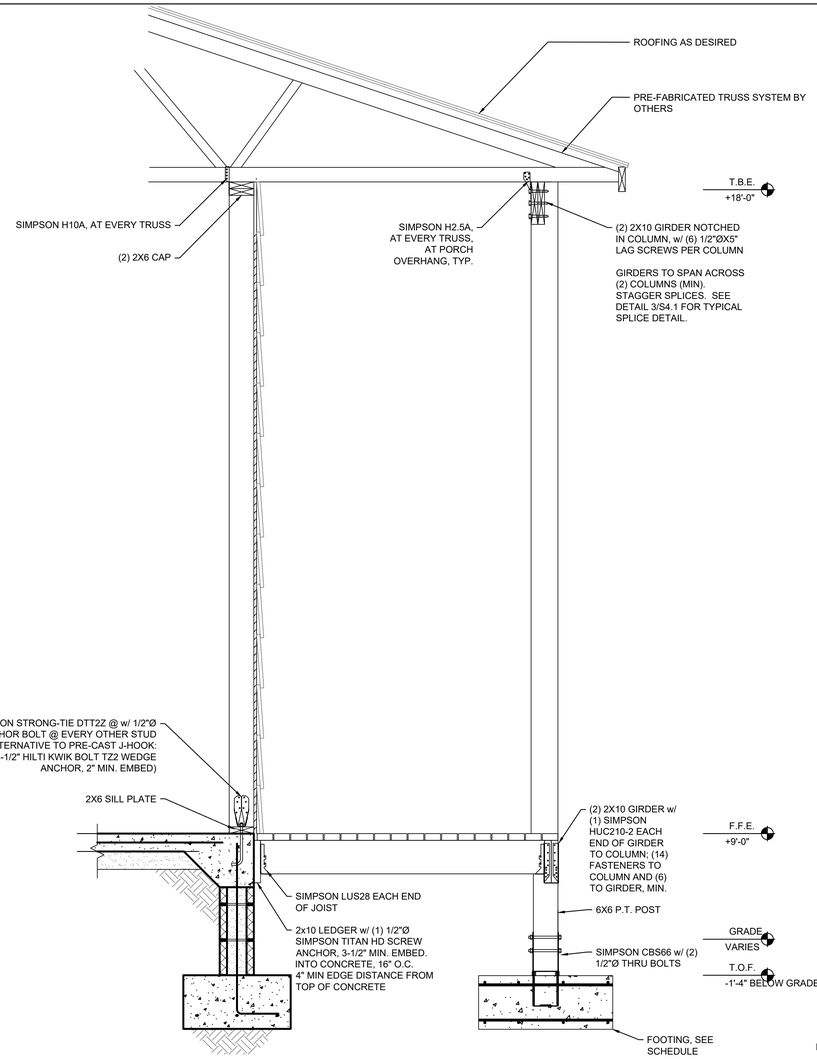
Sheet
S3.1



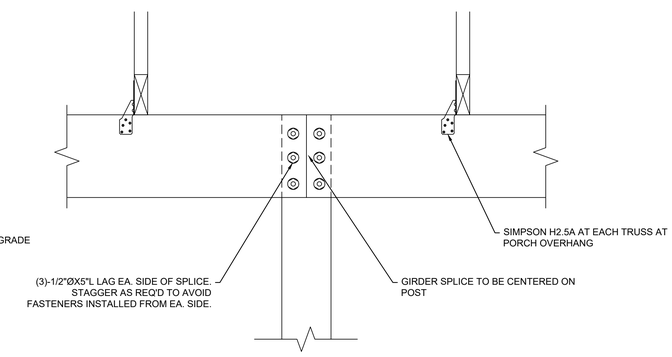
1 TYP. WALL SECTION

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



2 TYP. WALL SECTION AND PORCH FRAMING

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



3 GIRDER SPLICE DETAIL

SCALE: 1-1/2" = 1'-0"

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NCSPA SHIPPING AND RECEIVING

MOREHEAD CITY, NC

Sheet Title

WALL SECTIONS

DESIGNED BY:	AJI
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S4.1