INDEX OF DRAWINGS

S4 DETAILS & GENERAL NOTES E1 NOTES & SPECIFICATIONS E2 LIGHTING/POWER PLAN

_____800___ psf

S3 DETAILS

ALLOWABLE HEIGHT

LIFE SAFETY SYSTEM REQUIREMENTS

Smoke Detection Systems: ☐ No ☐ Yes

Snow (I_S) _____1.0

Exposure Category B

Occupancy Category:

☐ Field Test ☐ Presumptive ______1500

PLUMBING, ENERGY, & MECHANICAL SUMMARIES - NOT APPLICABLE

Basic structural system (check one)

SOIL BEARING CAPACITIES:

Architectural, Mechanical, Components anchored? N/A

ELECTRICAL SUMMARY - SEE ELECTRICAL PLANS

Wind Base Shears (for MWFRS) Vx =____

Site Classification _____ D Field Test Presumptive

Spectral Response Acceleration Ss 29.4 %g S1 8.9 %g

_____ Bearing Wall _____ Dual w/Special Moment Frame

_____Building Frame _____Dual w/Intermediate R/C or Special Steel

Panic Hardware:

⊠ No ☐Yes ⊠ No □Yes No □Yes

No
 □Yes

EXIT REQUIREMENTS N/A

STRUCTURAL DESIGN

* Indicate section number permitting reduction

DESIGN LOADS:

INCREASE FOR SPRINKLERS SHOWN ON PLANS

DETAIL & DESIGN # FOR RATED RATED
ASSEMBLY PENETRATION

S1 ELEVATIONS, BUILDING CODE SUMMARY

S2 FOUNDATION & FRAMING PLANS

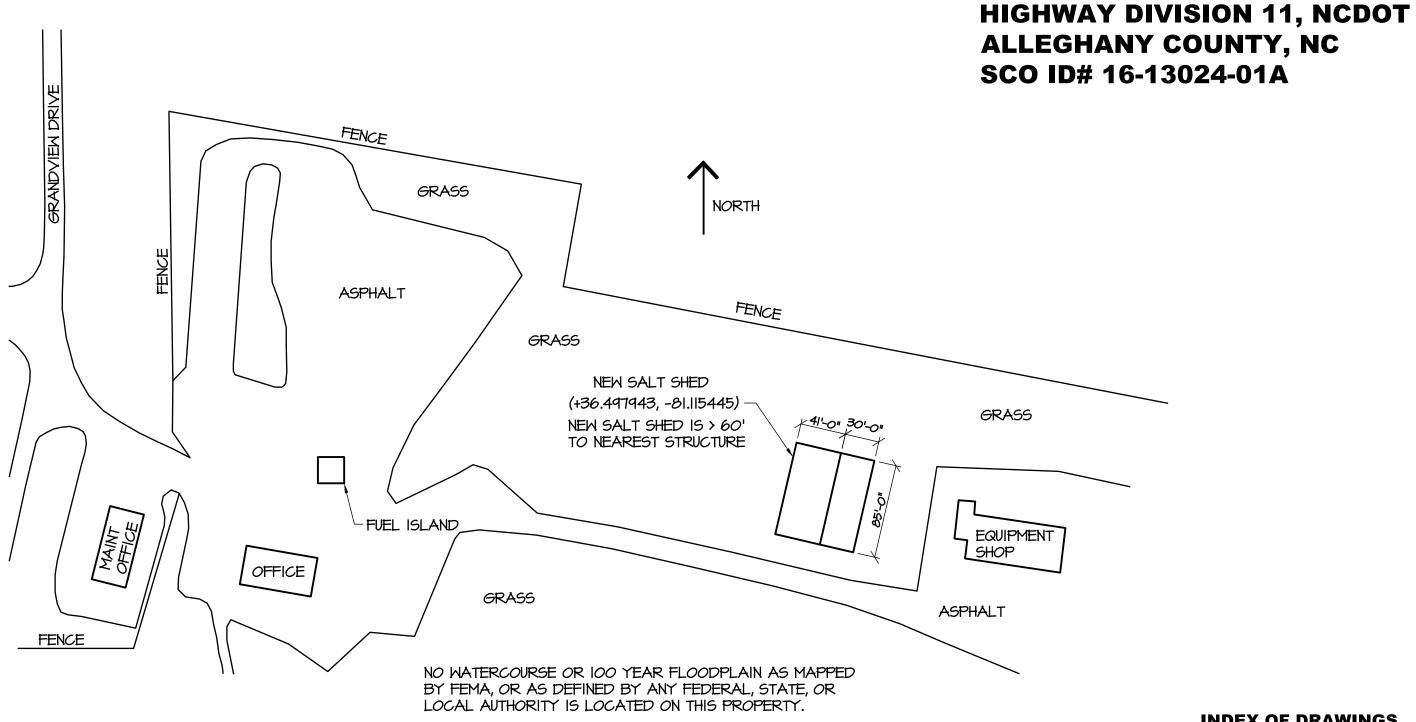
DATE ISSUED: 04-10-17

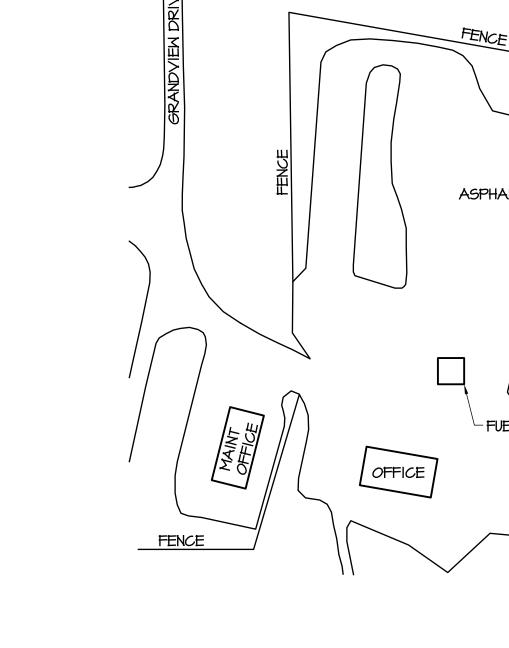
DRAWN BY: MDM CHECKED BY: MDM SHEET NO.

0F **4**

FOUR-BAY SALT STORAGE SHED

SITE LAYOUT





MAY BY AC PLYWOOD MAY BE USED FOR SOFFIT

PAINTED FIBER CEMENT SIDING,

ENCLOSE END OF BEAM

GUTTERS, FRONT & REAR

ELECTRICAL, BY OWNER

WALL CAP, SEE 1/54

- DOWNSPOUT W

SPLASH BLOCK

SOFFIT, FASCIA, & TRIM

BOLLARDS, SEE

- TO EXIST SERVICE

SALT STORAGE

7/S4 & ELECTRICAL

UNDERLAYMENT &

ASPHALT SHINGLES

SALT STORAGE

- WALL CAP,

SEE 1/S4

- PAINTED STRIPE, SEE DETAILS

TURN FRONT

TO SIDE

DOWNSPOUTS & SPLASH BLOCKS

GALY OR ALUMINUM DRIP EDGE ALL SIDES -

5" GUTTERS W/ 3"X4"

(3) DOWNSPOUTS W SPLASH BLOCKS AT REAR OF BLDG -

뤃" AC PLYWOOD MAY

BE USED FOR SOFFIT

|| SALT |STORAGE

DOWNSPOUTS, TYP

JOINT FLASHING

PER SIDING MFR -

- PAINTED FIBER CEMENT

FRONT, SIDES, & REAR

FASCIA & SOFFIT

- PT RUNNERS ON

BACK WALL

PAINTED CONC

SOUTH ELEVATION

PAINTED CONC

A = EXPOSED CONC

B = ASPHALT COATED CONC

PIER, TYP

(NORTH SIMILAR)

SALT STORAGE

EAST ELEVATION

ELEVATIONS

(WEST SIMILAR)

Proposed Use: STORAGE	ICHWAY DIVICION 11		n # 010 7	07 4551
Owner or Authorized Agent:H Owned By: STATE OF NORTH CAROLIN.		-	none # <u>919−71</u> □Prîvate	
Code Enforcement Jurisdiction:	= = =			Мэтаг
LEAD DESIGN PROFESSIONAL:				
DESIGNER FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural FACILITIES DESIGN, NCD	<u> </u>			-
SITE "Civil"				
Electrical BURKE DESIGN GROU	P BEN BURKE	22038	(919) 771–1916	ben@bdg-nc.com
Plumbing				
Mechanical				
Sprinkler-Standpipe			 	
Structural NCDOT	MIKE MOUNTCASTLE	17326	(919) 707–4547	mdmountcastle@ncdot.go
2012 EDITION OF NC CODE FOR:	X New Construction	Additio	on	□ Upfit
EXISTING: ☐ Reconstruction	☐Alteration	□Repair		

BUILDING	DATA	1					
Construction	Туре:	□ I-A	□ II–A	□ III−A	□N	□ V-A	
		□ I-B	□ II−B	□ III–B		⊠ ∨–в	
	Mixed	construction:	⊠ No	☐ Yes	Types		
Sprinklers:	X No	□ Partial	☐Yes	□NFPA 13		13R	□NFPA 13D
Standpipes:	X No	☐Yes Class			☐ Wet	☐ Dry	
Fire District:	X No	☐Yes	Flo	od Hazard Ar	ea: 🛛 No	☐Yes	
Building Heigh	nt: Feet	<u>25'-0"</u>	Number of	f Stories <u> 1</u>			
Mezzanine:	X No	☐Yes					
Gross Building	g Area:						
							

EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
	3485	3485
	3485	3485
AL	LOWABLE AREA	

Primary Occupancy:	☐ Assembly	□ A-1	□ A-2	□ A-3	□ A-4 □ A-5
☐ Business	☐ Educational	Factory	☐ F−1 Moderate	☐ F-2 Low	
Hazardous	☐ H−1 Detonate	☐ H−2 Deflagr	ate 🗌 H-3 Combust	. □ H-4	Health □ H-5 HPM
Institutional	□ I-1	□ I–2	□ I–3	□ I-4	
	I-3 Condition	□ 1	□ 2 □ 3	□4 □5	
☐ Mercantile	Residential	□ R-1	□ R-2 □ R-3	□ R-4	
Storage 🔲	S-1 Moderate	☐ S-2 Low	☐ High-piled		
☑ Utility and M	iscellaneous 🗌	Parking Garage	☐ Open	☐ Enclosed	□ Repair Garage
Secondary Occupancy:	N/A				
Mixed Occupancy:	⊠ No	☐ Yes	Separation: ——— Hr	•	Exception:
	_			_	

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) Table 503 Area	(C) AREA FOR OPEN SPACE INCREASE	(D) AREA FOR SPRINKLER INCREASE	(E) Allowable Area or Unlimited	(F) MAXIMUM BUILDING AREA
1	Utility & Misc.	3485	5500	NOT USED	NOT USED	5500	5500

Primary Occupancy:	☐ Assembly	□ A-1	□ A-2		□ A-3	□ A-4	□ A-5
☐ Business	Educational	Factory	- □ F-1 Mo	oderate	☐ F-2 Low		
Hazardous	☐ H−1 Detonate	H−2 Deflagr	ate 🗌 H-3	3 Combust	H—4	Health []H-5 HPM
Institutional	□ I–1	□ I–2	□ I–3		□ I-4		
	I-3 Condition	□ 1	□ 2	□ 3	4 5		
☐ Mercantile	Residential	☐ R-1	☐ R-2	□ R-3	□ R-4		
Storage 🔲	S-1 Moderate	☐ S-2 Low	☐ High—pi	iled			
□ Utility and M	iscellaneous [] Parking Garage	□ 0	pen	☐ Enclosed	Repair	Garage
Secondary Occupancy:	N/A						
Mixed Occupancy:	⊠ No	☐ Yes	Separation:	Hr	•	Exception:	

2012 APPENDIX B BUILDING CODE SUMMARY

		(170000 00	ິ				
Name of Project: ALLEGHANY COUNTY FOUR-BAY SALT SHED	Building height in feet	Feet 40		Feet=H+20'= .	N/A	Feet	20 ' –1 "
Address: 271 GRANDVIEW DR., SPARTA, NC 28675	Building Height in Stories	Stories 1		Stories+1=	N/A	Stories .	1
Proposed Use:STORAGE							
Owner or Authorized Agent: HIGHWAY DIVISION 11 Phone # 919-707-4551 Owned By: STATE OF NORTH CAROLINA City/County Private State		FIRE	PRO	TECTION F	REQUIRE	MENTS	
Code Enforcement Jurisdiction:		FIRE		RATING		DESIGN # FOR	DESIGN # FO
LEAD DESIGN PROFESSIONAL:	BUILDING ELEMENT	SEPARATION DISTANCE (FEET)	REQ'D	PROVIDED W/ REDUCT	SHEET #	RATED ASSEMBLY	RATED PENETRATIO
DESIGNER FIRM NAME LICENSE # TELEPHONE # E-MAIL	Structural frame, including columns, girders, & trusses	10	0	0	-	-	-
Architectural FACILITIES DESIGN, NCDOT	Exterior walls	_	0	0	-	-	-
	Interior Wells and newitions		^				•

FLOOR
1st Floor
TOTAL

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) Table 503 Area	(C) AREA FOR OPEN SPACE INCREASE	(D) AREA FOR SPRINKLER INCREASE	(E) Allowable Area or Unlimited	(F) Maximum Building Area
1	Utility & Misc.	3485	5500	NOT USED	NOT USED	5500	5500

03 - 02 - 00 REVISIONS NO. DATE

DATE ISSUED: 04-10-17 DRAWN BY: MDM
CHECKED BY: MDM

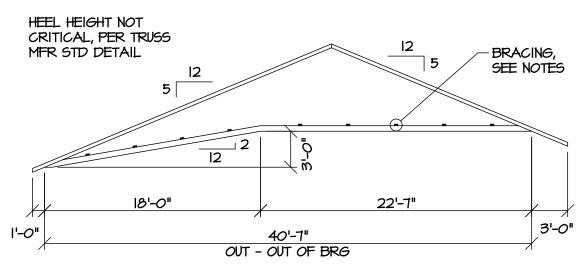
SHEET NO.

2 of 4

NOTES:

I. PROVIDE TRUSS SHOP DRAWINGS SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NC, SHOWING TRUSS LAYOUT, TRUSS DESIGNS, & REQUIRED BRACING.

- 2. TRUSS MFR NOTE THERE IS NO CEILING & BOTTOM CHORD BRACING MAY BE REQUIRED. GC NOTE BOTTOM CHORD BRACING IS SHOWN ON TRUSS CALCULATION SHEET & IS IN ADDITION TO THE TEMPORARY BRACING.
- 3. THIS BUILDING MEETS CRITERIA FOR PARTIALLY ENCLOSED PER ASCE 7-05 WIND REQUIREMENTS.
- 4. WALL SHEATHING SHALL BE $\frac{1}{2}$ " APA RATED SHEATHING, 32/16 SPAN RATING, EXPOSURE I, ATTACHED W/ 8D NAILS @ 6" OC ON PANEL EDGES & 8" OC ALONG INTERMEDIATE SUPPORTS, UON. PROVIDE BLOCKING AT ALL PANEL EDGES ON EXTERIOR WALLS.
- 5. ROOF SHEATHING SHALL BE & APA RATED SHEATHING, ATTACHED W/ IOD NAILS @ 6" O.C. ON PANEL EDGES, & @ 8" O.C. AT INTERIOR.
- 6. PT DENOTES PRESSURE TREATED IN ACCORDANCE W/ AWPA STANDARDS.
- 7. SIDING, VENTED SOFFIT, & FASCIA SHALL BE PAINTED FIBER-CEMENT BOARD, COLOR SELECTION BY OWNER.
- 8. BM-I = 5-I/2" X I6" GLULAM, 24F-V4, BALANCED, & PRESSURE TREATED.



TRUSS PROFILE

NOTES:

- COMPRESSIVE STRENGTH OF CONCRETE FOR FOOTINGS = 4000 PSI.
- 2. CONCRETE FOR WALLS & SLABS SHALL HAVE 0.40 MAXIMUM W/C RATIO, & MINIMUM 5000 PSI COMPRESSIVE STRENGTH.
- 3. EXPOSED CONCRETE SHALL INCLUDE 5% ENTRAINED AIR.
- 4. ALL REINF STEEL SHALL BE ASTM A 615, GR 60. LAP ALL SPLICES 48 X BAR DIAMETER.
- 5. ELEVATIONS SHOWN ARE ABOVE REFERENCE FLOOR ELEVATION = +0'-0".
- 6. COORDINATE LOCATION & INSTALLATION OF ELECTRICAL WORK W
- 7. GC ADD GROUNDING ROD TIED TO FOUNDATION REINF, SEE 6/S4, COORD LOCATION W/ OWNER.

- PT RUNNERS ON

BACK WALL

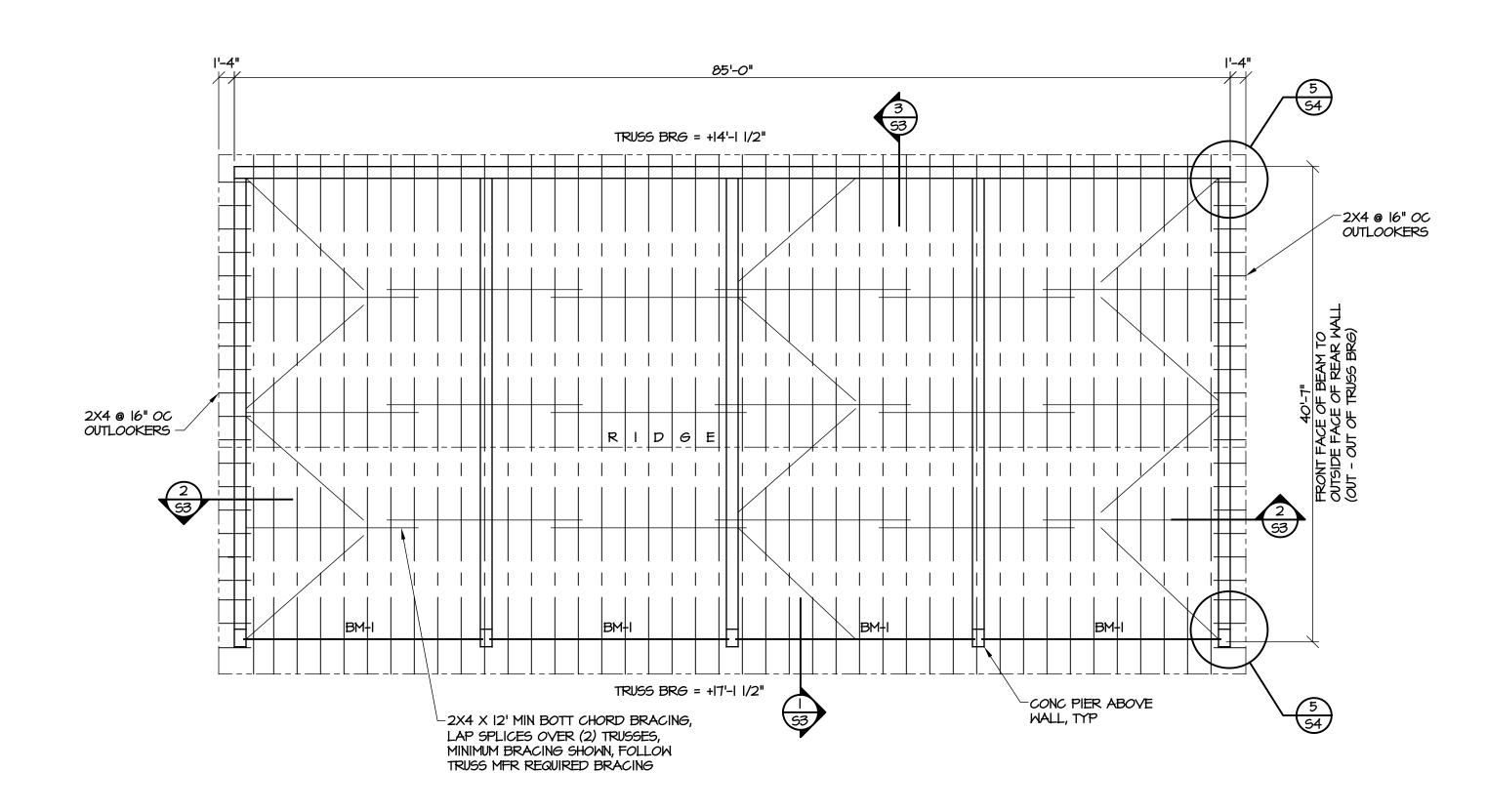
PREPARE CONCRETE WALL SURFACES AS FOLLOWS: INTERIOR - PATCH TIE HOLES & DEFECTS, REMOVE

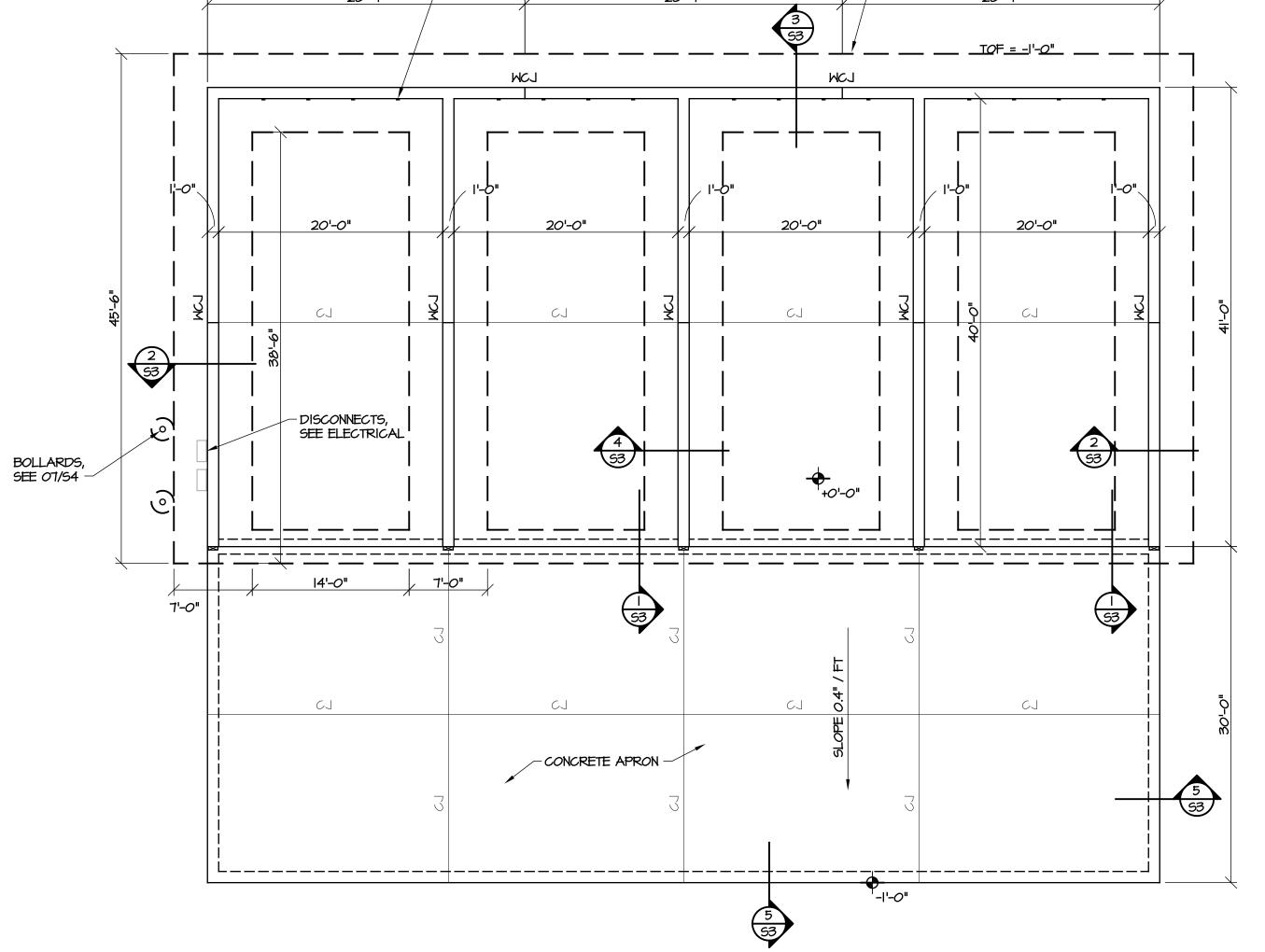
FINS FLUSH W/ SURFACE.

EXTERIOR - PATCH TIE HOLES, BUG HOLES, & OTHER DEFECTS. REMOVE FINS FLUSH WITH SURFACE. PATCH HOLES THAT CANNOT BE SEALED W/ BLOCK FILLER & PAINT.

> /- WCJ DENOTES WALL CONTROL JOINT

INTERIOR FLOOR & APRON SHALL BE 6" CONC SLAB REINF W EPOXY COATED #4 @ 16" OC, EW OVER 6" #57 STONE BASE.

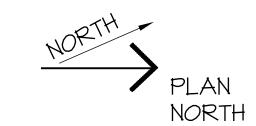




*8*5'-0"

SITE NOTES:

- I. OWNER WILL PROVIDE ROUGH GRADING UP TO THE BUILDING SUB-GRADE.
- 2. OWNER WILL PROVIDE LOCATION OF BUILDING & ORIENTATION, BUT CONTRACTOR IS RESPONSIBLE FOR BUILDING LAYOUT. AFTER LAYOUT, VERIFY BUILDING LOCATION W NCDOT PRIOR TO CONSTRUCTION.
- 3. CONTRACTOR IS RESPONSIBLE FOR FOOTING EXCAVATION, & MINOR GRADING AROUND OUTSIDE OF BUILDING. SOIL REMOVED DURING EXCAVATION MAY BE STORED ON SITE, COORDINATE LOCATION W/ OWNER.





- ROOF DECK,

& SHINGLES

- 2X4 BLKG

FC OR AC

/IO I/4" |7 3/4"

PLYWD SOFFIT -

2X & FIBER

CEMENT FASCIA —

PRIME & PAINT FASCIA,

COORD TOP OF PIER

W/ BEAM DEPTH \$

HEIGHT OF BASE

+10'-0"

-PAINT 8" YELLOW STRIPE

IN SALT STORAGE BAYS

ABOYE SALT LINE EA WALL

-EMULSIFIED ASPHALT COATING

WOOD BUMPER, HOLD BOTTOM I" ABOVE SLAB

-BUILDING SLAB, SEE PLAN

- ᆌ EXP JT MAT'L

- APRON, SEE PLAN

3" CLR

& SEALANT

TO SALT LINE EA WALL IN SALT STORAGE BAYS

SOFFIT, FRONT FACE OF BEAM, & BOTTOM OF BEAM

+17'-1 1/2" TRUSS BRG

ROOF TRUSS -

SIMPSON HI OR

EQ EA TRUSS -

BEAM, SEE PLAN —

CONC PIER, SEE

BOTH SIDES -

WOOD FRMG AT

SIDE WALLS -

PLAN, PAINT FRONT

SIMPSON CBSQ66-SDS2, OR EQ, EA END OF BEAM ⁻

FOOTING-

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

SECTION AT FRONT OF BUILDING

(3) #5 CONT W #4 TIES @ 24" OC, T&B - UNDERLAYMENT

EAVE STRIP

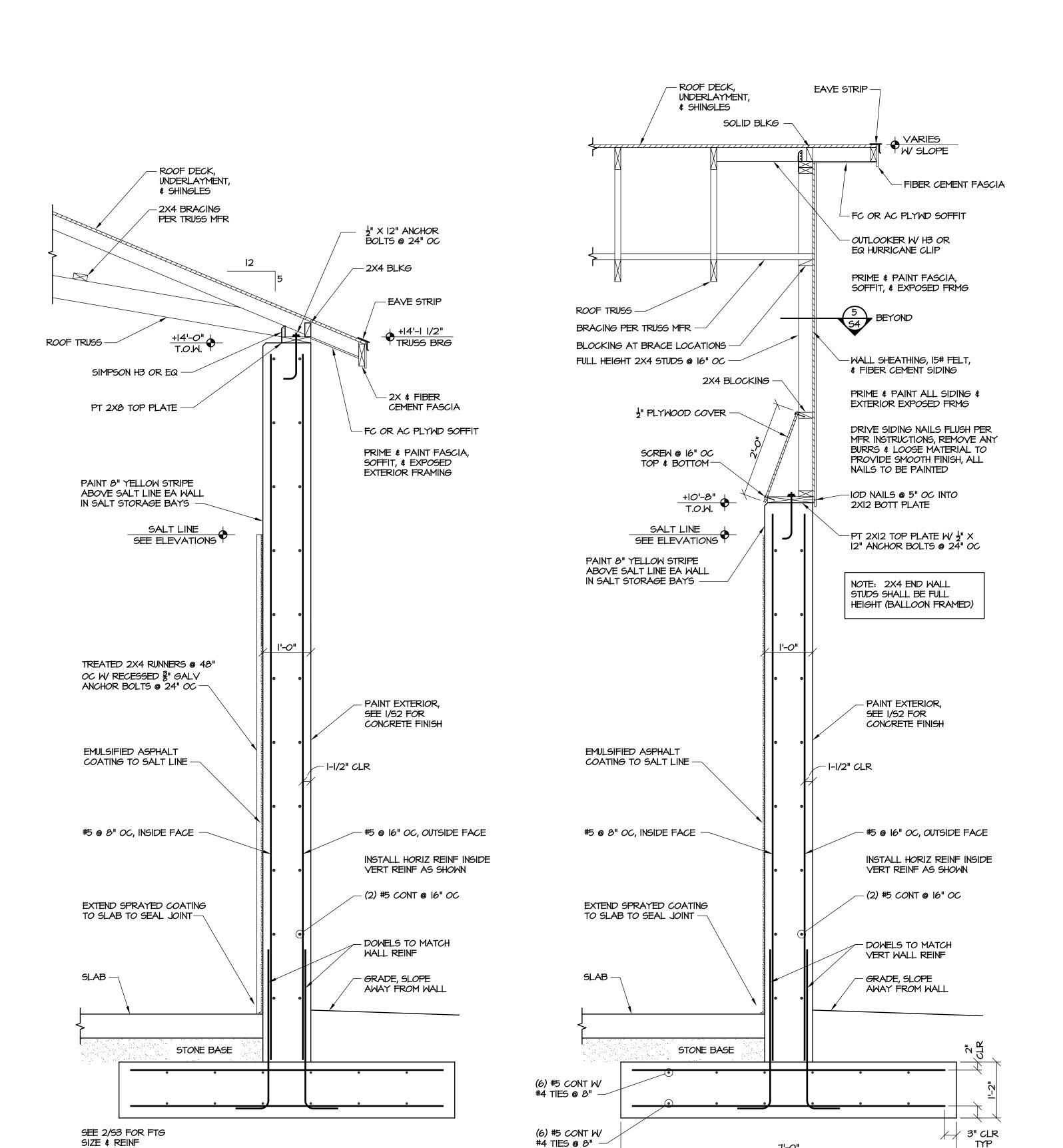
FACILITIES DESIGN ARCHITECTS & ENGINEERS FACILITIES MANAGEMENT DIVISION, NODOT

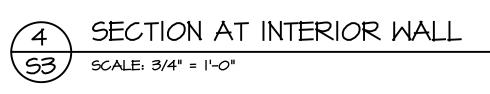
STATE CONSTRUCTION ID# 16-13024-01A ASSET NUMBER: CO.# SITE.# BLDG.; DATE

03 - 02 - 00 REVISIONS NO.

DATE ISSUED: 04-10-17 DRAWN BY: MDM
CHECKED BY: MDM

SHEET NO. **S3** 3 of 4





-(2) #4 CONT

-PAINT 8" YELLOW STRIPE

IN SALT STORAGE BAYS

SEE I/S2 FOR

- I-I/2" CLR

CONCRETE FINISH

#5 @ 8" OC, BOTH FACES

INSTALL HORIZ REINF INSIDE

YERT REINF AS SHOWN

(2) #5 CONT @ 16" OC

DOWELS TO MATCH

WALL REINF

ABOVE SALT LINE EA WALL

/ l'-0"

APRON SLAB EDGE

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

+IO'-8" T.O.W.

l'-0"

SALT LINE

SEE ELEVATIONS

CROWN CONC AT TOP

OF WALL AS SHOWN —

EMULSIFIED ASPHALT COATING TO SALT LINE, BOTH SIDES OF WALL

EXTEND SPRAYED COATING

SEE 2/53 FOR FTG

SIZE & REINF

STONE BASE

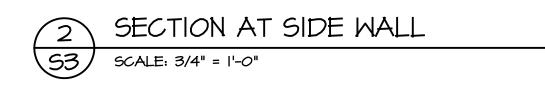
TO SLAB TO SEAL JOINT,

BOTH SIDES OF WALL -

SLAB -

SLAB REINF-

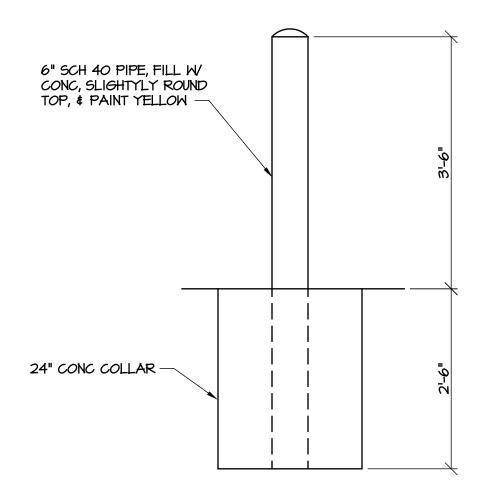




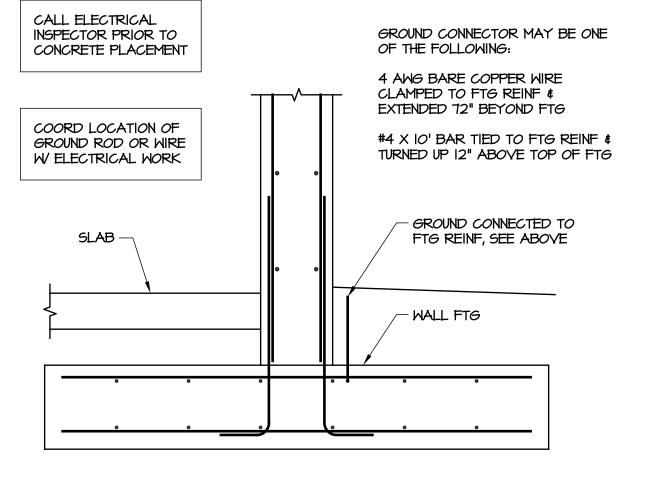
- A. GENERAL
- 1. See specifications for further information. In case of conflict between specifications & drawings, contact architect for resolution.
- 2. Contractor is responsible for coordination & distribution of all changes in contract documents to all subcontractors.
- 3. Contractor shall verify all field conditions, elevations, & dimensions prior to construction. Do not scale from plans.
- 4. Means & methods of construction, including temporary bracing, shoring, & jobsite safety, are the responsibility of the contractor.
- 5. Structural frame shall be braced until erection is complete & permanent connections & bracing are installed.
- 6. Provide silt fence or other erosion & sediment control measures as required.
- 7. If demolition is included in project, sawcut all edges of existing slab and asphalt to remain adjacent to new construction.
- B. FOUNDATION
- 1. Footing excavations shall be reviewed by a geotechnical engineer or construction testing agency approved by the architect or engineer.
- 2. Footing depths shown are based on geotechnical investigation or presumptive soil properties. Soft or unsuitable soils shall be removed & replaced with suitable fill
- 3. Under slabs & footings, remove all topsoil, trash, & organic material, & replace with select fill compacted to 95% maximum density as measured by the Standard Proctor Method (ASTM 698) in 12 inch maximum lifts. The top 12" shall be compacted to 98% maximum density.
- 4. Contractor is responsible for shoring while excavating near existing structures.
- C. CONCRETE
- 1. See plans for required compressive strength of concrete.
- 2. Coordinate floor slopes and depressions with arch and plumbing plans. Maintain specified slab thickness below depressed or sloped areas.
- 3. If not specified on plans, provide sawed slab control joints in slabs on grade spaced at not more than 48 times the slab thickness.
- 4. Reinforcing steel shall meet ASTM A 615, Grade 60.
- 5. Welded wire reinforcement shall conform to ASTM A 185 & A 82.
- 6. Grout under all columns & beam bearing plates with non-shrink, non-metallic grout which meets ASTM C 1107.
- 7. Clear distance from face of concrete to main reinforcing:
- Suspended slabs and joists:
- Grade beams, pedestals, columns, walls:
- Footings & walls cast against earth:
- 8. Provide (2) #4 x 48" diagonal corner bars at center of slab at all corners of
- 9. Lap all reinforcement splices 48 bar diameters, UON.
- 10. Detailing, fabrication, & installation of reinforcing steel shall conform to ACI "Manual of Standard Practice for Detailing Reinforced Concrete Structures" (ACI
- 11. Workmanship, tolerances, & concrete placement shall conform to "Standard Specifications for Structural Concrete" (ACI 301).
- 12. Chamfer exposed edges of concrete 3/4", UON.
- 13. Anchor bolts shall conform to ASTM F 1554, Grade 36. Anchor bolts, nuts, & washers shall be galvanized.

F. WOOD

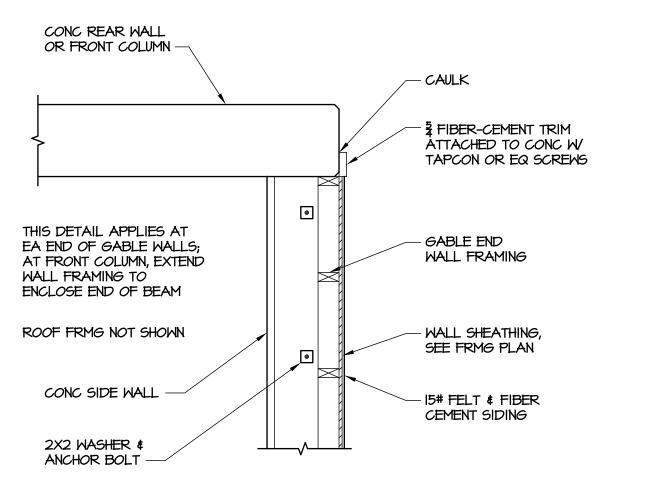
- 1. Structural lumber shall be SPF #2 or better, UON. Wood for fabricated trusses shall be SYP #2 or better, except that webs may be SYP #3.
- 2. Wood in contact with concrete or masonry shall be treated.
- 3. Straps, ties, hangers, & other connection hardware shall be galvanized.
- 4. Connections not otherwise detailed shall be in accordance with Tables 2304.9.1.1 thru 2304.9.1.6 of the NC State Building Code.
- 5. Trusses shall be designed for the full dead & live loads specified in the contract. Submit truss shop drawings bearing the seal of a registered professional engineer licensed in the state of NC. Show truss layout & truss designs including required bracing. Bracing design is the truss designer's responsibility.
- 6. Contractor shall install both temporary and permanent bracing. Note that permanent bracing is often shown on individual truss calculation pages instead of the truss layout sheet, especially where there is no hard ceiling applied to truss.
- 7. Additional bracing may be required by engineer of record as indicated on plans for support of gable walls or other items.
- 8. Install blocking in walls & ceiling where required for partitions, fixtures, & other misc items. Coordinate with all trades.

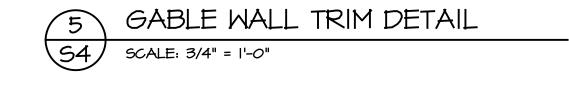


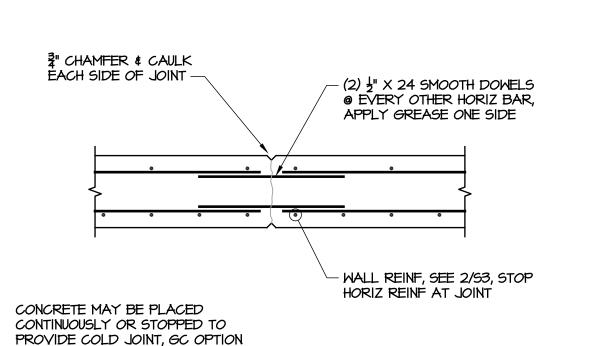




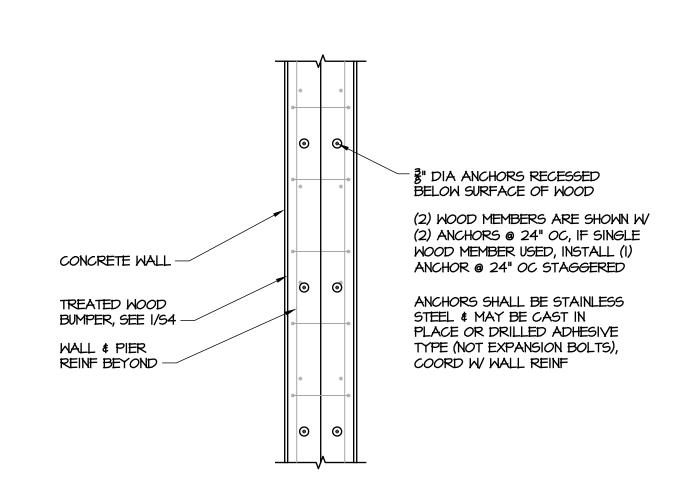








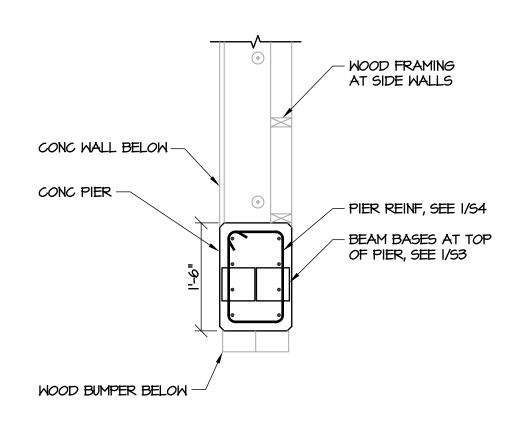




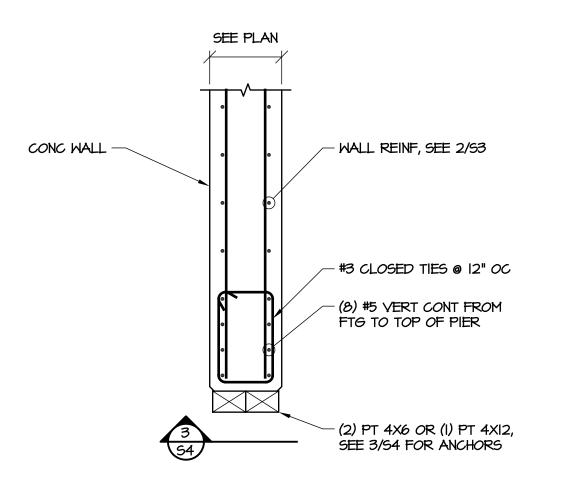
4/7/2017 | 5:50 AM PDT

Michael Mounta











ENGINEERS T DWSON, NODOT

FACILITIES
ARCHITECTS & E



STATE CONSTRUCTION ID# 16-13024-01A ASSET NUMBER: CO.# SITE.# BLDG.; 03 - 02 - 00 **REVISIONS** NO. DATE

DATE ISSUED: 04-10-17

DRAWN BY: MDM CHECKED BY: MDM SHEET NO.

4 of 4

PART 1 - GENERAL 1.1 DESCRIPTION OF THE WORK

- A. Work under this section includes, but is not necessarily limited to, furnishing and installing the following:
- 1. Lighting and power distribution system. 2. Provide lighting fixtures per light fixture schedule with lamps to match.
- 3. Wiring devices, boxes, cover plates, etc.
- 4. Source of power for all items of equipment.
- 6. Other requirements and/or systems where shown. B. All work shall be complete and items, equipment, etc., shall be electrically connected for proper and correct
- C. All work under this contract shall be installed in accordance with the latest edition of the following codes and
- standards insofar as they apply: 1. The 2014 National Electrical Code.
- 2. The National Electrical Safety Code.
- 3. Underwriter's Laboratories, Inc., Standards and approved listings or other approved 3rd party listing agency.
- 4. Electrical Testing Labatories standards.
- 5. 2012 North Carolina State Building Code. 6. 2012 North Carolina State Energy Code.
- D. The Electrical Contractor shall be licensed in the State of North Carolina and have all local licenses required for the work.
- E. Local permits are not required. All work must be inspected by the Office of State Construction state electrical inspector and the Engineer of Record. Provide certificate of inspection and approval from the state electrical inspector prior to the final inspection. The electrical contractor is responsible for contacting the state electrical inspector for all required inspections.
- F. All work shall be done by skilled mechanics and shall present a neat, trim, workmanlike condition when complete.
- 1.2 INTENT A. The intent of these specifications and the accompanying drawings is to convey as reasonably as possible the requirements for a complete job ready for the building to operate. The Electrical Contractor shall take this into consideration and include in his base bid allowance for contingencies as will allow him to provide minor pieces of equipment and labor not specifically indicated but required for the job to operate properly, at no additional cost to the Owner.

1.3 COORDINATION

- A. Coordinate work with other contractors. Notify Architect of apparent conflicts early to expedite construction. If structural damage appears imminent, stop work and notify Architect for a decision before resuming
- B. Locations shown are approximate. The drawings do not give exact details as to elevations and locations of various pipes, fittings, ducts, conduit, etc., and do not show all offsets and other installation details which may be required. Coordinate all locations with architect before any rough-in.

1.4 SHOP DRAWINGS

A. Shop drawings shall be submitted for panels and service equipment, lighting, wiring devices, and cover plates. These may consist of the manufacturer's standard catalog or tear sheets and shall have the exact items being offered clearly identified.

PART 2 - PRODUCTS AND MATERIALS 2.1 GENERAL

- A. All material shall be new and shall bear the manufacturer's name, trade name, and be third party acceptable to NCDOI listed and labeled where such standard has been established for the particular material. Materials shall be the standard
- approved design. 1. Boxes installed in concealed locations shall be set flush with

products of manufacturer's regularly engaged in the manufacturer

of the required type of equipment and the manufacturer's latest

the finished surfaces. 2. Provide rated boxes in all fire barriers & walls installed per code.

2.2 CONDUCTORS

A. Conductors shall be color coded, sizes #4 and larger may be color taped on the job. Color coding shall comply with 2011 NEC 200.6.

208/120V, 3 phase Phase B- Red Chase C- Blue Neutral— White Ground- Green

480/277V, 3 phase Phase A- Brown Phase B- Orange Chase C- Yellow Neutral — Natural Gray

- Ground- Green B. Conductors shall be manufactured by Dodge, Southwire or approved equal. Conductors shall meet the latest requirements of NEMA and IPCEA and shall be third party acceptable to NCDOI approved.
- C. Conductors shall be spliced and taped as follows: 1. Size #10 and #12, use Ideal "Wing Nuts" or T&B "Piggy" connectors. Connectors shall be rated for 150 degrees C for use in recessed lighting fixtures.
- 2. Size #8 and larger shall be solderless screw and screw-clamping type, smoothly covered and shaped with rubber gum type with final cover vinyl plastic electrical type. In lieu of rubber gum and vinyl plastic type, factory fabricated approved preformed insulating covers may be used. All connectors shall
- 3. No split-bolt type connectors may be used.
- D. All branch wire and connections shall be copper and sized per National Electric Code.
- E. All conductors shall be continuous without splice between junction, outlet, device boxes, etc. No splicing will be permitted in
- panelboard cabinets, safety switches, etc. F. All wiring in mechanical spaces shall be plenum rated.
- G. Provide GFI protection within 6'-0" of any sink.
- H All multi-wire branch circuits shall comply with 2011 NEC, 210.4(B).
- 2.3 PANELBOARDS, SAFETY SWITCHES A. Panelboards shall comply with NEMA Standard PB 1 — Latest
- Edition and as manufactured by Square D or ITE-Siemens. All panel boards must have copper buses. B. Safety switches shall be heavy duty type, size and rating as required for lead service. Safety switches shall be
- fused or unfused as shown and/or as required. Safety switches serving motor loads shall be horsepower rated for load served.

2.4 WIRING DEVICES

- A. Wiring devices shall be commercial grade by Bryant, Leviton, Cooper
- or approved equal. With matching cover. Color by Architect. B. Wiring devices installed under a Kitchen Hood shall have
- stainless steel covers.
- C. Wiring devices installed over counters shall comply with ANSI A117.1.

- A. PVC conduit will be allowed under slab. Provide rigid turn-ups.
- B. All exposed conduit shall be rigid where exposed to the elements, located less than 8'-0'' above grade or where exposed to hazardous conditions. C. EMT conduit, above slab, concealed or exposed above 8'-0" shall be used
- through out the project. D. Metallic sheathed "MC" cable should not be used for this project, without designer authorization. MC cable is allowed for light whips 6'-0" or less and where concealed with-in existing construction to minimize demolition

work. If used, MC cable shall be 1/2" with minimum #12 AWG copper wire

and green insulated copper ground. PART 3 - EXECUTION

- 3.1 CIRCUIT GROUNDING
- A. All circuits shall contain an insulated, green, copper grounding conductor, sized in accordance with Table 250-122 of the NEC. Grounding conductors shall be connected to equipment grounding bus in panelboard and securely attached and grounded to the device or enclosure at the other end.

3.2 GROUNDING TYPE CONVENIENCE OUTLETS AND SWITCHES

A. Outlets and switches shall be solidly grounded to equipment grounding system with a green colored insulated conductor. Electrical connections shall be continuous from equipment ground bus in panelboard to the hex nut on the convenience outlet or switch.

3.3 MOTORS

A. All motors shall be connected to conduit system with short length (minimum length 24" and maximum length 36") of flexible liquidtight

3.4 EQUIPMENT LABELING

A. Provide permanent penolic plastic name plates for all panelboards, safety switches, wiring troughs, etc., for identification of equipment controlled, services, etc. Nameplates shall be securely and permanently attached to equipment with stainless steel screws. Nameplates shall include the name of the equipment and where it is fed from. Color Coding-

Blue surface with white core- 120/208v equipment Black surface with white core- 277/480v equipment Bright red surface with white core— fire alarm systems Dark red surface with white core— security systems Green surface with white core— "emergency" systems Orange surface with white core— telephone systems Brown surface with white core- data systems White surface with black core- paging systems Purple surface with white core— TV systems

- B. All switch plates, receptacle plates and outlet covers shall be labeled with machine printed vinyl labels identifying the circuit(s) within.
- C. All empty conduit runs shall be identified and indicated
- where they terminate. D. Provide typewritten directory in each panelboard to
- clearly identify each circuit, service, etc.

3.5 JUNCTION AND/OR PULL BOXES

A. Boxes shall be installed where necessary to avoid excessive runs and/or too many bends between outlets.

3.6 PULL WIRE

A. Leave pull wire in each empty conduit run.

A. All grounding shall be in accordance with Article 250 of the NEC. In addition, the following requirements shall be met:

- 1. Grounding conductors shall be installed as to permit the shortest and most direct path from equipment to ground. All connections to grounding conductors shall be accessible.
- 2. Equipment ground continuity shall be maintained through flexible metal conduit.
- 3. All wiring devices equipped with grounding connection shall be solidly grounded to ground system with grounding conductors.
- 4. The frame of all lighting fixtures shall be securely grounded to the equipment ground system with grounding conductors.
- 5. All equipment enclosures, and non-current-carrying metallic parts of electrical equipment, raceway systems, etc., shall be effectively and adequately bonded to ground.
- 6. All equipment enclosures, and non-current-carrying metallic parts of electrical equipment, raceway systems, etc., shall be effectively and adequately bonded to ground.
- 7. The reaceway system shall not be relied on for ground continuity A green grounding conductor, properly sized per NEC table 250-122, shall be run in all power raceways.

3.8 ELECTRICAL WORK IN CONNECTION WITH OTHER WORK

A. The trade(s) furnishing equipment will provide disconnect switches, motor starters, and make final equipment connections. ELECTRICAL CONTRACTOR will make line side connections to disconnect switches or motor starters.

3.9 CLEAN UP

A. During construction, keep the site clean of debris. Upon completion, and before final inspection, clean up the premises to remove all evidence of work. In addition upon completion of construction leave equipment clean.

3.10 GUARANTEE

A. Guarantee all materials and labor included in the electrical work for a period of one year from date of final acceptance by the Owner. Any part or parts of the work or equipment which prove to be defective during the guarantee period shall be replaced at no additional cost to the Owner.

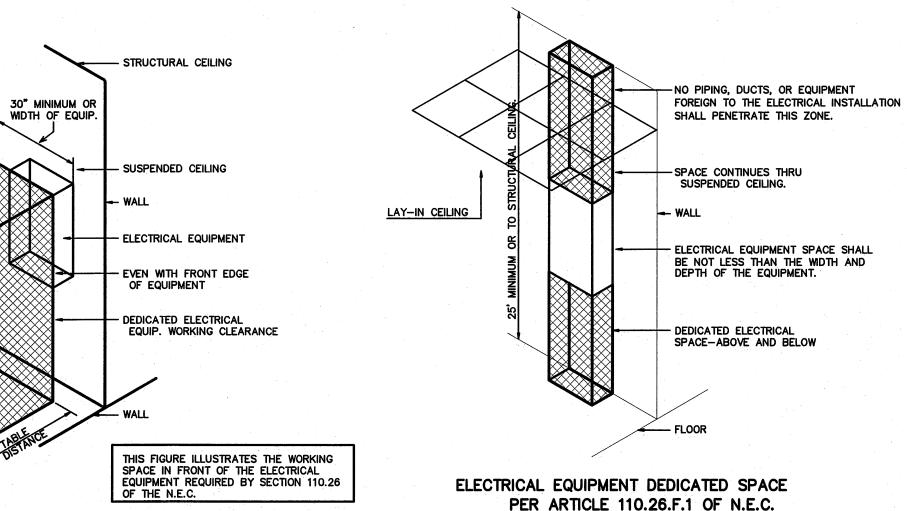
GENERAL LEGEND

FLUORESCENT STRIP - SUSPENDED,

PANEL A

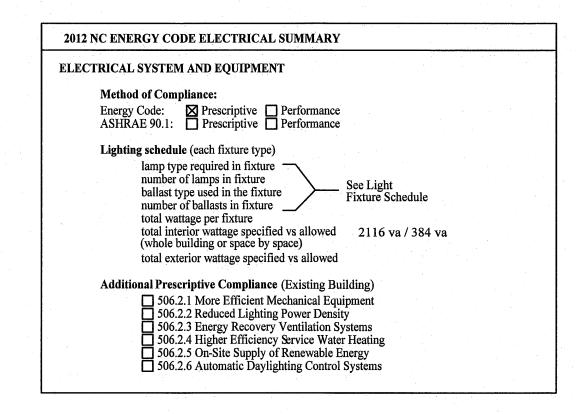
DUPLEX RECEPTACLE - 120V; MOUNT 18" TO CENTER AFF UNLESS NOTED OTHERWISE: 'WP' INDICATES WEATHER PROOF 'GFI' INDICATES GROUND FAULT CURRENT INTERRUPT PROTECTED. 'S' INDICATES SHUNT TRIP PROTECTED. SINGLE-POLE HOMERUN TO PANELBOARD BRANCH CIRCUIT WIRING GROUND CONNECTION DISTRIBUTION PANELBOARD

DISTRIBUTION PANELBOARD



ELECTRICAL CLEARANCES





GN ERS

(V) & F



טחמ

R-BAY SION 12, GHANY FOUR-DIVISION ALLEG

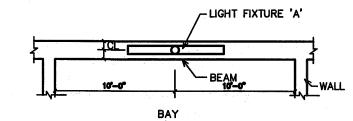
STATE CONSTRUCTION ID.# 16-13024-01A REVISIONS NO. DATE

DATE ISSUED: 04/06/17 DRAWN BY: RM

SHEET NO.

CHECKED BY: BEB

Alleghany Co 4 Bay Salt Shed E2 EXISTING PANEL— 'A		CUTLER HA			120/240		<u>3</u> WRE			UIT BREAKE	
NEMA 3R	, HPE: -	BK LUAU (G: <u>SURFA</u> AIC: <u>VEF</u>					ND BUS ATED	
LOAD	СКТ	I WATTS PE	R PHASE				WATTS	PER PHASE			
SERVICE	BRKR	A	B	CKT NO	NEUTRA A B	L CKT NO	A	B B	CKT BRKR		LOAD SERVICE
DOME LIGHT	20A	1440		1		\bigcirc 2	460			NIGHT LIGH	
FAN	20A		780	3	\cap	\bigcirc 4		384	20A	4-BAY LIG	HTING
RECEPTACLES	20A	540		5	\cap	\bigcap 6	5760		60A	BRINE SUB	-PANEL
4-BAY RECEPTACLES	20A		360	7	\cap	\bigcirc 8		5760	60A	BRINE SUB	-PANEL
				9	\cap	\bigcap 10					
				11	\cap	12					
				13		14					
				15	\cap	16					
				17	\cap	18		·			
				19		○ 20					
NOTES SUE	B-TOTALS 'B'	1980	1140	XXX	_100A	BUS	6220	6144	SUB-	TOTALS 'A'	
· · ·				· ·	100A	LUGS	1980	1140	SUB-	TOTALS 'B'	TOTAL CONNECTED LOAD
					100A	FEED	8200	7284	GRANI	TOTAL	IOIAL COMMECTED LOAD
					VERIFY	SIZE	68.3A	60.7A	AMPS	/PHASE	
NEC ALLOWABLE DEMA	ND FACTO	RS	DIVERSI	FIED	LOAD SL	MMARY		,			
1 DEMAND FACTORS PER			LOAD	TYPE		DEMAND FACTOR①	A	В	TOTAL	. DIVERSIFIE	D LOAD
② LARGEST OF: NEC TABL CONNECTED LOAD	E 220.12 OR		GENERAL LI		@		2375	480		2855	
(3) NEC TABLE 220.56			TRACK LIGH GENERAL U			125% ≤10KVA€100%	540	360		900	
(4) NEC 220.51			RECEPTACL	ES		>10KVA@50%			14.		
X	NICAD ET		MOTORS AN	D L	RGEST	125%					
5 NEC 220.43A, 200 VA/L			EQUIPMENT		l others	100%					
6 NON-COINCIDENT LOADS OF THE TWO LOADS IS (, LARGEST		WATER HEA		IT (S)	125% 100%					
OF THE TWO LOADS IS	COUNTED		FIX. ELEC.			100%		 	-		
•			SHOW WIND			125%					
			SUB PANEL			100%	5760	5760		11520	
			MISC			100%		780		780	
					PHASE (IOTAL VA)	8675	7380		16055	
						TOTAL AMPS	73A	62A		VOLTS	TOTAL AMPS



NOTES

 SURFACE MOUNT LIGHT FIXTURE TO BEAM WITH LENS FACING INTO BAY.

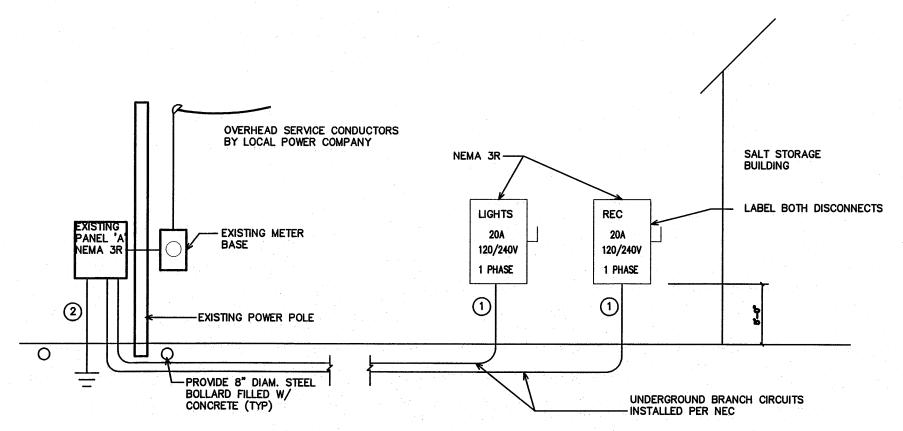
CENTER LIGHT FIXTURE ON BEAM.
 TYPICAL OF FOUR (4) FIXTURES.

FIXTURE MOUNTING DETAIL

NOT TO SCALE

Al	eghar	y Co 4 Bay Salt Shed	GHTING SCHEDUL	E	*					
М	ARK	MANUFACTURER	CATALOG NO.	VOLT.		LAMPS TYPE	S W	BALLAST TYPE	W/ FIXTURE	REMARKS
	A	LITHONIA	DMV-332-AR-1120-EB							
	С	COOPER	VT2-332-LEX-120V-EB8-WL	120	3	T8	32	EB	96	WALL MOUNT STRIP, WEATHER TIGHT, SINGLE BALLAST, FIBERGLASS HOUSING, GASKETED COVER **
	D	DAY BRIGHT	DWE-332-120-1/2-EB-LT							

- * OR APPROVED EQUAL. PROVIDE CUT SHEETS FOR OWNER APPROVAL PRIOR TO ORDERING FIXTURES. FOR FLUORESCENT FIXTURES CONTROLLED BY MOTION SENSOR, PROVIDE "PROGRAMMED RAPID START" BALLASTS. CATALOG NUMBERS ARE FOR REFERENCE ONLY, ACTUAL NUMBERS MAY VARY. 'EB' DENOTES ELECTRONIC BALLAST.
- ** VERIFY FIXTURE HAS INTEGRAL LOCAL DISCONNECTING MEANS PER NEC 410.130 (G) (2011).



RISER WIRE SCHEDULE

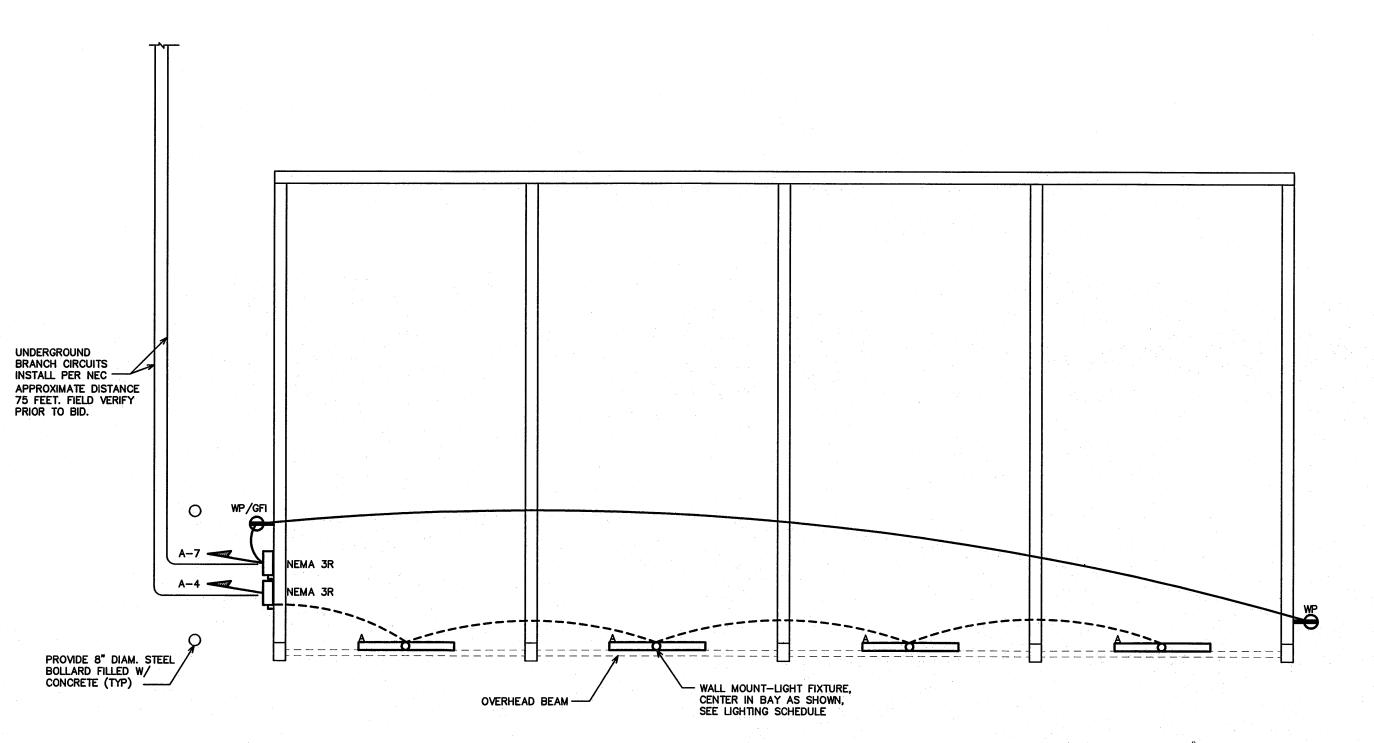
- 1) 100A: 3-#3, 1-#8 CU GND IN 1 1/4" CONDUIT
- #6 CU GND TO BUILDING STEEL, FOUNDATION STEEL AND METALLIC WATER MAIN AND #6 CU GND TO 10'x 3/4" DRIVEN GROUND ROD.

3 SERVICE RISER DETAIL
NOT TO SCALE

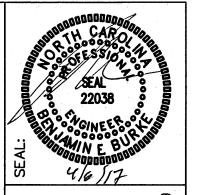
EXISTING PANELS / SERVICE

VERIFY AVAILABLE FAULT CURRENT AT SERVICE LOCATION WITH LOCAL POWER COMPANY. PROVIDE INFORMATION TO ENGINEER TO CALCULATE MINIMUM PANEL AIC RATING.

EC SHALL PROVIDE LABELING INDICATING FAULT CURRENT AT SERVICE ENTRY AND ON ALL PANELS PRIOR TO ENERGIZING.



1) ELECTRICAL POWER & LIGHTING PLAN
SCALE: 1/8" = 1'-0"



FACILITIES DESIGN
ARCHITECTS & ENGINEERS
FACILITIES MANAGEMENT DIVISION, NCDOT
1 SOUTH WILMINGTON STREET
RALEIGH, NORTH CAROLINA 27601
Phone: 919-707-4540 Fox: 919-715-0399



CONSULTING ENGINEERS
3305-109 Durham Drive
Raleigh, North Carolina 27603
919.771.1916 fax: 919.779.082/
email: benburke@nc.rr.com
Corp. License # C-2652

TES, SPECS, DETAILS
ERS, PANELS

FOUR-BAY SALT SHED DIVISION 12, NCDOT ALLEGHANY COUNTY, NC

STATE CONSTRUCTION
ID.# 16-13024-01A

ASSET NUMBER:
CO.# SITE.# BLDG.#

DATE ISSUED: 04/06/17
DRAWN BY: RM
CHECKED BY: BEB

SHEET NO.