BEAR CREEK FIRE STATION

ONSLOW COUNTY

BID NO. 102-25C
138 OLD SAND RIDGE RD, HUBERT, NC 28539

VICINITY MAP

IMAGE REPRINTED FROM GOOGLE MAPS
NTS

DESIGN TEAM

OWNER

ONSLOW COUNTY
JACKSONVILLE, NORTH CAROLINA
CONTACT: CHRISTINA RUSSELL
NUMBER: 910-455-1750
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CIVIL/LANDSCAPE

CLH
CARY, NORTH CAROLINA
CONTACT: Y'HOSHUA AAL-ANUBIA
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STRUCTURAL ENGINEER

LYNCH MYKINS STRUCTURAL ENGINEERS
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PME/FA/FP ENGINEER

CHEATHAM AND ASSOCIATES
WILMINGTON, NORTH CAROLINA
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ALTERNATES

ALTERNATE A-1: FOUR-FOLD DOORS IN LIEU OF SECTIONAL DOORS.
1. BASE BID: DOORS 127.8, 127.9, 127.10, 127.11, 127.12 TO BE TYPE G AS INDICATED ON SHEET A700 AND AS SPECIFIED IN SECTION 083613 "SECTIONAL DOORS".
2. ALTERNATE: DOORS 127.8, 127.9, 127.10, 127.11, 127.12 TO BE TYPE F AS INDICATED ON SHEET A700 AND AS SPECIFIED IN SECTION 083713 "EXTERIOR FOUR-FOLD DOORS".

ALTERNATE C-1: CONCRETE PAVEMENT DRIVE IN LIEU OF HEAVY DUTY ASPHALT PAVEMENT DRIVE.
1. BASE BID: HEAVY DUTY ASPHALT PAVEMENT WITH EXTENTS AS SHOWN ON SHEET C100 AND AS SPECIFIED IN SECTION 321216 "ASPHALT PAVING".
2. ALTERNATE: CONCRETE PAVMENT WITH EXTENTS AS SHOWN ON SHEET C100 AND AS SPECIFIED IN SECTION 321313 "CONCRETE PAVING".

ALTERNATE C-2: CONCRETE PAVEMENT IN LIEU OF LIGHT DUTY ASPHALT PAVEMENT AT PARKING.
1. BASE BID: LIGHT DUTY ASPHALT PAVEMENT WITH EXTENTS AS SHOWN ON SHEET C100 AND AS SPECIFIED IN SECTION 321216 "ASPHALT PAVING".
2. ALTERNATE: CONCRETE PAVMENT WITH EXTENTS AS SHOWN ON SHEET C100 AND AS SPECIFIED IN SECTION 321313 "CONCRETE PAVING".

ALTERNATE M-1: ADD TEN AIR SCRUBBERS TO APPARATUS BAY.
1. BASE BID: NO AIR SCRUBBERS.
2. ALTERNATIVE: TEN AIR SCRUBBERS AS SHOWN ON SHEET M100 AND M701.

BID DOCUMENTS

DAVIS KANE ARCHITECTS, PA
503 OBERLIN ROAD | SUITE 300
RALEIGH, NC 27605
919.833.3737
www.daviskane.com

PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION
ONSLOW COUNTY
BID NO. 102-25C
138 OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

DAVIS KANE ARCHITECTS, P.A. — REGISTERED ARCHITECTURAL CORPORATION — 50304 — NORTH CAROLINA — RALEIGH, N.C.

JIMMY ARDEL EDWARDS — REGISTERED ARCHITECT — 13823 — 05.12.25 — NORTH CAROLINA — RALEIGH, N.C.

DKA JOB NUMBER
2324

REVISIONS

PA: JIMMY ARDEL EDWARDS
PM: ALEXANDRE PENEGRE
Drawn By: AP
Plot Date: 3/11/2025 1:21:09 PM

DATE ISSUED
BID DOCUMENTS
03/12/2025

SHEET TITLE
COVER SHEET

G001

APPENDIX B
2018 BUILDING CODE SUMMARY
FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2 FAMILY DWELLINGS AND TOWNHOUSES)

NAME OF PROJECT: Onslow County Bear Creek Fire Station
ADDRESS: 138 Old Sand Ridge Rd, Hubert, NC **ZIP CODE:** 28539
OWNER/AUTHORIZED AGENT: Christina Russell **PHONE #:** 910-455-1750
E-MAIL: christina_russell@onslowcountync.gov
OWNED BY: ☒ CITY/COUNTY ☐ PRIVATE ☐ STATE
CODE ENFORCEMENT JURISDICTION: ☐ CITY ☒ COUNTY ☐ STATE
NAME OF JURISDICTION: Onslow County

CONTACT: JIMMY EDWARDS, ARCHITECT

DESIGNER	FIRM	NAME	LIC. #	PHONE #	EMAIL
ARCHITECTURAL	Davis Kane Architects	Jimmy Edwards	13823	(919) 833-3737	jedwards@daviskane.com
CIVIL	CLH Design	Steven Miller	022625	(919) 319-6716	smiller@clhdesignpa.com
LANDSCAPE	CLH Design	Zak Pierce	1699	(919) 319-6716	zpierce@clhdesignpa.com
ELECTRICAL	Cheatham and Associates	Mark Ciarrocca	17593	(910) 452-4210	mciarrocca@cheathampa.com
FIRE ALARM	Cheatham and Associates	Mark Ciarrocca	17593	(910) 452-4210	mciarrocca@cheathampa.com
PLUMBING	Cheatham and Associates	Casey Gillman	043164	(910) 452-4210	klynch@cheathampa.com
MECHANICAL	Cheatham and Associates	Kenneth Lynch	17655	(910) 452-4210	klynch@cheathampa.com
SPRINKLER / STANDPIPE	Cheatham and Associates	Casey Gilman	043164	(910) 452-4210	cgilman@cheathampa.com
STUCTURAL	Lynch Mykins	Scott Francis	044996	(757) 293-8549	sfrancis@lynchmykins.com
RETAINING WALLS >5' HIGH	-	-	-	-	-
OTHER	-	-	-	-	-
OTHER	-	-	-	-	-

YEAR EDITION OF CODE:

2018 NC BUILDING CODE: ☒ NEW BUILDING ☐ ADDITION ☐ SHELL / CORE ☐ PHASED CONSTRUCTION - SHELL CORE ☐ 1ST TIME INTERIOR COMPLETIONS

2018 NC EXISTING BUILDING CODE: (CHECK ALL THAT APPLY) ☐ PRESCRIPTIVE ☐ REPAIR ☐ CHAPTER 14 ☐ ALTERATION LEVEL I ☐ ALTERATION LEVEL II ☐ ALTERATION LEVEL III ☐ HISTORIC PROPERTY ☐ CHANGE OF USE

CONSTRUCTED (DATE): - **CURRENT OCCUPANCY(S) (CH. 3):** -
RENOVATED (DATE): - **PROPOSED OCCUPANCY(S) (CH. 3):** B, R-2, S-2

RISK CATEGORY (table 1604.5)
Current: ☐ I ☐ II ☐ III ☐ IV
Proposed: ☐ I ☐ II ☐ III ☒ IV

BASIC BUILDING DATA:

CONSTRUCTION TYPE: (CHECK ALL THAT APPLY) ☐ I-A ☐ I-B ☐ II-A ☐ II-B ☐ III-A ☐ III-B ☐ IV ☐ V-A ☒ V-B
SPRINKLERS: ☐ NO ☐ PARTIAL ☒ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D
STANDPIPES: ☒ NO ☐ CLASS - I ☐ CLASS - II ☐ CLASS - III ☐ WET ☐ DRY
PRIMARY FIRE DISTRICT: ☒ NO ☐ YES
FLOOD HAZARD AREA: ☒ NO ☐ YES
SPECIAL INSPECTIONS REQURIED: ☐ NO ☒ YES

GROSS BUILDING AREA:

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
3RD FLOOR	-	-	-
2ND FLOOR	-	-	-
EQUIPMENT PLATFORM	-	461	461
1ST FLOOR	-	13,979	13,979
TOTAL:	-	14,440	14,440

ALLOWABLE AREA

PRIMARY OCCUPANCY CLASSIFICATION(S):
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 DEFLAGATE ☐ H-3 COMBUST ☐ H-4 HEALTH ☐ H-5 HPM
INSTITUTIONAL: ☐ I-1 ☐ I-2 ☐ I-3 ☐ I-4
I-1 CONDITION ☐ 1 ☐ 2
I-2 CONDITION ☐ 1 ☐ 2
I-3 CONDITION ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
MERCHANTILE: ☐
RESIDENTIAL: ☐ R-1 ☒ R-2 ☐ R-3 ☐ R-4
STORAGE: ☐ S-1 MODERATE ☒ S-2 LOW ☐ HIGH-PILED ☐ ENCLOSED ☐ OPEN ☐ PARKING GARAGE ☐ REPAIR GARAGE
UTILITY AND MISC: ☐

ACCESSORY OCCUPANCY CLASSIFICATION(S): -
INCIDENTAL USES (TABLE 509): -
THIS SEPARATION IS NOT EXEMPT AS A NON-SEPARATED USE (SEE EXCEPTIONS).
SPECIAL USES (CHAPTER 4 - LIST CODE SECTIONS): -
SPECIAL PROVISIONS (CHAPTER 5 - LIST CODE SECTIONS): -
MIXED OCCUPANCY: YES (508.3) **SEPARATION:** NO **EXCEPTION:** -

$$\frac{\text{ACTUAL AREA OF OCCUPANCY A}}{\text{ALLOWABLE AREA OF OCCUPANCY A}} + \frac{\text{ACTUAL AREA OF OCCUPANCY B}}{\text{ALLOWABLE AREA OF OCCUPANCY B}} \leq 1$$

____ + ____ + ____ = ____ ≤ 1

STORY NO.	DESCRIPTION AND USE	(A) BUILDING AREA PER STORY (ACTUAL)	(B) TABLE 506.2[4] AREA	(C) AREA FOR FRONTAGE INCREASE[1,5]	(D) ALLOWABLE AREA PER STORY OR UNLIMITED[2]
1	OFFICE / B	4085	36,000	-	36,000
1	DORMITORY / R-2	721	28,000	-	28,000
1	APPARATUS BAY / S-2	9441	54,000	-	54,000

[1] - Frontage area increases from Section 506.2 are computed thus:
a. Perimeter which fronts a public way or open space having 20 feet minimum width = ____ (F)
b. Total Building Perimeter = ____ (P)
c. Ratio (F/P) = ____ (F/P)
d. Minimum Width of Public Way = ____ (W)
e. Percentage of frontage increase If = 100[F/P – 0.25] x W/30 = ____ (%)
[2] - Unlimited area applicable under conditions of Section 507.
[3] - Maximum Building Area = total number of stories in the building x D (506.2)
[4] - The maximum area of open parking garages must comply with 406.5.4. The maximum area of traffic control towers must comply with Table 412.3.1.
[5] - Frontage increase is based on the unsprinklered area value in Table 506.2.

ALLOWABLE HEIGHT

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE
BUILDING HEIGHT IN FEET	60'-0"	34'-8"	-
BUILDING HEIGHT IN STORIES	3	1	-

[1] Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4.

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPAR DISTANCE (FEET)	RATING REQ.	RATING PROVIDED (w/___ *Reduction)	DETAIL # AND SHEET	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR RATED PENETRATION	DESIGN # FOR RATED JOINTS
STRUCTURAL FRAME (INCLUDING COLUMNS, GIRDERS, TRUSSES)	-	0	0	-	-	-	-
BEARING WALLS	-	-	-	-	-	-	-
EXTERIOR NORTH	>30'	0	0	-	-	-	-
EXTERIOR EAST	>30'	0	0	-	-	-	-
EXTERIOR WEST	>30'	0	0	-	-	-	-
EXTERIOR SOUTH	>30'	0	0	-	-	-	-
INTERIOR	-	0	0	-	-	-	-
NONBEARING WALLS AND PARTITIONS	-	-	-	-	-	-	-
EXTERIOR NORTH	>30'	0	0	-	-	-	-
EXTERIOR EAST	>30'	0	0	-	-	-	-
EXTERIOR WEST	>30'	0	0	-	-	-	-
EXTERIOR SOUTH	>30'	0	0	-	-	-	-
INTERIOR WALLS AND PARTITIONS	-	0	0	-	-	-	-
FLOOR CONSTRUCTION (INCLUDING SUPPORTING BEAMS AND JOISTS)		0	0	-	-	-	-
FLOOR CEILING ASSEMBLY		0	0	-	-	-	-
COLUMNS SUPPORTING FLOORS		-	-	-	-	-	-
ROOF CONSTRUCTION (INCLUDING SUPPORTING BEAMS AND JOISTS)		0	0	-	-	-	-
ROOF CEILING ASSEMBLY		0	0	-	-	-	-
COLUMNS SUPPORTING ROOF		0	0	-	-	-	-
SHAFT ENCLOSURES - EXIT		-	-	-	-	-	-
SHAFT ENCLOSURES - OTHER		-	-	-	-	-	-
CORRIDOR SEPARATION		1/2	1/2 HR	G005	U407	WL1001, WL5001	** BW-S-0001
OCCUPANCY / FIRE BARRIER SEPARATION* **		2	2 HR	G005	U905	W-J-7109, W-J-7110	**
PARTY / FIRE WALL SEPARATION		-	-	-	-	-	-
SMOKE BARRIER SEPARATION		0	0	-	-	-	-
SMOKE PARTITION		0	0	-	-	-	-
TENANT / DWELLING UNIT / SLEEPING UNIT SEPARATION		1/2	1/2 HR	G005	U407	WL1001, WL5001	** BW-S-0001
INCIDENTAL USE SEPARATION		-	-	-	-	-	-

*Indicate section number permitting reduction.
**Pre-Engineered Metal Building Company to provide tested wall-to-roof assembly detail.
***Required at Electrical 125 if Bi-Directional Amplifier is required.

PERCENT OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)
NORTH - 111'-0"	UP, S	NO LIMIT	-
EAST - 65'-0"	UP, S	NO LIMIT	-
SOUTH - 20'-6"	UP, S	NO LIMIT	-
WEST - 256'-0"	UP, S	NO LIMIT	-

LIFE SAFETY SYSTEM REQUIREMENTS

EMERGENCY LIGHTING: ☐ NO ☒ YES
EXIT SIGNS: ☐ NO ☒ YES
FIRE ALARM: ☐ NO ☒ YES
SMOKE DETECTION SYSTEMS: ☐ NO ☒ YES
CARBON MONOXIDE DETECTION: ☐ NO ☒ YES

LIFE SAFETY PLAN REQUIREMENTS

LIFE SAFETY PLAN SHEET: G004 - LIFE SAFETY PLANS

☒ FIRE AND / OR SMOKE RATED WALL LOCATIONS (CHAPTER 7)
☐ ASSUMED AND REAL PROPERTY LINE LOCATIONS (IF NOT ON THE SITE PLAN)
☒ EXTERIOR WALL OPENING AREA WITH RESPECT TO DISTANCE TO ASSUMED PROPERTY LINES (705.8)
☒ OCCUPANCY USE FOR EACH AREA AS IT RELATES TO OCCUPANT LOAD CALCULATION (TABLE 1004.1.2)
☒ OCCUPANT LOADS FOR EACH AREA
☒ EXIT ACCESS TRAVEL DISTANCES (1017)
☒ COMMON PATH OF TRAVEL DISTANCES (1016.2.1 & 1006.3.2(1))
☒ DEAD END LENGTHS (1020.4)
☒ CLEAR EXIT WIDTHS FOR EACH EXIT DOOR
☒ MAXIMUM CALCULATED OCCUPANT LOAD CAPACITY EACH EXIT DOOR CAN ACCOMODATE BASED ON EGRESS WIDTH (1005.3)
☒ ACTUAL OCCUPANT LOAD FOR EACH EXIT DOOR
☐ A SEPARATE SCHEMATIC PLAN INDICATING WHERE FIRE RATED FLOOR / CEILING AND / OR ROOF STRUCTURE IS PROVIDED FOR PURPOSES OF OCCUPANCY SEPARATION
☒ LOCATION OF DOORS WITH PANIC HARDWARE (1010.1.10)
☐ LOCATION OF DOORS WITH DELAYED EGRESS LOCKS AND THE AMOUNT OF DELAY (1010.1.9.7)
☐ LOCATION OF DOORS WITH ELECTROMAGNETIC EGRESS LOCKS (1010.1.9.9)
☐ LOCATION OF DOORS EQUIPPED WITH HOLD-OPEN DEVICES
☐ LOCATION OF EMERGENCY ESCAPE WINDOWS (1030)
☒ THE SQUARE FOOTAGE OF EACH FIRE AREA (202)
☐ THE SQUARE FOOTAGE OF EACH SMOKE COMPARTMENT FOR OCCUPANCY CLASSIFICATION I-2 (407.4)
☐ NOTE ANY CODE EXCEPTION OR TABLE NOTES THAT MAY HAVE BEEN UTILIZED REGARDING THE ITEMS ABOVE.

ACCESSIBLE DWELLING UNITS (SECTION 1107)

TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED
-	-	-	-	-	-	-	-

ACCESSIBLE PARKING (SECTION 1106)

LOT OR AREA PARKING	TOTAL # OF PARKING SPACES		TOTAL # OF PARKING SPACES			TOTAL ACCESSIBLE PROVIDED
	REQUIRED	PROVIDED	REGULAR WITH 5' ACCESSIBLE ISLE	VAN SPACE WITH 11' ACCESSIBLE AISLE	VAN SPACE WITH 8' ACCESSIBLE AISLE	
-	30	34	-	-	2	2
-	-	-	-	-	-	-
TOTAL	30	34	-	-	2	2

PLUMBING FIXTURE REQUIREMENTS (TABLE 2902.1)

USE		WATER CLOSETS MALE	WATER CLOSETS FEMALE	URINALS	LAVATORIES MALE	LAVATORIES FEMALE	SHOWERS / TUBS	DRINKING FOUNTAINS REGULAR	DRINKING FOUNTAINS ACCESSIBLE
SPACE	EXISTING	-		-	-	-	-	-	
	NEW	5		-	3	2	4	1	1
	REQUIRED	4		-	2	2	2	1	1

*PER 2018 NCBC 2902.2.1, SEPERATE FACILITIES ARE NOT REQUIRED FOR DWELLING AND SLEEPING UNITS.

SPECIAL APPROVALS

SPECIAL APPROVAL REQUIRED: ☐ NO ☒ YES
☒ LOCAL JURISDICTION ☐ OSC ☐ DHHS
☐ DEPARTMENT OF INSURANCE ☐ DPI ☒ OTHER: NC BUILDING CODE 2018, 1705.12.6
DESCRIPTION: ONSLOW COUNTY

DAVIS KANE ARCHITECTS, PA
503 OBERLIN ROAD | SUITE 300
RALEIGH, NC 27605
919.833.3737
www.daviskane.com

PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION
ONSLOW COUNTY
BID NO. 102-25C
138 OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

DAVIS KANE ARCHITECTS, P.A. REGISTERED ARCHITECTURAL CORPORATION 50304 NORTH CAROLINA RALEIGH, N.C.

JIMMY ARDEL EDWARDS REGISTERED ARCHITECT 13823 03.12.25 NORTH CAROLINA RALEIGH, N.C.

DKA JOB NUMBER
2324

REVISIONS

PA: JIMMY ARDEL EDWARDS
PM: ALEXANDRE PENEGRE
Drawn By: AP
Plot Date: 3/11/2025 1:21:12 PM

DATE ISSUED
BID DOCUMENTS
03/12/2025

SHEET TITLE
CODE SUMMARY

G002

APPENDIX B
2018 BUILDING CODE SUMMARY
FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2 FAMILY DWELLINGS AND TOWNHOUSES)

ENERGY SUMMARY

ENERGY REQUIREMENTS:
THE FOLLOWING DATA SHALL BE CONSIDERED MINIMUM AND ANY SPECIAL ATTRIBUTE REQUIRED TO MEET THE ENERGY CODE SHALL ALSO BE PROVIDED. EACH DESIGNER SHALL FURNISH THE REQUIRED PORTIONS OF THE PROJECT INFORMATION FOR THE PLAN DATA SHEET. IF PERFORMANCE METHOD, STATE THE ANNUAL ENERGY COST FOR THE STANDARD REFERENCE DESIGN VS ANNUAL ENERGY COST FOR THE PROPOSED DESIGN.

EXISTING BUILDING ENVELOPE COMPLIES WITH CODE: -

EXEMPT BUILDING (PROVIDE CODE OR STATUTORY REFERENCE): -

CLIMATE ZONE: ☒ 3A ☐ 4A ☐ 5A

METHOD OF COMPLIANCE: Energy Code: ☒ Prescriptive ☐ Performance
ASHRAE 90.1: ☐ Prescriptive ☐ Performance

(IF "OTHER", SPECIFY SOURCE HERE) -

THERMAL ENVELOPE (PRESCRIPTIVE METHOD ONLY) Standing Seam Metal Roof above Pre-engineered Metal Building System with R-10+R-19 FC Insulation

ROOF / CEILING ASSEMBLY (EACH ASSEMBLY)
DESCRIPTION OF ASSEMBLY:
U-VALUE OF TOTAL ASSEMBLY: 0.041
R-VALUE OF INSULATION: R-10+R-19 FC
SKYLIGHTS IN EACH ASSEMBLY: N/A
U-VALUE OF SKYLIGHT: N/A
TOTAL SQUARE FOOTAGE OF SKYLIGHTS IN EACH ASSEMBLY: N/A

EXTERIOR WALLS (EACH ASSEMBLY)
DESCRIPTION OF ASSEMBLY: Brick Veneer, Air Space, Rigid Insulation, Air Barrier on 1/2" Sheathing on PEMB framing with Batt Insulation
U-VALUE OF TOTAL ASSEMBLY: -
R-VALUE OF INSULATION: R-13+R-7.5CI

DESCRIPTION OF ASSEMBLY: Brick veneer, air space, air barrier, rigid insulation on CMU @ Apparatus Bay
U-VALUE OF TOTAL ASSEMBLY: -
R-VALUE OF INSULATION: R-7.6 CI

DESCRIPTION OF ASSEMBLY: Metal panel, Air Space, Rigid Insulation, Air Barrier on 1/2" Sheathing on PEMB framing with Batt Insulation
U-VALUE OF TOTAL ASSEMBLY: -
R-VALUE OF INSULATION: R-13+R-7.5CI

OPENINGS (WINDOWS OR DOORS WITH GLAZING)
U-VALUE OF ASSEMBLY: 0.45 MAX
SOLAR HEAT GAIN COEFFICIENT: 0.25 MAX
PROJECTION FACTOR: Less than 0.25
DOOR R-VALUES: 0.77 MAX (Entrance); 0.45 MAX (Not Entrance)

WALLS BELOW GRADE (EACH ASSEMBLY)
DESCRIPTION OF ASSEMBLY: N/A
U-VALUE OF TOTAL ASSEMBLY: -
R-VALUE OF INSULATION: -

FLOORS OVER UNCONDITIONED SPACE (EACH ASSEMBLY)
DESCRIPTION OF ASSEMBLY: N/A
U-VALUE OF TOTAL ASSEMBLY: -
R-VALUE OF INSULATION: -

FLOORS SLAB ON GRADE
DESCRIPTION OF ASSEMBLY: 4" or 8" Concrete Slab on Vapor Retarder on Grade
U-VALUE OF TOTAL ASSEMBLY: 0.1
R-VALUE OF INSULATION: R-10*
HORIZONTAL / VERTICAL REQUIREMENT: To Top of Footing
SLAB HEATED: NO
*NOT REQUIRED BY NC ENERGY CONSERVATION CODE

STRUCTURAL DESIGN SUMMARY

DESIGN LOADS

IMPORTANCE FACTORS
SNOW (I_S): 1.2
SEISMIC (I_E): 1.5

LIVE LOADS
ROOF (PSF): 20 PSF
EQUIPMENT PLATFORM (PSF): 150 PSF
FLOOR (PSF): 100 PSF

GROUND SNOW LOAD (PSF): 10 PSF

WIND LOAD
BASIC WIND SPEED (MPH) (ASCE-7): 150 MPH
EXPOSURE CATEGORY: B

SEISMIC DESIGN CATEGORY:
PROVIDE THE FOLLOWING SEISMIC DESIGN PARAMETERS

RISK CATEGORY (TABLE 1604.5): ☐ I ☐ II ☐ III ☒ IV

SPECTRAL RESPONSE ACCELERATION:
S_s 0.141 %g
S_1 0.068 %g

SITE CLASSIFICATION (ASCE 7): ☐ A ☐ B ☐ C ☒ D ☐ E ☐ F
DATA SOURCE: ☐ Field Test ☒ Presumptive ☐ Historical Data

BASIC STRUCTURAL SYSTEM: ☐ Bearing Wall ☐ Dual w/ Special Moment Frame
☒ Building Frame ☐ Dual w/ Intermediate R/C or Special Steel
☐ Moment Frame ☐ Inverted Pendulum

ANALYSIS PROCEDURE: ☐ Simplified ☒ Equivalent Lateral Force ☐ Dynamic

ARCHITECTURAL, MECHANICAL, COMPONENTS ANCHORED? ☐ Yes ☐ No

LATERAL DESIGN CONTROL: ☐ Earthquake ☒ Wind

SOIL BEARING CAPACITIES (PSF): -
Field Test (psf) -
Presumptive Bearing Capacity (psf) 1,500
Pile Size, Type and Capacity -

MECHANICAL DESIGN SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

THERMAL ZONE 3A
WINTER DRY BULB: 20°F
SUMMER DRY BULB: 92°F/76°F WB

INTERIOR DESIGN CONDITIONS
WINTER DRY BULB: 70°F
SUMMER DRY BULB: 74°F
RELATIVE HUMIDITY: 55%

BUILDING HEATING LOAD: 174.3 MBH - INCLUDING APPARATUS BAY
BUILDING COOLING LOAD: 13.8 TONS

MECHANICAL SPACING CONDITIONING SYSTEM
UNITARY
DESCRIPTION OF UNIT:
HEATING EFFICIENCY:
COOLING EFFICIENCY:
SIZE CATEGORY OF UNIT:
SEE SCHEDULES ON SHEET M600
BOILER
SIZE CATEGORY. IF OVERSIZED, STATE REASON: N/A
CHILLER
SIZE CATEGORY. IF OVERSIZED, STATE REASON: N/A

LIST EQUIPMENT EFFICIENCIES: SEE SCHEDULES ON SHEET M600

ELECTRICAL DESIGN SUMMARY

ELECTRICAL SYSTEMS AND EQUIPMENT

METHOD OF COMPLIANCE: Energy Code: ☒ Prescriptive ☐ Performance
ASHRAE 90.1: ☐ Prescriptive ☐ Performance

LIGHTING SCHEDULE
LAMP TYPE REQUIRED IN FIXTURE
NUMBER OF LAMPS IN THE FIXTURE
BALLAST TYPE USED IN THE FIXTURE
NUMBER OF BALLASTS IN THE FIXTURE
TOTAL WATTAGE PER FIXTURE
SEE SCHEDULE ON SHEET E601
TOTAL INTERIOR WATTAGE SPECIFIED VS. ALLOWED - 7702 vs. 8591
TOTAL EXTERIOR WATTAGE SPECIFIED VS. ALLOWED - 796 vs. 1517

ADDITIONAL EFFICIENCY PACKAGE OPTIONS
(WHEN USING THE 2018 NCECC; NOT REQUIRED FOR ASHRAE 90.1)
☐ C406.2 MORE EFFICIENT HVAC EQUIPMENT PERFORMANCE
☒ C406.3 REDUCED LIGHING POWER DENSITY
☐ C406.4 ENHANCED DIGITAL LIGHTING CONTROLS
☐ C406.5 ON-SITE RENEWABLE ENERGY
☐ C406.6 DEDICATED OUTDOOR AIR SYSTEM
☐ C406.7 REDUCED ENERGY USE IN SERVICE WATER HEATING

DAVIS KANE ARCHITECTS, PA
503 OBERLIN ROAD | SUITE 300
RALEIGH, NC 27605
919.833.3737
www.daviskane.com

PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION
ONSLOW COUNTY
BID NO. 102-25C
138 OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

DAVIS KANE ARCHITECTS P.A. REGISTERED ARCHITECTURAL CORPORATION 50304 SOUTH CAROLINA RALEIGH, N.C.

JIMMY ARDEL EDWARDS REGISTERED ARCHITECT 13823 05.12.25 SOUTH CAROLINA RALEIGH, N.C.

DKA JOB NUMBER
2324

REVISIONS

PA: JIMMY ARDEL EDWARDS
PM: ALEXANDRE PENEGRE
Drawn By: AP
Plot Date: 3/11/2025 1:21:12 PM

DATE ISSUED
BID DOCUMENTS
03/12/2025

SHEET TITLE
CODE SUMMARY

G003

RATED ASSEMBLIES LEGEND:

NOTES: RATINGS ARE NOT SHOWN THROUGH DOORS FOR CLARITY. SEE A002 FOR PARTITION TYPES. SEE LIFE SAFETY PLANS ON G004 FOR FULL EXTENT OF RATINGS, INCLUDING HORIZONTAL RATINGS. RATINGS ARE CONTINUOUS AROUND OPENINGS AND OPENINGS ARE TO BE PROTECTED IN ACCORDANCE WITH THE NC STATE BUILDING CODE. PROTECT ALL PENETRATIONS.

ALL RATED ASSEMBLIES SHALL BE STENCILED WITH RATED WALL WARNING MESSAGE IN RED TO READ AS FOLLOWS: "__-HOUR RATED FIRE BARRIER. SEAL ALL PENETRATIONS" WITH APPLICABLE HOUR RATING INSERTED. HOUR RATING TO BE AS NOTED ON PLANS. MESSAGE TO BE 4" MIN HIGH LETTERS, PLACED 12" ABOVE CEILING, SPACED AT 12'-0" OC ON BOTH SIDES OF WALLS AND ON UNDERSIDE OF HORIZONTAL RATED ASSEMBLIES.

SEE T-SHEETS FOR UL RATINGS AND ADDITIONAL INFORMATION.

2-HR FIRE BARRIER

1/2-HR FIRE PARTITION

LIFE SAFETY SYMBOL LEGEND

EXIT X — 0 — 0

DENOTES EXIT DIRECTION ARROW, TYP.
INDICATES EXIT POPULATION
INDICATES EXIT CAPACITY (POPULATION)
DENOTES EXIT ACCESS

A ⟷ B — LOCATION WHERE TRAVEL DISTANCE TO 2 EXITS IS EQUIDISTANT

WORST-CASE TRAVEL DISTANCE

WORST CASE COMMON PATH OF TRAVEL

DEAD END CORRIDOR — DEAD END CORRIDOR (1018.4- NO GREATER THAN 50' IN SPRINKLERED BUSINESS AND STORAGE)

F — INDICATES PULL STATION
FE — INDICATES FIRE EXTINGUISHER
H — INDICATES HOLD OPEN
P — INDICATES PANIC HARDWARE

ROOM NAME / 101 — ROOM NAME, ROOM NUMBER

150 SF / OCC. 20 / EXIT A — AREA, OCCUPANT CAPACITY, EXIT

EXIT LIGHT FIXTURE
EXIT DIRECTIONAL ARROW

LIFE SAFETY OCCUPANCY KEY

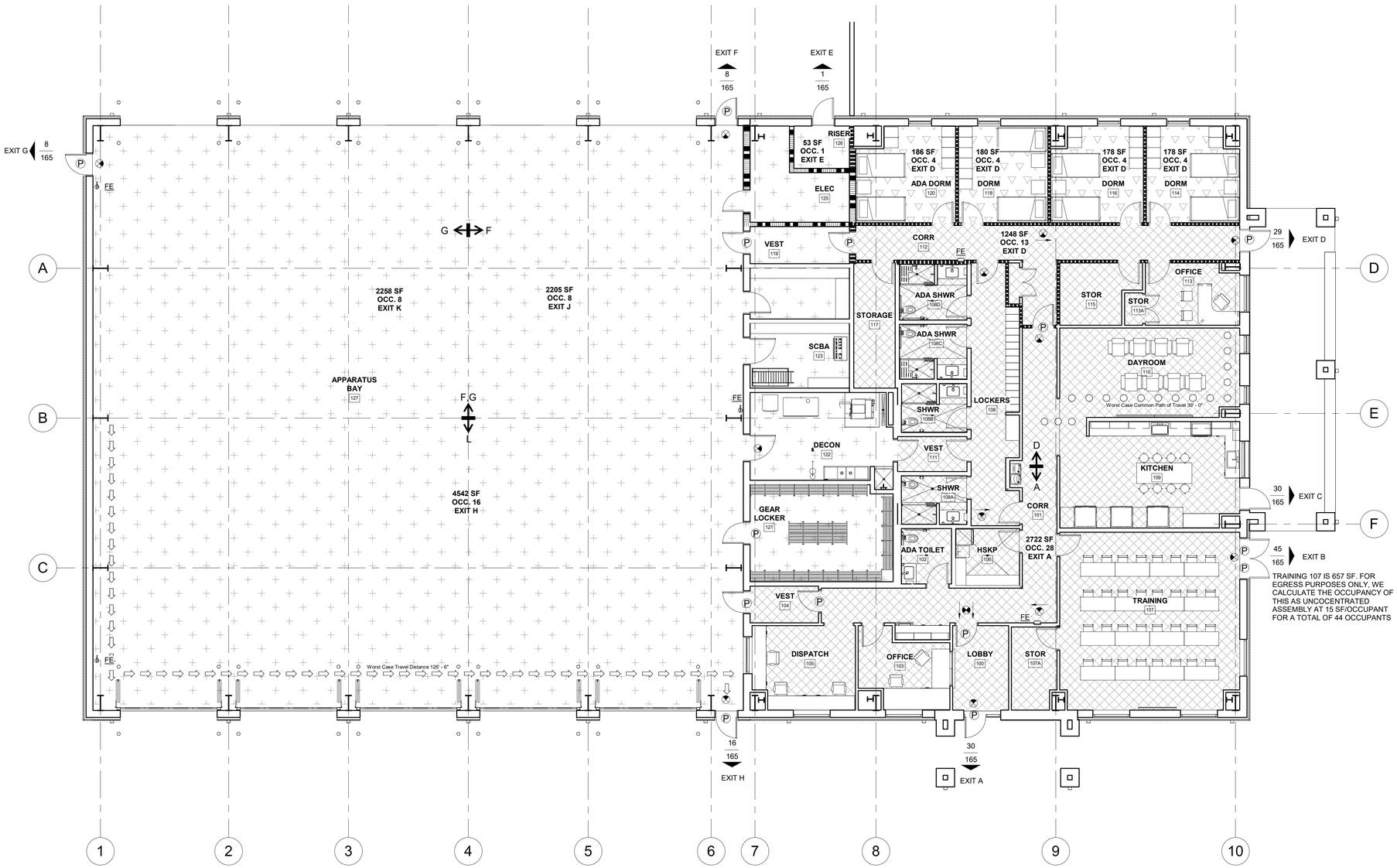
STORAGE AREAS, MECHANICAL EQUIPMENT ROOM (300 SF/OCC. GROSS)

BUSINESS AREAS (100 SF/OCC. GROSS)

DORMITORIES (50 SF/OCC. GROSS)

LIFE SAFETY GENERAL NOTES:

1. REFER TO SHEET G001 AND G002 FOR CODE SUMARY .
2. REFER TO DOOR SCHEDULE FOR REQUIRED DOOR RATINGS.
3. REFER TO INTERIOR PARTITION TYPES AND FLOOR PLAN FOR ADDITIONAL PARTITION REQUIREMENTS INCLUDE WALL HEIGHT, UL DESIGN AND FIRE RATING.
4. REFER TO SITE PLAN FOR BUILDING ADJACENCIES AND PROPERTY LINES.
5. REFER TO FLOOR PLANS FOR FIRE EXTINGUISHER LOCATIONS.



A1 LIFE SAFETY PLAN - FIRST FLOOR
1/8" = 1'-0"

DAVIS KANE ARCHITECTS, PA
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RALEIGH, NC 27605
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PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION

ONSLOW COUNTY
BID NO. 102-25C
138 OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

DAVIS KANE ARCHITECTS, P.A. — REGISTERED ARCHITECTURAL CORPORATION — 50304 — NORTH CAROLINA — RALEIGH, N.C.

JIMMY ARDEL EDWARDS — REGISTERED ARCHITECT — 13823 — 03.12.25 — NORTH CAROLINA — RALEIGH, N.C.

DKA JOB NUMBER
2324

REVISIONS

PA: JIMMY ARDEL EDWARDS
PM: ALEXANDRE PENEGRE
Drawn By: Author
Plot Date: 3/11/2025 1:21:15 PM

DATE ISSUED
BID DOCUMENTS
03/12/2025

SHEET TITLE
LIFE SAFETY PLAN

G004

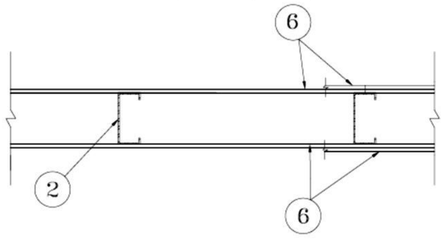
Design No. U407
June 19, 2023

Nonbearing Wall Ratings — 1/2 or 1 HR. (See Items 1, 1A, 2, 2A and 6)
Bearing Wall Rating — 1/2 HR. (See Items 3 and 6)
Finish Rating — (See Item 3)

Loaded Per 2005 NDS Supplement, ASD Method, Wall Braced by Sheathing, 100% of Design Load Applied to Wall.

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

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



1. Floor and Ceiling Runners — (Not shown- For the 1/2 or 1 Hour Nonbearing Wall Ratings) — For use with Item 2 - Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min depth to accommodate stud size, with min 1-1/4 in. long legs, attached to floor and ceiling with fasteners 24 in. OC max.
1A. **Framing Members*— Floor and Ceiling Runners —** (Not shown, As an alternate to Item 1 - For the 1/2 or 1 Hour Nonbearing Wall Ratings) — For use with Item 2A, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, min depth to accommodate stud size , attached to floor and ceiling with fasteners 24 in. OC. max.

CLARKDIETRICH BUILDING SYSTEMS — CD ProTRAK
DMFCWBS L L C — ProTRAK
MBA METAL FRAMING — ProTRAK
RAM SALES L L C — Ram ProTRAK
STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProTRAK

1B. **Framing Members* - Floor and Ceiling Runner —** (Not shown, As an alternate to Item 1 - For the 1/2 or 1 Hour Nonbearing Wall Ratings) — For use with Item 2B, proprietary channel shaped runners, min depth to accommodate stud size , attached to floor and ceiling with fasteners 24 in. OC. max.

CEMCO, LLC — Viper25™ Track
MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper25™ Track
IMPERIAL MANUFACTURING GROUP INC — Viper25™ Track

1C. **Framing Members*— Floor and Ceiling Runners —** (Not shown, As an alternate to Item 1 - For the 1/2 or 1 Hour Nonbearing Wall Ratings) — For use with Item 2C, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, min depth to accommodate stud size , attached to floor and ceiling with fasteners 24 in. OC. max.

TELLING INDUSTRIES L L C — TRUE-TRACK™

1D. **Framing Members*— Floor and Ceiling Runners —** (Not shown, As an alternate to Item 1 - For the 1/2 or 1 Hour Nonbearing Wall Ratings) — For use with Item 2E , channel shaped, fabricated from min. 0.018 in. (min bare metal thickness) galvanized steel, min depth to accommodate stud size , attached to floor and ceiling with fasteners 24 in. OC. max.

RESCUE METAL FRAMING, L L C — AlphaTRAK

2. **Steel Studs —** (For the 1/2 or 1 Hour Nonbearing Wall Ratings) Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min. 3-5/8 in. deep, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

2A. **Framing Members*— Steel Studs —** (Not shown, As an alternate to Item 2- For the 1/2 or 1 Hour Nonbearing Wall Ratings) — channel shaped studs, min. 3-5/8 in. deep, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

CLARKDIETRICH BUILDING SYSTEMS — CD ProSTUD
DMFCWBS L L C — ProSTUD
MBA METAL FRAMING — ProSTUD
RAM SALES L L C — Ram ProSTUD
STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProSTUD

2B. **Framing Members* - Steel Studs —** (Not shown, As an alternate to Item 2- For the 1/2 or 1 Hour Nonbearing Wall Ratings) - Proprietary channel shaped studs, 3-5/8 in. deep spaced a max of 24 in. OC. Studs to be cut 3/4 in less than the assembly height

CEMCO, LLC — Viper25™
MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper25™
IMPERIAL MANUFACTURING GROUP INC — Viper25™

2C. **Framing Members*— Steel Studs —** (Not shown, As an alternate to Item 2- For the 1/2 or 1 Hour Nonbearing Wall Ratings) — channel shaped studs, min. 3-5/8 in. deep, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

TELLING INDUSTRIES L L C — TRUE-STUD™

2D. **Framing Members* - Steel Studs —** (As an alternate to Item 2- For the 1/2 or 1 Hour Nonbearing Wall Ratings) - For use with Item 1 (3-5/8 in. wide track), channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, 1-1/4 in. wide by 3-5/8 in. deep, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

MARINO/WARE, DIV OF WARE INDUSTRIES INC — StudRite™

2E. **Framing Members*— Steel Studs —** (Not shown, As an alternate to Item 2- For the 1/2 or 1 Hour Nonbearing Wall Ratings) — channel shaped studs, min. 3-5/8 in. deep, fabricated from min. 0.018 in. (min bare metal thickness) galvanized steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

RESCUE METAL FRAMING, L L C — AlphaSTUD

3. **Wood Studs —** (Not shown, As an alternate to Items 1 and 2- For the 1/2 Bearing Wall Rating) - Nom 2 by 4 in. spaced 16 in. OC max, effectively firestopped. When wood studs are used, Finish Rating is 16 Min.

4. **Batts and Blankets* —** (Optional, not shown) — Placed in stud cavities, any glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. See **Batts and Blankets** (BKNV or BZJZ) Categories for names of Classified companies.

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

6. **Gypsum Board* —** 5/8 in. thick paper surfaced, with beveled, square, or tapered edges, applied either horizontally or vertically. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers need not be staggered.

1/2 Hour Bearing Rating On Wood Studs - Single layer secured with 1-5/8 in. long Type S steel screws spaced 12 in. OC at the perimeter and in the field.

1/2 Hour Nonbearing Rating On Steel Studs - Single layer secured with 1 in. long Type S steel screws spaced 8 in. OC at the perimeter and 8 in. OC in the field.

1 Hour Nonbearing Rating On Steel Studs - Base layer boards secured with 1 in. long Type S steel screws spaced 16 in. OC at the perimeter and 16 in. OC in the field. Face layer boards secured with 1-5/8 in. long Type S steel screws spaced 16 in. OC at the perimeter and 16 in. OC in the field. When joints are aligned, screws are offset 8 in. between layers.

CGC INC — 5/8 in. thick Type FC30
UNITED STATES GYPSUM CO — 5/8 in. thick Type FC30
USG MEXICO S A DE C V — 5/8 in. thick Type FC30

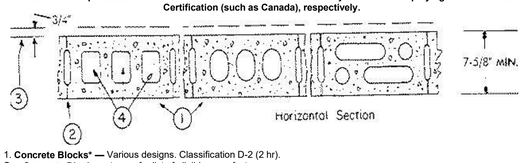
7. **Joint Tape and Compound —** Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layers. Paper tape, nom 2 in. wide, embedded in first layer of compound over all joints of outer layer panels. Paper tape and joint compound may be omitted when gypsum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

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

Design No. U905
April 14, 2023

Bearing Wall Rating — 2 HR.
Nonbearing Wall Rating — 2 HR
This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

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



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

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

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

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

5. **Foamed Plastic* —** (Optional-Not Shown) — 1-1/2 in. thick max, 4 ft wide sheathing attached to concrete blocks (Item 1).
ATLAS ROOFING CORP — EnergyShield Pro Wall Insulation, EnergyShield Pro 2 Wall Insulation, EnergyShield CGF Pro, EnergyShield Ply Pro, EnergyShield® CGF, EnergyShield® PanelCast, EnergyShield® and "EnergyShield® XR

DUPONT DE NEMOURS, INC. — Types Thermax Sheathing, Thermax Light Duty Insulation, Thermax Heavy Duty Insulation, Thermax Metal Building Board, Thermax White Finish Insulation, Thermax ci Exterior Insulation, Thermax XARMOR ci Exterior Insulation, Thermax IH Insulation, Thermax Plus Liner Panel, Thermax Heavy Duty Plus (HDP), TUFF-R™ ci Insulation, Thermax Butler Stylwall Insulation Board and Thermax Morton Heavy Duty Insulation Board

FIRESTONE BUILDING PRODUCTS CO L L C — "Enverge™ CI Foil Exterior Wall Insulation" and "Enverge™ CI Glass Exterior Wall Insulation"

HUNTER PANELS, A DIVISION OF CARLISLE CONSTRUCTION MATERIALS, LLC — Types "Xci-Class A", "Xci Foil (Class A)", "Xci 286"

RMAX, A BUSINESS UNIT OF SIKA CORPORATION — Types "TSX-8500", "ECOMAXci FR", "TSX-8510", "ECOMAX xi FR White", "ECOMAXci", "ECOMAXci FR Air Barrier", "Thermasheath-XP", "Thermasheath", "Durasheath"

JOHNS MANVILLE — Type "AP Foil-Faced Foam Sheathing"

5A. **Building Units* —** As an alternate to Items 5, min. 1-in thick polyisocyanurate composite foamed plastic insulation boards, nom. 48 by 48 or 96 in.

ATLAS ROOFING CORP — EnergyShield® Ply

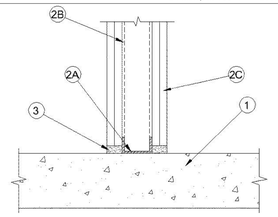
HUNTER PANELS, A DIVISION OF CARLISLE CONSTRUCTION MATERIALS, LLC — "Xci NB", "Xci Ply"

RMAX, A BUSINESS UNIT OF SIKA CORPORATION — "Thermasheath-SI", "ECOBASEci", "ThermaBase-CI", "ECOMAXci FR Ply", "ECOMAXci Ply".

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

System No. BW-S-0001
January 26, 2015

ANSI/ UL2079	CAN/ ULC S115
Assembly Ratings — 1 and 2 Hr (See Item 2)	F Ratings — 1 and 2 Hr (See Item 2)
Nominal Joint Width - 3/4 In.	FT Ratings — 1 and 2 Hr (See Item 2)
L Rating at Ambient — Less than 1 CFM/Lin Ft	FH Ratings — 1 and 2 Hr (See Item 2)
L Rating at 400° F — Less than 1 CFM/Lin Ft	FTH Ratings — 1 and 2 Hr (See Item 2)
	Nominal Joint Width - 3/4 In.
	L Rating at Ambient — Less than 1 CFM/Lin Ft
	L Rating at 400° F — Less than 1 CFM/Lin Ft



1. **Floor Assembly —** Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m^3) structural concrete. Floor may also be constructed of any 6 in. (152 mm) thick UL Classified hollow-core **Precast Concrete Units***.
See **Precast Concrete Units** category in the Fire Resistance Directory for names of manufactures.

2. **Wall Assembly —** The 1 or 2 h fire-rated gypsum board/steel stud wall assembly shall be constructed of the materials and in the manner specified in the individual U400 or V400 Series Wall or Partition Design in the UL Fire Resistance Directory. In addition, the wall may incorporate a head-of-wall joint system constructed as specified in the HW Series Joint Systems in the UL Fire Resistance Directory. The wall shall include the following construction features:

A. **Steel Floor Runner —** Floor runners of wall assembly shall consist of min No. 25 gauge galv steel channels sized to accommodate steel studs (Item 2B). Floor runners to be provided with min 1-1/4 in. (32 mm) flanges. Runners secured with steel fasteners spaced 12 in. (305 mm) OC.

B. **Studs —** Steel studs to be min 2-1/2 in. (64 mm) wide. Studs cut 1/2 to 3/4 in. (13 to 19 mm) less in length than assembly height with bottom nesting in, resting on and fastened to floor runner with sheet metal screws. Stud spacing not to exceed 24 in. (610 mm) OC.

C. **Gypsum Board* —** Gypsum board installed to a min total thickness of 5/8 or 1-1/4 in. (16 or 32 mm) on each side of wall for a 1 or 2 hr rated wall, respectively. Wall to be constructed as specified in the individual U400 or V400 Series Design in the UL Fire Resistance Directory, except that a max 3/4 in. (19 mm) gap shall be maintained between the bottom of gypsum board and top of concrete floor. **The hourly fire rating of the joint system is equal to the hourly fire rating of the wall.**

3. **Fill, Void or Cavity Material* Sealant — Max separation between top of floor and bottom of gypsum board is 3/4 in. (19 mm).** For 1 and 2 hr rated wall assemblies, min 5/8 in. or 1-1/4 in. (16 or 1-1/4 mm) thickness of fill material, respectively, installed on each side of the wall between the bottom of the gypsum board and the top of the concrete floor, flush with each surface of the wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP601S Elastomeric Firestop Sealant, CP606 Flexible Firestop Sealant, CFS-S SIL GG, FS-ONE Sealant or FS-ONE MAX Intumescent Sealant

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

RATED ASSEMBLIES GENERAL NOTES:

1. UL CERTIFIED RATED ASSEMBLIES ARE REPRINTED FROM THE ONLINE CERTIFICATIONS DIRECTORY WITH PERMISSION FROM UNDERWRITERS LABORATORIES, INC.
2. FIRE PROTECTION MATERIALS DENOTED IN THE FIRE PROTECTION DETAILS PROVIDED HEREIN SHALL NOT BE CONSTRUED AS PROPRIETARY. EQUIVALENT FIRE PROTECTION SYSTEMS MAY BE UTILIZED IF SUBMITTED BY THE CONTRACTOR FOLLOWING REQUIREMENTS SET FORTH IN THE GENERAL CONDITIONS.
3. ANY SUBSTITUTIONS OF MATERIALS USED IN RATED ASSEMBLIES ARE SUBJECT TO APPROVAL BY AUTHORITIES HAVING JURISDICTION.

DAVIS KANE ARCHITECTS, PA
503 OBERLIN ROAD | SUITE 300
RALEIGH, NC 27605
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www.daviskane.com

PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION

ONSLOW COUNTY
BID NO. 102-25C
138 OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

DAVIS KANE ARCHITECTS, P.A. REGISTERED ARCHITECT 50304 NORTH CAROLINA RALEIGH, N.C.

JIMMY ARDEL EDWARDS REGISTERED PROFESSIONAL ENGINEER 13823 03-12-25 NORTH CAROLINA RALEIGH, N.C.

DKA JOB NUMBER
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REVISIONS

PA: JIMMY ARDEL EDWARDS
PM: ALEXANDRE PENEGRE
Drawn By: AP
Plot Date: 3/11/2025 1:21:15 PM

DATE ISSUED

BID DOCUMENTS
03/12/2025

SHEET TITLE
UL DETAILS

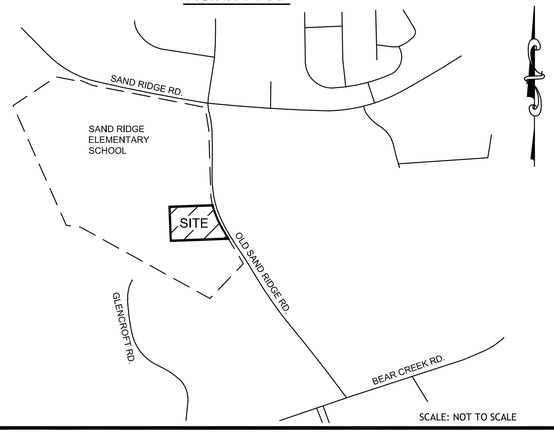
G005

BEAR CREEK FIRE STATION

138 OLD SAND RIDGE RD
HUBERT, NC 28539

ONSLOW COUNTY

VICINITY MAP



SCALE: NOT TO SCALE

SITE DATA

PROJECT:	ONSLOW COUNTY – BEAR CREEK FIRE STATION HUBERT, NC
OWNER:	ONSLOW COUNTY
OWNER CONTACT:	ONSLOW COUNTY BENJAMIN WARREN – ASSISTANT COUNTY MANAGER 234 NW CORRIDOR BOULEVARD JACKSONVILLE, NC 28540 PHONE: 910-347-4717 BENJAMIN_WARREN@ONSLOWCOUNTYNC.GOV
DESIGNER CONTACT:	CLH DESIGN, PA Y'HOSHUA AAL-ANUBIA, PLA – SENIOR PROJECT MANAGER 400 REGENCY FOREST DRIVE, SUITE 120 CARY, NC 27518 PHONE: 919-319-6716 FAX: 919-319-7516 YAALANUBIA@CLHDESIGNPA.COM
PROJECT ADDRESS:	138 OLD SAND RIDGE RD. HUBERT, NC 28539
PIN:	534301165704
PARCEL ID #:	175469
ZONING:	RA
OVERLAY:	N/A
EXISTING LAND USE:	VACANT
PROPOSED LAND USE:	FIRE STATION
LANDSCAPE BUFFERS:	ADJACENT TO LAND USE 'O-I' (NORTH, WEST, & SOUTH SIDE) TYPE A BUFFER YARD TO BE PLANTED PER APPENDIX A
SETBACKS:	FRONT = 30 FT SIDE YARD = 8 FT REAR YARD = 15 FT
SITE ACREAGE:	3 ACRES
TAX MAP NO.:	1309-64.1
BUILDING SF:	15,289 SF

ONSLOW COUNTY PARKING REQUIREMENTS:

PARKING CODE:	PUBLIC & CIVIC USE – 30 SPACE MIN. – 1.5/EMPLOYEE
REQUIRED ACCESSIBLE PARKING:	2
PARKING REQUIRED:	30 SPACES
PARKING PROVIDED:	34 STAFF/VISITOR SPACES (2 ADA)
BICYCLE PARKING:	N/A
STORMWATER DEVICES:	(2) SCM WETLAND
FIRE DISTRICT/ISO:	NORTHEAST ONSLOW ISO 4
STORMWATER PERMIT #:	TBD
EXISTING WETLANDS:	NO WETLANDS ARE PRESENT ON THIS SITE
SEWER DISTRIBUTION:	PUMP STATION AND FORCE MAIN
HOURS OF OPERATION:	24 HOURS
EMPLOYEES:	15 (3 SHIFTS, 5 PER SHIFT)

INDEX OF DRAWINGS

CIVIL:

DAVIS KANE ARCHITECTS, PA
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RALEIGH, NC 27605
919.833.3737
www.daviskane.com

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LA: C-106
PE: C-1595

PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION
ONSLOW COUNTY

OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1699 ZACHARY R. PIERCE 03/12/25

DKA JOB NUMBER
2324

REVISIONS

PA:	ZP
PM:	YA
Drawn By:	SL/SH
Plot Date:	03/12/2025

DATE ISSUED

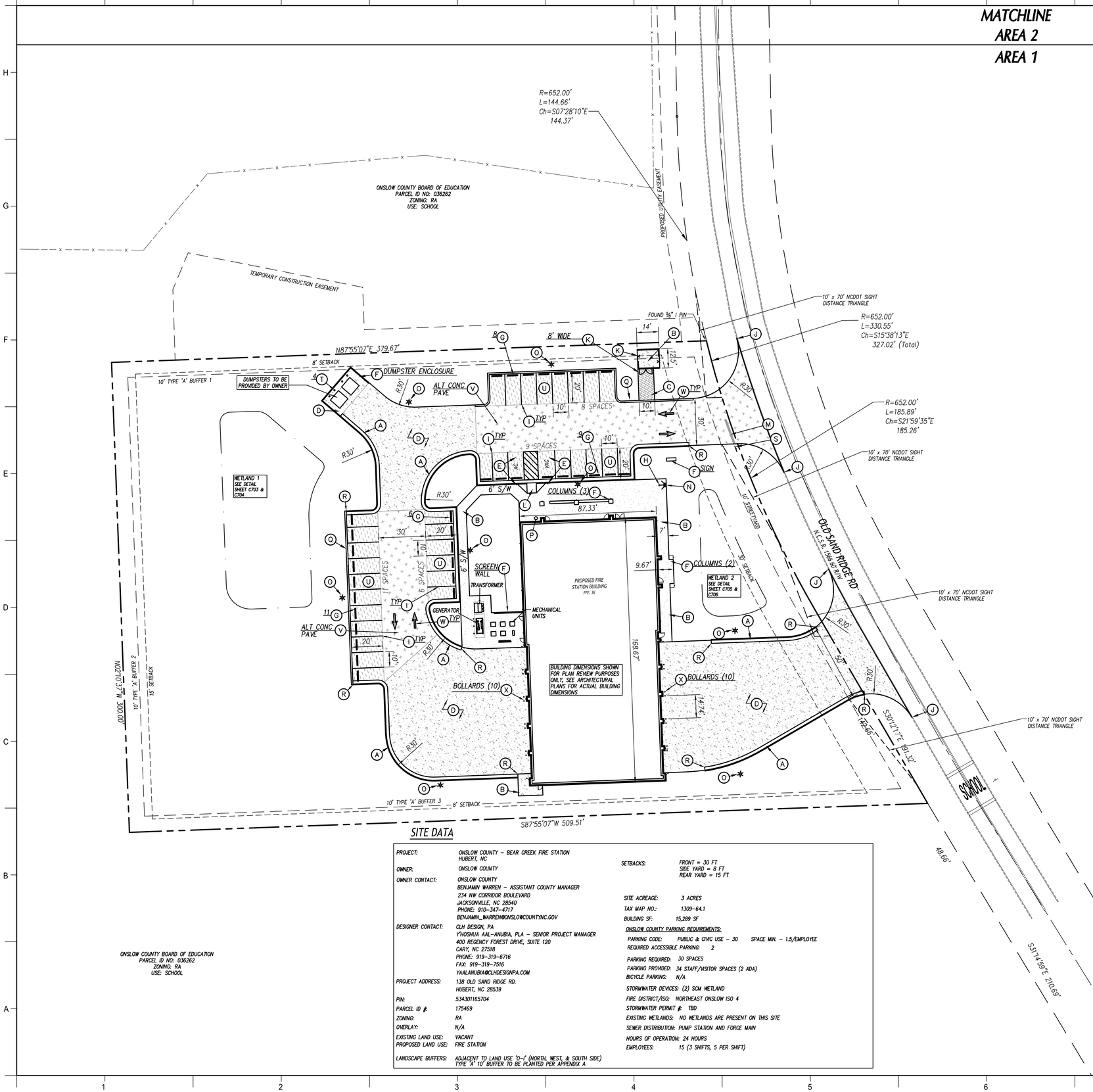
BID DOCUMENTS

03/12/2025

SHEET TITLE

COVER

C000



ONSLOW COUNTY BOARD OF EDUCATION
PARCEL ID NO: 036262
ZONING: RA
USE: SCHOOL

SITE DATA

PROJECT:	ONSLOW COUNTY – BEAR CREEK FIRE STATION HUBERT, NC
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PROJECT ADDRESS:	138 OLD SAND RIDGE RD. HUBERT, NC 28539
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PARCEL ID #:	175469
ZONING:	RA
OVERLAY:	N/A
EXISTING LAND USE:	VACANT
PROPOSED LAND USE:	FIRE STATION
LANDSCAPE BUFFERS:	ADJACENT TO LAND USE 'O-I' (NORTH, WEST, & SOUTH SIDE) TYPE 'A' 10' BUFFER TO BE PLANTED PER APPENDIX A

SETBACKS:	FRONT = 30 FT SIDE YARD = 8 FT REAR YARD = 15 FT
SITE ACREAGE:	3 ACRES
TAX MAP NO.:	1309-64.1
BUILDING SF:	15,289 SF

ONSLOW COUNTY PARKING REQUIREMENTS:

PARKING CODE:	PUBLIC & CIVIC USE – 30 SPACE MIN. – 1.5/EMPLOYEE
REQUIRED ACCESSIBLE PARKING:	2
PARKING REQUIRED:	30 SPACES
PARKING PROVIDED:	34 STAFF/MISTOR SPACES (2 ADA)
BICYCLE PARKING:	N/A
STORMWATER DEVICES:	(2) SCM WETLAND
FIRE DISTRICT/ISO:	NORTHEAST ONSLOW ISO 4
STORMWATER PERMIT #:	TBD
EXISTING WETLANDS:	NO WETLANDS ARE PRESENT ON THIS SITE
SEWER DISTRIBUTION:	PUMP STATION AND FORCE MAIN
HOURS OF OPERATION:	24 HOURS
EMPLOYEES:	15 (3 SHIFTS, 5 PER SHIFT)

KEY NOTES

- (A) 24" CURB & GUTTER, SEE DETAIL SHEET C800.
- (B) CONCRETE SIDEWALK, SEE DETAIL SHEET C800.
- (C) GRAVEL DRIVE, SEE DETAIL SHEET C800.
- (D) CONCRETE PAVEMENT, SEE DETAIL SHEET C800.
- (E) ACCESSIBLE PARKING & SIGNAGE, SEE DETAIL SHEET C800.
- (F) SEE ARCHITECTURAL PLANS FOR BUILDING, CANOPY, STRUCTURAL WALLS, BUILDING COLUMNS, MONUMENT SIGNS, BOLLARDS, MECHANICAL YARD AND SCREEN WALLS.
- (G) PRECAST CONCRETE WHEELSTOP, SEE DETAIL SHEET C800.
- (H) FLAG POLE, SEE DETAIL SHEET C800.
- (I) PARKING SPACE STRIPING, SEE TRAFFIC CONTROL NOTES ON THIS SHEET.
- (J) TIE IN TO EXISTING ROAD.
- (K) 4' BLACK VINYL CHAIN LINK FENCE AND GATES, SEE DETAIL SHEET C801.
- (L) ACCESSIBLE PARKING CURB RAMP, SEE DETAIL SHEET C800.
- (M) STOP BAR, SEE TRAFIC CONTROL NOTES ON THIS SHEET.
- (N) UPLIGHTS, SEE ELECTRICAL PLANS.
- (O) 25' TALL LIGHT POLE, SEE DRAWING NUMBER C010 SITE ELECTRICAL.
- (P) TRASH RECEPTACLE, SEE SPECIFICATIONS.
- (Q) CONCRETE BAND, SEE DETAIL SHEET C800.
- (R) STANDARD METHOD OF ENDING CURB & GUTTER, SEE DETAIL SHEET C800.
- (S) STOP SIGN.
- (T) BOLLARDS, SEE DETAIL SHEET C801.
- (U) LIGHT DUTY ASPHALT, SEE DETAIL SHEET C800.
- (V) HEAVY DUTY ASPHALT, SEE DETAIL SHEET C800.
- (W) DIRECTIONAL ARROW, SEE TRAFFIC CONTROL NOTES THIS SHEET.

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL ONSLOW COUNTY AND NCDOT STANDARDS AND SPECIFICATIONS.
2. ALL DIMENSIONS SHOWN ARE TO FACE OF CURB AND FACE OF BUILDING WALL, UNLESS OTHERWISE SHOWN.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION OF ALL DIMENSIONS SHOWN AND CONTACT THE ARCHITECT IF ANY DISCREPANCIES OCCUR.
4. CONSTRUCTION STAKE OUT IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL PAVEMENT MARKINGS AND SIGNAGE SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
6. ALL FACE OF RADIUS' ARE 4 FT UNLESS OTHERWISE SHOWN.
7. ALL PARKING SPACES SHALL BE 10' WIDE X 20' DEEP MIN.
8. (AC) DENOTES ACCESSIBLE PARKING SPACE.
9. (VAC) DENOTES VAN ACCESSIBLE PARKING SPACE.
10. ANY AND ALL LANDSCAPING, EXISTING TREES OR SHRUBS TO REMAIN WHICH ARE DAMAGED DURING DEMOLITION OR CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR UTILIZING A LICENSED LANDSCAPE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
11. CONTRACTOR SHALL SUBMIT SCALED PLANS OF ALL SCORING/JOINTS FOR APPROVAL BY ARCHITECT 30 DAYS MINIMUM PRIOR TO INSTALLATION.
12. THE CROSS-SLOPE ON ALL SIDEWALKS SHALL BE A MAXIMUM OF 2.0%
13. NO WORK SHALL BE PERFORMED ON RIGHT-OF-WAYS OR ADJACENT PROPERTIES UNTIL THE OWNER NOTIFIES CONTRACTOR IN WRITING OF PROCUREMENT OF APPROPRIATE PERMITS, EASEMENTS, AGREEMENTS, OR RIGHTS-OF-WAY.

TRAFFIC CONTROL NOTES

1. ALL SITE SIGNAGE SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND NCDOT STANDARDS.

SIGN	MUTCD STD.	SIZE
STOP	R1-1	30"x30"
ONE WAY	R6-2	24"x30"
DO NOT ENTER (DNE)	R5-1	30"x30"
YIELD	R2-1 WITH R1-2aP	30"x30"
NO PARKING ANY TIME FIRE LANE –		12"x18"
LEFT TURN ONLY	R3-5L	30"x36"

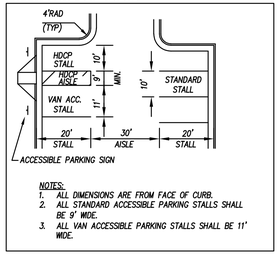
2. ALL SIGNS SHALL BE MOUNTED WITH 7-FT MIN. VERTICAL CLEARANCE TO THE BOTTOM OF THE SIGN ON 3-LB. GALV. STEEL U-CHANNEL POST SET IN 3-FT DEEP x 12-IN DIA. CONCRETE FOOTING.
3. ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MUTCD AND NCDOT STANDARDS AND THE PROJECT SPECIFICATIONS.

MARKING	NCDOT STD.	SIZE	COLOR
PARKING SPACES		4-IN	WHT.
CROSSWALK	1205.07(HI-MS)	24-IN	WHT.
CROSSWALK	1205.07(STANDARD)	8-IN	WHT.
DIRECTIONAL ARROWS	1205.08	STD.	WHT.
NO PARKING – FIRE LANE *	–	4-IN	YEL.
SKIP	1205.01	4-IN	WHT.
MINI-SKIP (3'-9' TYPE)	1205.01	4-IN	WHT.
SOLID	1205.01	4-IN	WHT.
DIAGONAL	1205.09	8-IN	YEL.
STOP BAR	–	24-IN	WHT.
DOUBLE YELLOW	1205.01	4-IN	YEL.

* NO PARKING – FIRE LANE MARKING SHALL BE THERMOPLASTIC AND CONFORM TO ONSLOW COUNTY STANDARD SPECIFICATION 03050.D FIRE LANE STRIPING AND CONSIST OF A 4" SOLID YELLOW STRIPE AND 8" HIGH YELLOW TEXT "NO PARKING – FIRE LANE" AT 40' INTERVALS.

4. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC TYPE EXCEPT FOR PARKING SPACE LINES WHICH SHALL BE ALKYD-RESIN TYPE PAINT.
5. ALL SIGNAGE SHALL BE FIELD STAKED AND THE LOCATIONS APPROVED BY CLH DESIGN PRIOR TO SIGN INSTALLATION.
6. CENTER ALL DIRECTIONAL ARROWS WITHIN TRAVEL LANE.
7. COORDINATE FIRE LANE MARKINGS WITH ONSLOW COUNTY FIRE MARSHAL.
8. ALL SIGNS SHALL USE PRISMATIC SHEETING THAT MEETS MINIMUM REFLECTIVITY STANDARDS FOUND IN THE LATEST EDITION OF THE MUTCD.

TYP. PARKING DIMENSIONS



NOTES:
1. ALL DIMENSIONS ARE FROM FACE OF CURB.
2. ALL STANDARD ACCESSIBLE PARKING STALLS SHALL BE 9' WIDE.
3. ALL VAN ACCESSIBLE PARKING STALLS SHALL BE 11' WIDE.

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

MAGNETIC

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PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION

ONSLOW COUNTY

OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1699 ZACHARY R. PIERCE 03/12/25

DKA JOB NUMBER
2324

REVISIONS

PA: ZP
PM: YA
Drawn By: SL/SH
Plot Date: 03/12/2025

DATE ISSUED

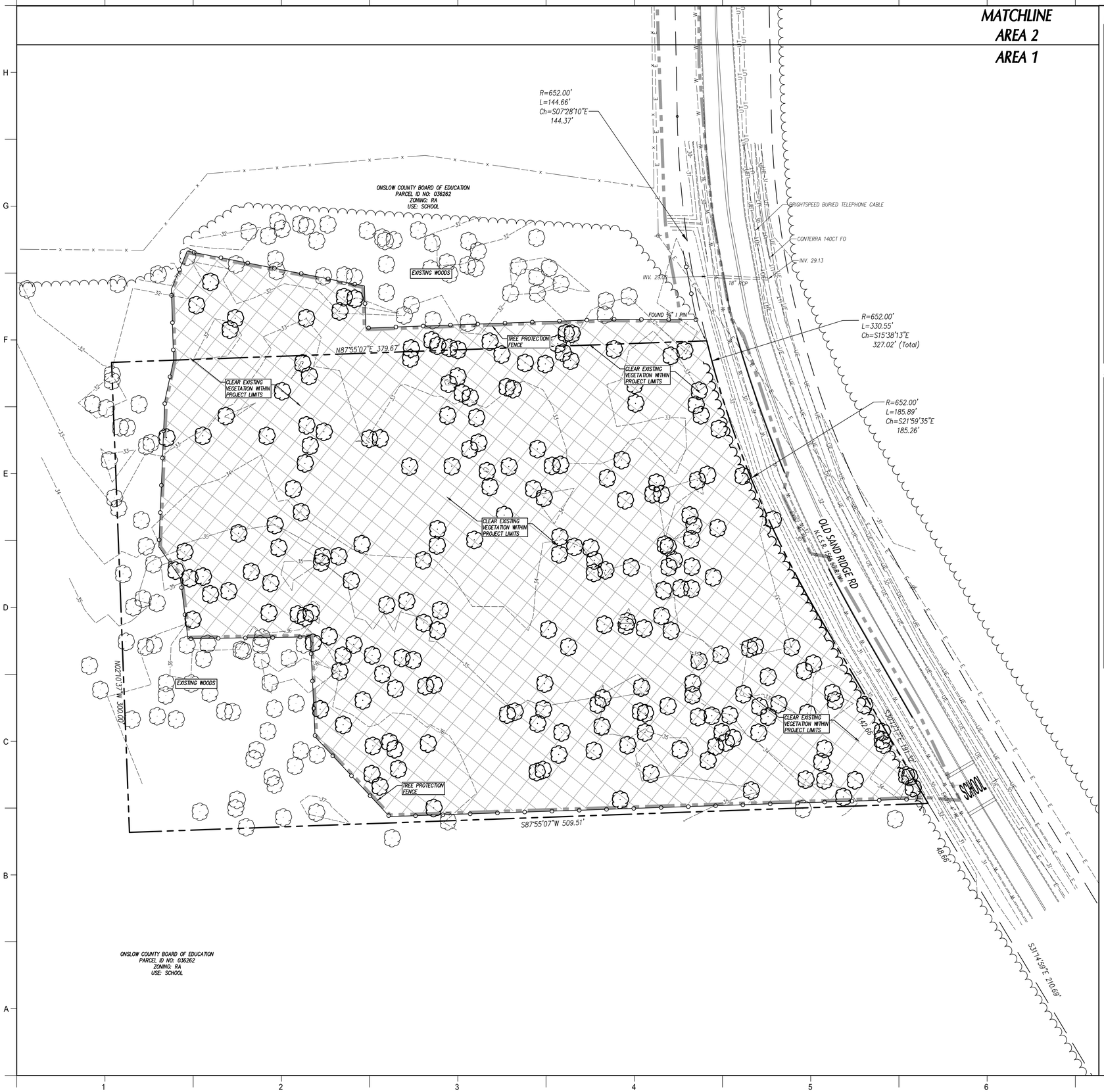
BID DOCUMENTS

03/12/2025

SHEET TITLE

STAKING PLAN

C100



GENERAL NOTES

1. ALL EXISTING STRUCTURES AND UTILITIES SHALL BE REMOVED AS NEEDED TO ALLOW NEW CONSTRUCTION. IN GENERAL, FEATURES INDICATED IN BOLD ON THIS PLAN SHALL BE REMOVED.
2. ALL PAVEMENT OR CONCRETE TO BE REMOVED SHALL BE SAW CUT TO PROVIDE A STRAIGHT AND UNIFORM JOINT FOR NEW PAVEMENT, SIDEWALK, OR CURB AND GUTTER, ETC. ANY EXISTING PAVEMENT, SIDEWALK, CURB AND GUTTER, ETC. THAT MUST BE REMOVED TO ALLOW NEW CONSTRUCTION SHALL BE REMOVED AND REPAIRED PER THE SPECIFICATIONS AND DETAILS OR TO MATCH PRE-CONSTRUCTION CONDITIONS (WHETHER OR NOT SHOWN ON THE DRAWINGS TO BE REMOVED).
3. ALL UTILITIES OR STRUCTURES NOT INDICATED FOR REMOVAL OR MODIFICATION ARE TO REMAIN AND BE PROTECTED FROM DAMAGE.
4. ALL WASTE MATERIAL GENERATED FROM DEMOLITION ACTIVITIES SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL APPLICABLE RULES AND REGULATIONS.
5. EXISTING SITE BOUNDARY AND TOPOGRAPHIC SURVEY INFORMATION WAS TAKEN FROM SURVEY BY STACY L. BATCHELOR FROM TIDEWATER ASSOCIATES, INC, SIGNED 09/12/2024. THESE PLANS DO NOT ASSUME ANY LIABILITY FOR ANY EXISTING INFORMATION BOTH SHOWN AND NOT SHOWN ON THE SURVEY AND ANY CHANGES TO THE EXISTING CONDITIONS THAT MAY HAVE OCCURRED AFTER THE SURVEY WAS ISSUED. CONTRACTOR SHALL VERIFY ALL EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION.
6. INSTALL TREE PROTECTION FENCING PRIOR TO BEGINNING CLEARING OPERATIONS. CLEAR AND GRUB ALL AREAS AS SHOWN AND REQUIRED TO PERMIT INSTALLATION OF NEW CONSTRUCTION PER SPECIFICATIONS AND DRAWINGS. EXISTING TREES, SHRUBS OR OTHER LANDSCAPE MATERIAL WHICH WILL CONFLICT WITH NEW CONSTRUCTION SHALL BE REMOVED (WHETHER OR NOT SHOWN ON THE DRAWINGS). ALL CONTRACTORS SHALL VISIT THE SITE AND OBSERVE EXISTING CONDITIONS PRIOR TO BIDDING.
7. TO MINIMIZE DAMAGE TO EXISTING TREES NEAR THE INTERIOR EDGE OF CLEARING LIMITS, THE CONTRACTOR SHALL CUT 2-FT DEEP TRENCHES ALONG THE LIMITS OF DISTURBANCE, SO AS TO CUT, RATHER THAN TEAR ROOTS.
8. PRIOR TO DEMOLISHING EXISTING STRUCTURES, MAKE AN INSPECTION FOR ANY HAZARDOUS MATERIALS. CONTACT ARCHITECT IMMEDIATELY IF ANY HAZARDOUS MATERIALS ARE DISCOVERED. CAP AND REMOVE UTILITY SERVICES, FUEL TANKS AND SEPTIC SYSTEMS. ALL WORK TO BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.
9. VERIFY ALL ILLUSTRATED UNDERGROUND ELEMENTS/UTILITIES. EXERCISE REASONABLE EFFORTS TO PROTECT ANY UNKNOWN UNDERGROUND ELEMENTS/UTILITIES. NOTIFY THE ARCHITECT IMMEDIATELY IF UNKNOWN ELEMENTS/UTILITIES ARE DISCOVERED THAT WOULD NECESSITATE MODIFICATION TO THE PROPOSED DESIGN.
10. CONTACT UTILITY LOCATING SERVICE AT LEAST 48-HRS PRIOR TO EXCAVATION.
11. PROTECT ALL ADJACENT PROPERTIES, THE GENERAL PUBLIC AND ALL OF THE OWNER'S FACILITIES. SHOULD DAMAGES OCCUR, REPAIR IMMEDIATELY AS DIRECTED BY THE ARCHITECT. AREAS TO BE PROTECTED, REPAIRED AND CLEANED SHALL ALSO INCLUDE ANY STAGING AREAS, ACCESS ROUTES AND OTHER EXISTING IMPROVEMENTS WITHIN THE CONSTRUCTION LIMITS THAT ARE TO REMAIN.
12. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL ONSLOW COUNTY AND/OR NCDOT STANDARDS AND SPECIFICATIONS.
13. ALL EXISTING VAULTS, MANHOLES, STORM DRAIN STRUCTURES, CLEANOUTS, ETC. SHALL BE ADJUSTED AS NEEDED TO MATCH FINISH GRADE.
14. DEMOLITION AND PATCHING OF PAVEMENT, SIDEWALK, CURB AND GUTTER AND OTHER EXISTING PAVED SURFACES IN ADDITION TO THAT INDICATED ON THIS PLAN SHALL BE PERFORMED AS REQUIRED TO CONSTRUCT AND INSTALL NEW UTILITIES. ALL SUCH DEMOLITION AND PATCHING SHALL BE INCLUDED IN THE BASE BID SCOPE OF WORK. SEE SHEET C900 FOR PAVEMENT REPAIR DETAILS.
15. THIS SITE IS NOT LOCATED WITHIN SPECIAL FLOOD HAZARD AREAS AS DETERMINED BY FEMA AND DEPICTED ON F.I.R.M. MAP: 3720534300K, DATED JUNE 19, 2020 AS BEING WITHIN ZONE "X-OTHER AREA".
16. NO WORK SHALL BE PERFORMED ON RIGHT-OF-WAYS OR ADJACENT PROPERTIES UNTIL THE OWNER NOTIFIES CONTRACTOR IN WRITING OF PROCUREMENT OF APPROPRIATE PERMITS, EASEMENTS, AGREEMENTS, OR RIGHTS-OF-WAY.

LEGEND

STRUCTURES/UTILITIES TO BE REMOVED		STRUCTURES/UTILITIES TO REMAIN	
OVERHEAD ELECTRICAL	------- E -------	OVERHEAD ELECTRICAL	------ E ------
UNDERGROUND ELECTRICAL	-------UE-------	UNDERGROUND ELECTRICAL	------UE------
FIRE PROTECTION	-------FP-------	FIRE PROTECTION	------FP------
GAS	------- G -------	GAS	------ G ------
SANITARY SEWER	-------SS-------	SANITARY SEWER	------SS------
TELEPHONE	------- T -------	TELEPHONE	------ T ------
UNDERGROUND TELEPHONE	-------UT-------	UNDERGROUND TELEPHONE	------UT------
FIBER OPTIC	-------FO-------	FIBER OPTIC	------FO------
WATER	------- W -------	WATER	------ W ------
FORCE MAIN	-------FM-------	FORCE MAIN	------FM------
STORM DRAIN	=======	STORM DRAIN	======
INDIVIDUAL TREE TO BE REMOVED.		INDIVIDUAL TREE TO REMAIN.	
LIGHT POLE	LP	LIGHT POLE	LP
UTILITY POLE	PP	UTILITY POLE	PP
MANHOLE	MH	MANHOLE	MH
CLEAN OUT	CO	CLEAN OUT	CO
DROP INLET,CATCH BASIN	DI, CB	DROP INLET,CATCH BASIN	DI, CB
FIRE HYDRANT	FH	FIRE HYDRANT	FH
WATER VALVE	WV	WATER VALVE	WV
CONSTR./CLEARING LIMITS		CLEAR AND GRUB EXISTING VEGETATION	
TREE PROTECTION FENCE SEE DETAIL C701			

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

NORTH

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PROJECT INFORMATION

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ONSLOW COUNTY

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SEALS

NORTH CAROLINA LANDSCAPE ARCHITECT 1699 ZACHARY R. PIERCE 03/12/25

DKA JOB NUMBER
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REVISIONS

PA:	ZP
PM:	YA
Drawn By:	SL/SH
Plot Date:	03/12/2025

DATE ISSUED

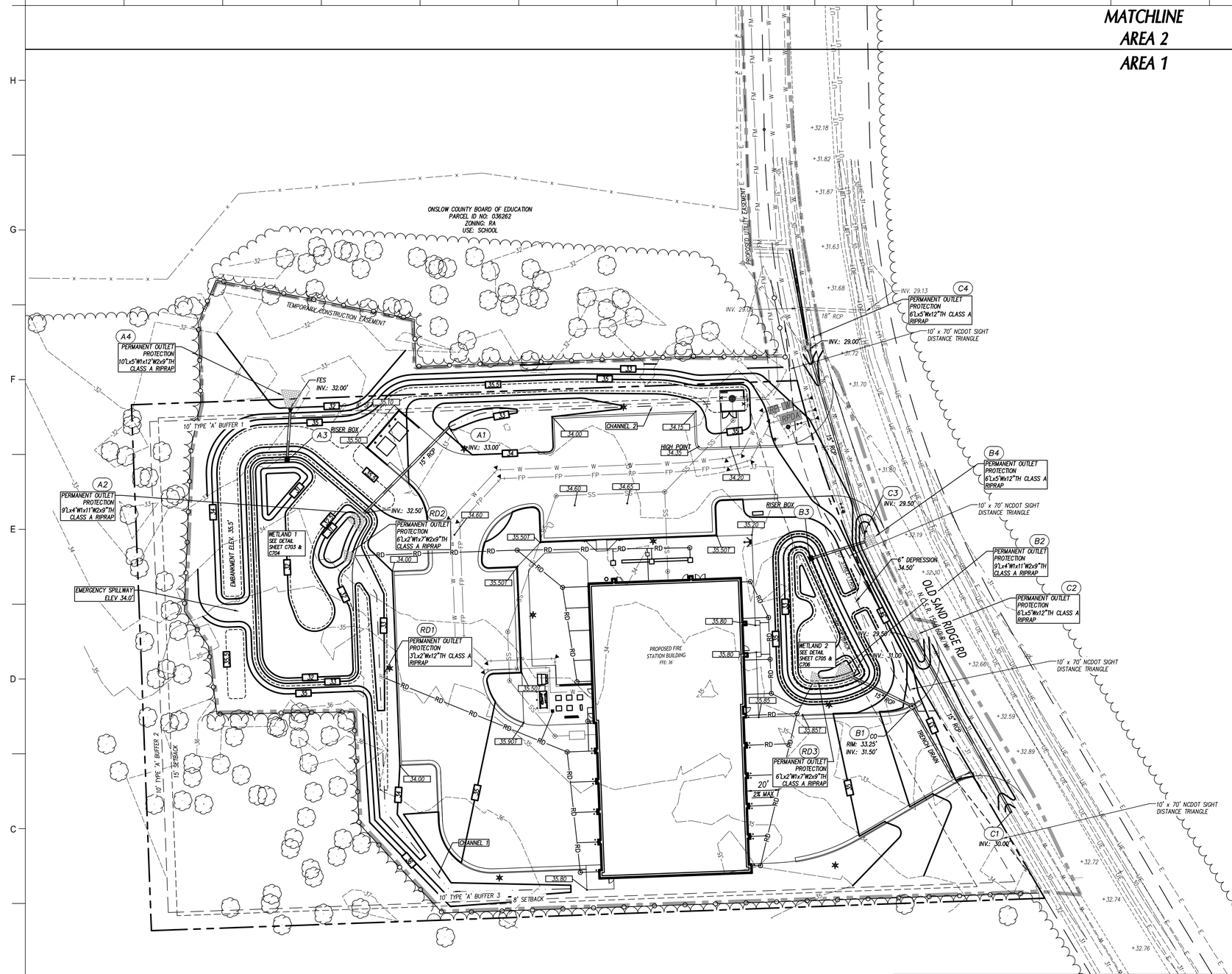
BID DOCUMENTS

03/12/2025

SHEET TITLE

EXISTING CONDITIONS & DEMO PLAN

C200



ONSLOW COUNTY BOARD OF EDUCATION
PARCEL ID NO: 036262
ZONING: RA
USE: SCHOOL

DRAINAGE STRUCTURE SCHEDULE

STRUCTURE NO. UP STRM	STRUCTURE NO. DN STRM	PIPE SLOPE	PIPE DIA. (IN)	PIPE LENGTH (LF)	PIPE MATRL	UPPER INV. (FT)	LOWER INV. (FT)	UPSTREAM STRUCTURE DATA TOP ELEV. (FT) (1)	DEPTH (FT)	TYPE	NOTES
A1	A2	0.72%	15	69	RCP	33.00	32.50	35.00	2.00	OPEN END	
A3	A4	1.67%	18	30	RCP	32.50	32.00	36.00	3.50	RISER BOX	5
B1	B2	1.39%	15	36	RCP	31.50	31.00	35.00	3.50	CO	
B3	B4	1.69%	18	118	RCP	32.00	30.00	35.00	3.00	RISER BOX	
C1	C2	0.45%	15	111	RCP	30.00	29.50	33.00	3.00	OPEN END	
C3	C4	0.46%	15	109	RCP	29.50	29.00	33.00	3.50	OPEN END	

LEGEND

- CO — CLEAN OUT, SEE DETAIL SHEET C900.
- FES — PRECAST FLARED END SECTION
- (A2) — STRUCTURE I.D. NUMBER

NOTES

1. TOP ELEVATION IS TOP OF BACK OF CURB FOR CATCH BASINS, TOP OF RIM DROP INLETS, AND FINISH GRADE FOR CLEANOUTS.
2. ALL FES INLETS & OUTLETS SHALL BE RCP.
3. DUCTILE IRON PIPE(DIP) SHALL HAVE WATERTIGHT JOINTS.
4. ADA GRATE.
5. DOWNSTREAM STRUCTURE IS A FES.

GRADING LEGEND

- EXISTING CONTOURS
- FINAL CONTOURS
- 270.4' + — EXISTING SURVEY SPOT ELEVATION
- 270.50 — PROPOSED TOP OF CURB SPOT ELEVATION
- 270.50 — PROPOSED GROUND/PAVEMENT ELEVATION
- (A4) — STORM STRUCTURE NUMBER
- EXISTING STORM DRAIN PIPE
- PROPOSED STORM DRAIN PIPE
- FD — PROPOSED FOUNDATION DRAIN DISCHARGE LINE. SEE ARCH. PLANS FOR DRAIN PIPE LOCATIONS ALONG BUILDING WALLS.
- RD — PROPOSED ROOF DRAIN
- LIMITS OF GRADING

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL ONSLOW COUNTY AND NCDOT STANDARDS AND SPECIFICATIONS.
2. ALL SPOT ELEVATIONS INDICATED AT CURB AND GUTTER AND ARE DENOTED TO TOP OF CURB, UNLESS OTHERWISE SHOWN.
3. TOTAL DENUDED AREA = 4 AC
4. CONTRACTOR SHALL ADJUST ALL EXISTING VAULTS, MANHOLES, STORM DRAIN STRUCTURES, CLEANOUTS, ETC. AS NEEDED TO MATCH FINISH GRADE.
5. ALL BACKFILL, COMPACTION, SOILS TESTING, ETC. SHALL BE PERFORMED BY THE OWNER'S INDEPENDENT TESTING LABORATORY. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
6. ALL STORM DRAIN PIPES SHALL BE PROTECTED WITH STONE FILTER PROTECTION AFTER STOPPAGE OF WORK EACH DAY. SEE DETAIL ON SHEET C701.
7. EXISTING VEGETATION WITHIN TREE PROTECTION AREAS SHALL REMAIN UNDISTURBED. UNLESS NOTED OTHERMISE.
8. ANY AND ALL LANDSCAPING AND EXISTING TREES & SHRUBS TO REMAIN WHICH ARE DAMAGED DURING DEMOLITION OR CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR UTILIZING A LICENSED LANDSCAPE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
9. THE GRADING CONTRACTOR SHALL COMPLY WITH ALL STATE CODES IN OBSERVING EROSION CONTROL MEASURES BOTH ON AND OFF-SITE.
10. THE GRADING CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL DEVICES AFTER EACH RAINFALL EVENT OR AS DIRECTED BY STATE AUTHORITIES OR THE ARCHITECT.
11. THE GRADING CONTRACTOR SHALL BE RESPONSIBLE FOR OFF-SITE DISPOSAL OF ALL CLEARING AND GRADING WASTE MATERIALS GENERATED DURING CONSTRUCTION AND FOR OBTAINING ALL APPLICABLE PERMITS FOR OFF-SITE STOCKPILES AND/OR WASTE AREAS.
12. THE CROSS-SLOPE ON ALL SIDEWALKS SHALL BE A MAXIMUM OF 2.0%
13. CONTRACTOR SHALL VERIFY ALL EXISTING ELEVATIONS WHERE NEW CONSTRUCTION JOIN OR CONNECT TO EXISTING PAVEMENT, CURB AND OTHER RIGID STRUCTURES. NOTIFY ARCHITECT IF DISCREPANCIES OCCUR.

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

MAGNETIC

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ONSLOW COUNTY

OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

NORTH CAROLINA PROFESSIONAL SEAL 022625 ENGINEER STEVEN J. MILLER

Digitally signed by Steven Miller
Date: 2025.03.11 16:47:37-04'00'

DKA JOB NUMBER
2324

REVISIONS

PA: ZP
PM: YA
Drawn By: SL/SH
Plot Date: 03/12/2025

DATE ISSUED

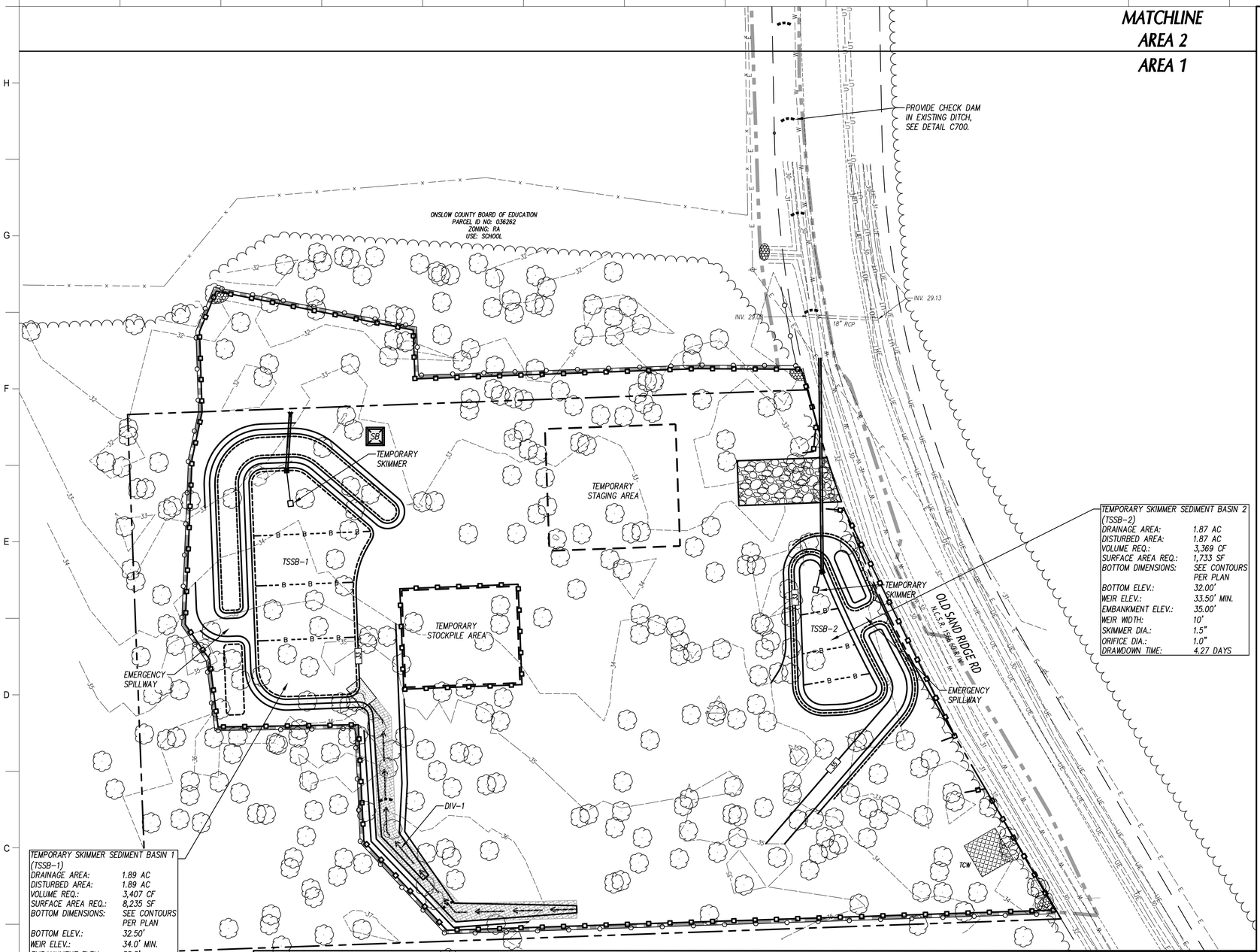
BID DOCUMENTS

03/12/2025

SHEET TITLE

GRADING PLAN

C300



TEMPORARY SKIMMER SEDIMENT BASIN 1 (TSSB-1)	
DRAINAGE AREA:	1.89 AC
DISTURBED AREA:	1.89 AC
VOLUME REQ.:	3,407 CF
SURFACE AREA REQ.:	8,235 SF
BOTTOM DIMENSIONS:	SEE CONTOURS PER PLAN
BOTTOM ELEV.:	32.50'
WEIR ELEV.:	34.0' MIN.
EMBANKMENT ELEV.:	35.5'
WEIR WIDTH:	10'
SKIMMER DIA.:	1.5"
ORIFICE DIA.:	1.0"
DRAWDOWN TIME:	4.32 DAYS

TEMPORARY SKIMMER SEDIMENT BASIN 2 (TSSB-2)	
DRAINAGE AREA:	1.87 AC
DISTURBED AREA:	1.87 AC
VOLUME REQ.:	3,369 CF
SURFACE AREA REQ.:	1,733 SF
BOTTOM DIMENSIONS:	SEE CONTOURS PER PLAN
BOTTOM ELEV.:	32.00'
WEIR ELEV.:	33.50' MIN.
EMBANKMENT ELEV.:	35.00'
WEIR WIDTH:	10'
SKIMMER DIA.:	1.5"
ORIFICE DIA.:	1.0"
DRAWDOWN TIME:	4.27 DAYS

CONSTRUCTION SEQUENCE

INITIAL EROSION CONTROL INSTALLATION

1. OBTAIN APPROVED PLAN AND APPROVAL PLACARD. A COPY OF THE APPROVED PLAN MUST BE ON FILE AT THE JOB SITE. NOTIFY EROSION CONTROL AUTHORITIES OF PROPOSED STARTING DATE OF LAND DISTURBING ACTIVITIES.
2. EROSION AND SEDIMENT CONTROL (E&SC) PERMIT AND A CERTIFICATE OF COVERAGE (COC) MUST BE OBTAINED BEFORE ANY LAND DISTURBING ACTIVITIES (INCLUDING TIMBERING AND DEMOLITION) OCCUR.
3. INSTALL TREE PROTECTION FENCING.
4. CONTACT NC DEQ WILMINGTON REGIONAL OFFICE AT 919-791-4200 TO SCHEDULE PRE-CONSTRUCTION MEETING AT LEAST 72 HOURS PRIOR TO PROJECT ACTIVATION.
5. CONDUCT PRE-CONSTRUCTION CONFERENCE.
6. THE FOLLOWING MUST BE KEPT ON SITE UNTIL THE E&SC PLAN HAS BEEN CLOSED OUT BY LAND QUALITY: RAIN GAUGE, A COPY OF APPROVED E&SC PLAN WITH APPROVAL CERTIFICATE/LETTER,COC, AND NPDES PERMIT WITH A MINIMUM OF MOST RECENT 30 DAYS OF SELF-INSPECTION RECORDS (SEE SELF-INSPECTION REQUIREMENTS BELOW). THESE ITEMS SHOULD BE LOCATED NEAR THE MAIN CONSTRUCTION ENTRANCE. FAILURE TO MAINTAIN THESE ON-SITE VIOLATES THE NPDES PERMIT.
7. CONTACT THE NC DEQ WILMINGTON OFFICE AT LEAST 48 HOURS PRIOR TO COMMENCING THE LAND-DISTURBING ACTIVITIES.
8. INSTALL CONSTRUCTION ENTRANCE, AND PERIMETER SILT FENCES. TEMPORARY SEDIMENT SKIMMER BASINS, TEMPORARY CHECK DAMS, DIVERSION DITCHES AND TEMPORARY COMPOST SOCKS. ALL TEMPORARY BASINS AND DIVERSIONS SHALL BE SEEDED, MULCHED/LINED AND ANCHORED UPON INSTALLATION. ALL DIVERSION DITCHES WILL BE LINED TO THE TOP OF BANK. ALL DISTURBED AREAS ARE TO BE STABILIZED UNDER CONDITIONS OUTLINED IN THE CURRENT NPDES PERMIT.
9. INSTALL STORMWATER WETLAND BARREL, FOLLOWED BY EMBANKMENTS, AND THEN OUTLET STRUCTURES IN DRY CONDITIONS. KEEP ALL ORIFICES BLOCKED UP TO THE REQUIRED SEDIMENT BASIN POOL ELEVATION. INSTALL TEMPORARY SKIMMERS ON WETLAND DRAIN, KEEP WETLAND DRAIN VALVE OPEN WHILE TEMPORARY SKIMMER IS OPERATIONAL. SEE WETLAND DETAIL SHEETS. INSTALL PERMANENT OUTLET PROTECTION. EXCAVATE BASINS AND INSTALL TEMPORARY SLOPE DRAIN AND TEMPORARY OUTLET PROTECTION. SEED AND MULCH ALL DISTURBED AREAS. ALL DISTURBED AREAS ARE TO BE STABILIZED UNDER CONDITIONS OUTLINED IN THE CURRENT NPDES PERMIT.
10. ESTABLISH TEMPORARY CONSTRUCTION TRAILERS WITHIN STAGING AREA.
11. INSTALL TEMPORARY DIVERSIONS, TEMPORARY SLOPE DRAINS AND TEMPORARY OUTLET PROTECTION. ALL DISTURBED AREAS ARE TO BE STABILIZED UNDER CONDITIONS OUTLINED IN THE CURRENT NPDES PERMIT.
12. INSTALL SILT FENCE FOR TEMPORARY STOCKPILE LOCATION. ALL BARE SOILS ARE TO BE STABILIZED UNDER CONDITIONS OUTLINED IN THE CURRENT NPDES PERMIT.
13. PERIMETER MEASURES MUST BE LEFT IN PLACE UNTIL ALL UPLAND AREAS ARE PERMANENTLY STABILIZED. AFTER SITE IS PERMANENTLY STABILIZED, REMOVE ALL TEMPORARY EROSION CONTROL MEASURES AND PROVIDED PERMANENT SEEDING WHERE TEMPORARY MEASURES HAVE BEEN REMOVED AND GROUND COVER IS NOT ADEQUATE. SEDIMENT BASINS MAY NOT BE REMOVED OR CONVERTED TO PERMANENT SCMS UNTIL ALL UPLAND AREAS ARE PERMANENTLY STABILIZED.
14. AFTER REMOVAL OF TEMPORARY DIVERSIONS, INSTALL SECOND CONSTRUCTION ENTRANCE PER THE PLANS.
15. CLEAR AND GRUB AREAS ONLY AS REQUIRED FOR INSTALLATION OF INITIAL SEDIMENT CONTROL MEASURES.
16. CALL FOR INSPECTION OF INSTALLED DEVICES.

CONSTRUCTION EROSION CONTROL & MAINTENANCE

1. CLEAR AND GRUB WITHIN CONSTRUCTION LIMITS. HOWEVER, WITHIN BUFFERED STREAMS AND STREAM BANKS, MANUALLY CUT VEGETATION AND DO NOT REMOVE ROOT MASSES. REMOVE ROOT MASSES JUST PRIOR TO INSTALLING PERMANENT IMPROVEMENTS.
2. STRIP TOPSOIL, STOCKPILE TOPSOIL WITHIN TEMPORARY STOCKPILE LIMITS. MAINTAIN ALL SILT FENCE AROUND TEMPORARY STOCKPILES. SEED AND MULCH ALL DISTURBED AREAS. ALL DISTURBED AREAS ARE TO BE STABILIZED UNDER CONDITIONS OUTLINED IN THE CURRENT NPDES PERMIT.
3. BEGIN ROUGH GRADING OPERATIONS.
4. AT THE END OF EACH DAY, INSTALL AND ADJUST DIVERSION DITCHES, TEMPORARY CHANNEL CHECK DAMS/COMPOST SOCKS AND TEMPORARY SLOPE DRAINS AT THE EDGE OF THE FILL SLOPES TO CONTINUE TO DIRECT RUN-OFF TO TEMPORARY BASINS.
5. INSTALL STORM DRAINAGE SYSTEM AS GRADING OPERATIONS PROGRESS. INSTALL INLET AND OUTLET PROTECTION DEVICES AT NEW STRUCTURES AS THEY ARE CONSTRUCTED. PROTECT ALL OPEN STORM DRAIN LINES UNDER CONSTRUCTION WITH STONE FILTER AFTER STOPPAGE OF WORK EACH DAY. STORM DRAINAGE SYSTEM SHALL BE INSTALLED IN DRY CONDITIONS. SEED AND MULCH ALL DISTURBED AREAS. ALL DISTURBED AREAS ARE TO BE STABILIZED UNDER CONDITIONS OUTLINED IN THE CURRENT NPDES PERMIT.
6. INSTALL INLET AND OUTLET PROTECTION DEVICES AT NEW STRUCTURES AS THEY ARE CONSTRUCTED. PROTECT ALL OPEN STORM DRAIN LINES UNDER CONSTRUCTION WITH STONE FILTER AFTER STOPPAGE OF WORK EACH DAY.
7. INSTALL SLOPE PROTECTION BLANKETS AND TEMPORARILY SEED STEEP SLOPES AS THEY ARE ESTABLISHED AT FINISH GRADE. ALL DISTURBED AREAS ARE TO BE STABILIZED UNDER CONDITIONS OUTLINED IN THE CURRENT NPDES PERMIT.
8. RESPREAD TOPSOIL, INSTALL SLOPE PROTECTION BLANKETS AND VEGETATE STEEP SLOPES AS THE ARE ESTABLISHED. STABILIZE ROADSIDE DITCHES AND CHANNELS DAILY UNTIL PERMANENT GROUND COVER IS ESTABLISHED. INSTALL TEMPORARY CHANNEL WATTLES. SEED AND MULCH ALL DISTURBED AREAS. ALL DISTURBED AREAS ARE TO BE STABILIZED UNDER CONDITIONS OUTLINED IN THE CURRENT NPDES PERMIT.
9. VEGETATE (OR OTHERWISE STABILIZE WITH PAVEMENT, BUILDING PAD ETC.) IMMEDIATELY TO ALL DISTURBED AREAS AS SHOWN IN SLOPE AND STABILIZATION NOTES. MAINTAIN THROUGHOUT THE DURATION OF THE PROJECT. SEED STABILIZATION NOTES AND NPDES TIME TABLE.
10. INSTALL SILT BAG INLET PROTECTION ONCE CURB & GUTTER IS INSTALLED. PROVIDE TEMPORARY SAND BAGS TO DIRECT RUN-OFF INTO INLETS.
11. MAINTAIN ALL EROSION & SEDIMENT CONTROL MEASURES THROUGHOUT CONSTRUCTION.
12. ANY DEWATERING IS TO BE DONE THROUGH A SILT BAG WITH A FLOATING INTAKE THAT IS CONSTANTLY MONITORED WHILE IN USE.

REMOVAL OF EROSION CONTROL DEVICES

1. CALL FOR INSPECTION OF STABILIZED SITE. IF APPROVED, PUMP SEDIMENT LADEN WATER THROUGH SILT BAGS AND REMOVE TEMPORARY SEDIMENT SKIMMER BASINS. INSTALL REMAINING PORTIONS OF PERMANENT CHANNELS AND SEED AND MULCH SLOPE OF ALL DISTURBED AREAS REMAINING ON SITE. ALL DISTURBED AREAS ARE TO BE STABILIZED UNDER CONDITIONS OUTLINED IN THE CURRENT NPDES PERMIT.
2. CONVERT TEMPORARY SEDIMENT BASINS INTO PERMANENT STORMWATER WETLANDS. PUMP/DEWATER BASIN THROUGH SILT BAG. CLOSE DRAIN VALVE, REMOVE TEMPORARY SKIMMERS, BAFFLES AND OTHER TEMPORARY COMPONENTS. EXCAVATE SEDIMENT AND GRADE TO FINISH WETLAND CONTOURS. SEE STORMWATER WETLAND DETAILS FOR ADDITIONAL CONSTRUCTION SEQUENCING. INSTALL WETLAND PLANTINGS. SEED AND MULCH ALL DISTURBED AREAS. ALL DISTURBED AREAS ARE TO BE STABILIZED UNDER CONDITIONS OUTLINED IN THE CURRENT NPDES PERMIT.
3. REMOVE TEMPORARY CONSTRUCTION ENTRANCES, CONTRACTOR STAGING AREA AND ANY REMAINING TEMPORARY MATERIAL STOCKPILES. SEED AND MULCH ALL DISTURBED AREAS. ALL DISTURBED AREAS ARE TO BE STABILIZED UNDER CONDITIONS OUTLINED IN THE CURRENT NPDES PERMIT.
4. CALL FOR INSPECTION OF STABILIZED SITE. IF APPROVED, REMOVE ALL REMAINING TEMPORARY EROSION CONTROL MEASURES. SEED AND MULCH ANY REMAINING DISTURBED AREAS. ALL DISTURBED AREAS ARE TO BE STABILIZED UNDER CONDITIONS OUTLINED IN THE CURRENT NPDES PERMIT.
6. PERFORM AS-BUILT TOPOGRAPHIC SURVEYS OF POND AND SITE UTILITIES AS REQUIRED FOR CERTIFICATE OF OCCUPANCY CERTIFICATIONS.
7. WHEN THE PROJECT IS COMPLETE, THE PERMITTEE SHALL CONTACT DEMLR TO CLOSE OUT THE E&SC PLAN. AFTER DEMLR INFORMS THE PERMITTEE OF THE PROJECT CLOSE OUT, WA INSPECTION REPORT, THE PERMITTEE SHALL VISIT deq.nc.gov/NCG01 TO SUBMIT AN ELECTRONIC NOTICE OF TERMINATION (e-NOT). A $100 ANNUAL GENERAL PERMIT FEE WILL BE CHARGED UNTIL THE e-NOT HAS BEEN FILLED OUT.

LEGEND

- TEMP. GRAVEL CONSTR. ENTRANCE SEE DETAIL SHEET C700
- TEMP. DIVERSION DITCH / BERM SEE DETAIL SHEET C701.
- TEMP. SILT FENCE SEE DETAIL SHEET C701.
- TEMP. REINFORCED SILT FENCE OUTLET, SEE DETAIL SHEET C700
- PERMANENT OUTLET PROTECTION SEE DETAIL SHEET C701.
- TCW TEMP. CONCRETE WASHOUT AREA SEE DETAIL SHEET C700
- PROPOSED STORM SEWER PIPES
- EXISTING STORM SEWER PIPES
- CONSTRUCTION LIMITS UNLESS OTHERWISE NOTED.
- TEMP. ROCK PIPE INLET PROTECTION SEE DETAIL SHEET C702.
- TSSB TEMP. SKIMMER SEDIMENT BASIN SEE DETAIL SHEET C702.
- EXISTING CONTOUR
- FINISHED CONTOUR
- TEMP. CONTOUR (TEMP. GRADES DURING CONSTR.)
- CHANNEL LINING SEE DETAIL SHEET C701.
- TEMP. DEWATERING SILT BAG SEE DETAIL SHEET C700
- TREE PROTECTION FENCE SEE DETAIL SHEET C701
- TCS TEMP. COMPOST SOCK SEE DETAIL SHEET C701.
- TCS TEMP. COMPOST SOCK IN CHANNEL SEE DETAIL SHEET C700.

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL ONSLOW COUNTY, NCDEQ, AND NCDOT STANDARDS, SPECIFICATIONS AND DETAILS.
2. THE CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL CODES IN OBSERVING EROSION CONTROL MEASURES BOTH ON AND OFF SITE. ALL OFF-SITE SOIL BORROW AND WASTE SITES SHALL BE PROPERLY PERMITTED FOR SUCH ACTIVITIES. CONTRACTOR SHALL PROVIDE WRITTEN DOCUMENTATION OF SEDIMENT & EROSION CONTROL PERMIT FOR ANY OFF-SITE SITES TO OWNER PRIOR TO RELOCATING ANY STOCKPILE MATERIALS.
3. THE CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL DEVICES AFTER EACH RAINFALL EVENT OR AS DIRECTED BY LOCAL AUTHORITIES OR ARCHITECT.
4. TOTAL DISTURBED AREA: 4.0 AC.
5. ALL OPEN STORM DRAIN PIPES SHALL BE PROTECTED WITH STONE FILTER PROTECTION AFTER WORK STOPPAGE EACH DAY. SEE DETAIL SHEET C700.
6. ALL STORM DRAINAGE PIPES SHALL BE THOROUGHLY FLUSHED OF ALL SEDIMENT FOLLOWING SITE STABILIZATION. INTERIOR FLUSHING OF SYSTEM SHALL BE PERFORMED AS NEEDED TO MAINTAIN PROPER FUNCTIONING OF THE DRAINAGE SYSTEM. CLEANING SHALL BE PERFORMED IN A MANNER WHICH PREVENTS SEDIMENT FROM BEING FLUSHED THROUGH PIPES TO THE EXISTING DRAINAGE SYSTEM.
7. THE INDICATED STAGING AREA IS INTENDED FOR VEHICLES AND NON-ERODIBLE MATERIALS ONLY. NO SOIL, SAND OR OTHER ERODIBLE, FINE GRAINED MATERIAL SHALL BE STORED OUTSIDE OF THE LIMITS OF THE SITE PROTECTED BY SEDIMENT AND EROSION CONTROL DEVICES AND MEASURES.
8. SOIL AND OTHER MATERIALS SHALL ONLY BE TEMPORARILY STOCKPILED WITHIN THE CONSTRUCTION LIMITS PROTECTED BY SEDIMENT AND EROSION CONTROL DEVICES AND MEASURES. STOCKPILES SHALL BE STABILIZED AS REQUIRED AS INDICATED IN THE SLOPE & SURFACE STABILIZATION NOTES ON THIS PLAN.
9. THE TREE PROTECTION FENCE SHALL BE MAINTAINED ON THE SITE UNTIL ALL SITE WORK IS COMPLETED AND THE FINAL SITE INSPECTION IS SCHEDULED PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY (CO). THE FENCING SHALL BE REMOVED IMMEDIATELY PRIOR TO THE FINAL SITE INSPECTION FOR THE SITE.
10. TREE PROTECTION FENCING SHALL NOT BE MOVED AND THERE SHALL BE NO ENCROACHMENT INTO SUCH PROTECTED AREA(S) WITHOUT WRITTEN AUTHORIZATION OF THE COUNTY ZONING COMPLIANCE STAFF. ANY ACTIVITY (LANDSCAPING, FENCING, OR UTILITY INSTALLATION) SHOWN ON THE APPROVED PLANS IN A TREE PROTECTION AREA SHALL ALSO NOT OCCUR WITHOUT WRITTEN AUTHORIZATION FROM THE COUNTY ZONING COMPLIANCE STAFF. ANY UNAUTHORIZED ENCROACHMENT OR DISTURBANCE WITHIN THE BOUNDARIES OF A TREE PROTECTION AREA SHALL AUTOMATICALLY RESULT IN FINES AND THE REPLACEMENT OF ANY DAMAGED VEGETATION IN ACCORDANCE WITH THE LAND DEVELOPMENT ORDINANCE.
11. ROADSIDE DITCHES AND CHANNELS SHALL BE STABILIZED DAILY UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
12. INSTALL TEMPORARY MATTING TO TOP OF ALL SIDE SLOPES ON CHANNELS, DIVERSION DITCHES AND TEMPORARY SEDIMENT BASINS. SEE DETAIL SHEET C702 (PERMANENT CHANNEL) AND C702 (TEMPORARY DIVERSION DITCH) FOR TYPE OF MATTING TO USE.
13. ANY DEWATERING OF SEDIMENT CONTAINMENT DEVICES FOR MAINTENANCE, REMOVAL OR CONVERSION PURPOSES IS TO BE DONE THROUGH A SILT BAG.
14. ANY DEWATERING OF STORM/UTILITY TRENCHES IS TO BE DONE THROUGH A SILT BAG.
15. GROUND COVER IS TO BE APPLIED PER CONDITIONS OF THE NPDES PERMIT OR AT THE END OF THE DAY IN CRITICAL AREAS.
16. CONTRACTOR SHALL USE TIRE WASH STATION TO PREVENT SEDIMENT FROM TRACKING ONTO THE ROAD IF CONSTRUCTION ENTRANCE IS FOUND INSUFFICIENT AT NO ADDITIONAL COST TO OWNER.
17. CONTRACTOR SHALL UTILIZE PAM FLOCCULANTS TO REDUCE RUN-OFF TURBIDITY. SEE SPECS.

MAINTENANCE PLAN

1. DURING ALL PHASES OF CONSTRUCTION, GROUNDCOVER ON EXPOSED SLOPES SHALL BE PROVIDED ACCORDING TO GROUND STABILIZATION TABLE (SHEET C700) FOLLOWING COMPLETION OF ANY PHASE OF GRADING.
2. FINAL PERMANENT GROUNDCOVER FOR ALL DISTURBED AREAS SHALL BE PROVIDED ON ALL DISTURBED AREAS ACCORDING TO GROUND STABILIZATION TABLE (SHEET C700) FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.
3. THE ABOVE REQUIREMENTS ARE THE MINIMUM NECESSARY TO MEET EROSION AND SEDIMENT CONTROL REGULATIONS. THE CONTRACT DOCUMENTS INCLUDE ADDITIONAL SEEDING AND STABILIZATION REQUIREMENTS AND SCHEDULES WHICH MAY EXCEED THOSE ABOVE.
4. SLOPE EROSION CONTROL MATTING SHALL BE INSTALLED FOR TEMPORARY STABILIZATION DURING THE ESTABLISHMENT OF VEGETATIVE COVER ON ALL STEEP SLOPES (6:1 OR STEEPER). REFER TO MATERIAL SPECIFICATIONS. INSTALL MATTING PER MANUFACTURER'S INSTRUCTIONS.
5. ALL OTHER SEEDED AREAS SHALL BE MULCHED WITH STRAW AND TACKED WITH ASPHALT.

SELF-INSPECTION RULES

SEE SHEET C706 FOR SELF-INSPECTION REQUIREMENTS.

THE CONTRACTOR (ACTING AS AN AGENT OF THE FINANCIAL RESPONSIBLE PERSON SHALL PERFORM SELF INSPECTIONS OF THE EROSION AND SEDIMENT CONTROL MEASURES USING NCDEMLR'S SELF INSPECTION REPORT (WORKSHEET) AND SHALL KEEP COPIES OF ALL REPORTS ON-SITE.

SLOPE & SURFACE STABILIZATION

GROUND STABILIZATION SHALL BE PROVIDED ON ALL DISTURBED AREAS ACCORDING TO GROUND STABILIZATION NOTES. SEE SHEET C705.

EXTENSIONS OF TIME MAY BE APPROVED BY THE PERMITTING AUTHORITY BASED ON WEATHER OR OTHER SITE-SPECIFIC CONDITIONS THAT MAKE COMPLIANCE IMPRACTICABLE (SECTION II.B(2) (b))

THE REQUIREMENTS ON SHEET C705 ARE THE MINIMUM NECESSARY TO MEET EROSION AND SEDIMENT CONTROL REGULATIONS. THE CONTRACT DOCUMENTS INCLUDE ADDITIONAL SEEDING AND STABILIZATION REQUIREMENTS AND SCHEDULES WHICH MAY EXCEED MINIMUM REQUIREMENTS.

INSTALL TEMPORARY EXCELSIOR MATTING FOR STABILIZATION DURING THE ESTABLISHMENT OF VEGETATIVE COVER ON ALL STEEP SLOPES (6:1 OR STEEPER) AND AREAS OF CONCENTRATED FLOW (CHANNELS, DITCHES, SWALES, ETC.). UTILIZE TEMPORARY COCONUT MAT IN AREAS IDENTIFIED ON PLAN. REFER TO SPECIFICATION SECTION 31.2200 FOR MATERIAL SPECIFICATIONS. INSTALL MATTING PER MANUFACTURER'S INSTRUCTIONS.

SEE SHEET C400 & C401 FOR EROSION CONTROL CONSTRUCTION SEQUENCE.

SEE SHEET C700 FOR EROSION CONTROL GROUND COVER PLAN FOR MORE INFORMATION

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

DAVIS KANE ARCHITECTS, PA
503 OBERLIN ROAD | SUITE 300
RALEIGH, NC 27605
919.833.3737
www.daviskane.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-8716
Fax: (919) 319-7516
LA: C-106
PE: C-1595

PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION

ONSLOW COUNTY

OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

NORTH CAROLINA PROFESSIONAL SEAL 022625 ENGINEER STEVEN J. MILLER

Digitally signed by Steven Miller
Date: 2025.03.11 16:47:42-04'00'

DKA JOB NUMBER
2324

REVISIONS

PA:	ZP
PM:	YA
Drawn By:	SL/SH
Plot Date:	03/12/2025

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BID DOCUMENTS

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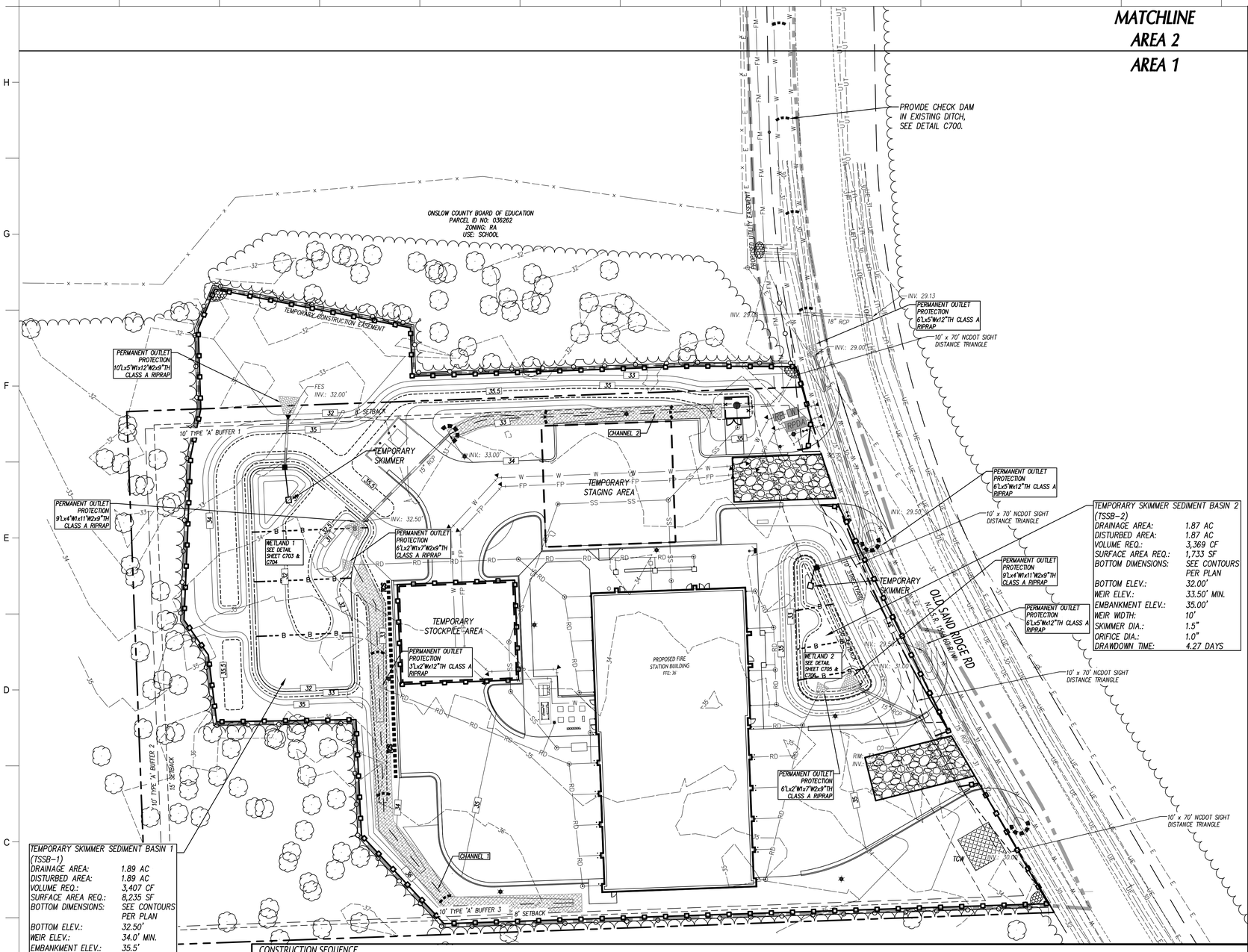
SHEET TITLE

INITIAL EROSION CONTROL PLAN

C400



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DRAWDOWN TIME:	4.32 DAYS

TEMPORARY SKIMMER SEDIMENT BASIN 2 (TSSB–2)	
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DISTURBED AREA:	1.87 AC
VOLUME REQ.:	3,369 CF
SURFACE AREA REQ.:	1,733 SF
BOTTOM DIMENSIONS:	SEE CONTOURS PER PLAN
BOTTOM ELEV.:	32.00'
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4. AT THE END OF EACH DAY, INSTALL AND ADJUST DIVERSION DITCHES, TEMPORARY CHANNEL CHECK DAMS/COMPOST SOCKS AND TEMPORARY SLOPE DRAINS AT THE EDGE OF THE FILL SLOPES TO CONTINUE TO DIRECT RUN-OFF TO TEMPORARY BASINS.
5. INSTALL STORM DRAINAGE SYSTEM AS GRADING OPERATIONS PROGRESS. INSTALL INLET AND OUTLET PROTECTION DEVICES AT NEW STRUCTURES AS THEY ARE CONSTRUCTED. PROTECT ALL OPEN STORM DRAIN LINES UNDER CONSTRUCTION WITH STONE FILTER AFTER STOPPAGE OF WORK EACH DAY. STORM DRAINAGE SYSTEM SHALL BE INSTALLED IN DRY CONDITIONS. SEED AND MULCH ALL DISTURBED AREAS. ALL DISTURBED AREAS ARE TO BE STABILIZED UNDER CONDITIONS OUTLINED IN THE CURRENT NPDES PERMIT.
6. INSTALL INLET AND OUTLET PROTECTION DEVICES AT NEW STRUCTURES AS THEY ARE CONSTRUCTED. PROTECT ALL OPEN STORM DRAIN LINES UNDER CONSTRUCTION WITH STONE FILTER AFTER STOPPAGE OF WORK EACH DAY.
7. INSTALL SLOPE PROTECTION BLANKETS AND TEMPORARILY SEED STEEP SLOPES AS THEY ARE ESTABLISHED AT FINISH GRADE. ALL DISTURBED AREAS ARE TO BE STABILIZED UNDER CONDITIONS OUTLINED IN THE CURRENT NPDES PERMIT.
8. RESPREAD TOPSOIL, INSTALL SLOPE PROTECTION BLANKETS AND VEGETATE STEEP SLOPES AS THE ARE ESTABLISHED. STABILIZE ROADSIDE DITCHES AND CHANNELS DAILY UNTIL PERMANENT GROUND COVER IS ESTABLISHED. INSTALL TEMPORARY CHANNEL WATTLES. SEED AND MULCH ALL DISTURBED AREAS. ALL DISTURBED AREAS ARE TO BE STABILIZED UNDER CONDITIONS OUTLINED IN THE CURRENT NPDES PERMIT.
9. VEGETATE (OR OTHERWISE STABILIZE WITH PAVEMENT, BUILDING PAD ETC.) IMMEDIATELY TO ALL DISTURBED AREAS AS SHOWN IN SLOPE AND STABILIZATION NOTES. MAINTAIN THROUGHOUT THE DURATION OF THE PROJECT. SEED STABILIZATION NOTES AND NPDES TIME TABLE.
10. INSTALL SILT BAG INLET PROTECTION ONCE CURB & GUTTER IS INSTALLED. PROVIDE TEMPORARY SAND BAGS TO DIRECT RUN-OFF INTO INLETS.
11. MAINTAIN ALL EROSION & SEDIMENT CONTROL MEASURES THROUGHOUT CONSTRUCTION.
12. ANY DEWATERING IS TO BE DONE THROUGH A SILT BAG WITH A FLOATING INTAKE THAT IS CONSTANTLY MONITORED WHILE IN USE.

REMOVAL OF EROSION CONTROL DEVICES

1. CALL FOR INSPECTION OF STABILIZED SITE. IF APPROVED, PUMP SEDIMENT LADEN WATER THROUGH SILT BAGS AND REMOVE TEMPORARY SEDIMENT SKIMMER BASINS. INSTALL REMAINING PORTIONS OF PERMANENT CHANNELS AND SEED AND MULCH SLOPE OF ALL DISTURBED AREAS REMAINING ON SITE. ALL DISTURBED AREAS ARE TO BE STABILIZED UNDER CONDITIONS OUTLINED IN THE CURRENT NPDES PERMIT.
2. CONVERT TEMPORARY SEDIMENT BASINS INTO PERMANENT STORMWATER WETLANDS. PUMP/DEWATER BASIN THROUGH SILT BAG. CLOSE DRAIN VALVE, REMOVE TEMPORARY SKIMMERS, BAFFLES AND OTHER TEMPORARY COMPONENTS. EXCAVATE SEDIMENT AND GRADE TO FINISH WETLAND CONTOURS. SEE STORMWATER WETLAND DETAILS FOR ADDITIONAL CONSTRUCTION SEQUENCING. INSTALL WETLAND PLANTINGS. SEED AND MULCH ALL DISTURBED AREAS. ALL DISTURBED AREAS ARE TO BE STABILIZED UNDER CONDITIONS OUTLINED IN THE CURRENT NPDES PERMIT.
3. REMOVE TEMPORARY CONSTRUCTION ENTRANCES, CONTRACTOR STAGING AREA AND ANY REMAINING TEMPORARY MATERIAL STOCKPILES. SEED AND MULCH ALL DISTURBED AREAS. ALL DISTURBED AREAS ARE TO BE STABILIZED UNDER CONDITIONS OUTLINED IN THE CURRENT NPDES PERMIT.
4. CALL FOR INSPECTION OF STABILIZED SITE. IF APPROVED, REMOVE ALL REMAINING TEMPORARY EROSION CONTROL MEASURES. SEED AND MULCH ANY REMAINING DISTURBED AREAS. ALL DISTURBED AREAS ARE TO BE STABILIZED UNDER CONDITIONS OUTLINED IN THE CURRENT NPDES PERMIT.
6. PERFORM AS-BUILT TOPOGRAPHIC SURVEYS OF POND AND SITE UTILITIES AS REQUIRED FOR CERTIFICATE OF OCCUPANCY CERTIFICATIONS.
7. WHEN THE PROJECT IS COMPLETE, THE PERMITTEE SHALL CONTACT DEMLR TO CLOSE OUT THE E&SC PLAN. AFTER DEMLR INFORMS THE PERMITTEE OF THE PROJECT CLOSE OUT, WA INSPECTION REPORT, THE PERMITTEE SHALL VISIT deq.nc.gov/NCG01 TO SUBMIT AN ELECTRONIC NOTICE OF TERMINATION (e-NOT). A $100 ANNUAL GENERAL PERMIT FEE WILL BE CHARGED UNTIL THE e-NOT HAS BEEN FILLED OUT.

LEGEND

- TEMP. GRAVEL CONSTR. ENTRANCE SEE DETAIL SHEET C700
- TEMP. DIVERSION DITCH / BERM SEE DETAIL SHEET C701.
- TEMP. SILT FENCE SEE DETAIL SHEET C701.
- TEMP. REINFORCED SILT FENCE OUTLET, SEE DETAIL SHEET C700
- PERMANENT OUTLET PROTECTION SEE DETAIL SHEET C701.
- TCW — TEMP. CONCRETE WASHOUT AREA SEE DETAIL SHEET C700
- PROPOSED STORM SEWER PIPES
- EXISTING STORM SEWER PIPES
- CONSTRUCTION LIMITS UNLESS OTHERWISE NOTED.
- TEMP. ROCK PIPE INLET PROTECTION SEE DETAIL SHEET C702.
- TSSB — TEMP. SKIMMER SEDIMENT BASIN SEE DETAIL SHEET C702.
- EXISTING CONTOUR
- FINISHED CONTOUR
- TEMP. CONTOUR (TEMP. GRADES DURING CONSTR.)
- CHANNEL LINING SEE DETAIL SHEET C701.
- TEMP. DEWATERING SILT BAG SEE DETAIL SHEET C700
- TREE PROTECTION FENCE SEE DETAIL SHEET C701
- TCS — TEMP. COMPOST SOCK SEE DETAIL SHEET C701.
- TCS — TEMP. COMPOST SOCK IN CHANNEL SEE DETAIL SHEET C700.

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL ONSLOW COUNTY, NCDEQ, AND NCDOT STANDARDS, SPECIFICATIONS AND DETAILS.
2. THE CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL CODES IN OBSERVING EROSION CONTROL MEASURES BOTH ON AND OFF SITE. ALL OFF-SITE SOIL BORROW AND WASTE SITES SHALL BE PROPERLY PERMITTED FOR SUCH ACTIVITIES. CONTRACTOR SHALL PROVIDE WRITTEN DOCUMENTATION OF SEDIMENT & EROSION CONTROL PERMIT FOR ANY OFF-SITE SITES TO OWNER PRIOR TO RELOCATING ANY STOCKPILE MATERIALS.
3. THE CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL DEVICES AFTER EACH RAINFALL EVENT OR AS DIRECTED BY LOCAL AUTHORITIES OR ARCHITECT.
4. TOTAL DISTURBED AREA: 4.0 AC.
5. ALL OPEN STORM DRAIN PIPES SHALL BE PROTECTED WITH STONE FILTER PROTECTION AFTER WORK STOPPAGE EACH DAY. SEE DETAIL SHEET C700.
6. ALL STORM DRAINAGE PIPES SHALL BE THOROUGHLY FLUSHED OF ALL SEDIMENT FOLLOWING SITE STABILIZATION. INTERIOR FLUSHING OF SYSTEM SHALL BE PERFORMED AS NEEDED TO MAINTAIN PROPER FUNCTIONING OF THE DRAINAGE SYSTEM. CLEANING SHALL BE PERFORMED IN A MANNER WHICH PREVENTS SEDIMENT FROM BEING FLUSHED THROUGH PIPES TO THE EXISTING DRAINAGE SYSTEM.
7. THE INDICATED STAGING AREA IS INTENDED FOR VEHICLES AND NON-ERODIBLE MATERIALS ONLY. NO SOIL, SAND OR OTHER ERODIBLE, FINE GRAINED MATERIAL SHALL BE STORED OUTSIDE OF THE LIMITS OF THE SITE PROTECTED BY SEDIMENT AND EROSION CONTROL DEVICES AND MEASURES.
8. SOIL AND OTHER MATERIALS SHALL ONLY BE TEMPORARILY STOCKPILED WITHIN THE CONSTRUCTION LIMITS PROTECTED BY SEDIMENT AND EROSION CONTROL DEVICES AND MEASURES. STOCKPILES SHALL BE STABILIZED AS REQUIRED AS INDICATED IN THE SLOPE & SURFACE STABILIZATION NOTES ON THIS PLAN.
9. THE TREE PROTECTION FENCE SHALL BE MAINTAINED ON THE SITE UNTIL ALL SITE WORK IS COMPLETED AND THE FINAL SITE INSPECTION IS SCHEDULED PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY (CO). THE FENCING SHALL BE REMOVED IMMEDIATELY PRIOR TO THE FINAL SITE INSPECTION FOR THE SITE.
10. TREE PROTECTION FENCING SHALL NOT BE MOVED AND THERE SHALL BE NO ENCROACHMENT INTO SUCH PROTECTED AREA(S) WITHOUT WRITTEN AUTHORIZATION OF THE COUNTY ZONING COMPLIANCE STAFF. ANY ACTIVITY (LANDSCAPING, FENCING, OR UTILITY INSTALLATION) SHOWN ON THE APPROVED PLANS IN A TREE PROTECTION AREA SHALL ALSO NOT OCCUR WITHOUT WRITTEN AUTHORIZATION FROM THE COUNTY ZONING COMPLIANCE STAFF. ANY UNAUTHORIZED ENCROACHMENT OR DISTURBANCE WITHIN THE BOUNDARIES OF A TREE PROTECTION AREA SHALL AUTOMATICALLY RESULT IN FINES AND THE REPLACEMENT OF ANY DAMAGED VEGETATION IN ACCORDANCE WITH THE LAND DEVELOPMENT ORDINANCE.
11. ROADSIDE DITCHES AND CHANNELS SHALL BE STABILIZED DAILY UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
12. INSTALL TEMPORARY MATTING TO TOP OF ALL SIDE SLOPES ON CHANNELS, DIVERSION DITCHES AND TEMPORARY SEDIMENT BASINS. SEE DETAIL SHEET C702 (PERMANENT CHANNEL) AND C702 (TEMPORARY DIVERSION DITCH) FOR TYPE OF MATTING TO USE.
13. ANY DEWATERING OF SEDIMENT CONTAINMENT DEVICES FOR MAINTENANCE, REMOVAL OR CONVERSION PURPOSES IS TO BE DONE THROUGH A SILT BAG.
14. ANY DEWATERING OF STORM/UTILITY TRENCHES IS TO BE DONE THROUGH A SILT BAG.
15. GROUND COVER IS TO BE APPLIED PER CONDITIONS OF THE NPDES PERMIT OR AT THE END OF THE DAY IN CRITICAL AREAS.
16. CONTRACTOR SHALL USE TIRE WASH STATION TO PREVENT SEDIMENT FROM TRACKING ONTO THE ROAD IF CONSTRUCTION ENTRANCE IS FOUND INSUFFICIENT AT NO ADDITIONAL COST TO OWNER.
17. CONTRACTOR SHALL UTILIZE PAM FLOCCULANTS TO REDUCE RUN-OFF TURBIDITY. SEE SPECS.

MAINTENANCE PLAN

1. DURING ALL PHASES OF CONSTRUCTION, GROUNDCOVER ON EXPOSED SLOPES SHALL BE PROVIDED ACCORDING TO GROUND STABILIZATION TABLE (SHEET C700) FOLLOWING COMPLETION OF ANY PHASE OF GRADING.
2. FINAL PERMANENT GROUNDCOVER FOR ALL DISTURBED AREAS SHALL BE PROVIDED ON ALL DISTURBED AREAS ACCORDING TO GROUND STABILIZATION TABLE (SHEET C700) FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.
3. THE ABOVE REQUIREMENTS ARE THE MINIMUM NECESSARY TO MEET EROSION AND SEDIMENT CONTROL REGULATIONS. THE CONTRACT DOCUMENTS INCLUDE ADDITIONAL SEEDING AND STABILIZATION REQUIREMENTS AND SCHEDULES WHICH MAY EXCEED THOSE ABOVE.
4. SLOPE EROSION CONTROL MATTING SHALL BE INSTALLED FOR TEMPORARY STABILIZATION DURING THE ESTABLISHMENT OF VEGETATIVE COVER ON ALL STEEP SLOPES (6:1 OR STEEPER). REFER TO MATERIAL SPECIFICATIONS. INSTALL MATTING PER MANUFACTURER'S INSTRUCTIONS.
5. ALL OTHER SEEDED AREAS SHALL BE MULCHED WITH STRAW AND TACKED WITH ASPHALT.

SELF-INSPECTION RULES

SEE SHEET C706 FOR SELF-INSPECTION REQUIREMENTS.

THE CONTRACTOR (ACTING AS AN AGENT OF THE FINANCIAL RESPONSIBLE PERSON SHALL PERFORM SELF INSPECTIONS OF THE EROSION AND SEDIMENT CONTROL MEASURES USING NCDEMLR'S SELF INSPECTION REPORT (WORKSHEET) AND SHALL KEEP COPIES OF ALL REPORTS ON-SITE.

SLOPE & SURFACE STABILIZATION

GROUND STABILIZATION SHALL BE PROVIDED ON ALL DISTURBED AREAS ACCORDING TO GROUND STABILIZATION NOTES. SEE SHEET C705.

EXTENSIONS OF TIME MAY BE APPROVED BY THE PERMITTING AUTHORITY BASED ON WEATHER OR OTHER SITE-SPECIFIC CONDITIONS THAT MAKE COMPLIANCE IMPRACTICABLE (SECTION II.B(2) (b))

THE REQUIREMENTS ON SHEET C705 ARE THE MINIMUM NECESSARY TO MEET EROSION AND SEDIMENT CONTROL REGULATIONS. THE CONTRACT DOCUMENTS INCLUDE ADDITIONAL SEEDING AND STABILIZATION REQUIREMENTS AND SCHEDULES WHICH MAY EXCEED MINIMUM REQUIREMENTS.

INSTALL TEMPORARY EXCELSIOR MATTING FOR STABILIZATION DURING THE ESTABLISHMENT OF VEGETATIVE COVER ON ALL STEEP SLOPES (6:1 OR STEEPER) AND AREAS OF CONCENTRATED FLOW (CHANNELS, DITCHES, SWALES, ETC.). UTILIZE TEMPORARY COCONUT MAT IN AREAS IDENTIFIED ON PLAN. REFER TO SPECIFICATION SECTION 31.2200 FOR MATERIAL SPECIFICATIONS. INSTALL MATTING PER MANUFACTURER'S INSTRUCTIONS.

SEE SHEET C400 & C401 FOR EROSION CONTROL CONSTRUCTION SEQUENCE.

SEE SHEET C700 FOR EROSION CONTROL GROUND COVER PLAN FOR MORE INFORMATION

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

MAGNETIC

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PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION

ONSLOW COUNTY

OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

NORTH CAROLINA PROFESSIONAL SEAL 022625 ENGINEER STEVEN J MILLER

Digitally signed by Steven Miller
Date: 2025.03.11 16:47:46-04'00'

DKA JOB NUMBER
2324

REVISIONS

PA:	ZP
PM:	YA
Drawn By:	SL/SH
Plot Date:	03/12/2025

DATE ISSUED

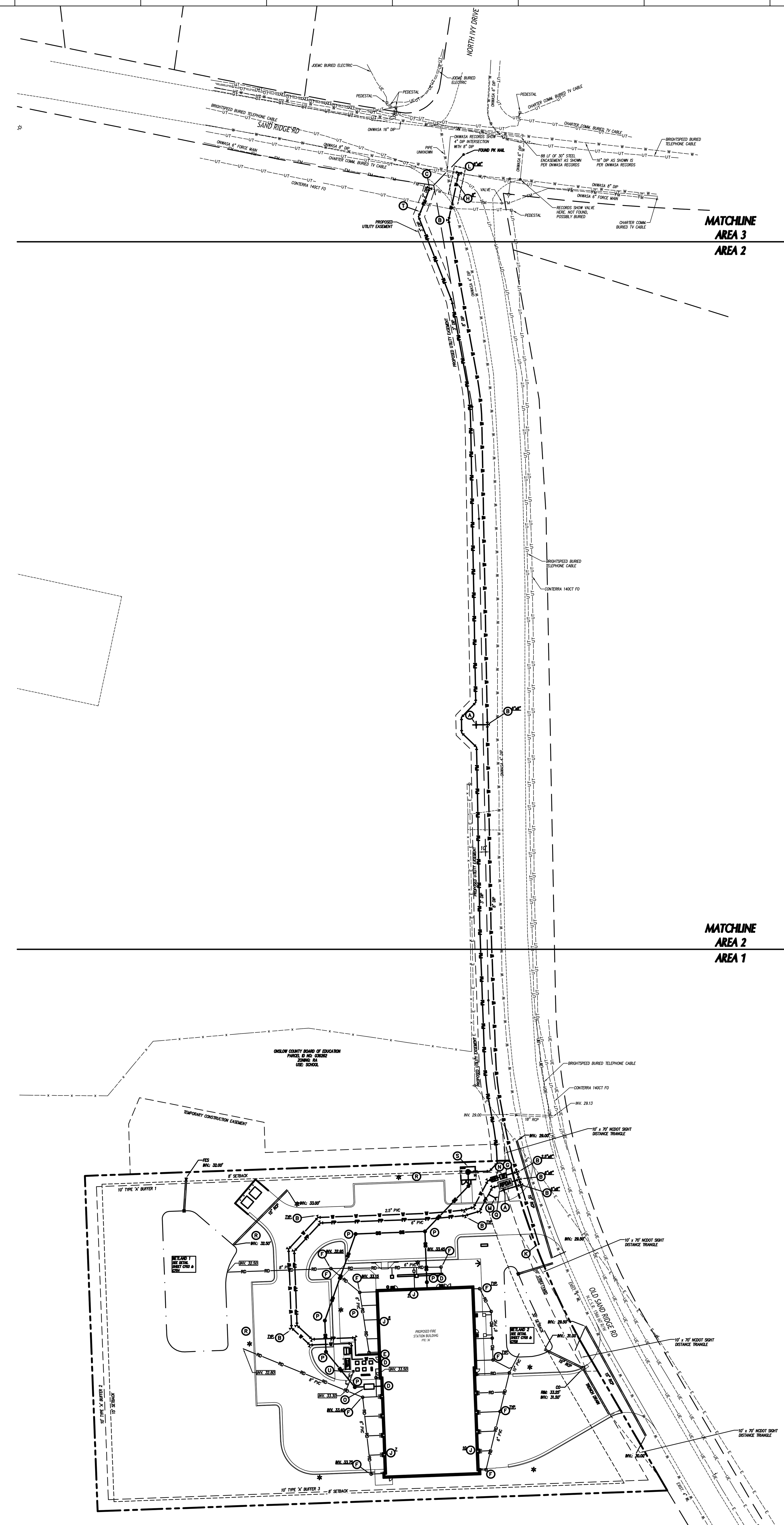
BID DOCUMENTS

03/12/2025

SHEET TITLE

FINAL EROSION CONTROL PLAN

C401



GRAPHIC SCALE

60 0 30 60 120 240

(IN FEET)
1 inch = 60 ft.

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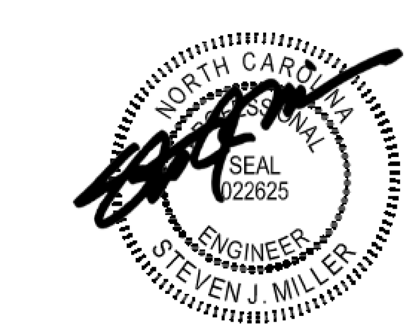

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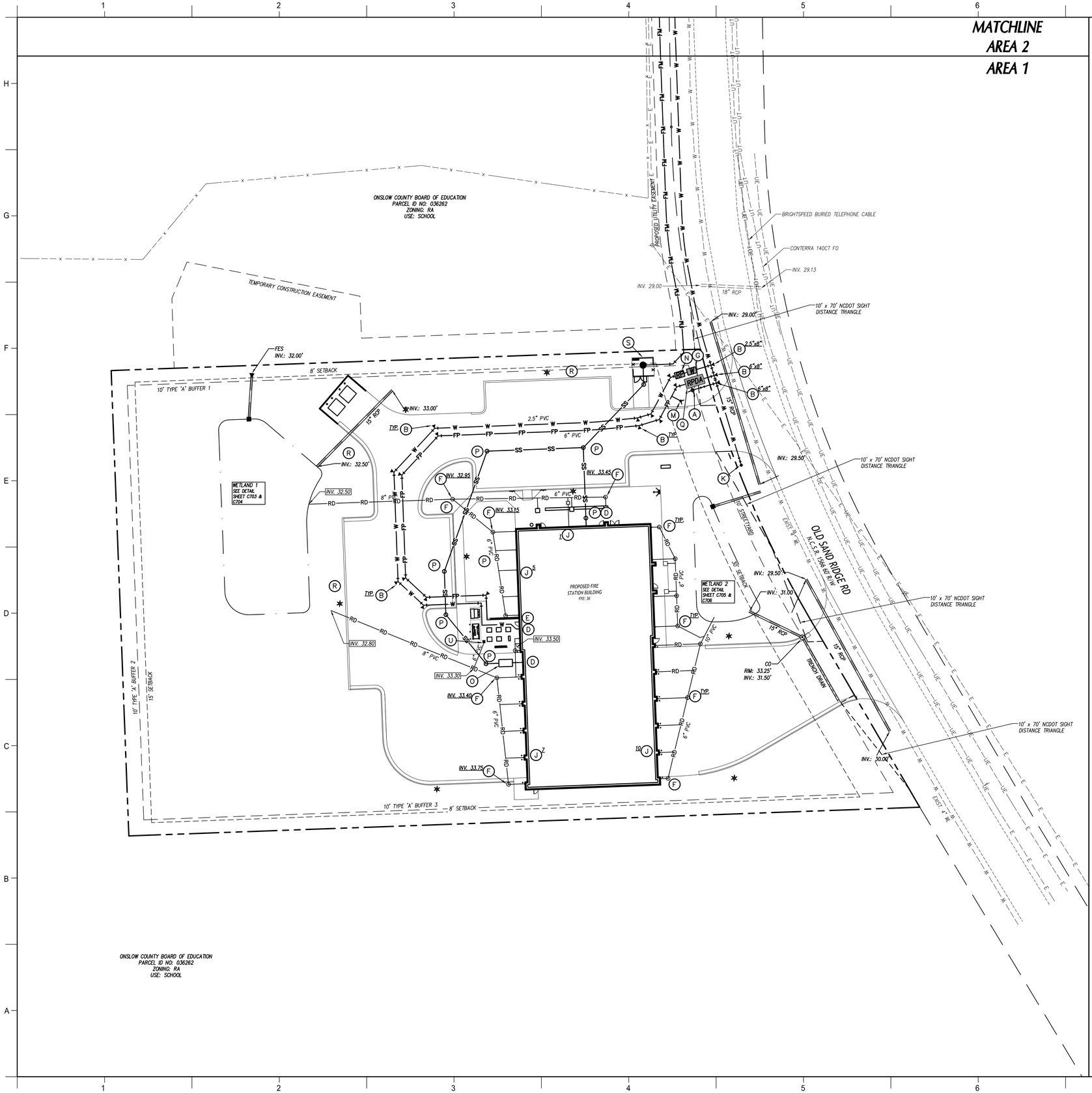
SHEET TITLE
OVERALL UTILITY PLAN

C500



UTILITY LEGEND

	EXISTING	PROPOSED
CHILLED WATER	CW	CW
ELECTRICAL (OVERHEAD)	E	E
ELECTRICAL (UNDERGROUND)	UE	UE
FOUNDATION DRAIN	FD	FD
GAS	G	G
SANITARY SEWER	SS	SS
TELEPHONE (OVERHEAD)	T	T
TELEPHONE (UNDERGROUND)	UT	UT
WATER	W	W
ROOF DRAIN	RD	RD
FIRE PROTECTION	FP	FP
STORM DRAIN		
TREE PROTECTION FENCING, SEE EROSION CONTROL PLANS		
LIGHT POLE	LP	
UTILITY POLE	PP	
MANHOLE	MH	
CLEAN OUT	CO	
DROP INLET,CATCH BASIN	DI, CB	
FIRE HYDRANT	FH	
WATER VALVE	WV	
POST INDICATOR VALVE (PIV)		
FIRE DEPARTMENT CONNECTION (FDC)		
THRUST BLOCKING		
SANITARY SEWER STRUCTURE IDENTIFICATION		1

GENERAL NOTES-UTILITY

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL xxxx AND NCDOT STANDARDS, SPECIFICATIONS AND DETAILS.
2. INSTALL WATERMAINS WITH A COVER OF NO LESS THAN 3'-FT.
3. INSTALL SEWER MAINS WITH A COVER OF NO LESS THAN 3'-FT TO FINISH GRADE IN NON-TRAFFIC AREAS, 4'-FT TO FINISH GRADE IN TRAFFIC AREAS..
4. INSTALL ALL UTILITIES TO PROVIDE REQUIRED CLEARANCES AS INDICATED IN THE SPECIFICATIONS.
5. WATERLINES AND SEWER MAINS SHALL BE INSTALLED WITH A MINIMUM HORIZONTAL CLEARANCE OF 10'-FT.
6. SEWER MAINS SHALL BE INSTALLED WITH A MINIMUM VERTICAL CLEARANCE OF 24'-IN TO STORM DRAINAGE PIPES.
7. COORDINATE AND SCHEDULE INSTALLATION OF ALL UTILITIES WITH OTHER PRIME CONTRACTORS, UTILITY COMPANIES AND OTHER TRADES INCLUDING BUT NOT LIMITED TO: NATURAL GAS, ELECTRICITY, TELEPHONE AND CATV.
8. VERIFY EXISTING CONDITIONS AND CONNECTIONS TO EXISTING UTILITIES PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT IF ANY DISCREPANCIES ARE DISCOVERED.
9. CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGES DURING CONSTRUCTION AND SHALL MAKE REPAIRS AT NO EXPENSE TO THE OWNER.
10. ALL CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE NCSBC AND OSHA REQUIREMENTS.
11. THE CONTRACTOR SHALL PROVIDE AN AS-BUILT SURVEY OF ALL UTILITY AND STORM DRAINAGE IMPROVEMENTS FOLLOWING CONSTRUCTION.
12. CONTRACTOR SHALL PHASE DEMOLITION AND NEW CONSTRUCTION TO ENSURE UNINTERRUPTED ACCESS AND UTILITY SERVICE TO ADJACENT FACILITIES. COORDINATE SHORT-TERM, OFF-HOUR, TEMPORARY SHUT- DOWNS WITH THE OWNER.
13. SEE GENERAL NOTES ON EXISTING CONDITIONS AND DEMOLITION PLAN FOR REQUIREMENTS FOR REMOVAL AND PATCHING OF PAVEMENT FOR UTILITY INSTALLATION.
14. ALL ROOF DRAINS SHALL BE 6" PVC (SCH 40) @ 1.04% MIN. SLOPE UNLESS INDICATED OTHERWISE. USE DUCTILE IRON WHEN COVER IS LESS THAN 24-IN.
15. ALL SANITARY SEWER SERVICES SHALL BE 4" PVC (SCH 40) @1.04% MIN. SLOPE UNLESS INDICATED OTHERWISE. USE DUCTILE IRON WHEN COVER IS LESS THAN 24-IN.
16. ALL CONDENSATE LINES SHALL BE CONNECTED TO STORM DRAINAGE SYSTEM.
17. NO WORK SHALL BE PERFORMED ON RIGHT-OF-WAYS OR ADJACENT PROPERTIES UNTIL THE OWNER NOTIFIES CONTRACTOR IN WRITING OF PROCUREMENT OF APPROPRIATE PERMITS, EASEMENTS, AGREEMENTS, OR RIGHTS-OF-WAY.

UTILITY KEY NOTES

- (A) FIRE HYDRANT ASSEMBLY WITH GATE VALVE, SEE DETAIL SHEET C901.
- (B) THRUST BLOCKING, TYP, SEE DETAIL SHEET C901.
- (C) 6-IN x 2-IN FORCE MAIN SERVICE SADDLE TAP WITH GATE VALVE AND CHECK VALVE ASSEMBLY PER ONWASA REQUIREMENTS.
- (D) EXTEND UTILITY TO WITHIN 5'-0" OF BUILDING WALL OR AS INDICATED ON PLUMBING PLANS. REFER TO PLUMBING PLANS FOR LOCATION AND INVERTS.
- (E) EXTEND WATER MAIN TO 12-IN ABOVE FINISH FLOOR FOR FIRE PROTECTION/PLUMBING CONNECTION, SEE DETAIL SHEET C902. REFER TO TO FIRE PROTECTION/PLUMBING PLANS FOR EXACT LOCATION.
- (F) ROOFDRAIN CLEANOUT, SEE DETAIL SHEET C900.
- (G) 2" DOMESTIC WATER METER, SEE DETAIL SHEET C902.
- (H) GATE VALVE AND VALVE BOX, SEE DETAIL SHEET C901.
- (J) DOWNSPOUT CONNECTION, SEE ARCHITECTURE PLANS.
- (K) 2-IN BLOW-OFF ASSEMBLY, SEE DETAIL SHEET C902.
- (L) STANDARD TAPPING SLEEVE AND VALVE ASSEMBLY, SEE DETAIL SHEET C902 AND SPECIFICATIONS.
- (M) FIRE DEPARTMENT CONNECTION, SEE DETAIL SHEET C902.
- (N) 2-IN ZURN-WILKINS MODEL 975XL2 REDUCED PRESSURE BACKFLOW ASSEMBLY (RPA) WITHIN HEATED ENCLOSURE. SEE ELECTRICAL PLANS FOR ADDITIONAL INFORMATION.
- (O) OIL/WATER SEPERATOR BY PC, SEE PME PLANS.
- (P) NEW SANITARY SEWER CLEANOUT, TYP. SEE DETAIL SHEET C900.
- (Q) 6-IN ZURN-WILKINS MODEL 475DA REDUCED PRESSURE BACKFLOW DETECTOR ASSEMBLY (RPDA) WITHIN HEATED ENCLOSURE. SEE ELECTRICAL PLANS FOR ADDITIONAL INFORMATION.
- (R) 25' TALL LIGHT POLE, SEE DRAWING NUMBER C010 SITE ELECTRICAL.
- (S) PUMP STATION, SEE DETAIL SHEET C903.
- (T) REDUCER.
- (U) IN-LINE DRAIN, SEE DETAIL SHEET C900.

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

MAGNETIC

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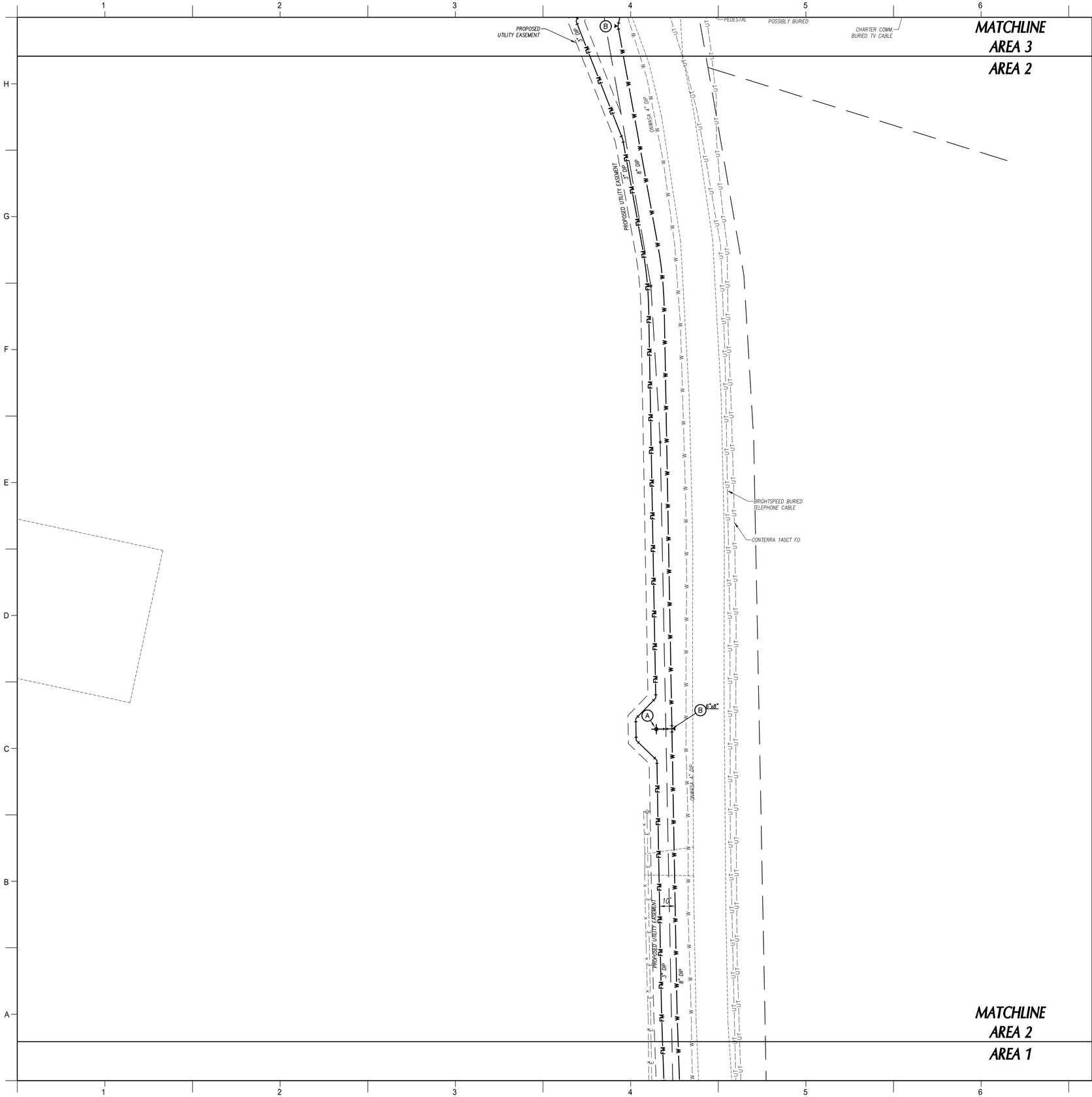
03/12/2025

SHEET TITLE

UTILITY PLAN - AREA 1

C501



UTILITY LEGEND

	EXISTING	PROPOSED
CHILLED WATER	------CW------	CW
ELECTRICAL (OVERHEAD)	------ E ------	E
ELECTRICAL (UNDERGROUND)	------UE------	UE
FOUNDATION DRAIN	------FD------	FD
GAS	------ G ------	G
SANITARY SEWER	------SS------	SS
TELEPHONE (OVERHEAD)	------ T ------	T
TELEPHONE (UNDERGROUND)	------UT------	UT
WATER	------ W ------	W
ROOF DRAIN	------RD------	RD
FIRE PROTECTION	------FP------	FP
STORM DRAIN	═══════	
TREE PROTECTION FENCING, SEE EROSION CONTROL PLANS		
LIGHT POLE	LP	
UTILITY POLE	PP	
MANHOLE	MH	
CLEAN OUT	CO	
DROP INLET,CATCH BASIN	DI, CB	
FIRE HYDRANT	FH	
WATER VALVE	WV	
POST INDICATOR VALVE (PIV)		
FIRE DEPARTMENT CONNECTION (FDC)		
THRUST BLOCKING		
SANITARY SEWER STRUCTURE IDENTIFICATION		1

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UTILITY KEY NOTES

- (A) FIRE HYDRANT ASSEMBLY WITH GATE VALVE, SEE DETAIL SHEET C901.
- (B) THRUST BLOCKING, TYP, SEE DETAIL SHEET C901.
- (C) 6-IN x 2-IN FORCE MAIN SERVICE SADDLE TAP WITH GATE VALVE AND CHECK VALVE ASSEMBLY PER ONWASA REQUIREMENTS.
- (D) EXTEND UTILITY TO WITHIN 5'-0" OF BUILDING WALL OR AS INDICATED ON PLUMBING PLANS. REFER TO PLUMBING PLANS FOR LOCATION AND INVERTS.
- (E) EXTEND WATER MAIN TO 12-IN ABOVE FINISH FLOOR FOR FIRE PROTECTION/PLUMBING CONNECTION, SEE DETAIL SHEET C902. REFER TO TO FIRE PROTECTION/PLUMBING PLANS FOR EXACT LOCATION.
- (F) ROOFDRAIN CLEANOUT, SEE DETAIL SHEET C900.
- (G) 2" DOMESTIC WATER METER, SEE DETAIL SHEET C902.
- (H) GATE VALVE AND VALVE BOX, SEE DETAIL SHEET C901.
- (J) DOWNSPOUT CONNECTION, SEE ARCHITECTURE PLANS.
- (K) 2-IN BLOW-OFF ASSEMBLY, SEE DETAIL SHEET C902.
- (L) STANDARD TAPPING SLEEVE AND VALVE ASSEMBLY, SEE DETAIL SHEET C902 AND SPECIFICATIONS.
- (M) FIRE DEPARTMENT CONNECTION, SEE DETAIL SHEET C902.
- (N) 2-IN ZURN-WILKINS MODEL 975XL2 REDUCED PRESSURE BACKFLOW ASSEMBLY (RPA) WITHIN HEATED ENCLOSURE. SEE ELECTRICAL PLANS FOR ADDITIONAL INFORMATION.
- (O) OIL/WATER SEPERATOR BY PC, SEE PME PLANS.
- (P) NEW SANITARY SEWER CLEANOUT, TYP, SEE DETAIL SHEET C900.
- (Q) 6-IN ZURN-WILKINS MODEL 475DA REDUCED PRESSURE BACKFLOW DETECTOR ASSEMBLY (RPDA) WITHIN HEATED ENCLOSURE. SEE ELECTRICAL PLANS FOR ADDITIONAL INFORMATION.
- (R) 25' TALL LIGHT POLE, SEE DRAWING NUMBER C010 SITE ELECTRICAL.
- (S) PUMP STATION, SEE DETAIL SHEET C903.
- (T) REDUCER.
- (U) IN-LINE DRAIN, SEE DETAIL SHEET C900.

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

MAGNETIC

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PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION

ONSLOW COUNTY

OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT SEAL 022625 ENGINEER STEVEN J. MILLER

Digitally signed by Steven Miller
Date: 2025.03.11 16:47:59-04'00'

DKA JOB NUMBER
2324

REVISIONS

PA:	ZP
PM:	YA
Drawn By:	SL/SH
Plot Date:	03/12/2025

DATE ISSUED

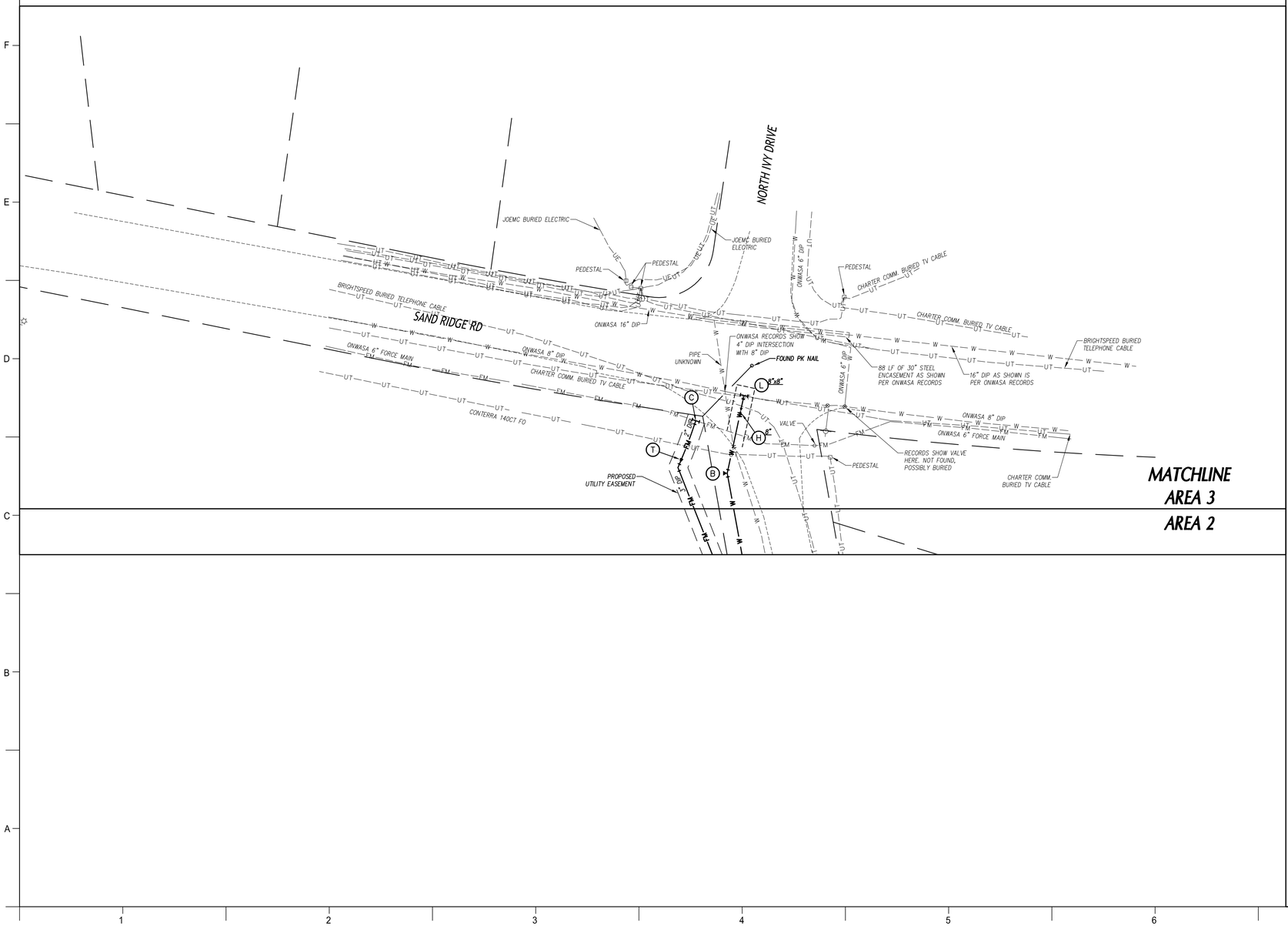
BID DOCUMENTS

03/12/2025

SHEET TITLE

UTILITY PLAN - AREA 2

C502



UTILITY LEGEND

	EXISTING	PROPOSED
CHILLED WATER	------CW------	CW
ELECTRICAL (OVERHEAD)	------ E ------	E
ELECTRICAL (UNDERGROUND)	------UE------	UE
FOUNDATION DRAIN	------FD------	FD
GAS	------ G ------	G
SANITARY SEWER	------SS------	SS
TELEPHONE (OVERHEAD)	------ T ------	T
TELEPHONE (UNDERGROUND)	------UT------	UT
WATER	------ W ------	W
ROOF DRAIN	------RD------	RD
FIRE PROTECTION	------FP------	FP
STORM DRAIN	═══════	═══════
TREE PROTECTION FENCING, SEE EROSION CONTROL PLANS		
LIGHT POLE	LP	
UTILITY POLE	PP	
MANHOLE	MH	
CLEAN OUT	CO	
DROP INLET,CATCH BASIN	DI, CB	
FIRE HYDRANT	FH	
WATER VALVE	WV	
POST INDICATOR VALVE (PIV)		
FIRE DEPARTMENT CONNECTION (FDC)		
THRUST BLOCKING		
SANITARY SEWER STRUCTURE IDENTIFICATION		1

GENERAL NOTES-UTILITY

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL xxxx AND NCDOT STANDARDS, SPECIFICATIONS AND DETAILS.
2. INSTALL WATERMAINS WITH A COVER OF NO LESS THAN 3-FT.
3. INSTALL SEWER MAINS WITH A COVER OF NO LESS THAN 3-FT TO FINISH GRADE IN NON-TRAFFIC AREAS, 4-FT TO FINISH GRADE IN TRAFFIC AREAS..
4. INSTALL ALL UTILITIES TO PROVIDE REQUIRED CLEARANCES AS INDICATED IN THE SPECIFICATIONS.
5. WATERLINES AND SEWER MAINS SHALL BE INSTALLED WITH A MINIMUM HORIZONTAL CLEARANCE OF 10-FT.
6. SEWER MAINS SHALL BE INSTALLED WITH A MINIMUM VERTICAL CLEARANCE OF 24-IN TO STORM DRAINAGE PIPES.
7. COORDINATE AND SCHEDULE INSTALLATION OF ALL UTILITIES WITH OTHER PRIME CONTRACTORS, UTILITY COMPANIES AND OTHER TRADES INCLUDING BUT NOT LIMITED TO: NATURAL GAS, ELECTRICITY, TELEPHONE AND CATV.
8. VERIFY EXISTING CONDITIONS AND CONNECTIONS TO EXISTING UTILITIES PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT IF ANY DISCREPANCIES ARE DISCOVERED.
9. CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGES DURING CONSTRUCTION AND SHALL MAKE REPAIRS AT NO EXPENSE TO THE OWNER.
10. ALL CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE NCSBC AND OSHA REQUIREMENTS.
11. THE CONTRACTOR SHALL PROVIDE AN AS-BUILT SURVEY OF ALL UTILITY AND STORM DRAINAGE IMPROVEMENTS FOLLOWING CONSTRUCTION.
12. CONTRACTOR SHALL PHASE DEMOLITION AND NEW CONSTRUCTION TO ENSURE UNINTERRUPTED ACCESS AND UTILITY SERVICE TO ADJACENT FACILITIES. COORDINATE SHORT-TERM, OFF-HOUR, TEMPORARY SHUT- DOWNS WITH THE OWNER.
13. SEE GENERAL NOTES ON EXISTING CONDITIONS AND DEMOLITION PLAN FOR REQUIREMENTS FOR REMOVAL AND PATCHING OF PAVEMENT FOR UTILITY INSTALLATION.
14. ALL ROOF DRAINS SHALL BE 6" PVC (SCH 40) @ 1.04% MIN. SLOPE UNLESS INDICATED OTHERWISE. USE DUCTILE IRON WHEN COVER IS LESS THAN 24-IN.
15. ALL SANITARY SEWER SERVICES SHALL BE 4" PVC (SCH 40) @1.04% MIN. SLOPE UNLESS INDICATED OTHERWISE. USE DUCTILE IRON WHEN COVER IS LESS THAN 24-IN.
16. ALL CONDENSATE LINES SHALL BE CONNECTED TO STORM DRAINAGE SYSTEM.
17. NO WORK SHALL BE PERFORMED ON RIGHT-OF-WAYS OR ADJACENT PROPERTIES UNTIL THE OWNER NOTIFIES CONTRACTOR IN WRITING OF PROCUREMENT OF APPROPRIATE PERMITS, EASEMENTS, AGREEMENTS, OR RIGHTS-OF-WAY.

UTILITY KEY NOTES

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- (B) THRUST BLOCKING, TYP, SEE DETAIL SHEET C901.
- (C) 6-IN x 2-IN FORCE MAIN SERVICE SADDLE TAP WITH GATE VALVE AND CHECK VALVE ASSEMBLY PER ONWASA REQUIREMENTS.
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- (R) 25' TALL LIGHT POLE, SEE DRAWING NUMBER C010 SITE ELECTRICAL.
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- (T) REDUCER.
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GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

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SEALS

NORTH CAROLINA PROFESSIONAL SEAL 042625 ENGINEER STEVEN J. MILLER

Digitally signed by Steven Miller
Date: 2025.03.11 16:48:03-04'00'

DKA JOB NUMBER
2324

REVISIONS

PA:	ZP
PM:	YA
Drawn By:	SL/SH
Plot Date:	03/12/2025

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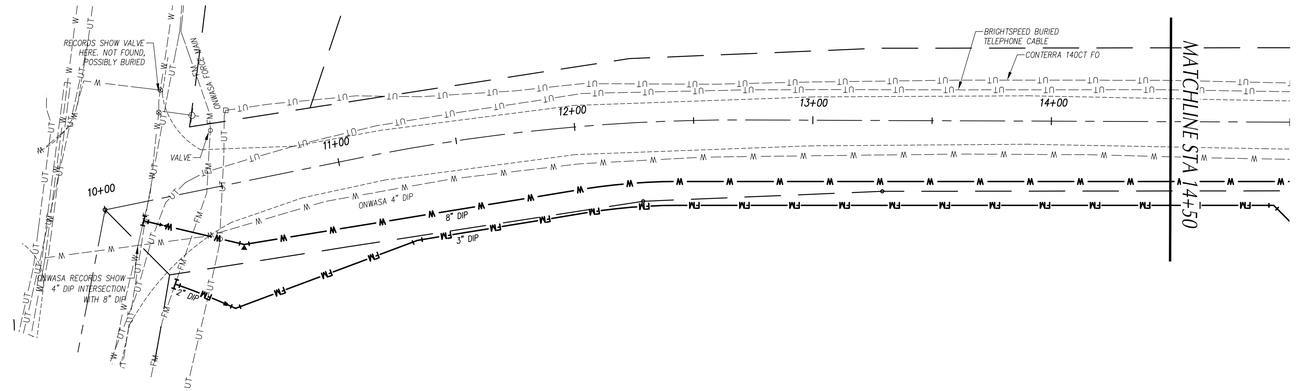
BID DOCUMENTS

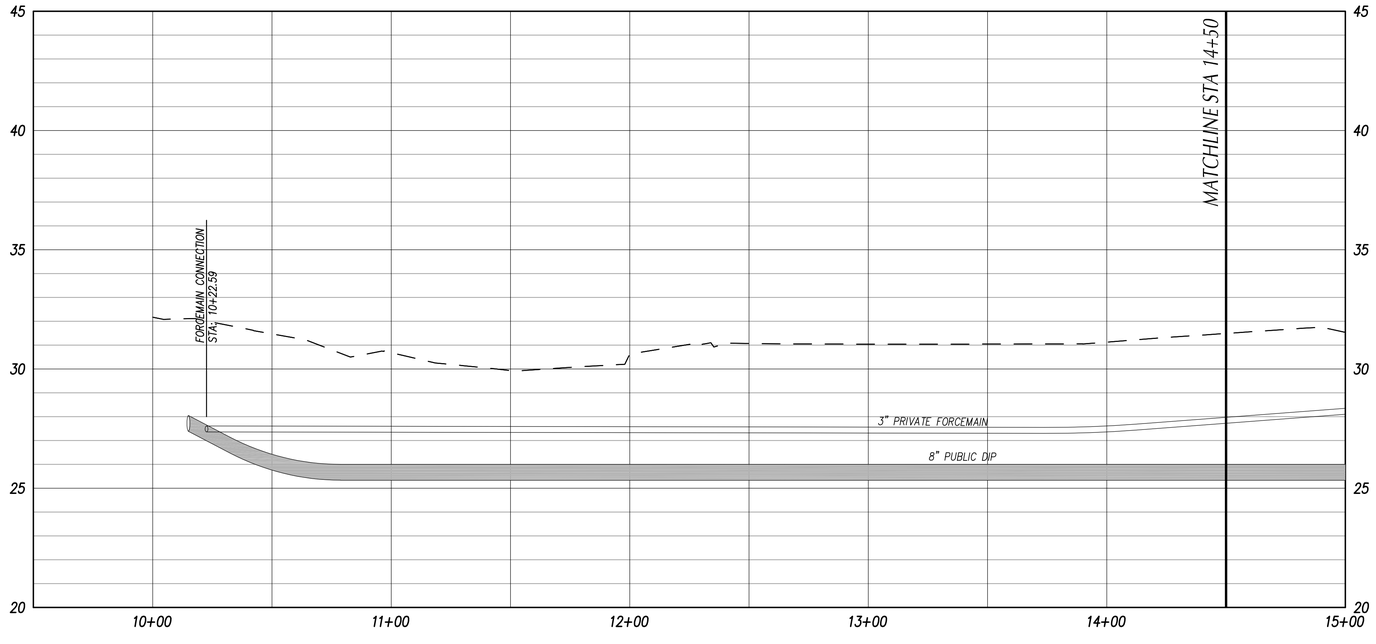
03/12/2025

SHEET TITLE

UTILITY PLAN - AREA 3

C503





GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
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HORIZONTAL: 1"=30'
VERTICAL: 1"=3'

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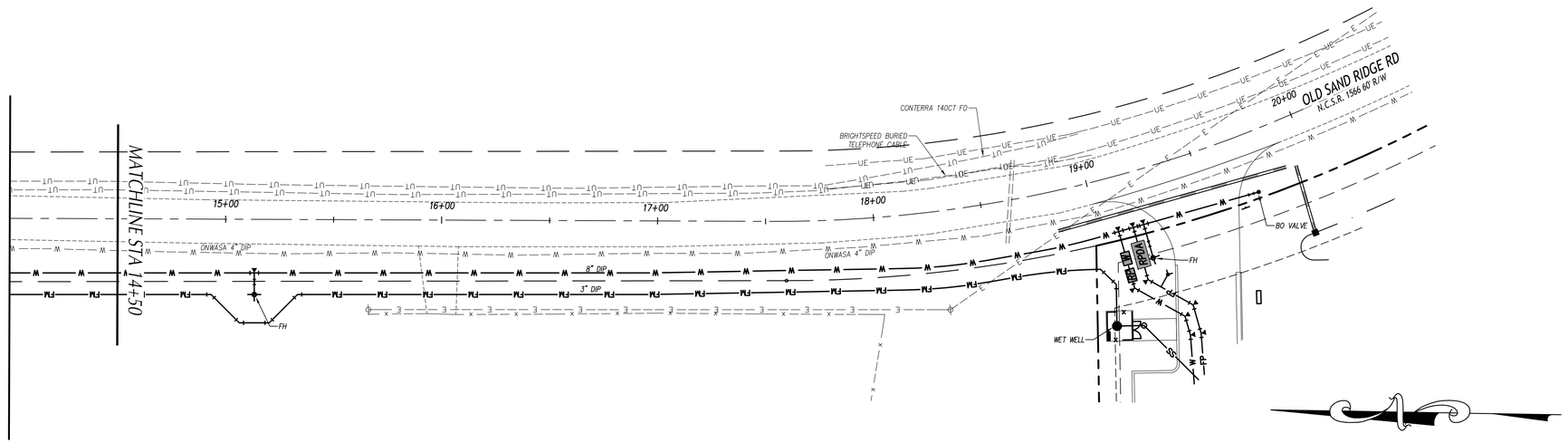
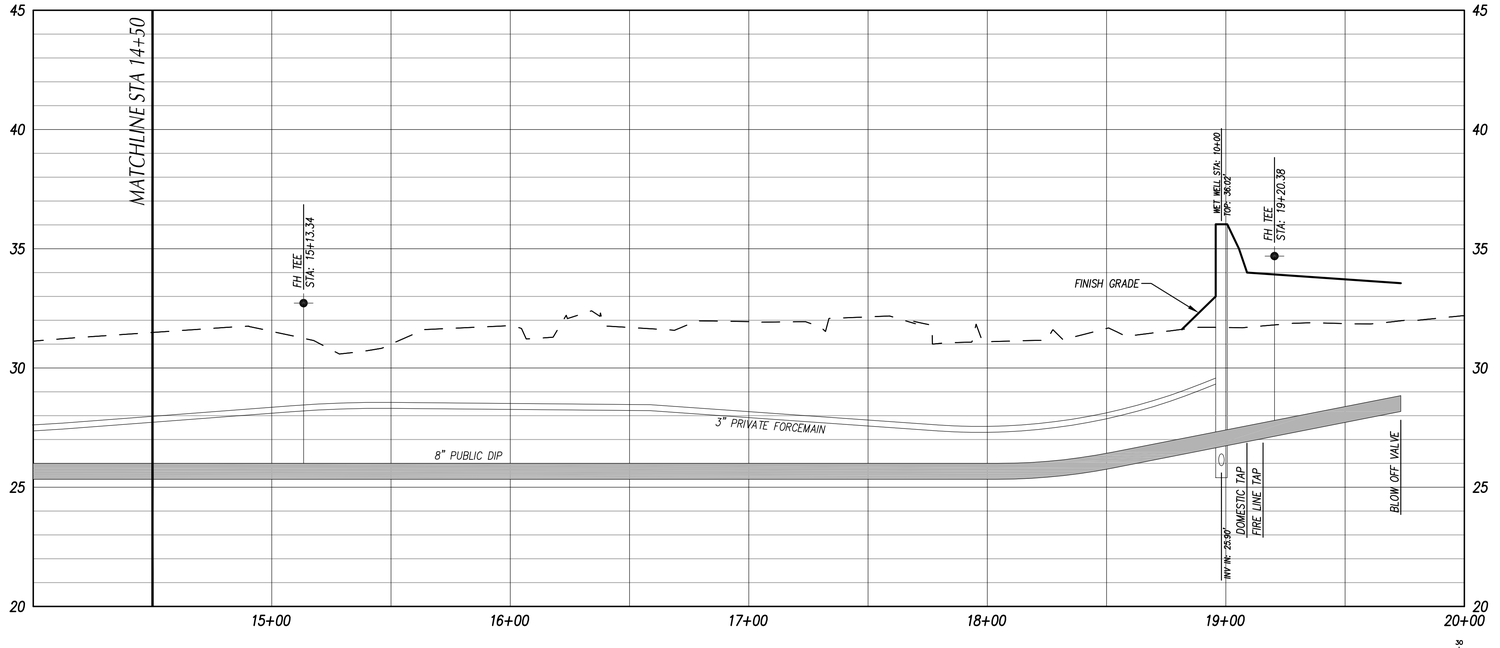
SHEET TITLE

FORCEMAIN & WATERLINE PLAN AND PROFILE

C504





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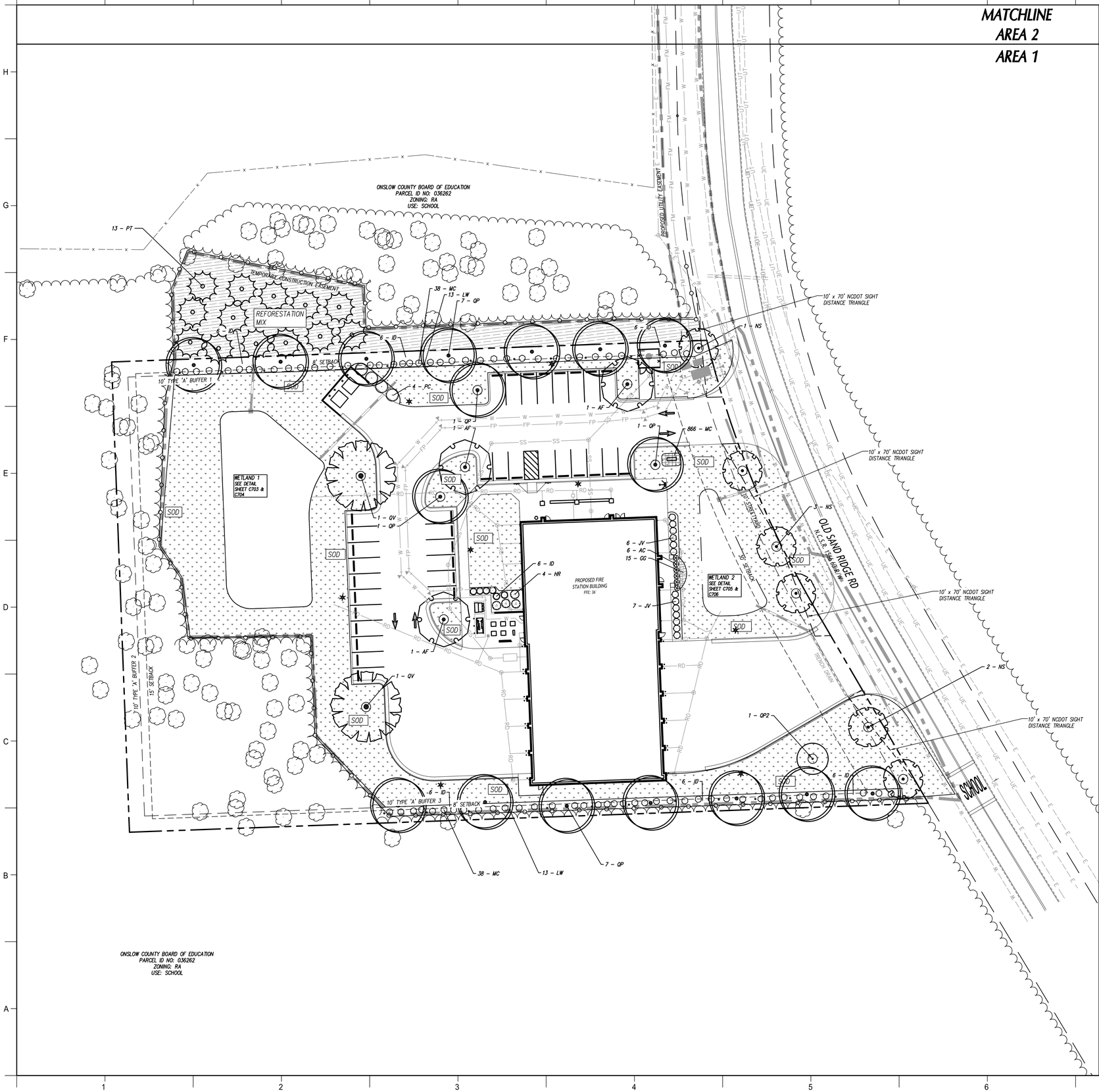
SHEET TITLE

FORCEMAIN & WATERLINE PLAN AND PROFILE

C505



GENERAL NOTES-LANDSCAPING

1. LOCATE ALL EXISTING UTILITIES PRIOR TO INSTALLATION OF PLANT MATERIAL. NOTIFY OWNER OF ANY DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS AND THOSE SHOWN ON THE PLAN.
2. VERIFICATION OF TOTAL QUANTITIES AS SHOWN ON THE PLANT LIST SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND THE TOTAL QUANTITIES SHALL BE AS SHOWN ON THE PLAN.
3. ALL PLANT MATERIAL SHALL CONFORM WITH THE STANDARDS SET FORTH BY THE AMERICAN ASSOCIATION OF NURSERYMEN AND THE WRITTEN SPECIFICATIONS.
4. ALL PLANT MATERIAL (SHRUBS/TREES) SHALL BE A MINIMUM DISTANCE OF 4-1/2 FEET FROM BACK OF CURB, EXCEPT ALONG ANY NEW WALLS ADJACENT TO PARKING WHERE CURB STOPS WILL BE USED.
5. ALL PLANT GROUPINGS SHALL BE MULCHED AS ONE BED. 3-IN DEPTH OF TRIPLE SHREDDED HARDWOOD MULCH SHALL BE USED AROUND ALL PLANTINGS, CONFIRM WITH LANDSCAPE ARCHITECT AND OWNER FOR APPROVAL PRIOR TO INSTALLATION.
6. APPLY PRE-EMERGENT HERBICIDE TO ALL NEW PLANTING BEDS AT MANUFACTURER'S RECOMMENDED RATE PRIOR TO INSTALLATION OF MULCH.
7. ESTABLISH POSITIVE DRAINAGE IN ALL PLANTING BEDS AND AWAY FROM BUILDINGS.
8. DO NOT INSTALL PLANT MATERIAL IN IMPERVIOUS SOILS, (i.e. HOLES WHICH, WHEN FILLED WITH WATER, DO NOT COMPLETELY DRAIN WITHIN TWO HOURS). SEE SPECIFICATIONS FOR TOPSOIL REQUIREMENTS.
9. CONTACT THE LANDSCAPE ARCHITECT FOR INSPECTION 48 HOURS IN ADVANCE OF THE SCHEDULED SITE VISIT AND AT THE FOLLOWING INTERVALS:
   - 9.1. REVIEW OF GRADING PRIOR TO PLANT AND LAWN INSTALLATION.
   - 9.2. REVIEW OF PLANT MATERIAL PRIOR TO INSTALLATION.
   - 9.3. ONE SUBSTANTIAL COMPLETION MEETING FOR PLANT INSTALLATION.
   - 9.4. ONE FINAL INSPECTION FOR ALL SEEDING/PLANTING OPERATIONS.
10. THE TREE PROTECTION FENCE SHALL BE MAINTAINED ON THE SITE UNTIL ALL SITE WORK IS COMPLETED AND THE FINAL SITE INSPECTION PRIOR TO THE CERTIFICATE OF OCCUPANCY (CO) IS SCHEDULED. THE FENCING SHALL BE REMOVED PRIOR TO FINAL SITE INSPECTION FOR THE CO.
11. LANDSCAPE SUB-CONTRACTOR (UNDER GC CONTRACT) SHALL BE RESPONSIBLE FOR WATERING ALL PLANTS AND LAWN/SOD AREAS AT HIS COST FROM HIS OWN WATER SOURCE INCLUDING DURING PERIODS OF DROUGHT UNTIL THE PLANTS AND LAWN MEET FINAL COMPLETION. PLANT MATERIALS OR AREAS OF GRASS WHICH PERISH SHALL BE RE-ESTABLISHED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER. REFER TO SPECIFICATIONS FOR ADDITIONAL WATERING INFORMATION.
12. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ALL EQUIPMENT & SUBCONTRACTORS AWAY FROM SEEDED/SOD AREAS. IF DAMAGE OCCURS, THROUGH NO FAULT OF THE OWNER, AREAS SHALL BE RE-GRADED AND RE-SEEDED IMMEDIATELY AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL WATER AND MAINTAIN THOSE AREAS UNTIL THEY ARE AT 95% COVERAGE AT FINAL COMPLETION.
13. SUBSTITUTIONS OF PLANT MATERIAL SHALL ONLY BE ACCEPTED 60 DAYS PRIOR TO COMMENCEMENT OF PLANTING OPERATIONS. SUBSTITUTION REQUESTS MUST BE IN WRITING AND WILL ONLY BE ACCEPTED FOR LACK OF AVAILABILITY REASONS WHICH CAN BE SUBSTANTIATED OR FOR SUPERIOR STOCK SUBSTITUTIONS.
14. LANDSCAPE CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT TO REVIEW GRADING ONE WEEK PRIOR TO SEEDING, IF THE LANDSCAPE CONTRACTOR AND LANDSCAPE ARCHITECT FIND GRADING UNACCEPTABLE FOR FINAL SEEDING, LANDSCAPE CONTRACTOR SHALL BRING IT TO THE ATTENTION OF THE GENERAL CONTRACTOR. LANDSCAPE CONTRACTOR SHALL NOT PROCEED WITHOUT APPROVAL BY LANDSCAPE ARCHITECT.
15. IF CONFLICTS OCCUR BETWEEN WRITTEN SPECIFICATIONS AND THE DRAWINGS, THE WRITTEN SPECIFICATIONS SHALL PREVAIL.
16. GENERAL LAWN AREAS SHALL BE SEEDED WITH RIVIERA OR SUNSTAR BERMUDA SEED. SOD AREAS SHALL BE TIF-TUF BERMUDA. 95% COVERAGE (BASED ON A PER SQUARE YARD SAMPLE) SHALL BE ATTAINED PRIOR TO FINAL INSPECTION. SEE DETAIL SHEET FOR RATES AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
17. SEE PLANTING PLAN FOR LIMITS.
18. ALL 3:1 SLOPES OR GREATER SHALL RECEIVE EROSION CONTROL MATTING. REFER TO PLANTING PLANS FOR STABILIZATION REQUIREMENTS.
19. ALL FOUNDATION SHRUBS TO BE PLANTED A MINIMUM OF 5-FT FROM BUILDING WALL. ALL SHADE TREES SHALL BE A MINIMUM DISTANCE OF 15-FT FROM BUILDING ROOF EDGE TO CENTER OF TREE. NOTIFY LANDSCAPE ARCHITECT FOR ANY DISCREPANCIES.
20. INSTALL PERMANENT SEEDING ALONG ALL ROADSIDE DITCHES AND CHANNELS WITHIN CONSTRUCTION LIMITS OF PROJECT. SEE EROSION CONTROL PLANS AND PERMANENT SEEDING SCHEDULE FOR ADDITIONAL INFORMATION.

PLANT SCHEDULE

	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE	
TREES							
	AF	3	Acer floridanum Southern Sugar Maple	CONT.	2.5" MIN.	8' HT. MIN.	
	LW	26	Lagerstroemia indica x fauriei 'Natchez' Natchez Crape Myrtle Multi-Trunk	CONT.	1.5" MIN.	6' HT. MIN.	
	NS	6	Nyssa sylvatica Tupelo	CONT.	2.5" MIN.	8' HT. MIN.	
	PT	13	Pinus taeda Loblolly Pine	CONT.	2" MIN.	8' HT. MIN.	
	QP	17	Quercus palustris Pin Oak	CONT.	2.5" MIN.	8' HT. MIN.	
	QP2	1	Quercus phellos Willow Oak	CONT.	2.5" MIN.	12' HT. MIN.	
	QV	2	Quercus virginiana Southern Live Oak	CONT.	2.5" MIN.	8' HT. MIN.	
	CODE	QTY	BOTANICAL / COMMON NAME	CONT	–	SIZE	
SHRUBS							
	AC	6	Azalea x 'Conlec' Autumn Royalty® Encore® Azalea	CONT.		36" HT. MIN.	
	HR	4	Hydrangea quercifolia 'Ruby Slippers' Ruby Slippers Oakleaf Hydrangea	CONT.		36" HT. MIN.	
	ID	6	Ilex vomitoria 'Schillings Dwarf' Schillings Dwarf Yaupon Holly	CONT.		18"-24" HT.	
	JV	13	Juniperus virginiana 'Grey Owl' Grey Owl Eastern Redcedar	CONT.		18"-24" HT.	
	MC	76	Myrica cerifera Wax Myrtle	CONT.		36" HT. MIN.	
	PC	4	Prunus caroliniana 'Monus' Bright 'N Tight Carolina Cherry Laurel	CONT.		36" HT. MIN.	
	SM	1	Sabal minor Dwarf Palmetto	CONT.		24" HT. MIN.	
SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	–	SIZE	SPACING
GROUND COVERS							
	GG	15	Gaillardia x grandiflora Blanketflower	1 GAL.			24" o.c.

LANDSCAPE REQUIREMENTS

BUFFER YARD REQUIREMENTS

ADJACENT TO PARCEL LAND USE "O-I" (NORTH, WEST, & SOUTH SIDE)
- NO BUFFER REQUIRED

STREET YARD REQUIREMENTS

OLD SAND RIDGE RD.
- 328 LF STREET YARD
- 10' WIDE
- 1 CANOPY TREE PER 40 LF
- 190 LF STREET FRONTAGE (328 – 95 LF DRIVEWAY)
- (233/40) 5.82 CANOPY TREES REQUIRED / 6 PROVIDED

PARKING LOT YARDS

- 34 PARKING SPACES
- PLANTING ISLAND EVERY 110 FT
- 1 CANOPY TREE PER PLANTING ISLAND

BUFFER YARDS

TYPE 'A' BUFFER YARD REQUIRED

TYPE 'A' BUFFER YARD 1 (UNDISTURBED) 24.75 LF (315.93) PLANTED
- 2 SHADE TREES, 4 ORNAMENTAL TREES, 12 LARGE EVERGREEN SHRUBS PER 100 LINEAR FEET
- PLANTINGS REQUIRED: 7 SHADE TREES, 13 ORNAMENTAL TREES, 38 SHRUBS
- PLANTINGS PROVIDED: 7 SHADE TREES, 13 ORNAMENTAL TREES, 38 SHRUBS

TYPE 'A' BUFFER YARD 2 (UNDISTURBED) 300 LF
- EXISTING VEGETATION TO BE UNDISTURBED IN THIS BUFFER

TYPE 'A' BUFFER YARD 3 (UNDISTURBED) 147.71 LF (PLANTED 311.95) LF
- 2 SHADE TREES, 4 ORNAMENTAL TREES, 12 LARGE EVERGREEN SHRUBS PER 100 LINEAR FEET
- PLANTINGS REQUIRED: 7 SHADE TREES, 13 ORNAMENTAL TREES, 38 SHRUBS
- PLANTINGS PROVIDED:7 SHADE TREES, 13 ORNAMENTAL TREES, 38 SHRUBS

REFORESTATION MIX WITH PINE STRAW MULCH, SEE DETAIL SHEET C801

GRAPHIC SCALE

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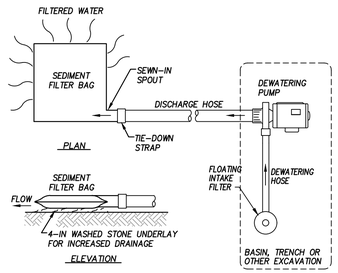
SHEET TITLE

LANDSCAPE PLAN

C600

DEWATERING SEDIMENT FILTER BAG N.T.S.



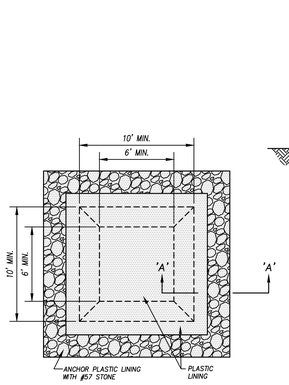
CONSTRUCTION NOTES:

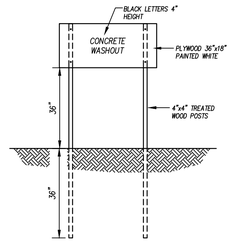
1. SILT BAG SHALL BE A PERMEABLE, POLYPROPYLENE, NON-WOVEN GEOTEXTILE (WITH AN 80 SIEVE AOS) SEWN INTO A BAG AND MANUFACTURED TO ACCEPT AND FILTER PUMPED, SEDIMENT-LADEN WATER FROM DEWATERING ACTIVITIES.
2. SILT BAG SHALL BE SIZED BY THE MANUFACTURER AS APPROPRIATE FOR THE DEWATERING PUMP DISCHARGE RATE AND SHALL BE FITTED WITH A FILL SPOUT LARGE ENOUGH TO ACCOMMODATE THE DISCHARGE PIPING OF THE DEWATERING PUMP.
3. DEWATERING PUMP/HOSE SHALL BE EQUIPPED WITH A FLOATING INTAKE FILTER.
4. INSTALL SILT BAG ON AN UNDISTURBED OR FULLY STABILIZED SLOPE SO INCOMING WATER FLOWS DOWNHILL THROUGH THE BAG WITHOUT CAUSING EROSION.

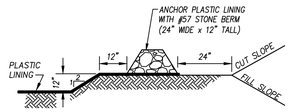
MAINTENANCE NOTES:

1. MONITOR BAG DURING PUMPING OPERATIONS. ENSURE PUMP RATE DOES NOT EXCEED
2. REMOVE AND REPLACE SILT BAG WHEN DEVICE NO LONGER DRAINS EFFICIENTLY DUE TO ACCUMULATED SEDIMENT IN BAG.
3. EMPTY BAG WITHIN DISTURBED LIMITS OF THE SITE PROTECTED BY OTHER SEDIMENT CONTROL MEASURES OR DISPOSE OF OFF-SITE AT AN APPROPRIATELY PERMITTED LOCATION.

CONCRETE WASHOUT AREA N.T.S.







NOTES:

1. LOCATE WASH-OUT AREA IN LOCATIONS SHOWN ON C4.1 AND AT LEAST 50' FROM OPEN WATERS AND DRAINAGE INLETS.
2. LINE WASH OUT PIT WITH LINER OF 8-MIL LAMINATED PLASTIC GEOTEXTILE FABRIC (DURA-SKRIM 8BW OR APPROVED EQUAL).
3. PROPERLY DISPOSE OF DRIED CONCRETE AND RESTORE AREA TO FINAL GRADES AND SURFACES AT COMPLETION OF CONSTRUCTION.

MAINTENANCE NOTES:

1. INSPECT AREA REGULARLY AND MAKE REPAIRS PROMPTLY.
2. ENSURE CONCRETE IS BEING CAPTURED AND LINER REMAINS ANCHORED.
3. REMOVE DRIED CONCRETE AND RESTORE PIT BEFORE CAPACITY IS EXCEEDED.
4. REPLACE OR PATCH IMPERVIOUS LINER THAT BECOMES DAMAGED. RE-ANCHOR LINER AS NEEDED.

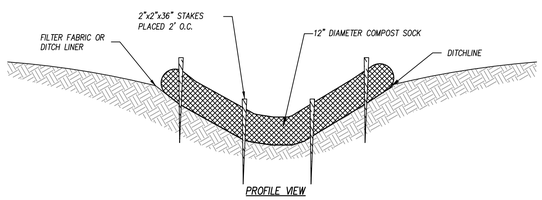
TEMPORARY COMPOST SOCK CHECK DAM N.T.S.

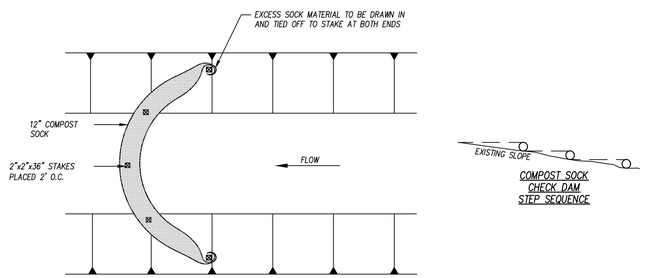
NOTES:

1. MATERIALS TO BE FILTREXX OR APPROVED EQUAL.
2. ALL MATERIAL AND INSTALLATION TO MEET STATE AND LOCAL SPECIFICATIONS.
3. COMPOST SOCK MAY BE USED AS CHECK DAMS IN DITCHES NOT EXCEEDING 3 FEET IN DEPTH.
4. PRIOR TO SOCK INSTALLATION, CLEAR ALL OBSTRUCTIONS INCLUDING ROCKS, CLODS, AND OTHER DEBRIS GREATER THAN ONE INCH THAT MAY INTERFERE WITH PROPER FUNCTION.
5. 2"x2" OAK OR OTHER DURABLE HARDWOOD STAKES SHALL BE USED. STAKES SHALL BE PLACED AT A MAXIMUM INTERVAL OF 2 FEET. STAKES SHALL BE DRIVEN TO A MINIMUM DEPTH OF 12 INCHES, WITH A MINIMUM OF 3 INCHES PROTRUDING ABOVE THE COMPOST SOCKS.
6. THE ENDS OF THE SOCKS SHOULD BE TURNED SLIGHTLY UP SLOPE TO PREVENT RUNOFF FROM GOING AROUND THE END OF THE SOCKS.
7. CHECK DAM SHOULD BE USED IN AREAS THAT DRAIN 10 ACRES OR LESS.
8. CHECK DAM CAN BE DIRECT SEEDED AT THE TIME OF INSTALLATION.

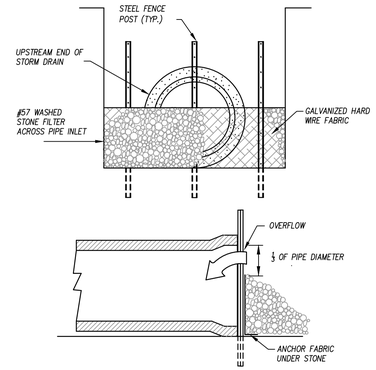
MAINTENANCE NOTES:

1. INSPECT COMPOST SOCKS WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL EVENT (1/2 INCH OR GREATER).
2. SEDIMENT SHOULD BE REMOVED FROM BEHIND CHECK DAM ONCE THE ACCUMULATED HEIGHT HAS REACHED ½ THE HEIGHT OF THE CHECK DAM.
3. THE COMPOST SOCK MUST BE REPLACED IF CLOGGED OR TORN.
4. IF PONDING BECOMES EXCESSIVE, THE SOCK MAY NEED TO BE REPLACED WITH A LARGER DIAMETER OR A DIFFERENT MEASURE.
5. THE SOCK NEEDS TO BE REINSTALLED IF UNDERMINED OR DISLODGED.
6. THE COMPOST SOCK SHALL BE INSPECTED UNTIL LAND DISTURBANCE IS COMPLETE AND THE AREA ABOVE THE MEASURE HAS BEEN PERMANENTLY STABILIZED.



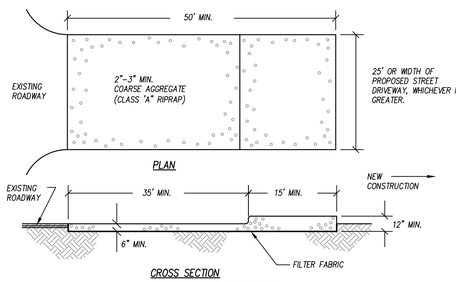


PROTECTION OF STORM DRAIN UNDER CONSTRUCTION N.T.S.



MAINTENANCE NOTES:

1. ALL OPEN STORM DRAIN PIPES SHALL BE PROTECTED AFTER STOPPAGE OF WORK EACH DAY AS ILLUSTRATED.
2. ACCUMULATED SEDIMENT SHALL BE REMOVED AND PROPERLY DISPOSED OF AND THE TRENCH BOTTOM REGRADED AND COMPACTED IN ACCORDANCE w/ SPECIFICATIONS PRIOR TO CONTINUANCE OF LAYING PIPE.



NOTES:

1. ENTRANCE(S) SHALL BE LOCATED TO PROVIDE MAXIMUM UTILITY BY ALL CONSTRUCTION VEHICLES.
2. TURNING RADIUS SUFFICIENT TO ACCOMMODATE LARGE TRUCKS SHALL TO BE PROVIDED.
3. ENTRANCES MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO STREETS. PERIODIC TOPDRESSING WITH STONE WILL BE NECESSARY. CONTRACTOR SHALL MAINTAIN AS NECESSARY.
4. ANY MATERIAL WHICH STILL MAKES IT ONTO THE ROAD MUST BE CLEANED UP IMMEDIATELY.
5. FREQUENT CHECKS OF THE ENTRANCE(S) AND TIMELY MAINTENANCE SHALL BE PROVIDED.
6. NOTES ARE APPLICABLE AT ALL POINTS OF INGRESS AND EGRESS UNTIL SITE IS STABILIZED.

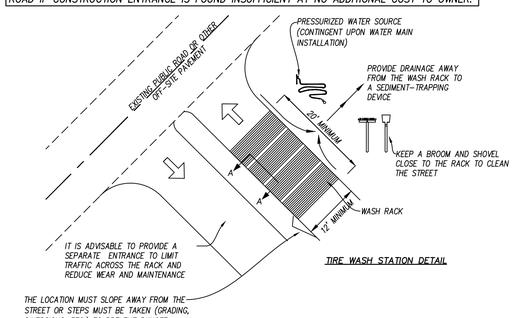
MAINTENANCE NOTES:

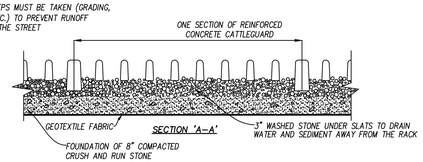
1. MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE SITE. MAY REQUIRE PERIODIC TOPDRESSING WITH 2-INCH STONE.
2. AFTER EACH RAINFALL, INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT AND CLEAN IT OUT AS NECESSARY.
3. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED OR TRACKED ONTO PUBLIC ROADWAYS.

CONSTRUCTION SPECIFICATIONS:

1. CLEAR THE ENTRANCE AND EXIT AREA OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL AND PROPERLY GRADE IT.
2. PLACE THE GRAVEL TO THE SPECIFIC GRADE AND DIMENSIONS SHOWN ON THE PLANS, AND SMOOTH IT.
3. PROVIDE DRAINAGE TO CARRY WATER TO A SEDIMENT TRAP OR SUITABLE OTHER OUTLET.
4. USE GEOTEXTILE FABRIC TO IMPROVE STABILITY OF THE FOUNDATION IN LOCATIONS SUBJECT TO SEEPAGE OR HIGH WATER TABLE.

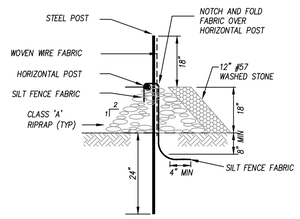
CONTRACTOR SHALL USE TIRE WASH STATION TO PREVENT SEDIMENT FROM TRACKING ONTO THE ROAD IF CONSTRUCTION ENTRANCE IS FOUND INSUFFICIENT AT NO ADDITIONAL COST TO OWNER.

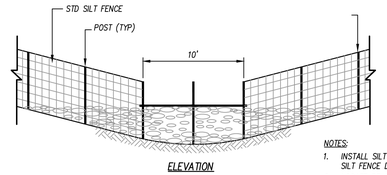




GRAVEL CONSTRUCTION ENTRANCE N.T.S.

REINFORCED SILT FENCE OUTLET N.T.S.





MAINTENANCE NOTES:

1. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE/OUTLET. TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEANOUT. REMOVE & REPLACE STONE AS NECESSARY AS IT BECOMES CLOGGED WITH SEDIMENT.
2. REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

NOTES:

1. INSTALL SILT FENCE PER STD. SILT FENCE DETAIL.
2. LOCATE REINFORCED OUTLET AT LOW POINTS OF SILT FENCE BARRIER.

Date: Page:

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timeframes		
Site Area Description	**Stabilize within this many calendar days after ceasing land disturbance**	**Timeframe variations**
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10 feet or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
· Temporary grass seed covered with straw or other mulches and tackifiers. · Hydroseeding · Rolled erosion control products with or without temporary grass seed · Appropriately applied straw or other mulch · Plastic sheeting	· Permanent grass seed covered with straw or other mulches and tackifiers · Geotextile fabrics such as permanent soil reinforcement matting · Hydroseeding · Shrubs or other permanent plantings covered with mulch · Uniform and evenly distributed ground cover sufficient to restrain erosion · Structural methods such as concrete, asphalt or retaining walls · Rolled erosion control products with grass seed

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

EARTHEN STOCKPILE MANAGEMENT

1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.

HERBICIDES, PESTICIDES AND RODENTICIDES

1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
3. Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
4. Do not stockpile these materials onsite.

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants.*
2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
3. Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
4. Provide ponding area for containment of treated Stormwater before discharging offsite.
5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
5. Remove leaking vehicles and construction equipment from service until the problem has been corrected.
6. Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

NORTH CAROLINA Environmental Quality
EFFECTIVE DATE: 11/12/2020

NCG-01 GROUND COVER

Date: Page:

PART II, SECTION G, ITEM (4)
DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

(a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items,

(b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit,

(c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,

(d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above,

(e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and

(f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING
SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record. See Self Inspection Timeframes table to the right for guidelines on frequency of inspections and required aspects of records.

Self Inspection Timeframes

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend on holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those unattended days (this will determine if a site inspection is needed). days on which no rainfall occurred shall be recorded as "Zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the measures inspected 2. Date and Time of the inspection 3. Name of the person performing the inspection 4. Indication of whether the measures were operating properly 5. Description of maintenance needs for the measure 6. Description, Evidence, and date of corrective actions taken
(3) Stormwater discharge outfalls(SDOs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected 2. Date and Time of the inspection 3. Name of the person performing the inspection 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration 5. Indication of visible sediment leaving the site 6. Description, Evidence, and date corrective actions taken
(4) Perimeter of Site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If visible Sedimentation is found outside site limits, then record of the following shall be made: 1) Actions taken to clean up or stabilize sediment that has left the site limits 2) Description, Evidence and date of corrective actions taken 3) An explanation as to the actions taken to control future releases
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or has visible increased turbidity from the construction activity, then a record of the following shall be made: 1) Description, Evidence and date of corrective actions taken 2)Records of required reports to the appropriate Division Regional Office per Part III, Section C, Item(2)(a) of this permit
(6) Ground Stabilization Measures	After each phase of grading	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover) 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or assurance that they will be provided as soon as possible

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

NORTH CAROLINA Environmental Quality
EFFECTIVE DATE:11/12/2020

NCG-01 SELF INSPECTION

DAVIS KANE ARCHITECTS, PA
503 OBERLIN ROAD | SUITE 300
RALEIGH, NC 27605
919.833.3737
www.daviskane.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-8716
Fax: (919) 319-7516
LA: C-106
PE: C-1595

PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION

ONSLOW COUNTY

OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

NORTH CAROLINA PROFESSIONAL SEAL 022625 ENGINEER STEVEN J. MILLER

Digitally signed by Steven Miller
Date: 2025.03.11 16:48:16-04'00'

DKA JOB NUMBER
2324

REVISIONS

PA: ZP
PM: YA
Drawn By: SL/SH
Plot Date: 03/12/2025

DATE ISSUED

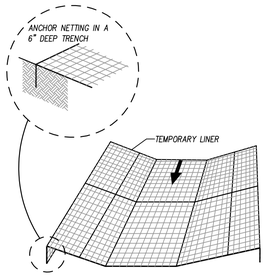
BID DOCUMENTS

03/12/2025

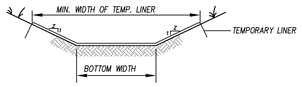
SHEET TITLE

EROSION CONTROL DETAILS

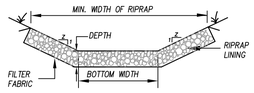
C700



CHANNEL LINER



GRASS-LINED CHANNEL
NTS



RIPRAP – LINED CHANNEL
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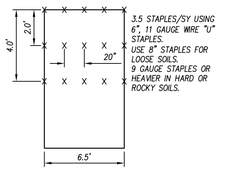
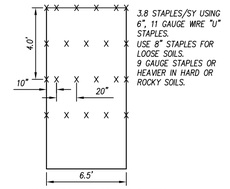


EXCELSIOR MAT STAPLE PATTERN
NTS



SYNTHETIC MAT STAPLE PATTERN
NTS

CHANNEL SCHEDULE

CHANNEL	BOTTOM WIDTH (FT)	SIDE SLOPE (H:V)	CHANNEL GRADE	CHANNEL LENGTH	PERM. LINING	TEMP. LINING	MIN. TOP WIDTH OF LINING (FT)	RIPRAP DEPTH (IN)
1	4	3:1	0.9%	277 LF	GRASS	SYNTHETIC MAT.	10	N/A
2	2	3:1	1.32%	151 LF	GRASS	SYNTHETIC MAT.	8	N/A

CONSTRUCTION NOTES:

1. SEE SPECIFICATIONS FOR TEMP. LINING, RIPRAP AND FILTER FABRIC REQUIREMENTS.
2. RIPRAP CHANNELS SHALL BE OVER-EXCAVATED RIPRAP TO BE PLACED FLUSH WITH PROPOSED CHANNEL GRADE.
3. PREPARE SOIL BEFORE INSTALLING MATS OR NETS, INCLUDING APPLICATION OF LIME, FERTILIZER AND SEED.
4. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE NET OR MAT IN A 6" DEEP TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
5. ROLL CENTER MAT OR NET IN DIRECTION OF WATER FLOW ON BOTTOM OF CHANNEL.
6. PLACE MAT OR NET END OVER END (SHINGLE STYLE) WITH A 6" OVERLAP. USE DOUBLE ROW OF STAGGERED STAPLES 4" APART TO SECURE.
7. FULL LENGTH EDGE OF MAT OR NET AT TOP SIDE SLOPES SHALL BE ANCHORED IN 6" DEEP TRENCH AFTER STAPLING.
8. MATS OR NETS SHALL BE OVERLAPPED 4" OVER THE CENTER BLANKET AND STAPLED.
9. THE TERMINAL END OF THE MAT OR NET MUST BE ANCHORED IN A 6" DEEP TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

MAINTENANCE NOTES:

1. GRASSED-LINED CHANNELS TO BE INSPECTED WEEKLY AND AFTER EVERY RAINFALL EVENT, DURING THE ESTABLISHMENT AND AFTER THE ESTABLISHMENT PERIOD.
2. REPAIRS ARE TO BE MADE IMMEDIATELY.
3. REMOVE SEDIMENT ACCUMULATIONS TO MAINTAIN DESIGNED CARRYING CAPACITY.
4. GRASS IS TO BE HEALTHY AND IN VIGOROUS CONDITIONS AT ALL TIMES.

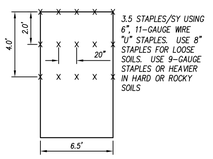
CHANNEL SECTIONS N.T.S.

CONSTRUCTION SPECIFICATIONS:

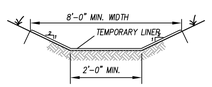
1. REMOVE AND PROPERLY DISPOSE OF ALL TREES, BRUSH, STUMPS, AND OTHER OBJECTIONABLE MATERIALS.
2. ENSURE THAT THE MINIMUM CONSTRUCTED CROSS SECTION MEETS ALL DESIGN REQUIREMENTS.
3. ENSURE THAT THE TOP OF THE DIKE IS NOT LOWER AT ANY POINT THAN THE DESIGN ELEVATION PLUS THE SPECIFIED SETTLEMENT.
4. PROVIDE SUFFICIENT ROOM AROUND DIVERSIONS TO PERMIT MACHINE REGRADING AND CLEANOUT.
5. VEGETATE THE RIDGE IMMEDIATELY AFTER CONSTRUCTION, UNLESS IT WILL REMAIN IN PLACE LESS THAN 30 WORKING DAYS.
6. APPLY SOLID PLASTIC (BLACK, 20 MIL) LINING ON SURFACE OF DIVERSION DITCH ON ANY SLOPES GREATER THAN 10% ENTERING BASINS/PONDS.

MAINTENANCE NOTES:

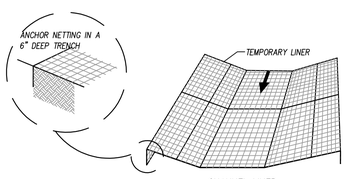
1. INSPECT TEMPORARY DIVERSIONS ONCE A WEEK AND AFTER EVERY RAINFALL.
2. IMMEDIATELY REMOVE SEDIMENT FROM THE FLOW AREA AND REPAIR DIVERSION DITCH.
3. INSPECT AND MAKE TIMELY REPAIRS AS NEEDED.



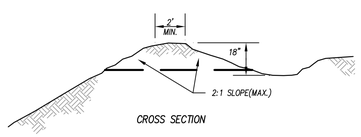
TEMPORARY MAT STAPLE PATTERN
NTS



TEMP. PLASTIC LINING
NTS



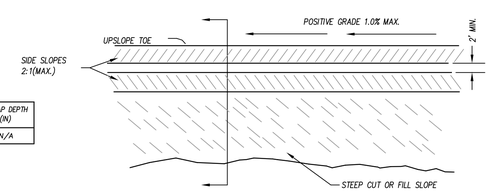
CHANNEL LINER



CROSS SECTION

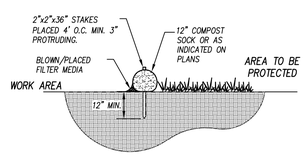
DIVISION DITCH SCHEDULE

CHANNEL	BOTTOM WIDTH (FT)	SIDE SLOPE (H:V)	CHANNEL GRADE	CHANNEL LENGTH	PERM. LINING	TEMP. LINING	MIN. TOP WIDTH OF LINING (FT)	RIPRAP DEPTH (IN)
1	4	3:1	1.00%	200 LF	GRASS	EXCELSIOR	10	N/A

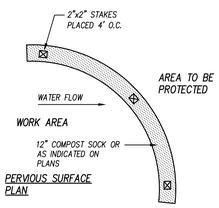


PLAN VIEW

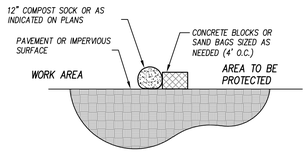
TEMPORARY DIVERSION DITCH / BERM N.T.S.



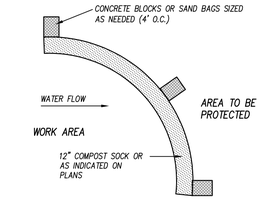
PERVIOUS SURFACE SECTION



PERVIOUS SURFACE PLAN

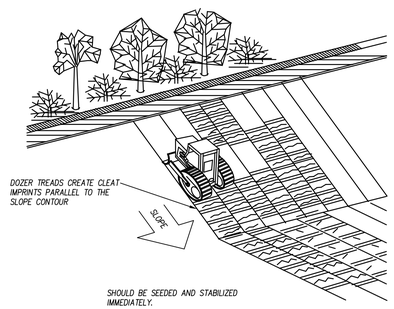


IMPERVIOUS SURFACE SECTION



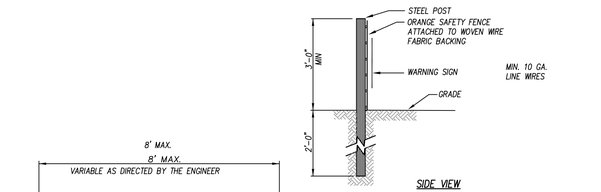
IMPERVIOUS SURFACE PLAN

TEMPORARY COMPOST SOCK PERIMETER FENCE N.T.S.



MAINTENANCE NOTE:
PERIODICALLY CHECK THE SEEDED SLOPES FOR RILLS AND WASHES. FILL THESE AREAS SLIGHTLY ABOVE THE ORIGINAL GRADE, THEN RESEED AND MULCH AS SOON AS POSSIBLE.

SLOPE TRACKING N.T.S.



SIDE VIEW

FRONT VIEW

WARNING SIGN DETAIL

NOTES:

1. INSTALL TREE PROTECTION FENCING PRIOR TO PERFORMING ANY CLEARING OF THE SITE.
2. WARNING SIGNS TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL.
3. LETTERS TO BE 3" HIGH MINIMUM, CLEARLY LEGIBLE AND SPACED AS DETAILED.
4. SIGNS SHALL BE PLACED AT 100' MAXIMUM INTERVALS. PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AND 100' ON CENTER THEREAFTER.
5. FOR TREE PROTECTION AREAS LESS THAN 200' IN PERIMETER, PROVIDE NO LESS THAN ONE SIGN PER PROTECTION AREA.
6. ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC.
7. MAINTAIN TREE PROTECTION FENCE THROUGHOUT DURATION OF PROJECT.

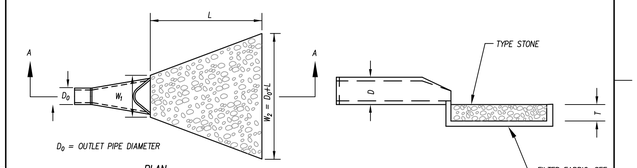
TEMPORARY TREE PROTECTION FENCE N.T.S.

NOTES:

1. MATERIALS TO BE FILTREXX OR APPROVED EQUAL.
2. ALL MATERIAL AND INSTALLATION TO MEET STATE AND LOCAL SPECIFICATIONS.
3. COMPOST SOCKS SHALL BE INSTALLED PARALLEL TO THE BASE OF THE SLOPE OR OTHER AFFECTED AREAS, PERPENDICULAR TO SHEET FLOW. COMPOST SOCKS ARE EFFECTIVE IN AREAS WHERE SEDIMENT ACCUMULATION OF LESS THAN SIX INCHES IS EXPECTED.
4. COMPOST SOCKS CAN BE APPLIED ON SLOPES UP TO A 2:1 GRADE WITH A MAXIMUM HEIGHT OF 10 FEET. COMPOST SOCK SHOULD NOT BE USED ALONE BELOW GRADED SLOPES GREATER THAN 10 FEET IN HEIGHT.
5. 2"x2" OAK OR OTHER DURABLE HARDWOOD STAKES SHALL BE USED. STAKES SHALL BE PLACES AT A MAXIMUM INTERVAL OF 4 FEET, OR A MAXIMUM INTERVAL OF 8 FEET IF THE SOCK IS PLACER IN A 4 INCH TRENCH. STAKES SHALL BE DRIVEN TO A MINIMUM DEPTH OF 12 INCHES, WITH A MINIMUM OF 3 INCHES PROTRUDING ABOVE THE COMPOST SOCKS.
6. COMPOST SOCKS SHALL BE SLEEVED WHEN SECTIONS LONGER THAN 200-LF ARE REQUIRED. STAKES SHALL BE PLACED ON SLEEVED AREAS TO KEEP SECTIONS TOGETHER.
7. IN THE EVENT STAKING IS NOT POSSIBLE (I.E., WHEN SOCKS ARE USED ON PAVEMENT) HEAVY CONCRETE BLOCKS OR SAND BAGS SHALL BE USED BEHIND THE SOCK TO HOLD IT IN PLACE DURING RUNOFF EVENTS.
8. COMPOST SOCK SHOULD BE PLACED AT A 10 FOOT MINIMUM DISTANCE FROM THE TOE OF THE SLOPE TO ALLOW FOR A PROPER RUNOFF ACCUMULATION AND MAXIMUM SEDIMENT STORAGE. ON FLAT AREAS, COMPOST SOCK SHALL BE PLACED AT THE EDGE OF DISTURBED AREAS.
9. THE ENDS OF THE SOCKS SHOULD BE TURNED SLIGHTLY UP SLOPE TO PREVENT RUNOFF FROM GOING AROUND THE END OF THE SOCKS.

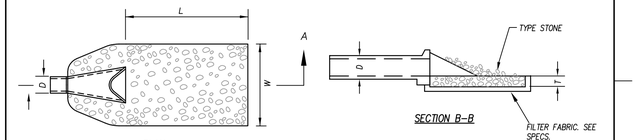
MAINTENANCE NOTES:

1. INSPECT COMPOST SOCKS WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL EVENT (1/2 INCH OR GREATER).
2. SEDIMENT SHOULD BE REMOVED FROM BEHIND CHECK DAM ONCE THE ACCUMULATED HEIGHT HAS REACHED ½ THE HEIGHT OF THE CHECK DAM.
3. THE COMPOST SOCK MUST BE REPLACED IF CLOGGED OR TORN.
4. IF PONDING BECOMES EXCESSIVE, THE SOCK MAY NEED TO BE REPLACED WITH A LARGER DIAMETER OR A DIFFERENT MEASURE.
5. THE SOCK NEEDS TO BE REINSTALLED IF UNDERMINED OR DISLODGED.
6. THE COMPOST SOCK SHALL BE INSPECTED UNTIL LAND DISTURBANCE IS COMPLETE AND THE AREA ABOVE THE MEASURE HAS BEEN PERMANENTLY STABILIZED.



PLAN
(OUTLET TO FLAT AREA WITH NO WELL DEFINED CHANNEL)

SECTION A–A



PLAN
(OUTLET TO WELL DEFINED CHANNEL)

SECTION B–B

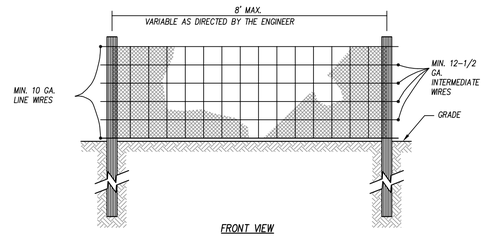
MAINTENANCE NOTES:

1. RIP RAP OUTLET STRUCTURES TO BE INSPECTED WEEKLY AND AFTER EVERY RAINFALL EVENT.
2. REPAIR DISLODGED STONES TO DESIGN DIMENSIONS IMMEDIATELY.
3. IF MORE SUBSTANTIAL DAMAGE OCCURS, NOTIFY ENGINEER TO DETERMINE A REPAIR SOLUTION.

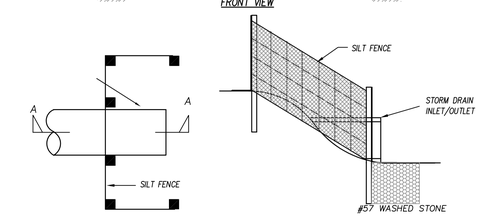
NOTES:

1. TOP OF RIP RAP AT DOWNSTREAM END OF APRON SHALL BE FLUSH WITH NATURAL GRADE OF THE RECEIVING CHANNEL.
2. VEGETATE ALL DISTURBED AREAS WITH VEGETATION IMMEDIATELY AFTER INSTALLATION.
3. SEE EROSION CONTROL PLAN FOR APRON DIMENSIONS.

OUTLET PROTECTION N.T.S.



FRONT VIEW



PLAN

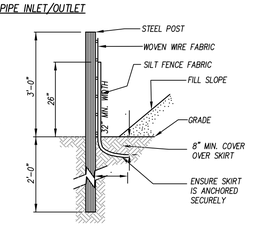
SECTION A–A

SILT FENCE AT PIPE INLET/OUTLET

INSTALLATION NOTE:
USE SILT FENCE ONLY WHEN DRAINAGE AREA DOES NOT EXCEED 1/4 ACRE AND NEVER IN AREAS OF CONCENTRATED FLOW.

MAINTENANCE NOTES:

1. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE. TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEANOUT.
2. REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
3. REPAIR SILT FENCE FAILURES WITH NO. 57 WASHED STONE BERM.



SIDE VIEW

STANDARD TEMPORARY SILT FENCE N.T.S.

DAVIS KANE ARCHITECTS, PA
503 OBERLIN ROAD | SUITE 300
RALEIGH, NC 27605
919.833.3737
www.daviskane.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-8716
Fax: (919) 319-7516
LA: C-106
PE: C-1595

PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION

ONSLOW COUNTY

OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT SEAL 22625 ENGINEER STEVEN J. MILLER

Digitally signed by Steven Miller
Date: 2025.03.11 16:48:20-04'00'

DKA JOB NUMBER
2324

REVISIONS

PA: ZP
PM: YA
Drawn By: SL/SH
Plot Date: 03/12/2025

DATE ISSUED

BID DOCUMENTS

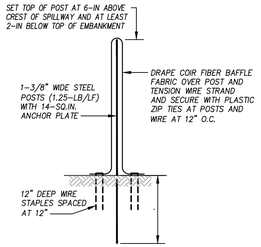
03/12/2025

SHEET TITLE
EROSION CONTROL DETAILS

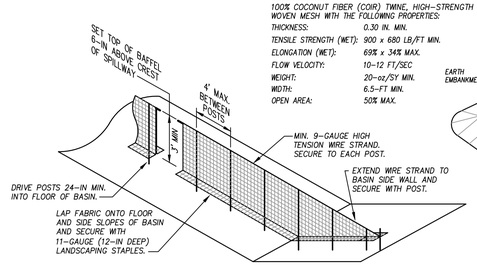
C701

MAINTENANCE NOTES:

1. INSPECT BAFFLES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY.
2. BE SURE TO MAINTAIN ACCESS TO THE BAFFLES. SHOULD THE FABRIC OF A BAFFLE COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY.
3. REMOVE SEDIMENT DEPOSITS WHEN IT REACHES HALF FULL, TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE BAFFLES. TAKE CARE TO AVOID DAMAGING THE BAFFLES DURING CLEAN OUT, AND REPLACE IF DAMAGED DURING CLEAN OUT OPERATIONS. SEDIMENT DEPTH SHOULD NEVER EXCEED HALF THE DESIGNED STORAGE DEPTH.
4. AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED, REMOVE ALL BAFFLE MATERIALS AND UNSTABLE SEDIMENT DEPOSITS, BRING THE AREA TO GRADE, AND STABILIZE THE AREA.



BAFFLE SECTION

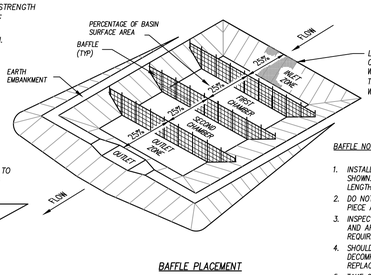


BAFFLE INSTALLATION

BAFFLE FABRIC:

100% COCONUT FIBER (COIR) TWINE, HIGH-STRENGTH WOVEN MESH WITH THE FOLLOWING PROPERTIES:

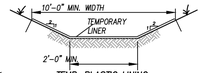
THICKNESS:	0.30 IN. MIN.
TENSILE STRENGTH (WET):	900 x 680 LB/FT MIN.
ELONGATION (WET):	69% x 34% MAX.
FLOW VELOCITY:	10-12 FT/SEC
WEIGHT:	20-oz/SY MIN.
WIDTH:	6.5-FT MIN.
OPEN AREA:	50% MAX.



BAFFLE PLACEMENT

BAFFLE NOTES:

1. INSTALL AT LEAST 3 BAFFLES SPACED AS SHOWN. BASINS LESS THAN 20-FT IN LENGTH MAY USE 2 BAFFLES.
2. DO NOT SPLICE FABRIC. USE CONTINUOUS PIECE ACROSS THE BASIN.
3. INSPECT BAFFLES AT LEAST ONCE PER WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY.
4. SHOULD BAFFLE FABRIC COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE, REPLACE PROMPTLY.
5. TAKE CARE TO AVOID DAMAGE TO BAFFLES DURING PERIODIC SEDIMENT REMOVAL. REPAIR ANY DAMAGE AS NEEDED.



TEMP. PLASTIC LINING

NTS

LINE SLOPES WHERE DIVERSION DITCH OR OTHER CONCENTRATED FLOW DISCHARGES INTO BASIN WITH WOVEN UV PROTECTED IMPERMEABLE 10-MIL THICK MIN. GEOTEXTILE FABRIC (10-FT MIN. WIDTH)

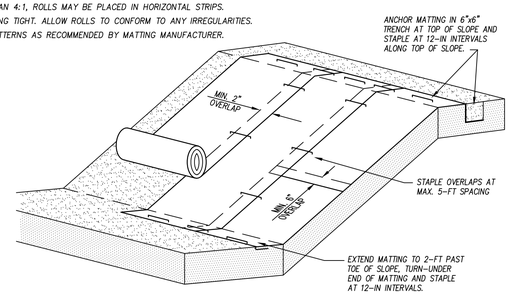
TEMPORARY BASIN BAFFLES N.T.S.

MAINTENANCE NOTES:

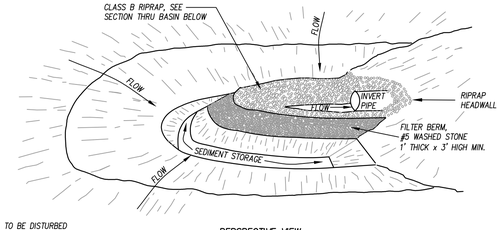
1. INSPECT MATTING AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2-IN OR GREATER) RAINFALL AND REPAIR IMMEDIATELY AS NEEDED.
2. ENSURE GOOD CONTACT WITH SOIL SURFACE IS MAINTAINED AND EROSION DOES NOT OCCUR BENEATH MATTING.
3. AREAS OF MATTING THAT ARE DAMAGED OR WHERE NOT IN CLOSE CONTACT WITH THE SOIL SHALL BE REPAIRED AND STAPLED.
4. IF EROSION OCCURS DUE TO POORLY CONTROLLED DAMAGE, THE PROBLEM SHALL BE FIXED AND THE ERODED AREAS PROTECTED.
5. MONITOR AND REPAIR MATTING AS NECESSARY UNTIL GROUND COVER IS ESTABLISHED.

NOTES:

1. SLOPE SURFACE SHALL BE SMOOTH PRIOR TO PLACEMENT OF MATTING TO ENSURE PROPER SOIL CONTACT.
2. LIME, FERTILIZE, AND SEED PRIOR TO PLACING MATTING. PLANT SHRUBS, TREES, ETC. FOLLOWING PLACEMENT OF MATTING.
3. ON SLOPES FLATTER THAN 4:1, ROLLS MAY BE PLACED IN HORIZONTAL STRIPS.
4. DO NOT STRETCH MATTING TIGHT. ALLOW ROLLS TO CONFORM TO ANY IRREGULARITIES.
5. INSTALL STAPLES IN PATTERNS AS RECOMMENDED BY MATTING MANUFACTURER.



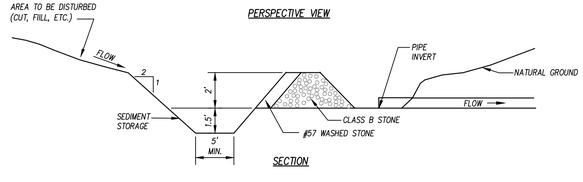
SLOPE PROTECTION MATTING N.T.S.



PERSPECTIVE VIEW

MAINTENANCE NOTES:

1. INSPECT THE BARRIER AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL AND REPAIR IMMEDIATELY.
2. REMOVE SEDIMENT AND RESTORE SEDIMENT STORAGE AREA TO ITS ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO ONE-HALF THE DESIGN DEPTH OF THE TRAP.
3. CHECK THE STRUCTURE FOR DAMAGE AND REPLACE ANY DISPLACED RIPRAP IMMEDIATELY.
4. APPROPRIATELY STABILIZE ALL BARE AREAS AROUND THE INLET.



SECTION

TEMPORARY ROCK PIPE INLET PROTECTION N.T.S.

DAVIS KANE ARCHITECTS, PA
503 OBERLIN ROAD | SUITE 300
RALEIGH, NC 27605
919.833.3737
www.daviskane.com

CLH DESIGN, P.A.
400 Regency Forest Drive
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Cary, North Carolina 27518
Phone: (919) 319-8716
Fax: (919) 319-7516
LA: C-106
PE: C-1595

PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION

ONSLOW COUNTY

OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

NORTH CAROLINA PROFESSIONAL SEAL 022625 ENGINEER STEVEN J. MILLER

Digitally signed by Steven Miller
Date: 2025.03.11 16:48:24-04'00'

DKA JOB NUMBER
2324

REVISIONS

PA:	ZP
PM:	YA
Drawn By:	SL/SH
Plot Date:	03/12/2025

DATE ISSUED

BID DOCUMENTS

03/12/2025

SHEET TITLE

EROSION CONTROL DETAILS

C702

CONSTRUCTED WETLAND GENERAL NOTES:

1. CONSTRUCTED WETLAND SHALL CONFIRM PER SPEC SECTION 31-20-00 EARTH MOVING. ANY DISCREPANCIES NOTED ON DETAIL PERTAINING TO EARTH MOVING SHALL BE BROUGHT TO THE DESIGN TEAMS ATTENTION PRIOR TO CONSTRUCTION.
2. CONSTRUCTED WETLAND SHALL CONFIRM PER SPEC SECTION 31-25-00 EROSION & SEDIMENT CONTROL. ANY DISCREPANCIES NOTED ON DETAIL PERTAINING TO EROSION & SEDIMENT CONTROL SHALL BE BROUGHT TO THE DESIGN TEAMS ATTENTION PRIOR TO CONSTRUCTION.
3. CONSTRUCTED WETLAND SHALL CONFIRM PER SPEC SECTION 33-40-00 STORM DRAINAGE. ANY DISCREPANCIES NOTED ON DETAIL PERTAINING TO STORM DRAINAGE SHALL BE BROUGHT TO THE DESIGN TEAMS ATTENTION PRIOR TO CONSTRUCTION.
4. **CLAY LINERS (PROVIDE UNLESS NOTED BELOW)**

   CONTRACTOR SHALL FURNISH AND INSTALL A 6-IN THICK LAYER OF COMPACTED CLAY BENEATH THE WETLAND TOPSOIL.

   SUBGRADE OF WETLAND MUST BE OVER-EXCAVATED TO ACCOMMODATE CLAY LAYER.

   COMPACTED CLAY SHALL BE TESTED IN PLACE AND SHALL HAVE A PERMEABILITY NO GREATER THAN 0.01 IN/HR PRIOR TO INSTALLING TOPSOIL AND PLANTS
5. **WETLAND SOIL (SEE 32-90-00 PLANTING SPECIFICATION FOR ADDITIONAL INFO.**

PROVIDE 12-18" OF TOPSOIL THROUGHOUT STORMWATER WETLAND AREA. TOPSOIL SHALL BE PLACED WITHIN THE SHALLOW LAND, SHALLOW WATER AND DEEP POOL AREAS AND ADHERE TO THE FOLLOWING REQUIREMENTS:

THE SOIL MUST BE UNIFORM AND FREE OF STONES, STUMPS, ROOTS, OR OTHER SIMILAR MATERIAL GREATER THAN 2 INCHES.

SOIL TEXTURE SHALL BE A LOAMY SAND, WITH NO MORE THAN 10% CLAY (USDA SOIL TEXTURAL CLASSIFICATION).

A MINIMUM ORGANIC CONTENT OF 4% BY DRY WEIGHT.

THE pH SHALL BE BETWEEN 5.5 AND 7.0. MUST PROVIDE TEST REPORT TO DESIGN TEAM PRIOR TO INSTALLATION.

6. **AS-BUILT REQUIREMENT (SEE 33-40-00 STORM DRAINAGE FOR ADDITIONAL INFO)**

   CONTRACTOR SHALL PROVIDE AS-BUILT TOPOGRAPHIC SURVEY PERFORMED BY A PROFESSIONAL LAND SURVEYOR CERTIFYING WETLAND AREA DIMENSIONS AND ELEVATIONS OF THE FOLLOWING:

   6.1.1. OUTLET STRUCTURE TOPS AND INVERTS, ORIFICE DIAMETERS, BARREL PIPE SIZES AND INVERTS AND STRUCTURE DIMENSIONS.
   6.1.2. EMERGENCY SPILLWAY ELEVATION AND DIMENSIONS.
   6.1.3. TOPOGRAPHY THAT EXTENDS 20 FEET OUTSIDE LIMITS OF POND WATER SURFACE AND EMBANKMENT.
   6.1.4. VERIFY THAT SLOPES ARE 3:1 MAXIMUM.
7. **EMBANKMENT REQUIREMENTS (SEE 31-20-00 EARTH MOVING FOR ADDITIONAL INFO)**

EMBANKMENT SHALL BE CONSTRUCTED OF CLEAN STRUCTURAL IMPERVIOUS SOIL, FREE OF ROOTS, VEGETATION, ROCKS & OTHER OBJECTIONABLE MATERIAL. SCARIFY SURFACES BEFORE PLACING FILL. PLACE FILL IN 6-8 INCH LOOSE LIFTS. COMPACT TO AT LEAST 95% OF THE STANDARD PROCTOR DENSITY.

EMBANKMENT STRUCTURE SHALL BE TIFTUF BERMUDA GRASS SOD AND PERIMETER FILL SLOPES, WITH NON-CLUMPING TURF GRASS SOD, AND TREES AND WOODY SHRUBS SHALL NOT BE PERMITTED.

ALL GRADING SHALL BE IN ACCORDANCE WITH APPENDIX J OF THE CURRENT NORTH CAROLINA BUILDING CODE.

GEO-TECH CONSULTANT MUST PROVIDE COMPACTION TESTING PER 31-20-00 FOR ALL EMBANKMENTS DURING CONSTRUCTION. THESE MUST BE SUBMITTED TO THE DESIGN TEAM BEFORE THE PROJECTS COMPLETION OR AS DIRECTED BY THE OWNER.

CONSTRUCTION SEQUENCE

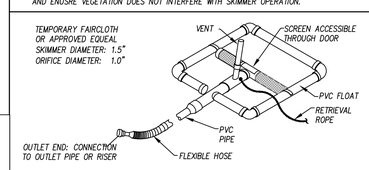
1. THE STORMWATER WETLAND SHALL BE UTILIZED AS A TEMPORARY SEDIMENT BASIN DURING CONSTRUCTION.
   1.1. SCHEDULE THE FOLLOWING WORK TO COINCIDE WITH AN EXTENDED FORECAST OF NO PRECIPITATION SUCH THAT ALL WORK CAN BE COMPLETED DURING A PERIOD OF DRY WEATHER.
   1.2. INSTALL WETLAND BARREL, OUTLET STRUCTURE, KEY TRENCH. THEN THE EMBANKMENT, EMERGENCY SPILLWAY AND OTHER WETLAND COMPONENTS.
   1.3. CALL FOR SITE INSPECTION PRIOR TO BACKFILLING WETLAND BARREL.
   1.4. INSTALL TEMPORARY SKIMMER ON WETLAND DRAIN. DRAIN VALVE TO REMAIN OPEN.
   1.5. EXCAVATE WETLAND TO TEMPORARY SKIMMER BASIN DIMENSIONS, SEE EROSION CONTROL PLAN.
   1.6. INSTALL BAFFLES AND OTHER TEMPORARY SKIMMER BASIN COMPONENTS, SEE TEMPORARY SKIMMER BASIN DETAIL.
   1.7. SEED ALL DISTURBED AREAS.
2. FOLLOWING COMPLETION OF CONSTRUCTION AND STABILIZATION OF POND DRAINAGE BASIN, PERFORM THE FOLLOWING:
   2.1. SCHEDULE THE FOLLOWING WORK TO COINCIDE WITH AN EXTENDED FORECAST OF NO PRECIPITATION SUCH THAT ALL WORK CAN BE COMPLETED DURING A PERIOD OF DRY WEATHER.
   2.2. REMOVE TEMPORARY BAFFLES.
   2.3. REMOVE ALL ACCUMULATED SEDIMENT. GRADE WETLAND INTERIOR TO SUBGRADE ELEVATIONS.
   2.4. INSTALL CLAY LINER AND ARMORED SECTIONS OF FOREBAY WEIRS.
   2.5. IF ADDITIONAL DE-WATERING IS NEEDED BELOW DRAIN/SKIMMER ELEVATION, UTILIZE A MUD PUMP WITH FLOATING SUCTION INLET AND DISCHARGE REMAINING WATER THROUGH A SEDIMENT FILTER BAG LOCATED OUTSIDE OF THE BASIN. MONITOR PUMPING TO ENSURE FLOW DOES NOT EXCEED THE CAPACITY OF FILTER BAG.
   2.6. INSTALL AND FINE GRADE TOPSOIL TO FINISH GRADES.
   2.7. INSTALL TEMPORARY SLOPE LININGS.
   2.8. REMOVE TEMPORARY CAP/BLOCKING FROM PRIMARY SPILLWAY.
   2.9. INSTALL WETLAND PLANTINGS.
   2.10. PERFORM DETAILED TOPOGRAPHIC SURVEY.
   2.11. FOLLOWING APPROVAL OF SURVEY, REMOVE TEMPORARY SKIMMER AND CLOSE DRAIN VALVE.

TEMPORARY SEDIMENT BASIN NOTES:

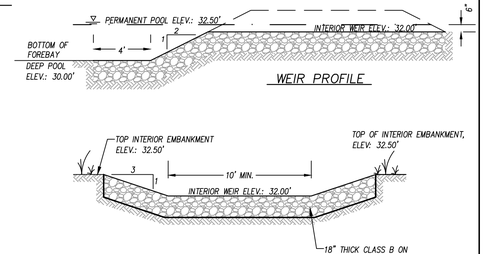
1. THE AREA OF THE NEW CONSTRUCTED WETLAND WILL BE UTILIZED AS A TEMP SEDIMENT BASIN DURING CONSTRUCTION.
2. A TEMP. SKIMMER SHALL BE ATTACHED TO THE OUTLET RISER DRAIN. THE BASIN SHALL BE GRADED TO TEMP. CONTOURS SHOWN ON THE EROSION CONTROL PLAN. TEMP. BAFFLES INSTALLED.
3. INSPECT DEVICE AFTER EACH RAINFALL. REMOVE SEDIMENT WHEN SEDIMENT REACHES A DEPTH OF NO MORE THAN ONE-HALF THE HEIGHT OF THE RISER. REPAIR BAFFLES IF DAMAGED.
4. PULL SKIMMER TO SIDE OF BASIN WITH ROPE AND INSPECT REGULARLY. KEEP SKIMMER HEAD, ORIFICE AND PIPE FREE OF DEBRIS. REMOVE SEDIMENT FROM BENEATH SKIMMER AND ENSURE VEGETATION DOES NOT INTERFERE WITH SKIMMER OPERATION.
5. PROVIDE PAINT MARK ON RISER AT 12" HEIGHT. CLEAN AND REPAIR ONCE SEDIMENT REACHES MARK.
6. INSTALL ALL COMPONENTS OF POND EMBANKMENT, OUTLET STRUCTURE, SKIMMER, EMERGENCY SPILLWAY, ETC. (UNLESS NOTED) PRIOR TO BEGINNING CLEARING OPERATIONS.
7. SEE SHEET C-401 & C-402 FOR TEMPORARY BAFFLE INSTALLATION.
8. PROVIDE GROUND COVER/TEMPORARY SEEDING ON BOTTOM OF TEMPORARY BASINS. SEE SEEDING SCHEDULE.
9. CHECK FABRIC LINED SPILLWAY FOR DAMAGE AND MAKE ANY REPAIRS WITH FABRIC THAT SPANS THE FULL WIDTH OF THE SPILLWAY.
10. MAINTENANCE NOTES

    INSPECT DEVICE AFTER EACH RAINFALL. REMOVE SEDIMENT WHEN SEDIMENT REACHES A DEPTH OF NO MORE THAN ONE-HALF THE HEIGHT OF THE RISER. REPAIR BAFFELS IF THEY ARE DAMAGED.

    PULL SKIMMER TO SIDE OF BASIN WITH ROPE AND INSPECT REGULARLY. KEEP SKIMMER HEAD, ORIFICE AND PIPE FREE OF DEBRIS. REMOVE SEDIMENT FROM BENEATH SKIMMER AND ENSURE VEGETATION DOES NOT INTERFERE WITH SKIMMER OPERATION.



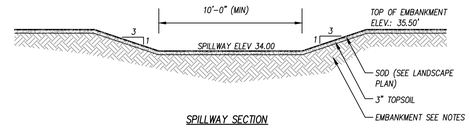
TEMPORARY SKIMMER N.T.S.



WEIR PROFILE

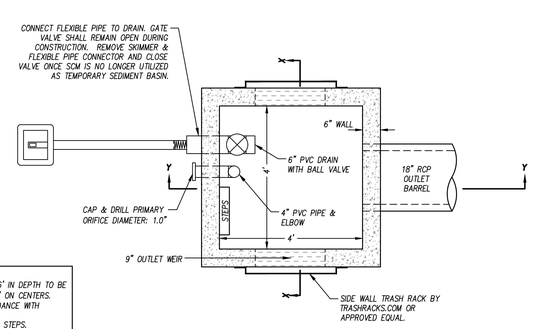
WEIR SECTION

ARMORED DEEP POOL WEIR
SCALE: 1"=5'



SPILLWAY SECTION

EMERGENCY SPILLWAY DETAIL
SCALE: 1"=5'

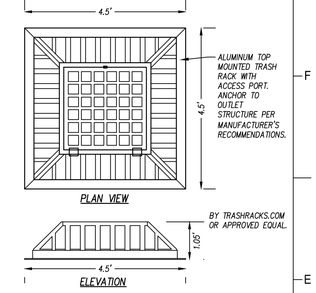


RISER PLAN VIEW
SCALE: 1"=2'

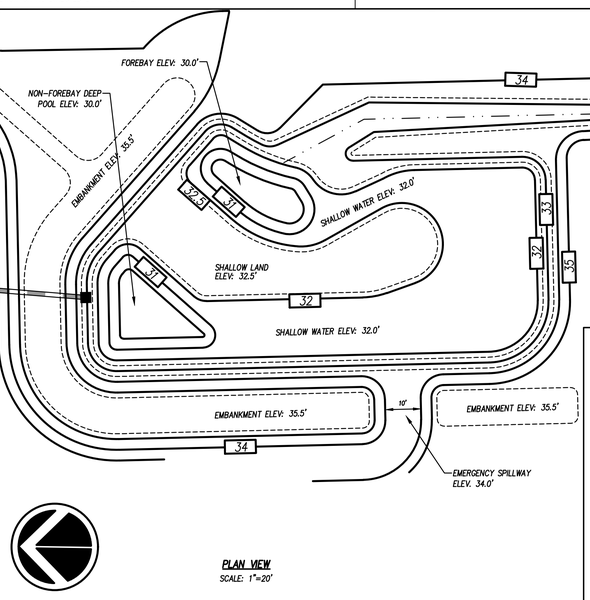
OUTLET STRUCTURE NOTES:
1. ALL STRUCTURES OVER 3'-6" IN DEPTH TO BE PROVIDED WITH STEPS 1'-2" ON CENTERS. STEPS SHALL BE IN ACCORDANCE WITH NCDOT STANDARD 840.66.
2. LOCATE ACCESS GATE OVER STEPS.
3. PRECAST CONCRETE STRUCTURE, 4000 PSI CONCRETE, SEE SPECIFICATIONS.
4. APPLY A MINIMUM TWO COATS OF GRAY BASF MASTERSEAL 581 WATERPROOF SEALANT OR APPROVED EQUAL. APPLY UPON COMPLETION OF CONCRETE REPAIRS OR FILLING/GROUTING OF HOLES. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

NOTES:
TRASH RACK SHALL BE ALUMINUM 48" SQUARE TOP-MOUNT HINGED TRASH RACK, MODEL LSO-48 HINGED BY TRASHRACKS.COM OR APPROVED EQUAL.

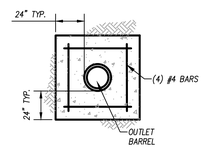
USE STAINLESS STEEL HARDWARE TO MOUNT TRASH RACK.



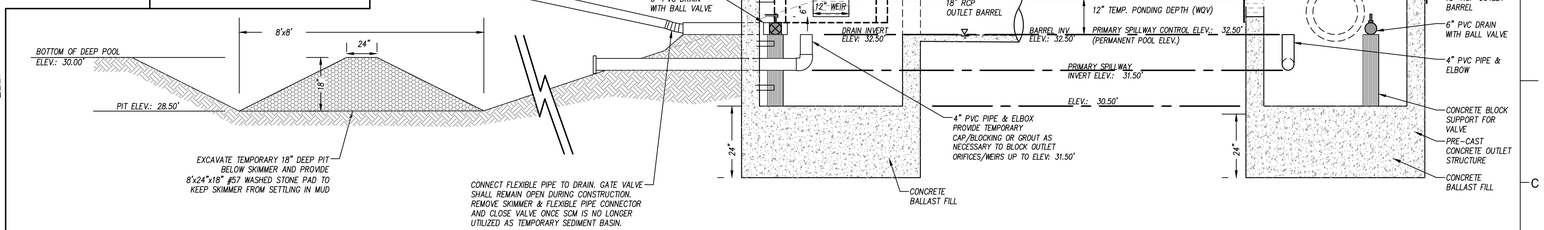
TRASH RACK DETAIL
SCALE: 1"=2'



PLAN VIEW
SCALE: 1"=20'



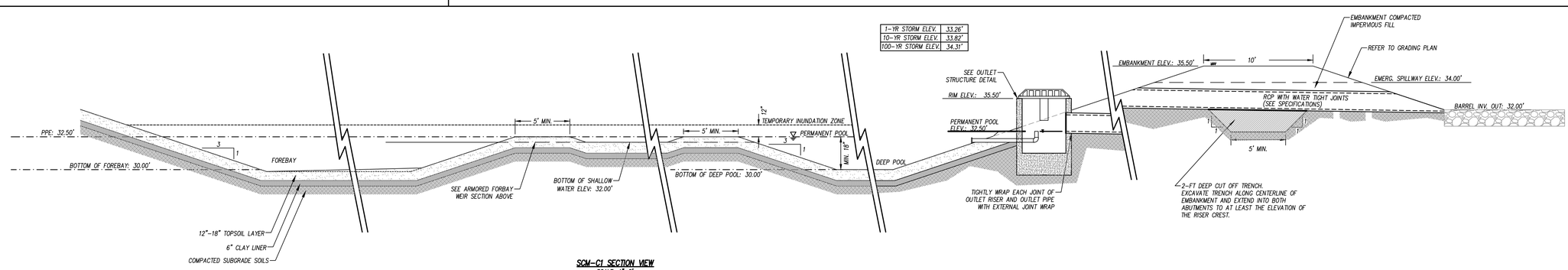
ANTI-SEEP COLLAR
SCALE: NTS



RISER SECTION Y-Y

OUTLET STRUCTURE
SCALE: 1"=2'

RISER SECTION X-X



SCM-C1 SECTION VIEW
SCALE: 1"=5'

WETLAND SCM 1 N.T.S.

DAVIS KANE ARCHITECTS, PA
503 OBERLIN ROAD | SUITE 300
RALEIGH, NC 27605
919.833.3737
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CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-8716
Fax: (919) 319-7516
LA: C-106
PE: C-1595

PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION

ONSLOW COUNTY

OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

NORTH CAROLINA PROFESSIONAL SEAL 022625 ENGINEER STEVEN J MILLER

Digitally signed by Steven Miller
Date: 2025.03.11 16:48:28-04'00'

DKA JOB NUMBER
2324

REVISIONS

PA:	ZP
PM:	YA
Drawn By:	SL/SH
Plot Date:	03/12/2025

DATE ISSUED

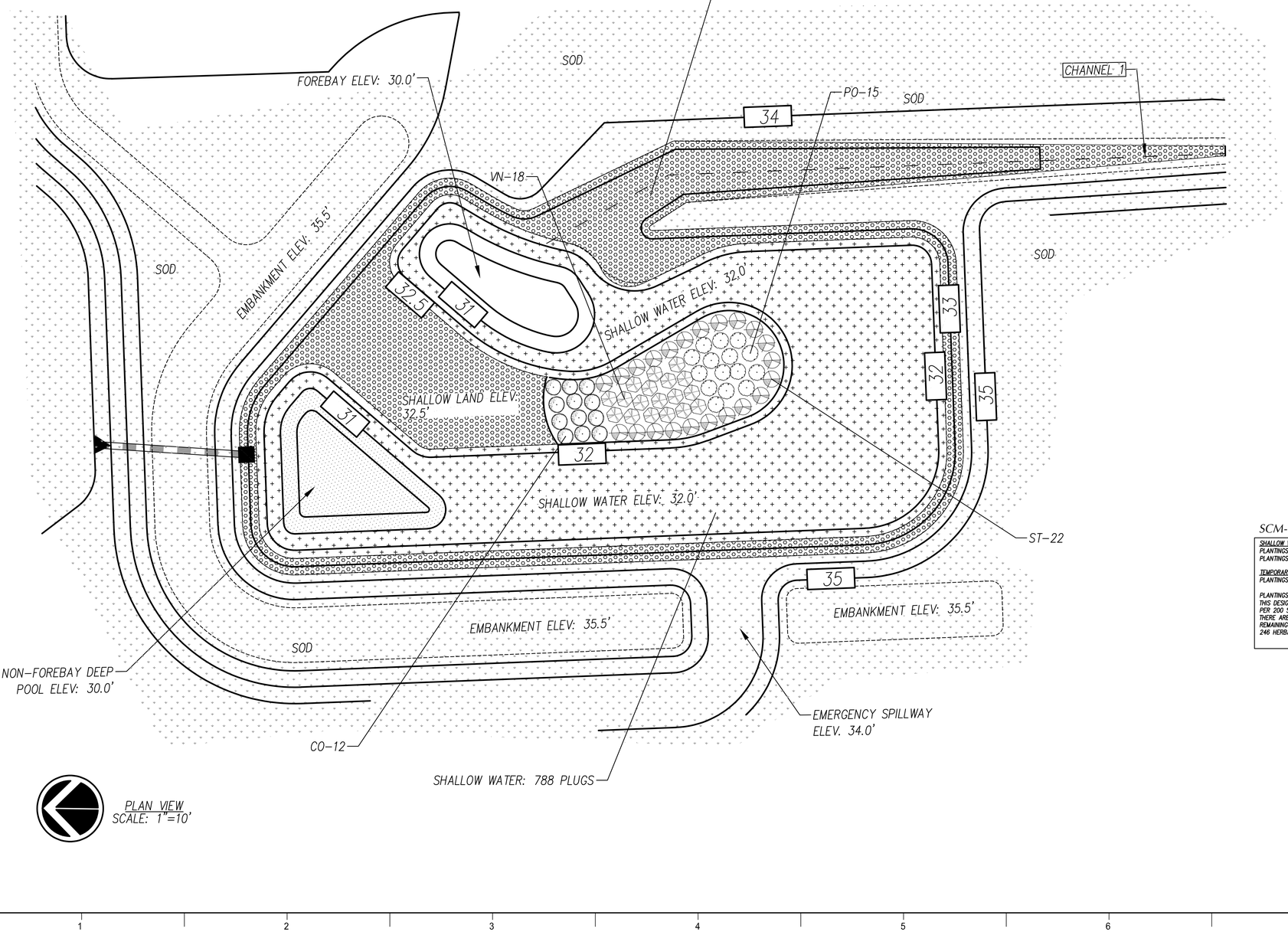
BID DOCUMENTS

03/12/2025

SHEET TITLE

SCM DETAIL

C703



PLAN VIEW
SCALE: 1"=10'

DETENTION WETLAND PLANTING SCHEDULE

KEY	QTY	PLANT NAME	SIZE
TEMPORARY INUNDATION ZONE SHRUBS			
CO	12	CEPHALANTHUS OCCIDENTALIS – BUTTON BUSH	MIN. 12" HT. CONT.
PO	15	PHYSOCARPUS OPULIFOLIUS 'DIABOLO' – NINEBARK	PLANT 5' O.C.
VN	18	VIBURNUM NUDUM 'BRANDYWINE' – POSSUMHAW VIBURNUM	
ST	22	SPIREA TOMENTOSA – STEEPLEBUSH	
TEMPORARY INUNDATION ZONE PLANT LIST			
	49	CAREX STRICTA – TUSSOCK SEDGE	LARGE PLUGS (MIN. 6 CUBIC INCHES) SPACE 2' O.C.
	49	ASCLEPIAS INCARNATA – SWAMP MILKWEED	
	49	SAURURUS CERNUUS – LIZARD'S TAIL	
	49	LOBELIA CARDINALIS – CARDINAL FLOWER	
	50	LIATRIS SPICATA – BLAZING STAR	
SHALLOW WATER PLANT LIST			
	157	PELTANDRA VIRGINICA – ARROW ARUM	LARGE PLUGS (MIN. 6 CUBIC INCHES) SPACE 2' O.C.
	157	PONTEDERIA CORDATA – PICKERELWEED	
	158	ACORUS AMERICANUS – SWEETFLAG	
	158	IRIS VIRGINICA – VIRGINIA IRIS	
	158	JUNCUS EFFUSUS – COMMON RUSH	
DEEP POOL AND MICRO POOL PLANT LIST			
	250	NYMPHAEA ODORATA – WATERLILY	LARGE PLUGS (MIN. 6 CUBIC INCHES) SPACE 2' O.C.
		SOD – TIFTUF BERMUDA	

NOTES

1. WETLAND AREA SHALL BE DRAINED ONE DAY PRIOR TO PLANTING.
2. LANDSCAPE ARCHITECT TO APPROVE ALL LOCATIONS IN FIELD.
3. PLACE PLANTINGS IN DESIGNATED AREA BY SPECIES IN GROUPINGS OF 40 PLANTS OR MORE.
4. SODDED AREA SHALL NOT BE MOWED AT SIDE SLOPES.

WETLAND SOIL MIX

ADD 12" OF TOPSOIL THROUGHOUT STORMWATER WETLAND AREA. TOPSOIL SHALL BE PLACED WITHIN THE SHALLOW LAND, SHALLOW WATER AND DEEP POOL AREAS AND ADHERE TO THE FOLLOWING REQUIREMENTS:

1. THE SOIL MUST BE UNIFORM AND FREE OF STONES, STUMPS, ROOTS, OR OTHER SIMILAR MATERIAL GREATER THAN 2 INCHES.
2. SOIL TEXTURE SHALL BE A LOAMY SAND, WITH NO MORE THAN 10% CLAY (USDA SOIL TEXTURAL CLASSIFICATION).
3. A MINIMUM ORGANIC CONTENT OF 10% BY DRY WEIGHT.
4. THE PH SHALL BE BETWEEN 5.5 AND 7.0.

SCM-1 PLANT CALC.

SHALLOW WATER ZONE SQUARE FOOTAGE: 3,152 SF
PLANTINGS REQUIRED: 50 HERBACEOUS PLANTS PER 200 SF. (3,152/200)X50 = 788 PLANTS
PLANTINGS PROVIDED: 788 PLANTS

TEMPORARY INUNDATION ZONE SQUARE FOOTAGE: 2,658 SF
PLANTINGS REQUIRED: 50 HERBACEOUS PLANTS PER 200 SF.
8 SHRUBS PER 200 SF.

PLANTINGS PROVIDED:
THIS DESIGN PROPOSES A COMBINATION OF SHRUBS AND HERBACEOUS PLANTS. THE SHRUB REQUIREMENT IS 8 PER 200 SQUARE FEET. 200 DIVIDED BY 8 EQUALS 25 WHICH MEANS THAT 1 SHRUB EQUALS 25 SQUARE FEET. THERE ARE 67 SHRUBS PROPOSED. 67 TIMES 25 EQUALS 1675 SF OF SHRUB AREA. THIS LEAVES 983 SF REMAINING FOR HERBACEOUS PLANTS. 983 DIVIDED BY 200 THEN MULTIPLIED BY 50 EQUALS 245.75. 246 HERBACEOUS PLANTS ARE PROPOSED TO MEET THE DESIGN REQUIREMENTS.

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PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION

ONSLOW COUNTY

OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1699 CHARY R PIERCE 03/12/25

DKA JOB NUMBER
2324

REVISIONS

PA:	ZP
PM:	YA
Drawn By:	SL/SH
Plot Date:	03/12/2025

DATE ISSUED

BID DOCUMENTS

03/12/2025

SHEET TITLE
WETLAND PLANTING PLAN

C704

CONSTRUCTED WETLAND GENERAL NOTES:

1. CONSTRUCTED WETLAND SHALL CONFIRM PER SPEC SECTION 31-20-00 EARTH MOVING. ANY DISCREPANCIES NOTED ON DETAIL PERTAINING TO EARTH MOVING SHALL BE BROUGHT TO THE DESIGN TEAMS ATTENTION PRIOR TO CONSTRUCTION.
2. CONSTRUCTED WETLAND SHALL CONFIRM PER SPEC SECTION 31-25-00 EROSION & SEDIMENT CONTROL. ANY DISCREPANCIES NOTED ON DETAIL PERTAINING TO EROSION & SEDIMENT CONTROL SHALL BE BROUGHT TO THE DESIGN TEAMS ATTENTION PRIOR TO CONSTRUCTION.
3. CONSTRUCTED WETLAND SHALL CONFIRM PER SPEC SECTION 33-40-00 STORM DRAINAGE. ANY DISCREPANCIES NOTED ON DETAIL PERTAINING TO STORM DRAINAGE SHALL BE BROUGHT TO THE DESIGN TEAMS ATTENTION PRIOR TO CONSTRUCTION.
4. **CLAY LINERS (PROVIDE UNLESS NOTED BELOW)**

   CONTRACTOR SHALL FURNISH AND INSTALL A 6-IN THICK LAYER OF COMPACTED CLAY BENEATH THE WETLAND TOPSOIL.

   SUBGRADE OF WETLAND MUST BE OVER-EXCAVATED TO ACCOMMODATE CLAY LAYER.

   COMPACTED CLAY SHALL BE TESTED IN PLACE AND SHALL HAVE A PERMEABILITY NO GREATER THAN 0.01 IN/HR PRIOR TO INSTALLING TOPSOIL AND PLANTS
5. **WETLAND SOIL (SEE 32-90-00 PLANTING SPECIFICATION FOR ADDITIONAL INFO.**

PROVIDE 12-18" OF TOPSOIL THROUGHOUT STORMWATER WETLAND AREA. TOPSOIL SHALL BE PLACED WITHIN THE SHALLOW LAND, SHALLOW WATER AND DEEP POOL AREAS AND ADHERE TO THE FOLLOWING REQUIREMENTS:

THE SOIL MUST BE UNIFORM AND FREE OF STONES, STUMPS, ROOTS, OR OTHER SIMILAR MATERIAL GREATER THAN 2 INCHES.

SOIL TEXTURE SHALL BE A LOAMY SAND, WITH NO MORE THAN 10% CLAY (USDA SOIL TEXTURAL CLASSIFICATION).

A MINIMUM ORGANIC CONTENT OF 4% BY DRY WEIGHT.

THE pH SHALL BE BETWEEN 5.5 AND 7.0. MUST PROVIDE TEST REPORT TO DESIGN TEAM PRIOR TO INSTALLATION.

6. **AS-BUILT REQUIREMENT (SEE 33-40-00 STORM DRAINAGE FOR ADDITIONAL INFO)**

   CONTRACTOR SHALL PROVIDE AS-BUILT TOPOGRAPHIC SURVEY PERFORMED BY A PROFESSIONAL LAND SURVEYOR CERTIFYING WETLAND AREA DIMENSIONS AND ELEVATIONS OF THE FOLLOWING:

   6.1.1. OUTLET STRUCTURE TOPS AND INVERTS, ORIFICE DIAMETERS, BARREL PIPE SIZES AND INVERTS AND STRUCTURE DIMENSIONS.
   6.1.2. EMERGENCY SPILLWAY ELEVATION AND DIMENSIONS.
   6.1.3. TOPOGRAPHY THAT EXTENDS 20 FEET OUTSIDE LIMITS OF POND WATER SURFACE AND EMBANKMENT.
   6.1.4. VERIFY THAT SLOPES ARE 3:1 MAXIMUM.
7. **EMBANKMENT REQUIREMENTS (SEE 31-20-00 EARTH MOVING FOR ADDITIONAL INFO)**

EMBANKMENT SHALL BE CONSTRUCTED OF CLEAN STRUCTURAL IMPERVIOUS SOIL, FREE OF ROOTS, VEGETATION, ROCKS & OTHER OBJECTIONABLE MATERIAL. SCARIFY SURFACES BEFORE PLACING FILL. PLACE FILL IN 6-8 INCH LOOSE LIFTS. COMPACT TO AT LEAST 95% OF THE STANDARD PROCTOR DENSITY.

EMBANKMENT STRUCTURE SHALL BE TIFTUF BERMUDA GRASS SOD AND PERIMETER FILL SLOPES, WITH NON-CLUMPING TURF GRASS SOD, AND TREES AND WOODY SHRUBS SHALL NOT BE PERMITTED.

ALL GRADING SHALL BE IN ACCORDANCE WITH APPENDIX J OF THE CURRENT NORTH CAROLINA BUILDING CODE.

GEO-TECH CONSULTANT MUST PROVIDE COMPACTION TESTING PER 31-20-00 FOR ALL EMBANKMENTS DURING CONSTRUCTION. THESE MUST BE SUBMITTED TO THE DESIGN TEAM BEFORE THE PROJECTS COMPLETION OR AS DIRECTED BY THE OWNER.

CONSTRUCTION SEQUENCE

1. THE STORMWATER WETLAND SHALL BE UTILIZED AS A TEMPORARY SEDIMENT BASIN DURING CONSTRUCTION.
   1.1. SCHEDULE THE FOLLOWING WORK TO COINCIDE WITH AN EXTENDED FORECAST OF NO PRECIPITATION SUCH THAT ALL WORK CAN BE COMPLETED DURING A PERIOD OF DRY WEATHER.
   1.2. INSTALL WETLAND BARREL, OUTLET STRUCTURE, KEY TRENCH. THEN THE EMBANKMENT, EMERGENCY SPILLWAY AND OTHER WETLAND COMPONENTS.
   1.3. CALL FOR SITE INSPECTION PRIOR TO BACKFILLING WETLAND BARREL.
   1.4. INSTALL TEMPORARY SKIMMER ON WETLAND DRAIN. DRAIN VALVE TO REMAIN OPEN.
   1.5. EXCAVATE WETLAND TO TEMPORARY SKIMMER BASIN DIMENSIONS, SEE EROSION CONTROL PLAN.
   1.6. INSTALL BAFFLES AND OTHER TEMPORARY SKIMMER BASIN COMPONENTS, SEE TEMPORARY SKIMMER BASIN DETAIL.
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2. FOLLOWING COMPLETION OF CONSTRUCTION AND STABILIZATION OF POND DRAINAGE BASIN, PERFORM THE FOLLOWING:
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   2.2. REMOVE TEMPORARY BAFFLES.
   2.3. REMOVE ALL ACCUMULATED SEDIMENT. GRADE WETLAND INTERIOR TO SUBGRADE ELEVATIONS.
   2.4. INSTALL CLAY LINER AND ARMORED SECTIONS OF FOREBAY WEIRS.
   2.5. IF ADDITIONAL DE-WATERING IS NEEDED BELOW DRAIN/SKIMMER ELEVATION, UTILIZE A MUD PUMP WITH FLOATING SUCTION INLET AND DISCHARGE REMAINING WATER THROUGH A SEDIMENT FILTER BAG LOCATED OUTSIDE OF THE BASIN. MONITOR PUMPING TO ENSURE FLOW DOES NOT EXCEED THE CAPACITY OF FILTER BAG.
   2.6. INSTALL AND FINE GRADE TOPSOIL TO FINISH GRADES.
   2.7. INSTALL TEMPORARY SLOPE LININGS.
   2.8. REMOVE TEMPORARY CAP/BLOCKING FROM PRIMARY SPILLWAY.
   2.9. INSTALL WETLAND PLANTINGS.
   2.10. PERFORM DETAILED TOPOGRAPHIC SURVEY.
   2.11. FOLLOWING APPROVAL OF SURVEY, REMOVE TEMPORARY SKIMMER AND CLOSE DRAIN VALVE.

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3. INSPECT DEVICE AFTER EACH RAINFALL. REMOVE SEDIMENT WHEN SEDIMENT REACHES A DEPTH OF NO MORE THAN ONE-HALF THE HEIGHT OF THE RISER. REPAIR BAFFLES IF DAMAGED.
4. PULL SKIMMER TO SIDE OF BASIN WITH ROPE AND INSPECT REGULARLY. KEEP SKIMMER HEAD, ORIFICE AND PIPE FREE OF DEBRIS. REMOVE SEDIMENT FROM BENEATH SKIMMER AND ENSURE VEGETATION DOES NOT INTERFERE WITH SKIMMER OPERATION.
5. PROVIDE PAINT MARK ON RISER AT 12" HEIGHT. CLEAN AND REPAIR ONCE SEDIMENT REACHES MARK.
6. INSTALL ALL COMPONENTS OF POND EMBANKMENT, OUTLET STRUCTURE, SKIMMER, EMERGENCY SPILLWAY, ETC. (UNLESS NOTED) PRIOR TO BEGINNING CLEARING OPERATIONS.
7. SEE SHEET C-401 & C-402 FOR TEMPORARY BAFFLE INSTALLATION.
8. PROVIDE GROUND COVER/TEMPORARY SEEDING ON BOTTOM OF TEMPORARY BASINS. SEE SEEDING SCHEDULE.
9. CHECK FABRIC LINED SPILLWAY FOR DAMAGE AND MAKE ANY REPAIRS WITH FABRIC THAT SPANS THE FULL WIDTH OF THE SPILLWAY.
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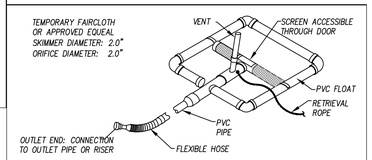
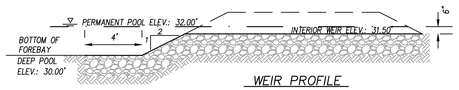
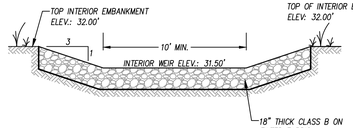


TEMPORARY SKIMMER N.T.S.

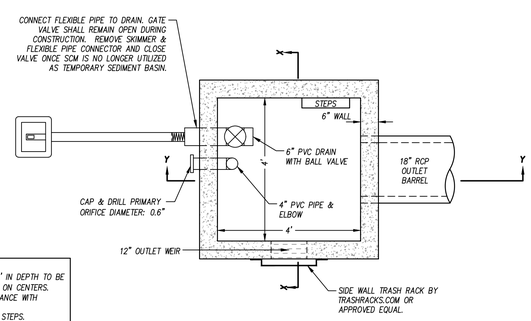


WEIR PROFILE



WEIR SECTION

ARMORED DEEP POOL WEIR
SCALE: 1"=5'



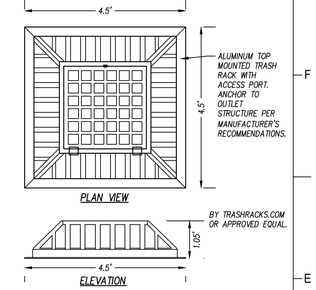
RISER PLAN VIEW
SCALE: 1"=2'

OUTLET STRUCTURE NOTES:

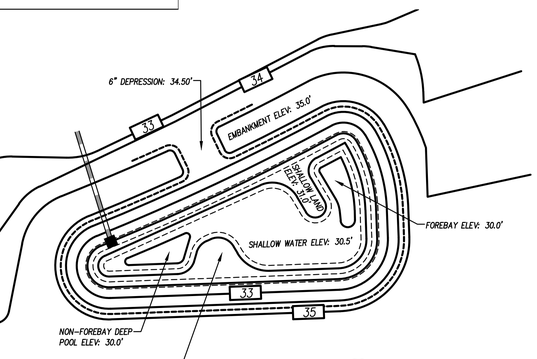
1. ALL STRUCTURES OVER 3'-6' IN DEPTH TO BE PROVIDED WITH STEPS 1'-2" ON CENTERS. STEPS SHALL BE IN ACCORDANCE WITH NCDOT STANDARD 840.66.
2. LOCATE ACCESS GATE OVER STEPS.
3. PRECAST CONCRETE STRUCTURE, 4000 PSI CONCRETE, SEE SPECIFICATIONS.
4. APPLY A MINIMUM TWO COATS OF GRAY BASF MASTERSEAL 581 WATERPROOF SEALANT OR APPROVED EQUAL. APPLY UPON COMPLETION OF CONCRETE REPAIRS OR FILLING/GROUTING OF HOLES. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

NOTES:
TRASH RACK SHALL BE ALUMINUM 48" SQUARE TOP-MOUNT HINGED TRASH RACK, MODEL LSQ-48 HINGED BY TRASHRACKS.COM OR APPROVED EQUAL.

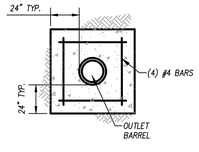
USE STAINLESS STEEL HARDWARE TO MOUNT TRASH RACK.



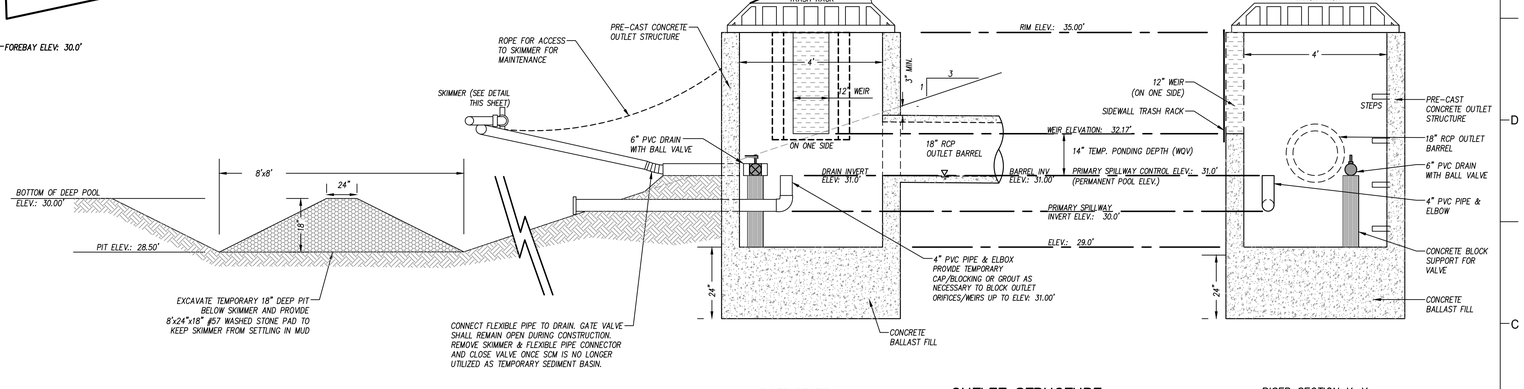
TRASH RACK DETAIL
SCALE: 1"=2'



PLAN VIEW
SCALE: 1"=20'

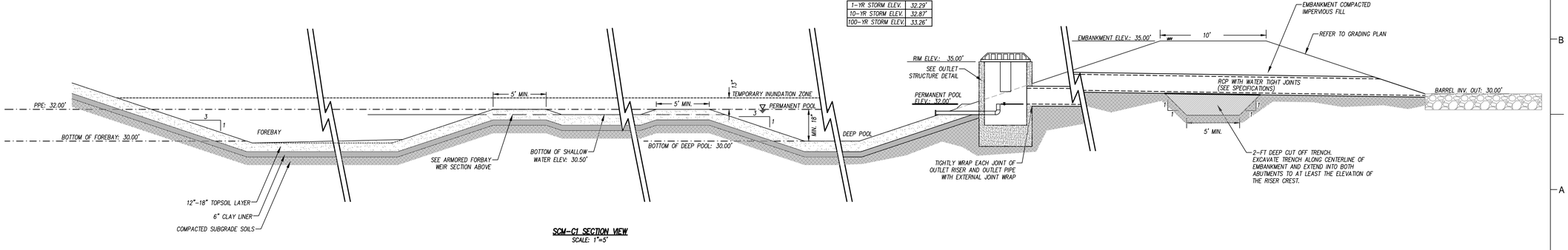


ANTI-SEEP COLLAR
SCALE: NTS



RISER SECTION Y-Y — OUTLET STRUCTURE (SCALE: 1"=2') — RISER SECTION X-X

1-YR STORM ELEV.	32.29'
10-YR STORM ELEV.	32.87'
100-YR STORM ELEV.	33.26'



SCM-C1 SECTION VIEW
SCALE: 1"=5'

WETLAND SCM 2 N.T.S.

DAVIS KANE ARCHITECTS, PA
503 OBERLIN ROAD | SUITE 300
RALEIGH, NC 27605
919.833.3737
www.daviskane.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-8716
Fax: (919) 319-7516
LA: C-106
PE: C-1595

PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION

ONSLOW COUNTY

OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

Digitally signed by Steven Miller
Date: 2025.03.11 16:49:33-04'00'

NORTH CAROLINA PROFESSIONAL SEAL 022625 ENGINEER STEVEN J. MILLER

DKA JOB NUMBER
2324

REVISIONS

PA: ZP
PM: YA
Drawn By: SL/SH
Plot Date: 03/12/2025

DATE ISSUED

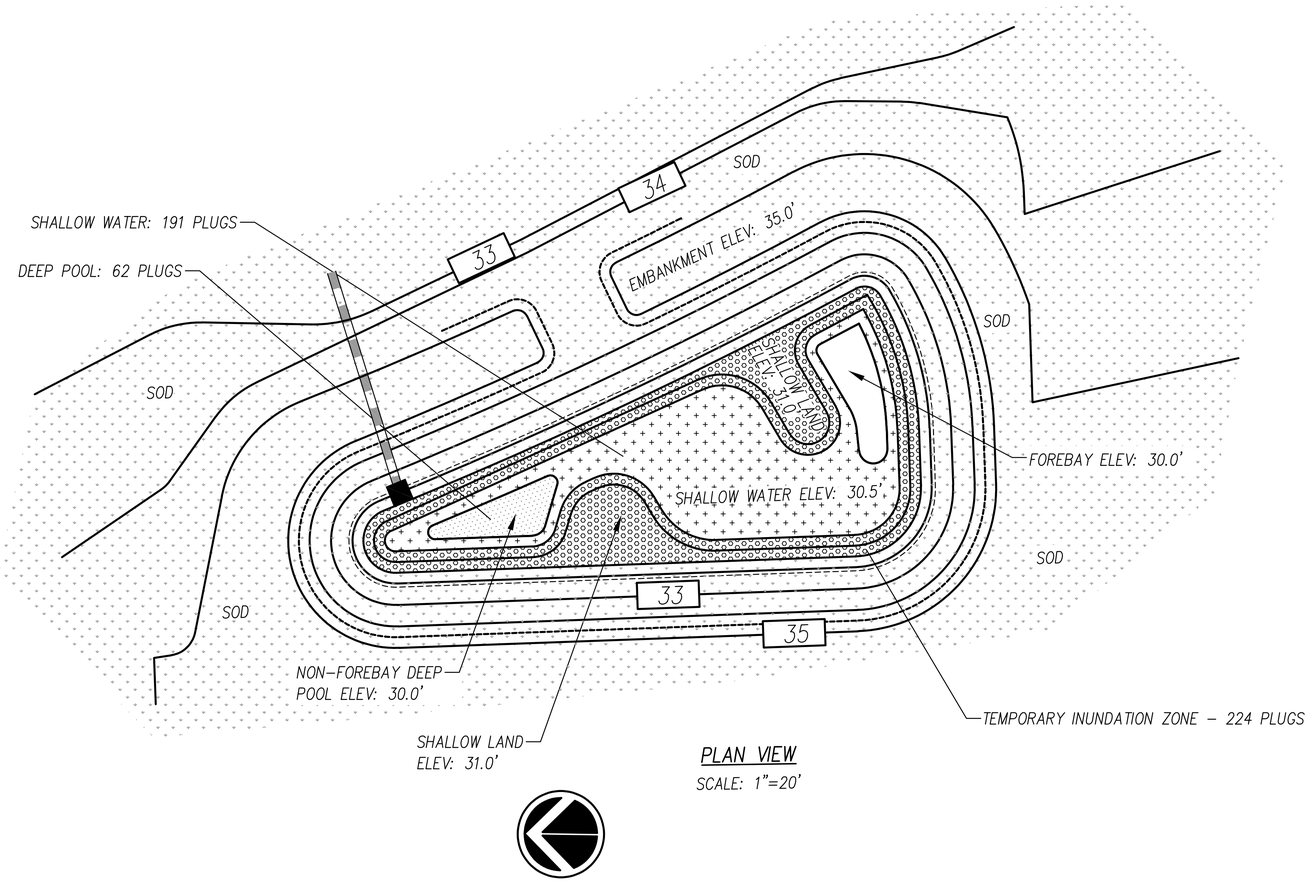
BID DOCUMENTS

03/12/2025

SHEET TITLE

SCM DETAIL

C705



PLAN VIEW

SCALE: 1"=20'

DETENTION WETLAND PLANTING SCHEDULE

TEMPORARY INUNDATION ZONE PLANT LIST			
	45	CAREX STRICTA – TUSSOCK SEDGE	LARGE PLUGS (MIN. 6 CUBIC INCHES) SPACE 2' O.C.
	45	ASCLEPIAS INCARNATA – SWAMP MILKWEED	
	45	SAURURUS CERNUUS – LIZARD'S TAIL	
	45	LOBELIA CARDINALIS – CARDINAL FLOWER	
	44	LIATRIS SPICATA – BLAZING STAR	
SHALLOW WATER PLANT LIST			
	38	PELTANDRA VIRGINICA – ARROW ARUM	LARGE PLUGS (MIN. 6 CUBIC INCHES) SPACE 2' O.C.
	38	PONTEDERIA CORDATA – PICKERELWEED	
	38	ACORUS AMERICANUS – SWEETFLAG	
	38	IRIS VIRGINICA – VIRGINIA IRIS	
	39	JUNCUS EFFUSUS – COMMON RUSH	
DEEP POOL AND MICRO POOL PLANT LIST			
	62	NYMPHAEA ODORATA – WATERLILY	LARGE PLUGS (MIN. 6 CUBIC INCHES) SPACE 2' O.C.

SOD – TIFTUF BERMUDA

NOTES

1. WETLAND AREA SHALL BE DRAINED ONE DAY PRIOR TO PLANTING.
2. LANDSCAPE ARCHITECT TO APPROVE ALL LOCATIONS IN FIELD.
3. PLACE PLANTINGS IN DESIGNATED AREA BY SPECIES IN GROUPINGS OF 40 PLANTS OR MORE.
4. SODDED AREA SHALL NOT BE MOWED AT SIDE SLOPES.

WETLAND SOIL MIX

ADD 12" OF TOPSOIL THROUGHOUT STORMWATER WETLAND AREA. TOPSOIL SHALL BE PLACED WITHIN THE SHALLOW LAND, SHALLOW WATER AND DEEP POOL AREAS AND ADHERE TO THE FOLLOWING REQUIREMENTS:

1. THE SOIL MUST BE UNIFORM AND FREE OF STONES, STUMPS, ROOTS, OR OTHER SIMILAR MATERIAL GREATER THAN 2 INCHES.
2. SOIL TEXTURE SHALL BE A LOAMY SAND, WITH NO MORE THAN 10% CLAY (USDA SOIL TEXTURAL CLASSIFICATION).
3. A MINIMUM ORGANIC CONTENT OF 10% BY DRY WEIGHT.
4. THE PH SHALL BE BETWEEN 5.5 AND 7.0.

SCM-1 PLANT CALC.

SHALLOW WATER ZONE SQUARE FOOTAGE: 762 SF
PLANTINGS REQUIRED: 50 HERBACEOUS PLANTS PER 200 SF. (762/200)X50 = 190.5 (191) PLANTS
PLANTINGS PROVIDED: 191 PLANTS

TEMPORARY INUNDATION ZONE SQUARE FOOTAGE: 895 SF
PLANTINGS REQUIRED: 50 HERBACEOUS PLANTS PER 200 SF. (895/200)X50 = 223.75 (224) PLANTS
PLANTINGS PROVIDED: 224 PLANTS

DAVIS KANE ARCHITECTS, PA
503 OBERLIN ROAD | SUITE 300
RALEIGH, NC 27605
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PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION

ONSLOW COUNTY

OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1699 ZACHARY R. PIERCE 03/12/25

DKA JOB NUMBER
2324

REVISIONS

PA: ZP
PM: YA
Drawn By: SL/SH
Plot Date: 03/12/2025

DATE ISSUED

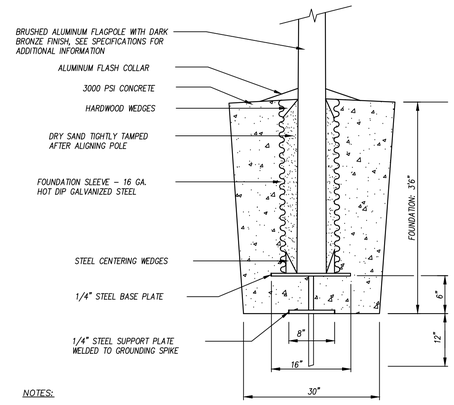
BID DOCUMENTS

03/12/2025

SHEET TITLE

WETLAND PLANTING PLAN

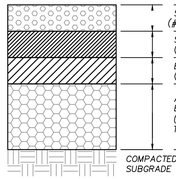
C706



NOTES:

1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. FLAGPOLE SHALL BE SEAMLESS, TAPERED ALUMINUM TUBING, DARK BRONZE FINISH, MANUFACTURER'S STANDARD 6' BUTT AND 3-1/2' TOP DIAMETER. PROVIDE COMPLETE WITH INTERNAL CAM CLEAT SYSTEM, INTERNAL HAYLARD, TRUCK, COLLAR AND 8' DIAMETER LED BEACON DOWNLIGHTING. INSTALL PER MANUFACTURER.

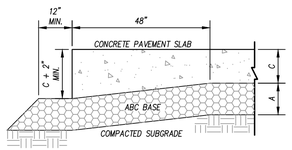
FLAG POLE DETAIL N.T.S.



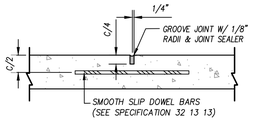
	LIGHT DUTY ASPHALT	HEAVY DUTY ASPHALT	GRAVEL PAVEMENT
SURFACE COURSE (#78 WASHED STONE)	--	--	1-IN
SURFACE COURSE (NCDOT S-9.5B)	2-IN	1.5-IN	--
BINDER COURSE (NCDOT I-19.0C)	--	2.5-IN	--
AGGREGATE BASE COURSE (NCDOT CABC TYPE 1 OR TYPE 2)	6-IN	8-IN	6-IN

1. SEE SPECIFICATIONS FOR PROOFROLLING, COMPACTION & TESTING REQUIREMENTS.
2. DETAIL IS FOR ON-SITE PAVING OPERATIONS ONLY.
3. THE CONTRACTOR MAY CHOOSE TO INSTALL INTERMEDIATE COURSES OF PAVEMENT TO STABILIZE THE SITE DURING CONSTRUCTION AT NO ADDITIONAL COST.
4. THE CONTRACTOR IS REPONSIBLE FOR DETERMINING THE ADEQUATE THICKNESS REQUIRED FOR INTERMEDIATE PAVING. INCREASES IN THE DESIGN PAVEMENT SECTION TO FACILITATE INTERMEDIATE PAVING SHALL BE PROVIDED AT NO ADDITIONAL COST.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGES TO SUBGRADE, INSTALLED BASE COURSE AND/OR INTERMEDIATE PAVING PRIOR TO PLACING SUBSEQUENT PAVEMENT LIFTS AT NO ADDITIONAL COST.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING PAVEMENT DURING ALL PHASES OF WORK. THE FINAL SURFACE OF PAVEMENT SHALL BE FREE OF ALL DEFECTS OR DAMAGE.

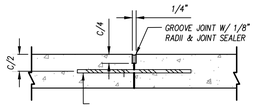
ASPHALT AND GRAVEL PAVEMENT SECTIONS N.T.S.



TYPICAL THICKENED EDGE
NTS

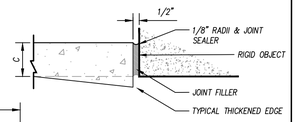


TYPICAL CONTRACTION JOINT
NTS

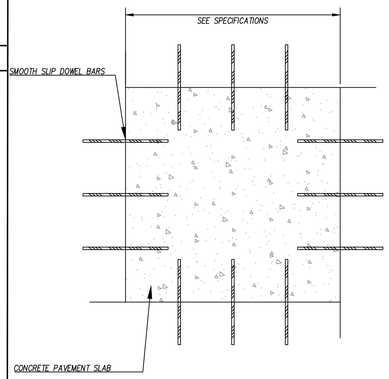


TYPICAL CONSTRUCTION JOINT
NTS

CONCRETE PAVEMENT DIMENSIONS	
CONC SLAB THICKNESS, C	7-IN
ABC THICKNESS, A	4-IN
DOWEL DIAMETER	SEE SPECS



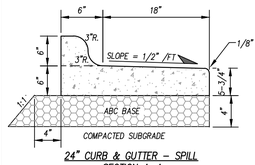
TYPICAL ISOLATION JOINT
NTS



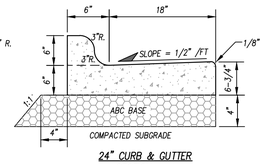
NOTES:

1. ALL CONCRETE SHALL BE OF NCDOT TYPE AA PORTLAND CEMENT CONCRETE WITH A 28-DAY COMPRESSIVE STRENGTH OF 4500 PSI (ASTM C39).
2. CONTRACTION JOINTS SHALL BE PLACED PER SPECIFICATION 32 13 13.
3. ISOLATION JOINTS SHALL BE PLACED WHERE CONCRETE PAVEMENT ABUTS ANY RIGID OBJECT.
4. JOINTS IN CURB & GUTTER SHALL BE ALIGNED WITH JOINTS IN ADJOINING CONCRETE PAVEMENT.
4. JOINTING PLAN DEVELOPED BY CONTRACTOR IN ACCORDANCE WITH ACI-330R-08 SHALL BE APPROVED BY SITE DESIGN ENGINEER PRIOR TO POURING SLAB.

CONCRETE PAVEMENT N.T.S.



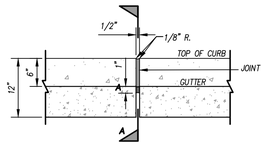
24" CURB & GUTTER - SPILL
SECTION A-A



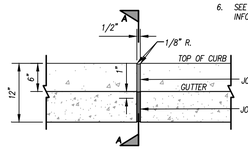
24" CURB & GUTTER
SECTION A-A

CURB AND GUTTER NOTES:

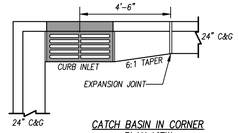
1. ALL CONCRETE SHALL BE 4,000 P.S.I. @ 28 DAYS
2. CONTRACTION JOINTS SHALL BE SPACED AT 10' INTERVALS, SPACING MAY BE INCREASED TO 15' IF MACHINE IS USED.
3. CONTRACTION JOINTS SHALL BE INSTALLED BY THE USE OF TEMPLATES OR FORMED BY OTHER APPROVED METHODS. WHERE SUCH JOINTS ARE NOT FORMED BY TEMPLATES, A MINIMUM DEPTH OF 1-1/2" SHALL BE OBTAINED.
4. EXPANSION JOINTS SHALL BE SPACED AT 90' MAX INTERVALS, AND ADJACENT TO ALL RIGID OBJECTS.
5. ALL JOINTS SHALL BE FILLED WITH JOINT FILLER AND SEALER.
6. SEE SPECIFICATION SECTION 32 13 13 FOR ADDITIONAL INFORMATION



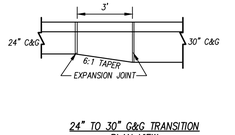
CONTRACTION JOINT



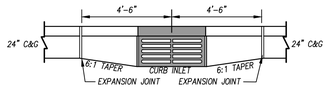
TRANSVERSE EXPANSION JOINT



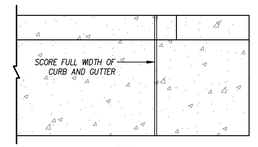
CATCH BASIN IN CORNER
PLAN VIEW



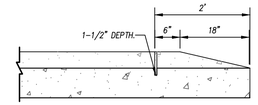
24" TO 30" G&G TRANSITION
PLAN VIEW



CATCH BASIN ALONG GUTTER
PLAN VIEW

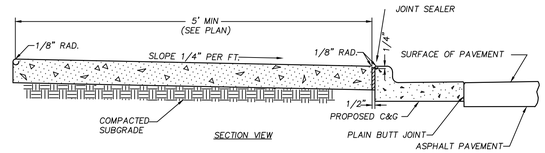


PLAN



FRONT
STANDARD METHOD OF
ENDING CURB AND GUTTER

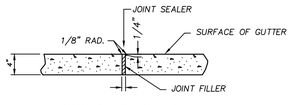
CURB AND GUTTER N.T.S.



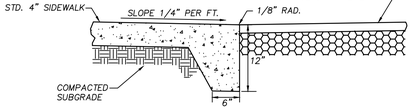
SECTION VIEW

GENERAL NOTES:

1. A GROOVE JOINT 1" DEEP WITH 1/8" RADII SHALL BE REQUIRED IN THE CONCRETE SIDEWALK AT INTERVALS THE WIDTH OF THE SIDEWALK UNLESS INDICATED OTHERWISE. SEE SPECS FOR ADDITIONAL JOINT SPACING REQUIREMENTS.
2. ONE 1/2" EXPANSION JOINT WILL BE REQUIRED AT 50' INTERVALS.
3. A 1/2" EXPANSION JOINT WILL BE REQUIRED WHERE THE SIDEWALK JOINS ANY RIGID STRUCTURE.
4. ALL CONCRETE SHALL BE 3,000 P.S.I.

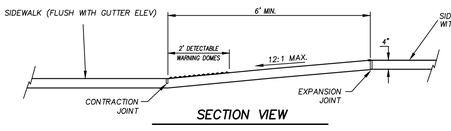


TRANSVERSE EXPANSION JOINT

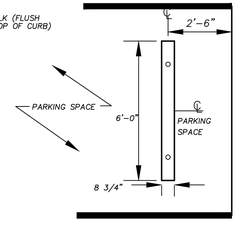


SECTION OF SIDEWALK ABUTTING PAVEMENT

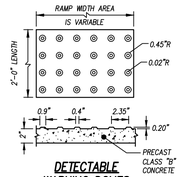
CONCRETE SIDEWALK N.T.S.



SECTION VIEW



90° PARKING SPACE PLAN VIEW



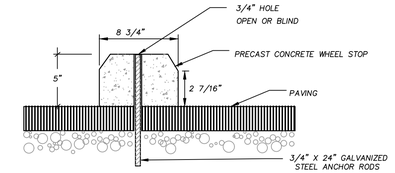
DETECTABLE WARNING DOMES

W	A	W+A+9"	X	B
5'	0.0'	5.8'	5.8'	5.0'*
6'	0.0'	6.8'	6.8'	6.0'**
7'	0.0'	7.8'	7.3'	6.5'**
8'	0.0'	8.8'	7.3'	6.5'**
5'	2.0'	7.8'	7.8'	5.0'
5'	2.5'	8.3'	8.1'	4.8'
5'	3.0'	8.8'	8.3'	4.4'
5'	3.5'	9.3'	8.4'	4.1'
5'	4.0'	9.8'	8.6'	3.8'
5'	4.5'	10.3'	8.7'	3.4'
5'	5.0'	10.8'	8.9'	3.1'

B = X-(A+9")
B = DISTANCE FROM FRONT EDGE OF SIDEWALK TO BACK POINT OF 12:1 (8.33%) SLOPE.
* BACK OF SIDEWALK DROP REQUIRED FOR ALL SIDEWALK SLOPES.
** BACK OF SIDEWALK DROP REQUIRED FOR SIDEWALK SLOPE 0.04.

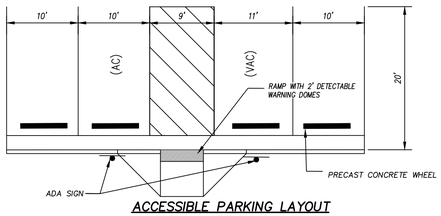
NOTES:

1. DETECTABLE WARNING DOMES SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
2. THE RAMP MAY BE YELLOW IN COLOR OR ANY COLOR WITH A 70% CONTRAST RATIO.
3. REFER TO NCDOT STANDARD DETAIL 848D05 FOR ADDITIONAL INFORMATION.
4. RAMP SHALL HAVE BRUSHED SLIP RESISTANT SURFACE.
5. ALL CONCRETE SHALL BE 3,000 P.S.I.. ONE 1/2" EXPANSION JOINT WILL BE REQUIRED AT 50' INTERVALS.

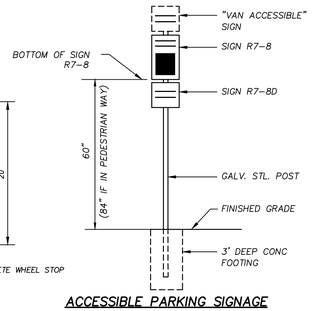


SECTION VIEW

PRE-CAST CONCRETE WHEELSTOPS

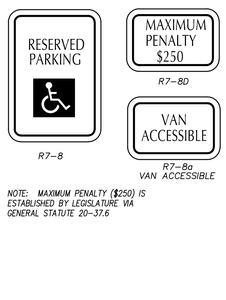


ACCESSIBLE PARKING LAYOUT



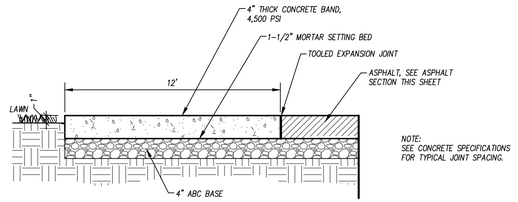
ACCESSIBLE PARKING SIGNAGE

ALL SIGNS SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES SPECIFICATIONS AND REQUIREMENTS



NOTE: MAXIMUM PENALTY ($250) IS ESTABLISHED BY LEGISLATURE VIA GENERAL STATUTE 20-37.6

ACCESSIBLE PARKING N.T.S.



NOTE:
SEE CONCRETE SPECIFICATIONS FOR TYPICAL JOINT SPACING.

1-FT CONCRETE BAND N.T.S.

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LA: C-106
PE: C-1595

PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION

ONSLOW COUNTY

OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1699 ZACHARY R. PIERCE 03/12/25

DKA JOB NUMBER
2324

REVISIONS

PA:	ZP
PM:	YA
Drawn By:	SL/SH
Plot Date:	03/12/2025

DATE ISSUED

BID DOCUMENTS

03/12/2025

SHEET TITLE

STAKING DETAILS

C800

SEEDBED PREPARATION

1. CHISEL ALL CUT GRADED OR COMPACTED AREAS TO A MINIMUM DEPTH OF 8".
2. DISC ALL AREAS TO RECEIVE GRASS TO A MINIMUM OF 6 INCHES, MIX AND AMEND WITH 3 INCHES OF WELL SCREENED TOPSOIL. ON-SITE TOPSOIL MAY BE USED IN PLACE OF IMPORTED TOPSOIL IF WELL-SCREENED AND DRY PRIOR TO APPLICATION IN ACCORDANCE WITH SPECIFICATION SECTION 329000.
3. REMOVE ALL LOOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
4. APPLY AGRICULTURAL LIME, FERTILIZER, AND PHOSPHATE UNIFORMLY AS PER SPECIFICATIONS AND MIX WELL WITH SOIL.
5. CONTINUE TILLAGE UNTIL A WELL-PULVERIZED, FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED TO A 6 INCHES DEPTH.
6. SEED AT RATE SPECIFIED OR AS NEEDED TO ACHIEVE AND MAINTAIN A THICK HEALTHY GROUND COVERAGE.
7. MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH. BEGIN THOROUGH WATERING OF GRASSED AREAS IMMEDIATELY UPON INSTALLATION. DO NOT ALLOW GRASSED AREAS TO BECOME EXCESSIVELY DRY.
8. INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS AS NEEDED.
9. IF CONFLICTS OCCUR BETWEEN WRITTEN SPECIFICATIONS AND THE DRAWINGS, THE WRITTEN SPECIFICATIONS SHALL PREVAIL.

LIME & FERTILIZATION SCHEDULE

APPLY LIME AND FERTILIZER ACCORDING TO SOIL TESTS, OR APPLY A MINIMUM 2 TONS/ACRE GROUND AGRICULTURAL LIMESTONE (3 TONS/ACRE IN CLAY SOILS) AND A MINIMUM 500 LB/ACRE 10-10-10 FERTILIZER, AS NEEDED TO ESTABLISH 95% COVERAGE (AS DETERMINED ON A PER SQUARE YARD BASIS) PRIOR TO SUBSTANTIAL COMPLETION. CONTRACTOR TO SUBMIT A COPY OF ALL SOIL REPORTS TO OWNER UPON RECEIPT.

SURFACE STABILIZATION REQUIREMENTS

1. DURING ALL PHASES OF CONSTRUCTION, GROUNDCOVER ON EXPOSED SLOPES SHALL BE PROVIDED WITHIN 14 CALENDAR DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING.
2. FINAL PERMANENT GROUNDCOVER FOR ALL DISTURBED AREAS SHALL BE PROVIDED ON ALL DISTURBED AREAS WITHIN 14 CALENDAR DAYS FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.
3. USE EXCELSIOR MATTING OR OTHER APPROVED CHANNEL LINING MATERIAL TO COVER THE BOTTOM OF CHANNELS.
4. APPLY 4000 LB/ACRE(2 TONS LB/AC) GRAIN STRAW OVER SEEDED AREAS AND ANCHOR STRAW CRIMPING WITH HAND OR MECHANICAL CRIMPER 8" MAX. SPACING, ASPHALT TACKING OR OTHER APPROVED METHOD. ASPHALT TACKING SHALL BE 400 GAL/ACRE (9 GAL/1000 SF).
5. MULCH AND ANCHORING MATERIALS MUST NOT BE ALLOWED TO WASH DOWN SLOPES AND CLOG DRAINAGE DEVICES.

PERMANENT SEEDING SCHEDULE– BERMUDA SEED

DATE	TYPE	PLANTING RATE
APR 15 – JULY 15 **	HULLED SUNSTAR OR RIVIERA BERMUDA	85 LBS/ACRE *
JULY 15 – AUG 15	SUNSTAR OR RIVIERA BERMUDA SPRIGS	5 BUSHELS/1,000 SF
AUG 15 – APR 15	TEMPORARY SEEDING APPLIES**	

* OR AS REQUIRED TO ACHIEVE 95% COVERAGE AS DETERMINED ON A PER SQUARE YARD BASIS PRIOR TO SUBSTANTIAL COMPLETION.

** WHEN SEEDING MUST TAKE PLACE OUT-OF- SEASON FOR PERMANENT GRASS, APPROPRIATE TEMPORARY SEEDING SHALL BE DONE AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERMANENT SEEDING AS SPECIFIED IN SEASON AT NO ADDITIONAL COST TO OWNER.

LAWN MAINTENANCE NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR LAWN MAINTENANCE UNTIL FINAL COMPLETION.
2. LAWN MUST BE AT 95% COVERAGE AT SUBSTANTIAL COMPLETION REVIEW TO BE ACCEPTED.
3. IF NOT AT 95%, SUBSTANTIAL COMPLETION WILL BE DELAYED UNTIL THE FOLLOWING GROWING SEASON.

TEMPORARY SEEDING SCHEDULE (JUNE 1–FEB 28 "NO MOW" AREAS & EROSION CONTROL PHASE)

DATE	TYPE	PLANTING RATE
AUG 15 – APR 15	3-WAY TALL FESCUE BLEND AND WINTER RYE (GRAIN)	125 LBS/ACRE 25 LBS/ACRE
APR 15 – AUG 15	3-WAY TALL FESCUE BLEND AND GERMAN MILLET *** OR SUDANGRASS (SMALL-STEMMED VAR.) ***	120 LBS/ACRE 25 LBS/ACRE 30 LBS/ACRE

CONSULT CONSERVATION ENGINEER OR SOIL CONSERVATION SERVICE FOR ADDITIONAL INFORMATION CONCERNING OTHER ALTERNATIVES FOR VEGETATION OF DENUDED AREAS. THE ABOVE VEGETATION RATES ARE THOSE WHICH DO WELL UNDER LOCAL CONDITIONS; OTHER SEEDING RATE COMBINATIONS ARE POSSIBLE.

*** TEMPORARY – RESEED ACCORDING TO OPTIMUM SEASON FOR DESIRED PERMANENT VEGETATION. DO NOT ALLOW TEMPORARY COVER TO GROW OVER 12" IN HEIGHT BEFORE MOWING, OTHERWISE FESCUE MAY BE SHADED OUT.

SEEDING INFORMATION N.T.S.

REFORESTATION SCHEDULE – (SEEDLINGS)

DATE

MAR 1–JUNE 1
OCT 1–DEC 1

SEEDLINGS TO BE PLACED AT RANDOM. SPACING AT MIN 5' MAX 10' TO BE PLACED IN AREAS ONLY AS INDICTED ON LANDSCAPE SHEETS. ALL SEEDLINGS, SHALL BE TRANSPORTED, STORED AN PLANTED FOLLOWING THE STANDARDS OF THE NORTH CAROLINA FOREST SERVICE TREE PLANTING POCKET GUIDE, 8TH EDITION 2016. SEEDLINGS SHALL BE PLANTED ON A "SATISFACTORY DAY AS BROADCAST BY THE NORTH CAROLINA FOREST SERVICE.

PLANTING RATE

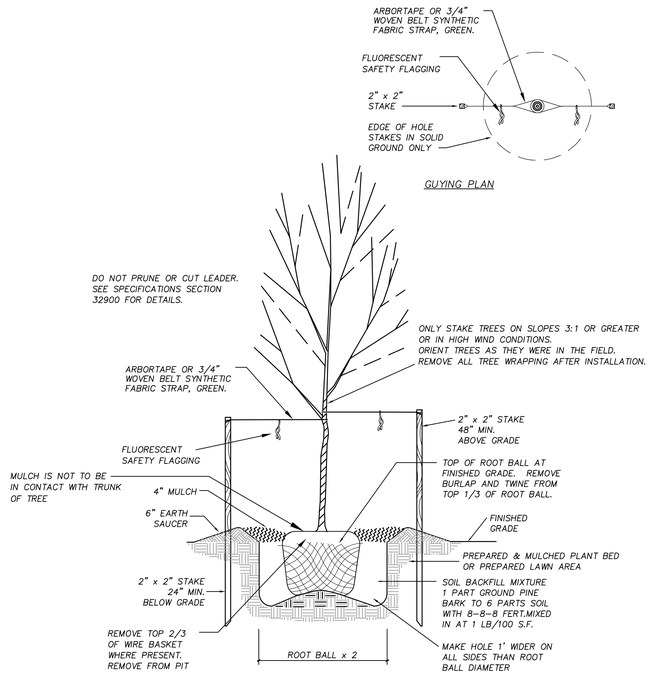
450 SEEDLING/ACRE

PER/ACRE		
30%	PINUS TAEDA	LOBLOLLY PINE
20%	NYSSA SYLVATICA	BLACK GUM
10%	QUERCUS ALBA 'PIEDMONT'	WHITE OAK
10%	QUERCUS RUBRA 'PIEDMONT'	NORTHERN RED OAK
20%	FRAXINUS AMERICANA	WHITE ASH
10%	LIRIODENDRON TULIPIFERA	TULIP TREE

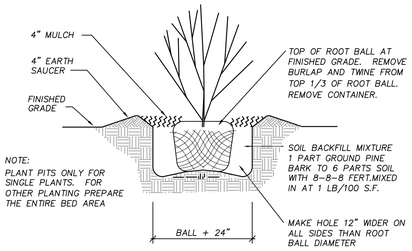
***PROVIDE INVOICE TO LANDSCAPE ARCHITECT UPON PLANTING

SEEDLING SOURCE
NORTH CAROLINA FOREST SERVICE OR EQUAL

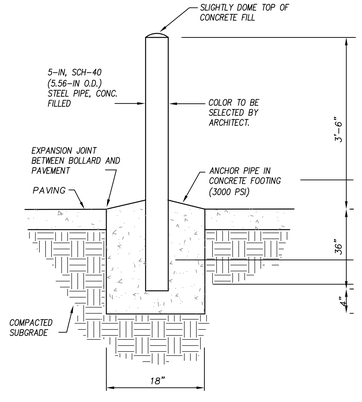
REFORESTATION MIX N.T.S.



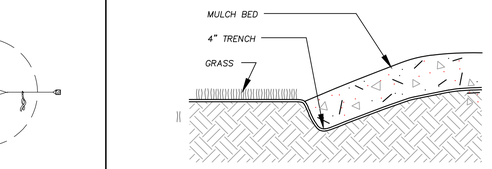
TREE PLANTING DETAIL N.T.S.



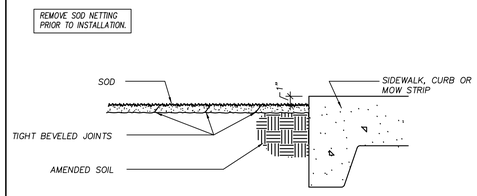
TYPICAL SHRUB PLANTING DETAIL N.T.S.



STEEL BOLLARD N.T.S.



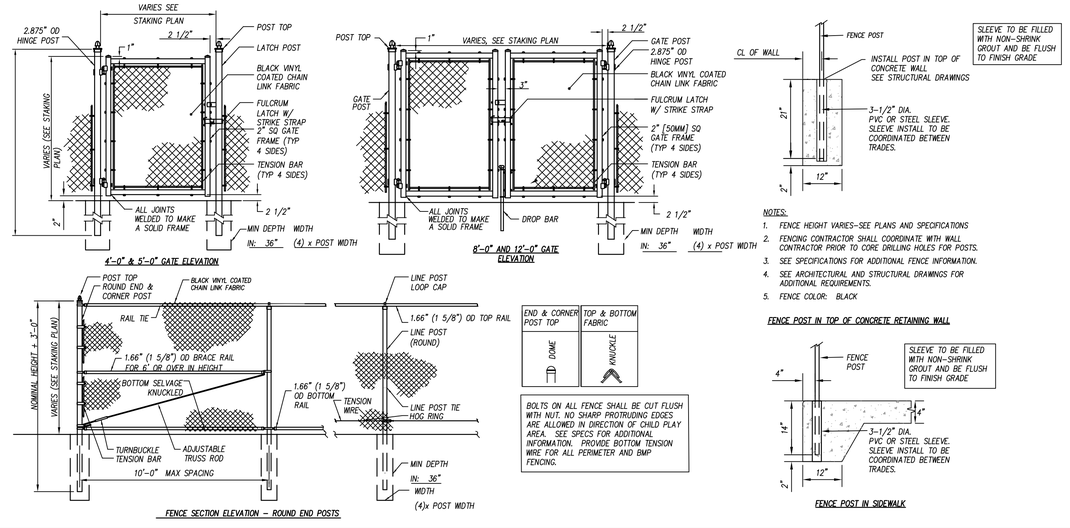
PLANTING BEDS DETAIL N.T.S.



SOD INSTALLATION DETAIL N.T.S.

1. LOCATE ALL EXISTING UTILITIES PRIOR TO INSTALLATION OF PLANT MATERIAL. NOTIFY OWNER OF ANY DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS AND THOSE SHOWN ON THE PLAN.
2. VERIFICATION OF TOTAL QUANTITIES AS SHOWN ON THE PLANT LIST SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND THE TOTAL QUANTITIES SHALL BE AS SHOWN ON THE PLAN.
3. ALL PLANT MATERIAL SHALL CONFORM WITH THE STANDARDS SET FORTH BY THE AMERICAN ASSOCIATION OF NURSERYMEN AND THE WRITTEN SPECIFICATIONS.
4. ALL PLANT MATERIAL (SHRUBS/TREES) SHALL BE A MINIMUM DISTANCE OF 4-1/2 FEET FROM BACK OF CURB, EXCEPT ALONG ANY NEW WALLS ADJACENT TO PARKING WHERE CURB STOPS WILL BE USED.
5. ALL PLANT GROUPINGS SHALL BE MULCHED AS ONE BED, 3-IN DEPTH OF **TRIPLE SHREDDED HARDWOOD** MULCH SHALL BE USED AROUND ALL PLANTINGS, CONFIRM WITH LANDSCAPE ARCHITECT AND OWNER FOR APPROVAL PRIOR TO INSTALLATION.
6. APPLY PRE-EMERGENT HERBICIDE TO ALL NEW PLANTING BEDS AT MANUFACTURER'S RECOMMENDED RATE PRIOR TO INSTALLATION OF MULCH.
7. ESTABLISH POSITIVE DRAINAGE IN ALL PLANTING BEDS AND AWAY FROM BUILDINGS.
8. DO NOT INSTALL PLANT MATERIAL IN IMPERVIOUS SOILS, (i.e. HOLES WHICH, WHEN FILLED WITH WATER, DO NOT COMPLETELY DRAIN WITHIN TWO HOURS). SEE SPECIFICATIONS FOR TOPSOIL REQUIREMENTS.
9. CONTACT THE LANDSCAPE ARCHITECT FOR INSPECTION 48 HOURS IN ADVANCE OF THE SCHEDULED SITE VISIT AND AT THE FOLLOWING INTERVALS:
   - 9.1. REVIEW OF GRADING PRIOR TO PLANT AND LAWN INSTALLATION.
   - 9.2. REVIEW OF PLANT MATERIAL PRIOR TO INSTALLATION.
   - 9.3. ONE SUBSTANTIAL COMPLETION MEETING FOR PLANT INSTALLATION.
   - 9.4. ONE FINAL INSPECTION FOR ALL SEEDING/PLANTING OPERATIONS.
10. THE TREE PROTECTION FENCE SHALL BE MAINTAINED ON THE SITE UNTIL ALL SITE WORK IS COMPLETED AND THE FINAL SITE INSPECTION PRIOR TO THE CERTIFICATE OF OCCUPANCY (CO) IS SCHEDULED. THE FENCING SHALL BE REMOVED PRIOR TO FINAL SITE INSPECTION FOR THE CO.
11. LANDSCAPE SUB-CONTRACTOR (UNDER GC CONTRACT) SHALL BE RESPONSIBLE FOR WATERING ALL PLANTS AND LAWN/SOD AREAS AT HIS COST FROM HIS OWN WATER SOURCE INCLUDING DURING PERIODS OF DROUGHT UNTIL THE PLANTS AND LAWN MEET FINAL COMPLETION. PLANT MATERIALS OR AREAS OF GRASS WHICH PERISH SHALL BE RE-ESTABLISHED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER. REFER TO SPECIFICATIONS FOR ADDITIONAL WATERING INFORMATION.
12. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ALL EQUIPMENT & SUBCONTRACTORS AWAY FROM SEEDED/SOD AREAS. IF DAMAGE OCCURS, THROUGH NO FAULT OF THE OWNER, AREAS SHALL BE RE-GRADED AND RE-SEEDED IMMEDIATELY AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL WATER AND MAINTAIN THOSE AREAS UNTIL THEY ARE AT 95% COVERAGE AT FINAL COMPLETION.
13. SUBSTITUTIONS OF PLANT MATERIAL SHALL ONLY BE ACCEPTED 60 DAYS PRIOR TO COMMENCEMENT OF PLANTING OPERATIONS. SUBSTITUTION REQUESTS MUST BE IN WRITING AND WILL ONLY BE ACCEPTED FOR LACK OF AVAILABILITY REASONS WHICH CAN BE SUBSTANTIATED OR FOR SUPERIOR STOCK SUBSTITUTIONS.
14. LANDSCAPE CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT TO REVIEW GRADING ONE WEEK PRIOR TO SEEDING, IF THE LANDSCAPE CONTRACTOR AND LANDSCAPE ARCHITECT FIND GRADING UNACCEPTABLE FOR FINAL SEEDING, LANDSCAPE CONTRACTOR SHALL BRING IT TO THE ATTENTION OF THE GENERAL CONTRACTOR. LANDSCAPE CONTRACTOR SHALL NOT PROCEED WITHOUT APPROVAL BY LANDSCAPE ARCHITECT.
15. IF CONFLICTS OCCUR BETWEEN WRITTEN SPECIFICATIONS AND THE DRAWINGS, THE WRITTEN SPECIFICATIONS SHALL PREVAIL.
16. GENERAL LAWN AREAS SHALL BE SEEDED WITH **RIVIERA OR SUNSTAR BERMUDA SEED. SOD AREAS SHALL BE TIF-TUF BERMUDA.** 95% COVERAGE (BASED ON A PER SQUARE YARD SAMPLE) SHALL BE ATTAINED PRIOR TO FINAL INSPECTION. SEE DETAIL SHEET FOR RATES AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
17. SEE PLANTING PLAN FOR LIMITS.
18. ALL 3:1 SLOPES OR GREATER SHALL RECEIVE EROSION CONTROL MATTING. REFER TO PLANTING PLANS FOR STABILIZATION REQUIREMENTS.
19. ALL FOUNDATION SHRUBS TO BE PLANTED A MINIMUM OF 5-FT FROM BUILDING WALL. ALL SHADE TREES SHALL BE A MINIMUM DISTANCE OF 15-FT FROM BUILDING ROOF EDGE TO CENTER OF TREE. NOTIFY LANDSCAPE ARCHITECT FOR ANY DISCREPANCIES.
20. **INSTALL PERMANENT SEEDING ALONG ALL ROADSIDE DITCHES AND CHANNELS WITHIN CONSTRUCTION LIMITS OF PROJECT. SEE EROSION CONTROL PLANS AND PERMANENT SEEDING SCHEDULE FOR ADDITIONAL INFORMATION.**

LANDSCAPE NOTES



VINYL COATED CHAIN LINK FENCE AND GATE N.T.S.

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PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION

ONSLOW COUNTY

OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1699 GARY R. PIERCE 03/12/25

DKA JOB NUMBER
2324

REVISIONS

PA: ZP
PM: YA
Drawn By: SL/SH
Plot Date: 03/12/2025

DATE ISSUED

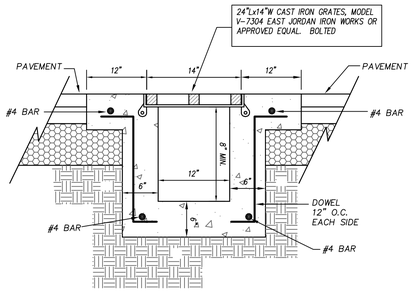
BID DOCUMENTS

03/12/2025

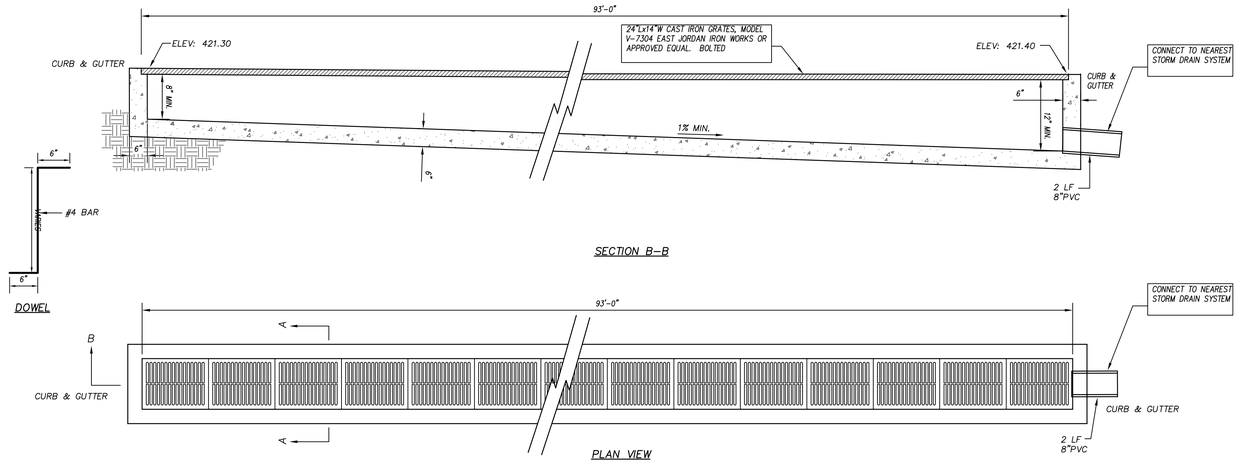
SHEET TITLE

STAKING DETAILS

C801



SECTION A–A



GENERAL NOTES:

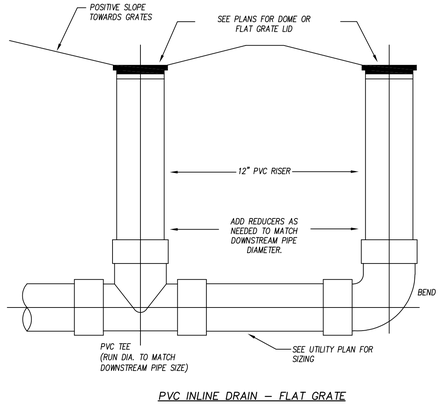
NCDOT CLASS "B" CONCRETE TO BE USED THROUGHOUT.

TRENCH DRAIN N.T.S.

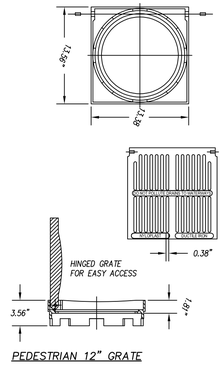
NOTES:

1. ASPHALT PATCH SECTION SHALL BE INSTALLED WHERE PAVEMENT WIDTH IS LESS THAN 6–FT.
2. SEE EARTH MOVING AND ASPHALT PAVEMENT SPECIFICATIONS FOR PROOF–ROLLING, COMPACTION & TESTING REQUIREMENTS.
3. THE CONTRACTOR MAY CHOOSE TO INSTALL INTERMEDIATE COURSES OF PAVEMENT TO STABILIZE THE SITE DURING CONSTRUCTION AT NO ADDITIONAL COST.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGES TO SUBGRADE, INSTALLED BASE COURSE AND/OR INTERMEDIATE PAVING PRIOR TO PLACING SUBSEQUENT PAVEMENT LIFTS AT NO ADDITIONAL COST.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING PAVEMENT DURING ALL PHASES OF WORK. THE FINAL SURFACE OF PAVEMENT SHALL BE FREE OF ALL DEFECTS OR DAMAGE.

ASPHALT PATCH N.T.S.

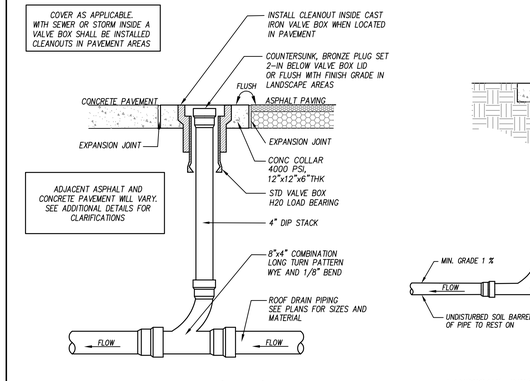


PVC INLINE DRAIN – FLAT GRATE

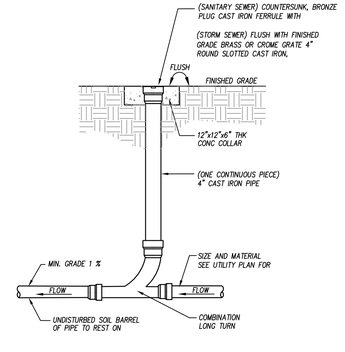


PEDESTRIAN 12" GRATE

INLINE DRAIN DETAIL N.T.S.



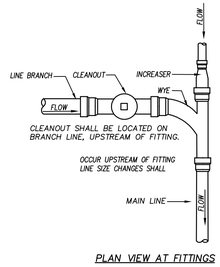
PAVEMENT INSTALLATION 'TYPE–1'



LANDSCAPE INSTALLATION 'TYPE–2'

NOTES:
THE FULL LENGTH OF THE SERVICE DITCH BE COMPACTED IN 6" LAYERS WITH MECHANICAL TAMP.

(SEE UTILITY PLAN FOR PIPE MATERIAL AND SIZE)



PLAN VIEW AT FITTINGS

CLEANOUT N.T.S.

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PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION

ONSLOW COUNTY

OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

NORTH CAROLINA PROFESSIONAL SEAL 022625 ENGINEER STEVEN J MILLER

Digitally signed by Steven Miller
Date: 2025.03.11 16:48:33-04'00'

DKA JOB NUMBER
2324

REVISIONS

PA:	ZP
PM:	YA
Drawn By:	SL/SH
Plot Date:	03/12/2025

DATE ISSUED

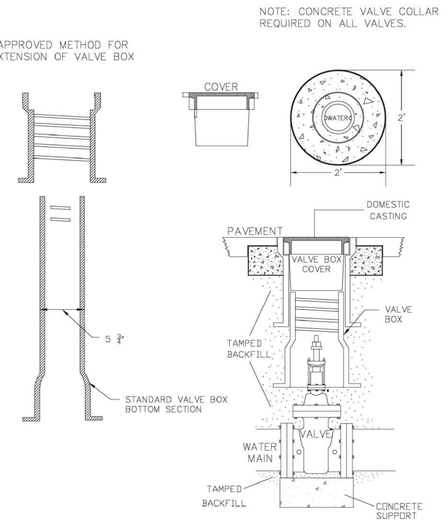
BID DOCUMENTS

03/12/2025

SHEET TITLE

UTILITY DETAILS

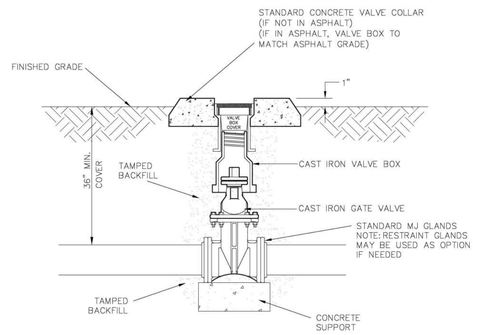
C900



Onslow Water & Sewer Authority
USE WITH "ONWASA MANUAL OF SPECIFICATIONS, STANDARDS and DETAILS, latest revision"

VALVE BOX INSTALLATION

SCALE: Not To Scale | DETAIL #: WS_VB
REVISION DATE: May, 2016 | SHEET #: 1 of 1



Onslow Water & Sewer Authority
USE WITH "ONWASA MANUAL OF SPECIFICATIONS, STANDARDS and DETAILS, latest revision"

INLINE VALVE DETAIL

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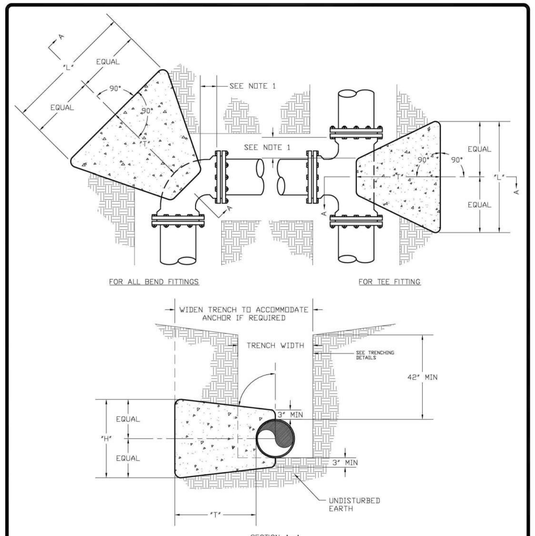
REVISION DATE: May, 2016 | SHEET #: 1 of 1



NOTES:
1. CONCRETE BLOCKING IS TO BE FORMED TO ENSURE ACCESSIBILITY TO FITTINGS AND POURED AGAINST UNDISTURBED EARTH.
2. ALL FITTINGS SHALL BE WRAPPED IN POLYETHYLENE TO PREVENT CONCRETE FROM CONTACTING FITTINGS, BOLTS, OR ENDS OF MECHANICAL JOINT BENDS.
3. CONCRETE TO BE MINIMUM 3,000 PSI @ 28 DAYS.
4. WHEN SACKRETE IS TO BE USED, IT SHALL BE PROPERLY MIXED PER MANUFACTURER SPECIFICATIONS.
5. FOR REQUIRED DIMENSIONS, SEE WS_TB2

Onslow Water & Sewer Authority
USE WITH "ONWASA MANUAL OF SPECIFICATIONS, STANDARDS and DETAILS, latest revision"

THRUST BLOCKING

SCALE: Not To Scale | DETAIL #: WS_TB1
REVISION DATE: May, 2016 | SHEET #: 1 of 4

TEST PRESSURE = 150 PSI

PIPE SIZE	TYPE FITTING	DIMENSIONS (FT) "L"	"H"	"T"	VOLUME CONCRETE CU. YD.
4 INCHES	11 1/4°	----	----	----	----
	22 1/2°	1.00	1.00	1.50	0.06
	45°	1.00	1.00	1.50	0.06
	90°	1.00	1.00	2.50	0.09
	TEE	1.00	1.00	2.00	0.07
6 INCHES	11 1/4°	1.00	1.00	2.50	0.09
	22 1/2°	1.00	1.00	2.50	0.09
	45°	1.00	1.00	2.50	0.09
	90°	1.50	1.50	2.50	0.15
	TEE	1.50	1.50	2.00	0.12
8 INCHES	11 1/4°	1.50	1.50	2.50	0.15
	22 1/2°	1.50	1.50	2.50	0.15
	45°	1.50	1.50	2.50	0.15
	90°	2.00	2.00	3.00	0.28
	TEE	2.00	2.00	2.50	0.23
12 INCHES	11 1/4°	2.00	2.00	2.50	0.23
	22 1/2°	2.00	2.00	2.50	0.23
	45°	2.00	2.00	2.75	0.25
	90°	3.00	2.00	3.00	0.39
	TEE	3.00	2.00	2.50	0.32
16 INCHES	11 1/4°	2.00	2.00	3.00	0.28
	22 1/2°	2.00	2.00	3.00	0.28
	45°	3.00	2.50	3.00	0.47
	90°	4.50	3.00	3.50	0.94
	TEE	4.50	3.00	3.00	0.81
18 INCHES	11 1/4°	2.00	2.00	3.00	0.28
	22 1/2°	3.00	2.00	3.00	0.39
	45°	4.00	3.00	3.50	0.84
	90°	6.50	3.50	3.50	1.54
	TEE	6.50	3.50	3.00	1.32

TEST PRESSURE = 200 PSI

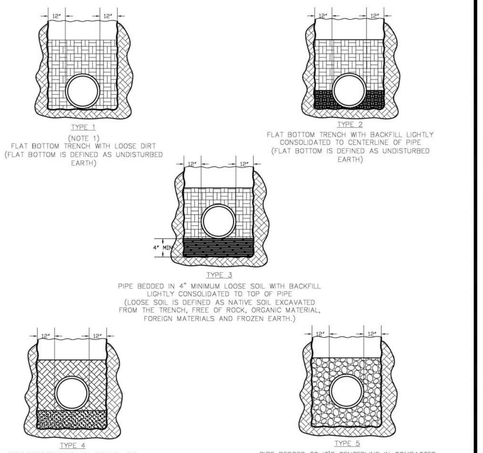
PIPE SIZE	TYPE FITTING	DIMENSIONS (FT) "L"	"H"	"T"	VOLUME CONCRETE CU. YD.
4 INCHES	11 1/4°	1.00	1.00	1.00	0.04
	22 1/2°	1.00	1.00	1.50	0.06
	45°	1.00	1.00	1.50	0.06
	90°	1.50	1.50	2.50	0.15
	TEE	1.50	1.50	2.00	0.12
6 INCHES	11 1/4°	1.00	1.00	2.50	0.09
	22 1/2°	1.00	1.00	2.50	0.09
	45°	1.50	1.50	2.50	0.15
	90°	1.50	1.50	2.50	0.15
	TEE	1.50	1.50	2.00	0.12
8 INCHES	11 1/4°	1.50	1.50	2.50	0.15
	22 1/2°	1.50	1.50	2.50	0.15
	45°	2.00	2.00	2.75	0.23
	90°	2.00	2.00	3.00	0.33
	TEE	2.00	2.00	2.50	0.28
12 INCHES	11 1/4°	2.00	2.00	3.00	0.28
	22 1/2°	3.00	2.00	3.00	0.39
	45°	4.00	2.50	3.00	0.61
	90°	5.50	3.00	3.50	1.13
	TEE	5.50	3.00	3.00	0.97
16 INCHES	11 1/4°	2.00	2.00	3.00	0.28
	22 1/2°	4.00	2.00	3.00	0.50
	45°	5.50	3.00	3.50	1.13
	90°	7.50	4.00	3.50	2.01
	TEE	7.50	4.00	3.00	1.72

CHART NOTES:
1. IF BLOCKING EXCAVATION IS IN LIGHTLY COMPACTED FILL AREAS, OR IN AREAS WHERE BOULDERS OR STUMPS HAVE BEEN REMOVED, BLOCKING SIZE MUST BE RE-SIZED FOR THE SPECIFIC LOCATION/CIRCUMSTANCE BY A NC LICENSED PROFESSIONAL ENGINEER.
2. BLOCKING SIZES SHOWN IN THESE TABLES ASSUME THE FOLLOWING:
   a. BLOCKING IS CONSTRUCTED IN RESIDUAL SOILS AS SHOWN IN DETAIL
   b. SOIL BEARING PRESSURE = 2000 PSF
   c. VELOCITY OF FLOW = 15 FPS
3. THIS DETAIL NOT APPLICABLE TO REDUCING BENDS.
4. NEITHER THE WEIGHT OF THE CONCRETE BLOCKING NOR FRICTION BETWEEN CONCRETE BLOCKING AND SOIL WAS ADDED INTO BLOCKING SIZES COMPUTATION. THEREFORE, BLOCKING SIZE IS CONSERVATIVE.

Onslow Water & Sewer Authority
USE WITH "ONWASA MANUAL OF SPECIFICATIONS, STANDARDS and DETAILS, latest revision"

THRUST BLOCKING

SCALE: Not To Scale | DETAIL #: WS_TB2
REVISION DATE: May, 2016 | SHEET #: 2 of 4



NOTES:
1. FOR NORMAL PIPE SIZES 14 INCH AND LARGER, CONSIDERATION SHOULD BE GIVEN TO THE USE OF LAYING CONDITIONS OTHER THAN TYPE 1.
2. CONSIDERATION OF THE PIPE-ZONE EMBEDMENT CONDITIONS INCLUDED IN THIS FIGURE MAY BE INFLUENCED BY FACTORS OTHER THAN PIPE STRENGTH. FOR ADDITIONAL INFORMATION ON PIPE BEDDING AND BACKFILL, SEE ANSI/AWWA C600.

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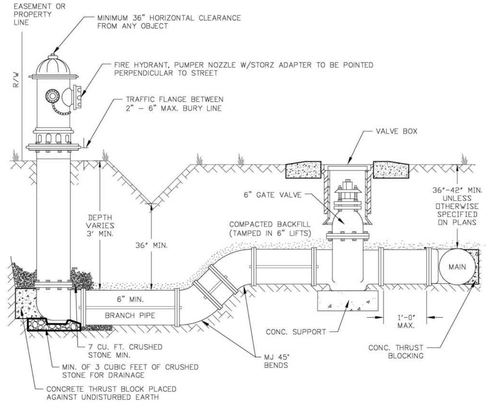
WATER MAIN EMBEDMENT DETAILS

SCALE: Not To Scale | DETAIL #: WS_ED
REVISION DATE: May, 2016 | SHEET #: 1 of 1



NOTES:
1. FIRE HYDRANT MANUFACTURER SHALL BE AS REQUIRED BY PROJECT SPECIFICATIONS.
2. FIRE HYDRANT SHALL BE INSTALLED USING HYDRANT TEE.
3. BRANCH PIPE SHALL BE DUCTILE IRON.
4. FIRE HYDRANTS WILL BE INSTALLED IN TRUE VERTICAL POSITION.
5. ALL JOINTS ON FIRE HYDRANT ASSEMBLIES SHALL BE RESTRAINED.
6. ALL FIRE HYDRANTS SHALL BE LOCATED WITHIN DEDICATED STREET RIGHT-OF-WAY OR A 20-FOOT PUBLICLY DEDICATED PERMANENT UTILITY EASEMENT TO ONWASA.
7. INSTALL BOLLARD GUARD POST AS PER DRAWINGS OR CONDITIONS MANDATE.
8. HYDRANT SHALL NOT BE INSTALLED SO THAT THE FINISHED ELEVATION OF SURROUNDING AREA (INCLUDING LANDSCAPING, MULCH, GRAVEL, ETC.) IS ABOVE THE MAXIMUM BURY LINE OF THE HYDRANT.
9. MAXIMUM PERMISSIBLE EXTENSION LENGTH IS 2-FEET.
10. IF HYDRANT LEG IS LESS THAN 10-FEET LONG, THE HYDRANT SHALL BE RODDED BACK TO THE VALVE.

ANYTIME SITE WORK, CONSTRUCTION, ROAD WORK, OR ANY OTHER WORK CHANGES THE GRADE OF THE FIRE HYDRANT, THE CONTRACTOR IS RESPONSIBLE FOR ADJUSTING THE FIRE HYDRANT TO STAY WITHIN COMPLIANCE.

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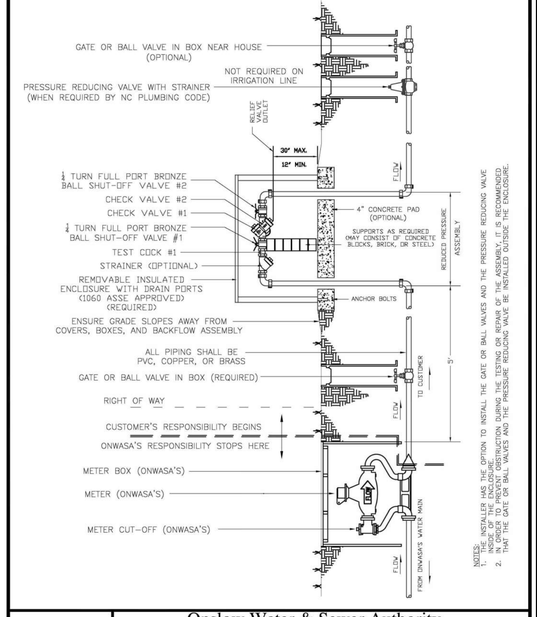
FIRE HYDRANT ASSEMBLY SHOULDER / DITCH SECTION

SCALE: Not To Scale | DETAIL #: WS_FHD
REVISION DATE: May, 2016 | SHEET #: 1 of 1



NOTES:
1. THE INSTALLER HAS THE OPTION TO INSTALL THE GATE OR BALL VALVES AND THE PRESSURE REDUCING VALVE INSIDE OF THE ENCLOSURE.
2. IN THE EVENT OF CONSTRUCTION DURING THE TESTING OR REPAIR OF THE ASSEMBLY, IT IS RECOMMENDED THAT THE GATE OR BALL VALVES AND THE PRESSURE REDUCING VALVE BE INSTALLED OUTSIDE THE ENCLOSURE.

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3/4" - 2" Meter RP Assembly with PRV Assembly

SCALE: Not To Scale | DETAIL #: WS_PRV1
REVISION DATE: May, 2016 | SHEET #: 1 of 1

REQUIREMENTS FOR ABOVE GROUND INSTALLATIONS OF REDUCED PRESSURE PRINCIPLE AND DOUBLE CHECK VALVE ASSEMBLIES

1. The backflow preventer must be installed a Maximum distance of five (5) feet from the meter service or before any wyes, tees, or bypasses. Installation of backflow preventers within the DOT right-of-way will not be accepted, it must be installed on the customers property.
2. Reduced pressure principle assemblies must be installed in a horizontal position and so located in which no portion of the assembly can become submerged under any circumstances.
3. Double check valves can be installed in a vertical position provided the water flows in an upward direction.
4. All backflow preventers must be installed above ground. Backflow preventers installed inside must be a minimum of twelve (12) inches above the floor, and no higher than four (4) feet above the floor. Customer must maintain adequate clearance around the assembly for testing, and/or repair of the assembly. Wherever a reduced pressure principle backflow preventer is installed inside a building an air gap drain of adequate size must be installed. Below ground installations are prohibited for RP's. Surface or Sub-surface obstacles which prohibit the installation of the device in accordance with the specifications shall be subject to the review and approval of the Engineering Director for alternative locations.
5. Backflow prevention assemblies installed outside must be protected with a ASSE 1060 approved enclosure. The assembly must maintain a minimum distance of twelve (12) inches and a maximum distance of thirty (30) inches above the ground. Landscaping is allowed around any assembly provided it does not interfere with the testing and/or repairing of the assembly.
6. Protective enclosures must be used to prevent freezing or vandalism for backflow prevention assemblies installed outside above ground. Freeze proof enclosures that meet of exceed North Carolina Plumbing Code Standards are acceptable provided that the insulation is at least 7.05 R factor, and have the 1060 ASSE approval plate. Adequate drainage shall be provided by a hinged door or drain ports along the bottom walls of the protective enclosure. The enclosure will require to be mounted to the ground or existing grade. If the structure is not removable it must be accessible by doors large enough for entrance and repair.
7. Backflow prevention assemblies two and one half (2 ½) inches or larger must be supported to allow for the weight of the backflow prevention assembly. Support construction can consist of concrete block, brick or steel. Supports must have a proper footing to rest on. Supports should be spaced so they do not cause interference with the testing and/or repair of the assemblies.
8. All piping must be of ductile iron, pvc, copper, or brass.
9. All backflow prevention assembly installations shall be inspected by the Onslow Water and Sewer Authority Technical Operations Section or an authorized representative prior to initial connection to the potable water system.
10. Before installation of any backflow preventer, contact the Backflow Cross Connection ORC at 910-455-0722 to assist in proper selection and installation.

Note: Appendices within these regulations are subject to change periodically or as required by the State of North Carolina.

Onslow Water & Sewer Authority
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3/4" to 2" Meter RP / DCVA / PRV Assembly

SCALE: Not To Scale | DETAIL #: WS_PRV
REVISION DATE: May, 2016 | SHEET #: 1 of 1

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LA: C-106
PE: C-1595

PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION
ONSLOW COUNTY
OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

NORTH CAROLINA PROFESSIONAL SEAL 022625 ENGINEER STEVEN J. MILLER

Digitally signed by Steven Miller
Date: 2025.03.11 16:48:37-04'00'

DKA JOB NUMBER
2324

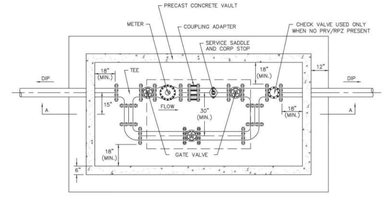
REVISIONS

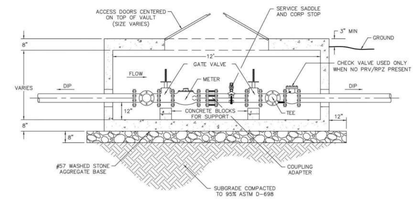
PA: ZP
PM: YA
Drawn By: SL/SH
Plot Date: 03/12/2025

DATE ISSUED
BID DOCUMENTS
03/12/2025

SHEET TITLE
UTILITY DETAILS

C901





SECTION A-A

NOTES:
1. ALL PIPING SHOWN TO BE DUCTILE IRON.
2. BURIED FITTINGS TO BE MJ WITH RESTRAINT GLANDS.
3. IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT ALL MINIMUM CLEARANCE REQUIREMENTS INSIDE THE VAULT ARE MET.
4. ONWASA SHALL FURNISH 1.5" AND LARGER METERS AT THE CURRENT COST TO ONWASA. CONTACT ONWASA FOR CURRENT PRICING.

ONWASA

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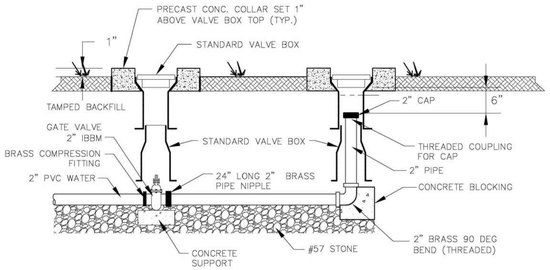
METER VAULT INSTALLATION
3-INCH AND LARGER

SCALE: Not To Scale | DETAIL # WS_MV3+
REVISION DATE: May, 2016 | SHEET # 1 of 1



NOTE: NO PLASTIC OR GALVANIZED SCREW FITTINGS BEFORE VALVE

ONWASA

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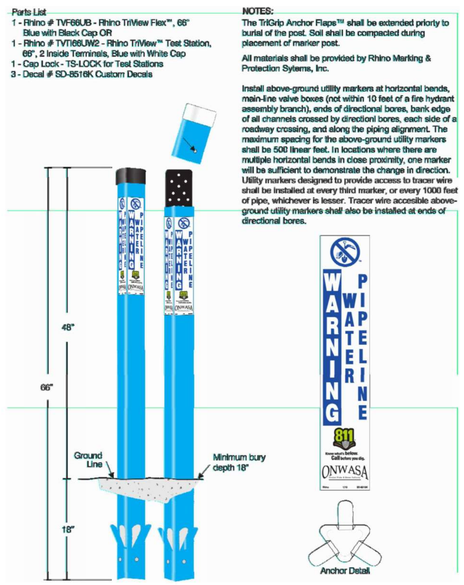
2-INCH PERMANENT BLOW OFF ASSEMBLY

SCALE: Not To Scale | DETAIL # WS_BO2
REVISION DATE: May, 2016 | SHEET # 1 of 1



ONWASA

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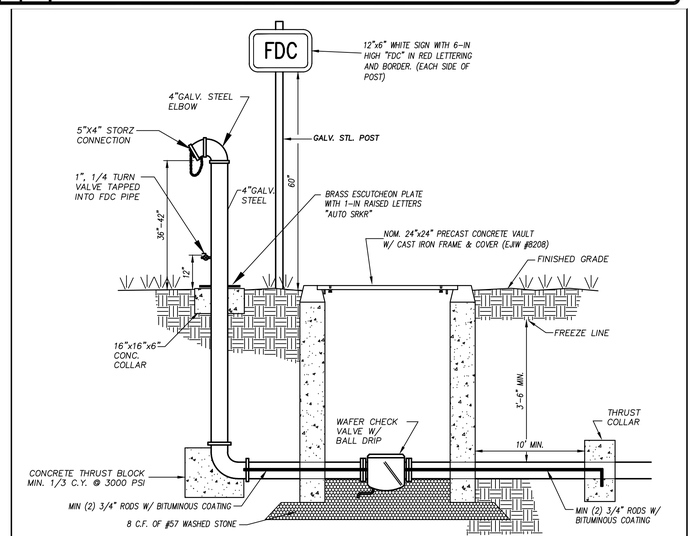
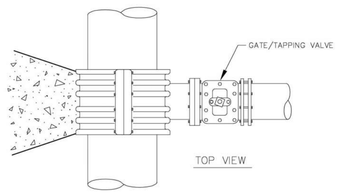
STANDARD UTILITY MARKER FOR WATER MAIN

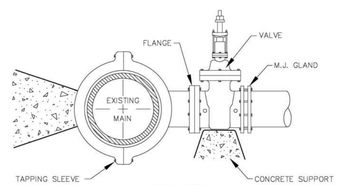
SCALE: Not To Scale | DETAIL # WS_WMRK
REVISION DATE: May, 2016 | SHEET # 1 of 1



FIRE DEPARTMENT STORZ CONNECTION DETAIL NTS



TOP VIEW



SIDE VIEW

NOTES:
1. CONCRETE SHALL NOT CONTACT GLANDS, BOLTS OR ENDS OF MECHANICAL BOLTS, OR ENDS OF MECHANICAL JOINT FITTINGS. TAPPING SLEEVE AND BOTTOM OF VALVE SHALL BE WRAPPED IN POLYETHYLENE.
2. SEE STANDARD THRUST BLOCK TABLE FOR AREA OF CONCRETE REQUIRED.
3. TAPPING SLEEVE SHALL BE TESTED IN ACCORDANCE WITH ONWASA REQUIREMENTS.
4. TAPS ON SDR26 PIPE SHALL REQUIRE LONG SS TAPPING SLEEVES.

ONWASA

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4" AND LARGER TAPPING SLEEVE AND VALVE ASSEMBLY

SCALE: Not To Scale | DETAIL # WS_TS
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ONSLOW COUNTY

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BID DOCUMENTS

03/12/2025

SHEET TITLE

UTILITY DETAILS

C902

ONWASA

Onslow Water & Sewer Authority

USE WITH ONWASA GENERAL NOTES AND DETAILS

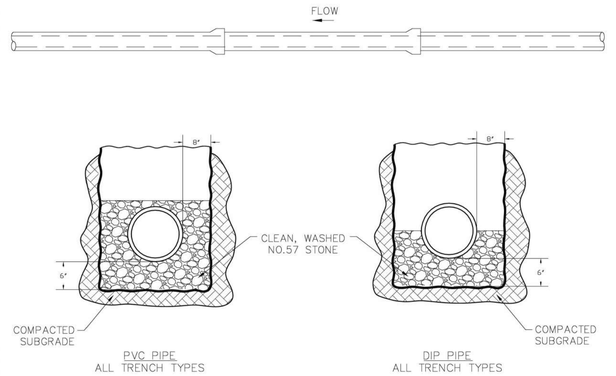
GRAVITY SEWER EMBEDMENT DETAIL

SCALE: Not To Scale

REVISION DATE: May 2016

DETAIL #: SS GSED

SHEET #: 1 of 3



PUMP STATION DESIGN

DESIGN FLOW:	FIRE, RESCUE & EMERG. RESPONSE FACILITY 25-GPD/PERSON/SHIFT 25-EMPLOYEES 625-GPD (AVE. DAILY FLOW) 3.5 PEAK FACTOR 2,625-GPD (PEAK DAILY FLOW) 2-GPM (PEAK FLOW)
PUMP RATE:	45-GPM MIN.
PUMP OWNER:	ONSLOW COUNTY
FORCEMAIN OWNER:	ONWASA (ONSLOW WATER & SEWER AUTH.)

CONTROL FEATURES:

ENCLOSURES:	NEMA 4X STAINLESS STEEL
AUTO DIALER:	YES
ALARM HORN:	YES
ALARM STROBE:	YES
GFI DUPLEX RECEP.:	YES

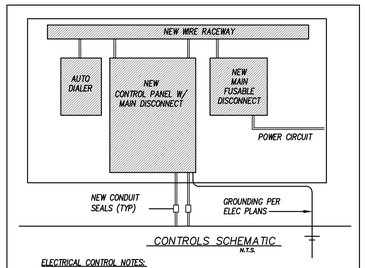
ALTERNATE POWER SOURCE:

GENERATOR:	YES, ON-SITE FACILITY GENERATOR
TRANS. SWITCH:	YES, INTERNAL TO BLDG. POWER

PUMP SPECIFICATION:

MANUFACTURER:	LIBERTY
MODEL:	XLSG203M
PUMP TYPE:	SUBMERSSIBLE GRINDER
SOLIDS HANDLING:	YES, GRINDER
DISCHARGE:	1.25-IN
NO. OF PUMPS:	2 INSTALLED + 1 SPARE
MIN. FLOW (2-FPS):	44-GPM
PRIMARY DESIGN FLOW:	50-GPM
PRIMARY DESIGN HEAD:	23-FT
MIN. SHUT-OFF HEAD:	105-FT
MOTOR HORSEPOWER:	2-HP (EACH)
MOTOR SPEED:	3,450-FPM
ELECTRICAL:	208-V, 3-PH, 60-Hz

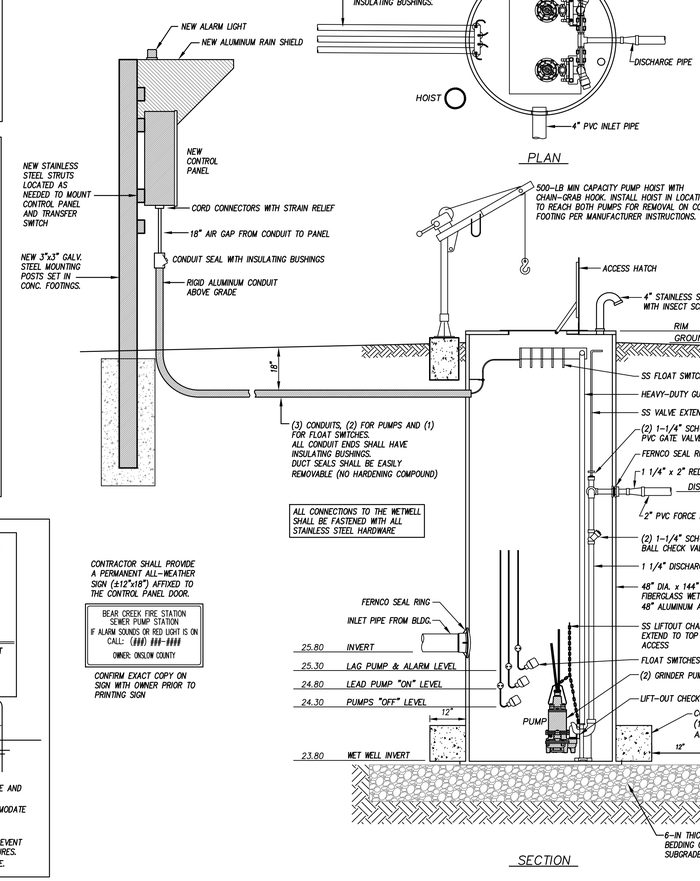
* DESIGN OF PUMP STATION BASED ON THE PUMP SPECIFIED ABOVE. PUMPS SHALL BE MANUFACTURED BY LIBERTY, SULZER, MEYERS, HYDROMATIC OR APPROVED EQUAL MEETING THE REQUIREMENTS OF THE WRITTEN SPECIFICATIONS AND THE PERFORMANCE REQUIREMENTS LISTED ABOVE.



CONTROLS SCHEMATIC
N.T.S.

ELECTRICAL CONTROL NOTES:

1. ALL ELECTRICAL WORK SHALL CONFORM TO LATEST NATIONAL, STATE AND LOCAL CODES AND REQUIREMENTS.
2. PANEL LAYOUT IS SCHEMATIC ONLY. ADJUST AS NEEDED TO ACCOMMODATE EQUIPMENT.
3. ALL ENCLOSURES SHALL BE NEMA 4X RATED AND LOCKABLE.
4. ALL CONDUITS SHALL BE SEALED WITH INSULATING BUSHINGS TO PREVENT MOISTURE, SEWER GASES, ETC. FROM ENTERING EQUIPMENT ENCLOSURES.
5. NO EQUIPMENT SHALL BE MOUNTED LESS THAN 36-IN ABOVE GRADE.



SEWER PUMP STATION N.T.S.

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SHEET TITLE

UTILITY DETAILS

C903

ABBREVIATIONS

@	AT
PEMB	PRE-ENGINEERED METAL BUILDING
AB	ANCHOR BOLT
ACCESS	ACCESSORY
ACT	ACOUSTIC(AL) CEILING TILE
ADA	AMERICANS WITH DISABILITIES ACT
ADJ	ADJACENT
AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITIES HAVING JURISDICTION
ALT	ALTERNATE
ALUM	ALUMINUM
ANOD	ANODIZED
AOR	ARCHITECT OF RECORD
APC	ACOUSTIC(AL) PANEL CEILING
APPROX	APPROXIMATE
ARCH	ARCHITECTUR(AL)
AV	AUDIO VISUAL
BD	BOARD
BEJ	BUILDING EXPANSION JOINT
BFF	BELOW FINISHED FLOOR
BID	BID
BLDG	BUILDING
BLKG	BLOCKING
BOD	BOTTOM OF DECK
BOT	BOTTOM
BRG	BEARING
BSMT	BASEMENT
CG	CORNER CUARD
CI	CAST IRON
CIP	CAST-IN-PLACE
CJ	CONTROL JOINT
CL	CENTER LINE
CLG	CEILING
CLOS	CLOSET
CLR	CLEAR
CLSM	CLASSROM
CM	CONSTRUCTION MANAGER
CMU	CONCRETE MASONRY UNIT
CO	CLEAN OUT
COL	COLUMN
CONC	CONCRETE
CONF	CONFERENCE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CORR	CORRIDOR
CPCI	CONTRACTOR PROVIDED, CONTRACTOR INSTALLED
CPT	CARPET
CR	CARD READER
CSK	COUNTER SUNK
CT	CERAMIC TILE
D	DEEP
DEG	DEGREE(S)
DEPT	DEPARTMENT
DET	DETAIL
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIM	DIMENSION
DS	DOWN SPOUT
DW	DISHWASHER
DWG	DRAWING
EA	EACH
EJ	EXPANSION JOINT
EJC	EXPANSION JOINT COVER
EL	ELEVATION
ELEC	ELECTRIC(AL)
ELEV	ELEVATOR
EQ	EQUAL
EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EXIST	EXISTING
EXP	EXPOSED
EXT	EXTERIOR
EXTG	EXISTING
FA	FIRE ALARM
FACT	FACTORY FINISH
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FF&E	FURNITURE, FIXTURES & EQUIPMENT
FFE	FINISHED FLOOR ELEVATION
FIN	FINISH

FLR	FLOOR
FLUOR	FLUORESCENT
FND	FOUNDATION
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FP	FIRE PROTECTION
FRP	GLASS FIBER REINFORCED PLASTIC PANELS
FRT	FIRE-RETARDANT-TREATED
FT	FEET (FOOT)
FTG	FOOTING
GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACT(OR)
GFRC	GLASS FIBER REINFORCED CONCRETE
GL	GLASS
GLZ	GLAZING
GWB	GYPSUM WALL BOARD
GYP BD	GYPSUM BOARD
H	HIGH
HB	HOSE BIBB
HD	HEAVY DUTY
HDWR	HARDWARE
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HT	HEIGHT
IBC	INTERNATIONAL BUILDING CODE
ID	INSIDE DIAMETER
IF	INSIDE FACE
IFC	INTERNATIONAL FIRE CODE
IN	INCH(ES)
INSUL	INSULATION
INT	INTERIOR
JAN	JANITOR
KLP	KICKPLATE
L	LONG
LAB	LABORATORY
LAM	LAMINATE
LAV	LAVATORY
LIN	LINOLEUM
LVR	LOUVER
LVT	LUXURY VINYL TILE
LWIC	LIGHTWEIGHT INSULATING CONCRETE
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MBL	MARBLE
MECH	MECHANICAL
MEMB	MEMBRANE
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENINIG
MTL	METAL
NA	NOT APPLICABLE
NCSBC	NORTH CAROLINA STATE BUILDING CODE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OH	OVERHANG
OHD	OVER HEAD
OPCI	OWNER PROVIDED CONTRACTOR INSTALLED
OPNG	OPENING(S)
OPOI	OWNER PROVIDED, OWNER INSTALLED
OPP	OPPOSITE
ORD	OVERFLOW ROOF DRAIN
PERF	PERFORATED
PERP	PERPENDICULAR
PLAM	PLASTIC LAMINATE
PLBG	PLUMBING
PLYWD	PLYWOOD

PME	PLUMBING, MECHANICAL, ELECTRICAL
PNT	PAINT(ED)
PROP	PROPERTY
PSF	POUNDS / SQUARE FOOT
PSI	POUNDS / SQUARE INCH
PT	PRESERVATIVE-TREATED
PTN	PARTITION
PVC	POLYVINYL CHLORIDE
QT	QUARRY TILE
QTY	QUANTITY
R	RADIUS
RA	RETURN AIR
RB	RUBBER BASE
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
RDL	ROOF DRAIN LEADER
REBAR	STEEL REINFORCING BAR
REF	REFER(ENCE)
REINF	REINFORCE(D)(ING)(MENT)
REQD	REQUIRED
REV	REVISION(S) REVISED
RM	ROOM
RO	ROUGH OPENING
SC	SOLID CORE
SECT	SECTION
SF	SQUARE FEET (FOOT)
SFRM	SPRAYED FIRE-RESISTIVE MATERIAL
SHT	SHEET
SIM	SIMILAR
SLSF	SOLID SURFACE
SPEC	SPECIFICATION(S)
SPKLR	SPRINKLER
SQ IN	SQUARE INCH(ES)
SS	STAINLESS STEEL
ST	SIGN TYPE
STC	SOUND TRANSMISSION COEFFICIENT/CLASS
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRFR	STOREFRONT
STRUCT	STRUCTURE
SUSP	SUSPENDED
SYM	SYMMETRICAL
SYS	SYSTEM(S)
T&B	TOP & BOTTOM
T&G	TONGUE & GROOVE
TEL	TELEPHONE
TEMP	TEMPORARY
THK	THICK
THRES	THRESHOLD
TOM	TOP OF MASONRY
TOS	TOP OF STEEL
TYP	TYPICAL
TZ	TERRAZZO
UL	UNDERWRITERS' LABORATORIES
UON	UNLESS OTHERWISE NOTED
UTIL	UTILIT(IES)(Y)
VB	VINYL BASE
VCT	VINYL COMPOSITE TILE
VERT	VERTICAL(LY)
VIF	VERIFY IN FIELD
VNR	VENEER
VWC	VINYL WALL COVERING
W	WIDE
W/	WITH
W/O	WITHOUT
WC	WATER CLOSET
WD	WOOD
WG	WIRED GLASS
WSCT	WAINSCOT
WWF	WELDED WIRE FABRIC
WWM	WELDED WIRE MESH
YD	YARD

GENERAL SYMBOL LEGEND

ENLARGED DRAWING REFERENCE
A1 / A200 — DRAWING NUMBER / SHEET NUMBER

BUILDING / WALL SECTION CUT REFERENCE
A1 / A200 — DRAWING NUMBER / SHEET NUMBER

EXTERIOR ELEVATION REFERENCE
A1 / A200 — DRAWING NUMBER / SHEET NUMBER

INTERIOR ELEVATION REFERENCE
A1 / A400 — DRAWING NUMBER / SHEET NUMBER

PARTITION TYPE
A — *REFER TO INTERIOR PARTITION LEGEND*

CONTROL JOINT
CJ — CONTROL JOINT

ELEVATION DATUM REFERENCE
X'-X" — ELEVATION
DATUM REFERENCE
0'-0" — RELATIVE FINISH FLOOR ELEVATION

WALLS
EXISTING WALL OR PARTITION
NEW WALL OR PARTITION

DOOR / DOOR NUMBER
101 — DOOR NUMBER

KEY NOTE
01

WINDOW TYPE
SF1

ALIGN FACES OF DESIGNATED SURFACES
ALIGN

NORTH ARROW
INDICATES NORTH DIRECTION

REVISION REFERENCE
1 — REVISION NUMBER

ROOM TAG
ROOM NAME — ROOM NAME
101 — ROOM NUMBER

FURNITURE, FIXTURES, & EQUIPMENT KEY
1 — KEY NUMBER

FLOOR DRAIN
FD — FLOOR DRAIN LOCATION, SEE PLUMBING DRAWINGS FOR ADDITIONAL REQUIREMENTS.

REFLECTED CEILING PLAN SYMBOL LEGEND

CEILING TAG
28'-10" — CEILING HEIGHT ABOVE FINISH FLOOR

SPOT ELEVATION
0'-0"

GYB BOARD CEILING
ACOUSTIC CEILING TILE: 2'x2'

CONTROL JOINT
CJ

MECHANICAL RETURN REGISTER

MECHANICAL AIR SUPPLY DIFFUSER

MECHANICAL EXHAUST REGISTER

RECESSED LIGHT FIXTURE
2'x4' 2'x2'

PENDANT MOUNTED INDUSTRIAL LIGHT FIXTURE

PENDANT/JOIST; MTD 19' AFG

W/EM - WALL LED

SMOKE DETECTOR
S

BATTERY BACK UP LIGHT

HEAT DETECTOR
H

EXIT LIGHT FIXTURE
EXIT DIRECTIONAL ARROW

HORN STROBE
H H

CEILING MOUNTED OCCUPANCY SENSOR
OS

CEILING MOUNTED SPEAKER
SP

CEILING MOUNTED CARBON MONOXIDE DETECTOR
CO

CEILING MOUNTED WIRELESS ACCESS POINT

SPRINKLER HEAD

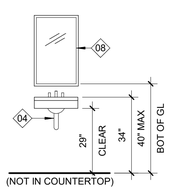
SECURITY CAMERA
CAM

CEILING MOUNTED ELECTRICAL OUTLET

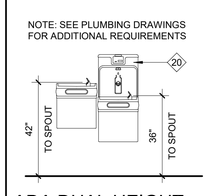
CEILING MOUNTED FIRE ALARM STROBE

CAN LIGHT FIXTURE

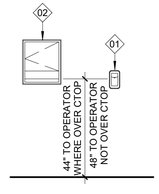
TYPICAL MOUNTING LOCATIONS AND DIMENSIONS



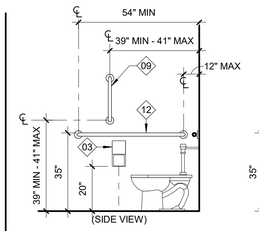
ADA LAVATORY
NTS



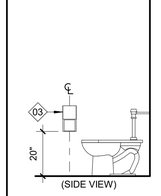
ADA DUAL HEIGHT DRINKING FOUNTAINS
NTS



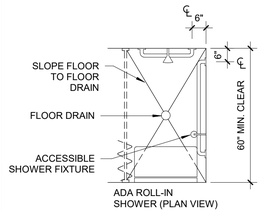
DISPENSERS
NTS

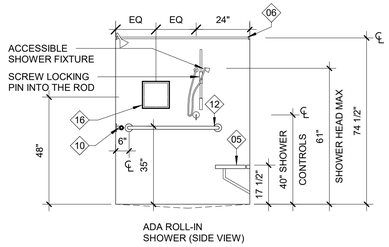


ADA TOILET
NTS

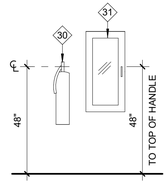


STANDARD TOILET
NTS

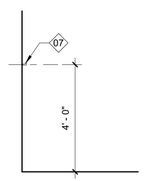




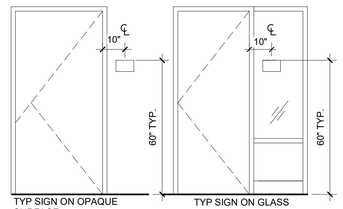
ROLL-IN SHOWER
NTS



FIRE EXTINGUISHER AND CABINET
NTS



HOOK
NTS



SIGN HEIGHT
NTS

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PROJECT INFORMATION

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ONSLOW COUNTY
BID NO. 102-25C
138 OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

DAVIS KANE ARCHITECTS, P.A. — 50304 — NORTH CAROLINA — RALEIGH, N.C.

JIMMY ARDEL EDWARDS — 13823 — 03-12-25 — NORTH CAROLINA — RALEIGH, N.C.

DKA JOB NUMBER
2324

REVISIONS

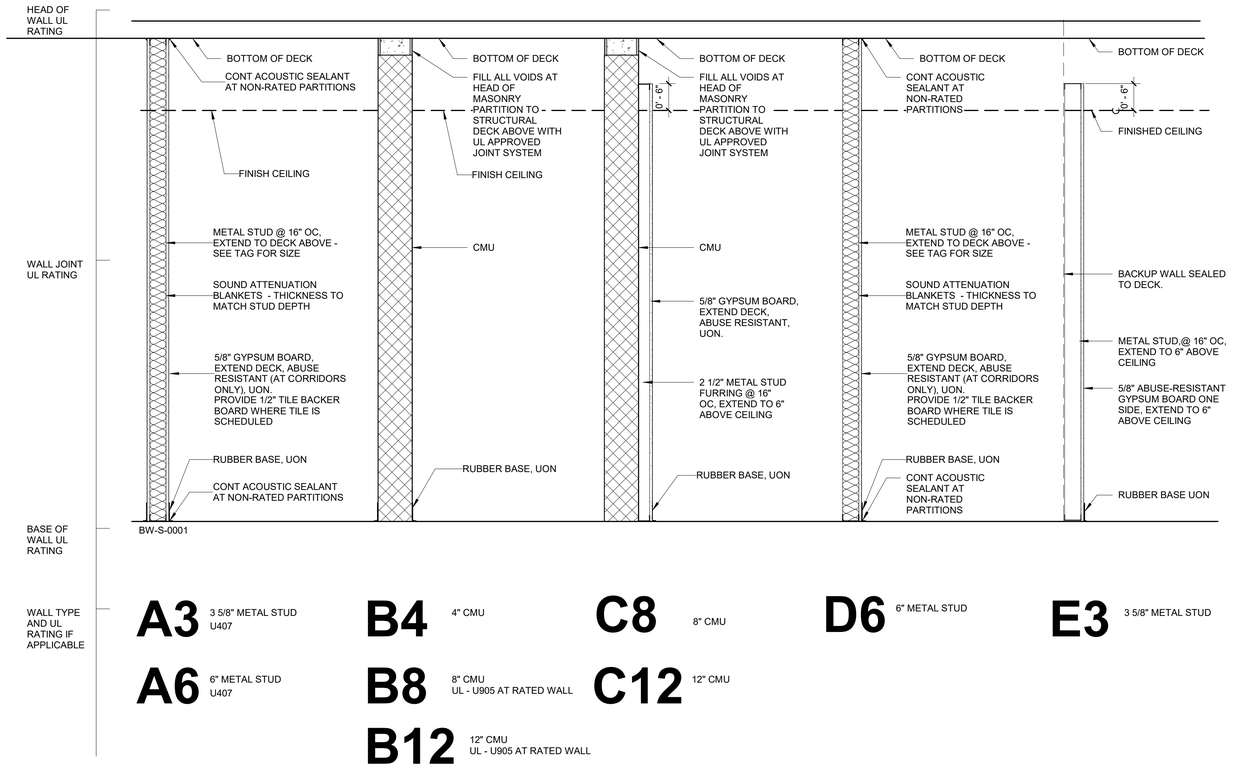
PA: JIMMY ARDEL EDWARDS
PM: ALEXANDRE PENEGRE
Drawn By: Author
Plot Date: 3/11/2025 1:21:16 PM

DATE ISSUED
BID DOCUMENTS
03/12/2025

SHEET TITLE
GENERAL NOTES AND LEGENDS

A001

INTERIOR PARTITIONS LEGEND



WALL TYPE AND UL RATING IF APPLICABLE

A3 3 5/8" METAL STUD U407

A6 6" METAL STUD U407

B4 4" CMU

B8 8" CMU UL - U905 AT RATED WALL

B12 12" CMU UL - U905 AT RATED WALL

C8 8" CMU

C12 12" CMU

D6 6" METAL STUD

E3 3 5/8" METAL STUD

ARCHITECTURAL MATERIALS LEGEND

- EARTH
- GRANULAR FILL
- SAND, GROUT AS NOTED
- CAST-IN-PLACE CONCRETE
- PRECAST CONCRETE, CAST STONE
- CONCRETE MASONRY UNIT
- BRICK MASONRY
- STONE: QUARTZ
- METAL: TYPE AS NOTED
- METAL: ROLLED SHAPES
- WOOD FRAMING / BLOCKING: CONTINOUS
- WOOD SHIM
- FINISHED WOOD SHOWN CUT AND ELEVATION
- PARTICLEBOARD
- PLYWOOD
- SPRAYED FIREPROOFING SHOWN ON ROLLED SHAPE
- BATT INSULATION: THERMAL OR ACOUSTICAL, UON
- RIGID INSULATION: THERMAL, ACOUSTICAL, OR SAFING
- GYPSUM WALL BOARD
- SHEATHING: GYPSUM, OR AS NOTED
- ACOUSTICAL CEILING TILE
- RESINOUS FLOORING: TERRAZO, TROWEL-ON, UON
- TILE: CERAMIC, QUARRY, UON
- INSULATED GLASS: (SMALL SCALE)
- INSULATED GLASS: (DETAIL)
- ROOF MEMBRANE
- WATER PROOFING, DAMP PROOFING
- TRANSITION MEMBRANE FLASHING
- AIR BARRIER

NOTE: PATTERNS SHOWN REPRESENT CUT MATERIALS IN PLAN OR SECTION, UNLESS NOTED OTHERWISE ABOVE.

FURNITURE, FIXTURES, AND EQUIPMENT LEGEND

NOTE: CONTRACTOR TO COORDINATE ALL FF&E ITEMS WITH OWNER PRIOR TO SCHEDULING DELIVERY AND INSTALLATION

01 SOAP DISPENSER, WALL MOUNTED	13 SURFACE MOUNTED COMBINATION PAPER TOWEL AND WASTE RECEPTACLE	30 FIRE EXTINGUISHER ON HOOK	50 ICE MAKER, OPCI
02 PAPER TOWEL DISPENSER / TRASH RECEPTACLE	14 CASCADE SCBA SYSTEM, OPCI	31 FIRE EXTINGUISHER IN CABINET	51 DISHWASHER, OPCI
03 TOILET PAPER DISPENSER	15 EYE WASH - SEE PLUMBING DRAWINGS	32 TWIN SIZE BED, NIC	52 REFRIGERATOR, OPCI
04 ADA INTEGRATED PIPE PROTECTION	16 STAINLESS STEEL RECESSED SHOWER SHELF	33 WALL MOUNTED FLAT SCREEN TV, OPCI	53 WASTE/ RECYCLING CONTAINER, OPCI
05 ACCESIBLE SHOWER SEAT	17 MOP HOLDER	34 48" X 72" GLASS BOARD, MOUNT BOTTOM OF GLASS/MARKER HOLDER AT 34"AFF	54 RANGE HOOD, SEE MECHANICAL DRAWINGS
06 SHOWER CURTAIN, ROD & HOOKS	18 WASHER EXTRACTOR - SEE PLUMBING DRAWINGS	35 GEAR LOCKER ON CASTER	55 RESIDENTIAL RANGE, OPCI
07 TOWEL HOOK	19 HEAVY DUTY TUMBLE DRYER, OPCI	36 WALL MOUNTED GEAR LOCKER	56 COFFEE MAKER, NIC
08 24" X 36" MIRROR	20 ADA DUAL HEIGHT DRINKING FOUNTAIN - SEE PLUMBING DRAWINGS	37 DUAL BLACKOUT AND SHEER ROLLING SHADE	
09 18" GRAB BAR	21 SCULLERY SINK, SEE PLUMBING DRAWINGS	38 2" WINDOW BLINDS	
10 24" GRAB BAR	22 WASHER & DRYER, OPCI	39 LOCKERS, SEE SPECIFICATIONS	
11 36" GRAB BAR			
12 42" GRAB BAR			

RATED ASSEMBLIES GENERAL NOTES:

1. UL CERTIFIED RATED ASSEMBLIES ARE REPRINTED FROM THE ONLINE CERTIFICATIONS DIRECTORY WITH PERMISSION FROM UNDERWRITERS LABORATORIES, INC.
2. FIRE PROTECTION MATERIALS DENOTED IN THE FIRE PROTECTION DETAILS PROVIDED HEREIN SHALL NOT BE CONSTRUED AS PROPRIETARY. EQUIVALENT FIRE PROTECTION SYSTEMS MAY BE UTILIZED IF SUBMITTED BY THE CONTRACTOR FOLLOWING REQUIREMENTS SET FORTH IN THE GENERAL CONDITIONS.
3. ANY SUBSTITUTIONS OF MATERIALS USED IN RATED ASSEMBLIES ARE SUBJECT TO APPROVAL BY AUTHORITIES HAVING JURISDICTION.
4. SEE SHEET **G005** FOR RATED ASSEMBLIES LEGEND.

INTERIOR PARTITION NOTES:

1. ALL RATED ASSEMBLIES SHALL BE STENCILED WITH RATED WALL WARNING MESSAGE IN RED TO READ AS FOLLOWS: "__-HOUR RATED FIRE BARRIER. SEAL ALL PENETRATIONS" WITH APPLICABLE HOUR RATING INSERTED. HOUR RATING TO BE AS NOTED ON PLANS. MESSAGE TO BE 4" MIN HIGH LETTERS, PLACED 12" ABOVE CEILING, SPACED AT 6'-0" OC ON BOTH SIDES OF WALLS AND ON UNDERSIDE OF HORIZONTAL RATED ASSEMBLIES.
2. ALL INTERIOR PARTITION WALLS ARE TO BE A3 UON.
3. SEE SHEET **G005** FOR UL CERTIFIED RATED ASSEMBLIES AS REQUIRED BY INTERIOR PARTITION LEGEND. AT ALL RATED ASSEMBLIES, PROTECT ALL JOINTS AS REQUIRED BY INTERIOR PARTITION LEGEND. SEE PLUMBING, MECHANICAL AND ELECTRICAL SHEETS FOR PROTECTION OF PENETRATIONS IN RATED ASSEMBLIES. SEAL PERIMETER OF ALL RATED ASSEMBLIES AT DECK, STRUCTURE, CEILING, FLOOR AND ADJACENT WALLS, TYP.
4. COORDINATE LAYOUT OF WALLS OF DIFFERENT TYPES SUCH THAT FINISH GWB SURFACES ALIGN IN SAME PLANE.
5. SEAL PERIMETER OF ALL FIRE RATED WALLS AT DECK, STRUCTURE, CEILING, FLOOR AND ADJACENT WALLS, TYP. RATED WALLS TO BE SEALED AT WALL PENETRATIONS AND TO ADJACENT CONSTRUCTION WITH APPLICABLE JOINT PROTECTION SYSTEM.
6. AT ALL RATED PARTITIONS, RATE ALL JOINTS AND PENETRATIONS PER APPLICABLE UL DETAIL.
7. AT ALL NON-RATED WALLS AND PARTITIONS, SEAL ALL PENETRATIONS USING APPROVED NON-COMBUSTIBLE MATERIAL
8. AT PARTITION WALLS WITH SOUND BATT INSULATION, PROVIDE CONTINUOUS ACOUSTIC SEALANT AROUND FULL PERIMETER OF PARTITION AT ADJACENT SURFACES AND AT PENETRATIONS.
9. TOP OF WALL BRACING NOT SHOWN THIS SHEET, SEE STRUCTURAL DRAWINGS FOR TYPICAL WALL BRACING DETAILS AND ADDITIONAL REINFORCEMENT REQUIREMENTS.
10. PROVIDE LATERAL BRACING FOR PARTITIONS WHICH EXTEND ABOVE CEILING.
11. ISOLATE NON-LOAD-BEARING STUD FRAMING FROM BUILDING STRUCTURE TO PREVENT TRANSFER OF VERTICAL LOADS WHILE PROVIDING LATERAL SUPPORT AS SPECIFIED.
12. PROVIDE PARTITION CONTROL JOINTS PER DETAILS ON SHEET A310_ AS INDICATED ON INTERIOR ELEVATIONS AND ON RCPS. DRYWALL CONTRACTOR TO VERIFY ALL RECOMMENDED LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION.
13. REFER TO INTERIOR FINISHES PLANS AND REFLECTED CEILING PLANS FOR ADDITIONAL WALL FINISH, BASE, AND CEILING INFORMATION.
14. PROVIDE WATER RESISTANT GWB WITHIN 4 FEET OF DRINKING FOUNTAINS / WATER COOLERS, UON.
15. OUTSIDE CORNER OF CMU WALLS TO BE BULLNOSED FROM 8" AFF TO 8'-8" AFF TYPICAL, UON.
16. PENETRATIONS OF NON-RATED WALLS AND PARTITIONS OF NON-COMBUSTIBLE CONSTRUCTION SHALL BE SEALED USING APPROVED NON-COMBUSTIBLE MATERIAL.
17. PROVIDE 2X SOLID WOOD BLOCKING CONCEALED IN METAL STUD WALL CONSTRUCTION FOR WALL-MOUNTED FIXTURES, FURNISHINGS, EQUIPMENT AND ACCESSORIES.

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SEALS

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JIMMY ARDEL EDWARDS REGISTERED LANDSCAPE ARCHITECT 13823 05.12.25 NORTH CAROLINA RALEIGH, N.C.

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REVISIONS

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PM: ALEXANDRE PENEGRE
Drawn By: Author
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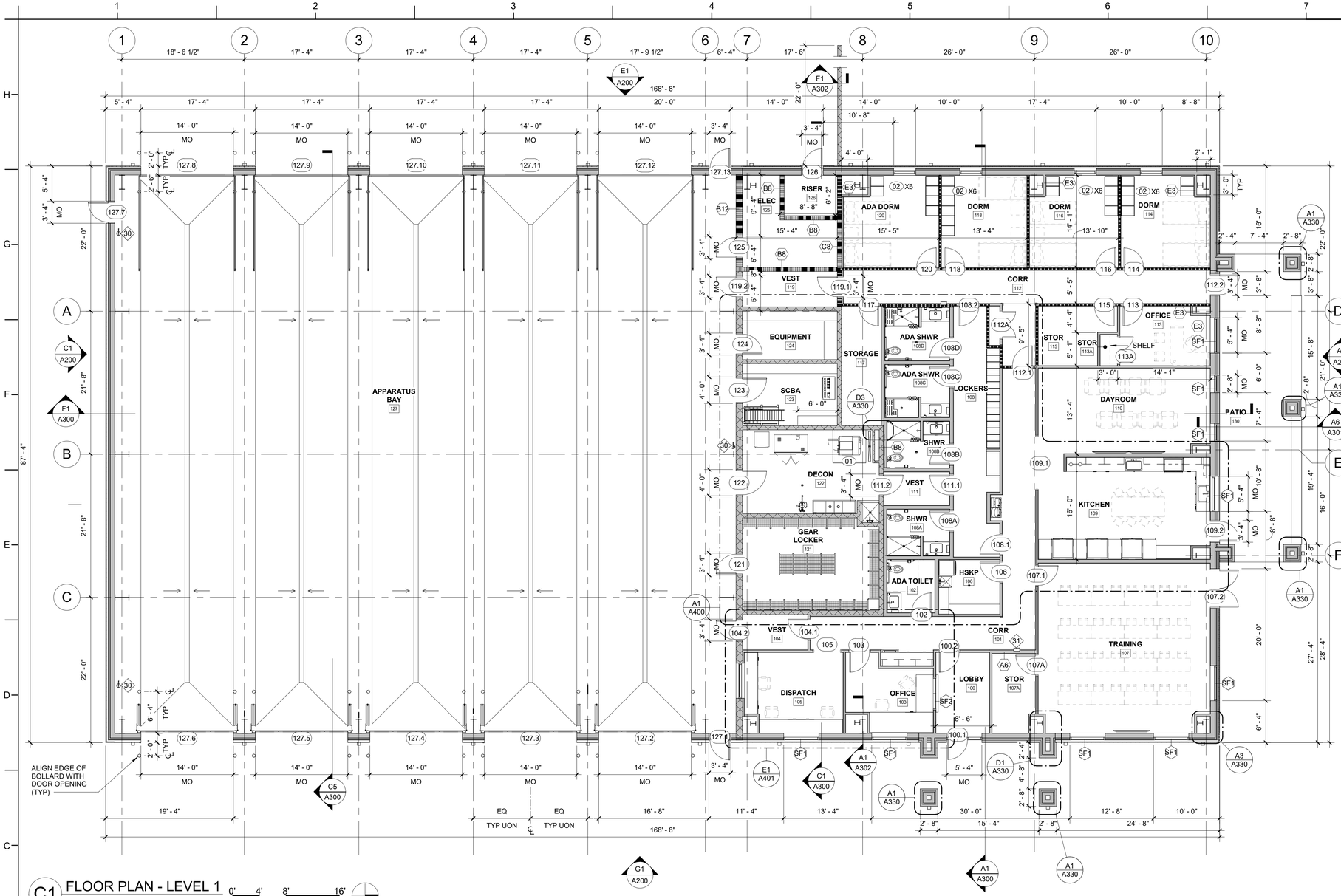
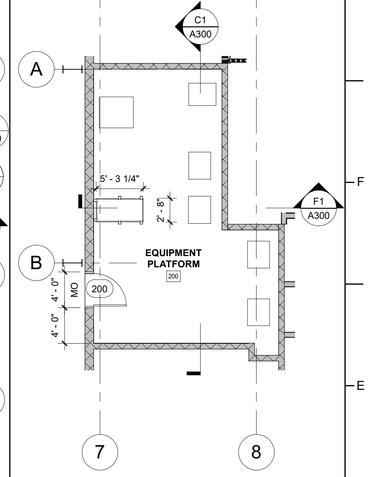
SHEET TITLE
PARTITION WALL TYPES

A002



C1 FLOOR PLAN - LEVEL 1
1/8" = 1'-0"

0' 4' 8' 16'



C8 EQUIPMENT PLATFORM
1/8" = 1'-0"

FLOOR PLAN KEY NOTES

NOTE: NOT ALL KEY NOTES BELOW ARE APPLICABLE TO THIS SHEET. KEY NOTES SUPPLEMENT INFORMATION FOUND ELSEWHERE IN THE DRAWINGS. SEE SHEETS A001 & A002 FOR FLOOR PLAN GENERAL NOTES. PARTITION GENERAL NOTES, LEGENDS, AND ADDITIONAL REQUIREMENTS.

01	THICKENED SLAB FOR EXTRACTOR - SEE STRUCTURAL DRAWINGS
02	WARDROBE - SEE DETAIL A7/A401

RATED ASSEMBLIES LEGEND:

NOTES: RATINGS ARE NOT SHOWN THROUGH DOORS FOR CLARITY. SEE A002 FOR PARTITION TYPES. SEE LIFE SAFETY PLANS ON G004 FOR FULL EXTENT OF RATINGS, INCLUDING HORIZONTAL RATINGS. RATINGS ARE CONTINUOUS AROUND OPENINGS AND OPENINGS ARE TO BE PROTECTED IN ACCORDANCE WITH THE NC STATE BUILDING CODE. PROTECT ALL PENETRATIONS.

ALL RATED ASSEMBLIES SHALL BE STENCILED WITH RATED WALL WARNING MESSAGE IN RED TO READ AS FOLLOWS: "__-HOUR RATED FIRE BARRIER. SEAL ALL PENETRATIONS* WITH APPLICABLE HOUR RATING INSERTED. HOUR RATING TO BE AS NOTED ON PLANS. MESSAGE TO BE 4" MIN HIGH LETTERS, PLACED 12" ABOVE CEILING, SPACED AT 12'-0" OC ON BOTH SIDES OF WALLS AND ON UNDERSIDE OF HORIZONTAL RATED ASSEMBLIES.

SEE T-SHEETS FOR UL RATINGS AND ADDITIONAL INFORMATION.

2-HR. FIRE BARRIER

1/2-HR FIRE PARTITION

FLOOR PLAN GENERAL NOTES:

1. 0'-0" FLOOR ELEVATION ON ARCHITECTURAL DRAWINGS EQUALS 36'-0" ELEVATION AS INDICATED ON CIVIL DRAWINGS.
2. DO NOT SCALE DRAWINGS. REFER DIMENSION QUESTIONS TO ARCHITECT FOR INTERPRETATION.SEE SHEET A002 FOR INTERIOR PARTITION LEGEND AND NOTES. SEE WALL SECTIONS FOR EXTERIOR WALLS, TYP.
3. ALL HINGE-SIDE DOOR JAMBS IN GYPSUM WALLS TO BE 4" TO THE INSIDE OF ADJACENT PERPENDICULAR WALL, UNLESS DIMENSIONED OTHERWISE.
4. ALL HINGE-SIDE JAMBS IN CMU WALLS TO BE 4" TO 8" AT A MASONRY HEAD JOINT TO INSIDE OF ADJACENT PERPENDICULAR WALL, UNLESS DIMENSIONED OTHERWISE.
5. ALL DOORS IN ALCOVES TO BE 18" MIN FROM STRIKE SIDE OF DOOR TO INSIDE OF ADJACENT PERPENDICUALR WALL, UNLESS DIMENSIONED OTHERWISE.
6. ALL DIMENSIONS TO FACE OF METAL STUD, FACE OF MASONRY, FACE OF CONCRETE, OR COLUMN CENTERLINE, UON.
7. PROVIDE CONTROL JOINTS IN INTERIOR AND EXTERIOR CMU WALLS EVERY 20' O.C. MAX, UON. MAINTAIN 2'-0" MINIMUM FROM JAMBS AT ALL OPENINGS.
8. PROVIDE CONTROL JOINTS IN GYPSUM BOARD WALL CONSTRUCTION AS INDICATED. VERIFY FINAL CONTROL JOINT LOCATIONS WHETHER OR NOT INDICATED ON THE DRAWINGS WITH ARCHITECT PRIOR TO STARTING WORK.
9. SEE KEY NOTES AND NOTES ON PLANS FOR SPECIFIC NOTES FOR EACH DRAWING AREA.
10. SEE PLUMBING, MECHANICAL, ELECTRICAL, FIRE PROTECTION, CIVIL AND STRUCTURAL DRAWINGS FOR RELATED WORK AND ADDITIONAL REQUIREMENTS.
11. COORDINATE EQUIPMENT WORK WITH MANUFACTURERS AND SUPPLIERS TO ENSURE PROPER ROUGH-IN CLEARANCES FOR INSTALLATION, USE AND MAINTENANCE.
12. ALL OPENINGS IN MASONRY WALLS ARE TO RECEIVE LINTEL OR BOND BEAM. SEE STRUCTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.
13. PROVIDE SEALANT AT JUNCTION OF DIFFERENT MATERIALS UNLESS OTHER MEANS OF SEALING AND CLOSURE IS SPECIFIED.
14. INSTALL METAL "F" TRIM IN GWB WALL AT VERTICAL EDGE WHERE GWB WALL MEETS CMU WALL. PROVIDE SEALANT AT JUNCTION OF DIFFERENT MATERIALS UNLESS OTHER MEANS OF SEALING AND CLOSURE IS SPECIFIED.
15. PROVIDE THOROUGH FINAL CLEANING THROUGHOUT INTERIOR PRIOR TO OWNER OCCUPANCY. INTERIOR CLEANING TO INCLUDE FLOORS, BASE, WALLS, WALL-MOUNTED EQUIPMENT, FIXTURES, FURNISHINGS, DOORS, WINDOWS, FRAMES, SILLS, CEILINGS, CEILING MOUNTED EQUIPMENT AND FIXTURES.
16. THE ANNULAR SPACE OF EACH PENETRATION OF EACH FLOOR ASSEMBLY IS TO BE FILLED WITH MATERIAL THAT IS TESTED FOR USE IN THROUGH-PENETRATION FIRESTOP SYSTEMS.
17. VERIFY MOUNTING HEIGHTS OF ACCESSORIES, EQUIPMENT, DOOR HARDWARE, CASEWORK, ETC., AND PROVIDE SOLID BLOCKING BEHIND ITEMS REQUIRING ANCHORAGE. WHERE MOUNTING HEIGHTS ARE NOT INDICATED, MOUNT ITEMS IN ACCORDANCE WITH RECOGNIZED INDUSTRY STANDARDS, COORDINATE LOCATIONS WITH MANUFACTURER OR SUPPLIER AND REFER MOUNTING HEIGHT QUESTIONS TO ARCHITECT FOR INTERPRETATION.
18. SEE I-SHEETS FOR INTERIOR FINISHES PLANS, FF&E PLANS, SCHEDULES, AND ADDITIONAL FINISHES.
19. ALL PARTITIONS ARE TYPE A3, UON.

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PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION

ONSLOW COUNTY
BID NO. 102-25C
138 OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

DAVIS KANE ARCHITECTS, P.A. REGISTERED ARCHITECTURAL CORPORATION 50304 NORTH CAROLINA RALEIGH, N.C.

JIMMY ARDEL EDWARDS REGISTERED ARCHITECT 13823 05.12.25 NORTH CAROLINA RALEIGH, N.C.

DKA JOB NUMBER
2324

REVISIONS

PA: JIMMY ARDEL EDWARDS
PM: ALEXANDRE PENEGRE
Drawn By: RM
Plot Date: 3/11/2025 1:21:20 PM

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BID DOCUMENTS
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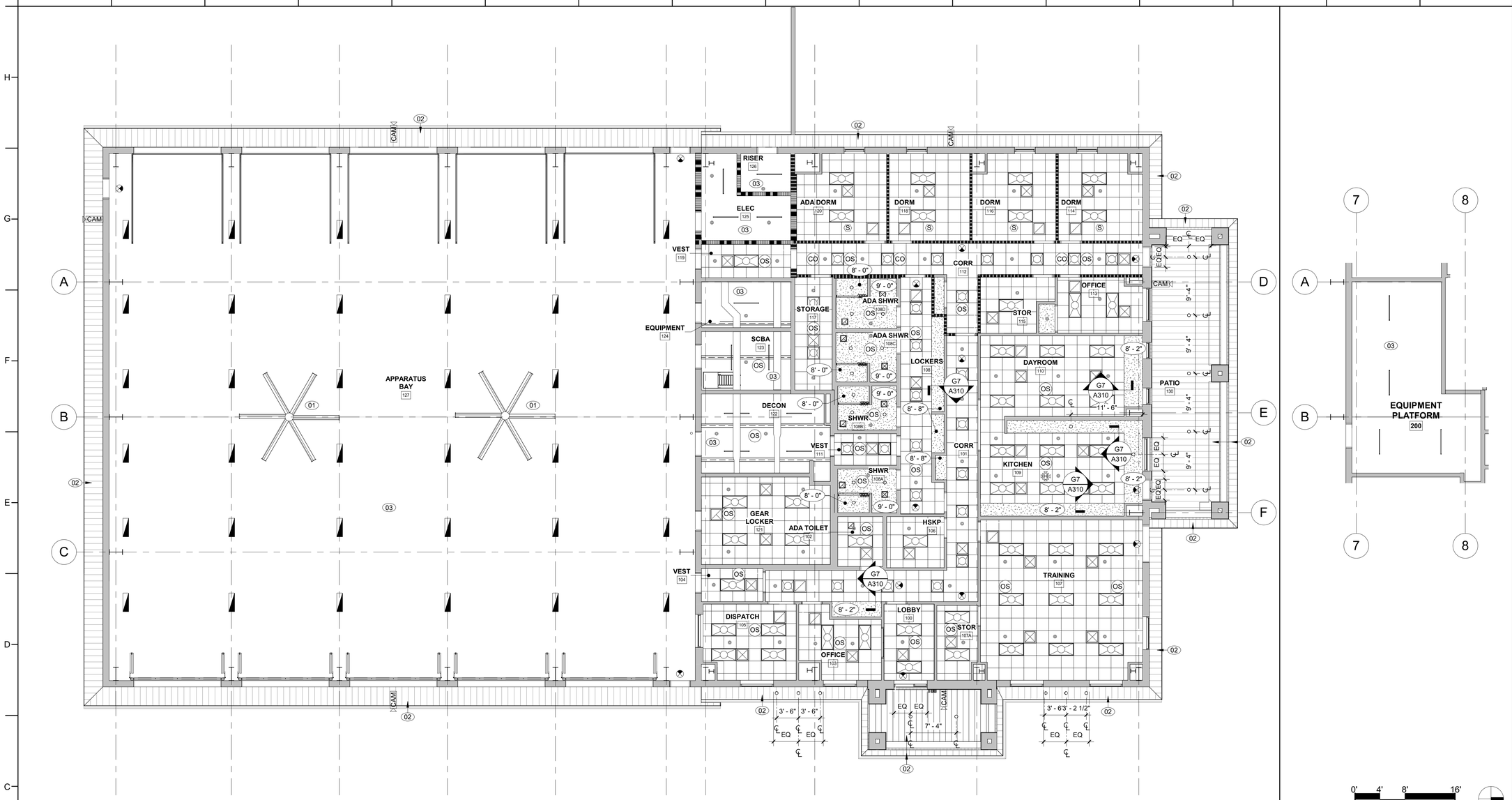
SHEET TITLE

FIRST FLOOR & EQUIP PLATFORM FLOOR PLANS

A100



C1 FIRST FLOOR RCP
1/8" = 1'-0"

0' 4' 8' 16'

C8 RCP -EQUIPMENT PLATFORM
1/8" = 1'-0"

0' 4' 8' 16'

REFLECTED CEILING PLAN KEY NOTES

NOTE: KEY NOTES SUPPLEMENT INFORMATION FOUND ELSEWHERE IN THE DRAWINGS. SEE PLANS FOR KEYED ITEM LOCATIONS, SEE SHEET A000 FOR REFLECTED CEILING PLAN GENERAL NOTES, REFLECTED CEILING PLAN LEGEND AND FF&E LEGEND.

01	HIGH VOLUME, LOW SPEED INDUSTRIAL FAN, SEE MECH. DRAWINGS FOR DETAILS
02	METAL SOFFIT
03	PAINTED EXPOSED STRUCTURE

RATED ASSEMBLIES LEGEND:

NOTES: RATINGS ARE NOT SHOWN THROUGH DOORS FOR CLARITY. SEE A002 FOR PARTITION TYPES. SEE LIFE SAFETY PLANS ON G004 FOR FULL EXTENT OF RATINGS, INCLUDING HORIZONTAL RATINGS. RATINGS ARE CONTINUOUS AROUND OPENINGS AND OPENINGS ARE TO BE PROTECTED IN ACCORDANCE WITH THE NC STATE BUILDING CODE. PROTECT ALL PENETRATIONS.

ALL RATED ASSEMBLIES SHALL BE STENCILED WITH RATED WALL WARNING MESSAGE IN RED TO READ AS FOLLOWS: "__-HOUR RATED FIRE BARRIER. SEAL ALL PENETRATIONS" WITH APPLICABLE HOUR RATING INSERTED. HOUR RATING TO BE AS NOTED ON PLANS. MESSAGE TO BE 4" MIN HIGH LETTERS, PLACED 12" ABOVE CEILING, SPACED AT 12'-0" OC ON BOTH SIDES OF WALLS AND ON UNDERSIDE OF HORIZONTAL RATED ASSEMBLIES.

SEE T-SHEETS FOR UL RATINGS AND ADDITIONAL INFORMATION.

2-HR. FIRE BARRIER

1/2-HR FIRE PARTITION

RCP GENERAL NOTES:

1. CEILING GRIDS TO BE CENTERED IN ROOM AS SHOWN, UNLESS DIMENSIONED OTHERWISE.
2. DOUBLE CEILING TRACK AT THE EDGE OF ANY LAY-IN AREAS IS NOT ACCEPTABLE. PROVIDE A 2'x4' TILE CUT TO FIT THE LARGER OPENING WHERE A STRIP OF TILE LESS THAN 2 1/2" IN EITHER DIRECTION WOULD HAVE TO BE USED, TYP.
3. MECHANICAL, ELECTRICAL, FIRE PROTECTION, AND AV COMPONENTS ARE SHOWN FOR COORDINATION PURPOSES ONLY. SEE PLUMBING, ELECTRICAL, MECHANICAL, AND FIRE PROTECTION DRAWINGS FOR ADDITIONAL REQUIREMENTS.
4. CONTRACTOR IS RESPONSIBLE FOR COORDINATING INSTALLATION OF MECHANICAL, FIRE PROTECTION, ELECTRICAL, AND PLUMBING WORK ABOVE CEILING, IN ORDER TO PROVIDE FINISHED CEILINGS AT HEIGHTS REQUIRED ON CEILING PLAN.
5. PRIME AND PAINT ALL NON-GALVANIZED STEEL LINTELS THAT ARE TO REMAIN EXPOSED.
6. SEE INTERIOR FINISHES SCHEDULE AND INTERIOR FINISHES PLANS ON I-SHEETS FOR ADDITIONAL CEILING INFORMATION AND REQUIREMENTS.
7. SEE SECTIONS AND INTERIOR ELEVATIONS FOR BULKHEAD DIMENSIONS NOT NOTED ON REFLECTED CEILING PLANS AND DETAILS.
8. PROVIDE CONTROL JOINTS IN GYPSUM BOARD CEILING CONSTRUCTION AS INDICATED. WHERE NOT SHOWN, PROVIDE MAXIMUM SPACING BETWEEN JOINTS OF 30'-0". VERIFY FINAL CONTROL JOINT LOCATIONS WITH ARCHITECT PRIOR TO STARTING WORK WHETHER OR NOT INDICATED ON THE DRAWINGS.
9. ALL GWB CONTROL JOINTS ARE TO RUN HORIZONTALLY AS SHOWN ON REFLECTED CEILING PLANS AND VERTICALLY UP THE FACE OF THE BULKHEAD.
10. CENTER PENETRATIONS IN ACOUSTICAL CEILING SYSTEMS WITHIN INDIVIDUAL CEILING PANELS, SUCH AS SPRINKLER HEADS, DIFFUSERS, LIGHT FIXTURES, ETC. UON
11. PAINT ALL EXPOSED GWB CEILINGS AND BULKHEADS.
12. USE OVERSIZE 2'x4' MATCHING CEILING PANEL CUT TO SIZE AT ROOM PERIMETER WHERE CEILING AND GRID LAYOUT RESULTS IN PANEL WIDTH LESS THAN 3 INCHES.
13. SUBMIT COORDINATION DRAWINGS AND LAYOUT FOR APPROVAL IN ALL AREAS WITH EXPOSED STRUCTURE PRIOR TO INSTALLATION.
14. AUTOMATIC SPRINKLER DESIGN BY PERFORMANCE SPECIFICATION. SPRINKLER HEADS SHOWN FOR AREAS WITH AESTHETIC OR ADDITIONAL REQUIREMENTS COORDINATION. CONTRACTOR RESPONSIBLE FOR FULL RCP COORDINATION.
15. ALL CEILINGS 9'-0" AFF UON.
16. WHERE NO CEILING IS SCHEDULED, PAINT ALL EXPOSED AND SEMI-EXPOSED SURFACES INCLUDING STEEL STRUCTURE, STEEL DECK, PIPING, DUCT, CONDUIT, BOXES, ETC. DO NOT PAINT EXPOSED CONCRETE SURFACES. MASK AND PROTECT FROM PAINT THOSE ITEMS THAT WILL NOT PROPERLY OPERATE WITH FIELD-APPLIED COATINGS, INCLUDING SPRINKLER HEADS, CONTROLS, LEVERS, VALVES, SENSORS, ETC. SEE F, P, M, AND E DRAWINGS FOR ADDITIONAL REQUIREMENTS.

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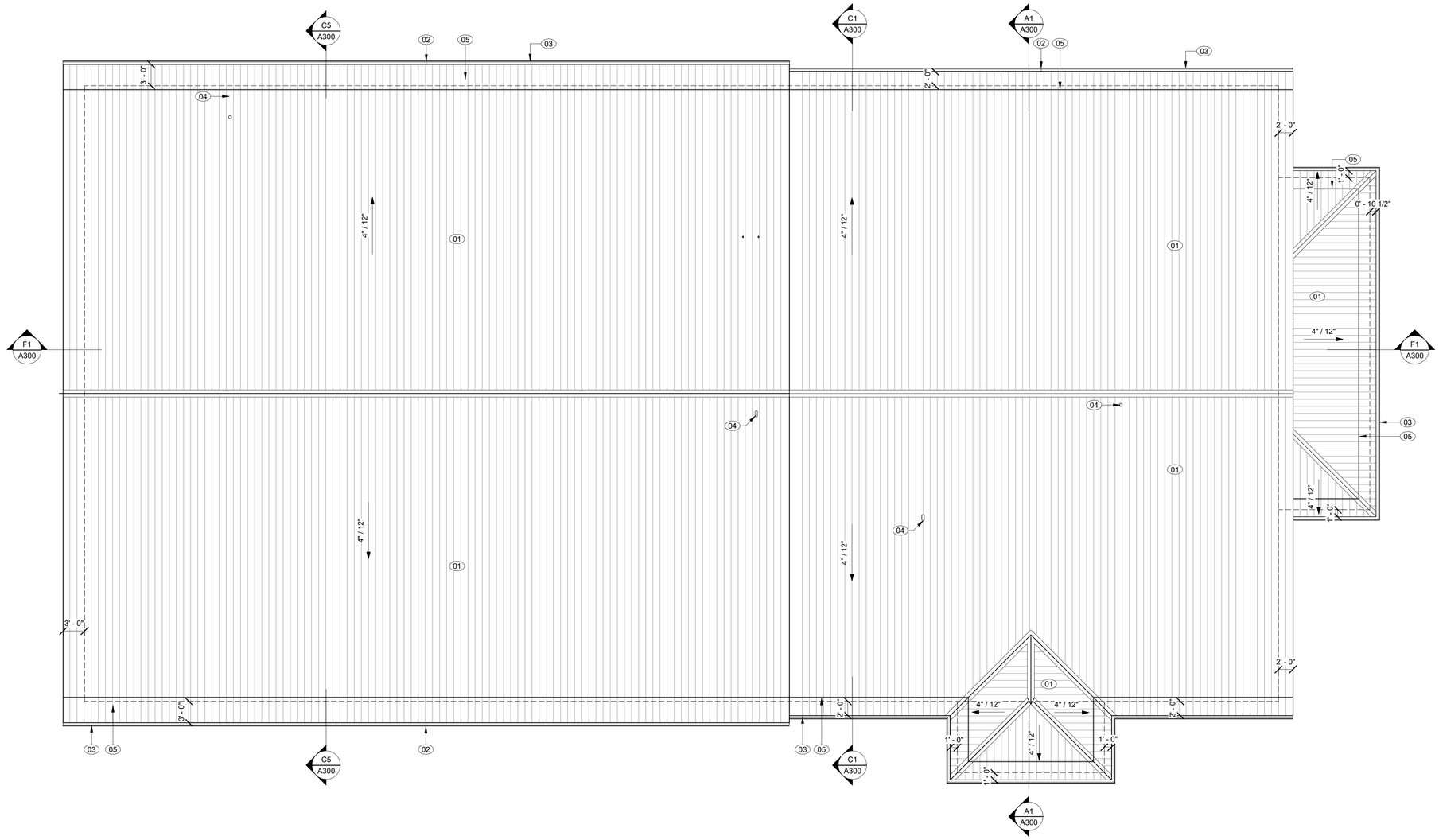
SHEET TITLE
FIRST FLOOR & EQUIP PLATFORM RCP

A110



C1 ROOF PLAN
1/8" = 1'-0"
0' 4' 8' 16'

ROOF PLAN KEY NOTES

NOTE: KEY NOTES SUPPLEMENT INFORMATION FOUND ELSEWHERE IN THE DRAWINGS. SEE PLANS FOR KEYED ITEM LOCATIONS.

01	STANDING SEAM MTL ROOF, MECHANICALLY SEAMED, ARCHITECT TO SELECT COLOR FROM MANUFACTURER'S FULL RANGE OF COLORS, TYP
02	GUTTER EXPANSION
03	PRE-FINISHED METAL GUTTER
04	EXHAUST VENT - SEE MECHANICAL DRAWINGS.
05	SNOW GUARD

ROOF PLAN LEGEND

X"/1'-0" ROOF SLOPE AND DIRECTION

ROOF PLAN GENERAL NOTES:

1. NEW ROOF SYSTEM INCLUDES ALL COMPONENTS AND ACCESSORIES REQUIRED TO PROVIDE A COMPLETE, WATERTIGHT AND WARRANTED SYSTEM. ITEMS INCLUDE BUT ARE NOT LIMITED TO INSULATION, ADHESIVE, PRIMER, FASTENERS, ANCHORS, METAL FLASHING, COPING, PATCHING MATERIALS, ETC.
2. COORDINATE INSTALLATION OF NEW ROOF SYSTEM TO MINIMIZE THE TIME WHEN ROOF DECK IS EXPOSED TO WEATHER AND BUILDING IS SUBJECT TO WATER INTRUSION. CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT WATER INTRUSION INTO BUILDING DURING CONSTRUCTION INCLUDING TEMPORARY COVERS.
3. SLOPE INDICATED IN LEGEND IS A MINIMUM SLOPE MEASURED AT THE ROOF SURFACE.

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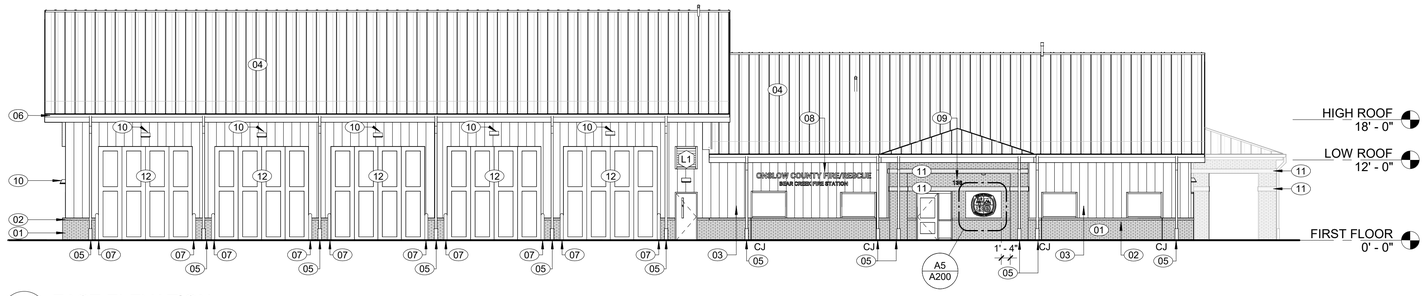
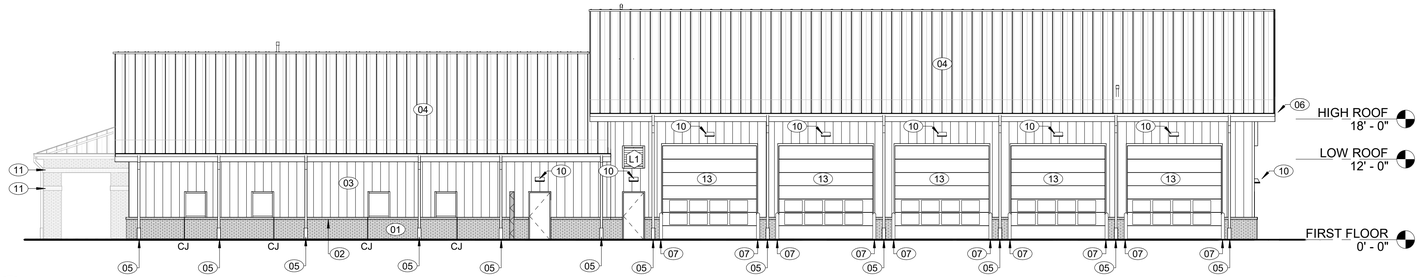
SHEET TITLE
ROOF PLAN

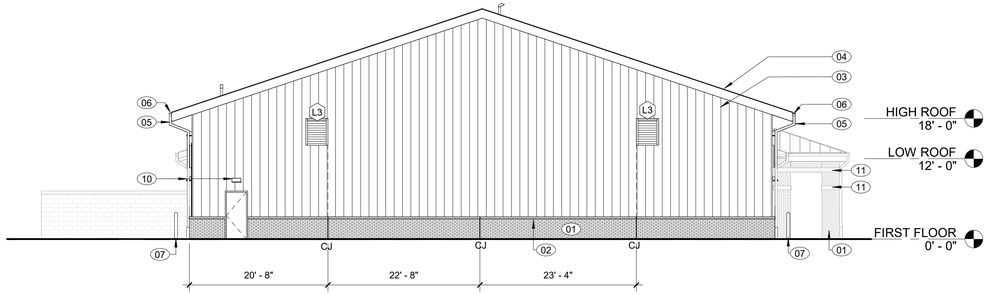
A120



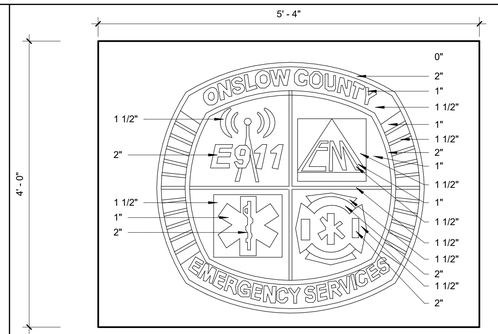
G1 EAST ELEVATION
3/32" = 1'-0"



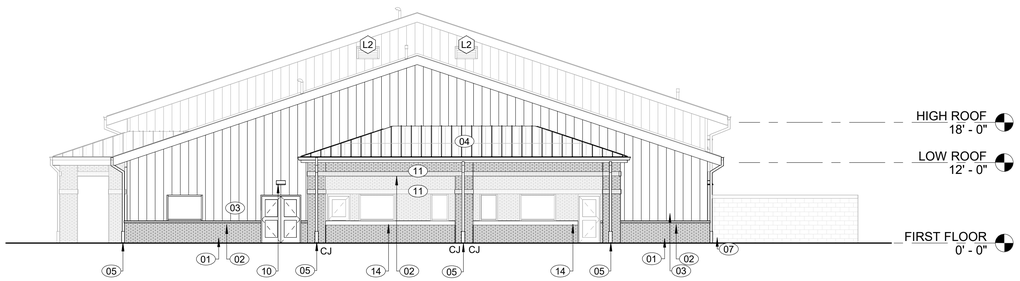
E1 WEST ELEVATION
3/32" = 1'-0"



C1 SOUTH ELEVATION
3/32" = 1'-0"



A5 PRECAST SIGN
1" = 1'-0"



A1 NORTH ELEVATION
3/32" = 1'-0"

EXTERIOR ELEVATION GENERAL NOTES:

1. FOR SYMBOLS LEGEND, SEE A000.
2. LOUVERS NOT TAGGED IN EXTERIOR ELEVATIONS ARE TAGGED IN BUILDING AREA PLANS.
3. PROVIDE CONTROL JOINTS (CJ) IN MASONRY CONSTRUCTION AS INDICATED.
4. PROVIDE CONTROL JOINTS (CJ) AT ALL INSIDE CORNERS.
5. VERIFY FINAL CONTROL JOINT (CJ) LOCATIONS WITH ARCHITECT PRIOR TO STARTING WORK.
6. AIR BARRIER AND ASSOCIATED FLASHING SHALL BE CONTINUOUS AND UNBROKEN AT ALL SURFACES OF WALL MEMBRANE TO BE FLASHED TO ALL OTHER COMPONENTS AND ASSEMBLIES TO PROVIDE AIR-TIGHT CONDITION.

EXTERIOR ELEVATIONS KEY NOTES

NOTE: SEE ELEVATIONS FOR KEYED ITEM LOCATIONS. KEY NOTES SUPPLEMENT INFORMATION FOUND ELSEWHERE IN THE DRAWINGS.

01	BRICK VENEER
02	BRICK VENEER, ROWLOCK
03	METAL PANEL, CONCEALED FASTENER,COLOR TO BE SELECTED FROM MFR'S FULL RAND OF COLORS
04	STANDING SEAM METAL ROOF, MECHANICALLY SEAMED, ARCHITECT TO SELECT LIGHT GRAY COLOR FROM MFR'S FULL RANGE OF COLORS, TYP
05	PRE-FINISHED METAL DOWNSPOUT, COLOR TO MATCH ROOFING
06	PRE-FINISHED METAL BOX GUTTER, COLOR TO MATCH ROOFING
07	BOLLARD, SLEEVE COLOR TO BE SELECTED FROM MFR'S FULL RANGE OF COLORS
08	10"/8"" CENTURY GOTHIC FONT WITH SOFFIT LIGHTING - SEE ELECTRICAL DRAWINGS
09	7" HIGH BUILDING ADDRESS NUMBERS, CENTURY GOTHIC TEXT
10	LIGHT FIXTURE - SEE ELECTRICAL DRAWINGS
11	BRICK VENEER, SOLDIER COURSE
12	BI-FOLDING DOORS
13	OVERHEAD DOORS
14	PRECAST CAP

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SEALS

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JIMMY ARDEL EDWARDS — REGISTERED ARCHITECT — 13823 — 03.12.25 — NORTH CAROLINA — RALEIGH, N.C.

DKA JOB NUMBER
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REVISIONS

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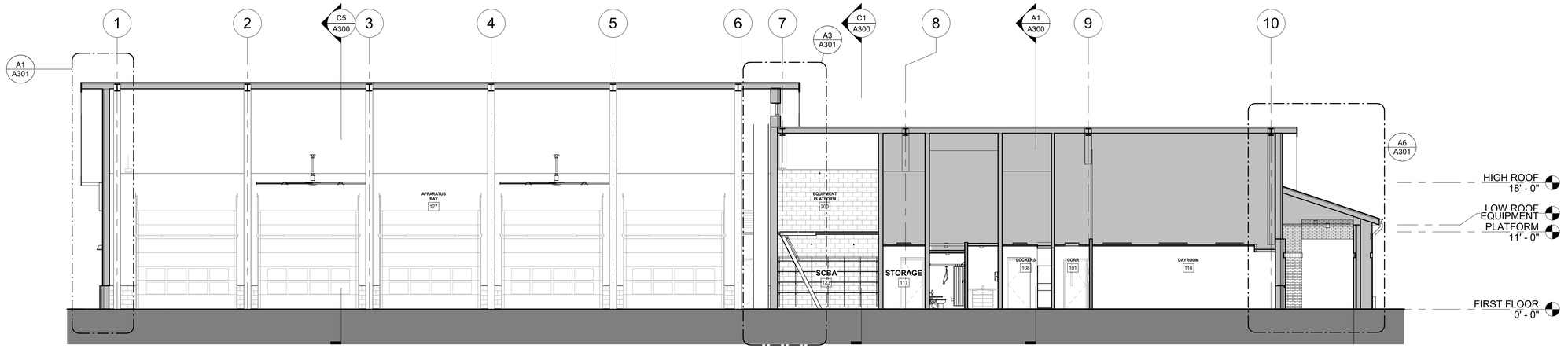
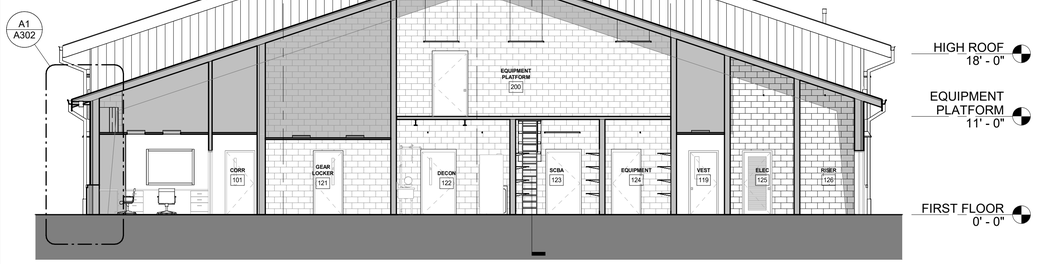
SHEET TITLE
EXTERIOR ELEVATIONS

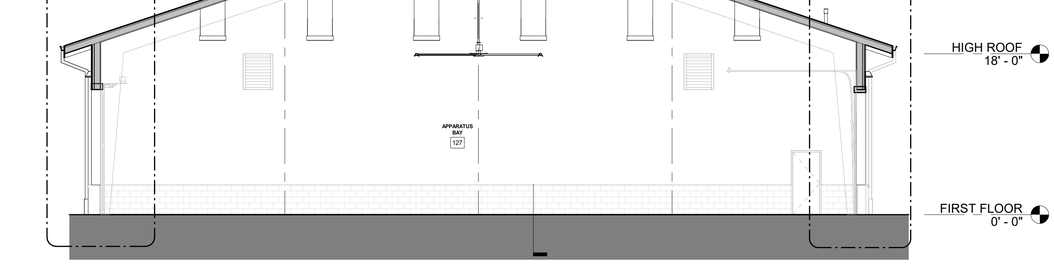
A200



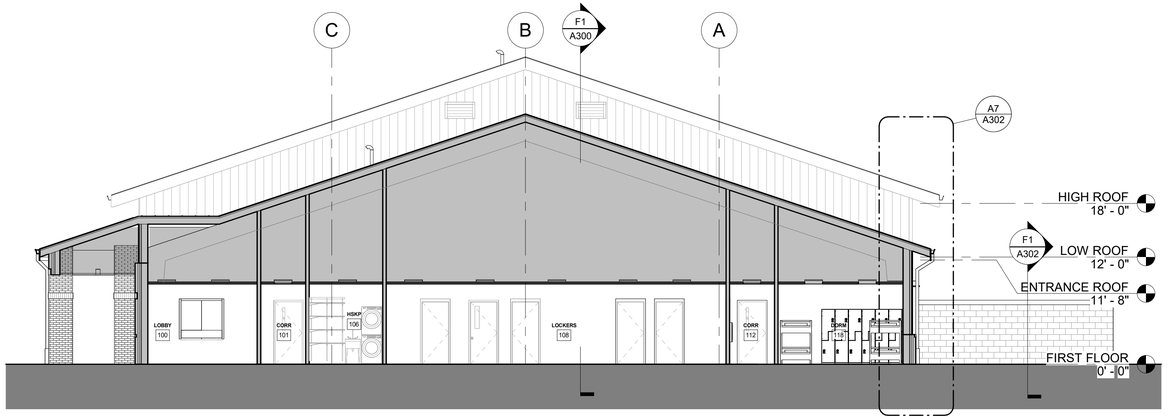
F1 BUILDING SECTION - WEST
1/8" = 1'-0"



C1 BUILDING SECTION - WARDROBES, DECON, OFFICES - SOUTH
1/8" = 1'-0"



C5 BUILDING SECTION - APPARATUS BAY SOUTH
1/8" = 1'-0"



A1 BUILDING SECTION - LOCKERS, HSKP - SOUTH
1/8" = 1'-0"

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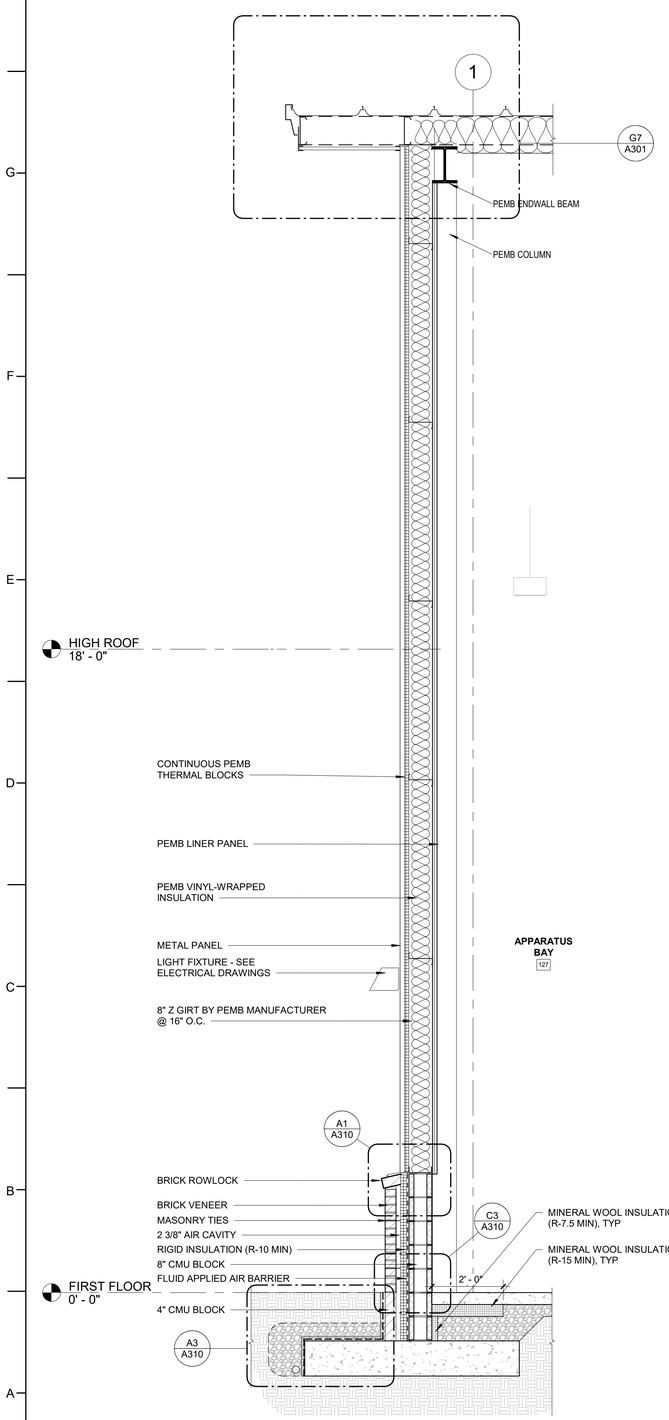
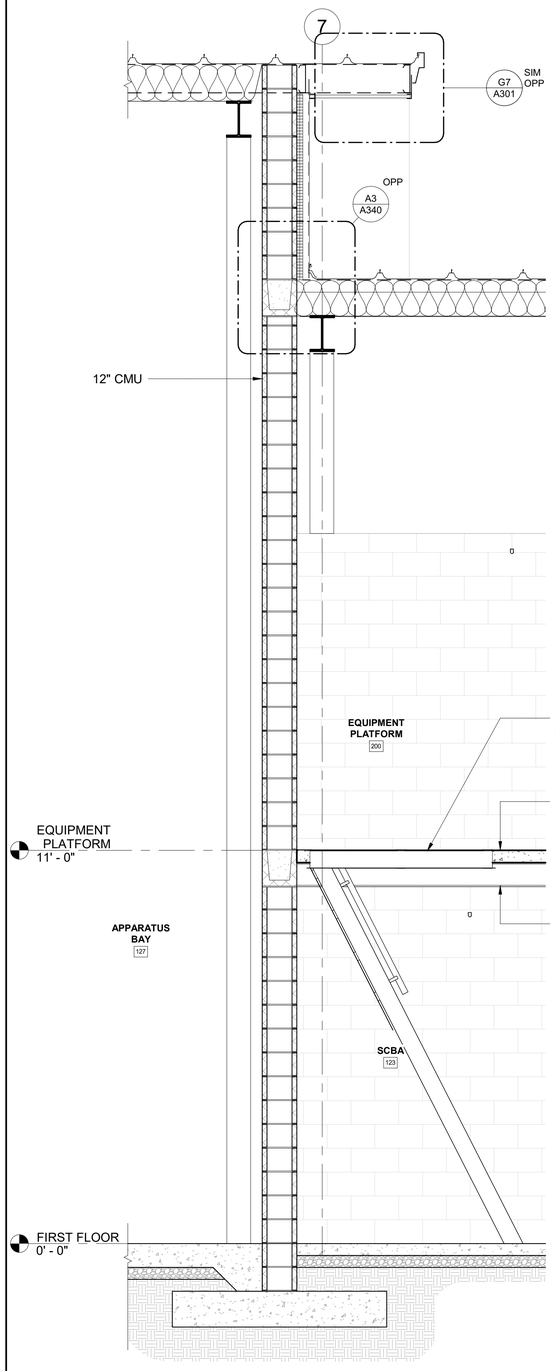
SHEET TITLE
BUILDING SECTIONS

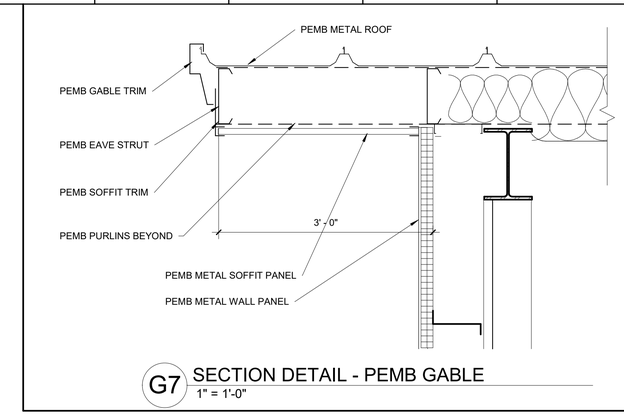
A300



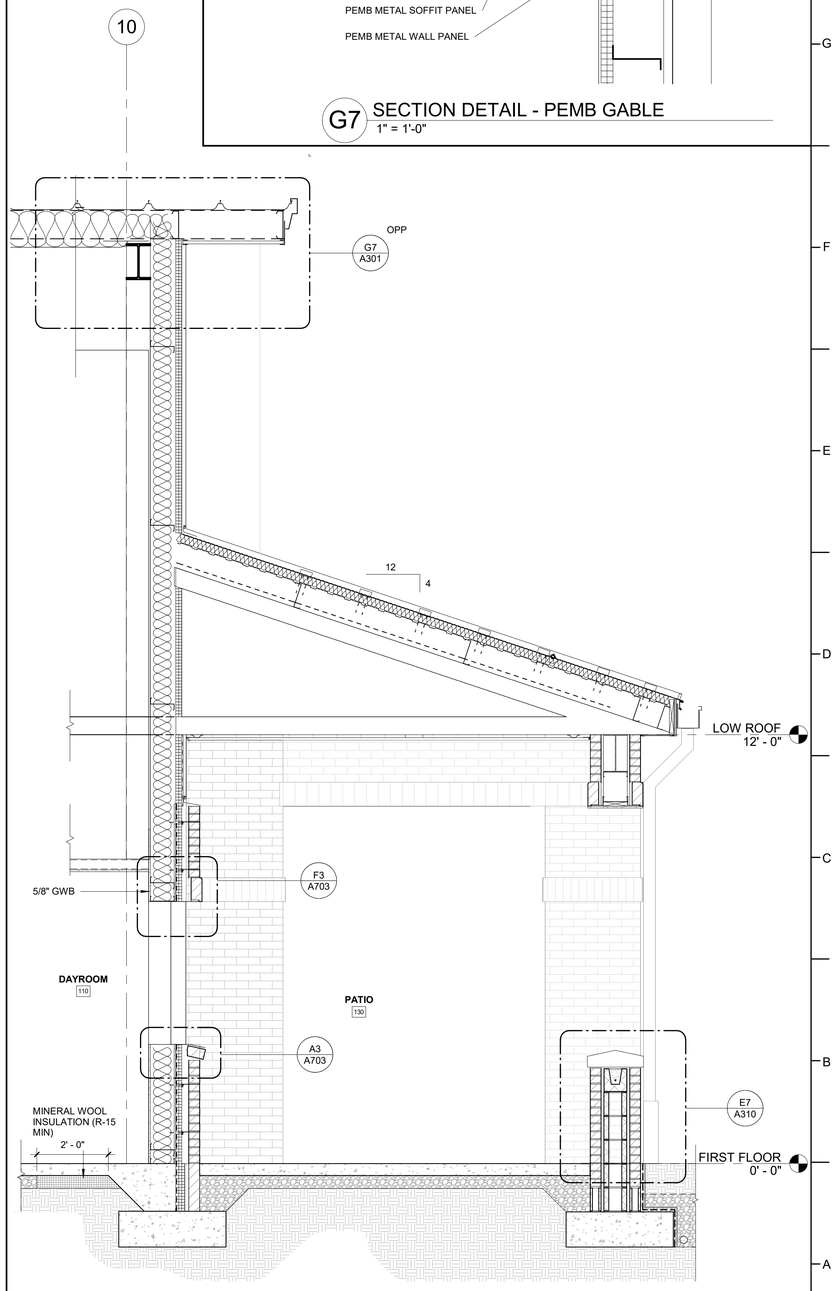
A1 WALL SECTION - APPARATUS BAY WEST
1/2" = 1'-0"



A3 WALL SECTION - MASONRY DEMISING WALL - WEST
1/2" = 1'-0"



G7 SECTION DETAIL - PEMB GABLE
1" = 1'-0"



A6 WALL SECTION - NORTH CANOPY
1/2" = 1'-0"

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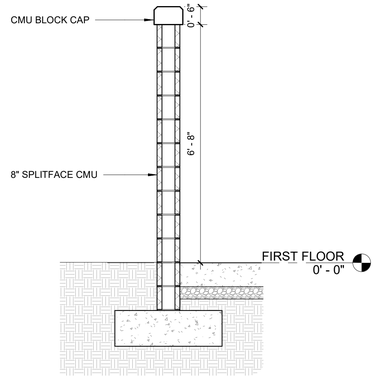
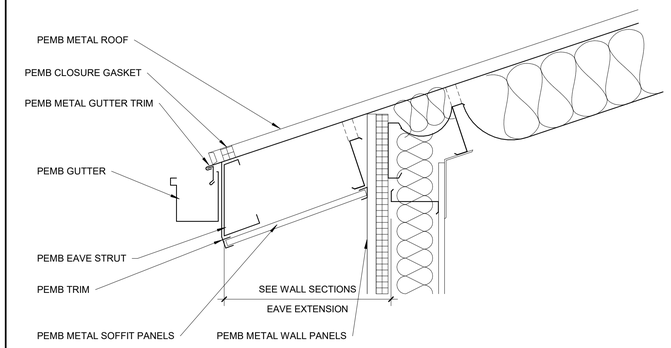
SHEET TITLE
WALL SECTIONS

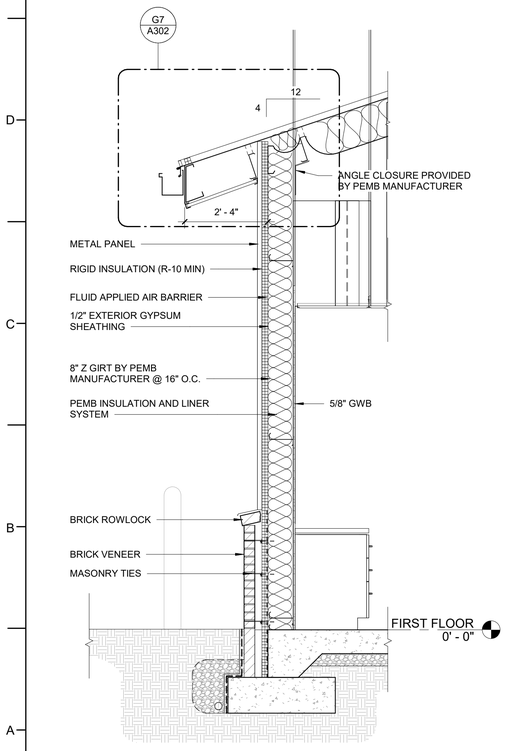
A301



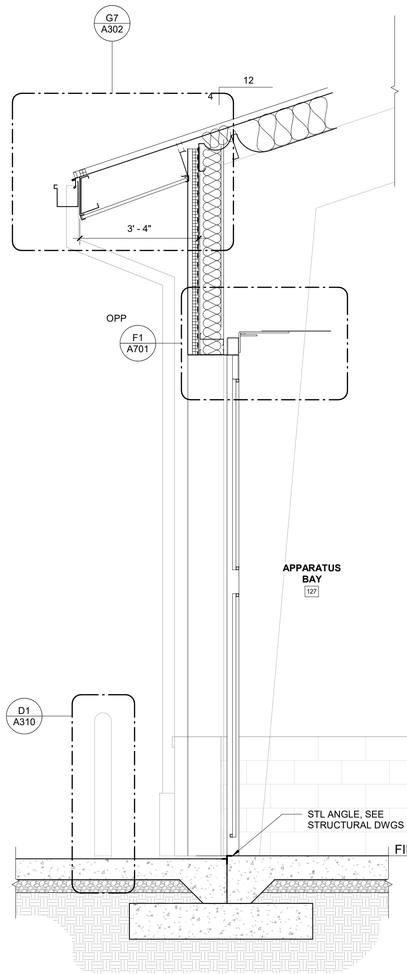
F1 WALL SECTION - CMU SCREEN WALL
1/2" = 1'-0"



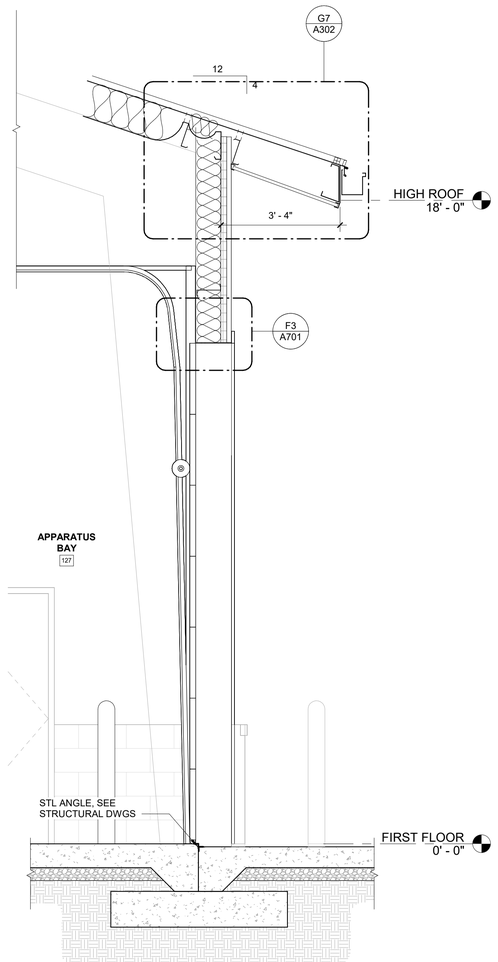
G7 SECTION DETAIL - PEMB EAVE
1" = 1'-0"



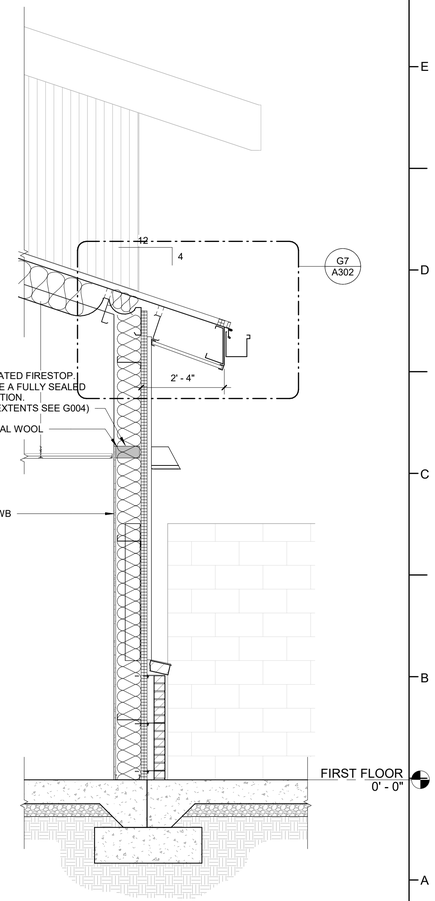
A1 WALL SECTION - TYPICAL METAL STUD WALL
1/2" = 1'-0"



A3 WALL SECTION - APPARATUS BAY
FOUR FOLD DOOR
1/2" = 1'-0"



A5 WALL SECTION - APPARATUS BAY
OVERHEAD DOOR
1/2" = 1'-0"



A7 WALL SECTION - DORM 118
1/2" = 1'-0"

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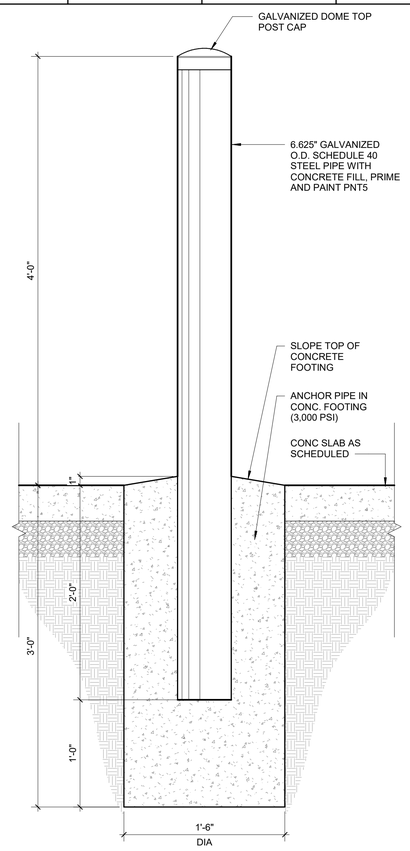
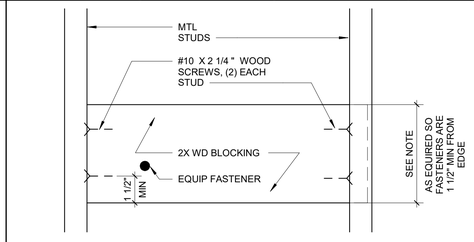
SHEET TITLE
WALL SECTIONS

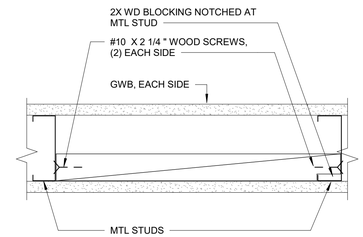
A302



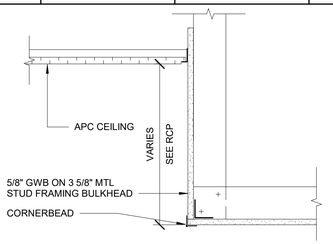
D1 SECTION DETAIL - PIPE BOLLARD
1 1/2" = 1'-0"



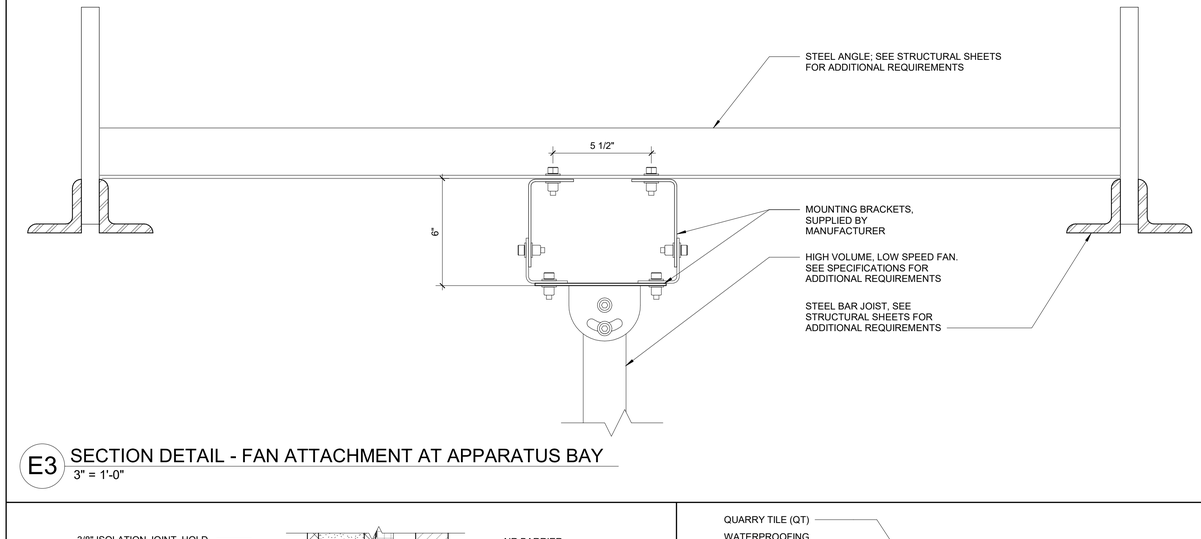
G3 WOOD "BLOCKING ELEVATION" IN GWB WALL TYP
3" = 1'-0"



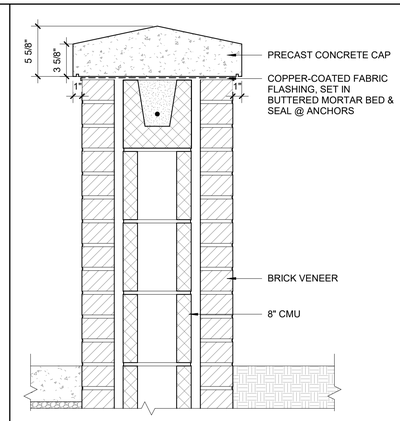
G5 WOOD "BLOCKING PLAN" IN GWB WALL TYP
3" = 1'-0"



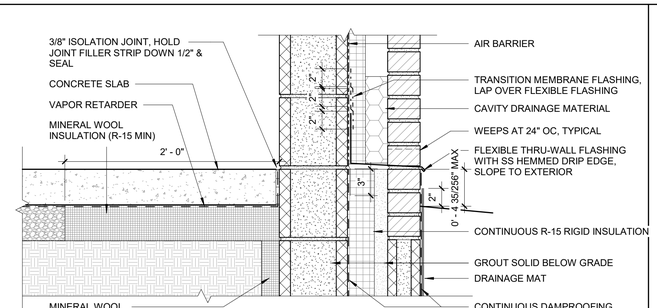
G7 SECTION DETAIL - GYPSUM BOARD SOFFIT
1 1/2" = 1'-0"



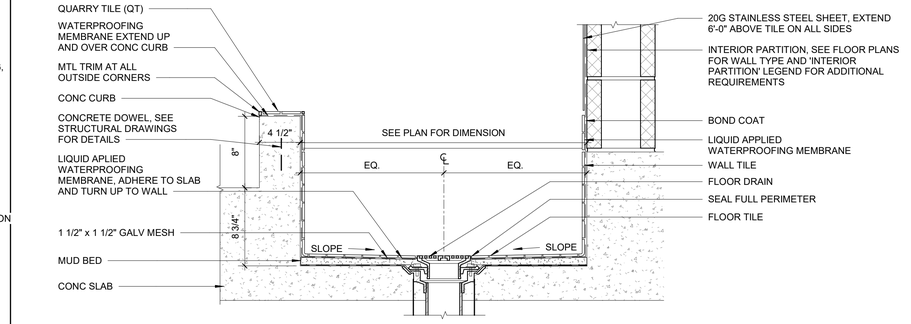
E3 SECTION DETAIL - FAN ATTACHMENT AT APPARATUS BAY
3" = 1'-0"



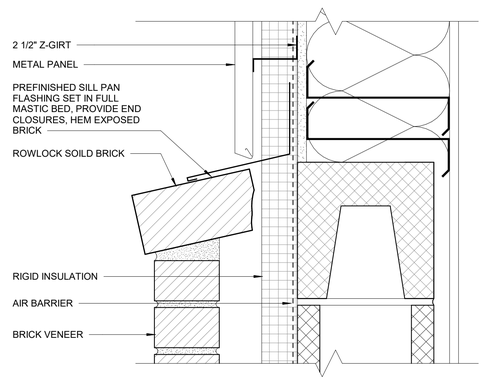
E7 SECTION DETAIL - KNEE WALL
1 1/2" = 1'-0"



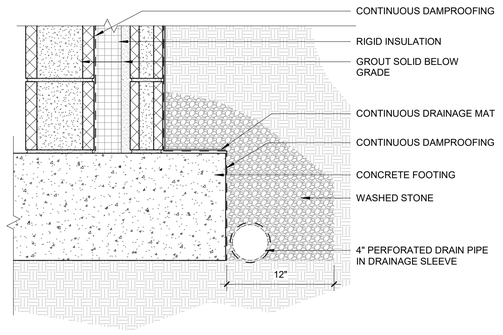
C3 SECTION DETAIL - WALL BASE, CMU
1 1/2" = 1'-0"



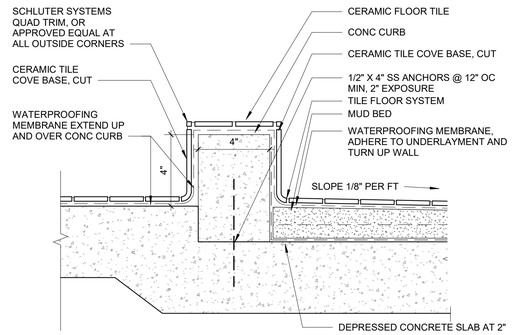
C5 MOP SINK WITH CURB
1 1/2" = 1'-0"



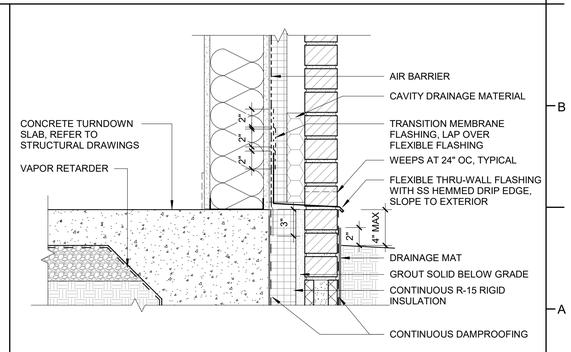
A1 SECTION DETAIL - METAL PANEL TO BRICK
3" = 1'-0"



A3 TYP FOUNDATION DRAIN
1 1/2" = 1'-0"



A5 SHOWER CURB DETAIL AT NON-ADA SHOWERS
3" = 1'-0"



A7 SECTION DETAIL - WALL BASE, STUD
1 1/2" = 1'-0"

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PROJECT INFORMATION

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ONSLOW COUNTY
BID NO. 102-25C
138 OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

DAVIS KANE ARCHITECTS, P.A. — 50304 — REGISTERED ARCHITECTURAL CORPORATION — RALEIGH, N.C. — NORTH CAROLINA

JIMMY ARDEL EDWARDS — 13823 — REGISTERED ARCHITECT — 05.12.25 — RALEIGH, N.C. — NORTH CAROLINA

DKA JOB NUMBER
2324

REVISIONS

PA: JIMMY ARDEL EDWARDS
PM: ALEXANDRE PENEGRE
Drawn By: BY
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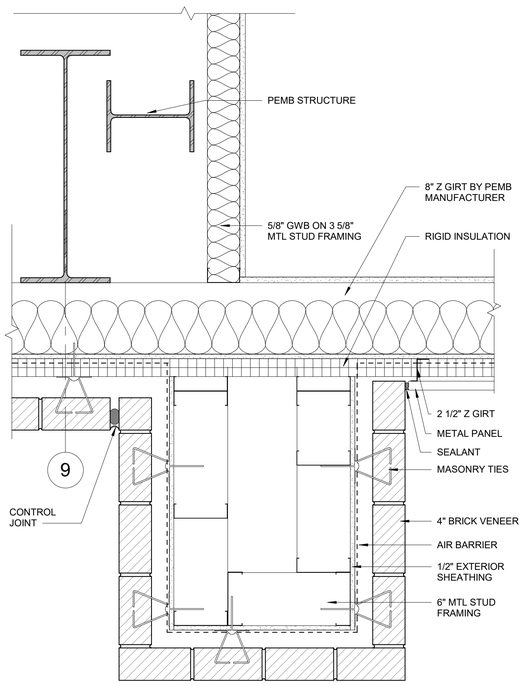
DATE ISSUED

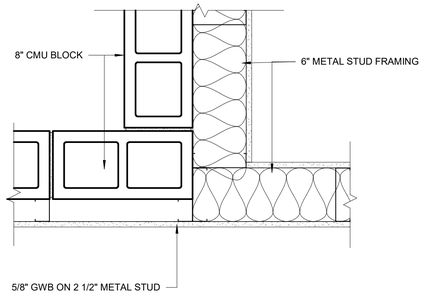
BID DOCUMENTS
03/12/2025

SHEET TITLE
DETAILS

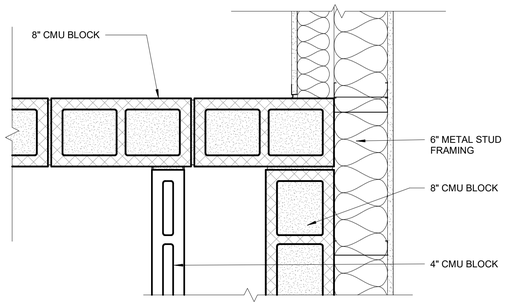
A310



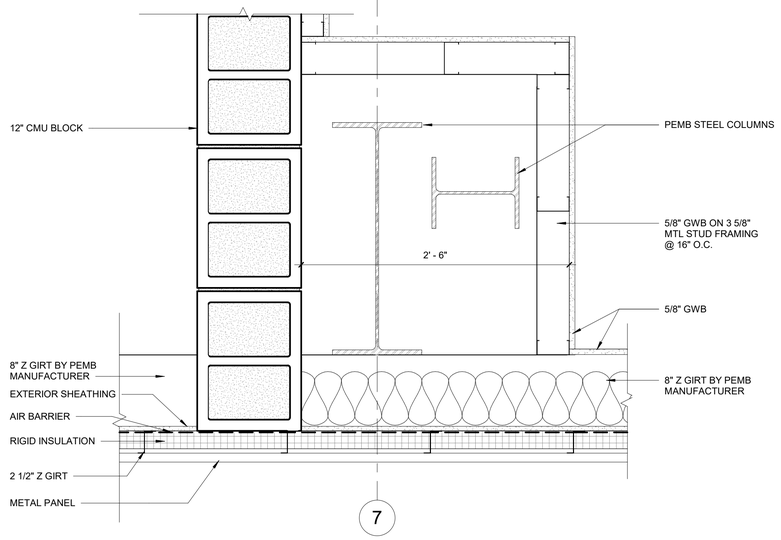
D1 PLAN DETAIL @ EAST CANOPY
1 1/2" = 1'-0"



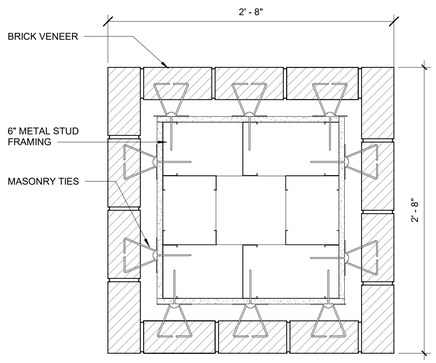
F3 PLAN DETAIL @ GEAR LOCKER 122
1 1/2" = 1'-0"



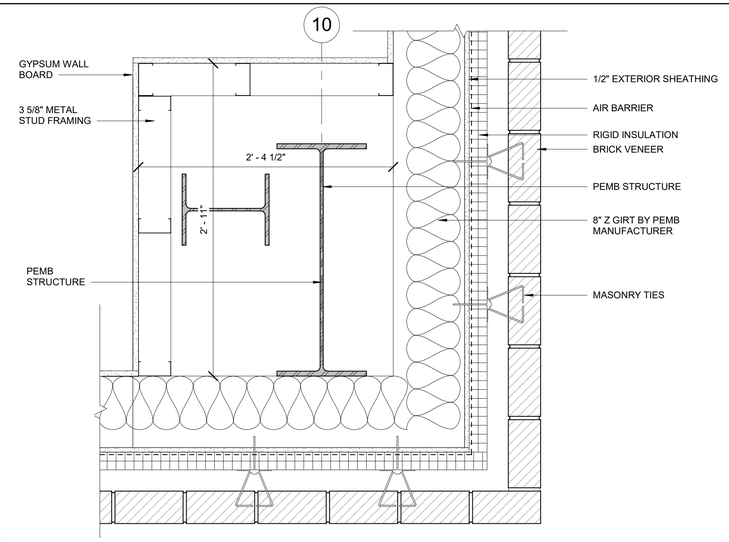
D3 PLAN DETAIL @ DECON 123
1 1/2" = 1'-0"



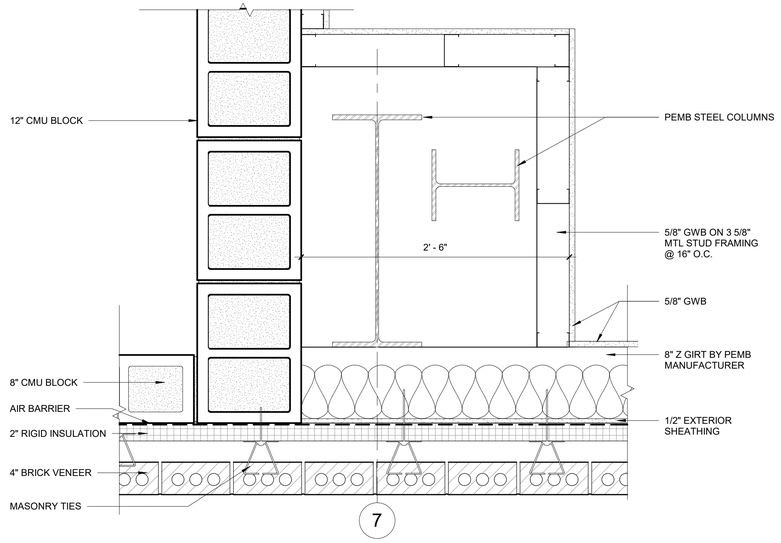
D6 PLAN DETAIL @ DISPATCH 105 - HIGH
1 1/2" = 1'-0"



A1 PLAN DETAIL @ COLUMN WRAP
1 1/2" = 1'-0"



A3 PLAN DETAIL @ TRAINING 107
1 1/2" = 1'-0"



A6 PLAN DETAIL @ DISPATCH 105 - LOW
1 1/2" = 1'-0"

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SEALS

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JIMMY ARDEL EDWARDS — REGISTERED ARCHITECT — 13823 — 03.12.25 — NORTH CAROLINA — RALEIGH, N.C.

DKA JOB NUMBER
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DATE ISSUED
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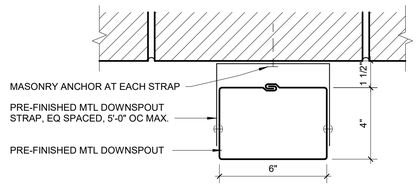
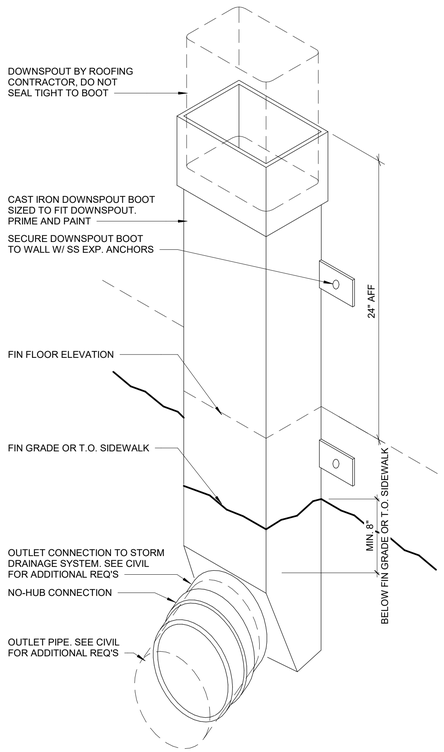
SHEET TITLE
PLAN DETAILS

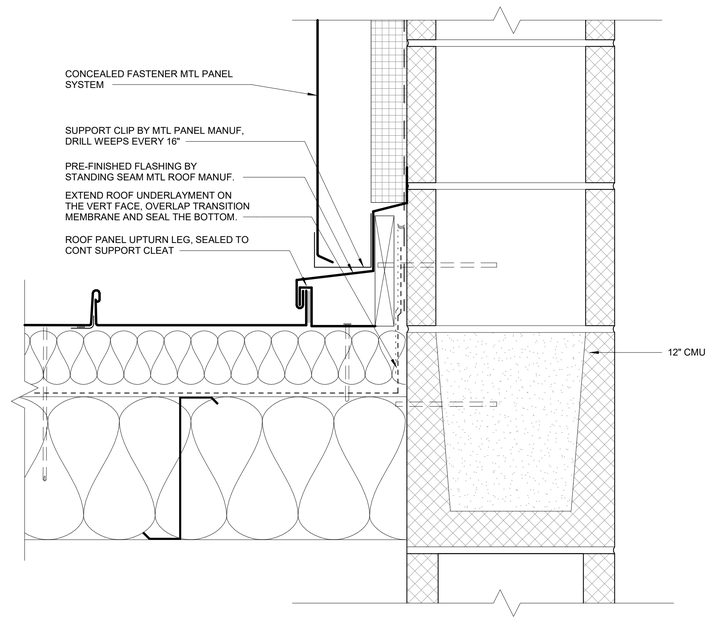
A330



D5 PLAN DETAIL - TYPICAL DOWNSPOUT DETAIL
3" = 1'-0"



A1 TYP DOWNSPOUT BOOT DETAIL
3" = 1'-0"



A3 SECTION DETAIL - ROOF TRANSITION TO CMU WALL
3" = 1'-0"

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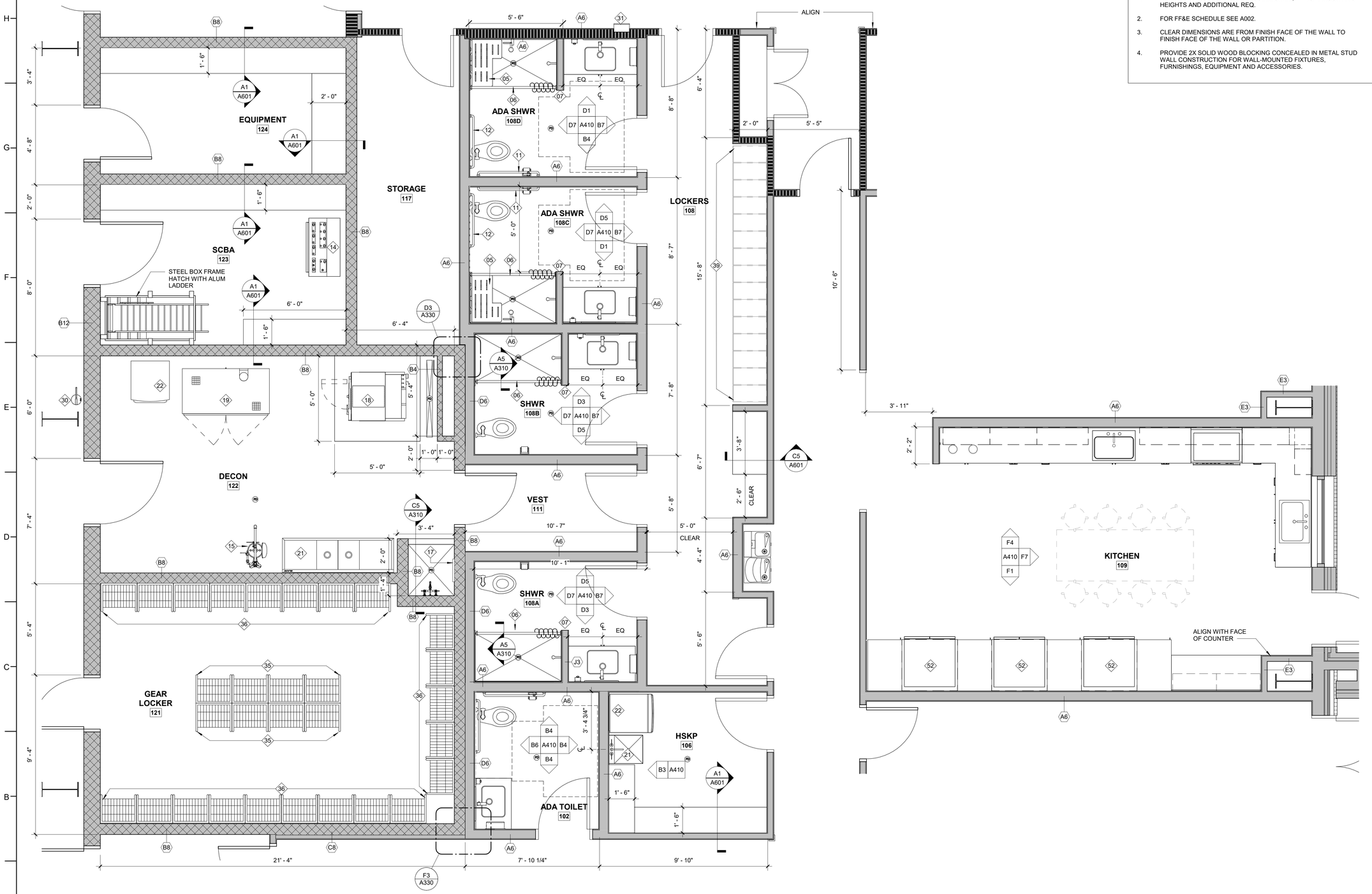
SHEET TITLE
ROOF DETAILS

A340

ENLARGED PLAN & INTERIOR ELEVATION GENERAL NOTES:

1. SEE SHEET A001 FOR TOILET ACCESSORIES, TYPICAL MOUNTING HEIGHTS AND ADDITIONAL REQ.
2. FOR FF&E SCHEDULE SEE A002.
3. CLEAR DIMENSIONS ARE FROM FINISH FACE OF THE WALL TO FINISH FACE OF THE WALL OR PARTITION.
4. PROVIDE 2X SOLID WOOD BLOCKING CONCEALED IN METAL STUD WALL CONSTRUCTION FOR WALL-MOUNTED FIXTURES, FURNISHINGS, EQUIPMENT AND ACCESSORIES.



A1 ENLARGED FLOOR PLAN
3/8" = 1'-0"

0' 1' 2' 4'

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Plot Date: 3/11/2025 1:21:35 PM

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BID DOCUMENTS
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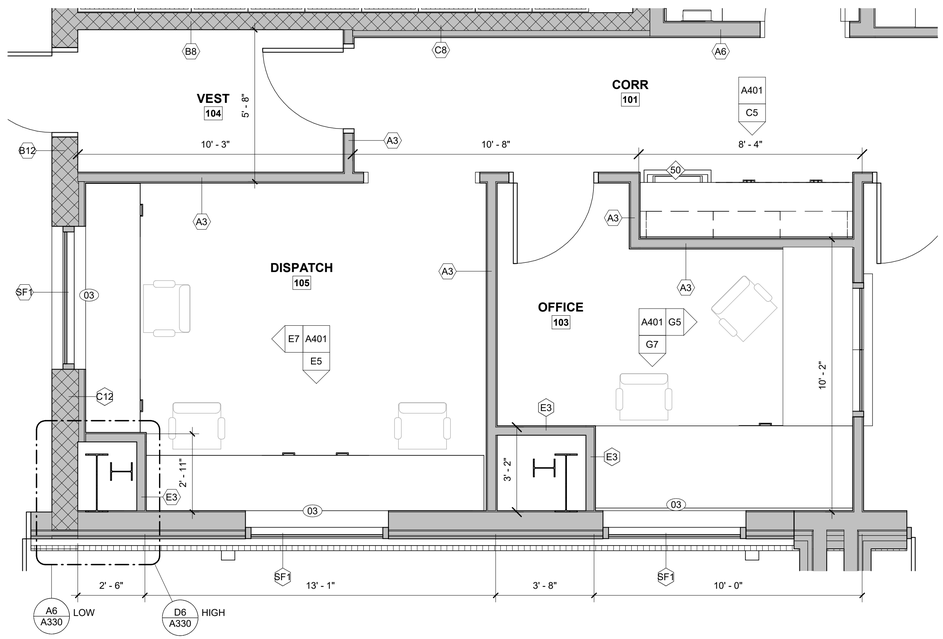
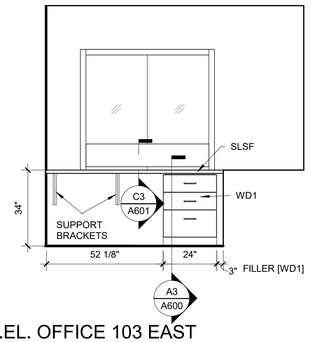
SHEET TITLE
ENLARGED PLANS

A400

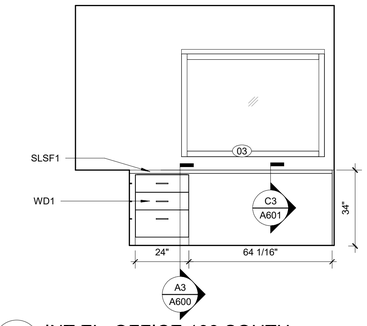


E1 ENLARGED FLOOR PLAN B
3/8" = 1'-0"

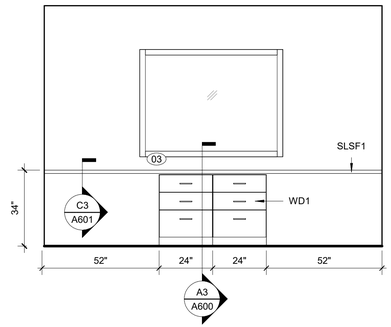
0' 1' 2' 4'



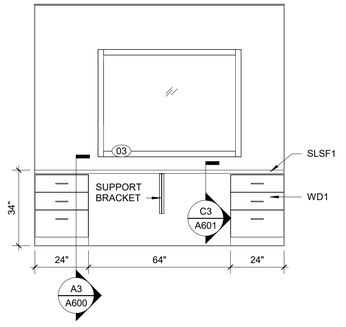
G5 INT.EL. OFFICE 103 EAST
3/8" = 1'-0"



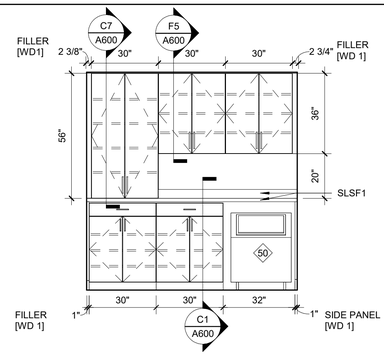
G7 INT.EL. OFFICE 103 SOUTH
3/8" = 1'-0"



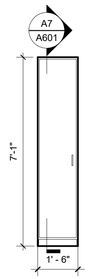
E5 INT.EL. DISPATCH 105 SOUTH
3/8" = 1'-0"



E7 INT.EL. DISPATCH 105 WEST
3/8" = 1'-0"



C5 INT.EL. CORR 101 ICE MAKER
3/8" = 1'-0"



A7 INT. EL. - TYP DORM WARDROBE
3/8" = 1'-0"

FINISHES KEY NOTES:

NOTE: NOT ALL OF THE KEY NOTES ARE APPLICABLE TO THIS PLAN. SEE PLAN FOR KEYED ITEM LOCATIONS. KEY NOTES SUPPLEMENT INFORMATION FOUND ELSEWHERE IN THE DRAWINGS.

01 SINGULAR CORNER GUARDS

02 SCHLUTER

03 WINDOW SILL

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PM: ALEXANDRE PENEQUE
Drawn By: RM
Plot Date: 3/11/2025 1:21:37 PM

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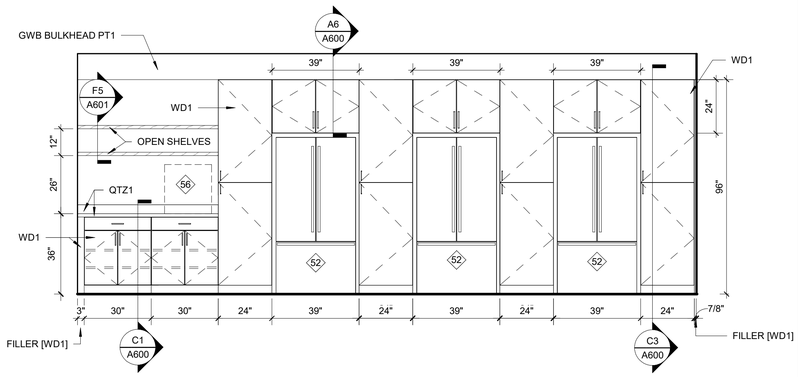
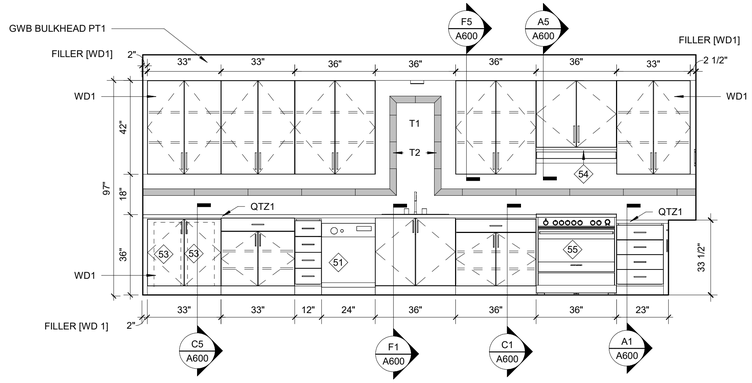
SHEET TITLE
ENLARGED PLANS AND ELEVATIONS

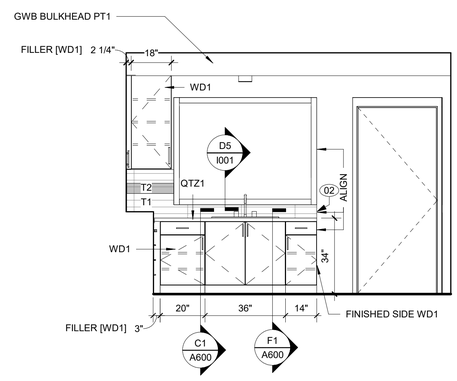
A401



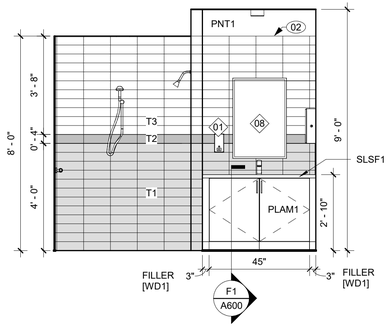
F1 INT.EL. KITCHEN SOUTH
3/8" = 1'-0"



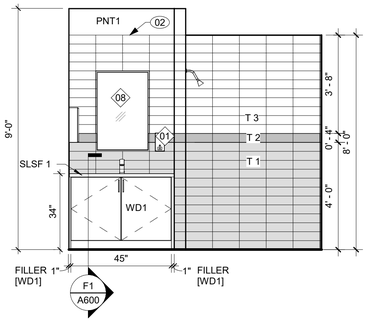
F4 INT.EL. KITCHEN NORTH
3/8" = 1'-0"



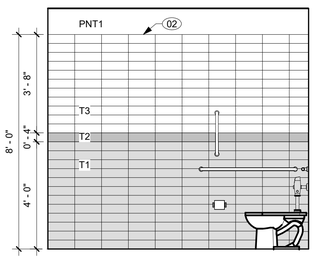
F7 INT.EL. KITCHEN EAST
3/8" = 1'-0"



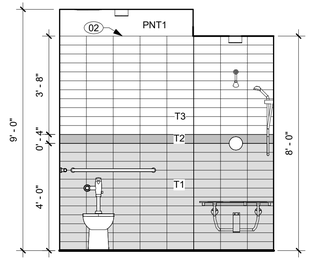
D1 INT.EL. - TLT 108D SOUTH, 108E NORTH
3/8" = 1'-0"



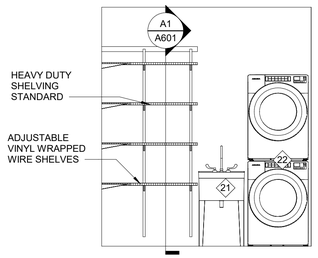
D3 INT.EL. - TYP TLT 108A, 108C
3/8" = 1'-0"



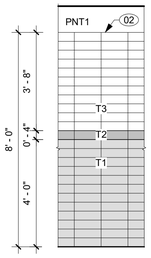
D5 INT.EL. -TYP TLT 108 A,C,D,E
3/8" = 1'-0"



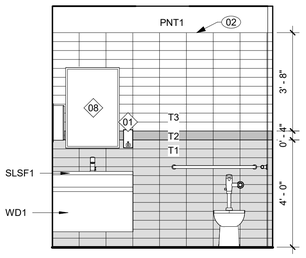
D7 INT.EL. -TYP WEST TLT 108A,C,D,E
3/8" = 1'-0"



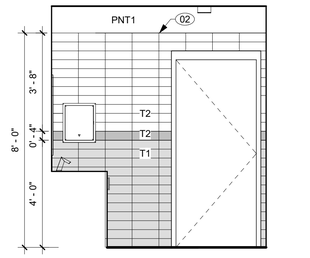
B3 INT. EL. HSKPING WEST
3/8" = 1'-0"



B4 INT.EL. -TYP TLT TILE PATTERN
3/8" = 1'-0"



B6 INT.EL. - TLT102 WEST
3/8" = 1'-0"



B7 INT.EL. -TYP EAST TLT 108A,C,D,E
3/8" = 1'-0"

FINISHES KEY NOTES:

NOTE: NOT ALL OF THE KEY NOTES ARE APPLICABLE TO THIS PLAN. SEE PLAN FOR KEYED ITEM LOCATIONS. KEY NOTES SUPPLEMENT INFORMATION FOUND ELSEWHERE IN THE DRAWINGS.

(01) SINGULAR CORNER GUARDS

(02) SCHLUTER

(03) WINDOW SILL

DAVIS KANE ARCHITECTS, PA
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919.833.3737
www.daviskane.com

PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION
ONSLOW COUNTY
BID NO. 102-25C
138 OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

DKA JOB NUMBER
2324

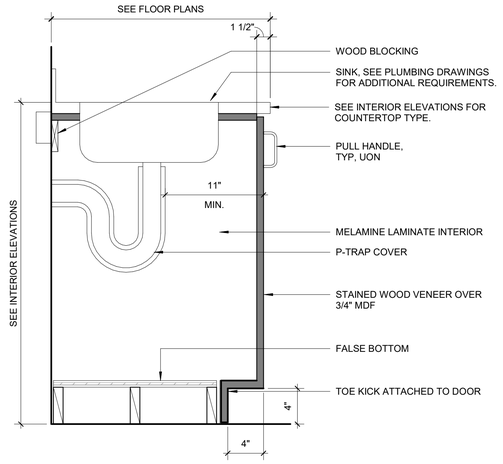
REVISIONS

PA: JIMMY ARDEL EDWARDS
PM: ALEXANDRE PENEGRE
Drawn By: NK
Plot Date: 3/11/2025 1:21:41 PM

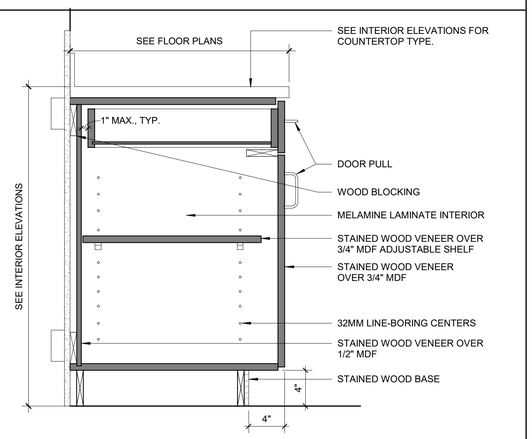
DATE ISSUED
BID DOCUMENTS
03/12/2025

SHEET TITLE
INTERIOR ELEVATIONS

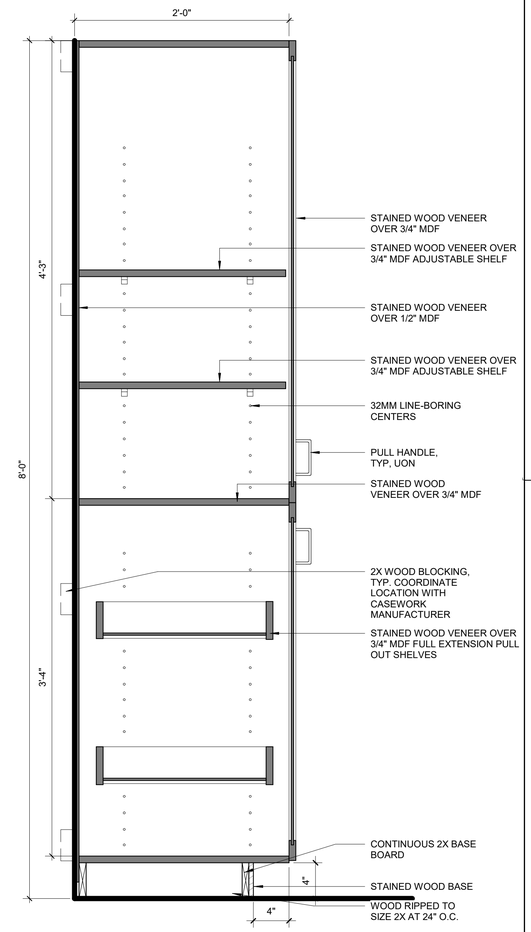
A410



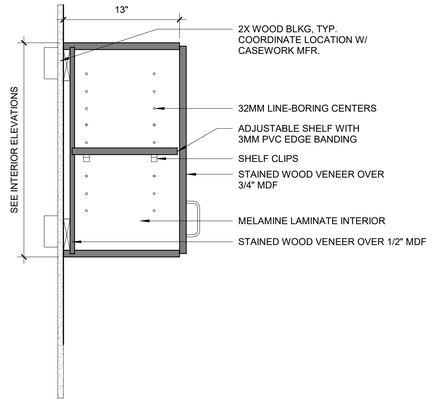
F1 BASE CABINET - ADA SINK W DOORS
1 1/2" = 1'-0"



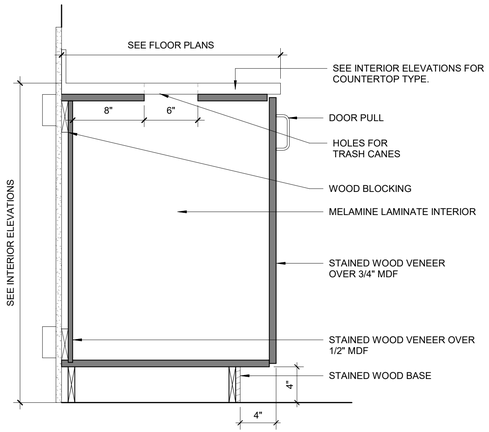
C1 BASE CABINET - 1 DRAWER & SHELVING
1 1/2" = 1'-0"



C3 PANTRY
1 1/2" = 1'-0"



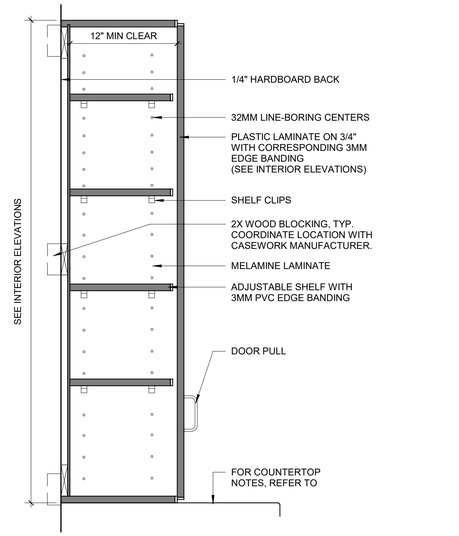
F5 WALL CABINET - DOORS & SHELVING 1
1 1/2" = 1'-0"



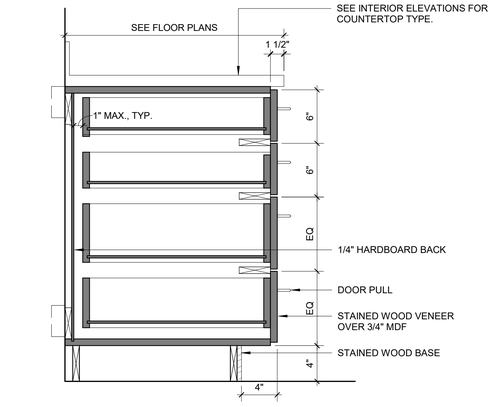
C5 BASE CABINET - FOR TRASH CANES
1 1/2" = 1'-0"

CASEWORK GENERAL NOTES:

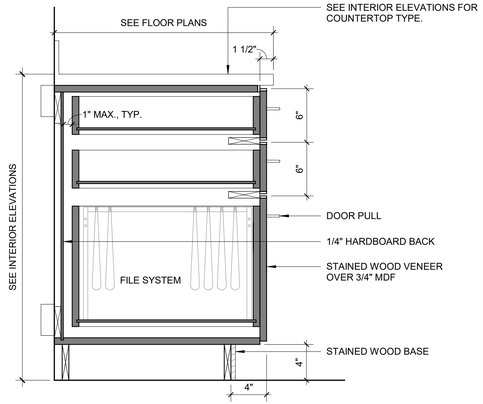
1. SHELVES WIDER THAN 30" TO BE 1" THICK. SHELVES 30" WIDE OR NARROWER TO BE 3/4" THICK, UON.
2. NUMBER OF SHELVES, DOORS AND DRAWERS TO BE AS INDICATED ON INTERIOR ELEVATIONS.
3. LOCKABLE CABINETS INDICATED WITH "(L)" ON INTERIOR ELEVATIONS.
4. STAINED WOOD VENEER ON ALL EXPOSED SURFACES AND EDGES, AS NOTED.
5. STAINED WOOD VENEER ON 3/4" MDF, UON.
6. SEE INTERIOR ELEVATIONS FOR DIMENSIONS NOT NOTED.
7. OPEN CABINETS TO HAVE THE SAME FINISH ON THE INTERIOR OF THE CABINET AS THE EXTERIOR, UON.
8. ALL VOIDS CREATED BY VERTICAL FILLER PANELS AT TOP OF TALL CABINETS AND BOTTOM OF WALL CABINETS ARE TO BE INFILLED WITH FILLER PANELS STAINED TO MATCH ADJACENT SURFACES.



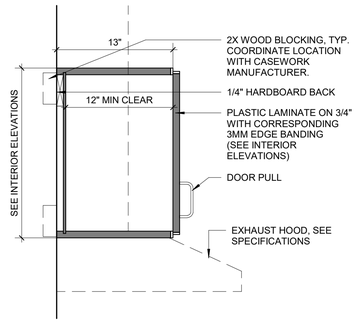
C7 WALL CABINET - ADA REACH
1 1/2" = 1'-0"



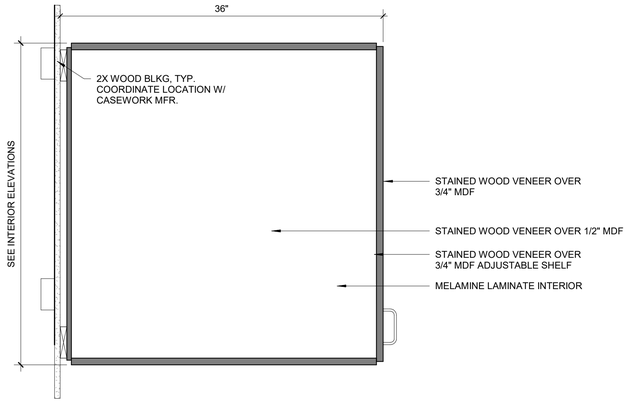
A1 BASE CABINET - 4 DRAWER, TYP.
1 1/2" = 1'-0"



A3 BASE CABINET - 3 DRAWER & FOLDER FILE, TYP
1 1/2" = 1'-0"



A5 WALL CABINET - ABOVE HOOD
1 1/2" = 1'-0"



A6 WALL CABINET - ABOVE REFREGIRATOR
1 1/2" = 1'-0"

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DAVIS KANE ARCHITECTS, P.A. 50304 NORTH CAROLINA REGISTERED ARCHITECTURAL CORPORATION RALEIGH, N.C.

JIMMY ARDEL EDWARDS 13823 NORTH CAROLINA REGISTERED ARCHITECT RALEIGH, N.C. 05.12.25

DKA JOB NUMBER
2324

REVISIONS

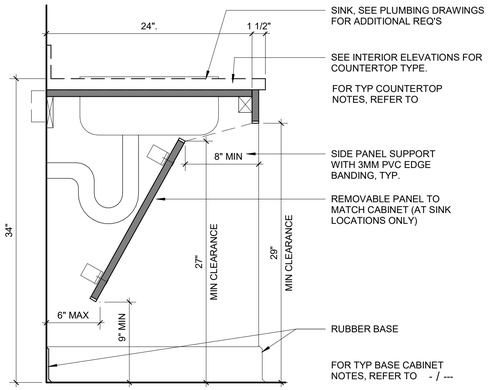
PA: JIMMY ARDEL EDWARDS
PM: ALEXANDRE PENEGRE
Drawn By: NK
Plot Date: 3/11/2025 1:21:42 PM

DATE ISSUED

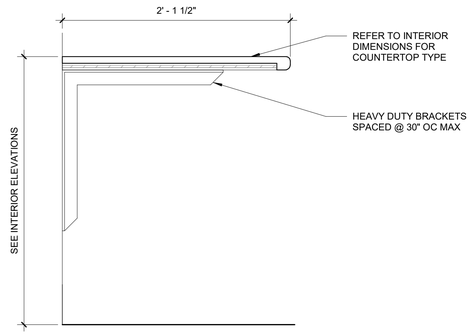
BID DOCUMENTS
03/12/2025

SHEET TITLE
CASEWORK DETAILS

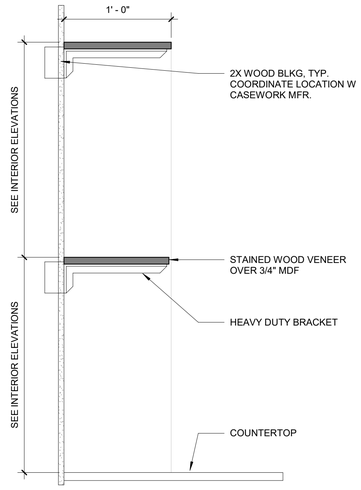
A600



F1 BASE CABINET - SINK W KNEE APRON
1 1/2" = 1'-0"



F3 WALL MOUNTED COUNTERTOP
1 1/2" = 1'-0"



F5 WALL CABINET - OPEN SHELVING
1 1/2" = 1'-0"

CASEWORK GENERAL NOTES:

1. SHELVES WIDER THAN 30" TO BE 1" THICK. SHELVES 30" WIDE OR NARROWER TO BE 3/4" THICK, UON.
2. NUMBER OF SHELVES, DOORS AND DRAWERS TO BE AS INDICATED ON INTERIOR ELEVATIONS.
3. LOCKABLE CABINETS INDICATED WITH "(L)" ON INTERIOR ELEVATIONS.
4. STAINED WOOD VENEER ON ALL EXPOSED SURFACES AND EDGES, AS NOTED.
5. STAINED WOOD VENEER ON 3/4" MDF, UON.
6. SEE INTERIOR ELEVATIONS FOR DIMENSIONS NOT NOTED.
7. OPEN CABINETS TO HAVE THE SAME FINISH ON THE INTERIOR OF THE CABINET AS THE EXTERIOR, UON.
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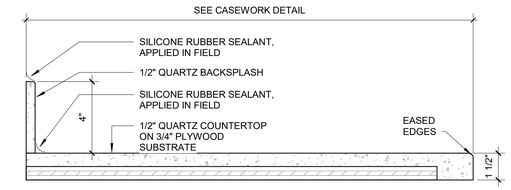
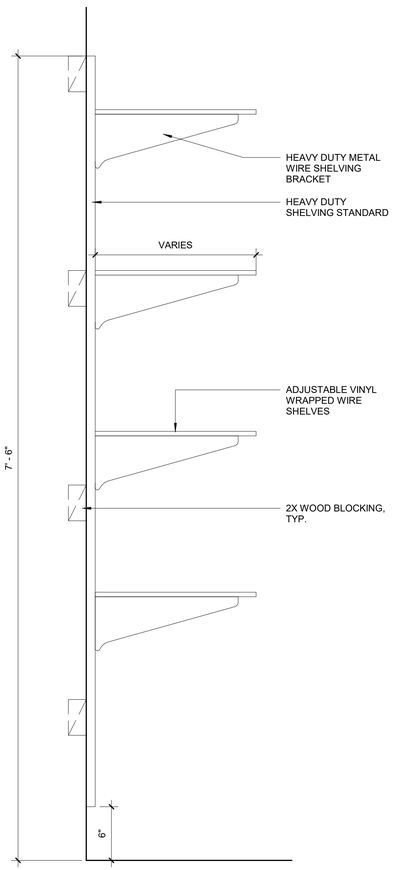
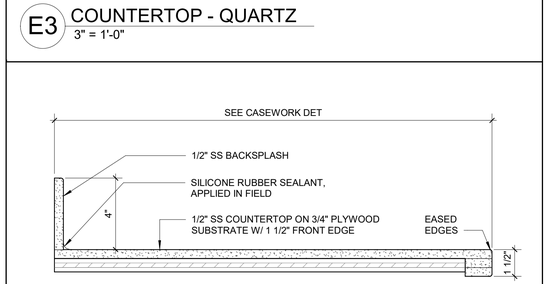


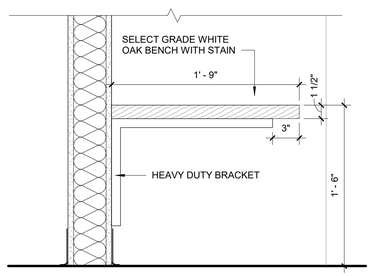
E3 COUNTERTOP - QUARTZ
3" = 1'-0"



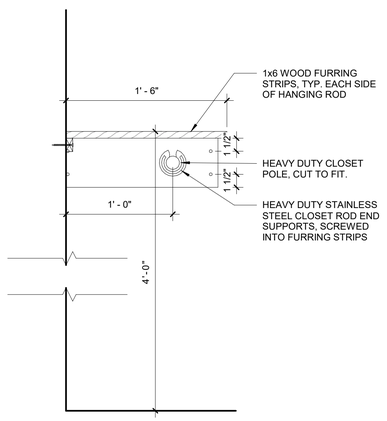
A1 ADJUSTABLE SHELVING W/ METAL STANDARDS
1 1/2" = 1'-0"



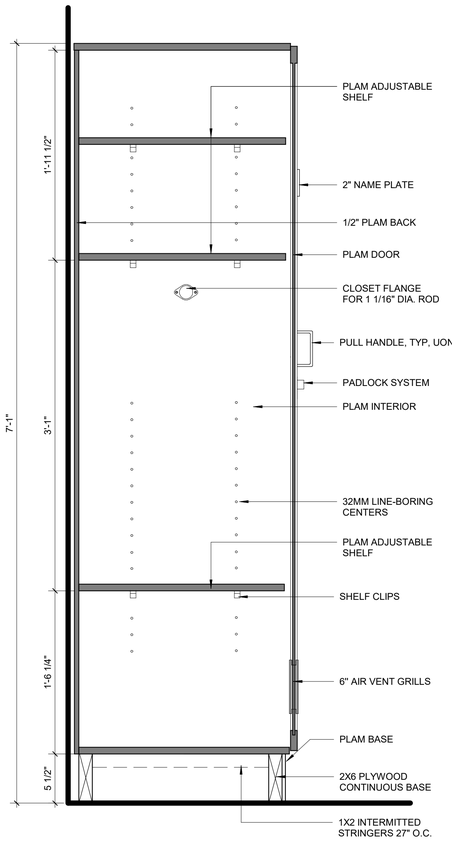
C3 COUNTERTOP - SOLID SURFACE
3" = 1'-0"



C5 LOCKERS - BENCH SECTION DETAIL
1 1/2" = 1'-0"



A5 STOR 113A SHELF
1 1/2" = 1'-0"



A7 DORM WARDROBES
1 1/2" = 1'-0"

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DAVIS KANE ARCHITECTS, P.A. — REGISTERED ARCHITECTURAL CORPORATION — 50304 — NORTH CAROLINA — RALEIGH, N.C.

JIMMY ARDEL EDWARDS — REGISTERED ARCHITECT — 13823 — 03.12.25 — NORTH CAROLINA — RALEIGH, N.C.

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REVISIONS

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PM: ALEXANDRE PENEGRE
Drawn By: NK
Plot Date: 3/11/2025 1:21:42 PM

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BID DOCUMENTS
03/12/2025

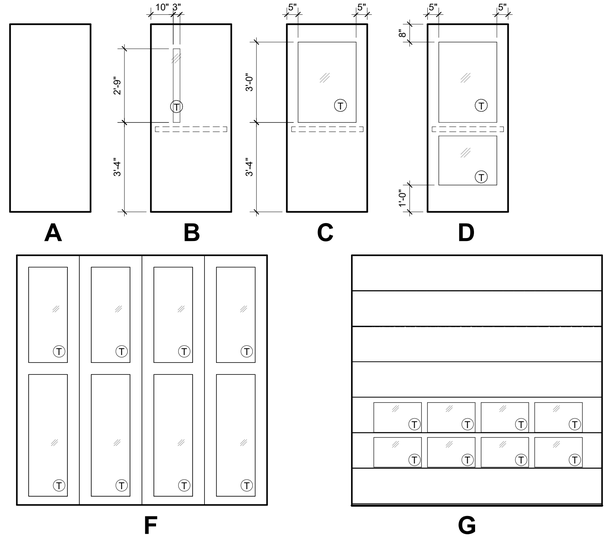
SHEET TITLE
CASEWORK DETAILS

A601

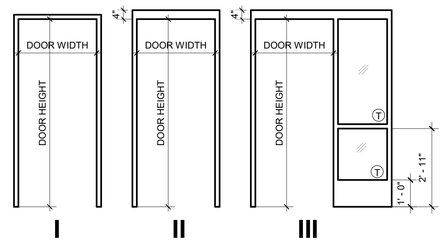
DOOR, FRAME AND SIGNAGE SCHEDULE

DOOR NUMBER	DOOR TYPE	DOOR WIDTH	DOOR HEIGHT	DOOR THICKNESS	DOOR MATERIAL	DOOR FINISH	FRAME TYPE	FRAME MATERIAL	FRAME FINISH	HARDWARE	FIRE RATING LABEL	SIGN TYPE	COMMENTS
100.1	D	3' - 0"	7' - 0"	1 3/4	ALUM	FACT	III	HM	PAINT	SET 01			
100.2	C	3' - 0"	7' - 0"	1 3/4"	WOOD	STAIN	I	HM	PAINT	SET 05			
102	A	3' - 0"	7' - 0"	1 3/4"	WOOD	STAIN	I	HM	PAINT	SET 20		D	
103	B	3' - 0"	7' - 0"	1 3/4"	WOOD	STAIN	I	HM	PAINT	SET 16		B	
104.1	B	3' - 0"	7' - 0"	1 3/4"	WOOD	STAIN	I	HM	PAINT	SET 09		B	
104.2	B	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 07		B, E	
105	-	4' - 0"	7' - 0"	-	-	-	I	HM	PAINT	-		B	CASED OPENING
106	A	3' - 0"	7' - 0"	1 3/4"	WOOD	STAIN	I	HM	PAINT	SET 15		B	
107.1	B	3' - 0"	7' - 0"	1 3/4"	WOOD	STAIN	I	HM	PAINT	SET 16		B	
107.2	D	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 04			
107A	A	3' - 0"	7' - 0"	1 3/4"	WOOD	STAIN	I	HM	PAINT	SET 16			
108.1	A	3' - 0"	7' - 0"	1 3/4"	WOOD	STAIN	I	HM	PAINT	SET 17		B	
108.2	A	3' - 0"	7' - 0"	1 3/4"	WOOD	STAIN	I	HM	PAINT	SET 06		B	
108A	A	3' - 0"	7' - 0"	1 3/4"	WOOD	STAIN	I	HM	PAINT	SET 20		C	
108B	A	3' - 0"	7' - 0"	1 3/4"	WOOD	STAIN	I	HM	PAINT	SET 20		C	
108C	A	3' - 0"	7' - 0"	1 3/4"	WOOD	STAIN	I	HM	PAINT	SET 20		D	
108D	A	3' - 0"	7' - 0"	1 3/4"	WOOD	STAIN	I	HM	PAINT	SET 20		D	
109.1	-	4' - 0"	7' - 0"	-	-	-	I	HM	PAINT	-		B	CASED OPENING
109.2	D	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 01			
111.1	B	3' - 0"	7' - 0"	1 3/4"	WOOD	STAIN	I	HM	PAINT	SET 09		B	
111.2	B	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 09		B, E	
112.1	B	3' - 0"	7' - 0"	1 3/4"	WOOD	STAIN	I	HM	PAINT	SET 06	20 MIN	B	
112.2	D	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 01		B, H	
112A	A	3' - 0"	7' - 0"	1 3/4"	WOOD	STAIN	I	HM	PAINT	SET 21		A	
113	A	3' - 0"	7' - 0"	1 3/4"	WOOD	STAIN	I	HM	PAINT	SET 18	20 MIN	B	
113A	A	3' - 0"	7' - 0"	1 3/4"	WOOD	STAIN	I	HM	PAINT	SET 21			
114	A	3' - 0"	7' - 0"	1 3/4"	WOOD	STAIN	I	HM	PAINT	SET 14	20 MIN	A	
115	A	3' - 0"	7' - 0"	1 3/4"	WOOD	STAIN	I	HM	PAINT	SET 08	20 MIN	A	
116	A	3' - 0"	7' - 0"	1 3/4"	WOOD	STAIN	I	HM	PAINT	SET 14	20 MIN	A	
117	A	3' - 0"	7' - 0"	1 3/4"	WOOD	STAIN	I	HM	PAINT	SET 08	20 MIN	B	
118	A	3' - 0"	7' - 0"	1 3/4"	WOOD	STAIN	I	HM	PAINT	SET 14	20 MIN	A	
119.1	B	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	I	HM	PAINT	SET 06	20 MIN	B	
119.2	B	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 07		B, E	
120	A	3' - 0"	7' - 0"	1 3/4"	WOOD	STAIN	I	HM	PAINT	SET 14	20 MIN	A	
121	B	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 11		B	
122	B	3' - 8"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 13		B	
123	A	3' - 8"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 13		B	
124	A	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 12		B	
125	E	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 10	90 MIN	B	
126	A	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 03		B	
127.1	C	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 02		B, G	
127.2	F	14' - 0"	14' - 0"	3"	ALUM	FACT	*	ALUM	FACT	-		-	EXTERIOR, FOUR-FOLD DOORS, PROVIDE MANUFACTURERS UV TINTED INSULATED GLAZING TO MATCH SCHEDULED WINDOW GLAZING
127.3	F	14' - 0"	14' - 0"	3"	ALUM	FACT	*	ALUM	FACT	-		-	EXTERIOR, FOUR-FOLD DOORS, PROVIDE MANUFACTURERS UV TINTED INSULATED GLAZING TO MATCH SCHEDULED WINDOW GLAZING
127.4	F	14' - 0"	14' - 0"	3"	ALUM	FACT	*	ALUM	FACT	-		-	EXTERIOR, FOUR-FOLD DOORS, PROVIDE MANUFACTURERS UV TINTED INSULATED GLAZING TO MATCH SCHEDULED WINDOW GLAZING
127.5	F	14' - 0"	14' - 0"	3"	ALUM	FACT	*	ALUM	FACT	-		-	EXTERIOR, FOUR-FOLD DOORS, PROVIDE MANUFACTURERS UV TINTED INSULATED GLAZING TO MATCH SCHEDULED WINDOW GLAZING
127.6	F	14' - 0"	14' - 0"	3"	ALUM	FACT	*	ALUM	FACT	-		-	EXTERIOR, FOUR-FOLD DOORS, PROVIDE MANUFACTURERS UV TINTED INSULATED GLAZING TO MATCH SCHEDULED WINDOW GLAZING
127.7	C	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 02		B, G	
127.8	G	14' - 0"	14' - 0"	3"	ALUM	FACT	*	ALUM	FACT	-		-	ALTERNATE A-1: DOOR TO BE TYPE F.
127.9	G	14' - 0"	14' - 0"	3"	ALUM	FACT	*	ALUM	FACT	-		-	ALTERNATE A-1: DOOR TO BE TYPE F.
127.10	G	14' - 0"	14' - 0"	3"	ALUM	FACT	*	ALUM	FACT	-		-	ALTERNATE A-1: DOOR TO BE TYPE F.
127.11	G	14' - 0"	14' - 0"	3"	ALUM	FACT	*	ALUM	FACT	-		-	ALTERNATE A-1: DOOR TO BE TYPE F.
127.12	G	14' - 0"	14' - 0"	3"	ALUM	FACT	*	ALUM	FACT	-		-	ALTERNATE A-1: DOOR TO BE TYPE F.
127.13	C	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 02		B, G	
200		3' - 0"	7' - 0"	1 3/4"	HM	PAINT	II	HM	PAINT	SET 22			

DOOR TYPES:



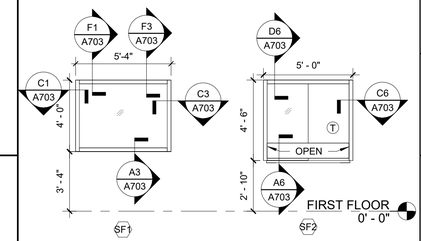
DOOR FRAME TYPES:



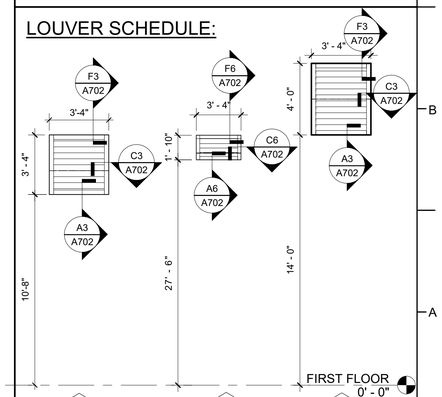
FENESTRATION SYMBOL LEGEND:

- INDICATES GLAZING
- (T) INDICATES TEMPERED GLAZING

STOREFRONT SCHEDULE:



LOUVER SCHEDULE:



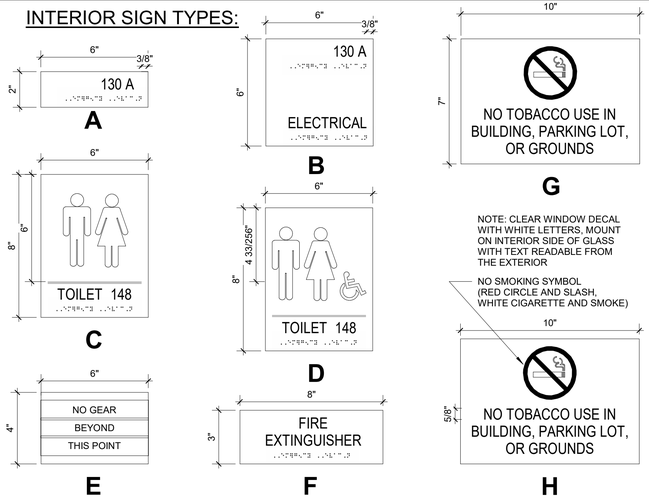
DOOR & FRAME GENERAL NOTES:

1. SEE DOOR FRAME DETAILS ON SHEET **A701** FOR FRAME DEPTHS.
2. PAINT ALL HM FRAMES. PAINT ALL HM DOORS.
3. PROVIDE FIRE-RATED SAFETY GLAZING AT RATED OPENINGS.
4. ADJUST MASONRY TO PROVIDE A 3/8" JOINT AT EACH JAMB OF A DOOR FRAME OPENING.
5. SEE ENLARGED STOREFRONT ELEVATIONS ON SHEET **A700**.
6. ALL HM FACE FRAME WIDTHS TO BE 2" UON.
7. SEE SHEET **G004** FOR LOCATIONS OF PANIC HARDWARE TO COORDINATE HARDWARE.
8. SEE SHEET **E121** FOR LOCATIONS OF CARD READERS TO COORDINATE HARDWARE.

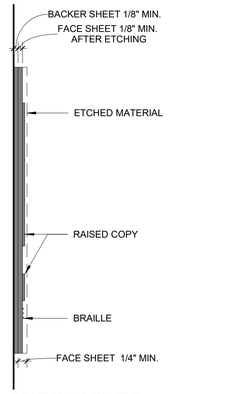
INTERIOR SIGNAGE NOTES:

1. SEE INTERIOR FINISHES PLANS FOR SIGNAGE LOCATIONS NOT NOTED IN DOOR, FRAME, AND SIGNAGE SCHEDULE. ON FINISHES PLANS, "ST" DENOTES SIGN TYPE. FOR EXAMPLE, "ST-K" DENOTES SIGN TYPE K.
2. REFERENCE DOOR SCHEDULE FOR SIGNAGE LOCATIONS.
3. TEXT SHOWN ON SIGNS IS SAMPLE TEXT ONLY.
4. SEE SECTION FOR TYPICAL NOTES.
5. SUBMIT SIGNAGE ROOM NUMBERING PLAN, SHOWING LOCATIONS OF SIGNS AND THEIR TEXT FOR ARCHITECT AND OWNER'S APPROVAL PRIOR TO FABRICATION.
6. MOUNT ALL DOOR SIGNS 60" A.F.F. TO CENTER OF THE SIGN & 3" FROM EDGE OF DOOR JAMB. INSTALL DOOR SIGN ON WALL ADJACENT TO THE DOOR LATCH U.N.O.. CONSULT ARCHITECT WHEN NO WALL ADJACENT TO THE DOOR IS AVAILABLE.
7. MOUNT ON SURFACE WITH VINYL PRESSURE SENSITIVE FOAM TAPE.
8. BACKGROUND & LETTER COLOR SAMPLES SHALL BE SUBMITTED BY THE CONTRACTOR & SELECTED BY THE ARCHITECT.
9. ALL DOOR SIGNS TO HAVE BRAILLE INSCRIPTIONS. LETTERS, NUMERALS, & CARICATURES TO BE RAISED 1/32" MIN. - FONT TYPE TO BE HELVETICA MEDIUM UNLESS OTHERWISE NOTED.

INTERIOR SIGN TYPES:



TYPICAL INTERIOR SIGN SECTION:



SECTION NO INSERT

DAVIS KANE ARCHITECTS, PA
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PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION

ONSLOW COUNTY

BID NO. 102-25C

138 OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

DAVIS KANE ARCHITECTS P.A. REGISTERED ARCHITECTURAL CORPORATION 50304 NORTH CAROLINA RALEIGH, N.C.

JIMMY ARDEL EDWARDS REGISTERED ARCHITECT 13823 03.12.25 NORTH CAROLINA RALEIGH, N.C.

DKA JOB NUMBER

2324

REVISIONS

PA: JIMMY ARDEL EDWARDS
PM: ALEXANDRE PENEGRE
Drawn By: Author
Plot Date: 3/11/2025 1:21:45 PM

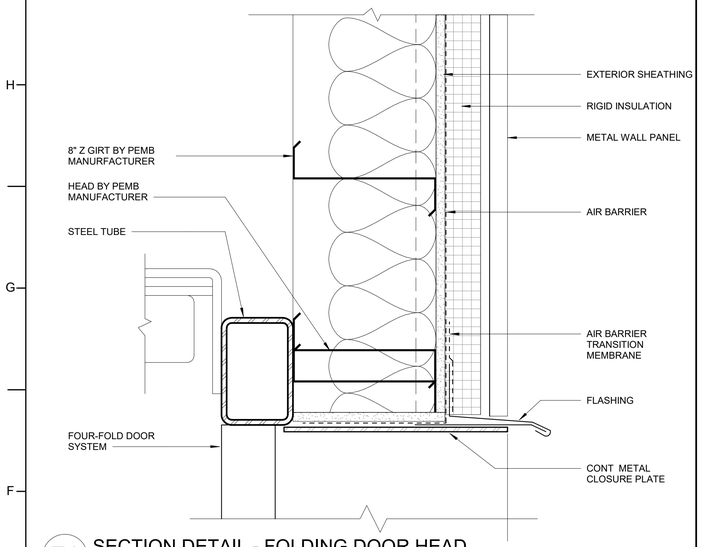
DATE ISSUED

BID DOCUMENTS
03/12/2025

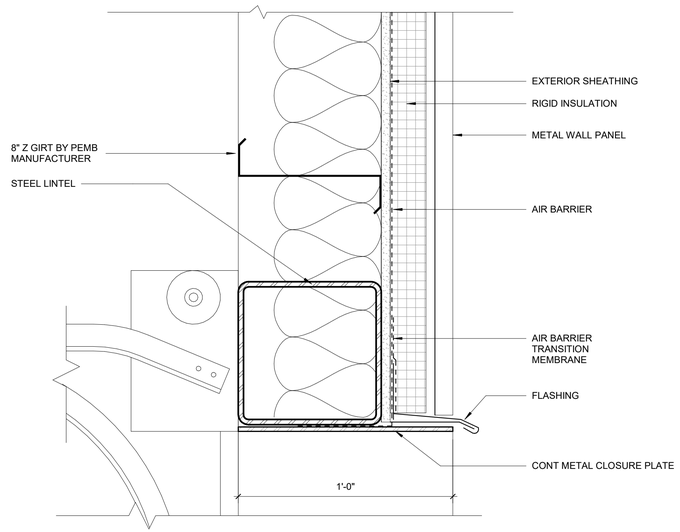
SHEET TITLE

FENESTRATION SCHEDULE AND NOTES

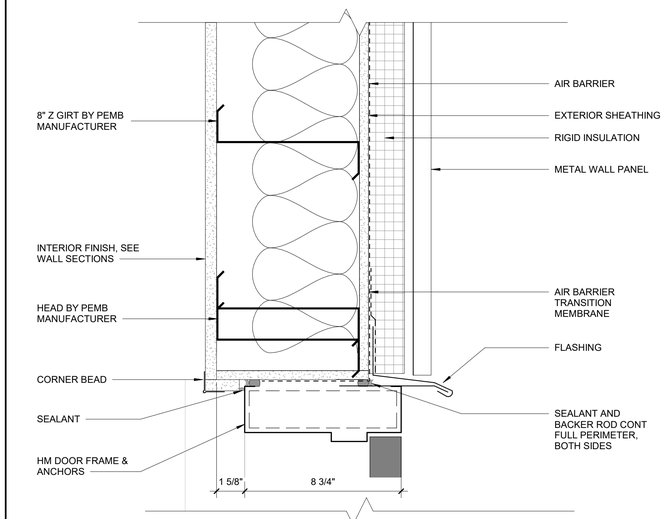
A700



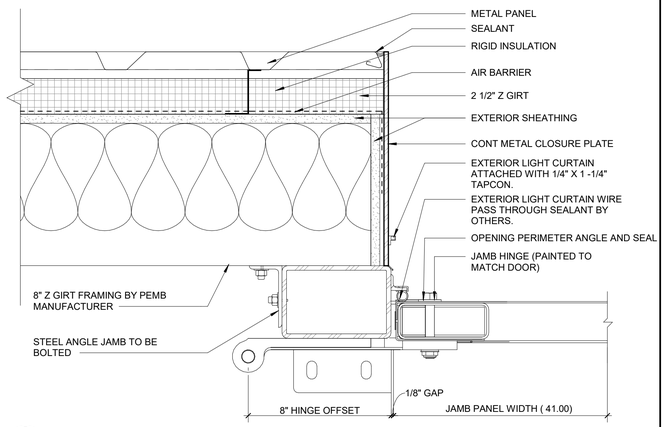
F1 SECTION DETAIL - FOLDING DOOR HEAD
3" = 1'-0"



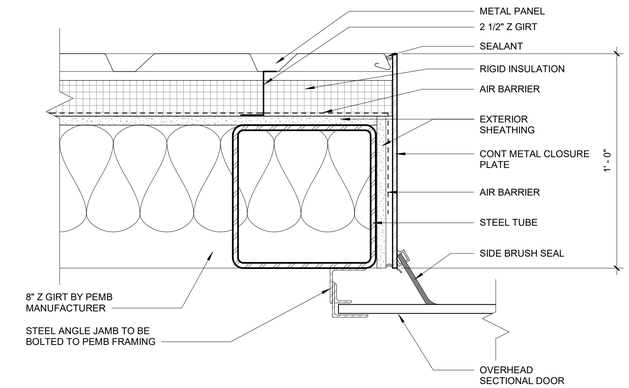
F3 SECTION DETAIL - OVERHEAD DOOR HEAD
3" = 1'-0"



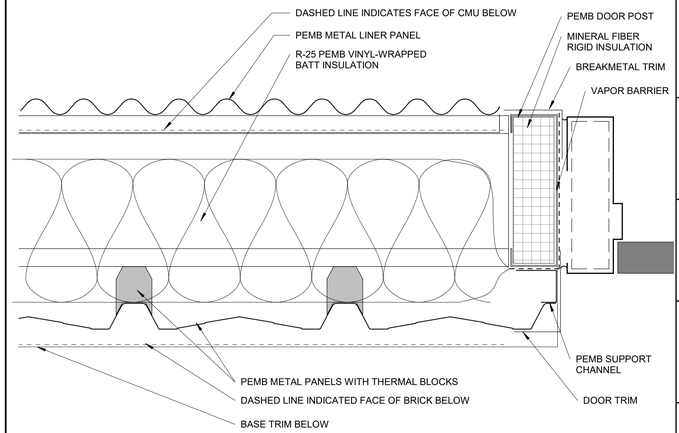
F6 SECTION DETAIL - EXTERIOR HM HEAD @ PEMB/METAL SIDING
3" = 1'-0"



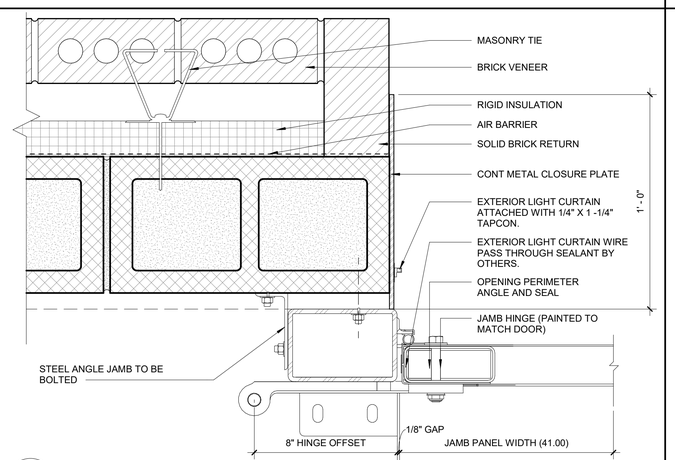
C1 PLAN DETAIL - FOLDING DOOR JAMB @ PEMB/METAL PANEL
3" = 1'-0"



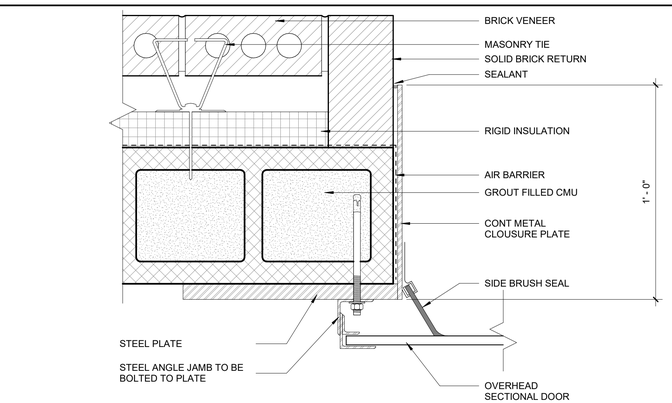
C3 PLAN DETAIL - OVERHEAD DOOR JAMB @ PEMB/METAL PANEL
3" = 1'-0"



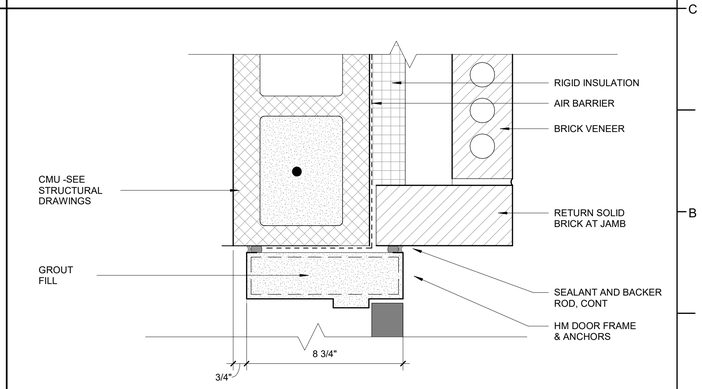
C6 PLAN DETAIL - EXTERIOR HM JAMB @ PEMB/METAL PANEL
3" = 1'-0"



A1 PLAN DETAIL - FOLDING DOOR JAMB @ CMU
3" = 1'-0"



A3 PLAN DETAIL - OVERHEAD DOOR JAMB @ CMU
3" = 1'-0"



A6 PLAN DETAIL - EXTERIOR HM JAMB @ CMU/BRICK
3" = 1'-0"

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ONSLOW COUNTY
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138 OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

DKA JOB NUMBER
2324

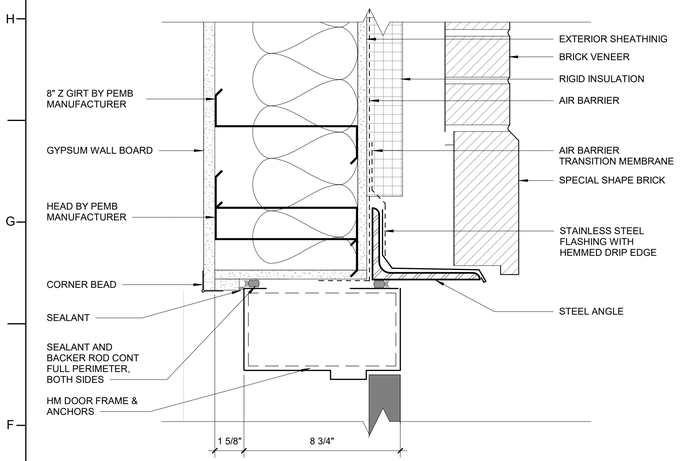
REVISIONS

PA: JIMMY ARDEL EDWARDS
PM: ALEXANDRE PENEGRE
Drawn By: BG
Plot Date: 3/11/2025 1:21:46 PM

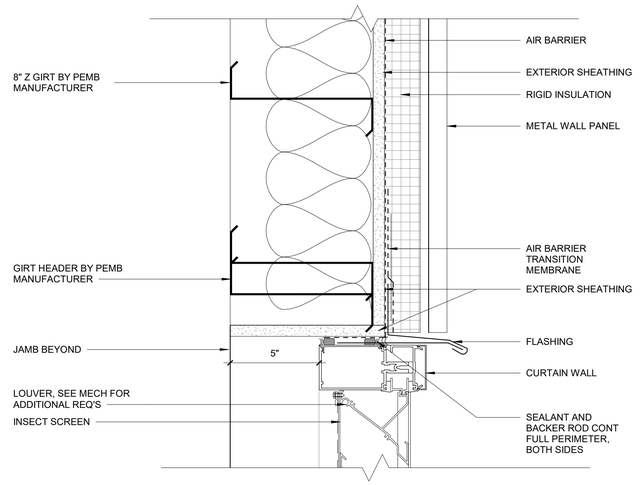
DATE ISSUED
BID DOCUMENTS
03/12/2025

SHEET TITLE
FENESTRATION DETAILS

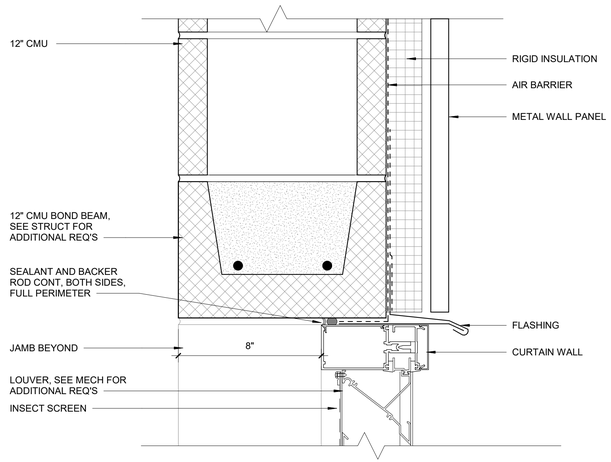
A701



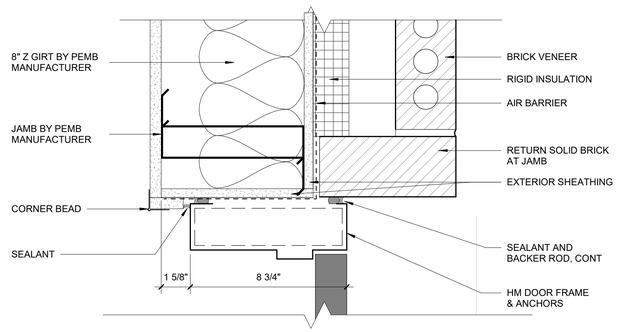
F1 SECTION DETAIL - EXTERIOR HM HEAD @ PEMB/BRICK
3" = 1'-0"



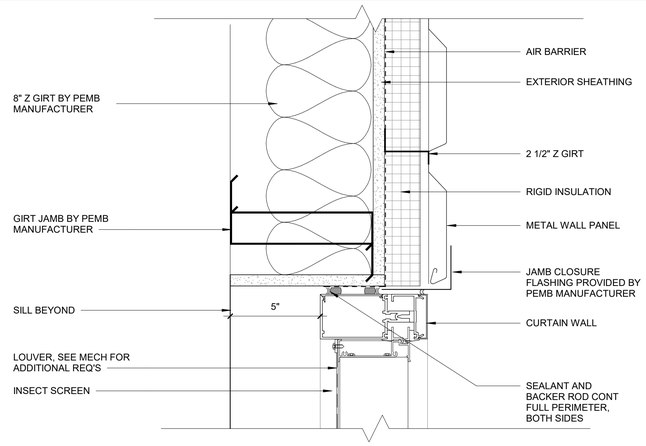
F3 SECTION DETAIL - LOUVER HEAD @ PEMB/METAL PANEL
3" = 1'-0"



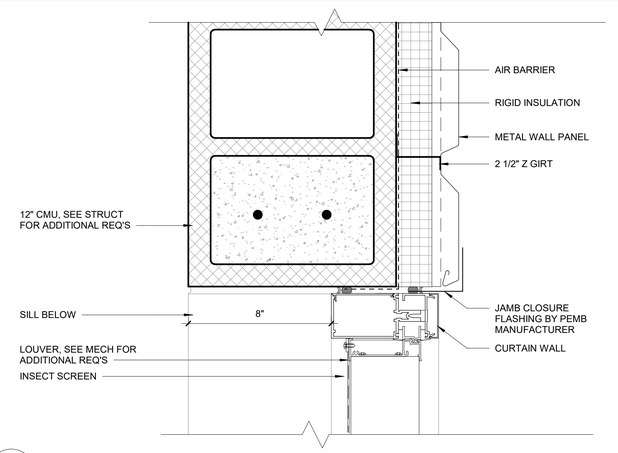
F6 SECTION DETAIL - LOUVER HEAD @ CMU/METAL PANEL
3" = 1'-0"



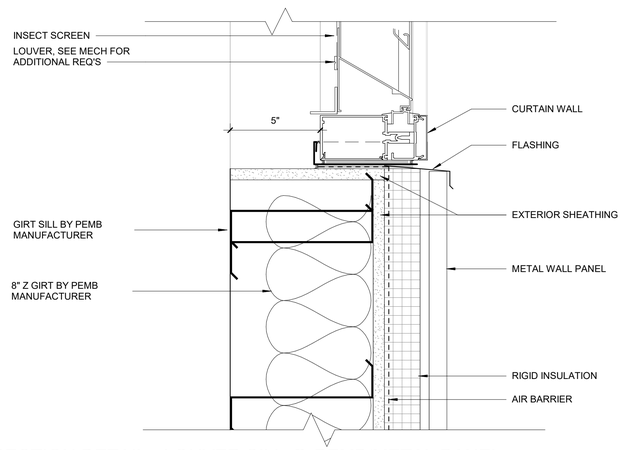
C1 PLAN DETAIL - EXTERIOR HM JAMB @ PEMB/BRICK
3" = 1'-0"



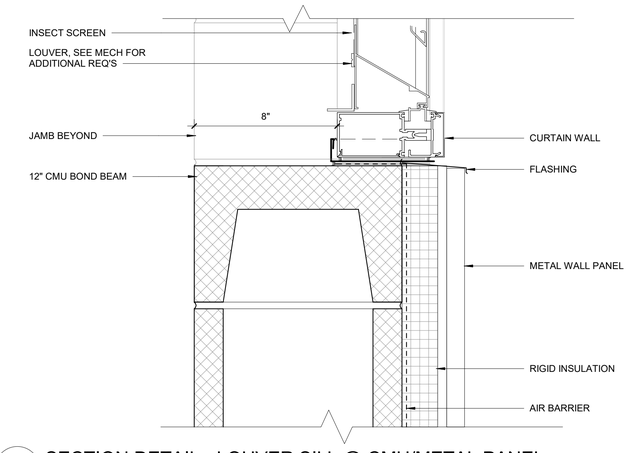
C3 PLAN DETAIL - LOUVER JAMB @ PEMB/METAL PANEL
3" = 1'-0"



C6 PLAN DETAIL - LOUVER JAMB @ CMU/METAL PANEL
3" = 1'-0"



A3 SECTION DETAIL - LOUVER SILL @ PEMB/METAL PANEL
3" = 1'-0"



A6 SECTION DETAIL - LOUVER SILL @ CMU/METAL PANEL
3" = 1'-0"

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JIMMY ARDEL EDWARDS REGISTERED ARCHITECT 13823 NORTH CAROLINA 03.12.25 RALEIGH, N.C.

DKA JOB NUMBER
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REVISIONS

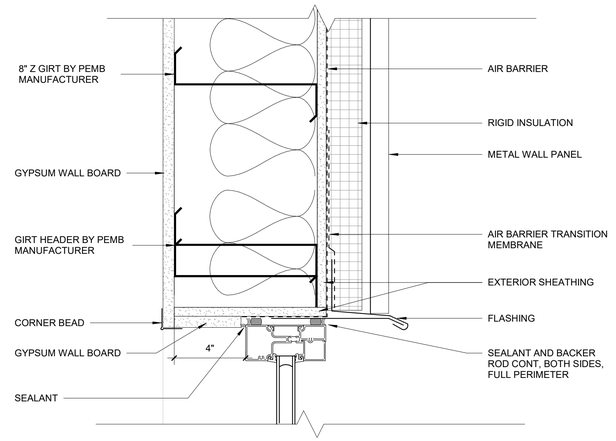
PA: JIMMY ARDEL EDWARDS
PM: ALEXANDRE PENEGRE
Drawn By: BG
Plot Date: 3/11/2025 1:21:47 PM

DATE ISSUED

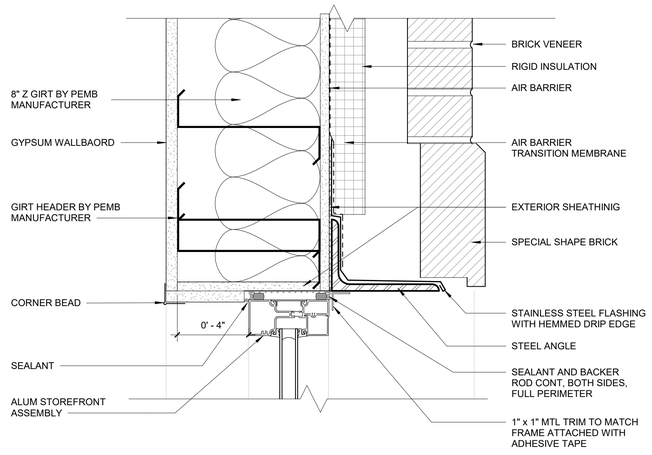
BID DOCUMENTS
03/12/2025

SHEET TITLE
FENESTRATION DETAILS

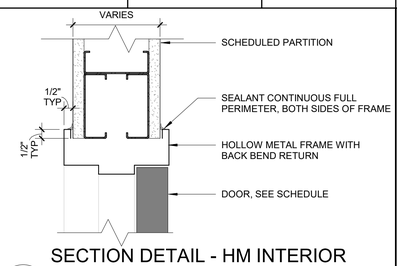
A702



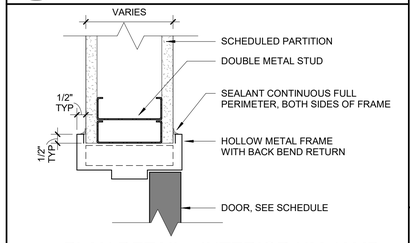
F1 SECTION DETAIL - EXTERIOR STOREFRONT HEAD @ PEMB/METAL PANEL
3" = 1'-0"



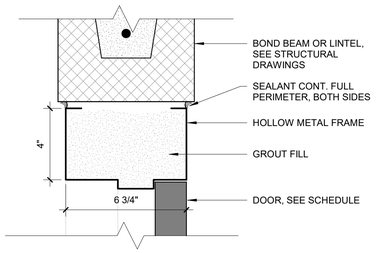
F3 SECTION DETAIL - EXTERIOR STOREFRONT HEAD @ PEMB/BRICK
3" = 1'-0"



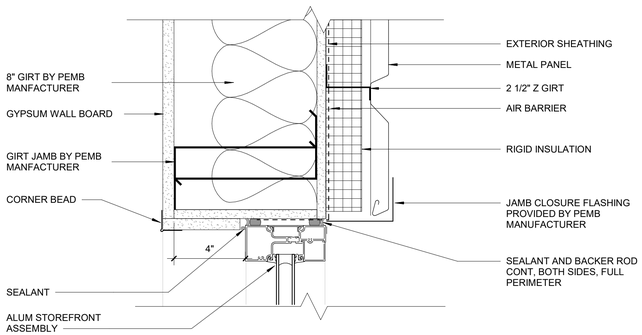
G6 SECTION DETAIL - HM INTERIOR HEAD IN STUD WALL
3" = 1'-0"



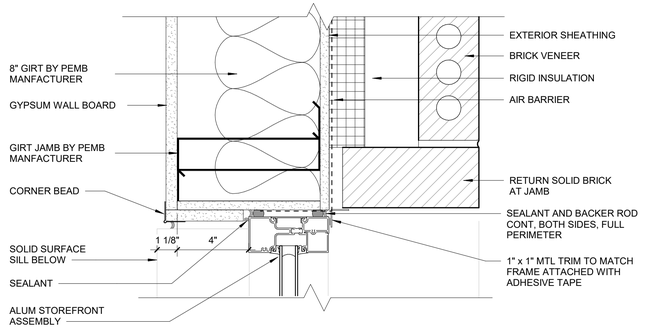
F6 PLAN DETAIL - INTERIOR HM JAMB IN STUD WALL
3" = 1'-0"



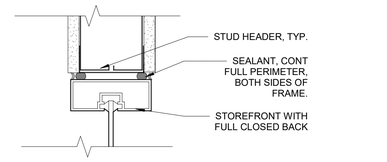
SECTION DETAIL - INTERIOR HM HEAD IN MASONRY
3" = 1'-0"



C1 PLAN DETAIL - EXTERIOR STOREFRONT JAMB @ PEMB/METAL PANEL
3" = 1'-0"



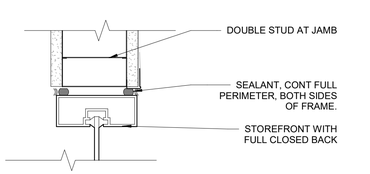
C3 PLAN DETAIL - EXTERIOR STOREFRONT JAMB @ PEMB/BRICK
3" = 1'-0"



SECTION DETAIL - INTERIOR STOREFRONT HEAD @ METAL FRAMING
3" = 1'-0"

D6

D7



C6 PLAN DETAIL - INTERIOR STOREFRONT JAMB @ METAL FRAMING
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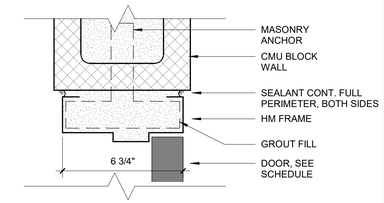
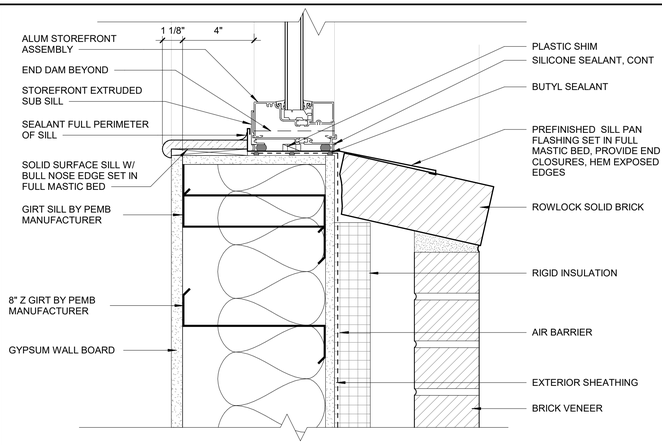
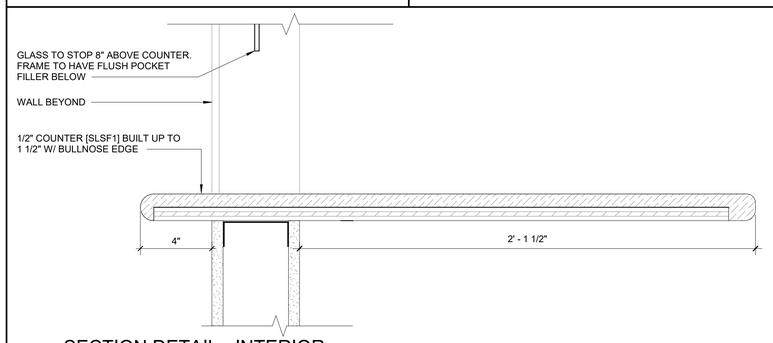


C7 PLAN DETAIL - INTERIOR HM JAMB IN MASONRY
3" = 1'-0"



A3 SECTION DETAIL - EXTERIOR STOREFRONT SILL @ PEMB/BRICK
3" = 1'-0"



A6 SECTION DETAIL - INTERIOR STOREFRONT SILL @ COUNTER
3" = 1'-0"

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JIMMY ARDEL EDWARDS — REGISTERED ARCHITECT — 13823 — 03.12.25 — NORTH CAROLINA — RALEIGH, N.C.

DKA JOB NUMBER
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REVISIONS

PA: JIMMY ARDEL EDWARDS
PM: ALEXANDRE PENEGRE
Drawn By: BG
Plot Date: 3/11/2025 1:21:47 PM

DATE ISSUED

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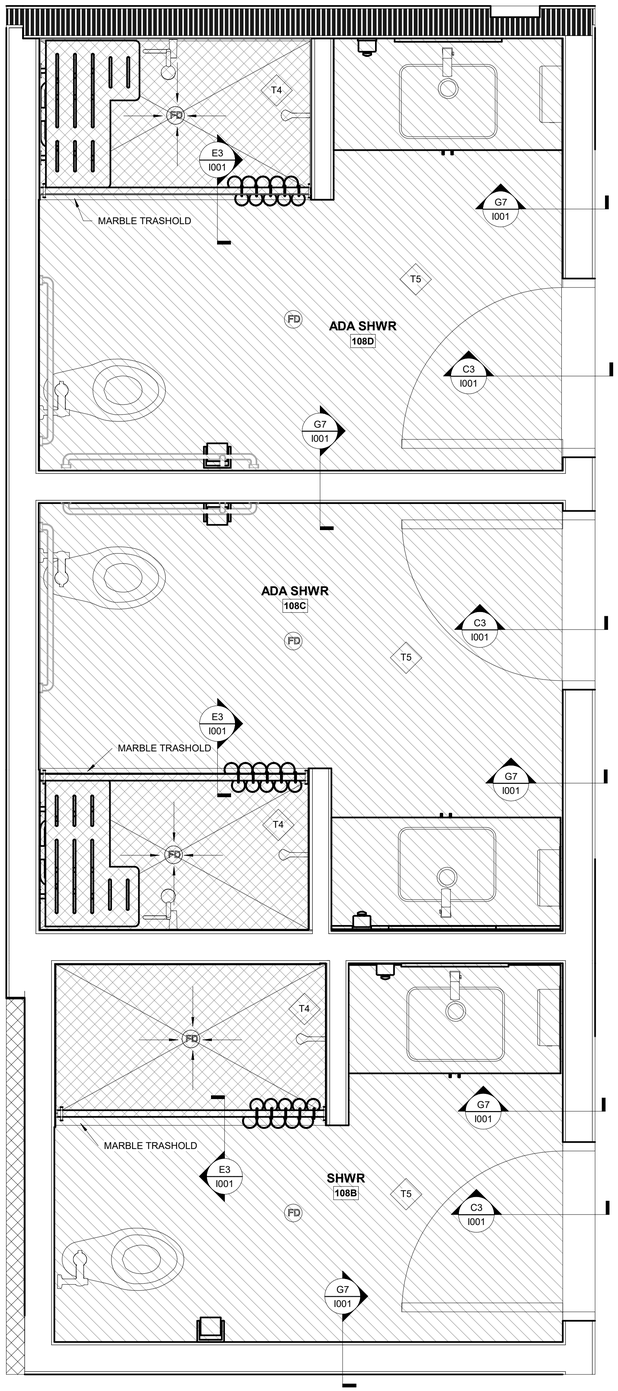
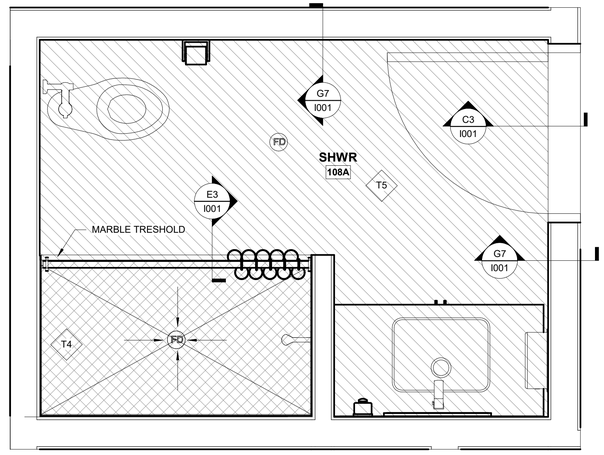
SHEET TITLE
FENESTRATION DETAILS

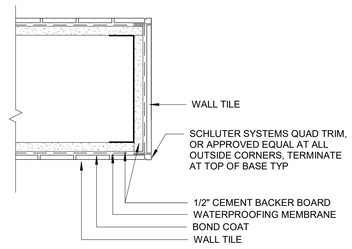
A703



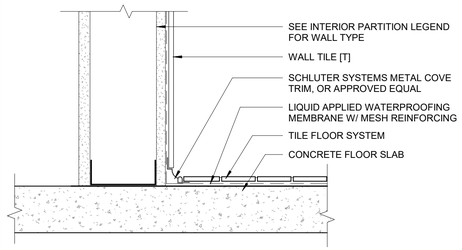
A1 FIRST FLOOR - TILE SYSTEM PLAN SHWR 108 B-D
3/4" = 1'-0"



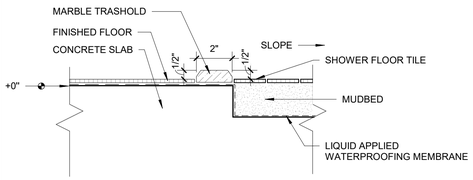
F3 FIRST FLOOR - TILE SYSTEM PLAN SHWR 108A
3/4" = 1'-0"



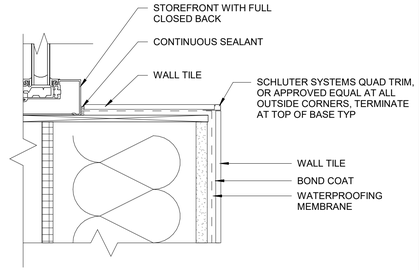
G6 TILE WALL END CAP
3" = 1'-0"



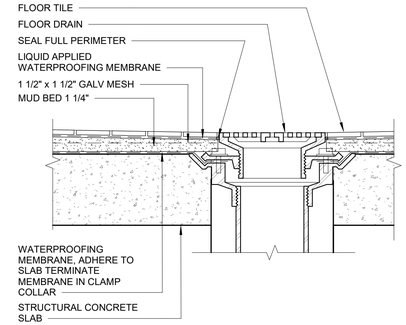
G7 TLT TILE BASE DETAIL WITH COVE TRIM
3" = 1'-0"



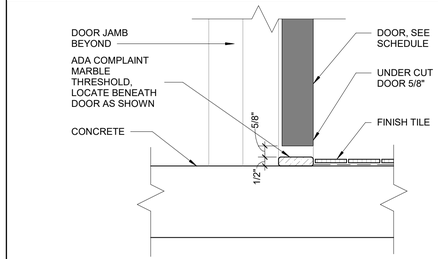
E3 MARBLE THRESHOLD AT RECESSED SLAB
3" = 1'-0"



D5 SECTION DETAIL - KITCHEN TILE SILL
3" = 1'-0"



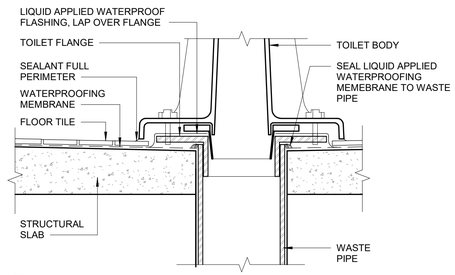
D7 TILE FLOOR SYSTEM 2
3" = 1'-0"



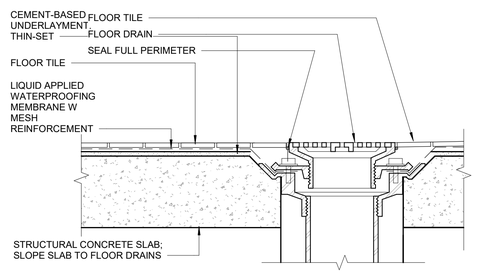
C3 INT DOOR SILL - MARBLE THRESHOLD
3" = 1'-0"

TILE FLOOR SYSTEM PLAN KEY:

- TILE FLOOR SYSTEM 1
- TILE FLOOR SYSTEM 2



C7 TOILET FLANGE DETAIL AT THIN SET
3" = 1'-0"



A3 TILE FLOOR SYSTEM 1
3" = 1'-0"

INTERIOR FINISHES LEGEND

TYPE	DESIGNATION	BASIS OF DESIGN MANUFACTURER	PATTERN/COLOR	NOTES
EPOXY FLOOR	EP1	SEE SPECIFICATION	GRAY	
EPOXY FLOOR	EP2	SEE SPECIFICATION	RED	
PAINT	PNT1	SHERWIN-WILLIAMS	SW 7064	LIGHT GRAY
PAINT	PNT2	SHERWIN-WILLIAMS	SW 9163	DARK GRAY
QUARTZ	QTZ1	LX HOUSYS AMERICA	VIATERA NIMBUS	
QUARY TILE	QT	DALTILE	6X6 ASHEN GRAY	
RUBBER BASE	RB1	FLEXICO	DARK GRAY	
SOLID SURFACE	SLSF1	WILSONART	NORTHERN MELNGE 9195ML	
SOLID SURFACE	SLSF2	WILSONART	DUSK ICE	WINDIW SILL
STAINED WOOD	WD1	SEE SPECIFICATION	MAPLE	
TILE	T1	DALTILE	COLOR WHEEL LINEAR 4X12 SUEDE GRAY 0182 GLOSSY	GRAY
TILE	T2	DELTILE	COLOR WHEEL LINEAR 4X12 CURRANT SH17 (3) GLOSSY	RED
TILE	T3	DALTILE	COLOR WHEEL LINEAR 4X12 ALMOND X114 (1) GLOSSY	WHITE
TILE	T4	CROSSVILLE	COLOR BOX 2.0 I SEE THE MOON 3X3	SHOWER FLOOR MOSAIC 3X3
TILE	T5	CROSSVILLE	COLOR BOX 2.0 I SEE THE MOON 12X12	TLT FLOOR
TILE BASE	TB1	DELTILE	COLOR WHEEL LINEAR 4X12 DESERT GRAY X114 (1) GLOSSY	A34CIMOD 4X12
VINYL FLOORING	LVT1	MILLIKEN	THE MAGIC HOUR HORIZON HZN176-121 ETHERAL	

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PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION

ONSLOW COUNTY
BID NO. 102-25C
138 OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

DAVIS KANE ARCHITECTS, P.A. REGISTERED ARCHITECTURAL CORPORATION 50304 NORTH CAROLINA RALEIGH, N.C.

JIMMY ARDEL EDWARDS REGISTERED ARCHITECT 13823 03.12.25 NORTH CAROLINA RALEIGH, N.C.

DKA JOB NUMBER
2324

REVISIONS

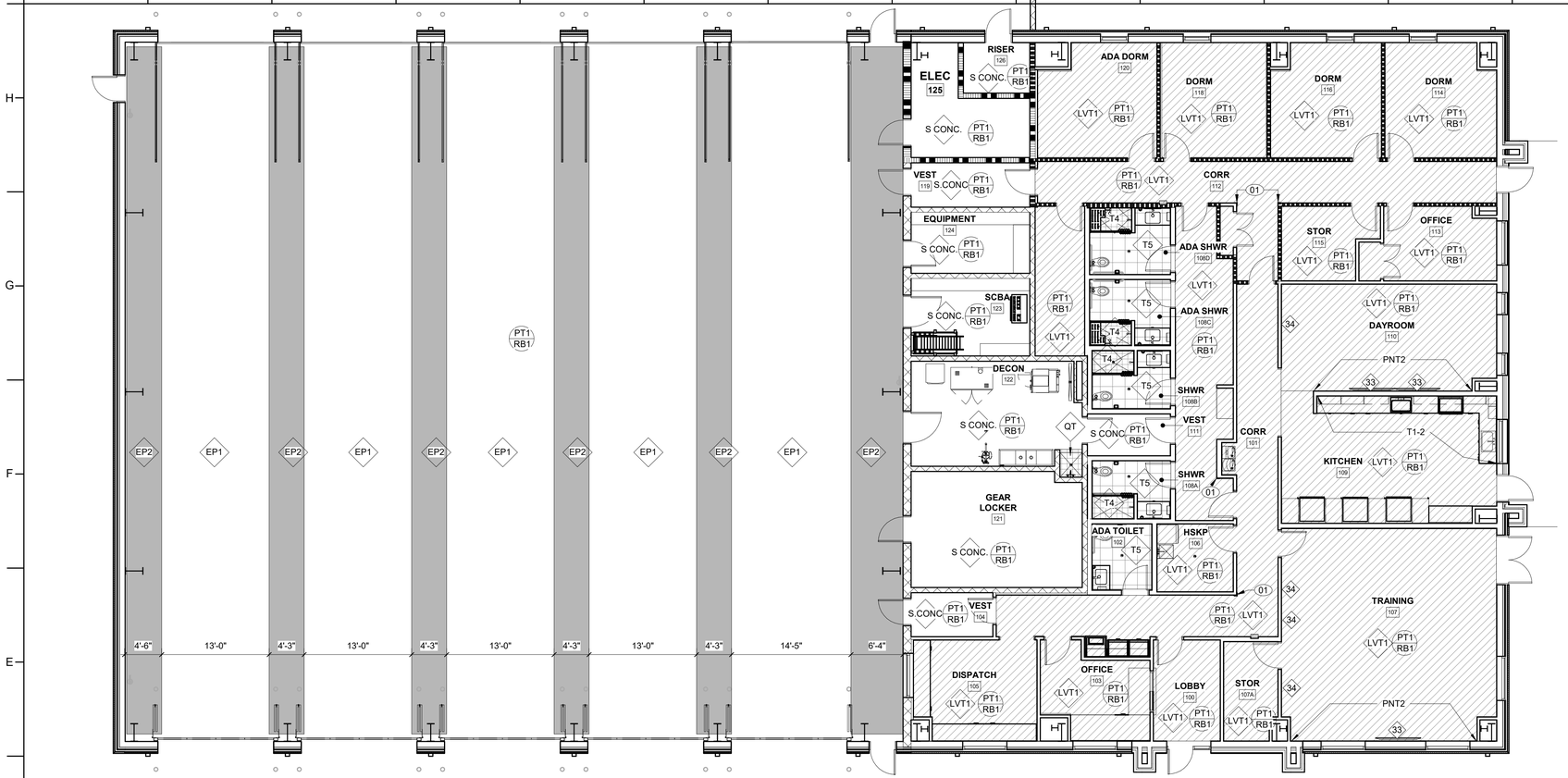
PA: JIMMY ARDEL EDWARDS
PM: ALEXANDRE PENEGRE
Drawn By: NK
Plot Date: 3/11/2025 1:21:50 PM

DATE ISSUED

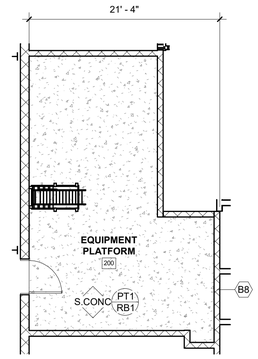
BID DOCUMENTS
03/12/2025

SHEET TITLE
FINISH SCHEDULES AND DETAILS

I001



D1 FIRST FLOOR - FINISH PLAN
1/8" = 1'-0"



A1 FINISHES FLOOR PLAN - EQUIPMENT PLATFORM
1/8" = 1'-0"

FINISHES GENERAL NOTES:

1. SEE FLOOR PLANS FOR WALL TYPES.
2. SEE INTERIOR ELEVATIONS AND DETAILS FOR LOCATION OF CASEWORK AND WALL FINISH SELECTIONS NOT SHOWN ON PLAN.
3. WHERE PAINT IS INDICATED ON LEGEND, PROVIDE THE FOLLWING:

FINISH	LOCATION
EGGSHELL	GWB WALLS, UON
SEMI-GLOSS	MASONRY WALLS, UON
SEMI-GLOSS	INTEROR FRAMES
SATIN GLOSS	RAILINGS

4. PAINT COLORS PROVIDED IN FINISHES LEGEND ARE FOR COLOR MATCH ONLY.
5. INTERIOR FINISHES INDICATED BY AREA UON.
6. INTERIOR FINISH ACCENTS INDICATED AT LOCATION BY SYMBOL, WITH LEADER DESIGNATION.
7. FOR CEILING FINISH AND COLORS REFER TO REFELCTED CEILING PLANS.
8. FOR INFORMATION ABOUT THRESHOLDS SEE DOOR SCHEDULE.
9. PAINT ALL STAIR STRINGERS, GUARDRAILS, HANDRAILS, BRACKETS AND UNDERSIDE OF STAIRS THROUGHOUT ALL THREE STAIRS.
10. ALL WALLS TO BE PTN1 UON.

FINISHES PLAN KEY:

- LUXURY VINYL TILE [LVT]
- MOSAIC TILE
- TILE
- QUARRY TILE
- S. CONC SEALED CONCRETE WITH GRIT
- EPOXY RESINOUS FLOORING [EP]
- CPT — FLOORING
- PT / B — WALL / BASE

FINISHES PLAN NOTES:

1. SEE A001 FOR GENERAL PLAN & PARTITION NOTES.
2. REFER TO A002 FOR PARTITION CONSTRUCTION TYPE.
3. TYPICAL ASSEMBLY & MOUNTING HEIGHTS SEE SHEET A001.
4. SEE I001 FOR INTERIOR FINISHES LEGEND, SCHEDULES AND ADDITIONAL FINISHES REQUIREMENTS.

FINISHES KEY NOTES:

NOTE: NOT ALL OF THE KEY NOTES ARE APPLICABLE TO THIS PLAN. SEE PLAN FOR KEYED ITEM LOCATIONS. KEY NOTES SUPPLEMENT INFORMATION FOUND ELSEWHERE IN THE DRAWINGS.

01 SINGULAR CORNER GUARDS
02 SCHLUTER
03 WINDOW SILL

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SHEET TITLE
FIRST FLOOR FINISH PLAN

I100

GENERAL NOTES:

1. THE STRUCTURAL DRAWINGS MUST BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, CIVIL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS, AND THE SPECIFICATIONS. THE CONTRACTOR MUST VERIFY THE REQUIREMENTS OF OTHER TRADES AS TO SLEEVES, CHASES, HANGERS, INSERTS, ANCHORS, HOLES, AND ADDITIONAL ITEMS TO BE PLACED OR SET IN THE STRUCTURAL WORK.

2. THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE PROVISIONS OF THE NORTH CAROLINA STATE BUILDING CODE, 2018 EDITION.

3. THE WORK OUTLINED IN THE BUILDING CODE IS SUBJECT TO SPECIAL INSPECTIONS AS DESCRIBED IN THE BUILDING CODE.

4. THE CONTRACTOR MUST PROVIDE TEMPORARY SHORING AND BRACING REQUIRED TO ERECT AND HOLD THE STRUCTURE IN PROPER ALIGNMENT UNTIL PERMANENT SUPPORTS AND LATERAL BRACING ARE IN PLACE.

5. DISCREPANCIES WITHIN DRAWINGS, BETWEEN THE SPECIFICATIONS AND THE DRAWINGS, OR WITHIN THE SPECIFICATIONS, MUST BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER DURING THE BIDDING PROCESS IN TIME TO PERMIT CLARIFICATION BY ADDENDUM. IF INCONSISTENCIES, DISCREPANCIES OR CONTRADICTIONS IN THE CONTRACT DOCUMENTS ARE DISCOVERED AFTER THE CLOSE OF BIDDING QUESTIONS, THE CONTRACTOR MUST BE DEEMED BY SUBMITTAL OF THEIR BID, TO HAVE BID THE MOST COSTLY AS TO LABOR, MATERIALS, DURATION, SEQUENCE AND METHOD OF CONSTRUCTION TO PROVIDE THE WORK.

6. THESE STRUCTURAL DRAWINGS ARE ISSUED ON THE DATE INDICATED FOR THE PURPOSE DESIGNATED. THESE DRAWINGS MUST NOT BE ISSUED OR RELEASED FOR ANY OTHER PURPOSE WITHOUT THE WRITTEN AUTHORIZATION OF THE STRUCTURAL ENGINEER OF RECORD.

7. DETAILS LABELED "TYPICAL DETAIL" WITHIN THE DOCUMENTS APPLY TO SITUATIONS ON THE PROJECT THAT MAY OCCUR THROUGHOUT THE PROJECT. SUCH DETAILS APPLY WHETHER OR NOT THE DETAIL IS SPECIFICALLY REFERENCED AT EACH INSTANCE. NOTIFY ENGINEER IF CLARIFICATIONS ARE REQUIRED REGARDING THE APPLICABILITY OF THE "TYPICAL DETAIL".

8. DESIGN CRITERIA:

CLASSIFICATION OF BUILDING
- RISK CATEGORY IV

SUPERIMPOSED ROOF DEAD LOADS - UNIFORM:
- 1 1/2" INSULATION AND ROOF MEMBRANE ..... 3 PSF
- CEILING ..... 2 PSF
- SPRINKLERS ..... 3 PSF
- DUCTS, LIGHTS, MISC. MECHANICAL ..... 3 PSF

SUPERIMPOSED FLOOR DEAD LOADS - UNIFORM:
- FLOOR FINISH ..... 3 PSF
- CEILING ..... 2 PSF
- SPRINKLERS ..... 3 PSF
- DUCTS, LIGHTS, MISC. MECHANICAL ..... 3 PSF
- COLLATERAL ..... 2 PSF

LIVE LOADS - UNIFORM:
- SLAB ON GRADE (APPARATUS BAY) ..... 500 PSF
- SLAB ON GRADE(UON) ..... 100 PSF
- EQUIPMENT PLATFORM ..... 150 PSF
- ROOF ..... 20 PSF

LIVE LOAD REDUCTION OF THE UNIFORMLY DISTRIBUTED FLOOR LIVE LOADS HAS BEEN UTILIZED.

LIVE LOADS - CONCENTRATED:
- FLOOR ..... 2,000#
- ROOFS ..... 300#

UNLESS OTHERWISE NOTED, CONCENTRATED LOADS ARE APPLIED UNIFORMLY OVER 2'-6" x 2'-6" AREA.

SNOW LOADS:
- GROUND SNOW LOAD (Pg) ..... 10 PSF
- SLOPED ROOF LOAD (Pf) ..... 6 PSF
- IMPORTANCE FACTOR (Is) 1.2
- THERMAL FACTOR (Ct) 1.0
- EXPOSURE FACTOR (Ce) 1.0

WIND LOADS:
- BASIC WIND SPEED (Vult) ..... 150 MPH
- EXPOSURE CATEGORY ..... B
- INTERNAL PRESSURE COEFFICIENT ..... ±0.18
- COMPONENT AND CLADDING PRESSURES:
  - WALLS, ZONE 4 (10 SF) ..... 44 PSF
  - WALLS, ZONE 4 (20 SF) ..... 42 PSF
  - WALLS, ZONE 4 (50 SF) ..... 40 PSF
  - WALLS, ZONE 4 (100 SF) ..... 38 PSF
  - WALLS, ZONE 5 (10 SF) ..... 54 PSF
  - WALLS, ZONE 5 (20 SF) ..... 51 PSF
  - WALLS, ZONE 5 (50 SF) ..... 46 PSF
  - WALLS, ZONE 5 (100 SF) ..... 42 PSF
  - ROOF, ZONE 1 (10 SF) ..... 37 PSF
  - ROOF, ZONE 1 (10 SF) ..... 36 PSF
  - ROOF, ZONE 1 (50 SF) ..... 35 PSF
  - ROOF, ZONE 1 (100 SF) ..... 35 PSF
  - ROOF, ZONE 2 (10 SF) ..... 65 PSF
  - ROOF, ZONE 2 (20 SF) ..... 60 PSF
  - ROOF, ZONE 2 (50 SF) ..... 53 PSF
  - ROOF, ZONE 2 (100 SF) ..... 48 PSF
  - ROOF, ZONE 3 (10 SF) ..... 96 PSF
  - ROOF, ZONE 3 (20 SF) ..... 89 PSF
  - ROOF, ZONE 3 (50 SF) ..... 81 PSF
  - ROOF, ZONE 3 (100 SF) ..... 75 PSF
- ULTIMATE WIND BASE SHEARS (FOR MWFRS):
  - Vx ..... 120 KIPS
  - Vy ..... 135 KIPS

GENERAL NOTES (CONT):

SEISMIC LOADS:
- SITE CLASSIFICATION ..... D
- SEISMIC DESIGN CATEGORY C
- IMPORTANCE FACTOR (IE) 1.5
- SPECTRAL RESPONSE ACCELERATIONS:
  - S_S ..... 0.141 S_1 ..... 0.068
  - S_{MS} ..... 0.226 S_{M1} 0.163
  - S_{DS} ..... 0.151 S_{D1} 0.109
- ANALYSIS PROCEDURE ..... EQUIVALENT LATERAL FORCE
- LATERAL FORCE RESISTING SYSTEM ..... STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
- RESPONSE MODIFICATION COEFFICIENT (R) 3.0
- SEISMIC RESPONSE COEFFICIENT (Cs) 0.0755
- ULTIMATE SEISMIC BASE SHEAR (V) ..... 40 KIPS

LATERAL DESIGN CONTROL
- CONTROLLING LATERAL LOADS ..... WIND

FOUNDATION NOTES:

1. FOUNDATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE RECOMMENDATIONS IN THE SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGINEERING REPORT PREPARED BY ECS SOUTHEAST, LLC, DATED APRIL 9, 2024.

2. FOUNDATIONS HAVE BEEN DESIGNED FOR A NET ALLOWABLE SOIL BEARING PRESSURE OF 1500 PSF. BEARING ON APPROVED NATIVE SOILS OR COMPACTED STRUCTURAL FILL.

3. TOP OF FOOTING ELEVATIONS MUST BE A MINIMUM DEPTH OF 1'-0" BELOW LOWEST ADJACENT SOIL GRADE.

4. CONTRACTOR SHALL INCLUDE COST FOR UNDERCUTTING BETWEEN 2FT TO 4FT IN THE APPARATUS BAY AREA AND BACKFILLING WITH ENGINEERED FILL.

5. PRIOR TO PLACING FOUNDATION CONCRETE, ALL FOUNDATION EXCAVATIONS MUST BE INSPECTED BY THE OWNER'S GEOTECHNICAL TESTING AGENCY TO EXPLORE THE EXTENT OF LOOSE, SOFT, EXPANSIVE, OR OTHERWISE UNSATISFACTORY SOIL MATERIAL AND TO VERIFY DESIGN BEARING PRESSURE. DIRECTION FOR CORRECTIVE ACTION WILL BE PROVIDED BY THE OWNER'S GEOTECHNICAL TESTING AGENCY WHERE UNSATISFACTORY SOILS ARE PRESENT.

6. NO UNBALANCED BACKFILLING MUST BE DONE AGAINST MASONRY OR CONCRETE WALLS UNLESS WALLS ARE SECURELY BRACED AGAINST OVERTURNING, EITHER BY TEMPORARY CONSTRUCTION BRACING OR BY PERMANENT CONSTRUCTION.

7. CONTROL GROUNDWATER AND SURFACE RUNOFF THROUGHOUT THE CONSTRUCTION PROCESS. INUNDATION AND LONG TERM EXPOSURE OF BEARING SURFACES WHICH RESULT IN DETERIORATION OF BEARING MUST BE PREVENTED.

CAST-IN-PLACE CONCRETE NOTES:

1. CONCRETE MUST BE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301 AND 318.

2. REINFORCING MATERIALS MUST BE AS FOLLOWS:
   A. REINFORCING BARS - ASTM A615, GRADE 60, DEFORMED.
   B. WELDED REINFORCING BARS - ASTM A706, GRADE 60.
   C. WELDED WIRE REINFORCEMENT - ASTM A1064, WELDED STEEL WIRE REINFORCEMENT; PROVIDE SHEET TYPE, ROLL TYPE IS NOT ACCEPTABLE.

3. ALL REINFORCING STEEL AND EMBEDDED ITEMS SUCH AS ANCHOR RODS AND WELD PLATES MUST BE ACCURATELY PLACED AND ADEQUATELY TIED AND SUPPORTED BEFORE CONCRETE IS PLACED TO PREVENT DISPLACEMENT BEYOND PERMITTED TOLERANCES.

4. CONCRETE COVER TO REINFORCING STEEL MUST EQUAL THE FOLLOWING, UNLESS OTHERWISE NOTED:
   A. SURFACES AGAINST EARTH ..... 3"
   B. SURFACES NOT CAST AGAINST EARTH, BUT EXPOSED TO EARTH OR WEATHER IN THE FINAL CONDITION
      #5 AND SMALLER ..... 1 1/2"
      #6 AND LARGER ..... 2"
   C. BEAMS, GIRDERS, COLUMNS, AND WALLS ABOVE FINISHED FIRST FLOOR ..... 1 1/2"
   D. ELEVATED SLABS ..... 3/4"

5. LAP CONTINUOUS REINFORCING STEEL [57] X BAR DIAMETER, TYPICAL UNLESS OTHERWISE NOTED.

6. LAP CONTINUOUS REINFORCING STEEL PER SCHEDULES AND TYPICAL DETAILS

7. DO NOT EMBED CONDUIT AND PIPING IN OR PENETRATE THROUGH CAST-IN-PLACE CONCRETE ELEMENTS UNLESS OTHER NOTED.

CONCRETE MIX DESIGN NOTES:

1. MIX DESIGNS COMPRESSIVE STRENGTHS (f'c) BASED ON 28 DAY DESIGN STRENGTH, UNLESS OTHERWISE NOTED.

2. CONCRETE NOT OTHERWISE NOTED:
   A. MINIMUM COMPRESSIVE STRENGTH (f'c) = 4000 PSI

3. FOUNDATIONS (SPREAD FOOTINGS, MAT FOOTINGS):
   A. EXPOSURE CLASS = ACI 318 F0, S0, W0, C1
   B. MINIMUM COMPRESSIVE STRENGTH (f'c) = 3,000PSI
   C. MAXIMUM W/CM = 0.5
   D. BLENDED HYDRAULIC CEMENT = ASTM C595 TYPE 1L
   E. SLUMP = 5" MAX PLUS OR MINUS 1", OR 8" MAX, PLUS OR MINUS 1" FOR CONCRETE WITH A VERIFIED SLUMP OF 3" PLUS OR MINUS 1" BEFORE ADDING HIGH-RANGE WATER-REDUCING OR PLASTICIZING ADMIXURE
   F. AIR CONTENT = NO REQUIREMENTS
   G. AGGREGATE = NORMAL WEIGHT, ¾" NOMINAL
   H. LIMIT WATER-SOLUBLE, CHLORIDE-ION CONTENT IN HARDENED CONCRETE TO 0.30 PERCENT BY WEIGHT OF CEMENT

4. INTERIOR FLOOR SLAB-ON-GRADE:
   A. EXPOSURE CLASS = ACI 318 F0, S0, W0, C0
   B. MINIMUM COMPRESSIVE STRENGTH (f'c) = 3,500PSI
   C. MAXIMUM W/CM = 0.5
   D. BLENDED HYDRAULIC CEMENT = ASTM C595 TYPE 1L
   E. SLUMP = 5" MAX PLUS OR MINUS 1", OR 8" MAX, PLUS OR MINUS 1" FOR CONCRETE WITH A VERIFIED SLUMP OF 3" PLUS OR MINUS 1" BEFORE ADDING HIGH-RANGE WATER-REDUCING OR PLASTICIZING ADMIXURE
   F. AIR CONTENT = DO NOT ALLOW AIR CONTENT IN TROWEL FINISHED FLOORS TO EXCEED 3%
   G. AGGREGATE = NORMAL WEIGHT, ¾" NOMINAL
   H. LIMIT WATER-SOLUBLE, CHLORIDE-ION CONTENT IN HARDENED CONCRETE TO 1.00 PERCENT BY WEIGHT OF CEMENT

5. ELEVATED COMPOSITE CONCRETE SLABS (NORMAL WEIGHT):
   A. EXPOSURE CLASS = ACI 318 F0, S0, W0, C0
   B. MINIMUM COMPRESSIVE STRENGTH (f'c) = 4,000PSI
   C. MAXIMUM W/CM = 0.45
   D. BLENDED HYDRAULIC CEMENT = ASTM C595 TYPE 1L
   E. SLUMP = 8" MAX, PLUS OR MINUS 1" FOR CONCRETE WITH A VERIFIED SLUMP OF 3" PLUS OR MINUS 1" BEFORE ADDING HIGH-RANGE WATER-REDUCING OR PLASTICIZING ADMIXURE
   F. AIR CONTENT = DO NOT ALLOW AIR CONTENT IN TROWEL FINISHED FLOORS TO EXCEED 3%
   G. AGGREGATE = NORMAL WEIGHT, ¾" NOMINAL

CONCRETE MASONRY NOTES:

1. CONCRETE MASONRY MATERIALS AND CONSTRUCTION MUST CONFORM TO THE AMERICAN CONCRETE INSTITUTE "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES". (ACI) 530 / ASCE 5/TMS 402. AND "SPECIFICATION FOR MASONRY STRUCTURES" ACI530.1/ASCE 6/TMS 602.

2. CONCRETE MASONRY UNITS MUST CONFORM TO ASTM C90 AND MUST BE MADE WITH NORMAL WEIGHT AGGREGATE. MINIMUM NET AREA COMPRESSIVE STRENGTH OF MASONRY UNITS MUST BE 2,000 PSI AT 28 DAYS.

3. COMPRESSIVE STRENGTH OF MASONRY MUST BE DETERMINED BY THE UNIT STRENGTH METHOD AS SET FORTH IN ACI 530.1. THE NET AREA COMPRESSIVE STRENGTH OF MASONRY, f'm, MUST BE 2,000 PSI AT 28 DAYS.

4. MORTAR MUST BE TYPE 'M' OR 'S' AND MUST COMPLY WITH ASTM C270, PROPORTIONS OR PROPERTIES SPECIFICATION.

5. GROUT MUST COMPLY WITH EITHER THE PROPORTIONS OR PROPERTIES SPECIFICATION OF ASTM C476 AND AS FOLLOWS:
   A. PROPORTIONS SPECIFICATION: THIS MIX CANNOT CONTAIN ADMIXTURES. WATER MUST BE ADDED IN THE FIELD IN ORDER TO ACHIEVE A SLUMP OF 8-11 INCHES WHEN PLACED IN THE CONCRETE MASONRY UNITS. MORTAR, PEA-GRAVEL CONCRETE, OR "CHAT" MIXES ARE NOT ACCEPTABLE SUBSTITUTES FOR THE SPECIFIED GROUT.
   B. PROPERTIES SPECIFICATION: THIS MIX MUST BE PROPORTIONED TO OBTAIN A DOCUMENTED 28 DAY COMPRESSIVE STRENGTH OF 2,500 PSI, WITH 3/8" MAX AGGREGATE AND AN 8-11 INCH SLUMP WHEN PLACED IN THE CONCRETE MASONRY UNITS.

6. REINFORCING STEEL MUST COMPLY WITH ASTM A615, GRADE 60. SHOP FABRICATE REINFORCING BARS WHICH ARE SHOWN TO BE BENT OR HOOKED.

7. ALL BOND BEAMS, REINFORCED CELLS AND CELLS WITH EXPANSION BOLTS, EMBED PLATES OR OTHER ANCHORS AND ALL CELLS BELOW GRADE MUST BE GROUTED SOLID. GROUT PROCEDURE MUST COMPLY WITH ACI 530.1.

8. ALL CMU WALLS MUST BE REINFORCED CONTINUOUSLY FROM FOUNDATION TO TOP OF WALL. WHERE REINFORCING IS INTERRUPTED, OFFSET AND LAP ADDITIONAL BARS PER THE "TYPICAL OFFSET SPLICE AT MASONRY WALL DETAILS."

CONCRETE MASONRY NOTES (CONT):

9. LAP ALL REINFORCING PER SCHEDULE BELOW, TYPICAL UNLESS OTHERWISE NOTED:

MASONRY LAP SCHEDULE	
REINF SIZE	72 x BAR DIAMETER
#4	36"
#5	45"
#6	54"
#7	63"
#8	72"

10. PROVIDE STANDARD 9 GAGE LADDER TYPE HORIZONTAL JOINT REINFORCING IN CMU WALLS AT 16 INCHES ON CENTER AND IN TWO JOINTS IMMEDIATELY ABOVE AND BELOW ALL OPENINGS, EXTENDING A MINIMUM OF 2 FEET BEYOND THE JAMB ON EACH SIDE OF THE OPENING, EXCEPT AT CONTROL JOINTS.

11. PROVIDE HORIZONTAL BOND BEAMS WITH CONTINUOUS REINFORCING AS SHOWN IN THE SECTIONS AND DETAILS. DISCONTINUE ALL HORIZONTAL REINFORCING AT CONTROL JOINTS

12. DO NOT LOCATE CONTROL JOINTS WITHIN TWO FEET OF STEEL BEAM BEARING LOCATIONS.

13. PROVIDE STANDARD 9 GAGE LADDER TYPE HORIZONTAL JOINT REINFORCING IN CMU WALLS AT 16 INCHES ON CENTER VERTICALLY TYPICALLY AND AT 8" ON CENTER VERTICALLY AT PARAPETS. ADDITIONALLY, PROVIDE IN THETWO JOINTS IMMEDIATELY ABOVE AND BELOW ALL OPENINGS, EXTENDING A MINIMUM OF 2 FEET BEYOND THE JAMB ON EACH SIDE OF THE OPENING, EXCEPT AT CONTROL JOINTS.

14. ALL NON-BEARING MASONRY WALLS MUST BE REINFORCED WITH #4 VERTICAL BARS AT 40 INCHES ON CENTER, TYPICAL UNLESS OTHERWISE NOTED. ALL NON-BEARING MASONRY WALLS MUST BE BRACED PER "TYPICAL NON-BEARING MASONRY PARTITION DETAILS".

METAL BUILDING SYSTEM NOTES:

1. METAL BUILDING SYSTEM MUST BE IN ACCORDANCE WITH THE METAL BUILDING MANUFACTURERS ASSOCIATION (MBMA) "DESIGN PRACTICES MANUAL."

2. SUBMIT SHOP DRAWINGS SIGNED AND SEALED BY A NORTH CAROLINA LICENSED PROFESSIONAL ENGINEER RESPONSIBLE FOR THE DESIGN OF METAL BUILDING SYSTEMS. SHOP DRAWINGS MUST INCLUDE DESIGN LOADINGS AND REACTIONS APPLIED TO THE SUPPORTING STRUCTURE. INCLUDE A SUMMARY OF CONTROLLING LOAD CASE FOR EACH LOCATION.

3. METAL BUILDING SYSTEMS MUST BE DESIGNED FOR THE LOAD INDICATED IN THE GENERAL NOTES AND AS FOLLOWS:
   A. DEAD LOADS..... WEIGHT OF ALL SUPPORTED EQUIPMENT, PLUS WEIGHT OF THE BUILDING.
   B. COLLATERAL LOADS..... 5 PSF

4. THE DESIGN REACTIONS (LRFD) USED ARE AS FOLLOWS:

LOAD COMBINATION \ GRID	2/A.0 - 6/A.0	2/C.5 - 6/C.5	7/A.0 - 9/A.0	7/C.5 - 9/C.5	1/A - 1/C 6.5/A - 6.5/C	10/A.0 - 10/C.5	8.3, 9.1,10.5
1.2D+1.6Lr+0.5W (x,y)	26K, 31K	-26K, 31K	43K, 30K	-36K, 30K	13K, 15K	28K, 15K	14K, 7K
0.9D+1.0W (x,y)	30K, -25K	5K, -17K	35K, -23K	13K, -18K	16K, -21K	22K, -15K	10K, -12K

5. THE CONTRACTOR MUST BE RESPONSIBLE FOR THE COORDINATION AND COSTS ASSOCIATED WITH A CONTRACTOR INITIATED CHANGE IN BUILDING MODEL OR MANUFACTURER, INCLUDING CONSTRUCTION COSTS AND RE-ENGINEERING COSTS.

6. METAL BUILDING SYSTEM DESIGNED BY OTHERS.

7. FOUNDATIONS HAVE BEEN DESIGNED USING THE ASSUMED REACTIONS SHOWN. ANY CHANGE IN REACTION LOAD SHOWN BY FINAL PEMB REACTIONS PROVIDED BY METAL BUILDING DESIGNER WILL REQUIRE REVIEW AND POSSIBLE MODIFICATIONS TO THE FOUNDATION DESIGN BY THE EOR. PROVIDE SIGNED AND SEALED CALCUATIONS AND REACTIONS FOR REVIEW PRIOR TO START OF FOUNDATION CONSTRUCTION.

8. DESIGN OF THE ANCHOR RODS AND BASEPLATE FOR SUPPORT OF THE METAL BUILDING IS THE RESPONSIBILITY OF THE METAL BUILDING MANUFACTURER, FRAMES MUST HAVE GROUTED BASEPLATES WITH LEVELING NUTS.

9. METAL BUILDING FRAMES AND COLUMNS MUST BE DESIGNED FOR PINNED BASE CONNECTIONS.

10. METAL BUILDING DESIGN SERVICEABILITY CRITERIA ARE AS FOLLOWS:

    A. GRAVITY (ROOF LIVE LOAD):..... L/240
    B. GRAVITY (DEAD+ROOF LIVE LOAD):..... L/180
    C. GRAVITY (VENEER SUPPORT):..... L/600
    D. LATERAL (DRIFT):..... H/400

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CALCULATE. COLLABORATE. CREATE.
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LM Project Number: LM23.192

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503 OBERLIN ROAD | SUITE 300
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PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION
ONSLOW COUNTY
BID NO. 102-25C
OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

NORTH CAROLINA PROFESSIONAL ENGINEERING CORPORATION C-4360 NORTH CAROLINA STRUCTURAL ENGINEERS

NORTH CAROLINA PROFESSIONAL SEAL 044996 ENGINEER SCOTT M. FRANCIS

03/12/2025

DKA JOB NUMBER
2324

REVISIONS

PA: JIMMY ARDEL EDWARDS
PM:
Drawn By:
Plot Date: 3/10/2025 10:43:17 AM

DATE ISSUED
BID DOCUMENTS
3/12/2025

SHEET TITLE
GENERAL NOTES

S001

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL MUST BE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) 360.

2. STRUCTURAL STEEL FABRICATOR MUST PARTICIPATE IN THE AISC QUALITY CERTIFICATION PROGRAM AND BE A DESIGNATED AISC-CERTIFIED PLANT.

3. STRUCTURAL STEEL INSTALLER MUST PARTICIPATE IN THE AISC QUALITY CERTIFICATION PROGRAM AND BE A DESIGNATED AISC-CERTIFIED ERECTOR.

4. STRUCTURAL STEEL MUST COMPLY WITH THE FOLLOWING SPECIFICATIONS:
   A. STRUCTURAL STEEL SHAPES, PLATES AND BARS UNLESS OTHERWISE NOTED - ASTM A572, Fy = 50 KSI
   B. STRUCTURAL STEEL W-SHAPES - ASTM A992, Fy = 50 KSI
   C. ANCHOR RODS - ASTM F1554, GRADE 36
   D. HIGH STRENGTH BOLTS - ASTM A325 (TYPICAL UON)
   E. FULLY PRETENSIONED BOLTS - ASTM F1852 (TWIST-OFF TYPE)
   F. WASHERS - ASTM F436
   G. NUTS - ASTM A563
   H. HEADED STUDS - ASTM A29, GRADE 1010 THROUGH 1020

5. UNLESS OTHERWISE NOTED, ALL REQUIRED DESIGN STRENGTHS AND REACTIONS INDICATED ARE BASED ON THE "LOADING COMBINATIONS USING STRENGTH DESIGN OR LOAD AND RESISTANCE FACTOR DESIGN" PER SECTION 1605.2 OF THE BUILDING CODE.

6. ALL STEEL CONNECTIONS AND MEMBER REINFORCEMENT MUST BE DESIGNED BY FABRICATOR'S QUALIFIED PROFESSIONAL ENGINEER FOR LOADS INDICATED ON THE DRAWINGS, PER OPTION 3B OF ANSI/AISC 303 AND COMPLETE THE FOLLOWING:

   A. SUBMIT STRUCTURAL CALCULATIONS SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER REGISTERED IN THE [COMMONWEALTH OF VIRGINIA] [STATE OF NORTH CAROLINA] RESPONSIBLE FOR THEIR PREPARATION.
   B. THE PROFESSIONAL ENGINEER RESPONSIBLE FOR CONNECTION DESIGN MUST REVIEW THE SHOP DRAWINGS PRIOR TO SUBMITTAL TO VERIFY THAT THE CONNECTIONS AS DETAILED ON THE SHOP DRAWINGS COMPLY WITH THE CONNECTION DESIGN REQUIREMENTS OF THE FINAL CALCULATIONS.
   C. A REVIEW LETTER, SIGNED AND SEALED BY THE PROFESSIONAL ENGINEER RESPONSIBLE FOR CONNECTION DESIGN MUST BE PROVIDED WITH THE SHOP DRAWINGS AND CALCULATION SUBMITTAL STATING THAT THIS REVIEW AND VERIFICATION HAS BEEN COMPLETED.

7. HIGH STRENGTH BOLTS MAY BE TIGHTENED TO THE "SNUG TIGHT" CONDITION, UNLESS OTHERWISE NOTED.

8. BOLTED CONNECTIONS MAY USE NON-STANDARD HOLES, EXCEPT IN THE FOLLOWING LOCATIONS:

   A. AXIAL CONNECTIONS IDENTIFIED ON PLAN.
   B. ALL FRAMING CONNECTIONS AT BRACED FRAMES AND MOMENT FRAMES.
   C. CONNECTIONS IDENTIFIED ON PLAN WITH FULL DEPTH STIFFENER PLATES.

9. PROVIDE ANGLE FRAMING AROUND OPENINGS LARGER THAN 6 INCHES IN ANY DIMENSION (INCLUDING ROOF DRAINS) TO SUPPORT STEEL DECK. REFERENCE PLANS AND TYPICAL DETAILS FOR SIZING REQUIREMENTS.

10. WELDING MUST BE IN ACCORDANCE WITH AWS D1.1, "STRUCTURAL WELDING CODE - STEEL." WELD ELECTRODES MUST BE E70XX LOW HYDROGEN. UNLESS OTHERWISE NOTED, PROVIDE CONTINUOUS FILLET WELDS WITH MINIMUM SIZE REQUIRED BY TABLE J2.4 AISC 360.

11. INSTALLATION OF HEADED COMPOSITE STUDS MUST CONFORM TO THE REQUIREMENTS OF AWS D1.1, SECTIONS 9.4 AND 9.5. HEADED COMPOSITE STUDS MUST BE TESTED IN ACCORDANCE WITH AWS D1.1, SECTIONS 9.6, 9.7, AND 9.8 BY A QUALIFIED TESTING AGENCY.

12. COORDINATE ALL MEMBER LOCATIONS, UNIT WEIGHTS, OPENING SIZES, AND CURB DIMENSIONS FOR MECHANICAL EQUIPMENT WITH THE ACTUAL EQUIPMENT FURNISHED.

13. SHOP PRIME STEEL SURFACES, EXCEPT THE FOLLOWING:

   A. SURFACES EMBEDDED IN CONCRETE OR MORTAR. EXTEND PRIMING OF PARTIALLY EMBEDDED MEMBERS TO A DEPTH OF 2 INCHES.
   B. SURFACES TO BE WELDED.
   C. SURFACES TO RECEIVE SPRAYED FIRE-RESISTIVE MATERIALS.
   D. GALVANIZED SURFACES.
   E. SURFACES ENCLOSED IN INTERIOR CONSTRUCTION.

14. CLEAN ALL STEEL SURFACES TO BE PAINTED. REMOVE LOOSE RUST, MILL SCALE, SPATTER, SLAG, OR FLUX DEPOSITS. PREPARE SURFACES IN ACCORDANCE WITH SSPC-SP3 SPECIFICATION AND STANDARD.

15. HOT-DIP GALVANIZE AFTER FABRICATION THE FOLLOWING:

   A. ANGLES AND PLATES SUPPORTING MASONRY IN EXTERIOR WALLS.
   B. LINTELS AND LINTEL ASSEMBLIES SUPPORTING MASONRY IN EXTERIOR WALLS.
   C. ALL STEEL EXPOSED TO WEATHER IN THE FINAL CONSTRUCTION.
   D. ITEMS IDENTIFIED AS GALVANIZED ON ARCHITECTURAL OR STRUCTURAL DRAWINGS.

STRUCTURAL STEEL NOTES (CONT):

17. THE FABRICATION OF STRUCTURAL STEEL FRAMING SHOWN TO BE CURVED MUST BE ACCOMPLISHED BY ROLLING IF FEASIBLE. WHERE ROLLING IS NOT FEASIBLE SUBMIT AN ALTERNATE METHOD FOR REVIEW AND APPROVAL.

18. [ALL MEMBERS EXPOSED TO VIEW IN THE FINISHED CONSTRUCTION MUST BE CONSIDERED ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS).]

19. STEEL MEMBERS MUST BE SPLICED ONLY WHERE INDICATED. [CONTINUOUS MEMBERS MUST BE SPLICED OVER SUPPORTS, UNLESS OTHERWISE NOTED.]

20. LOCATE CONSTRUCTION JOINTS FOR SLABS ON METAL DECK MIDWAY BETWEEN BEAMS WHERE THE JOINT IS PARALLEL TO THE BEAM SPAN. LOCATE JOINTS WITHIN THE MIDDLE THIRD SPAN WHERE THE JOINT IS PERPENDICULAR TO THE BEAM SPAN. ANY STOP IN CONCRETE WORK MUST BE MADE WITH VERTICAL BULKHEADS, UNLESS OTHERWISE SHOWN. REINFORCING TO BE CONTINUOUS THROUGH JOINTS.

STEEL DECK NOTES:

1. STEEL DECK MUST BE IN ACCORDANCE WITH THE AMERICAN IRON AND STEEL INSTITUTE (AISI), "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS" AND THE STEEL DECK INSTITUTE (SDI), "DESIGN MANUAL FOR COMPOSITE DECKS, FORM DECKS, AND ROOF DECKS."

2. STEEL DECK INSTALLATION MUST COMPLY WITH THE FOLLOWING:
   A. FORM DECK: 2" x 20 GAGE. UNLESS OTHERWISE NOTED, ATTACH DECK TO SUPPORTS WITH 5/8 INCH DIAMETER PUDDLE WELDS AT 12 INCHES ON CENTER. FASTEN SIDELAPS WITH (3)-#10 SELF-TAPPING HEX HEAD SCREWS EQUALLY SPACED BETWEEN SUPPORTS. FASTEN EDGEMOST DECK PANEL TO STEEL FRAMING WITH 5/8 INCH DIAMETER PUDDLE WELDS AT SAME SPACING AS SIDELAP FASTENERS.

3. STEEL DECK MUST BE INSTALLED PERPENDICULAR TO SUPPORTS AND MUST HAVE A MINIMUM OF THREE CONTINUOUS SPANS. ENDLAPS MUST ONLY OCCUR AT SUPPORTS.

4. WELDING MUST BE IN ACCORDANCE WITH AWS D1.3 "STRUCTURAL WELDING CODE - SHEET STEEL".

5. STEEL DECK SCHEDULED TO RECEIVE SPRAYED-ON FIREPROOFING MUST BE GALVANIZED.

6. CONDUIT AND PIPING MUST NOT BE PLACED IN ELEVATED SLABS.

SPECIALTY STRUCTURAL ELEMENTS:

1. THE FOLLOWING BUILDING ELEMENTS REQUIRE DELEGATED DESIGN AND ENGINEERING BY A SPECIALTY STRUCTURAL ENGINEER:

   A. PRE-ENGINEERED METAL BUILDING SYSTEMS
   B. CURTAIN WALL AND GLAZING ASSEMBLIES INCLUDING CONNECTIONS TO THE STRUCTURE
   C. STRUCTURAL STEEL CONNECTIONS
   D. TEMPORARY SHORING AND/OR EXCAVATION SUPPORT
   E. PRE-FABRICATED LADDER SYSTEMS

   REFERENCE SPECIFICATIONS FOR COMPLETE REQUIREMENTS

2. SUBMIT COMPLETE CALCULATIONS AND SHOP DRAWINGS, SIGNED AND SEALED BY THE PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF NORTH CAROLINA RESPONSIBLE FOR THE DESIGN, INCLUDING DESIGN LOADINGS AND REACTIONS APPLIED TO THE SUPPORTING STRUCTURE. INCLUDE A SUMMARY OF THE CONTROLLING LOAD CASES FOR EACH LOCATION.

3. IN ADDITION TO THEIR OWN DEAD WEIGHT AND THE DEAD LOADS SHOWN OR INDICATED IN THE DRAWINGS, MEMBERS MUST BE DESIGNED TO SUPPORT THE LOADS INDICATED IN THE GENERAL NOTES.

4. CONNECTION DETAILS SHOWN ARE SCHEMATIC ONLY. ALL CONNECTIONS MUST BE DESIGNED AND DETAILED BY THE MANUFACTURER TO SUIT THE SPECIFIED LOADS. CONNECTIONS MUST ACCOUNT FOR THERMAL MOVEMENT, DEFLECTION AND CREEP. DETAIL ALL CONNECTIONS ON SHOP DRAWINGS.

5. THE CONTRACTOR MUST BE RESPONSIBLE FOR THE COORDINATION OF ALL SPECIALTY STRUCTURAL ELEMENTS AND COST ASSOCIATED WITH A CONTRACTOR INITIATED CHANGE IN BUILDING STRUCTURE, INCLUDING CONSTRUCTION COSTS AND RE-ENGINEERING COSTS.

POST-INSTALLED ANCHOR NOTES:

1. ALL POST INSTALLED ANCHORS INDICATED ON THE DRAWINGS ARE BY HILTI, INC, AND MUST BE CONSIDERED THE BASIS OF DESIGN PRODUCT. WHERE NOT EXPLICITLY INDICATED IN THE DRAWINGS, THE FOLLOWING ANCHORS/ADHESIVES MUST BE USED:
   A. ANCHORAGE TO CONCRETE
      1. ADHESIVE ANCHORS FOR CRACKED AND UNCRACKED CONCRETE USE:
         a. HILTI HIT-HY 200 SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT (TE-CD OR TE-YD) AND VC 20/40 VACUUM SYSTEM (VC 20-U OR VC40U) WITH STEEL THREADED ROD PER ICC ESR-3187.
      2. SCREW ANCHORS FOR CRACKED AND UNCRACKED CONCRETE USE:
         a. HILTI KWIK HUS EZ SCREW ANCHORS PER ICC ESR-3027.
   B. REBAR DOWELING INTO CONCRETE
      1. ADHESIVE ANCHORS FOR CRACKED AND UNCRACKED CONCRETE USE:
         a. HILTI HIT-HY 200 SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT (TE-CD OR TE-YD) AND VC 20/40 VACUUM SYSTEM (VC 20-U OR VC 40-U) WITH CONTINUOUSLY DEFORMED REBAR PER ICC ESR-3187.
   C. ANCHORAGE TO SOLID GROUTED MASONRY
      1. ADHESIVE ANCHORS USE:
         a. HILTI HIT-HY 270 MASONRY ADHESIVE ANCHORING SYSTEM (ICC PENDING).
         b. STEEL ANCHOR ELEMENT MUST BE HILTI HAS-E CONTINUOUSLY THREADED ROD.
      2. MECHANICAL ANCHORS USE:
         a. HILTI KWIK HUS EZ SCREW ANCHORS PER ICC ESR 3056.

2. ALTERNATE POST INSTALLED ANCHOR PRODUCTS MAY BE SUBMITTED TO THE ENGINEER FOR REVIEW AND POSSIBLE APPROVAL. ALL SUBSTITUTION REQUESTS MUST BE ACCOMPANIED BY AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE FOR SEISMIC USES, LOAD RESISTANCE, INSTALLATION CATEGORY, AND COMPREHENSIVE INSTALLATION INSTRUCTIONS. ADHESIVE ANCHOR EVALUATION WILL ALSO CONSIDER CREEP, IN-SERVICE TEMPERATURE AND INSTALLATION TEMPERATURE. ALTERNATE PRODUCTS MAY REQUIRE MODIFICATIONS TO ANCHOR DIAMETER, SPACING, AND EMBEDMENT.

3. INSTALL ANCHORS PER THE MANUFACTURER INSTRUCTIONS, AS INCLUDED IN THE ANCHOR PACKAGING.

4. THE CONTRACTOR MUST ARRANGE FOR AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL OF THEIR ANCHORING PRODUCTS SPECIFIED. THE STRUCTURAL ENGINEER OF RECORD MUST RECEIVE DOCUMENTED CONFIRMATION THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO INSTALL ANCHORS ARE TRAINED PRIOR TO THE COMMENCEMENT OF ANCHOR INSTALLATION.

5. ANCHOR CAPACITY IS DEPENDANT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON THE DRAWINGS.

6. EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS. UNLESS NOTED ON THE DRAWINGS THAT THE BARS CAN BE CUT, THE CONTRACTOR MUST LOCATE THE POSITION OF THE REINFORCING BARS AT THE LOCATIONS OF THE CONCRETE ANCHORS, BY FERROSCAN OR GPR.

7. ALL POST INSTALLED ANCHORS REQUIRE CONTINUOUS SPECIAL INSPECTIONS TO VERIFY INSTALLATION HAS BEEN PERFORMED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS. REFERENCE THE STATEMENT AND SCHEDULE OF SPECIAL INSPECTIONS FOR ADDITIONAL INFORMATION.

8. ALL POST INSTALLED ANCHORS REQUIRE CONTINUOUS INSPECTIONS BY THE OWNER'S MATERIALS TESTING AGENCY TO VERIFY INSTALLATION HAS BEEN PERFORMED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.

SHOP DRAWINGS AND SUBMITTALS:

1. THESE DRAWINGS SHALL BE CHECKED AND COORDINATED WITH OTHER MATERIALS AND CONTRACTS BY THE GENERAL CONTRACTOR. SHOP DRAWINGS AND SUBMITTALS MUST BEAR THE CONTRACTOR'S REVIEW STAMP WITH CHECKER'S INITIALS BEFORE BEING SUBMITTED TO THE ARCHITECT FOR APPROVAL.

2. WHEN THE FABRICATOR HAS BEEN AUTHORIZED TO USE THE ARCHITECT'S AND / OR ENGINEER'S DRAWINGS AS ERECTION DRAWINGS, THE FABRICATOR MUST REMOVE ALL TITLE BLOCKS, PROFESSIONAL SEALS, AND ANY OTHER REFERENCE TO THE ARCHITECT AND / OR ENGINEER FROM THAT ERECTION DRAWING.

3. WHERE DIMENSIONS AND ELEVATIONS OF EXISTING CONSTRUCTION COULD AFFECT THE NEW CONSTRUCTION, IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE FIELD MEASUREMENTS REQUIRED FOR INCORPORATION IN THE SHOP DRAWING AND PRIOR TO FABRICATION.

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PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION

ONSLOW COUNTY
BID NO. 102-25C
OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

NORTH CAROLINA PROFESSIONAL ENGINEERING FIRM C-4360 NOT VALID WITHOUT ORIGINAL SIGNATURE AND STRUCTURAL ENGINEERS

NORTH CAROLINA PROFESSIONAL SEAL 044996 ENGINEER SCOTT M. FRANCIS

03/12/2025

DKA JOB NUMBER
2324

REVISIONS

PA: JIMMY ARDEL EDWARDS
PM:
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Plot Date: 3/10/2025 10:43:18 AM

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SHEET TITLE
GENERAL NOTES

S002

ABBREVIATIONS

ARCH	ARCHITECT
BLDG	BUILDING
BM	BEAM
BOD	BOTTOM OF DECK
BOS	BOTTOM OF STEEL
BOT, B	BOTTOM
BRG	BEARING
BTWN	BETWEEN
CFMF	COLD-FORMED METAL FRAMING
CJ	CONTROL JOINT
CL	CENTERLINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONSTR	CONSTRUCTION
CONT	CONTINUOUS
COORD	COORDINATE
CTR	CENTER
CTRD	CENTERED
DIA, Ø	DIAMETER
DCJ	DOWELED CONTROL JOINT
DWGS	DRAWINGS
EA	EACH
EF	EACH FACE
EL	ELEVATION
ELEV	ELEVATOR
EMBED	EMBEDMENT
EOD	EDGE OF DECK
EOS	EDGE OF SLAB
EQ	EQUAL
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
FDN	FOUNDATION
FRMG	FRAMING
FTG	FOOTING
FV, ±	FIELD VERIFY
GALV	GALVANIZED
GEN	GENERAL
GT	GIRDER TRUSS
H	HIGH
HK	HOOK
HORIZ	HORIZONTAL
HSS	HOLLOW STRUCTURAL SECTION
HT	HIP TRUSS
INT	INTERIOR
JBE	JOIST BEARING ELEVATION
KCJ	KEYED CONSTRUCTION JOINT
L	LOW
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LSH	LONG SIDE HORIZONTAL
LSV	LONG SIDE VERTICAL
LTWT	LIGHTWEIGHT
LWC	LIGHTWEIGHT CONCRETE
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MF	MOMENT FRAME
MFR	MANUFACTURER
MID	MIDDLE
MIN	MINIMUM
NTS	NOT TO SCALE
OC	ON CENTER
OPNG	OPENING
PL	PLATE
REF	REFERENCE, REFER TO
REINF	REINFORCE, REINFORCED, REINFORCING
REQD	REQUIRED
REQMTS	REQUIREMENTS
SCHED	SCHEDULE
SF	STEPPED FOOTING
SIM	SIMILAR
SL	SLOPE
SOG	SLAB-ON-GRADE
STD	STANDARD
STIFF	STIFFENER
TBE	TRUSS BEARING ELEVATION
T&B	TOP & BOTTOM
THK	THICKNESS
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOM	TOP OF MASONRY
TOS	TOP OF STEEL
TS	THICKENED SLAB
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
VERT	VERTICAL
W/	WITH
WP	WORKING POINT
WWR	WELDED WIRE REINFORCING

DRAWINGS LEGEND

X / SX — SECTION/DETAIL NUMBER/LETTER; SHEET NUMBER WHERE SECTION/DETAIL MARK IS DRAWN

= SECTION/DETAIL MARK

GRID = COLUMN GRID MARK

X = PLAN KEY NOTE MARK

± = FIELD VERIFY

SL = DIRECTION OF SLOPE

= CHANGE IN ELEVATION

= CHANGE IN SLOPE

SF SF / PIPE = PIPE CROSSING FOOTING

= SLAB-ON-GRADE JOINT

WFX = WALL FOOTING MARK

CFX = COLUMN FOOTING MARK

RTU-X XXXX# = MECHANICAL UNIT SUPPORTED ABOVE FRAMING (WEIGHT IN POUNDS) - COORD W/ MECH DWGS

RTU-X XXXX# = MECHANICAL UNIT SUPPORTED BELOW FRAMING (WEIGHT IN POUNDS) - COORD W/ MECH DWGS

= FLOOR / ROOF OPENING

= HORIZONTAL BRIDGING

= CROSS BRIDGING

(-X'-X") = TOP OF FOOTING ELEVATION MEASURED FROM REFERENCED FINISHED FLOOR ELEVATION = 0'-0"

(-X'-X") = TOP OF PILE CAP / GRADE BEAM ELEVATION MEASURED FROM REFERENCED FINISHED FLOOR ELEVATION = 0'-0"

X'-X" = TOP OF SLAB ELEVATION MEASURED FROM REFERENCED FINISHED FLOOR ELEVATION = 0'-0"

BOD = +X'-X" = BOTTOM OF DECK ELEVATION MEASURED FROM REFERENCED FINISHED FLOOR ELEVATION = 0'-0"

TOS = +X'-X" = TOP OF STEEL ELEVATION MEASURED FROM REFERENCED FINISHED FLOOR ELEVATION = 0'-0"

BOS = +X'-X" = BOTTOM OF STEEL ELEVATION MEASURED FROM REFERENCED FINISHED FLOOR ELEVATION = 0'-0"

TOM = +X'-X" = TOP OF MASONRY ELEVATION MEASURED FROM REFERENCED FINISHED FLOOR ELEVATION = 0'-0"

TBE = +X'-X" = TRUSS BEARING ELEVATION MEASURED FROM REFERENCED FINISHED FLOOR ELEVATION = 0'-0"

= MOMENT CONNECTION

= FULL DEPTH STIFFENER CONNECTION

= JOIST BOTTOM CHORD EXTENSION

= BEAM BOTTOM FLANGE BRACE

S-X = SLAB MARK / SPAN DIRECTION

= BEARING WALL EXTENDING ABOVE FLOOR / ROOF

= BEARING WALL TERMINATING BELOW FLOOR / ROOF

= NON-BEARING WALL BEARING ON FLOOR BELOW

= EXTERIOR WALL TERMINATING BELOW FLOOR / ROOF

= CMU SHEARWALL

W1 = WALL TYPE MARK

L-X = STEEL LINTEL MARK

A = STEEL LINTEL BEARING PLATE MARK

T-X = TRUSS MARK

= BEARING WALL EXTENDING ABOVE FLOOR / ROOF

= EXTERIOR WALL TERMINATING BELOW FLOOR / ROOF

= EXTERIOR WALL TERMINATING BELOW FLOOR / ROOF

= CFMF SHEARWALL

= HOLD-DOWN ANCHOR

= MULTIPLE STUD PACK (MSP-A)

INDICATES SIDE OF WALL TO BE SHEATHED

LENGTH OF SHEATHING

SW1 | X'-X" = SHEARWALL MARK

SHEARWALL TYPE - REFERENCE SCHEDULE

= BUILT-UP ROOF FRAMING

WFX = WALL FOOTING MARK

CFX = COLUMN FOOTING MARK

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PROJECT INFORMATION

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ONSLOW COUNTY
BID NO. 102-25C
OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

NORTH CAROLINA BOARD OF EXAMINERS FOR ENGINEERING AND SURVEYING — C-4360 — NORTH CAROLINA STRUCTURAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 044996 ENGINEER SCOTT M. FRANCIS

03/12/2025

DKA JOB NUMBER
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REVISIONS

PA: JIMMY ARDEL EDWARDS
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LM Project Number: LM23.192

SHEET TITLE
ABBREVIATIONS / LEGEND

S003

STATEMENT OF SPECIAL INSPECTION SERVICES

PROJECT: ONSLOW COUNTY BEAR CREEK FIRE STATION
LOCATION: 138 OLD SAND RD, HUBERT, NC 28539
OWNER'S REPRESENTATIVE: CHRISTINA RUSSEL
OWNER'S ADDRESS: JACKSONVILLE, NORTH CAROLINA

THIS STATEMENT OF SPECIAL INSPECTIONS IS SUBMITTED AS A CONDITION FOR PERMIT ISSUANCE IN ACCORDANCE WITH THE SPECIAL INSPECTION REQUIREMENTS OF THE 2018 NORTH CAROLINA STATE BUILDING CODE. IT INCLUDES A SCHEDULE OF SPECIAL INSPECTION SERVICES APPLICABLE TO THIS PROJECT, THE NAME OF THE SPECIAL INSPECTOR, THE IDENTITY OF OTHER APPROVED AGENCIES RETAINED FOR CONDUCTING SPECIAL INSPECTIONS, AND THE REQUIRED INSPECTOR QUALIFICATIONS. THIS STATEMENT OF SPECIAL INSPECTIONS WAS PREPARED BY THE FOLLOWING DESIGNERS OF RECORD:

STRUCTURAL	SCOTT M. FRANCIS, PE		
	(Type or print name)	(Signature)	(Date)
ARCHITECTURAL			
	(Type or print name)	(Signature)	(Date)
MECHANICAL			
	(Type or print name)	(Signature)	(Date)
OTHER			
	(Type or print name)	(Signature)	(Date)

THE SPECIAL INSPECTOR MUST KEEP RECORDS OF ALL SPECIAL INSPECTIONS AND TESTS AND MUST FURNISH REPORTS TO THE STATE CONSTRUCTION OFFICE AND THE DESIGNERS OF RECORD. REPORTS MUST INDICATE IF THE WORK INSPECTED OR TESTED WAS OR WAS NOT COMPLETED IN CONFORMANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS. DISCOVERED DISCREPANCIES MUST BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF SUCH DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES MUST BE BROUGHT TO THE ATTENTION OF THE STATE CONSTRUCTION OFFICE AND THE DESIGNERS OF RECORD. THE SPECIAL INSPECTIONS PROGRAM DOES NOT RELIEVE THE CONTRACTOR OF HIS OR HER RESPONSIBILITIES.

INTERIM REPORTS MUST BE SUBMITTED TO THE STATE CONSTRUCTION OFFICE, OWNER, AND THE DESIGNERS OF RECORD.

INTERIM REPORT FREQUENCY: MONTHLY

A FINAL REPORT OF SPECIAL INSPECTIONS DOCUMENTING COMPLETION OF ALL REQUIRED SPECIAL INSPECTIONS, TESTING, AND CORRECTION OF ANY DISCREPANCIES SHOULD BE SUBMITTED PRIOR TO ISSUANCE OF A CERTIFICATE OF USE AND OCCUPANCY.

JOB SITE SAFETY AND MEANS AND METHODS OF CONSTRUCTION ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.

OWNER'S AUTHORIZATION

(Signature) (Date)

ACCEPTED FOR THE SCO BY:

(Signature) (Date)

SCHEDULE OF SPECIAL INSPECTION SERVICES [A]

THE FOLLOWING COMPRISES THE REQUIRED SCHEDULE OF SPECIAL INSPECTIONS FOR THIS PROJECT. THE CONSTRUCTION DIVISIONS WHICH REQUIRE SPECIAL INSPECTIONS FOR THIS PROJECT ARE AS FOLLOWS.

- [X] STRUCTURAL STEEL & HIGH STRENGTH BOLTING
- [X] WELDING OF STRUCTURAL STEEL
- [X] COLD-FORMED STEEL DECK
- [ ] OPEN-WEB STEEL JOISTS & JOIST GIRDERS
- [ ] COLD-FORMED STEEL FRAMING
- [X] CONCRETE CONSTRUCTION
- [X] MASONRY CONSTRUCTION [B]
- [ ] WOOD CONSTRUCTION
- [X] SOILS
- [ ] DRIVEN DEEP FOUNDATIONS
- [ ] CAST-IN-PLACE DEEP FOUNDATIONS
- [ ] HELICAL PILE FOUNDATIONS
- [ ] RAMMED AGGREGATE PIERS & STONE COLUMNS
- [ ] SPRAYED FIRE-RESISTANT MATERIAL
- [ ] MASTIC & INTUMESCENT FIRE-RESISTANT COATINGS
- [ ] EXTERIOR INSULATION & FINISH SYSTEM
- [ ] FIRE-RESISTANT PENETRATIONS & JOINTS
- [ ] SMOKE CONTROL
- [ ] RETAINING WALL & SYSTEMS > 5 FEET
- [ ] SPECIAL INSPECTIONS FOR WIND RESISTANCE
- [ ] SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE

A. THE INSPECTION FREQUENCY INDICATED ON THE FOLLOWING INSPECTION TABLES ARE "C" CONTINUOUS, "P" PERIODIC, & "O" RANDOM ON A DAILY BASIS.
B. LEVEL A IS THE MINIMUM INSPECTION PROGRAM FOR EMPIRICALLY / PRESCRIPTIVELY DESIGNED MASONRY IN RISK CATEGORY I, II OR III STRUCTURES. LEVEL B IS THE MINIMUM INSPECTION PROGRAM FOR EMPIRICALLY / PRESCRIPTIVELY DESIGNED MASONRY IN RISK CATEGORY IV STRUCTURES AND ENGINEERED MASONRY IN RISK CATEGORY I, II OR III STRUCTURES. LEVEL C IS THE MINIMUM INSPECTION PROGRAM FOR ENGINEERED MASONRY IN RISK CATEGORY IV STRUCTURES. ENGINEERED MASONRY STRUCTURES ARE THOSE DESIGNED IN ACCORDANCE WITH PORTIONS OF THE TMS 402-13 / ACI 530-13/ASCE 5-13 OTHER THAN PART 4 OR APPENDIX A.

INSPECTION AGENTS	FIRM NAME & POINT OF CONTACT	ADDRESS / PHONE / E-MAIL
1. SPECIAL INSPECTOR (SI-1)		
2. TESTING AGENCY (TA-1)		
3. TESTING AGENCY (TA-2)		
4. GEOTECHNICAL ENGINEER (GE-1)		
5. OTHER (O-1)		

NOTE: THE INSPECTION AND TESTING AGENT(S) MUST BE ENGAGED BY THE OWNER OR THE REGISTERED DESIGN PROFESSIONAL OF RECORD ACTING AS THE OWNER'S AGENT, AND NOT BY THE CONTRACTOR OR SUBCONTRACTOR WHOSE WORK IS TO BE INSPECTED OR TESTED. ANY CONFLICT OF INTEREST MUST BE DISCLOSED TO THE STATE CONSTRUCTION OFFICE, PRIOR TO COMMENCING WORK.

SEISMIC DESIGN CATEGORY: [ ] A [ ] B [X] C [ ] D

BASIC WIND SPEED (V_{ASD}): [ ] 90-109 MPH [X] 110-119 MPH [ ] >120 MPH

WIND EXPOSURE CATEGORY: [X] B [ ] C [ ] D

STRUCTURAL STEEL AND HIGH-STRENGTH BOLTING

INSPECTION TASK	TASK REQD	FREQ	REFERENCE FOR CRITERIA: AISC 360	REFERENCE FOR CRITERIA: NCBC
1. FABRICATOR CERTIFICATION / VERIFICATION OF QUALITY CONTROL PROCEDURES				
a. VERIFY FABRICATOR QUALIFICATIONS	X	C		1704.2.5.1
b. REVIEW MATERIAL TEST REPORTS & CERTIFICATIONS	X	C	N5.2	
c. COLLECT CERTIFICATES OF COMPLIANCE FROM THE STEEL FABRICATOR AT COMPLETION OF FABRICATION	X	C		1704.5
2. INSPECTIONS PRIOR TO HIGH-STRENGTH BOLTING AT PRETENSIONED AND SLIP-CRITICAL JOINTS				
a. COLLECT MANUFACTURER'S CERTIFICATIONS FOR FASTENER MATERIALS	X	C	TBL N5.6-1	
b. FASTENERS ARE MARKED PER ASTM REQUIREMENTS	X	P	TBL N5.6-1	
c. ENSURE CORRECT FASTENERS AND BOLTING PROCEDURES ARE SELECTED FOR JOINT DETAILS	X	P	TBL N5.6-1	
d. VERIFY CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION WHEN SPECIFIED, COMPLY WITH THE CONSTRUCTION DOCUMENTS	X	P	TBL N5.6-1	
e. OBSERVE AND DOCUMENT PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONAL FOR FASTENER ASSEMBLIES AND METHODS	X	P	TBL N5.6-1	
f. VERIFY PROPER STORAGE PROVIDED FOR ALL FASTENER COMPONENTS	X	P	TBL N5.6-1	
3. INSPECTIONS DURING HIGH-STRENGTH BOLTING AT PRETENSIONED AND SLIP-CRITICAL JOINTS				
a. ENSURE CORRECT FASTENER ASSEMBLIES PLACED IN ALL HOLES AND WASHERS, WHEN SPECIFIED, ARE POSITIONED AS REQUIRED	X	P	TBL N5.6-2	
b. VERIFY JOINT BROUGHT TO SNUG-TIGHT CONDITION PRIOR TO PRETENSIONING	X	P	TBL N5.6-2	
c. VERIFY FASTENER COMPONENTS NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING	X	P	TBL N5.6-2	
d. ENSURE FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH RCSC, PROGRESSING FROM THE MOST RIGID POINT TOWARDS FREE EDGES	X	P	TBL N5.6-2	
4. DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS AFTER HIGH-STRENGTH BOLTING IS COMPLETE	X	C	TBL N5.6-3	
5. STRUCTURAL DETAILS				
a. VERIFY DIAMETER, GRADE, TYPE AND LENGTH OF ANCHOR RODS AND OTHER EMBEDDED ITEMS SUPPORTING STRUCTURAL STEEL	X	P	N5.7	
b. INSPECTION OF FABRICATED ASSEMBLIES & ERECTED STEEL FRAMING VERIFYING COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS	X	P	N5.7	
6. COMPOSITE CONSTRUCTION				
a. VERIFY PLACEMENT & INSTALLATION OF STEEL DECK	X	P	TBL N6.1	
b. OBSERVE PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS	[ ]		TBL N6.1	
c. DOCUMENT ACCEPTANCE OR REJECTION OF COMPOSITE CONSTRUCTION ELEMENTS	X	P	TBL N6.1	

COLD-FORMED STEEL FRAMING

INSPECTION TASK	TASK REQD	FREQ	REFERENCE FOR CRITERIA: STANDARD	REFERENCE FOR CRITERIA: NCBC
1. FABRICATOR CERTIFICATION / VERIFICATION OF QUALITY CONTROL PROCEDURES				
a. VERIFY FABRICATOR QUALIFICATIONS	X	C		1704.2.5.1
b. COLLECT CERTIFICATES OF COMPLIANCE FROM THE STEEL FABRICATOR AT COMPLETION OF FABRICATION	X	C		1704.5
2. FOR TRUSSES CLEAR SPANNING 60 FEET OR MORE, VERIFY THAT BOTH TEMPORARY AND PERMANENT RESTRAINTS AND BRACES ARE INSTALLED IN ACCORDANCE WITH THE APPROVED TRUSS SUBMITTAL PACKAGE.	[ ]	P		1705.2.4

WELDING OF STRUCTURAL STEEL

INSPECTION TASK	TASK REQD	FREQ	REFERENCE FOR CRITERIA: AISC 360	REFERENCE FOR CRITERIA: NCBC
1. INSPECTIONS PRIOR TO WELDING			N5.4	
a. COLLECT & REVIEW WELDING PROCEDURE SPECIFICATION (WPS) AND VERIFY MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES	X	C	TBL N5.4-1	
b. CONFIRM WELD MATERIAL TYPE & GRADE	X	P	TBL N5.4-1	
c. CONFIRM METHOD OF WELDER IDENTIFICATION	X	P	TBL N5.4-1	
d. INSPECTION OF FIT-UP FOR GROOVE & FILLET WELDS INCLUDING ACCESS HOLE CONFIGURATION & FINISH	X	P	TBL N5.4-1	
2. INSPECTIONS DURING WELDING			N5.4	
a. VERIFY WELDER QUALIFICATIONS	X	P	TBL N5.4-2	
b. VERIFY PROPER CONTROL AND HANDLING OF WELDING CONSUMABLES	X	P	TBL N5.4-2	
c. MONITOR ENVIRONMENTAL CONDITIONS	X	P	TBL N5.4-2	
d. MONITOR PROPER IMPLEMENTATION OF WPS	X	P	TBL N5.4-2	
e. INSPECTION OF WELDING TECHNIQUES INCLUDING NO WELDING OVER CRACKED TACK WELDS	X	P	TBL N5.4-2	
3. INSPECTIONS AFTER WELDING			N5.4, N5.5	
a. VERIFY WELDS HAVE BEEN CLEANED	X	P	TBL N5.4.3	
b. CONFIRM THE INSTALLED SIZE, LENGTH AND LOCATION OF WELDS MATCHES THE CONTRACT DOCUMENTS	X	C	TBL N5.4.3	
c. VERIFY WELDS MEET VISUAL ACCEPTANCE CRITERIA	X	C	TBL N5.4.3	
d. CONFIRM ARC STRIKES COMPLY WITH PART 5.28 OF AWS D1.1	X	C	TBL N5.4.3	
e. VISUALLY OBSERVE WEB K-AREA FOR CRACKS WITHIN 3" OF WELDED DOUBLER PLATES, CONTINUITY PLATES AND STIFFENERS	X	C	TBL N5.4.3	
f. BACKING AND WELD TABS REMOVED PER CONTRACT DOCUMENTS	X	C	TBL N5.4.3	
g. OBSERVE AND INSPECT WELD REPAIR ACTIVITIES	X	C	TBL N5.4.3	
h. FOR RISK CATEGORY III OR IV STRUCTURES, CONDUCT ULTRASONIC TESTING (UT) OF CJP GROOVE WELDS IN MATERIALS ≥ 5/16" AT BUTT, T- AND CORNER JOINTS SUBJECT TO TRANSVERSELY APPLIED TENSION LOADING	X	C	N5.5B, N5.5E	
i. FOR RISK CATEGORY II STRUCTURES, CONDUCT ULTRASONIC TESTING (UT) OF CJP GROOVE WELDS IN MATERIALS ≥ 5/16" AT BUTT, T- AND CORNER JOINTS SUBJECT TO TRANSVERSELY APPLIED TENSION LOADING	X	P	N5.5.B, N5.5F	
j. CONDUCT MAGNETIC PARTICLE TESTING (MT) OR LIQUID PENETRANT TESTING (PT) AT THERMALLY CUT SURFACES OF ACCESS HOLES FOR ROLLED SECTION WITH TF > 2" AND BUILT-UP SHAPE WITH TW > 2"	X	C	N5.5C	
k. RADIOGRAPHIC OR ULTRASONIC INSPECTION AT JOINTS SUBJECT TO FATIGUE	X	C	N5.5D, TBL A-3.1	
l. DOCUMENT ACCEPTANCE / REJECTION OF WELDED JOINTS AND MEMBERS	X	C	TBL N5.4-3, N5.5G	

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PROJECT INFORMATION

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BID NO. 102-25C
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SEALS

NORTH CAROLINA PROFESSIONAL ENGINEERING CORPORATION C-4360 CONSULTING STRUCTURAL ENGINEERS

NORTH CAROLINA PROFESSIONAL SEAL 044996 ENGINEER SCOTT M. FRANCIS

03/12/2025

DKA JOB NUMBER
2324

REVISIONS

PA: JIMMY ARDEL EDWARDS
PM:
Drawn By:
Plot Date: 3/10/2025 10:43:18 AM

DATE ISSUED

BID DOCUMENTS
3/12/2025

SHEET TITLE
SPECIAL INSPECTIONS 1

S004

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COLD-FORMED STEEL DECK

INSPECTION TASK	TASK REQD	FREQ	REFERENCE FOR CRITERIA	
			SDI QA/QC	NCBC
1. PRIOR TO DECK PLACEMENT, VERIFY DECK AND DECK ACCESSORIES COMPLY WITH THE CONSTRUCTION DOCUMENTS	☒	C	TBL 1.1	
2. INSPECTION TASKS AFTER DECK PLACEMENT				
a. VERIFY THE INSTALLATION OF DECK & DECK ACCESSORIES COMPLIES WITH THE CONSTRUCTION DOCUMENTS	☒	C	TBL 1.2	
b. VERIFY THAT DECK MATERIALS' MILL CERTIFICATIONS COMPLY WITH THE CONSTRUCTION DOCUMENTS	☒	C	TBL 1.2	
3. INSPECTION TASKS PRIOR TO DECK WELDING				
a. COLLECT WELDING PROCEDURE SPECIFICATION (WPS)	☒	P	TBL 1.3	
b. COLLECT MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES	☒	P	TBL 1.3	
c. VERIFY MATERIAL TYPE AND GRADE	☒	P	TBL 1.3	
d. CHECK WELDING EQUIPMENT	☒	P	TBL 1.3	
4. INSPECTION TASKS DURING DECK WELDING				
a. VERIFY WELDER QUALIFICATIONS	☒	P	TBL 1.4	
b. VERIFY PROPER CONTROL AND HANDLING OF WELDING CONSUMABLES	☒	P	TBL 1.4	
c. MONITOR ENVIRONMENTAL CONDITIONS	☒	P	TBL 1.4	
d. MONITOR PROPER IMPLEMENTATION OF WPS	☒	P	TBL 1.4	
5. INSPECTION TASKS AFTER WELDING				
a. VERIFY SIZE AND LOCATION OF WELDS, INCLUDING SUPPORT, SIDELAP AND PERIMETER WELDS	☒	C	TBL 1.5	
b. VERIFY WELDS MEET VISUAL ACCEPTANCE CRITERIA	☒	C	TBL 1.5	
c. OBSERVE WELD REPAIR ACTIVITIES	☒	C	TBL 1.5	
6. INSPECTION TASKS PRIOR TO MECHANICAL FASTENING				
a. VERIFY MANUFACTURER INSTALLATION INSTRUCTIONS AVAILABLE FOR MECHANICAL FASTENERS	☒	P	TBL 1.6	
b. PROPER TOOLS AVAILABLE FOR FASTENER INSTALLATION	☒	P	TBL 1.6	
c. VERIFY PROPER STORAGE OF MECHANICAL FASTENERS	☒	P	TBL 1.6	
7. INSPECTION TASKS DURING MECHANICAL FASTENING				
a. OBSERVE FASTENER SPACING AND POSITION	☒	P	TBL 1.7	
b. VERIFY FASTENERS ARE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS	☒	P	TBL 1.7	
8. INSPECTION TASKS AFTER MECHANICAL FASTENING				
a. CHECK SPACING, TYPE AND INSTALLATION OF SUPPORT FASTENERS	☒	C	TBL 1.8	
b. CHECK SPACING, TYPE, AND INSTALLATION OF SIDELAP FASTENERS	☒	C	TBL 1.8	
c. CHECK SPACING, TYPE, AND INSTALLATION OF PERIMETER FASTENERS	☒	C	TBL 1.8	
d. VERIFY REPAIR ACTIVITIES	☒	C	TBL 1.8	
9. DOCUMENT ACCEPTANCE OR REJECTION OF DECK & DECK ACCESSORIES FOR ALL PHASES OF CONSTRUCTION	☒	C	TBLS 1.1 THRU 1.8	

CONCRETE CONSTRUCTION

INSPECTION TASK	TASK REQD	FREQ	REFERENCE FOR CRITERIA	
			STANDARD[A]	NCBC
1. INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT	☒	P	ACI CH.20, 25.2, 25.3, 26.6.1-26.6.3	1908.4
2. REINFORCING BAR WELDING:			AWS D1.4	
a. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706 AND COLLECT REPORTS	☒	P	ACI 26.6.4	1704.5
b. INSPECT SINGLE-PASS FILLET WELDS ≤ 5/16"	☒	P	ACI 26.6.4	
c. INSPECT ALL WELDS OTHER THAN SINGLE-PASS FILLET WELDS ≤ 5/16"	☒	C	ACI 26.6.4	
3. CONCRETE ANCHORS:				
a. INSPECT ANCHORS CAST IN CONCRETE	☒	P	ACI 17.8.2	
b. INSPECT ADHESIVE ANCHORS INSTALLED IN HARDENED CONCRETE WITH HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS THAT RESIST SUSTAINED TENSION LOADS	☒	C	ACI 17.8.2.4	
c. INSPECT ADHESIVE ANCHORS INSTALLED IN HARDENED CONCRETE WITH ORIENTATIONS DIFFERENT FROM ITEM 3.B	☒	P	ACI 17.8.2	
d. INSPECT MECHANICAL ANCHORS INSTALLED IN HARDENED CONCRETE	☒	P	ACI 17.8.2	
4. COLLECT MIX DESIGNS AND VERIFY THE CORRECT MIX USED DURING INSTALLATION	☒	P	ACI CH 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
5. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	☒	C	ASTM C172, ASTM C31, ACI 26.4, 26.12	1908.10
6. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	☒	C	ACI 26.5	1908.6, 1908.7, 1908.8
7. COLLECT REPORTS OF PRECONSTRUCTION TESTS FOR SHOTCRETE WHEN PRECONSTRUCTION TESTS ARE REQUIRED BY NCBC SECTION 1908.4	☒	C		1704.5, 1908.5
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	☒	P	ACI 26.5.3-26.5.5	1908.9
9. INSPECTIONS FOR PRESTRESSED CONCRETE				
a. OBSERVE APPLICATION OF PRESTRESSING FORCE	☐	C	ACI 26.10	
b. INSPECT GROUTING OF BONDED PRESTRESSING TENDONS	☐	C	ACI 26.10	
10. VERIFY CONCRETE STRENGTH PRIOR TO STRESSING OF PT TENDONS AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM PT & MILD BEAMS AND STRUCTURAL SLABS	☐	P	ACI 26.11.2	
11. INSPECT ERECTION OF PRECAST MEMBERS	☐	P	ACI 26.8	
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	☒	P	ACI 26.11.1.2(B)	
13. COLLECT MILL TEST REPORTS FOR ASTM A615 REBAR USED BY SFRS SPECIAL MOMENT FRAMES, SPECIAL STRUCTURAL WALLS OR COUPLING BEAMS	☒	C	ACI 20.2.2.5	1704.5

A. REFERENCES TO "ACI" IN THIS TABLE ARE TO THE ACI 318-14.

FIRE-RESISTANT PENETRATIONS AND JOINTS[A]

INSPECTION TASK	TASK REQD	FREQ	REFERENCE FOR CRITERIA	
			STANDARD	NCBC
1. INSPECT THROUGH-PENETRATION FIRESTOP SYSTEMS AT FIRE WALLS, FIRE BARRIERS, SMOKE BARRIERS AND FIRE PARTITION WALLS IN ACCORDANCE WITH ASTM E2174	☒	P		1705.17.1, 714.3.1.2
2. INSPECT PENETRATION FIRESTOP SYSTEMS AT PENETRATIONS THROUGH MEMBRANES THAT ARE PART OF A HORIZONTAL ASSEMBLY IN ACCORDANCE WITH ASTM E2174	☒	P		1705.17.1, 714.4.2
3. INSPECT FIRE-RESISTANT JOINT SYSTEMS IN ACCORDANCE WITH ASTM 2393	☒	P		1705.17.2, 715.3, 715.4

A. THE INSPECTION OF FIRE-RESISTANT PENETRATIONS AND JOINTS APPLIES ONLY TO HIGH-RISE BUILDINGS OR BUILDINGS ASSIGNED TO RISK CATEGORY III OR IV.

SOILS

INSPECTION TASK	TASK REQD	FREQ	REFERENCE FOR CRITERIA	
			STANDARD	NCBC
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	☒	P		1705.6
2. VERIFY EXCAVATIONS EXTEND TO PROPER DEPTH AND HAVE REACHED THE CORRECT SOIL MATERIAL	☒	P		1705.6
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS	☒	P		1705.6
4. VERIFY THAT MATERIALS USED, DENSITIES, LIFT THICKNESS AND PROCEDURES USED DURING PLACEMENT AND COMPACTION OF COMPACTED FILL ARE IN ACCORDANCE WITH THE APPROVED SOILS REPORT AND THE CONSTRUCTION DOCUMENTS	☒	C		1705.6
5. PRIOR TO PLACEMENT OF COMPACTED FILL, VERIFY THAT THE SUBGRADE HAS BEEN PREPARED IN ACCORDANCE WITH THE APPROVED SOILS REPORT AND THE CONSTRUCTION DOCUMENTS	☒	P		1705.6

MASONRY - LEVEL C

INSPECTION TASK	TASK REQD	FREQ	REFERENCE FOR CRITERIA	
			TMS 402[A]	TMS 602[A]
1. TEST & VERIFY F'M & F'AAC PRIOR TO CONSTRUCTION & FOR EVERY 5,000 SQUARE FEET DURING CONSTRUCTION	☒	C	TBL 3.1.3	ART. 1.5
2. TEST & VERIFY PROPORTIONS OF MATERIALS IN PREMIXED / PREBLENDED MORTAR, PRESTRESSING GROUT, AND GROUT OTHER THAN SELF-CONSOLIDATING, AS DELIVERED TO SITE	☒	C	TBL 3.1.3	
3. TEST & VERIFY SLUMP FLOW & VISUAL STABILITY INDEX AS DELIVERED TO SITE FOR SELF-CONSOLIDATING GROUT	☒	C	TBL 3.1.3	ART. 1.5B.1.b.3
4. VERIFY COMPLIANCE WITH THE APPROVED SUBMITTALS	☒	P	TBL 3.1.3	ART. 1.5
5. VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:				
a. PROPORTIONS OF SITE-MIXED MORTAR, GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS	☒	P		ART. 2.1, 2.6A, 2.6B, 2.6C, 2.4G.1.b
b. GRADE, TYPE, & SIZE OF REINFORCEMENT & ANCHOR BOLTS, & PRESTRESSING TENDONS & ANCHORAGE	☒	P	SEC 6.1	ART. 2.4, 3.4
c. PLACEMENT OF MASONRY UNITS AND CONSTRUCTION OF MORTAR JOINTS	☒	P		ART. 3.3B
d. PLACEMENT OF REINFORCEMENT, CONNECTORS, AND PRESTRESSING TENDONS AND ANCHORAGES	☒	C	SEC 6.1, 6.2.1, 6.2.6, 6.2.7	ART. 3.2E, 3.4, 3.6A
e. GROUT SPACE IS CLEAN, AND CLEANOUTS PROVIDED WHEN REQUIRED	☒	P		ART. 3.2D, 3.2F
f. PLACEMENT OF GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS	☒	C		ART. 3.5, 3.6C
g. SIZE AND LOCATION OF STRUCTURAL ELEMENTS	☒	P		ART. 3.3F
h. TYPE, SIZE, AND LOCATION OF ANCHORS INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION	☒	C	SEC 1.2.1(E), 6.1.4.3, 6.2.1	
i. WELDING OF REINFORCEMENT	☒	C	SEC 8.1.6.7.2, 9.3.3.4(C), 11.3.3.4(B)	
j. PREPARATION, CONSTRUCTION, AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE < 40ºF) OR HOT WEATHER (TEMPERATURE > 90ºF)	☒	P		ART. 1.8C, 1.8D
k. APPLICATION AND MEASUREMENT OF PRESTRESSING FORCE	☒	C		ART. 3.6B
l. PLACEMENT OF AAC MASONRY UNITS AND CONSTRUCTION OF THIN-BED MORTAR JOINTS	☒	C		ART. 3.3B.9, 3.3F.1.b
m. PROPERTIES OF THIN-BED MORTAR FOR AAC MASONRY	☒	C		ART. 2.1C.1
6. OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS, AND OR PRISMS	☒	C		ART. 1.4B.2.a.3, 1.4B.2.b.3, 1.4B.2.c.3, 1.4B.3, 1.4B.4

A. REFERENCES TO "TMS402" IN THIS TABLE ARE TO THE TMS402/ACI530/ASCE5-13. REFERENCES TO "TMS602" ARE TO TMS602/ACI530.1/ASCE6-13.

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PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION

ONSLOW COUNTY
BID NO. 102-25C

OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

03/12/2025

DKA JOB NUMBER
2324

REVISIONS

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BID DOCUMENTS
3/12/2025

SHEET TITLE
SPECIAL INSPECTIONS 2

S005

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WALL FOOTING SCHEDULE

MARK	SIZE WIDTH	SIZE DEPTH	REINFORCING CONTINUOUS	REINFORCING TRANSVERSE
WF3	3' - 0"	1'-0"	(4) #5 BOT	#5 AT 24" OC
WF4	4' - 0"	1'-0"	(5) #5 BOT	#5 AT 24" OC
WF6	6' - 0"	1'-0"	(7) #5 BOT	#5 AT 12" OC

COLUMN FOOTING SCHEDULE

MARK	SIZE LENGTH	SIZE WIDTH	SIZE DEPTH	REINFORCING BOTTOM	REINFORCING TOP	REMARKS
CF3	3' - 0"	3' - 0"	1'-0"	(4) #5 EW	(4) #5 EW	-
CF7	7' - 0"	7' - 0"	2'-6"	(8) #7 EW	(8) #7 EW	-

GRADE BEAM SCHEDULE

MARK	SIZE WIDTH	SIZE DEPTH	REINFORCING BOTTOM	REINFORCING TOP	REINFORCING MID	REINFORCING STIRRUPS
GB1	1'- 6"	1'- 0"	(3) #5	(3) #5	(2) #5	#3 AT 12" OC

KEY NOTES

101 4" CONCRETE SLAB-ON-GRADE OVER VAPOR RETARDER AND 6" DEPTH OF POROUS FILL. REINFORCE SLAB WITH 6x6 W2.9xW2.9 WELDED WIRE FABRIC REINFORCING PLACED 1 1/2" CLEAR BELOW TOP OF SLAB. MAINTAIN REINFORCEMENT IN POSITION ON BOLSTERS, CHAIRS OR SPACERS DURING CONCRETE PLACEMENT.

102 8" CONCRETE SLAB-ON-GRADE OVER VAPOR RETARDER AND 6" DEPTH OF POROUS FILL. REINFORCE SLAB WITH #4 AT 12" ON CENTER LOCATED 2 1/2" CLEAR BELOW TOP OF SLAB. MAINTAIN REINFORCEMENT IN POSITION ON BOLSTERS, CHAIRS OR SPACERS DURING CONCRETE PLACEMENT.

103 8" CMU WITH #5 BARS AT 16" ON CENTER.

107 12" CMU WITH #5 BARS AT 16" ON CENTER.

108 8" CMU KNEEWALL WITH #5 BARS AT 32" ON CENTER.

110 EXTRACTOR PAD. REFERENCE B1/S502 FOR DETAILS. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION AND SIZE.

111 SCREEN WALL AND FOOTING, REFER TO TYPICAL DETAIL ON S502. REFER TO ARCHITECTURAL DRAWINGS FOR EXTENTS AND LOCATION.

113 16"X16" CONCRETE PEDESTAL. REFERENCE A3/S505.

114 40"x40" CONCRETE PEDESTAL. REFERENCE A3/S505.

FOUNDATION / SLAB ON GRADE PLAN NOTES

A. REFERENCE ARCHITECTURAL DRAWINGS FOR DIMENSIONS TO NONBEARING WALLS, WALL CONTROL JOINTS AND OPENINGS.

B. UNLESS OTHERWISE NOTED, ALL ELEVATIONS ARE BASED ON A FINISHED FIRST FLOOR REFERENCE OF 0'-0". FINISHED FLOOR ELEVATIONS AT EACH LEVEL ARE INDICATED ON SLAB PLANS. REFERENCE ARCHITECTURAL DRAWINGS FOR FINISHED FLOOR MATERIALS.

C. TOP OF ALL FOOTINGS MUST BE AT ELEVATION -1'-4" UNLESS OTHERWISE NOTED.

D. NOT ALL UTILITY LOCATIONS ARE SHOWN ON PLAN. THE CONTRACTOR MUST COORDINATE THE LOCATIONS, SIZES, AND INVERTS OF UTILITIES. AT LOCATIONS WHERE UTILITIES PASS BELOW THE TOP OF FOOTING ELEVATION, STEP THE TOP OF FOOTING DOWN ON EACH SIDE PER THE "TYPICAL STEPPED FOOTING DETAIL" AND SLEEVE THE UTILITY THROUGH THE FOUNDATION WALL. THE CONTRACTOR MAY, AT HIS/HER OPTION, SLEEVE THE UTILITY THROUGH THE FOUNDATION PER THE "TYPICAL PIPE SLEEVE AT WALL FOOTING DETAILS."

F. UNLESS OTHERWISE INDICATED, EXTEND WALL FOOTINGS A MINIMUM OF 6 INCHES BEYOND ENDS OF WALLS.

G. NOT ALL SITE WALLS ARE SHOWN ON PLAN. CONTRACTOR MUST COORDINATE CIVIL AND LANDSCAPE DRAWINGS FOR SITE WALL INFORMATION.

H. DIMENSIONS SHOWN ON FOUNDATION PLAN ARE TO COLUMN GRIDLINES AND OUTSIDE FACE OF FOUNDATION WALLS, UNLESS OTHERWISE NOTED.

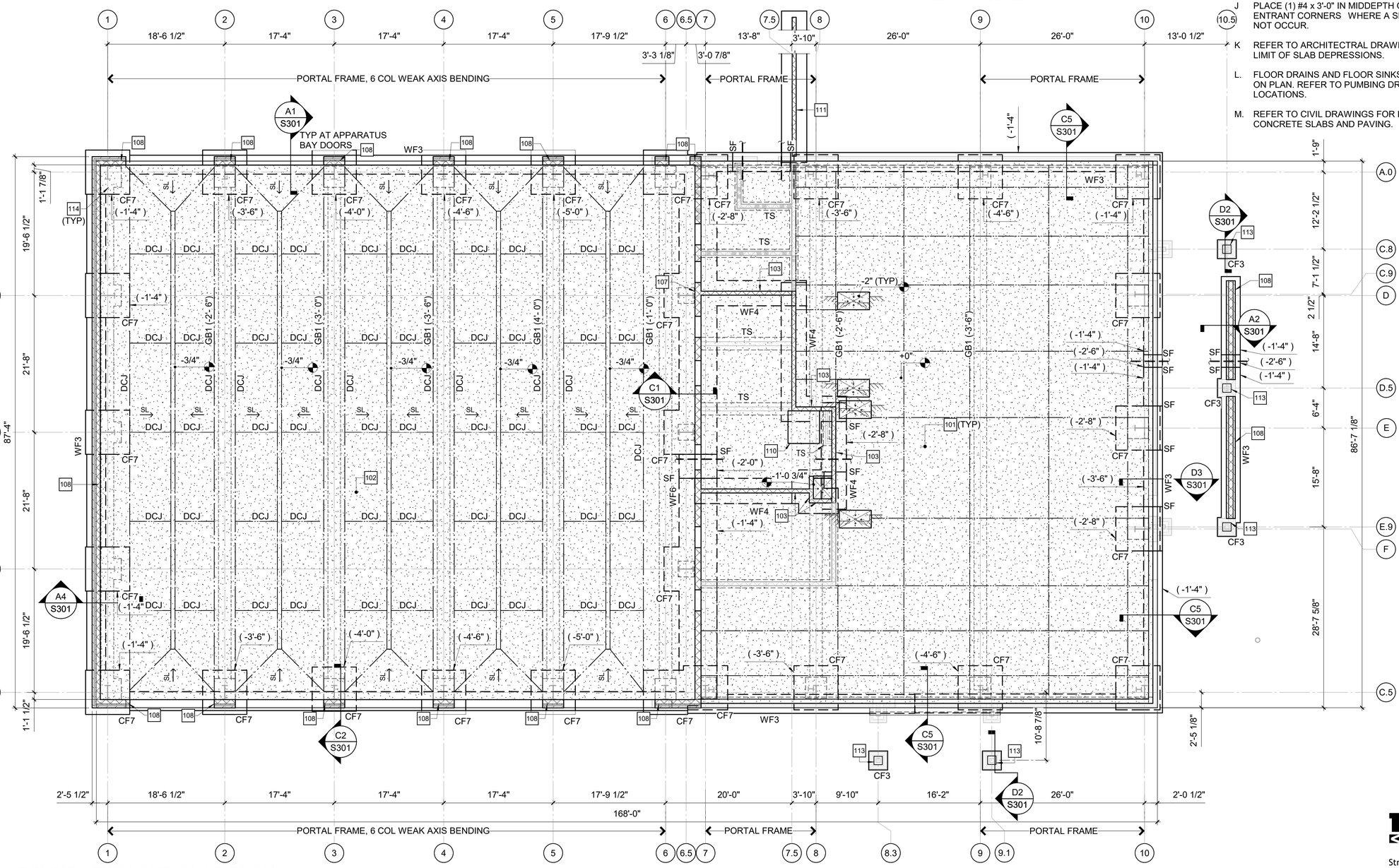
I. SLAB-ON-GRADE JOINTS MUST BE SAWED JOINTS OR DOWELED CONSTRUCTION JOINTS, UNLESS OTHERWISE NOTED. CONTRACTOR MUST COORDINATE ALL SLAB JOINTS WITH JOINTS IN BONDED FLOOR FINISHES. REFERENCE ARCHITECTURAL DRAWINGS FOR FLOOR FINISH JOINT LOCATIONS.

J PLACE (1) #4 x 3'-0" IN MIDDEPTH OF SLAB AT RE-ENTRANT CORNERS WHERE A SLAB JOINT DOES NOT OCCUR.

K REFER TO ARCHITECTRAL DRAWINGS FOR EXACT LIMIT OF SLAB DEPRESSIONS.

L. FLOOR DRAINS AND FLOOR SINKS ARE NOT SHOWN ON PLAN. REFER TO PUMBING DRAWINGS FOR LOCATIONS.

M. REFER TO CIVIL DRAWINGS FOR EXTERIOR CONCRETE SLABS AND PAVING.



1 FOUNDATION AND SLAB PLAN

1/8" = 1'-0"

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PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION

ONSLOW COUNTY
BID NO. 102-25C
OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

NORTH CAROLINA PROFESSIONAL ENGINEERING CORPORATION C-4360 LYNCH MYKINS STRUCTURAL ENGINEERS

NORTH CAROLINA PROFESSIONAL SEAL 044996 ENGINEER SCOTT M. FRANCIS

03/12/2025

DKA JOB NUMBER
2324

REVISIONS

PA: JIMMY ARDEL EDWARDS
PM:
Drawn By: Author
Plot Date: 3/10/2025 10:43:22 AM

DATE ISSUED

BID DOCUMENTS
3/12/2025

SHEET TITLE
FOUNDATION PLAN

S111

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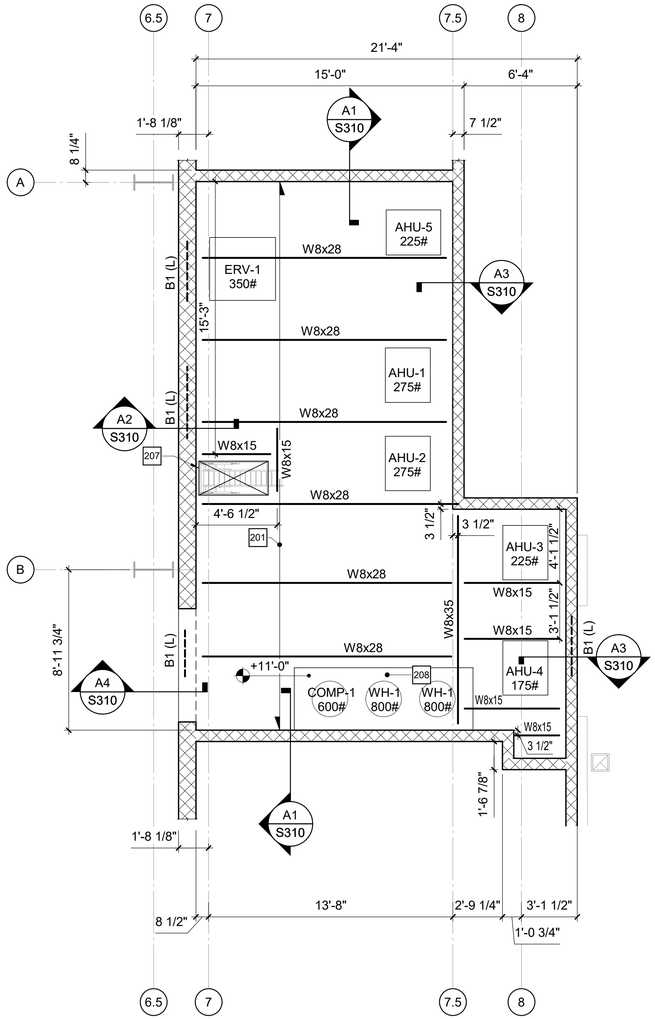
LM Project Number: LM23.192



KEY NOTES

201 2" CONCRETE SLAB ON 2" COMPOSITE FLOOR DECK (4" TOTAL) REINFORCED WITH 6x6-W2.9xW2.9 WELDED WIRE REINFORCING LOCATED 1" CLEAR BELOW TOP OF SLAB.

207 PRE-FABRICATED LADDER AND ATTACHMENT BY OTHERS. GROUT CMU SOLID AT LADDER ATTACHMENT.

208 4" CONCRETE EQUIPMENT PAD. REFERENCE PLUMBING DRAWINGS.

BOND BEAM LINTEL SCHEDULE (NON-TYPICAL)

MARK	DEPTH 'D'	REINFORCING	
		8" CMU	12" CMU
B1	16"	(2) #4 BOT	(2) #5 BOT

FRAMING PLAN NOTES

A. REFERENCE FOUNDATION PLAN AND ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT SHOWN.

B. STEEL BEAM FRAMING MUST BE EQUALLY SPACED BETWEEN POINTS OF UNKNOWN DIMENSIONS (NOT TO EXCEED 6'-0" ON-CENTER).

C. CONCRETE ON ELEVATED METAL DECKS MUST BE POURED TO THE THICKNESS INDICATED. A MAXIMUM OF 1/2" ADDITIONAL CONCRETE BEYOND SPECIFIED THICKNESS IS PERMITTED.

D. CONTRACTOR MUST INCLUDE IN THEIR BID THE COST TO PLACE THE SLAB TO FINISHED FLOOR ELEVATION ACCOUNTING FOR ANTICIPATED SLAB AND BEAM DEFLECTIONS.

E. TOP OF SLAB ELEVATION = 11'-0", UNLESS OTHERWISE NOTED.

F COORDINATE AND VERIFY ALL MEMBER LOCATIONS, DIMENSIONS, WEIGHTS, OPENING SIZES, AND CURB DIMENSIONS FOR ALL MECHANICAL EQUIPMENT WITH THE ACTUAL EQUIPMENT PURCHASED.

1 EQUIPMENT PLATFORM FRAMING PLAN

1/4" = 1'-0"

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NORTH CAROLINA CORPORATE ENGINEERING CERTIFICATE C-4360 STRUCTURAL ENGINEERS

NORTH CAROLINA PROFESSIONAL SEAL 044996 ENGINEER SCOTT M. FRANCIS
03/12/2025

DKA JOB NUMBER
2324

REVISIONS

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Plot Date: 3/10/2025 10:43:24 AM

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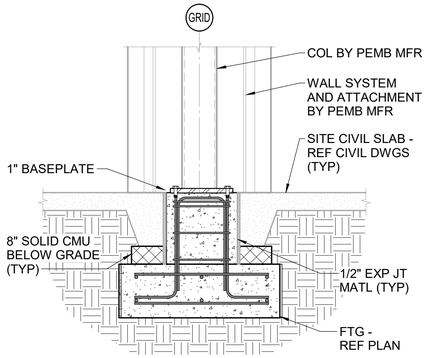
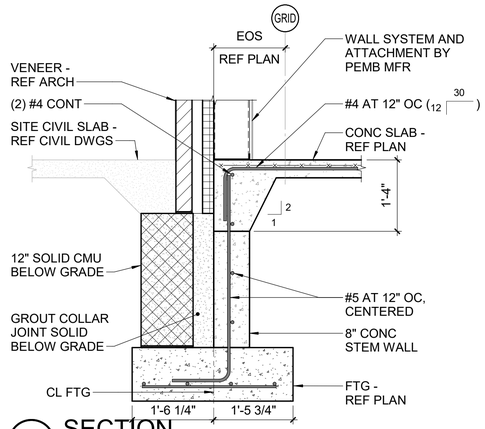
BID DOCUMENTS
3/12/2025

SHEET TITLE
EQUIPMENT PLATFORM FRAMING PLAN

S121



D2 SECTION
3/4" = 1'-0"



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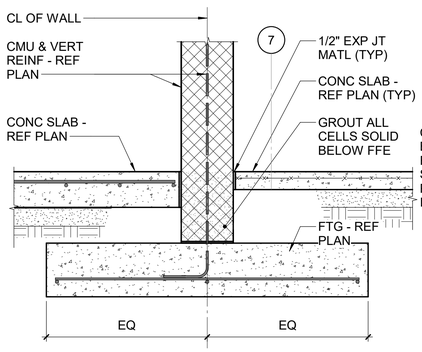

C1 SECTION
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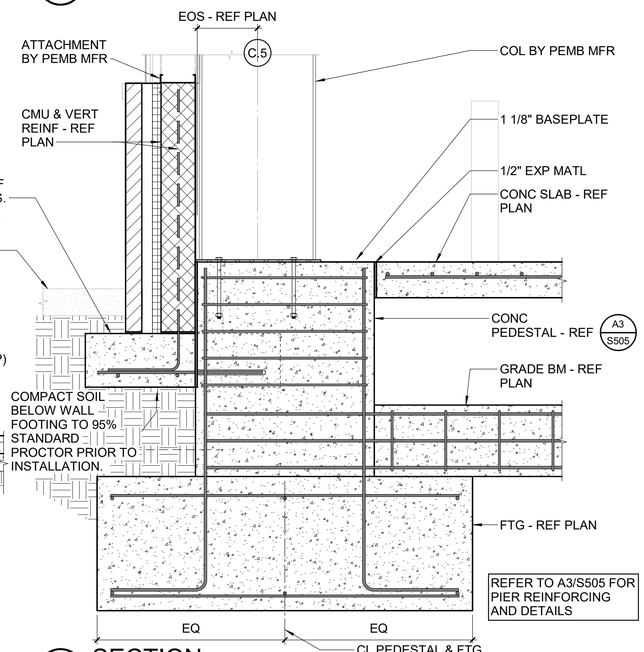

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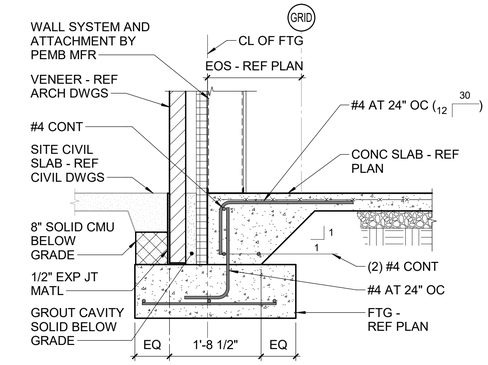

C5 SECTION
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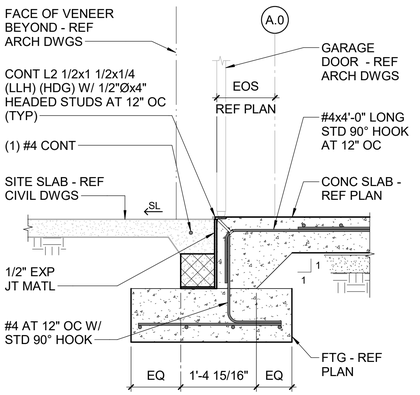
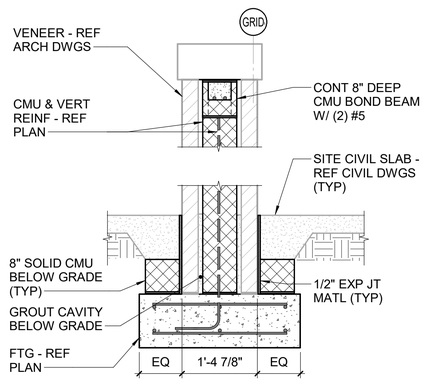


A1 SECTION
3/4" = 1'-0"



A2 SECTION
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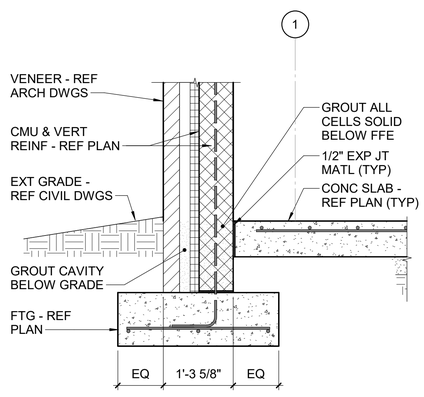

A4 SECTION
3/4" = 1'-0"

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PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION

ONSLOW COUNTY
BID NO. 102-25C
OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

03/12/2025

DKA JOB NUMBER
2324

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Drawn By: Author
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DATE ISSUED

BID DOCUMENTS
3/12/2025

SHEET TITLE
SECTIONS

S301

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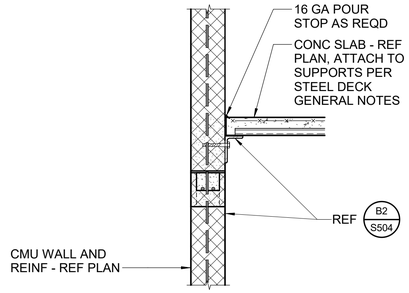
LM Project Number: LM23.192



A1 SECTION
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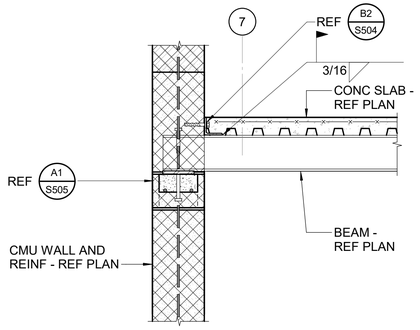

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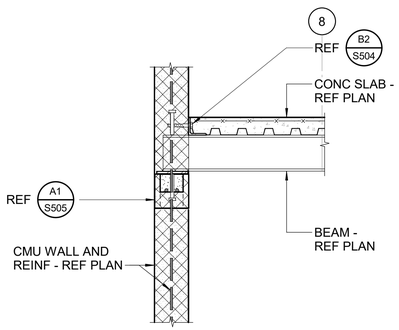

A3 SECTION
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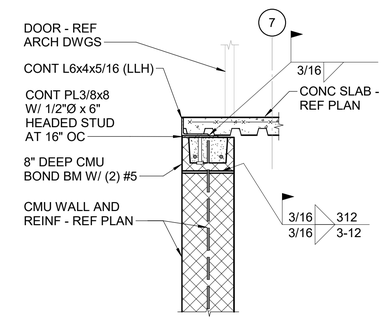

A4 SECTION
3/4" = 1'-0"

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NORTH CAROLINA ENGINEERING CORPORATION C-4360 STRUCTURAL ENGINEERS

NORTH CAROLINA PROFESSIONAL SEAL 044996 ENGINEER SCOTT M. FRANCIS

03/12/2025

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BID DOCUMENTS
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SHEET TITLE
SECTIONS

S310

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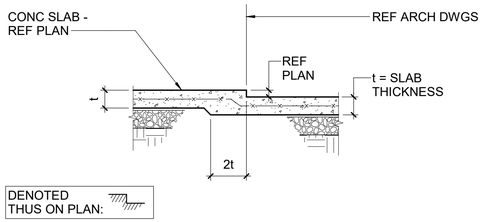
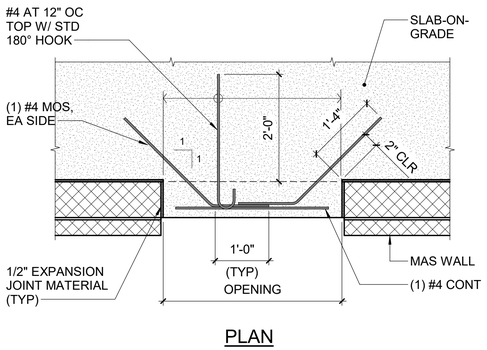


F1 TYPICAL DEPRESSED SLAB DETAIL
NTS



F2 TYPICAL EXTERIOR DOORS / OPENINGS DETAIL
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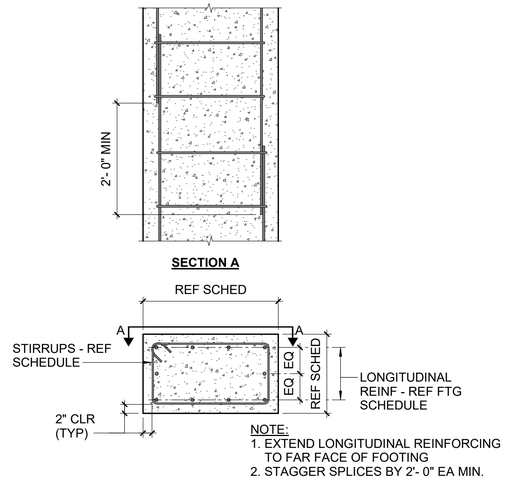

F4 TYPICAL GRADE BEAM DETAIL
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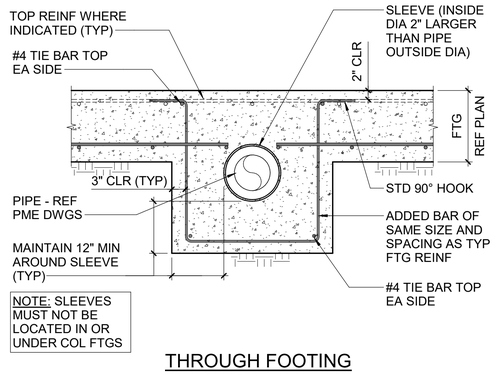

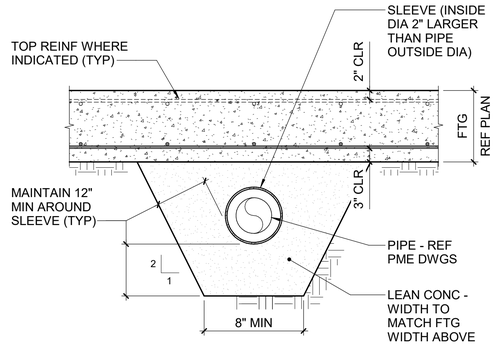

C1 TYPICAL PIPE SLEEVE AT WALL FOOTING DETAILS
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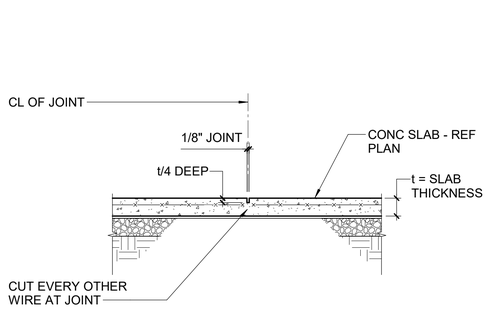

C3 TYPICAL SAWED JOINT DETAIL
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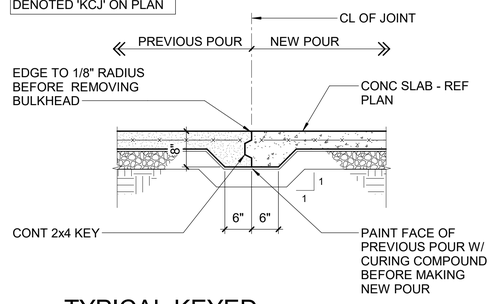
REQUIRED AT CONTRACTOR COLD JOINTS AND LOCATIONS DENOTED 'KCJ' ON PLAN



C4 TYPICAL KEYED CONSTRUCTION JOINT DETAIL
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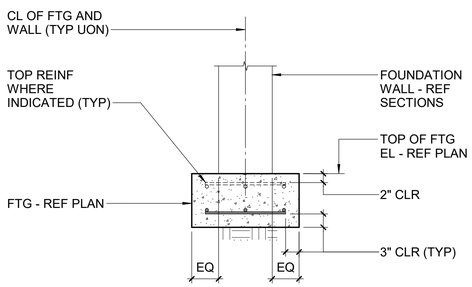

A1 TYPICAL WALL FOOTING DETAIL
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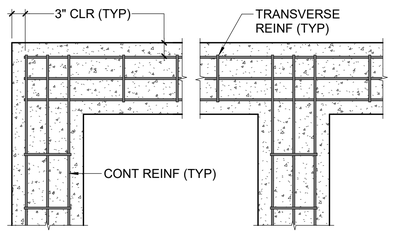

A2 TYPICAL WALL FOOTING CORNER & INTERSECTION DETAILS
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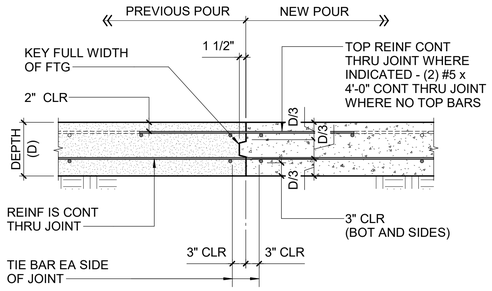

A3 TYPICAL WALL FOOTING CONSTRUCTION JOINT DETAIL
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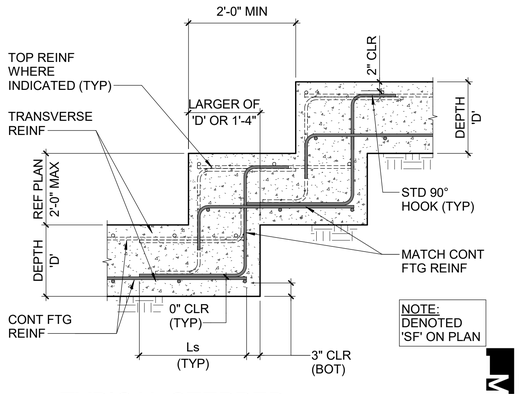

A4 TYPICAL STEPPED WALL FOOTING DETAIL
NTS

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ONSLOW COUNTY
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SEALS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044996 SCOTT M. FRANCIS — 03/12/2025

DKA JOB NUMBER
2324

REVISIONS

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Plot Date: 3/10/2025 10:43:28 AM

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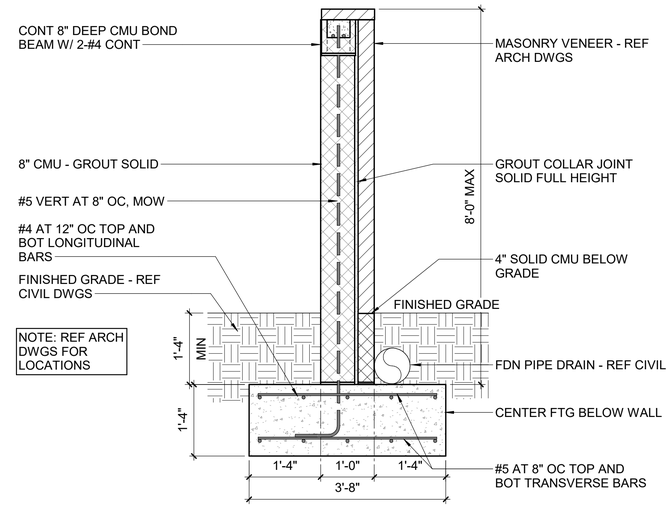
BID DOCUMENTS
3/12/2025

SHEET TITLE
TYPICAL DETAILS

S501



F1 TYPICAL SCREENWALL DETAIL
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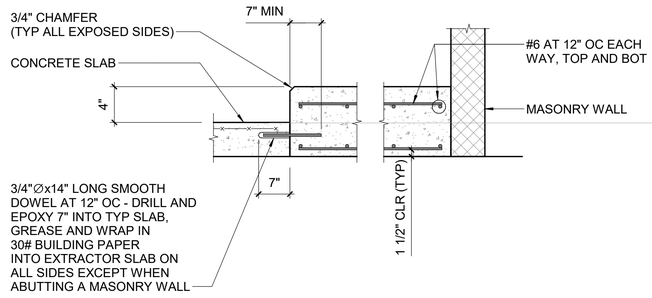

F4 TYPICAL FOUNDATION AT EXTRACTOR PAD DETAIL
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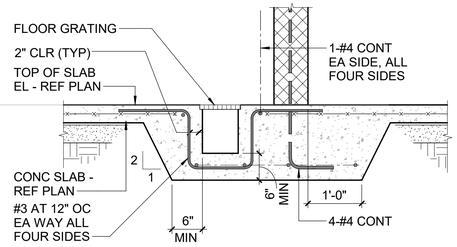
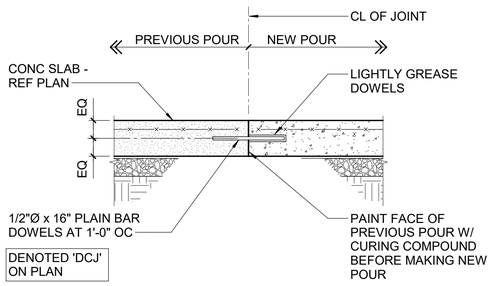


F6 TYPICAL TRENCH DRAIN AT EXTRACTOR DETAIL
NTS

NOTES:
1. REF MECHANICAL/CIVIL DRAWINGS FOR DIMENSIONS AND LOCATION OF CONCRETE PAD.
2. COORDINATE ANY REQUIRED ANCHORAGE EMBEDS NEEDED FOR THE EQUIPMENT PLACED ON PAD.



A6 TYPICAL DOWELED CONSTRUCTION JOINT DETAIL
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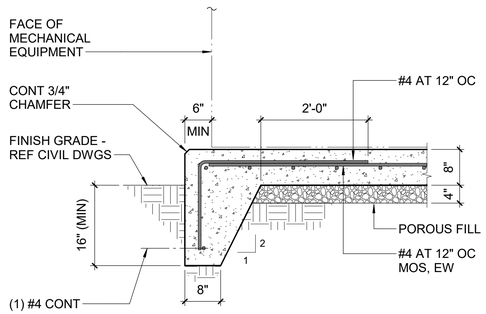

D1 TYPICAL EXTERIOR EQUIPMENT PAD DETAIL
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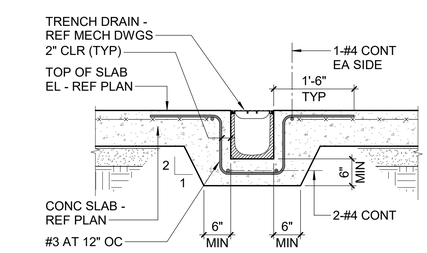
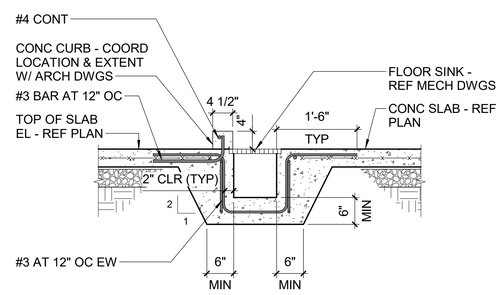


D3 TYPICAL TRENCH DRAIN AT APPARATUS BAY DETAIL
NTS



D5 TYPICAL FLOOR SINK DETAIL
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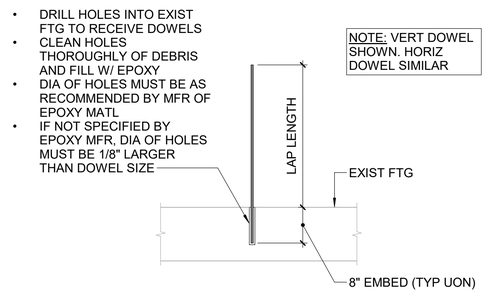

A1 TYPICAL EPOXY DOWEL DETAIL
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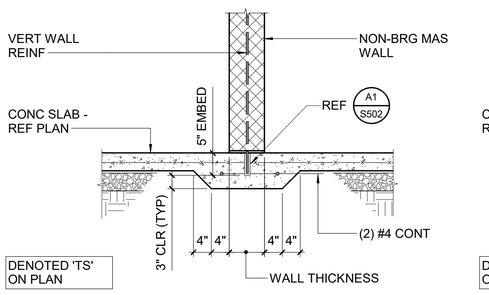
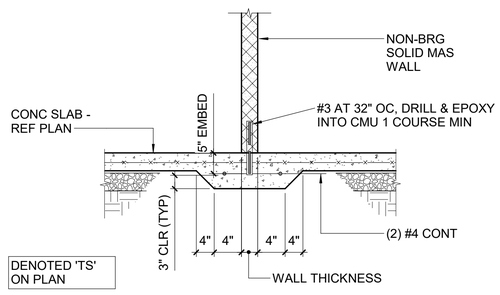
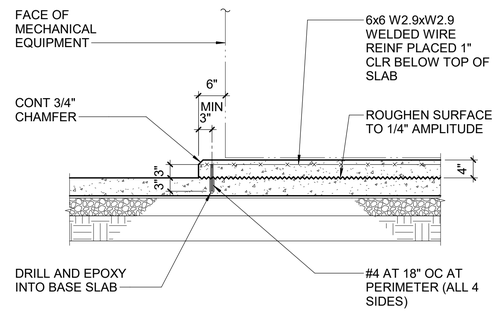


6" CMU GREATER

A3 TYPICAL THICKENED SLAB DETAIL
NTS



4" CMU



A5 TYPICAL HOUSEKEEPING PAD DETAIL
NTS

DAVIS KANE ARCHITECTS, PA
503 OBERLIN ROAD | SUITE 300
RALEIGH, NC 27605
919.833.3737
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PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION

ONSLOW COUNTY
BID NO. 102-25C

OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 044996 SCOTT M. FRANCIS
03/12/2025

DKA JOB NUMBER
2324

REVISIONS

PA: JIMMY ARDEL EDWARDS
PM:
Drawn By: Author
Plot Date: 3/10/2025 10:43:29 AM

DATE ISSUED

BID DOCUMENTS
3/12/2025

SHEET TITLE
TYPICAL DETAILS

S502

lynchmykins
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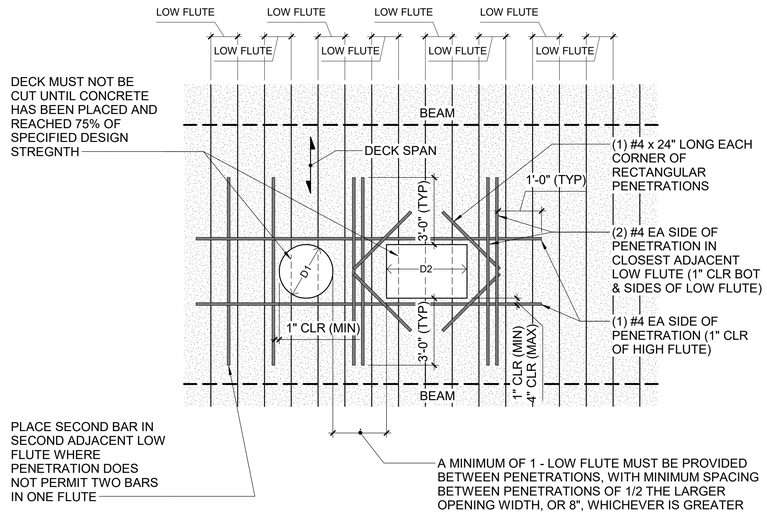
Structural Engineers
301 N. West Street, Suite 105
Raleigh, NC 27603
919.782.1833 - lynchmykins.com
LM Project Number: LM23.192

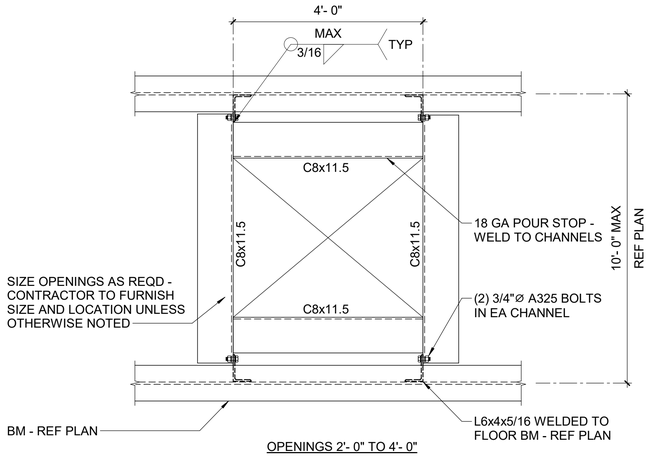
NOTES:

1. SEE MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS FOR LOCATIONS AND SIZE OF FLOOR PENETRATIONS NOT SPECIFICALLY DETAILED ON THE STRUCTURAL FRAMING PLANS.
2. PENETRATIONS, GREATER THAN 6", BUT LESS THAN OR EQUAL TO 24" IN ANY DIRECTION ARE PERMITTED IN THE ELEVATED SLAB ON METAL DECK WITHOUT ADDITIONAL STRUCTURAL STEEL FRAMING, PROVIDED THE SLAB IS REINFORCED AS INDICATED BELOW.
3. A MINIMUM OF (1) LOW FLUTE MUST BE PROVIDED BETWEEN PENETRATIONS, WITH MINIMUM SPACING BETWEEN PENETRATIONS OF 1/2 THE LARGER OPENING WIDTH, OR 8", WHICHEVER IS GREATER.



TYPICAL SPACING REQUIREMENTS FOR FLOOR PENETRATIONS 6" OR WIDER

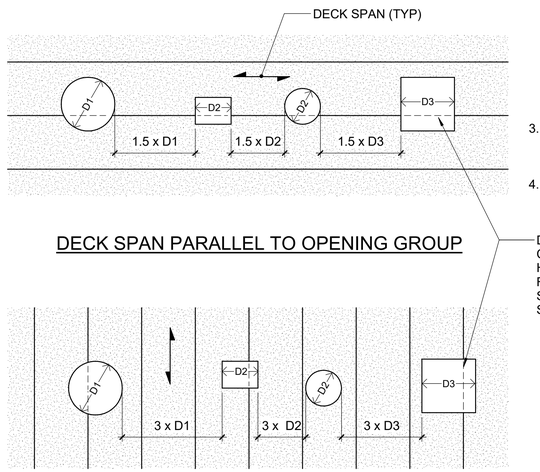
C1 NTS



OPENINGS 2'- 0" TO 4'- 0"

NOTES:

1. SEE MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS FOR LOCATIONS AND SIZE OF FLOOR PENETRATIONS NOT SPECIFICALLY DETAILED ON THE STRUCTURAL FRAMING PLANS.
2. PENETRATIONS, LESS THAN OR EQUAL TO 6" IN ANY DIMENSION MUST BE PERMITTED IN THE ELEVATED SLAB ON METAL DECK WITHOUT REINFORCING, PROVIDED THE SPACING BETWEEN PENETRATIONS DOES NOT EXCEED THE FOLLOWING, AS DEPICTED BELOW:
   A. WHERE DECK SPAN IS PARALLEL TO THE GROUP OF PENETRATIONS: CLEAR SPACING MUST NOT BE LESS THAN 1.5 TIMES THE WIDTH / DIAMETER OF THE LARGER ADJACENT PENETRATION OR 4", WHICHEVER IS GREATER.
   B. WHERE DECK SPAN IS PERPENDICULAR TO THE GROUP OF PENETRATIONS: CLEAR SPACING MUST NOT BE LESS THAN 3 TIMES THE WIDTH OF THE LARGER ADJACENT PENETRATION, OR 8", WHICHEVER IS GREATER.
3. IF THE SPACING REQUIREMENTS BELOW CANNOT BE MET, THE CONTRACTOR MUST BE PERMITTED TO REINFORE THE SLAB PER THE TYPICAL FLOOR SLAB REINFORCING DETAIL AT OPENINGS LARGER THAN 6".
4. BLOCKOUTS OR DRILLED CORES ARE PERMITTED, HOWEVER, FLOOR DECK MUST REMAIN CONTINUOUS AND NOT BE CUT UNTIL CONCRETE HAS BEEN PLACED AND HAS REACHED 75% OF IT'S SPECIFIED DESIGN STRENGTH.

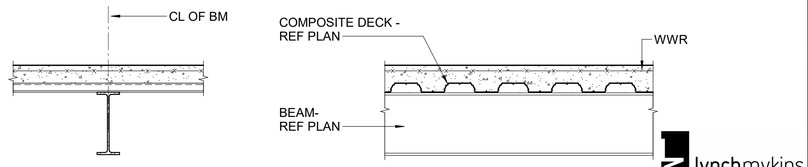


DECK SPAN PARALLEL TO OPENING GROUP

DECK SPAN PERPENDICULAR TO OPENING GROUP

A1 NTS

TYPICAL SPACING REQUIREMENTS FOR FLOOR PENETRATIONS 6" WIDE OR LESS



PERPENDICULAR

TYPICAL COMPOSITE BEAM PROFILE

B4 NTS

TYPICAL ELEVATED SLAB DETAILS

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PROJECT INFORMATION

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03/12/2025

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Plot Date: 3/10/2025 10:43:30 AM

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BID DOCUMENTS
3/12/2025

SHEET TITLE
TYPICAL DETAILS

S503

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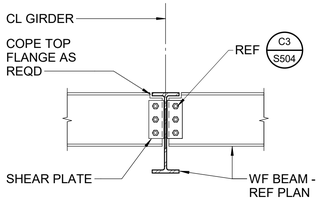
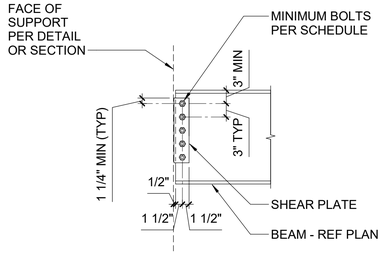
LM Project Number: LM23.192



STANDARD SHEAR CONN
WIDE FLANGE GIRDER

AS SHOWN ON PLAN	
WF	WF

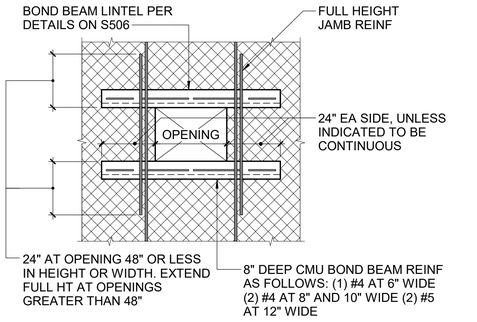


TYPICAL SHEAR PLATE

MINIMUM BEAM REACTION SCHEDULE		
BEAM SIZE	DESIGN REACTION (LRFD)	MIN # OF BOLTS
W8 & W10	20 KIPS	2
W12, W14, & W16	35 KIPS	3
W18	50 KIPS	4
W21	60 KIPS	5
W24 & W27	75 KIPS	6
W30 AND GREATER	75 KIPS	6

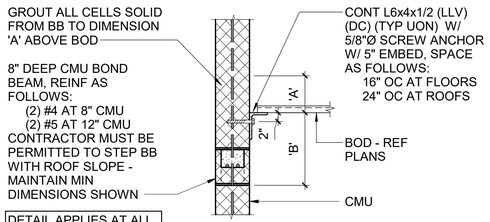
NOTES:
1. REFERENCE "STRUCTURAL STEEL NOTES" IN GENERAL NOTES FOR ADDITIONAL INFORMATION.
2. DESIGN CONNECTIONS FOR THE REACTIONS SHOWN ON PLAN. FOR REACTIONS NOT SHOWN ON PLAN, DESIGN CONNECTIONS FOR THE MINIMUM LOADS AND BOLTS INDICATED IN THE SCHEDULE ABOVE.

C1 TYPICAL WIDE FLANGE BEAM TO GIRDER CONNECTION DETAIL
NTS



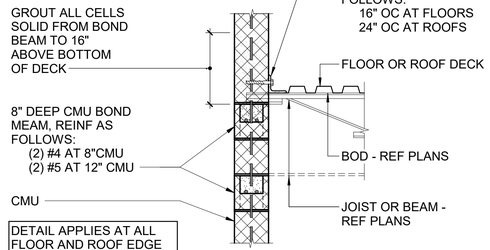
C3 TYPICAL SHEAR PLATE CONNECTION DETAIL
NTS

GROUT DIMENSION SCHEDULE		
DIM	FLOOR	ROOF
'A'	14" MIN	8" MIN
'B'	16" MIN	12" MIN



DETAIL APPLIES AT ALL FLOOR AND ROOF EDGE ANGLES PARALLEL TO JOIST/BEAM SPAN

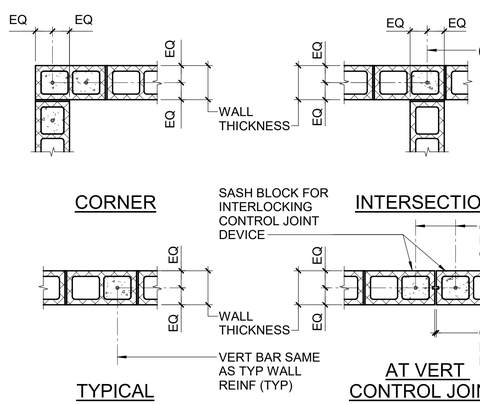
CONT ANGLE (PERP TO DECK)



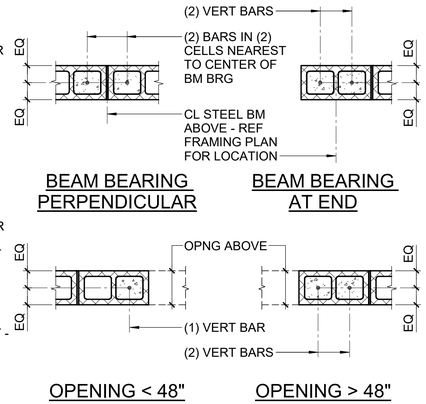
DETAIL APPLIES AT ALL FLOOR AND ROOF EDGE ANGLES PERPENDICULAR TO JOIST/BEAM SPAN

CONT ANGLE (PARALLEL TO DECK)

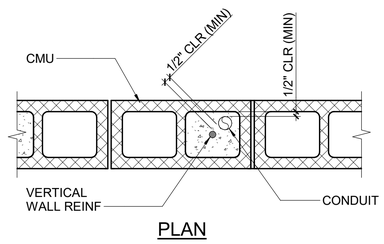
B1 TYPICAL MASONRY REINFORCING AT WALL OPENING DETAIL
NTS



B2 TYPICAL MASONRY ANCHORAGE DETAILS
NTS



NOTES:
1. LOCATE CONDUIT IN UNREINFORCED CELLS TO EXTENT POSSIBLE.
2. DO NOT PLACE CONDUIT PASSING HORIZONTALLY THROUGH PLANE OF WALL WITHOUT WRITTEN APPROVAL.
3. CONDUIT SIZES GREATER THAN OR EQUAL TO 1 1/2" DIAMETER MUST BE PLACED IN UNREINFORCED CELLS.



PLAN

CONDUIT SIZE	AREA OF DISPLACEMENT (SINGLE CONDUIT)
1/2"Ø	0.196 in²
3/4"Ø	0.442 in²
1"Ø	0.785 in²
1 1/4"Ø	1.227 in²

TOTAL DISPLACEMENT CALC
1/2"Ø + 3/4"Ø CONDUIT IN SAME CELL =
0.196 in² + 0.442 in² = 0.638 in²

NOMINAL CMU SIZE	MAXIMUM AREA OF GROUT DISPLACEMENT*
4"	0.284 in²
6"	0.456 in²
8"	0.646 in²
10"	0.884 in²
12"	1.132 in²
14"	1.380 in²
16"	1.628 in²

NOTE *: PER ACI 530.1

A1 TYPICAL CONCRETE MASONRY REINFORCING DETAILS
NTS

A3 TYPICAL EMBEDDED CONDUIT IN MASONRY DETAIL
NTS

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PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION
ONSLOW COUNTY
BID NO. 102-25C
OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

03/12/2025

DKA JOB NUMBER
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REVISIONS

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3/12/2025

SHEET TITLE
TYPICAL DETAILS

S504

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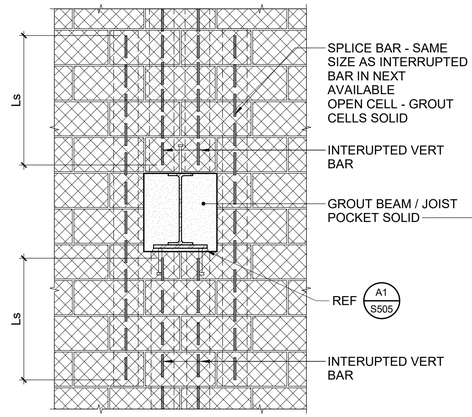
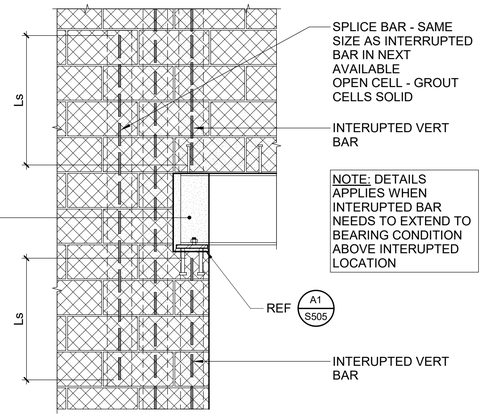
LM Project Number: LM23.192



BEAM / JOIST PERPENDICULAR TO WALL



BEAM PARALLEL TO WALL

B1 TYPICAL OFFSET SPLICE AT MASONRY WALL DETAIL

NTS

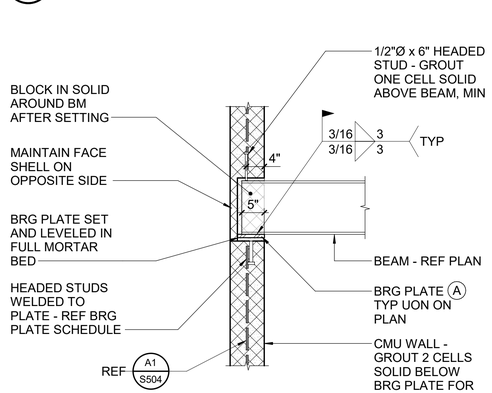
TENSION DEVELOPMENT LENGTH AND LAP SPLICE SCHEDULE

BAR SIZE	TYPE	CONCRETE COMPRESSIVE STRENGTH (PSI)							
		3000		4000		5000		6000	
		TOP BAR	OTHER	TOP BAR	OTHER	TOP BAR	OTHER	TOP BAR	OTHER
#3	Ld	22	17	19	15	17	13	22	17
	Ls	28	22	24	19	22	17	28	22
#4	Ld	29	22	25	19	22	17	29	22
	Ls	37	29	32	25	29	22	37	29
#5	Ld	36	28	31	24	28	22	36	28
	Ls	47	36	40	31	36	28	47	36
#6	Ld	43	33	37	29	33	26	43	33
	Ls	56	43	48	37	43	33	56	43
#7	Ld	63	48	54	42	49	37	63	48
	Ls	81	63	70	54	63	49	81	63
#8	Ld	72	55	62	48	55	43	72	55
	Ls	93	72	80	62	72	55	93	72

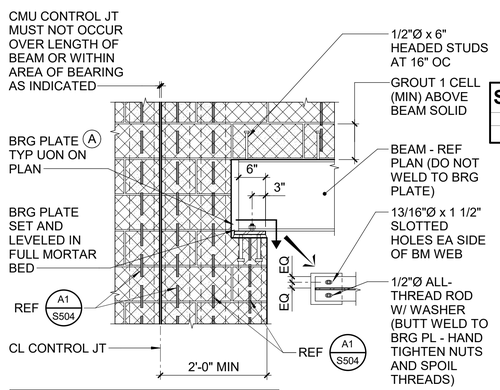
NOTES:
1. ALL VALUES LISTED ARE INCHES.
2. TABLE IS BASE ON VALUES FOR ACI 318-14.
3. VALUES LISTED ARE FOR NORMAL WEIGHT CONCRETE. FOR LIGHTWEIGHT CONCRETE, MULTIPLY LENGTHS BY 1.33.
4. TOP BARS ARE DEFINED AS BARS WITH MORE THAN 12" OF CONCRETE COVER BELOW BAR.
5. WHERE DIFFERENT SIZE BARS ARE SPLICED, PROVIDE THE SPLICE LENGTH ASSOCIATED WITH THE LARGER BARS.

B2 TYPICAL REINFORCING SPLICE SCHEDULES

NTS



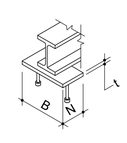
PERPENDICULAR TO WALL SECTION (TYPICAL)



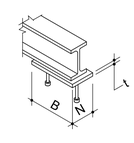
PARALLEL TO WALL ELEVATION (TYPICAL WF)

STEEL BEAM BEARING PLATE SCHEDULE

MARK	LENGTH (B)	WIDTH (N)	THICKNESS (t)	HEADED STUDS
A	1'-4"	6"	3/4"	(2) 3/4"Ø x 6" LONG



PERP TO WALL



PARALLEL TO WALL

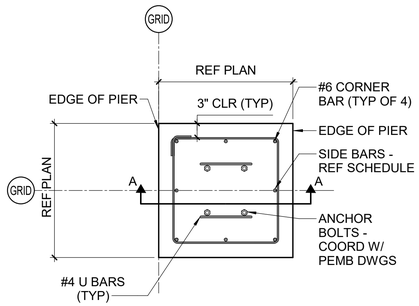
ISOMETRIC VIEW BEARING PLATES

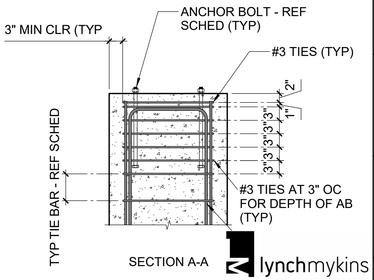
PEDESTAL REINFORCING SCHEDULE

SIZE	SIDE BARS (EA FACE)	TYPICAL TIE BARS	ANCHOR BOLTS
40"x 40"	(8) #6	#3 AT 6" OC	(4) 1"Ø BOLTS (15" MIN EMBED)
16"x 16"	(2) #6	#3 AT 6" OC	(4) 1"Ø BOLTS (9" MIN EMBED)

A1 TYPICAL STEEL BEAM BEARING ON MASONRY DETAILS

NTS





A3 TYP PEMB PIER REINFORCING DETAILS

3/4" = 1'-0"

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ONSLOW COUNTY
BID NO. 102-25C
OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL C-4360 STRUCTURAL

NORTH CAROLINA PROFESSIONAL SEAL 044996 ENGINEER SCOTT M. FRANCIS

03/12/2025

DKA JOB NUMBER
2324

REVISIONS

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TYPICAL DETAILS

S505

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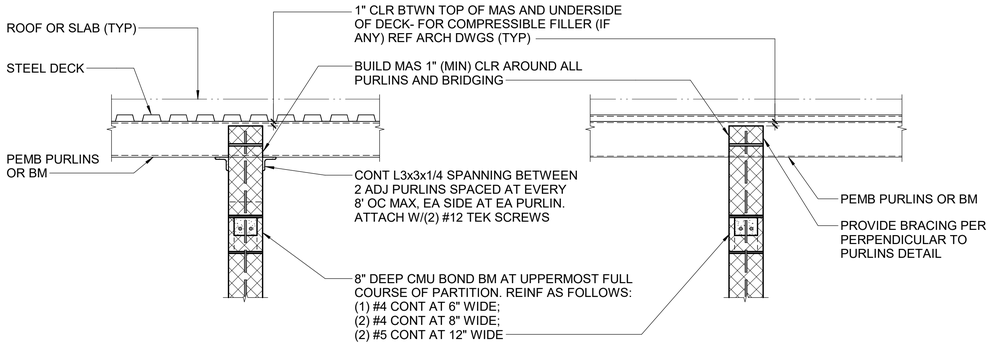
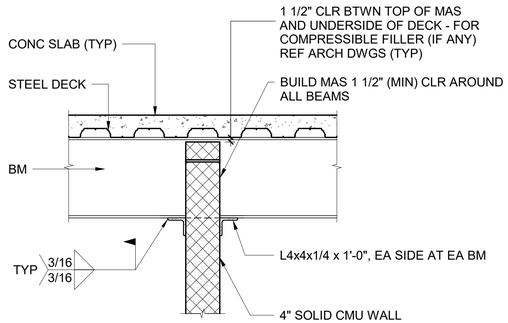
LM Project Number: LM23.192

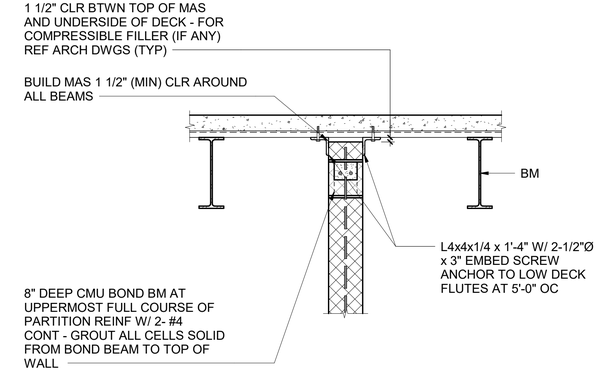


PERPENDICULAR TO PEMB PURLINS

PARALLEL WITH PEMB PURLINS



PERPENDICULAR TO BEAMS



BETWEEN PARALLEL BEAMS

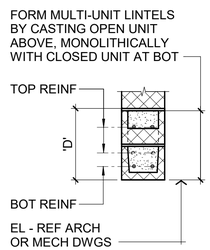
C2 TYPICAL NON-BEARING MASONRY PARTITION BRACING DETAILS

NTS

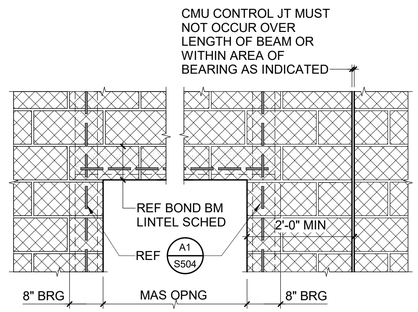
BOND BEAM LINTEL SCHEDULE

CLEAR SPAN	DEPTH 'D'	REINFORCING	
		8" CMU	12" CMU
0" TO 3'-4"	8"	(2) #5 BOT	(2) #6 BOT
3'-5" TO 5'-4"	8"	(2) #5 BOT	(2) #6 BOT
5'-5" TO 6'-8"	16"	(2) #5 BOT	(2) #6 BOT
6'-9" TO 8'-0"	16"	(2) #5 T&B	(2) #6 T&B

NOTES:
1. REFER TO ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATION OF OPENINGS; FOR DUCT OPENINGS REFER TO MECHANICAL DRAWINGS.
2. REFER TO ARCHITECTURAL DRAWINGS FOR WIDTH OF LINTEL.
3. SCHEDULE APPLIES ONLY TO LINTELS NOT OTHERWISE SHOWN ON THE DRAWINGS.



TYPICAL SECTION

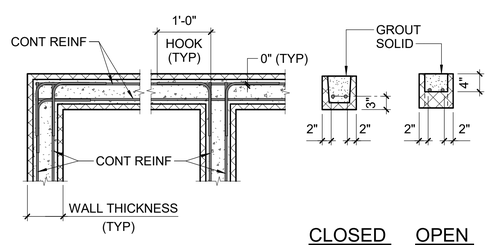


TYPICAL JAMB

JAMB AT CONTROL JOINT

B1 BOND BEAM LINTEL DETAILS

NTS



CORNER

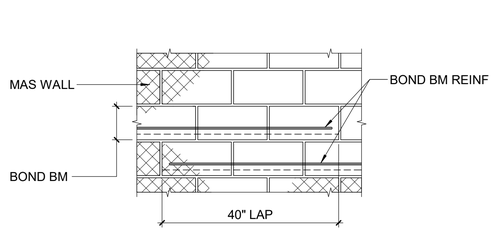
INTERSECTION

CLOSED BOTTOM

OPEN BOTTOM

B3 TYPICAL BOND BEAM REINFORCING DETAILS

NTS



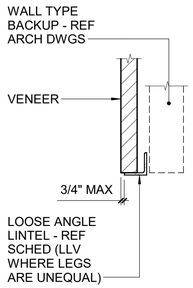
B4 TYPICAL STEPPED BOND BEAM DETAIL

NTS

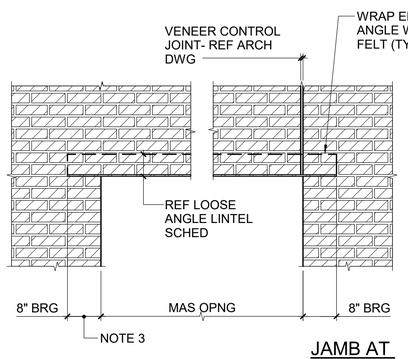
LOOSE ANGLE LINTEL SCHEDULE

CLEAR SPAN	SIZE
0 TO 3'-4"	L7x4x3/8 (LLH)
3'-5" TO 5'-4"	PL7x4x3/8
5'-5" TO 6'-8"	L9x7x3/8 (LLV)

NOTES:
1. REFER TO ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATION OF ALL OPENINGS.
2. LINTEL SCHEDULE APPLIES ONLY TO LINTEL ANGLES NOT OTHERWISE DETAILED.
3. WHERE JAMBS BETWEEN ADJACENT OPENINGS IS 16" OR LESS, PROVIDE CONT ANGLES.
4. LOOSE LINTELS MUST BE HOT DIPPED GALVANIZED.



TYPICAL SECTION



TYPICAL JAMB

JAMB AT CONTROL JOINT

A1 TYPICAL LOOSE ANGLE LINTELS IN BRICK WALLS

NTS

DAVIS KANE ARCHITECTS, PA
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PROJECT INFORMATION

ONSLOW COUNTY BEAR CREEK FIRE STATION

ONSLOW COUNTY
BID NO. 102-25C

OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

NORTH CAROLINA ENGINEERING CORPORATION C-4360 STRUCTURAL ENGINEERS

NORTH CAROLINA PROFESSIONAL SEAL 044996 ENGINEER SCOTT M. FRANCIS

03/12/2025

DKA JOB NUMBER
2324

REVISIONS

PA: JIMMY ARDEL EDWARDS
PM:
Drawn By: Author
Plot Date: 3/10/2025 10:43:34 AM

DATE ISSUED

BID DOCUMENTS
3/12/2025

SHEET TITLE
TYPICAL DETAILS

S506

lynchmykins
CALCULATE. COLLABORATE. CREATE.
Structural Engineers
301 N. West Street, Suite 105
Raleigh, NC 27603
919.782.1833 - lynchmykins.com
LM Project Number: LM23.192

FIRE FLOW ANALYSIS PER NCFC APPENDIX B

FIRE FLOW CALCULATION AREA (INCLUDES MEZZANINE):	17,800 SQ. FT.
CONSTRUCTION TYPE:	V-B
SPRINKLER SYSTEM:	PER 903.3.1.1 (NFPA 13)
ALLOWED FLOW REDUCTION PER TABLE B105.2:	25% OF VALUE LISTED IN TABLE B105.1(2) (1,000 GPM MINIMUM)
REQUIRED FIRE FLOW PER TABLE B105.1(2):	3,500 GPM @ 20 PSI
REQUIRED FIRE FLOW:	1,000 GPM @ 20 PSI
AVAILABLE FIRE FLOW:	1,610 GPM @ 20 PSI
REQUIRED FLOW DURATION PER TABLE B105.1(2):	3 HOURS

GENERAL NOTES: (APPLIES TO ALL FIRE PROTECTION DRAWINGS)

1. SPRINKLER CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH BUILDING STRUCTURE AND SYSTEMS, AS WELL AS THE WORK OF OTHER TRADES IN ORDER TO ELIMINATE CONFLICTS.

2. SPRINKLER CONTRACTOR'S DESIGN SHALL BE PER NFPA 13 (2013 EDITION), AND THE 2018 NC STATE FIRE PREVENTION CODE.

3. SPRINKLER CONTRACTOR SHALL PERFORM FLOW TEST PRIOR TO STARTING DESIGN, AND PERFORM HYDRAULIC CALCULATIONS USING THE FLOW TEST DATA PER THE SPECIFICATIONS.

4. PROVIDE AUXILIARY DRAINS WHEREVER WET SYSTEM PIPING IS ROUTED SUCH THAT WATER IS TRAPPED IN EXCESS OF 5 GALLONS.

5. LIGHT HAZARD OCCUPANCIES (WET SYSTEM): PER NFPA 13, DESIGN DENSITY SHALL BE 0.1 GPM PER SQUARE FOOT OVER THE MOST REMOTE 1,500 SQUARE FEET. HOSE ALLOWANCE FOR LIGHT HAZARD SHALL BE 100 GPM PER NFPA 13.

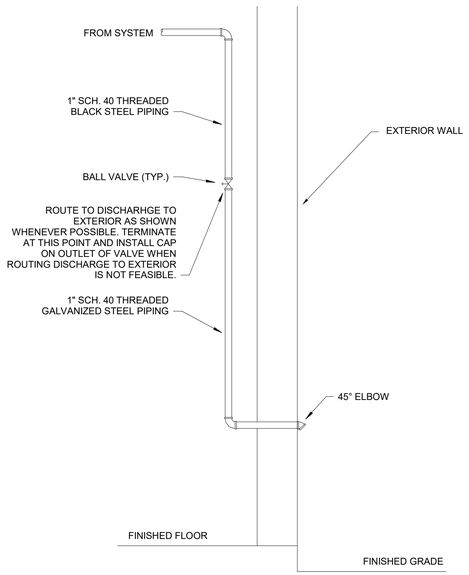
6. ORDINARY HAZARD I OCCUPANCIES (WET SYSTEM): PER NFPA 13, DESIGN DENSITY SHALL BE 0.15 GPM PER SQUARE FOOT OVER THE MOST REMOTE 1,500 SQUARE FEET. HOSE ALLOWANCE FOR ORDINARY HAZARD I SHALL BE 250 GPM PER NFPA 13.

7. ORDINARY HAZARD II OCCUPANCIES (WET SYSTEM): PER NFPA 13, DESIGN DENSITY SHALL BE 0.20 GPM PER SQUARE FOOT OVER THE MOST REMOTE 1,500 SQUARE FEET. HOSE ALLOWANCE FOR ORDINARY HAZARD II SHALL BE 250 GPM PER NFPA 13.

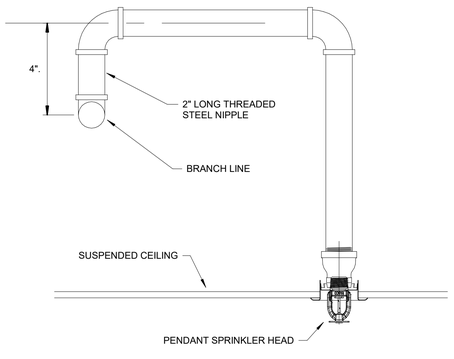
8. REMOTE AREAS MAY BE REDUCED DUE TO THE USE OF QUICK RESPONSE HEADS PER NFPA 13. REMOTE AREAS SHALL BE INCREASED BY 30% WHERE CEILING OR ROOF SLOPES MORE THAN 2 INCHES PER FOOT.

9. SPRINKLER CONTRACTOR SHALL PROVIDE SEISMIC BRACING. DESIGN OF SEISMIC BRACING SHALL BE BY THE SPRINKLER CONTRACTOR OR A LICENSED STRUCTURAL ENGINEER WHOM THE SPRINKLER CONTRACTOR HAS RETAINED THE SERVICES OF. DESIGN SHALL BE PER NFPA 13 AND ASCE-07 FOR SEISMIC DESIGN CATEGORY 'C', FOR AN OCCUPANCY CATEGORY ## BUILDING.

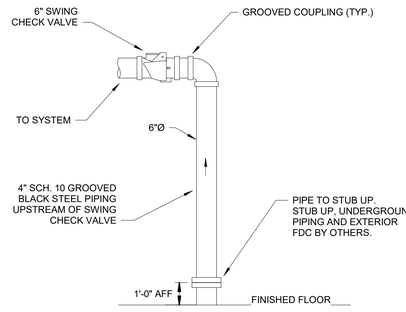
10. LOCATE SPRINKLER HEADS IN THE CENTER OF CEILING TILES.



D F001 AUXILIARY DRAIN DETAIL
SCALE: NONE



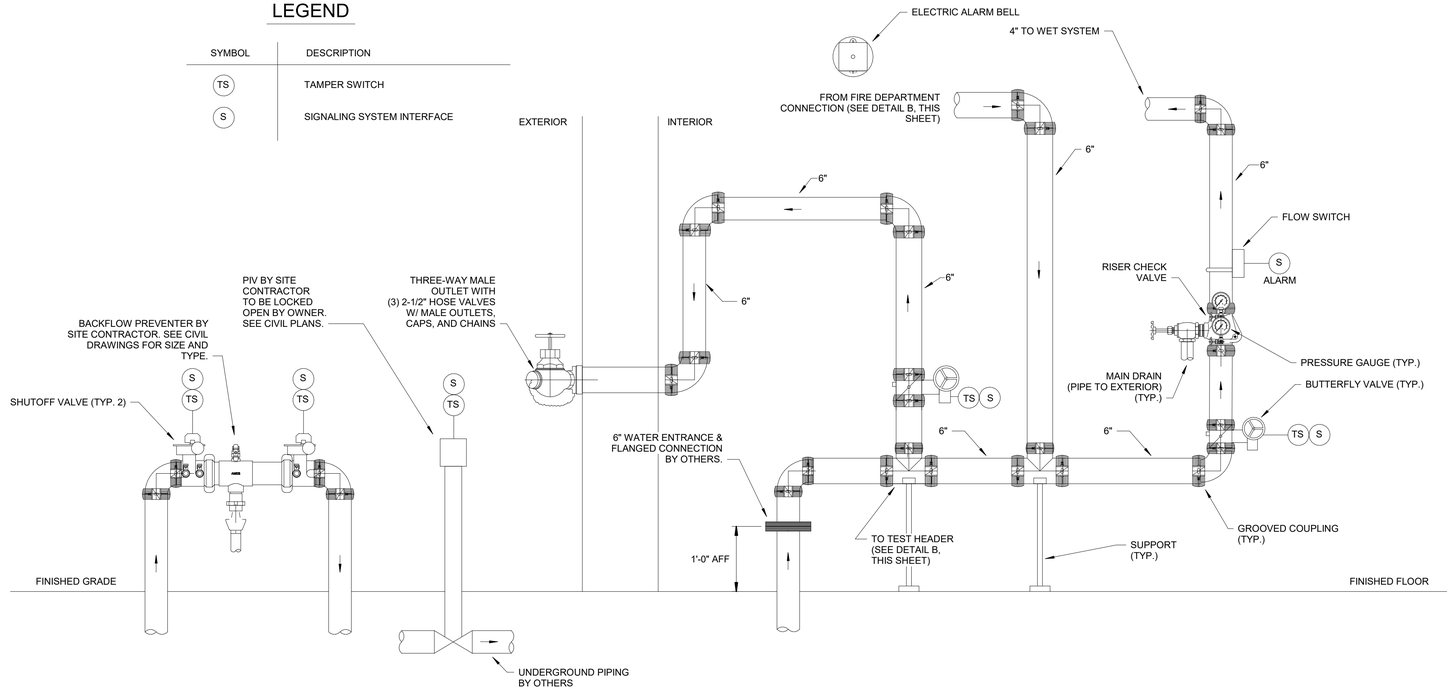
C F001 ARMOVER DETAIL
SCALE: NONE



B F001 FIRE DEPT. CONNECTION DETAIL - REMOTE
SCALE: NONE

LEGEND

SYMBOL	DESCRIPTION
TS	TAMPER SWITCH
S	SIGNALING SYSTEM INTERFACE



A F001 SPRINKLER ENTRANCE DETAIL
SCALE: NONE

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NC LICENSE# C-1073

JOB # 24012

ONSLOW COUNTY BEAR CREEK FIRE STATION

ONSLOW COUNTY
BID. NO. 102-25C
138 OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

NORTH CAROLINA REGISTERED SEAL 043164 ENGINEER CASEY D. GILMAN

Digitally signed by Casey Gilman
Date: 2025.03.11 09:02:49-04'00'

DKA JOB NUMBER
2324

REVISIONS

PA: JIMMY ARDEL EDWARDS
PM: ALEXANDRE PENEGRE
Drawn By: CDG
Plot Date: 3/11/2025 8:59:02 AM

DATE ISSUED
BID DOCUMENTS
03/12/2025

SHEET TITLE
FIRE PROTECTION LEGEND AND DETAILS

F001

1 F002 FIRE PROTECTION SITE DIAGRAM
SCALE: NOT TO SCALE

NOTE: THIS SHEET PROVIDED FOR INFORMATION ONLY AND TO SHOW FLOW TEST DATA USED FOR ENGINEER'S DESIGN. CONTRACTOR SHALL REFER TO CIVIL PLANS FOR EXACT PIPE SIZES, ROUTING, AND ALL OTHER FEATURES OF THE WATER SUPPLY OUTSIDE OF THE BUILDING.

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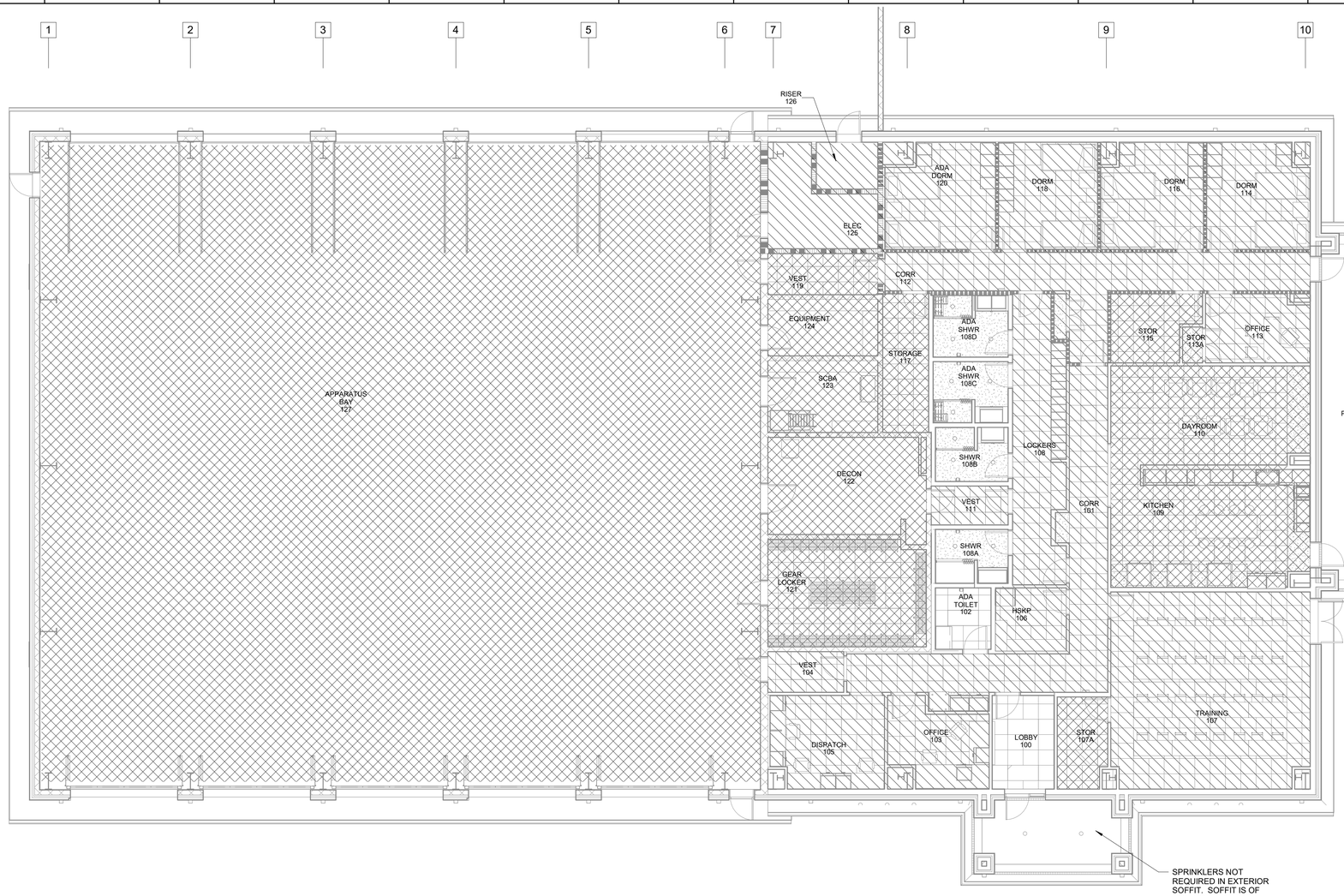
SHEET TITLE
FIRE PROTECTION SITE DIAGRAM

F002



1 / F100 FIRST FLOOR FIRE PROTECTION HAZARD PLAN
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE
8' 4' 0 8' 16'
SCALE: 1/8"=1'-0"

HAZARD LEGEND

- LIGHT HAZARD
- ORDINARY HAZARD I
- ORDINARY HAZARD II

RATED ASSEMBLIES LEGEND:

- 2-HR. FIRE BARRIER
- 1/2-HR FIRE PARTITION

SEE T-SHEETS FOR UL RATINGS AND ADDITIONAL INFORMATION.

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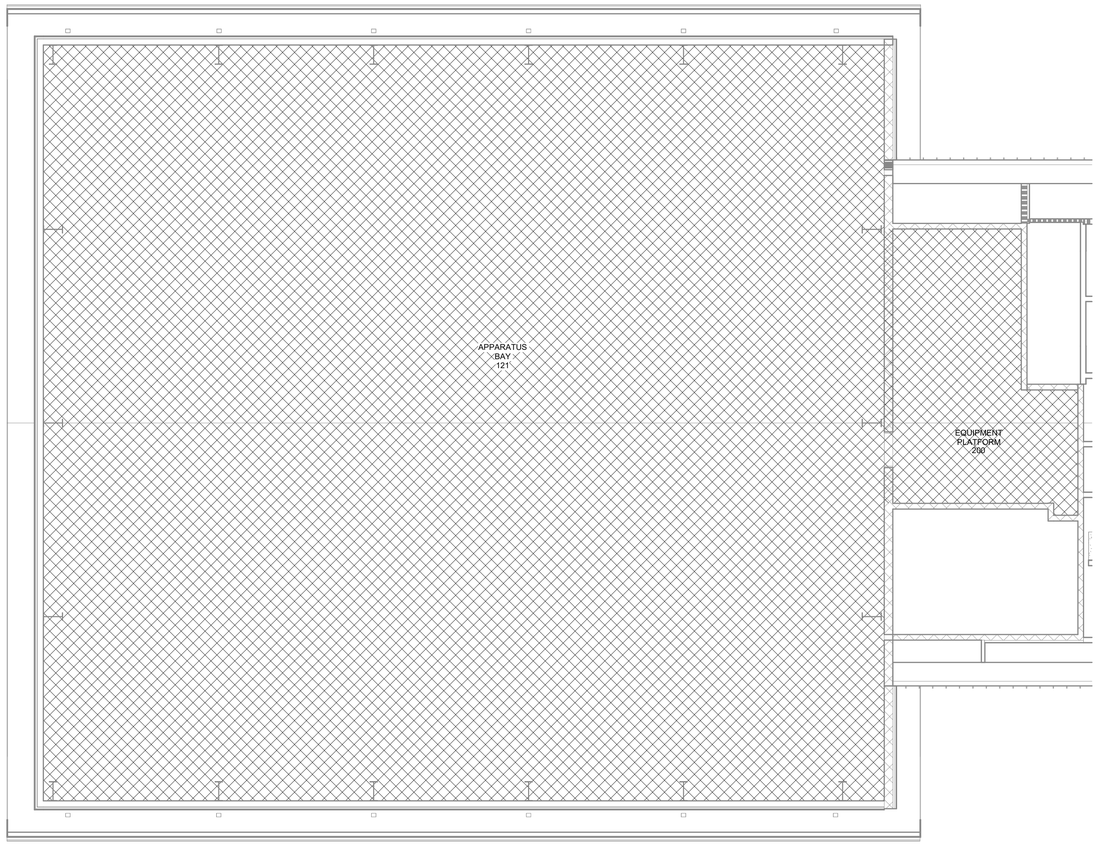
03/12/2025

SHEET TITLE
FIRST FLOOR FIRE PROTECTION HAZARD PLAN

F100



1 / F120 APPARATUS BAY & EQUIPMENT PLATFORM FIRE PROTECTION HAZARD PLAN
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE
8' 4' 0 8' 16'
SCALE: 1/8"=1'-0"

HAZARD LEGEND

- LIGHT HAZARD
- ORDINARY HAZARD I
- ORDINARY HAZARD II

RATED ASSEMBLIES LEGEND:

- 2-HR. FIRE BARRIER
- 1/2-HR FIRE PARTITION

SEE T-SHEETS FOR UL RATINGS AND ADDITIONAL INFORMATION.

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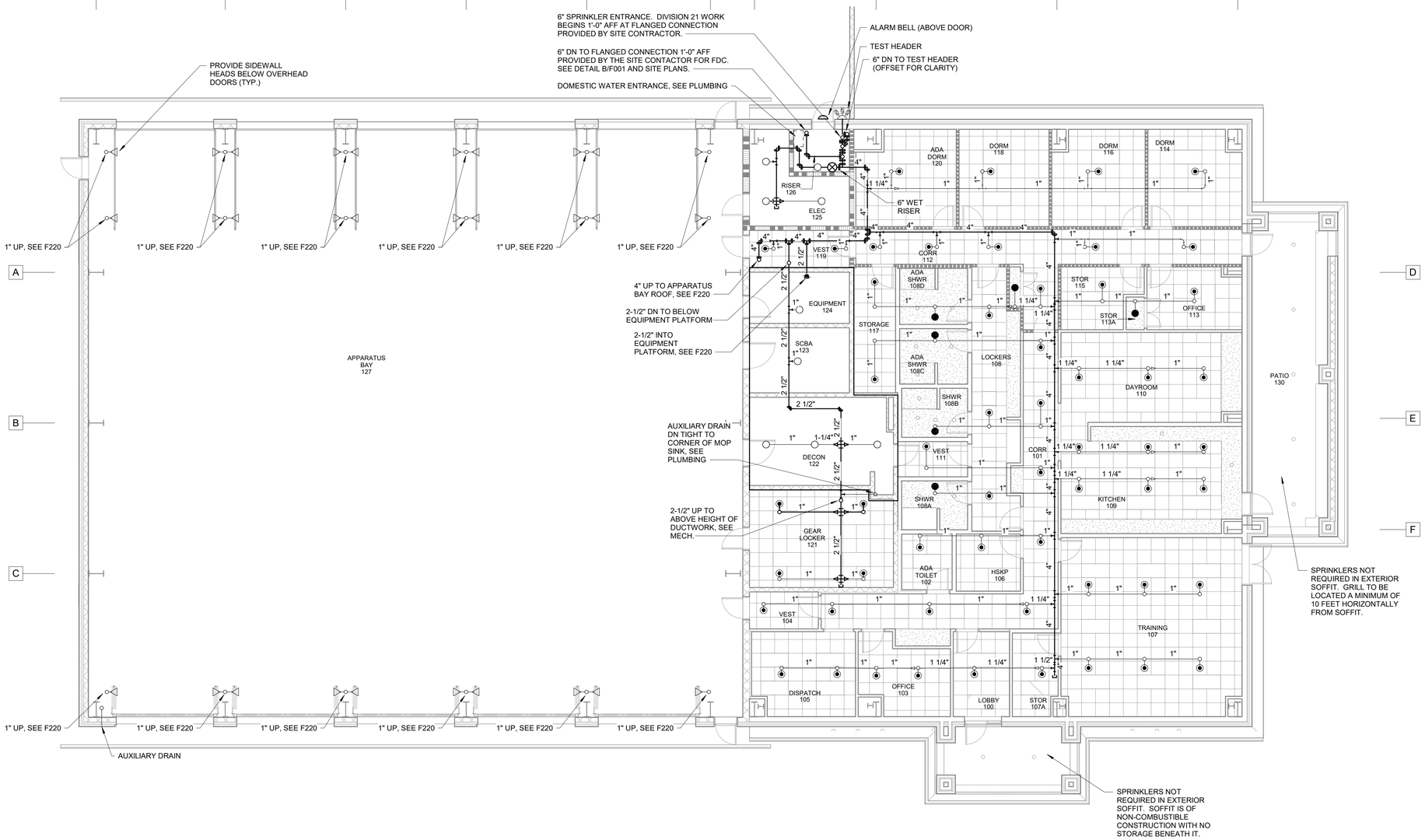
SHEET TITLE
APPARTUS BAY & EQUIP. PLATFORM HAZARD PLAN

F120



1 / F200 FIRST FLOOR FIRE PROTECTION PLAN
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE
8' 4' 0 8' 16'
SCALE: 1/8"=1'-0"

SPRINKLER LEGEND

- RECESSED PENDENT SPRINKLER HEAD
- CONCEALED PENDENT SPRINKLER HEAD
- RECESSED CORROSION RESISTANT DRY PENDENT SPRINKLER HEAD
- UPRIGHT SPRINKLER HEAD
- SIDEWALL SPRINKLER HEAD
- WET SPRINKLER RISER
- PIPE RISER DOWN

RATED ASSEMBLIES LEGEND:

- 2-HR. FIRE BARRIER
- 1/2-HR FIRE PARTITION

SEE T-SHEETS FOR UL RATINGS AND ADDITIONAL INFORMATION.

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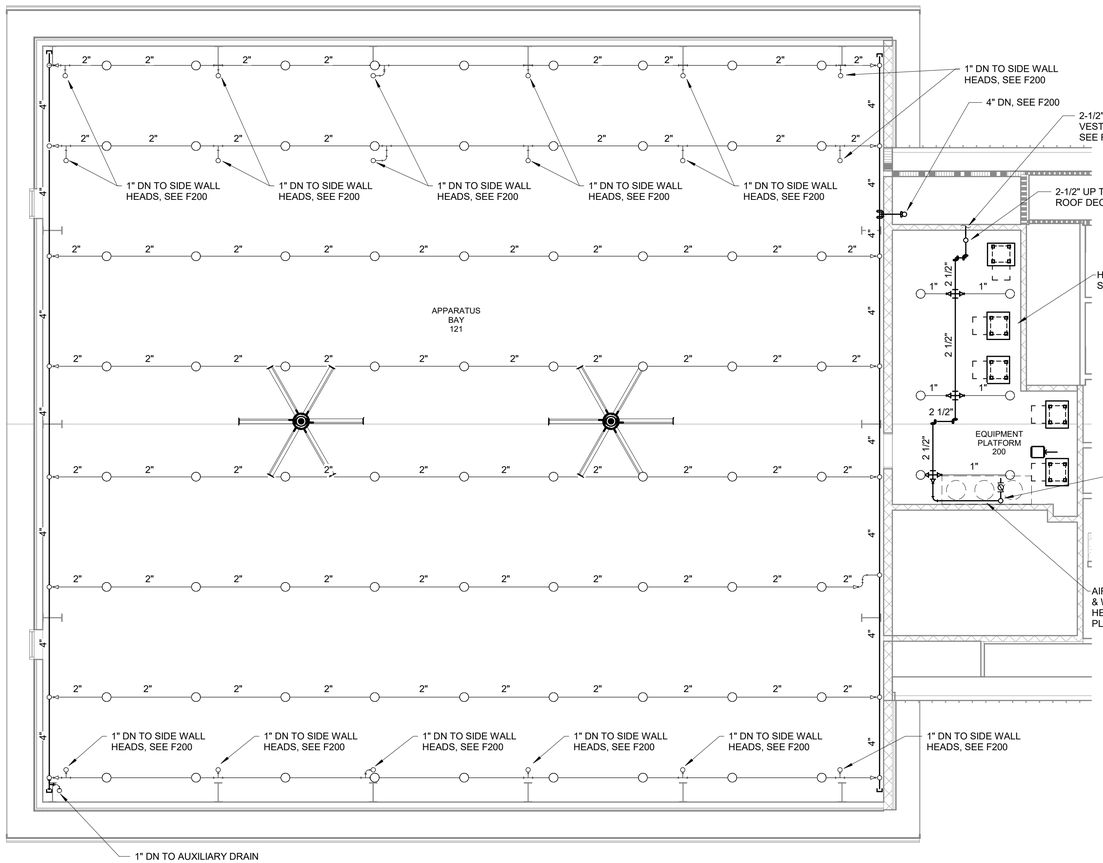
SHEET TITLE
FIRST FLOOR FIRE PROTECTION

F200



1 F220 APPARATUS BAY & EQUIPMENT PLATFORM FIRE PROTECTION PLAN
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE
8' 4' 0 8' 16'
SCALE: 1/8"=1'-0"

SPRINKLER LEGEND

- RECESSED PENDENT SPRINKLER HEAD
- CONCEALED PENDENT SPRINKLER HEAD
- RECESSED CORROSION RESISTANT DRY PENDENT SPRINKLER HEAD
- UPRIGHT SPRINKLER HEAD
- SIDEWALL SPRINKLER HEAD
- WET SPRINKLER RISER
- PIPE RISER DOWN

RATED ASSEMBLIES LEGEND:

- 2-HR. FIRE BARRIER
- 1/2-HR FIRE PARTITION

SEE T-SHEETS FOR UL RATINGS AND ADDITIONAL INFORMATION.

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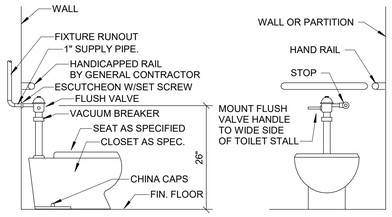
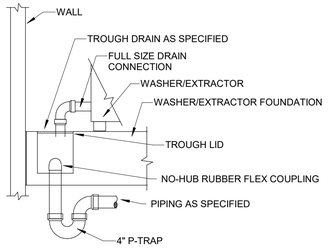
SHEET TITLE
APPARTUS BAY & EQUIP. PLATFORM FIRE PROTECTION

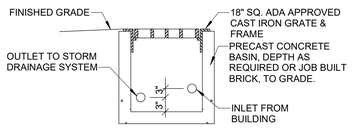
F220



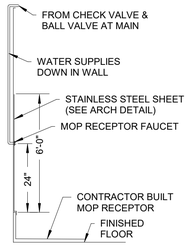
A P001 ADA WATER CLOSET (WC-1) DETAIL
SCALE: NONE



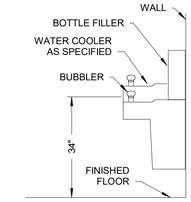
B P001 WASHER/EXTRACTOR (TD-2) WASTE DETAIL
SCALE: NONE



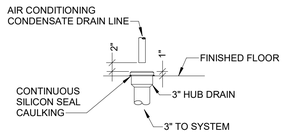
C P001 CONDENSATE RELIEF BASIN
SCALE: NONE



D P001 MOP RECEPTOR (MR-1) DETAIL
SCALE: NONE



E P001 ADULT DUAL HEIGHT EWC (EWC-1) DETAIL
SCALE: NONE



F P001 HUB DRAIN (HD-1) DETAIL
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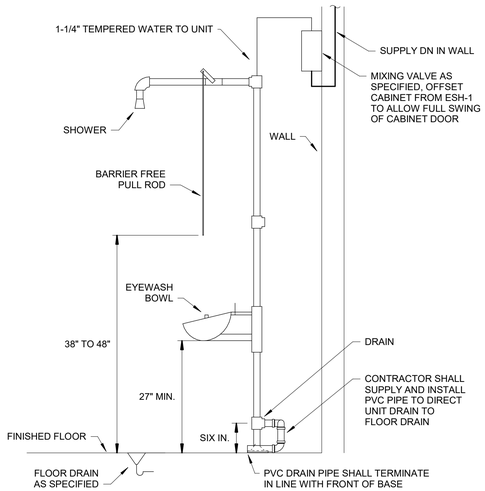
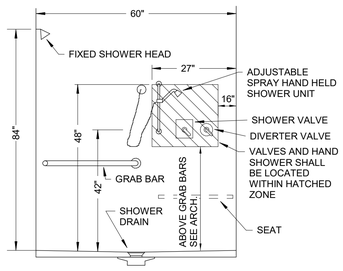
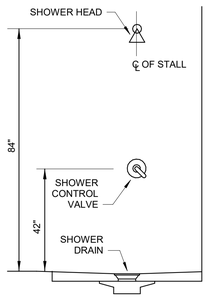


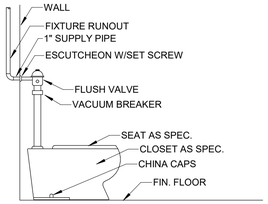
H P001 EMERGENCY EYEWASH/SHOWER DETAIL
SCALE: NONE



J P001 ADULT ADA ROLL-IN SHOWER (SH-1) DETAIL
SCALE: NONE



K P001 ADULT STANDARD SHOWER (SH-2) DETAIL
SCALE: NONE



L P001 ADULT WATER CLOSET (WC-2) DETAIL
SCALE: NONE

PLUMBING FIXTURE SCHEDULE

SYMBOL	DESCRIPTION	ROUGH-IN SIZES			REMARKS
		WASTE	C.W.	H.W.	
WC-1	WATER CLOSET	4"	1-1/2"	-	ADULT ADA/DETAIL A/P001
WC-2	WATER CLOSET	4"	1-1/2"	-	ADULT STANDARD /DETAIL L/P001
L-1	LAVATORY	1-1/2"	1/2"	1/2"	
SK-1	KITCHEN SINK	1-1/2"	1/2"	1/2"	DOUBLE BOWL
SK-2	KITCHEN SINK - ADA	1-1/2"	1/2"	1/2"	SINGLE BOWL
SK-3	DECON SINK	1-1/2"	1/2"	1/2"	FREESTANDING
SK-4	SERVICE SINK	1-1/2"	1/2"	1/2"	FREESTANDING
SH-1	SHOWER - ADA	1-1/2"	1/2"	1/2"	DETAIL J/P001
SH-2	SHOWER	1-1/2"	1/2"	1/2"	DETAIL K/P001
EWC-1	ELECTRIC WATER COOLER W/BOT FILL	1-1/2"	1/2"	-	DUAL HEIGHT, ADULT/DETAIL E/P001
MR-1	MOP RECEPTOR	3"	1/2"	1/2"	BASIN CONTR. BUILT/DETAIL D/P001
FD-1	FLOOR DRAIN	2"	-	-	
FD-2	FLOOR DRAIN	4"	-	-	POST POUR ADJUSTABLE
TD-1	TRENCH DRAIN	4"	-	-	
TD-2	TROUGH DRAIN	4"	-	-	
FS-1	FLOOR SINK	3"	-	-	1/2 GRATE
FS-2	FLOOR SINK	4"	-	-	1/2 GRATE
HD-1	HUB DRAIN	3"	-	-	DETAL F/P001
HB-1	HOSE BIBB	-	1/2"	-	MOUNT 12" AFF
HB-2	WALL HYDRANT	-	3/4"	-	MOUNT 24" AFG
CB-1	ICE MAKER CONNECTION BOX	-	1/2"	-	
CB-2	WASHER CONNECTION BOX	2"	3/4"	3/4"	
ESH-1	EMERGENCY EYEWASH/SHOWER	2"/4"	3/4"	3/4"	INCLUDE FD, SEE SPECS
DW-1	DISHWASHER	*	-	3/4"	PROVIDE DRAIN TAILPIECE PER MANF.

NOTE: MIXING VALVES SHALL BE PROVIDED AT ALL LAVATORIES AND SINKS. SEE SPECIFICATIONS.

WATER HEATER SCHEDULE

SYMBOL	QTY.	DESCRIPTION	ROUGH-IN SIZES		TEMP. SETTING	STORAGE CAPACITY	RECOVERY	FUEL	LOAD	ELEC.	DETAIL
			C.W.	H.W.							
WH-1	2	TANK TYPE WATER HEATER	1-1/2"	1-1/2"	140°F	80 GAL.	55 GPH	ELECTRIC	13.5 kW	208V, 3Ø	A/P002

CIRCULATOR PUMP SCHEDULE

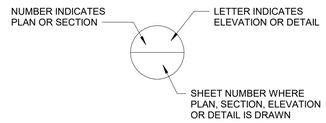
SYMBOL	GPM	THD	ELECTRICAL		LOCATION	SERVICE	CONTROL
			HP	VOLTAGE			
CP-1	1	6	1/40	115 V., 1Ø	MEZZANINE 201	H.W. RETURN, MAIN BUILDING	AQUASTAT, TIME CLOCK

AIR COMPRESSOR SCHEDULE

SYMBOL	DESCRIPTION	STAGES	TANK CAPACITY	CAPACITY	MOTOR HP	MOTOR RPM	ELEC.
COMP-1*	VERTICAL TANK-MOUNTED	2	80 GAL.	16.8 SCFM @ 175 PSIG	5	700	208V, 3Ø

LEGEND

W	WASTE PIPING
WO	WASTE OIL PIPING
V	VENT PIPING
C	CONDENSATE PIPING
RDL	ROOF DRAIN LEADER
CW	COLD WATER PIPING
HW	HOT WATER PIPING
HWR	HOT WATER RETURN PIPING
CA	COMPRESSED AIR PIPING
	BALL/BUTTERFLY VALVE
	CHECK VALVE
	VALVE IN RISE
	PIPE ELBOW TURNED DOWN
	PIPE ELBOW TURNED UP
	PIPE TEE TURNED DOWN
	PIPE TEE TURNED UP
	UNION
	STRAINER
	DOUBLE CHECK VALVE BACKFLOW PREVENTER
	REDUCED PRESSURE BACKFLOW PREVENTER
'A'	SHOCK ARRESTER, 'A' INDICATES PLUMBING DRAINAGE INSTITUTE STANDARD SIZE
	ASME PRESSURE TEMPERATURE RELIEF VALVE
VTR	VENT THRU ROOF
CO	CLEANOUT
ECO	EXTERIOR CLEANOUT
WCO	WALL CLEANOUT
FCO	FLOOR CLEANOUT
BFF	BELOW FINISHED FLOOR
BFG	BELOW FINISHED GRADE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
INV.	INVERT ELEVATION
CONT.	CONTINUATION
ELEV.	ELEVATION
MANF.	MANUFACTURER
FP	FIRE PROTECTION
PL	PLUMBING
CONTR	CONTRACTOR



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SEALS

NORTH CAROLINA REGISTERED SEAL 043164 ENGINEER CASEY D. GILMAN

Digitally signed by Casey Gilman
Date: 2025.03.11 09:03:30-04'00'

DKA JOB NUMBER
2324

REVISIONS

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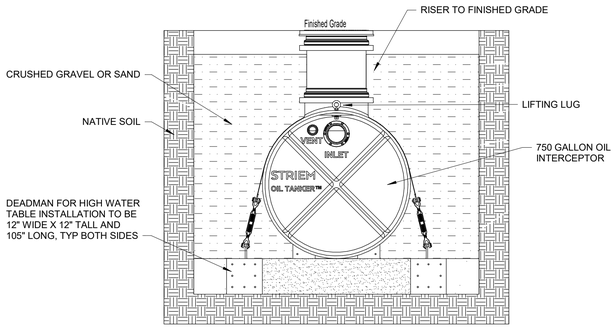
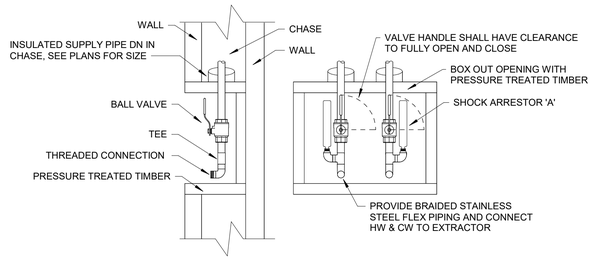
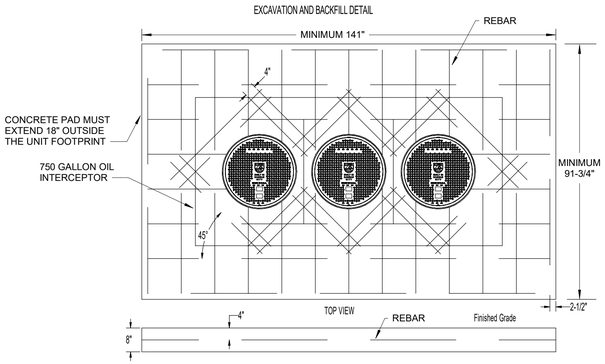
SHEET TITLE
PLUMBING LEGEND, SCHEDULES, AND DETAILS

P001



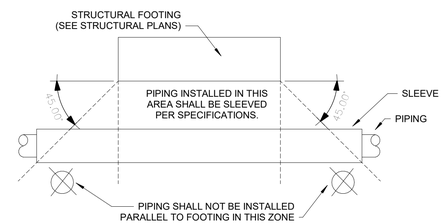


F P002 DECON WASHER VALVE DETAIL
SCALE: NONE

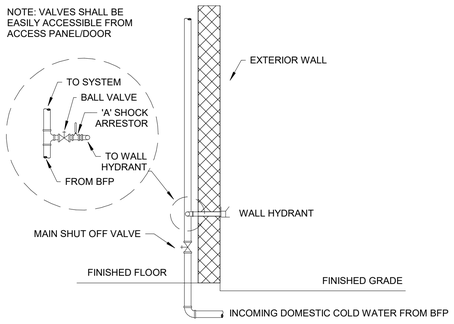


OIL SEPERATOR SCHEDULE					
DESCRIPTION	INLET/ OUTLET	MINIMUM CAPACITY (GAL)			H20 RATED
		WATER	OIL	SEDIMENT	
OIL SEPERATOR	4"	132	323	295	YES

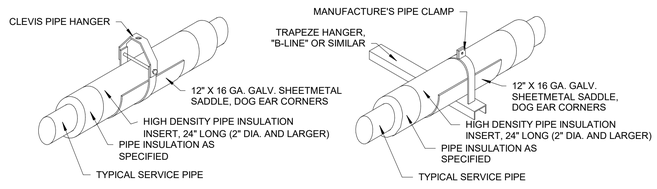
E P002 OIL & SAND SEPERATOR DETAIL
SCALE: NONE



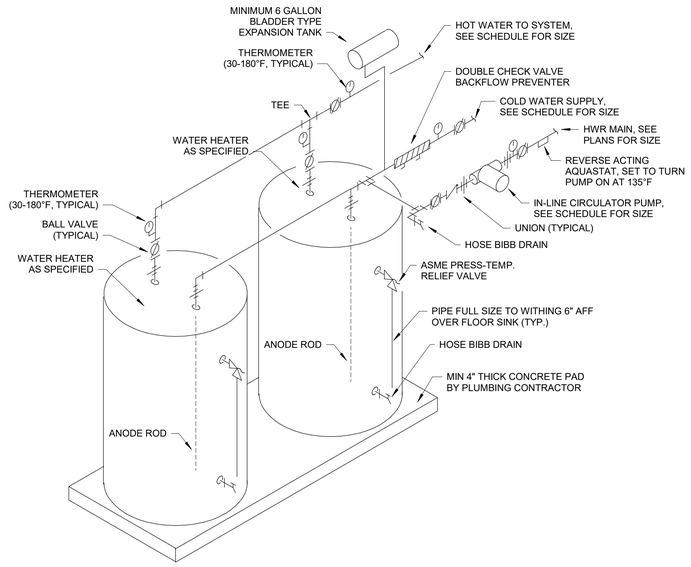
D P002 PIPING UNDER FOOTINGS
SCALE: NO SCALE



C P002 DOMESTIC WATER ENTRANCE DETAIL
SCALE: NONE



B P002 PIPE HANGER DETAILS
SCALE: NONE



A P002 WATER HEATER (WH-1) PIPING DETAIL
SCALE: NONE

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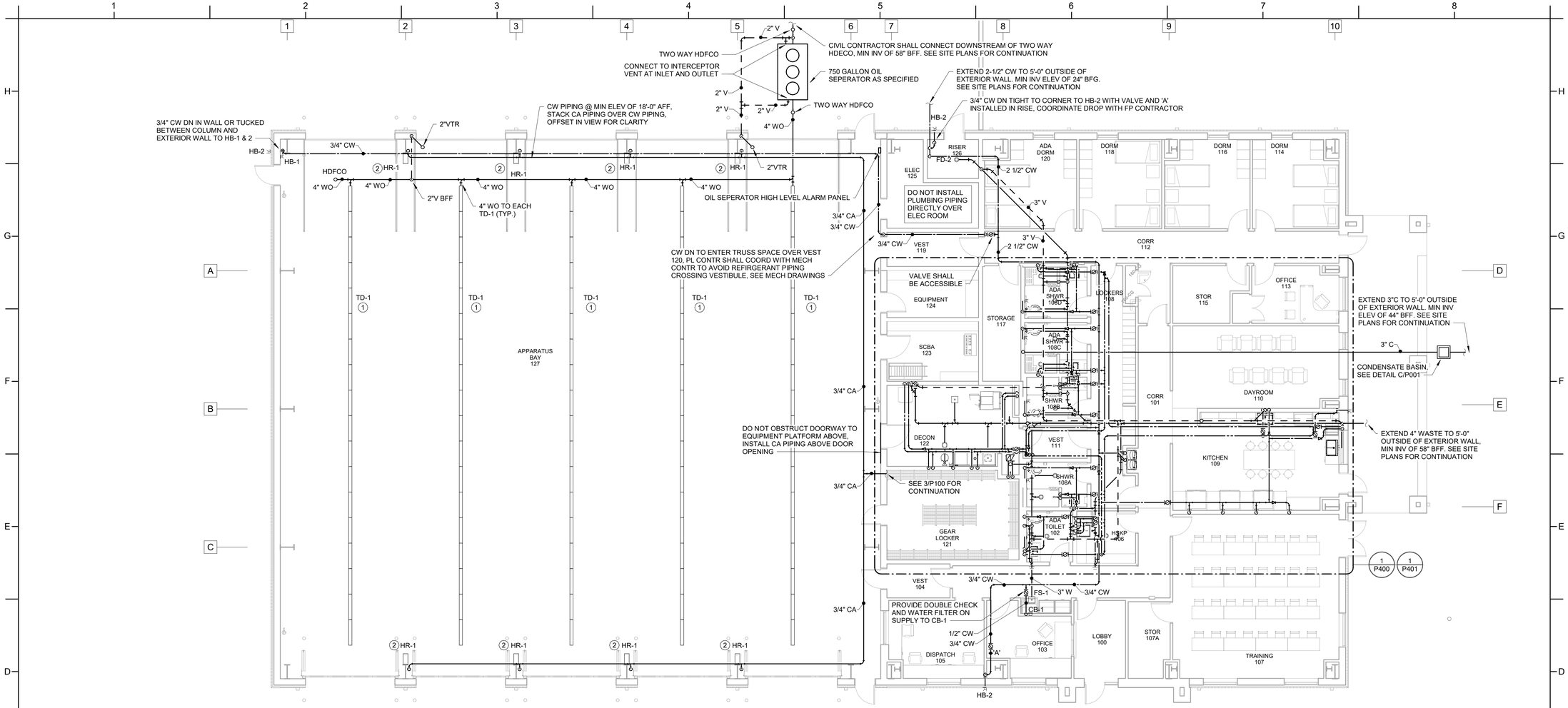
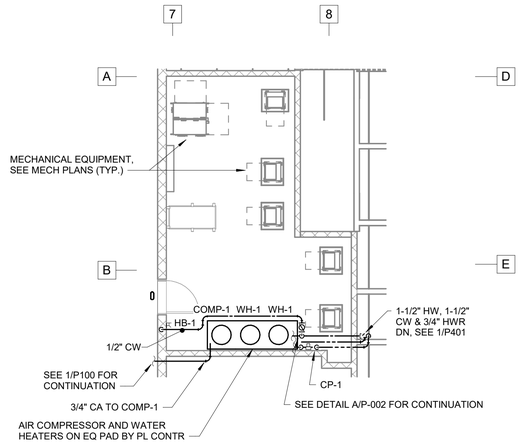
SHEET TITLE
PLUMBING DETAILS

P002



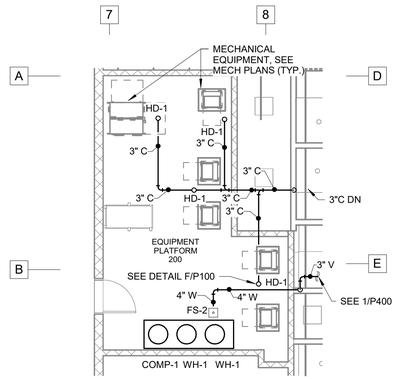
1 P100 PLUMBING FLOOR PLAN

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



3 P100 PLUMBING EQUIPMENT PLATFORM PLAN - DOMESTIC WATER

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



2 P100 PLUMBING EQUIPMENT PLATFORM PLAN - WASTE & VENT

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

KEY NOTES:

1. 4"WO TO TD-1, SEE ARCHITECTURALS FOR DIMENSIONS
2. 3/4"CA TO HR-1, ROUTE CA TIGHT TO STRUCTURE AND IN COLUMN FOOTPRINT TO PREVENT ACCIDENTAL DAMAGES

GRAPHIC SCALES

8' 4' 0 8' 16'

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

RATED ASSEMBLIES LEGEND:

2-HR. FIRE BARRIER

1/2-HR FIRE PARTITION

SEE T-SHEETS FOR UL RATINGS AND ADDITIONAL INFORMATION.

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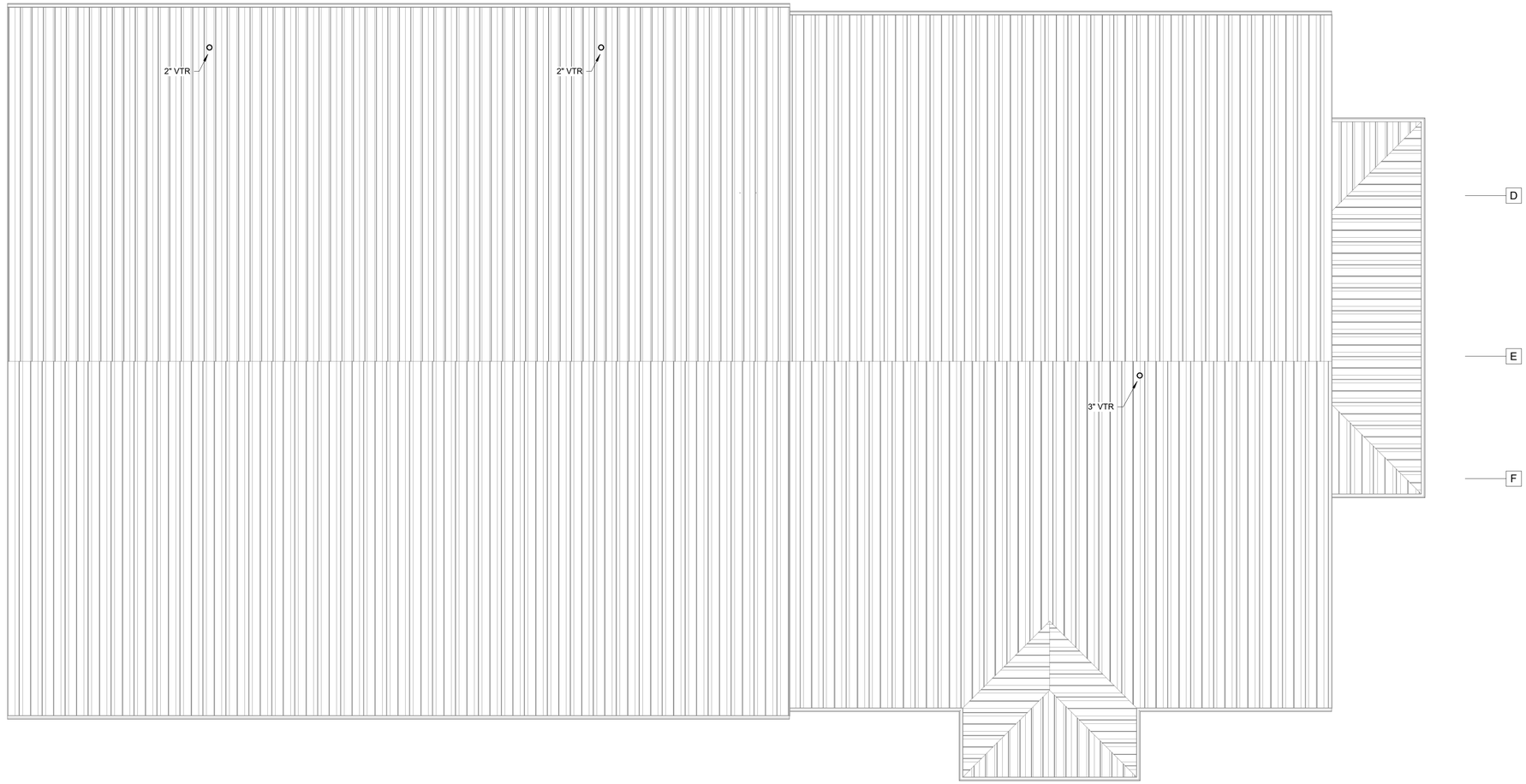
SHEET TITLE

PLUMBING PLANS

P100



1 P120 PLUMBING ROOF PLAN
SCALE: 1/8" = 1'-0"

GRAPHIC SCALES
8' 4' 0 8' 16'
SCALE: 1/8"=1'-0"

RATED ASSEMBLIES LEGEND:
2-HR. FIRE BARRIER
1/2-HR FIRE PARTITION
SEE T-SHEETS FOR UL RATINGS AND ADDITIONAL INFORMATION.

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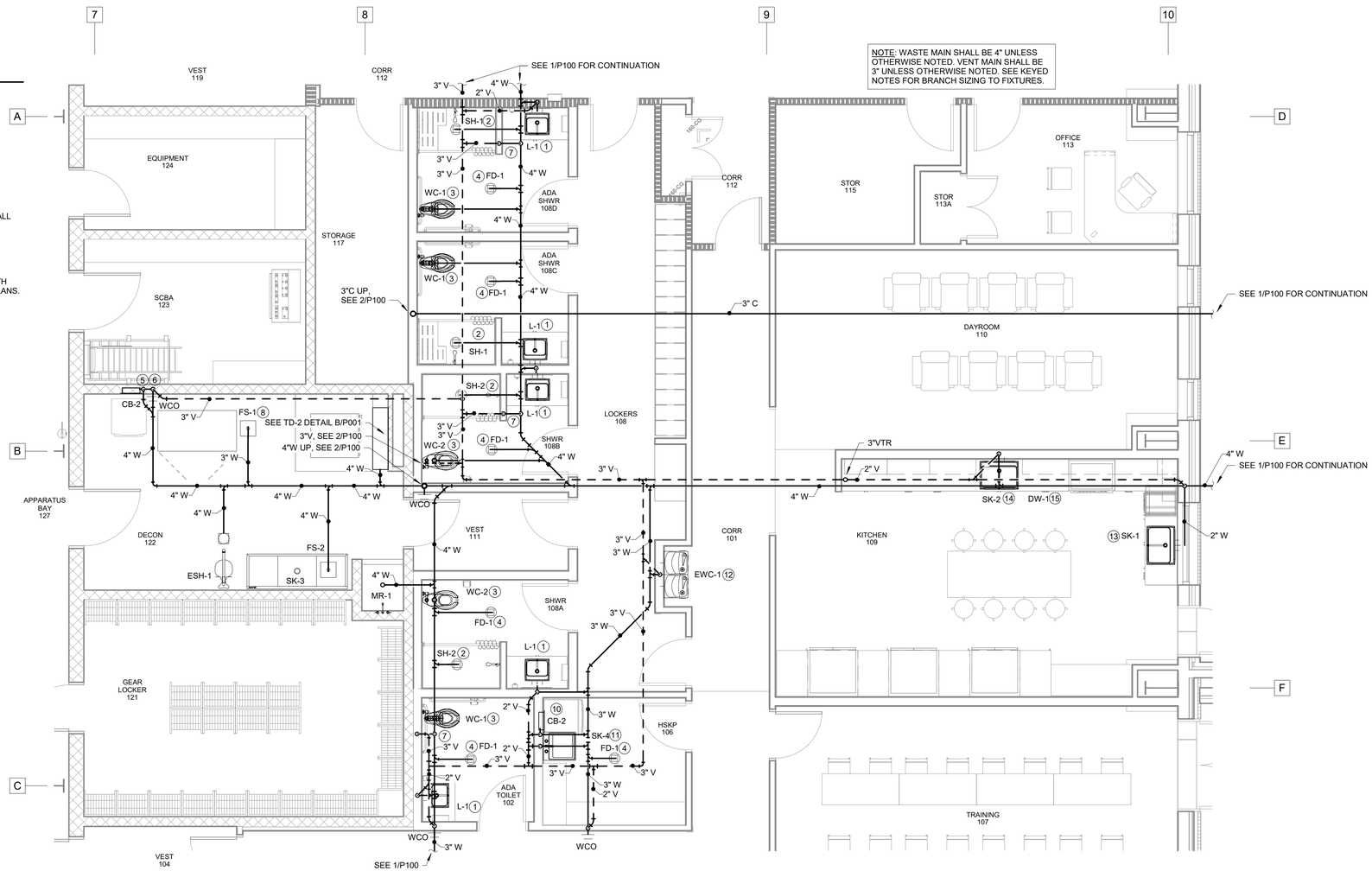
SHEET TITLE
PLUMBING ROOF PLAN

P120

KEY NOTES:

1. 2"W & V TO L-1
2. 2"W TO SH-1 OR SH-2
3. 4"W TO WC-1 OR WC-2.
4. 2"W TO FD-1
5. 3"W UP IN WALL, 2"V SHALL RISE A MIN OF 6" ABOVE WASHER BEFORE CONNECTING TO ADJACENT VENT RISE, 2"W TO CB-2
6. 4"W TO WCO & 3" WET VENT UP TO VENT MAIN
7. 3" CIRCUIT VENT FROM WASTE MAIN BFF, RISE IN NEAREST WALL TO ABOVE CEILING AS INDICATED
8. 3"W TO FS-1
9. NOT USED
10. 3"W UP IN WALL, 2"W TO CB-2 & 2" V UP, COORDINATE CB-2 WITH DRYER DUCT & MECHANCANICAL CONTRACTOR, SEE MECH PLANS.
11. 2"W & V TO SK-4
12. 2"W & V TO EWC-1
13. 2"W & V TO SK-1, 2"W SHALL RISE ADJACENT TO WINDOW AND OFFSET BELOW WINDOW TO SK-1
14. 2"W & V TO SK-2
15. CONNECT DW-1 TO WASTE SERVING SK-2 PER DISHWASHER MANUFACTURERS INSTALLATION INSTRUCTIONS



1 / P400 ENLARGED WASTE & VENT
SCALE: 1/4" = 1'-0"

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GRAPHIC SCALE
4' 2' 0 4' 8'
SCALE: 1/4"=1'-0"

RATED ASSEMBLIES LEGEND:
2-HR. FIRE BARRIER
1/2-HR FIRE PARTITION
SEE T-SHEETS FOR UL RATINGS AND ADDITIONAL INFORMATION.

SHEET TITLE
ENLARGED WASTE & VENT

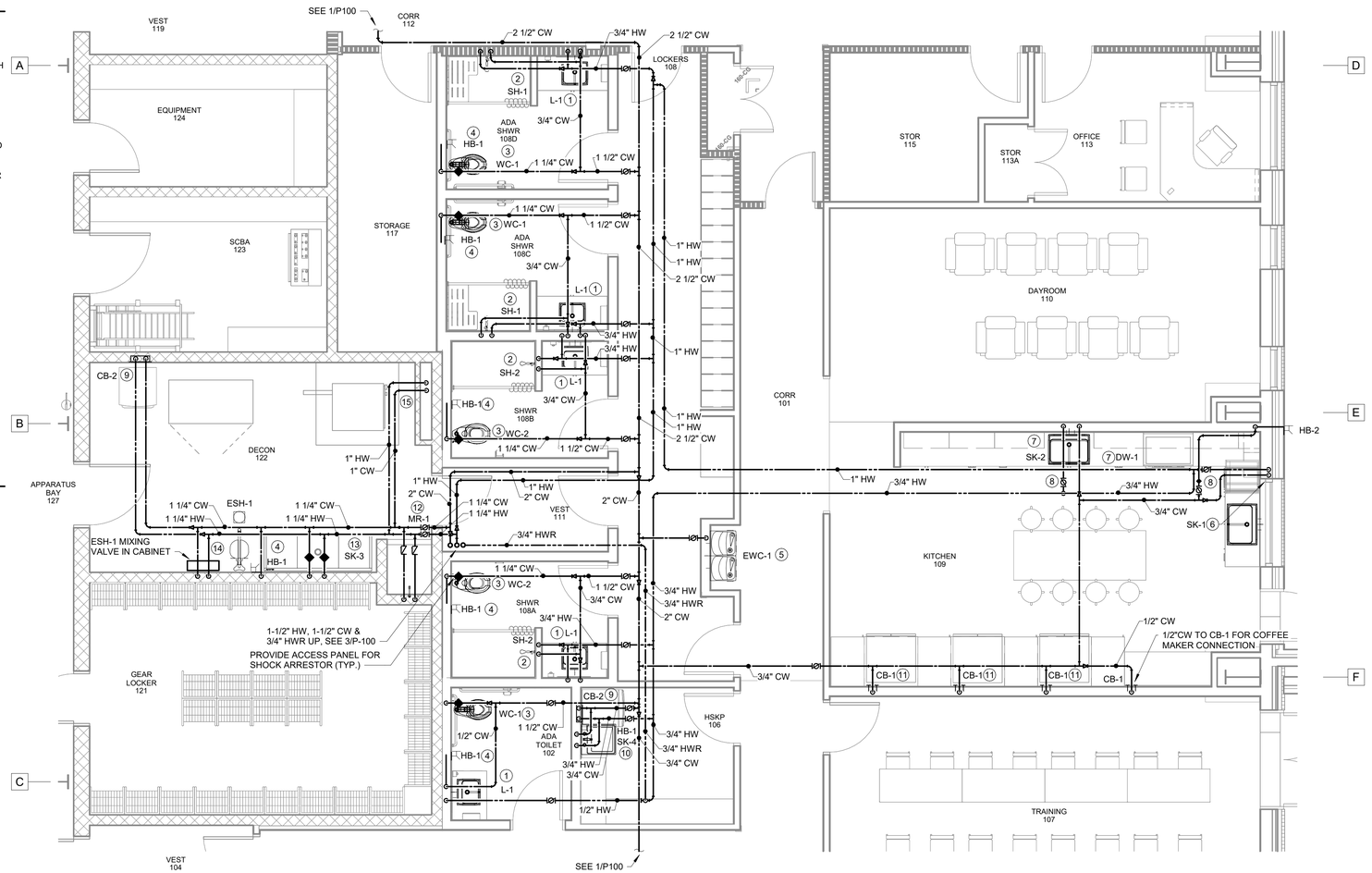
P400

KEY NOTES:

1. 1/2" HW & CW TO L-1
2. 1/2" HW & CW TO SH-1 OR SH-2
3. 1-1/4" CW TO WC-1 OR WC-2. PROVIDE SHOCK ARRESTOR 'A' WITH ACCESS PANEL ABOVE HARD CEILING. LOCATE ARRESTOR AS CLOSE TO WC AS FEASIBLE.
4. 1/2" CW TO HB-1
5. 1/2" CW TO EWC-1
6. 1/2" HW & CW DN IN WALL ADJACENT TO WINDOWN AND OVER TO SK-1 BELOW WINDOW
7. 1/2" HW & CW TO SK-2, CONNECT DW-1 TO HW SERVING SK-2 PER MANUFACTURERS INSTALLATION INSTRUCTIONS
8. COORDINATE VALVE LOCATION WITH SOFFIT
9. 1/2" HW & CW TO CB-2, COORDINATE CONNECTION BOX WITH DRYER DUCT AND MECHANICAL CONTRACTOR
10. 1/2" HW & CW TO SK-4 & 1/2" CW TO HB-1 BELOW SK-4
11. 1/2" CW TO CB-1
12. 3/4" HW & CW WITH CHECK VALVES TO MR-1
13. 3/4" HW & CW WITH 'A' SHOCK ARRESTOR TO SK-3
14. 1-1/4" HW & CW TO MIXING VALVE SERVING ESH-1, ROUTE TEMPERED WATER FROM MIXING VALVE TO ESH-1
15. 1" HW & CW TO VALVE BOX BY PLUMBING CONTRACTOR, SEE DETAIL F/P-002

GENERAL NOTES:

1. ALL VALVE SHALL BE LOCATED ABOVE DROP IN CEILINGS WHERE FEASIBLE. VALVES SHALL BE LOCATED NO HIGHER THAN 12" ABOVE CEILING GRID ELEVATION. PROVIDE ACCESS PANELS WHERE REQUIRED.
2. PROVIDE SHOCK ARRESTORS FOR ALL WATER CLOSETS AND WALL HYDRANTS. LOCATE SHOCK ARRESTORS PER MANUFACTURERS INSTALLATION INSTRUCTIONS. PROVIDE ACCESS PANEL WHERE ARRESTORS ARE LOCATED ABOVE HARD CEILINGS OR IN WALL.



1 P401 ENLARGED DOMESTIC WATER
SCALE: 1/4" = 1'-0"

GRAPHIC SCALE
4' 2' 0 4' 8'
SCALE: 1/4"=1'-0"

RATED ASSEMBLIES LEGEND:
- 2-HR. FIRE BARRIER
- 1/2-HR FIRE PARTITION

SEE T-SHEETS FOR UL RATINGS AND ADDITIONAL INFORMATION.

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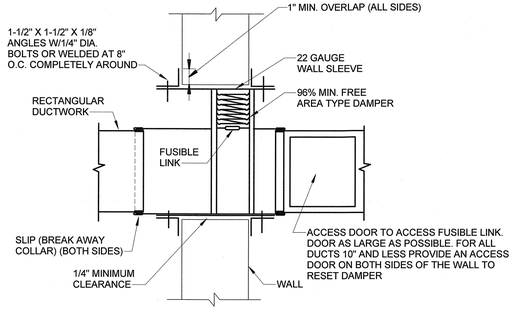
SHEET TITLE
ENLARGED DOMESTIC WATER

P401

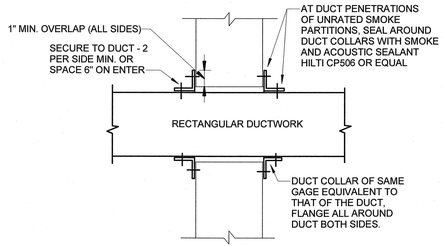


NOTE: DETAIL FOR REFERENCE ONLY. DAMPERS SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

1 / M001

TYPICAL VERTICAL FIRE DAMPER DETAIL

SCALE: NONE

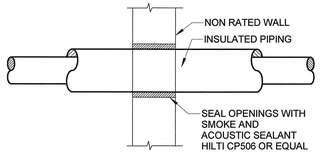


NON-RATED WALLS

2 / M001

DUCT PENETRATION DETAIL

SCALE: NONE



NON-RATED WALLS

3 / M001

PIPE PENETRATION DETAIL

SCALE: NONE

LEGEND

R	REFRIGERANT PIPING
C	AIR CONDITIONING CONDENSATE PIPING
PC	PUMPED CONDENSATE PIPING
	RECTANGULAR DUCTWORK
	SUPPLY AIR DUCTWORK TURNED DOWN
	SUPPLY AIR DUCTWORK TURNED UP
	RETURN AIR/EXHAUST AIR TURNED DOWN
	RETURN AIR/EXHAUST AIR TURNED UP
	SINGLE WALL SPIRAL DUCTWORK
	BRANCH TAKEOFF WITH TURNING VANES, SPLITTER DAMPER AND LOCKING QUADRANT
	DUCT TEE WITH TURNING VANES
	DUCT WITH RUNOUT (SPIN-IN TAKE OFF WITH DAMPER)
	CEILING RETURN AIR/ EXHAUST AIR REGISTER
	CEILING SUPPLY AIR DIFFUSER
A	REGISTER, GRILLE OR DIFFUSER SYMBOL
NO2	NITROGEN DIOXIDE MONITOR
M2E	MOTOR OPERATED TWO POSTION ELECTRIC
CO	CARBON MONOXIDE MONITOR
TS_2	HEATING, COOLING THERMOSTAT WITH # INDICATING UNIT
TH_2	HEATING, COOLING & RH SENSOR WITH # INDICATING UNIT
	DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR
1	KEYED NOTE SYMBOL
F/D	FIRE DAMPER (1-1/2 HOUR RATED) MOUNTED IN WALL WITH DUCT ACCESS DOOR AND CEILING ACCESS DOOR (16"X16" MIN.) WHERE NECESSARY.
SA	SUPPLY AIR
RA	RETURN AIR
OA	OUTSIDE AIR
EX.A.	EXHAUST AIR
NO	NORMALLY OPEN
NC	NORMALLY CLOSED
MD	MANUAL DAMPER
MOD	MOTOR OPERATED DAMPER
AFF	ABOVE FINISHED FLOOR
FIN. FL.	FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
CONC.	CONCRETE
CONT.	CONTINUATION
CONTR.	CONTRACTOR

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT METHOD OF COMPLIANCE

☐ COMPLIANCE PER CHAPTER 4 NORTH CAROLINA ENERGY CONSERVATION CODE - SECTIONS C403.2 (MANDATORY), C403.3 ECONOMIZERS (PRESCRIPTIVE) AND C406 ADDITIONAL EFFICIENCY PACKAGE OPTIONS.
- ☐ C406.2 MORE EFFICIENT HVAC PERFORMANCE
- ☐ C406.3 REDUCED LIGHTING POWER DENSITY
- ☐ C406.4 ENHANCED LIGHTING CONTROLS
- ☐ C406.5 ON-SITE RENEWABLE ENERGY
- ☐ C406.6 DOAS PROVISION FOR CERTAIN HVAC
- ☐ C406.7 HIGH ENERGY SERVICE WATER HEATING

☒ COMPLIANCE PER CHAPTER 4 NORTH CAROLINA ENERGY CONSERVATION CODE - SECTIONS C403.2 (MANDATORY), C403.3 ECONOMIZERS (PRESCRIPTIVE), C403.4 HYDRONIC AND MULTIPLE ZONE (PRESCRIPTIVE) AND C406 ADDITIONAL EFFICIENCY PACKAGE OPTIONS.
- ☐ C406.2 MORE EFFICIENT HVAC PERFORMANCE
- ☒ C406.3 REDUCED LIGHTING POWER DENSITY
- ☐ C406.4 ENHANCED LIGHTING CONTROLS
- ☐ C406.5 ON-SITE RENEWABLE ENERGY
- ☐ C406.6 DOAS PROVISION FOR CERTAIN HVAC
- ☐ C406.7 HIGH ENERGY SERVICE WATER HEATING

☐ COMPLIANCE PER CHAPTER 4 NORTH CAROLINA ENERGY CONSERVATION CODE - SECTIONS C402.5, C403.2, C404, C405.2, C405.3, C405.5, C405.6 AND C407 TOTAL BUILDING PERFORMANCE. THE BUILDING ENERGY COST SHALL BE EQUAL TO OR LESS THAT 85 PERCENT OF THE STANDARD REFERENCE DESIGN BUILDING.

☐ COMPLIANCE PER ANSI/ASHRAE/IESNA 90.1-2013 .

☐ COMPLIANCE PER NORTH CAROLINA SPECIFIC COMCHECK OR ASHRAE 90.1-2013 COMCHECK.

CLIMATE ZONE 3A

EXTERIOR DESIGN CONDITIONS
winter dry bulb: 20°F
summer dry bulb: 92°F DB/76°F WB

INTERIOR DESIGN CONDITIONS
winter dry bulb: 70°F
summer dry bulb: 74°F
relative humidity: 55%

BUILDING HEATING LOAD: 174.3 MBH - INCLUDING APPARATUS BAY

BUILDING COOLING LOAD: 13.8 TONS

MECHANICAL SPACING CONDITIONING SYSTEM
Unitary:
description of unit:
heating efficiency:
cooling efficiency:
heat output of unit:
cooling output of unit:
} SEE SCHEDULES ON SHEET M600

Boiler: N/A
total boiler output. If oversized, state reason.
Chiller: N/A
total chiller capacity. If oversized, state reason.

LIST EQUIPMENT EFFICIENCIES: SEE SCHEDULES ON SHEET M600

EQUIPMENT SCHEDULES WITH MOTORS (MECHANICAL SYSTEMS)
motor horsepower:
number of phases:
minimum efficiency:
motor type:
# of poles:
} SEE SCHEDULES ON SHEET M600

DESIGNER STATEMENT

To the best of my knowledge and belief, the design of this building complies with the mechanical systems, service systems and equipment requirements of the North Carolina Energy Conservation Code.

SIGNED: _____
NAME: Kenneth Lynch. P.E.
TITLE: Professional Engineer

GENERAL NOTES:

1. HVAC CONTRACTOR SHALL FIELD VERIFY ALL RELEVANT DIMENSIONS, CLEARANCES, LOCATIONS AND ELEVATIONS PRIOR TO ORDERING, FABRICATION, AND INSTALLATION OF HIS WORK. DISCREPANCIES OR INTERFERENCE'S SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER AS SOON AS POSSIBLE. THE DRAWINGS DIAGRAMMATIC ALLY INDICATE THE GENERAL LOCATION OF DUCTS, PIPING AND EQUIPMENT AND DO NOT SHOW ALL OFFSETS, FITTINGS, BOLTS, CONNECTIONS, ETC. REQUIRED FOR A COMPLETE SYSTEM. WHILE THE DRAWINGS ARE TO BE FOLLOWED AS CLOSELY AS POSSIBLE, IF IT IS FOUND NECESSARY TO CHANGE THE LOCATION OF ANY WORK TO ACCOMMODATE THE CONDITIONS AT THE BUILDING, SUCH CHANGES SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER, AND AS DIRECTED BY THE ENGINEER.
2. ALL SUPPLY AND RETURN CONNECTIONS TO AHU SHALL BE MADE WITH A FLEXIBLE DUCT CONNECTION.
3. PIPING, DUCTWORK, ETC., SHALL NOT BE SUPPORTED FROM ROOF STRUCTURE BRIDGING OR ROOFDECK. DUCTWORK AND PIPING SHALL BE SUPPORTED DIRECTLY FROM STRUCTURAL ELEMENTS OF THE BUILDING. EQUIPMENT SUPPORTED BY ROOF STRUCTURE SHALL HAVE SUPPORTS ATTACHED AS CLOSE AS POSSIBLE TO PANEL POINTS.
4. ALL DUCT JOINTS SHALL BE SEALED AS SPECIFIED.
5. IN AREAS WITH GYPBOARD CEILINGS, HVAC CONTRACTOR SHALL INSTALL EQUIPMENT, DUCTWORK AND PIPE HANGERS PRIOR TO GYPBOARD INSTALLATION.
6. SEE SPECIFICATION SECTIONS 230900 FOR DESCRIPTION AND DEMARCATION OF WORK FOR POWER TO BAS CONTROL.
7. ALL THERMOSTATS AND SWITCHES FOR MECHANICAL SYSTEMS AND TOP OF HVAC CONTROL PANELS SHALL BE MOUNTED 44" AFF MAXIMUM. PROVIDE SERVICE CLEARANCES AS REQUIRED FOR ALL EQUIPMENT.
8. AIR CONDITIONING CONDENSATE LINE SIZES ARE MINIMAL SIZE. DO NOT INSTALL SMALLER THAN ACTUAL COIL DISCHARGE SIZE.
9. PIPING SHALL BE PRESSURE TESTED.
10. SEE SPECIFICATION SECTION 230500 FOR REQUIREMENTS FOR SIESMIC RESTRAINTS.

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ONSLOW COUNTY BEAR CREEK FIRE STATION

ONSLOW COUNTY
BID. NO. 102-25C
138 OLD SAND RIDGE RD. HUBERT, NC 28539

SEALS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17655 03/10/2025 KENNETH LYNCH

DKA JOB NUMBER
2324

REVISIONS

PA: JIMMY ARDEL EDWARDS
PM: ALEXANDRE PENEGRE
Drawn By: NAH
Plot Date: 3/10/2025 11:39:06 AM

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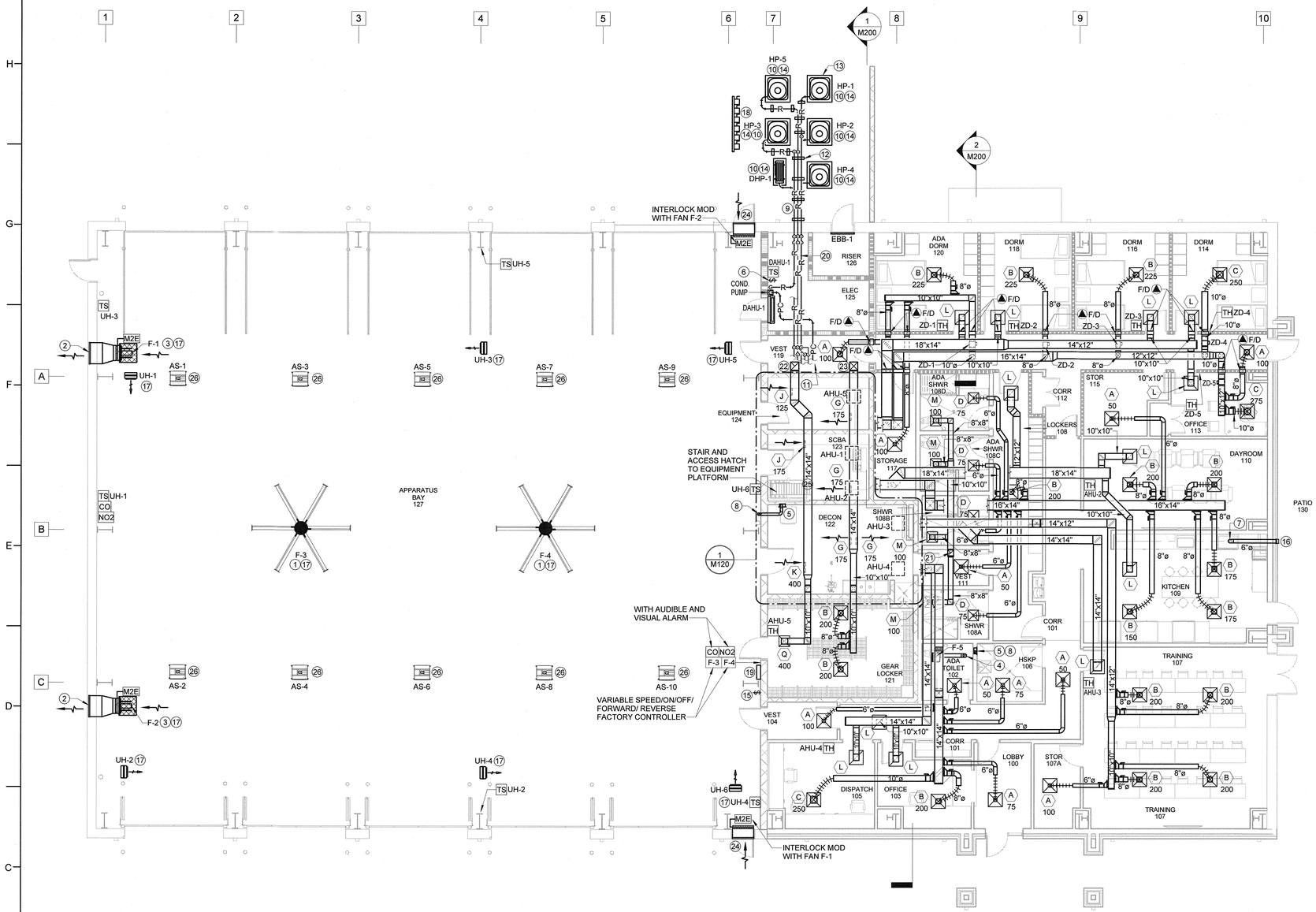
BID DOCUMENTS
03/12/2025

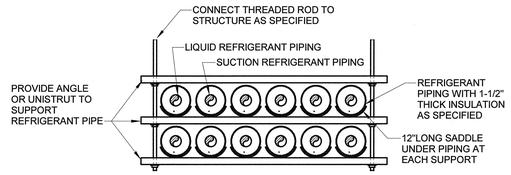
SHEET TITLE

MECHANICAL LEGEND, ENERGY SCHEDULE & NOTES

M001



1 M100 MECHANICAL PLAN
SCALE: 1/8" = 1'-0"



2 M100 REFRIGERANT PIPE SECTION
SCALE: NONE

KEYED NOTES: (THIS SHEET ONLY)

1. BOTTOM OF HVLS VENTILATOR SHALL BE 17'-0" AFF. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. 36"H x 48"W SIDEWALL LOUVER WITH BIRD SCREEN BY GENERAL CONTRACTOR.
3. PROVIDE PROTECTIVE WIRE GUARD OVER FAN, MOD AND ACUTATOR. INSTALL FAN TO AVOID ROLL UP DOOR TRACKS, LIGHTS AND OTHER TRADES. SEE DETAIL D/M500.
4. 6"Ø EXAHUST DUCT UP TO GOOSNECK ABOVE ROOF. SEE DETAIL C/M501.
5. DRYER BOX, SEE DETAIL E/M501.
6. PROVIDE TOGGLE TYPE DISCONNECT SWITCH WITH LOCKABLE COVER.
7. PROVIDE TRANSITION AS NECESSARY AND MAKE FINAL CONNECTION TO KITCHEN HOOD.
8. ROUTE 4"Ø DRYER EXAUST DUCT UP TO GOOSENECK ABOVE ROOF, SEE DETAIL C/M501.
9. STACK REFRIGERANT PIPING NEATLY, AND SUPPORT AS SHOWN ON DETAIL F/M501.
10. INSTALL UNITS WITH CLEARANCES PER MANUFACTURER'S INSTALLATION INSTRUCTIONS, TYP.
11. ROUTE PUMPED COND. FROM DAHU-1 UP TO EQUIPMENT PLATFORM, SEE 1/M120 FOR CONTINUATION.
12. SUPPORT REFIGERANT PIPING SECURELY ON GRADE, TYP.
13. 6" CONC. PAD BY GENERAL CONTR.,TYP.
14. COVER ALL EXPOSED REF. PIPING WITH ALUMINUM JACKET. TYP. SEE DETAIL. B/M501.
15. MANUAL OVERRIDE SWITCH FOR BAY HEATING AND VENTILATION SYSTEM.
16. WALL CAP WITH BACKDRAFT DAMPER AND BIRD SCREEN. SEE DETAIL D/M501.
17. COORDINATE LOCATION WITH LIGHTS AND EQUIPMENT.
18. HEAVY DUTY DISCONNECT SWITCH MOUNTED ON RACK BY ELECTRICAL CONTRACTOR, TYPICAL.
19. AIR SCRUBBER CONTROL PANEL - ALTERNATE M-1.
20. STACK REFRIGERANT PIPE AND SUPPORT WITH UNISTRUT AND THREADED ROD. SEE SECTION 2/M100.
21. 10"x10" EXHAUST AIR DUCT UP TO F-6 ON EQUIPMENT PLATFORM, SEE 1/M120 FOR CONTINUATION.
22. 14"x14" EXHAUST AIR DUCT UP TO ERV-1 ON EQIPMENT PLATFORM, SEE 1/M120 FOR CONTINUATION.
23. 14"x14" SUPPLY AIR DUCT DOWN FROM AHU-5 ON EQIPMENT PLATFORM, SEE 1/M120 FOR CONTINUATION.
24. 36"H x 36"W SIDEWALL INTAKE AIR LOUVER WITH BIRD SCREEN BY GENERAL CONTRACTOR. MOD BY MECHANICAL CONTR.
25. COORDINATE DUCTWORK ROUTING WITH STAIRS AND ACCESS TO EQIPMENT PLATFORM.
26. AIR SCUBBERS - ALTERNATE M-1. BOTTOM OF AIR SCRUBBERS SHALL BE 17'-0" AFF. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS

GRAPHIC SCALE
8' 4' 0 8' 16'
SCALE: 1/8"=1'-0"

RATED ASSEMBLIES LEGEND:
2-HR. FIRE BARRIER
1/2-HR FIRE PARTITION
SEE T-SHEETS FOR UL RATINGS AND ADDITIONAL INFORMATION.

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DKA JOB NUMBER
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REVISIONS

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PM: ALEXANDRE PENEGRE
Drawn By: NAH
Plot Date: 3/10/2025 11:39:12 AM

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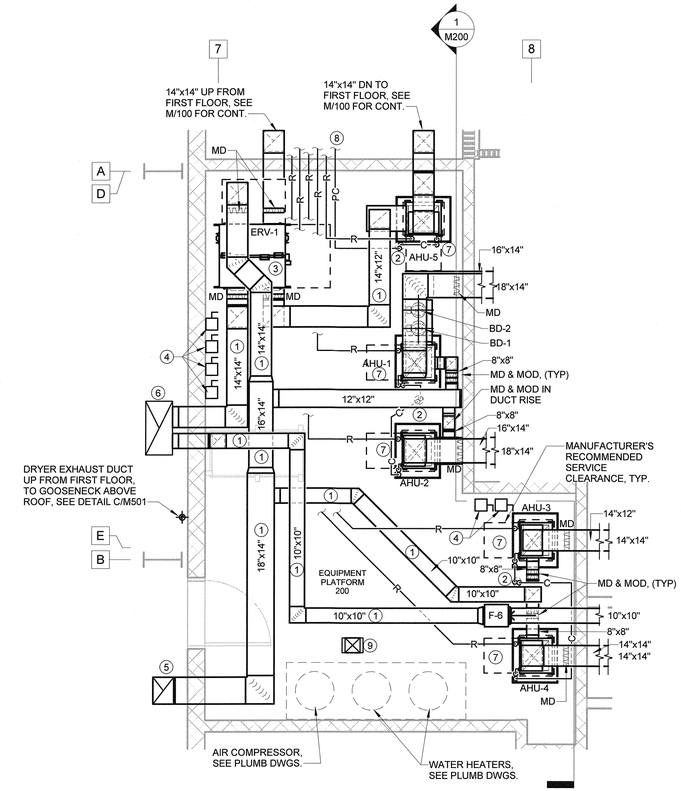
SHEET TITLE
MECHANICAL PLAN

M100



1 M120 MECHANICAL EQUIPMENT PLATFORM PLAN

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

KEYED NOTES: (THIS SHEET ONLY)

1. INSTALL DUCTWORK AS HIGH AS POSSIBLE.
2. SPILL CONDENSATE INTO HUB DRAIN, SEE DETAIL C/M500.
3. SEE DETAIL F/M500 FOR ERV SUPPORT.
4. HEAVY DUTY DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR, TYP.
5. 18"x14" OUTSIDE AIR INTAKE UP TO 36"x18" SIDEWALL LOUVER ABOVE ROOF BY GC, SEE ARCH. DRAWINGS. INSULATE WITH DUCTBOARD INSULATION WHERE EXPOSED IN APPARATUS BAY.
6. CONNECT EXAHUST DUCT FROM F-6, AND RELEIF AIR FROM ERV-1 INTO PLENUM FROM 36"X18" SIDEWALL LOUVER ABOVE ROOF BY GC. PLENUM SHALL BE FULL SIZE OF LOUVER. SEE ARCHITECTUAL DRAWINGS.
7. ROUTE REFRIGERANT AND CONDENSATE PIPING (INCLUDING P-TRAP) TO AVOID INTERFERANCE WITH EQUIPMENT FILTER REMOVAL AND REPLACEMENT. CONDENSATE P-TRAP SHALL BE LOCATED WITHIN EXTENTS OF CONDENSATE PAN.
8. PUMPED CONDENSATE FROM DAHU-1 IN ELECTRICAL 125. SEE 1/M100 FOR CONTINUATION.
9. 10"x10" MAKE-UP AIR DN FROM GV-1 ON ROOF TO PROVIDE MAKE-UP AIR FOR AIR COMPRESSOR. COVER END OF DUCTOWRK WITH WIRE MESH. INSTALL MOD IN DUCT RISE. MOD SHALL BE INTERLOCKED WITH AIR COMPRESSOR TO BE OPEN ONLY WHEN AIR COMPRESSOR IS ON.

GRAPHIC SCALE

4' 2' 0 4' 8'

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

RATED ASSEMBLIES LEGEND:

2-HR. FIRE BARRIER

1/2-HR FIRE PARTITION

SEE T-SHEETS FOR UL RATINGS AND ADDITIONAL INFORMATION.

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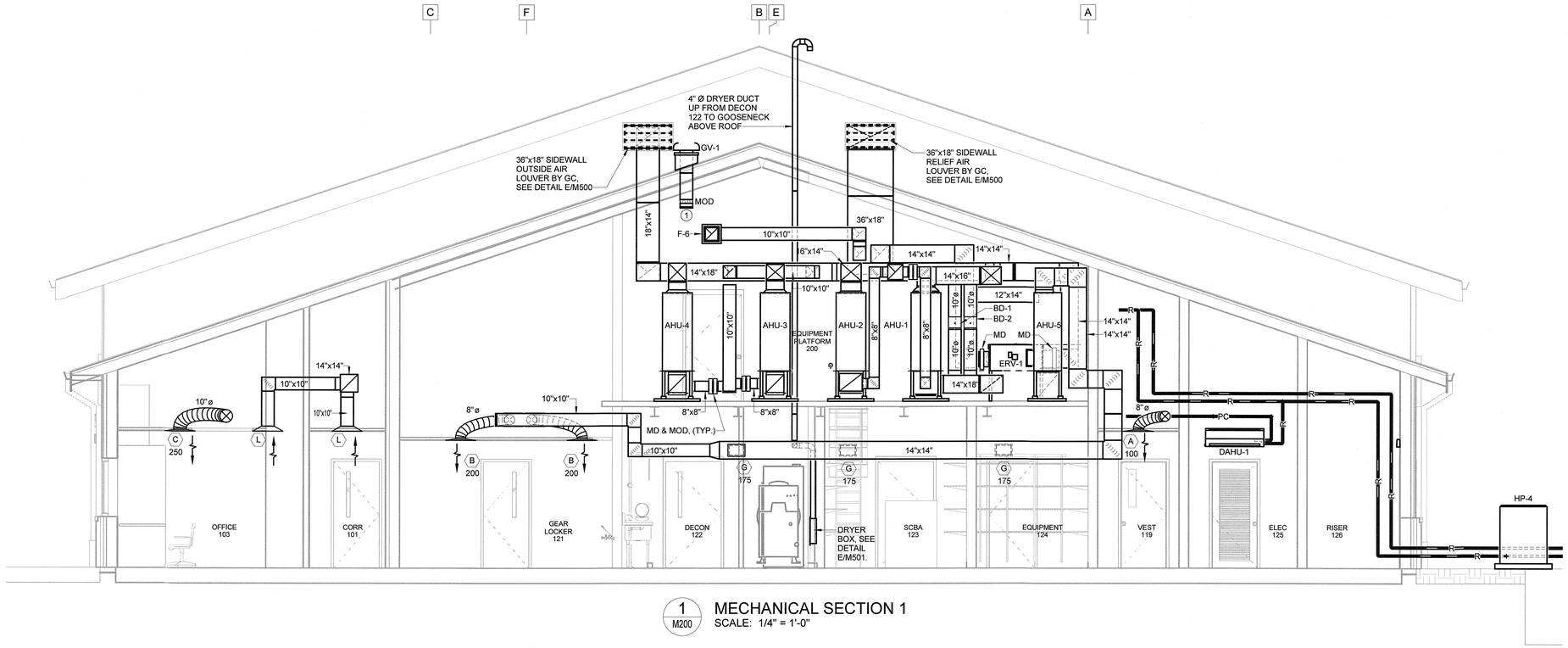
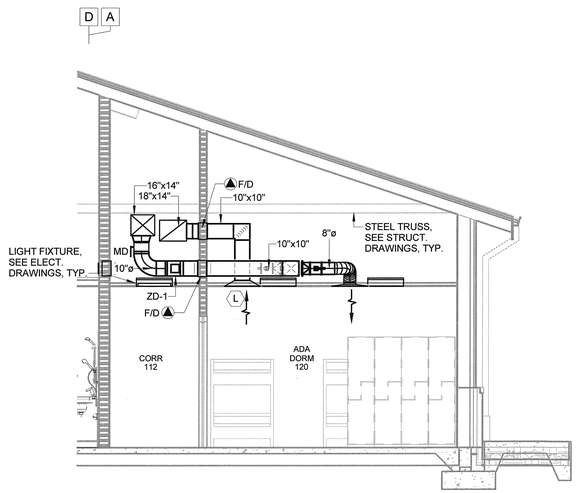
SHEET TITLE
MECHANICAL EQUIPMENT PLATFORM PLAN

M120



1 M200 MECHANICAL SECTION 1
SCALE: 1/4" = 1'-0"



2 M200 MECHANICAL SECTION - DORM AREA
SCALE: 1/4" = 1'-0"

KEYED NOTES: (THIS SHEET ONLY)

1. 10"x10" MAKE-UP AIR DN FROM GV-1 ON ROOF TO PROVIDE MAKE-UP AIR FOR AIR COMPRESSOR. COVER END OF DUCTOWRK WITH WIRE MESH. INSTALL MOD IN DUCT RISE. MOD SHALL BE INTERLOCKED WITH AIR COMPRESSOR TO BE OPEN ONLY WHEN AIR COMPRESSOR IS ON.

GRAPHIC SCALE
4' 2' 0 4' 8'
SCALE: 1/4"=1'-0"

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SEALS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17656 03/11/25 KENNETH LYNCH

DKA JOB NUMBER
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REVISIONS

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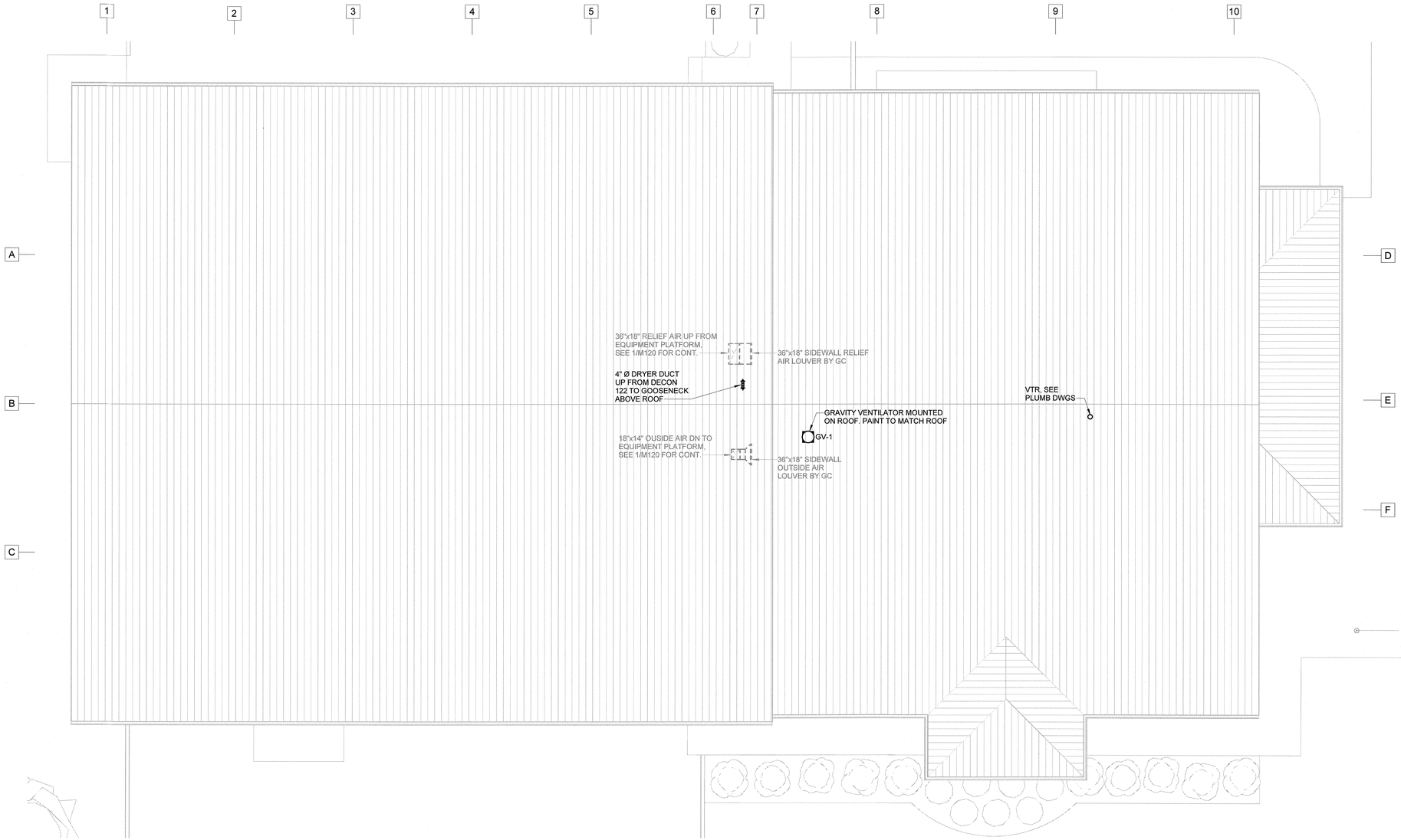
SHEET TITLE
MECHANICAL SECTIONS

M200



1 / M301 MECHANICAL ROOF PLAN
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE
8' 4' 0 8' 16'
SCALE: 1/8"=1'-0"

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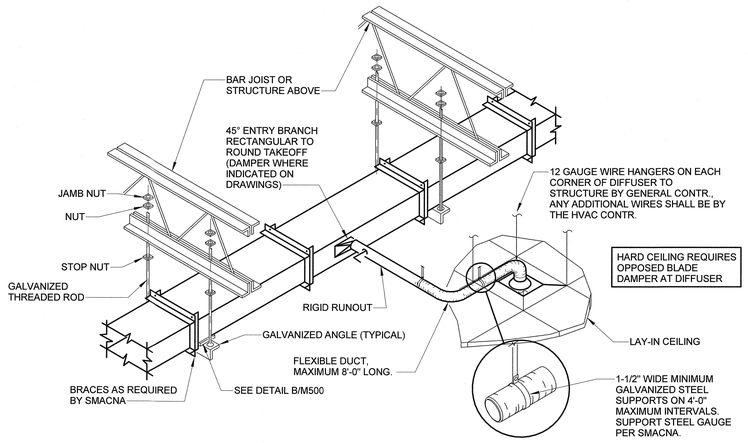
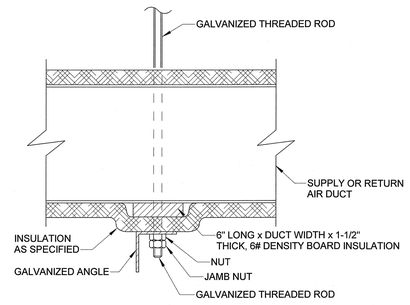
SHEET TITLE
MECHANICAL ROOF

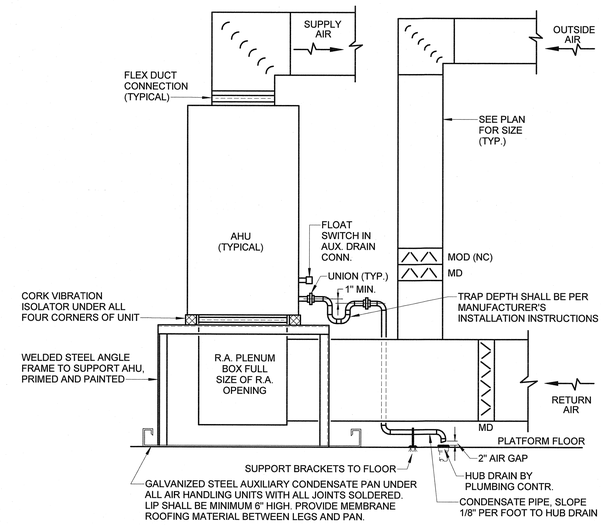
M301



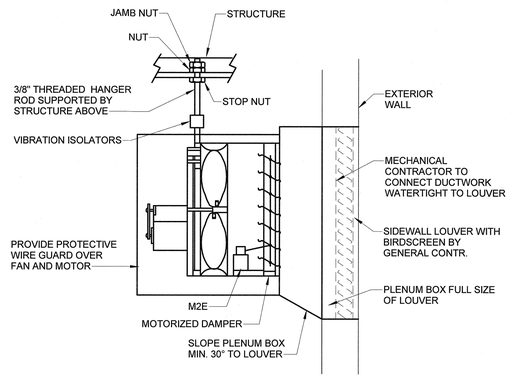
A M500 TYPICAL SUPPLY DUCT DETAIL
SCALE: NONE



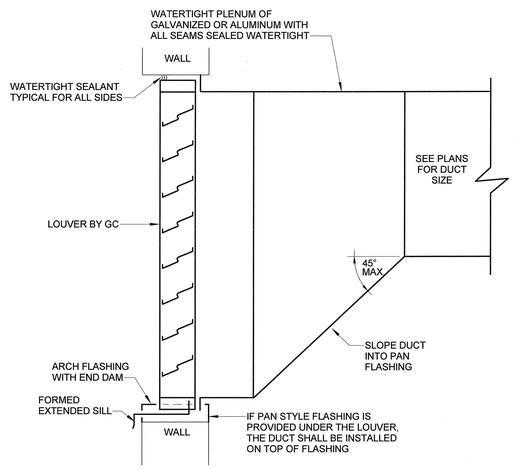
B M500 TYPICAL DUCT HANGER DETAIL
SCALE: NONE



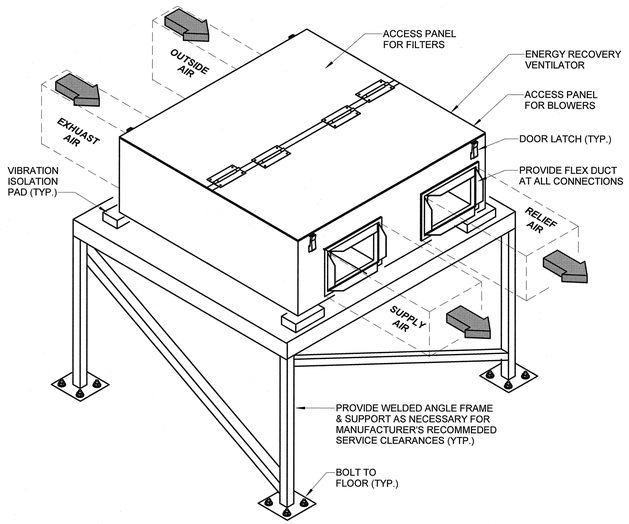
C M500 TYPICAL VERTICAL SPLIT SYSTEM HEAT PUMP
SCALE: NONE



D M500 SIDEWALL SUPPLY AND EXHAUST FAN DETAIL
SCALE: NONE



E M500 TYPICAL WALL LOUVER DETAIL
SCALE: NONE



F M500 ENERGY RECOVERY VENTILATOR DETAIL
SCALE: NONE

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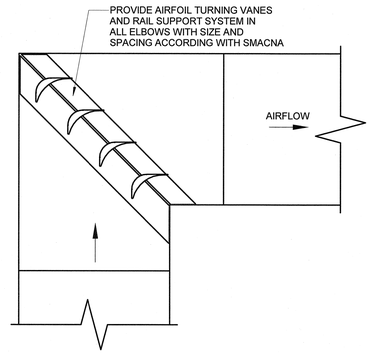
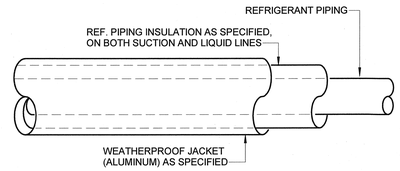
SHEET TITLE
MECHANICAL DETAILS

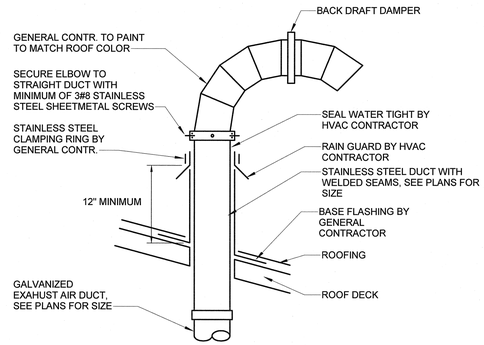
M500



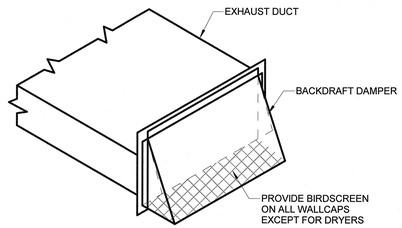
A M501 TYPICAL DUCT ELBOW WITH TURNING VANES
SCALE: NONE



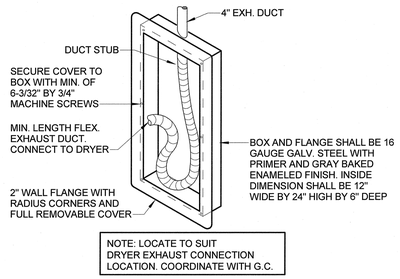
B M501 EXTERIOR REFRIGERANT PIPING DETAIL
SCALE: NONE



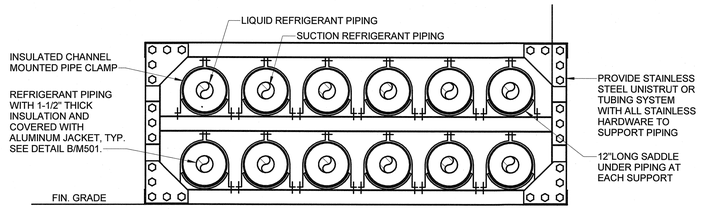
C M501 EXHAUST DUCT TERMINAL DETAIL
SCALE: NONE



D M501 WALL CAP DETAIL
SCALE: NONE



E M501 DRYER VENT BOX DETAIL
SCALE: NONE



F M501 REFRIGERANT PIPE SUPPORT
SCALE: NONE

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ONSLOW COUNTY
BID. NO. 102-25C
138 OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

NORTH CAROLINA PROFESSIONAL SEAL 17655 ENGINEER KENNETH LYNCH

DKA JOB NUMBER
2324

REVISIONS

PA: JIMMY ARDEL EDWARDS
PM: ALEXANDRE PENEGRE
Drawn By: NAH
Plot Date: 3/10/2025 11:39:18 AM

DATE ISSUED
BID DOCUMENTS
03/12/2025

SHEET TITLE
MECHANICAL DETAILS

M501

ENERGY RECOVERY VENTILATOR SCHEDULE

SYMBOL	AIR QUANTITY		EXT SP "H20		FAN HP		CORE HEAT EXCHANGER									ELECTRICAL			BASIS OF DESIGN	REMARKS
							OUTSIDE AIR			EXHAUST AIR			SUPPLY AIR							
	OUTSIDE AIR CFM	EXHAUST AIR CFM	OA/SA (1)	EX.A (1)	OA/SA	EX. A	COOLING DB°F	COOLING WB°F	HEATING DB°F	COOLING DB°F	COOLING WB°F	HEATING DB°F	COOLING DB°F	COOLING WB°F	HEATING DB°F	MCA	MOCP	VOLTAGE & PHASE		
ERV-1	1100	1100	0.75	0.75	3/4	3/4	93.0	77.0	24.0	75.0	62.4	70.0	82.0	70.6	52.1	16	20	208V-1Ø	RUSKIN MCV1000	SERVING AHU-5

(1) EXT. S.P. INCLUDES DUCTWORK. FILTERS IN UNIT ARE NOT INCLUDED IN THIS FIGURE.

SPLIT SYSTEM HEAT PUMP UNIT SCHEDULE

AIR HANDLING UNIT SECTION (6)									OUTDOOR HEAT PUMP SECTION							
SYMBOL	AIR QUANTITY		EXT SP "H20 (1)	ELECTRICAL					SYMBOL	ELECTRICAL			COOLING CAPACITY BTUH (2)	HEATING CAPACITY BTUH (3)	SEER	REMARKS
	TOTAL CFM	OUTSIDE CFM		MCA	MOCP	STRIP HEAT (KW)	FAN HP	VOLTAGE & PHASE		MCA	MOCP	VOLTAGE & PHASE				
AHU-1	1500	200	1.00	45	45	10.8	3/4	208V-3Ø	HP-1	18	30	208V-3Ø	44,000	28,000	14.3	
AHU-2	1500	200	0.65	45	45	10.8	3/4	208V-3Ø	HP-2	18	30	208V-3Ø	44,000	28,000	14.3	
AHU-3	900	210	0.65	30	30	7.2	1/2	208V-3Ø	HP-3	16	25	208V-1Ø	29,000	16,500	14.3 (5)	
AHU-4	800	100	0.65	29	30	7.2	1/2	208V-3Ø	HP-4	13	20	208V-1Ø	23,000	14,700	14.3 (5)	
AHU-5	1100	1100 (4)	0.50	42	40	10.8	1/2	208V-3Ø	HP-5	16	25	208V-3Ø	32,500	21,500	14.3	

(1) EXT. S.P. INCLUDES SUPPLY & RETURN AIR DUCTWORK. FILTERS IN UNIT ARE NOT INCLUDED IN THIS FIGURE.
(2) CAPACITY WHEN MATCHED WITH INDOOR HEAT PUMP SECTION AT AHRI CONDITIONS.
(3) CAPACITY AT 17° F OUTSIDE AIR TEMPERATURE.
(4) FROM ERV-1.
(5) SEER2.
(6) WITH FACTORY INSTALLED INTEGRAL REFRIGERANT LEAK DETECTOR AND SAFETY SEQUENCE FOR A2L REFRIGERANTS.

POWER VENTILATOR SCHEDULE

SYMBOL	CFM	ESP	RPM	TIP SPEED	ELECTRICAL		TYPE	DRIVE	CONTROL	REMARKS
					HP	VOLTAGE				
F-1	3000	0.50"	1690	10,630	3/4	208V-3Ø	SIDEWALL PROPELLER EXHAUST	BELT	(3)	APPARATUS BAY 129
F-2	3000	0.50"	1690	10,630	3/4	208V-3Ø	SIDEWALL PROPELLER EXHAUST	BELT	(3)	APPARATUS BAY 129
F-3	50,000	-	-	-	1-1/2	208V-3Ø	14'-0" HVLS AIR MOVEMENT (5)	DIRECT	(4)	APPARATUS BAY 129
F-4	50,000	-	-	-	1-1/2	208V-3Ø	14'-0" HVLS AIR MOVEMENT (5)	DIRECT	(4)	APPARATUS BAY 129
F-5	100	0.50"	810	1430	34 (1)	115V-1Ø	CEILING EXHAUST	DIRECT	(2)	ADA TOILET 102
F-6	400	0.50"	1630	4630	1/10	115V-1Ø	INLINE CENTRIFUGAL	DIRECT	AHU-2	SHWR 108A, SHWR 108D, ADA SHWR 108E, ADA SHWR 108F

(1) WATTS
(2) VIA LIGHTING CONTROL SYSTEM'S OCCUPANCY SENSOR.
(3) MANUAL SWITCH IN PARALLEL WITH CO & NO2 SENSING SYSTEM, SEE APPARATUS BAY HEATING & VENTIALTION CONTROL DIAGRAM ON M701. NOTE THAT F-1 AND F-2 ALWAYS OPERATE AT THE SAME TIME.
(4) VARIABLE SPEED/ON/OFF/FORWARD/REVERSE FACTORY CONTROLLER.
(5) BASIS OF DESIGN IS RITE HITE REVOLUTION.

AIR SCRUBBER SCHEDULE - **ALTERNATE M-1**

SYMBOL	CFM	ESP	RPM	ELECTRICAL			TYPE	DRIVE	CONTROL	REMARKS
				HP	AMP	VOLTAGE				
AS-1	-	-	1725	3/4	13.6	208V-1Ø	EXHAUST REMOVAL SYSTEM	DIRECT	(1)	APPARATUS BAY 127
AS-2	-	-	1725	3/4	13.6	208V-1Ø	EXHAUST REMOVAL SYSTEM	DIRECT	(1)	APPARATUS BAY 127
AS-3	-	-	1725	3/4	13.6	208V-1Ø	EXHAUST REMOVAL SYSTEM	DIRECT	(1)	APPARATUS BAY 127
AS-4	-	-	1725	3/4	13.6	208V-1Ø	EXHAUST REMOVAL SYSTEM	DIRECT	(1)	APPARATUS BAY 127
AS-5	-	-	1725	3/4	13.6	208V-1Ø	EXHAUST REMOVAL SYSTEM	DIRECT	(1)	APPARATUS BAY 127
AS-6	-	-	1725	3/4	13.6	208V-1Ø	EXHAUST REMOVAL SYSTEM	DIRECT	(1)	APPARATUS BAY 127
AS-7	-	-	1725	3/4	13.6	208V-1Ø	EXHAUST REMOVAL SYSTEM	DIRECT	(1)	APPARATUS BAY 127
AS-8	-	-	1725	3/4	13.6	208V-1Ø	EXHAUST REMOVAL SYSTEM	DIRECT	(1)	APPARATUS BAY 127
AS-9	-	-	1725	3/4	13.6	208V-1Ø	EXHAUST REMOVAL SYSTEM	DIRECT	(1)	APPARATUS BAY 127
AS-10	-	-	1725	3/4	13.6	208V-1Ø	EXHAUST REMOVAL SYSTEM	DIRECT	(1)	APPARATUS BAY 127

(1) FACTORY AUTOMATIC TIMER CONTROL PANEL IN PARALLEL WITH:
a. MAGNETIC DOOR SWITCH (ONE PER VEHICLE DOOR) AS PART OF AIR SCRUBBER SYSTEM.
b. PHOTOELECTRIC EYES (TO DETECT VEHICLE MOVEMENT) AS PART OF AIR SCRUBBER SYSTEM.
c. MANUAL ON-OFF-AUTO SELECTOR WITH LABEL.
d. INPUT SIGNAL FROM CARBON MONOXIDE (CO)/NITROGEN DIOXIDE (NO2) SENSING SYSTEM IN SPACE, SENSING SYSTEM AS SPECIFIED IN SECTION 230900 BY CONTROL CONTRACTOR.

DUCTLESS SPLIT SYSTEM HEAT PUMP UNIT SCHEDULE

SYMBOL	AIR QUANTITY		EXT SP "H20 (1)	ELECTRICAL		SYMBOL	ELECTRICAL			COOLING CAPACITY BTUH (2)	HEATING CAPACITY BTUH (3)	SEER	REMARKS
	TOTAL CFM	OUTSIDE CFM		FAN FLA	VOLTAGE & PHASE		MCA	MOCP	VOLTAGE & PHASE				
DAHU-1	700	-	-	1.0	208V-1Ø	DHP-1	19	25	208V-1Ø	10,000 - 24,000	15,700	21.4	ELECTRICAL 125

(1) EXT. S.P. INCLUDES SUPPLY & RETURN AIR DUCTWORK. FILTERS IN UNIT ARE NOT INCLUDED IN THIS FIGURE.
(2) MINIMUM AND MAXIMUM CAPACITY WHEN MATCHED WITH INDOOR HEAT PUMP SECTION AT AHRI CONDITIONS.
(3) CAPACITY AT 17° F OUTSIDE AIR TEMPERATURE.

REGISTER, GRILLE & DIFFUSER SCHEDULE

SYMBOL	C.F.M.	NECK SIZE	TYPE	RUNOUT SIZE	REMARKS
A	50-100	6"X6"	2'X2' LAY-IN CEILING SA DIFFUSER	6"Ø	
B	125-225	9"X9"	2'X2' LAY-IN CEILING SA DIFFUSER	8"Ø	
C	250-400	12"X12"	2'X2' LAY-IN CEILING SA DIFFUSER	10"Ø	
D	50-100	6"X6"	CEILING SA DIFFUSER	6"Ø	
E	125-225	9"X9"	CEILING SA DIFFUSER	8"Ø	
F	250-400	12"X12"	CEILING S.A. DIFFUSER	10"Ø	
G	175-225	12"X6"	SIDEWALL SA REGISTER	10"Ø	
H	250-400	16"X8"	SIDEWALL SA REGISTER	12"Ø	
J	0-300	12"X10"	SIDEWALL EX. A REGISTER	-	
K	325-550	18"X12"	SIDEWALL EX. A REGISTER	-	
L	250-1000	22"X22"	2'X2' LAY-IN RA GRILLE	-	
M	50-200	10"X10"	EXHAUST REGISTER	-	
N	0-300	12"X10"	SIDEWALL TRANSFER AIR GRILLE	-	
P	0-300	12"X10"	CEILING RA REGISTER	-	
Q	225-500	12"X12"	EXHAUST REGISTER	-	

ELECTRIC UNIT HEATER SCHEDULE

SYMBOL	CFM	BTU	ELECTRICAL		MOUNTING HEIGHT	DISCHARGE	REMARKS
			KW	VOLTAGE			
UH-1	700	25.6	7.5	208V-3Ø	15'-0" AFF	HORIZONTAL	APPARATUS BAY 127
UH-2	700	25.6	7.5	208V-3Ø	15'-0" AFF	HORIZONTAL	APPARATUS BAY 127
UH-3	700	25.6	7.5	208V-3Ø	15'-0" AFF	HORIZONTAL	APPARATUS BAY 127
UH-4	700	25.6	7.5	208V-3Ø	15'-0" AFF	HORIZONTAL	APPARATUS BAY 127
UH-5	700	25.6	7.5	208V-3Ø	15'-0" AFF	HORIZONTAL	APPARATUS BAY 127
UH-6	700	25.6	7.5	208V-3Ø	15'-0" AFF	HORIZONTAL	APPARATUS BAY 127

ELECTRIC BASEBOARD HEATER SCHEDULE

SYMBOL	BTU/HR	ELECTRICAL		MAXIMUM LENGTH	MOUNTING HEIGHT	REMARKS
		WATTS	VOLTAGE			
EBB-1	2560	750	208V-1Ø	40"	8'-0" AFF	RISER ROOM 126

VARIABLE VOLUME ZONE DAMPER SCHEDULE

SYMBOL	MAX CFM	MIN CFM	DAMPER SIZE	RUNOUT SIZE	AHU	REMARKS
ZD-1	425	25	10"Ø	10"Ø	AHU-1	
ZD-2	225	25	8"Ø	8"Ø	AHU-1	
ZD-3	225	25	8"Ø	8"Ø	AHU-1	
ZD-4	250	25	10"Ø	10"Ø	AHU-1	
ZD-5	375	25	10"Ø	10"Ø	AHU-1	

GRAVITY VENTILATOR SCHEDULE

SYMBOL	CFM	MIN. THROAT SIZE	MAXIMUM AIR PRESS DROP "H20	TYPE	SERVING
GV-1	200	11"x11"	0.10	MAKE-UP AIR	AIR COMPRESSORS

BYPASS DAMPER SCHEDULE

SYMBOL	DAMPER CFM	UNIT CFM	DAMPER SIZE	AHU	REMARKS
BD-1	700	1900	10"Ø	AHU-1	
BD-2	700	1900	10"Ø	AHU-1	

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JOB # 24012

ONSLOW COUNTY BEAR CREEK FIRE STATION

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138 OLD SAND RIDGE RD, HUBERT, NC 28539

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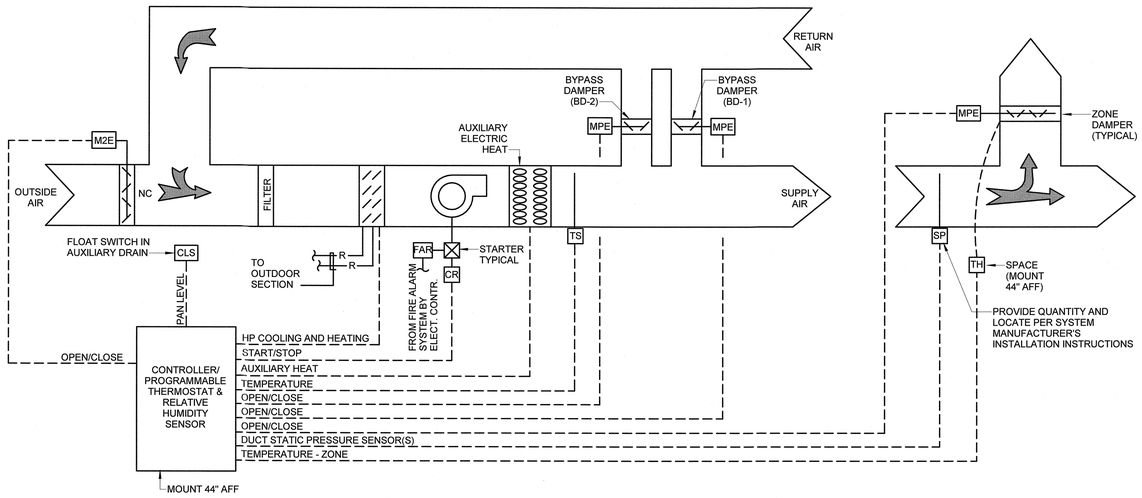
SHEET TITLE
MECHANICAL SCHEDULES

M600



SPLIT SYSTEM HEAT PUMP CONTROL DIAGRAM (AHU-1)

SEQUENCE OF OPERATION

A. OCCUPIED: INDOOR FAN SHALL OPERATE CONTINUOUSLY. CONTROLLER/THERMOSTAT SHALL MONITOR SPACE TEMPERATURE AND CONTROL THE HEAT PUMP COMPRESSORS FOR COOLING (IN STAGES WHEN AVAILABLE) AND HEAT PUMP COMPRESSORS AND AUXILIARY ELECTRIC HEAT FOR HEATING. OUTSIDE AIR DAMPERS SHALL BE OPEN.

B. STATIC PRESSURE BYPASS:

THE CONTROLLER/THERMOSTAT CONTROLS THE BYPASS DAMPER(S) USING MEASURED DUCT STATIC PRESSURE AND COMPARES THE MEASURED STATIC PRESSURE TO THE SETPOINT. BYPASS DAMPER(S) SHALL MODULATE TO MAINTAIN STATIC PRESSURE SETPOINT WITHIN PLUS OR MINUS 10% (ADJ). BYPASS DAMPER(S) REMAIN STATIONARY IF THE STATIC PRESSURE IS IN THE DEADBAND.

C. ZONE DAMPERS:

1. CONTROLLER/THERMOSTAT SHALL CONTROL THE DAMPER. THE DAMPERS SHALL BE DE-ENERGIZED IN ACCORDANCE WITH TIME SCHEDULES IN THE CONTROLLER/THERMOSTAT.
2. OCCUPIED MODE: UPON A RISE IN SPACE TEMPERATURE ABOVE THE COOLING SETPOINT THE CONTROLLER/THERMOSTAT SHALL MODULATE THE PRIMARY AIR DAMPER OPEN TO PROVIDE MORE PRIMARY AIRFLOW (UP TO THE MAXIMUM CFM SETTING). ON A DROP IN SPACE TEMPERATURE, THE CONTROLLER/THERMOSTAT SHALL MODULATE THE PRIMARY AIR DAMPER CLOSED TO DELIVER LESS PRIMARY AIRFLOW (DOWN TO THE BOX MINIMUM SETTING).
3. ZONE SENSOR OPERATIONS: THE ZONE SENSOR MODULE UTILIZES AN ELEMENT TO MEASURE ZONE TEMPERATURE. THE ZONE SENSOR MODULE HAS THE FOLLOWING OPTIONS:
   a. ZONE TEMPERATURE
   b. ZONE SETPOINT CONTROL
   c. TIMED OVERRIDE AND CANCEL

D. AHU - VOTING SYSTEM:

1. PROVIDE A PURPOSED CONTROL OF THE SERVING UNIT BASED OFF OF ZONE NEED.
   a. STANDARD VOTING:
      1. COOLING/HEATING MODE OF THE SERVING UNIT SHALL BE DETERMINED BASED OFF HOW MANY ZONES ARE PLUS/MINUS 1.5 DEGREE (ADJUSTABLE) FROM EACH INDUVIAL ZONE'S SETPOINT. IF ALL ZONES ARE 1.5 DEGREES ABOVE SETPOINT THE UNIT SHALL BE IN FULL COOLING. IF ALL ZONES ARE BELOW SETPOINT THE UNIT SHALL BE IN FULL HEATING. IF ALL ZONES ARE WITHIN 1.5 DEGREE OF SETPOINT THE UNIT SHALL BE SATISFIED. EACH ZONE THAT IS ABOVE OR BELOW THE SETPOINT THRESHOLD SHALL GET A VOTE FOR THE MODE IT NEEDS. IF VOTES ARE EQUAL THEN THE UNIT SHALL STAY IN THE LAST COMMANDED MODE.
   b. PRIORITY VOTING:
      1. IF ANY ZONE IS MORE THAN PLUS/MINUS 3 DEGREES (ADJUSTABLE) THE UNIT SHALL GO INTO FULL COLLING, OR FULL HEATING BASED OF THE MAJORITY OF PRIORITY VOTES.

E. UNOCCUPIED: INDOOR FAN AND HEAT PUMP COMPRESSORS AND AUXILIARY ELECTRIC HEAT SHALL OPERATE IN STAGES, CYCLING ON AND OFF AS NECESSARY TO MAINTAIN SPACE TEMPERATURE AT UNOCCUPIED HEATING AND COOLING SETPOINTS. OUTSIDE AIR DAMPERS SHALL REMAIN CLOSED.

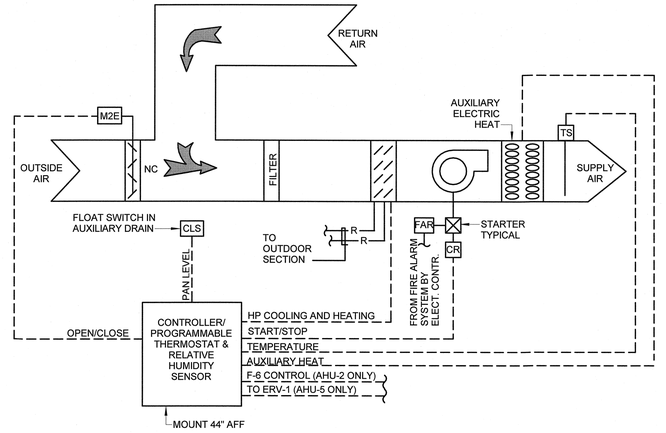
F. HUMIDITY CONTROL: UPON SENSING SPACE RELATIVE HUMIDITY ABOVE SETPOINT 65% RH (ADJ.), HEAT PUMP COMPRESSORS SHALL OPERATE FOR COOLING (IN STAGES WHEN AVAILABLE) TO PROVIDE HEAT PUMP COIL LEAVING AIR TEMPERATURE OF 55° F. AUXILIARY ELECTRIC HEATING SHALL OPERATE AS NECESSARY TO MAINTAIN SPACE COOLING TEMPERATURE SETPOINT. WHEN SPACE RELATIVE HUMIDITY DROPS TO 50% RH (ADJ.), HEAT PUMP SYSTEM SHALL RETURN TO NORMAL MODE OF OPERATION.

G. SIGNAL FROM AUXILIARY CONDENSATE FLOAT SWITCH SHALL DEENERGIZE HEAT PUMP COMPRESSOR IN COOLING UPON SENSING HIGH LEVELS OF CONDENSATE IN AUXILIARY DRAIN.

H. UNIT SHALL DEENERGIZE IMMEDIATLEY UPON SIGNAL FROM FIRE ALARM SYSTEM.

I. SYSTEMS USING A2L REFRIGERANTS:

1. SYSTEMS USING A2L WITH REFRIGERANT CHARGE > 4.0 LBS SHALL HAVE INTEGRAL FACTORY INSTALLED REFRIGERANT LEAK DETECTION SYSTEM MOUNTED IN THE AIR HANDLING UNIT SECTION DOWNSTREAM OF THE EVAPORATOR COIL WITH INTERNAL CONTROLS TO AUTOMATICALLY UPON REFRIGERANT DETECTED, UNIT COMMANDS COMPRESSORS AND ELECTRIC HEAT (IF PRESENT) OFF, AND COMMANDS AIR HANDLING UNIT'S FAN TO MAXIMUM AIRFLOW FOR AIR CIRCULATION. ONCE REFRIGERANT HAS NOT BEEN DETECTED FOR A MINIMUM OF 5 MINUTES, UNIT SHALL RETURN TO NORMAL OPERATION.
2. FOR SYSTEMS USING A2L REFRIGERANT, IF RELEASABLE REFRIGERANT CHARGE IN THE SYSTEM EXCEEDS THE LEVELS ALLOWED IN ANSI/ASHRAE STANDARD 15 - 2022 OR NEWER FOR THE EFFECTIVE DISPERSAL VOLUME, PROVIDE SAFETY ISOLATION VALVES IN BOTH REFRIGERANT LINES AS RELEASE MITIGATION CONTROLS. VALVES SHALL AUTOMATICALLY CLOSE UPON SIGNAL FROM THE UNIT INTEGRAL REFRIGERANT LEAK DETECTOR. VALVE LOCATIONS SHALL BE AS SUCH FOR RELEASABLE REFRIGERANT CHARGE TO BE LESS THAN THE LEVELS ALLOWED IN ANSI/ASHRAE STANDARD 15 - 2022 OR NEWER FOR THE EFFECTIVE DISPERSAL VOLUME.



SPLIT SYSTEM HEAT PUMP CONTROL DIAGRAM (AHU-2, 3, 4 & 5)

SEQUENCE OF OPERATION

A. OCCUPIED: INDOOR FAN SHALL OPERATE CONTINUOUSLY. CONTROLLER/THERMOSTAT SHALL MONITOR SPACE TEMPERATURE AND CONTROL THE HEAT PUMP COMPRESSORS FOR COOLING (IN STAGES WHEN AVAILABLE) AND HEAT PUMP COMPRESSORS AND AUXILIARY ELECTRIC HEAT FOR HEATING. OUTSIDE AIR DAMPERS SHALL BE OPEN.

B. FOR AHU-5: PRIOR TO INDOOR FAN BEING ENERGIZED, ERV-1 AND FANS SHALL BE ENERGIZED FOR 60 SECONDS (MIN.).

C. UNOCCUPIED: INDOOR FAN AND HEAT PUMP COMPRESSORS AND AUXILIARY ELECTRIC HEAT SHALL OPERATE IN STAGES, CYCLING ON AND OFF AS NECESSARY TO MAINTAIN SPACE TEMPERATURE AT UNOCCUPIED HEATING AND COOLING SETPOINTS. OUTSIDE AIR DAMPERS SHALL REMAIN CLOSED.

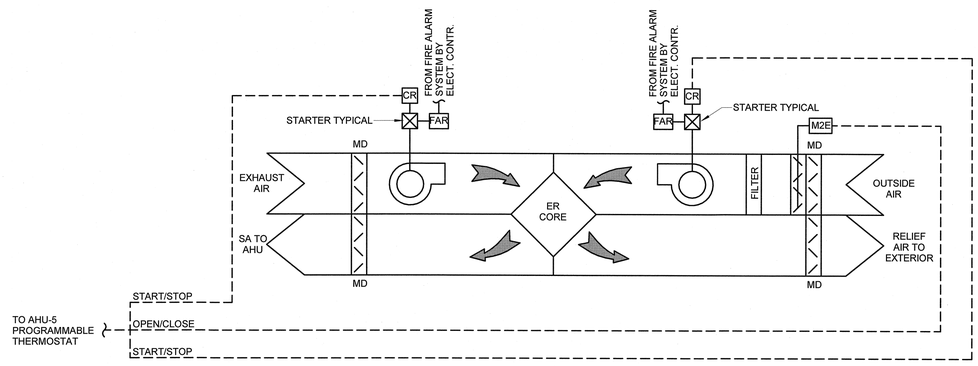
D. HUMIDITY CONTROL: UPON SENSING SPACE RELATIVE HUMIDITY ABOVE SETPOINT 65% RH (ADJ.), HEAT PUMP COMPRESSORS SHALL OPERATE FOR COOLING (IN STAGES WHEN AVAILABLE). AUXILIARY ELECTRIC HEATING SHALL OPERATE AS NECESSARY TO MAINTAIN SPACE COOLING TEMPERATURE SETPOINT. WHEN SPACE RELATIVE HUMIDITY DROPS TO 50% RH (ADJ.), HEAT PUMP SYSTEM SHALL RETURN TO NORMAL MODE OF OPERATION.

E. SIGNAL FROM AUXILIARY CONDENSATE FLOAT SWITCH SHALL DEENERGIZE HEAT PUMP COMPRESSOR IN COOLING UPON SENSING HIGH LEVELS ON CONDENSATE IN AUXILIARY DRAIN.

F. UNIT SHALL DEENERGIZE IMMEDIATLEY UPON SIGNAL FROM FIRE ALARM SYSTEM.

G. SYSTEMS USING A2L REFRIGERANTS:

1. SYSTEMS USING A2L WITH REFRIGERANT CHARGE > 4.0 LBS SHALL HAVE INTEGRAL FACTORY INSTALLED REFRIGERANT LEAK DETECTION SYSTEM MOUNTED IN THE AIR HANDLING UNIT SECTION DOWNSTREAM OF THE EVAPORATOR COIL WITH INTERNAL CONTROLS TO AUTOMATICALLY UPON REFRIGERANT DETECTED, UNIT COMMANDS COMPRESSORS AND ELECTRIC HEAT (IF PRESENT) OFF, AND COMMANDS AIR HANDLING UNIT'S FAN TO MAXIMUM AIRFLOW FOR AIR CIRCULATION. ONCE REFRIGERANT HAS NOT BEEN DETECTED FOR A MINIMUM OF 5 MINUTES, UNIT SHALL RETURN TO NORMAL OPERATION.
2. FOR SYSTEMS USING A2L REFRIGERANT, IF RELEASABLE REFRIGERANT CHARGE IN THE SYSTEM EXCEEDS THE LEVELS ALLOWED IN ANSI/ASHRAE STANDARD 15 - 2022 OR NEWER FOR THE EFFECTIVE DISPERSAL VOLUME, PROVIDE SAFETY ISOLATION VALVES IN BOTH REFRIGERANT LINES AS RELEASE MITIGATION CONTROLS. VALVES SHALL AUTOMATICALLY CLOSE UPON SIGNAL FROM THE UNIT INTEGRAL REFRIGERANT LEAK DETECTOR. VALVE LOCATIONS SHALL BE AS SUCH FOR RELEASABLE REFRIGERANT CHARGE TO BE LESS THAN THE LEVELS ALLOWED IN ANSI/ASHRAE STANDARD 15 - 2022 OR NEWER FOR THE EFFECTIVE DISPERSAL VOLUME.



ENERGY RECOVERY VENTILATOR

SEQUENCE OF OPERATION

A. GENERAL:

1. PRIOR TO AHU-5 INDOOR FAN BEING ENERGIZED, ERV-1 FANS SHALL BE ENERGIZED FOR 60 SECONDS (MIN.) AND OUTSIDE AIR MOTOR OPERATED DAMPER SHALL BE OPEN.
2. FANS SHALL DEENERGIZE IMMEDIATELY UPON SIGNAL FROM FIRE ALARM SYSTEM.

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ONSLOW COUNTY BEAR CREEK FIRE STATION

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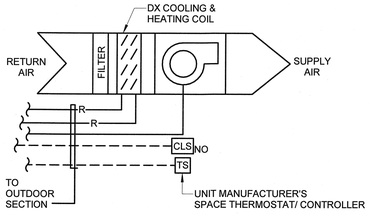
MECHANICAL CONTROL DIAGRAMS

M700



DUCTLESS SPLIT SYSTEM HEAT PUMP

SEQUENCE OF OPERATION

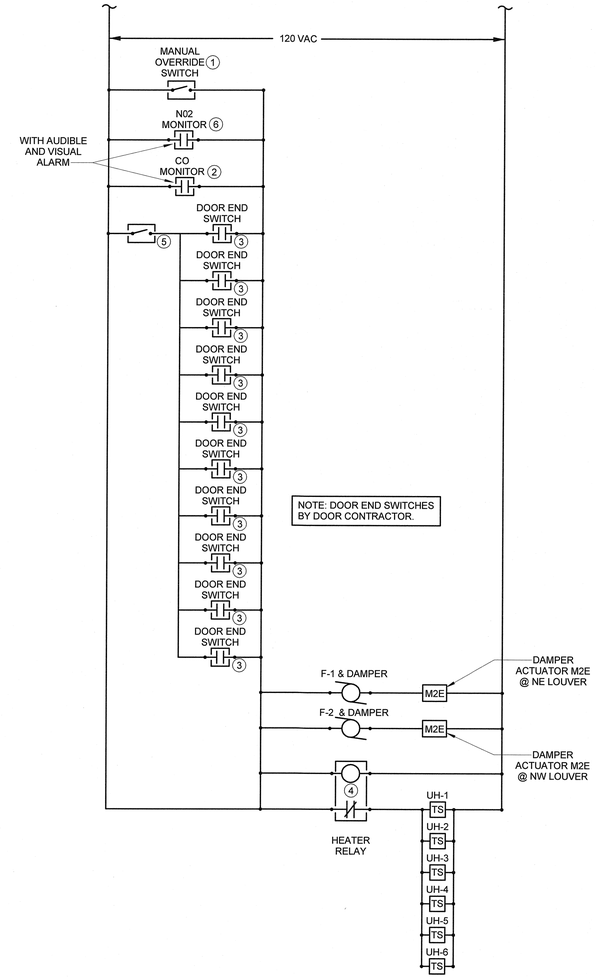
A. MANUFACTURER FURNISHED WALL MOUNTED HARD WIRED THERMOSTAT SHALL CONTROL UNIT.

B. LEVEL SWITCH IN CONDENSATE PUMP SHALL DEENERGIZE HEAT PUMP ON HIGH LEVELS.

C. SYSTEMS USING A2L REFRIGERANTS:

1. SYSTEMS USING A2L WITH REFRIGERANT CHARGE > 4.0 LBS SHALL HAVE INTEGRAL FACTORY INSTALLED REFRIGERANT LEAK DETECTION SYSTEM MOUNTED IN THE AIR HANDLING UNIT SECTION DOWNSTREAM OF THE EVAPORATOR COIL WITH INTERNAL CONTROLS TO AUTOMATICALLY UPON REFRIGERANT DETECTED, UNIT COMMANDS COMPRESSORS AND ELECTRIC HEAT (IF PRESENT) OFF, AND COMMANDS AIR HANDLING UNIT'S FAN TO MAXIMUM AIRFLOW FOR AIR CIRCULATION. ONCE REFRIGERANT HAS NOT BEEN DETECTED FOR A MINIMUM OF 5 MINUTES, UNIT SHALL RETURN TO NORMAL OPERATION.

2. FOR SYSTEMS USING A2L REFRIGERANT, IF RELEASABLE REFRIGERANT CHARGE IN THE SYSTEM EXCEEDS THE LEVELS ALLOWED IN ANSI/ASHRAE STANDARD 15 - 2022 OR NEWER FOR THE EFFECTIVE DISPERSAL VOLUME, PROVIDE SAFETY ISOLATION VALVES IN BOTH REFRIGERANT LINES AS RELEASE MITIGATION CONTROLS. VALVES SHALL AUTOMATICALLY CLOSE UPON SIGNAL FROM THE UNIT INTEGRAL REFRIGERANT LEAK DETECTOR. VALVE LOCATIONS SHALL BE AS SUCH FOR RELEASABLE REFRIGERANT CHARGE TO BE LESS THAN THE LEVELS ALLOWED IN ANSI/ASHRAE STANDARD 15 - 2022 OR NEWER FOR THE EFFECTIVE DISPERSAL VOLUME.



FIRE STATION APPARATUS BAY HEATING & VENTILATION CONTROL DIAGRAM

SEQUENCE OF OPERATION

A. WHEN MANUAL OVERRIDE SWITCH (1) IS OPEN, FANS F-1 AND F-2 ARE OFF AND UNIT HEATERS ARE ALLOWED TO OPERATE.

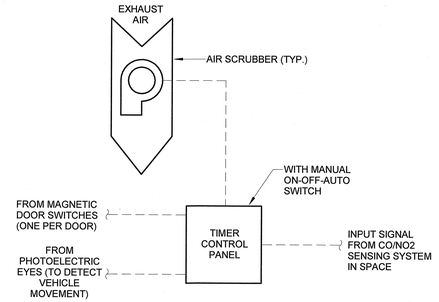
B. WHEN MANUAL OVERRIDE SWITCH (1) IS CLOSED, REGARDLESS OF DOOR POSITION, FANS F-1 AND F-2 SHALL BE ON AND UNIT HEATERS SHALL BE OFF VIA RELAY (4).

C. WHEN CARBON MONOXIDE MONITOR (2) REACHES ALARM LEVEL, RELAY SHALL ENERGIZE FANS F-1 AND F-2, ALARM, AND DEENERGIZE UNIT HEATERS VIA NC RELAY (4).

D. WHEN ANY DOOR END SWITCH (3) IS CLOSED BECAUSE DOOR IS OPEN, FANS F-1 AND F-2 SHALL BE ON AND UNIT HEATERS SHALL BE OFF VIA NC RELAY (4). IF IT IS DESIRED TO STOP FANS F-1 AND F-2 WITH DOORS OPEN, OPEN SWITCH (5).

E. WHEN ALL DOORS ARE CLOSED, FANS F-1 AND F-2 ARE OFF AND UNIT HEATERS SHALL OPERATE AS REQUIRED BY SPACE SENSOR.

F. WHEN NITROGEN DIOXIDE MONITOR (6) REACHES ALARM LEVEL, RELAY SHALL ENERGIZE FANS F-1 AND F-2, ALARM, AND DEENERGIZE UNIT HEATERS VIA NC RELAY (4).



ALTERNATE M-1
AIR SCRUBBER

SEQUENCE OF OPERATION

A. AIR SCRUBBER ACTIVATION SHALL BE VIA THE FOLLOWING, ALL IN PARALLEL:

1. MAGNETIC DOOR SWITCH (ONE PER VEHICLE DOOR) AS PART OF AIR SCRUBBER SYSTEM.

2. PHOTOELECTRIC EYES (TO DETECT VEHICLE MOVEMENT) AS PART OF AIR SCRUBBER SYSTEM.

3. MANUAL ON-OFF-AUTO SELECTOR SWITCH WITH LABEL.

4. INPUT SIGNAL FROM CARBON MONOXIDE (CO)/NITROGEN DIOXIDE (NO2) SENSING SYSTEM IN SPACE, SENSING SYSTEM AS SPECIFIED IN SECTION 230900 BY CONTROL CONTRACTOR.

B. AIR SCRUBBER UNITS SHALL BE ACTIVATED SEQUENTIALLY IN GROUPS OF TWO, AFTER 15 SECOND DELAYS, UNTIL ALL UNITS ARE ACTIVATED.

C. ONCE ACTIVATED, ELAPSED TIME FOR SCRUBBER OPERATION SHALL BE USER-DETERMINED WITH TIMING RANGE OF 1 MINUTE TO 120 MINUTES.

CONTROL SYMBOL LEGEND

TS	TEMPERATURE SENSOR
HT	HUMIDITY SENSOR
CR	CONTROL RELAY
M2E	MOTOR OPERATED TWO POSITION ELECTRIC
MPE	MOTOR OPERATED PROPORTIONAL ELECTRIC
NO	NORMALLY OPEN
NC	NORMALLY CLOSED
FAR	FIRE ALARM RELAY
CLS	CONDENSATE LEVEL SENSOR
O/V	OCCUPANCY/VACANCY SENSOR
SA	SUPPLY AIR
RA	RETURN AIR
OA	OUTSIDE AIR
CO	CARBON MONOXIDE
N02	NITROUS DIOXIDE

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ONSLOW COUNTY BEAR CREEK FIRE STATION
ONSLOW COUNTY
BID. NO. 102-25C
138 OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

DKA JOB NUMBER
2324

REVISIONS

PA: JIMMY ARDEL EDWARDS
PM: ALEXANDRE PENEGRE
Drawn By: NAH
Plot Date: 3/10/2025 11:39:21 AM

DATE ISSUED
BID DOCUMENTS
03/12/2025

SHEET TITLE
MECHANICAL CONTROL DIAGRAMS

M701

ELECTRICAL NOTES

1. ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION.
2. PERMITS FOR ELECTRICAL WORK SHALL BE OBTAINED BY AND PAID BY THE ELECTRICAL CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL PAY FOR ANY ADDITIONAL FEES FOR INSPECTIONS, TESTS, AND OTHER SERVICES AS REQUIRED FOR THE COMPLETION OF THE WORK.
3. THE ELECTRICAL CONTRACTOR AND ANY OF HIS SUBCONTRACTORS SHALL VISIT THE PROJECT SITE TO WITNESS EXISTING CONDITIONS AND BECOME FAMILIAR WITH THE SCOPE OF THE WORK REQUIRED PRIOR TO SUBMITTING PROPOSALS. WORK REQUIRED BY EXISTING JOB CONDITIONS NOT INDICATED ON DRAWINGS SHALL BE INCLUDED IN THE PROPOSALS.
4. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO RESULT IN THE PRODUCTION OF A COMPLETE AND FUNCTIONAL ELECTRICAL SYSTEM. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL MATERIAL, LABOR, EQUIPMENT, AND OTHER SERVICES AS NECESSARY TO COMPLETE THE WORK.
5. DISCREPANCIES IN THE DRAWINGS AND SPECIFICATIONS THAT WILL AFFECT THE WORK SHALL BE BROUGHT TO THE ATTENTION OF THE **ARCHITECT AND** ENGINEER PRIOR TO SUBMITTING PROPOSALS.
6. UNLESS NOTED OTHERWISE, ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND INCLUDE A 3RD PARTY LABEL (I.E.: UL, CSA, ETL, ETC.) LISTING APPROVAL FOR ITS INSTALLED APPLICATION.
7. REVIEW PLANS OF OTHER TRADES FOR COORDINATION OF WORK AND FOR RELATED AND ADJOINING WORK.
8. REVIEW COMPLETE PLAN SET FOR CONSTRUCTION TYPE, FINISHES, HEADROOM, ROOF FINISHES, CEILINGS, ETC. REVIEW COMPLETE PLAN SET FOR PROJECT PHASING AND STAGING. REVIEW COMPLETE PLAN SET FOR WORK COVERED BY ALTERNATE BID ITEMS.
9. COORDINATE DEVICE AND EQUIPMENT MOUNTING HEIGHTS WITH OTHER DISCIPLINE DRAWINGS, CASEWORK DETAILS & SUBMITTALS, EQUIPMENT DETAILS & SUBMITTALS, ETC.
10. PENETRATIONS OF FIRE-RATED WALLS, FLOORS, CEILINGS, AND PARTITIONS SHALL BE FIRE STOPPED IN ACCORDANCE WITH REQUIREMENTS OF THE STATE BUILDING CODE. COORDINATE WORK TO INSURE THAT FIRE STOPPING IS COMPLETED.
11. PENETRATIONS OF EXTERIOR BUILDING WALLS, FLOORS, OR ROOFS SHALL BE SEALED WATERTIGHT. INTERIORS OF RACEWAY PENETRATIONS THROUGH EXTERIOR WALLS SHALL BE SEALED WITH NON-HARDENING ELECTRICAL PUTTY.
12. CUTTING AND PATCHING TO INSTALL DEVICES AND EQUIPMENT SHALL BE PERFORMED WITH FINISHES RESTORED TO THEIR ORIGINAL CONDITION. SUCH WORK SHALL BE COMPLETED TO A DEGREE THAT IS ACCEPTABLE TO THE **ARCHITECT,** ENGINEER, AND OWNER.
13. COORDINATE PRECISE LOCATION OF HVAC EQUIPMENT WITH THE MECHANICAL CONTRACTOR.
14. FOR HVAC EQUIPMENT, VERIFY CIRCUIT BREAKER RATINGS, FUSE RATINGS, AND WIRE SIZES. IF RATINGS DIFFER FROM THOSE INDICATED ON THE DRAWINGS, NOTIFY THE ARCHITECT, ENGINEER, AND OWNER FOR DIRECTION. PROVIDE OVERCURRENT PROTECTION IN ACCORDANCE WITH EQUIPMENT MANUFACTURER NAMEPLATE DATA. IF THE EQUIPMENT LISTING LABEL REQUIRES FUSED PROTECTION, ENSURE THAT FUSES IN A FUSED DISCONNECT SWITCH AT THE EQUIPMENT ARE SIZED AS INDICATED ON THE EQUIPMENT LABEL.
15. VERIFY PROPER SIZING OF OVERLOAD DEVICES IN STARTERS BASED ON EQUIPMENT NAMEPLATE DATA.
16. IF HORSEPOWER OR LOAD RATINGS OF EQUIPMENT DIFFER FROM THOSE INDICATED ON THE DRAWINGS, NOTIFY THE ARCHITECT, ENGINEER, AND OWNER FOR DIRECTION.
17. PROVIDE NATIONAL ELECTRICAL CODE REQUIRED CLEARANCES FOR ALL ELECTRICAL EQUIPMENT. COORDINATE RESOLUTION OF CONFLICTS WITH OTHER TRADES.
18. RECEPTACLE, SWITCH, DATA/TELEPHONE OUTLETS SHALL BE FLUSH MOUNTED IN FINISHED SPACES UNLESS OTHERWISE NOTED.
19. PRIOR TO ORDERING LIGHT FIXTURES, CONTRACTOR SHALL VERIFY TYPE OF CEILING OR WALL BY REVIEW OF ARCHITECTURAL FINISH SCHEDULES AND PROVIDE SUITABLE TRIM AND APPURTENANCES TO MOUNT FIXTURES IN TYPE OF CEILING OR WALL INDICATED.
20. RECESSED LIGHT FIXTURES INSTALLED IN CEILINGS WITH INSULATION (AS INDICATED IN ARCHITECTURAL PLANS, OR FOUND AS EXISTING CONDITIONS) SHALL BE U.L. RATED FOR DIRECT CONTACT WITH INSULATION.
24. RECESSED LIGHT FIXTURES INSTALLED IN FIRE RATED CEILING SHALL BE U.L. RATED FOR USE IN FIRE RATED CEILINGS OR SHALL BE INSTALLED WITH "TENTING' IN ACCORDANCE WITH RATING REQUIREMENTS OF THE CEILING ASSEMBLY.
25. EXIT AND EMERGENCY LIGHTS SHALL BE CONNECTED TO THE NEAREST UNSWITCHED CIRCUIT THAT SERVES LIGHT FIXTURES WITHIN THE SAME SPACE.
26. NO MOUNTING HARDWARE SHALL BE ATTACHED TO ROOF DECKS. ATTACHMENTS SHALL BE MADE TO THE ROOF SUPPORTING STRUCTURE.
27. PANEL BUS MATERIAL: COPPER.
28. SHARED NEUTRAL CONDUCTORS SHALL NOT BE USED UNLESS SPECIFICALLY INDICATED SO ON HOMERUN CIRCUITRY DESIGNATIONS.
29. PANEL BREAKER CONFIGURATIONS SHALL BE INSTALLED AS INDICATED ON THE PANEL SCHEDULES OR AS NOTED. BREAKER POSITION REVISIONS WILL NOT BE ACCEPTED UNLESS APPROVED IN WRITING BY THE ENGINEER.
30. LOAD CIRCUITS SHALL BE INSTALLED AS INDICATED ON THE DRAWINGS. CIRCUITRY REVISIONS WILL NOT BE ACCEPTED UNLESS APPROVED IN WRITING BY THE ENGINEER.

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLER UNIT
AIC	AMPS INTERRUPTING CAPABILITY
AS	AIR SCRUBBER
BKR	BREAKER
C	CONDUIT
C/B	CIRCUIT BREAKER
CLG	CEILING
CKT	CIRCUIT
CO	CARBON MONOXIDE
COMP	COMPRESSOR
CU	COPPER
DAHU	DUCTLESS AIR HANDLING UNIT
DHP	DUCTLESS HEAT PUMP
DIA	DIAMETER
DWG	DRAWING
EBB	ELECTRIC BASEBOARD HEATER
EC	ELECTRICAL CONTRACTOR
ENCL	ENCLOSED
ERV	ENERGY RECOVERY VENTILATOR
EXSTG	EXISTING
FACP	FIRE ALARM CONTROL PANEL
FPL	FIRE POWER LIMITED
G	EQUIPMENT GROUND
GEC	GROUNDING ELECTRODE CONDUCTOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFEP	GROUND FAULT EQUIPMENT PROTECTION
GFI	GROUND FAULT INTERRUPTER
HP	HEAT PUMP
HP	HORSEPOWER
K	KILO (THOUSAND)
LED	LIGHT EMITTING DIODE
LTG	LIGHTING
LTS	LIGHTS
MC	MECHANICAL CONTRACTOR
MCB	MAIN CIRCUIT BREAKER
MDP	MAIN DISTRIBUTION PANEL
MFR	MANUFACTURER
MLO	MAIN LUG ONLY
MTD	MOUNTED
N/A	NOT APPLICABLE
NAC	NOTIFICATION APPLIANCE CIRCUIT
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOC.
NTS	NOT TO SCALE
P	PHASE OR POLE
PC	PLUMBING CONTRACTOR
PH	PHASE
PNL	PANEL
REC	RECEPTACLE
RECPT	RECEPTACLE
REQ.	REQUIRED
SLC	SIGNALING LINE CIRCUIT
SYS	SYSTEM
S/N	SOLID NEUTRAL
TYP	TYPICAL
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORY
UNO	UNLESS NOTED OTHERWISE
UON	UNLESS OTHERWISE NOTED
V	VOLTS
VA	VOLT-AMPS
W	WATTS
W	WIRE
W/	WITH
WP	WEATHERPROOF
XFMR	TRANSFORMER

MISC. ELECTRICAL SYMBOL LEGEND

- EQUIPMENT CONNECTION
- SAFETY SWITCH DISCONNECT, HEAVY-DUTY, FUSED AT NAMEPLATE RATING OF EQUIPMENT SERVED, NEMA 1 INSIDE, NEMA 3R OUTSIDE (UNO), AMPERAGE AS INDICATED OR BASED ON SUPPLY CIRCUIT BREAKER RATING.
- PANELBOARD, SEE PANEL SCHEDULE
- GROUND ROD, 3/4" X 10' COPPER CLAD. WHERE TWO RODS ARE INDICATED, SPACE A MINIMUM OF 22' APART.
- SWITCH CONTROLLER FOR APPARATUS DOOR OPERATOR. COORDINATE CIRCUITRY REQUIREMENTS FOR CONTROLLER AND OTHER DOOR DEVICES AND COMPONENTS WITH THE DOOR VENDOR/INSTALLER.

1/2-HR FIRE PARTITION
2-HR FIRE BARRIER
REFER TO ARCHITECTURAL PLANS FOR RATED WALL LOCATIONS

HOMERUN DESIGNATION, #12 CONDUCTORS UNLESS NOTED OTHERWISE.
EQUIPMENT GROUND CONDUCTOR
PHASE CONDUCTOR
NEUTRAL CONDUCTOR

BY EC
PROVIDED BY EC, INSTALLED BY EC
CONDUCTOR TERMINATIONS IN EQUIPMENT BY MC & PC
BY EC

A / E-508 — LETTER INDICATES ELEVATION OR DETAIL; NUMBER INDICATES PLAN OR SECTION
SHEET NUMBER WHERE PLAN, SECTION, ELEVATION OR DETAIL IS DRAWN

APPENDIX B, BUILDING CODE SUMMARY
ELECTRICAL SUMMARY

METHOD OF COMPLIANCE
-ENERGY CODE: ☒ PRESCRIPTIVE ☐ PERFORMANCE
-ASHRAE 90.1: ☐ PRESCRIPTIVE ☐ PERFORMANCE

LIGHTING SCHEDULE
Lamp Type Required in Fixtures
Number of Lamps in Fixtures
Ballast Types Used in Fixtures
Number of Ballasts Used in Fixtures
Total Wattage per Fixture
— SEE LIGHT FIXTURE / LUMINAIRE SCHEDULE

TOTAL WATTAGE SPECIFIED VERSUS ALLOWED
Interior Specified: **7702 Watts** Exterior Specified: **796 Watts**
Interior Allowed: **8591 Watts** Exterior Allowed: **1517 Watts**

ADDITIONAL METHOD OF COMPLIANCE:
- ☐ C406.2 More Efficient HVAC Equipment Performance
- ☒ C406.3 Reduced Lighting Power Density
- ☐ C406.4 Enhanced Digital Lighting Controls
- ☐ C406.5 On-Site Renewable Energy
- ☐ C406.6 Dedicated Outdoor Air System
- ☐ C406.7 Reduced Energy Use in Service Water Heating

DESIGNER STATEMENT

To the best of my knowledge and belief, the design of this building complies with the electrical systems and equipment requirements of the North Carolina State Building Code, Section 406 of the North Carolina Energy Conservation Code.

SIGNED: Mark A. Ciarrocca
NAME: Mark A. Ciarrocca, P.E.
TITLE: Engineer

WARNING

Maximum Available Fault Current:
20,452 Symmetrical RMS Amperes
Date: 01/30/2025
Based on :
Utility Transformer: 300 kVA (Maxiumum)
Utility Transformer: 3.5% Impedance (Minimum)
Service Feeder: #500 (2 SETS)(Maximum) Copper
Service Feeder Length: 50' (Minimum)
Motor Load: 93.5 kVA (Maximum)

NOTE
THE CONTRACTOR SHALL OBTAIN INSTALLED SERVICE TRANSFORMER DATA AND AVAILABLE FAULT CURRENT DATA FROM THE UTILITY COMPANY. FORWARD INFORMATION TO THE ENGINEER FOR ASSESSMENT OF REVISIONS TO THE LABEL DATA.

A / EQOT — FAULT CURRENT LABEL FOR SERVICE EQUIPMENT
NO SCALE

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ONSLOW COUNTY BEAR CREEK FIRE STATION

ONSLOW COUNTY
BID. NO. 102-25C
138 OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

NORTH CAROLINA PROFESSIONAL SEAL 17593 ENGINEER MARK A CIARROCCA

Digitally signed by Mark A. Ciarrocca
Date: 2025.03.11 12:10:00-04'00'

DKA JOB NUMBER
2324

REVISIONS

PE: M. CIARROCCA
PM: ALEXANDRE PENEGRE
Drawn By: J. GRITTON
Plot Date: 1/27/2025

DATE ISSUED
BID DOCUMENTS
03/12/2025

SHEET TITLE
ELECTRICAL NOTES, LEGENDS

E001

SWITCH LEGEND

SYMBOL	DESCRIPTION	NOTES
$D	DIMMER SWITCH	1200W; MTD 42" AFF UNO
$D3	DIMMER SWITCH FOR 3-WAY CONTROL	20A; MTD 42" AFF UNO
$4	4-WAY SWITCH	20A; MTD 42" AFF UNO
$OD	OCCUPANCY SENSOR WALL SWITCH, DIMMER; DUAL TECHNOLOGY	20A; MTD 42" AFF UNO
$01	OCCUPANCY SENSOR WALL SWITCH, SINGLE CKT, DUAL TECHNOLOGY	20A; MTD 42" AFF UNO
(OS)	OCCUPANCY SENSOR, LOW VOLTAGE, DUAL TECHNOLOGY; CEILING MTD	INCORPORATE POWER PACK FOR CIRCUITRY SWITCHING, SEE WIRING DIAGRAMS
(PC)	PHOTOCELL, EXTERIOR	MOUNT ON NORTH FACE OF BLDG, FACING NORTH
$	TOGGLE SWITCH, SINGLE POLE	20A; MTD 42" AFF UNO; WHERE USED AS AN EQUIPMENT DISCONNECT, PROVIDE LOCKABLE TYPE COVER.
$3	3-WAY SWITCH	20A; MTD 42" AFF UNO

FIRE ALARM DEVICE LEGEND

SYMBOL	DESCRIPTION	MOUNTING
(B)	24V ELECTRIC ALARM BELL	WALL MTD ABOVE DOOR
CM	CONTROL / RELAY MODULE	
ERRCS	EMERGENCY RESPONDER COMMUNICATON COVERAGE SYSTEM PANEL	WALL
ERCCS-RA	EMERGENCY RESPONDER COMMUNICATION COVERAGE SYSTEM REMOTE ANNUNCIATOR	WALL
FACP	FIRE ALARM CONTROL PANEL	WALL
MM FS	MONITOR MODULE FOR FLOW SWITCH	
MM TS	MONITOR MODULE FOR TAMPER SWITCH	
MM SS	MONITOR MODULE WITH SURGE SUPPRESSOR FOR CONNECTION OF EXTERNAL CIRCUITRY	
MM	MONITOR MODULE FOR MONITORING A DRY CONTACT CLOSURE DEVICE	
PIV	POST INDICATOR VALVE TAMPER SWITCH	
RA	REMOTE ANNUNCIATOR FOR FIRE ALARM PANEL	WALL
(S)	SMOKE DETECTOR	WALL
TS	SPRINKLER BACKLFOW PREVENTER TAMPER SWITCH	
CO	120V SMOKE / CARBON MONOXIDE COMBINATION DETECTOR FOR CORRIDOR AREAS, INTEGRAL 9V REPLACEABLE BATTERY BACKUP. DEVICES SHALL BE INTERCONNECTED TO ALARM ALL DEVICES UPON DETECTION AT ANY DEVICE	CEILING
(S)	120V SMOKE DETECTOR FOR DORM SLEEPING AREAS, INTEGRAL 9V REPLACEABLE BATTERY BACKUP. DEVICES SHALL BE INTERCONNECTED TO ALARM ALL DEVICES UPON DETECTION AT ANY DEVICE	CEILING

WALL SLEEVE LEGEND

SYMBOL	DESCRIPTION	MOUNTING
	WALL SLEEVE, RATED WALLS	ABOVE CEILING, FOR LOW VOLTAGE CABLES; PRE-ENGINEERED FIRE-RATED PASS-THROUGH; DESIGN BASIS: STI EZ-PATH SERIES 44

DATA & TELEPHONE OUTLET LEGEND

SYMBOL	DESCRIPTION	MOUNTING	NOTES
TV	TV OUTLET	WALL, LOCATED BEHIND TV MOUNT IN RECESSED LCD OUTLET BOX (COORDINATE SPECIFIC LOCATION AND MOUNTING HEIGHT WITH ARCHITECT).	SEE POWER PLANS FOR SHARED BOX WITH POWER OUTLET. DESIGN BASIS ARLINGTON #TVBS613 WITH COVER. STUB (2) 1"C TO 6" ABOVE CEILING INSTALL (1) CAT 6 CABLE FROM ELEC 125
AP	DATA OUTLET FOR ACCESS POINT	4" SQUARE BOX MOUNTED 24" ABOVE CEILING	INSTALL (1) CAT 6A CABLE TO ELEC 127. MOUNT OWNER PROVIDED EQUIPMENT AT CEILING OR WALL MOUNTED IF INDICATED. PROVIDE PATCH CORD FROM OUTLET TO EQUIPMENT.
	DATA / TELEPHONE OUTLET	WALL, 18" AFF UNO; 5" SQUARE, 2.875" DEEP BOX, 64 CUBIC INCHES, WITH CABLE MANAGEMENT POSTS. DESIGN BASIS: STEEL CITY #82181T SERIES	STUB 1"C TO 6" ABOVE CEILING INSTALL (2) CAT 6 CABLES FROM ELEC 125 STUB SPARE 1"C TO 6" ABOVE CEILING
DATA	WALL MOUNTED EQUIPMENT RACK	WALL; TOP AT 70" AFF	
	DATA / TELEPHONE OUTLET	FLOOR, INTEGRAL TO POWER FLOOR BOX WITH DIVIDER SEPARATING POWER & COMMUNICATIONS	ROUTE (2) 1" C UNDERGROUND, TURN UP INTO WALL CAVITY, & STUB UP TO 6" ABOVE CEILING INSTALL (2) CAT 6 CABLES FROM ELEC 125
W	TELEPHONE OUTLET	WALL, 42" AFF UNO; 4" SQUARE, DEEP BOX	STUB 1"C TO 6" ABOVE CEILING INSTALL (2) CAT 6 TELEPHONE CABLES FROM ELEC 125
FA	COMMUNICATIONS OUTLET FOR FIRE ALARM SYSTEM	ROUTE CONDUITS DIRECTLY INTO FIRE ALARM SYSTEM ENCLOSURE.	STUB 3/4"C FROM ELEC 125, INSTALL (1) CAT 6 TELEPHONE CABLE FROM ELEC 125 STUB 3/4"C FROM ELEC 125, INSTALL (1) CAT 6 NETWORK CABLE FROM ELEC 125

RECEPTACLE & OUTLET LEGEND

SYMBOL	NEMA	VOLTS	DESCRIPTION
B		120V 1P 2W	POWER FOR DOOR BELL, MTD AT 96" AFF.
	5-20R	120V 1P 2W	DUPLEX, MTD 18" AFF UNO
BLK HTR	5-20R	120V 1P 2W	POWER FOR GENERATOR BLOCK HEATER
CR	5-20R	120V 1P 2W	CORD REEL WITH DUPLEX GFCI; PROVIDE DUPLEX OUTLET AT CEILING AND PLUG IN CORD REEL, MOUNT CORD REEL AT CEILING STRUCTURE; #12/3 SJEOOW CORD WITH CORD STOP TO KEEP RECEPTACLE AT 24" AFF. DESIGN BASIS: REELCRAFT #L-4545-123-7A. COORDINATE LOCATION AND OUTLET HEIGHT WITH OWNER, UNIT HEATER INSTALLED LOCATION, AND LIGHT FIXTURES.
	5-20R	120V 1P 2W	DUPLEX, MTD 6" ABOVE COUNTER OR 6" ABOVE BACKSPLASH IF APPLICABLE. CONTRACTOR TO COORDINATE WITH ARCHITECTURAL BACKSPLASH DETAILS.
G	5-20R	120V 1P 2W	DUPLEX GFCI, MTD 6" ABOVE COUNTER OR 6" ABOVE BACKSPLASH IF APPLICABLE. CONTRACTOR TO COORDINATE WITH ARCHITECTURAL BACKSPLASH DETAILS.
DW	5-20R	120V 1P 2W	DISHWASHER OUTLET, DUPLEX, MTD 12" AFF UNO. SUPPLY FROM GFCI TYPE C/B.
W/G	5-20R	120V 1P 2W	DUPLEX GFCI, MTD 18" AFG UNO; LISTED WEATHER-RESISTANT TYPE; PROVIDE CAST ALUMINUM WEATHERPROOF IN-USE COVER WITH CAST ALUMINUM FD WEATHERPROOF BOX
	5-20R	120V 1P 2W	DUPLEX; MTD IN FLUSH FLOOR BOX; SEE AUX SYS PLANS FOR SHARED BOX; PROVIDE DIVIDER FOR POWER SEPARATION FROM VOICE/DATA
G	5-20R	120V 1P 2W	DUPLEX GFCI, MTD 18" AFF UNO
HB	5-20R	120V 1P 2W	DUPLEX FOR HOT BOX HEATER; LISTED WEATHER-RESISTANT TYPE; PROVIDE CAST ALUMINUM WEATHERPROOF IN-USE COVER WITH CAST ALUMINUM FD WEATHERPROOF BOX. COORDINATE MTG HEIGHT WITH ENCLOSURE PROVIDED; SUPPLY FROM GFEP C/B (30mA).
ICE	5-20R	120V 1P 2W	DUPLEX FOR ICE MACHINE; MTD 18" AFF UNO
R	5-20R	120V 1P 2W	DUPLEX FOR REFRIGERATOR; MOUNT 48" AFF UNO. SUPPLY FROM GFCI TYPE C/B.
TV	5-20R	120V 1P 2W	DUPLEX, LOCATED BEHIND TV MOUNT IN RECESSED LCD OUTLET BOX (COORDINATE SPECIFIC LOCATION WITH OWNER/ARCHITECT). SEE AUXILIARY SYSTEMS PLANS FOR SHARED BOX WITH DATA OUTLET. DESIGN BASIS ARLINGTON #TVBS613 WITH COVER. MTD 66" AFF UNO, CONFIRM WITH ARCHITECT AND OWNER.
W	5-20R	120V 1P 2W	DUPLEX FOR WASHER, MTD 30" AFF UNO. SUPPLY FROM GFCI TYPE C/B.
J ERCCS		120V 1P 2W	POWER FOR EMERGENCY RESPONDER COMUNICATION COVERAGE SYSTEM
J FACP		120V 1P 2W	POWER FOR FIRE ALARM CONTROL PANEL
J S		120V 1P 2W	POWER FOR SMOKE AND SMOKE / CO COMBINATION DETECTORS, MTD AT CEILING LEVEL.
	5-20R	120V 1P 2W	QUAD, MTD 18" AFF UNO
BATT CHG	5-20R	120V 1P 2W	POWER FOR GENERATOR BATTERY CHARGER, BATTERY HEATER, & WINDING HEATER
EWC	5-20R	120V 1P 2W	QUAD FOR ELECTRIC WATER COOLER OUTLET; COORDINATE MTG LOCATION TO CONCEAL OUTLET WHEN COOLER IS INSTALLED; SUPPLY FROM GFCI TYPE C/B.
D	14-30R	208/120V 2P 3W	DRYER OUTLET, MTD 30" AFF UNO.
GD	6-30R	240/120V 2P 3W	GEAR DRYER OUTLET, MTD 18" AFF UNO.
R	14-50R	208/120V 2P 3W	RANGE OUTLET; COORDINATE MTG HEIGHT WITH REQUIREMENTS OF EQUIPMENT PROVIDED
		120V 1P 2W	EXHAUST FAN; SEE MECHANICAL SCHEDULE. PROVIDE POWER PACK FOR SWITCHING WITH LIGHTING CEILING OCCUPANCY SENSOR.

SECURITY LEGEND

SYMBOL	DESCRIPTION	MOUNTING	NOTES
	BUZZER / BELL		4" SQUARE BOX RECESSED; STUB 3/4"C TO INDICATED LOCATION OR NEAREST ACCESSIBLE CEILING SPACE. INSTALL MANUFACTURER RECOMMENDED CABLING.
CM	SECURITY CAMERA (INFRASTRUCTURE ONLY)		4" SQUARE BOX RECESSED; STUB 3/4"C TO INDICATED LOCATION OR NEAREST ACCESSIBLE CEILING SPACE INSTALL (1) CAT 6 CABLE TO ELEC 127.
CR	CARD READER (INFRASTRUCTURE ONLY)		4" SQUARE BOX RECESSED; STUB 1"C TO 6" ABOVE CEILING
	DOOR SWITCH / CONTACT (INFRASTRUCTURE ONLY)	RECESSED	PROVIDE 3/4"C FROM SWING SIDE OF DOOR HEADER TO ACCESSIBLE CEILING
EH	ELECTRIC HINGE (INFRASTRUCTURE ONLY)		1/2" FLEXIBLE METALLIC CONDUIT CONCEALED IN DOOR FRAME TO JUNCTION BOX MTD ABOVE CEILING. PROVIDE PATHWAY THROUGH DOOR TO ACCOMMODATE CONNECTION TO ASSOCIATED ELECTRIC STRIKE.
ES	ELECTRIC STRIKE (INFRASTRUCTURE ONLY)		FOR SINGLE DOOR, PROVIDE 1/2" FLEXIBLE METALLIC CONDUIT CONCEALED IN DOOR FRAME TO JUNCTION BOX MTD ABOVE NEAREST ACCESSIBLE CEILING.
	PUSHBUTTON	WALL	DOORBELL PUSHBUTTON. MTD 42" AFF. 4" SQUARE BOX RECESSED; STUB 3/4"C TO 6" ABOVE ACCESSIBLE CEILING. CONNECT TO BELL LOCATED IN DISPATCH ROOM 105 WITH MANUFACTURER'S RECOMMENDED CABLE.

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ONSLOW COUNTY BEAR CREEK FIRE STATION

ONSLOW COUNTY
BID. NO. 102-25C
138 OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

NORTH CAROLINA PROFESSIONAL SEAL 17593 ENGINEER MARK A CIARROCCA

Digitally signed by Mark A. Ciarrocca
Date: 2025.03.11 12:10:01-04'00'

DKA JOB NUMBER
2324

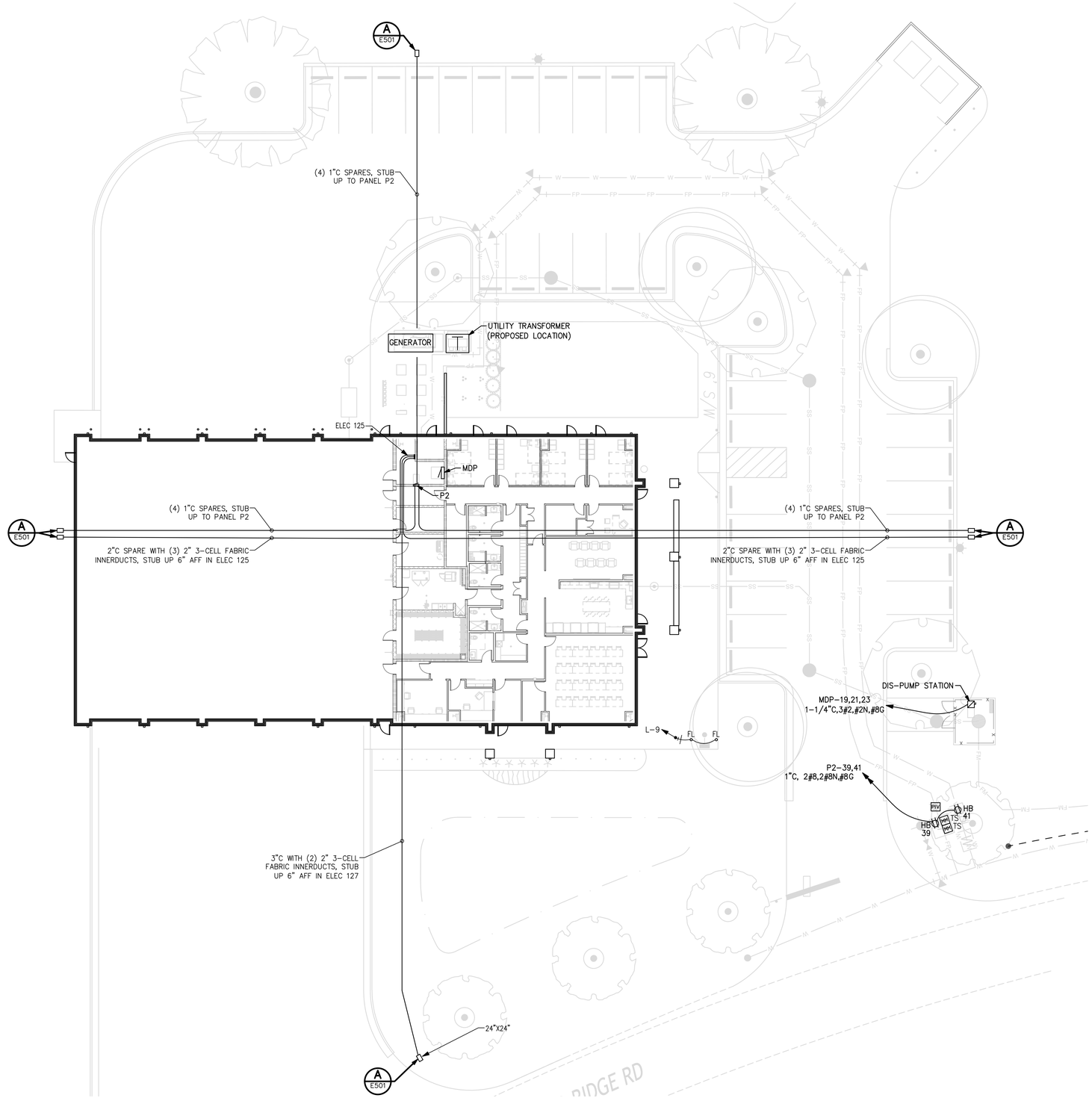
REVISIONS

PE: M. CIARROCCA
PM: ALEXANDRE PENEGRE
Drawn By: J. GRITTON
Plot Date: 1/27/2025

DATE ISSUED
BID DOCUMENTS
03/12/2025

SHEET TITLE
ELECTRICAL LEGENDS

E002



1 E011 ELECTRICAL SITE PLAN
SCALE: 1/16" = 1'-0"

GRAPHIC SCALE
16' 8' 0 16' 32'
SCALE: 1/16"=1'-0"

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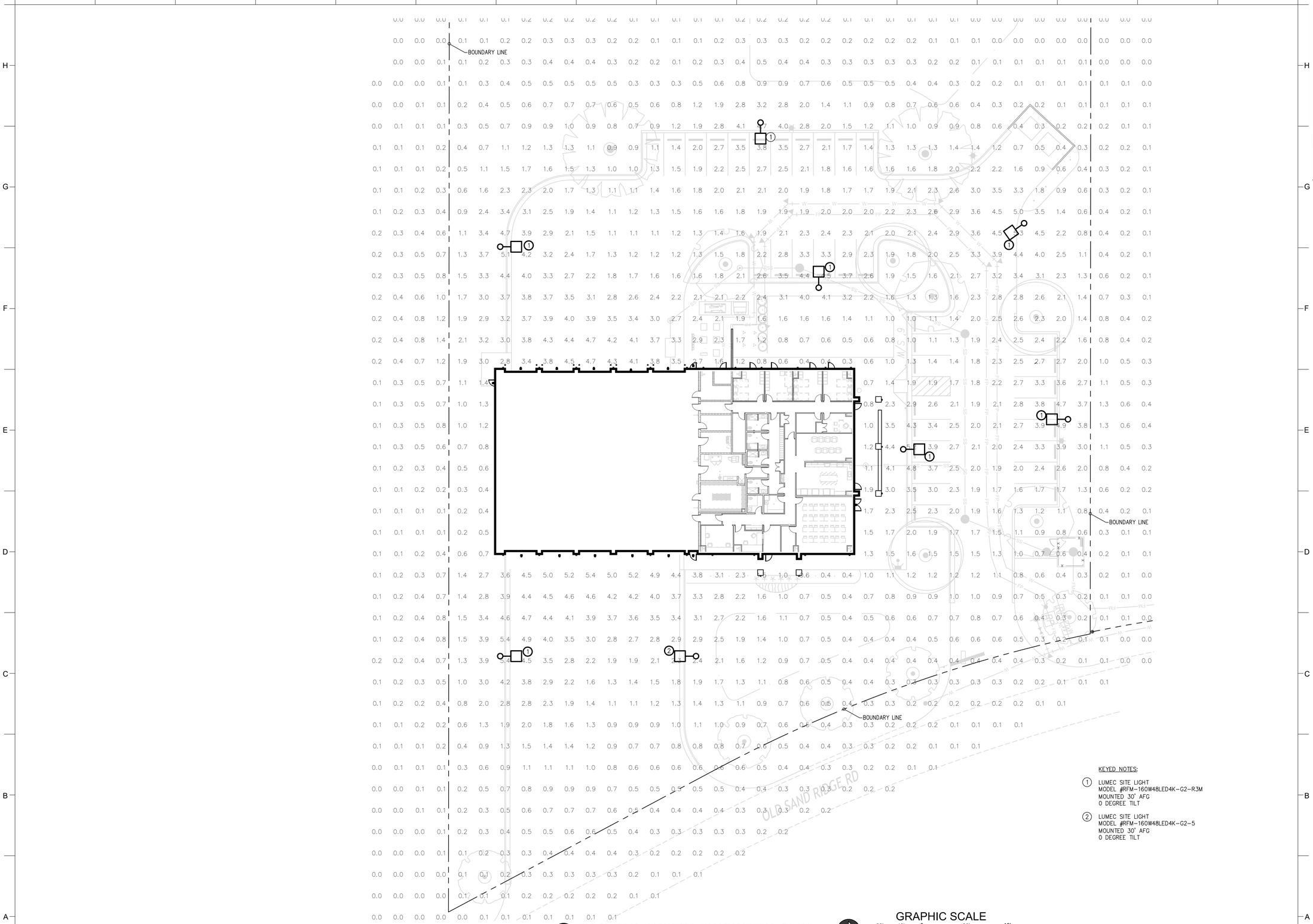
SHEET TITLE
ELECTRICAL SITE PLAN

E011



KEYED NOTES:

1. LUMEC SITE LIGHT
   MODEL #RFM-160W48LED4K-G2-R3M
   MOUNTED 30' AFG
   0 DEGREE TILT

2. LUMEC SITE LIGHT
   MODEL #RFM-160W48LED4K-G2-5
   MOUNTED 30' AFG
   0 DEGREE TILT

1 E012 ELECTRICAL LIGHTING PHOTOMETRIC PLAN
SCALE: 1" = 20'-0"

GRAPHIC SCALE
20' 10' 0 20' 40'
SCALE: 1"=20'-0"

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DATE ISSUED

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03/12/2025

SHEET TITLE
ELECTRICAL LIGHTING PHOTOMETRIC PLAN

E012

EXTERIOR HVAC UNITS EQUIPMENT SCHEDULE

CALLOUT	VOLTS AND PHASE	CIRCUIT	WIRE CALLOUT
DHP-1	208V 1-PH 2W	M1-32,34	3/4"C,2#10,#10G
HP-1	208V 3-PH 3W	M1-2,4,6	3/4"C,3#10,#10G
HP-2	208V 3-PH 3W	M1-8,10,12	3/4"C,3#10,#10G
HP-3	208V 1-PH 2W	M1-14,16	3/4"C,2#10,#10G
HP-4	208V 1-PH 2W	M1-18,20	3/4"C,2#10,#10G
HP-5	208V 3-PH 3W	M1-22,24,26	3/4"C,3#12,#12G

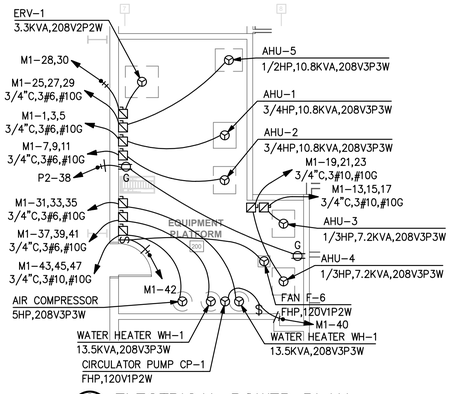
APPARATUS BAY EQUIPMENT SCHEDULE

CALLOUT	VOLTS AND PHASE	CIRCUIT	WIRE CALLOUT
FAN F-1	208V 3-PH 3W	M2-1,3,5	3/4"C,3#12,#12G
FAN F-2	208V 3-PH 3W	M2-2,4,6	3/4"C,3#12,#12G
FAN F-3	208V 3-PH 3W	M2-7,9,11	3/4"C,3#12,#12G
FAN F-4	208V 3-PH 3W	M2-8,10,12	3/4"C,3#12,#12G
FOLDING DOOR	208V 3-PH 4W	P1-2,4,6	3/4"C,3#12,#12N,#12G
FOLDING DOOR	208V 3-PH 4W	P1-8,10,12	3/4"C,3#12,#12N,#12G
FOLDING DOOR	208V 3-PH 4W	P1-26,28,30	3/4"C,3#12,#12N,#12G
FOLDING DOOR	208V 3-PH 4W	P1-20,22,24	3/4"C,3#12,#12N,#12G
FOLDING DOOR	208V 3-PH 4W	P1-14,16,18	3/4"C,3#12,#12N,#12G
FOLDING DOOR	208V 3-PH 4W	P1-1,3,5	3/4"C,3#12,#12N,#12G
FOLDING DOOR	208V 3-PH 4W	P1-7,9,11	3/4"C,3#12,#12N,#12G
FOLDING DOOR	208V 3-PH 4W	P1-13,15,17	3/4"C,3#12,#12N,#12G
FOLDING DOOR	208V 3-PH 4W	P1-19,21,23	3/4"C,3#12,#12N,#12G
FOLDING DOOR	208V 3-PH 4W	P1-25,27,29	3/4"C,3#12,#12N,#12G
OIL SEPERATOR HIGH LEVEL ALARM PANEL	120V 1-PH 2W	P1-40	3/4"C,1#12,#12N,#12G
UH-1	208V 3-PH 3W	M2-13,15,17	3/4"C,3#10,#10G
UH-2	208V 3-PH 3W	M2-14,16,18	3/4"C,3#10,#10G
UH-3	208V 3-PH 3W	M2-19,21,23	3/4"C,3#10,#10G
UH-4	208V 3-PH 3W	M2-20,22,24	3/4"C,3#10,#10G
UH-5	208V 3-PH 3W	M2-25,27,29	3/4"C,3#10,#10G
UH-6	208V 3-PH 3W	M2-26,28,30	3/4"C,3#10,#10G

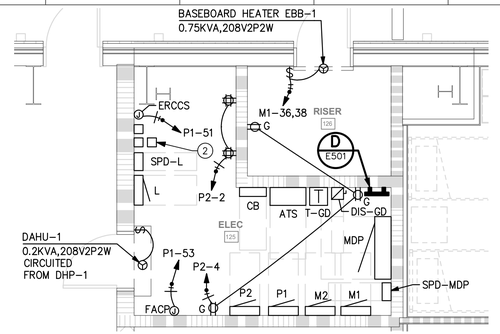
AIR SCRUBBER SCHEDULE EQUIPMENT SCHEDULE (ALTERNATE M-1)

CALLOUT	VOLTS AND PHASE	CIRCUIT	WIRE CALLOUT
AIR SCRUBBER AS-1	208V 1-PH 2W	M2-31,33	3/4"C,2#12,#12G
AIR SCRUBBER AS-2	208V 1-PH 2W	M2-32,34	3/4"C,2#12,#12G
AIR SCRUBBER AS-3	208V 1-PH 2W	M2-35,37	3/4"C,2#12,#12G
AIR SCRUBBER AS-4	208V 1-PH 2W	M2-36,38	3/4"C,2#12,#12G
AIR SCRUBBER AS-5	208V 1-PH 2W	M2-39,41	3/4"C,2#12,#12G
AIR SCRUBBER AS-6	208V 1-PH 2W	M2-40,42	3/4"C,2#12,#12G
AIR SCRUBBER AS-7	208V 1-PH 2W	M2-43,45	3/4"C,2#12,#12G
AIR SCRUBBER AS-8	208V 1-PH 2W	M2-44,46	3/4"C,2#12,#12G
AIR SCRUBBER AS-9	208V 1-PH 2W	M2-47,49	3/4"C,2#12,#12G
AIR SCRUBBER AS-10	208V 1-PH 2W	M2-48,50	3/4"C,2#12,#12G
AIR SCRUBBER CONTROL PANEL	120V 1-PH 2W	M2-51	3/4"C,1#12,#12N,#12G

NOTE: INSTALL HOMERUN CIRCUITRY INDICATED IN WIRE CALLOUT COLUMN TO EQUIPMENT DISCONNECT INDICATED.



2 E101 ELECTRICAL POWER PLAN – EQUIPMENT PLATFORM
SCALE: 1/8" = 1'-0"

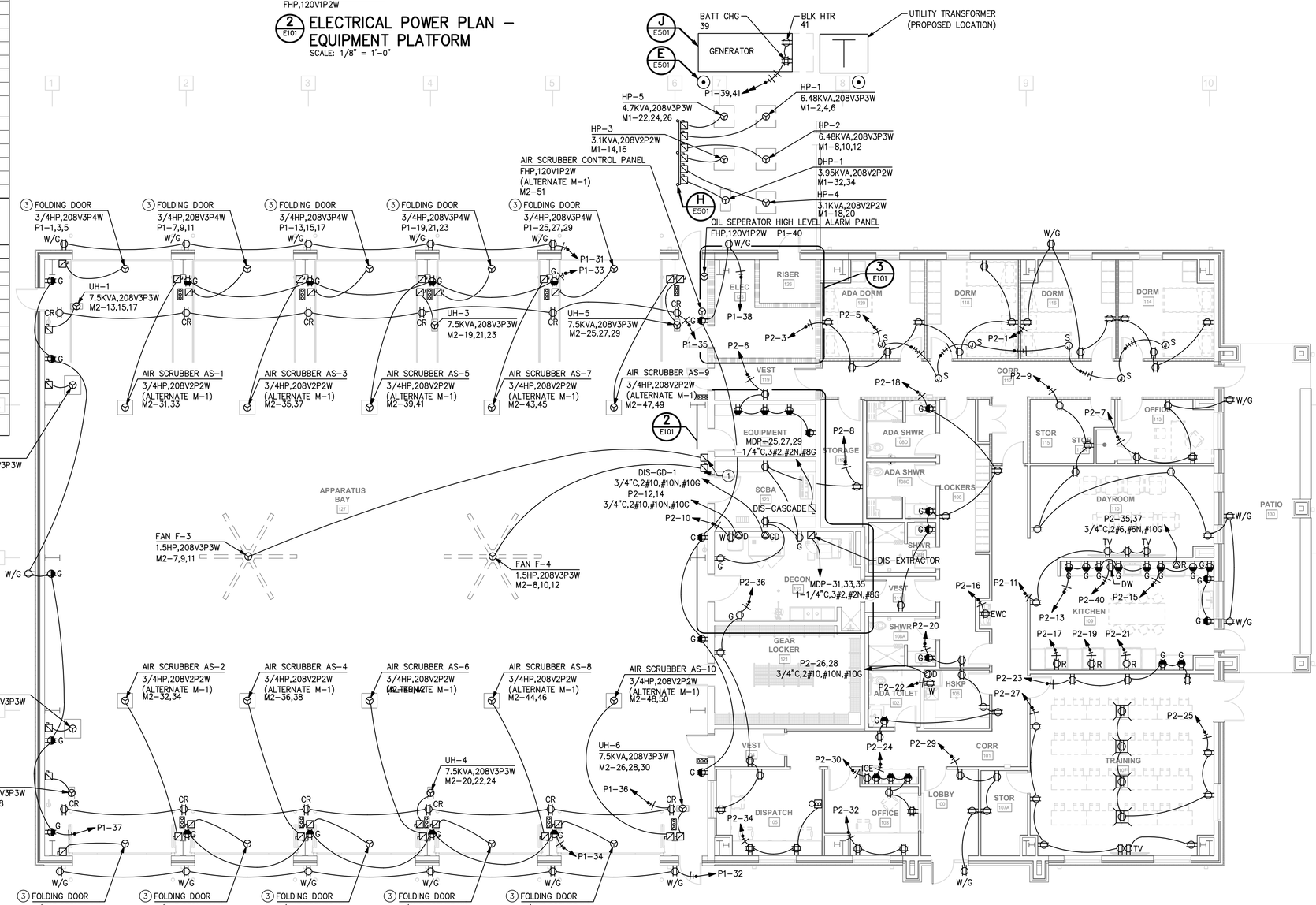


3 E101 ELECTRICAL ENLARGED POWER PLAN
SCALE: 1/4" = 1'-0"

KEYED NOTES:

1. COORDINATE SPEED CONTROL REQUIREMENTS WITH MANUFACTURER.
2. TIMECLOCK AND LIGHTING CONTACTORS.
3. REVIEW DOOR SPECIFICATIONS AND SUBMITTALS TO COORDINATE CIRCUITRY REQUIREMENTS WITH VENDOR FOR ASSOCIATED DOOR COMPONENTS,

GRAPHIC SCALE
4' 2' 0 4' 8'
SCALE: 1/4"=1'-0"



1 E101 ELECTRICAL POWER PLAN
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE
8' 4' 0 8' 16'
SCALE: 1/8"=1'-0"

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NORTH CAROLINA PROFESSIONAL SEAL 17593 ENGINEER MARK A. CIARROCCA

Digitally signed by Mark A. Ciarrocca
Date: 2025.03.11 12:10:02-04'00'

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REVISIONS

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PM: ALEXANDRE PENEGRE
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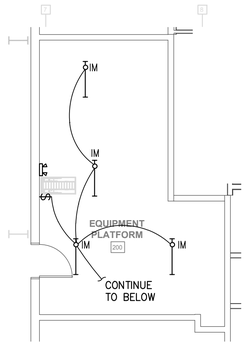
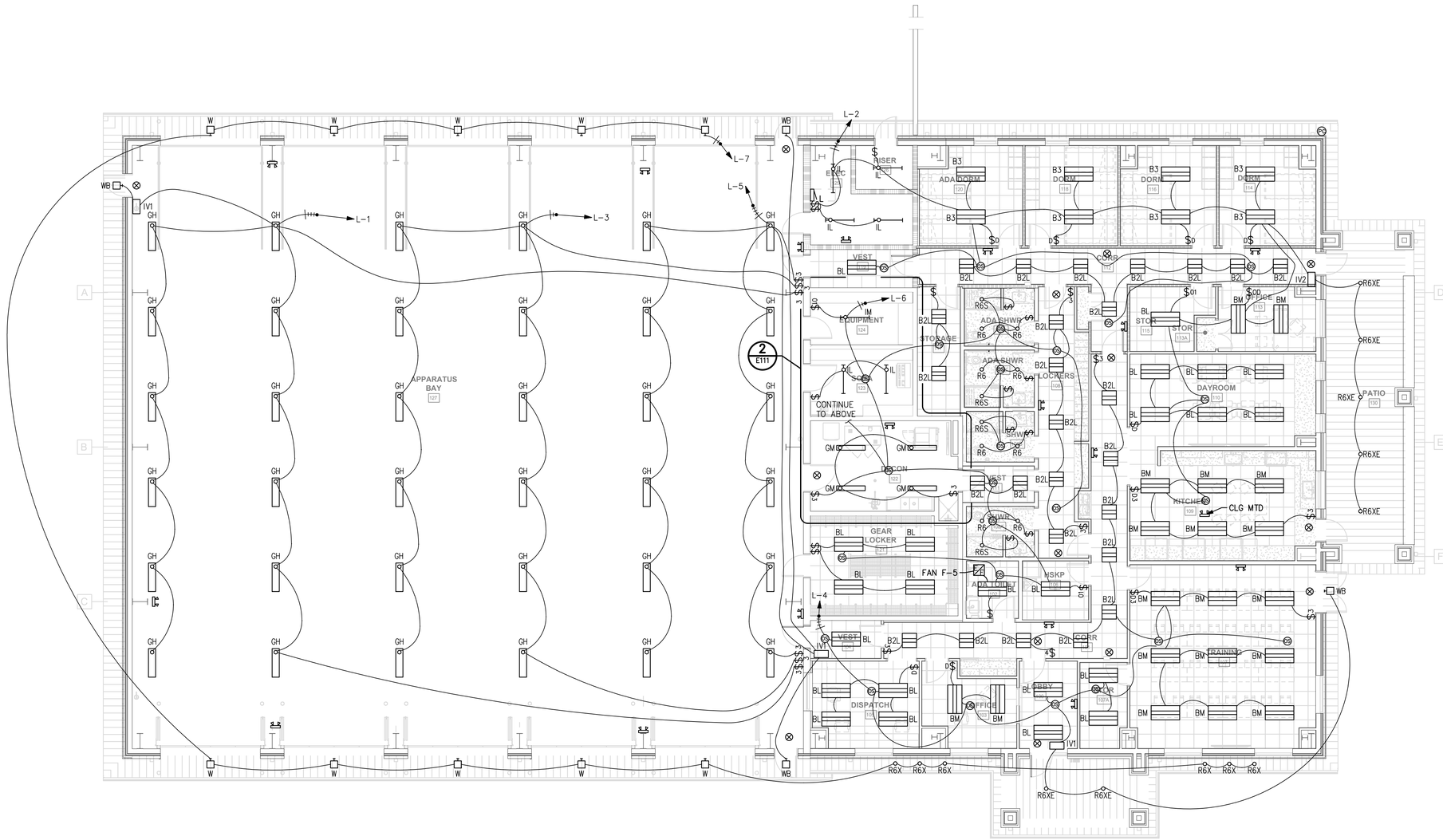
SHEET TITLE
ELECTRICAL POWER PLANS

E101



2 E111 ELECTRICAL LIGHTING PLAN – EQUIPMENT PLATFORM
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE
8' 4' 0 8' 16'
SCALE: 1/8"=1'-0"



1 E111 ELECTRICAL LIGHTING PLAN
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE
8' 4' 0 8' 16'
SCALE: 1/8"=1'-0"

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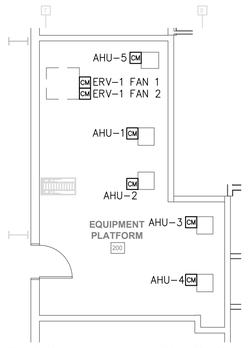
03/12/2025

SHEET TITLE
ELECTRICAL LIGHTING PLANS

E111



KEYED NOTES:

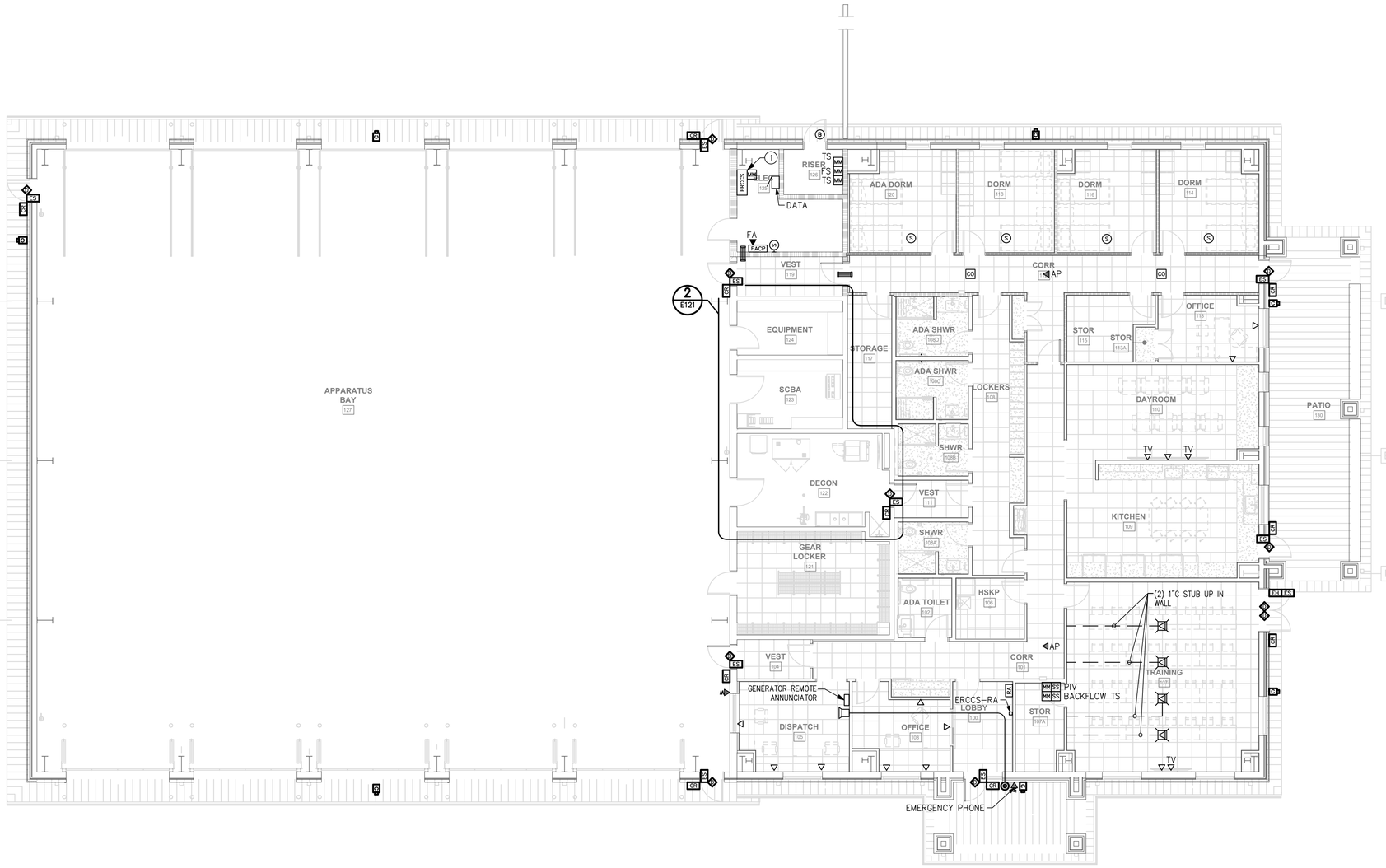
1. (8) MONITOR MODULES FOR EMERGENCY RESPONDER COMMUNICATION COVERAGE SYSTEM

2 E121 ELECTRICAL AUXILIARY SYSTEMS PLAN – EQUIPMENT PLATFORM

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

GRAPHIC SCALE 8' 4' 0 8' 16'

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



1 E121 ELECTRICAL AUXILIARY SYSTEMS PLAN

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

GRAPHIC SCALE 8' 4' 0 8' 16'

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

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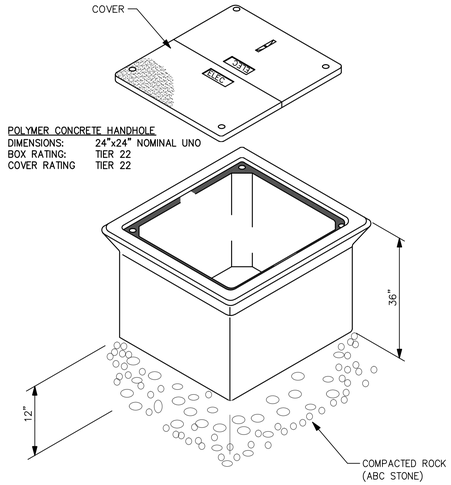
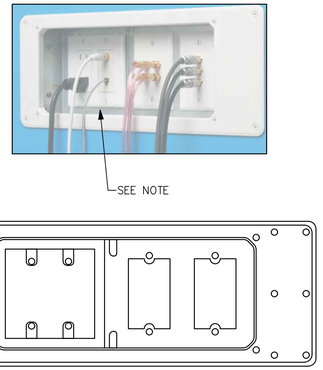
SHEET TITLE
ELECTRICAL AUXILIARY SYSTEMS PLANS

E121



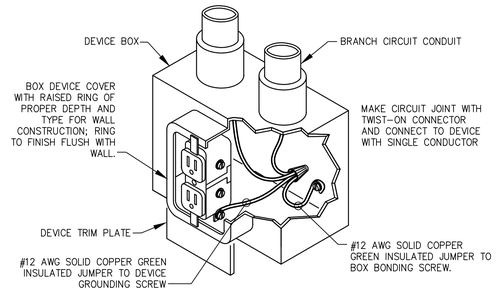
A TYPICAL HANDHOLE DETAIL
E501 — NO SCALE



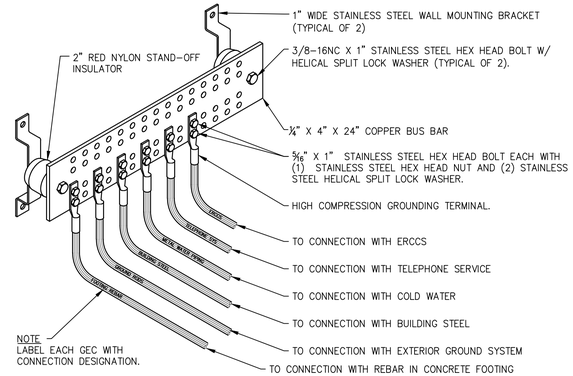
DESIGN BASIS: ARLINGTON TVBS613
APPROVED EQUIVALENTS BY ALTERNATE MANUFACTURERS ARE ACCEPTABLE.

NOTE:
PAINT EXPOSED METAL OF THE BOX TO MATCH THE WALL FINISH. PAINT PRIOR TO INSTALLATION OF CABLES, OUTLETS, AND FACEPLATES.

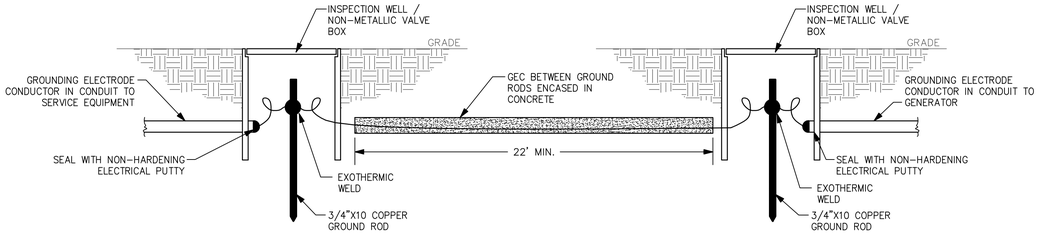
B TV MONITOR OUTLET BOX DETAIL
E501 — NO SCALE



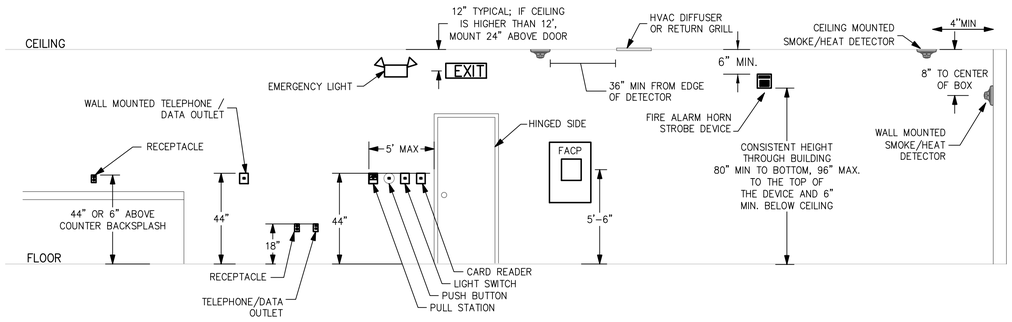
C OUTLET GROUNDING DETAIL
E501 — NO SCALE



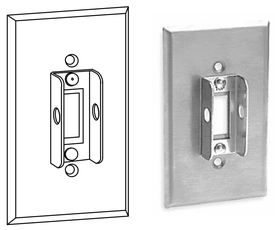
D MAIN GROUND BAR
E501 — NO SCALE



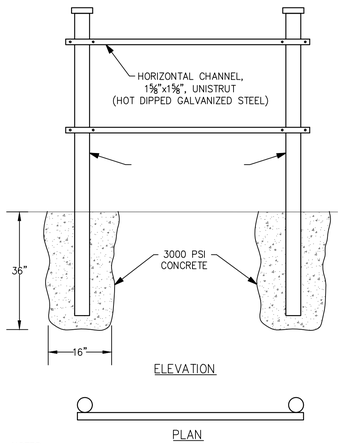
E GROUND ROD & INSPECTION WELL
E501 — NO SCALE



F MOUNTING HEIGHTS OF DEVICES
E501 — NO SCALE

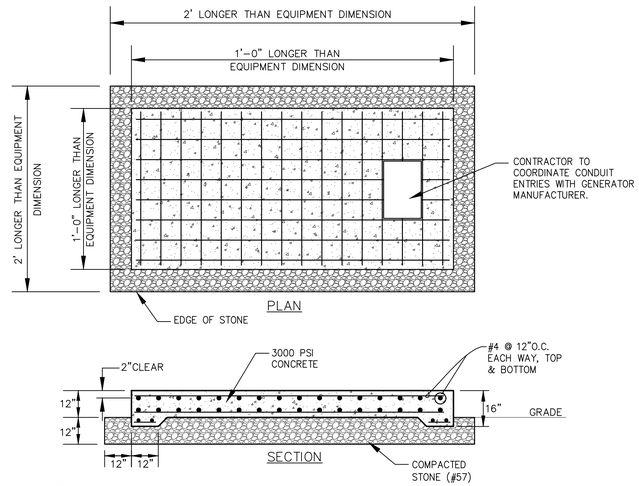


G LOCKABLE TOGGLE SWITCH COVER
E501 — NO SCALE



NOTES
1. USE ⅜" HOT DIPPED GALVANIZED STEEL HARDWARE FOR CONNECTING CHANNELS & MOUNTING EQUIPMENT.
2. PROVIDE ADDITIONAL VERTICAL POSTS, CENTERED, IF RACK EXCEEDS 60" WIDE.
3. PROVIDE ADDITIONAL CHANNEL(S) WHERE REQUIRED TO ALIGN WITH EQUIPMENT MOUNTING HOLES.

H EQUIPMENT RACK DETAIL
E501 — NO SCALE



NOTES:
1. PROVIDE ANCHOR BOLTS FOR GENERATOR & ENCLOSURE PER MANUFACTURER'S REQUIREMENTS.
2. BASE PAD SIZE ON ACTUAL EQUIPMENT SUPPLIED. PAD SHOULD EXTEND 6" PAST EQUIPMENT EXTERIOR IN EACH DIRECTION.

J GENERATOR PAD DETAIL
E501 — NO SCALE

DAVIS KANE ARCHITECTS, PA
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JOB # 24012 NC LICENSE# C-1073

ONSLOW COUNTY BEAR CREEK FIRE STATION
ONSLOW COUNTY
BID. NO. 102-25C
138 OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

NORTH CAROLINA PROFESSIONAL SEAL 17593 ENGINEER MARK A CIARROCCO

Digitally signed by Mark A. Ciarrocco
Date: 2025.03.11 12:10:02-04'00'

DKA JOB NUMBER
2324

REVISIONS

PE: M. CIARROCCO
PM: ALEXANDRE PENEGRE
Drawn By: J. GRITTON
Plot Date: 1/27/2025

DATE ISSUED
BID DOCUMENTS
03/12/2025

SHEET TITLE
ELECTRICAL DETAILS

E501

TRANSFORMER

TRANSFORMER T-GD	←	TRANSFORMER DESIGNATION
SOURCE: PANEL "P2"/CKT "33,35"	←	SOURCE DESIGNATION
RATING: 7.5 KVA	←	RATING DESIGNATION
VOLTAGE: 480:208/120V,3PH,4W	←	VOLTAGE & PHASE DESIGNATION
SUPPLIES: PANEL "2P"	←	EQUIPMENT SUPPLIED

ENCLOSED CIRCUIT BREAKER

EQUIPMENT DESIGNATION
SOURCE DESIGNATION
RATING DESIGNATION
VOLTAGE & PHASE DESIGNATION

SERVICE BREAKER
PANEL"P"/CKT #
RATING: 200 AMPS
VOLTAGE: 480/277V,3PH,4W

HEIGHT AS REQUIRED (TYPICAL)

LENGTH AS REQUIRED (TYPICAL)

PANELBOARD

PANEL P2 ← PANEL DESIGNATION

PANEL:	PANEL "P1"/CKT #	← SOURCE DESIGNATION
RATING:	225 AMPS	← RATING DESIGNATION
VOLTAGE:	120/208V,3PH,4W	← VOLTAGE & PHASE DESIGNATION

DISCONNECT

DISCONNECT DESIGNATION
SOURCE DESIGNATION
RATING DESIGNATION
VOLTAGE & PHASE DESIGNATION

DOAS #1
SOURCE: PANEL"4M"/CKT #
RATING: 200 AMPS
VOLTAGE: 480V,3PH,3W

AUTOMATIC TRANSFER SWITCH

AUTOMATIC TRANSFER SWITCH ← AUTOMATIC TRANSFER SWITCH DESIGNATION

NORMAL SOURCE:	PANEL "4M"/CKT #	← NORMAL SOURCE DESIGNATION
STANDBY SOURCE:	GENSET C/B 225A	← STANDBY SOURCE DESIGNATION
RATING:	260A	← RATING DESIGNATION
VOLTAGE:	480/277V,3PH,4W	← VOLTAGE & PHASE DESIGNATION

NOTES:
1. ENGRAVED PLASTIC FOR NAMEPLATE.
2. HIGH PERFORMANCE, DOUBLE COATED TAPE WITH ADHESIVE TO ATTACH LABELS. DESIGN BASIS: 3M #06383 OR APPROVED EQUIVALENT.

(A) E502 **TYPICAL NAMEPLATE DETAILS**
NO SCALE

PANEL IDENTIFICATION LABEL

(A) E502

COLOR CODE LABEL

COLOR CODE:

PHASE "A"	BLACK
PHASE "B"	RED
PHASE "C"	BLUE
NEUTRAL	WHITE
EQUIPMENT GROUND	GREEN

NOTES:
1. ENGRAVED LABELS SHALL FEATURE BLACK LETTERS ON WHITE BACKGROUND, UNLESS SPECIFIED OTHERWISE.
2. FOR APPLICATIONS OTHER THAN NEMA 1 ENCLOSURES, PROVIDE DUPLICATE ID LABELS INSIDE ENCLOSURES.
3. PANEL DESIGNATION: ¾" HIGH TEXT, MINIMUM.
4. VOLTAGE CONFIGURATION & SOURCE: ⅜" HIGH TEXT, MININUM.
5. COLOR CODE LABEL: PRINTED LABEL IS ACCEPTABLE. SEE SPECIFICATIONS FOR COLOR CODE REQUIREMENTS.
6. OBTAIN FAULT CURRENT VALUES FOR ALL EQUIPMENT FROM FAULT CURRENT TABLE.

WARNING

Arc Flash and Shock Hazard.
Appropriate PPE Required.
Failure to Comply Can Result in Death or Injury.
Refer to NFPA 70 E.

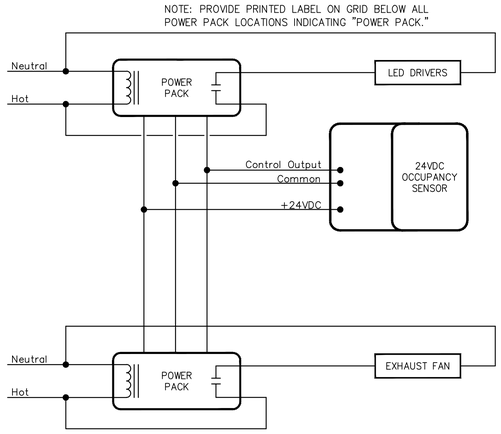
FAULT CURRENT LABEL

MAXIMUM AVAILABLE FAULT CURRENT:
##,### SYMMETRICAL RMS AMPERES
DATE: 12/06/2024

(B) E502 **TYPICAL PANELBOARD IDENTIFICATION**
NO SCALE

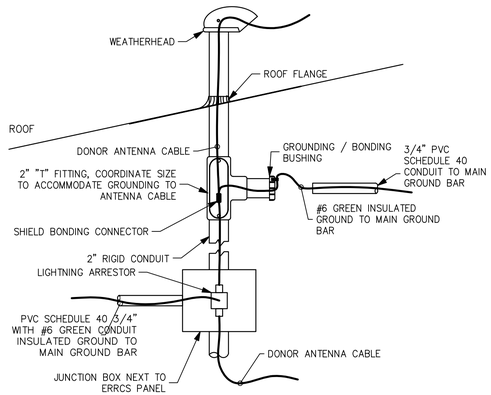
FAULT CURRENT SCHEDULE

DEVICE	*L-L FAULT*
CB	20,452
ATS	19,622
MDP	18,401
DIS-CASCADE	10,446
DIS-EXTRACTOR	9,957
DIS-PUMP STATION	2,555
L	11,096
M1	16,737
M2	15,982
P1	15,656
P2	15,429
DIS-GD	1,404



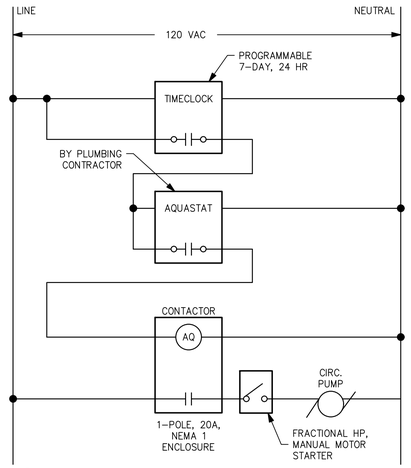
SINGLE OCCUPANCY SENSOR, LOW VOLTAGE

(C) E502 **OCCUPANCY SENSOR WIRING LIGHTING AND EXHAUST FAN CONTROL**
NO SCALE

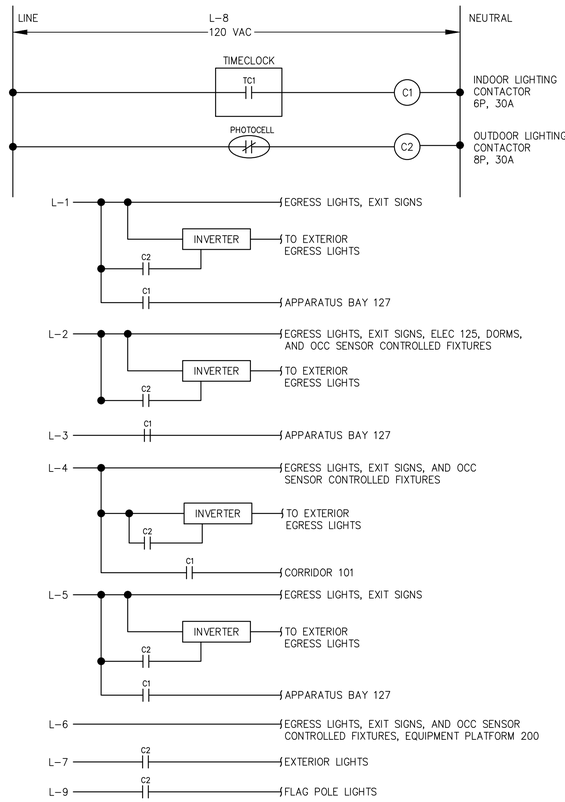


(D) E502 **ERRCS WEATHERHEAD DETAIL**
NO SCALE

SEQUENCE OF OPERATION:
TIMECLOCK IS PROGRAMMED TO BE ON DURING OPERATING HOURS. DURING THAT TIME, IF WATER TEMPERATURE DROPS AND IS SENSED BY THE AQUASTAT, CIRC PUMP IS SET TO RUN



(E) E502 **CIRCULATION PUMP CONTROL SCHEMATIC**
NO SCALE



AUTO MODE CONTROL SCHEME
1. INTERIOR LIGHTS THAT ARE NOT UNDER OCCUPANCY SENSOR CONTROL SHALL TURN ON/OFF VIA TIMECLOCK UNO.
2. EXTERIOR LIGHTS TURN ON/OFF VIA PHOTOCELL.
3. EXTERIOR EGRESS LIGHTS SHALL REMAIN ENERGIZED DURING POWER OUTAGES THROUGH THE INVERTERS AFTER DARK. THE SWITCHED INPUT TO THE INVERTER FROM THE CONTACTORS PREVENTS OPERATION OF THE INVERTER DURING DAYLIGHT.

(F) E502 **LIGHTING CONTROL SCHEMATIC**
NO SCALE

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SEALS

NORTH CAROLINA PROFESSIONAL SEAL 17593 ENGINEER MARK A. CIARROCCA

Digitally signed by Mark A. Ciarrocca
Date: 2025.03.11 12:10:03-04'00'

DKA JOB NUMBER
2324

REVISIONS

PE: M. CIARROCCA
PM: ALEXANDRE PENEGRE
Drawn By: J. GRITTON
Plot Date: 1/27/2025

DATE ISSUED

BID DOCUMENTS
03/12/2025

SHEET TITLE
ELECTRICAL DETAILS

E502

LUMINAIRE SCHEDULE

CALLOUT	SYMBOL	DESCRIPTION	LAMP	BALLAST	VOLTS	MOUNTING	MANUFACTURER / MODEL	NOTES	CALLOUT
B2L		2x2, ARCHITECTURAL LENSED, INDIRECT	(1) 32W LED	LED DIMMABLE DRIVER	120V 1P 2W	RECESSED	COLUMBIA #LCAT SERIES DAYBRITE #2EV SERIES METALUX #22CZ SERIES	3500 NOMINAL LUMENS. 4000K COLOR TEMPERATURE. SMOOTH, ROUND LENSE.	B2L
B3		2x4, ARCHITECTURAL LENSED, INDIRECT	(1) 40W LED	LED DIMMABLE DRIVER	120V 1P 2W	RECESSED	COLUMBIA #LCAT SERIES DAYBRITE #2EV SERIES METALUX #24CZ SERIES	4300 NOMINAL LUMENS. 3000K COLOR TEMPERATURE. SMOOTH, ROUND LENSE.	B3
BL		2x4, ARCHITECTURAL LENSED, INDIRECT	(1) 40W LED	LED DIMMABLE DRIVER	120V 1P 2W	RECESSED	COLUMBIA #LCAT SERIES DAYBRITE #2EV SERIES METALUX #24CZ SERIES	4300 NOMINAL LUMENS. 4000K COLOR TEMPERATURE. SMOOTH, ROUND LENSE.	BL
BM		2x4, ARCHITECTURAL LENSED, INDIRECT	(1) 47W LED	LED DIMMABLE DRIVER	120V 1P 2W	RECESSED	COLUMBIA #LCAT SERIES DAYBRITE #2EV SERIES METALUX #24CZ SERIES	5300 NOMINAL LUMENS. 4000K COLOR TEMPERATURE. SMOOTH, ROUND LENSE.	BM
EG		EMERGENCY EGRESS, BATTERY	(2) 7W MR 16 LED	BATTERY	120V 1P 2W	WALL; MTD 8'-0" AFF	EMERGILITE #COMPACT PREMIER SERIES CHLORIDE #TPU SERIES LIGHTALARMS #COMPACT GRANDE SERIES	CONNECT TO NEAREST UNSWITCHED LIGHT CIRCUIT IN SAME SPACE. THESE FIXTURES ARE NOT TAGGED WITH "EG" ON THE DRAWINGS; ONLY THE SYMBOL IS USED. DESIGN CRITERIA: 70 FT SPACING, UTILIZING 6 FT WIDE PATH, 80/50/20 REFLECTANCES, MAINTAINING 1 FC AVG AND 0.2 FC MININUM.	EG
FL		FLAG LIGHT	(1) 20W LED	LED DRIVER	120V 1P 2W	GROUND, FLUSH TO GRADE	KIM LIGHTING #LTV83SS HADCO #SL-33LED SERIES LUMIERE #MONACO 3002 SERIES	MOUNTING DISTANCE FROM POLE = 2X TO 3X FLAG WIDTH. NARROW FLOOD; ADJUSTABLE AIMING; 4000K COLOR TEMPERATURE; 1000 NOMINAL LUMENS MINIMUM; ROCK GUARD.	FL
GH		4' GASKETED	(1) 92W LED	LED DRIVER	120V 1P 2W	PENDANT/JOIST; MTD 17' AFG	COLUMBIA #LXEM SERIES LUMAX #VWBTLED SERIES WILLIAMS #96 SERIES	10,000 NOMINAL LUMENS. 4000K COLOR TEMPERATURE. COORDINATE LOCATION & HEIGHT TO MINIMIZE INTERFERENCES WITH UNIT HEATERS AND CORD REELS.	GH
GM		4' GASKETED	(1) 47W LED	LED DRIVER	120V 1P 2W	PENDANT/SURFACE; MTD 9' AFF	WILLIAMS #96 SERIES ILP #VVT SERIES METALUX #4VT SERIES	5100 NOMINAL LUMENS. 4000K COLOR TEMPERATURE. STAINLESS STEEL MOUNTING HARDWARE & LENS CLAMPS.	GM
IL		4' INDUSTRIAL	(1) 30W LED	LED DRIVER	120V 1P 2W	PENDANT/SURFACE; MTD 10' AFF	COLUMBIA #LCL SERIES DAYBRITE #FSS SERIES METALUX #SNLED SERIES	3700 NOMINAL LUMENS. 4000K COLOR TEMPERATURE. WIRE GUARD. FROSTED LENS.	IL
IM		4' INDUSTRIAL	(1) 44W LED	LED DRIVER	120V 1P 2W	PENDANT/SURFACE; MTD 10' AFF	COLUMBIA #LCL SERIES DAYBRITE #FSS SERIES METALUX #SNLED SERIES	5300 NOMINAL LUMENS. 4000K COLOR TEMPERATURE. WIRE GUARD. FROSTED LENS.	IM
IV1		INVERTER, EGRESS LIGHTING	N/A	BATTERY	120V 1P 2W	SURFACE	EMERGI-LITE #EMIU SERIES BODINE #ELI-S SERIES LIGHTALARMS #LMIU SERIES	INVERTER FOR BATTERY BACKUP OF EGRESS LIGHTING; 100W FOR 90 MINUTES (MINIMUM). INCLUDE SELF-DIAGNOSTIC OPTION. LOCATE ABOVE CEILING WHERE APPLICABLE - PROVIDE "LIGHTING INVERTER" LABEL ON CEILING GRID BELOW INSTALLED LOCATION. STANDARD LIGHTING CONTROL OVERRIDE FOR 0-10V DIMMING SYSTEM.	IV1
IV2		INVERTER, EGRESS LIGHTING	N/A	BATTERY	120V 1P 2W	SURFACE	EMERGI-LITE #EMIU SERIES BODINE #ELI-S SERIES LIGHTALARMS #LMIU SERIES	INVERTER FOR BATTERY BACKUP OF EGRESS LIGHTING; 250W FOR 90 MINUTES (MINIMUM). INCLUDE SELF-DIAGNOSTIC OPTION. LOCATE ABOVE CEILING WHERE APPLICABLE - PROVIDE "LIGHTING INVERTER" LABEL ON CEILING GRID BELOW INSTALLED LOCATION. STANDARD LIGHTING CONTROL OVERRIDE FOR 0-10V DIMMING SYSTEM.	IV2
R6		6" RECESSED CAN	(1) 20W LED	LED DIMMABLE DRIVER	120V 1P 2W	RECESSED	PRESCOLITE #LF6LED SERIES LIGHTOLIER #Z6RDL SERIES PORTFOLIO #LD6B SERIES	2000 NOMINAL LUMENS. 4000K COLOR TEMPERATURE. SELF-FLANGED LENSED REFLECTOR TRIM; LOW IRIDESCENT CLEAR FINISH.	R6
R6S		6" RECESSED CAN, SHOWER LIGHT	(1) 12W LED	LED DRIVER	120V 1P 2W	RECESSED	PRESCOLITE #LF6LED SERIES LIGHTOLIER #L6R SERIES PORTFOLIO #LD6B SERIES	WET LOCATION LISTED. 1000 NOMINAL LUMENS. 4000K COLOR TEMPERATURE. SELF-FLANGED LENSED REFLECTOR TRIM; LOW IRIDESCENT CLEAR FINISH.	R6S
R6X		6" RECESSED CAN, EXTERIOR	(1) 18W LED	LED DRIVER	120V 1P 2W	RECESSED	PHILIPS LIGHTOLIER #L6R SERIES PORTFOLIO #LD6B SERIES LITON #CH6 SERIES	DAMP LOCATION, 2000 NOMINAL LUMENS. 4000K COLOR TEMP; SELF-FLANGED OPEN REFLECTOR TRIM, LOW IRIDESCENT CLEAR FINISH. IC RATED, AIRTIGHT CONSTRUCTION, GASKET BETWEEN FIXTURE & SOFFIT; SEE SPECIFICATIONS FOR ENERGY CODE REQUIREMENTS.	R6X
R6XE		6" RECESSED CAN, EXTERIOR, EGRESS	(1) 18W LED	LED DRIVER	120V 1P 2W	RECESSED	PHILIPS LIGHTOLIER #L6R SERIES PORTFOLIO #LD6B SERIES LITON #CH6 SERIES	DAMP LOCATION, 2000 NOMINAL LUMENS. 4000K COLOR TEMP; SELF-FLANGED OPEN REFLECTOR TRIM, LOW IRIDESCENT CLEAR FINISH. IC RATED, AIRTIGHT CONSTRUCTION, GASKET BETWEEN FIXTURE & SOFFIT; SEE SPECIFICATIONS FOR ENERGY CODE REQUIREMENTS.	R6XE
W		HALF CYLINDER WALL PACK	(1) 30W LED	LED DRIVER	120V 1P 2W	WALL; MTD 17' AFG	HUBBELL #RDI2 SERIES GARDCO #104L SERIES MCGRAW-EDISON #ISC SERIES	3100 NOMINAL LUMENS. 4000K COLOR TEMPERATURE. TYPE IV DISTRIBUTION. FINISH SELECTION BY ARCHITECT.	W
WB		HALF CYLINDER WALL PACK, EGRESS	(1) 20W LED (1) 20W LED	LED DRIVER LED DRIVER	120V 1P 2W	WALL MTD, COORDINATE MTG HEIGHT WITH ARCHITECT	HUBBELL #RDI2 SERIES TECH D #T650L SERIES	5300 NOMINAL LUMENS. 4000K COLOR TEMPERATURE. TYPE IV DISTRIBUTION. DUAL LED DRIVERS AND DUAL LED ARRAYS FOR EGRESS REQUIREMENTS. DOWNLIGHT ONLY. FINISH SELECTION BY ARCHITECT.	WB
X	⊗	EXIT SIGN, BATTERY BACKUP	(2) 1W LED	BATTERY	120V 1P 2W	UNIVERSAL	EMERGILITE #PREMIER SERIES CHLORIDE #TPE SERIES LIGHTALARMS #GRANDE SERIES	CONNECT TO NEAREST UNSWITCHED LIGHT CIRCUIT IN SAME SPACE. THESE FIXTURES ARE NOT TAGGED WITH "X" ON THE DRAWINGS; ONLY THE SYMBOL IS USED.	X

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SEALS

NORTH CAROLINA PROFESSIONAL SEAL 17593 ENGINEER MARK A. CIARROCCA

Digitally signed by Mark A. Ciarrocca
Date: 2025.03.11 12:10:03-04'00'

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REVISIONS

PE: M. CIARROCCA
PM: ALEXANDRE PENEGRE
Drawn By: J. GRITTON
Plot Date: 1/27/2025

DATE ISSUED

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03/12/2025

SHEET TITLE
ELECTRICAL LUMINAIRE SCHEDULE

E601

MDP

ROOM: ELEC 125 | VOLTS: 208Y/120V 3P 4W | AIC: 22,000
MOUNTING: SURFACE | BUS AMPS: 800 | MAIN BKR: MLO
FED FROM: ATS | NEUTRAL: 100% | LUGS: STANDARD
NOTE:

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	225/3	PANEL M2	24.1			2	225/3	PANEL P1	8.39		
3	|			22.6		4	|			7.97	
5	|				22.5	6	|				9.09
7	400/3	PANEL M1	39.9			8	225/3	PANEL P2	20.9		
9	|			39.7		10	|			18.2	
11	|				38	12	|				17.5
13	100/3	PANEL L	3.43			14	60/3	SPD–MDP	0		
15	|			1.2		16	|			0	
17	|				2.8	18	|				0
19	100/3	DIS–PUMP STATION	4.08			20	–/3	SPACE	0		
21	|			4.08		22	|			0	
23	|				4.08	24	|				0
25	100/3	FUSED DISCONNECT DIS–CASCADE	4.07			26	–/3	SPACE	0		
27	|			4.07		28	|			0	
29	|				4.07	30	|				0
31	100/3	FUSED DISCONNECT DIS–EXTRACTOR	3.6			32	–/3	SPACE	0		
33	|			3.6		34	|			0	
35	|				3.6	36	|				0
37	–/3	SPACE	0			38	–/3	SPACE	0		
39	|			0		40	|			0	
41	|				0	42	|				0
								TOTAL CONNECTED KVA BY PHASE	108	101	102
								TOTAL CONNECTED AMPS BY PHASE	903	845	847

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	7.2	9	(125%)	CONTINUOUS	3	3.75	(125%)
LARGEST MOTOR	6.48	1.62	(25%)	NONCONTINUOUS	55.5	55.5	(100%)
MOTORS	51	51	(100%)	HEATING	135	135	(100%)
RECEPTACLES	29.2	19.6	(50%>10)	COOLING	36.6	0	(0%)
KITCHEN EQUIPMENT	8	8	(100%)	DIVERSE	22.1	0	(0%)
				TOTAL LOAD		284	
				BALANCED 3–PHASE LOAD		788 A	

L

ROOM: ELEC 125 | VOLTS: 208Y/120V 3P 4W | AIC: 14,000
MOUNTING: SURFACE | BUS AMPS: 100 | MAIN BKR: MLO
FED FROM: MDP | NEUTRAL: 100% | LUGS: STANDARD
NOTE:

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	20/1	BAY LTG, EGRESS, EXIT, INVERTER, LTG–WALLPACK	1.24			2	20/1	(^) EGRESS, EXIT, INVERTER, LTG	1.65		
3	20/1	BAY LTG		1.16		4	20/1			0	
5	20/1	BAY LTG, EGRESS, EXIT, INVERTER, LTG–WALLPACK			1.3	6	20/1	EGRESS, EXH FAN, EXIT, LTG			1.51
7	20/1	LTG, LTG–WALLPACK	0.44			8	20/1	LTG CONTROL	0.1		
9	20/1	FLAG LTG		0.036		10	20/1	SPARE		0	
11	20/1	SPARE			0	12	20/1	SPARE			0
13	20/1	SPARE	0			14	20/1	SPARE	0		
15	20/1	SPARE		0		16	20/1	SPARE		0	
17	20/1	SPARE			0	18	20/1	SPARE			0
19	20/1	SPARE	0			20	20/1	SPARE	0		
21	20/1	SPARE		0		22	20/1	SPARE		0	
23	20/1	SPARE			0	24	20/1	SPARE			0
25	20/1	SPARE	0			26	30/3	SPD–L	0		
27	20/1	SPARE		0		28	|			0	
29	20/1	SPARE			0	30	|				0
								TOTAL CONNECTED KVA BY PHASE	3.43	1.2	2.8
								TOTAL CONNECTED AMPS BY PHASE	28.6	10	23.4

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	7.2	9	(125%)	MOTORS	0.13	0.13	(100%)
LARGEST MOTOR	0.13	0.033	(25%)	RECEPTACLES	0.1	0.1	(50%>10)
				TOTAL LOAD		9.26	
				BALANCED 3–PHASE LOAD		25.7 A	

(^) INDICATES ARC–FAULT C/B

M1

ROOM: ELEC 125 | VOLTS: 208Y/120V 3P 4W | AIC: 18,000
MOUNTING: SURFACE | BUS AMPS: 400 | MAIN BKR: MLO
FED FROM: MDP | NEUTRAL: 100% | LUGS: STANDARD
NOTE:

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	45/3	AHU–1	4.04			2	30/3	HP–1	2.16		
3	|			4.04		4	|			2.16	
5	|				4.04	6	|				2.16
7	45/3	AHU–2	4.04			8	30/3	HP–2	2.16		
9	|			4.04		10	|			2.16	
11	|				4.04	12	|				2.16
13	30/3	AHU–3	2.69			14	25/2	HP–3	1.55		
15	|			2.69		16	|			1.55	
17	|				2.69	18	25/2	HP–4			1.55
19	30/3	AHU–4	2.69			20	|		1.55		
21	|			2.69		22	20/3	HP–5		1.57	
23	|				2.69	24	|				1.57
25	45/3	AHU–5	3.9			26	|		1.57		
27	|			3.9		28	20/2	ERV–1		1.65	
29	|				3.9	30	|				1.65
31	50/3	WATER HEATER WH–1	4.5			32	25/2	DAHU–1, DHP–1	2.08		
33	|			4.5		34	|			2.08	
35	|				4.5	36	15/2	BASEBOARD HEATER EBB–1			0.375
37	50/3	WATER HEATER WH–1	4.5			38	|		0.375		
39	|			4.5		40	15/1	CIRCULATOR PUMP CP–1		0.1	
41	|				4.5	42	15/1	FAN F–6			0.1
43	25/3	AIR COMPRESSOR	2.11			44	–/3	SPACE	0		
45	|			2.11		46	|			0	
47	|				2.11	48	|				0
49	–/3	SPACE	0			50	–/3	SPACE	0		
51	|			0		52	|			0	
53	|				0	54	|				0
								TOTAL CONNECTED KVA BY PHASE	39.9	39.7	38
								TOTAL CONNECTED AMPS BY PHASE	332	331	317

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LARGEST MOTOR	6.48	1.62	(25%)	NONCONTINUOUS	27	27	(100%)
MOTORS	0.2	0.2	(100%)	HEATING	90.5	90.5	(100%)
				COOLING	36.6	0	(0%)
				TOTAL LOAD		119	
				BALANCED 3–PHASE LOAD		331 A	

M2

ROOM: ELEC 125 | VOLTS: 208Y/120V 3P 4W | AIC: 18,000
MOUNTING: SURFACE | BUS AMPS: 225 | MAIN BKR: MLO
FED FROM: MDP | NEUTRAL: 100% | LUGS: STANDARD
NOTE:

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	15/3	FAN F–1	0.443			2	15/3	FAN F–2	0.443		
3	|			0.443		4	|			0.443	
5	|				0.443	6	|				0.443
7	15/3	FAN F–3	0.8			8	15/3	FAN F–4	0.8		
9	|			0.8		10	|			0.8	
11	|				0.8	12	|				0.8
13	30/3	UH–1	2.5			14	30/3	UH–2	2.5		
15	|			2.5		16	|			2.5	
17	|				2.5	18	|				2.5
19	30/3	UH–3	2.5			20	30/3	UH–4	2.5		
21	|			2.5		22	|			2.5	
23	|				2.5	24	|				2.5
25	30/3	UH–5	2.5			26	30/3	UH–6	2.5		
27	|			2.5		28	|			2.5	
29	|				2.5	30	|				2.5
31	15/2	(ALTERNATE M–1) AIR SCRUBBER AS–1	0.828			32	15/2	(ALTERNATE M–1) AIR SCRUBBER AS–2	0.828		
33	|			0.828		34	|			0.828	
35	15/2	(ALTERNATE M–1) AIR SCRUBBER AS–3			0.828	36	15/2	(ALTERNATE M–1) AIR SCRUBBER AS–4			0.828
37	|		0.828			38	|		0.828		
39	15/2	(ALTERNATE M–1) AIR SCRUBBER AS–5		0.828		40	15/2	(ALTERNATE M–1) AIR SCRUBBER AS–6		0.828	
41	|				0.828	42	|				0.828
43	15/2	(ALTERNATE M–1) AIR SCRUBBER AS–7	0.828			44	15/2	(ALTERNATE M–1) AIR SCRUBBER AS–8	0.828		
45	|			0.828		46	|			0.828	
47	15/2	(ALTERNATE M–1) AIR SCRUBBER AS–9			0.828	48	15/2	(ALTERNATE M–1) AIR SCRUBBER AS–10			0.828
49	|		0.828			50	|		0.828		
51	20/1	(ALTERNATE M–1) AIR SCRUBBER CONTROL PANEL		0.1		52	20/1	SPARE		0	
53	20/1	SPARE			0	54	20/1	SPARE			0
								TOTAL CONNECTED KVA BY PHASE	24.1	22.6	22.5
								TOTAL CONNECTED AMPS BY PHASE	201	188	187

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LARGEST MOTOR	2.4	0.6	(25%)	MOTORS	24.1	24.1	(100%)
				HEATING	45	45	(100%)
				TOTAL LOAD		69.7	
				BALANCED 3–PHASE LOAD		194 A	

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ONSLOW COUNTY BEAR CREEK FIRE STATION

ONSLOW COUNTY
BID. NO. 102-25C
138 OLD SAND RIDGE RD, HUBERT, NC 28539

SEALS

NORTH CAROLINA PROFESSIONAL SEAL 17593 ENGINEER MARK A. CIARROCCA

Digitally signed by Mark A. Ciarrocca
Date: 2025.03.11 12:10:03-04'00'

DKA JOB NUMBER
2324

REVISIONS

PE: M. CIARROCCA
PM: ALEXANDRE PENEGRE
Drawn By: J. GRITTON
Plot Date: 1/27/2025

DATE ISSUED

BID DOCUMENTS
03/12/2025

SHEET TITLE
ELECTRICAL PANEL SCHEDULES

E602

P1

ROOM: ELEC 125 | VOLTS: 208Y/120V 3P 4W | AIC: 18,000
MOUNTING: SURFACE | BUS AMPS: 225 | MAIN BKR: MLO
FED FROM: MDP | NEUTRAL: 100% | LUGS: STANDARD
NOTE:

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	15/3	FOLDING DOOR	0.443			2	15/3	FOLDING DOOR	0.443		
3	|			0.443		4	|			0.443	
5	|				0.443	6	|				0.443
7	15/3	FOLDING DOOR	0.443			8	15/3	FOLDING DOOR	0.443		
9	|			0.443		10	|			0.443	
11	|				0.443	12	|				0.443
13	15/3	FOLDING DOOR	0.443			14	15/3	FOLDING DOOR	0.443		
15	|			0.443		16	|			0.443	
17	|				0.443	18	|				0.443
19	15/3	FOLDING DOOR	0.443			20	15/3	FOLDING DOOR	0.443		
21	|			0.443		22	|			0.443	
23	|				0.443	24	|				0.443
25	15/3	FOLDING DOOR	0.443			26	15/3	FOLDING DOOR	0.443		
27	|			0.443		28	|			0.443	
29	|				0.443	30	|				0.443
31	20/1	REC–EXT GFCI	0.9			32	20/1	REC–EXT GFCI	1.08		
33	20/1	REC		0.72		34	20/1	REC		0.72	
35	20/1	REC–CORD REEL			1.08	36	20/1	REC–CORD REEL			1.08
37	20/1	REC, REC–EXT GFCI	1.08			38	20/1	REC, REC–EXT GFCI	0.9		
39	20/1	REC–BATTERY CHARGER		1		40	20/1	OIL SEPERATOR HIGH LEVEL ALARM PANEL		0.1	
41	20/1	REC–BLOCK HEATER			1.5	42	20/1	SPARE			0
43	20/1	SPARE	0			44	20/1	SPARE	0		
45	20/1	SPARE		0		46	20/1	SPARE		0	
47	20/1	SPARE			0	48	20/1	SPARE			0
49	20/1	SPARE	0			50	20/1	SPARE	0		
51	20/1	(#) EMERGENCY RESPONDER RADIO		1		52	20/1	SPARE		0	
53	20/1	(#) FIRE ALARM PANEL			1	54	20/1	SPARE			0
								TOTAL CONNECTED KVA BY PHASE	8.39	7.97	9.09
								TOTAL CONNECTED AMPS BY PHASE	69.9	66.4	75.8

	CONN KVA	CALC KVA	
LARGEST MOTOR	1.33	0.333	(25%)
MOTORS	2.76	2.76	(100%)

	CONN KVA	CALC KVA	
RECEPTACLES	7.56	7.56	(50%>10)
NONCONTINUOUS	4.5	4.5	(100%)
DIVERSE	10.6	0	(0%)
TOTAL LOAD		15.2	
BALANCED 3–PHASE LOAD		42.1 A	

(#) INDICATES BREAKER WITH BREAKER LOCK

P2

ROOM: ELEC 125 | VOLTS: 208Y/120V 3P 4W | AIC: 18,000
MOUNTING: SURFACE | BUS AMPS: 225 | MAIN BKR: MLO
FED FROM: MDP | NEUTRAL: 100% | LUGS: STANDARD
NOTE:

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	20/1	(^) REC, REC–EXT GFCI	1.44			2	20/1	REC	0.72		
3	20/1	(^) REC		1.26		4	20/1	REC–GFCI		0.54	
5	20/1	(^) SMOKE DETECTOR			0.6	6	20/1	REC			0.9
7	20/1	REC, REC–EXT GFCI	0.9			8	20/1	REC, REC–GFCI	0.9		
9	20/1	REC, REC–EXT GFCI		1.44		10	20/1	(*) REC–WASHER		1	
11	20/1	REC, REC–TV			1.16	12	30/2	REC–DRYER			2.3
13	20/1	REC	0.9			14	|		2.3		
15	20/1	REC		0.9		16	20/1	(*) REC–EWC		1.2	
17	20/1	(*) REC–REFRIGERATOR			1	18	20/1	REC			1.08
19	20/1	(*) REC–REFRIGERATOR	1			20	20/1	REC	1.26		
21	20/1	(*) REC–REFRIGERATOR		1		22	20/1	(*) REC–WASHER		1	
23	20/1	REC			0.9	24	20/1	REC			1.08
25	20/1	REC, REC–FLOOR	1.08			26	30/2	REC–DRYER	2.3		
27	20/1	REC, REC–TV		1.3		28	|			2.3	
29	20/1	REC, REC–EXT GFCI			0.9	30	20/1	ICE MACHINE			1
31	50/2	XFMR T–GD	3			32	20/1	REC	0.72		
33	|			3		34	20/1	DOOR BELL, REC		0.73	
35	50/2	RANGE			4	36	20/1	REC, REC–GFCI			1.08
37	|		4			38	20/1	REC–GFCI	0.36		
39	20/1	(**) REC–HOT BOX		1.5		40	20/1	(*) REC–DISHWASHER		1	
41	20/1	(**) REC–HOT BOX			1.5	42	20/1	SPARE			0
43	20/1	SPARE	0			44	20/1	SPARE	0		
45	20/1	SPARE		0		46	20/1	SPARE		0	
47	20/1	SPARE			0	48	20/1	SPARE			0
49	20/1	SPARE	0			50	20/1	SPARE	0		
51	20/1	SPARE		0		52	20/1	SPARE		0	
53	20/1	SPARE			0	54	20/1	SPARE			0
								TOTAL CONNECTED KVA BY PHASE	20.9	18.2	17.5
								TOTAL CONNECTED AMPS BY PHASE	174	154	149

	CONN KVA	CALC KVA	
RECEPTACLES	21.6	15.8	(50%>10)
KITCHEN EQUIPMENT	8	8	(100%)

	CONN KVA	CALC KVA	
CONTINUOUS	3	3.75	(125%)
NONCONTINUOUS	24	24	(100%)
TOTAL LOAD		51.5	
BALANCED 3–PHASE LOAD		143 A	

(*) INDICATES GFCI C/B
(**) INDICATES GFEP (30mA) C/B
(^) INDICATES ARC–FAULT C/B

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SEALS

NORTH CAROLINA PROFESSIONAL SEAL 17593 ENGINEER MARK A CIARROCCA

Digitally signed by Mark A. Ciarrocca
Date: 2025.03.11 12:10:03-04'00'

DKA JOB NUMBER
2324

REVISIONS

PE: M. CIARROCCA
PM: ALEXANDRE PENEGRE
Drawn By: J. GRITTON
Plot Date: 1/27/2025

DATE ISSUED
BID DOCUMENTS
03/12/2025

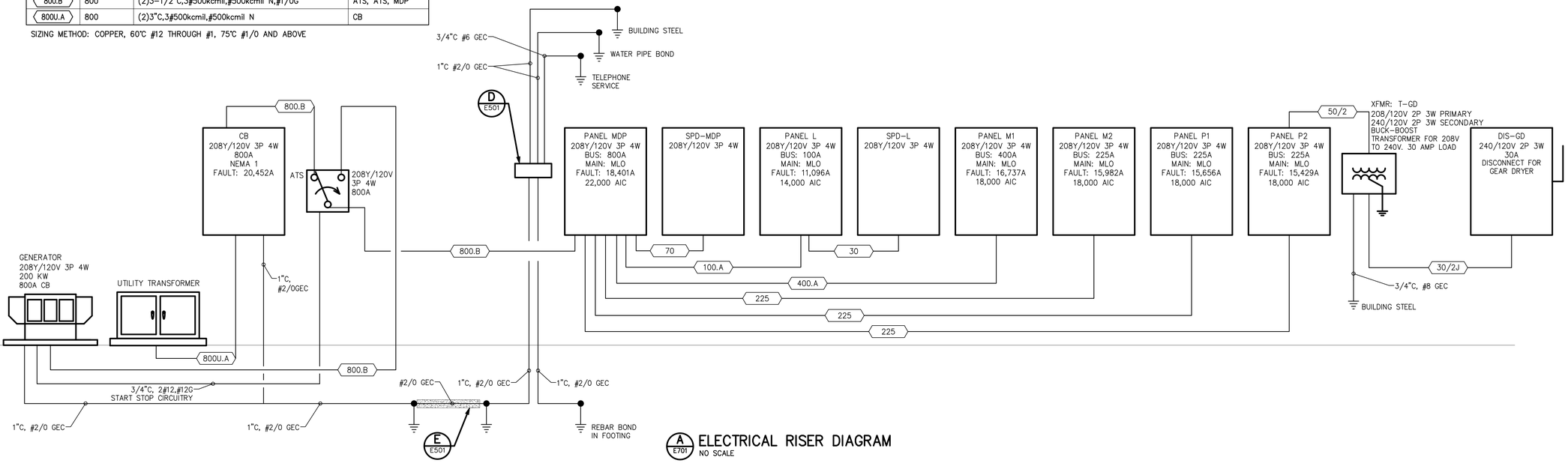
SHEET TITLE
ELECTRICAL PANEL SCHEDULES

E603

FEEDER SCHEDULE

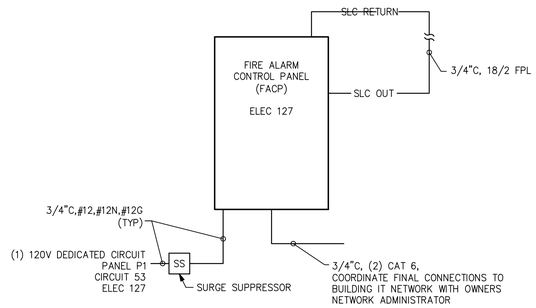
ID	FEEDER AMPS	CONDUIT AND FEEDER	FEEDING THESE DEVICES
30	30	3/4"C,3#10,#10N,#10G	SPD-L
30/2J	30	3/4"C,2#10,#10N,#8G	DIS-GD
50/2	50	3/4"C,2#6,#6N,#10G	T-GD
70	70	1-1/4"C,3#4,#4N,#4G	SPD-MDP
100.A	100	1-1/4"C,3#2,#2N,#8G	L
225	225	2-1/2"C,3#4/0,#4/0N,#4G	M2, P1, P2
400.A	400	3-1/2"C,3#500kcmil,#500kcmil N,#3G	M1
800.B	800	(2)3-1/2"C,3#500kcmil,#500kcmil N,#1/0G	ATS, ATS, MDP
800U.A	800	(2)3"C,3#500kcmil,#500kcmil N	CB

SIZING METHOD: COPPER, 60°C #12 THROUGH #1, 75°C #1/0 AND ABOVE

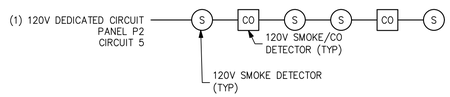


A E701 ELECTRICAL RISER DIAGRAM
NO SCALE

FIRE ALARM OPERATION MATRIX	FACP ANNUNCIATION						NOTIFICATION			CONTROL			
	ACTIVATE COMMON ALARM SIGNAL INDICATOR	ACTIVATE AUDIBLE ALARM SIGNAL	ACTIVATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTIVATE AUDIBLE SUPERVISORY SIGNAL	ACTIVATE COMMON TROUBLE SIGNAL INDICATOR	ACTIVATE AUDIBLE COMMON TROUBLE SIGNAL	TRANSMIT FIRE ALARM SIGNAL TO SUPERVISING STATION	TRANSMIT SUPERVISORY SIGNAL TO SUPERVISING STATION	TRANSMIT TROUBLE SIGNAL TO SUPERVISING STATION	BYPASS AIR HANDLER SHUTDOWN	SHUT DOWN ALL BUILDING AIR HANDLERS & ERV	ACTIVATE EXTERIOR ELECTRIC ALARM BELL	
SYSTEM INPUTS	A	B	C	D	E	F	G	H	J	K	L	M	
1 WALL MOUNTED SMOKE DETECTOR	X	X					X				X		1
2 SPRINKLER WATERFLOW	X	X					X				X	X	2
3 SPRINKLER CONTROL VALVE TAMPER SWITCH			X	X				X				X	3
4 FIRE ALARM SYSTEM POWER FAILURE (8 HRS)					X	X			X				4
4 FIRE ALARM SYSTEM LOW BATTERY					X	X			X				4
5 OPEN CIRCUIT					X	X			X				5
6 GROUND FAULT					X	X			X				6
7 NOTIFICATION APPLICANCE CIRCUIT SHORT					X	X			X				7
8 AHU SHUTDOWN DEFEAT SWITCH					X	X				X			8
9 ERRCS ANTENNA MALFUNCTION			X	X				X					9
10 ERRCS BDA FAILURE			X	X				X					10
11 ERRCS LOW BATTERY			X	X				X					11
12 ERRCS A.C POWER LOSS			X	X				X					12
13 ERRCS SYSTEM COMPONENTS FAILURE			X	X				X					13
14 ERRCS BATTERY CHARGER FAILURE			X	X				X					14
15 ERRCS COMMUNICATION LINK TO FACP			X	X				X					15
16 ERRCS OSCILLATION DETECTION			X	X				X					16
	A	B	C	D	E	F	G	H	J	K	L	M	



CORRIDOR 112 AND DORM ROOMS SHALL CONTAIN 120V POWERED DETECTORS. DEVICES SHALL BE INTERCONNECTED TO ALARM ALL DEVICES UPON DETECTION AT ANY DEVICE. DEVICES SHALL HAVE INTEGRAL 9V REPLACEABLE BATTERY BACKUP.



NOTE:

1. FIELD VERIFY MANUFACTURER'S NPL ENTRANCE KO ON ALL ENCLOSURES.
2. CONDUCTOR SIZES INDICATED ARE MINIMUM GAUGE REQUIREMENTS. ACTUAL INSTALLED CONDUCTOR SIZES SHALL BE DETERMINED BY VOLTAGE DROP CALCULATIONS PERFORMED BY THE CONTRACTOR.
3. ALL CONDUIT SHALL BE 3/4" UNO.

B E701 FIRE ALARM SYSTEM RISER DIAGRAMS
NO SCALE

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SHEET TITLE
ELECTRICAL RISERS

E701