NHCS - Emma B. Trask Middle School Renovations

2900 North College Road
Wilmington, NC 28405

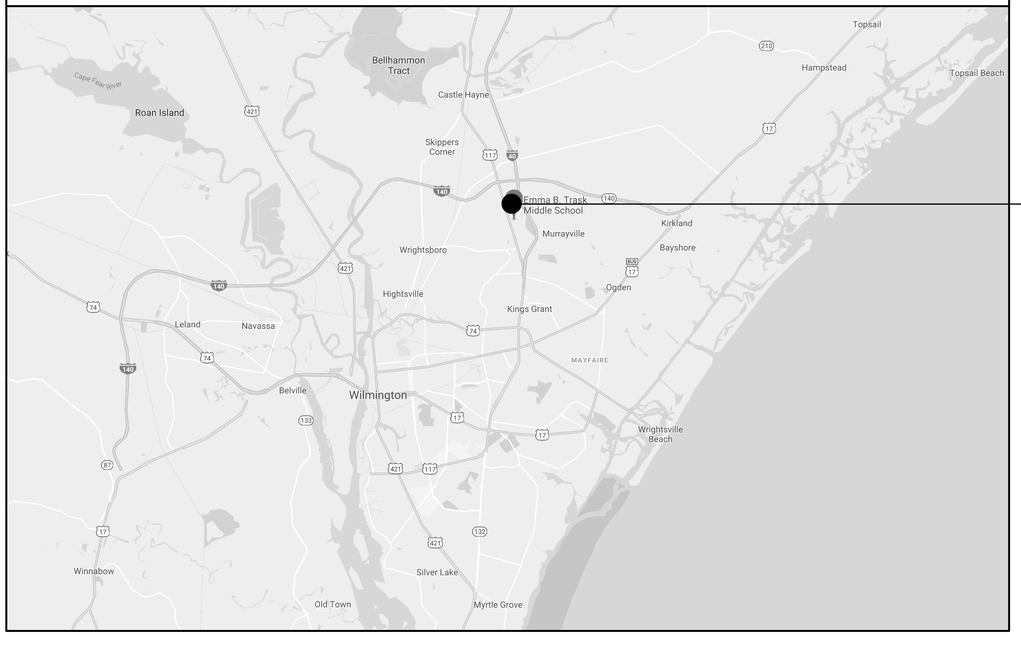
NHCS Project ID: 900-9009

Construction Drawings
March 27, 2019

INDEX OF DRAWINGS

1.0	Cover, Index, Legend, Abbreviations
G2.0	Appendix B
G2.1	Work Areas
G2.2	Life Safety Plan Fire Areas
G2.3	Life Safety Plan Fire Barriers
G2.4	Life Safety Plan Occupancy Calculations
G2.5	UL Assemblies
C1.0	Existng Conditions and Demolition Plan
C2.0	Staking and Pavemente Marking Plan
C3.0	Grading Plan
C4.0	Erosion Control Plan
C5.0	Utility Plan
C6.0	Landscape Plan
C7.1	Site Details
C7.2	Site Details
C7.3	Site Details
C7.4	Site Details
C7.5	Site Details
C7.6	Site Details
AD1.0	Demolition Plan
AD2.0	Building Elevations Demolition
A1.0	Floor Plan
A1.1	Partial Floor Plans
A1.2	Partial Floor Plans
A1.3	Reflected Ceiling Plan
A1.3.1	Wall Plan Above Ceiling
A1.4	Architectural Roof Plan
A2.0	Building Elevations
A2.1	Partial Building Sections
A2.2	Partial Building Sections
A2.3	Partial Building Sections
A3.0	Wall Sections
A3.1	Wall Sections
A3.2	Wall Sections
A3.3	Wall Sections
A4.0	Enlarged Plans
A4.1	Enlarged Plans
A5.0	Details
A5.1	Details
A5.2	Details
A6.0	Finish & Door Schedules, Signage Details
A6.1	Door & Window Elevations
A6.2	Window Elevations
A7.0	Casework Elevations
A7.1	Casework Sections
A7.2	Casework Sections
A7.3	Interior Details
A7.4	Finish Floor Plan
AM1.0	Mobile Classroom
R1.0	Roof Plan
R1.1	Roof Details
S1.01	General Notes
S1.02	Typical Details
S1.03	Material Inspections & Special Inspections For Wind & Seismic
S2.01	Foundation and Slab Plan
S2.02A	Roof Framing Plan
S2.02B	Roof Framing Plan
S2.03	Foundation and Slab Plan
S3.01	Foundation Sections & Details
S4.01	Framing Sections & Details
P0.1	Plumbing Legend Schedules & Details
P0.2	Plumbing UL Details
PD1.1	Plumbing Demolition Floor Plan
PD4.1	Enlarged Group Restrooms Domestic Water
PD4.2	Enlarged Group Restrooms Waste & Vent
PD4.3	Enlarged Science Wing Plans
PD4.4	Enlarged Miscellaneous Plans
PD4.5	nlarged Locker Room Plans
P1.1	Plumbing Renovation Floor Plan
P1.2	Plumbing Roof Plan
P4.1	Enlarged Group Restrooms Domestic Water
P4.2	Enlarged Group Restrooms Waste & Vent
P4.3	Enlarged Science Wing Plans
P4.4	Enlarged Miscellaneous Plans
P4.5	Enlarged Locker Room Plans
M0.1	Mechanical Legend, General Notes, Schedules, and Details
M0.2	Mechanical Details
MD1.0	Mechanical Floor Plan - Area A - Demolition
MD1.1	Mechanical Floor Plan - Area B -Demolition
MD1.2	Mechanical Floor Plan - Area C -Demolition
MD1.3	Mechanical Floor Plan - Area D -Demolition
MD2.0	Mechanical Roof Plan Demolition
M1.0	Mechanical Floor Plan - Area A - Renovation
M1.1	Mechanical Floor Plan - Area B - Renovation
M1.2	Mechanical Floor Plan - Area C - Renovation
M1.3	Mechanical Floor Plan - Area D - Renovation
M2.0	Mechanical Roof Plan Renovation
M3.0	Mechanical Schedules
M4.0	Mechanical Control Diagrams
M4.1	Mechanical Control Diagrams
E0.1	Electrical Notes, Details, Abbreviations
E0.2	Electrical Legends
ED1.1	Electrical Demolition Plan - Area A
ED1.2	Electrical Demolition Plan - Area B
ED1.3	Electrical Demolition Plan - Area C
ED1.4	Electrical Demolition Plan - Area D
E1.11	Electrical Power Plan - Area A
E1.12	Electrical Power Plan - Area B
E1.13	Electrical Power Plan - Area C
E1.14	Electrical Power Plan - Area D
E1.15	Electrical Roof Plan
E1.21	Electrical Lighting Plan - Area A
E1.22	Electrical Lighting Plan - Area B
E1.23	Electrical Lighting Plan - Area C
E1.24	Electrical Lighting Plan - Area D
E1.31	Electrical Auxiliary Systems Plan - Area A
E1.32	Electrical Auxiliary Systems Plan - Area B
E1.33	Electrical Auxiliary Systems Plan - Area C
E1.34	Electrical Auxiliary Systems Plan - Area D
E1.41	Electrical Mobile Classrooms Site Plan
E1.42	Electrical Mobile Classrooms Plan
E5.1	Electrical Details
E5.2	Electrical Details
E5.3	Electrical Details
E5.4	Electrical Details
E6.1	Electrical Luminaire Schedule
E6.2	Electrical Panel Schedules
E6.3	Electrical Panel Schedules
E7.1	Electrical Demolition Work Power Riser
E7.2	Electrical New Work Power Riser
E7.3	Electrical Auxilary Systems Risers

SITE LOCATION MAP



Abbreviations

A.C.T. - ACOUSTICAL CEILING TILE
ADJ. - ADJUSTABLE
A.F.F. - ABOVE FINISHED FLOOR
ALUM. - ALUMINUM
AHU - AIR HANDLING UNIT
BLDG. - BUILDING
B.O.S.-BOTTOM OF STEEL
B.R.-BACKER ROD
C.J. - CONTROL JOINT
C.M.U. - CONCRETE MASONRY UNIT
CONC. - CONCRETE
C.O. - CLEAN OUT
CONT. - CONTINUOUS
CP - CONCRETE PIPE
C.L. - CENTER LINE
DIA. - DIAMETER
DIM. - DIMENSION
D.S. - DOWN SPOUT
E.C.- ELECTRICAL CONTRACTOR
E.J.- EXPANSION JOINT
ELEV. - ELEVATION
EQ. - EQUAL
EQUIP. - EQUIPMENT
EXIST. - EXISTING
EXP. JT. - EXPANSION JOINT
F.F.E.-FINISH FLOOR ELEVATION
GALV. - GALVANIZED
GA. - GAUGE
G.C. - GENERAL CONTRACTOR
GWB-GYPSUM WALL BOARD
HT. - HEIGHT
INSUL. - INSULATION
INV. - INVERT
JT - JOINT
MAS.-MASONRY
MAX. - MAXIMUM
MECH. - MECHANICAL
MFG. - MANUFACTURER
MIN. - MINIMUM
NOM. - NOMINAL
O.C. - ON CENTER
PERF. - PERFORATED
HPL.-HIGH PRESSURE LAMINATE
PLYWD.-PLYWOOD
P.S.I. - POUNDS PER SQUARE INCH
R - RADIUS
R/A - RETURN AIR
R.A.G. - RETURN AIR GRILL
R.C.P. - REINFORCED CONCRETE PIPE
RD. - ROOF DRAIN
REINF. - REINFORCEMENT
REQD. - REQUIRED
R.O. - ROUGH OPENING
S/A - SUPPLY AIR
S.S. - STAINLESS STEEL
T.O.M.-TOP OF MASONRY
STRUCT.-STRUCTURAL
T.O.S.-TOP OF STEEL
TRTD-TREATED
TYP. - TYPICAL
V.B.-VAPOR BARRIER
V.C.T.-VINYL COMPOSITE TILE
VERT. - VERTICAL
W/ - WITH
@ - AT, AROUND, REGARDING

Symbols Legend

DRAWING TITLE
INDICATES DRAWING #
2 / A1 — Drawing Title / Scale
INDICATES SHEET WHERE DRAWING IS SHOWN

BUILDING SECTION REFERENCE
INDICATES SECTION #
1 / A1.0
INDICATES SHEET WHERE DRAWING IS SHOWN

WALL SECTION REFERENCE
INDICATES SHEET WHERE SECTION IS SHOWN
3-A4.0
INDICATES SECTION #

ELEVATION REFERENCE
2-A1.4
INDICATES SHEET WHERE ELEVATION IS SHOWN
INDICATES ELEVATION #

PLAN DETAIL REFERENCE
3-A4.0
INDICATES ENLARGED DETAIL

100 DOOR # 100 ROOM #
A WINDOW TYPE
VERTICAL ELEVATION ABOVE REFERENCE POINT

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
909 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-0710
Fax: (919) 319-7516
www.clhdesign.com
PE: C-1395

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATE P.A. REGISTERED ARCHITECTURAL FIRM 52349 NORTH CAROLINA WILMINGTON, NC

DOUGLAS K. SHERWOOD Registered Architect 10075 North Carolina WILMINGTON, NC 3.27.19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

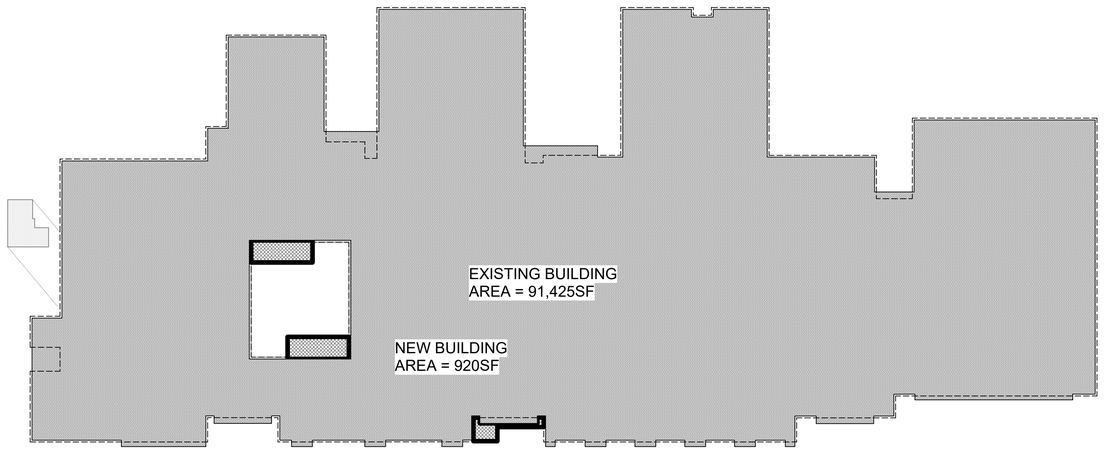
Construction Drawings
March 27, 2019

Revisions:

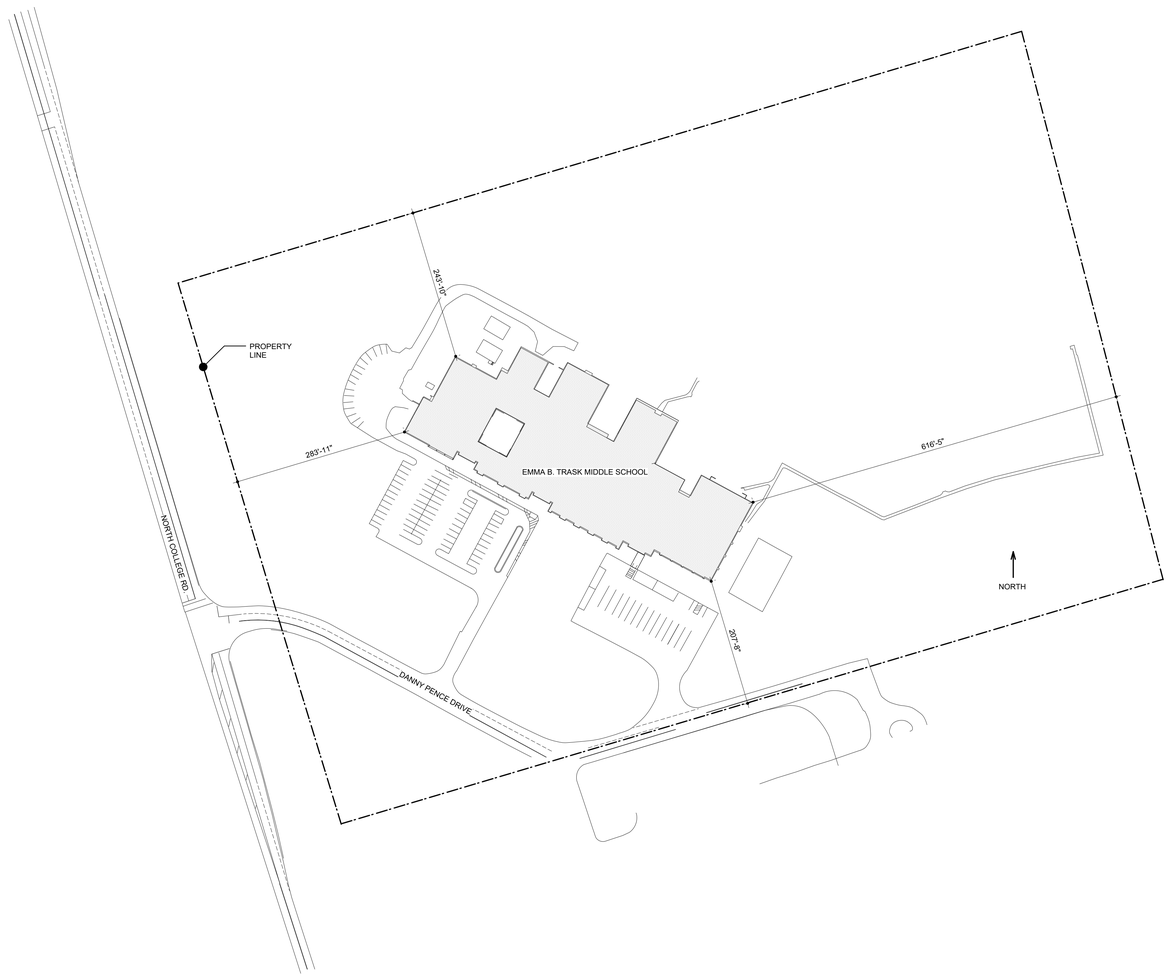
Cover

G1.0

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



1 / G2.0 Building Area
Scale: 1/32" = 1'-0"



7 / G2.0 Site Plan
Scale: 1"= 100 ft

PROJECT NAME - APPENDIX B

2012 APPENDIX B
BUILDING CODE SUMMARY
FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)
(Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: Emma B. Trask Middle School Renovation
Address: 2900 N. College Road, Wilmington, NC Zip Code: 28405
Proposed Use: Education
Owner/Authorized Agent: Sawyer Sherwood & Associate, P.C. Phone # (910) 762-0892
E-Mail:doug@s2a3.com
Owned By: ☒ City/County ☐ Private ☐ State
Code Enforcement Jurisdiction: ☐ City_____ ☒ County New Hanover County ☐ State

LEAD DESIGN PROFESSIONAL: Sawyer Sherwood & Associate, P.C. - Douglas K. Sherwood, AIA

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	EMAIL
Architectural	Sawyer Sherwood & Associate, PC	Doug Sherwood	10075	(910)762-0892	ksherd@s2a3.co
Civil	CLH Design, PA	Ken Loring	23923	(910)319-6735	kloring@clhdesignpa.com
Electrical	Cheatham & Associates, PA	Mark Cuenoud	17593	(910)350-6210	emeffitt@cheathampa.com
Fire Alarm	Cheatham & Associates, PA	Mark Cuenoud	17593	(910)452-6210	mcuenoud@cheathampa.com
Plumbing	Cheatham & Associates, PA	Casey Gilman	43164	(910)452-6210	cgilman@cheathampa.com
Mechanical	Cheatham & Associates, PA	Kenneth Lynch	17655	(910)452-6210	klynch@cheathampa.com
Sprinkler	N/A				
Structural	Woods Engineering	Don Woods	18475	(910)343-8007	donwoods@woodseng.com
Ret. Walls	N/A				
Other	N/A				

2012 EDITION OF NC CODE FOR: ☒ New Construction ☒ Addition ☐ Upfit
EXISTING: ☐ Reconstruction ☒ Alteration ☒ Repair ☐ Renovation
CONSTRUCTED: (date) 1973/1989 **ORIGINAL USE(S)** (Ch. 3): Education
RENOVATED: (date) **CURRENT USE(S)** (Ch. 3): Education
PROPOSED USE(S) (Ch. 3): Education

BASIC BUILDING DATA
Construction Type: (check all that apply) ☐ I-A ☐ II-A ☐ III-A ☐ IV ☐ V-A ☐ I-B ☒ II-B ☐ III-B ☐ V-B
Sprinklers: ☒ No ☐ Partial ☐ Yes ☐ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D
Standpipes: ☒ No ☐ Yes Class ☐ I ☐ II ☐ III ☐ Wet ☐ Dry
Fire District: ☒ No ☐ Yes (Primary) **Flood Hazard Area:** ☐ No ☒ Yes
Building Height: (feet) 26'
Gross Building Area:

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
6th Floor			
5th Floor			
4th Floor			
3rd Floor			
2nd Floor			
Mezzanine			
1st Floor	91,425	920	92,345
Basement			
TOTAL	91,425	920	92,345

2012 NC Administrative Code and Policies

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING: REQ'D	RATING: PROVIDED (W/_____* REDUCTIONS)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR RATED PENETRATION	DESIGN # FOR RATED JOINTS
Structural Frame, including columns, girders, trusses							
Bearing Walls							
Exterior							
North	>30'	0hr	0hr				
East	>30'	0hr	0hr				
West	>30'	0hr	0hr				
South	>30'	0hr	0hr				
Interior							
Nonbearing Walls and Partitions							
Exterior walls							
North	>30'	0hr	0hr				
East	>30'	0hr	0hr				
West	>30'	0hr	0hr				
South	>30'	0hr	0hr				
Interior walls and partitions							
Floor Construction Including supporting beams and joists							
Roof Construction Including supporting beams and joists							
Shaft Enclosures - Exit							
Shaft Enclosures - Other							
Corridor Separation		1hr	1hr	G2.5	U419	See PMAE	HW-D-0103
Occupancy Separation		N/A					
Party/Fire Wall Separation		N/A					
Smoke Barrier Separation		N/A					
Tenant Separation		N/A					
Incidental Use Separation		1hr	1hr	G2.5	U906 & U416	See PMAE	HW-D-0103

* Indicate section number permitting reduction

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting:	☐ No	☒ Yes
Exit Signs:	☐ No	☒ Yes
Fire Alarm:	☐ No	☒ Yes
Smoke Detection Systems:	☐ No	☒ Yes ☐ Partial _____
Panic Hardware:	☐ No	☒ Yes

LIFE SAFETY PLAN REQUIREMENTS
Life Safety Plan Sheet #: G2.0-G2.4
☒ Fire and/or smoke rated wall locations (Chapter 7)

2012 NC Administrative Code and Policies

Walls below grade (each assembly)
Description of assembly: N/A
U-Value of total assembly: N/A
R-Value of insulation: N/A

Floors over unconditioned space (each assembly)
Description of assembly: N/A
U-Value of total assembly: N/A
R-Value of insulation: N/A

Floors slab on grade
Description of assembly: 4" concrete
U-Value of total assembly: 0.24
R-Value of insulation: N/A
Horizontal/vertical requirement: No requirement
slab heated: N/A

MECHANICAL SUMMARY
See Mechanical Drawings

ELECTRICAL SUMMARY
See Electrical Drawings

2012 NC Administrative Code and Policies

ALLOWABLE AREA

Occupancy:
Assembly ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
Business ☐
Educational ☒
Factory ☐ F-1 Moderate ☐ F-2 Low
Hazardous ☐ H-1 Detonate ☐ H-2 Deflagrate ☐ H-3 Combust ☐ H-4 Health ☐ H-5 HPM
Institutional ☐ I-1 ☐ I-2 ☐ I-3 ☐ I-4
I-3 Condition ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Mercantile ☐
Residential ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
Storage ☐ S-1 Moderate ☐ S-2 Low ☐ High-piled
☐ Parking Garage ☐ Open ☐ Enclosed ☐ Repair Garage
Utility and Miscellaneous ☐

Accessory Occupancies:
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 Deflagrate ☐ H-3 Combust ☐ H-4 Health ☐ H-5 HPM
Institutional ☐ I-1 ☐ I-2 ☐ I-3 ☐ I-4
I-3 Condition ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Mercantile ☐
Residential ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
Storage ☐ S-1 Moderate ☐ S-2 Low ☐ High-piled
☐ Parking Garage ☐ Open ☐ Enclosed ☐ Repair Garage
Utility and Miscellaneous ☐

Incidental Uses (Table 508.2.5):
☐ Furnace room where any piece of equipment is over 400,000 Btu per hour input
☐ Rooms with boilers where the largest piece of equipment is over 15 psi and 10 horsepower
☐ Refrigerant machine room
☐ Hydrogen cutoff rooms, not classified as Group H
☐ Incinerator rooms
☐ Paint shops, not classified as Group H, located in occupancies other than Group F
☐ Laboratories and vocational shops, not classified as Group H. located in a Group E or I-2 occupancy
☒ Laundry rooms over 100 square feet
☐ Group I-3 cells equipped with padded surfaces
☐ Group I-2 waste and linen collection rooms
☐ Waste and linen collection rooms over 100 square feet
☐ Stationary storage battery systems having a liquid electrolyte capacity of more than 50 gallons, or a lithium-ion capacity of 1,000 pounds used for facility standby power, emergency power or uninterrupted power supplies
☐ Rooms containing fire pumps
☐ Group I-2 storage rooms over 100 square feet
☐ Group I-2 commercial kitchens
☐ Group I-2 laundries equal to or less than 100 square feet
☐ Group I-2 rooms or spaces that contain fuel-fired heating equipment

Special Uses: ☐ 402 ☐ 403 ☐ 404 ☐ 405 ☐ 406 ☐ 407 ☐ 408 ☐ 409 ☐ 410 ☐ 411 ☐ 412 ☐ 413 ☐ 414 ☐ 415 ☐ 416 ☐ 417 ☐ 418 ☐ 419 ☐ 420 ☐ 421 ☐ 422 ☐ 423 ☐ 424 ☐ 425 ☐ 426 ☐ 427
Special Provisions: ☐ 509.2 ☐ 509.3 ☐ 509.4 ☐ 509.5 ☐ 509.6 ☐ 509.7 ☐ 509.8 ☐ 509.9
Mixed Occupancy: ☒ No ☐ Yes Separation:
☒ Incidental Use Separation (508.2.5)

2012 NC Administrative Code and Policies

☒ Assumed and real property line locations
☐ Exterior wall opening area with respect to distance to assumed property lines (705.8)
☐ Existing structures within 30' of the proposed building
☒ Occupancy types for each area as it relates to occupant load calculation (Table 1004.1.1)
☒ Occupant loads for each area
☒ Exit access travel distances (1016)
☒ Common path of travel distances (1014.3 & 1028.8)
☒ Dead end lengths (1018.4)
☒ Clear exit widths for each exit door
☒ Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.1)
☒ 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 (1008.1.10)
☐ Location of doors with delayed egress locks and the amount of delay (1008.1.9.7)
☐ Location of doors with electromagnetic egress locks (1008.1.9.8)
☒ Location of doors equipped with hold-open devices
☐ Location of emergency escape windows (1029)
☒ The square footage of each fire area (902)
☐ The square footage of each smoke compartment (407.4)
☐ Note any code exceptions or table notes that may have been utilized regarding the items above

ACCESSIBLE PARKING
(SECTION 1106)

See Civil Drawings

STRUCTURAL DESIGN

See Structural Drawings

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 STUDIES	EXISTING	9	18	16	14	11	10 EA	--	--
	NEW	1	3	-3	-4	0	-9 EA		
	SUM	10	21	13	10	11	1 EA	9	9
	REQUIRED	23	23		10	10	0	6	6

	USE	WATER CLOSETS: MALE	WATER CLOSETS: FEMALE	URINALS	LAVATORIES: MALE	LAVATORIES: FEMALE	SHOWERS/ TUBS	DRINKING FOUNTAINS: REGULAR	DRINKING FOUNTAINS: ACCESSIBLE
SPACE STAFF	EXISTING	3	4		3	3			
	NEW (UNISEX)		4		4			1	1
	REQUIRED	1	3		1	1	0	1	1

SPECIAL APPROVALS
Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, ICC, etc., describe below)

2012 NC Administrative Code and Policies

This separation is not exempt as a Non-Separated Use (see exceptions).
☐ Non-Separated Use (508.3)
The required type of construction for the building shall be determined by applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of construction, as determined, shall apply to the entire building.
☐ Separated Use (508.4) – See below for area calculations
For each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} \leq 1$$

_____ + _____ + ... = _____ ≤ 1.00

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 503[1] AREA	(C) AREA FOR FRONTAGE INCREASE[2]	(D) AREA FOR SPRINKLER INCREASE[3]	(E) ALLOWABLE AREA OR UNLIMITED[4]	(F) MAXIMUM BUILDING AREA[5]
1	**Education Original 1975 Bldg**	**85,731**	**14,500**	**8,845**	**NA**	**23,345**	**23,345**
EXISTING BUILDING HAS COMPARTMENTALIZED FIRE AREAS							
2	**Education 1989 Addition**	**11,206**	**14,500**	**5,220**	**NA**	**19,720**	**19,720**

[2] Frontage area increases from Section 506.2 are computed thus: Original 1975 Building
a. Perimeter which fronts a public way or open space having 20 feet minimum width = 1,435(F)
b. Total Building Perimeter = 1,666 (P)
c. Ratio (F/P) = .86 (F/P)
d. W = Minimum width of public way = 30' (W)
e. Percent of frontage increase $I_f = 100 [F/P - 0.25] \times W/30 = 61$ (%)

[2] Frontage area increases from Section 506.2 are computed thus: 1989 Addition
a. Perimeter which fronts a public way or open space having 20 feet minimum width = 370 (F)
b. Total Building Perimeter = 608 (P)
c. Ratio (F/P) = .60 (F/P)
d. W = Minimum width of public way = 30' (W)
e. Percent of frontage increase $I_f = 100 [F/P - 0.25] \times W/30 = 36$ (%)

[3] The sprinkler increase per Section 506.3 is as follows:
a. Multi-story building I_s = 200 percent
b. Single story building I_s = 300 percent

[4] Unlimited area applicable under conditions of Section 507.

[5] Maximum Building Area = total number of stories in the building x E (506.4).

[1] The maximum area of open parking garages must comply with Table 406.3.5. The maximum area of air traffic control towers must comply with Table 412.1.2.

ALLOWABLE HEIGHT

	ALLOWABLE (TABLE 503)	INCREASE FOR SPRINKLERS	SHOWN ON PLANS	CODE REFERENCE
Type of Construction	Type II-B		Type II-B	
Building Height in Feet	55'-0"	Feet + H = 20' = NA	26'-0"	
Building Height in Stories	1	Stories + 1 = NA	1	

2012 NC Administrative Code and Policies

NOTE: All student restrooms have been made accessible as part of this project. Water closet counts have increased for both male and female. Fixture count is still slightly below that required for a new building, but that number accounts for 1102 students and Trask has 750-800 students.

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.

Climate Zone: ☒ 3 ☐ 4 ☐ 5

Method of Compliance:
☒ Prescriptive (Energy Code)
☐ Performance (Energy Code)
☐ Prescriptive (ASHRAE 90.1)
☐ Performance (ASHRAE 90.1)

THERMAL ENVELOPE NEW CONSTRUCTION
Roof/ceiling Assembly (each assembly)
Description of assembly: Fluted Metal Deck, 4.5" Polyisocyanurate, 1/2" Cover Board, PVC
U-Value of total assembly: 0.037 - 0.039 required
R-Value of insulation: (Polyisocyanurate LTTR R=5.7/in) 4.6= R25.6Sci

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: 5/8" Gyp, 6" Metal Stud, R19 Fiberglass Batt, 5/8" Gyp. Sheathing, 2" Mineral Wool, 7/8" Air Space, Metal Skin
U-Value of total assembly: 0.054 (0.064 required)
R-Value of insulation: Fiberglass Batt = R19, Mineral Wool = R8.4ci

Description of assembly: 8" CMU, 2" Mineral Wool, 7/8" Air Space, Metal Skin
U-Value of total assembly: 0.09 (0.123 required)
R-Value of insulation: Mineral Wool = R8.4ci

Description of assembly: Brick veneer, air cavity, 2" mineral wool insulation board, 8" CMU
U-Value of total assembly: 0.09 (0.123 required)
R-Value of insulation: Mineral Wool = R8.4ci

Description of assembly: Brick veneer, air cavity, 8" CMU with vermiculite fill
U-Value of total assembly: 0.10 (0.123 required)
R-Value of insulation: Vermiculite Fill = R6.17

Openings (windows or doors with glazing)
Description of glazing: (PPG Solarban 70XL/PPG Optigray 23)
U-Value of assembly: 0.36 (0.45 required)
Solar heat gain coefficient: 0.24
Projection factor: 0

Description of glazing: (PPG Solarban 70XL/PPG Optigray 23)
Door U-Values: 0.69 (0.77)

2012 NC Administrative Code and Policies

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
905 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919)-319-6710
Fax: (919)-319-7516
NC 23,956
PE C-1595

CHEATHAM AND ASSOCIATES, P.A. CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATE P.A. REGISTERED ARCHITECTURAL CORPORATION 52349 NORTH CAROLINA WILMINGTON, NC

DOUGLAS K. SHERWOOD Registered Architect 10075 North Carolina WILMINGTON, NC 3.27.19

NHCS Emma B. Trask Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

Construction Drawings
March 27, 2019

Revisions:

Appendix B

G2.0

© 2019 Sawyer Sherwood & Associate- All Rights Reserved

5 G2.1 Floor Plan
Scale: 1/16" = 1'-0"

WALL LEGEND	
	EXISTING 8" CMU AND 4" BRICK VENEER.
	EXISTING 12 CMU.
	EXISTING 8" CMU.
	NEW 8" CMU WALL. EXTEND TO DECK UNLESS NOTED OR SHOWN OTHERWISE.
	NEW 6" METAL STUD WALL. SOUND BATTS AND GWB TO DECK ABOVE. FOR CLARITY, BATTS ARE NOT SHOWN.
FEC	NEW FIRE EXTINGUISHER CABINET IN EXISTING OPENING.
FEC	NEW FIRE EXTINGUISHER CABINET IN NEW OPENING.

AREA LEGEND	
	REPAIR AREA.
	ALTERATIONS LEVEL 2.
	NEW CONSTRUCTION.

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
909 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-0710
Fax: (919) 319-7516
NC: C-1585
PA: C-1585

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATE P.A. REGISTERED ARCHITECTURAL CORPORATION NORTH CAROLINA 52349 WILMINGTON, NC

DOUGLAS K. SHERWOOD Registered Architect 10075 North Carolina WILMINGTON, NC 3-27-19

NHCS Emma B. Trask Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

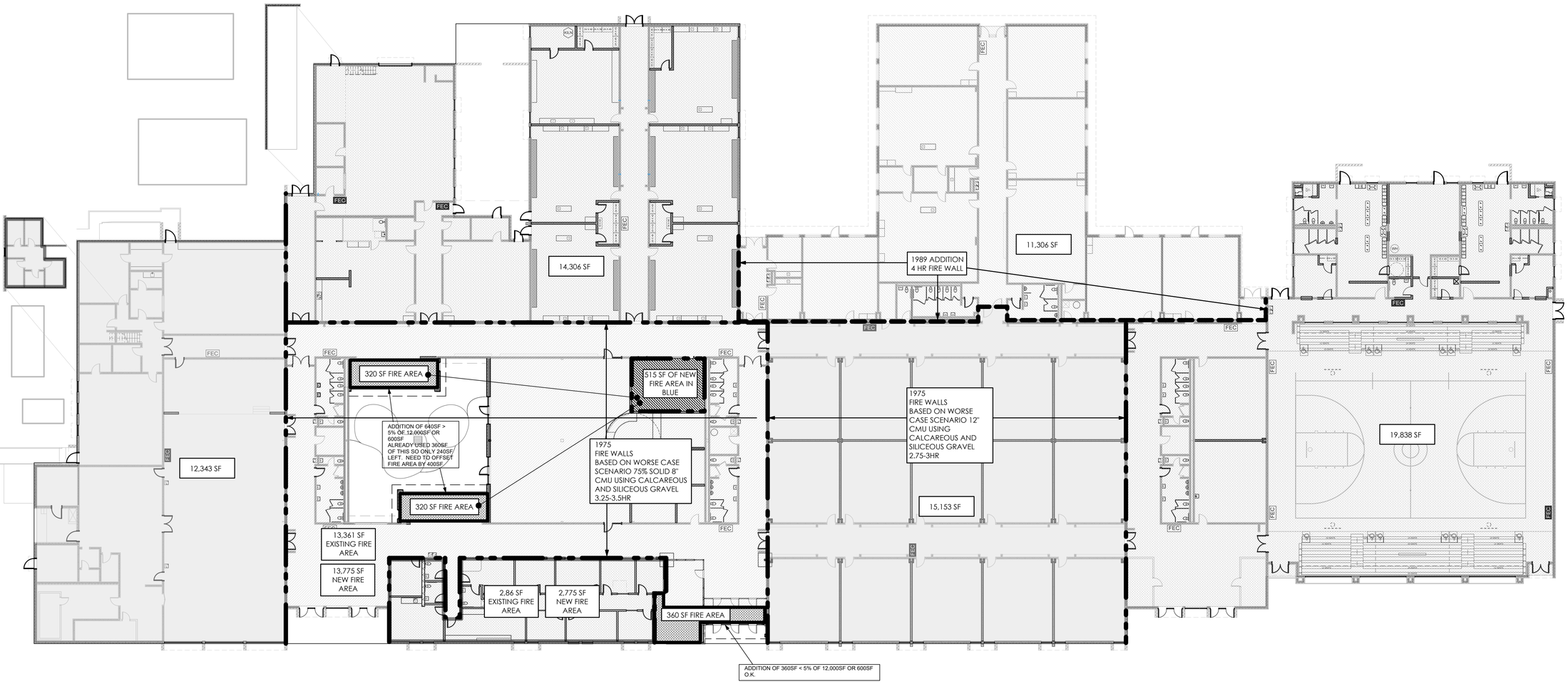
Construction Drawings
March 27, 2019

Revisions:

Work Areas

G2.1

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



5 G2.2 Existing Fire Areas
Scale: 1/16" = 1'-0"

WALL LEGEND	
	EXISTING 8" CMU AND 4" BRICK VENEER.
	EXISTING 12 CMU.
	EXISTING 8" CMU.
	NEW 8" CMU WALL. EXTEND TO DECK UNLESS NOTED OR SHOWN OTHERWISE.
	NEW 6" METAL STUD WALL. SOUND BATTS AND GWB TO DECK ABOVE. FOR CLARITY, BATTS ARE NOT SHOWN.
FEC	NEW FIRE EXTINGUISHER CABINET IN EXISTING OPENING.
FEC	NEW FIRE EXTINGUISHER CABINET IN NEW OPENING.

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
909 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-0710
Fax: (919) 319-7516
NC 2011
PE: C-1595

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATE P.A. REGISTERED ARCHITECTURAL CORP. 52349 NORTH CAROLINA WILMINGTON, NC

DOUGLAS K. SHERWOOD Registered Architect 10075 North Carolina WILMINGTON, NC 3.27.19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

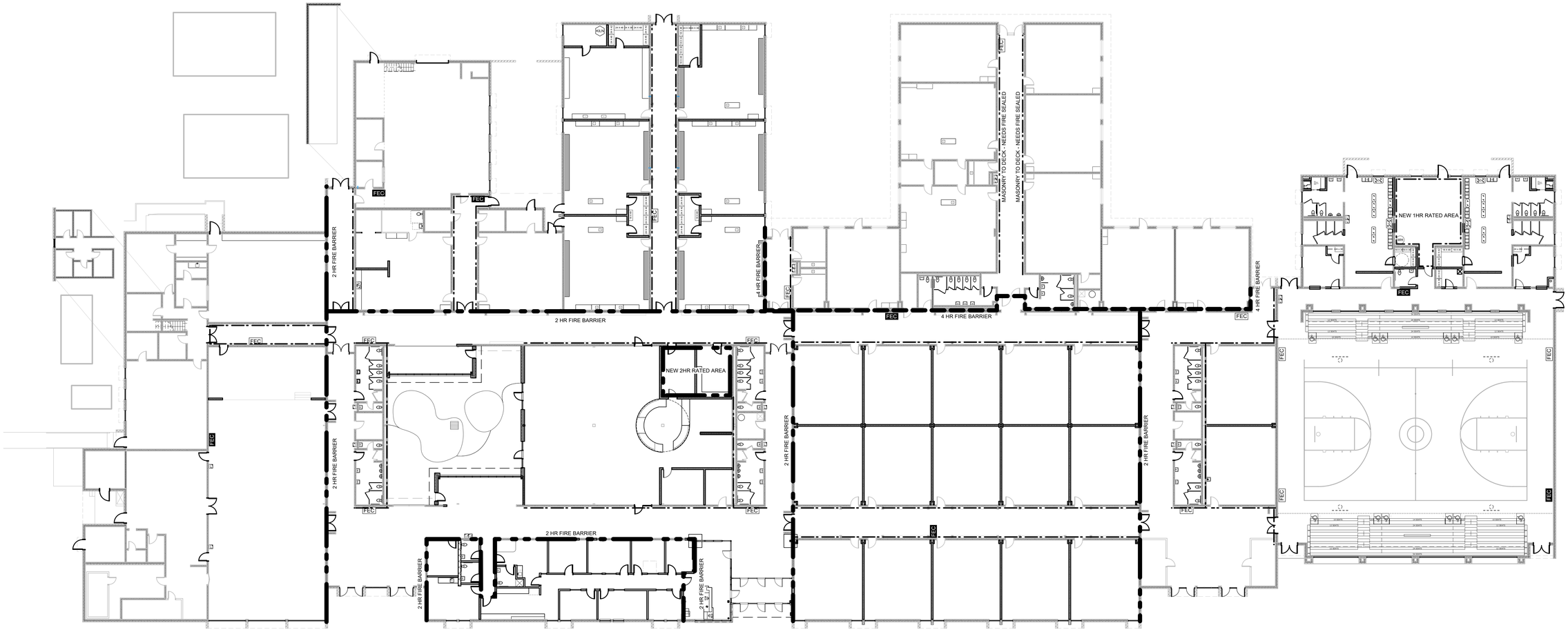
Construction Drawings
March 27, 2019

Revisions:

Life Safety Plan
Fire Areas

G2.2

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



5 Fire Barrier Plan
G2.3 Scale: 1/16" = 1'-0"

1 HR RATED FIRE BARRIER

2 HR RATED FIRE BARRIER

4 HR RATED FIRE BARRIER

NOTE:

1. 1 HR FIRE BARRIERS CONSIST OF CMU WALLS FROM FLOOR TO JUST ABOVE CEILING. WALLS ABOVE CEILIING CONSIST OF EITHER MASONRY OR METAL STUD AND GWB TO DECK. MUCH OF THE ABOVE CEILING WORK TOOK PLACE BETWEEN 1999 - 2001 AS A WAY TO INCREASE THE SAFETY OF THE EGRESS ROUTE. DOORS AND FRAMES MAY NOT BE LABELED IN THESE AREAS, AND ARE NOT REQUIRED TO BE UPGRADED PER THE EXISTING BUILDING CODE.
2. 2 HR FIRE BARRIERS CONSIST OF CMU/MASONRY FROM FLOOR TO DECK. MASNORY WALLS ABOVE CEILING CARRY A HIGHER FIRE RATING THAN LABEL ABOVE CEILING INDICATES IN THE FIELD. DOORS AND FRAMES IN THESE LOCATIONS ARE TO BE LABELED AND MEET THE REQUIRED RATINGS AS THESE BARRIERS CREATE FIRE AREAS REQUIRED UNDER THE ORGINAL BUILDING DESIGN.

WALL LEGEND	
	EXISTING 8" CMU AND 4" BRICK VENEER.
	EXISTING 12 CMU.
	EXISTING 8" CMU.
	NEW 8" CMU WALL. EXTEND TO DECK UNLESS NOTED OR SHOWN OTHERWISE.
	NEW 6" METAL STUD WALL. SOUND BATTS AND GWB TO DECK ABOVE. FOR CLARITY, BATTS ARE NOT SHOWN.
FEC	NEW FIRE EXTINGUISHER CABINET IN EXISTING OPENING.
FEC	NEW FIRE EXTINGUISHER CABINET IN NEW OPENING.

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
909 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-0710
Fax: (919) 319-7516
NC 2011
PE C-1395

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATE P.A. REGISTERED ARCHITECTURAL FIRM 52349 NORTH CAROLINA WILMINGTON, NC

DOUGLAS K. SHERWOOD Registered Architect 10075 North Carolina WILMINGTON, NC 3-27-19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

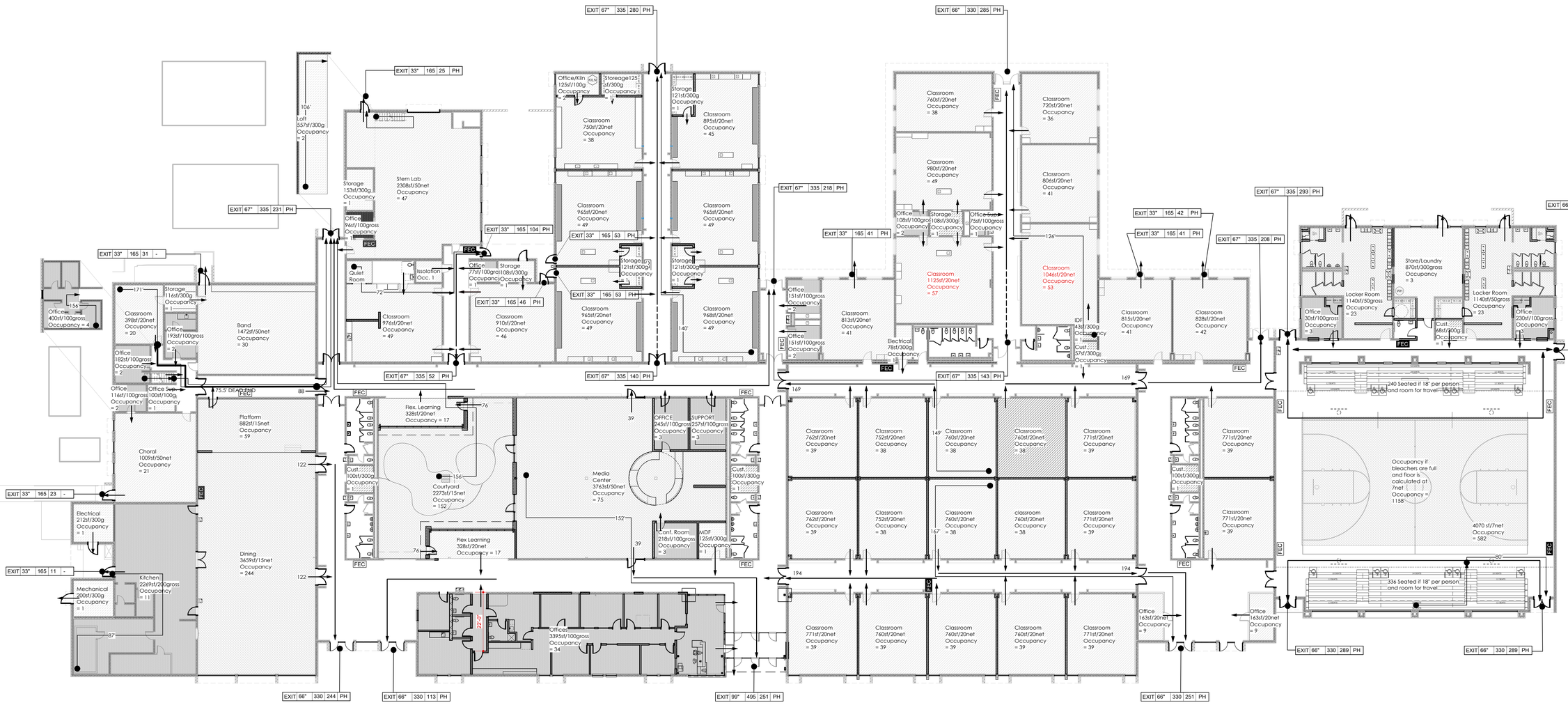
Construction Drawings
March 27, 2019

Revisions:

Life Safety Plan
Fire Barriers

G2.3

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



5 G2.1 **Occupancy & Travel Distances**
Scale: 1/16" = 1'-0"

EXIT DOOR | MAX OCCUPANCY
EXIT 67" 335 72
CLEAR WIDTH | ACCTUAL OCCUPANCY

DOOR DEVICES
PH-PANIC HARDWARE
DE-DELAYED EGRESS
EE-ELECTROMAGNETIC EGRESS
HO-HOLD OPEN

WALL LEGEND	
	EXISTING 8" CMU AND 4" BRICK VENEER.
	EXISTING 12 CMU.
	EXISTING 8" CMU.
	NEW 8" CMU WALL. EXTEND TO DECK UNLESS NOTED OR SHOWN OTHERWISE.
	NEW 6" METAL STUD WALL. SOUND BATTS AND GWB TO DECK ABOVE. FOR CLARITY, BATTS ARE NOT SHOWN.
FEC	NEW FIRE EXTINGUISHER CABINET IN EXISTING OPENING.
FEC	NEW FIRE EXTINGUISHER CABINET IN NEW OPENING.

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
605 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919)319-0710
Fax: (919)319-7516
NC 2005
PE C-1595

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATE P.A. 52349 ARCHITECTURAL CORPORATION NORTH CAROLINA WILMINGTON, NC

DOUGLAS K. SHERWOOD Registered Architect 10075 North Carolina WILMINGTON, NC 3.27.19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

Construction Drawings
March 27, 2019

Revisions:

Life Safety Plan
Occupancy
Calculations

G2.4

© 2019 Sawyer Sherwood & Associate- All Rights Reserved

Design No. U906

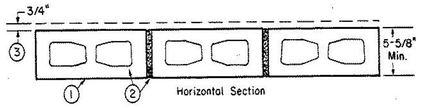
March 11, 2016

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* —** Nominal 6 by 8 by 16 in, hollow or solid. Various designs. Classification (2 hr).
See **Concrete Blocks** category for list of eligible manufacturers.

ANCHOR CONCRETE PRODUCTS INC

GAGNE & SON CONCRETE BLOCK INC

GLENWOOD MASONRY PRODUCTS

Allowable compressive stress of 57% of max allowable compressive stress in accordance with the empirical design method.

OLDCASTLE APG SOUTH INC, DBA ADAMS PRODUCTS

WESTBROOK CONCRETE BLOCK CO INC

Allowable compressive stress of 75.6% of max allowable compressive stress in accordance with the empirical design method.

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. Attached to concrete blocks (Item 1).

4. **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" and "EnergyShield Pro 2 Wall Insulation"

CARLISLE COATINGS & WATERPROOFING INC — Type R2+ Sheath

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

HUNTER PANELS — Types Xci-Class A, Xci 286

RMAX OPERATING L L C — "TSX-8500", "TSX-8510", "Thermasheath-XP", "ECOMAXci", "Thermasheath-3", "Durasheath-3"

THE DOW CHEMICAL CO — 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) and TUFF-R™ ci Insulation

4A. **Building Units —** As an alternate to Item 5, min. 1-in thick polyisocyanurate composite foamed plastic insulation boards, nom. 48 by 48 or 96 in.
RMAX OPERATING L L C — "Thermasheath-SI", "ECOBASEci", "ThermaBase-CI"

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

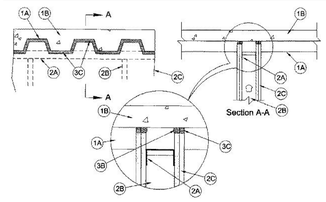
Last Updated on 2016-03-11

Reprinted from the Online Certifications Directory with permission from UL
© 2018 UL LLC

System No. HW-D-0103

September 01, 2016

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)
Class II Movement Capabilities — 25% Compression	FH Ratings — 1 and 2 Hr (See Item 2)
L Rating At Ambient — Less Than 1 CFM/sq ft	FTH Ratings — 1 and 2 Hr (See Item 2)
L Rating At 400 F — Less Than 1 CFM/sq ft	Nominal Joint Width — 3/4 In.
	Class II Movement Capabilities — 25% Compression
	L Rating At Ambient — Less Than 1 CFM/sq ft
	L Rating At 400 F — Less Than 1 CFM/sq ft



1. **Floor Assembly** — The fire-rated fluted steel deck/concrete floor assembly shall be constructed of the materials and in the manner described in the individual D700, D800 or D900 Series Floor-Ceiling Design in the UL Fire Resistance Directory and shall include the following construction features:

A. **Steel Floor And Form Units* —** Max 3 in. (76 mm) deep galv steel fluted floor units.

B. **Concrete —** Min 2-1/2 in. (64 mm) thick reinforced concrete, as measured from the top plane of the floor units.

C. **Spray-Applied Fire Resistive Material* —** (Optional, Not Shown) - After installation of the ceiling runner (Item 2A) or deflection channel (Item 3A), steel floor units to be sprayed with a min 5/16 in. (8 mm) to max 11/16 in. (17 mm) thickness of material in accordance with the specifications in the individual F700 or D902 Series Design. If spray applied fire resistive material is used, ceiling runner or deflection channel to be provided with 2 in. (51 mm) flanges. Excess material to be scraped from flanges of ceiling runner or deflection channel prior to installation of gypsum board.

ISOLATEK INTERNATIONAL — Type 300, Type II

GCP APPLIED TECHNOLOGIES INC — MK-6/HY

1A. **Roof Assembly** — (Not Shown) — As an alternate to the floor assembly (Item 1), a fire rated fluted steel deck roof assembly may be used. The roof assembly shall be constructed of the materials and in the manner described in the individual P700, P800 or P900 Series Roof-Ceiling Design in the UL Fire Resistance Directory. The hourly fire rating of the roof assembly shall be 1 hr or greater than the hourly fire rating of the wall assembly. The roof assembly shall include the following construction features:

A. **Steel Roof Deck —** Max 3 in. (76 mm) deep galv steel fluted roof deck.

B. **Roof Insulation —** Min 2-1/4 in. (57 mm) thick poured insulating concrete, as measured from the top plane of the steel roof deck.

C. **Roof Covering* —** Hot-mopped or cold-application materials compatible with insulating concrete.

D. **Spray-Applied Fire Resistive Material* —** (Optional, Not Shown) - After installation of the ceiling runner (Item 2A) or deflection channel (Item 3A), steel floor units to be sprayed with a min 5/16 in. (8 mm) to max 11/16 in. (17 mm) thickness of material in accordance with the specifications in the individual P700 or P800 Series Design. When spray applied fire resistive material is used, ceiling runner or deflection channel to be provided with 2 in. (51 mm) flanges. Excess material to be scraped from flanges of ceiling runner or deflection channel prior to installation of gypsum board.

ISOLATEK INTERNATIONAL — Type 300, Type II

GCP APPLIED TECHNOLOGIES INC — MK-6/HY

2. **Wall Assembly —** The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

A. **Steel Floor And Ceiling Runners —** Floor and ceiling runners of wall assembly shall consist of galv steel channels sized to accommodate steel studs. Ceiling runner to be provided with min 1-1/4 in. (32 mm) to max 2 in. (51 mm) flanges. When deflection channel (Item 3A) is used, flange height shall be min 2 in. (51 mm). Ceiling runner shall be installed with the deflection channel web and ceiling runner's to next within the deflection channel with a 1/2 in. (13 mm) to 3/4 in. (19 mm) gap maintained between the top of the ceiling runner and the top of the deflection channel. When deflection channel is not used, ceiling runner installed perpendicular to direction of fluted steel deck prior to the application of the sprayed-applied fire resistive material and secured to valleys with steel masonry anchors or welds spaced max 24 in. (610 mm) OC.

A1. **Light Gauge Framing* - Notched Ceiling Runner —** As an alternate to the ceiling runners in Items 2A and 2A1, notched ceiling runners to consist of C-shaped galv steel channel with notched return flanges sized to accommodate steel studs (Item 3B). Ceiling runner installed perpendicular to direction of fluted steel deck prior to the application of the sprayed-applied fire resistive material and secured to valleys with steel masonry anchors spaced max 24 in. (610 mm) OC. When notched ceiling runner is used, deflection channel (Item 3A) shall not be used.

OLMAR SUPPLY INC — Type SCR

A2. **Light Gauge Framing* — Slotted Ceiling Runner —** Slotted ceiling runner may be used as an alternate to the ceiling runner in Item 2A. Slotted ceiling runner to consist of galv steel channel with slotted flanges sized to accommodate steel studs (Item 3B). Ceiling runner installed perpendicular to direction of fluted steel deck prior to the application of the sprayed-applied fire resistive material and secured to valleys with steel masonry anchors spaced max 24 in. (610 mm) OC. When slotted ceiling runner is used, deflection channel (Item 3A) shall not be used.

BRADY CONSTRUCTION INNOVATIONS INC, DBA SLIPTRACK SYSTEMS — SLP-TRK

CALIFORNIA EXPANDED METAL PRODUCTS CO — CST

CLARKDIETRICH BUILDING SYSTEMS — Type SLT, SLT-H

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Type SLT

METAL-LITE INC — The System

RAM SALES L L C — RAM Slotted Track

A3. **Steel Framing Members* — Sound Isolation Clips —** (Not Shown) — As an alternate attachment means for the ceiling runner to the bottom of the floor or roof assembly when no deflection channel (Item 3A) is used, sound isolation clips installed in accordance with the accompanying installation instructions. Sound isolation clip installed through nom 1 in. (25 mm) diam hole in ceiling runner and attached to top of ceiling runner using four min No. 8 by 1/2 in. (13 mm) long self-tapping galv steel screws. Sound isolation clips to be installed adjacent to every steel stud (Item 3B) and spaced 24 in. (610 mm) OC and attached to the underside of floor or roof assembly using min 3/16 in. (5 mm) diam by 2-1/2 in. (64 mm) long steel masonry anchors.

PAC INTERNATIONAL L L C — Type RSIC-I-HD

3. **Studs —** Steel studs to be min 3-1/2 in. (89 mm) wide. Studs cut 1/2 in. (13 mm) to 3/4 in. (19 mm) less in length than assembly height with bottom nesting in and secured to floor runner. When deflection channel (Item 3A) is used, steel studs attached to ceiling runner with sheet metal screws located 1/2 in. (13 mm) below the bottom of the deflection channel. When deflection channel is not used, studs to nest in ceiling runner without attachment.

C. **Gypsum Board* —** Gypsum board sheets installed to a min total thickness of 5/8 in. (16 mm) and 1-1/4 in. (32 mm) on each side of wall for 1 and 2 hr fire rated assemblies, respectively. Wall to be constructed as specified in the individual Wall and Partition Design in the UL Fire Resistance Directory, except that the gypsum board is cut to follow the contour of the steel floor units with a min 1/2 in. (13 mm) gap maintained between the gypsum board and the top surface of the sprayed applied fire resistive material. In addition, the top row of screws shall be installed into the steel studs 1/2 to 1 in. (13 to 25 mm) below the bottom edge of the ceiling runner flange.

The hourly fire rating of the joint system is dependent on the hourly fire rating of the wall assembly in which it is installed.

3. **Joint System — Max separation between bottom of floor or roof deck and top of wall is 3/4 in. (19 mm). The joint system is designed to accommodate a max 25 percent compression from its installed width.** The joint system consists of the following:

A. **Deflection Channel —** (Optional, Not Shown) - Max 2 in. (51 mm) deep min 24 gauge galv steel channel sized to accommodate ceiling runner (Item 2A). Deflection channel installed perpendicular to direction of fluted steel deck prior to the application of the sprayed-applied fire resistive material and secured to valleys with steel masonry anchors or welds spaced max 24 in. (610 mm) OC. The ceiling runner is installed within the deflection channel to maintain a 1/2 in. (13 mm) to 3/4 in. (19 mm) gap between the top of the ceiling runner and the top of the deflection channel. The ceiling runner is not fastened to the deflection channel.

B. **Forming Material* —** (Not Shown) - In 2 hr fire rated wall assemblies, polyethylene foam backer rod, mineral wool or glass fiber insulation friction fit into joint opening and recessed minimum 1/2 in. (13 mm) from each surface of wall. When sound isolation clips (Item 2A4) are used to secure ceiling runner to underside of floor or roof in 1 or 2 hr fire rated wall assemblies, the space between the top of the ceiling runner and the underside of the floor or roof shall be packed with mineral wool insulation. Joint system may require the use of backing material on the each surface of wall to accommodate the required thickness of fill material. Forming material is required when sound isolation clips (Item 2A4) are used, but otherwise optional.

ROCK WOOL MANUFACTURING CO — Delta Safing

ROCKWOOL MALAYSIA SDN BHD — Safe

ROCKWOOL — Safe

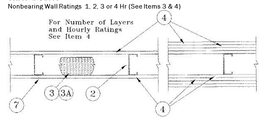
THERMAFIBER INC — Type SAF

C. **Fill, Void or Cavity Material* - Sealant —** Min 1/2 in. (13 mm) thickness of fill material applied within joint opening on both sides of wall, flush with both surfaces of wall. As an option in 1 hr fire rated walls, bond breaker tape applied to ceiling channel (Item 2A) or deflection channel (Item 3A) prior to installation of fill material.

SPECIFIED TECHNOLOGIES INC — SpecSeal ES Sealant

Design No. U419

October 27, 2005
Nonbearing Wall Ratings 1, 2, 3 or 4 Hr (See Items 3 & 4)



1. **Floor and Ceiling Runners** (Not shown) Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min width to accommodate stud size, with min 1 in. long legs, attached to floor and ceiling with fasteners 24 in. OC max.
2. **Steel Studs** Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min width as indicated under Item 4, min 1-1/4 in. flanges and 1/4 in. return, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
3. **Batts and Blankets*** (Required as indicated under Item 4) Mineral wool batts, friction fitted between studs and runners. Min nom thickness as indicated under Item 4. See Batts and Blankets (BKNV or BZJZ) Categories for names of Classified companies.
3A. **Batts and Blankets*** (Optional) 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.
4. **Gypsum Board*** Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. 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 (multilayer systems) staggered a min of 12 in. The thickness and number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are as follows:

Wallboard Protection on Each Side of Wall			
Rating	Min Stud Depth	No. of Layers & Thkns of Panel	Min Thkns of Insulation (Item 3)
1	3 1/2	1 layer, 5/8 in. thick	Optional
1	2 1/2	1 layer, 1/2 in. thick	1 1/2 in.
1	1 5/8	1 layer, 3/4 in. thick	Optional
2	1 5/8	2 layer, 1/2 in. thick	Optional
2	1 5/8	2 layers, 5/8 in. thick	Optional
2	3 1/2	1 layer, 3/4 in. thick	3 in.
3	1 5/8	3 layer, 1/2 in. thick	Optional
3	1 5/8	2 layers, 3/4 in. thick	Optional
3	1 5/8	3 layers, 5/8 in. thick	Optional
4	1 5/8	4 layers, 5/8 in. thick	Optional
4	1 5/8	4 layers, 1/2 in. thick	Optional
4	2 1/2	2 layer, 3/4 in. thick	2 in.

CANADIAN GYPSUM COMPANY 1/2 in. thick Type C, IP-X2 or IPC-AR; WRC, 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX or WRC; 3/4 in. thick Types IP-X3 or ULTRACODE
UNITED STATES GYPSUM CO 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type SCX, SHX, WRX, IP-X1, AR, C, WRC, FRX-G, IP-AR, IP-X2, IPC-AR ; 3/4 in. thick Types IP-X3 or ULTRACODE
USG MEXICO S A DE C V 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX, WRC or; 3/4 in. thick Types IP-X3 or ULTRACODE
When Item 6B, Steel Framing Members*, is used, Nonbearing Wall Rating is limited to 1 Hr. Min. stud depth is 3-1/2 in., min. thickness of insulation (Item 3) is 3 in., and two layers of gypsum board panels (1/2 in. or 5/8 in. thick) shall be attached to furring channels as described in Item 5. One layer of gypsum board panels (1/2 in. or 5/8 in. thick) attached to opposite side of stud without furring channels as described in Item 5.
4A. **Gypsum Board*** (As an alternate to Item 4) 5/8 in. thick, 2 ft. wide, tongue and groove edge, applied horizontally as the outer layer to one side of the assembly.
Secured as described in Item 5. Joint covering (Item 7) not required.
CANADIAN GYPSUM COMPANY Type SHX.
UNITED STATES GYPSUM CO Type SHX.
USG MEXICO S A DE C V Type SHX.
5. **Fasteners** (Not shown) Type S or S-12 steel screws used to attach panels to studs (Item 2) or furring channels (Item 6). Single layer systems: 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 8 in. OC when panels are applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OvvvC in the field when panels are applied vertically. Two layer systems: First layer- 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels or 2-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC with screws offset 8 in. from first layer. Three-layer systems: First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in., 5/8 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below. Four-layer systems: First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 24 in. OC. Fourth layer- 2-5/8 in. long for 1/2 in. thick panels or 3 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below.
6. **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. Not for use with Item 4A.
6A. **Steel Framing Members** (Not Shown)* (Optional on one or both sides, not shown, for single or double layer systems) As an alternate to Item 6, furring channels and Steel Framing Members as described below:
a. **Furring Channels** Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 5. Not for use with Item 4A.
b. **Steel Framing Members*** Used to attach furring channels (Item 6Aa) to studs (Item 2). Clips spaced max. 48 in. OC., and secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips.
PAC INTERNATIONAL INC Type RSIC-1.
6B. **Steel Framing Members** (Optional. Not Shown)* As an alternate to Item 6, furring channels and Steel Framing Members on only one side of studs as described below:
a. **Furring Channels** Formed of No. 25 MSG galv steel, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Batts and Blankets placed in stud cavity as described in Item 4. Two layers of gypsum board attached to furring channels as described in Item 4. Not for use with Item 4A.
b. **Steel Framing Members*** Used to attach furring channels (Item 6Ba) to one side of studs (Item 2) only. Clips spaced 48 in. OC., and secured to studs with two No. 8 x 2-1/2 in. coarse drywall screws, one through the hole at each end of the clip. Furring channels are friction fitted into clips.
KINETICS NOISE CONTROL INC Type Isomax
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.
8. **Siding, Brick or Stucco** (Optional, not shown) Aluminum, vinyl or steel siding, brick veneer or stucco, meeting the requirements of local code agencies, installed over gypsum panels. Brick veneer attached to studs with corrugated metal wall ties attached to each stud with steel screws, not more than each sixth course of brick.
9. **Caulking and Sealants*** (Optional, not shown) A bead of acoustical sealant applied around the partition perimeter for sound control.
UNITED STATES GYPSUM CO Type AS
*Bearing the UL Classification Mark

Reprinted from the Online Certifications Directory with permission from Underwriters Laboratories Inc. Copyright © 2006 Underwriters Laboratories Inc.®

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
365 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919)319-0710
Fax: (919)319-7516
www.clh.com
PE C-1595

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8068
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATE P.A. ARCHITECTURE & PLANNING NORTH CAROLINA 52349 WILMINGTON, NC

DOUGLAS K. SHERWOOD Registered Architect 10075 NORTH CAROLINA WILMINGTON, NC
3.27.19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

Construction Drawings
March 27, 2019

Revisions:

UL Assemblies

G2.5

© 2019 Sawyer Sherwood & Associate- All Rights Reserved

GENERAL DEMOLITION 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 ROBERT H. COSLEE AND ASSOCIATES, PA. PERFORMED 9-24-2018. 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.
12. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL CITY OF WILMINGTON 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 C7.3 FOR PAVEMENT REPAIR DETAILS.
15. 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.
16. LAND CLEARING AND CONSTRUCTION CONTRACTORS SHALL RECEIVE ADEQUATE INSTRUCTION ON TREE PROTECTION REQUIREMENTS AND METHODS (PER CODE SECT. 18-457(D)).
17. NO LAND DISTURBANCE, INCLUDING TREE REMOVAL, IS TO OCCUR OUTSIDE THE LIMITS OF DISTURBANCE SHOWN (PER CODE SECT. 18-457 (B)).
18. GENERAL CONTRACTOR TO COORDINATE ALL PEDESTRIAN ACCESS PATHS, LOCATIONS, LIGHTING, HANDICAP PARKING, ETC. DURING CONSTRUCTION WITH OWNER.

LEGEND-STRUCTURES/UTILITIES TO REMAIN

OVERHEAD ELECTRICAL	E	LIGHT POLE	LP
UNDERGROUND ELECTRICAL	UE	UTILITY POLE	PP
FIRE PROTECTION	FP	MANHOLE	MH
GAS	G	CLEAN OUT	CO
SANITARY SEWER	SS	DROP INLET,CATCH BASIN	DI, CB
TELEPHONE	T	FIRE HYDRANT	FH
UNDERGROUND TELEPHONE	UT	WATER VALVE	WV
FIBER OPTIC	FO		
WATER	W		
FORCE MAIN	FM		
STORM DRAIN			
INDIVIDUAL TREE TO REMAIN.			

LEGEND-STRUCTURES/UTILITIES TO BE REMOVED

OVERHEAD ELECTRICAL	E	LIGHT POLE	LP
UNDERGROUND ELECTRICAL	UE	UTILITY POLE	PP
FIRE PROTECTION	FP	MANHOLE	MH
GAS	G	CLEAN OUT	CO
SANITARY SEWER	SS	DROP INLET,CATCH BASIN	DI, CB
TELEPHONE	T	FIRE HYDRANT	FH
UNDERGROUND TELEPHONE	UT	WATER VALVE	WV
FIBER OPTIC	FO	CONSTR./CLEARING LIMITS	
WATER	W	PAVEMENT, S/W, C&G TO BE REMOVED	
FORCE MAIN	FM	BUILDING/STRUCTURE TO BE REMOVED. REFER TO ARCH. PLANS FOR ADDITIONAL INFORMATION.	
STORM DRAIN			
INDIVIDUAL TREE TO BE REMOVED.			

KEY NOTES

(A) EXISTING SITE ELEMENT TO BE REMOVED (CURB STOPS, BOLLARDS, TRASH CANS, BENCHES, SIGNS, ETC.)
(B) EXISTING SIGNAGE TO BE REMOVED AND RELOCATED. SEE STAKING PLANS FOR NEW LOCATIONS.
(C) RELOCATE ELECTRICAL TRANSFORMER, SEE UTILITY PLAN
(D) TREE PROTECTION FENCING, SEE DETAIL SHEET C7.01

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
409 Regency Forest Drive
Suite 109
Cary, North Carolina 27518
Phone: (919)319-6716
Fax: (919)319-7516
LA: C-190
PE: C-1595

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street
Suite 201
Wilmington, NC 28401
Phone: 910.343.8007
Fax: 910.343.8088
www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036861 JAMES GLENN MEDLIN 1861
3/12/19

NHCS Emma B. Trask Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
BID SET

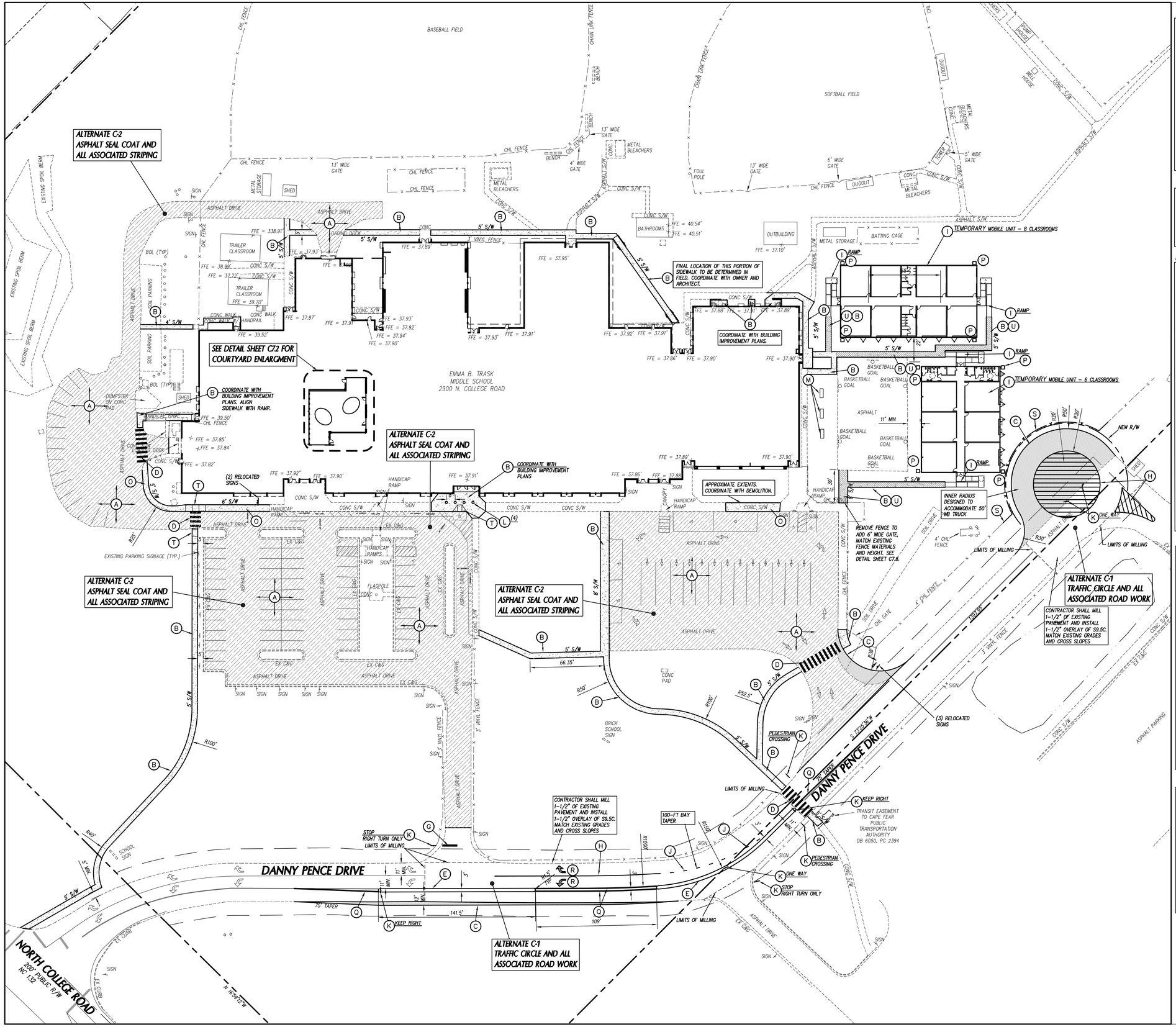
3/26/2019

Revisions:

EXISTING CONDITIONS AND DEMOLITION PLAN

C1.0

© 2018 Sawyer Sherwood & Associate- All Rights Reserved



GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL CTY OF WILMINGTON 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 8.5' WIDE X 18 FT DEEP MIN., UNLESS NOTED OTHERWISE.
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.
14. REPLACEMENT OF ANY BROKEN OR DAMAGED CONCRETE SIDEWALK OR CURB THAT OCCURS DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE CONTRACTOR.

CITY OF WILMINGTON NOTES

A. ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT–OF–WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
B. ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
C. A UTILITY CUT PERMIT IS REQUIRED FOR EACH OPEN CUT OF A CITY STREET. NOTE THIS ON THE PLAN AND CONTACT 341–5888 FOR MORE DETAILS. IN CERTAIN CASES AN ENTIRE RESURFACING OF THE AREA BEING OPEN CUT MAY BE REQUIRED.
D. ANY BROKEN OR MISSING SIDEWALK PANELS AND CURBING WILL BE REPLACED.
E. CONTACT TRAFFIC ENGINEERING AT 341–7888 FORTY–EIGHT HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT OF WAY.

KEY NOTES

(A) PATCH, ASPHALT SEAL COAT, AND RE–STRIPE MARKINGS IN EXISTING LOCATIONS, WIDTHS AND COLORS. SEE TRAFFIC CONTROL NOTES.
(B) CONCRETE SIDEWALK, FLUSH WITH ADJACENT SURFACE, SEE DETAIL SHEET C7.6.
(C) ASPHALT PAVEMENT, SEE DETAIL SHEET C7.4.
(D) HIGH–VISIBILITY CROSSWALK, SEE TRAFFIC CONTROL NOTES THIS SHEET.
(E) CONCRETE MONOLITHIC ISLAND, SEE NCDOT STANDARD DETAIL C7.6.
(F) DIRECTIONAL ARROW, SEE TRAFFIC CONTROL NOTES THIS SHEET.
(G) STOP BAR, SEE TRAFFIC CONTROL NOTES THIS SHEET.
(H) SOLID WHITE MARKINGS, SEE TRAFFIC CONTROL NOTES THIS SHEET.
(I) SEE ARCHITECTURAL PLANS FOR SCREEN WALLS, RAMP, CANOPY, STEPS, ETC.
(J) WHITE MINI–SKIP PAVEMENT MARKINGS, SEE TRAFFIC CONTROL NOTES.
(K) TRAFFIC CONTROL SIGNAGE, SEE TRAFFIC CONTROL NOTES THIS SHEET.
(L) CONCRETE SPHERE BOLLARD, WAUSAU MADE MODEL #TF6091, 24" DIAMETER, 750 LBS, OR APPROVED EQUAL. ANCHOR BOLLARD PER MANUFACTURER, COLORS TO BE SCHOOL COLORS. SUBMIT COLOR RANGE TO ARCHITECT FOR SELECTION.
(M) BENCH, FAIRWAY BENCH, 8' LONG, IN–GROUND MOUNTED, POWDER COATED E–STEELE IN COLOR "BERRY", SEAT AND BACK: RECYCLED PLASTIC IN COLOR "GREY". BY THOMAS STEELE OR APPROVED EQUAL. INSTALL IN CONCRETE FOOTING PER MANUFACTURER.
(N) ACCESSIBLE CURB RAMP, SEE DETAIL SHEET C7.6.
(O) RAISED CONCRETE SIDEWALK 6" ABOVE ADJACENT PAVEMENT SURFACE, SEE DETAIL SHEET C7.6.
(P) SPLASH PAD, SEE DETAIL SHEET C7.2.
(Q) DOUBLE YELLOW PAVEMENT MARKINGS, SEE TRAFFIC CONTROL NOTES.
(R) WHITE DIRECTIONAL ARROW, SEE TRAFFIC CONTROL NOTES
(S) NEW FENCE, MATCH EXISTING MATERIALS AND HEIGHT. SEE DETAIL SHEET C7.6.
(T) ACCESSIBLE CURB CUT, SEE DETAIL SHEET C7.6.
(U) REMOVE THIS PORTION OF SIDEWALK AFTER MOBILES ARE REMOVED. RESEED DISTURBED AREA.

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
KEEP RIGHT	R4–7	18"x24"
ONE WAY	R6–1R	36"x12"
PEDESTRIAN TRAFFIC	W11–2	30"x30"
RIGHT TURN ONLY	R3–5R	30"x36"
STOP	R1–1	30"x30"

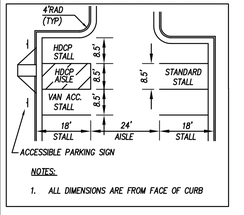
2. ALL SIGNS SHALL BE MOUNTED WITH 7–FT MIN. VERTICAL CLEARANCE TO THE BOTTOM OF THE SIGN ON 3–LB. GALV. STEEL U–CHANNEL POST SET IN 3–FT DEEP x 12–IN DIA. CONCRETE FOOTING.
3. ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MUTCD AND NCDOT STANDARDS AND THE PROJECT SPECIFICATIONS.

MARKING	NCDOT STD.	SIZE	COLOR
PARKING SPACES	–	4–IN	WHT.
CROSSWALK	1205.07(HI–VIS)	24–IN	WHT.
DIRECTIONAL ARROWS	1205.08	STD.	WHT.
STOP BAR	–	24–IN	WHT.
NO PARKING – FIRE LANE *	–	4–IN	YEL.
SOLID		4–IN	WHT.
MINI–SKIP (3'–9' TYPE)	1205.01	4–IN	WHT.
ACCESSIBLE PARKING MARKING	MUTCD FIG. 3B–22	STD.	BLUE & WHT.

* NO PARKING – FIRE LANE MARKING SHALL BE THERMOPLASTIC AND CONFORM TO CITY OF WILMINGTON STANDARDS AND CONSIST OF A 4" SOLID YELLOW STRIPE AND 8" HIGH YELLOW TEXT "NO PARKING – FIRE LANE" AT 40' INTERVALS. CONTRACTOR SHALL INCLUDE PRICE FOR 500–LF OF MARKINGS IN BASE BID FOR ADDITIONAL REQUIRED LOCATIONS BY FIRE MARSHAL.

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. 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

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
409 Regency Forest Drive
Suite 109
Cary, North Carolina 27518
Phone: (919)319-6716
Fax: (919)319-7516
LA: C-190
PE: C-1595

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA LANDSCAPE ARCHITECT 1861 JAMES GLENN MEDLIN 3/12/19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
BID SET

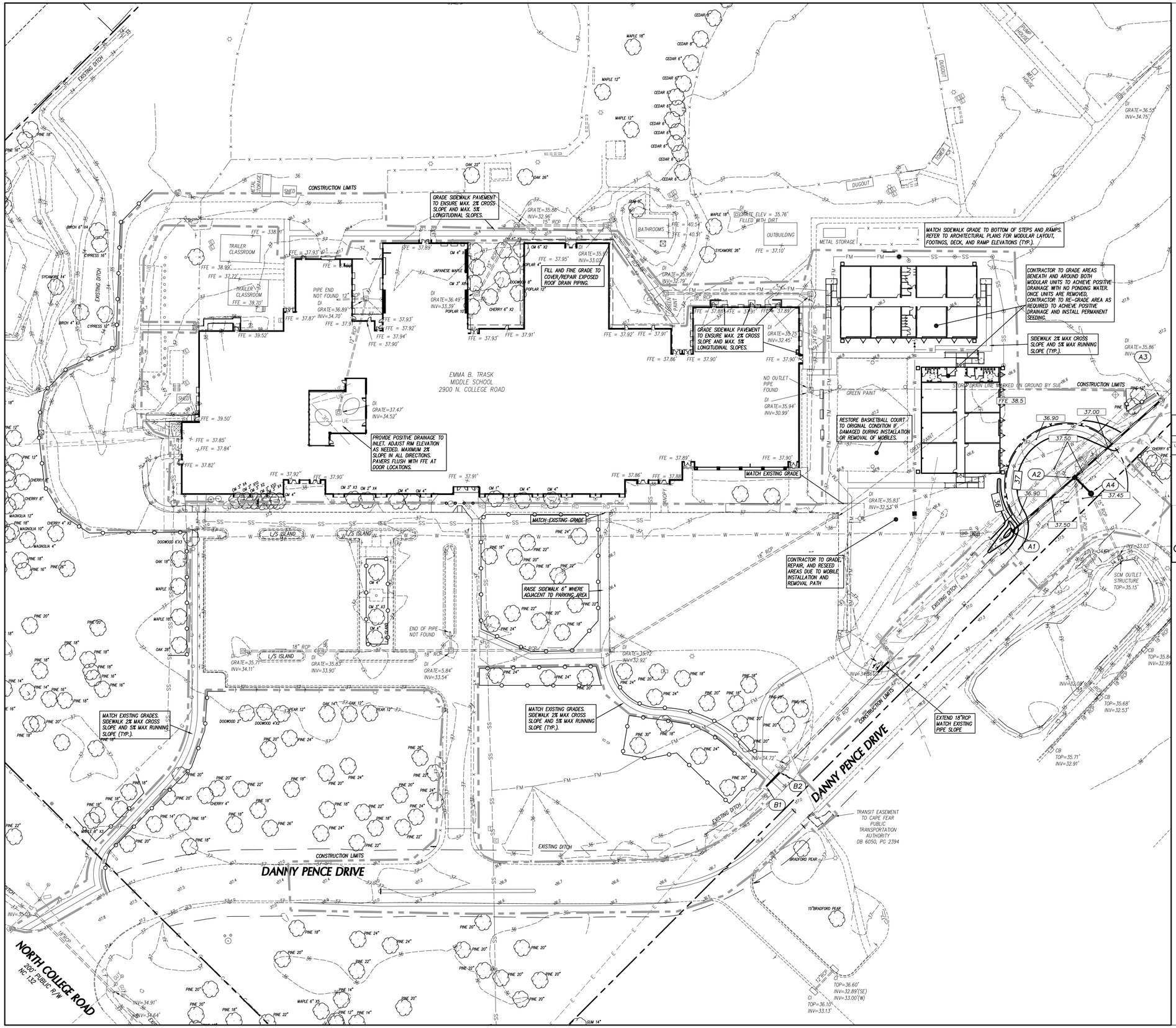
3/26/2019

Revisions:

STAKING AND PAVEMENT MARKING PLAN

C2.0

© 2018 Sawyer Sherwood & Associate- All Rights Reserved



GRADING NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL CITY OF WILMINGTON 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 OWNERS 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 C7.1.
7. EXISTING VEGETATION WITHIN TREE PROTECTION AREAS SHALL REMAIN UNDISTURBED. UNLESS NOTED OTHERWISE.
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.

GRADING LEGEND

- EXISTING CONTOURS
- FINAL CONTOURS
- 270.4+ EXISTING SURVEY SPOT ELEVATION
- 270.50T PROPOSED TOP OF CURB SPOT ELEVATION
- 270.50 PROPOSED GROUND/PAVEMENT ELEVATION
- (29) STORM STRUCTURE NUMBER
- EXISTING STORM DRAIN PIPE
- PROPOSED STORM DRAIN PIPE
- TREE PROTECTION FENCE SEE DETAIL SHEET CX.X
- CONSTRUCTION LIMITS

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	0.41%	24	74	RCP	33.50	33.20	36.80	3.30	FES	
A2	A3	0.25%	30	102	RCP	32.75	32.50	37.00	4.25	DI	
A4	A2	0.50%	15	20	RCP	32.85	32.75	37.45	4.60	MH	
B1	B2	0.56%	15	18	RCP	35.00	34.90	36.80	1.80	PE	

LEGEND
- DI DROP INLET (NCDOT), SEE DETAIL SHEET C7.5.
- MH JUNCTION BOX MANHOLE (NCDOT), SEE DETAIL SHEET C7.5.
- FES FLARED END SECTION
- PE PLAIN END.
- (A2) STRUCTURE I.D. NUMBER

NOTES:
1. TOP ELEVATION IS TOP OF CURB FOR CATCH BASINS, TOP OF RIM FOR MANHOLES, TOP OF GRATE FOR DROP INLETS, AND FINISH GRADE FOR CLEANOUTS.
2. ALL FES INLETS & OUTLETS SHALL BE RCP.

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
409 Regency Forest Drive Suite 109
Cary, North Carolina 27518
Phone: (919) 319-6716
Fax: (919) 319-7516
LA: C-1190
PE: C-1195

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT JAMES GLENN MEDLIN 1861
3/12/19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
BID SET

3/26/2019

Revisions:

GRADING PLAN

C3.0

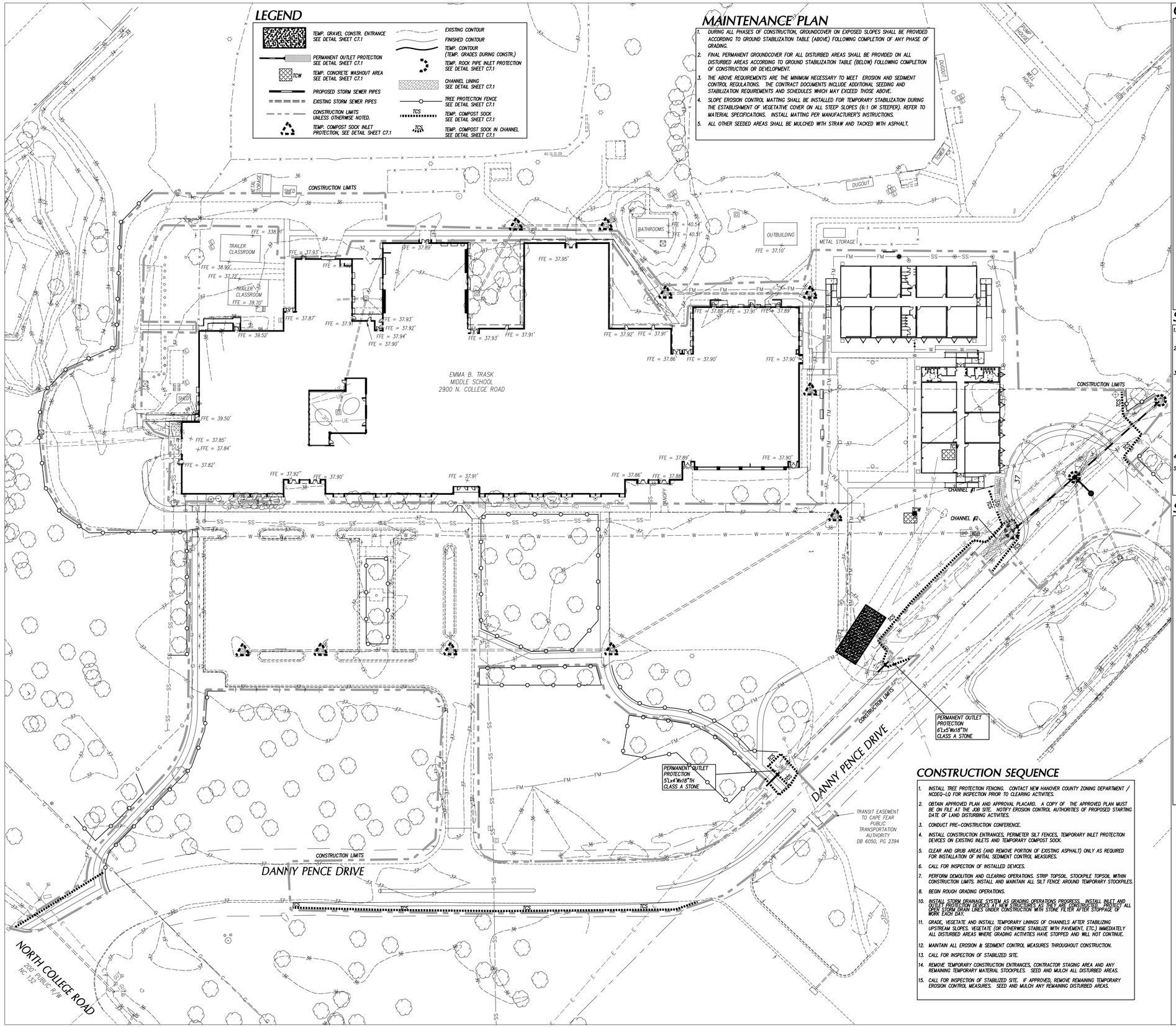
© 2018 Sawyer Sherwood & Associate- All Rights Reserved

LEGEND

- TEMP. GRAVEL CONSTR. ENTRANCE SEE DETAIL SHEET C7.1
- PERMANENT OUTLET PROTECTION SEE DETAIL SHEET C7.1
- TCW — TEMP. CONCRETE WASHOUT AREA SEE DETAIL SHEET C7.1
- PROPOSED STORM SEWER PIPES
- EXISTING STORM SEWER PIPES
- CONSTRUCTION LIMITS UNLESS OTHERWISE NOTED.
- TEMP. COMPOST SOCK INLET PROTECTION, SEE DETAIL SHEET C7.1
- EXISTING CONTOUR
- FINISHED CONTOUR
- TEMP. CONTOUR (TEMP. GRADES DURING CONSTR.)
- TEMP. ROCK PIPE INLET PROTECTION SEE DETAIL SHEET C7.1
- CHANNEL LINING SEE DETAIL SHEET C7.1
- TREE PROTECTION FENCE SEE DETAIL SHEET C7.1
- TCS — TEMP. COMPOST SOCK SEE DETAIL SHEET C7.1
- TCS — TEMP. COMPOST SOCK IN CHANNEL SEE DETAIL SHEET C7.1

MAINTENANCE PLAN

1. DURING ALL PHASES OF CONSTRUCTION, GROUNDCOVER ON EXPOSED SLOPES SHALL BE PROVIDED ACCORDING TO GROUND STABILIZATION TABLE (ABOVE) 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 (BELOW) 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.



CONSTRUCTION SEQUENCE

1. INSTALL TREE PROTECTION FENCING. CONTACT NEW HANOVER COUNTY ZONING DEPARTMENT / NCDEQ-LQ FOR INSPECTION PRIOR TO CLEARING ACTIVITIES.
2. 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.
3. CONDUCT PRE-CONSTRUCTION CONFERENCE.
4. INSTALL CONSTRUCTION ENTRANCES, PERIMETER SILT FENCES, TEMPORARY INLET PROTECTION DEVICES ON EXISTING INLETS AND TEMPORARY COMPOST SOCK.
5. CLEAR AND GRUB AREAS (AND REMOVE PORTION OF EXISTING ASPHALT) ONLY AS REQUIRED FOR INSTALLATION OF INITIAL SEDIMENT CONTROL MEASURES.
6. CALL FOR INSPECTION OF INSTALLED DEVICES.
7. PERFORM DEMOLITION AND CLEARING OPERATIONS. STRIP TOPSOIL. STOCKPILE TOPSOIL WITHIN CONSTRUCTION LIMITS. INSTALL AND MAINTAIN ALL SILT FENCE AROUND TEMPORARY STOCKPILES.
8. BEGIN ROUGH GRADING OPERATIONS.
10. 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.
11. GRADE, VEGETATE AND INSTALL TEMPORARY LININGS OF CHANNELS AFTER STABILIZING UPSTREAM SLOPES. VEGETATE (OR OTHERWISE STABILIZE WITH PAVEMENT, ETC.) IMMEDIATELY ALL DISTURBED AREAS WHERE GRADING ACTIVITIES HAVE STOPPED AND WILL NOT CONTINUE.
12. MAINTAIN ALL EROSION & SEDIMENT CONTROL MEASURES THROUGHOUT CONSTRUCTION.
13. CALL FOR INSPECTION OF STABILIZED SITE.
14. REMOVE TEMPORARY CONSTRUCTION ENTRANCES, CONTRACTOR STAGING AREA AND ANY REMAINING TEMPORARY MATERIAL STOCKPILES. SEED AND MULCH ALL DISTURBED AREAS.
15. CALL FOR INSPECTION OF STABILIZED SITE. IF APPROVED, REMOVE REMAINING TEMPORARY EROSION CONTROL MEASURES. SEED AND MULCH ANY REMAINING DISTURBED AREAS.

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL NEW HANOVER COUNTY, CFPUA 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 CITED BY LOCAL AUTHORITIES OR ARCHITECT.
4. TOTAL DISTURBED AREA: 4 AC.
5. ALL OPEN STORM PIPES SHALL BE PROTECTED WITH STONE FILTER PROTECTION AFTER WORK STOPPAGE EACH DAY. SEE DETAIL SHEET C7.1.
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.
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.
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.

SELF-INSPECTION RULES

1. SELF-INSPECTION SHALL BE CONDUCTED AFTER EACH PHASE OF THE PROJECT, AND CONTINUED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
2. THE FINANCIALLY RESPONSIBLE PERSON AND/OR HIS AGENT WILL BE PERFORM SELF INSPECTIONS OF THE EROSION AND SEDIMENTATION CONTROL MEASURES USING NCDENR'S SELF INSPECTION REPORT (WORKSHEET) AND THIS WILL BE KEPT ONSITE.
3. NOTIFICATION OF LAND RESOURCES SEDIMENT AND EROSION CONTROL SELF-INSPECTION PROGRAM: THE SEDIMENTATION POLLUTION CONTROL ACT WAS AMENDED IN 2006 TO REQUIRE THAT PERSONS RESPONSIBLE FOR LAND-DISTURBING ACTIVITIES INSPECT A PROJECT AFTER EACH PHASE OF THE PROJECT TO MAKE SURE THAT THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN IS BEING FOLLOWED. RULES DETAILING THE DOCUMENTATION OF THESE INSPECTIONS TOOK EFFECT OCTOBER 1, 2010. THE SELF-INSPECTION PROGRAM IS SEPARATE FROM THE WEEKLY SELF-MONITORING PROGRAM OF THE NPDES STORMWATER PERMIT FOR CONSTRUCTION ACTIVITIES. THE FOCUS OF THE SELF-INSPECTION REPORT IS THE INSTALLATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROL MEASURES ACCORDING TO THE APPROVED PLAN. THE INSPECTIONS MUST BE CONDUCTED AFTER EACH PHASE OF THE PROJECT, AND CONTINUED UNTIL PERMANENT GROUND COVER IS ESTABLISHED IN ACCORDANCE WITH NCGS 113A-54.1 AND 15A NCAC 4B.0131. THE SELF-INSPECTION REPORT FORM IS AVAILABLE AS AN EXCEL SPREADSHEET FROM http://deq.nc.gov/about/divisions/energy-mineral-land-resources/erosion-sediment-control/forms. IF YOU HAVE QUESTIONS OR CANNOT ACCESS THE FORM, PLEASE CONTACT NCDENR OFFICE AT 919-791-4200.
4. CONTRACTOR SHALL INSTALL AND MAINTAIN RAIN GAUGE ON SITE.
5. CONTRACTOR SHALL KEEP A COPY OF APPROVED EROSION & SEDIMENT CONTROL PLANS, APPROVAL LETTER, 401/404 DOCUMENTS FROM DWQ/USACOE, NPDES PERMIT WITH A MINIMUM OF MOST RECENT 30 DAYS ON SITE UNTIL THE PROJECT IS CLOSED BY NCDENR OFFICE. CONTRACTOR SHALL SUPPLY A TEMPORARY WASH STATION IF AREAS ALONG PUBLIC STREETS AND EXISTING SCHOOL ARE NOT KEPT CLEAN. CONTRACTOR MUST KEEP AREAS IN PUBLIC USE CLEAN OF SEDIMENT.

SLOPE & SURFACE STABILIZATION

GROUND STABILIZATION SHALL BE PROVIDED ON ALL DISTURBED AREAS ACCORDING TO FOLLOWING SCHEDULE:

SITE AREA DESCRIPTION	STABILIZATION TIME FRAME	STABILIZATION TIME FRAME EXCEPTIONS
PERIMITER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7-DAYS FOR SLOPES GREATER THAN 50 FEET IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE (EXCEPT FOR PERIMETERS AND HQW ZONES).

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 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.

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 312500 FOR MATERIAL SPECIFICATIONS. INSTALL MATTING PER MANUFACTURER'S INSTRUCTIONS.

MAT SLOPES IN SUMMER AND WINTER - GRADED SLOPES AND FILLS SHALL BE PROTECTED WITH A ROLLED EROSION CONTROL PRODUCT IF COMPLETED OUTSIDE OPTIMUM GERMINATION SEASONS, WHEN UNFAVORABLE WEATHER CONDITIONS PREVENT ESTABLISHMENT OF VEGETATIVE GROUND COVER.

GROUND COVER LEGEND

- DRAINAGE CHANNELS, STREAM BANKS OR OTHER CRITICAL AREA, END OF DAY STABILIZATION.
- 7 DAY STABILIZATION TIME FRAME.

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
409 Regency Forest Drive
Suite 109
Cary, North Carolina 27518
Phone: (919)319-6716
Fax: (919)319-7516
LA: C-1190
PE: C-1595

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street
Suite 201
Wilmington, NC 28401
Phone: 910.343.8007
Fax: 910.343.8088
www.woodseng.com

NORTH CAROLINA PROFESSIONAL SEAL 23953 ENGINEER KENNETH A. LORING
3-26-19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
BID SET

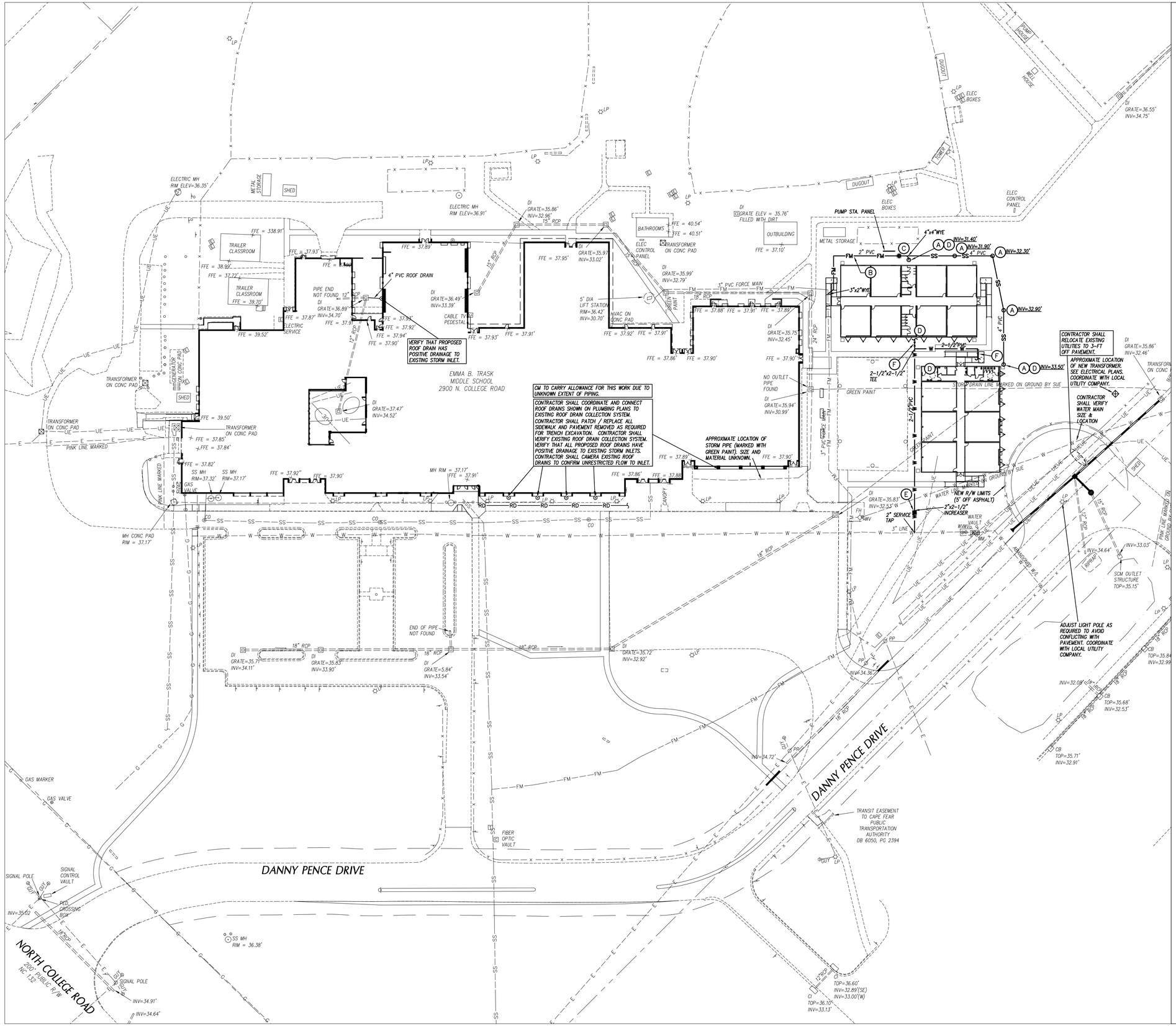
3/26/2019

Revisions:

EROSION CONTROL PLAN

C4.0

© 2018 Sawyer Sherwood & Associate- All Rights Reserved



UTILITY NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL CITY OF WILMINGTON, CFPUA AND NCDOT STANDARDS, SPECIFICATIONS AND DETAILS.
2. INSTALL WATERMAINS WITH A COVER OF NO LESS THAN 4'-FT. INSTALL WATER SERVICES WITH NO LESS THAN 18-IN OF COVER TO SUBGRADE.
3. INSTALL SEWER MAINS WITH A COVER OF NO LESS THAN 3'-FT TO FINISHED GRADE UNLESS DUCTILE IRON PIPE IS USED. INSTALL SEWER SERVICES WITH NO LESS THAN 18-IN OF COVER TO SUBGRADE.
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. WATER AND SEWER MAINS SHALL BE INSTALLED WITH A MINIMUM VERTICAL CLEARANCE OF 12-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 TO UTILITIES 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 @ 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.
18. THE FOLLOWING "PERMITS" ARE REQUIRED TO BE OBTAINED FROM THE CITY OF WILMINGTON FIRE SERVICES ADMINISTRATION BY EACH RESPONSIBLE CONTRACTOR, PRIOR TO THE START OF WORK. THE "GENERAL CONTRACTOR" SHALL BE RESPONSIBLE TO MAKE SURE ALL OF HIS/HER SUBS FOLLOW THIS PROCEDURE. THE PERMITS REQUIRED ARE AS FOLLOWS:
    - 18.1. UNDERGROUND PIPING PERMIT (FIRE LINE (S)).
    - 18.2. SPRINKLER PERMIT
    - 18.3. FIRE ALARM PERMIT
    - 18.4. KITCHEN HOOD FIRE PROTECTION PERMIT

    THE "GENERAL CONTRACTOR" SHALL ALSO MAKE SURE THAT ALL HIS SUBS PROPERLY COORDINATE THE INSPECTION PROCESS WITH THE WILMINGTON FIRE DEPARTMENT ADMINISTRATION OFFICE.
19. CONTACT THE NC ONE CALL CENTER PRIOR TO ANY DIGGING. 1-800-632-4949
20. PROJECT SHALL COMPLY WITH CITY OF WILMINGTON CROSS CONNECTION CONTROL REQUIREMENTS. WATER METERS CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND THE STATE HAS GIVEN THEIR FINAL APPROVAL. CALL 910-343-3910 FOR INFORMATION.
21. ANY BACKFLOW PREVENTION DEVICES REQUIRED BY THE CITY WILL NEED TO BE ON THE LIST OF APPROVED DEVICES BY USCCCHR OR ASSE.

KEY NOTES

- (A) CLEANOUT, SEE DETAIL SHEET C7.4.
- (B) FORCE MAIN, SEE SPECS.
- (C) GRINDER PUMP. SEE DETAIL SHEET C7.4.
- (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) 2" REDUCED PRESSURE ASSEMBLY IN ABOVE GROUND HEATED ENCLOSURE. WILKINS MODEL 375 OR APPROVED EQUAL. SEE DETAIL SHEET C7.3 AND ELEC. PLANS FOR ADD'L INFO.
- (F) 2" GATE VALVE AND VALVE BOX, SEE DETAIL SHEET C7.3.

UTILITY LEGEND

	EXISTING	PROPOSED
OVERHEAD ELECTRICAL	----- E -----	E
UNDERGROUND ELECTRICAL	----- UE -----	UE
GAS	----- G -----	G
SANITARY SEWER	----- SS -----	SS
TELEPHONE	----- T -----	T
UNDERGROUND TELEPHONE	----- UT -----	UT
WATER	----- W -----	W
FIRE PROTECTION	----- FP -----	FP
FORCE MAIN	----- FM -----	FM
CHILLED WATER	----- CW -----	CW
FOUNDATION DRAIN	----- FD -----	FD
FIBER OPTIC	----- FO -----	FO
ROOF DRAIN	----- RD -----	RD
STORM DRAIN	=====	
LIGHT POLE	LP	
UTILITY POLE	PP	
MANHOLE	MH	
CLEAN OUT	CO	
DROP INLET,CATCH BASIN	DI, CB	
FIRE HYDRANT	FH	
WATER VALVE	WV	
TELEPHONE PEDESTAL	TP	
COMMUNICATION BOX		
SANITARY SEWER STRUCTURE I.D.		3
STORM SEWER STRUCTURE I.D.		8

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

SAWYER SHERWOOD & ASSOCIATE
ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
409 Regency Forest Drive
Suite 109
Cary, North Carolina 27518
Phone: (919) 319-6716
Fax: (919) 319-7516
LA: C-190
PE: C-1595

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street
Suite 201
Wilmington, NC 28401
Phone: 910.343.8007
Fax: 910.343.8088
www.woodseng.com

NORTH CAROLINA PROFESSIONAL SEAL 22953 ENGINEER KENNETH A. LORING
3-26-19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
BID SET

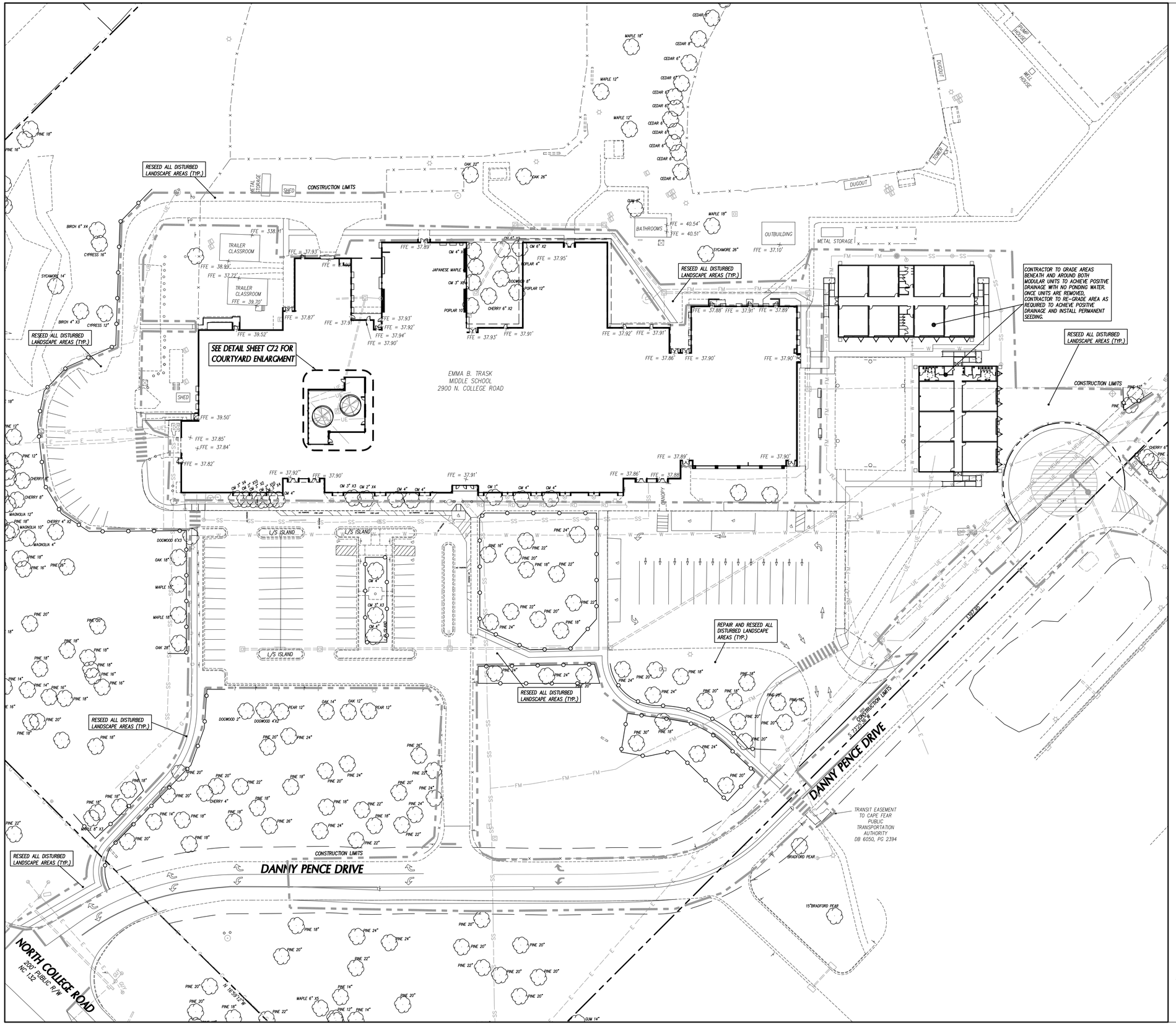
3/26/2019

Revisions:

UTILITY PLAN

C5.0

© 2018 Sawyer Sherwood & Associate- All Rights Reserved



LANDSCAPE NOTES

1. LOCATE ALL EXISTING UTILITIES PRIOR TO INSTALLATION OF PLANT MATERIAL. NOTIFY OWNER OF ANY DISCREPANCIES BETWEEN 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. ALL PLANTING BEDS TO BE MULCHED WITH A MINIMUM OF 3" OF MULCH
5. PLANTING BEDS TO BE MULCHED WITH MINIMUM 3-IN OF TRIPLE SHREDDED HARDWOOD MULCH. ALL PLANT GROUPINGS SHALL BE MULCHED AS ONE BED.
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. LAWN AREAS SHALL BE SEEDED WITH RIVIERA OR SUNSTAR BERMUDA GRASS 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.
10. CONTACT THE LANDSCAPE ARCHITECT FOR INSPECTION 48 HOURS IN ADVANCE OF THE SCHEDULED SITE VISIT AND AT THE FOLLOWING INTERVALS:
    - 10.1. REVIEW OF GRADING PRIOR TO PLANT AND LAWN INSTALLATION
    - 10.2. REVIEW OF PLANT MATERIAL PRIOR TO INSTALLATION.
    - 10.3. ONE SUBSTANTIAL COMPLETION MEETING FOR PLANT INSTALLATION.
    - 10.4. ONE FINAL INSPECTION FOR ALL SEEDING/PLANTING OPERATIONS.
11. 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. PRIOR TO ANY CLEARING, GRADING, OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
12. LANDSCAPE SUB-CONTRACTOR (UNDER GC CONTRACT) SHALL BE RESPONSIBLE FOR WATERING ALL PLANTS AND LAWN AREAS AT HIS COST FROM HIS OWN WATER SOURCE INCLUDING DURING PERIODS OF DROUGHT UNTIL THE PLANTS AND LAWN ARE DECLARED SUBSTANTIALLY COMPLETE. PLANT MATERIALS OR AREAS OF GRASS WHICH PERISH SHALL BE RE-ESTABLISHED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.
13. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ALL EQUIPMENT & SUBCONTRACTORS AWAY FROM SEEDED AREAS. IF DAMAGE OCCURS, THROUGH NO FAULT OF THE OWNER, AREAS SHALL BE REGRADED AND RESEEDED IMMEDIATELY AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL WATER AND MAINTAIN THOSE AREAS UNTIL THEY ARE AT 95% COVERAGE AT SUBSTANTIAL COMPLETION.
14. 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.
15. 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.
16. IF CONFLICTS OCCUR BETWEEN WRITTEN SPECIFICATIONS AND THE DRAWINGS, THE WRITTEN SPECIFICATIONS SHALL PREVAIL.
17. ALL FOUNDATION SHRUBS AND TREES TO BE PLANTED A MINIMUM OF 5-FT FROM BUILDING WALL. NOTIFY LANDSCAPE ARCHITECT FOR ANY DISCREPANCIES.
18. INSTALL PERMANENT SEEDING ALONG ALL ROADSIDE DITCHES AND CHANNELS WITHIN CONSTRUCTION LIMITS OF PROJECT. SEE EROSION CONTROL PLANS FOR ADDITIONAL INFORMATION.
19. ALL PROPOSED VEGETATION WITHIN SIGHT TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SIGHT LINES FROM 30"-10'.

SEEDING - SEE DETAIL SHEET C7.2

SEE DETAIL SHEET C7.2 FOR ADDITIONAL COURTYARD PLANTINGS

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
409 Regency Forest Drive
Suite 103
Cary, North Carolina 27518
Phone: (919) 319-6716
Fax: (919) 319-7516
LA: C-1390
PE: C-1595

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA LANDSCAPE ARCHITECT JAMES GLENN MEDLIN 1861
3/12/19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
BID SET

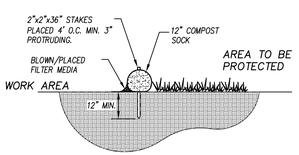
3/26/2019

Revisions:

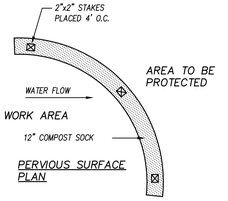
LANDSCAPE PLAN

C6.0

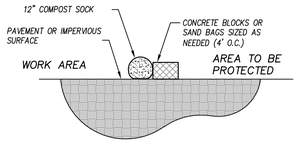
© 2018 Sawyer Sherwood & Associate- All Rights Reserved



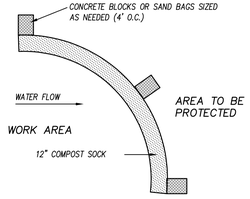
PERVIOUS SURFACE SECTION



PERVIOUS SURFACE PLAN



IMPERVIOUS SURFACE SECTION



IMPERVIOUS SURFACE PLAN

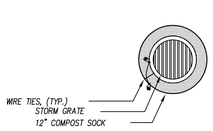
NOTES:

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.

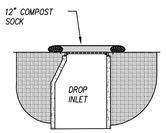
MAINTENANCE NOTES:

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.

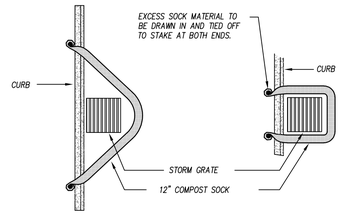
TEMPORARY COMPOST SOCK PERIMETER FENCE N.T.S.



DROP INLET PLAN

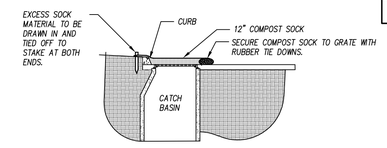


DROP INLET SECTION



CURBSIDE OPTION "A" PLAN

CURBSIDE OPTION "B" PLAN



CURBSIDE SECTION

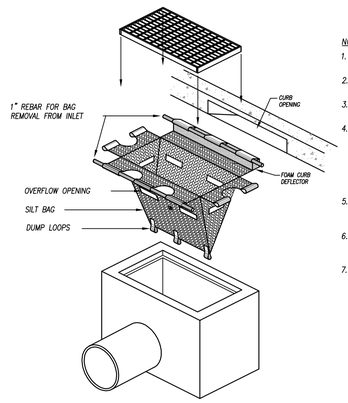
NOTES:

1. MATERIALS TO BE FILTREXX OR APPROVED EQUAL.
2. ALL MATERIAL AND INSTALLATION TO MEET STATE AND LOCAL SPECIFICATIONS.
3. 2"X2" OAK OR OTHER DURABLE HARDWOOD STAKES SHALL BE USED. STAKES SHALL BE PLACES AT A MAXIMUM INTERVAL OF 4 FEET. STAKES SHALL BE DRIVEN TO A MINIMUM DEPTH OF 12 INCHES, WITH A MINIMUM OF 3 INCHES PROTRUDING ABOVE THE COMPOST SOCKS.
4. 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.
5. 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.

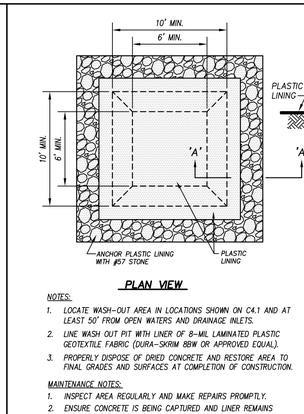
TEMPORARY COMPOST SOCK INLET PROTECTION N.T.S.



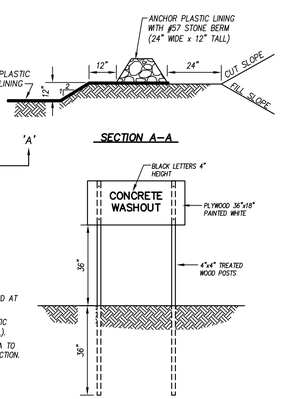
NOTES:

1. CONTRACTOR TO INSPECT SILT BAG EVERY TWO WEEKS OR AFTER EVERY SUBSTANTIAL RAIN EVENT.
2. CONTRACTOR TO REMOVE AND DISPOSE OF COLLECTED SILT AT AN ACCEPTABLE OFF SITE LOCATION.
3. COLLECTED SEDIMENT TO BE REMOVED ROUTINELY TO ENSURE FUNCTIONALITY OF SILT BAG.
4. DEVICE SHALL BE MANUFACTURED FROM WOVEN POLYPROPYLENE GEOTEXTILE TO FIT THE OPENING OF A CATCH BASIN OR DROP INLET TO FILTER SEDIMENT FROM RUNOFF ENTERING THE INLET. DEVICE SHALL BE PROVIDED WITH AN INTEGRAL CURB DEFLECTOR IF INSTALLED AT A CATCH BASIN WITH A VERTICAL OPENING ADJACENT TO A HORIZONTAL GRATE.
5. THE DEVICE SHALL BE A HIGH FLOW "SILTSACK" AS MANUFACTURED BY ACF ENVIRONMENTAL, INC. OR APPROVED EQUAL.
6. INSTALL DEVICE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND INSTALL A CURB DEFLECTOR IF APPROPRIATE.
7. INSPECT DEVICE AFTER EACH RAIN EVENT AND AT INTERVALS NOT EXCEEDING TWO WEEKS DURING CONSTRUCTION. REMOVE, EMPTY, CLEAN, AND REPLACE THE DEVICE AS NEEDED DURING CONSTRUCTION. EMPTY COLLECTED SEDIMENT IN APPROVED, PROTECTED LOCATION. REMOVE AND DISPOSE OF DEVICE FOLLOWING FULL AND PERMANENT STABILIZATION OF THE CONTRIBUTING DRAINAGE AREA.

SILT BAG INLET PROTECTION N.T.S.



PLAN VIEW



SECTION A–A

SIGN DETAIL

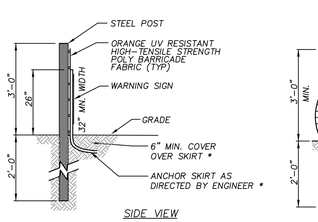
NOTES:

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.

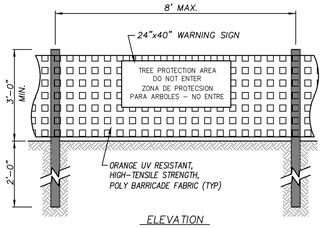
MAINTENANCE NOTES:

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.

CONCRETE WASHOUT AREA N.T.S.



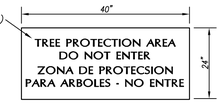
SIDE VIEW



ELEVATION

NOTES:

1. WARNING SIGNS TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL.
2. LETTERS TO BE 3" HIGH MINIMUM, CLEARLY LEGIBLE AND SPACED AS DETAILED.
3. SIGNS SHALL BE PLACED AT 50' MAXIMUM INTERVALS.
4. PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AND 50' 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.
8. ADDITIONAL SIGNS MAY BE REQUIRED BY THE CITY OF RALEIGH INSPECTION DEPARTMENT BASED ON ACTUAL FIELD CONDITIONS.
9. PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AND 50' ON CENTER THEREAFTER.



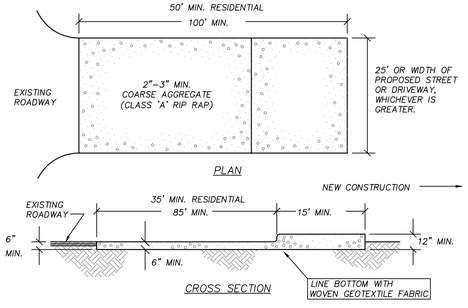
WARNING SIGN DETAIL

FOR TREE PROTECTION ONLY

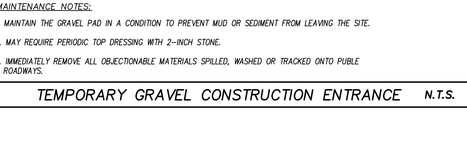
TREE PROTECTION FENCE N.T.S.

NOTES:

1. ENTRANCE(S) SHALL BE LOCATED TO PROVIDE MAXIMUM UTILITY BY ALL CONSTRUCTION VEHICLES.
2. TURNING RADIUS SUFFICIENT TO ACCOMMODATE LARGE TRUCKS IS TO BE PROVIDED.
3. 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.



PLAN



CROSS SECTION

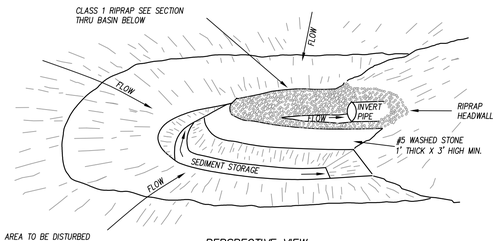
MAINTENANCE NOTES:

1. MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE SITE.
2. MAY REQUIRE PERIODIC TOP DRESSING WITH 2-INCH STONE.
3. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED OR TRACKED ONTO PUBLE ROADWAYS.

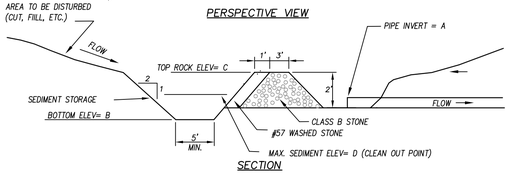
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE N.T.S.

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.

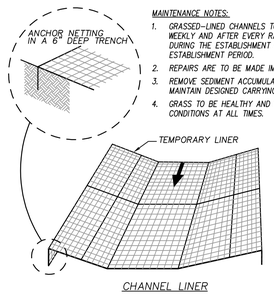


PERSPECTIVE VIEW

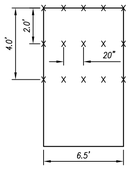


SECTION

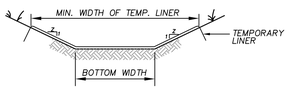
TEMPORARY ROCK PIPE INLET PROTECTION N.T.S.



CHANNEL LINER



EXCELSIOR MAT STAPLE PATTERN NTS



GRASS-LINED CHANNEL NTS

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 TO BE HEALTHY AND IN VIGOROUS CONDITIONS AT ALL TIMES.

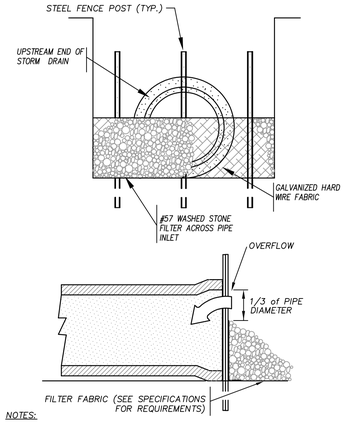
CONSTRUCTION NOTES:

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.

CHANNEL SCHEDULE

CHANNEL	BOTTOM WIDTH (FT)	SIDE SLOPE (H:V)	CHANNEL GRADE	CHANNEL LENGTH	PERM. LINING	TEMP. LINING	MIN. TOP WIDTH OF LINING (FT)
1	2	3:1	15% MAX	55 LF	GRASS	COCONUT MAT	8
2	2	3:1	7% MAX	35 LF	GRASS	COCONUT MAT	8

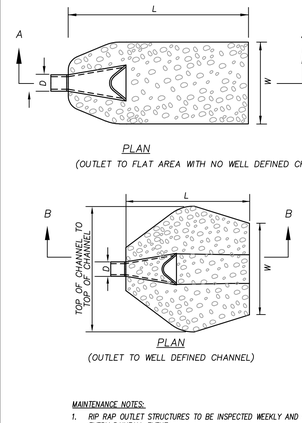
CHANNEL SECTION N.T.S.



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 WITH SPECIFICATIONS PRIOR TO CONTINUANCE OF LAYING PIPE.

STONE FILTER INLET PROTECTION FOR STORM DRAIN UNDER CONSTRUCTION N.T.S.



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.

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
409 Regency Forest Drive
Suite 109
Cary, North Carolina 27518
Phone: (919)319-6716
Fax: (919)319-7516
LA: C-1190
PE: C-1595

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street
Suite 201
Wilmington, NC 28401
Phone: 910.343.8007
Fax: 910.343.8088
www.woodseng.com

NORTH CAROLINA PROFESSIONAL SEAL 22953 ENGINEER KENNETH A. LORING
3-26-19

NHCS Emma B. Trask Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
BID SET

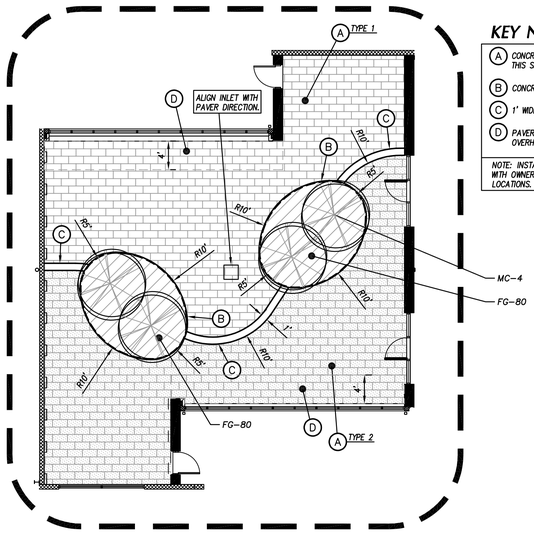
3/26/2019

Revisions:

SITE DETAILS

C7.1

© 2018 Sawyer Sherwood & Associate- All Rights Reserved



KEY NOTES

- (A) CONCRETE PAVERS, SEE SPECIFICATIONS, SEE DETAIL THIS SHEET
- (B) CONCRETE EDGE RESTRAINT, SEE SPECIFICATIONS
- (C) 1' WIDE CONCRETE BAND, SEE DETAIL THIS SHEET
- (D) PAVER MORTAR SETTING BENEATH BUILDING OVERHANG, SEE DETAIL THIS SHEET

NOTE: INSTALL FURNITURE IN COURTYARD. COORDINATE WITH OWNER AND ARCHITECT FOR QUANTITY AND LOCATIONS.

PLANT SCHEDULE

KEY	QTY	PLANT NAME		MINIMUM SIZE	REMARKS
TREES – CANOPY AND UNDERSTORY					
MC	4	SOUTHERN WAX MYRTLE *Myrica cerifera*		10' HT.	TREE FORM MULTI STEMMED
FG	160	BLACK MONDO GRASS *Ophiopogon planiscapus 'Nigrescens'*		1 PINT, CONT.	

COURTYARD ENLARGEMENT PLAN N.T.S.

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.

SUBSTANTIAL COMPLETION (GRASS):

CONTRACTOR SHALL BE RESPONSIBLE FOR LAWN MAINTENANCE AND WATERING UNTIL SUBSTANTIAL COMPLETION. LAWN/TURF SHALL BE CONSIDERED SUBSTANTIALLY COMPLETE WHEN GRASS ESTABLISHMENT IS AT A MIN. 95% COVERAGE AND THE SURFACE COMPLIES WITH THE SLOPE, SMOOTHNESS AND OTHER SPECIFIED TOLERANCES. IF THE MINIMUM REQUIREMENTS ARE NOT MET, SUBSTANTIAL COMPLETION WILL BE DELAYED UNTIL THE MINIMUM REQUIREMENTS ARE MET (POSSIBLY INTO THE FOLLOWING GROWING SEASON). THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR WATERING AND MAINTENANCE OF THE GRASS UNTIL SUBSTANTIAL COMPLETION IS REACHED. SEE SPECIFICATIONS FOR FURTHER INFORMATION.

PERMANENT SEEDING SCHEDULE– BERMUDA SEED

PERMANENT OR TEMPORARY GROUND COVER SHALL BE PROVIDED OVER ALL DISTURBED AREAS OF THE SITE AS SOON AS POSSIBLE, HOWEVER, NO LATER 30 DAYS AFTER CONSTRUCTION ACTIVITIES HAVE PERMANENTLY OR TEMPORARILY CEASED DURING ANY PHASE OF WORK.

TEMPORARY OR PERMANENT GROUND COVER SHALL BE PROVIDED ON ALL SLOPES WITHIN 15 WORKING DAYS OR 30 CALENDAR DAYS AFTER CONSTRUCTION ACTIVITIES PERMANENTLY OR TEMPORARILY CEASED.

DATE	TYPE	PLANTING RATE
AUG 15 – FEB 1	TALL FESCUE AND WINTER RYE (GRAIN)	70 LBS/ACRE 25 LBS/ACRE
APR 1 – AUG 15	TALL FESCUE AND GERMAN MILLET *** OR SUDANGRASS (SMALL–STEMMED VAR.) ***	120 LBS/ACRE 25 LBS/ACRE 30 LBS/ACRE

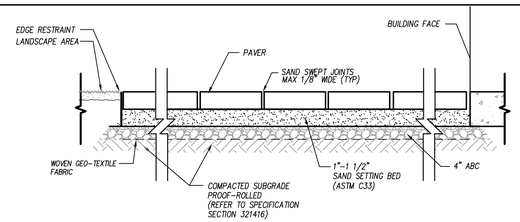
CONSULT CONSERVATION ENGINEER OR SOIL CONSERVATION SERVICE FOR ADDITIONAL INFORMATION CONCERNING OTHER ALTERNATIVES FOR VEGETATION OF DENUDED AREAS. THE ABOVE VEGETATION RATES ARE THOSE WHICH DO WELL UNDER LOCAL CONDITIONS; OTHER SEEDING RATE COMBINATIONS ARE POSSIBLE.

***TEMPORARY – RESEED ACCORDING TO OPTIMUM SEASON FOR DESIRED PERMANENT VEGETATION. DO NOT ALLOW TEMPORARY COVER TO GROW OVER 12" IN HEIGHT BEFORE MOWING.

TEMPORARY SEEDING SCHEDULE

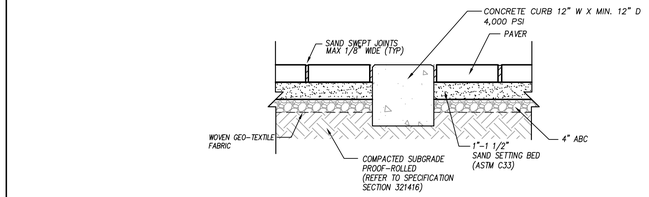
1. CHISEL ALL CUT GRADED OR COMPACTED AREAS TO A MINIMUM DEPTH OF 8".
2. DISC ALL AREAS TO RECEIVE GRASS TO A MINIMUM OF 8 INCHES, MIX AND AMEND WITH 3 INCHES OF WELL SCREENED TOPSOIL. ON-SITE TOPSOIL MAY BE USED IN PLACE OF IMPORTED TOPSOIL, IF WELL-SCREENED AND DRY PRIOR TO APPLICATION IN ACCORDANCE 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.

SEEDBED PREPARATION



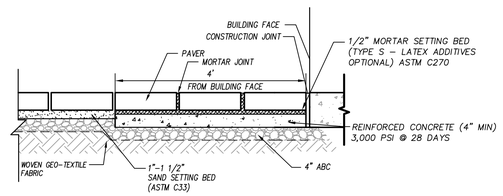
SECTION

PAVER SETTING AT BUILDING AND LANDSCAPE EDGE N.T.S.



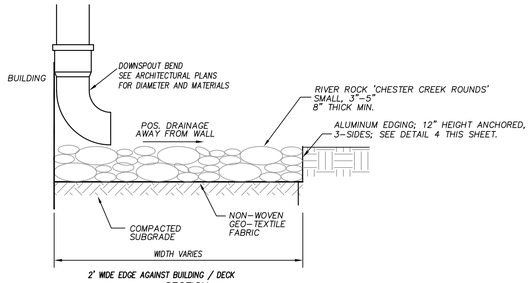
SECTION

PAVER SETTING AT CONCRETE CURB N.T.S.



SECTION

PAVER MORTAR SETTING BENEATH BUILDING OVERHANG N.T.S.



2' WIDE EDGE AGAINST BUILDING / DECK

SECTION

ROOF DRAIN SPLASH PAD N.T.S.

1. LOCATE ALL EXISTING UTILITIES PRIOR TO INSTALLATION OF PLANT MATERIAL. NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES BETWEEN 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. CONTACT THE LANDSCAPE ARCHITECT FOR INSPECTION 48 HOURS IN ADVANCE OF THE SCHEDULED SITE VISIT AND AT THE FOLLOWING INTERVALS:
   - REVIEW OF GRADING PRIOR TO PLANT AND LAWN INSTALLATION
   - REVIEW OF PLANT MATERIAL PRIOR TO INSTALLATION.
   - ONE SUBSTANTIAL COMPLETION MEETING FOR PLANT INSTALLATION.
   - ONE FINAL INSPECTION FOR ALL SEEDING/PLANTING OPERATIONS.
4. ALL PLANT MATERIAL SHALL CONFORM WITH THE STANDARDS SET FORTH BY THE AMERICAN ASSOCIATION OF NURSERYMEN AND THE WRITTEN SPECIFICATIONS.
5. ESTABLISH POSITIVE DRAINAGE IN ALL PLANTING BEDS AND AWAY FROM BUILDING.
6. APPLY PRE–EMERGENT HERBICIDE TO ALL NEW PLANTING BEDS AT MANUFACTURER'S RECOMMENDED RATE PRIOR TO INSTALLATION OF PLANT MATERIAL.
7. DO NOT INSTALL PLANT MATERIAL IN IMPERVIOUS SOILS (i.e. HOLES WHICH WHEN FILLED WITH WATER, DO NOT COMPLETELY DRAIN WITHIN TWO HOURS).
8. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING ALL PLANTS AND LAWN AREAS AT HIS COST FROM HIS OWN WATER SOURCE INCLUDING DURING PERIODS OF DROUGHT UNTIL FINAL COMPLETION. ANY WATERING OR MAINTENANCE REQUIRED AFTER FINAL COMPLETION SHALL BE AT OWNER'S COST.
9. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ALL EQUIPMENT & SUBCONTRACTORS AWAY FROM SEEDED AREAS. IF DAMAGE OCCURS, THROUGH NO FAULT OF THE OWNER, AREAS SHALL BE REGRADED AND RESEEDED IMMEDIATELY AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL WATER AND MAINTAIN THOSE AREAS UNTIL THEY ARE AT 95% COVERAGE AT SUBSTANTIAL COMPLETION.
10. 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.

SEEDING

11. GENERAL LAWN AREAS SHALL BE SEEDED WITH SUNSTAR OR RIVERIA BERMUDAGRASS OR APPROVED EQUAL.
12. 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.

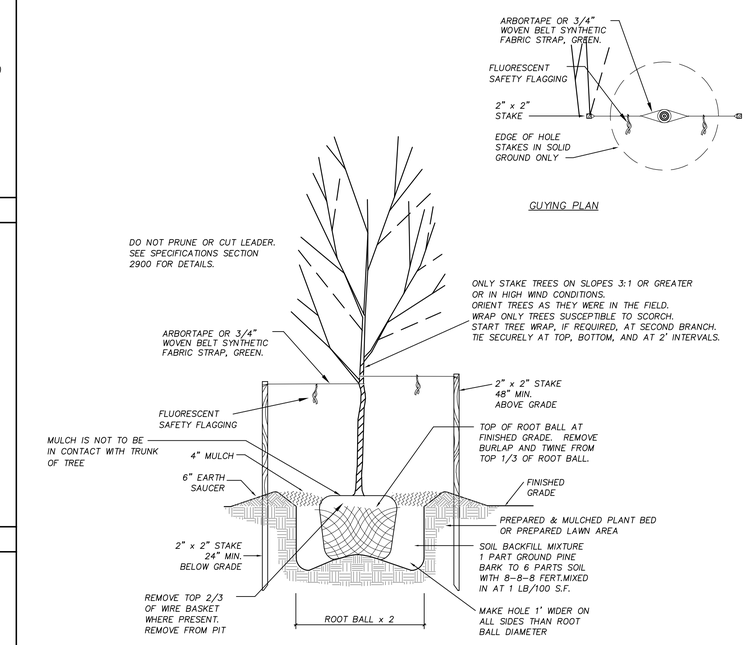
LANDSCAPE NOTES

APPLY LIME AND FERTILIZER ACCORDING TO SOIL TESTS, OR APPLY A MINIMUM 3,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE 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.

LIME & FERTILIZATION SCHEDULE

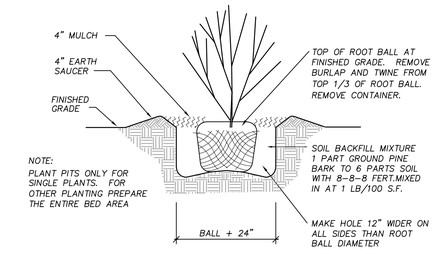
1. DURING ALL PHASES OF CONSTRUCTION, GROUNDCOVER ON EXPOSED SLOPES SHALL BE PROVIDED WITHIN 14 CALENDAR DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING.
2. FINAL PERMANENT GROUNDCOVER FOR ALL DISTURBED AREAS SHALL BE PROVIDED ON ALL DISTURBED AREAS WITHIN 14 CALENDAR DAYS FOLLOWING COMPLETION OF CONSTRUCTION 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.

SURFACE STABILIZATION REQUIREMENTS

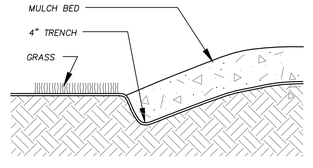


GUYING PLAN

TREE PLANTING DETAIL

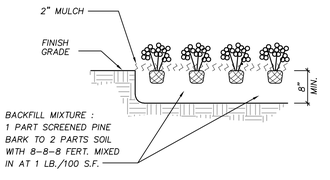


TYPICAL SHRUB PLANTING DETAIL



TO BE APPLIED TO ALL PLANTING BEDS

GROUND COVER PLANTING DETAIL



GROUND COVER PLANTING DETAIL

PLANTING DETAILS

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
409 Regency Forest Drive Suite 109
Cary, North Carolina 27518
Phone: (919)319-6716
Fax: (919)319-7516
LA: C-590
PE: C-1595

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA LANDSCAPE ARCHITECT 1861 JAMES GLENN MELLIN 3/26/19

NHCS Emma B. Trask Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
BID SET

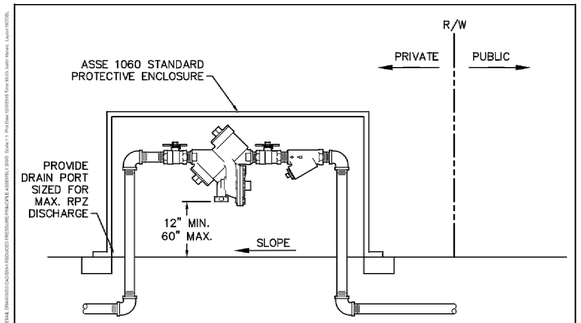
3/26/2019

Revisions:

SITE DETAILS

C7.2

© 2018 Sawyer Sherwood & Associate- All Rights Reserved

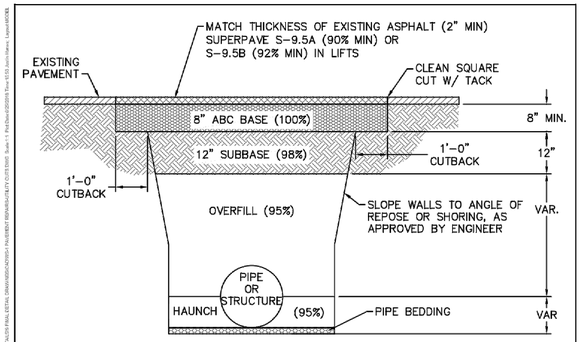


NOTES:
1. MUST BE MIN. 36" AWAY FROM ANY ELECTRICAL PANEL.
2. VALVE REQUIRED DOWNSTREAM OF BACKFLOW ASSEMBLY.
3. VERTICAL INSTALLATION SHALL BE DESIGNED AND SUBMITTED TO CFPUA EMD FOR APPROVAL.
4. LOCATE AS NEAR TO RIGHT-OF-WAY AS POSSIBLE.
5. MUST COMPLETE CFPUA'S BACKFLOW INSTALLATION FORM. CONTACT COMMUNITY COMPLIANCE AT 910-332-6558 OR COMMUNITY.COMPLIANCE@CFPUA.ORG.
6. ONLY IN-LINE TESTABLE ASSEMBLIES APPROVED BY THE USC FOUNDATION FOR CROSS CONNECTION CONTROL OR ASSE SHALL BE ACCEPTED.

OUTDOOR HORIZONTAL INSTALLATION

DETAIL: REDUCED PRESSURE PRINCIPLE ASSEMBLY		DETAIL NO: EM-1
SCALE: NOT TO SCALE	CFPUA DETAIL DATE: 01/01/19	SHEET NO: -
CFPUA REV. No: 1		

CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910)332-6560
Stewardship. Sustainability. Service.

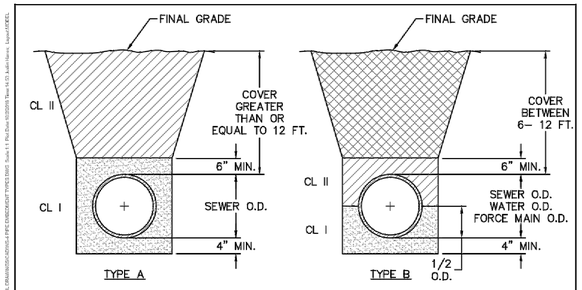


NOTES:
1. CONTRACTOR SHALL ENSURE BOTTOM OF TRENCH IS SUITABLE FOR INSTALLATION AND DOES NOT REQUIRE FOUNDATION CONDITIONING STONE.
2. FILL SHALL BE SUITABLE MATERIAL THAT IS FREE FROM HEAVY CLAY, GUMBOS, DEBRIS, ORGANICS AND LITTLE TO NO EXCESSIVE MOISTURE.
3. SELECT BACKFILL MAY BE SUBSTITUTED OR REQUIRED BY CITY TO ACHIEVE COMPACTION, (I.E. #57 STONE, ABC, CRUSHED LIMESTONE, CLEAN SAND, FLOWABLE FILL, ETC).
4. SOIL SHALL BE INSTALLED IN 6"-8" LIFTS AND COMPACTED BY A MECHANIZED TAMPER (I.E. JUMPING JACK). HOWEVER, VIBRATORY ROLLERS > 18" WIDTH MAY BE USED FOR LARGER EXCAVATIONS. THE PLATE TAMP METHOD SHALL NOT BE USED.
5. ALL APPROVED CASTINGS SHALL BE SET FLUSH TO GRADE AND SUPPORTED IF APPLICABLE.
6. COMPACT MATERIALS TO MINIMUM % DENSITY SHOWN IN DIAGRAM AS DETERMINED BY THE STANDARD PROCTOR METHOD ASTM D-698-A FOR SOILS, AND ASTM D-698-C FOR ABC STONE, AND BY NUCLEAR GAGE OR CORE SAMPLE FOR ASPHALT.
7. CUTBACKS OF ASPHALT SHALL BE PREPARED ON EDGE OF EXCAVATION OVER TOP OF UNDISTURBED SOIL.

(FOR PRIVATE ROADS AND PAVED AREAS; CONTRACTOR TO MEET MINIMUM REQUIREMENTS AS DEFINED BY RIGHT-OF-WAY OWNER FOR PUBLIC ROAD REPAIRS)

DETAIL: CITY OF WILMINGTON PAVEMENT REPAIRS-UTILITY CUTS		DETAIL NO: WS-1
SCALE: NOT TO SCALE	CFPUA DETAIL DATE: 01/01/19	SHEET NO: -
CFPUA REV. No: 1		

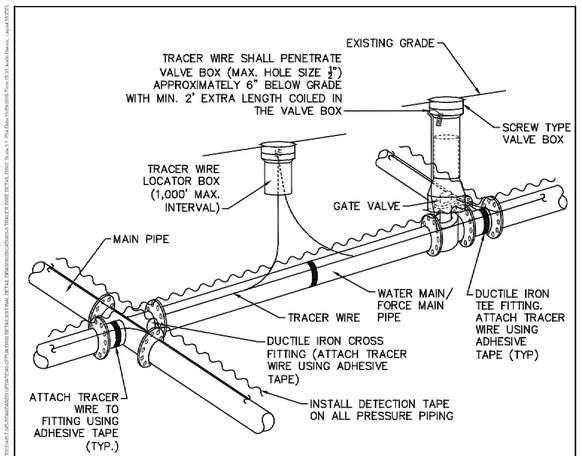
CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910)332-6560
Stewardship. Sustainability. Service.



COMPACTION NOTES:
1. ALL ZONES: 95% STD EFFORT PER ASTM D698, EXCEPT AS STATED IN COMPACTION NOTE 2.
2. 12" SUBGRADE UNDER PAVEMENT: 98% STD EFFORT PER ASTM D698.

DETAIL: PIPE EMBEDMENT TYPES		DETAIL NO: WS-4
SCALE: NOT TO SCALE	CFPUA DETAIL DATE: 01/01/19	SHEET NO: -
CFPUA REV. No: 1		

CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910)332-6560
Stewardship. Sustainability. Service.



NOTES:
1. TRACER WIRE SHALL BE #10 COPPER SOLID CORE COPPER WIRE WITH GAS AND OIL RESISTANT INSULATION AND DIRECT BURY RATING.
2. WIRE SHALL BE STRAPPED TO ALL PVC PIPING WITH ADHESIVE TAPE AT 12 FOOT INTERVALS.
3. SECURE WIRE TO ALL TEE AND CROSS FITTINGS WITH ADHESIVE TAPE.
4. ALL SPLICES IN THE WIRE SHALL BE MADE WITH 3M DBR DIRECT BURY SPLICE KITS.

DETAIL: TRACER WIRE DETAIL		DETAIL NO: WS-6
SCALE: NOT TO SCALE	CFPUA DETAIL DATE: 01/01/19	SHEET NO: -
CFPUA REV. No: 1		

CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910)332-6560
Stewardship. Sustainability. Service.

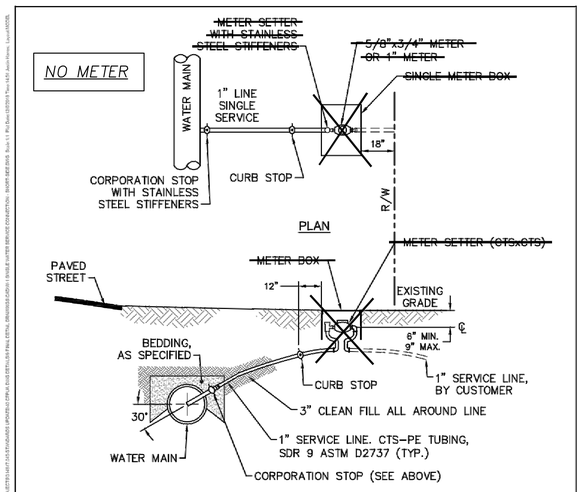
CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD NOTES:

1. ALL PROPOSED ADDITIONS TO THE CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA) WATER DISTRIBUTION AND SANITARY SEWER COLLECTION SYSTEMS, AS SHOWN AND SPECIFIED HEREIN, SHALL BE DESIGNED AND CONSTRUCTED TO CONFORM TO STATE RULES AND THE CFPUA'S MINIMUM TECHNICAL STANDARDS. THE CFPUA MINIMUM TECHNICAL STANDARDS ARE CONTAINED IN THE CURRENT DESIGN GUIDANCE MANUAL, MATERIAL SPECIFICATION MANUAL, TECHNICAL SPECIFICATIONS FOR CONSTRUCTION, AND STANDARD DRAWING DETAILS.
2. SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
3. WATER AND SEWER SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE 18" INSIDE RIGHT-OF-WAY LINE. SEWER SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN END OF LINE MANHOLE AND TERMINATE 18" INSIDE RIGHT-OF-WAY LINE.
4. ALL SEWER SERVICES CONNECTING INTO DUCTILE IRON MAINS SHALL ALSO BE CONSTRUCTED OF DIP.
5. MINIMUM 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN FOR NEW DEVELOPMENTS.
6. NO FLEXIBLE COUPLINGS SHALL BE USED.
7. ALL STAINLESS STEEL FASTENERS SHALL BE TYPE 316.
8. CLEANOUTS SHALL BE LOCATED A MINIMUM OF 12 FEET FROM ALL PROPERTY CORNERS.
9. WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNER.
10. UNUSED SERVICES SHALL BE ABANDONED. ABANDONED WATER SERVICES SHALL BE DISCONNECTED FROM MAIN.
11. A MINIMUM OF 10' OF MAIN LINE SHALL BE REPLACED FOR NEW CONNECTIONS TO EXISTING CLAY GRAVITY SEWER MAINS.

DETAIL: STANDARD NOTES (REQUIRED ON ALL PLAN AND PROFILE SHEETS)		DETAIL NO: WS-14
SCALE: NOT TO SCALE	CFPUA DETAIL DATE: 01/02/19	SHEET NO: -
CFPUA REV. No: 2		

CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910)332-6560
Stewardship. Sustainability. Service.

NO METER



SECTION

NOTES:
1. NO JOINT SHALL BE INSTALLED BETWEEN THE MAIN SERVICE TAP AND THE METER STOP. ALL SERVICES SHALL BE INSTALLED PERPENDICULAR TO MAIN.
2. SERVICE SADDLES ON PVC MAINS SHALL BE WIDE BAND BRASS BODY.
3. METER BOXES SUBJECT TO TRAFFIC LOADS SHALL CONFORM TO ASTM A48, CLASS 30B AND AASHTO H20 LOAD RATING STANDARDS.
4. WATER SERVICE LINE SHALL TERMINATE 18" WITHIN RIGHT-OF-WAY LINE.
5. ~~WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNER.~~
6. ~~SERVICE PIPING AND METER SETTER TO BE CENTERED IN THE METER BOX.~~

DETAIL: SINGLE WATER SERVICE CONNECTION - TYPICAL SHORT-SIDE CONNECTION		DETAIL NO: W-1
SCALE: NOT TO SCALE	CFPUA DETAIL DATE: 01/01/19	SHEET NO: -
CFPUA REV. No: 1		

CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910)332-6560
Stewardship. Sustainability. Service.

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-6716
Fax: (919) 319-7510
LA: C-1061
PE: C-1061

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street
Suite 201
Wilmington, NC 28401
Phone: 910.343.8007
Fax: 910.343.8088
www.woodseng.com

NORTH CAROLINA PROFESSIONAL SEAL 22953 ENGINEER KENNETH A. LORING
3-26-19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
BID SET

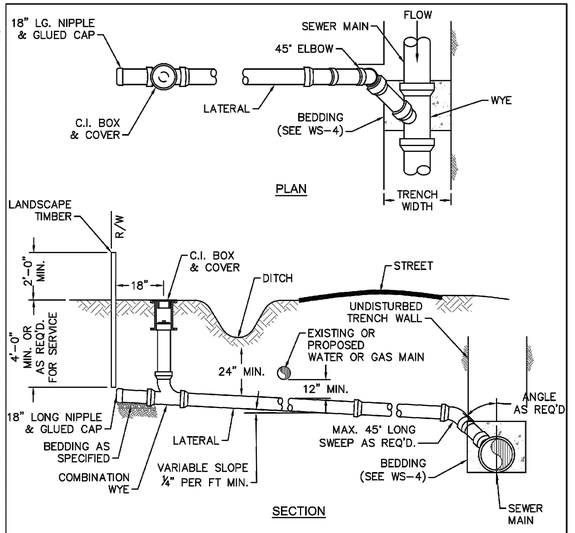
3/26/2019

Revisions:

SITE DETAILS

C7.3

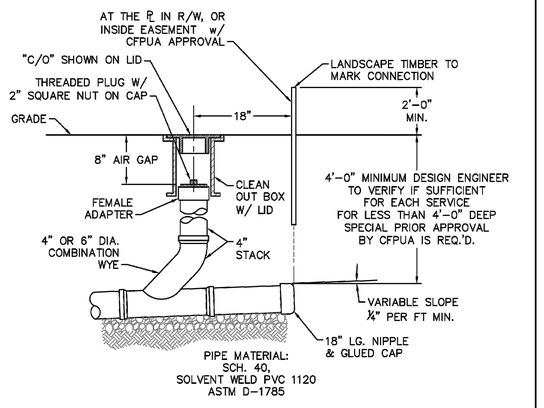
© 2018 Sawyer Sherwood & Associate- All Rights Reserved



NOTES:

1. SEWER SERVICES SHALL BE PERPENDICULAR TO MAIN. SEWER SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN END OF LINE MANHOLE AND TERMINATE AT RIGHT-OF-WAY LINE.
2. ALL SERVICES CONNECTING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED OF DIP, WITH PROTECTIVE LINING.
3. CLEANOUTS SHALL BE LOCATED A MINIMUM OF 12 FEET FROM ALL PROPERTY CORNERS.
4. MINIMUM 1'-6" NIPPLE SPACING BETWEEN FITTINGS.
5. FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR CONNECTION TO MAIN.

DETAIL: SEWER SERVICE CONNECTION - LONG-SIDE		CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560 Stewardship. Sustainability. Service.	DETAIL NO: S-10
SCALE: NOT TO SCALE	CFPUA DETAIL DATE: 01/01/19		SHEET NO: -
CFPUA REV. No: 1			

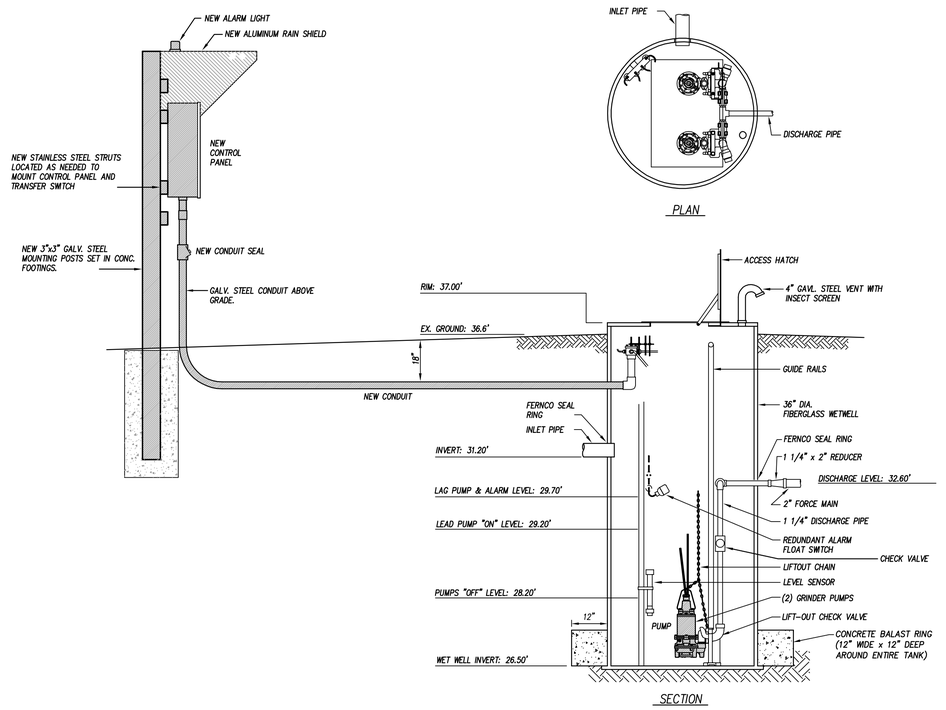


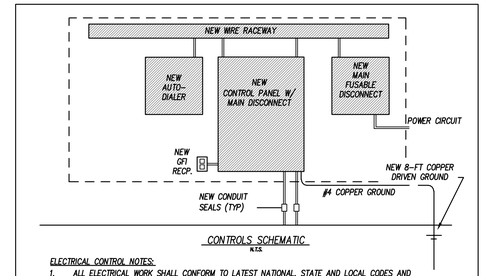
NOTES:

1. FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR CONNECTION TO SYSTEM AND AT THE PROPERTY LINE, WITH REQUIRED EASEMENT.
2. CLEANOUTS SHALL BE LOCATED A MINIMUM OF 12 FEET FROM ALL PROPERTY CORNERS.

DETAIL: SEWER SERVICE CONNECTION - TYPICAL CLEAN-OUT		CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560 Stewardship. Sustainability. Service.	DETAIL NO: S-13
SCALE: NOT TO SCALE	CFPUA DETAIL DATE: 01/01/19		SHEET NO: -
CFPUA REV. No: 1			

CFPUA DETAILS 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 ACCOMODATE EQUIPMENT.
3. ALL ENCLOSURES SHALL BE NEMA 4 RATED AND LOCKABLE.
4. ALL CONDUITS SHALL BE SEALED TO PREVENT MOISTURE, SEWER GASES, ETC. FROM ENTERING EQUIPMENT ENCLOSURES.
5. NO EQUIPMENT SHALL BE MOUNTED LESS THAN 36-IN ABOVE GRADE.

CONTROL FEATURES:

ENCLOSURE:	NEMA 4X
AUTO DIALER:	YES
ALARM HORN:	YES
ALARM STROBE:	YES
GFI DUPLEX RECEP.:	YES

ALTERNATE POWER SOURCE:

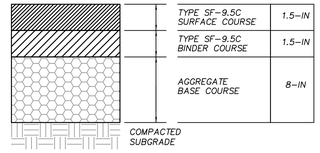
GENERATOR:	NO, NOT REQUIRED
MANUAL TRANS. SWITCH:	N/A

PUMP SPECIFICATION:

MANUFACTURER:	LIBERTY PUMPS
MODEL:	OMNIVORE 0.3593 LSG 203
PUMP TYPE:	SUBMERSIBLE GRINDER
SOLIDS HANDLING:	GRINDER
DISCHARGE:	1.25-IN
NO. OF PUMPS:	3 (2 INSTALL, 1 SPARE)
PRIMARY DESIGN FLOW:	30-50 GPM
PRIMARY DESIGN HEAD:	25-40 FT
MIN. SHUT-OFF HEAD:	80-FT
MOTOR HORSEPOWER:	2-HP
MOTOR SPEED:	3,450-RPM
ELECTRICAL:	208-V, 3-PH, 60-HZ

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

PUMP STATION N.T.S.



NOTES:

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. 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.
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.
6. USE .5-IN B25.0C BASE COURSE IN LIEU OF 8"ABC WHEN WIDTH OF PAVEMENT IS 6-FT OR LESS.

ASPHALT PAVEMENT N.T.S.

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-6716
Fax: (919) 319-7516
LA: C-190
PE: C-1595

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL SEAL 22953 ENGINEER KENNETH A. LORING
3-26-19

NHCS Emma B. Trask Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
BID SET

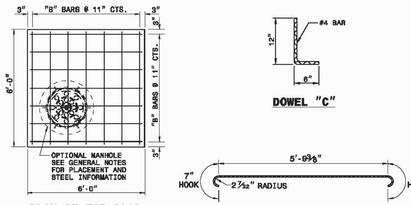
3/26/2019

Revisions:

SITE DETAILS

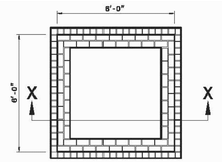
C7.4

© 2018 Sawyer Sherwood & Associate- All Rights Reserved

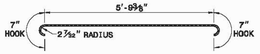


PLAN OF TOP SLAB

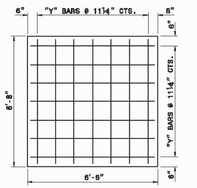
DOWEL "C"



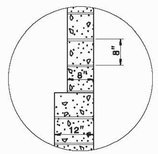
PLAN
(WITHOUT TOP)



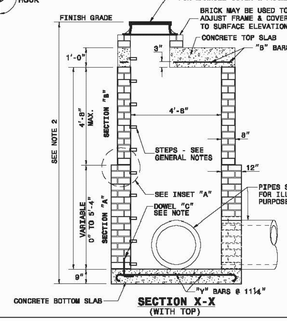
"Y" BARS
BAR DIMENSIONS ARE OUT TO OUT



PLAN OF BOTTOM SLAB



INSET "A"
CONCRETE BLOCK



SECTION X-X
(WITH TOP)

NOTE 1: CONSTRUCT SECTION "B" OF THE PROPOSED WALL 8" THICK. AND SECTION "A" 12" THICK.
NOTE 2: IF PROPOSED STRUCTURE EXCEEDS 12'-0" VERTICAL HEIGHT A DESIGN WILL BE REQUIRED FOR APPROVAL.
NOTE 3: USE SINGLE MAT REINFORCING STEEL: EXCEPT DOUBLE MAT STEEL MAY BE USED IN LIEU OF HOOK BARS IN BASE SLAB.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR
TRAFFIC BEARING JUNCTION BOX
FOR USE WITH PIPES 42" AND UNDER

SHEET 1 OF 2
840.34

GENERAL NOTES:

USE STANDARD OR JUMBO BRICK FOR WALL CONSTRUCTION. SOLID CONCRETE BRICK OR BLOCK ARE OPTIONAL WALL CONSTRUCTION MATERIAL

INCLUDE ALL ADJUSTMENTS TO WALLS, SLABS OR REINFORCING MATERIAL IN THE UNIT PRICE BID FOR EACH UNIT.

INSTALL OPTIONAL MANHOLE IN POSITION AS DIRECTED BY THE ENGINEER. CUT OR BEND ALL REBAR CROSSING THIS OPENING TO ALLOW 2" MINIMUM CONCRETE COVERAGE. ENCLOSE THE OPENING WITH 8 "A" BARS TIED TO TO THE REBAR MAT AND SET SO A MINIMUM OF 3" CONCRETE COVER IS ATTAINED. REFERENCE STD. NO. 840.54 FOR MANHOLE INFORMATION.

PROVIDE JUNCTION BOXES WITH MANHOLES OVER 3'-6" IN DEPTH WITH STEPS PLACED ON 12" CENTERS. REFERENCE STD. NO. 840.66.

SPACE DOWEL "C" BARS AT A MAXIMUM OF 12" CENTERS.

MAXIMUM DEPTH OF THIS UNIT AS SHOWN IS 12'.

CONSTRUCT THE JUNCTION BOX IN ACCORDANCE WITH SECTIONS 830, 832, 834 AND 840 OF THE STANDARD SPECIFICATIONS.

BILL OF MATERIAL

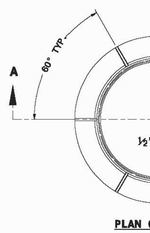
BAR	QTY.	SIZE	LENGTH	WEIGHT
A	8	#5	1'-2"	9.7
B	14	#6	5'-8"	80.3
C	28	#4	1'-8"	28.1
Y	14	#6	6'-11⅜"	101.5
STEEL TOTAL WEIGHT				217.6
CU. YDS. CLASS "AA" CONC.				2.6
CU. YDS. BRICK/FT. HT. (8")				0.53
CU. YDS. BRICK/FT. HT. (12")				0.84

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

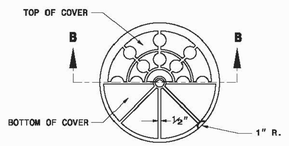
ROADWAY STANDARD DRAWING FOR
TRAFFIC BEARING JUNCTION BOX
FOR USE WITH PIPES 42" AND UNDER

SHEET 2 OF 2
840.34

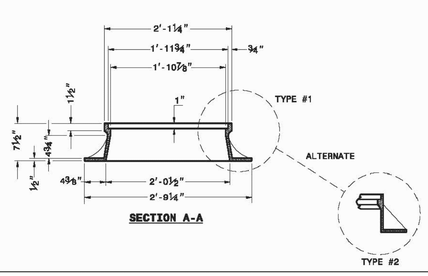


PLAN OF FRAME

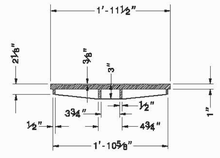
SOLID COVER SHOWN PERFORATED. PERFORATED AVAILABLE IF SPECIFIED.
STATE USE OF SYSTEM ON COVER (I.E.: SEWER, STORM DRAIN, ELECTRICAL)



PLAN OF COVER



SECTION A-A



SECTION B-B

MINIMUM WEIGHTS - LBS.
FRAME - 180
COVER - 120
TOTAL - 300

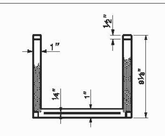
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

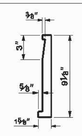
ROADWAY STANDARD DRAWING FOR
MANHOLE FRAME AND COVER

SHEET 1 OF 1
840.54

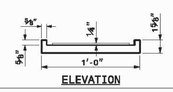
NOTES:
INSTALL ALL STEPS PROTRUDING 4" FROM INSIDE FACE OF STRUCTURE WALL.
STEPS DIFFERING IN DIMENSIONS, CONFIGURATION, OR MATERIALS FROM THOSE SHOWN MAY ALSO BE USED PROVIDED THE CONTRACTOR HAS FURNISHED THE ENGINEER WITH DETAILS OF THE PROPOSED STEPS AND HAS RECEIVED WRITTEN APPROVAL FROM THE ENGINEER FOR THE USE OF SUCH STEPS.



PLAN

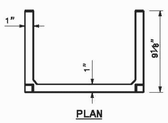


SIDE ELEVATION

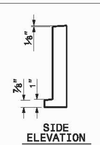


ELEVATION

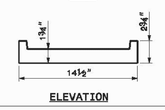
CAST IRON



PLAN

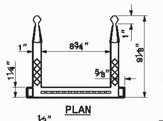


SIDE ELEVATION



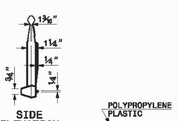
ELEVATION

CAST IRON

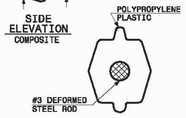


PLAN

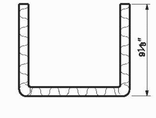
ELEVATION



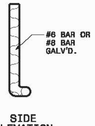
SIDE ELEVATION
COMPOSITE



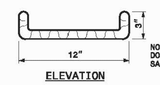
SECTION A-A



PLAN



SIDE ELEVATION



ELEVATION

REINFORCING STEEL

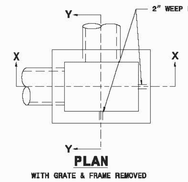
NOTE:
DO NOT USE IN SANITARY SEWER MANHOLES.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

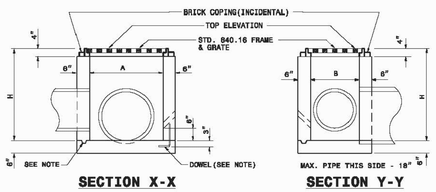
ROADWAY STANDARD DRAWING FOR
DRAINAGE STRUCTURE STEPS

SHEET 1 OF 1
840.66



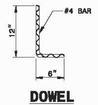
PLAN
WITH GRATE & FRAME REMOVED

GENERAL NOTES:
USE CLASS "B" CONCRETE THROUGHOUT.
PROVIDE ALL DROP INLETS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.
OPTIONAL CONSTRUCTION - MONOLITHIC POUR. 2" KEYWAY OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.
USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.
IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.
CONSTRUCT WITH PIPE CROWNS MATCHING.
SEE STANDARD DRAWING 840.28 FOR ATTACHMENT OF FRAMES AND GRATES NOT SHOWN.
INSTALL 2" WEEPHOLES AS DIRECTED BY THE ENGINEER.
INSTALL STONE DRAINS, OF A MINIMUM OF 1 CUBIC FOOT OF NO. 78M STONE IN A PONOUS FABRIC BAG OR WRAP, AT EACH WEEP HOLE OR AS DIRECTED BY THE ENGINEER.
CHAMFER ALL EXPOSED CORNERS 1".
DRAWING NOT TO SCALE.



SECTION X-X

SECTION Y-Y



DOWEL

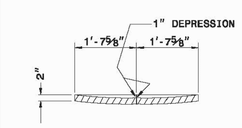
DIMENSIONS AND QUANTITIES FOR DROP INLET(BASED ON MIN. HEIGHT, H)								
DIMENSIONS OF BOX & PIPE				CUBIC YARDS CONC. IN BOX			DEDUCTIONS FOR ONE PIPE	
PIPE	SPAN	WIDTH	MIN. HEIGHT	BOTTOM SLAB	WALL PER FT. HT.	ADDITIONAL CONCRETE FOR MINIMUM HEIGHT, H	C.M.	R.C.
D	A	B	H					
12"	3'-0"	2'-0"	2'-0"	0.222	0.222	0.592	0.015	0.026
15"	〃	〃	2'-3"	〃	〃	0.648	0.023	0.036
18"	〃	〃	2'-6"	〃	〃	0.703	0.033	0.049
24"	〃	〃	3'-0"	〃	〃	0.814	0.059	0.085
30"	3'-0"	2'-0"	3'-6"	0.222	0.222	0.925	0.092	0.127

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

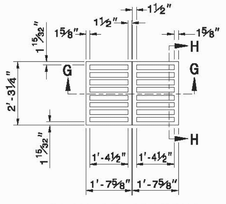
1-18

ROADWAY STANDARD DRAWING FOR
CONCRETE DROP INLET
12" THRU 30" PIPE

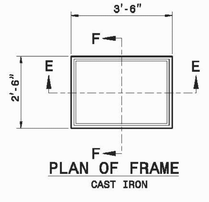
SHEET 1 OF 1
840.14



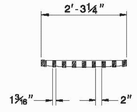
SECTION G-G



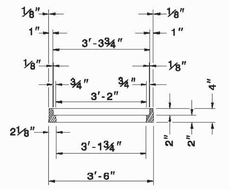
PLAN OF GRATING
CAST IRON



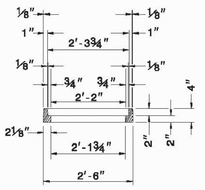
PLAN OF FRAME
CAST IRON



SECTION H-H



SECTION E-E



SECTION F-F

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR
DROP INLET FRAME AND GRATES
FOR USE WITH STD. DWG.S 840.14 AND 840.15

SHEET 1 OF 1
840.16

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
409 Regency Forest Drive
Suite 109
Cary, North Carolina 27518
Phone: (919) 319-6716
Fax: (919) 319-7516
LA: C-1190
PE: C-1195

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street
Suite 201
Wilmington, NC 28401
Phone: 910.343.8007
Fax: 910.343.8088
www.woodseng.com

NORTH CAROLINA PROFESSIONAL SEAL 22953 ENGINEER KENNETH A. LORING
3-26-19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
BID SET

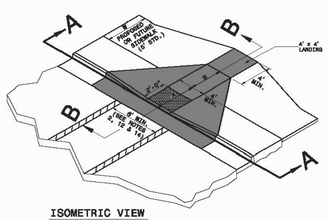
3/26/2019

Revisions:

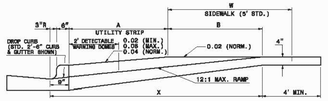
SITE DETAILS

C7.5

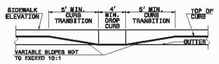
© 2018 Sawyer Sherwood & Associate- All Rights Reserved



ISOMETRIC VIEW



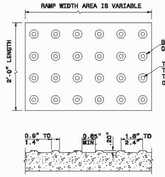
SECTION B-B



SECTION A-A

PAY LIMITS FOR CURB RAMP

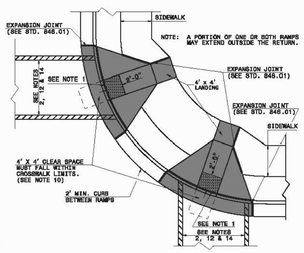
NOTES:
1. DETECTABLE WARNING DOMES WILL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
2. DETECTABLE WARNING DOMES WILL CONTRAST VISIBILITY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



DETECTABLE WARNING DOMES

W	A	W+A=9"	X	B
6'	0.0'	8.8'	6.8'	5.0"*
6'	0.0'	8.8'	6.8'	6.0"**
7'	0.0'	7.8'	7.5'	8.5"**
8'	0.0'	8.8'	7.3'	8.5"**
5'	2.0'	7.8'	7.8'	5.0'
6'	2.5'	8.3'	8.1'	4.8'
6'	3.0'	8.8'	8.3'	4.4'
6'	3.5'	9.3'	8.4'	4.1'
5'	4.0'	8.8'	8.6'	3.5'
5'	4.5'	10.3'	9.7'	3.4'
5'	5.0'	10.8'	9.9'	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 SLOPES 0.04.



PLAN VIEW
DUAL RAMPS
ANY RADII
(4' MIN. FLOOR WIDTH)

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR
CURB RAMP
PROPOSED CURB AND GUTTER

SHEET 1 OF 3
848.05

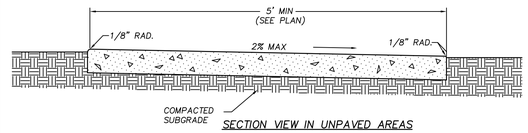
NOTES:
1. CONSTRUCT THE RAMP SURFACE TO BE STABLE, FIRM, AND SLIP RESISTANT. CONSTRUCT THE CURB RAMP TYPE AS SHOWN IN THE PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER.
2. LOCATE CURB RAMPS AND PLACE PEDESTRIAN CROSSWALK MARKINGS AS SHOWN IN THE PAVEMENT MARKING PLANS. WHEN FIELD ADJUSTMENTS REQUIRE MOVING CURB RAMPS OR MARKINGS AS SHOWN, CONTACT THE SIGNING AND DELINEATION UNIT OR LOCATE AS DIRECTED BY THE ENGINEER.
3. COORDINATE THE CURB RAMP AND THE PEDESTRIAN CROSSWALK MARKINGS SO A 4'x4' CLEAR SPACE AT THE BASE OF THE CURB RAMP WILL FALL WITHIN THE PEDESTRIAN CROSSWALK LINES.
4. SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL LANE IS 4' MINIMUM.
5. REFER TO THE PAVEMENT MARKING PLANS FOR STOP BAR LOCATIONS AT SIGNALIZED INTERSECTIONS. IF A PAVEMENT MARKING PLAN IS NOT PROVIDED, CONTACT THE SIGNAL DESIGN SECTION FOR THE STOP BAR LOCATIONS OR LOCATE AS DIRECTED BY THE ENGINEER.
6. TERMINATE PARKING A MINIMUM OF 20' BACK OF A PEDESTRIAN CROSSWALK.
7. CONSTRUCT CURB RAMPS A MINIMUM OF 4' WIDE.
8. CONSTRUCT THE RUNNING SLOPE OF THE RAMP 8.33% MAXIMUM.
9. ALLOWABLE CROSS SLOPE ON SIDEWALKS AND CURB RAMPS WILL BE 2% MAXIMUM.
10. CONSTRUCT THE SIDE FLARE SLOPE A MAXIMUM OF 10% MEASURED ALONG THE CURB LINE.
11. CONSTRUCT THE COUNTER SLOPE OF THE GUTTER OR STREET AT THE BASE OF THE CURB RAMP A MAXIMUM OF 5% AND MAINTAIN A SMOOTH TRANSITION.
12. CONSTRUCT LANDINGS FOR SIDEWALK A MINIMUM OF 4'x4' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION. CONSTRUCT LANDINGS FOR MEDIAN ISLANDS A MINIMUM OF 5'x5' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
13. TO USE A MEDIAN ISLAND AS A PEDESTRIAN REFUGE AREA, MEDIAN ISLANDS WILL BE A MINIMUM OF 6' WIDE. CONSTRUCT MEDIAN ISLANDS TO PROVIDE PASSAGE OVER OR THROUGHT THE ISLAND.
14. SMALL CHANNELIZATION ISLANDS THAT CAN NOT PROVIDE A 5'X5' LANDING AT THE TOP OF A RAMPS, WILL BE CUT THROUGH LEVEL WITH THE SURFACE STREET.
15. CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP. THE ADJACENT SURFACE IS PLANTING OR OTHER NON-WALKING SURFACE OR THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.
16. PLACE A ½" EXPANSION JOINT WHERE THE CONCRETE CURB RAMP JOINS THE CURB AS SHOWN IN ROADWAY STANDARD DRAWING 848.01
17. PLACE ALL PEDESTRIAN PUSH BUTTON ACTUATORS AND CROSSING SIGNALS AS SHOWN IN THE PLANS OR AS SHOWN IN THE MUTCD.
18. CURB RAMPS THROUGH MEDIAN ISLANDS, SINGLE RAMPS AT DUAL CROSSWALKS OR LIMITED R/W SITUATIONS, WILL BE HANDLED BY SPECIAL DETAILS. CONTACT THE CONTRACT STANDARDS AND DEVELOPMENT UNIT FOR THE DETAILS OR FOR A SPECIAL DESIGN.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

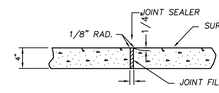
1-18

ROADWAY STANDARD DRAWING FOR
CURB RAMPS
NOTES

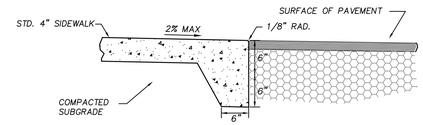
SHEET 3 OF 3
848.05



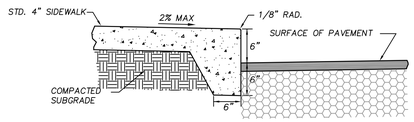
SECTION VIEW IN UNPAVED AREAS



TRANSVERSE EXPANSION JOINT



SECTION OF SIDEWALK FLUSH WITH PAVEMENT



RAISED SECTION OF SIDEWALK ABUTTING PAVEMENT

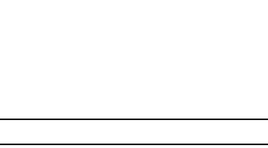
GENERAL NOTES:

1. A GROOVE JOINT 1" DEEP WITH 1/8" RADII SHALL BE REQUIRED IN THE CONCRETE SIDEWALK AT 5' INTERVALS 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.

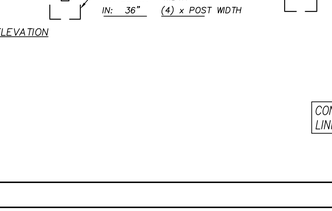
CONCRETE SIDEWALK N.T.S.

PROPOSED CURB RAMP W/ LANDING
PROPOSED OR FUTURE SIDEWALK

ALLOWABLE LOCATIONS
DUAL RAMP RADII.....ANY



DETAIL SHOWING TYPICAL LOCATION OF CURB RAMPS, PEDESTRIAN CROSSWALKS AND STOP LINES FOR TEE INTERSECTIONS



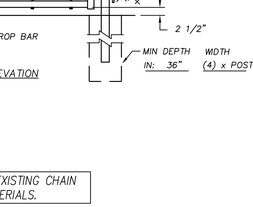
DETAIL SHOWING TYPICAL LOCATION OF CURB RAMPS, PEDESTRIAN CROSSWALKS AND STOP LINES

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR
CURB RAMP
PROPOSED CURB AND GUTTER

SHEET 2 OF 3
848.05



SHOWING EXPANSION JOINT

SHOWING GROOVED JOINT

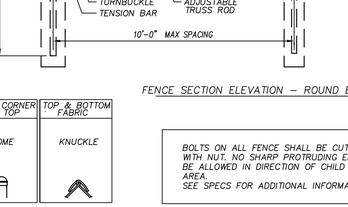
PARTIAL LONGITUDINAL SECTIONS OF PAVED ISLANDS

NOTE:
WHEN MONOLITHIC CONCRETE ISLAND IS ON TOP OF SURFACE COURSE, DRIVE 40d SPIKES INTO SURFACE UNDER MONOLITHIC CONCRETE ISLAND. STAGGER SPIKES ON 2' CENTERS EACH WAY.

IN THE CONCRETE PAVEMENT (ISLAND) AND CONCRETE ISLAND (MONOLITHIC) PLACE ½" EXPANSION JOINTS AT 30' INTERVALS AND GROOVED JOINTS 1" DEEP AT 10' INTERVALS BETWEEN EXPANSION JOINTS.

LINE UP THE JOINTS IN THE CONCRETE PAVEMENT (ISLAND) WITH THE JOINTS IN THE CURB OR CURB AND GUTTER. FILL AND SEAL THE TOP ½" OF THE EXPANSION JOINTS AND THE ENTIRE DEPTH OF GROOVED JOINTS WITH JOINT SEALER.

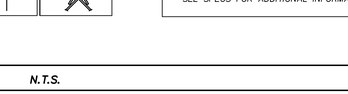
FOR JOINTS IN THE CURB AND/OR CURB AND GUTTER, SEE STANDARD NO. 846.01



5" MONOLITHIC CONCRETE ISLAND (SURFACE MOUNTED) ON ASPHALT CONCRETE PAVEMENT
(USE ON ISLAND 4' WIDE OR GREATER)

SEE TYPICAL SECTIONS FOR PAVEMENT DEPTH. KEY IN ON THE LAST LAYER OF PAVEMENT SURFACE COURSE

5" MONOLITHIC CONCRETE ISLAND (KEYED IN) ON ASPHALT CONCRETE PAVEMENT
(USE ON ISLAND LESS THAN 4' WIDE)



5" MONOLITHIC CONCRETE ISLAND (SURFACE MOUNTED) ON CONCRETE PAVEMENT

PAVED CONCRETE ISLAND

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR
CONCRETE ISLANDS

SHEET 1 OF 1
852.01

NCDOT STANDARD DETAILS N.T.S.

5'-0" GATE ELEVATION

12'-0" GATE ELEVATION

FENCE SECTION ELEVATION – ROUND END POSTS

END & CORNER POST TOP	TOP & BOTTOM FABRIC
DOME	KNUCKLE

BOLTS ON ALL FENCE SHALL BE CUT FLUSH WITH NUT. NO SHARP PROTRUDING EDGES BE ALLOWED IN DIRECTION OF CHILD PLAY AREA.
SEE SPECS FOR ADDITIONAL INFORMATION.

CONTRACTOR SHALL MATCH EXISTING CHAIN LINK FENCE HEIGHT AND MATERIALS.

CHAIN LINK FENCE AND GATE N.T.S.

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
403 Regency Forest Drive
Suite 109
Cary, North Carolina 27518
Phone: (919) 319-9716
Fax: (919) 319-7516
LA: C-190
PE: C-1595

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT JAMES GLENN MEDLIN 1861
3/26/19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
BID SET

3/26/2019

Revisions:

SITE DETAILS

C7.6

© 2018 Sawyer Sherwood & Associate- All Rights Reserved

DISASSEMBLE DUCTWORK PRIOR TO DEMOLISHING WINDOW UNIT.

CLEAN WINDOW OPENING AND COORDINATE INSTALLATION OF NEW UNIT WITH ROOF OVERLAYMENT.

3 AD1.0 North Window Window Demolition
Scale: 1/16" = 1'-0"

OWNER TO RELOCATE

COMEX BOX

ADD ALTERNATE G-2 WORK INSIDE OF EXTERIOR WALLS

WINDOWS SHOWN HERE OCCURE ABOVE LOW ROOF

5 AD1.0 Demolition Plan
Scale: 1/16" = 1'-0"

DEMOLITION LEGEND

	EXISTING 8" CMU AND 4" BRICK VENEER.
	EXISTING 12 CMU.
	EXISTING 8" CMU.
	DEMOLISH WALL
	DEMOLISH WINDOW
	DEMOLISH DOOR, FRAME & HARDWARE
	REMOVE/SALVAGE OR DEMOLISH

DEMOLITION KEY NOTES

GENERAL:

DEMOLISH ALL CEILING TILES AND GRID THROUGHOUT THE ENTIRE SCHOOL, UNLESS NOTED OTHERWISE.

CONTRACTOR TO COORDINATE WITH THE OWNER ON DEMOLITION OF FLOORING IN ALL AREAS THAT HAVE A 12X12 COMPOSITE FLOOR TILE FINISH.

CONTRACTOR TO WIRE BRUSH INTERIOR FACE ANY WALLS SHOWING SIGNS OF SPALLING PAINT. THIS IS COMMON ON THE INTERIOR FACE OF EXTERIOR CMU WALLS.

1. DEMOLISH FLOOR TILE AND TILE BASE. SETTING BED MAY REMAIN IF BEING RE-TILED AND FOUND TO BE IN GOOD CONDITION. WHERE VCT IS TO BE INSTALLED THE SETTING BED IS TO BE REMOVED IN ITS ENTIRETY. WHERE FLOOR SLOPE IS TO BE MODIFIED THE SETTING BED IS TO BE REMOVED IN ITS ENTIRETY.
2. CONTRACTOR TO PROTECT TERRAZZO FLOORING THROUGHOUT CONSTRUCTION.
3. RETAIN AND PROTECT ACOUSTICAL BAFFLES. THESE OCCUR ON THE CEILING AND WALLS.
4. REMOVE EXISTING FLOOR TILE GROUT AND PREP FOR REPLACEMENT.
5. REMOVE EXISTING CARPET FLOORING AND PREP FOR NEW FLOOR FINISHES.
6. CONTRACTOR TO COORDINATE WITH OWNER ON DEMOLITION OF SOFFIT.
7. CONTRACTOR TO COORDINATE WITH OWNER ON DEMOLITION OF SOFFIT AND FACIA BOARD.
8. REMOVE ALL CEMENTITIOUS COATING AND PREP FOR PAINT. TYPICAL ALL EXTERIOR CMU IN COURTYARD THAT WILL BECOME INTERIOR.
9. CONTRACTOR TO COORDINATE WITH OWNER ON DEMOLITION OF EXTERIOR WALL.
10. CASEWORK AND COUNTERS TO BE REMOVED, STORED AND REINSTALLED AS REQUIRED FOR INSTALLATION OF NEW CMU WALLS. SEE PLUMBING DRAWINGS FOR PLUMBING RELATED WORK.
11. LOCKERS TO BE REMOVED, STORED AND REINSTALLED. ALTERNATE G-2.
12. APPLIANCES TO BE REMOVED, STORED AND REINSTALLED.
13. DEMOLISH CASEWORK, SINKS & DISHWASHER. ROUGH IN FOR 1 SINK WILL BE REUSED, SEE PLUMBING DRAWINGS.
14. NARROW RAISED AREA IN SLAB THAT HAS DEFORMED THE FLOOR TILES. REWORK SLAB AS NECESSARY TO PROVIDE A SMOOTH, FLUSH FINISHED FLOOR INSTALLATION.
15. RAISED AREA THAT APEARS TO BE HOLLOW UNDER THE CERAMIC FLOOR TILES. REWORK SUBSTRATE AS NECESSARY TO PROVIDE A SOUND, SMOOTH, FLUSH FINISHED FLOOR INSTALLATION.
16. DEMOLISH WOODEN BLEACHERS.
17. CUT NEAT CLEAN OPENING IN SLAB THROUGH TERRAZZO FLOOR FINISH AS REQUIRED TO INSTALL NEW FOOTINGS.
18. DEMOLISH SIDEWALK AND REPLACE TO MEET ACCESSIBILITY GUIDELINES.
19. DEMOLISH ALL WALL CABINETS WITHIN ROOM.
20. DEMOLISH HPL COUNTERTOPS. CASEWORK TO REMAIN AND RECIEVE NEW COUNTER TOPS
21. DEMOLISH STORAGE CASEWORK.
22. SEE PLUMBING DRAWINS FOR REMOVAL AND REUSE OF FIXTURES.
23. COORDINATE RELOCATION OF KNOX BOX WITH FIRE MARSHALL.
24. SALVAGE BRICK VENEER FOR REUSE.

Plan North North

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-0710
Fax: (919) 319-7516
PE: C-1585
PE: C-1585

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATES P.A. REGISTERED ARCHITECTURAL CORPORATION 52349 NORTH CAROLINA WILMINGTON, NC

DOUGLAS K. SHERWOOD Registered Architect 10075 NORTH CAROLINA WILMINGTON, NC 3-27-19

NHCS
Emma B. Trask Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

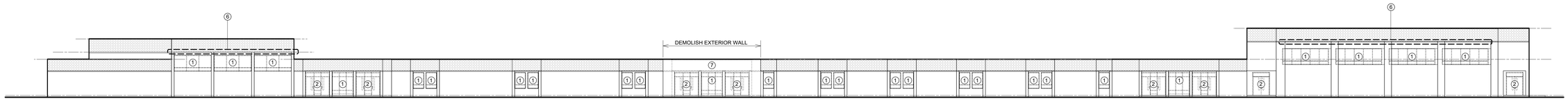
Construction Drawings
March 27, 2019

Revisions:

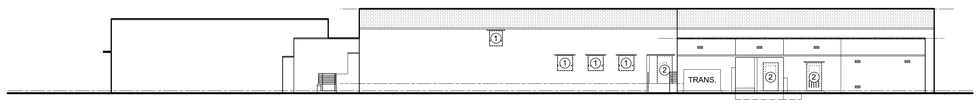
Demolition Plan

AD1.0

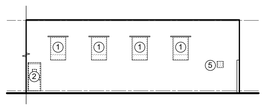
© 2019 Sawyer Sherwood & Associate- All Rights Reserved



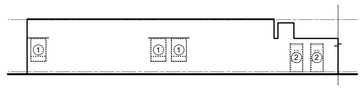
2 AD2.0 **South Elevation**
Scale: 1/16" = 1'-0"



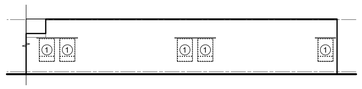
5 AD2.0 **West Elevation**
Scale: 1/16" = 1'-0"



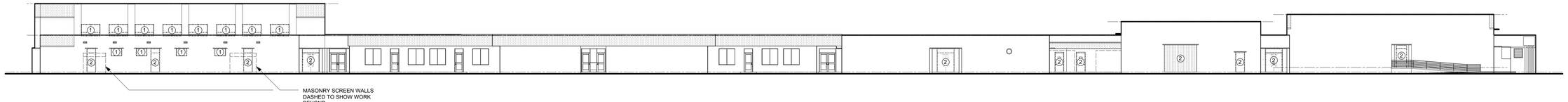
6 AD2.0 **East Elevation - 1975 Courtyard**
Scale: 1/16" = 1'-0"



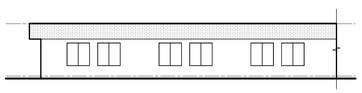
7 AD2.0 **West Elevation - 1975 Courtyard**
Scale: 1/16" = 1'-0"



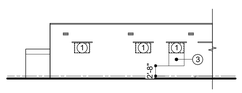
8 AD2.0 **East Elevation - 1975 Science Wing**
Scale: 1/16" = 1'-0"



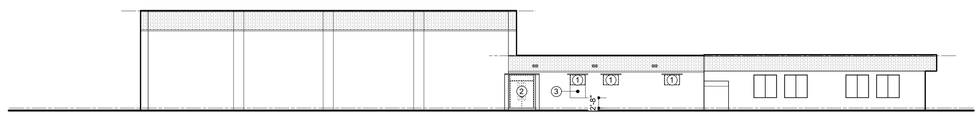
10 AD2.0 **North Elevation**
Scale: 1/16" = 1'-0"



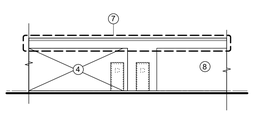
13 AD2.0 **West Elevation - 1989 Addition Science Wing**
Scale: 1/16" = 1'-0"



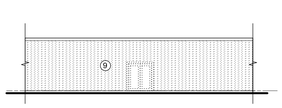
14 AD2.0 **West Elevation - 1975 Locker Wing**
Scale: 1/16" = 1'-0"



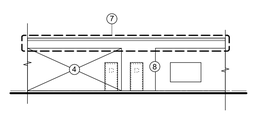
15 AD2.0 **East Elevation**
Scale: 1/16" = 1'-0"



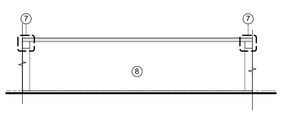
17 AD2.0 **South Elevation - Courtyard**
Scale: 1/16" = 1'-0"



18 AD2.0 **West Elevation - Courtyard**
Scale: 1/16" = 1'-0"



19 AD2.0 **North Elevation - Courtyard**
Scale: 1/16" = 1'-0"



20 AD2.0 **East Elevation - Courtyard**
Scale: 1/16" = 1'-0"

DEMOLITION KEY NOTES	
GENERAL:	CLEAN ALL EXTERIOR MASONRY AND PREPARE WALLS TO RECIEVE A WATER REPELLENT. THIS INCLUDES ALL MASONRY WALLS ABOVE LOW ROOFS THAT ARE NOT CURRENTLY COATED.
1	DEMOLISH WINDOW UNIT IN ITS ENTIRETY. CLEAN ROUGH OPENING AND PREPARE TO RECIEVE NEW UNIT.
2	DEMOLISH DOOR AND FRAME IN ITS ENTIRETY. CLEAN ROUGH OPENING AND PREPARE TO RECIEVE NEW UNIT.
3	CREATE AN ENLARGED WINDOW OPENING BY DEMOLISHING MASONRY BELOW EXISTING WINDOW OPENING. DEMOLITION IS TO BE DONE IN A NEAT MANNER. REMOVE BRICK AND CMU AT JAMBS AS REQUIRED TO KEY BACK INTO WALL RESULTING IN A CLEAN, SMOOTH JAMB READY TO RECIEVE A NEW WINDOW UNIT.
4	CREATE AN ENLARGED WALL OPENING BY DEMOLISHING MASONRY. DEMOLITION IS TO BE DONE IN A NEAT MANNER RESULTING IN CLEAN, STRAIGHT LINES TO RECIEVE A NEW WORK.
5	DEMOLISH MECHANICAL EQUIPMENT AND LOUVER. FILL IN OPENING WITH CMU AND SALVAGED BRICK VENEER.
6	CONTRACTOR TO COORDINATE WITH OWNER ON DEMOLITION OF SOFFIT BOARD.
7	CONTRACTOR TO COORDINATE WITH OWNER ON DEMOLITION OF SOFFIT AND FACIA BOARD.
8	REMOVE ALL CEMENTITIOUS COATING AND PREP FOR PAINT. TYPICAL ALL EXTERIOR CMU THAT WILL BECOME INTERIOR. ALL CEMENTITIOUS COATED CMU THAT REMAINS EXPOSED TO THE EXTERIOR SHALL BE PREPPED FOR PAINT.
9	CONTRACTOR TO COORDINATE WITH OWNER ON DEMOLITION OF EXTERIOR WALL.

Demolition Legend	
	Remove/Salvage or Demolish

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-6716
Fax: (919) 319-7516
LA: C-166
PE: C-1165

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATES P.A. ARCHITECTURAL CORPORATION NORTH CAROLINA 52349 WILMINGTON, N.C.

DOUGLAS K. SHERWOOD Registered Architect 10075 NORTH CAROLINA WILMINGTON, N.C. 3-27-19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

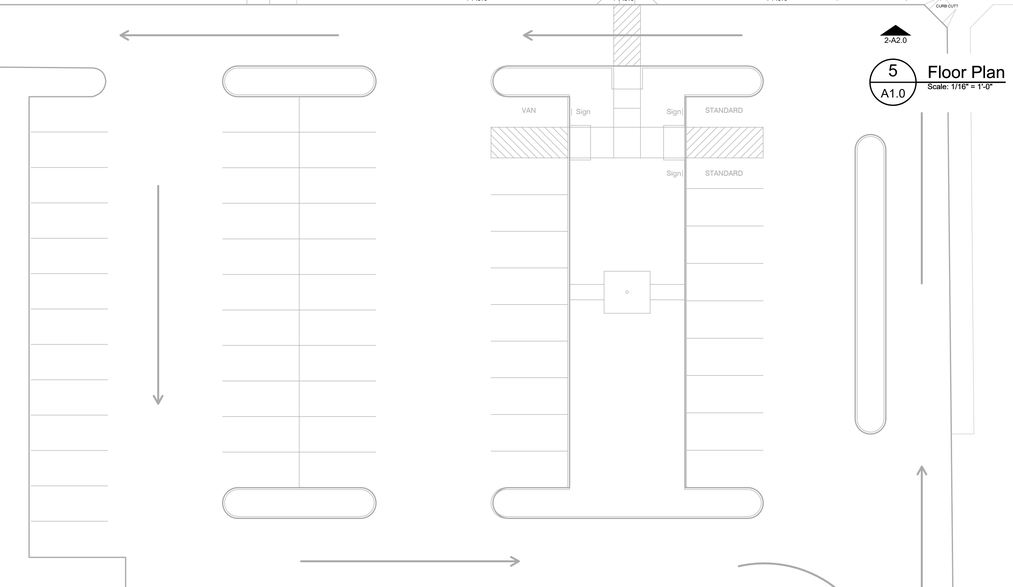
Construction Drawings
March 27, 2019

Revisions:

Building Elevations Demolition

AD2.0

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



5 A1.0 **Floor Plan**
Scale: 1/16" = 1'-0"

WALL LEGEND	
	EXISTING 8" CMU AND 4" BRICK VENEER.
	EXISTING 12 CMU.
	EXISTING 8" CMU.
	NEW 8" CMU WALL. EXTEND TO DECK UNLESS NOTED OR SHOWN OTHERWISE.
	NEW 6" METAL STUD WALL. SOUND BATTS AND GWB TO DECK ABOVE. FOR CLARITY, BATTS ARE NOT SHOWN.
FEC	NEW FIRE EXTINGUISHER CABINET IN EXISTING OPENING.
FEC	NEW FIRE EXTINGUISHER CABINET IN NEW OPENING.

KEY NOTES

GENERAL:

PAINT ALL INTERIOR WALLS, DOOR FRAMES AND METAL DOORS.

1. NOT USED.
2. CONTRACTOR TO PROTECT TERRAZZO FLOORING THROUGHOUT CONSTRUCTION.
3. RETAIN AND PROTECT ACOUSTICAL PANELS & BAFFLES. THESE OCCUR ON THE CEILING AND WALLS.
4. RE-GROUT TILE.
5. NOT USED.
6. NOT USED.
7. NOT USED.
8. REMOVE ALL CEMENTITIOUS COATING AND PREP FOR NEW COATING. TYPICAL ALL EXTERIOR CMU THAT IS NOT BEING DEMOLISHED. RECOAT.
9. NOT USED.
10. CASEWORK AND COUNTERS TO BE REMOVED, STORED AND REINSTALLED AS REQUIRED FOR INSTALLATION OF NEW CMU WALLS. SEE PLUMBING DRAWINGS FOR PLUMBING RELATED WORK.
11. LOCKERS TO BE REMOVED, STORED AND REINSTALLED.
12. APPLIANCES TO BE REMOVED, STORED AND REINSTALLED.
13. NOT USED.
14. NARROW RAISED AREA IN SLAB THAT HAS DEFORMED THE FLOOR TILES. REWORK SLAB AS NECESSARY TO PROVIDE A SMOOTH, FLUSH FINISHED FLOOR INSTALLATION.
15. RAISED AREA THAT APEARS TO BE HOLLOW UNDER THE CERAMIC FLOOR TILES. REWORK SUBSTRATE AS NECESSARY TO PROVIDE A SOUND, SMOOTH, FLUSH FINISHED FLOOR INSTALLATION.
16. NOT USED.
17. INSTALL NEW CONCRETE SLAB AND TERRAZZO FLOOR FINISH WHERE COLUMN FOOTINGS WERE INSTALLED. TERRAZZO TO MATCH EXISTING.

Plan North North

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-0710
Fax: (919) 319-7516
NC: C-1585
FL: C-1585

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE#:C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATE P.A. ARCHITECTURAL CORPORATION 52349 NORTH CAROLINA WILMINGTON, NC

DOUGLAS K. SHERWOOD Registered Architect 10075 NORTH CAROLINA WILMINGTON, NC 3.27.19

NHCS
Emma B. Trask Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

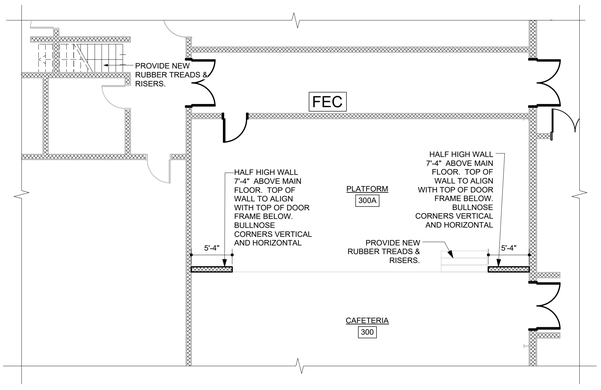
Construction Drawings
March 27, 2019

Revisions:

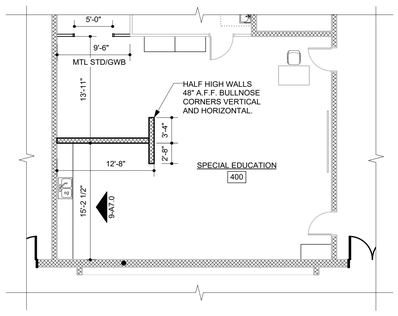
Floor Plan

A1.0

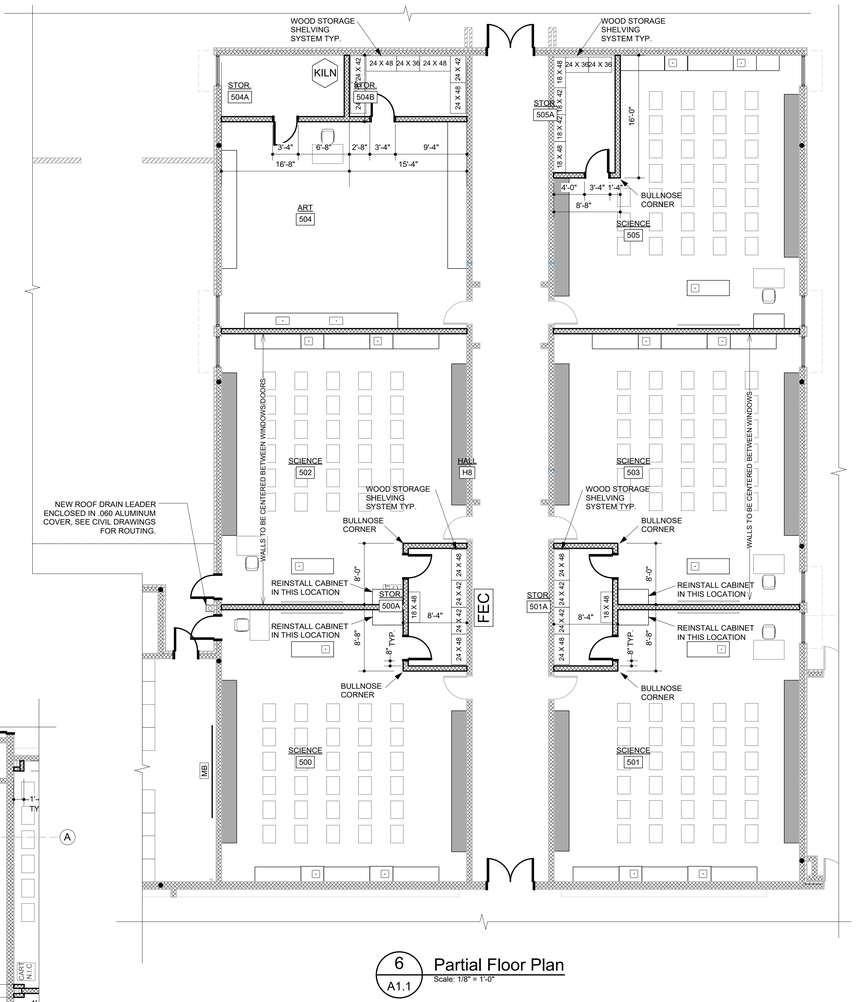
© 2019 Sawyer Sherwood & Associate- All Rights Reserved



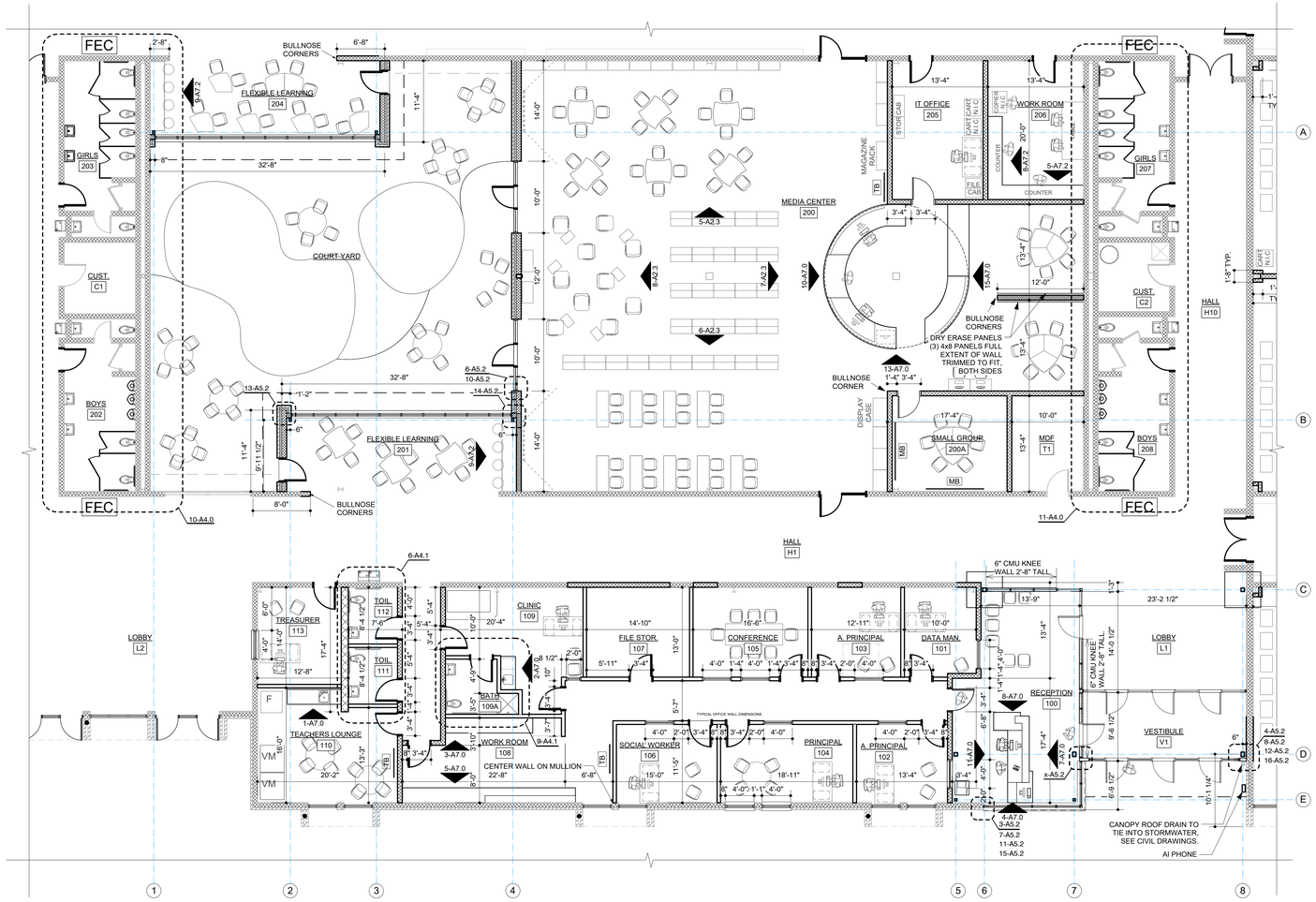
1 A1.1 Partial Floor Plan
Scale: 1/8" = 1'-0"



2 A1.1 Partial Floor Plan
Scale: 1/8" = 1'-0"



6 A1.1 Partial Floor Plan
Scale: 1/8" = 1'-0"



7 A1.1 Partial Floor Plan
Scale: 1/8" = 1'-0"

WALL LEGEND	
	EXISTING 8" CMU AND 4" BRICK VENEER.
	EXISTING 12 CMU.
	EXISTING 8" CMU.
	NEW 8" CMU WALL. EXTEND TO DECK UNLESS NOTED OR SHOWN OTHERWISE.
	NEW 6" METAL STUD WALL. SOUND BATTS AND GWB TO DECK ABOVE. FOR CLARITY, BATTS ARE NOT SHOWN.

Plan North North

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-2710
Fax: (919) 319-7516
PE: C-1585
PS: C-1585

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATES P.A. ARCHITECTURAL CORPORATION NORTH CAROLINA 52349 WILMINGTON, NC

DOUGLAS K. SHERWOOD Registered Architect 10075 NORTH CAROLINA WILMINGTON, NC 3.27.19

NHCS Emma B. Trask Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

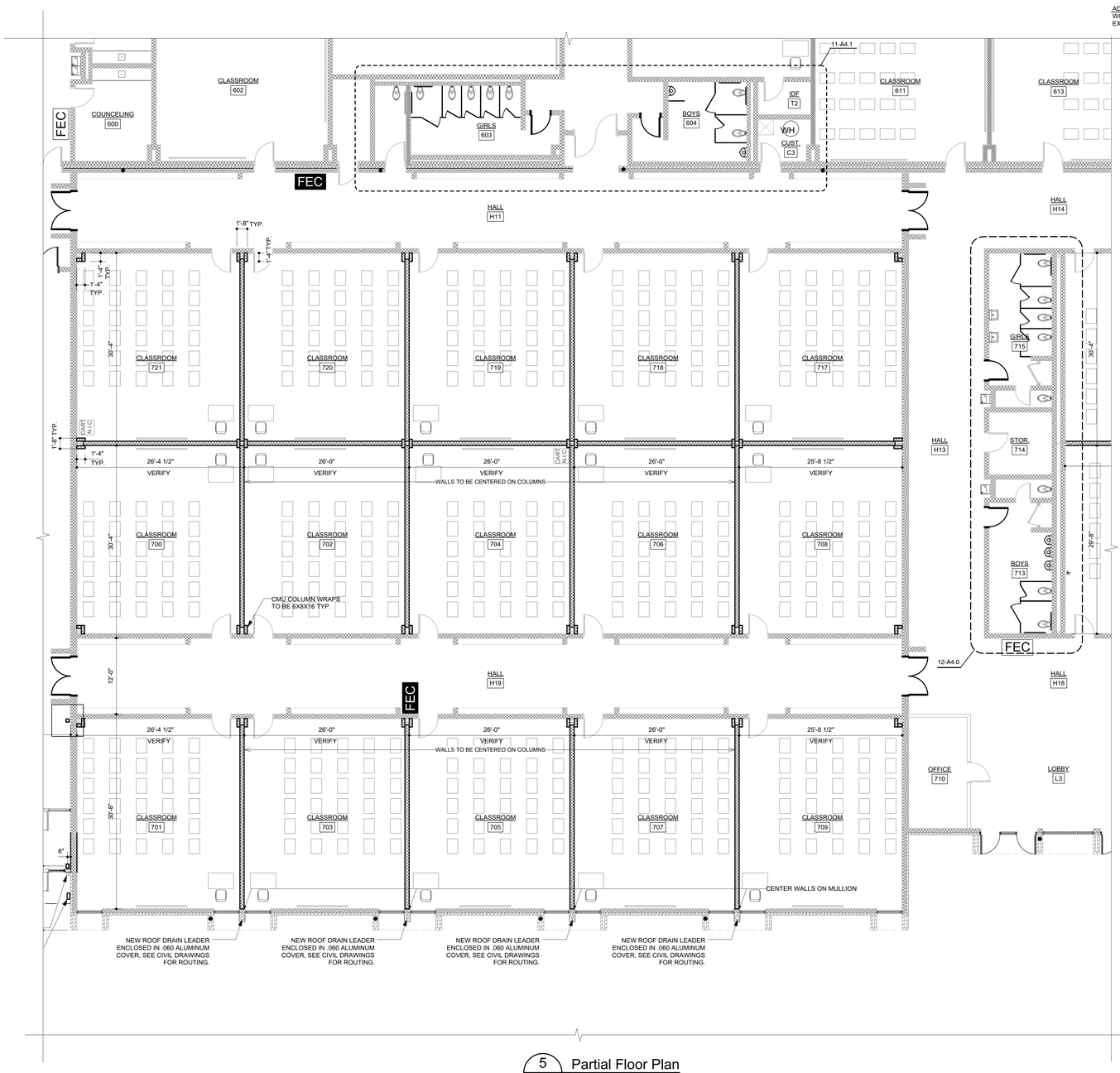
Construction Drawings
March 27, 2019

Revisions:

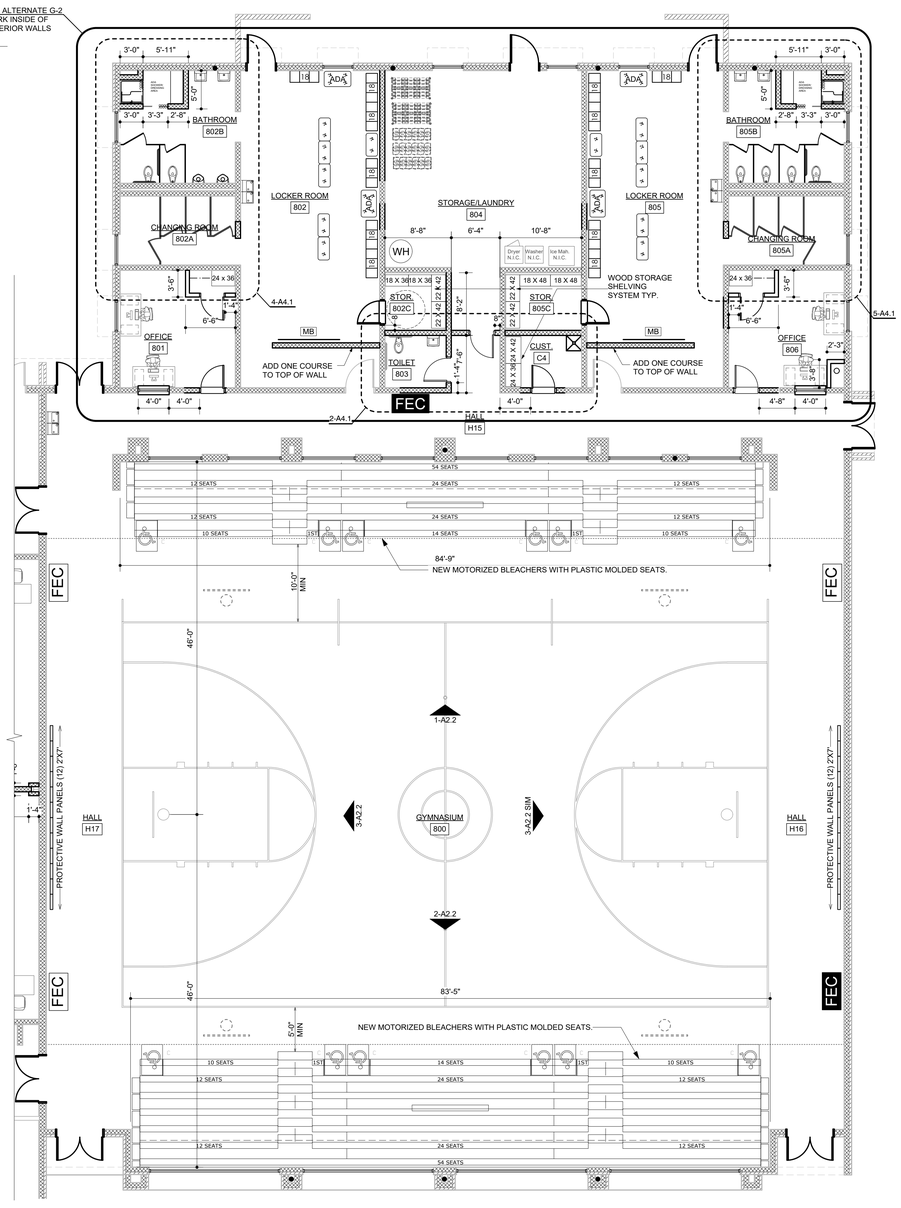
Partial Floor Plans

A1.1

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



5 A1.2 Partial Floor Plan
Scale: 1/8" = 1'-0"



6 A1.2 Partial Floor Plan
Scale: 1/8" = 1'-0"

WALL LEGEND	
	EXISTING 8" CMU AND 4" BRICK VENEER.
	EXISTING 12 CMU.
	EXISTING 8" CMU.
	NEW 8" CMU WALL. EXTEND TO DECK UNLESS NOTED OR SHOWN OTHERWISE.
	NEW 6" METAL STUD WALL. SOUND BATTS AND GWB TO DECK ABOVE. FOR CLARITY, BATTS ARE NOT SHOWN.

Plan North North

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St. Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-0742
Fax: (919) 319-7516
NC 2005
PE C-1585

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATES P.A. ARCHITECTURAL CORPORATION NORTH CAROLINA WILMINGTON, N.C. 52349

DOUGLAS K. SHERWOOD Registered Architect 10075 NORTH CAROLINA WILMINGTON, N.C. 3-27-19

NHCS
Emma B. Trask Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

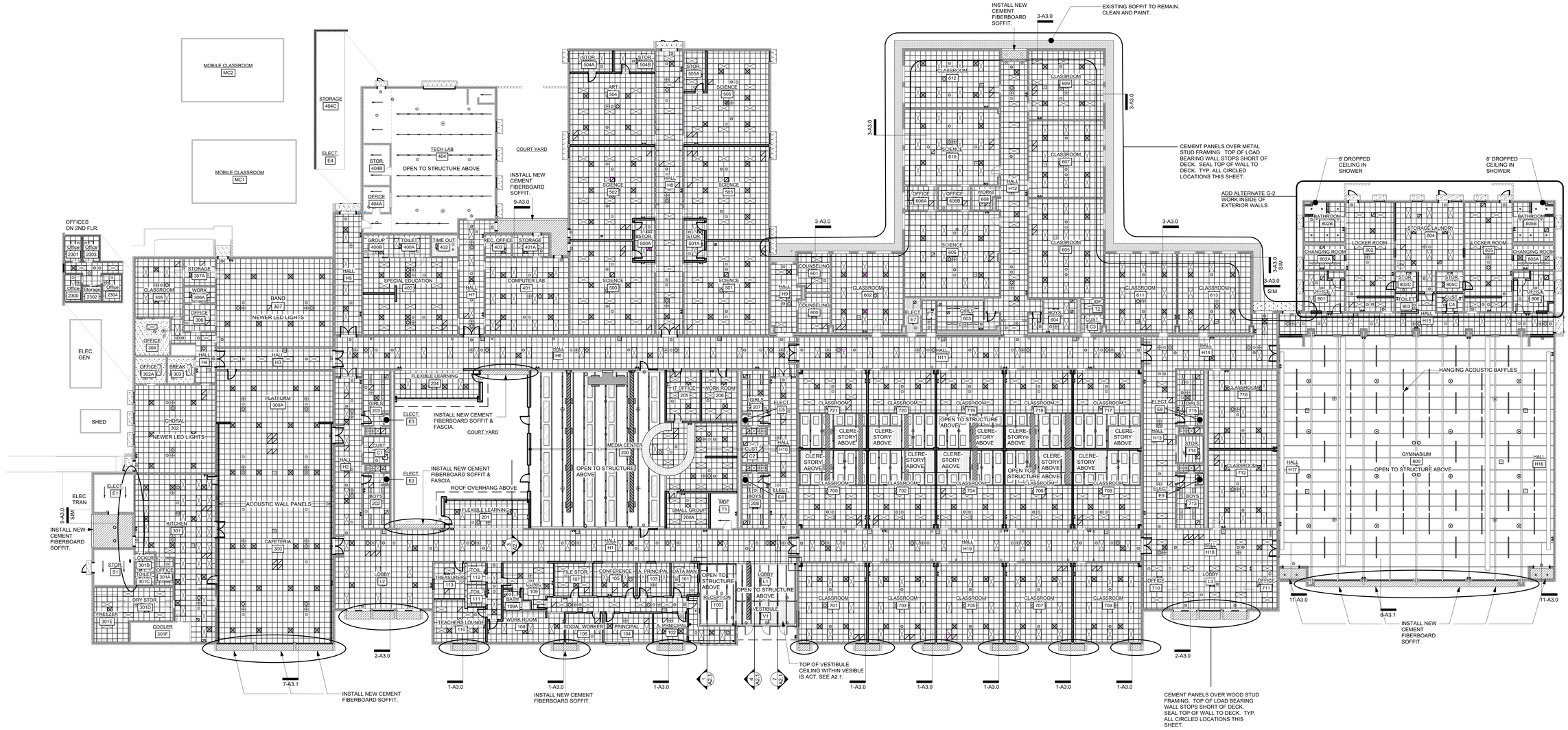
Construction Drawings
March 27, 2019

Revisions:

Partial Floor Plans

A1.2

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



5 A1.3 **Reflected Ceiling Plan**
Scale: 1/16" = 1'-0"

NOTES
GENERAL: SCRAPE, CLEAN, PREP, PRIME AND PAINT ALL EXTERIOR EXPOSED STEEL, TYPICAL AT HEADERS AND LINTELS.

RCP LEGEND	
	SUSPENDED 2'X2' ACOUSTICAL TILE CEILING - 9' 4" UNLESS NOTED OTHERWISE.
	GYPSUM WALL BOARD, PAINTED.
	EXISTING EXTERIOR GYPSUM SOFFIT BOARD, PAINTED.
	CEMENTITIOUS EXTERIOR SOFFIT BOARD, PAINTED. EXISTING UNLESS NOTED OTHERWISE.
	CONCRETE
	ACOUSTIC PANELS & BAFFELS - PANEL HUNG FROM STRUCTURE IN MEDIA CENTER - WALL PANELS IN CAFETERIA - BAFFELS HUNG FROM CEILING IN GYM
	LIGHT FIXTURES - SEE ELECTRICAL DRAWINGS.
	HVAC GRILLES & EQUIPMENT - SEE MECHANICAL DRAWINGS.
F S	FIRE ALARM DEVICES - SEE ELECTRICAL DRAWINGS.
	CEILING SPEAKERS

WALL LEGEND	
	EXISTING 8" CMU AND 4" BRICK VENEER.
	EXISTING 12 CMU.
	EXISTING 8" CMU.
	NEW 8" CMU WALL. EXTEND TO DECK UNLESS NOTED OR SHOWN OTHERWISE.
	NEW 6" METAL STUD WALL. SOUND BATTS AND GWB TO DECK ABOVE. FOR CLARITY, BATTS ARE NOT SHOWN.

Plan North | North

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-5710
Fax: (919) 319-7516
PE: C-1585
PE: C-1585

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATES P.A. ARCHITECTURAL CORPORATION 52349 NORTH CAROLINA WILMINGTON, NC

DOUGLAS K. SHERWOOD Registered Architect 10075 North Carolina WILMINGTON, NC 3.27.19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

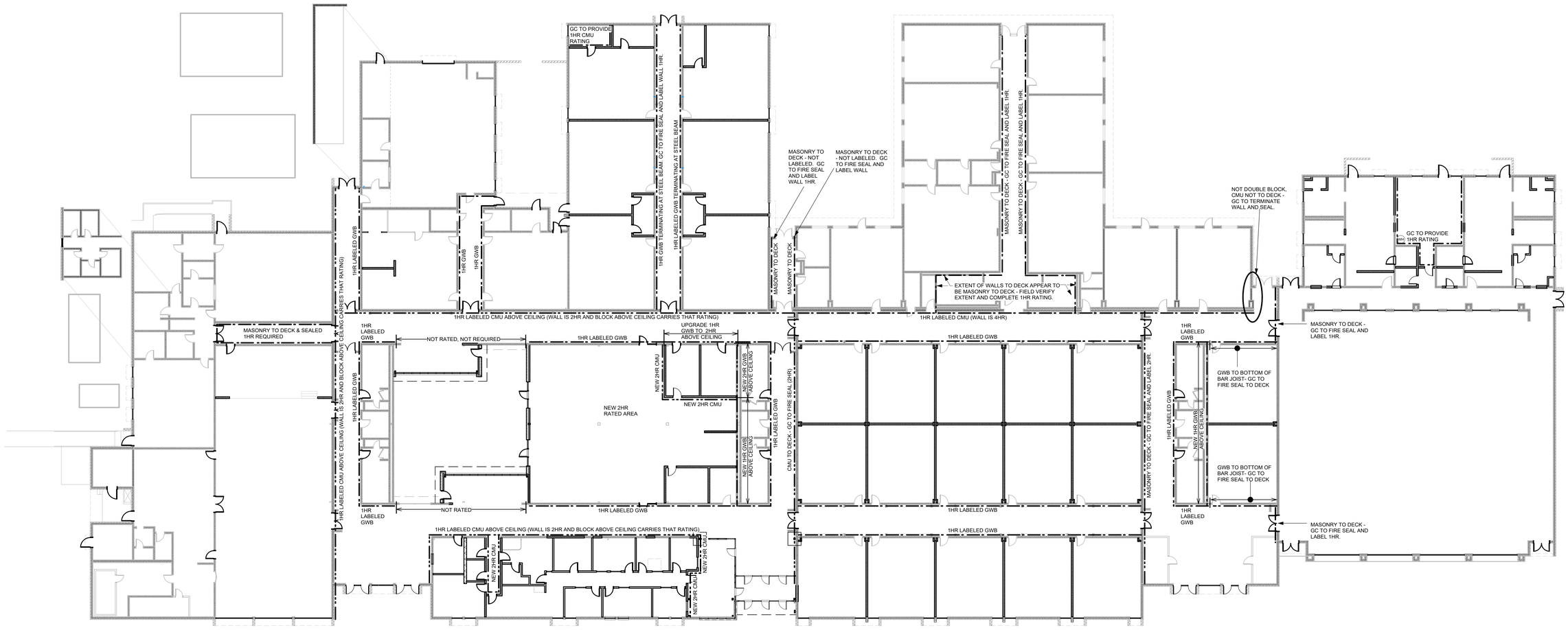
Construction Drawings
March 27, 2019

Revisions:

Reflected Ceiling Plan

A1.3

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



5 A1.3.1 Wall Rating Plan Above Ceiling
Scale: 1/16" = 1'-0"

NOTE:

1. RATED CORRIDORS WERE INSTALLED BETWEEN 1999 & 2001.
2. MASONRY WALLS CARRY A HIGHER RATING THAN LABEL ABOVE CEILING SHOWS. MINIMUM 8" CMU COMPRISED OF EXPANDED SLATE RESULTING IN A 2HR RATING. WALLS IDENTIFIED ON PLANS WITH 1HR RATING SHALL BE SEALED ACCORDINGLY.
3. WHERE 2 HR MASONRY WALLS ARE CALLED OUT ON G2.3, THE RATING ABOVE CEILING MUST BE MAINTINED AS 2HR. AS LONG AS THE CMU ABOVE CEILING ON THESE WALLS MATCH THAT CALLED OUT ON THE PLANS, THEN THE PORTION ABOVE CEILING MEETS. WALLS IDENTIFIED ON PLANS WITH 2HR RATING SHALL BE SEALED ACCORDINGLY. GC TO OVERSPRAY 1HR RATING LABELS AND REPAINT WITH 2HR RATED IN THESE LOCAITONS.

Plan North North

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-0710
Fax: (919) 319-7516
NC: C-1585
FL: C-1585

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATES P.A. ARCHITECTURAL CORPORATION 52349 NORTH CAROLINA WILMINGTON, N.C.

DOUGLAS K. SHERWOOD Registered Architect 10075 NORTH CAROLINA WILMINGTON, N.C. 3.27.19

NHCS Emma B. Trask Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

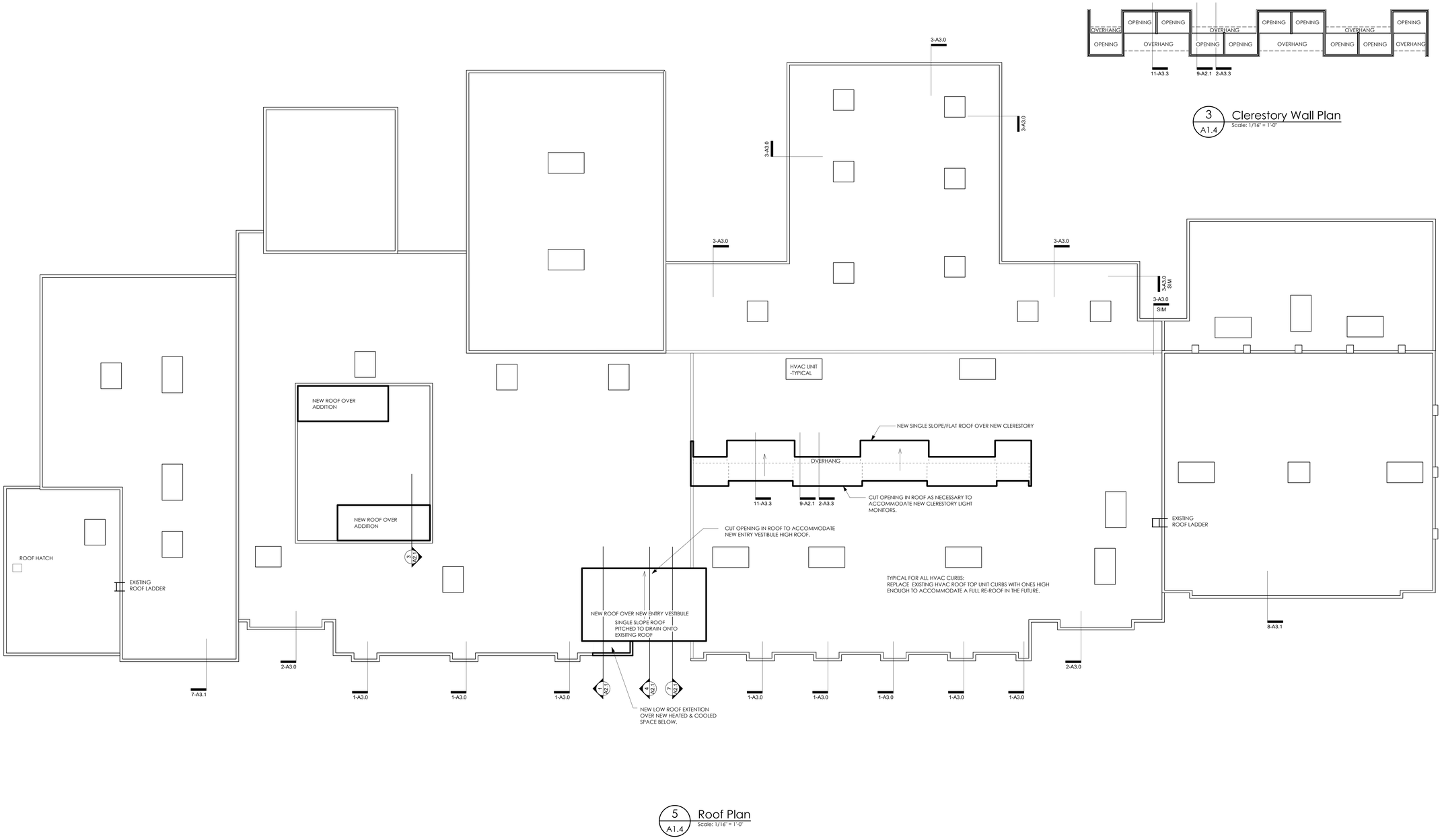
Construction Drawings
March 27, 2019

Revisions:

Wall Plan Above Ceiling

A1.3.1

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



3 A1.4 Clerestory Wall Plan
Scale: 1/16" = 1'-0"

5 A1.4 Roof Plan
Scale: 1/16" = 1'-0"

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-0710
Fax: (919) 319-7516
NC: C-1589
FL: C-1589

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATES P.A. ARCHITECTURAL CORPORATION 52349 NORTH CAROLINA WILMINGTON, NC

DOUGLAS K. SHERWOOD Registered Architect 10075 NORTH CAROLINA WILMINGTON, NC 3-27-19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

Construction Drawings
March 27, 2019

Revisions:

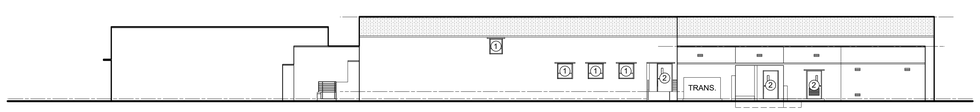
Architectural
Roof Plan - See
R Sheets for
Roof Work

A1.4

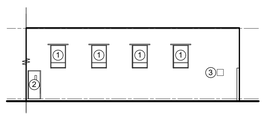
© 2019 Sawyer Sherwood & Associate- All Rights Reserved

Plan North North

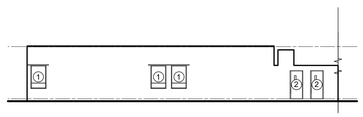
2 A2.0 South Elevation
Scale: 1/16" = 1'-0"



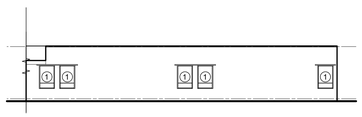
5 A2.0 West Elevation
Scale: 1/16" = 1'-0"



6 A2.0 East Elevation - Courtyard
Scale: 1/16" = 1'-0"

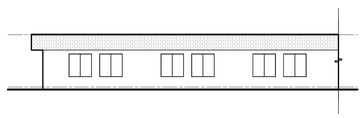


7 A2.0 West Elevation - Courtyard
Scale: 1/16" = 1'-0"

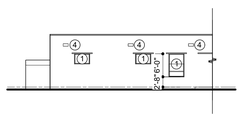


8 A2.0 East Elevation
Scale: 1/16" = 1'-0"

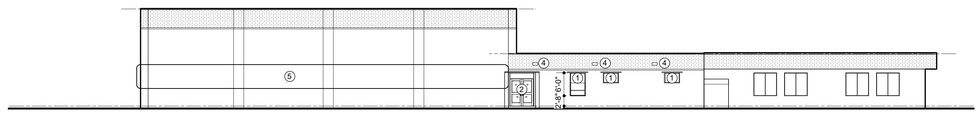
10 A2.0 North Elevation
Scale: 1/16" = 1'-0"



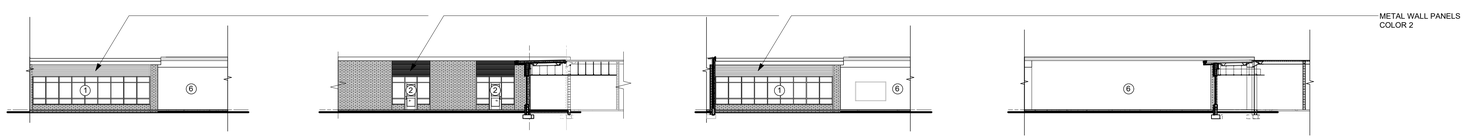
13 A2.0 West Elevation - 1989 Addition
Scale: 1/16" = 1'-0"



14 A2.0 West Elevation - Locker Wing
Scale: 1/16" = 1'-0"



15 A2.0 East Elevation
Scale: 1/16" = 1'-0"



17 A2.0 South Elevation - Courtyard
Scale: 1/16" = 1'-0"

18 A2.0 West Elevation - Courtyard
Scale: 1/16" = 1'-0"

19 A2.0 North Elevation - Courtyard
Scale: 1/16" = 1'-0"

20 A2.0 East Elevation - Courtyard
Scale: 1/16" = 1'-0"

DEMOLITION KEY NOTES

GENERAL:

APPLY WATER REPELLENT SOLUTION TO ALL EXTERIOR MASONRY WALLS. THIS INCLUDES ALL MASONRY WALLS ABOVE LOW ROOFS THAT ARE NOT CURRENTLY COATED. PRODUCT BASIS OF DESIGN: SILOXANE WB CONCENTRATE BY PROSOCO.

(1) PROVIDE NEW WINDOW UNIT.

(2) PROVIDE NEW DOOR AND FRAME.

(3) CLOSE WALL OPENING WITH CMU & BRICK VENEER TO MATCH EXISTING.

(4) CLOSE WALL OPENING WITH CMU AND CAP LOUVER WITH ALUMINUM FACE PLATE SEALED AND SCREWED OVER EXISTING LOUVER.

(5) CUT BACK AND REPOINT BRICK MORTAR AS NECESSARY ON THE EAST GYM WALL. AREA CIRCLED INDICATES LARGE CONCENTRATION OF DAMAGED MORTAR.

(6) PAINT ALL EXPOSED CEMENTITIOUS COATED CMU WALLS AND FIBER CEMENT SOFFITS/FASCIAS IN COURT YARD.

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.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-166
PE: C-1595

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATES P.A. ARCHITECTURAL CORPORATION NORTH CAROLINA 52349 WILMINGTON, N.C.

DOUGLAS K. SHERWOOD Registered Architect 10075 NORTH CAROLINA WILMINGTON, N.C. 3-27-19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

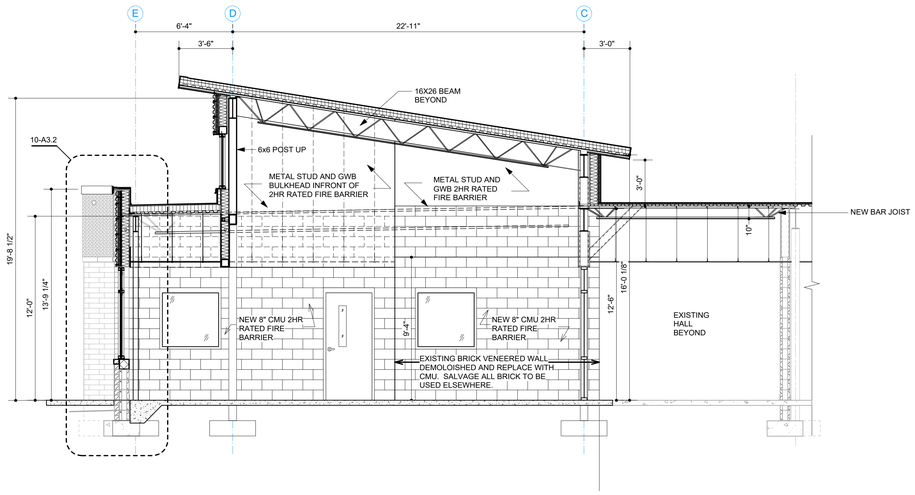
Construction Drawings
March 27, 2019

Revisions:

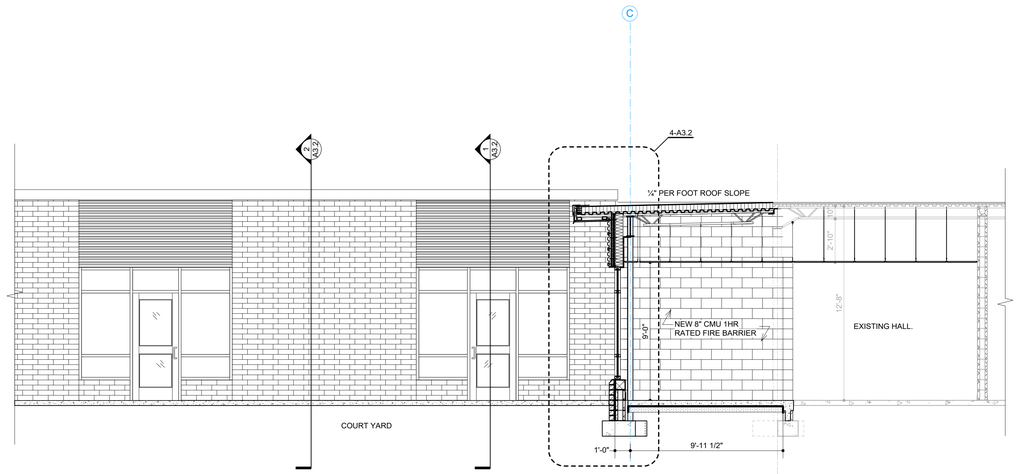
Building Elevations

A2.0

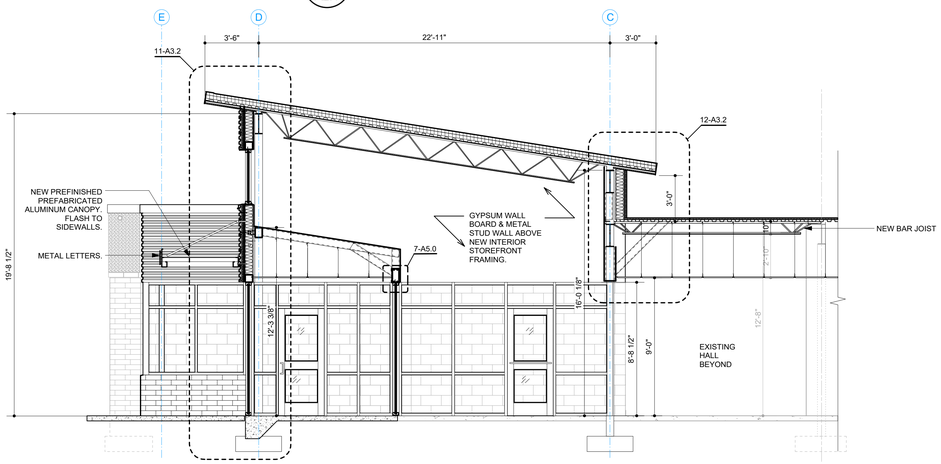
© 2019 Sawyer Sherwood & Associate- All Rights Reserved



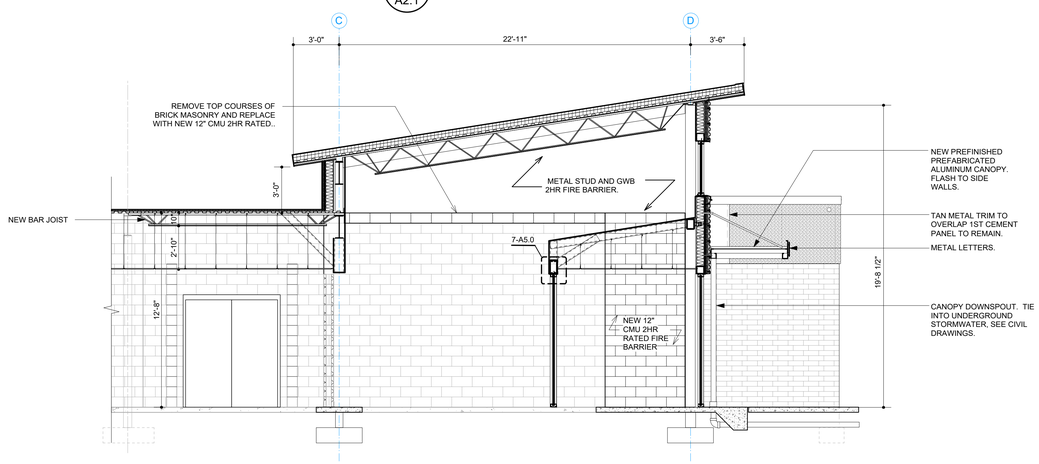
1 A2.1 **Section Through New Entry Vestibule**
Scale: 1/4" = 1'-0"



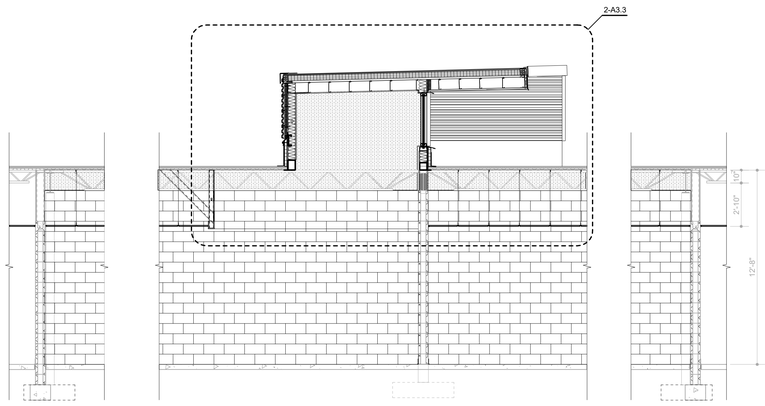
3 A2.1 **Section Through New Flexible Learning Space**
Scale: 1/4" = 1'-0"



4 A2.1 **Section Through New Entry Vestibule**
Scale: 1/4" = 1'-0"



7 A2.1 **Section Through New Entry Vestibule**
Scale: 1/4" = 1'-0"



9 A2.1 **Section Through New Clearstory**
Scale: 1/4" = 1'-0"

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-6716
Fax: (919) 319-7516
LA: C-166
PE: C-1995

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATES P.A. REGISTERED ARCHITECTURAL CORPORATION 52349 NORTH CAROLINA WILMINGTON, NC

DOUGLAS K. SHERWOOD Registered Architect 10075 NORTH CAROLINA WILMINGTON, NC
3-27-19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

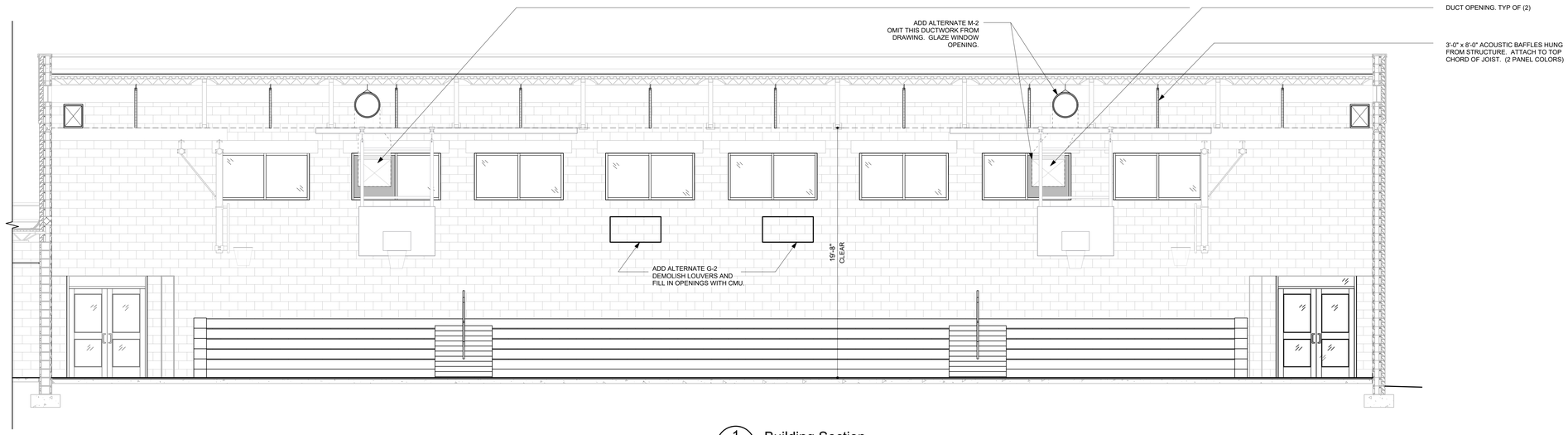
Construction Drawings
March 27, 2019

Revisions:

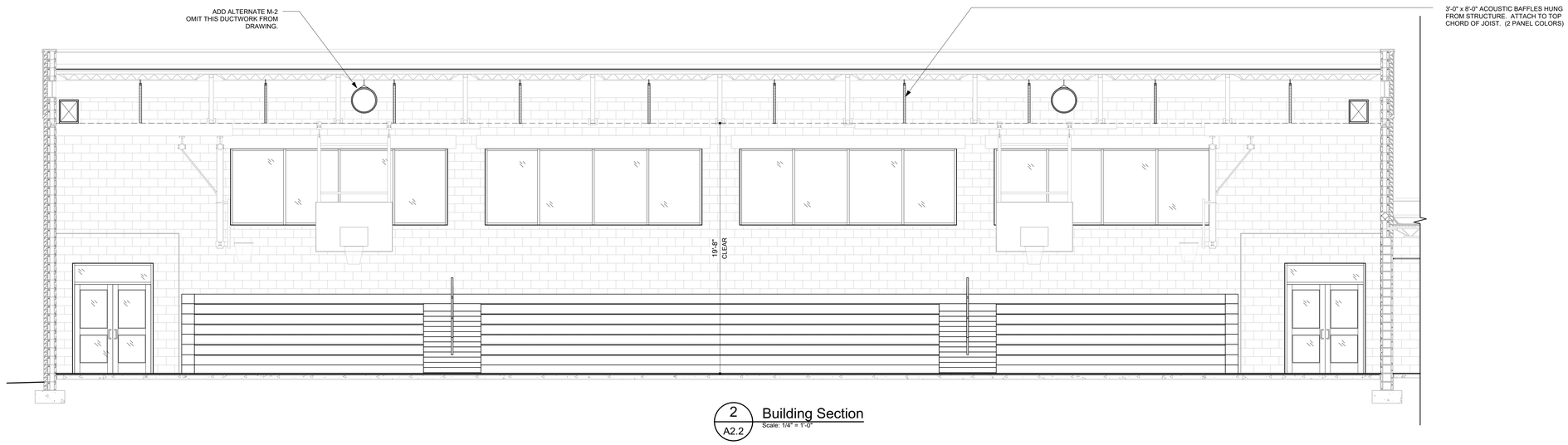
Partial Building Sections

A2.1

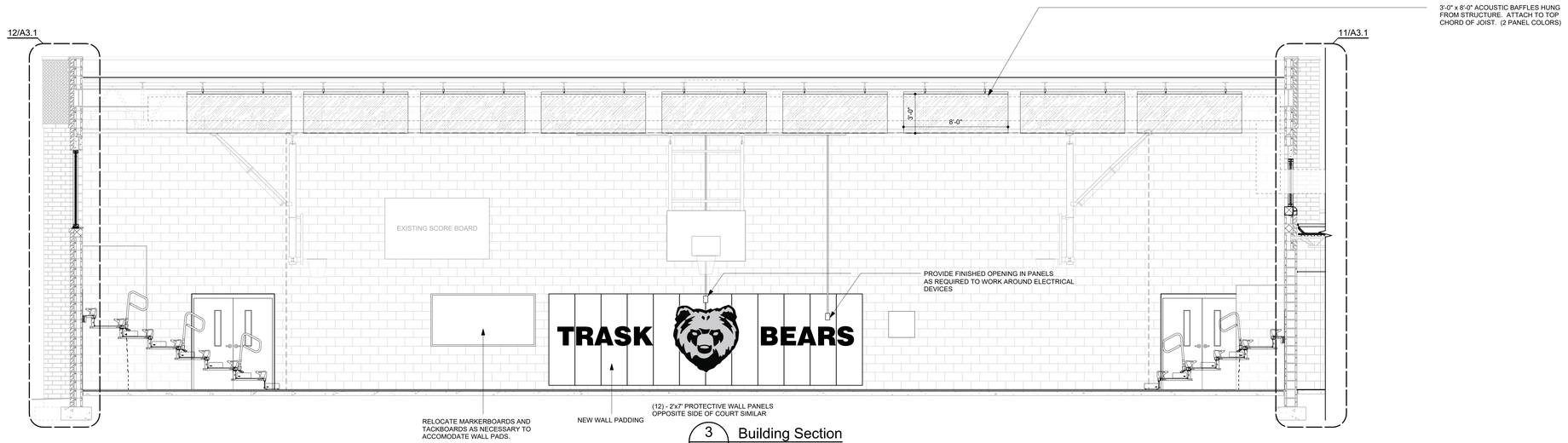
© 2019 Sawyer Sherwood & Associate- All Rights Reserved



1 A2.2 **Building Section**
Scale: 1/4" = 1'-0"



2 A2.2 **Building Section**
Scale: 1/4" = 1'-0"



3 A2.2 **Building Section**
Scale: 1/4" = 1'-0"

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-6716
Fax: (919) 319-7316
LA: C-166
PE: C-1165

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATES P.A. REGISTERED ARCHITECTURAL CORPORATION NORTH CAROLINA 52349 WILMINGTON, N.C.

DOUGLAS K. SHERWOOD Registered Architect 10075 NORTH CAROLINA WILMINGTON, N.C.
3-27-19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

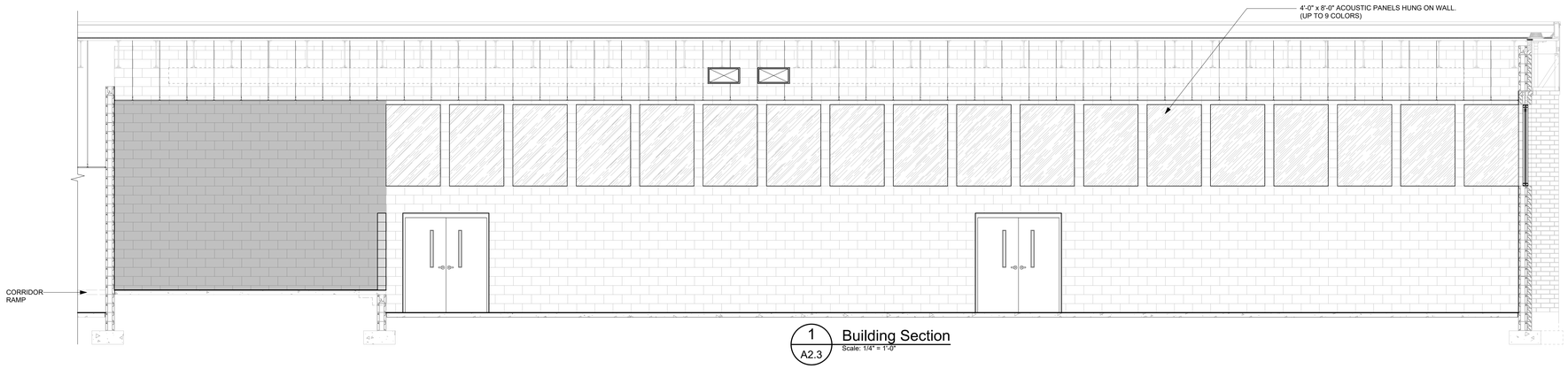
Construction Drawings
March 27, 2019

Revisions:

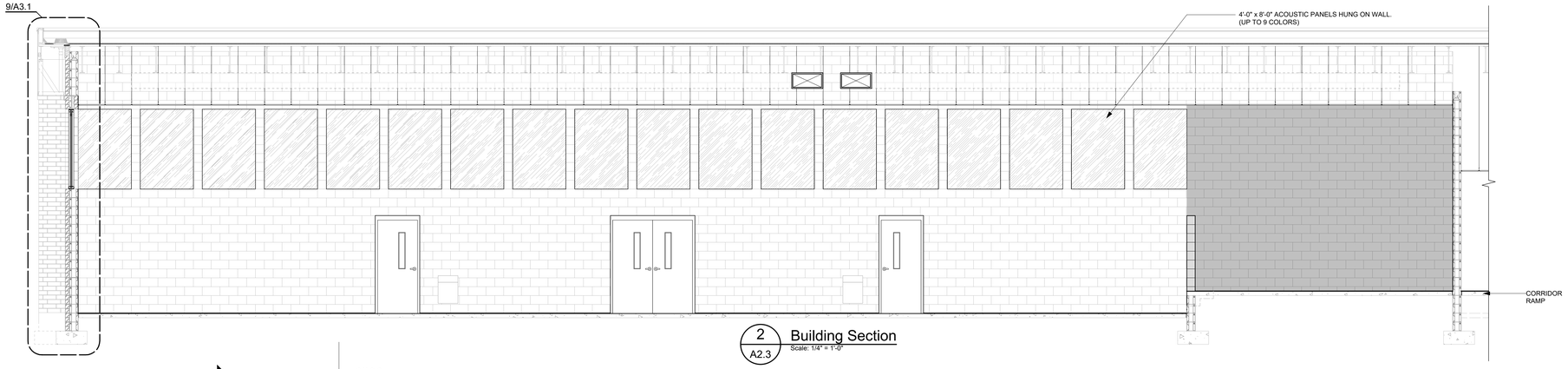
Partial Building Sections

A2.2

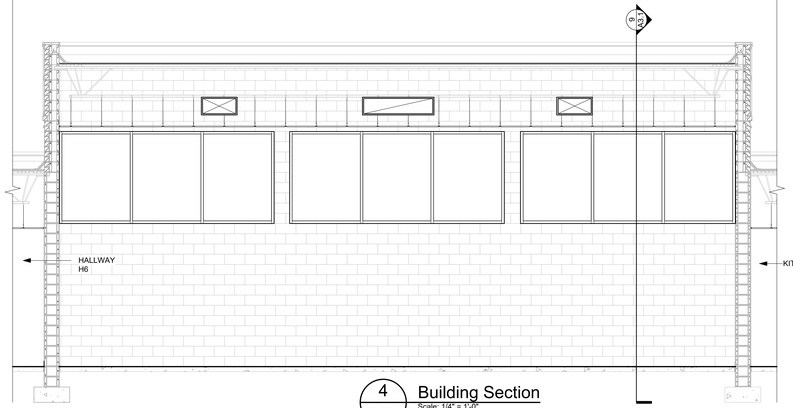
© 2019 Sawyer Sherwood & Associate- All Rights Reserved



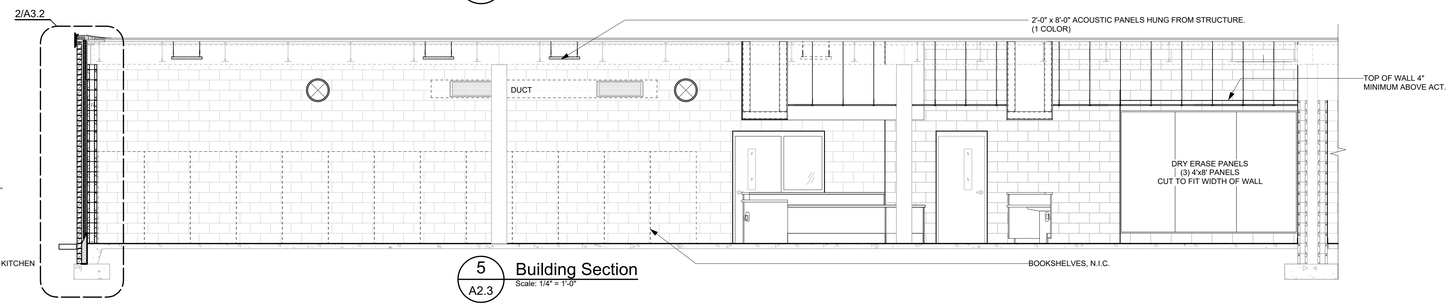
1 A2.3 Building Section
Scale: 1/4" = 1'-0"



2 A2.3 Building Section
Scale: 1/4" = 1'-0"

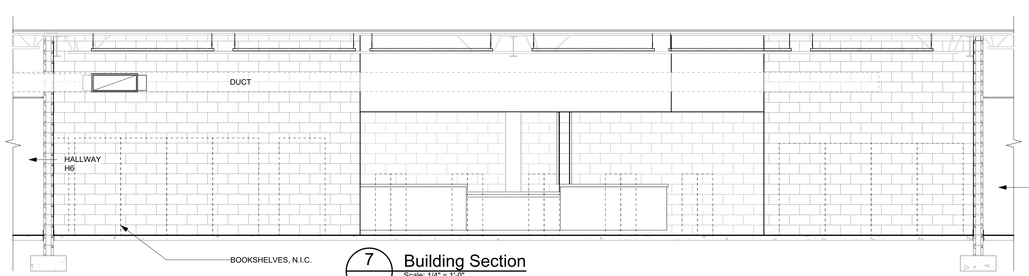


4 A2.3 Building Section
Scale: 1/4" = 1'-0"

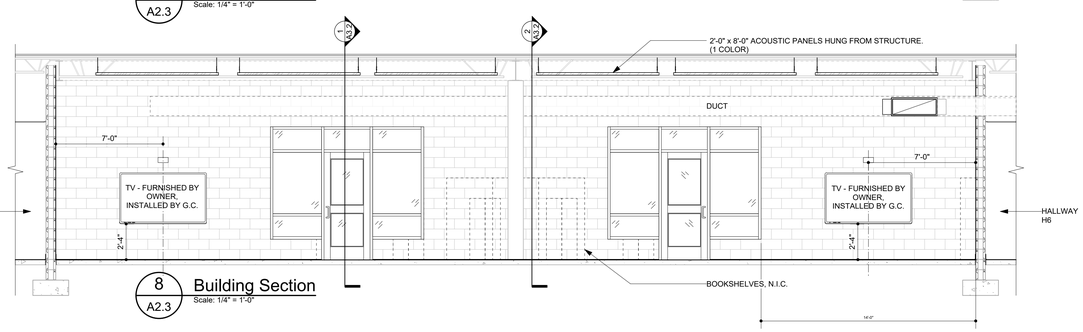


5 A2.3 Building Section
Scale: 1/4" = 1'-0"

6 A2.3 Building Section
Scale: 1/4" = 1'-0"



7 A2.3 Building Section
Scale: 1/4" = 1'-0"



8 A2.3 Building Section
Scale: 1/4" = 1'-0"

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-6716
Fax: (919) 319-7316
LA: C-166
PE: C-1585

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATES P.A. REGISTERED ARCHITECTURAL CORPORATION 52349 NORTH CAROLINA WILMINGTON, NC

DOUGLAS K. SHERWOOD Registered Architect 10075 NORTH CAROLINA WILMINGTON, NC 3-27-19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

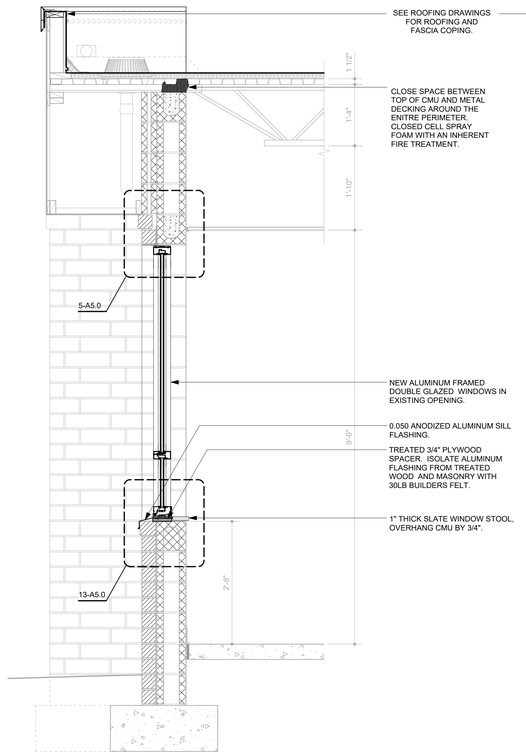
Construction Drawings
March 27, 2019

Revisions:

Partial Building Sections

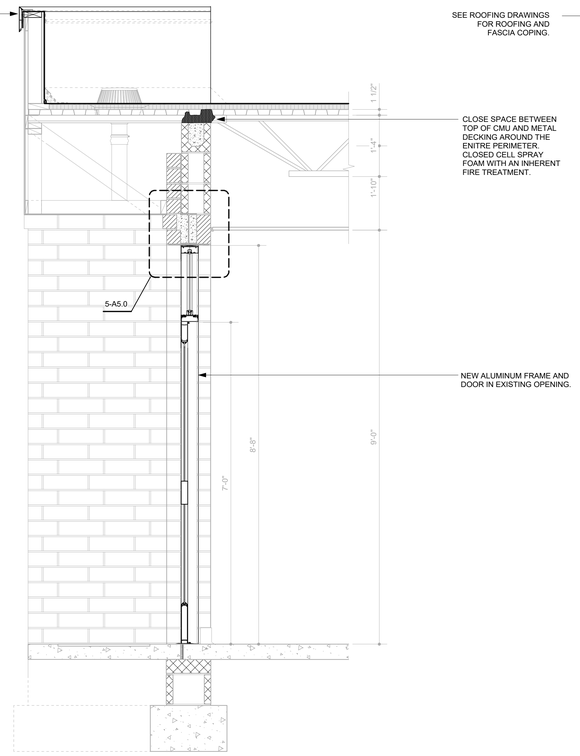
A2.3

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



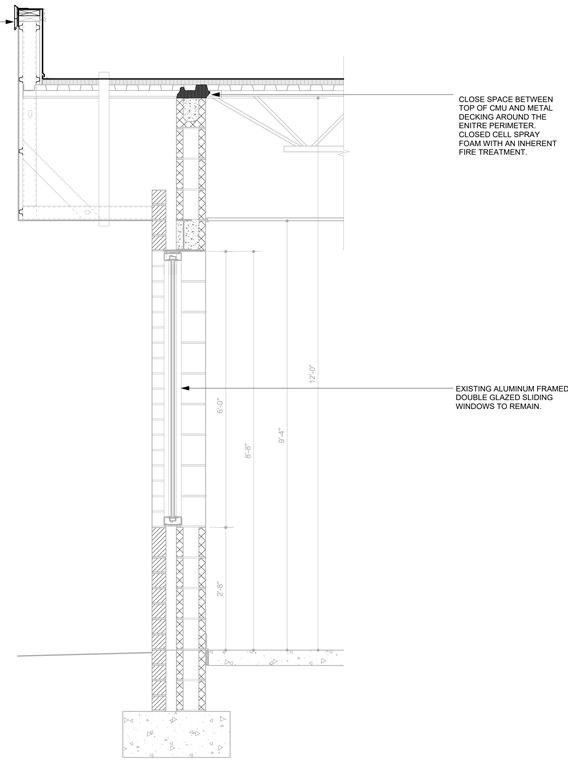
1 A3.0 Wall Section - 1975 Type "A" Exterior Window

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



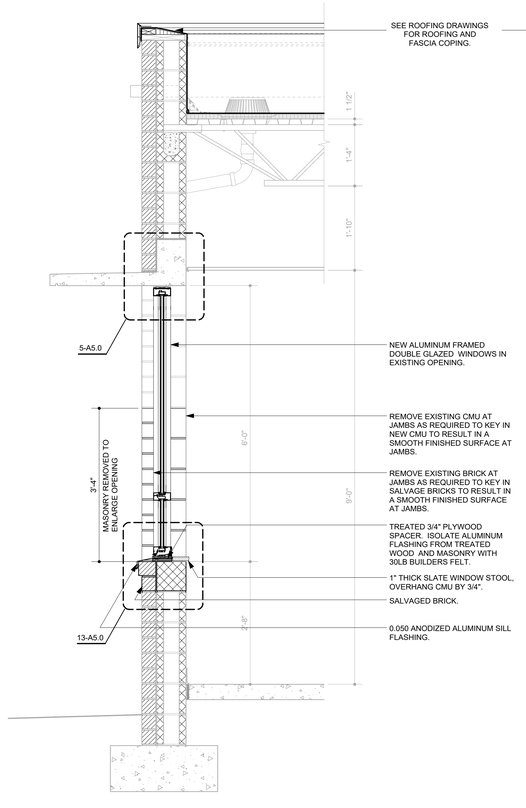
2 A3.0 Wall Section - 1975 Commons South Entrance

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



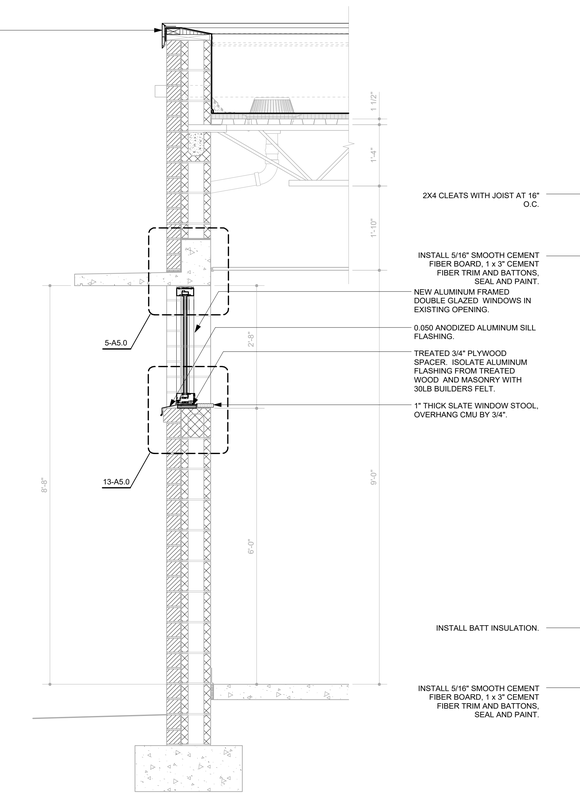
3 A3.0 Wall Section - 1989 Classroom Addition

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



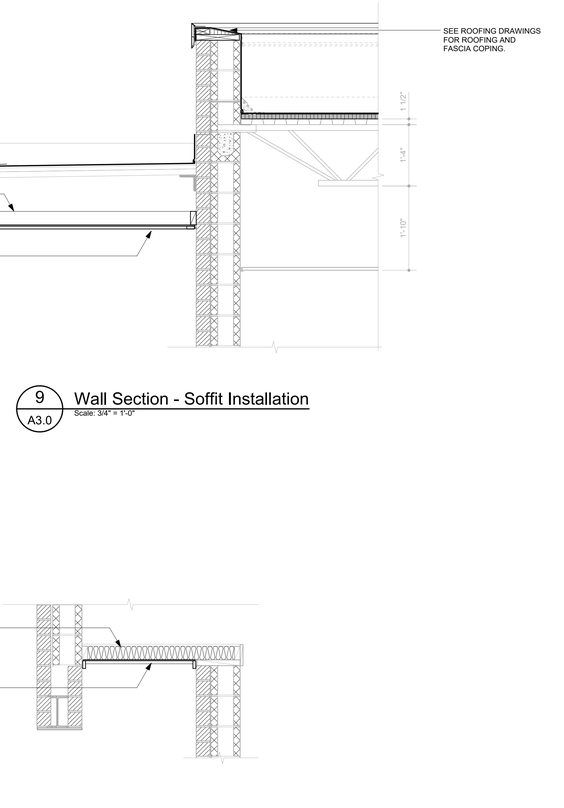
9 A3.0 Wall Section - 1975 North Exterior

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



10 A3.0 Wall Section - 1975 North Exterior

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



9 A3.0 Wall Section - Soffit Installation

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

11 A3.0 Wall Section - Soffit Replacement

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

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St. Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7516
P.C. 1439
P.E. C-1585

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATE P.A. ARCHITECTURAL CORPORATION 52349 NORTH CAROLINA WILMINGTON, NC

DOUGLAS K. SHERWOOD Registered Architect 10075 NORTH CAROLINA WILMINGTON, NC

3.27.19

NHCS
Trask Elenetary School

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

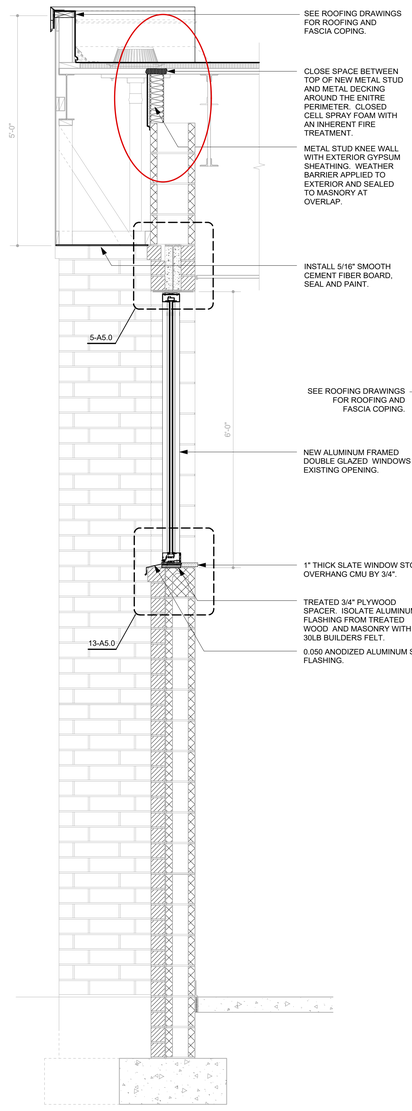
Construction Drawings
March 27, 2019

Revisions:

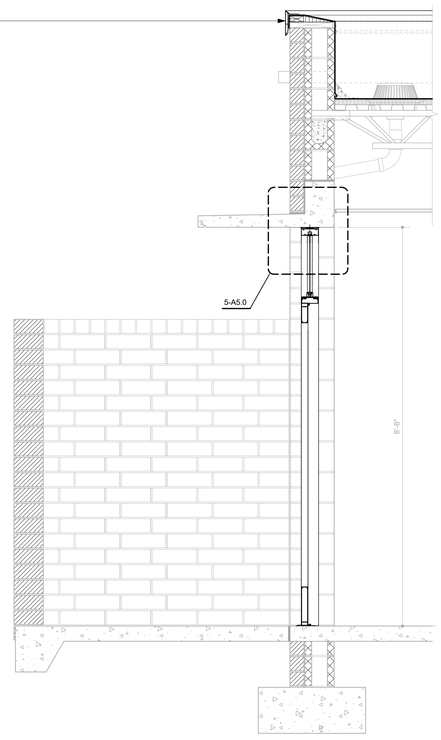
Wall Sections

A3.0

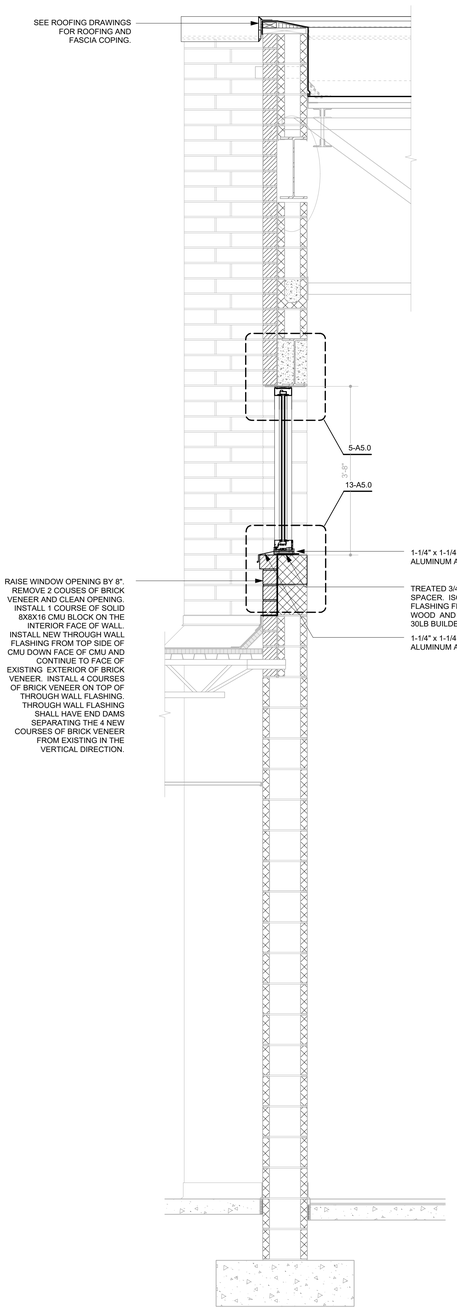
© 2019 Sawyer Sherwood & Associate- All Rights Reserved



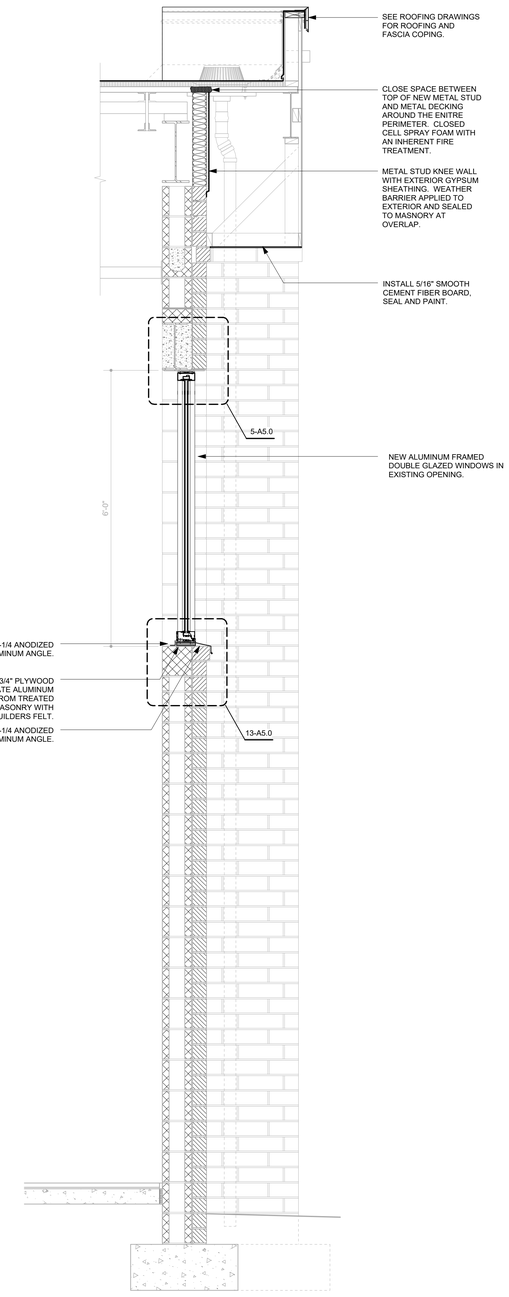
9 A3.1 Wall Section - 1975 Cafeteria South Wall
Scale: 3/4" = 1'-0"



10 A3.1 Wall Section - 1975 North Locker Room Entrance
Scale: 3/4" = 1'-0"



11 A3.1 Wall Section - 1975 Gym North Wall
Scale: 3/4" = 1'-0"



12 A3.1 Wall Section - 1975 Gym South Wall @ Windows
Scale: 3/4" = 1'-0"

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7516
I.A.C. 1-1
P.E. C-1595

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATES P.A. REGISTERED ARCHITECTURAL CORPORATION 52349 NORTH CAROLINA WILMINGTON, NC

DOUGLAS K. SHERWOOD Registered Architect 10075 NORTH CAROLINA WILMINGTON, NC 3.27.19

NHCS Trask Elenetary School

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

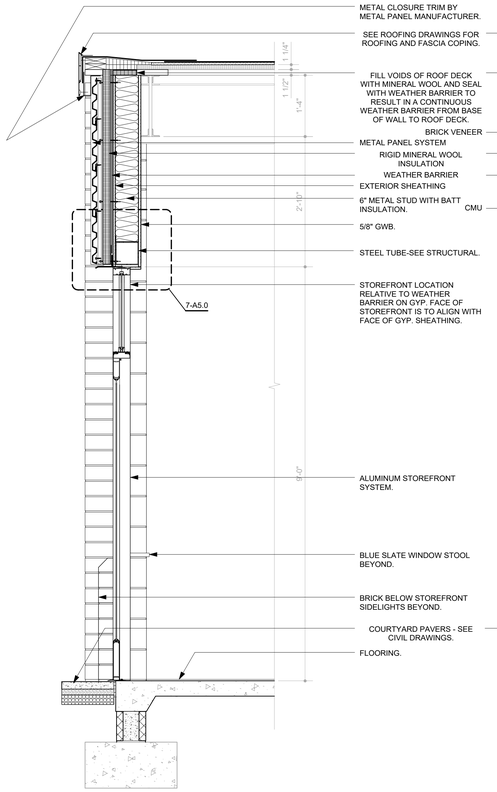
Construction Drawings
March 27, 2019

Revisions:

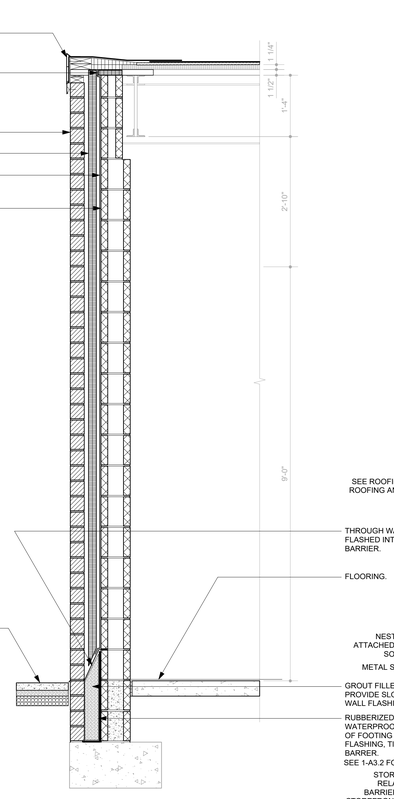
Wall Sections

A3.1

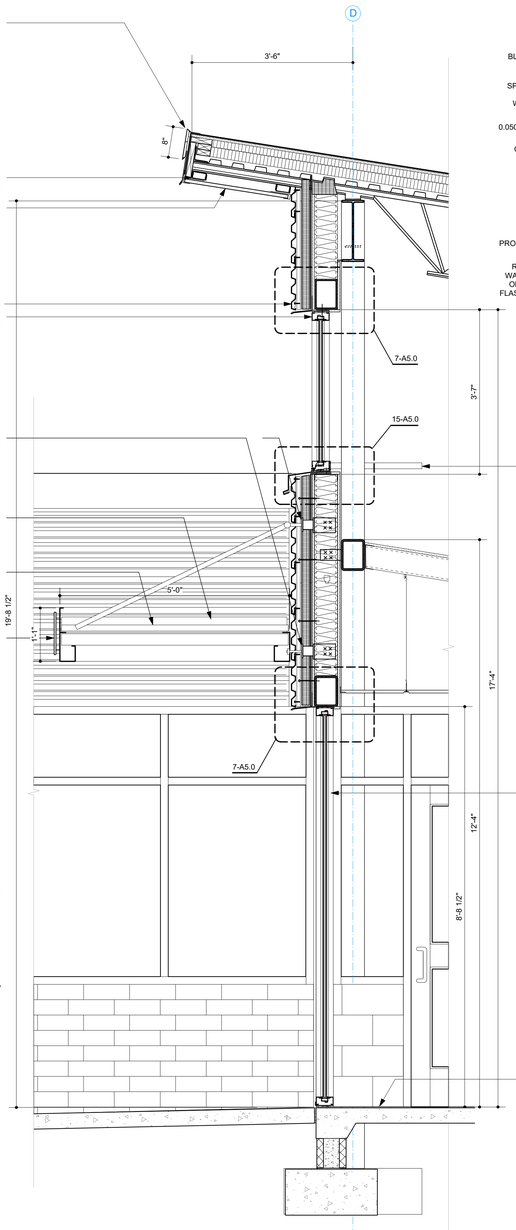
© 2019 Sawyer Sherwood & Associate- All Rights Reserved



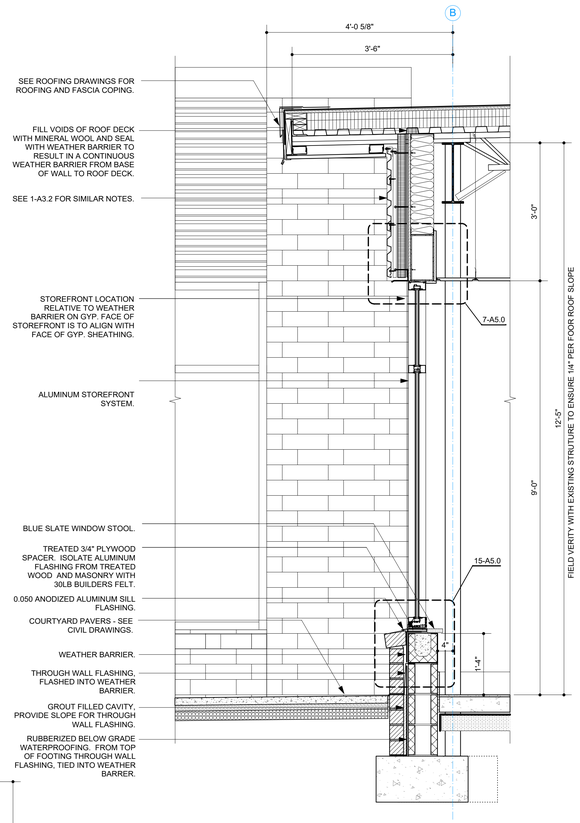
1 A3.2 Wall Section - West Media Center Wall
Scale: 3/4" = 1'-0"



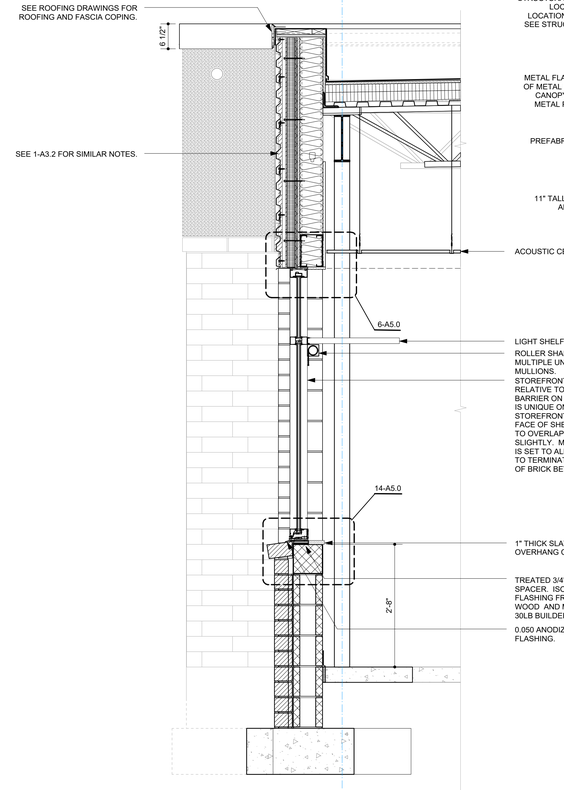
2 A3.2 Wall Section - West Media Center Wall
Scale: 3/4" = 1'-0"



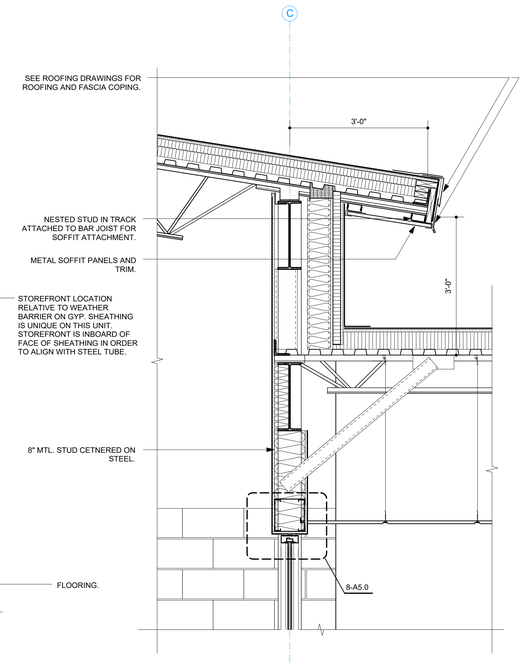
11 A3.2 Wall Section -
Scale: 3/4" = 1'-0"



4 A3.2 Wall Section - Flexible Learning Space Wall
Scale: 3/4" = 1'-0"



10 A3.2 Wall Section -
Scale: 3/4" = 1'-0"



12 A3.2 Wall Section -
Scale: 3/4" = 1'-0"

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St. Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-8716
Fax: (919) 319-7516
PE: C-1585
PS: C-1585

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATES P.A. REGISTERED ARCHITECTURAL CORPORATION 52349 NORTH CAROLINA WILMINGTON, NC

DOUGLAS K. SHERWOOD Registered Architect 10075 NORTH CAROLINA WILMINGTON, NC
3.27.19

NHCS
Trask Elenetary School

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

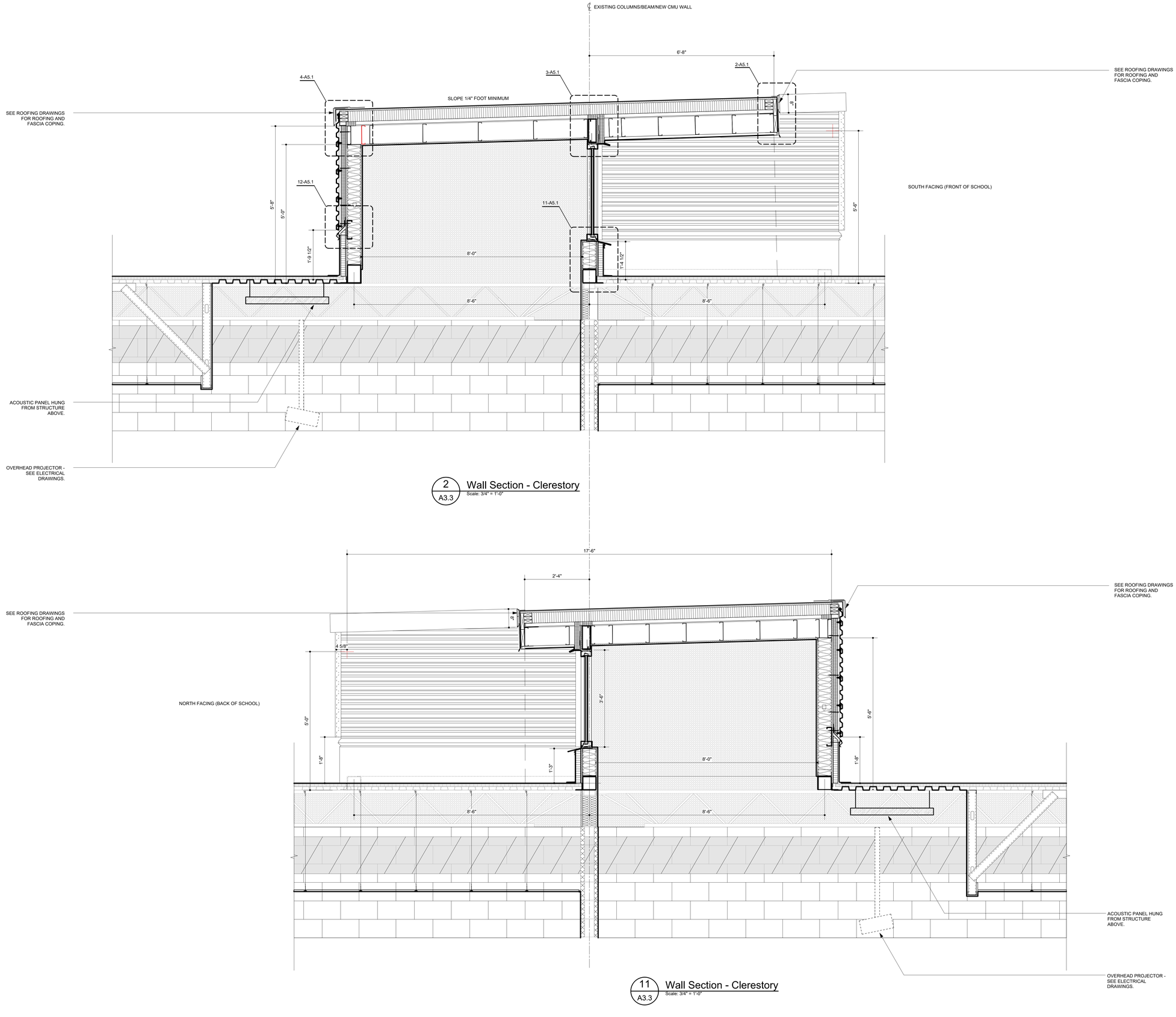
Construction Drawings
March 27, 2019

Revisions:

Wall Sections

A3.2

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St. Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7516
NC: C-1585
PE: C-1585

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATES P.A. REGISTERED ARCHITECTURAL CORPORATION 52349 NORTH CAROLINA WILMINGTON, NC

DOUGLAS K. SHERWOOD Registered Architect 10075 NORTH CAROLINA WILMINGTON, NC 3.27.19

NHCS
Trask Elenetary School

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

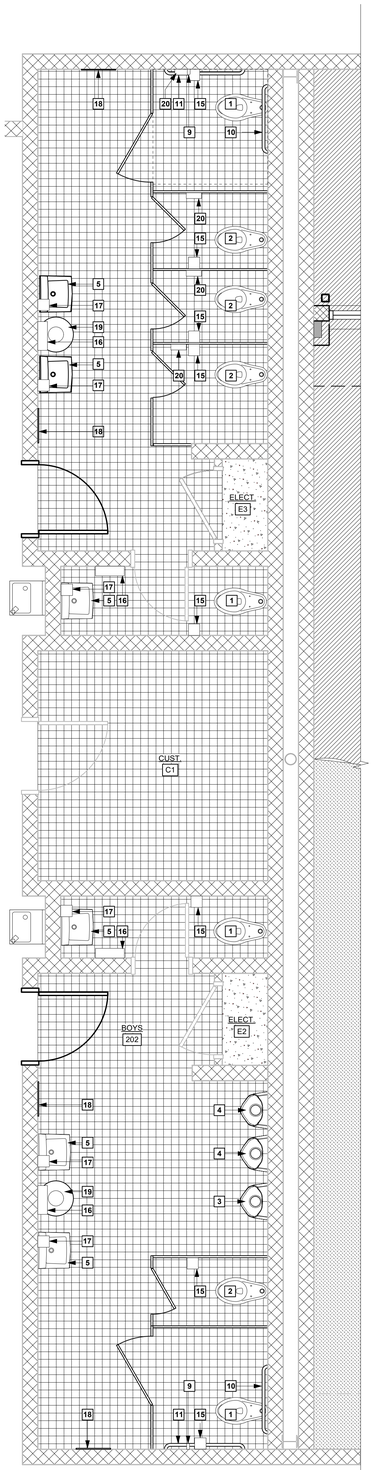
Construction Drawings
March 27, 2019

Revisions:

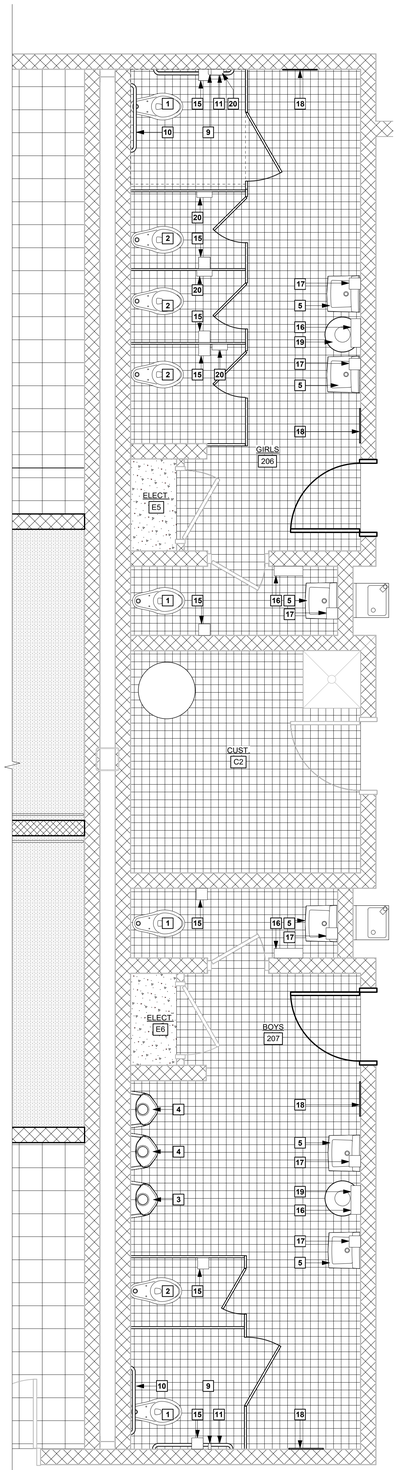
Wall Sections

A3.3

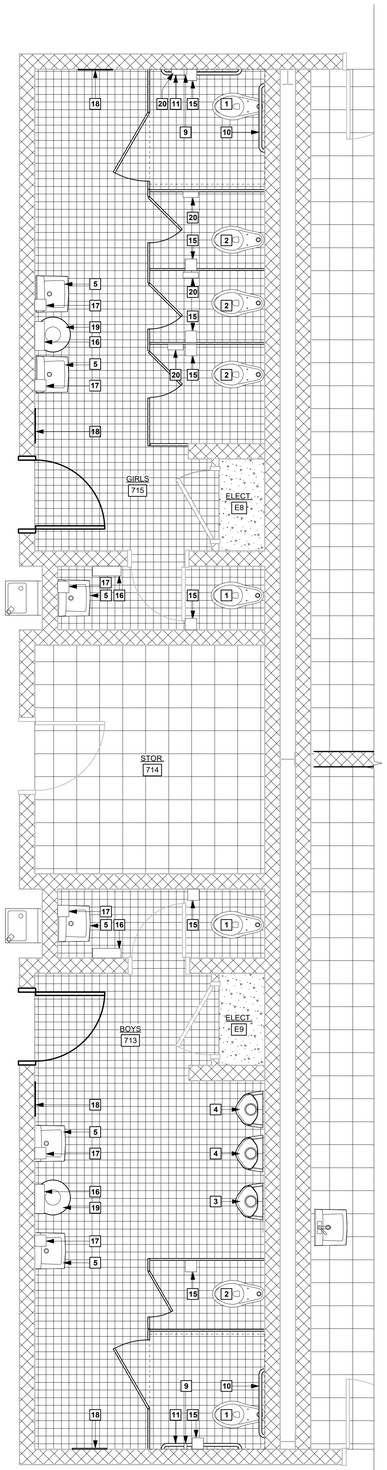
© 2019 Sawyer Sherwood & Associate- All Rights Reserved



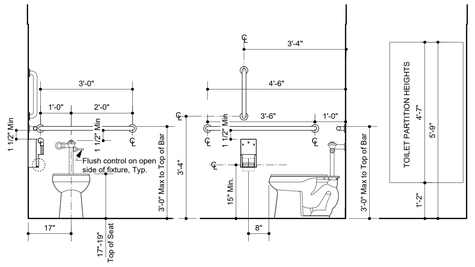
10 A4.0 Enlarged Restroom
Scale: 3/8" = 1'-0"

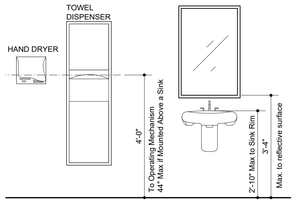


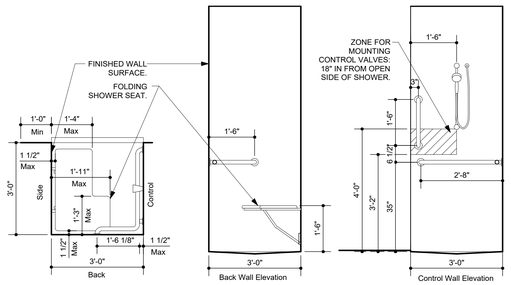
11 A4.0 Enlarged Restroom
Scale: 3/8" = 1'-0"



12 A4.0 Enlarged Restroom
Scale: 3/8" = 1'-0"







Accessible Shower Dimensions
Note: See plan for orientation.

3 A4.1 Restroom Fixture & Accessory Details
NTS

Accessory Key Notes

1	Accessible Toilet Fixture	15	Toilet Tissue Dispenser**
2	Toilet Fixture	16	Paper Towel Dispenser**
3	Accessible Urinal Fixture	17	Soap Dispenser**
4	Urinal Fixture	18	Mirror, Polished Steel
5	Accessible Sink	19	Waste Receptacle**
6	Sink Fixture	20	Sanitary Napkin Disposal
7	Accessible Shower	21	Clothes/Towel Hook
8	Shower Bench	22	Mirror
9	Grab Bar 18"	23	Marble Threshold
10	Grab Bar 36"	24	Mop Sink
11	Grab Bar 42"	25	Bench
12	Shower Grab Bars	26	Accessible Bench
13	Folding Shower Seat	27	Changing Room
14	Shower Curtain, Rod & Hooks	28	Accessible Changing Room

** FURNISHED BY OWNER, INSTALLED BY CONTRACTOR.

EXISTING MOUNTING HEIGHTS A.F.F. OF FIXTURES INDICATED FOR REFERENCE +__" X

Notes

-See Specifications for manufacturers and model numbers on all toilet accessories.

-See Plumbing Specifications for manufacturers and model numbers on all fixtures.

-Grab bars shall support a 250lb load applied in any direction, along entire length.

-Grab bars shall not rotate in their fittings.

-Grab bar edges shall be min. 1/8" radius & free of sharp elements.

-Slope of floor (towards drain) must not exceed 2%.

-Toilet Seat shall not spring back automatically to a lifted position.

-Flush control shall be operable w/ one hand w/out requiring tight grasping, twisting of wrist or force greater than 5 lbs.

-Control shall be located on the wide side of accessible stalls.

-Toilet paper dispenser shall allow continuous paper delivery.

-Supply & drain lines shall be covered w/ pipe insulation or non-heat conducting baffle where exposed & shall not intrude on required knee space.

WALL LEGEND	
	EXISTING 8" CMU AND 4" BRICK VENEER.
	EXISTING 12 CMU.
	EXISTING 8" CMU.
	NEW 8" CMU WALL.
	NEW 6" METAL STUD WALL.

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
409 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-8716
Fax: (919) 319-7318
LA: C-556
PE: C-1565

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATES P.A. REGISTERED ARCHITECTURAL CORPORATION 52349 NORTH CAROLINA WILMINGTON, NC

DOUGLAS K. SHERWOOD Registered Architect 10075 NORTH CAROLINA WILMINGTON, NC
3.27.19

NHCS Emma B. Trask Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

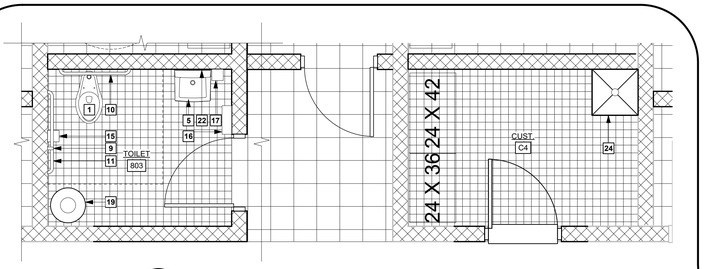
Construction Drawings
March 27, 2019

Revisions:

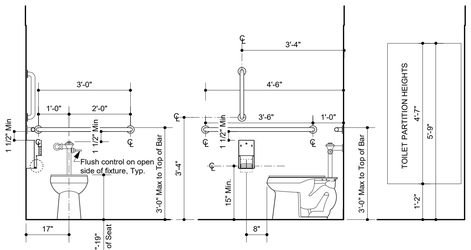
Enlarged Plans

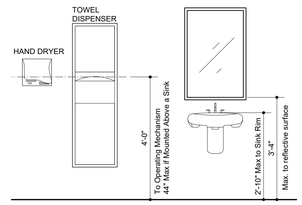
A4.0

© 2019 Sawyer Sherwood & Associate- All Rights Reserved

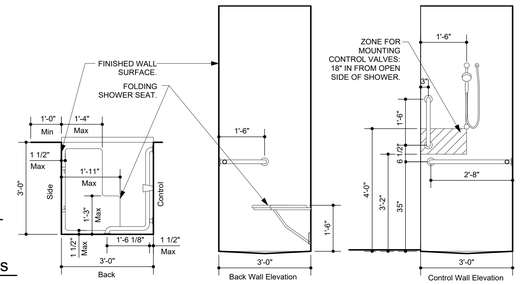


2 A4.1 **Enlarged Restroom**
Scale: 3/8" = 1'-0"

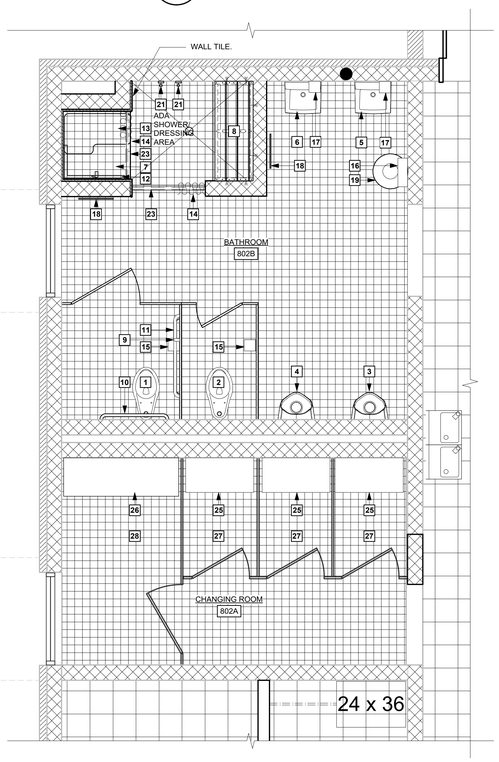




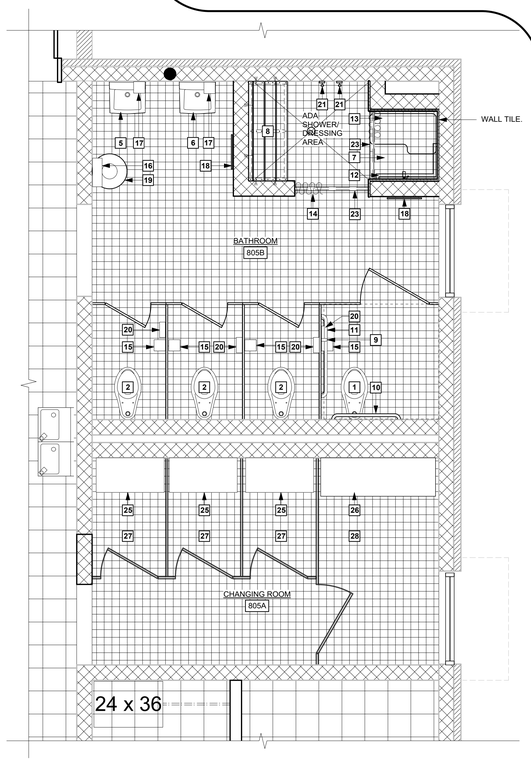
3 A4.1 **Restroom Fixture & Accessory Details**
NTS



Accessible Shower Dimensions
Note: See plan for orientation.



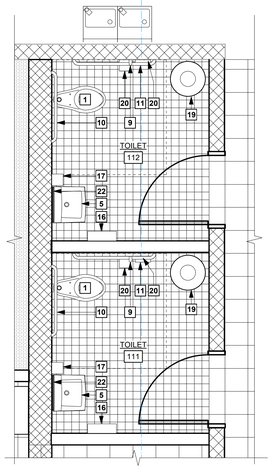
4 A4.1 **Enlarged Restroom**
Scale: 3/8" = 1'-0"



5 A4.1 **Enlarged Restroom**
Scale: 3/8" = 1'-0"

ADD ALTERNATE G-2
WORK INSIDE OF EXTERIOR WALLS

WALL LEGEND	
	EXISTING 8" CMU AND 4" BRICK VENEER.
	EXISTING 12 CMU.
	EXISTING 8" CMU.
	NEW 8" CMU WALL.
	NEW 6" METAL STUD WALL.



6 A4.1 **Enlarged Restroom**
Scale: 3/8" = 1'-0"

Accessory Key Notes

1	Accessible Toilet Fixture	15	Toilet Tissue Dispenser**
2	Toilet Fixture	16	Paper Towel Dispenser**
3	Accessible Urinal Fixture	17	Soap Dispenser**
4	Urinal Fixture	18	Mirror, Polished Steel
5	Accessible Sink	19	Waste Receptacle**
6	Sink Fixture	20	Sanitary Napkin Disposal
7	Accessible Shower	21	Clothes/Towel Hook
8	Shower Bench	22	Mirror
9	Grab Bar 18"	23	Marble Threshold
10	Grab Bar 36"	24	Mop Sink
11	Grab Bar 42"	25	Bench
12	Shower Grab Bars	26	Accessible Bench
13	Folding Shower Seat	27	Changing Room
14	Shower Curtain, Rod & Hooks	28	Accessible Changing Room

** PROVIDED BY OWNER, INSTALLED BY CONTRACTOR.
EXISTING MOUNTING HEIGHTS A.F.F. OF FIXTURES INDICATED FOR REFERENCE +__" X

Notes

-See Specifications for manufacturers and model numbers on all toilet accessories.

-See Plumbing Specifications for manufacturers and model numbers on all fixtures.

-Grab bars shall support a 250lb load applied in any direction, along entire length.

-Grab bars shall not rotate in their fittings.

-Grab bar edges shall be min. 1/8" radius & free of sharp elements.

-Slope of floor (towards drain) must not exceed 2%.

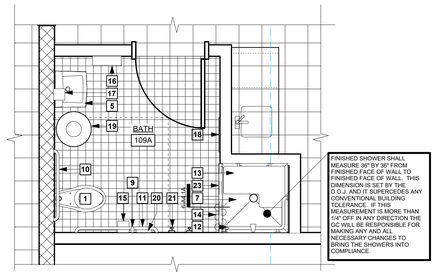
-Toilet Seat shall not spring back automatically to a lifted position.

-Flush control shall be operable w/ one hand w/out requiring tight grasping, twisting of wrist or force greater than 5 lbs.

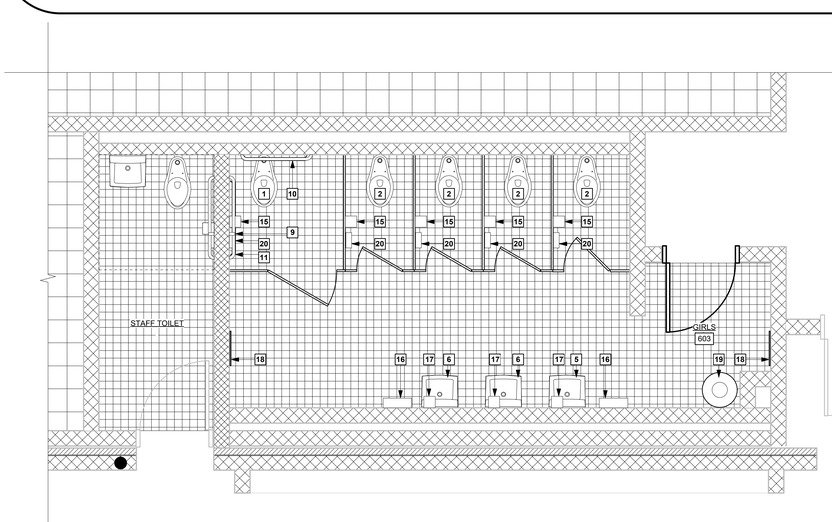
-Control shall be located on the wide side of accessible stalls.

-Toilet paper dispenser shall allow continuous paper delivery.

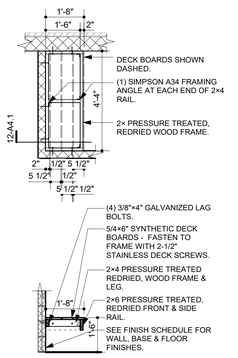
-Supply & drain lines shall be covered w/ pipe insulation or non-heat conducting baffle where exposed & shall not intrude on required knee space.



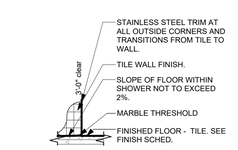
9 A4.1 **Enlarged Restroom**
Scale: 3/8" = 1'-0"



11 A4.1 **Enlarged Restroom**
Scale: 3/8" = 1'-0"



12 A4.1 **Shower Bench Details**
Scale: 3/8" = 1'-0"



13 A4.1 **Shower Threshold Detail**
Scale: 3/8" = 1'-0"

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive Suite 120
Cary, North Carolina 27518
Phone: (919) 319-8716
Fax: (919) 319-7518
LA: C-590
PE: C-1595

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATES P.A. 52349 NORTH CAROLINA WILMINGTON, NC

DOUGLAS K. SHERWOOD Registered Architect 10075 NORTH CAROLINA WILMINGTON, NC 3.27.19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

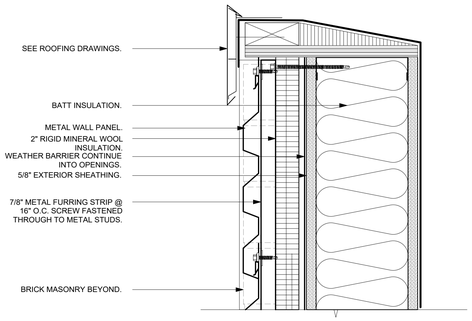
Construction Drawings
March 27, 2019

Revisions:

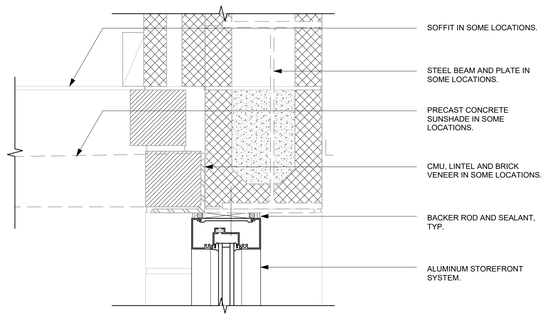
Enlarged Plans

A4.1

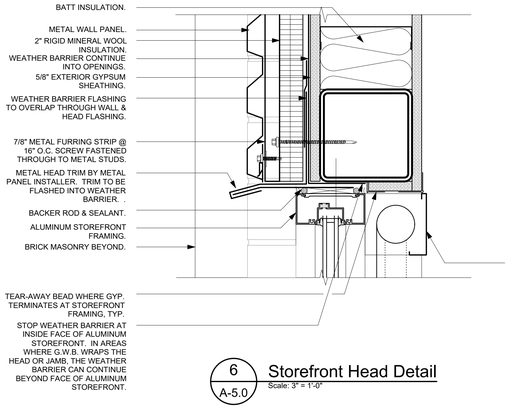
© 2019 Sawyer Sherwood & Associate- All Rights Reserved



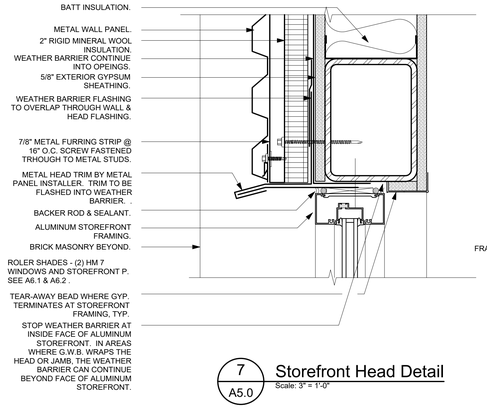
2 A-5.0 **Parapet Detail**
Scale: 3" = 1'-0"



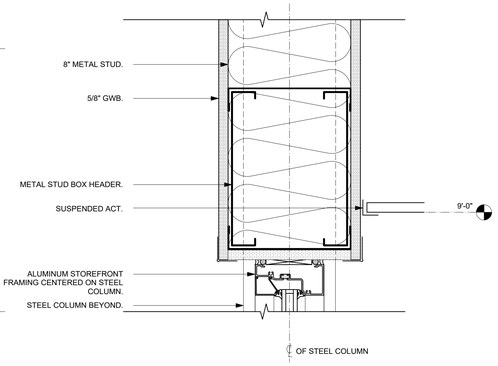
5 A-5.0 **Storefront Head Detail**
Scale: 3" = 1'-0"



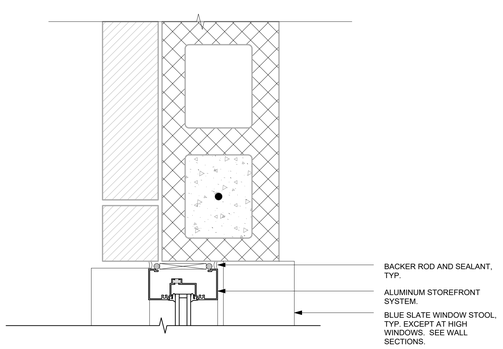
6 A-5.0 **Storefront Head Detail**
Scale: 3" = 1'-0"



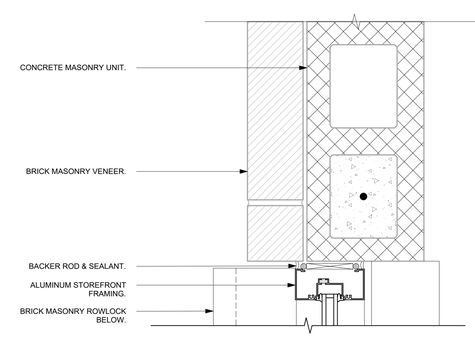
7 A5.0 **Storefront Head Detail**
Scale: 3" = 1'-0"



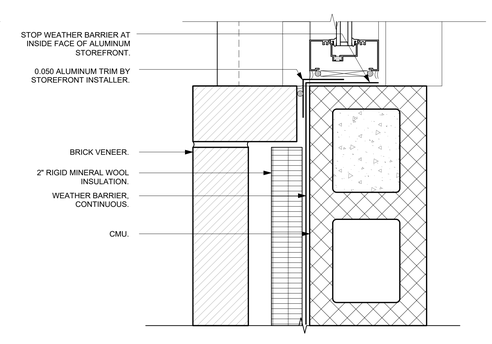
8 A5.0 **Interior Storefront Head Detail**
Scale: 3" = 1'-0"



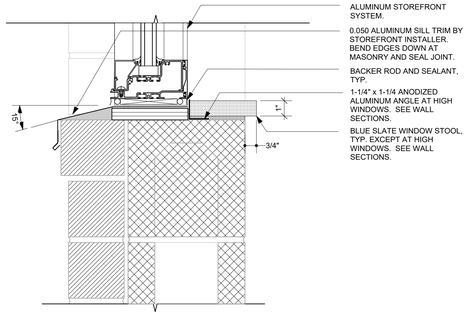
9 A-5.0 **Storefront Jamb Detail**
Scale: 3" = 1'-0"



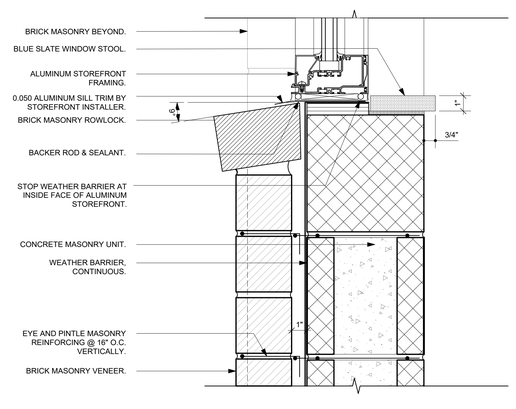
10 A-5.0 **Storefront Jamb Detail**
Scale: 3" = 1'-0"



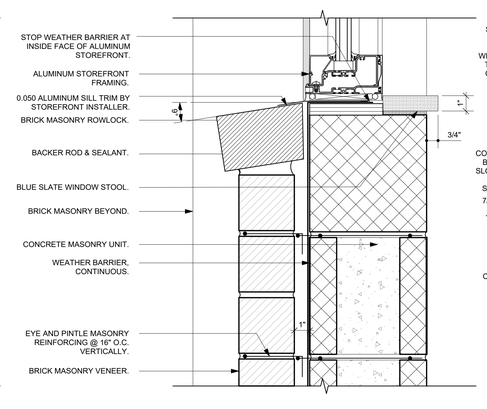
11 A-5.0 **Storefront Jamb Detail**
Scale: 3" = 1'-0"



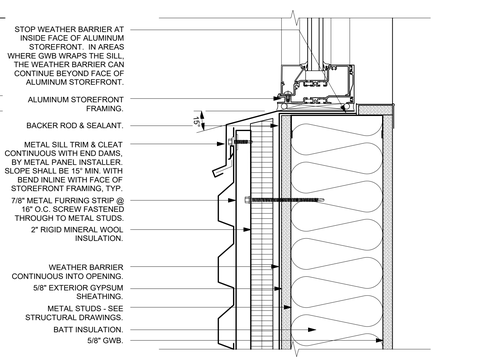
13 A-5.0 **Storefront Sill Detail**
Scale: 3" = 1'-0"



14 A-5.0 **Storefront Sill Detail**
Scale: 3" = 1'-0"



15 A-5.0 **Storefront Sill Detail**
Scale: 3" = 1'-0"



16 A-5.0 **Storefront Sill Detail**
Scale: 3" = 1'-0"

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St. Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-0710
Fax: (919) 319-7516
NC: C-1585
PE: C-1585

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATE P.A. 52349 NORTH CAROLINA WILMINGTON, NC

DOUGLAS K. SHERWOOD REGISTERED ARCHITECT 10075 NORTH CAROLINA WILMINGTON, NC 3.27.19

NHCS Emma B. Trask Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

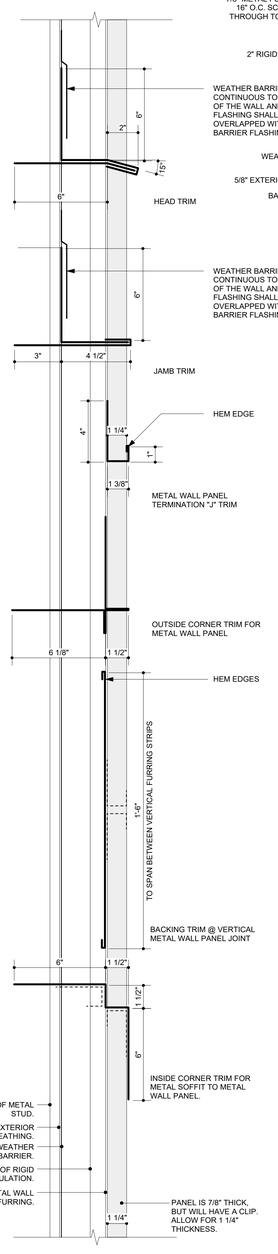
Construction Drawings
March 27, 2019

Revisions:

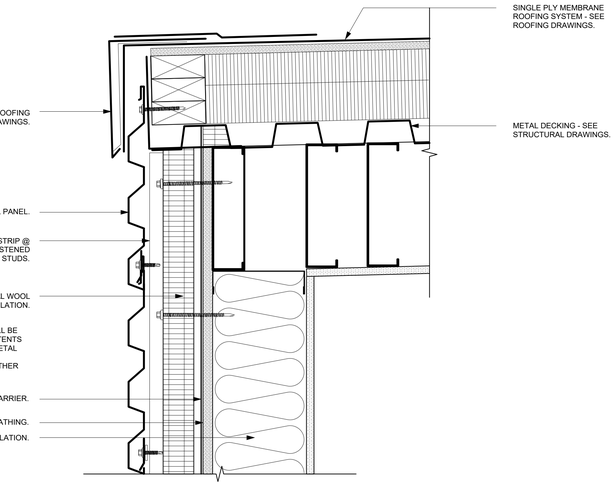
Details

A5.0

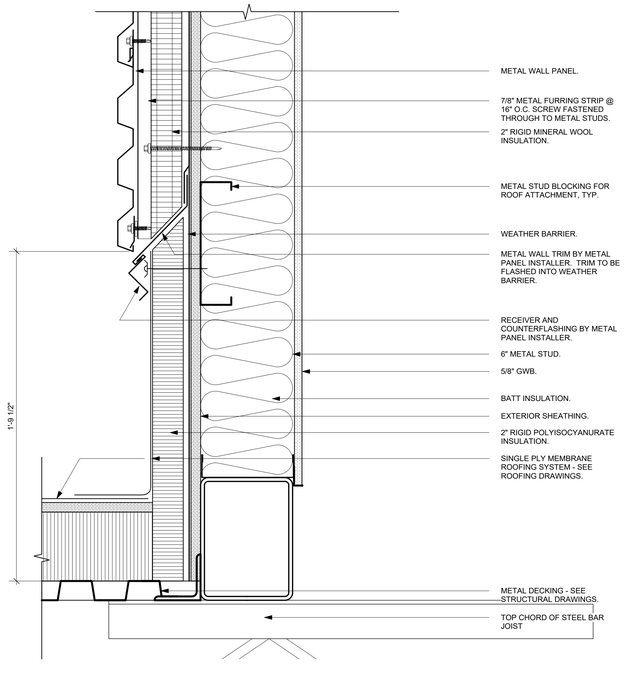
© 2019 Sawyer Sherwood & Associate- All Rights Reserved



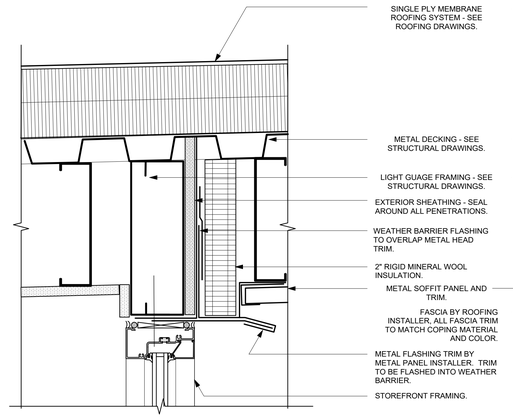
9 A5.1 **Metal Trim Details**
Scale: 3" = 1'-0"



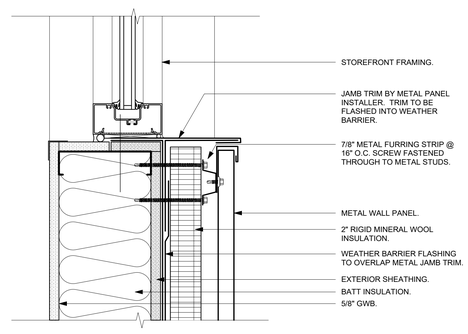
2 A5.1 **Low End of Clerestory Roof**
Scale: 3" = 1'-0"



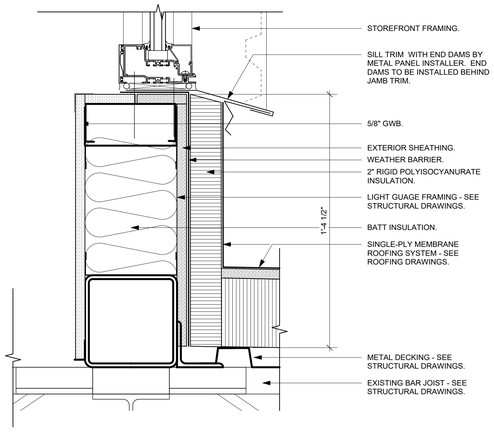
12 A5.1 **Metal Wall Panel to Roof Detail**
Scale: 3" = 1'-0"



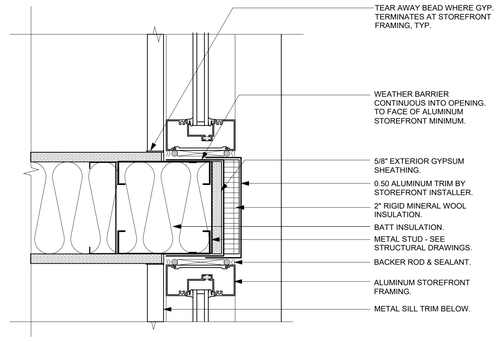
3 A5.1 **Clerestory Window Head Detail**
Scale: 3" = 1'-0"



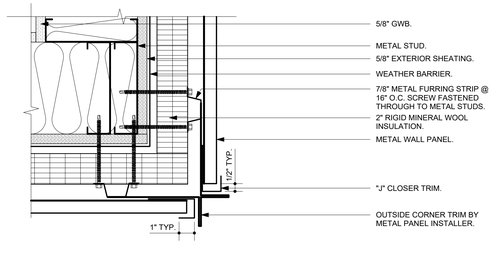
7 A5.1 **Clerestory Window Jamb Detail**
Scale: 3" = 1'-0"



11 A5.1 **Clerestory Window Sill Detail**
Scale: 3" = 1'-0"



6 A5.1 **Clerestory Intermediate Jamb Detail**
Scale: 3" = 1'-0"



10 A5.1 **Metal Wall Panel Corner Detail**
Scale: 3" = 1'-0"

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-0710
Fax: (919) 319-7516
NC: C-1585
FL: C-1585

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATE P.A. ARCHITECTURE/INTERIOR DESIGN NORTH CAROLINA 52349 WILMINGTON, NC

DOUGLAS K. SHERWOOD REGISTERED ARCHITECT 10075 NORTH CAROLINA WILMINGTON, NC 3.27.19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

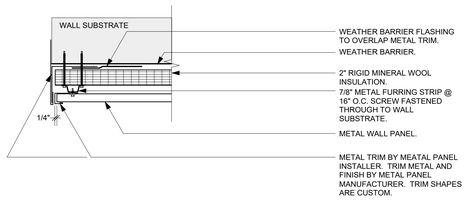
Construction Drawings
March 27, 2019

Revisions:

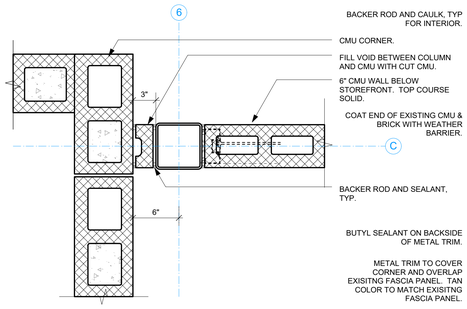
Details

A5.1

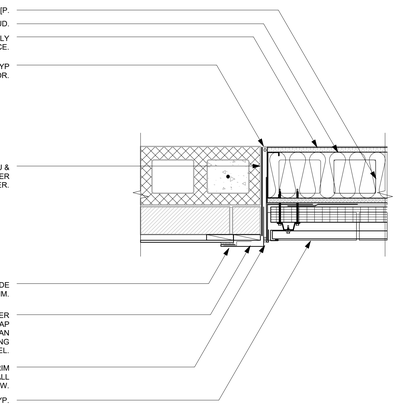
© 2019 Sawyer Sherwood & Associate- All Rights Reserved



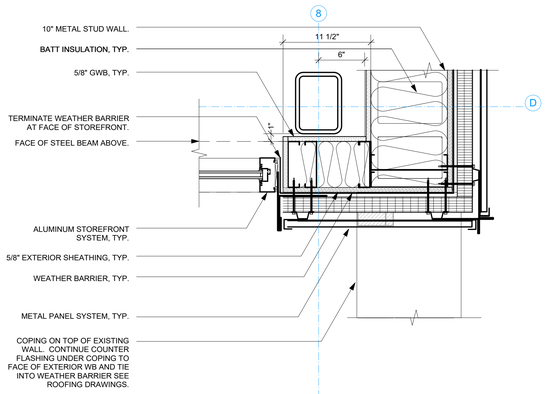
1 A5.2 **Metal Panel System Detail**
Scale: 1 1/2" = 1'-0"



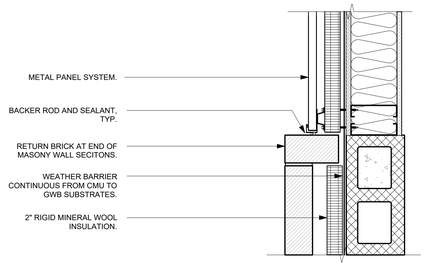
2 A5.2 **Plan Detail**
Scale: 1 1/2" = 1'-0"



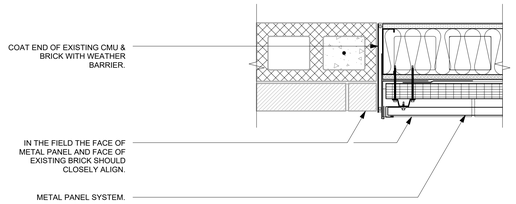
3 A5.2 **Plan Detail**
Scale: 1 1/2" = 1'-0"



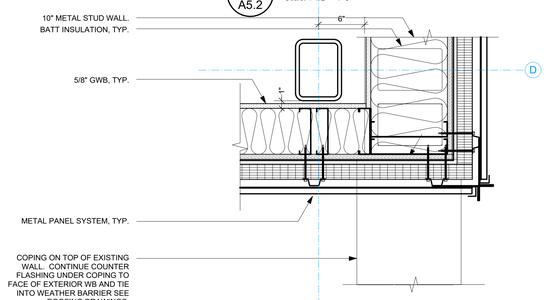
4 A5.2 **Plan Detail**
Scale: 1 1/2" = 1'-0"



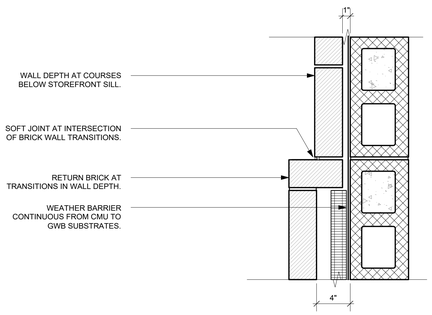
6 A5.2 **Plan Detail**
Scale: 1 1/2" = 1'-0"



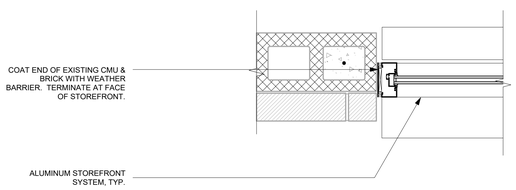
7 A5.2 **Plan Detail**
Scale: 1 1/2" = 1'-0"



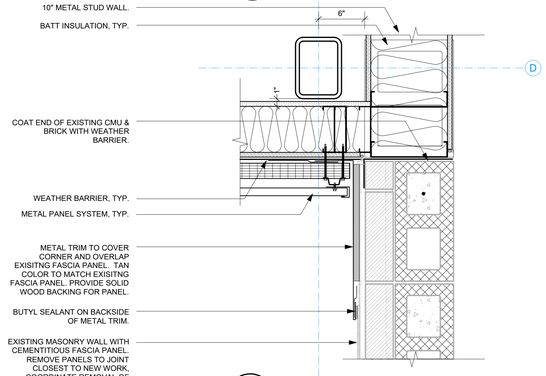
8 A5.2 **Plan Detail**
Scale: 1 1/2" = 1'-0"



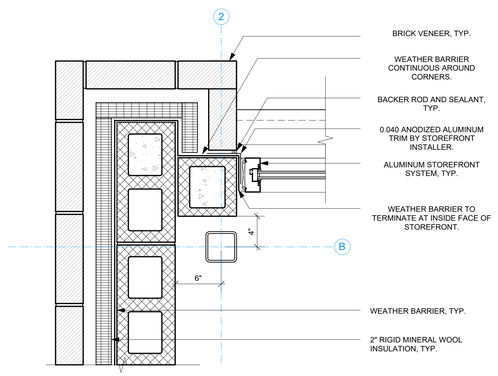
10 A5.2 **Plan Detail**
Scale: 1 1/2" = 1'-0"



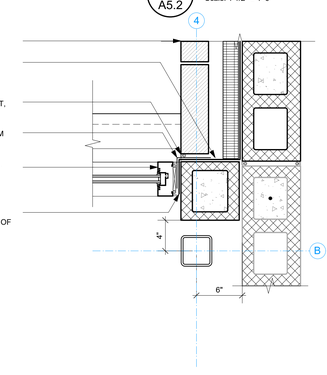
11 A5.2 **Plan Detail**
Scale: 1 1/2" = 1'-0"



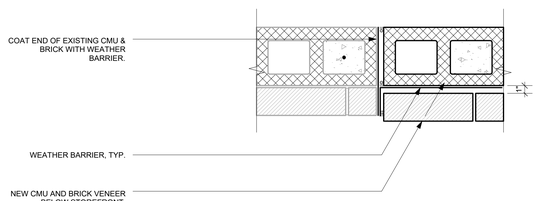
12 A5.2 **Plan Detail**
Scale: 1 1/2" = 1'-0"



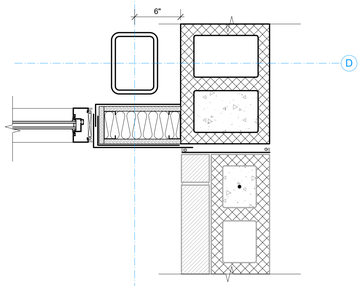
13 A5.2 **Plan ,Detail**
Scale: 1 1/2" = 1'-0"



14 A5.2 **Plan Detail**
Scale: 1 1/2" = 1'-0"



15 A5.2 **Plan Detail**
Scale: 1 1/2" = 1'-0"



16 A5.2 **Plan Detail**
Scale: 1 1/2" = 1'-0"

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St. Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7516
NC: C-1585
FL: C-1585

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATE P.A. ARCHITECTURAL CORPORATION 52349 NORTH CAROLINA WILMINGTON, NC

DOUGLAS K. SHERWOOD Registered Architect 10075 NORTH CAROLINA WILMINGTON, NC 3.27.19

NHCS
Emma B. Trask
Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

Construction Drawings
March 27, 2019

Revisions:

Details

A5.2

© 2019 Sawyer Sherwood & Associate- All Rights Reserved

Finish Schedule

ID	ROOM NAME	FLOOR FINISH	BASE MATERIAL	NORTH WALL FINI	EAST WALL FINIS	SOUTH WALL FINI	WEST WALL FINIS	CEILING	CEILING HT	REMARKS
RECEPTION	100	TERRAZZO	TERRAZZO	GLASS	GLASS	GLASS/CMU-PTD	CMU-PTD	ACT/OTS-PTD	VARIES	PORTIONS OF CEILING OPEN TO STRUCTURE-SEE RCP
DATA MAN.	101	CARPET	RB	CMU-PTD	CMU-PTD	GWB-PTD	GWB-PTD	ACT		
A. PRINCIPAL	102	CARPET	RB	GWB-PTD	CMU-PTD	CMU-PTD	GWB-PTD	ACT		
A. PRINCIPAL	103	CARPET	RB	CMU-PTD	GWB-PTD	GWB-PTD	GWB-PTD	ACT		
PRINCIPAL	104	CARPET	RB	GWB-PTD	GWB-PTD	CMU-PTD	GWB-PTD	ACT		
CONFERENCE	105	CARPET	RB	CMU-PTD	GWB-PTD	GWB-PTD	GWB-PTD	ACT		
SOCIAL WORKER	106	CARPET	RB	GWB-PTD	GWB-PTD	CMU-PTD	GWB-PTD	ACT		
FILE STOR.	107	VCT	RB	CMU-PTD	GWB-PTD	GWB-PTD	GWB-PTD	ACT		
WORK ROOM	108	VCT	RB	GWB-PTD	GWB-PTD	CMU-PTD	GWB-PTD	ACT		VCT EXTENDS DOWN HALL
CLINIC	109	VCT	RB	CMU-PTD	GWB-PTD	GWB-PTD	CMU-PTD	ACT		
BATH	109A	PT-1	PT-1	*GWB-PTD	*GWB-PTD	*GWB-PTD	*GWB-PTD	ACT		*EPOXY PAINT
TEACHERS LOUNGE	110	VCT	RB	GWB-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
TOILET	111	PT-1	PT-1	*GWB-PTD	*CMU-PTD	*GWB-PTD	*CMU-PTD	ACT		*EPOXY PAINT
TOILET	112	PT-1	PT-1	*CMU-PTD	*CMU-PTD	*GWB-PTD	*CMU-PTD	ACT		*EPOXY PAINT
TREASURER	113	CARPET	RB	CMU-PTD	GWB-PTD	GWB-PTD	GWB-PTD	ACT		
MEDIA CENTER	200	CARPET/PT-3	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT/GWB/OTS-PTD	VARIES	
SMALL GROUP	200A	CARPET	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
FLEXIBLE LEARNING	201	TERRAZZO	TERRAZZO	GLASS	CMU-PTD	N/A	CMU-PTD	ACT		
BOYS	202	PT-2	PT-2	*CMU-PTD	*CMU-PTD	*CMU-PTD	*CMU-PTD	ACT		*EPOXY PAINT
GIRLS	203	PT-2	PT-2	*CMU-PTD	*CMU-PTD	*CMU-PTD	*CMU-PTD	ACT		*EPOXY PAINT
FLEXIBLE LEARNING	204	TERRAZZO	TERRAZZO	N/A	CMU-PTD	GLASS	CMU-PTD	ACT		
IT OFFICE	205	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
WORK ROOM	206	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
GIRLS	207	PT-2	PT-2	*CMU-PTD	*CMU-PTD	*CMU-PTD	*CMU-PTD	ACT		*EPOXY PAINT
BOYS	208	PT-2	PT-2	*CMU-PTD	*CMU-PTD	*CMU-PTD	*CMU-PTD	ACT		*EPOXY PAINT
CAFETERIA	300	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
PLATFORM	300A	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
KITCHEN	301	*ETR	*ETR	*CMU-PTD	*CMU-PTD	*CMU-PTD	*CMU-PTD	ACT		*REGROUT FLOOR TILE, *EPOXY PAINT
OFFICE	301A	*ETR	*ETR	*CMU-PTD	*CMU-PTD	*CMU-PTD	*CMU-PTD	ACT		*REGROUT FLOOR TILE, *EPOXY PAINT
LOCKER	301B	*ETR	*ETR	*CMU-PTD	*CMU-PTD	*CMU-PTD	*CMU-PTD	ACT		*REGROUT FLOOR TILE, *EPOXY PAINT
TOILET	301C	*ETR	*ETR	*CMU-PTD	*CMU-PTD	*CMU-PTD	*CMU-PTD	ACT		*REGROUT FLOOR TILE, *EPOXY PAINT
DRY STOR.	301D	*ETR	*ETR	*CMU-PTD	*CMU-PTD	*CMU-PTD	*CMU-PTD	ACT		*REGROUT FLOOR TILE, *EPOXY PAINT
FREEZER	301E	ETR	ETR	ETR	ETR	ETR	ETR	ETR		
COOLER	301F	ETR	ETR	ETR	ETR	ETR	ETR	ETR		
CHORAL	302	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		ACOUSTICAL BAFFELS TO REMAIN
OFFICE	302A	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	CONC-PTD		
BREAK	303	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	CONC-PTD		
OFFICE	304	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	CONC-PTD		
CLASSROOM	305	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
OFFICE	306	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
WORK	306A	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
BAND	307	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		ACOUSTICAL BAFFELS TO REMAIN
STORAGE	307A	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
SPECIAL EDUCATION	400	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
TOILET	400A	ETR	ETR	*CMU-PTD	*CMU-PTD	*CMU-PTD	*CMU-PTD	ACT		*EPOXY PAINT
GROUP	400B	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	GWB-PTD	ACT		
COMPUTER LAB	401	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
STORAGE	401A	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
TIME OUT	402	ETR	ETR	ETR	ETR	ETR	ETR	ETR		
REC. OFFICE	403	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
TECH LAB	404	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	OTS-PTD		
OFFICE	404A	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
STOR.	404B	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
STORAGE	404C	VCT	RB	CMU-PTD	RAILINGS-PTD	CMU-PTD	CMU-PTD	OTS-PTD		
SCIENCE	500	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
STOR.	500A	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
SCIENCE	501	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
STOR.	501A	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
SCIENCE	502	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
SCIENCE	503	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
ART	504	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
STOR.	504A	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
STOR.	504B	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
SCIENCE	505	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
STOR.	505A	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
COUNSELING	600	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
COUNSELING	601	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
CLASSROOM	602	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
GIRLS	603	PT-2	PT-2	*CMU-PTD	*CMU-PTD	*CMU-PTD	*CMU-PTD	ACT		*EPOXY PAINT
BOYS	604	PT-2	PT-2	*CMU-PTD	*CMU-PTD	*CMU-PTD	*CMU-PTD	ACT		*EPOXY PAINT
CLASSROOM	605	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
SCIENCE	606	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
OFFICE	606A	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
OFFICE	606B	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
CLASSROOM	607	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
WORK	608	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
CLASSROOM	609	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
SCIENCE	610	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
CLASSROOM	611	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
CLASSROOM	612	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
CLASSROOM	613	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
CLASSROOM	700	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT GWB/OTS-PTD		
CLASSROOM	701	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
CLASSROOM	702	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT GWB/OTS-PTD		
CLASSROOM	703	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
CLASSROOM	704	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT GWB/OTS-PTD		
CLASSROOM	705	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
CLASSROOM	706	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT GWB/OTS-PTD		
CLASSROOM	707	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
CLASSROOM	708	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT GWB/OTS-PTD		
CLASSROOM	709	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
OFFICE	710	ETR	RB	GWB-PTD	GWB-PTD	CMU-PTD	CMU-PTD	ACT		
OFFICE	711	ETR	RB	GWB-PTD	CMU-PTD	CMU-PTD	GWB-PTD	ACT		
CLASSROOM	712	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
BOYS	713	PT-2	PT-2	*CMU-PTD	*CMU-PTD	*CMU-PTD	*CMU-PTD	ACT		*EPOXY PAINT
STOR.	714	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
GIRLS	715	PT-2	PT-2	*CMU-PTD	*CMU-PTD	*CMU-PTD	*CMU-PTD	ACT		*EPOXY PAINT
CLASSROOM	716	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
CLASSROOM	717	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT GWB/OTS-PTD		
CLASSROOM	718	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT GWB/OTS-PTD		
CLASSROOM	719	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT GWB/OTS-PTD		
CLASSROOM	720	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT GWB/OTS-PTD		
CLASSROOM	721	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT GWB/OTS-PTD		
GYMNASIUM	800	ETR	*RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	OTS-PTD		*WALL BASE TO BE VENTED SUITABLE FOR WOOD FLOOR
OFFICE	801	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
LOCKER ROOM	802	VCT	RB	*CMU-PTD	*CMU-PTD	*CMU-PTD	*CMU-PTD	ACT		*EPOXY PAINT
BATHROOM	802A	PT-2	PT-2	*CMU-PTD	*CMU-PTD	*CMU-PTD	*CMU-PTD	ACT		*EPOXY PAINT
CHANGING ROOM	802B	PT-2	PT-2	*CMU-PTD	*CMU-PTD	*CMU-PTD	*CMU-PTD	ACT		*EPOXY PAINT
STOR.	802C	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
TOILET	803	PT-1	PT-1	*CMU-PTD	*CMU-PTD	*CMU-PTD	*CMU-PTD	ACT		*EPOXY PAINT
STORAGE	804	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
LOCKER ROOM	805	VCT	RB	*CMU-PTD	*CMU-PTD	*CMU-PTD	*CMU-PTD	ACT		
BATHROOM	805A	PT-2	PT-2	*CMU-PTD	*CMU-PTD	*CMU-PTD	*CMU-PTD	ACT		*EPOXY PAINT
CHANGING ROOM	805B	PT-2	PT-2	*CMU-PTD	*CMU-PTD	*CMU-PTD	*CMU-PTD	ACT		*EPOXY PAINT
STOR.	805C	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
OFFICE	806	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
OFFICE	2300	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
OFFICE	2301	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
STORAGE	2302	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
OFFICE	2303	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
BAND OFFICE	2304	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
CUST.	C1	PT-2	PT-2	*CMU-PTD	*CMU-PTD	*CMU-PTD	*CMU-PTD	ACT		*EPOXY PAINT
CUST.	C2	PT-2	PT-2	*CMU-PTD	*CMU-PTD	*CMU-PTD	*CMU-PTD	ACT		*EPOXY PAINT
CUST.	C3	PT-2	PT-2	*CMU-PTD	*CMU-PTD	*CMU-PTD	*CMU-PTD	ACT		*EPOXY PAINT
CUST.	C4	PT-2	PT-2	*CMU-PTD	*CMU-PTD	*CMU-PTD	*CMU-PTD	ACT		*EPOXY PAINT
ELECT.	E1	ETR	ETR	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	OTS		
ELECT.	E2	ETR	ETR	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	OTS		
ELECT.	E3	ETR	ETR	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	OTS		
ELECT.	E4	ETR	ETR	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	OTS-PTD		
ELECT.	E5	ETR	ETR	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	OTS		
ELECT.	E6	ETR	ETR	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	OTS		
ELECT.	E7	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	GWB-PTD		
ELECT.	E8	ETR	ETR	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	OTS		
ELECT.	E9	ETR	ETR	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	OTS		

Finish Schedule

ID	ROOM NAME	FLOOR FINISH	BASE MATERIAL	NORTH WALL FINI	EAST WALL FINIS	SOUTH WALL FINI	WEST WALL FINIS	CEILING	CEILING HT	REMARKS
HALL	H1	*ETR	*ETR	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		*EXITING TERRAZZO *PATCH TERRAZZO BASE AS NECESSARY
HALL	H2	*ETR	*ETR	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		*EXITING TERRAZZO *PATCH TERRAZZO BASE AS NECESSARY
HALL	H3	*ETR	*ETR	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		*EXITING TERRAZZO *PATCH TERRAZZO BASE AS NECESSARY
HALL	H4	*ETR	*ETR	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		*EXITING TERRAZZO *PATCH TERRAZZO BASE AS NECESSARY
HALL	H5	*ETR	*ETR	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		*EXITING TERRAZZO *PATCH TERRAZZO BASE AS NECESSARY
HALL	H6	*ETR	*ETR	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		*EXITING TERRAZZO *PATCH TERRAZZO BASE AS NECESSARY
HALL	H7	*ETR	*ETR	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		*EXITING TERRAZZO *PATCH TERRAZZO BASE AS NECESSARY
HALL	H8	*ETR	*ETR	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		*EXITING TERRAZZO *PATCH TERRAZZO BASE AS NECESSARY
HALL	H9	*ETR	*ETR	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		*EXITING TERRAZZO *PATCH TERRAZZO BASE AS NECESSARY
HALL	H10	*ETR	*ETR	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		*EXITING TERRAZZO *PATCH TERRAZZO BASE AS NECESSARY
HALL	H11	*ETR	*ETR	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		*EXITING TERRAZZO *PATCH TERRAZZO BASE AS NECESSARY
HALL	H12	*ETR	*ETR	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		*EXITING TERRAZZO *PATCH TERRAZZO BASE AS NECESSARY
HALL	H13	*ETR	*ETR	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		*EXITING TERRAZZO *PATCH TERRAZZO BASE AS NECESSARY
HALL	H14	*ETR	*ETR	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		*EXITING TERRAZZO *PATCH TERRAZZO BASE AS NECESSARY
HALL	H15	*ETR	*ETR	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		*EXITING TERRAZZO *PATCH TERRAZZO BASE AS NECESSARY
HALL	H16	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	OTS-PTD		
HALL	H17	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	OTS-PTD		
HALL	H18	*ETR	*ETR	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		*EXITING TERRAZZO *PATCH TERRAZZO BASE AS NECESSARY
HALL	H19	*ETR	*ETR	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		*EXITING TERRAZZO *PATCH TERRAZZO BASE AS NECESSARY
LOBBY	L1	TERRAZZO	TERRAZZO	N/A	CMU-PTD	GLASS/GWB-PTD	CMU/GWB-PTD	ACT GWB/OTS-PTD		PATCH EXISTING TERRAZZO IF POSSIBE, IF NOT REPLACE ALL
LOBBY	L2	*ETR	*ETR	CMU-PTD	CMU-PTD	GLASS/CMU-PTD	CMU-PTD	ACT		*EXITING TERRAZZO *PATCH TERRAZZO BASE AS NECESSARY
LOBBY	L3	*ETR	*ETR	CMU-PTD	CMU-PTD	GLASS/CMU-PTD	CMU-PTD	ACT		*EXITING TERRAZZO *PATCH TERRAZZO BASE AS NECESSARY
STOR.	S1	ETR	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
MDF	T1	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
IDF	T2	VCT	RB	CMU-PTD	CMU-PTD	CMU-PTD	CMU-PTD	ACT		
VESTIBULE	V1	WALK OFF MAT	TERRAZZO	GLASS	CMU-PTD	GLASS	GLASS/CMU-PTD	ACT		

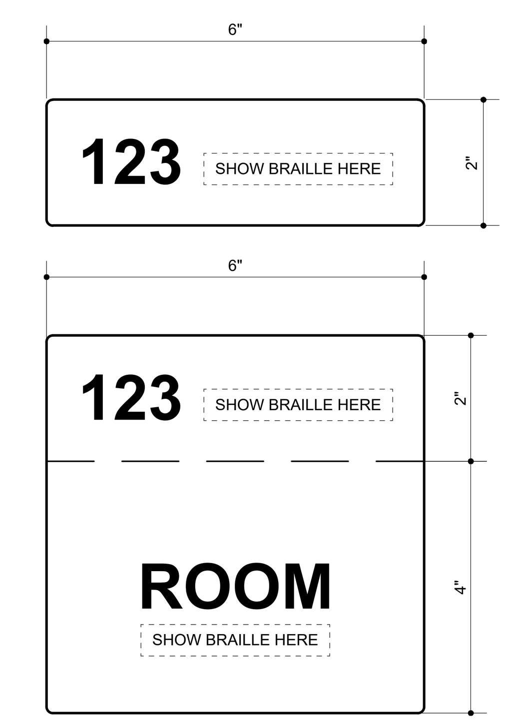
Door Schedule

Door				Frame			
ID #	Size WxH	Type	Material	Type	Material	Jamb Depth	Remarks
100A	3-0 x 7-0	A	ALUMINUM	R	ALUMINUM	4 1/2	RECEPTION DOOR-ELECTRONIC PUSH BUTTON OPERATED
100B	3-0 x 7-0	A	ALUMINUM	S	ALUMINUM	4 1/2	RECEPTION DOOR-ELECTRONIC PUSH BUTTON OPERATED
100C	3-0 x 7-0	B	WOOD	5	METAL	5 3/4	1 1/2 HR RATED, ELECTRONIC HOLD OPEN CONNECTED TO FIRE ALARM, HRDWR ALWAYS LOCKED
101	3-0 x 7-0	D	WOOD	5	METAL	8 3/8	
102	3-0 x 7-0	D	WOOD	5	METAL	8 3/8	
103	3-0 x 7-0	D	WOOD	5	METAL	8 3/8	
104	3-0 x 7-0	D	WOOD	5	METAL	8 3/8	
105	3-0 x 7-0	D	WOOD	5	METAL	8 3/8	
106	3-0 x 7-0	D	WOOD	5	METAL	8 3/8	
107	3-0 x 7-0	D	WOOD	5	METAL	8 3/8	
108	3-0 x 7-0	E	WOOD	1	METAL	5 3/4	1 1/2 HR RATED, HRDWR ALWAYS LOCKED, AD400
109A	3-0 x 7-0	D	WOOD	5	METAL	8 3/8	
109B	3-0 x 7-0	B	WOOD	1	METAL	5 3/4	1 1/2 HR RATED
109C	3-0 x 7-0	B	WOOD	*5	METAL	8 3/8	*GALVANEALED
110	3-0 x 7-0	E	WOOD	1	METAL	5 3/4	1 1/2 HR RATED
111	3-0 x 7-0	B	WOOD	1	METAL	5 3/4	1 1/2 HR RATED, *GALVANEALED
112	3-0 x 7-0	B	WOOD	1	METAL	5 3/4	1 1/2 HR RATED, *GALVANEALED
113	3-0 x 7-0	E	WOOD	1	METAL	5 3/4	1 1/2 HR RATED
200A	3-0 X 7-0	D	WOOD	3	METAL	5 3/4	20 MIN RATED
200B	3-0 x 7-0	D	WOOD	3	METAL	5 3/4	20 MIN RATED
200C	3-0 x 7-0	A	ALUMINUM	W	ALUMINUM	4 1/2	EXTERIOR DOOR
200D	3-0 x 7-0	A	ALUMINUM	X	ALUMINUM	4 1/2	EXTERIOR DOOR
200E	3-0 x 7-0	D	WOOD	5	METAL	5 3/4	
201	3-0 x 7-2	A	ALUMINUM	AL5	ALUMINUM	4 1/2	EXTERIOR DOOR
202A	3-0 x 7-0	B	WOOD	*1	METAL	5 3/4	*GALVANEALED
203A	3-0 x 7-0	B	WOOD	*1	METAL	5 3/4	*GALVANEALED
204	3-0 x 7-2	A	ALUMINUM	AL5	ALUMINUM	4 1/2	EXTERIOR DOOR
205A	3-0 x 7-0	E	WOOD	1	METAL	5 3/4	1 1/2 HR RATED
205B	3-0 x 7-0	E	WOOD	5	METAL	5 3/4	1 1/2 HR RATED
206A	3-0 x 7-0	E	WOOD	1	METAL	5 3/4	1 1/2 HR RATED
207A	3-0 x 7-0	B	WOOD	*1	METAL	5 3/4	*GALVANEALED
208A	3-0 x 7-0	B	WOOD	*1	METAL	5 3/4	*GALVANEALED
300A	3-0 x 7-0 PAIR	E	WOOD	2	METAL	5 3/4	1 1/2 HR RATED
300B	3-0 x 7-0 PAIR	E	WOOD	2	METAL	5 3/4	1 1/2 HR RATED
300C	3-0 x 7-0	E	WOOD	2	METAL	8 5/8	1 1/2 HR RATED
301A	3-0 x 7-0	D	WOOD	*1	METAL	5 3/4	*GALVANEALED
301B	3-0 x 7-0 PAIR	D	WOOD	*2	METAL	5 3/4	*GALVANEALED
301C	3-0 x 7-0	D	WOOD	*1	METAL	5 3/4	*GALVANEALED
301D	3-8 x 7-2	D	ALUMINUM	AL6	ALUMINUM	4 1/2	EXTERIOR DOOR ALUM. SKIN
302C	3-8 x 7-2	D	ALUMINUM	AL6	ALUMINUM	4 1/2	EXTERIOR DOOR ALUM. SKIN
307C	3-6 x 7-0	D	ALUMINUM	AL8	ALUMINUM	4 1/2	EXTERIOR DOOR ALUM. SKIN
400D	5-0 X 7-0	NONE	NONE	6	METAL	8 3/8	CASED OPENING
401D	3-0 x 7-2	D	ALUMINUM	AL5	ALUMINUM	4 1/2	EXTERIOR DOOR ALUM. SKIN
401E	3-0 x 7-2	B	ALUMINUM	AL5	ALUMINUM	4 1/2	EXTERIOR DOOR ALUM. SKIN
404C	3-0 x 7-2	D	ALUMINUM	AL5	ALUMINUM	4 1/2	EXTERIOR DOOR ALUM. SKIN
500B	3-0 x 7-0	B	WOOD	5	METAL	5 3/4	
500C	3-0 x 7-2	D	ALUMINUM	AL5	ALUMINUM	4 1/2	EXTERIOR DOOR ALUM. SKIN
501B	3-0 x 7-0	B	WOOD	5	METAL	5 3/4	
502B	3-0 x 7-0	B	WOOD	5	METAL	5 3/4	
502C	3-0 x 7-2	D	ALUMINUM	AL5	ALUMINUM	4 1/2	EXTERIOR DOOR ALUM. SKIN
503B	3-0 x 7-0	B	WOOD	5	METAL	5 3/4	
504B	3-0 x 7-0	B	WOOD	5	METAL	5 3/4	1 HR RATED
504C	3-0 x 7-0	B	WOOD	5	METAL	5 3/4	
505B	3-0 x 7-0	B	WOOD	5	METAL	5 3/4	
603A	3-0 x 7-0	B	WOOD	*1	METAL	5 3/4	*GALVANEALED
604A	3-0 x 7-0	B	WOOD	*1	METAL	5 3/4	*GALVANEALED
713A	3-0 x 7-0	B	WOOD	*1	METAL	5 3/4	*GALVANEALED
715A	3-0 x 7-0	B	WOOD	*1	METAL	5 3/4	*GALVANEALED
800A	3-0 x 7-0 PAIR	A	ALUMINUM	AL3	ALUMINUM	4 1/2	EXTERIOR DOOR
800B	3-0 x 7-0 PAIR	A	ALUMINUM	AL3	ALUMINUM	4 1/2	EXTERIOR DOOR
800C	3-0 x 7-0 PAIR	A	ALUMINUM	AL3	ALUMINUM	4 1/2	EXTERIOR DOOR, AD400 CARD READER
800D	3-0 x 7-0 PAIR	A	ALUMINUM	AL3	ALUMINUM	4 1/2	EXTERIOR DOOR
800E	3-0 x 7-0 PAIR	E	WOOD	2	METAL	5 3/4	1 1/2 HR RATED, ELECTRONIC HOLD OPEN CONNECTED TO FIRE ALARM
800F	3-0 x 7-0 PAIR	E	WOOD	2	METAL	5 3/4	1 1/2 HR RATED, ELECTRONIC HOLD OPEN CONNECTED TO FIRE ALARM
801A	3-0 x 7-0	D	WOOD	1	METAL	5 3/4	
801B	3-0 x 7-0	B	WOOD	5	METAL	8 3/8	
802B	3-0 x 7-0	B	ALUMINUM	AL4	ALUMINUM	4 1/2	EXTERIOR DOOR ALUM. SKIN GLAZING TO BE FROSTED
802C	3-0 x 7-0	B	WOOD	*1	METAL	5 3/4	*GALVANEALED
803A	3-0 x 7-0	B	WOOD	*5	METAL	5 3/4	*GALVANEALED
804A	3-0 x 7-0	B	WOOD	5	METAL	5 3/4	1 HR RATED
804B	3-0 x 7-0	B	ALUMINUM	AL4	ALUMINUM	4 1/2	EXTERIOR DOOR ALUM. SKIN GLAZING TO BE FROSTED
805B	3-0 x 7-0	B	ALUMINUM	AL4	ALUMINUM	4 1/2	EXTERIOR DOOR ALUM. SKIN GLAZING TO BE FROSTED
805C	3-0 x 7-0	B	WOOD	*1	METAL	5 3/4	*GALVANEALED
806A	3-0 x 7-0	D	WOOD	1	METAL	5 3/4	
806B	3-0 x 7-0	B	WOOD	5	METAL	8 3/8	
C4	3-0 x 7-0	B	WOOD	*1	METAL	5 3/4	*GALVANEALED
E1	3-8 x7-2	C	ALUMINUM	AL6	ALUMINUM	4 1/2	EXTERIOR DOOR ALUM SKIN
H2A	3-0 x 7-0 PAIR	E	WOOD	2	METAL	5 3/4	1 1/2 HR RATED, ELECTRONIC HOLD OPEN CONNECTED TO FIRE ALARM
H3A	3-0 x 7-0 PAIR	E	WOOD	2	METAL	5 3/4	1 1/2 HR RATED, ELECTRONIC HOLD OPEN CONNECTED TO FIRE ALARM
H3B	3-0 x 7-0 PAIR	E	WOOD	2	METAL	5 3/4	1 1/2 HR RATED, ELECTRONIC HOLD OPEN CONNECTED TO FIRE ALARM
H5A	3-0 x 7-0 PAIR	E	WOOD	2	METAL	5 3/4	1 1/2 HR RATED, ELECTRONIC HOLD OPEN CONNECTED TO FIRE ALARM
H5B	3-0 x 7-0 PAIR	A	ALUMINUM	AL3	ALUMINUM	4 1/2	EXTERIOR DOOR , AD400 CARD READER
H7A	3-0 x 7-0 PAIR	E	WOOD	2	METAL	5 3/4	1 1/2 HR RATED, ELECTRONIC HOLD OPEN CONNECTED TO FIRE ALARM
H7B	3-0 x 7-2	D	ALUMINUM	AL5	ALUMINUM	4 1/2	EXTERIOR DOOR ALUM. SKIN
H8A	3-0 x 7-0 PAIR	E	WOOD	2	METAL	5 3/4	1 1/2 HR RATED, ELECTRONIC HOLD OPEN CONNECTED TO FIRE ALARM
H8B	3-0 x 7-0 PAIR	A	ALUMINUM	AL3	ALUMINUM	4 1/2	EXTERIOR, AD400 CARD READER
H10A	3-0 x 7-0 PAIR	E	WOOD	2	METAL	5 3/4	1 1/2 HR RATED, ELECTRONIC HOLD OPEN CONNECTED TO FIRE ALARM
H11A	3-0 x 7-0 PAIR	E	WOOD	2	METAL	5 3/4	1 1/2 HR RATED, ELECTRONIC HOLD OPEN CONNECTED TO FIRE ALARM
H11B	3-0 x 7-0 PAIR	E	WOOD	2	METAL	5 3/4	1 1/2 HR RATED, ELECTRONIC HOLD OPEN CONNECTED TO FIRE ALARM
H12B	3-0 x 7-0 PAIR	ETR	ALUMINUM	ETR	ALUMINUM		EXTERIOR, AD400 CARD READER
H19A	3-0 x 7-0 PAIR	E	WOOD	2	METAL	5 3/4	1 1/2 HR RATED, ELECTRONIC HOLD OPEN CONNECTED TO FIRE ALARM
H19B	3-0 x 7-0 PAIR	E	WOOD	2	METAL	5 3/4	1 1/2 HR RATED, ELECTRONIC HOLD OPEN CONNECTED TO FIRE ALARM
L1A	3-0 x 7-0	A	ALUMINUM	T1	ALUMINUM	4 1/2	HRDWR ALWAYS LOCKED, PANIC BAR ALLOWS EGRESS
L1B	3-0 x 7-0	A	ALUMINUM	T1	ALUMINUM	4 1/2	HRDWR ALWAYS LOCKED, PANIC BAR ALLOWS EGRESS
L1C	3-0 x 7-0	A	ALUMINUM	T1	ALUMINUM	4 1/2	HRDWR ALWAYS LOCKED, PANIC BAR ALLOWS EGRESS
L2A	3-0 x 7-0	A	ALUMINUM	AL2	ALUMINUM	4 1/2	HRDWR ALWAYS LOCKED, PANIC BAR ALLOWS EGRESS
L2B	3-0 x 7-0	A	ALUMINUM	AL2	ALUMINUM	4 1/2	HRDWR ALWAYS LOCKED, PANIC BAR ALLOWS EGRESS
L2C	3-0 x 7-0	A	ALUMINUM	AL2	ALUMINUM	4 1/2	HRDWR ALWAYS LOCKED, PANIC BAR ALLOWS EGRESS
L2D	3-0 x 7-0	A	ALUMINUM	AL2	ALUMINUM	4 1/2	HRDWR ALWAYS LOCKED, PANIC BAR ALLOWS EGRESS
L3A	3-0 x 7-0	A	ALUMINUM	AL2	ALUMINUM	4 1/2	HRDWR ALWAYS LOCKED, PANIC BAR ALLOWS EGRESS
L3B	3-0 x 7-0	A	ALUMINUM	AL2	ALUMINUM	4 1/2	HRDWR ALWAYS LOCKED, PANIC BAR ALLOWS EGRESS
L3C	3-0 x 7-0	A	ALUMINUM	AL2	ALUMINUM	4 1/2	HRDWR ALWAYS LOCKED, PANIC BAR ALLOWS EGRESS
L3D	3-0 x 7-0	A	ALUMINUM	AL2	ALUMINUM	4 1/2	HRDWR ALWAYS LOCKED, PANIC BAR ALLOWS EGRESS
S1	3-8 x 7-2	B	ALUMINUM	AL6	ALUMINUM	4 1/2	EXTERIOR DOOR ALUM SKIN
VA	3-0 x 7-0	A	ALUMINUM	T	ALUMINUM	4 1/2	HRDWR ALWAYS LOCKED, PANIC BAR ALLOWS EGRESS
VB	3-0 x 7-0	A	ALUMINUM	T	ALUMINUM	4 1/2	HRDWR ALWAYS LOCKED, PANIC BAR ALLOWS EGRESS
VC	3-0 x 7-0	A	ALUMINUM	T	ALUMINUM	4 1/2	HRDWR ALWAYS LOCKED, PANIC BAR ALLOWS EGRESS, ELECTRONIC PUSH BUTTON OPERATED

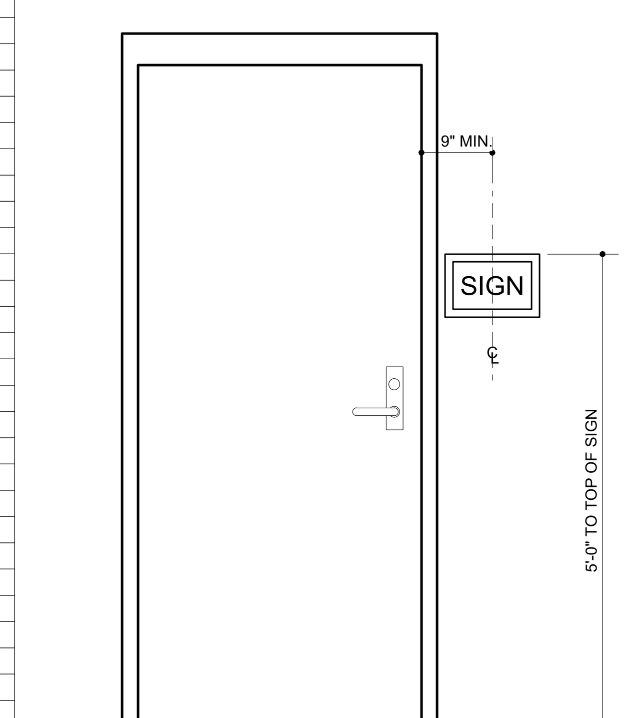
GWB - GYPSUM WALL BOARD
CMU - CONCRETE MASONRY UNIT
ACT - ACOUSTICAL CEILING TILE
OTS - OPEN TO STRUCTURE
VCT - VINYL COMPOSITE TILE
T&G - TONGUE & GROOVE
MTL - METAL
ETR - EXISTING TO REMAIN
PTD - PAINTED
PT-1 - PORCELAIN TILE - SEE TILE SPEC
PT-2 - PORCELAIN TILE - SEE TILE SPEC
PT-3 - PORCELAIN TILE - SEE TILE SPEC
CPT - CARPET TILE
RB - RUBBER BASE

SIGNAGE:

NOTES:
-SEE 6&9-A6.0 FOR SIGN DETAILS.-SEE SPECIFICAITIONS FOR SIGNAGE SCHEDULE.



6 / A6.0 Signage Detail
Scale: Half Actual Size



9 / A6.0 Sign Placement
Scale: 3/4" = 1'-0"

DOORS & DOOR FRAMES

NOTES:
ALL DOORS AND DOOR FRAMES UTILIZING EXISING OPENING - OPENINGS ARE TO BE FIELD VERIFIED WITH THE SCHEDULE PRIOR TO GENERATING SUBMITTAL.

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-6716
Fax: (919) 319-7516
LA: C-106
PE: C-1595

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODSENGINEERING
Consulting Structural Engineers
254 North Front Street, Suite 201, Wilmington, NC 28401
Phone: 910.343.8007
Fax: 910.343.8088
www.woodseng.com

SAWYER SHERWOOD & ASSOCIATE, P.C. REGISTERED ARCHITECTURAL CORPORATION 52349 NORTH CAROLINA WILMINGTON, NC
DOUGLAS K. SHERWOOD Registered Architect 10075 North Carolina WILMINGTON, NC 3-27-19

**NHCS
Emma B. Trask
Trask Middle
School
Renovations**

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

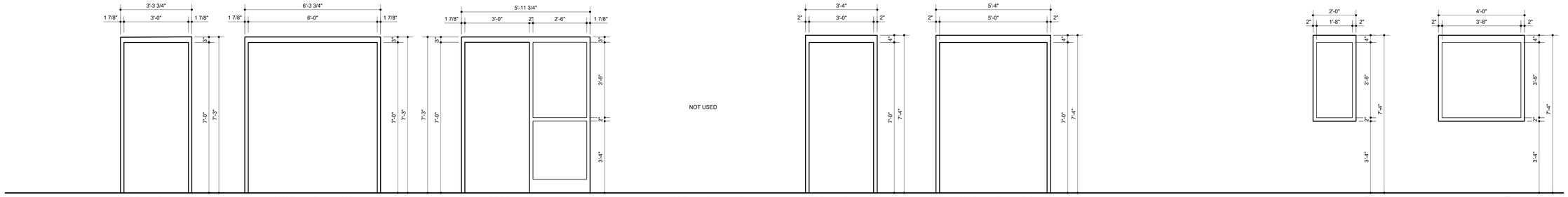
Construction Drawings
March 27, 2019

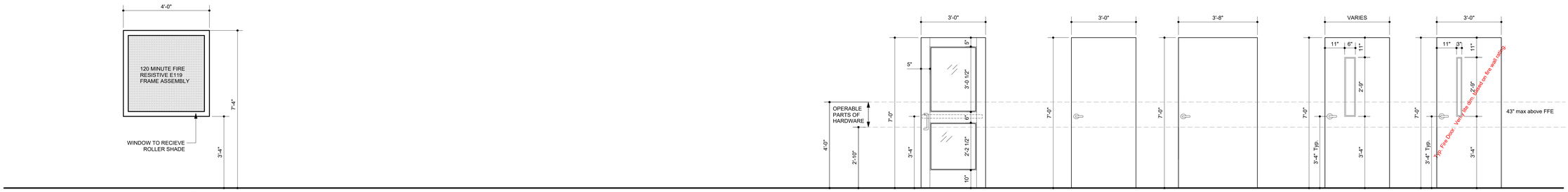
Revisions:

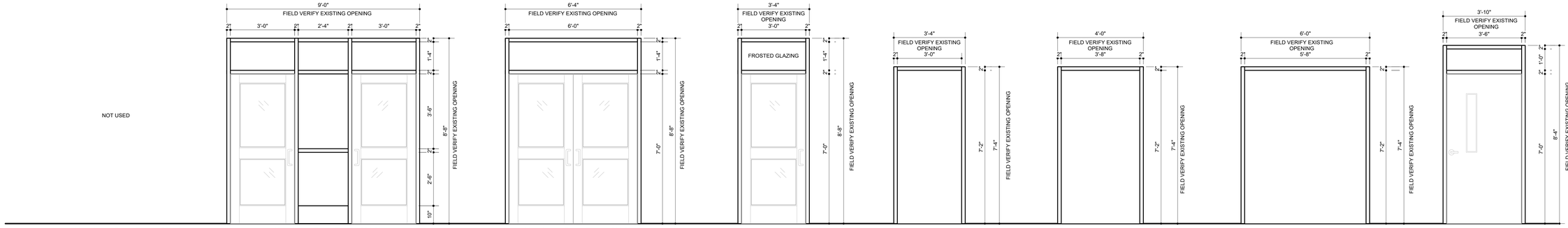
Finish & Door Schedules, Signage Details

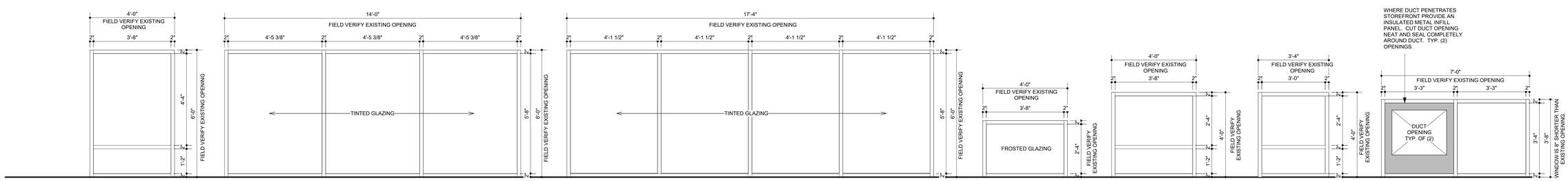
A6.0

© 2019 Sawyer Sherwood & Associate- All Rights Reserved









NOTES:

1. ALL GLAZING IS TEMPERED UNLESS NOTED OTHERWISE.
2. FIELD VERIFY ALL OPENINGS PRIOR TO MANUFACTURING.

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-0710
Fax: (919) 319-7516
NC: C-1585
FL: C-1585

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATE P.A. ARCHITECTURAL CORPORATION 52349 NORTH CAROLINA WILMINGTON, NC

DOUGLAS K. SHERWOOD Registered Architect 10075 North Carolina WILMINGTON, NC 3.27.19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

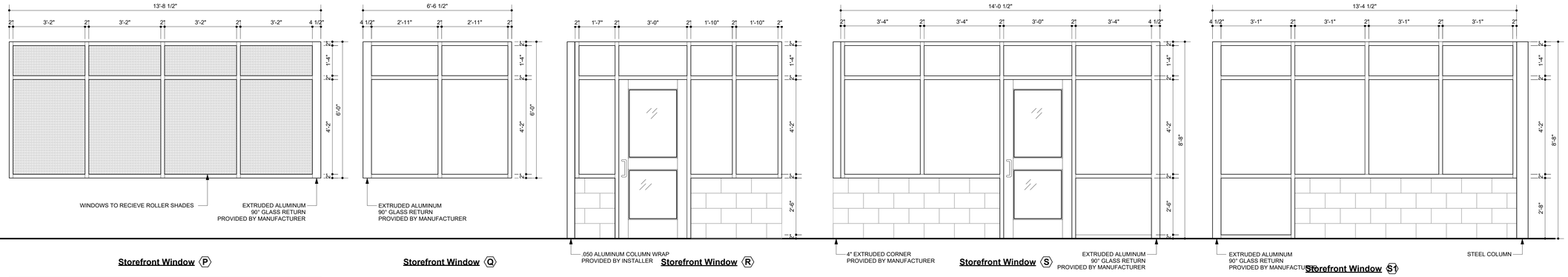
Construction Drawings
March 27, 2019

Revisions:

Door & Window Elevations

A6.1

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



Storefront Window (P)

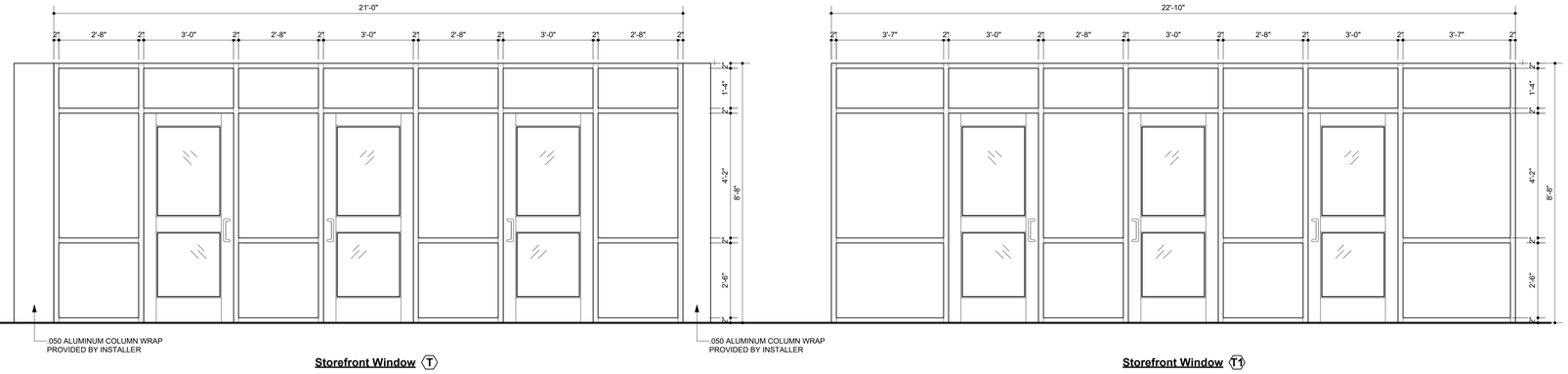
PREMANUFACTURED LIGHT SHELF ON THE INTERIOR MIDDLE MULLION OF WINDOW P

Storefront Window (Q)

Storefront Window (R)

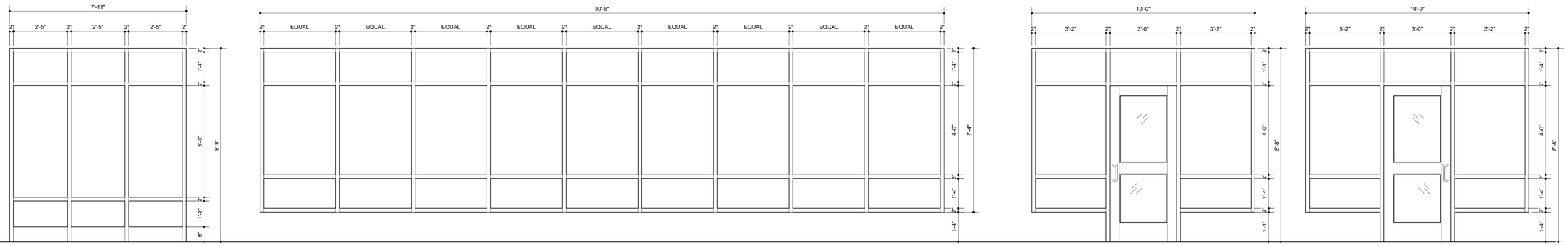
Storefront Window (S)

Storefront Window (S1)



Storefront Window (T)

Storefront Window (T1)

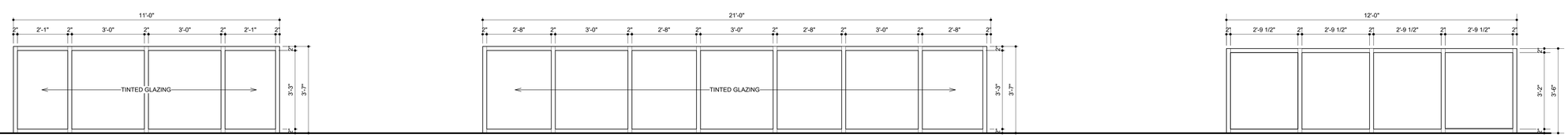


Storefront Window (U)

Storefront Window (V)

Storefront Window (W)

Storefront Window (X)



Storefront Window (Y)

PREMANUFACTURED LIGHT SHELF ON THE INTERIOR BOTTOM OF WINDOW Y

Storefront Window (Y1)

Storefront Window (Z)

NOTES:

1. ALL GLAZING IS TEMPERED UNLESS NOTED OTHERWISE.
2. FIELD VERIFY ALL OPENINGS PRIOR TO MANUFACTURING.

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919)319-0710
Fax: (919)319-7516
NC 2005
PE C-1585

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATE P.A. ARCHITECTURAL DESIGNERS NORTH CAROLINA 52349 WILMINGTON, NC

DOUGLAS K. SHERWOOD Registered Architect 10075 North Carolina WILMINGTON, NC 3-27-19

NHCS Emma B. Trask Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

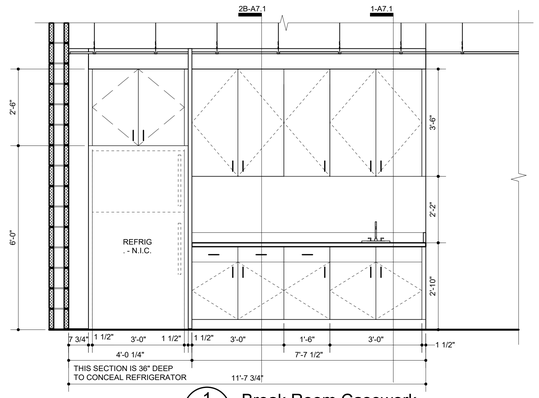
Construction Drawings
March 27, 2019

Revisions:

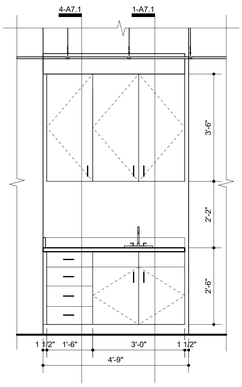
Window Elevations

A6.2

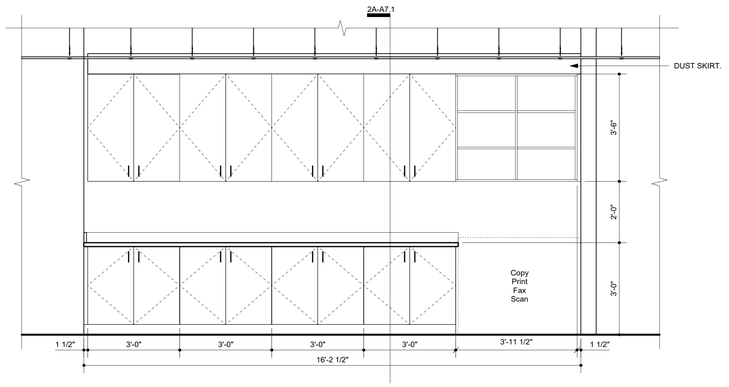
© 2019 Sawyer Sherwood & Associate- All Rights Reserved



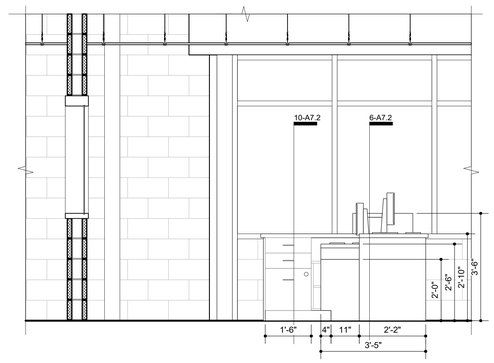
1 A7.0 **Break Room Casework**
Scale: 1/2" = 1'-0"



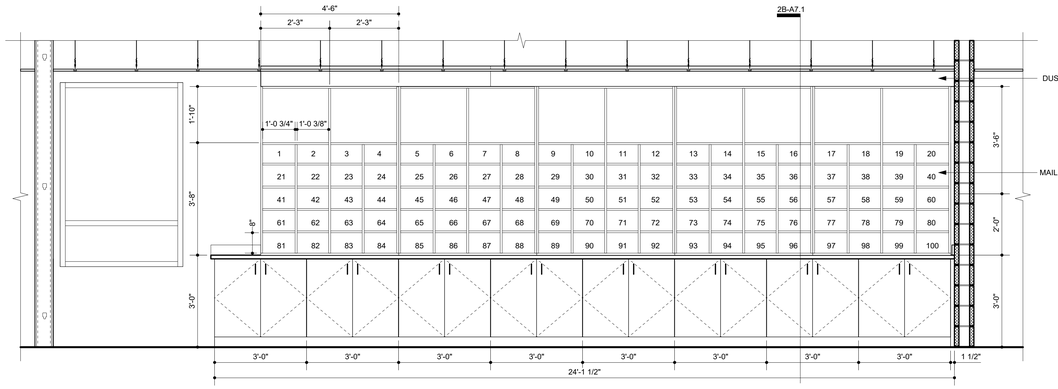
2 A7.0 **Clinic Casework**
Scale: 1/2" = 1'-0"



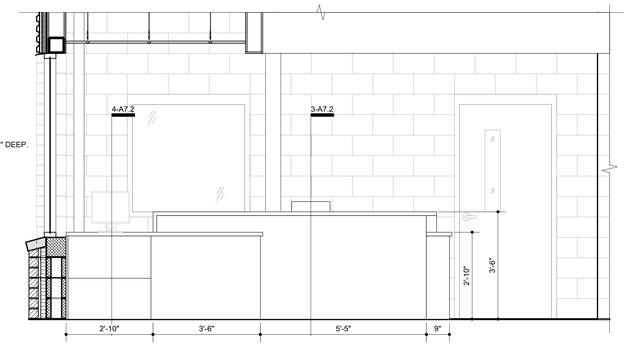
3 A7.0 **Work Room. Casework**
Scale: 1/2" = 1'-0"



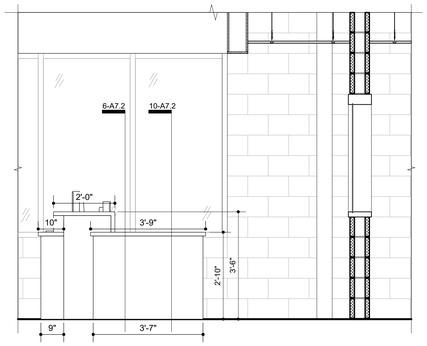
4 A7.0 **Reception Casework**
Scale: 1/2" = 1'-0"



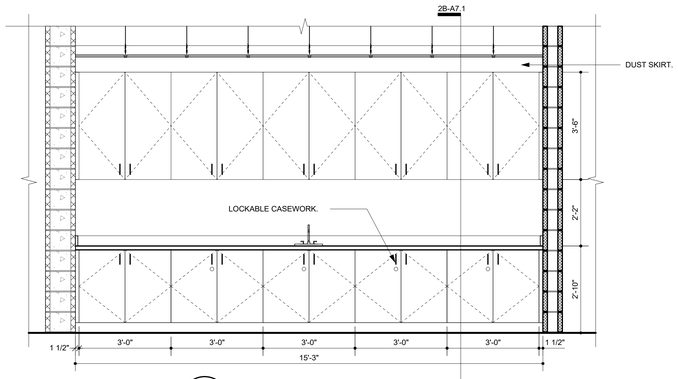
5 A7.0 **Work Room. Casework**
Scale: 1/2" = 1'-0"



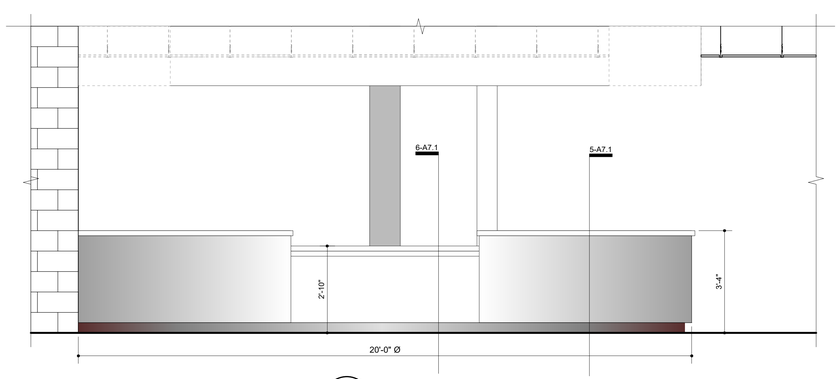
7 A7.0 **Reception Casework**
Scale: 1/2" = 1'-0"



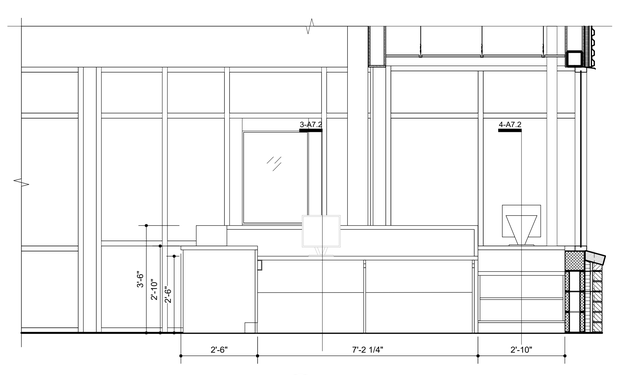
8 A7.0 **Reception Casework**
Scale: 1/2" = 1'-0"



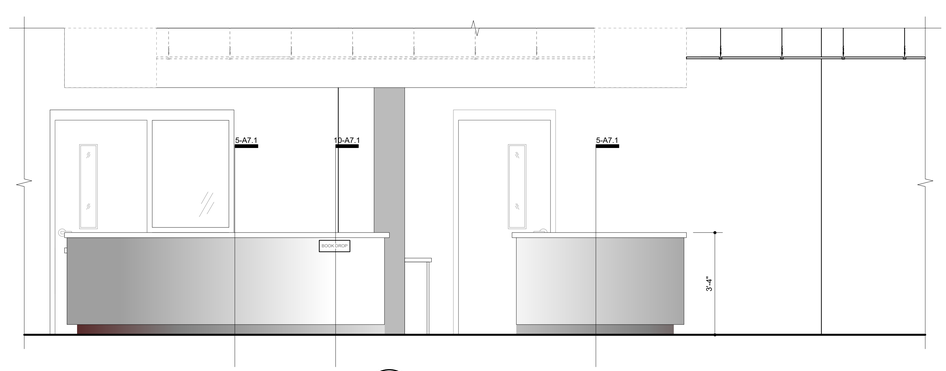
9 A7.0 **Classroom Casework**
Scale: 1/2" = 1'-0"



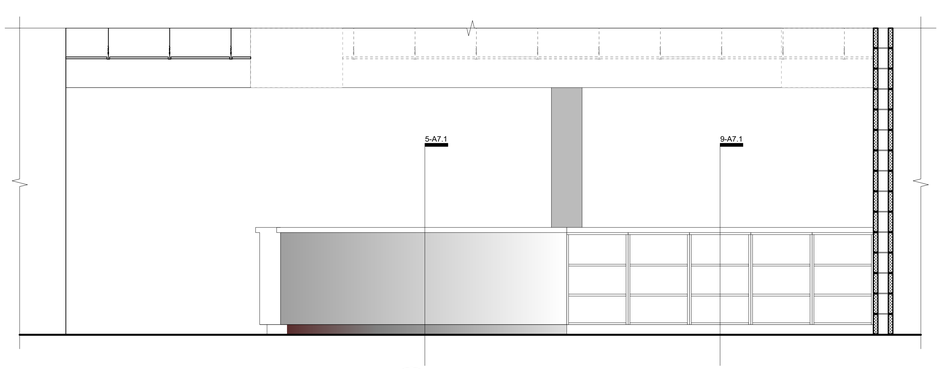
10 A7.0 **Media Center Casework**
Scale: 1/2" = 1'-0"



11 A7.0 **Reception Casework**
Scale: 1/2" = 1'-0"



13 A7.0 **Media Center Casework**
Scale: 1/2" = 1'-0"



15 A7.0 **Media Center Casework**
Scale: 1/2" = 1'-0"

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St. Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919)319-0716
Fax: (919)319-7516
PE: C-2328
PE: C-1585

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATE P.A. ARCHITECTURAL CORPORATION 52349 NORTH CAROLINA WILMINGTON, NC

DOUGLAS K. SHERWOOD Registered Architect 10075 NORTH CAROLINA WILMINGTON, NC
3-27-19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

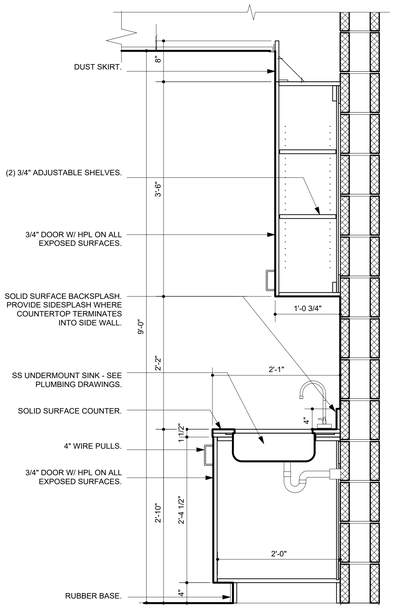
Construction Drawings
March 27, 2019

Revisions:

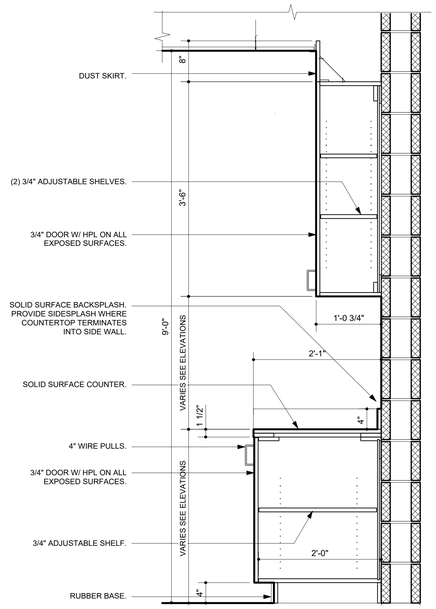
Casework Elevations

A7.0

© 2019 Sawyer Sherwood & Associate- All Rights Reserved

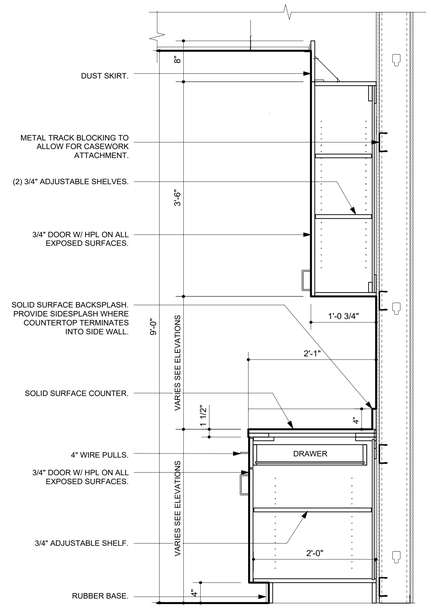


1 A7.1 Casework Section
Scale: 1" = 1'-0"

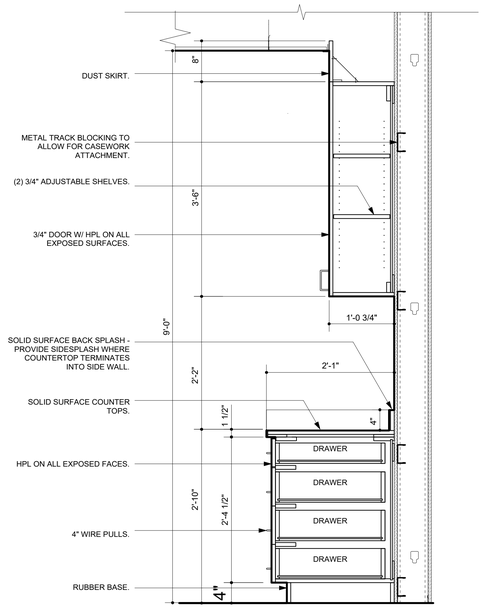


DETAIL A

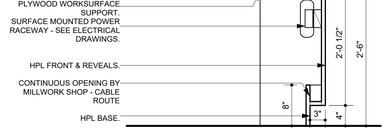
2 A7.1 Casework Section
Scale: 1" = 1'-0"



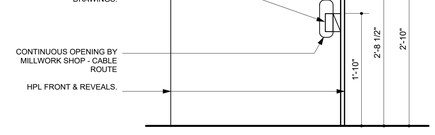
DETAIL B



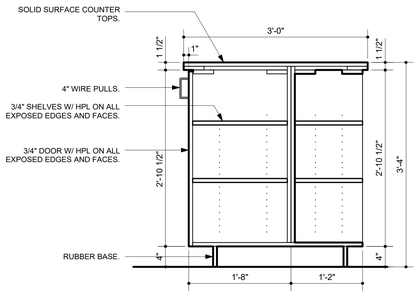
4 A7.1 Casework Section
Scale: 1" = 1'-0"



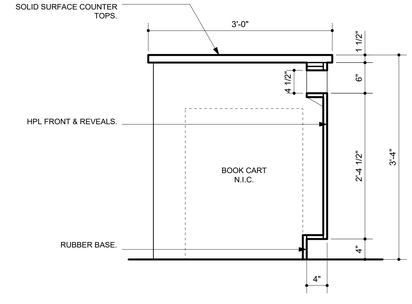
5 A7.1 Circulation Desk Section
Scale: 1" = 1'-0"



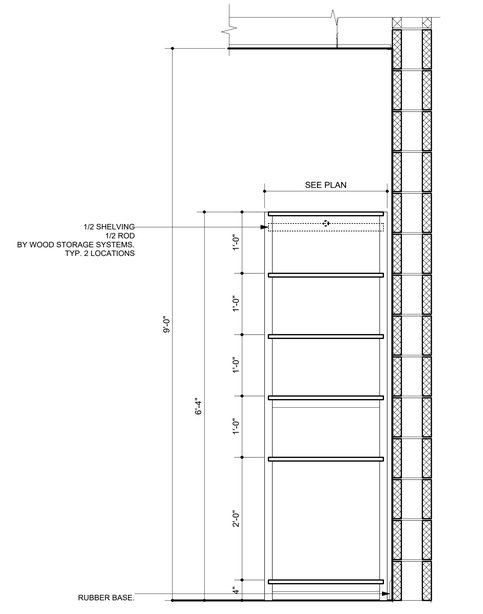
6 A7.1 Circulation Desk Section
Scale: 1" = 1'-0"



9 A7.1 Circulation Desk Section
Scale: 1" = 1'-0"



10 A7.1 Circulation Desk Section
Scale: 1" = 1'-0"



11 A7.1 Storage Shelving System Section
Scale: 1" = 1'-0"

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St. Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-0710
Fax: (919) 319-7516
NC 2005
PE C-1585

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATE P.A. ARCHITECTURAL CORPORATION 52349 NORTH CAROLINA WILMINGTON, NC

DOUGLAS K. SHERWOOD Registered Architect 10075 North Carolina WILMINGTON, NC 3.27.19

NHCS Emma B. Trask Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

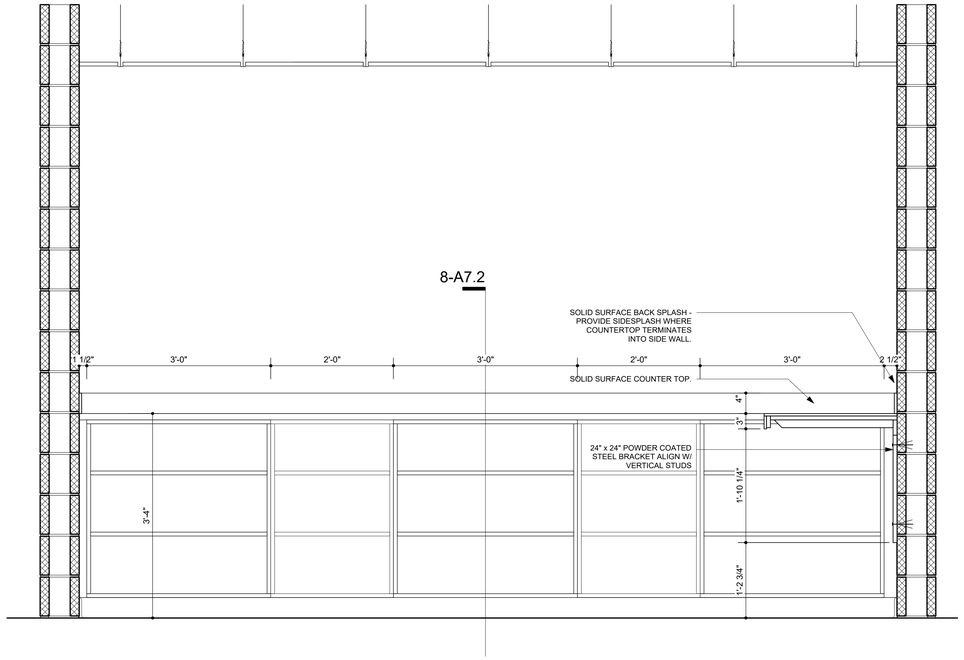
Construction Drawings
March 27, 2019

Revisions:

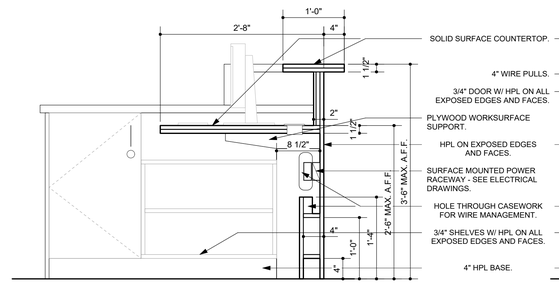
Casework Sections

A7.1

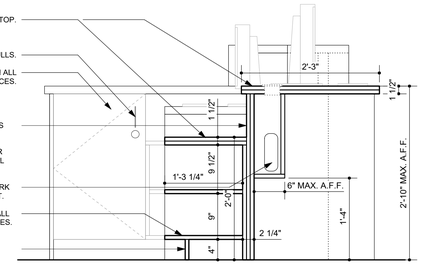
© 2019 Sawyer Sherwood & Associate- All Rights Reserved



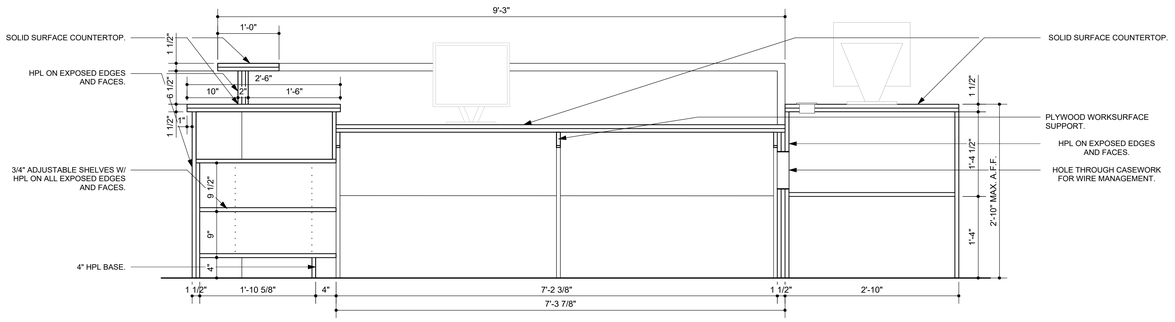
5 A7.2 Media Workroom Casework Section
Scale: 1" = 1'-0"



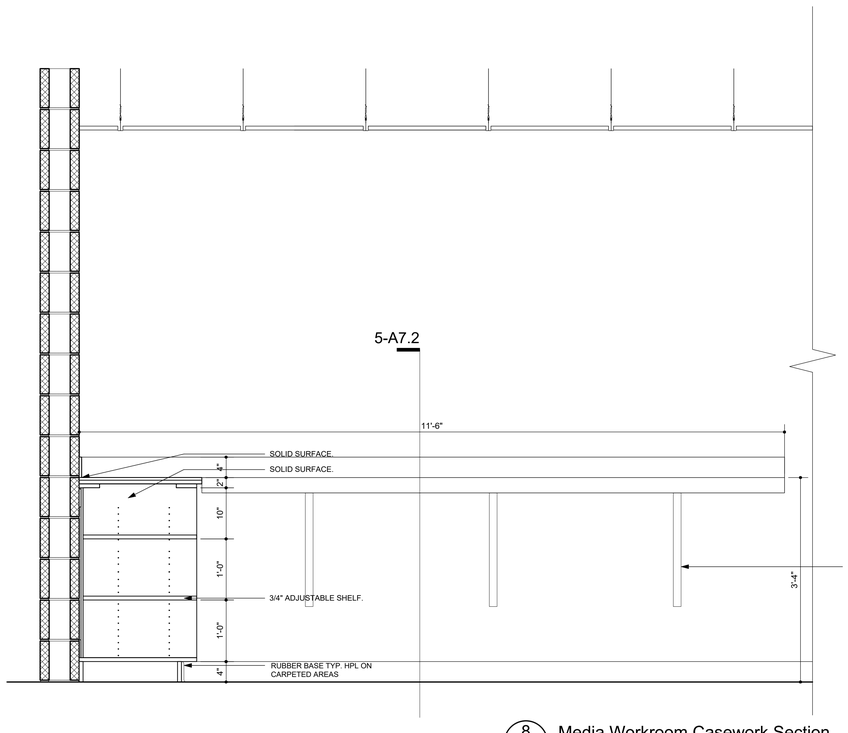
3 A7.2 Reception Desk Casework Section
Scale: 1" = 1'-0"



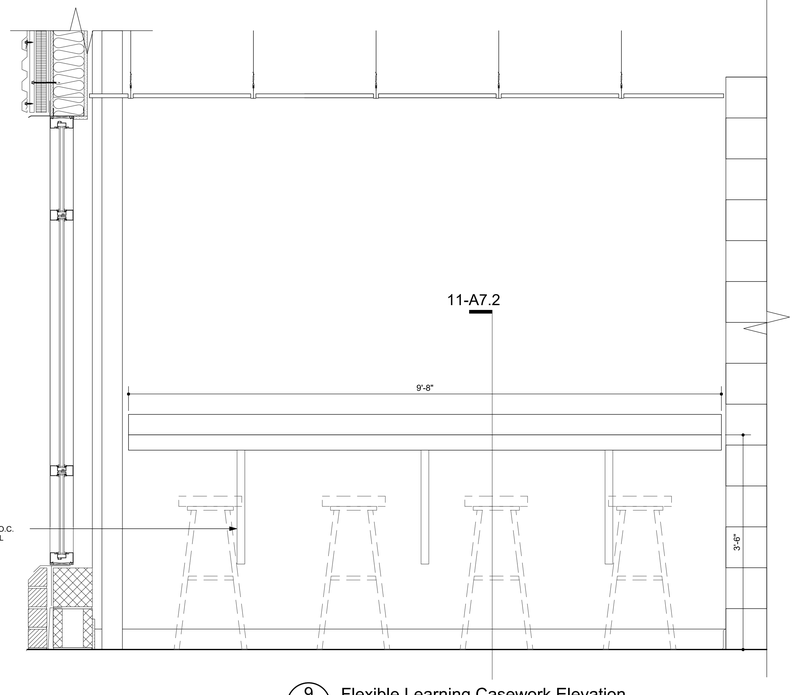
4 A7.2 Reception Desk Casework Section
Scale: 1" = 1'-0"



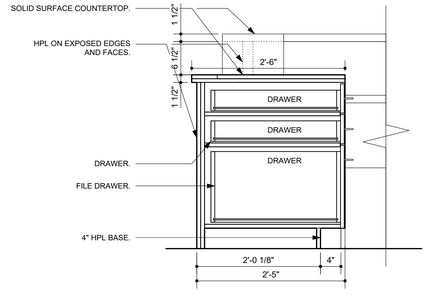
6 A7.2 Reception Desk Casework Section
Scale: 1" = 1'-0"



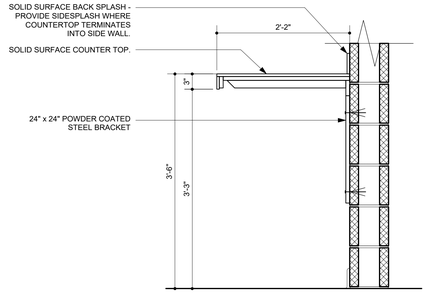
8 A7.2 Media Workroom Casework Section
Scale: 1" = 1'-0"



9 A7.2 Flexible Learning Casework Elevation
Scale: 1" = 1'-0"



10 A7.2 Reception Desk Casework Section
Scale: 1" = 1'-0"



11 A7.2 Flexible Learning Casework Section
Scale: 1" = 1'-0"

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St. Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-0710
Fax: (919) 319-7516
PA: C-1585
PE: C-1585

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATE P.A. ARCHITECTURAL CORPORATION 52349 NORTH CAROLINA WILMINGTON, NC

DOUGLAS K. SHERWOOD Registered Architect 10075 NORTH CAROLINA WILMINGTON, NC 3-27-19

NHCS
Emma B. Trask
Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

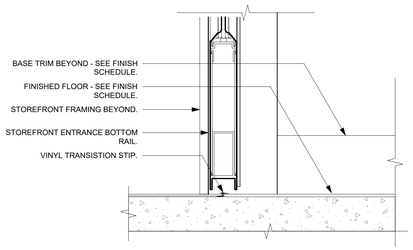
Construction Drawings
March 27, 2019

Revisions:

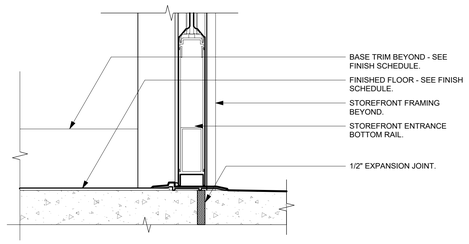
Casework Sections

A7.2

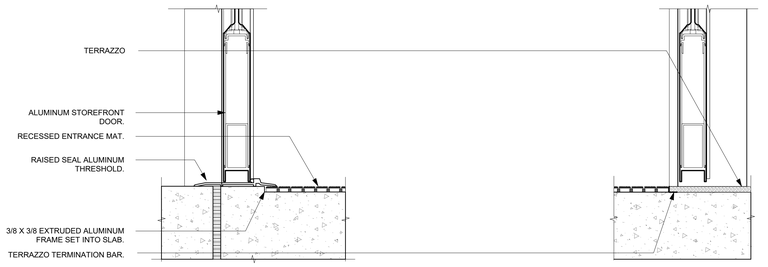
© 2019 Sawyer Sherwood & Associate- All Rights Reserved



1 A7.2 **Storefront Sill At Interior Door Detail**
Scale: 3" = 1'-0"

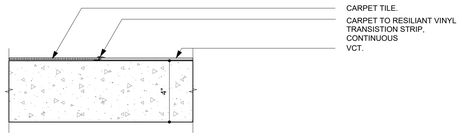


2 A7.2 **Storefront Sill At Exterior Door Detail**
Scale: 3" = 1'-0"

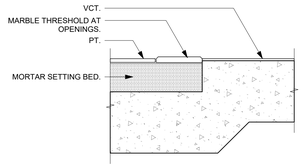


3 A7.2 **Entrance Mat Detail**
Scale: 3" = 1'-0"

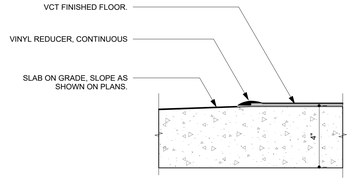
4 A7.2 **Entrance Mat Detail**
Scale: 3" = 1'-0"



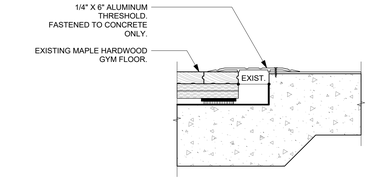
5 A7.2 **Carpet Tile to VCT Transition**
Scale: 3" = 1'-0"



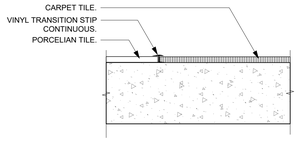
6 A7.2 **Porcelain Tile to VCT Transition at Mud Set Tile**
Scale: 3" = 1'-0"



7 A7.2 **Concrete Floor to VCT Transition**
Scale: 3" = 1'-0"



8 A7.2 **Wood Floor to VCT Transition**
Scale: 3" = 1'-0"

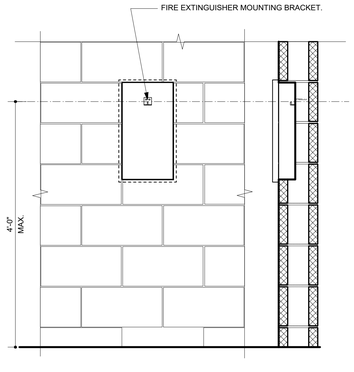


6 A7.2 **Porcelain Tile to VCT Transition at Thin Set Tile**
Scale: 3" = 1'-0"

10 A7.2 **--**
Scale: 3" = 1'-0"

11 A7.2
Scale: 3" = 1'-0"

12 A7.2
Scale: 3" = 1'-0"



16 A7.2 **Fire Extinguisher Cabinet**
Scale: 1" = 1'-0"

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St. Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-0742
Fax: (919) 319-7516
NC: C-1585
PA: C-1585

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATE P.A. ARCHITECTURAL CORPORATION 52349 NORTH CAROLINA WILMINGTON, NC

DOUGLAS K. SHERWOOD Registered Architect 10075 NORTH CAROLINA WILMINGTON, NC
3.27.19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

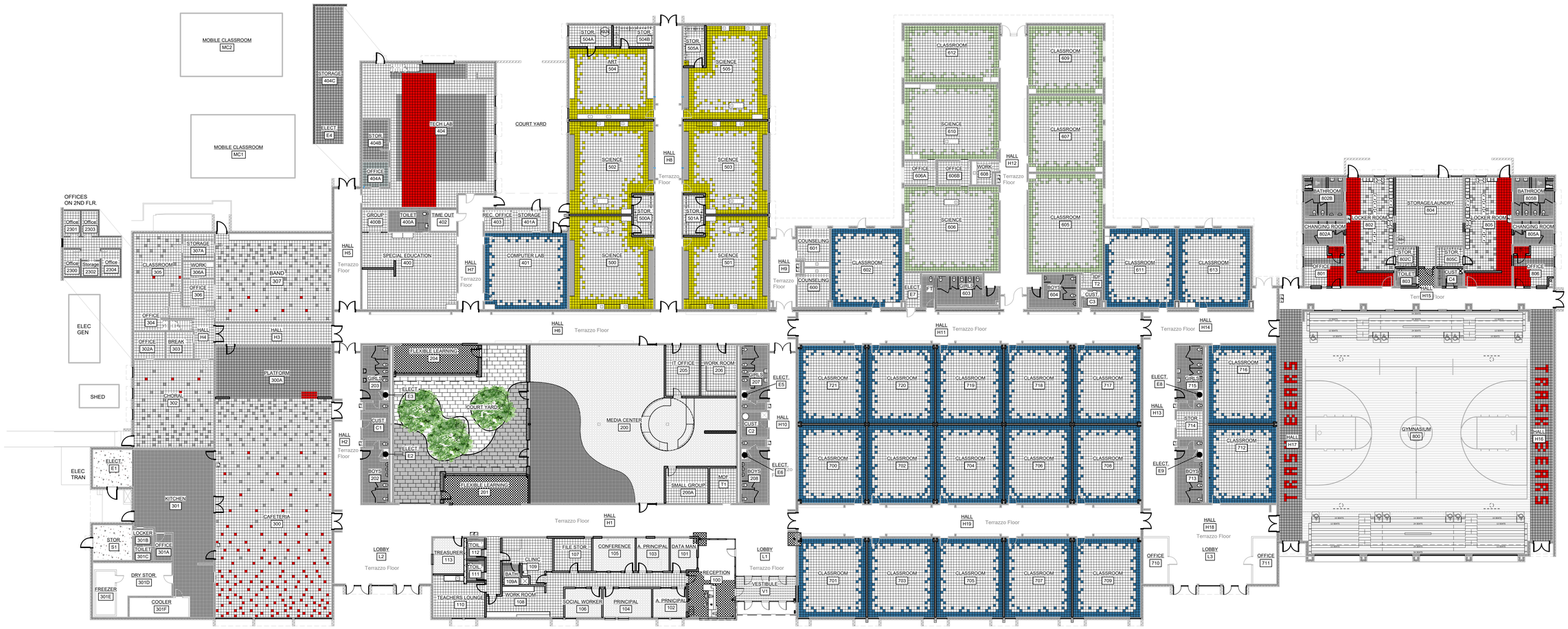
Construction Drawings
March 27, 2019

Revisions:

Interior Details

A7.3

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



5 / A7.4 Floor Finishes
Scale: 1/16" = 1'-0"

- CONCRETE
- CARPET TILE
- PORCELAIN TILE
- VINYL COMPOSITE TILE UP TO 8 COLORS
- MAPLE HARDWOOD GYM FLOOR
- TERRAZZO
- EXTRIOR PAVER TILE
- INTERIOR/EXTRIOR PAVER TILE
- WALK OFF MAT

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St. Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-0742
Fax: (919) 319-7516
NC: C-1585
FL: C-1585

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATE P.A. ARCHITECTURAL CORPORATION 52349 NORTH CAROLINA WILMINGTON, NC

DOUGLAS K. SHERWOOD Registered Architect 10075 NORTH CAROLINA WILMINGTON, NC 3-27-19

NHCS
Emma B. Trask Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

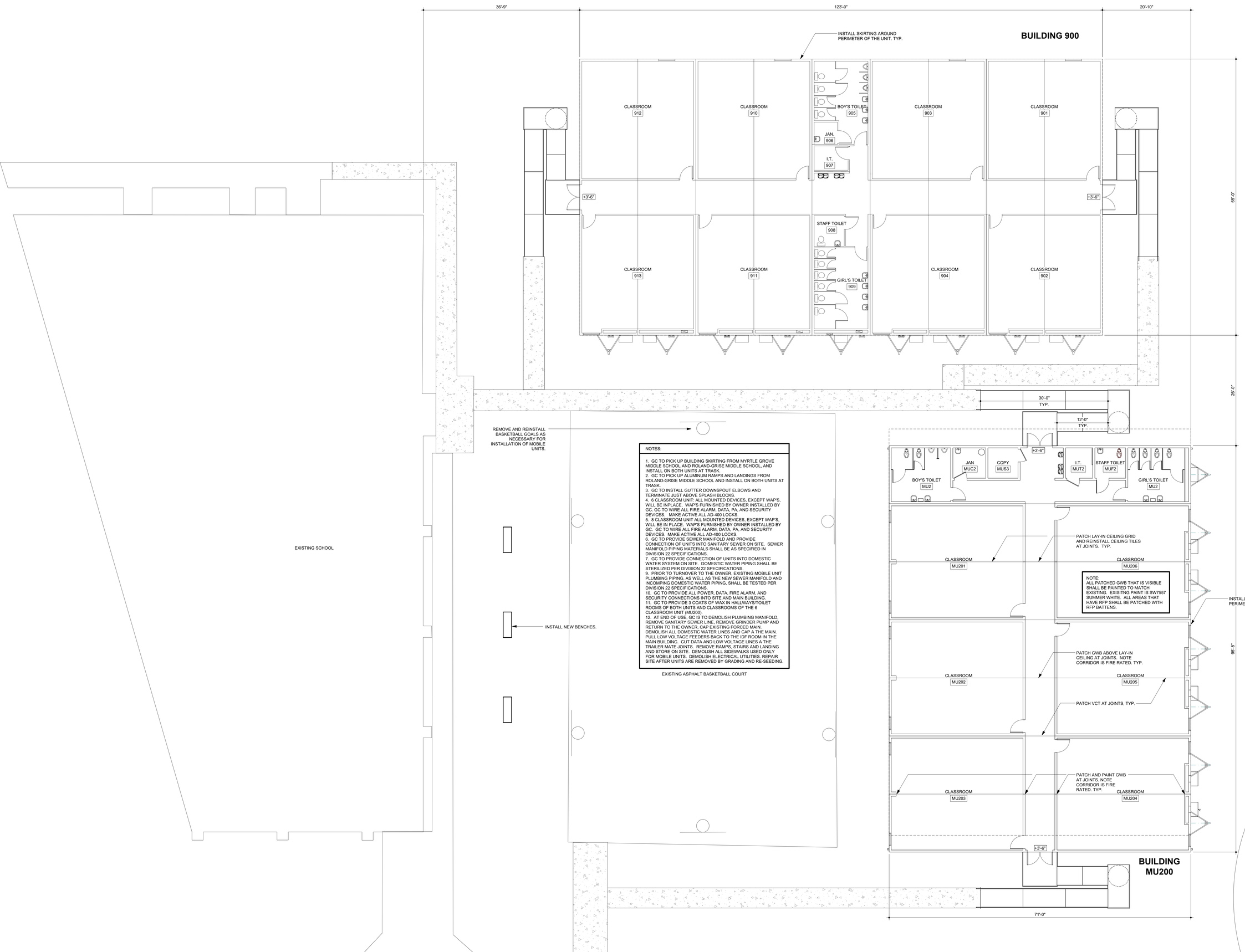
Construction Drawings
March 27, 2019

Revisions:

Finish Floor Plan

A7.4

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
409 Regency Forest Drive
Suite 202
Cary, North Carolina 27518
Phone: (919) 319-6700
Fax: (919) 319-7316
FA: C-1105
PE: C-1105

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

SAWYER SHERWOOD & ASSOCIATE P.A. ARCHITECTURAL CORPORATION 52349 NORTH CAROLINA WILMINGTON, NC

DOUGLAS K. SHERWOOD Registered Architect 10075 North Carolina WILMINGTON, NC 3.27.19

NHCS Emma B. Trask Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

Construction Drawings
March 27, 2019

Revisions:

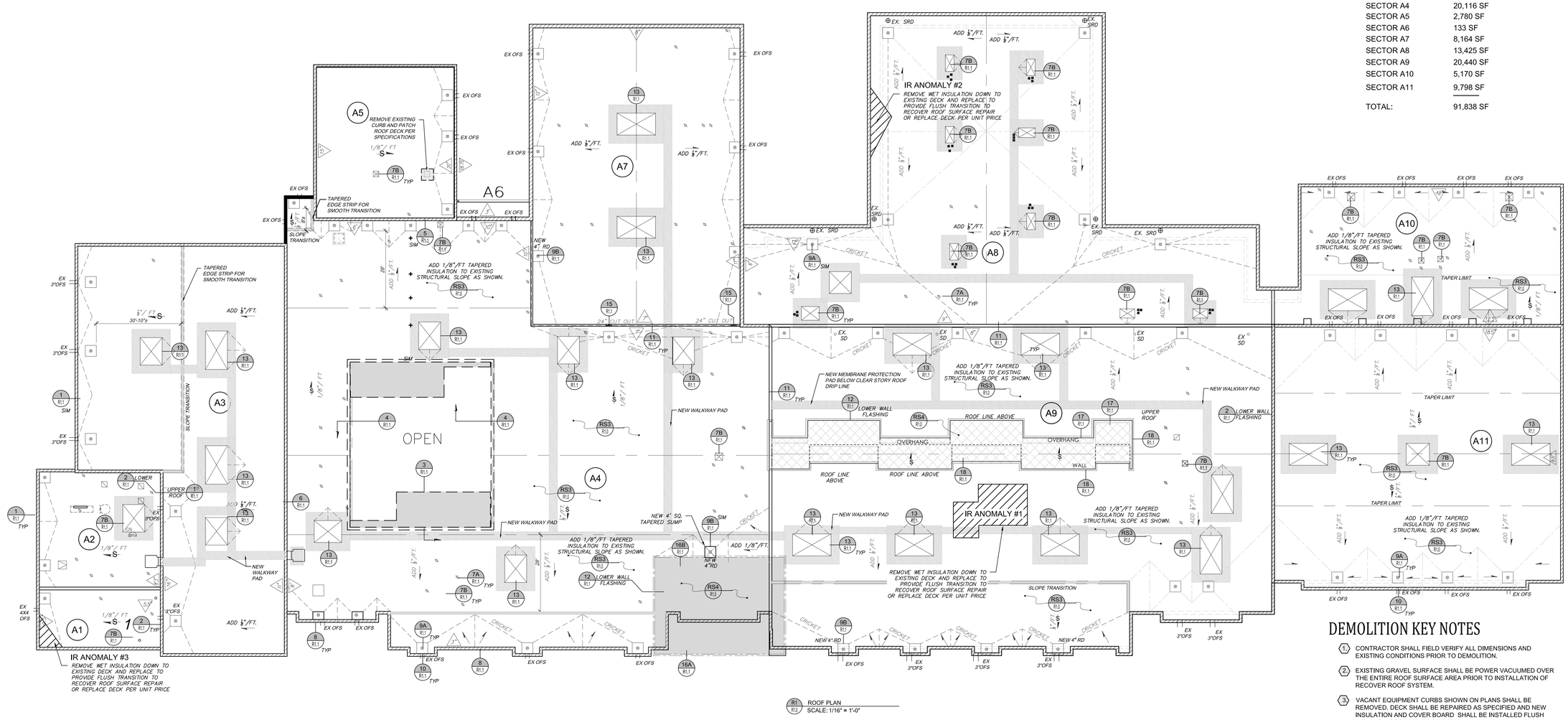
Mobile Classroom

AM1.0

01 of 01

© 2019 Sawyer Sherwood & Associate- All Rights Reserved

ROOF SECTOR	APPROXIMATE AREA (SQUARE FEET)
SECTOR A1	913 SF
SECTOR A2	1,848 SF
SECTOR A3	9,051 SF
SECTOR A4	20,116 SF
SECTOR A5	2,780 SF
SECTOR A6	133 SF
SECTOR A7	8,164 SF
SECTOR A8	13,425 SF
SECTOR A9	20,440 SF
SECTOR A10	5,170 SF
SECTOR A11	9,798 SF
TOTAL:	91,838 SF



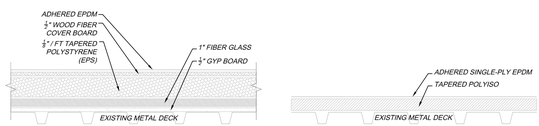
R1 R1.0 ROOF PLAN
SCALE: 1/16" = 1'-0"

DEMOLITION KEY NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO DEMOLITION.
2. EXISTING GRAVEL SURFACE SHALL BE POWER VACUUMED OVER THE ENTIRE ROOF SURFACE AREA PRIOR TO INSTALLATION OF RECOVER ROOF SYSTEM.
3. VACANT EQUIPMENT CURBS SHOWN ON PLANS SHALL BE REMOVED. DECK SHALL BE REPAIRED AS SPECIFIED AND NEW INSULATION AND COVER BOARD SHALL BE INSTALLED FLUSH WITH NEW RECOVER ROOF SYSTEM.
4. FOR ALL NEW ROOF PENETRATIONS, EQUIPMENT CURBS, AND RENOVATED AREAS THAT EXTEND THROUGH THE EXISTING GRAVEL SURFACE BUR; SPUD BACK 12" OF GRAVEL BEYOND ROOF CUT, INSTALL NEW INSULATION FLUSH WITH THE EXISTING ROOF SURFACE AND FLASHING TO THE EXISTING BUILT-UP-ROOF AS SHOWN IN DETAIL 12/R1.1.
5. ALL WOOD FIBER CANT STRIPS ALONG PERIMETERS OF GRAVEL SURFACE BUR ROOF SECTORS SHALL BE CUT FLUSH WITH ROOF SURFACE AND REMOVED TO ALLOW INSTALLATION OF MEMBRANE TERMINATION BAR AT BASE OF EXISTING PARAPETS.
6. ALL EDGE METAL, FLASHING, EXPANSION JOINT, PARAPET & COPING CAP, SHALL BE REMOVED AND REPLACED WITH NEW MATERIALS AS SPECIFIED AND SHOWN IN DETAILS. ROOF EDGE TERMINATION SHALL BE NEW, SPECIFIED PREFABRICATED FASCIA UNLESS OTHERWISE NOTED.

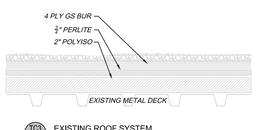
GENERAL NOTES

1. CONTRACTOR SHALL BECOME FAMILIAR WITH AND VERIFY THE CONDITIONS, DIMENSIONS, AND LOCATIONS OF ALL ROOF AREAS INCLUDING ROOFTOP EQUIPMENT, FLASHING, PIPE LINES, CONDUIT, PIPE SUPPORTS, ETC., BEFORE SUBMITTING A BID OR COMMENCING WORK.
2. POST CONSTRUCTION AND PRIOR TO FINAL ACCEPTANCE BY OWNER, CONTRACTOR SHALL FLOOD TEST ALL DRAINS BY PLUGGING DRAIN AT THE FIRST ELBOW TO RETAIN WATER ON THE SURFACE OF THE ROOF AND THEN FLOOD THE SURFACE TO A MAXIMUM DEPTH OF 2 INCHES AT THE HIGH POINT; RETAIN WATER WITHOUT LEAKAGE FOR A MINIMUM OF 30 MINUTES.
3. CONTRACTOR SHALL REMOVE ANY AREAS OF WET INSULATION; SEE ANOMALIES 1 2 AND 3 ON ROOF PLAN. REPLACE WITH POLYISOCYANURATE AND COVER BOARD INSTALLED FLUSH WITH NEW ROOF SURFACE.
4. REMOVE EXISTING CANT STRIPS AND BASE FLASHING FROM THE BUILT UP ROOF SYSTEM AT CURBS, PARAPETS, HIGH WALLS, EXPANSION JOINTS, ETC. INSTALL INSULATION OR TAPERED EDGE STRIPS AS DETAILED TO PROVIDE SMOOTH TRANSITIONS FROM THE FIELD OF ROOF.
5. CONTRACTOR SHALL INSTALL SPECIFIED PROTECTION PAD ON THE SERVICE SIDE OF ALL ROOF TOP UNITS AND COMPLETELY AROUND ALL EXHAUST FANS, HOT STACKS, AIR INTAKES, AT DOOR OPENINGS AND LADDER LANDINGS.
6. ALL TIE-INS SHALL BE WATER TIGHT AT THE END OF EACH WORKING DAY USING SEALANTS AND TEMPORARY HOT AIR WELD TECHNIQUES TO EXISTING MEMBRANE.
7. WHERE GYPSUM BOARD IS TO BE INSTALLED TO PARAPETS OR OTHER VERTICAL SURFACES, FASTEN 12" O.C HORIZONTALLY AND 8" O.C. VERTICALLY WITH A MINIMUM OF TWO ROWS.

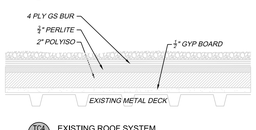


TC1 R1.0 EXISTING ROOF SYSTEM
SCALE: 1-1/2" = 1'-0" SECTOR: A1

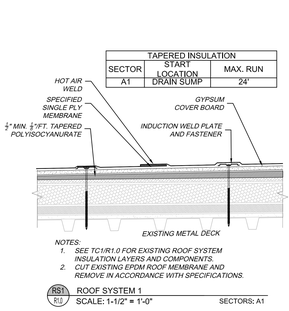
TC2 R1.0 EXISTING ROOF SYSTEM
SCALE: 1-1/2" = 1'-0" SECTORS: A2, A3, A5, A6



TC3 R1.0 EXISTING ROOF SYSTEM
SCALE: 1-1/2" = 1'-0" SECTORS: A4, A7, A8, A9, A10, A11

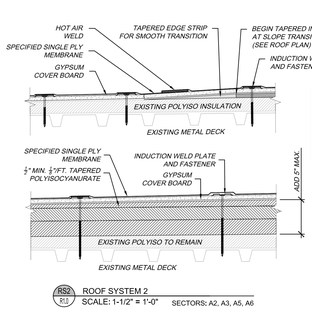


TC4 R1.0 EXISTING ROOF SYSTEM
SCALE: 1-1/2" = 1'-0" SECTOR: A8



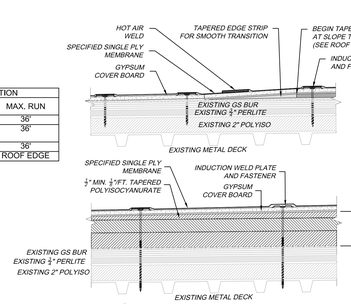
TAPERED INSULATION		
SECTOR	START LOCATION	MAX. RUN
A1	DRAIN SUMP	24"

RS1 R1.0 ROOF SYSTEM 1
SCALE: 1-1/2" = 1'-0" SECTORS: A1



TAPERED INSULATION		
SECTOR	START LOCATION	MAX. RUN
A2	DRAIN SUMP	36"
A3	SLOPE TRANSITION	36"
A5	DRAIN SUMP	36"
A6	ROOF EDGE	ROOF EDGE

RS2 R1.0 ROOF SYSTEM 2
SCALE: 1-1/2" = 1'-0" SECTORS: A2, A3, A5, A6

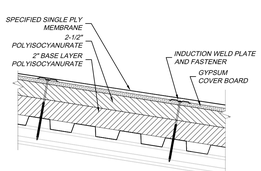


TAPERED INSULATION		
SECTOR	START LOCATION	LIMIT
A4	SLOPE	28"
A7	TRANSITION DRAIN SUMP	NONE
A8	DRAIN SUMP	NONE
A9 NORTH	DRAIN SUMP	NONE
A9 SOUTH	SLOPE TRANSITION	NONE
A10	DRAIN SUMP	28"
A11	DRAIN SUMP	24"

RS3 R1.0 ROOF SYSTEM 3
SCALE: 1-1/2" = 1'-0" SECTORS: A4, A7, A8, A9, A10, A11

LEGEND

- ROOF EDGE
- RIDGE/HIP/VALLEY
- PARAPET WALL
- EXPANSION JOINT
- CONTROL/EXPANSION JOINT
- WALL EXPANSION JOINT
- EDGE BELOW ROOF (HIDDEN)
- CRICKET / SADDLE
- DRAIN PIPING
- CONDUIT
- GUTTER WITH DOWNSPOUT
- GUARDRAIL EXISTING
- GUARDRAIL NEW
- THROUGH EDGE/WALL SCUPPER
- THROUGH EDGE SCUPPER WITH COLLECTOR HEAD
- HOT STACK
- PRIMARY ROOF DRAIN
- SECONDARY ROOF DRAIN
- SOIL STACK
- PIPE PENETRATION
- INSULATED PIPE PENETRATION
- PITCH POCKET
- VENTILATOR
- TIE-OFF POINT/ANCHOR
- EQUIPMENT CURB
- VACANT EQUIPMENT CURB
- SLEEPERS
- STRUCTURAL SUPPORT
- CHIMNEY
- SCUTTLE
- SKYLIGHT
- STRUCTURAL SLOPE
- INSULATION SLOPE
- ELEVATION CHANGE
- SECTOR DESIGNATION
- FACE DESIGNATION
- DEMO/REMOVE
- NOT IN THIS CONTRACT (NITC)
- REVISION CLOUD
- PROTECTION PAD
- TEST CUT



RS4 R1.0 ROOF SYSTEM 4
SCALE: 1-1/2" = 1'-0" NEW VESTIBULE & CLEARSTORY

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 420
Cary, North Carolina 27518
Phone: (919) 319-6716
Fax: (919) 319-7516
SA C-1150
PE C-1595

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4219
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers

REI ENGINEERS

NORTH CAROLINA PROFESSIONAL SEAL 038178 ENGINEER KEVIN BURCH 3-27-19

NHCS
Emma B. Trask
Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Drawings
March 27, 2019

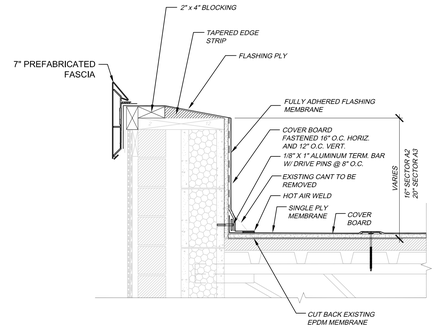
Revisions:

Roof Plan

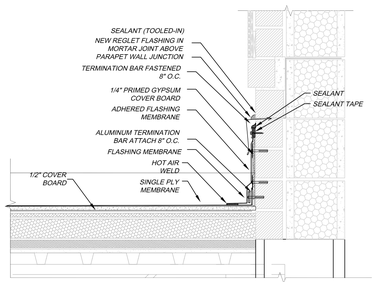
R1.0

Plan North North

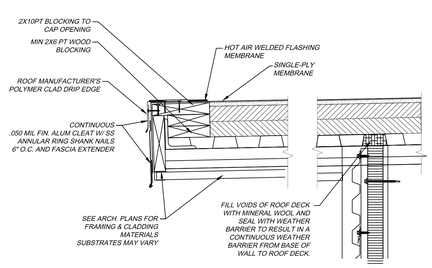
© 2018 Sawyer Sherwood & Associate- All Rights Reserved



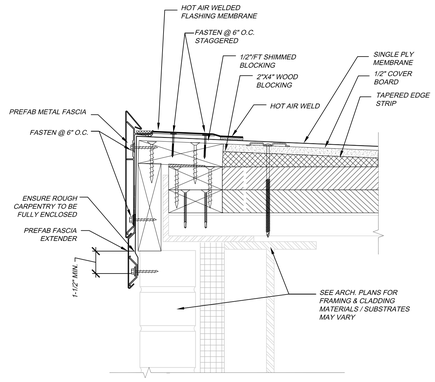
1 R1.1 ROOF EDGE
SCALE: 3" = 1'-0"



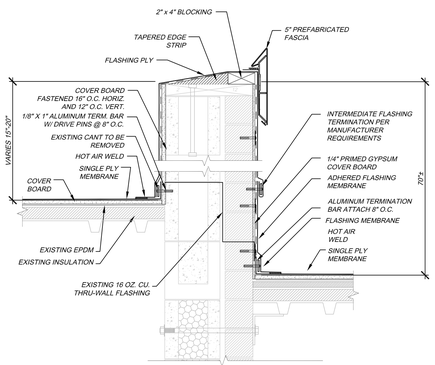
2 R1.1 WALL FLASHING
SCALE: 1-1/2"=1'



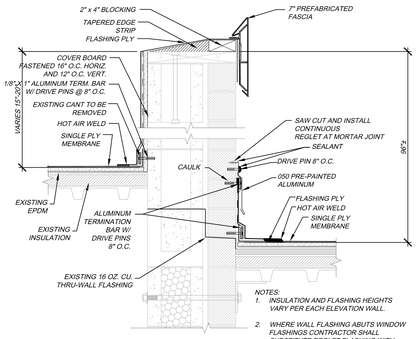
3 R1.1 DRIP EDGE AT ROOF OVERHANG
SCALE: 1-1/2"=1'-0"



4 R1.1 ROOF EDGE
SCALE: 3"=1'

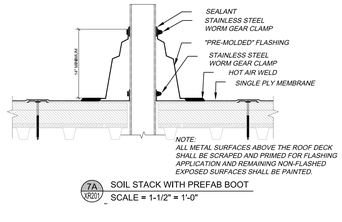


5 R1.1 WALL FLASHING AT ADJACENT PARAPET
SCALE: 3"=1'

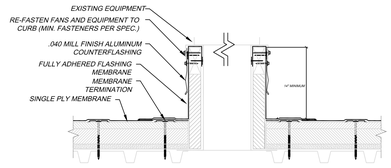


NOTES:
1. INSULATION AND FLASHING HEIGHTS VARY PER EACH ELEVATION WALL.
2. WHERE WALL FLASHING ABUTS WINDOW FLASHINGS CONTRACTOR SHALL SUBSTITUTE REGLET FLASHING WITH SURFACE MOUNTED SLIP-COUNTERFLASHING BENEATH THE EXISTING WINDOW SILL PAN
3. ALL VERTICAL FLASHING TERMINATIONS SHALL INCLUDE A VERTICAL TERMINATION BAR FASTENED 8" O.C. MIN. AND COVERED WITH A HOT AIR WELDED MEMBRANE FLASHING PLY

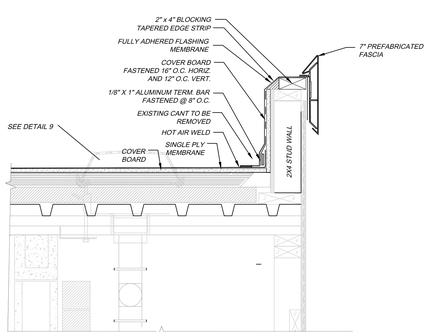
6 R1.1 WALL FLASHING AT ADJACENT PARAPET
SCALE: 3"=1'



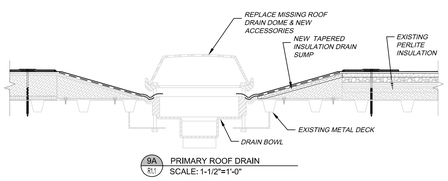
7A VR01 SOIL STACK WITH PREFAB BOOT
SCALE = 1-1/2" = 1'-0"



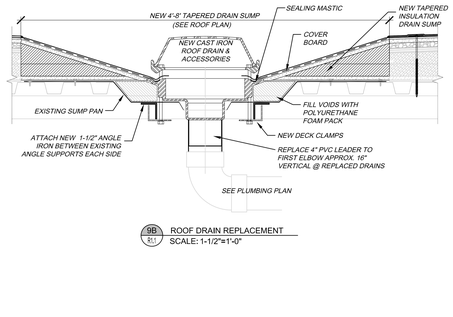
7B R1.1 EQUIPMENT CURB
SCALE: 3"=1'



8 R1.1 WALL FLASHING AT ADJACENT PARAPET
SCALE: 3"=1'

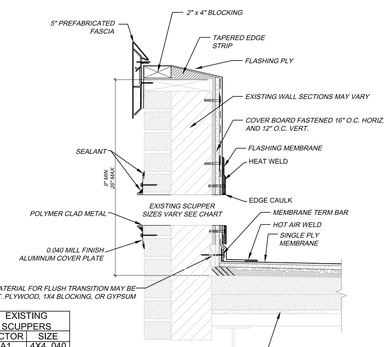


9A R1.1 PRIMARY ROOF DRAIN
SCALE: 1-1/2"=1'-0"



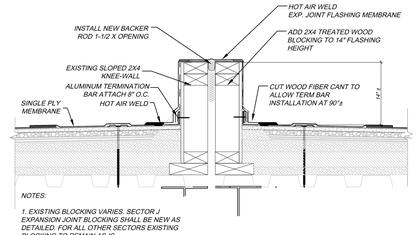
9B R1.1 ROOF DRAIN REPLACEMENT
SCALE: 1-1/2"=1'-0"

EXISTING SCUPPERS	
SECTOR	SIZE
A1	4X4 .040 ALUM.
A3, A5, A9, A10, A11	3" DIA.
A4	4X8



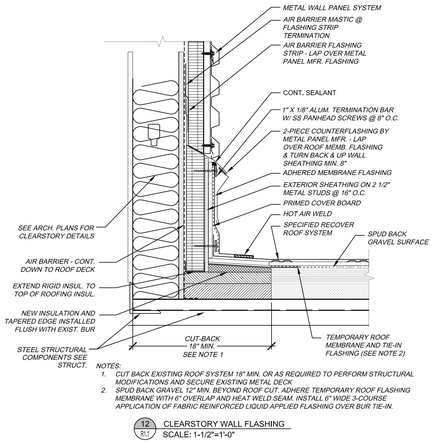
NOTE:
1. EXISTING SCUPPER OPENINGS TO REMAIN. REPLACE SCUPPER METALS WITH SIMILAR SIZE AND SHAPE POLYMER CLAD SCUPPER.
2. ALL SCUPPER FLASHING SHALL BE HOT AIR WELDED TO FORM A CONTINUOUS SEAL.

10 R1.1 SECONDARY THROUGH WALL SCUPPER
SCALE: 1-1/2"=1'-0"



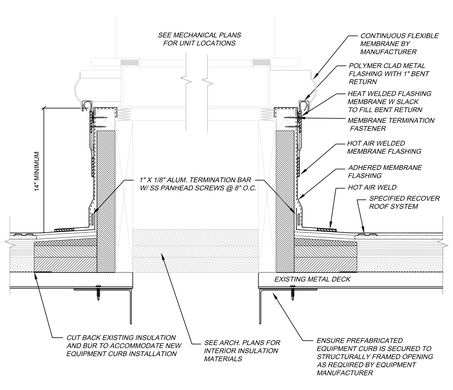
NOTES:
1. EXISTING BLOCKING VARIES. SECTOR J EXPANSION JOINT BLOCKING SHALL BE NEW AS DETAILED. FOR ALL OTHER SECTORS EXISTING BLOCKING TO REMAIN AS-IS.

11 R1.1 EXPANSION JOINT
SCALE: 1-1/2"=1'-0"

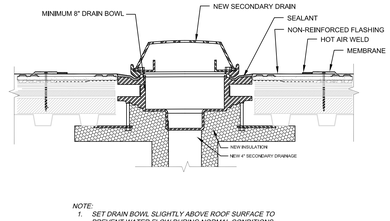


NOTES:
1. CUT BACK EXISTING ROOF SYSTEM 18" MIN. OR AS REQUIRED TO PERFORM STRUCTURAL MODIFICATIONS AND SECURE EXISTING METAL DECK
2. SPUD BACK GRAVEL 12" MIN. BEYOND ROOF CUT. ADHERE TEMPORARY ROOF FLASHING MEMBRANE WITH 6" OVERLAP AND HEAT WELD SEAM. INSTALL 6" WIDE 3-COURSE APPLICATION OF FABRIC REINFORCED LIQUID APPLIED FLASHING OVER BUR TIE-IN.

12 R1.1 CLEARSTORY WALL FLASHING
SCALE: 1-1/2"=1'-0"

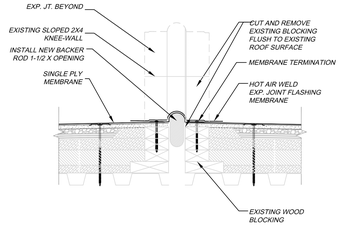


13 R1.1 UNIT ISOLATION CURB FLASHING
SCALE: 1-1/2"=1'-0"

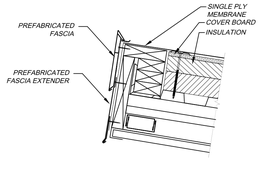


NOTE:
1. SET DRAIN BOWL SLIGHTLY ABOVE ROOF SURFACE TO PREVENT WATER FLOW DURING NORMAL CONDITIONS.

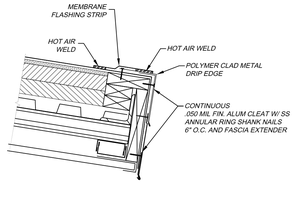
14 R1.1 SECONDARY ROOF DRAIN
SCALE: NTS



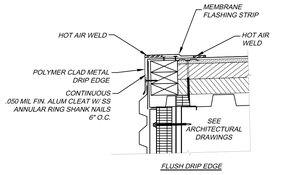
15 R1.1 LOW PROFILE EXPANSION JOINT
SCALE: 1-1/2"=1'-0"

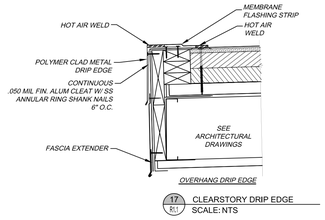


16A R1.1 VESTIBULE ROOF EDGE
SCALE: NTS

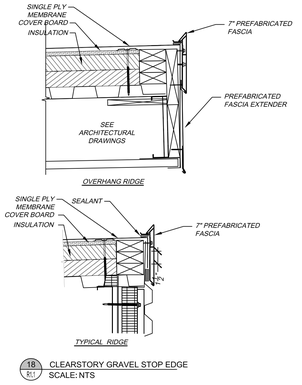


16B R1.1 VESTIBULE ROOF EDGE
SCALE: NTS





17 R1.1 CLEARSTORY DRIP EDGE
SCALE: NTS



18 R1.1 CLEARSTORY GRAVEL STOP EDGE
SCALE: NTS

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 420
Cary, North Carolina 27518
Phone: (919) 319-5716
Fax: (919) 319-7516
LA: C-1155
PE: C-1155

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4219
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers

REI ENGINEERS

NORTH CAROLINA PROFESSIONAL SEAL 036470 ENGINEER KEVIN BURCH
3-27-19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Drawings
March 27, 2019

Revisions:

Roof Details

R1.1

2 **of** 2

Plan North North

© 2018 Sawyer Sherwood & Associate- All Rights Reserved

1.1 "2018 North Carolina State Building Code" and "International Building Code", 2015.

1.2 "Minimum Design Loads for Buildings and other Structures" SEI/ASCE 7-10.

1.3 "2015 International Existing Building Code", Fifth Printing: Nov. 2015.

1.4 "Building Code Requirements for Structural Concrete (ACI 318-14)" American Concrete Institute 2014.

1.5 "Manual of Standard Practice", Concrete Reinforcing Steel Institute, latest edition.

1.6 "Specification for Structural Steel Buildings (AISC 360-10)" American Institute of Steel Construction, 2011 – 14th Edition

1.7 "Structural Welding Code – Steel (AWS D1.1)" and "Structural Welding Code – Reinforcing Steel (AWS D1.4)", American Welding Society.

1.8 "Specification for the Design of Cold-Formed Steel Structural Members", American Iron and Steel Institute (AISI), S100-12.

1.9 "Building Code Requirements for Masonry Structures", ACI 530-13, ASCE 5-13, TMS 402-13.

1.10 "Standard Specifications for Joist Girders (JG-10)", "Standard Specifications for Open Web Steel Joists, K-Series (K-10)", "Standard Specifications for Long Span Steel Joist, LH Series and Deep Longspan Steel Joists, DLH Series (LH/DLH-1.1)", Steel Joist Institute

1.11 "Design Manual For Floor Decks and Roof Decks", Steel Deck Institute, latest edition.

2.0 DESIGN LOADS:
Project Located in: City of Wilmington, County of New Hanover, State of North Carolina.

2.1 Gravity Loads: (Reduced where allowed)

GRAVITY LOADS		
Location	**Uniform (psf)**	**Concentrated (lbs) (Over 2.5'x2.5')**
Roof Loads:		
Dead Load	20	
Live Load	20	300
Floor Loads:		
Dead Load	50	
Floor Live Loads:		
Office	81	2000
Assembly	100	
Mechanical & Electrical Rooms	150	
Storage	125	

2.2 Drifting Snow Loads per N.C. Building Code.

Pg = 10 psf
I = 1.1
Ce = 0.9
Ct = 1.0

2.3 Risk Category = III

2.4 Wind Loads per N.C. State Building Codes, 2018 edition (IBC 2015) & ASCE 7-10 (3-second gust)

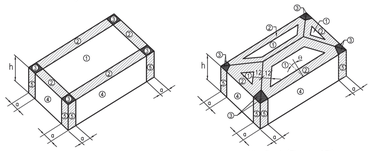
Main Wind Force Resisting System:
V 154 mph
Exposure Category "B"

Building is enclosed & Internal Pressure coefficient (GCpi) = +0.18 & -0.18
Topographic Factor Kzt = 1.0
Wind Directionality Factor, Kd = 0.85

Calculated Wind Base Shear (For MWFRS)
Vx = No Wind Increase Vy = Wind increased by 32.4k and shear walls were added to resist additional loads.
Components and Cladding:
V 154 mph
Exposure Category "B"

Components and Cladding Wind Pressure (psf)										
Walls	Area < 10ft²		< 20ft²		Area < 50ft²		Area < 100ft²		Area < 500ft²	
Zone 4	42.7	-46.4	40.9	-44.4	38.2	-41.9	36.3	-40.0	31.9	-35.4
Zone 5	42.7	-57.3	40.9	-53.3	38.2	-48.3	36.3	-44.4	31.9	-35.4
Roof	Area < 10ft²		Area < 20ft²		Area < 50ft²		Area < 100ft²		Area < 500ft²	
Zone 1	24.6	-39.1	22.5	-38.0	19.5	-36.5	17.4	-35.4	17.4	-35.4
Zone 2	24.6	-68.1	22.5	-62.6	19.5	-55.4	17.4	-49.9	17.4	-49.9
Zone 3	24.6	-100.7	22.5	-94.1	19.5	-85.5	17.4	-79.0	17.4	-79.0

Notes:
1. Areas noted are effective wind areas as per ASCE 7-10, 26.2 definitions.
2. See figures below for Zone locations.
3. Plus and minus signs signify pressures acting toward and away from surfaces, respectively.
4. Design pressures shown in table are strength design wind pressures. Allowable stress design wind pressures may be calculated by factoring the pressures by 0.6.
5. Design pressures for effective wind areas between those noted in schedule may be interpolated.
6. Tributary area = greater of LxW or LxL/3.
7. Deflections may be calculated based on 42% of these loads.



2.5 Seismic Loads per 2018 North Carolina State Building Code (IBC 2015) & ASCE 7-10

Risk Category = III
Site Class ="F" Per Geotechnical Report, Design Site Class = "D" Per Exception ASCE 7-10, 20.3.1.
Ta = C = .02 (20).75 = 0.2 sec.
Building Fundamental Period = 0.2 sec. < 0.5 sec.
Spectral Response Coefficients:
SDS = 0.224g
SD1 = 0.143g

Seismic Design Category = C
Seismic Importance Factor = 1.25
Basic Seismic – Force – Resisting System

RX=RY=2.0, QX=QY=2.5, CDX=CDY=1.75
Design Base Shear Vx = N/A Vy = N/A
Building Height Limit = N/A

PER SECTION 403.4 of IEBC Alterations to existing buildings.

Alterations are permitted to be made to any structure without requiring the structure to comply with Sections 1613 provided the alteration complies with requirements for new structures and the following conditions are met:

1. The alteration does no increase the seismic force in any element by more than 10 percent or decrease the strength of any existing member by more than 10 percent.
2. The alteration does not decrease the design strength of any existing structural element to resist seismic forces by more than 10%.

The alteration does not increase forces or decrease strength therefore the existing structure is not required to comply with Section 1613.

2.6 Guardrail designed per North Carolina State Building Code, Section 1607.8

Guardrail:
Uniform load = 50 plf, any direction – per 1607.8.1
Concentrated load = 200 lbs, any direction – per 1607.8.1.1
Intermediate Rail: (all those expect handrail) per 1607.8.1.2

2.7 Flood Loads:
Per ASCE-7-05, section 5.3.3

3.0 FOUNDATIONS:

3.1 Foundation design is based on geotechnical report # 22:27176 by ECS Southeast, LLP, Wilmington, NC dated October 22, 2018. This report is contained in the specifications. The recommendations contained in this report are herein made part of the requirements of these contract documents.

3.2 Footings shall bear on strata capable of sustaining a minimum bearing pressure of 3,000 psf.

3.3 Top of footing (T/FTG) elevations are shown on the drawings or are to be determined by the Contractor in the field in accordance with the guidelines set forth in the drawings.

3.4 Bottom of exterior footings, grade beams and walls shall bear at a minimum depth of 1'-6" below final grade for frost protection.

3.5 Testing and Inspection:
a. All areas to have slabs on grade shall be proof rolled in accordance with and under observation fo the Geotechnical Engineer and approved prior to preparation for concrete placement.
b. All foundation bearing strata shall be inspected and approved by the Geotechnical Engineer prior to any concrete placement.
c. Geotechnical Engineer shall be the sole judge as to suitability of all foundation and/or slab bearing strata.
d. Footing bearing elevations shall be adjusted in the field as required to meet the design bearing pressures by additional excavation or compaction and/or backfilling or by other means acceptable to the Geotechnical Engineer.

3.6 Undercutting to remove existing fill beneath footings and slab shall be performed at the direction of the Geotechnical Engineer.

3.7 Engineered Fill: All fill material shall be selected in accordance with the Geotechnical Report Material shall be a clean, low plastic soil with a plasticity index less than 30 (less than 15 is preferred), liquid limit less than 50, and unit weight of 120 pcf (+ 5 pcf)

3.8 Compaction: All fill shall be placed in loose lifts not exceeding 8 inches in thickness and compacted to a minimum of 96 percent Standard Proctor (ASTM D-698) except that the top 12 inches shall be compacted to a minimum of 98 percent Standard Proctor. Moisture shall be controlled to within 3 percent above or below optimum content.

4.0 CONCRETE:

4.1 Concrete Strength:
All concrete shall be in accordance with the American Concrete Institute (ACI) 301 and 318.

4.2 Concrete shall have a 28 day compressive strength and density as follows:
a. Footings, Grade Beams, and Interior Slab-on-grade.....3,000psi, Density = ±145pcf
b. Exterior Slab on Grade.....4,000psi, Density = ±145pcf
c. CMU Grout Fill.....3,000psi pea gravel mix, Density = ±145pcf, Slump 8"-11" or grout per Structural Masonry Notes, this sheet.

4.3 Concrete Mix Designs:
a. Submittals: Submit written reports of each proposed concrete mix not less than 15 days prior to the start of work.
b. Mix designs, including water, cement ratios and slumps, shall be prepared in accordance with ACI 301-05, Section 4, Cement shall conform to ASTM C 150 Type 1 or at contractor's option, ASTM C 595 Type IP where fly ash is permitted. Normal weight aggregate shall conform to ASTM C 33 and light weight aggregate shall conform to ASTM C 330. No admixtures containing calcium chloride shall be permitted in any concrete.
c. Aggregate size shall be #67 stone for supported slabs or other formed concrete elements; #57 stone for slabs on grade and footings or other concrete elements formed from and poured against earth; #89 stone for masonry grout.
d. Water reducing admixture shall be used in all concrete.
e. Air entraining admixture in accordance with ACI 301 shall be used in all concrete exposed freezing and thawing during construction or service conditions.
f. Concrete subjected to freezing/thawing shall have a maximum water/cement ratio of 0.45 and shall contain the amount of air entraining agent specified in ACI 301-05 Section 4.

4.4 Curing:
See specifications for curing method options and apply within two (2) hours after completion of finishing to all concrete flatwork and walls, U.N.O., other than footings and grade beams.

4.5 Use a non-corrosive, non-chloride accelerating admixture in concrete exposed to temperatures below 40 degrees. Uniformly heat the water and aggregates to a temperature of not less than 50 degrees. Place and cure concrete in accordance with ACI 306.

4.6 When hot weather conditions exist, place and cure concrete in accordance with ACI 301. Cool ingredients before mixing to maintain concrete temp. at time of placement below 90 degrees.

4.7 Reinforcing in all abutting concrete, including footings shall be continuous through or around all corners or intersections. Dowels or splices shall be equal in size and spacing to the reinforcing in the abutting members.

4.8 Refer to architectural drawings for door and window openings, drips, reglets, washes, masonry anchors, brick ledge elevations, slab depressions and miscellaneous embedded plates, bolts, anchors, angles, etc.

4.9 Refer to plumbing, mechanical and electrical drawings for underfloor, perimeter and other drains and for sleeves, outlet boxes, conduit, anchors, etc. The various trades are responsible for their items.

4.10 Base plates, anchor rods, support angles and other steel exposed to earth or granular fill shall be covered with a minimum of 3" of concrete.

4.11 Fill slabs, not shown on the structural drawings, shall be reinforced with a minimum of 3.0 lbs/yd³ of synthetic macro-fibers – see plan notes, unless noted otherwise on other drawings.

4.12 Finish surfaces to the following tolerances, according to ASTM E 1155, for a randomly trafficked floor surface:
a. Specified overall values of flatness, F(F) 25; and of levelness, F(L) 20; with minimum local values equal to ⅔ of the overall flatness and levelness values.
b. The composite F(F) and F(L) numbers shall be measured and reported within 72 hours after completion of slab concrete finishing operations and before removal of any supporting shores.

4.13 Non-shrink grout shall be pre-mixed, non-corrosive, non-metallic, non-staining containing silica sands, Portland cement, shrinkage compensating and water reducing agents. Product shall only require the addition of water. Minimum compressive strength shall be 2500 psi after one day and 7000 psi after 28 days. Grout shall be free of gas producing or air releasing and oxidizing agents and contain no corrosive iron, aluminum or gypsum.

4.14 Provide concrete grout – not mortar – for reinforced masonry lintel and bond beams where indicated on drawing or as scheduled.

4.15 Tolerance for anchor rods and other embedded items shall be per the AISC Code of Standard Practice Section 7.5.

4.16 Unless otherwise shown in the architectural drawings, provide 3/4-inch chamfers at all column, wall, slab or beam edges that are exposed to view in the finished structure.

4.17 Concrete cover for cast-in-place concrete reinforcement:
Concrete cast against & permanently exposed to earth:.....3 Inches
Concrete exposed to earth or weather:
No. 6 through No. 18 Bars:.....2 Inches
No. 5 Bar and smaller:.....1½" Inches
Concrete not exposed to weather or in contact with ground:
Slabs, Walls, Joists:
No. 11 Bar and smaller:.....¾" Inches
Beams, Columns:
Primary Reinforcement, Ties, Stirrups:.....1½" Inches

5.0 REINFORCING STEEL:

5.1 Reinforcing shall be domestic new billet steel conforming to ASTM A615, Grade 60 or 60S including stirrups and ties, except that reinforcing which is required to be welded shall conform to ASTM A706.

5.2 Field bending of concrete reinforcing steel is not permitted.

5.3 Welded wire mat and fabric shall conform to ASTM A184 and A185 respectively and shall be provided in flat sheets. Welded wire mat/fabric shall be lapped 0'-6" at all splices.

5.4 Bar Splices:

	f'c = 3,000psi		f'c = 4,000psi		f'c = 5,000psi	
Bar Size	**Ld (in)**	**Class "B" Lap Splice (in)**	**Ld (in)**	**Class "B" Lap Splice (in)**	**Ld (in)**	**Class "B" Lap Splice (in)**
#3	17	22	15	19	13	17
#4	22	29	19	25	17	23
#5	28	36	24	31	22	28
#6	33	43	29	37	26	34
#7	48	63	42	54	38	49
#8	55	72	48	62	43	56

1. Values are based on normal weight concrete.
2. Ld = minimum embed of rebar
3. Class "B" lap splice refers to minimum distance bars must be lapped for a full tension splice.

6.0 STRUCTURAL MASONRY:

6.1 All structural masonry shall conform to ACI 530 standards as appropriate to the material.

6.2 Concrete Masonry Units (CMU):
a. Units shall be lightweight cellular units conforming to ASTM C 90, Grade N-2. Concrete masonry net area unit strength shall be no less than 2,000psi in accordance with ASTM C 140, with a unit weight not exceeding 95 pcf.
b. Design compressive strength of CMU (fm) = 2,000psi.

6.3 Mortar shall conform to ASTM C 270. Mortar shall be type "S" and shall conform to the ASTM C270 proportion requirements.

6.4 Neither type "N" mortar nor masonry cement shall be used as part of the lateral force resisting system.

6.5 Grouting:
a. Grout shall conform to ASTM C476 as specified by proportion. Masonry grout shall conform to the ASTM proportion requirements for coarse grout with a slump of 8 to 11 inches. Contractor may substitute grout with pea gravel concrete masonry fill, see note 4.2 this sheet.
b. All bond beams shall be filled with grout and reinforced as indicated on the drawings (details or schedules). Mortar fill is not permitted.
c. All masonry wall cells or cavities indicated as reinforced shall be grouted for the full height of the wall, unless specifically noted otherwise on the drawings. Unreinforced walls indicated as grouted shall be grouted full height, unless specifically noted otherwise. Mortar fill is not permitted.
d. All masonry cells or cavities below grade shall be grouted solid unless specifically noted otherwise on the drawings. Mortar fill is not permitted.
e. Vertical grouting shall be low lift or high lift as follows:
(1) Low lift grouting shall be used for all cavity walls and may be used for all walls at the option of the Contractor. Lifts shall not exceed 4'-0" in height.
(2) High lift grouting is permissible only for filling of cellular masonry units and shall not exceed 12'-8" in height. Clean out holes shall be provided at the base of each grouted cell.
f. Grouting shall be stopped 1-1/2" below the top of a course to form a key at the joint.
g. Grouting of masonry beams or lintels shall be done in one continuous operation.

6.6 Masonry Reinforcing:
a. Foundation dowels may slope a maximum of 1:6 to align with wall cavities or vertical CMU cores. Greater slopes will require replacement of the foundation dowels.
b. Spliced reinforcing shall be lapped a length calculated per IBC 2107.5 OR 15" OR as shown on drawings, whichever is greatest. All splices shall be wired together.
c. Vertical reinforcing bars shall have a minimum clearance of ¼" from masonry and shall be held in position top and bottom and at intervals not exceeding 4'-0". Accessories for such support shall be used. Provide "AA Wire Products Company" (or approved equal) Rebar Positioner AA225 or AA239 for vertical bars and AA238 for horizontal bars or approved equal products from other suppliers.
d. Horizontal joint reinforcing shall be lapped no less than 6" all splices, including corners and tees where no control joint is used.
e. All horizontal joint reinforcing shall stop at control joints.
f. Horizontal reinforcing in bond beams shall be continuous through control joints.
g. All CMU walls shall have joint reinforcing @ 16"o.c. All joint reinforcing shall have (2) 9 gauge (0.148"ø or W1.7) side rods & cross rods @ 16"o.c.

6.7 Masonry contractor shall provide for and coordinate with other trades for placement of all items to be embedded or built into the masonry.

MINIMUM SPLICING LENGTH (L_d) FOR MASONRY	
BAR SIZE	**SPLICE LENGTH**
#3	16"
#4	22"
#5	26"
#6	43"
#7	60"

7.0 LIGHT GAUGE STEEL FRAMING (DIETRICH):

7.1 All members shall be designed in accordance with the American Iron and Steel Institute (AISI) "Specifications for the Design of Cold-formed Steel Structural Members", Latest Edition.

7.2 All framing members shall be formed from corrosion-resistant steel corresponding to the requirements of ASTM A446, with a minimum yield strength of 33 ksi for joists and studs and 33 ksi for runners.

7.3 All members shown are standard designations of "Dietrich Industries, Inc."

7.4 Design of members indicated in structural drawings is based on minimum properties of products produced by "Dietrich Industries." No substitution of materials is acceptable for use without prior approval of the structural engineer. Substitutions shall meet or exceed all properties produced by "Dietrich Industries, Inc."

7.5 All shop drawing submittals shall show layout, spacing, sizes, thicknesses and types of cold-formed metal framing, fabrication, and fastening and anchorage details, including mechanical fasteners. Show reinforcing channels, opening framing, supplemental framing, strapping, bracing, bridging, splices, accessories, connection details and attachment to adjoining work.

7.6 Shop drawings, design calculations and other structural data shall be prepared and sealed by a qualified engineer. The Structural Engineer shall be legally qualified to practice in the jurisdiction where the project is located and shall be experienced in providing engineering services of the kind indicated.

7.7 All framing components shall be cut squarely for attachment to perpendicular members or as required for an angular fit tight against abutting members. All load bearing stud/walls shall be factory assembled into panels with studs bearing squarely and fully in top and bottom tracks.

7.8 Fastening components shall be by self-drilling screws or by welding as defined below UNO on the drawings.

7.9 Screwed connections:
a. Screws shall be type S-12 or type S-4 for all framing members per manufacturer's recommendations.
b. A minimum of three (3) exposed threads shall penetrate through at joined materials.
c. Corrosion-resistant cadmium-plated screws shall be used for screws attaching metal lath, masonry ties, and other exterior materials.

7.10 Welded connections:
a. Gas metal arc welding (GMAW) shall be used for 20 ga. Or lighter members. AWSE-705-3, E-705-E, E-705-6 wire electrodes .030"-.035" diameter shall be used with carbon dioxide, argon-oxygen or argon-carbon dioxide shielding. Welding equipment 60-100 amperes at 25 volts using 220-volt 3-phase electric service.
b. Shielded metal arc welding (SMAW) shall be used for 18 ga' and heavier members. AWS E-6012, E-6013, or E-7014 electrodes of 3/32" or 1/8" diameter shall be used. Welding equipment heat setting shall be varied dependent on material thickness.
c. All welds shall be touched up with zinc rich paint, or paint similar to that used by the framing member manufacturer.

7.11 Alignment of studs (plumbness) and walls (straightness) shall be within 1/960 of their respective heights and lengths.

7.12 Studs shall be plumbed, aligned, and securely attached to top and bottom runners. Splices in studs are not permitted.

7.13 Where manufacturer's recommendations for erection, attachment, assembly, bracing, alignment, or other installation, or assembly requirements are more stringent than indicated in these drawings, the manufacturer's recommendations shall apply.

STEEL THICKNESS						
Gauge:	**Mils**	**Design Thickness**		**Minimum Thickness**		**Yield Strength**
		Inches	**mm**	**Inches**	**mm**	**ksi**
20	33	0.0346	0.879	0.0329	0.836	33
18	43	0.0451	1.146	0.0428	1.087	33
16	54	0.0566	1.438	0.0538	1.367	50
14	68	0.0713	1.811	0.0677	1.720	50
12	97	0.1017	2.583	0.0966	2.454	50

8.0 STEEL JOISTS:

8.1 All steel joists shall be designed, fabricated, and erected in accordance with the SJI Specifications.

8.2 Joist ends shall be fixed and bridging shall be placed prior to application of any loads.

8.3 End Support:
a. Minimum bearing requirements shall be in accordance with the SJI Specification. Extended joist ends for bearing on masonry shall be provided by the joist manufacturer where required to accommodate bearing conditions shown on the drawings.
b. K Series joists shall be welded to supports with 1/8" fillet welds, one each side, 2" long.
c. Bolt joists as indicated below to structural steel supports at column centerlines or where joists do not space on centerlines, bolt connections for each joist adjacent to centerline. K Series: 2 @ 1/2-inch diameter bolts (minimum)

8.4 Joist bridging:
a. Shall be placed in accordance with the SJI Specification U.N.O. and shall be horizontal rods or angles at top & bottom chords for all K Series joists.
b. Bridging that terminates at or is interrupted by structural steel members, shall be welded or bolted thereto. Provide diagonal ("X") bridging for ends of bridging lines terminating at walls/beams.

8.5 Holes in joist chords are not permitted, except at bearing and bolted connections.

8.6 All joists (40) forty feet and longer shall require a row of bolted bridging to be in place before slackening of hoisting lines.

9.0 STRUCTURAL STEEL:

9.1 All structural steel shall be of the grades indicated below, unless noted otherwise on plans or details.
Rolled shapes ASTM A992 Gr. 50
Steel pipe ASTM A53, Type E or S, Grade B, Fy-35ksi
Structural tubing ASTM A500, Grade B, Fy-46ksi
Plates and bars ASTM A36 U.N.O.
Anchor rods ASTM F1554, Grade 36 U.N.O.
Miscellaneous ASTM A36 U.N.O.

9.2 All structural steel shall be detailed, fabricated and erected in accordance with the AISC Code of Standard Practice. The fabricator is responsible for the design of connections not shown on the structural drawings. For the purpose of the connection design, the fabricator shall retain a professional engineer registered in the state where the project is located. The engineer shall seal and sign each shop drawing containing connection design. A note shall accompany the drawings stating that the seal is for "Connection Design Only".

9.3 Connection Design:
a. Generally, connections shown on the drawings are schematic and are intended to show the relationship of the members.
b. Connections shall be designed for one-half (1/2) the allowable uniform load on the member, as defined in Part 3, "Allowable Loads on Beams" tables in the AISC "Manual of Steel Construction", 13th Edition, See plan notes for design methodology and minimum reactions.

9.4 Bolted connections:
a. Bearing type connections shall be snug tight with A325N or A490N bolts, U.N.O. Oversized and long-slotted holes are NOT permitted U.N.O. At single shear plate connections, provide bearing type fasteners with horizontal short slotted holes. All bolts shall be snug tight. DO NOT over torque bolts.
b. Protruding bolt heads, shafts or nuts shall not extend nor prohibit the application of architectural finishes or placement of steel deck at its correct location and elevation.
c. Connection designer is responsible for verifying the axial capacity after a section is reduced for bolt holes. Member size may be increased or plates added to maintain required capacity.
d. Bolted connections shall be assembled and inspected in accordance with RCSC-2009 (Specification for Structural Joints Using High-Strength Bolts).

9.5 Welded connections:
a. All welding shall be in accordance with the "Structural Welding Code – Steel" (AWS D1.1) of the American Welding Society, Latest Edition.
b. Electrodes for welding shall comply with the requirements of Table 4.1.1 of the AWS code.
c. At Moment Connections and Braced Frames Provide filler Metal that has a minimum CVN Toughness of 20 ft-lbs at minus 20 degrees F, As determined by AWS classification or Manufacturer Certification.
d. Proof of welder certification shall be available at the job site during times of inspection.

9.6 Minimum plate thickness shall be 3/8" U.N.O.; minimum bolt diameter shall be 3/4-inch U.N.O.; minimum shop weld shall be 3/16" and minimum field weld shall be 1/4-inch U.N.O.

9.7 All re-entrant corners (such as copes and blocks) shall be cut and shaped notch free with a radius of at least 1/2-inch.

10.0 STEEL DECK:

10.1 Steel roof deck shall be galvanized, Type B, 1 1/2" deep, 20 gauge, U.N.O.
At sloped entry roof provide painted, type BA 1-1/2" deep 20ga. acoustical deck.

10.2 For steel roof deck spans, mechanically fasten side laps at mid-span using "Buildex", self-tapping TEKS No. 10 or larger machine screws or as noted on plan.
Provide additional sidelap fasteners where noted on plan.
Fasten roof deck to supporting members as noted on plan.

10.3 Do not hang pipes or ducts from steel roof deck. Fasten roof deck to supporting members as noted on plan.

11.0 CONSTRUCTION AND SAFETY:

11.1 Woods Engineering P.A.'s responsibility is limited to the details and information shown on these drawings. It is the responsibility of the Contractor to provide adequate safety measures required by local codes as well as OSHA Standards for the Construction Industry.
This should include, but not be limited to the following:
Shoring to protect new as well as existing structures.
Necessary Scaffolding.
Material Handling Equipment.
Trench Boxing.

12.0 STRUCTURAL INSPECTIONS:

12.1 Refer to Specification Section 014533 and Sheet S1.03 for all Special Inspections requirements.

13.0 SHOP DRAWING SUBMITTAL:

13.1 See Project Manual

13.2 Contractor shall submit Electronic copies (PDF format) of each shop drawing for review. Shop drawings shall be reviewed by the Contractor prior to submission to the Engineer. The Contractor shall allow 10 working days for shop drawing approval.

@	AT	IFM	INSIDE FACE OF MASONRY
&	AND	INT	INTERIOR
AB	ANCHOR BOLTS	JBE	JOIST BEARING ELEVATION
ACI	AMERICAN CONCRETE INSTITUTE	JT	JOINT
ADDL	ADDITIONAL	K	KIP-S
AFF	ABOVE FINISHED FLOOR	KB	KICKER BRACE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	KSI	KIPS PER SQUARE INCH
		(L)	LONG SIDE REINFORCEMENT
AISI	AMERICAN IRON AND STEEL INSTITUTE	LB	LONG BAR
ALT	ALTERNATE	LBS	POUNDS
ARCH	ARCHITECTS – ARCHITECTURAL	LLH	LONG LEG HORIZONTAL
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	LLV	LONG LEG VERTICAL
		LO	LOW
AWS	AMERICAN WELDING SOCIETY	LOC	LOCATION
B, BOTT	BOTTOM	LWC	LIGHT WEIGHT CONCRETE
BCX	BOTTOM CHORD EXTENSION	MAX	MAXIMUM
BFF	BELOW FINISHED FLOOR	MC	MOMENT CONNECTION
BLDG	BUILDING	MECH	MECHANICAL
BM	BEAM	MFR	MANUFACTURER
BOS	BOTTOM OF STEEL	MID	MIDDLE
BRG	BEARING	MIN	MINIMUM
BTWN	BETWEEN	MISC	MISCELLANEOUS
CJ	CONTRACTION JOINT	MOW	MIDDLE OF WALL
CL	CENTERLINE	MP	MASONRY PILASTER
CLR	CLEAR	d	NAILS – PENNY
CMU	CONCRETE MASONRY UNITS	No	NUMBER
COL	COLUMN	NS	NEAR SIDE
CONC	CONCRETE	NTS	NOT TO SCALE
CONN	CONNECTION	NWC	NORMAL WEIGHT CONCRETE
CONST JT	CONSTRUCTION JOINT	OC	ON CENTER
CONT	CONTINUOUS	OFB	OUTSIDE FACE OF BRICK
CONTR	CONTRACTOR	OFM	OUTSIDE FACE OF MASONRY
CSJ	COMPOSITE STEEL JOIST	OFS	OUTSIDE FACE OF STUD
CTRD	CENTERED	OPNG	OPENING
DBA	DEFORMED BAR ANCHOR	OPP	OPPOSITE HAND
DD	DELEGATED DESIGN	PEBS	PRE-ENGINEERED BUILDING SUPPLIER
DEFL	DEFLECTION	PED	PEDESTAL
DEPR	DEPRESSION – DEPRESSED	PL	PLATE
DET	DETAIL	PSF	POUNDS PER SQUARE FOOT
DIAG	DIAGONAL	PSI	POUNDS PER SQUARE INCH
ø	DIAMETER	PSL	PARALLEL STRAND LUMBER
DIM	DIMENSION	PLF	POUNDS PER LINEAR FOOT
DIST	DISTANCE	PT	PRESSURE TREATED
DWG(S)	DRAWING(S)	REF	REFERENCE
DWL(S)	DOWEL(S)	REINF	REINFORCING
EA	EACH	REQD	REQUIRED
ELEV	ELEVATION	(S)	SHORT SIDE REINFORCEMENT
EMBED	EMBEDDED – EMBEDMENT	SB	SHORT BAR
ENG	ENGINEER	SCHD	SCHEDULE
EOR	ENGINEER OF RECORD	SF	STEP FOOTING
EQ	EQUAL	SIM	SIMILAR
EQUIP	EQUIPMENT	SOG	SLAB ON GRADE
EF	EACH FACE	SPEC(S)	SPECIFICATION(S)
EJ	EXPANSION JOINT	SPF	SPRUCE PINE FUR
EOD	EDGE OF DECK	SQ	SQUARE
EOS	EDGE OF SLAB	STD	STANDARD
EOW	EDGE OF WALL	STIFF	STIFFENER
EW	EACH WAY	STIRR	STIRRUP
EXIST	EXISTING	STL	STEEL
EXP	EXPANSION	STR	STRUCTURAL
EXT	EXTERIOR	SW	SHEAR WALL
FDN	FOUNDATION	SYP	SOUTHERN YELLOW PINE
FFE	FINISHED FLOOR ELEVATION	T	TOP
FS	FAR SIDE	TCX	TOP CHORD EXTENSION
FTG	FOOTING	TOC	TOP OF CONCRETE
GA	GAUGE	TOS	TOP OF STEEL
GALV	GALVANIZED	TOW	TOP OF WALL
GT	GIRDER TRUSS	TYP	TYPICAL
HD	HEADED	UNO	UNLESS NOTED OTHERWISE
HI	HIGH	VB	VEHICLE BARRIER
HORIZ	HORIZONTAL	VERT	VERTICAL
HSS	HOLLOW STRUCTURAL SECTION	VIF	VERIFY IN FIELD
HT	HIP TRUSS	W	WITH
		WWF	WELDED WIRE FABRIC

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762.0892 s2a3.com

CLH DESIGN, P.A.
430 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-0706
Fax: (919) 319-7516
LA: C-106
PE: C-1065

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER CORPORATE SEAL No. C-1806

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19475 DON R. WOODS

Digitally signed by Don R. Woods, PE
DN: E=donwoods@woodseng.com, CN="Don R. Woods, PE", O="Woods Engineering, PA", L=Wilmington, S=North Carolina, C=US
Location: Wilmington, NC
Reason: I attest to the accuracy and integrity of this document
Contact Info: donwoods@woodseng.com
Date: 2019.03.27 13:48:59-04'00'

NHCS Trask Middle School

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

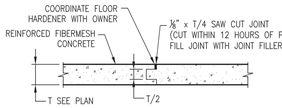
Construction Drawings
March 27, 2019

Revisions:

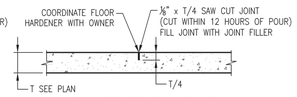
General Notes

S1.01

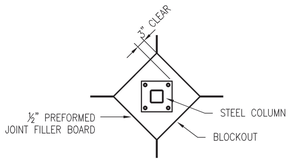
© 2018 Sawyer Sherwood & Associate- All Rights Reserved



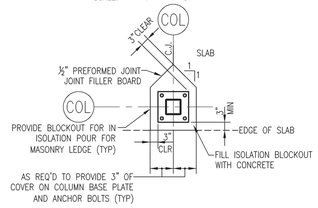
CONSTRUCTION JOINT
SCALE: 1" = 1'-0"



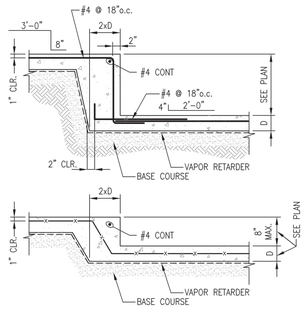
CONTRACTION JOINT
SCALE: 1" = 1'-0"



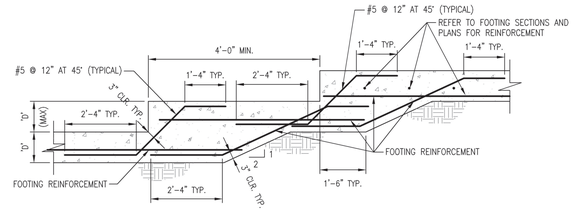
ISOLATION JOINT DETAIL
NOT TO SCALE



TYPICAL ISOLATION JOINT AT SLAB EDGE
NOT TO SCALE



TYPICAL SLAB STEP
SCALE: 3/4" = 1'-0"

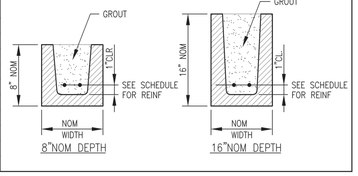


"D" = FOOTING THICKNESS

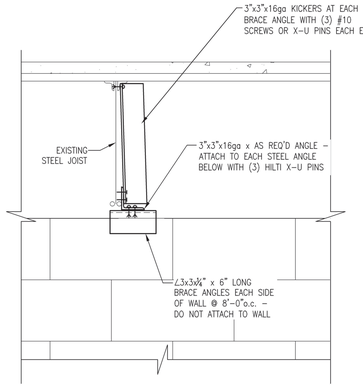
STEP FOOTING DETAIL
SCALE: 1/2" = 1'-0"

CMU LINTEL SCHEDULE

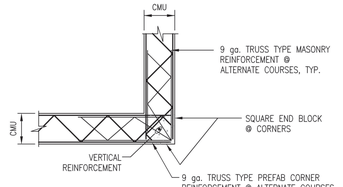
CLEAR OPENING	DEPTH	REINFORCING 6" CMU	REINFORCING 8" CMU	REINFORCING 12" CMU	MIN. BRG.
0'-8" TO 3'-4"	8"	1#4	1#4	2#5	8"
3'-4" TO 4'-8"	8"	1#4	1#4	2#5	8"
4'-8" TO 6'-0"	8"	1#4	1#5	2#5	8"
6'-0" TO 8'-0"	8"	1#4	2#5	2#5	8"
8'-0" TO 10'-0"	16"	1#4	2#5	2#5	12"
10'-0" TO 12'-0"	16"	–	–	2#5	12"



NOTES:
1. BEAR REINFORCING 4" (MIN) EACH END.
2. FILL BLOCK CORES WITH GROUT TO A DEPTH OF 48"(MIN) BELOW LINTEL BEARING.
3. SEE BEAM SCHEDULE FOR LINTELS FOR CLEAR SPANS OVER 12' AND LINTELS SUPPORTING FLOOR OR ROOF LOADS.
4. THESE LINTELS ARE NOT DESIGNED FOR MASONRY WALLS THAT CARRY FLOOR OR ROOF LOAD.

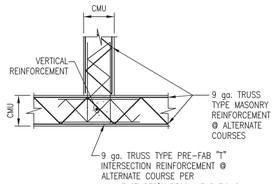


DETAIL A–A
SCALE: 1 1/2" = 1'-0"



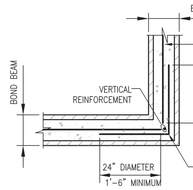
TYPICAL CMU CORNER

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



TYPICAL CMU INTERSECTION

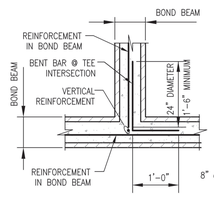
DETAIL "C"
SCALE: 3/4" = 1'-0"



TYPICAL BOND BEAM REINFORCING

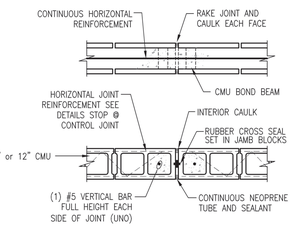
DETAIL "D"
SCALE: 3/4" = 1'-0"

NOTE: TRUSS TYPE REINFORCEMENT SHOWN, HOWEVER LADDER OR TRUSS TYPES ARE ACCEPTABLE.



TYPICAL BOND BEAM INTERSECTION REINFORCING

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



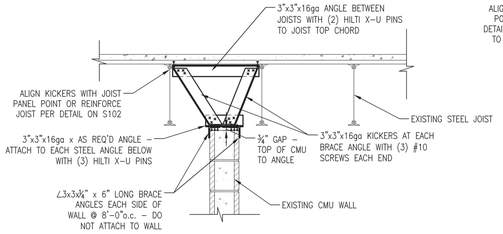
TYPICAL CONTROL JOINT

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

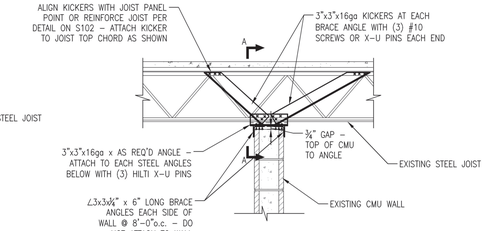
NOTE:
COORDINATE CONTROL JOINT LOCATION W/ARCHITECTURAL MAXIMUM SPACING OF 25' OR 3 TIMES THE WALL HT.

DO NOT PROVIDE CONTROL JOINTS IN SHEAR WALLS

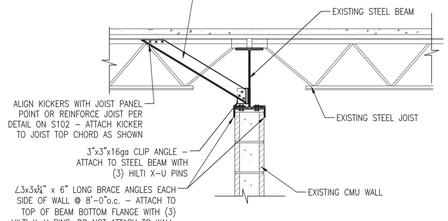
NOTES:
1. THIS DETAIL APPLIES WHERE THE DISTANCE BETWEEN INTERSECTING WALLS EXCEEDS 8'-0" FOR 8" CMU OR LARGER, 6'-0" FOR 6" CMU.
2. SPACE BRACES @ 10'-0" o.c. FOR 8" CMU AND 8'-0" o.c. FOR 6" CMU.
3. USE ∠2x2x¾" FOR LENGTHS LESS THAN 6'-0", USE ∠3x3x5/16" FOR LENGTHS BETWEEN 6'-0" AND 9'-0" AND USE ∠4x4x¼" FOR LENGTHS BETWEEN 9'-0" AND 12'-0".
4. SEE ARCHITECTURAL DRAWINGS FOR TOP OF WALL ELEVATIONS.



CMU WALL BRACING DETAIL WALL PARALLEL TO JOIST
SCALE: 3/4" = 1'-0"



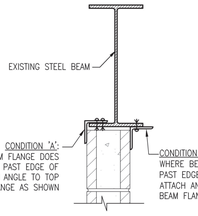
CMU WALL BRACING DETAIL WALL PERPENDICULAR TO JOIST
SCALE: 3/4" = 1'-0"



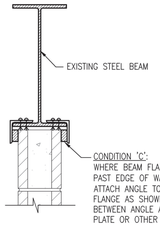
CMU WALL BRACING DETAIL WALL PARALLEL TO STEEL BEAM
SCALE: 3/4" = 1'-0"

LOCATE CMU CONTROL JOINTS AS FOLLOWS:

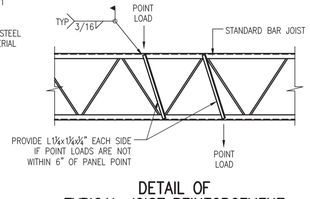
1. AT MAXIMUM SPACING OF 25' OR 3 TIMES THE WALL HEIGHT. COORDINATE CONTROL JOINT LOCATIONS W/ ARCHITECTURAL PLANS.
2. AT ALL ABRUPT CHANGES IN WALL HEIGHT.
3. AT ALL CHANGES IN WALL THICKNESS, SUCH AS AT PIPE AND DUCT CHASES AND ADJACENT TO COLUMNS OR PILASTERS.
4. CENTERED OVER JOINTS IN FOUNDATIONS AND FLOORS.
5. CENTERED BELOW JOINTS IN ROOFS AND FLOORS THAT BEAR ON CMU WALLS.
6. AT A DISTANCE NOT OVER ONE–HALF THE REQUIRED JOINT SPACING FROM BONDED WALL INTERSECTIONS, CORNERS OR CHANGES IN WALL DIRECTION.
7. AT THE ENDS OF LINTELS AND SILLS ON ONE SIDE OF WALL OPENINGS 6FT OR LESS IN WIDTH AND AT BOTH SIDES OF LINTES AND SILLS WHERE WALL OPENINGS ARE MORE THAN 6 FT WIDE, UNLESS BOND BEAMS OR EQUIVALENT JOINT REINFORCEMENT IS PLACED AT THE TOP AND BOTTOM OF THE OPENING.



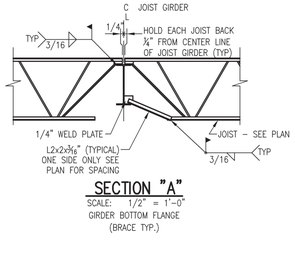
CONDITION A & B
SCALE: 1 1/2" = 1'-0"



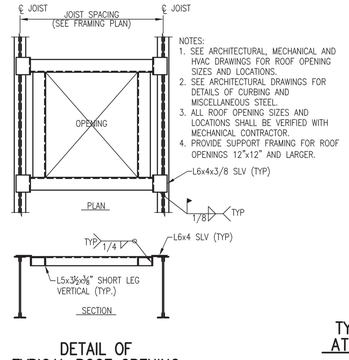
CONDITION C
SCALE: 1 1/2" = 1'-0"



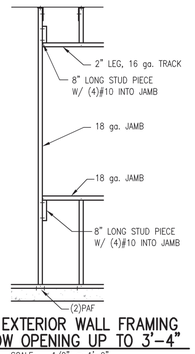
DETAIL OF TYPICAL JOIST REINFORCEMENT
NOT TO SCALE



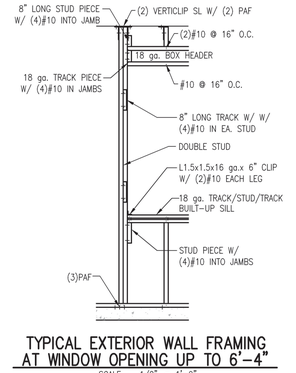
SECTION "A"
SCALE: 1/2" = 1'-0"
GIRDER BOTTOM FLANGE (BRACE TYP.)



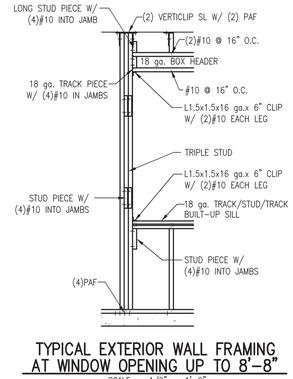
DETAIL OF TYPICAL ROOF OPENING
NOT TO SCALE



TYPICAL EXTERIOR WALL FRAMING AT WINDOW OPENING UP TO 3'–4"
SCALE: 1/2" = 1'-0"



TYPICAL EXTERIOR WALL FRAMING AT WINDOW OPENING UP TO 6'–4"
SCALE: 1/2" = 1'-0"



TYPICAL EXTERIOR WALL FRAMING AT WINDOW OPENING UP TO 8'–8"
SCALE: 1/2" = 1'-0"

TYPICAL LIGHT GAUGE CONSTRUCTION DETAILS FOR NON–LOAD BEARING EXTERIOR WALLS

NOTE: THESE DETAILS ARE GENERIC AND ARE FOR GENERAL INFORMATION AND BUDGET PRICING. ACTUAL DESIGN BY LIGHT GAUGE SUPPLIER AND ENGINEER.

GENERAL NOTE:
DETAILS SHOWN ON THIS SHEET ARE GENERIC IN NATURE AND MAY NOT PORTRAY EXACT CONDITIONS. THESE DETAILS ARE INTENDED TO PROVIDE GENERAL GUIDELINES FOR TYPICAL CONSTRUCTION CONDITIONS.

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0692 s2a3.com

CLH DESIGN, P.A.
Civil Engineering • Land Planning • Surveying
430 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-6756
Fax: (919) 319-7516
CA: C-105
PE: C-1365

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19475 DON R. WOODS

Digitally signed by Don R. Woods, PE
DN: c=donrwoods@woodseng.com, cn=Don R. Woods, PE", o=Woods Engineering, PA", ou=Wilmington, North Carolina, City/Locality: Location: Wilmington, NC
Reason: I attest to the accuracy and integrity of this document
Contact info: donrwoods@woodseng.com
Date: 2019.03.27 13:49:43-04'00'

NHCS
Trask Middle School

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

Construction Drawings
March 27, 2019

Revisions:

Typical Details

S1.02

© 2018 Sawyer Sherwood & Associate- All Rights Reserved

SCHEDULE FOR STRUCTURAL INSPECTIONS

BUILDING COMPONENTS OR MATERIAL	MATERIAL SUBMITTAL	INSPECTION / MONITORING	INSPECTION FREQUENCY	INSPECTOR QUALIFICATIONS	TEST REQUIREMENTS	TEST FREQUENCY	INSPECTION AGENCY
SOILS	1. REVIEW ECS SOUTHEAST GEOTECHNICAL REPORT # 22:27176 – ALLOWABLE SOIL BEARING = 3,000psf 2. FILL MATERIAL SPECIFICATIONS. 3. VAPOR BARRIER	1.–2. INSPECT SOILS PER ATTACHED 2009 IBC, TABLE 1704.7 FOR REQUIRED VERIFICATION AND INSPECTION. 3. INSPECT VAPOR BARRIER INSTALLATION. SEE PROJECT & MANUFACTURER SPECS.	ALL INSPECTIONS ARE PERIODIC EXCEPT FILL PLACEMENT AND COMPACTION WHICH IS CONTINUOUS.	1. QUALIFIED INSPECTION AGENCY A) INSPECTION AGENCY TO BE APPROVED BY SPECIAL INSPECTION COORDINATOR & BUILDING OFFICIAL.	1. PROVIDE VISUAL AND DCP TESTS PER ASTM STP–399 2. SUBGRADE DENSITY VERIFICATION	1. EACH ISOLATED FOOTING AND AT 20' INTERVALS FOR CONTINUOUS FOOTINGS. 2. AS REQUIRED TO VERIFY ENTIRE BUILDING PAD.	1. QUALIFIED INSPECTION AGENCY A) INSPECTION AGENCY TO BE APPROVED BY SPECIAL INSPECTION COORDINATOR & BUILDING OFFICIAL.
CONCRETE	1. SUBMIT CONCRETE MIX DESIGN. 2. SUBMIT MATERIAL CERTIFICATION 3. SUBMIT REBAR SHOP DRAWINGS.	INSPECT CONCRETE CONSTRUCTION PER ATTACHED 2015 IBC, TABLE 1704.4	AS OUTLINED PER TASK IN TABLE 1705.3	1. QUALIFIED INSPECTION AGENCY A) INSPECTION AGENCY TO BE APPROVED BY SPECIAL INSPECTION COORDINATOR & BUILDING OFFICIAL.	1. TEST CONCRETE FOR COMPRESSIVE STRENGTH, SLUMP, AIR CONTENT, TEMPERATURE AND BATCH TO PLACEMENT TIME.	1. SAMPLES FOR STRENGTH TESTS FOR EACH CLASS OF CONCRETE PLACED EACH DAY SHALL BE TAKEN NOT LESS THAN ONCE A DAY, NOR LESS THAN ONCE FOR EACH 150 YD^3 OF CONCRETE, NOR LESS THAN ONCE FOR EACH 5,000FT^2 OF SURFACE AREA FOR SLABS OR WALLS.	1. QUALIFIED INSPECTION AGENCY A) INSPECTION AGENCY TO BE APPROVED BY SPECIAL INSPECTION COORDINATOR & BUILDING OFFICIAL.
STEEL	1. SUBMIT ANCHOR BOLT SETTING PLAN. 2. SUBMIT STEEL SHOP DRAWINGS. 3. SUBMIT MATERIAL CERTIFICATES. 4. FABRICATOR CERTIFICATE OF COMPLIANCE WITH 2012 IBC, 1704.2.2.	INSPECT STEEL PER ATTACHED 2015 IBC, TABLE 1704.3	AS OUTLINED PER TASK IN TABLE 1704.3	1. QUALIFIED INSPECTION AGENCY A) INSPECTION AGENCY TO BE APPROVED BY SPECIAL INSPECTION COORDINATOR & BUILDING OFFICIAL.	1. VISUAL INSPECTION BY A QUALIFIED STEEL INSPECTOR. 2. MOMENT CONNECTIONS FIELD WELDED. 3. ALL FIELD BOLTING SHALL BE SNUG TIGHT.	INSPECT ALL FIELD CONNECTIONS. CONTINUOUS INSPECTION OF ALL MOMENT CONNECTIONS REQUIRED.	1. QUALIFIED INSPECTION AGENCY A) INSPECTION AGENCY TO BE APPROVED BY SPECIAL INSPECTION COORDINATOR & BUILDING OFFICIAL.
COLD FORMED STEEL	1. SUBMIT SEALED FRAMING SHOP DRAWINGS. 2. SUBMIT PRODUCT DATA SHEETS. 3. SUBMIT P.E. SEALED CALCULATIONS.	1. INSPECT WALL FRAMING. 2. INSPECT MECHANICAL CONNECTIONS FROM TRUSS TO STEEL TUBE, STEEL TUBE TO WALL FRAMING AND ANCHORAGE OF WALL FRAMING TO CONCRETE. 3. INSPECT LIGHT GAUGE SHEAR WALL SCREW PATTERN; SHEET METAL SHEAR PANEL TO STUDS & HOLDOWN CONNECTIONS TO FOUNDATION.	1 & 2 CONTINUOUS 3. PERIODIC 4. PERIODIC	1. QUALIFIED INSPECTION AGENCY A) INSPECTION AGENCY TO BE APPROVED BY SPECIAL INSPECTION COORDINATOR & BUILDING OFFICIAL.	1. VISUAL INSPECTION BY A QUALIFIED INSPECTOR.	1. PERIODIC	1. QUALIFIED INSPECTION AGENCY A) INSPECTION AGENCY TO BE APPROVED BY BUILDING OFFICIAL.
ROOF CLADDING	NONE.	1. VISUAL AND AS REQUIRED TO CERTIFY ROOF ATTACHMENT PER MANUFACTURER GUIDELINES.	1. PERIODIC.	1. QUALIFIED INSPECTION AGENCY A) INSPECTION AGENCY TO BE APPROVED BY SPECIAL INSPECTION COORDINATOR & BUILDING OFFICIAL.	1. PER MANUFACTURER AND 2012 IBC CODE FOR A WIND SPEED OF 146 MPH.	1. PERIODIC	1. QUALIFIED INSPECTION AGENCY A) INSPECTION AGENCY TO BE APPROVED BY SPECIAL INSPECTION COORDINATOR & BUILDING OFFICIAL.

REQUIRED VERIFICATION & INSPECTION OF CONCRETE CONSTRUCTION FREQUENCY CHART

VERIFICATION & INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
1. INSPECTION OF REINFORCING STEEL AND PLACEMENT.	–	X
2. INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH TABLE 1704.3, ITEM 5B.	–	–
3. INSPECTION OF BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO AND DURING PLACEMENT OF CONCRETE WHERE ALLOWABLE LOADS HAVE BEEN INCREASED OR WHERE STRENGTH DESIGN IS USED..	X	–
4. INSPECTION OF ANCHORS INSTALLED IN HARDENED CONCRETE.	–	X
5. VERIFYING USE OF REQUIRED DESIGN MIX.	–	X
6. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMP. OF THE CONCRETE.	X	–
7. INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	–
8. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	–	X
9. INSPECTION OF PRESTRESSED CONCRETE:		
a. APPLICATION OF PRESTRESSING FORCES.	X	–
b. GROUTING OF BONDED PRESTRESSING TENDONS IN THE SEISMIC–FORCE–RESISTING SYSTEM.	X	–
10. ERECTION OF PRECAST CONCRETE MEMBERS.	–	X
11. VERIFICATION OF IN–SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POSTTENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	–	X
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	–	X

NOTE: SEE 2018 NCSBC, TABLE 1705.3 FOR REFERENCE STANDARDS.

REQUIRED VERIFICATION & INSPECTION OF SOILS FREQUENCY CHART

VERIFICATION & INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	–	X
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	–	X
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	–	X
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	–
5. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	–	X

NOTE: SEE 2018 NCSBC, TABLE 1705.6 FOR REFERENCE STANDARDS.

SPECIAL INSPECTIONS FOR WIND AND SEISMIC RESISTING SYSTEMS

BUILDING COMPONENT	REQUIRED PERIODIC OBSERVATIONS/INSPECTIONS
METAL ROOF DECK	INSPECT WELDING OF METAL ROOF DECK TO SUPPORT MEMBERS AND METAL ROOF DECK SIDELAP FASTENING. SEE ROOF DECK FASTENING PLAN ON S2.02.
ROOFING MEMBRANE	INSPECT ROOF ATTACHMENT PER APPROVED SHOP DRAWINGS.
STEEL COLLECTOR CONNECTIONS	STEEL MEMBER CONNECTIONS TO COLUMNS – SEE S2.03 FOR CONNECTOR LOADS AND STEEL SHOP DRAWINGS FOR WELD REQUIREMENTS.
MASONRY SHEAR WALLS	INSPECT WALL REINFORCING AND CONNECTIONS TO SHEAR WALLS.
EXTERIOR WALLS	INSPECT MEMBER SIZES, SPACING AND CONNECTIONS AT HEAD AND SILL.
ANCHOR BOLTS	INSPECT ANCHOR BOLTS FOR SIZE & EMBEDMENT.
LATERAL FOOTINGS	INSPECT SOILS, REBAR AND CONCRETE FOR ALL LATERAL FOOTINGS – SEE S2.01.

REQUIRED VERIFICATION & INSPECTION OF STEEL CONSTRUCTION

VERIFICATION & INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
1. MATERIAL VERIFICATION OF HIGH–STRENGTH BOLTS, NUTS AND WASHERS:		
a. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	–	X
b. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	–	X
2. INSPECTION OF HIGH–STRENGTH BOLTING:		
a. SNUG–TIGHT JOINTS.	–	X
b. PRETENSIONED AND SLIP–CRITICAL JOINTS USING TURN–OF–NUT WITH MATCHMARKING, TWIST–OFF BOLT OR DIRECT TENSION INDICATOR METHODS OF INSTALLATION.	–	X
c. PRETENSIONED AND SLIP–CRITICAL JOINTS USING TURN–OF–NUT WITHOUT MATCHMARKING OR CALIBRATED WRENCH METHODS OF INSTALLATION.	X	–
3. MATERIAL VERIFICATION OF STRUCTURAL STEEL AND COLD–FORMED STEEL DECK:		
a. FOR STRUCTURAL STEEL, IDENTIFICATION MARKINGS TO CONFORM TO AISC 360	–	X
b. FOR OTHER STEEL, INDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	–	X
c. MANUFACTURER'S CERTIFIED TEST REPORTS.	–	X
4. MATERIAL VERIFICATION OF WELD FILLER MATERIALS:		
a. IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS.	–	X
b. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	–	X
5. INSPECTION OF WELDING:		
a. STRUCTURAL STEEL AND COLD–FORMED STEEL DECK:		
1) COMPLETE AND PARTIAL PENETRATION GROOVE WELDS.	X	–
2) MULTIPASS FILLET WELDS.	X	–
3) SINGLE–PASS FILLET WELDS > 5/16"	X	–
4) PLUG AND SLOT WELDS.	X	–
5) SINGLE–PASS FILLET WELDS ≤ 5/16"	–	X
6) FLOOR AND ROOF DECK WELDS.	–	X
b. REINFORCING STEEL:		
1) VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A 706.	–	X
2) REINFORCING STEEL–RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES, AND BOUNDARY ELEMENTS OF SPECIAL STRUCTURAL WALLS OF CONCRETE AND SHEAR REINFORCEMENT.	X	–
3) SHEAR REINFORCEMENT.	X	–
4) OTHER REINFORCING STEEL	–	X
6. INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE:		
a. DETAILS SUCH AS BRACING AND STIFFENING.	–	X
b. MEMBER LOCATIONS.	–	X
c. APPLICATION OF JOINT DETAILS AT EACH CONNECTION.	–	X

NOTE: SEE IBC 2009, TABLE 1704.3 FOR REFERENCE STANDARDS.

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762.0692 s2a3.com

CLH DESIGN, P.A.
430 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-0706
Fax: (919) 319-7516
LA: C-1195
PE: C-1195

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street
Suite 201
Wilmington, NC 28401
Phone: 910.343.8007
Fax: 910.343.8088
www.woodseng.com

WOODS ENGINEERING, P.A. CORPORATE SEAL No. C-1805 NORTH CAROLINA

NORTH CAROLINA PROFESSIONAL SEAL 19475 ENGINEER DON R. WOODS

DON R. WOODS NORTH CAROLINA PROFESSIONAL SEAL 19475 ENGINEER

Digitally signed by Don R. Woods, PE
DN: E=drwoods@woodseng.com, CN=Don R. Woods, PE, O=Woods Engineering, PA*, L=Wilmington, S=North Carolina, C=US
Location: Wilmington, NC
Reason: I am the author of the accuracy and integrity of this document
Contact Info: drwoods@woodseng.com
Date: 2019.03.27 13:50:27-04'00'

NHCS Trask Middle School

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

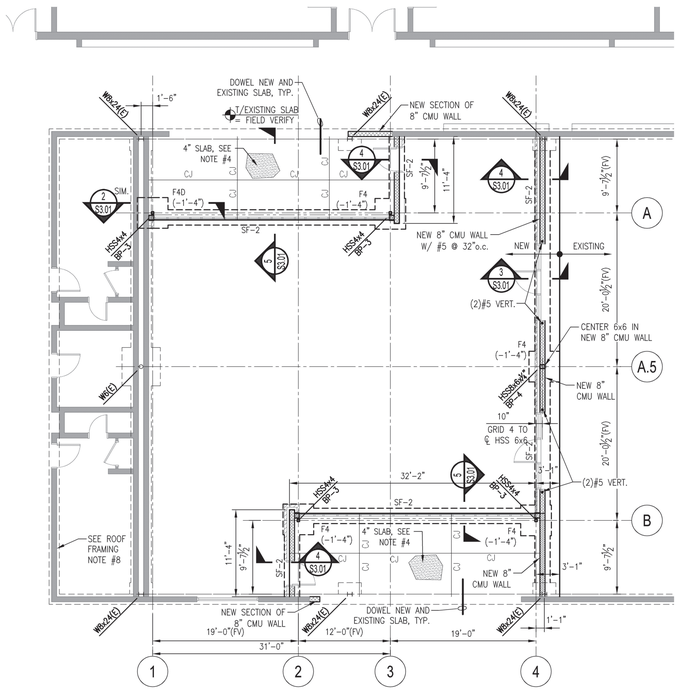
Construction Drawings
March 27, 2019

Revisions:

MATERIAL INSPECTIONS & SPECIAL INSPECTIONS FOR WIND & SEISMIC

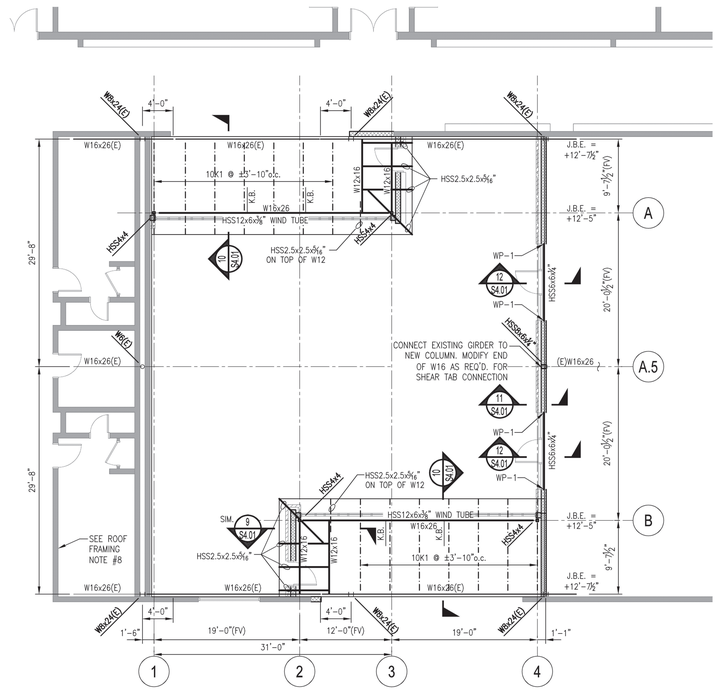
S1.03

© 2018 Sawyer Sherwood & Associate- All Rights Reserved



PARTIAL FOUNDATION PLAN AREA A

SCALE: 1/8" = 1'-0"



PARTIAL ROOF FRAMING PLAN AREA A

SCALE: 1/8" = 1'-0"

STRIP FOOTING (SF-X) SCHEDULE			
MARK	SIZE width x thickness x length	REINFORCEMENT	REMARKS
SF-1	1'-8" x 1'-0" x CONT.	(2) #4 CONT. (BOTT.)	-
SF-2	2'-0" x 1'-0" x CONT.	(2) #5 CONT. (BOTT.)	-
SF-3	3'-0" x 2'-0" x CONT.	(3) #5 CONT. (T&B)	-

SPREAD FOOTING SCHEDULE			
MARK	SIZE length x width x thickness	BOTTOM BARS EACH WAY U.N.O.	REMARK
F3	3'-0" x 3'-0" x 1'-0"	(3)#4	
F4	4'-0" x 4'-0" x 1'-0"	(4)#4 TOP & BOTT. E.W.	
F3-5	3'-0" x 5'-0" x 1'-10"	(4)#4 BOTT. LONG & (6)#4 BOTT. SHORT	SEE SECTION
F4D	4'-0" x 4'-0" x 1'-10"	(4)#4 BOTT. E.W.	SEE SECTION

FOUNDATION PLAN NOTES:

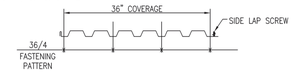
1. SEE SHEET S1.01 FOR ADDITIONAL GENERAL NOTES, FOUNDATION NOTES, CONCRETE NOTES, AND REINFORCING STEEL NOTES. ALSO, SEE SHEET S1.02 FOR TYPICAL DETAILS. TYPICAL DETAILS ARE GENERALLY NOT SHOWN ON PLAN BUT RATHER ARE INTENDED TO DEFINE TYPICAL CONSTRUCTION CONDITIONS.
2. DATUM ELEVATION = TOP OF SLAB ELEVATION = ASSUMED 0'-0" = ±39.9' M.S.L. (FIELD VERIFY AND MATCH EXISTING) - OTHER ELEVATIONS ARE NOTED AS (+ OR -) FROM DATUM ELEVATION.
3. TOP OF FOOTINGS SHALL BE (-1'-4") FROM DATUM ELEVATION, U.N.O.
4. SLAB-ON-GRADE SHALL BE 4" THICK 3000 psi CONCRETE WITH 6x6xW2.0xW2.0 or 3.0lbs/yd.³ OF SYNTHETIC MACRO-FIBERS (TUF-STRAND SF BY EUCLID, FIBER MAC SERIES BY BASF, OR FORTA-FERRO BY FORTA CORP, OR APPROVED EQUAL) ON 15 mil VAPOR RETARDER, ON 6" OF CLEAN SANDS (LESS THAN 3% FINES) ON WELL COMPACTED SUB GRADE. VERIFY COMPACTION w/QUALIFIED GEOTECHNICAL ENGINEER
5. REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND OTHER DISCIPLINE DRAWINGS FOR OPENINGS AND DEPRESSIONS NOT SHOWN ON THESE DRAWINGS.

FOUNDATION LEGEND:

- CJ / 3 — SLAB CONTROL OR CONSTRUCTION JOINT - SEE DETAILS ON S1.02
- INDICATES MASONRY INFILL/NEW MASONRY WALL SEE ARCH.
- INDICATES EXISTING MASONRY WALL TO REMAIN SEE ARCH.
- FX — SPREAD FOOTING DESIGNATION SEE SCHEDULE THIS SHEET
- SF-X — STRIP FOOTING DESIGNATION SEE SCHEDULE THIS SHEET
- INDICATES LOCATION OF COLUMN - SIZE/TYPE TBD

ROOF FRAMING PLAN NOTES

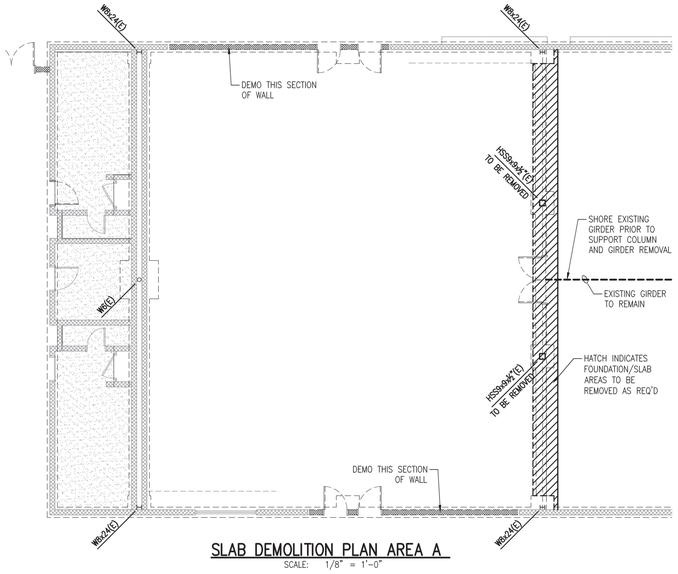
1. ELEVATIONS SHOWN ON PLAN ARE REFERENCED TO FINISHED FIRST FLOOR DATUM.
2. SEE SHEET S1.01 FOR GENERAL STEEL, JOIST, DECK AND LIGHT GAUGE FRAMING NOTES. ALSO SEE SHEET S1.02 FOR TYPICAL DETAILS NOT SHOWN ON PLAN.
3. TYPICAL LOW ROOF DECK IS 1½" DEEP, 20 ga., GALVANIZED, TYPE 'B' METAL ROOF DECK.
4. METAL ROOF DECK SHALL BE ATTACHED TO SUPPORTING MEMBERS WITH HILTI X-HSN24 FOR STEEL THICKNESS LESS THAN 3/16" AND HILTI X-ENP19 OTHERWISE IN A 36/4 PATTERN U.N.O. - PROVIDE (3) HILTI SLC SIDELAP SCREWS PER SPAN, U.N.O. ON PLAN.



5. ALL JOISTS SHALL BE DESIGNED FOR A NET UPLIFT PRESSURE OF 30 psf.
6. PROVIDE JOIST BRIDGING PER SJI RECOMMENDATIONS.
7. JOIST BEARING ELEVATIONS AND TOP OF STEEL ELEVATIONS ARE REFERENCED TO DATUM ELEVATION.
8. ALL EXISTING MASONRY PARTITION WALLS SHALL BE SEISMICALLY BRACED - SEE TYPICAL DETAIL ON S1.02.

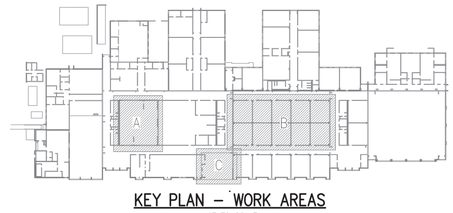
ROOF FRAMING LEGEND

- W_x_ — STEEL BEAM, SEE PLAN FOR SIZE AND LOCATION
- EXISTING STEEL BAR JOIST TO REMAIN
- STEEL BAR JOIST, SEE PLAN FOR SIZE AND LOCATION
- 8" LIGHT GAUGE RAFTERS @ 16"o.c.
- INDICATES LOCATION OF COLUMN - SIZE/TYPE TBD
- WP-x — WALL BEARING PLATE - SEE S4.01



SLAB DEMOLITION PLAN AREA A

SCALE: 1/8" = 1'-0"



KEY PLAN - WORK AREAS

NOT TO SCALE

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
620 Hagerty Forest Drive
Suite 103
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7516
LA: C-1195
PE: C-1395

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER CORPORATE SEAL No. C-1805

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19475 DON R. WOODS

Digitally signed by Don R. Woods, PE
DN: E=donwoods@woodseng.com, CN=Don R. Woods, PE, OU=Woods Engineering, PA', L=Wilmington, S=North Carolina, C=US
Location: Wilmington, NC
Reason: I attest to the accuracy and integrity of this document
Contact Info: donwoods@woodseng.com
Date: 2019.03.27 13:51:04-04'00'

NHCS Trask Middle School

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

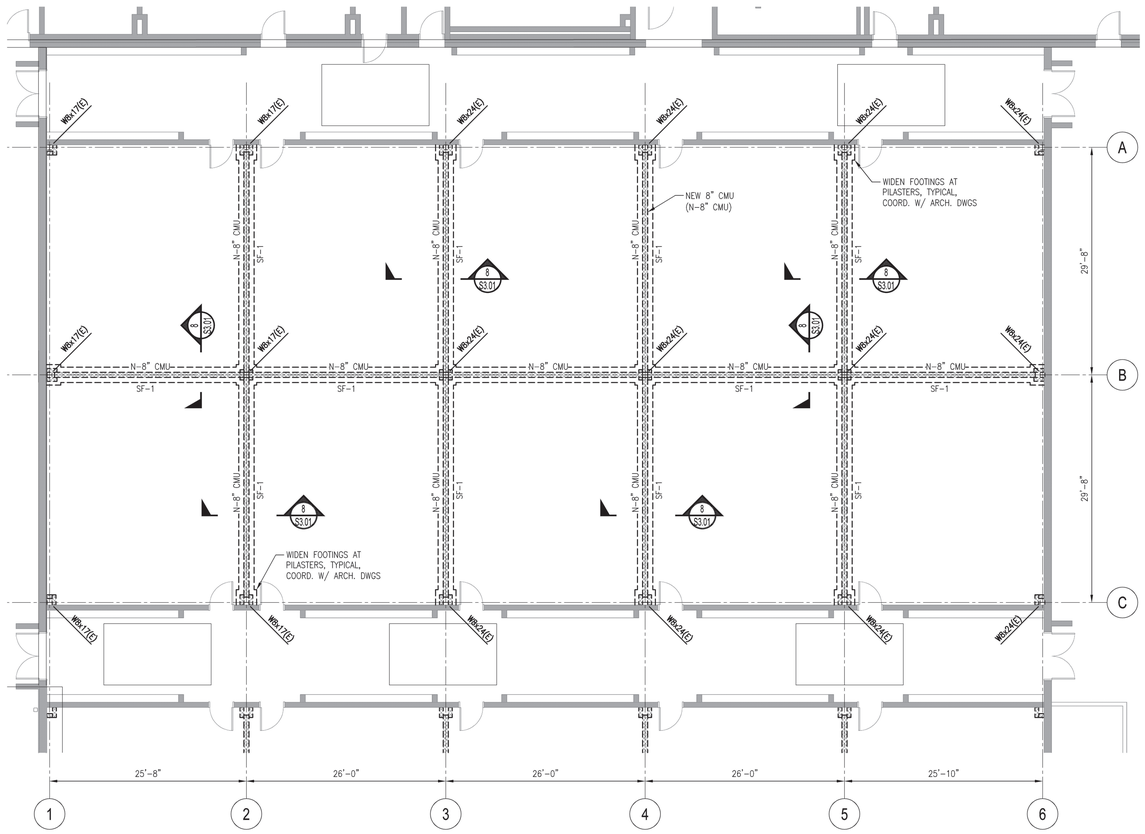
Construction Drawings
March 27, 2019

Revisions:

Foundation and Slab Plan

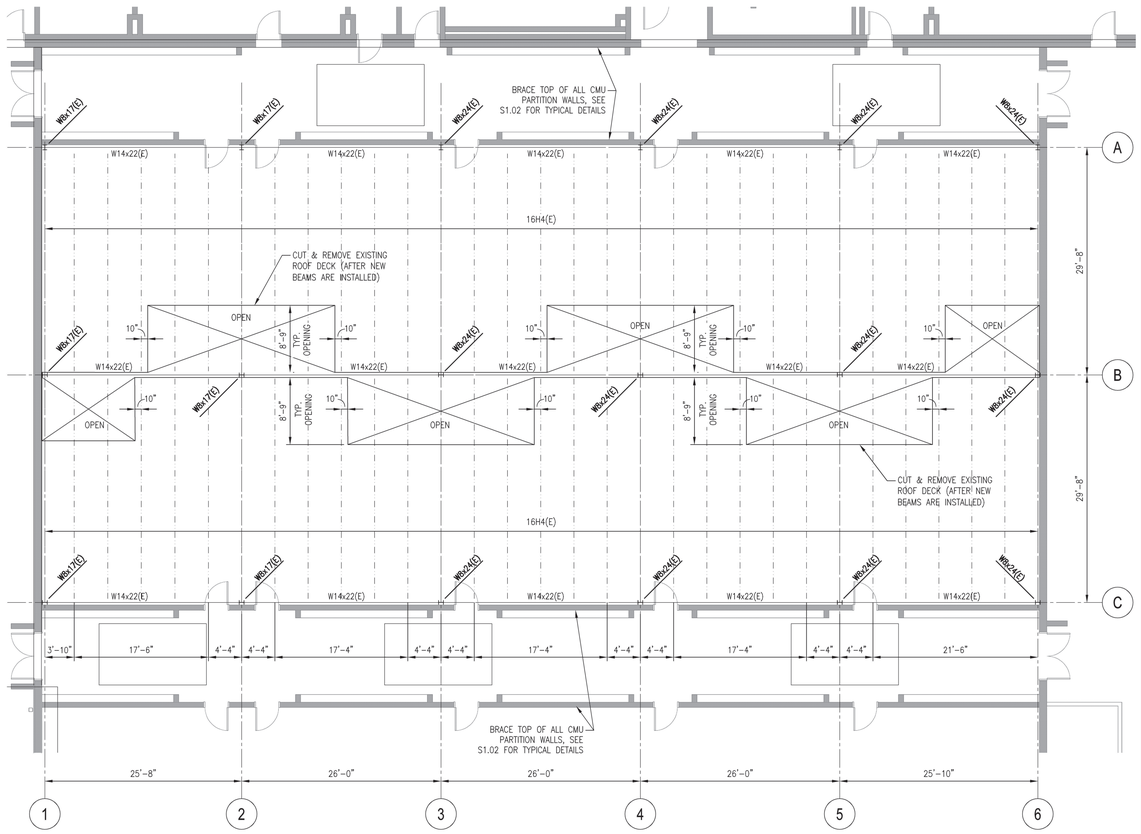
S2.01

© 2018 Sawyer Sherwood & Associate- All Rights Reserved



PARTIAL SLAB AND FOUNDATION AREA B

SCALE: 1/8" = 1'-0"



PARTIAL EXISTING ROOF FRAMING AND DEMOLITION AREA B

SCALE: 1/8" = 1'-0"

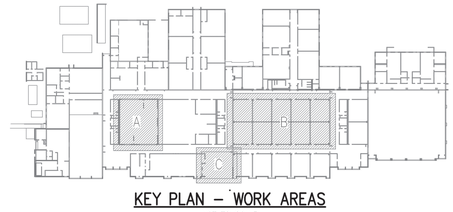
STRIP FOOTING (SF-X) SCHEDULE			
MARK	SIZE width x thickness x length	REINFORCEMENT	REMARKS
SF-1	1'-8" x 1'-0" x CONT.	(2) #4 CONT. (BOTT.)	-
SF-2	2'-0" x 1'-0" x CONT.	(2) #5 CONT. (BOTT.)	-
SF-3	3'-0" x 2'-0" x CONT.	(3) #5 CONT. (T&B)	-

FOUNDATION PLAN NOTES:

1. SEE SHEET S1.01 FOR ADDITIONAL GENERAL NOTES, FOUNDATION NOTES, CONCRETE NOTES, AND REINFORCING STEEL NOTES. ALSO, SEE SHEET S1.02 FOR TYPICAL DETAILS. TYPICAL DETAILS ARE GENERALLY NOT SHOWN ON PLAN BUT RATHER ARE INTENDED TO DEFINE TYPICAL CONSTRUCTION CONDITIONS.
2. DATUM ELEVATION = TOP OF SLAB ELEVATION = ASSUMED 0'-0" = ±39.9' M.S.L. (FIELD VERIFY AND MATCH EXISTING) – OTHER ELEVATIONS ARE NOTED AS (+ OR –) FROM DATUM ELEVATION.
3. TOP OF FOOTINGS SHALL BE (–0'–0") FROM DATUM ELEVATION, U.N.O.
4. SLAB–ON–GRADE SHALL BE 4" THICK 3000 psi CONCRETE WITH 6x6xW2.0xW2.0 or 3.0lbs/yd.³ OF SYNTHETIC MACRO–FIBERS (TUF–STRAND SF BY EUCLID, FIBER MAC SERIES BY BASF, OR FORTA–FERRO BY FORTA CORP, OR APPROVED EQUAL) ON 15 mil VAPOR RETARDER, ON 6" OF CLEAN SANDS (LESS THAN 3% FINES) ON WELL COMPACTED SUB GRADE. VERIFY COMPACTION w/QUALIFIED GEOTECHNICAL ENGINEER
5. REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND OTHER DISCIPLINE DRAWINGS FOR OPENINGS AND DEPRESSIONS NOT SHOWN ON THESE DRAWINGS.

FOUNDATION LEGEND:

- INDICATES MASONRY INFILL/NEW MASONRY WALL SEE ARCH.
- INDICATES EXISTING MASONRY WALL TO REMAIN SEE ARCH.
- SF–X — STRIP FOOTING DESIGNATION SEE SCHEDULE THIS SHEET



KEY PLAN – WORK AREAS

NOT TO SCALE

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
800 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-6756
Fax: (910) 319-7516
LA: C-1190
PE: C-1190

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street
Suite 201
Wilmington, NC 28401
Phone: 910.343.8007
Fax: 910.343.8088
www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER CORPORATE SEAL No. C-1805 WOODS ENGINEERING, P.A.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19475 DON R. WOODS

Digitally signed by Don R. Woods, PE
DN: E=donwoods@woodseng.com, CN="Don R. Woods, PE", O="Woods Engineering, PA", L=Wilmington, S=North Carolina, C=US
Location: Wilmington, NC
Reason: I attest to the accuracy and integrity of this document
Contact Info: donwoods@woodseng.com
Date: 2019.03.27 13:51:51-04'00'

NHCS Trask Middle School

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

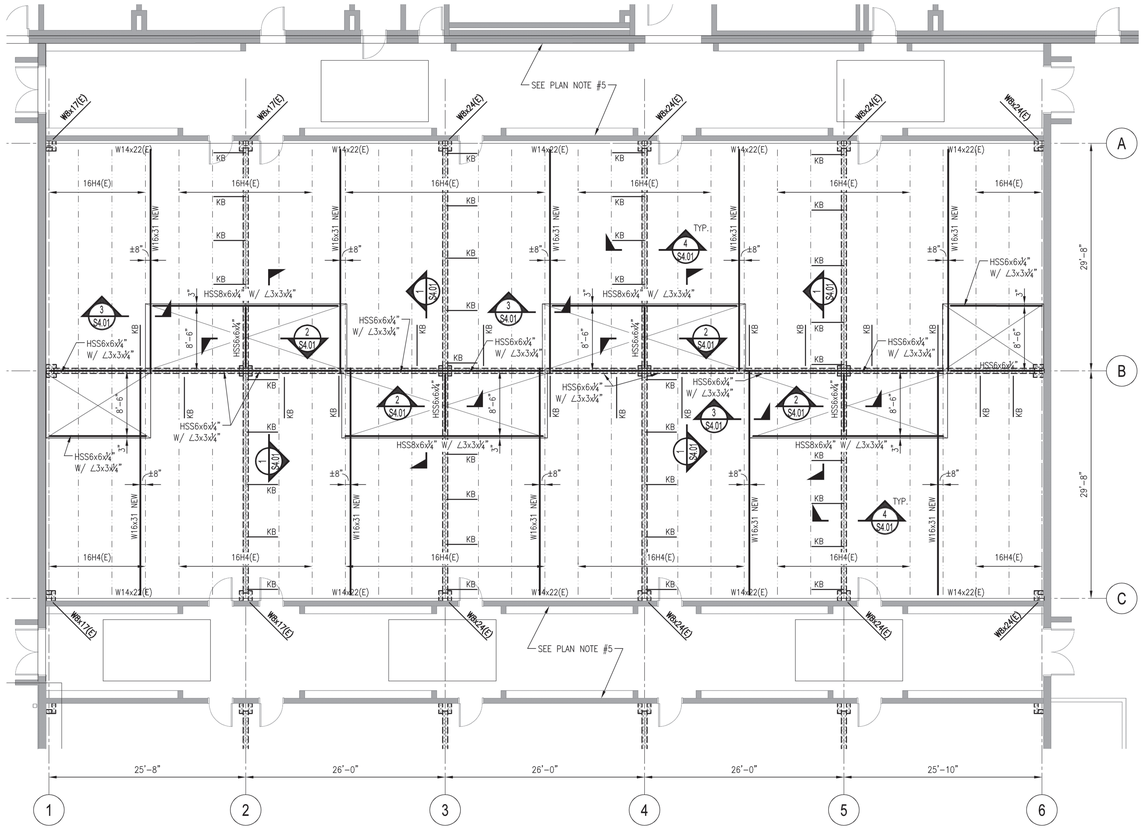
Construction Drawings
March 27, 2019

Revisions:

Roof Framing Plan

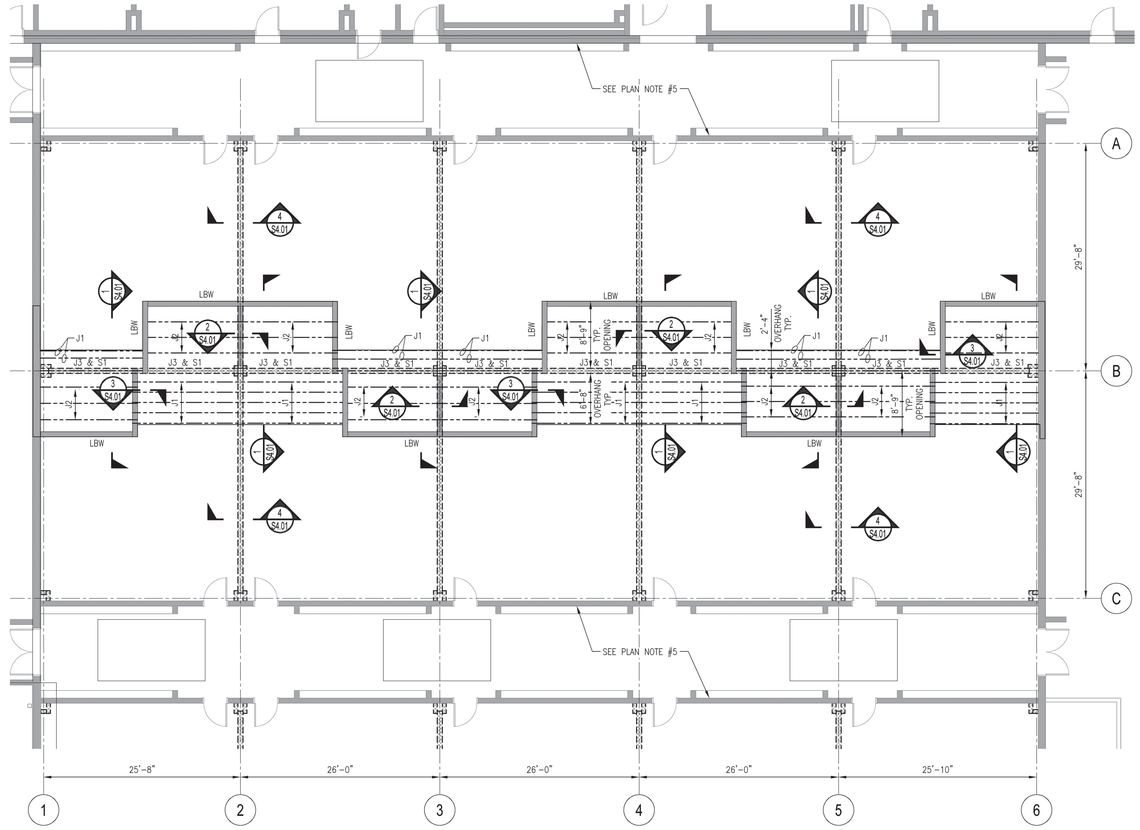
S2.02A

© 2018 Sawyer Sherwood & Associate- All Rights Reserved



PROPOSED ROOF FRAMING AREA B

SCALE: 1/8" = 1'-0"



LIGHT MONITOR HIGH ROOF FRAMING AREA B

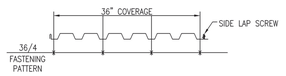
SCALE: 1/8" = 1'-0"

LOW ROOF FRAMING LEGEND

- W_x_ — STEEL BEAM, SEE PLAN FOR SIZE AND LOCATION
- EXISTING STEEL BAR JOIST TO REMAIN
- Jx — LIGHT GAUGE RAFTERS SEE PLAN AND SCHEDULE FOR SIZES
- INDICATES LOCATION OF COLUMN – SIZE/TYPE TBD

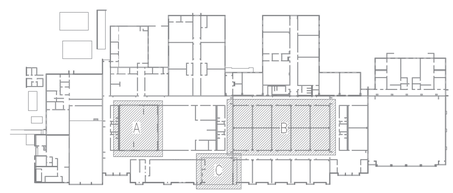
HIGH ROOF FRAMING PLAN NOTES

1. ELEVATIONS SHOWN ON PLAN ARE REFERENCED TO FINISHED FIRST FLOOR DATUM.
2. SEE SHEET S1.01 FOR GENERAL STEEL, JOIST, DECK AND LIGHT GAUGE FRAMING NOTES. ALSO SEE SHEET S1.02 FOR TYPICAL DETAILS NOT SHOWN ON PLAN.
3. TYPICAL LOW ROOF DECK IS 1½" DEEP, 20 ga., GALVANIZED, TYPE 'B' METAL ROOF DECK.
4. METAL ROOF DECK SHALL BE ATTACHED TO SUPPORTING MEMBERS WITH #12 TEK SCREWS IN A 36/4 PATTERN U.N.O. – PROVIDE (1)–#10 TEK SIDELAP SCREW PER SPAN, U.N.O. ON PLAN.



5. ALL EXISTING MASONRY PARTITION WALLS SHALL BE SEISMICALLY BRACED – SEE TYPICAL DETAIL ON S1.02.

HEADER AND JAMB SCHEDULE		
MARK		REMARKS
J1	800S250–54 @ 16"o.c.	–
J2	800S200–43 @ 24"o.c.	–
J3	1000S250–54 & 1000T200–54	–
S1	600S250–54 & 600T200–54	–



KEY PLAN – WORK AREAS

NOT TO SCALE

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
630 Wagoner Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-0756
Fax: (919) 319-7516
LA: C-1195
PE: C-1195

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE # C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street
Suite 201
Wilmington, NC 28401
Phone: 910.343.8007
Fax: 910.343.8088
www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19475 DON R. WOODS

CORPORATE SEAL No. C-1805 WOODS ENGINEERING, P.A. NORTH CAROLINA

Digitally signed by Don R. Woods, PE
DN: E=donwoods@woodseng.com, CN="Don R. Woods, PE", O="Woods Engineering, PA", L=Wilmington, S=North Carolina, C=US
Location: Wilmington, NC
Reason: I attest to the accuracy and integrity of this document
Contact Info: donwoods@woodseng.com
Date: 2019.03.27 13:52:39-04'00'

NHCS Trask Middle School

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

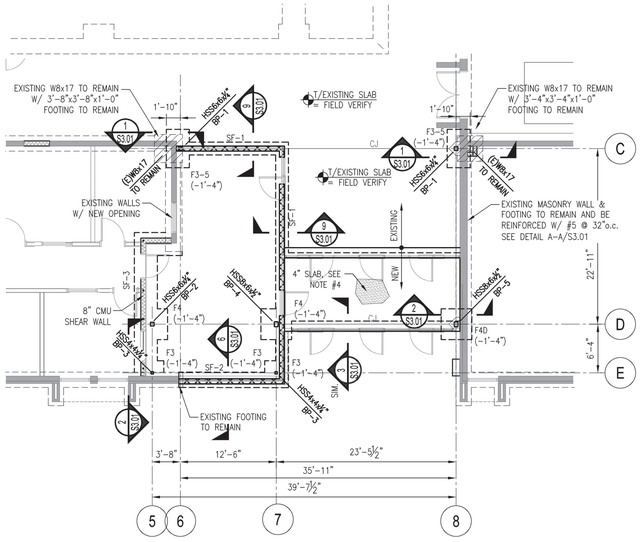
Construction Drawings
March 27, 2019

Revisions:

Roof Framing Plan

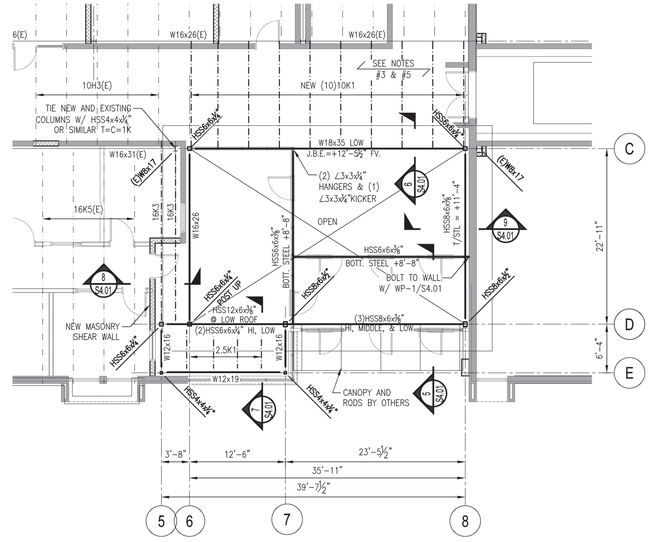
S2.02B

© 2018 Sawyer Sherwood & Associate- All Rights Reserved



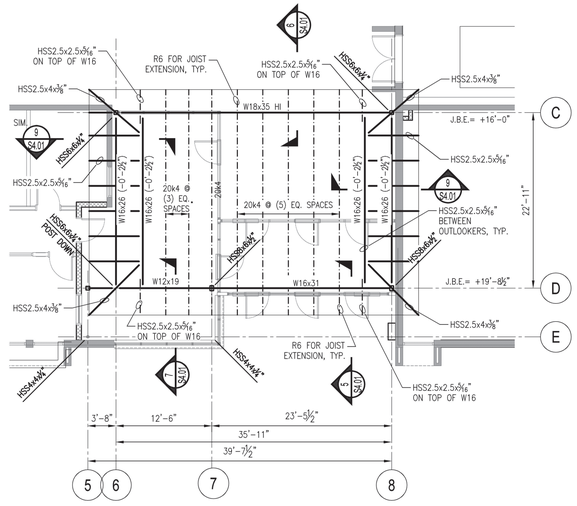
FOUNDATION PLAN AREA C

SCALE: 1/8" = 1'-0"



LOW ROOF FRAMING PLAN AREA C

SCALE: 1/8" = 1'-0"



HIGH ROOF FRAMING PLAN AREA C

SCALE: 1/8" = 1'-0"

STRIP FOOTING (SF-X) SCHEDULE			
MARK	SIZE width x thickness x length	REINFORCEMENT	REMARKS
SF-1	1'-8" x 1'-0" x CONT.	(2) #4 CONT. (BOTT.)	–
SF-2	2'-0" x 1'-0" x CONT.	(2) #5 CONT. (BOTT.)	–
SF-3	3'-0" x 2'-0" x CONT.	(3) #5 CONT. (T&B)	–

SPREAD FOOTING SCHEDULE			
MARK	SIZE length x width x thickness	BOTTOM BARS EACH WAY U.N.O.	REMARK
F3	3'-0" x 3'-0" x 1'-0"	(3)#4	
F4	4'-0" x 4'-0" x 1'-0"	(4)#4 TOP & BOTT. E.W.	
F3-5	3'-0" x 5'-0" x 1'-10"	(4)#4 BOTT. LONG & (6)#4 BOTT. SHORT	SEE SECTION
F4D	4'-0" x 4'-0" x 1'-10"	(4)#4 BOTT. E.W.	SEE SECTION

FOUNDATION PLAN NOTES:

1. SEE SHEET S1.01 FOR ADDITIONAL GENERAL NOTES, FOUNDATION NOTES, CONCRETE NOTES, AND REINFORCING STEEL NOTES. ALSO, SEE SHEET S1.02 FOR TYPICAL DETAILS. TYPICAL DETAILS ARE GENERALLY NOT SHOWN ON PLAN BUT RATHER ARE INTENDED TO DEFINE TYPICAL CONSTRUCTION CONDITIONS.
2. DATUM ELEVATION = TOP OF SLAB ELEVATION = ASSUMED 0'-0" = ±39.9' M.S.L. (FIELD VERIFY AND MATCH EXISTING) – OTHER ELEVATIONS ARE NOTED AS (+ OR –) FROM DATUM ELEVATION.
3. TOP OF FOOTINGS SHALL BE (–1'-4") FROM DATUM ELEVATION, U.N.O.
4. SLAB-ON-GRADE SHALL BE 4" THICK 3000 psi CONCRETE WITH 6x6xW2.0xW2.0 or 3.0lbs/yd.³ OF SYNTHETIC MACRO-FIBERS (TUF-STRAND SF BY EUCLID, FIBER MAC SERIES BY BASF, OR FORTA-FERRO BY FORTA CORP, OR APPROVED EQUAL) ON 15 mil VAPOR RETARDER, ON 6" OF CLEAN SANDS (LESS THAN 3% FINES) ON WELL COMPACTED SUB GRADE. VERIFY COMPACTION w/QUALIFIED GEOTECHNICAL ENGINEER
5. REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND OTHER DISCIPLINE DRAWINGS FOR OPENINGS AND DEPRESSIONS NOT SHOWN ON THESE DRAWINGS.

FOUNDATION LEGEND:

- CJ / 3 — SLAB CONTROL OR CONSTRUCTION JOINT – SEE DETAILS ON S1.02
- INDICATES MASONRY INFILL/NEW MASONRY WALL SEE ARCH.
- INDICATES EXISTING MASONRY WALL TO REMAIN SEE ARCH.
- FX — SPREAD FOOTING DESIGNATION SEE SCHEDULE THIS SHEET
- SF-X — STRIP FOOTING DESIGNATION SEE SCHEDULE THIS SHEET
- 4 — INDICATES LOCATION OF COLUMN – SIZE/TYPE TBD

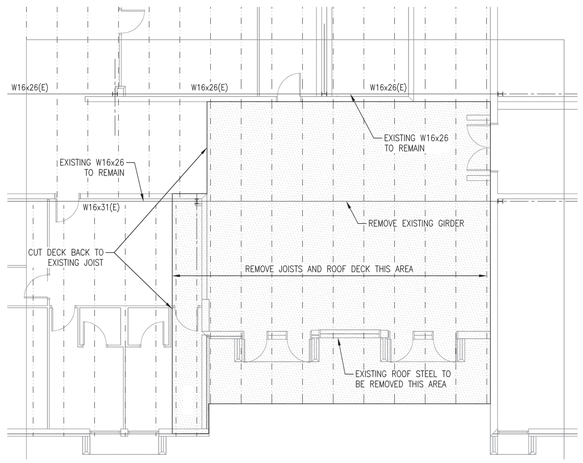
ROOF FRAMING PLAN NOTES

1. ELEVATIONS SHOWN ON PLAN ARE REFERENCED TO FINISHED FIRST FLOOR DATUM.
2. SEE SHEET S1.01 FOR GENERAL STEEL, JOIST, DECK AND LIGHT GAUGE FRAMING NOTES. ALSO SEE SHEET S1.02 FOR TYPICAL DETAILS NOT SHOWN ON PLAN.
3. TYPICAL LOW ROOF DECK IS 1½" DEEP, 20 ga., GALVANIZED, TYPE 'B' METAL ROOF DECK.
4. TYPICAL SLOPED HIGH ROOF DECK SHALL BE TYPE BA 1½" DEEP, 20ga., PAINTED ACOUSTICAL ROOF DECK.
5. METAL ROOF DECK SHALL BE ATTACHED TO SUPPORTING MEMBERS WITH HILTI X-HSN24 FOR STEEL THICKNESS LESS THAN ⅜" AND HILTI X-ENP19 OTHERWISE IN A 36/4 PATTERN U.N.O. – PROVIDE (3) HILTI SLC SIDELAP SCREWS PER SPAN, U.N.O. ON PLAN.

6. ALL JOISTS SHALL BE DESIGNED FOR A NET UPLIFT PRESSURE OF 30 psf.
7. PROVIDE JOIST BRIDGING PER SJI RECOMMENDATIONS.
8. JOIST BEARING ELEVATIONS AND TOP OF STEEL ELEVATIONS ARE REFERENCED TO DATUM ELEVATION.

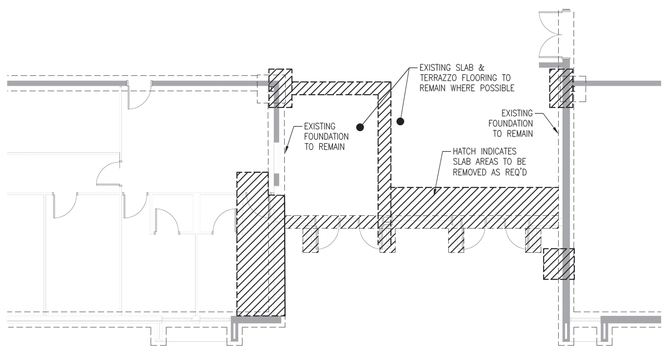
ROOF FRAMING LEGEND

- W_x_ — STEEL BEAM, SEE PLAN FOR SIZE AND LOCATION
- EXISTING STEEL BAR JOIST TO REMAIN
- STEEL BAR JOIST, SEE PLAN FOR SIZE AND LOCATION
- 8" LIGHT GAUGE RAFTERS @ 16"o.c.
- 4 — INDICATES LOCATION OF COLUMN – SIZE/TYPE TBD



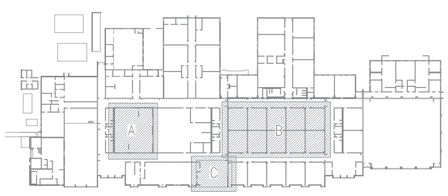
ROOF DEMOLITION PLAN AREA C

SCALE: 1/8" = 1'-0"



SLAB DEMOLITION PLAN AREA C

SCALE: 1/8" = 1'-0"



KEY PLAN – WORK AREAS

NOT TO SCALE

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
Civil Engineering • Land Planning • Surveying
420 Hegemy Forest Drive, Suite 100
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7516
LA: C-1195
PE: C-1195

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4230
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street, Suite 201, Wilmington, NC 28401
Phone: 910.343.8007 Fax: 910.343.8088 www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19475 DON R. WOODS

Digitally signed by Don R. Woods, PE
DN: E=donwoods@woodseng.com, CN=Don R. Woods, PE, OU=Woods Engineering, PA, L=Wilmington, S=North Carolina, C=US
Location: Wilmington, NC
Reason: I attest to the accuracy and integrity of this document
Contact Info: donwoods@woodseng.com
Date: 2019.03.27 13:53:20-04'00'

NHCS
Trask Middle School

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

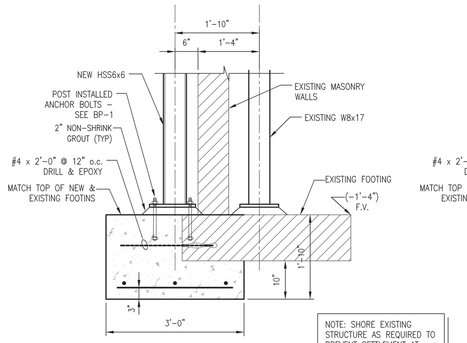
Construction Drawings
March 27, 2019

Revisions:

Foundation and Slab Plan

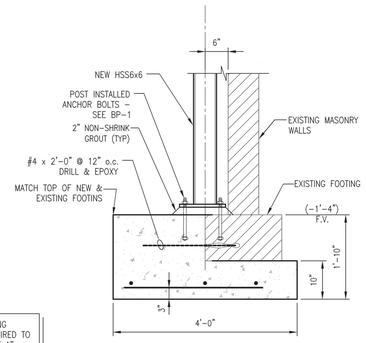
S2.03

© 2018 Sawyer Sherwood & Associate- All Rights Reserved

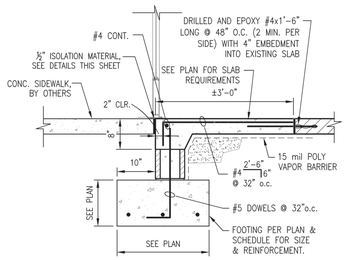


SECTION 1–1
SCALE: 3/4" = 1'–0"
(@ WALL ONLY)

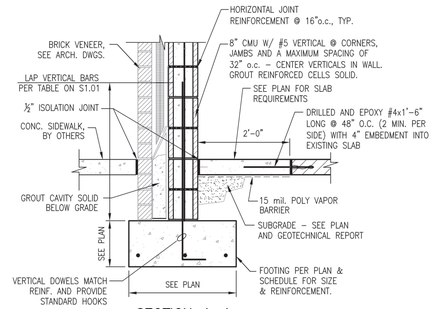
NOTE: SHORE EXISTING STRUCTURE AS REQUIRED TO PREVENT SETTLEMENT AT UNDERMINED FOOTINGS, TYP.



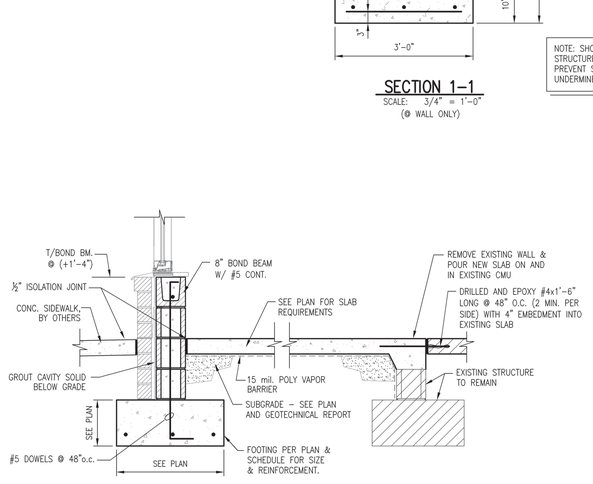
SECTION 2–2
SCALE: 3/4" = 1'–0"
(@ COLUMN)



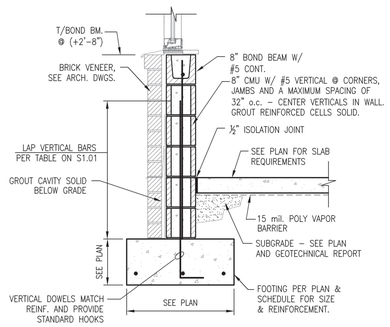
SECTION 3–3
SCALE: 3/4" = 1'–0"



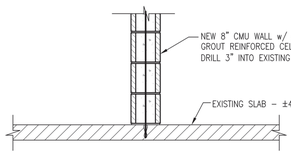
SECTION 4–4
SCALE: 3/4" = 1'–0"



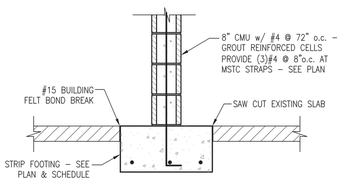
SECTION 5–5
SCALE: 3/4" = 1'–0"



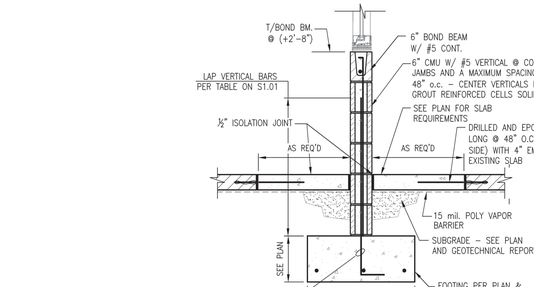
SECTION 6–6
SCALE: 3/4" = 1'–0"



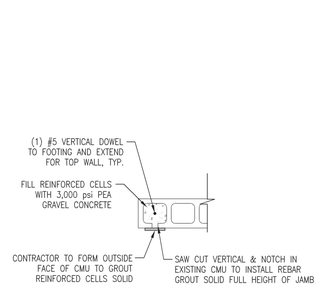
SECTION 7–7
SCALE: 3/4" = 1'–0"



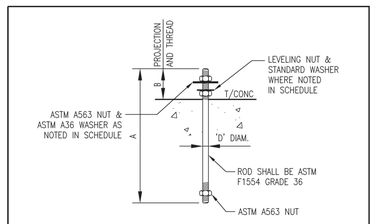
SECTION 8–8
SCALE: 3/4" = 1'–0"



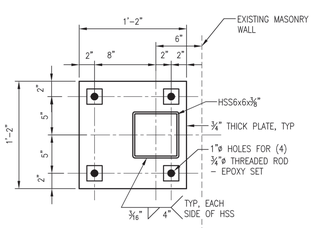
SECTION 9–9
SCALE: 3/4" = 1'–0"



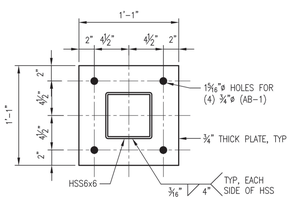
WALL REINFORCING DETAIL A–A
SCALE: 3/4" = 1'–0"



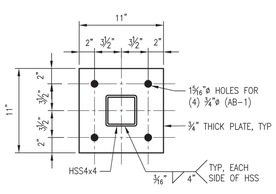
ANCHOR BOLT SCHEDULE							
MARK	BOLT DIAM. D	HOLE DIAMETER	A	B	TOP WASHER O.D. x t	LEVELING NUT	REMARKS
AB–1	¾"	1⁵⁄₁₆"	1'–2"	5"	2" x ¼"	YES	2" LEVELING GROUT
AB–2	1½"	2⁹⁄₁₆"	2'–6"	8"	3½" x ½"	YES	3" LEVELING GROUT
AB–3	2"	3¼"	2'–8"	10"	5" x ¾"	YES	3" LEVELING GROUT
AB–4	1"	1⁵⁄₁₆"	1'–8"	7"	3" x ⅜"	YES	2" LEVELING GROUT



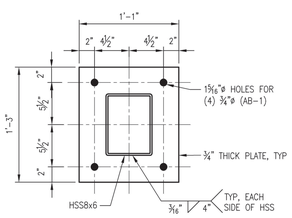
DETAIL "BP–1"
SCALE: 1 1/2" = 1'–0"



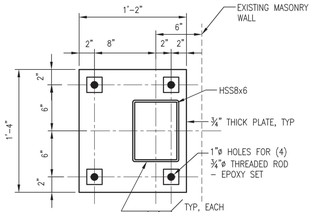
DETAIL "BP–2"
SCALE: 1 1/2" = 1'–0"
(HSS6x6)



DETAIL "BP–3"
SCALE: 1 1/2" = 1'–0"
(HSS 4x4)



DETAIL "BP–4"
SCALE: 1 1/2" = 1'–0"
(HSS8x6)



DETAIL "BP–5"
SCALE: 1 1/2" = 1'–0"

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0692 s2a3.com

CLH DESIGN, P.A.
Civil Engineering
631 Hegarty Forest Drive
Suite 101
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7916
LA: C-105
PE: C-1395

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street
Suite 201
Wilmington, NC 28401
Phone: 910.343.8007
Fax: 910.343.8088
www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19475 DON R. WOODS
CORPORATE SEAL No. C-1805 WOODS ENGINEERING, P.A. NORTH CAROLINA

Digitally signed by Don R. Woods, PE
DN: cn=donwoods@woodseng.com, OU="Don R. Woods, PE", O="Woods Engineering, PA", L=Wilmington, S=North Carolina, C=US
Location: Wilmington, NC
Reason: I attest to the accuracy and integrity of this document
Contact Info: donwoods@woodseng.com
Date: 2019.03.27 13:53:56-04'00'

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036436 DON R. WOODS

NHCS Trask Middle School

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

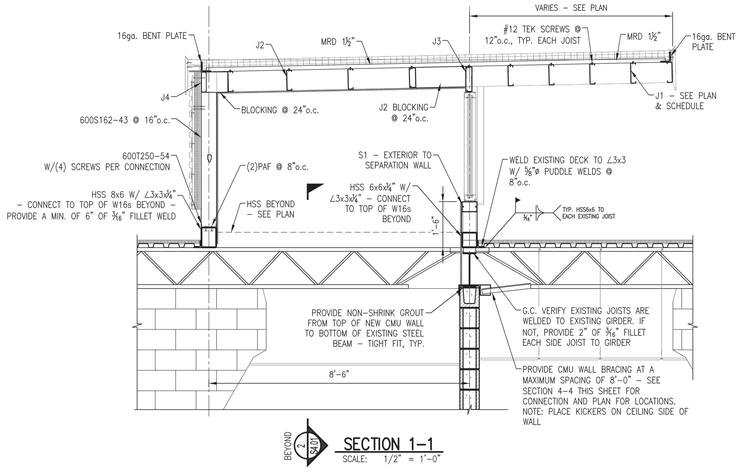
Construction Drawings
March 27, 2019

Revisions:

Foundation Sections & Details

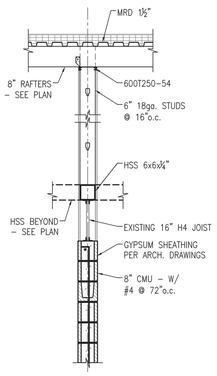
S3.01

© 2018 Sawyer Sherwood & Associate- All Rights Reserved

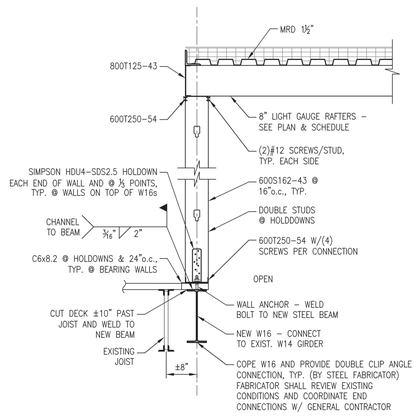


BEYOND 2 SHTS

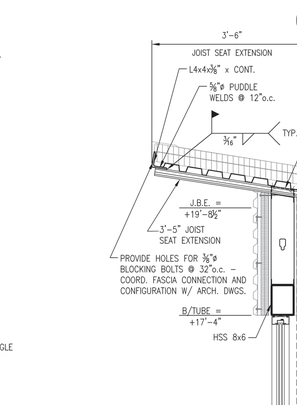
SECTION 1–1
SCALE: 1/2" = 1'–0"

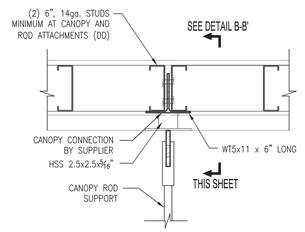


SECTION 2–2
SCALE: 1/2" = 1'–0"

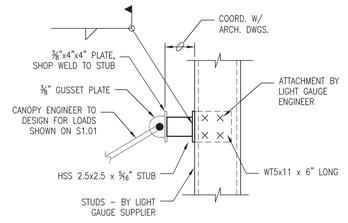


SECTION 3–3
SCALE: 3/4" = 1'–0"

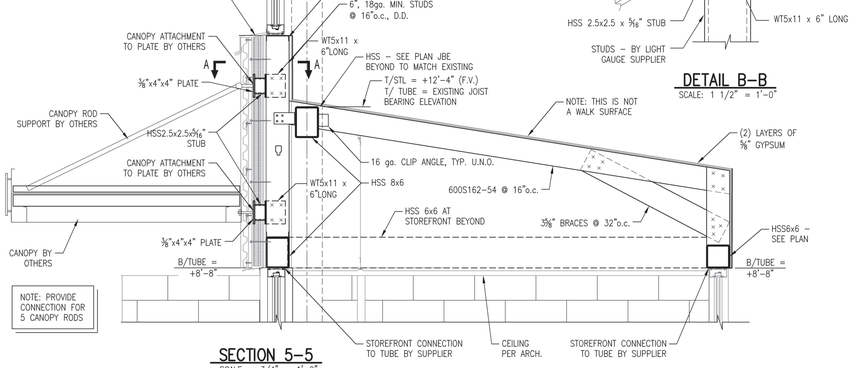




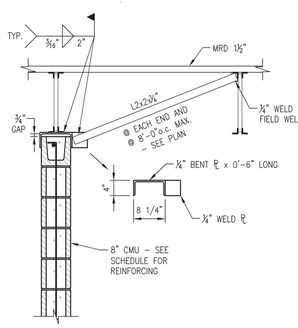
DETAIL A–A
SCALE: 1 1/2" = 1'–0"



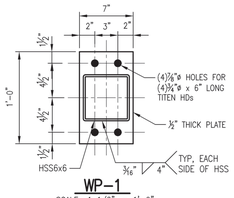
DETAIL B–B
SCALE: 1 1/2" = 1'–0"



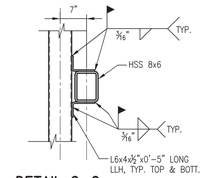
SECTION 5–5
SCALE: 3/4" = 1'–0"



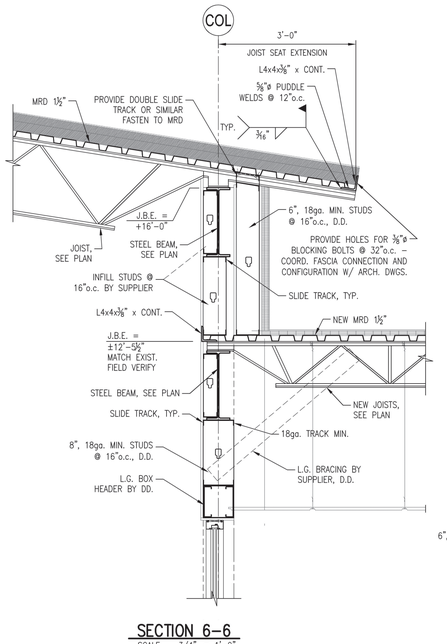
SECTION 4–4
SCALE: 3/4" = 1'–0"



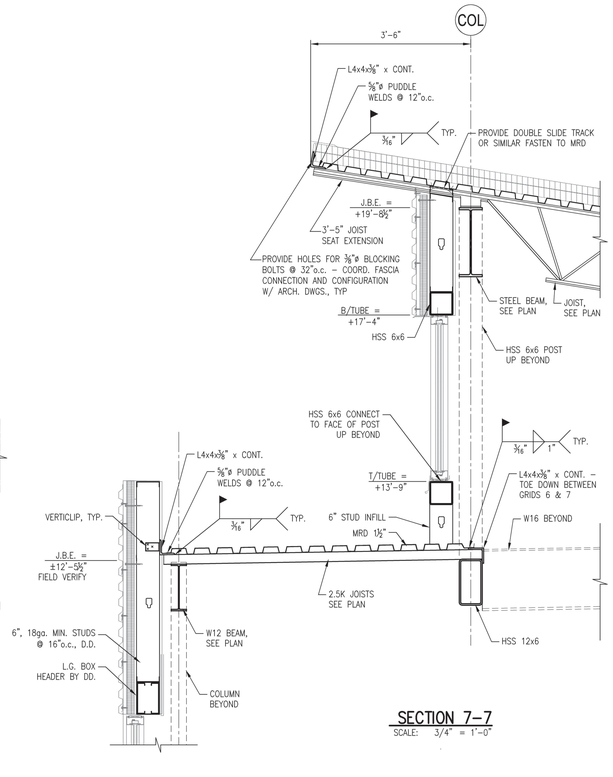
WP–1
SCALE: 1 1/2" = 1'–0"



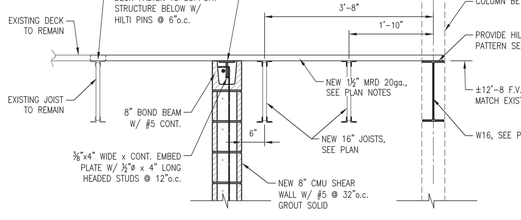
DETAIL C–C
SCALE: 3/4" = 1'–0"



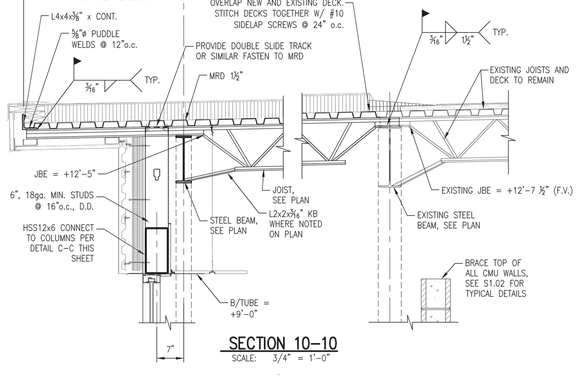
SECTION 6–6
SCALE: 3/4" = 1'–0"



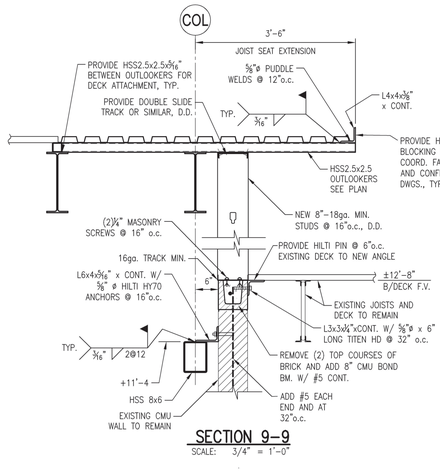
SECTION 7–7
SCALE: 3/4" = 1'–0"



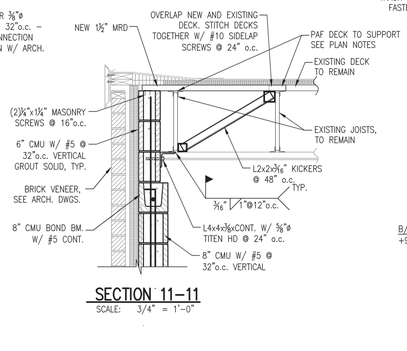
SECTION 8–8
SCALE: 3/4" = 1'–0"



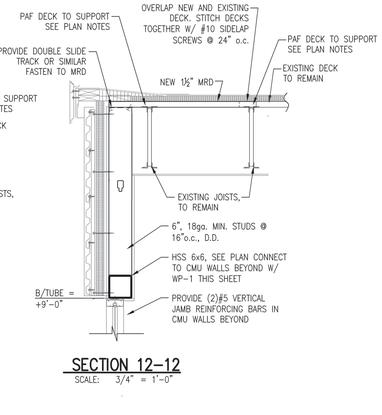
SECTION 10–10
SCALE: 3/4" = 1'–0"



SECTION 9–9
SCALE: 3/4" = 1'–0"



SECTION 11–11
SCALE: 3/4" = 1'–0"



SECTION 12–12
SCALE: 3/4" = 1'–0"

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
Civil Engineering • Land Planning • Surveying
635 Gregory Forest Drive, Suite 100, Cary, North Carolina 27518
Phone: (919) 319-0716 Fax: (919) 319-7516
LA: C-105 PE: C-1586

CHEATHAM AND ASSOCIATES, P.A. CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street, Suite 201, Wilmington, NC 28401
Phone: 910.343.8007 Fax: 910.343.8088 www.woodseng.com

NORTH CAROLINA WOODS ENGINEERING, P.A. CORPORATE SEAL No. C-1805

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19475 DON R. WOODS

Digitally signed by Don R. Woods, PE
DN: E=donwoods@woodseng.com, CN="Don R. Woods, PE", O="Woods Engineering, P.A.", L=Wilmington, S=North Carolina, C=US
Location: Wilmington, NC
Reason: I attest to the accuracy and integrity of this document
Contact Info: donwoods@woodseng.com
Date: 2019.03.27 13:54:45-04'00'

NHCS Trask Middle School

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009

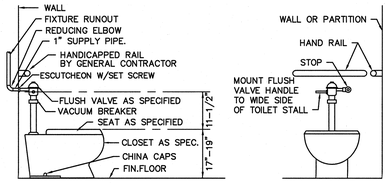
Construction Drawings
March 27, 2019

Revisions:

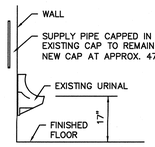
Framing Sections & Details

S4.01

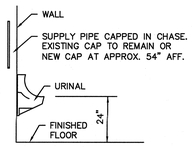
© 2018 Sawyer Sherwood & Associate- All Rights Reserved



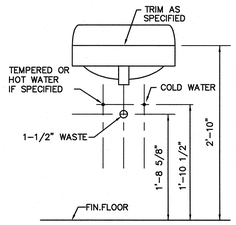
A P0.1 ADULT ADA WATER CLOSET (WC–1, WC–3, WC–5) DETAIL
NO SCALE



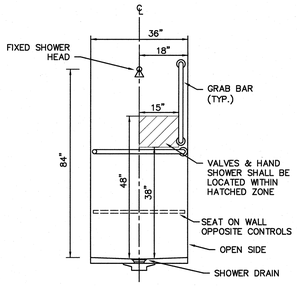
B P0.1 ADULT ADA URINAL (U–1) ROUGH–IN DETAIL
NO SCALE



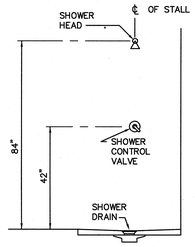
C P0.1 ADULT STANDARD URINAL (U–2) ROUGH–IN DETAIL
NO SCALE



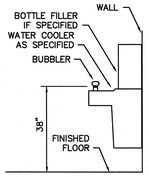
D P0.1 ADULT ADA LAVATORY (L–1, L–2, L–3 & L–4) ROUGH–IN ELEVATION
NO SCALE



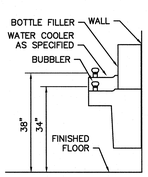
E P0.1 ADULT ADA TRANSFER SHOWER (SH–1) DETAIL
NO SCALE



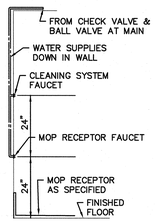
F P0.1 ADULT STANDARD SHOWER (SH–2) DETAIL
NO SCALE



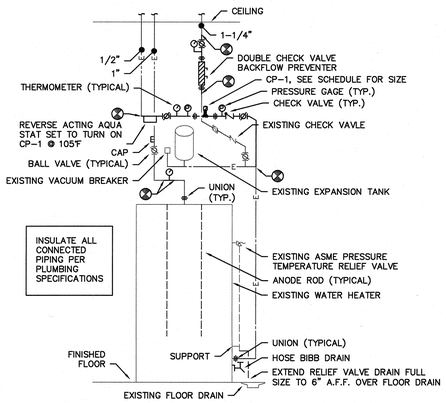
G P0.1 ADULT'S ELECTRIC WATER COOLER DETAIL (EWC–1)
NO SCALE



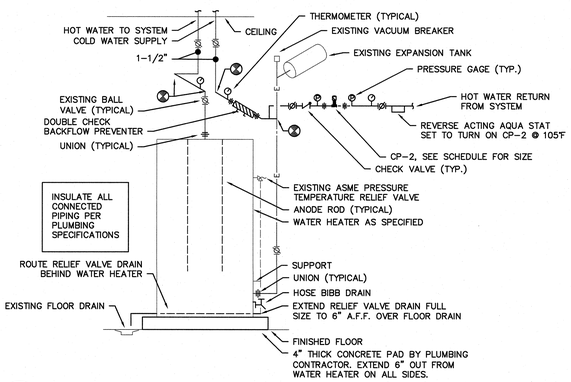
J P0.1 ADULT'S DUAL HEIGHT ELECTRIC WATER COOLER DETAIL (EWC–2)
NO SCALE



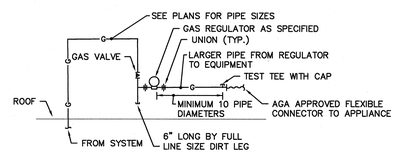
K P0.1 MOP RECEPTOR (MR–1) DETAIL
NO SCALE



L P0.1 CP–1 AND EXISTING WATER HEATER PIPING DETAIL
NO SCALE



M P0.1 LOCKERROOM WATER HEATER (WH–1) PIPING DETAIL
NO SCALE



N P0.1 TYPICAL ROOFTOP HVAC GAS PIPING CONNECTION
NO SCALE

PLUMBING FIXTURE SCHEDULE

SYMBOL	DESCRIPTION	ROUGH–IN SIZES WASTE	C.W.	H.W.	REMARKS
WC–1	WATER CLOSET–ADA (2)(3)	4"	1–1/4"	–	SEE ARCH DETAIL & DETAIL A/P0.1
WC–2	WATER CLOSET (2)(3)	4"	1–1/4"	–	
WC–3	WATER CLOSET–ADA (1)(3)	4"	1–1/4"	–	SEE ARCH DETAIL & DETAIL A/P0.1
WC–4	WATER CLOSET (1)(3)	4"	1–1/4"	–	
WC–5	WATER CLOSET–ADA (2)(4)	4"	1–1/4"	–	SEE ARCH DETAIL & DETAIL A/P0.1
U–1	URINAL–ADA	2"	3/4"	–	EXISTING URINAL/DETAIL B/P0.1
U–2	URINAL	2"	3/4"	–	EXISTING URINAL/DETAIL C/P0.1
L–1	LAVATORY–ADA (6)(7)	1–1/2"	1/2"	–	DETAIL D/P0.1
L–2	LAVATORY (6)(7)	1–1/2"	1/2"	1/2"	DETAIL D/P0.1
L–3	LAVATORY–STAFF (6)(7)	1–1/2"	1/2"	1/2"	DETAIL D/P0.1
L–4	LAVATORY (5)(7)	1–1/2"	1/2"	1/2"•	DETAIL D/P0.1, NOTE 5
SH–1	ADA SHOWER	2"	1/2"	1/2"	SEE ARCH DETAIL/DETAIL E/P0.1
EWC–1	ELECTRIC WATER COOLER	1–1/2"	1/2"	–	W/ BOTTLE FILLER/DETAIL G/P0.1
EWC–2	ELECTRIC WATER COOLER	1–1/2"	1/2"	–	DUAL HEIGHT/DETAIL J/P0.1
SK–1	CLINIC SINK	1–1/2"	1/2"	1/2"	ADA DEPTH
SK–2	TEACHERS LOUNGE SINK	1–1/2"	1/2"	1/2"	ADA DEPTH
SK–3	CLASSROOM SINK	1–1/2"	1/2"	1/2"	ADA DEPTH/DOUBLE BOWL
MR–1	MOP RECEPTOR	3"	1/2"	1/2"	DETAIL K/P0.1
HB–1	HOSE BIBB	–	3/4"	–	
HB–2	ROOF HYDRANT	1/8"	3/4"	–	
FD–1	FLOOR DRAIN	3"	–	–	

1. LAVATORIES SHALL HAVE MIXING VALVES INSTALLED SUCH THAT WATER TEMPERATURE IS LIMITED TO 110F. MIXING VALVES SHALL CONFORM TO ASSE 1070 OR CSA B125.3, SEE SPECIFICATIONS.
2. CALIBRATE ALL EXISTING LAVATORY FAUCETS TO 0.25 GAL PER CYCLE.
3. CLEAN ALL FIXTURES, FLUSH VALVES, AND FAUCETS.
4. PROVIDE COVER PLATE TO COVER ALL UNUSED SUPPLY PENETRATIONS IN EXISTING LAVATORY BOWLS.
5. SOME L–4 FIXTURES ARE COLD WATER ONLY. SEE PLANS FOR REQUIRED CONNECTIONS.

PLUMBING FIXTURE SCHEDULE KEYED NOTES: (THIS SHEET ONLY)

(1) EXISTING MANUAL FLUSH VALVE
(2) NEW MANUAL FLUSH VALVE AS SPECIFIED
(3) EXISTING WATER CLOSET BOWL
(4) NEW WATER CLOSET BOWL AS SPECIFIED
(5) EXISTING FAUCET
(6) NEW FAUCET AS SPECIFIED
(7) EXISTING LAVATORY BOWL

WATER HEATER SCHEDULE

SYMBOL	DESCRIPTION	ROUGH–IN SIZES CW	HW	TEMP. SETTING	STORAGE CAPACITY	RECOVERY	FUEL	LOAD	LOCATION	DETAIL
WH–1	TANK TYPE ELECTRIC	1–1/4"	1–1/4"	120°F	119 GAL	123 GPH	ELECTRIC	24kW/3Ø/480V	LAUNDRY 804A	M/P.01

CIRCULATOR PUMP SCHEDULE

SYMBOL	GPM	THD	ELECTRICAL HP	VOLTAGE	LOCATION	SERVICE	CONTROL
CP–1	1	6	1/40	115 V., 1Ø	CUSTODIAL C2	H.W. RETURN	AQUASTAT, DDC
CP–2	1	12	1/25	115 V., 1Ø	LAUNDRY 804A	H.W. RETURN	AQUASTAT, DDC

GAS REGULATOR SCHEDULE

SYMBOL	LOCATION	SERVING	CAPACITY MBH	INLET PRESSURE	OUTLET PRESSURE	REMARKS
REG 1	ROOF	PGAC#1	150	2 PSIG	7" W.C.	LIMITED VENTING
REG 2	ROOF	PGAC#2	150	2 PSIG	7" W.C.	LIMITED VENTING
REG 3	ROOF	PGAC#3	250	2 PSIG	7" W.C.	LIMITED VENTING
REG 4	ROOF	PGAC#4	250	2 PSIG	7" W.C.	LIMITED VENTING
REG 5	ROOF	PGAC#5	150	2 PSIG	7" W.C.	LIMITED VENTING
REG 6	ROOF	PGAC#6	150	2 PSIG	7" W.C.	LIMITED VENTING
REG 7	ROOF	PGAC#7	250	2 PSIG	7" W.C.	LIMITED VENTING
REG 8	ROOF	PGAC#8	150	2 PSIG	7" W.C.	LIMITED VENTING
REG 9	ROOF	PGAC#9	250	2 PSIG	7" W.C.	LIMITED VENTING
REG 10	ROOF	PGAC#10	250	2 PSIG	7" W.C.	LIMITED VENTING
REG 11	ROOF	PGAC#11	250	2 PSIG	7" W.C.	LIMITED VENTING
REG 12	ROOF	PGAC#12	150	2 PSIG	7" W.C.	LIMITED VENTING
REG 13	ROOF	PGAC#13	150	2 PSIG	7" W.C.	LIMITED VENTING
REG 14	ROOF	PGAC#14	150	2 PSIG	7" W.C.	LIMITED VENTING
REG 15	ROOF	PGAC#15	150	2 PSIG	7" W.C.	LIMITED VENTING
REG 16	ROOF	PGAC#16	150	2 PSIG	7" W.C.	LIMITED VENTING
REG 17	ROOF	PGAC#17	150	2 PSIG	7" W.C.	LIMITED VENTING
REG 18	ROOF	PGAC#18	250	2 PSIG	7" W.C.	LIMITED VENTING
REG 19	ROOF	PGAC#19	80	2 PSIG	7" W.C.	LIMITED VENTING
REG 20	ROOF	PGAC#20	80	2 PSIG	7" W.C.	LIMITED VENTING
REG 21	ROOF	PGAC#21	60	2 PSIG	7" W.C.	LIMITED VENTING
REG 22	ROOF	PGAC#22	80	2 PSIG	7" W.C.	LIMITED VENTING
REG 23	ROOF	PGAC#23	60	2 PSI	7" W.C.	LIMITED VENTING
REG 24	ROOF	PGAC#24	80	2 PSIG	7" W.C.	LIMITED VENTING
REG 25	ROOF	PGAC#25	60	2 PSIG	7" W.C.	LIMITED VENTING
REG 26	ROOF	PGAC#26	250	2 PSIG	7" W.C.	LIMITED VENTING
REG 27	ROOF	PGAC#27	250	2 PSIG	7" W.C.	LIMITED VENTING
REG 28	ROOF	PGAC#28	80	2 PSIG	7" W.C.	LIMITED VENTING
REG 29	ROOF	PGAC#29	60	2 PSIG	7" W.C.	LIMITED VENTING
REG 30	ROOF	DOAS#1	355	2 PSIG	7" W.C.	LIMITED VENTING
REG 31	ROOF	DOAS#2	355	2 PSIG	7" W.C.	LIMITED VENTING

LEGEND

- PIPING TO BE REMOVED (LINE SYMBOL INDICATES SERVICE)
- EXISTING WASTE PIPING TO REMAIN
- EXISTING VENT PIPING TO REMAIN
- EXISTING COLD WATER PIPING TO REMAIN
- EXISTING HOT WATER PIPING TO REMAIN
- EXISTING HOW WATER RETURN PIPING TO REMAIN
- EXISTING TEMPERED WATER
- EXISTING ROOF DRAIN LEADER
- W — WASTE PIPING BELOW FINISHED FLOOR
- V — VENT PIPING
- RDL — ROOF DRAIN LEADER
- CW — COLD WATER PIPING
- HW — HOT WATER PIPING
- HWR — HOT WATER RETURN PIPING
- BALL/BUTTERFLY VALVE
- CHECK VALVE
- BALANCING VALVE
- SOLENOID VALVE
- VALVE IN RISE
- PIPE ELBOW TURNED DOWN
- PIPE ELBOW TURNED UP
- PIPE TEE TURNED DOWN
- PIPE TEE TURNED UP
- CAP
- UNION
- STRAINER
- DOUBLE CHECK VALVE 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
- RD — ROOF DRAIN
- EXLAV — EXISTING LAVATORY
- EXEWC — EXISTING ELECTRIC WATER COOLER
- EXFCO — EXISTING FLOOR CLEANOUT
- EXECO — EXISTING EXTERIOR CLEANOUT
- EXRD — EXISTING ROOF DRAIN
- AFF — ABOVE FINISHED FLOOR
- BFF — BELOW FINISHED FLOOR
- AFG — ABOVE FINISHED GRADE
- BFG — BELOW FINISHED GRADE
- INV. — INVERT ELEVATION
- TERMINATION POINT OF DEMOLITION
- POINT OF NEW CONNECTION TO EXISTING
- EXISTING FIXTURE TO BE REMOVED
- EXISTING FIXTURE TO REMAIN
- NEW FIXTURE OR REINSTALLED FIXTURE
- CEILING ACCESS PANEL AS SPECIFIED

NUMBER INDICATES PLAN OR SECTION — LETTER INDICATES ELEVATION OR DETAIL
SHEET NUMBER WHERE PLAN, SECTION, ELEVATION OR DETAIL IS DRAWN
A — LETTER SUGGESTS FIXTURE RELOCATION. FOR INFORMATION ONLY.

GENERAL NOTES:

1. EXISTING INFORMATION IS BASED ON A FIELD SURVEY AND EXISTING PLANS. SOME INFORMATION PRESENTED IS ESTIMATED OR ASSUMED BASED ON EXPERIENCE. CONTRACTOR SHALL FIELD VERIFY CONDITIONS DURING THE COURSE OF WORK AND ALERT THE ARCHITECT AND/OR ENGINEER OF DIFFERENCES BETWEEN FIELD CONDITIONS AND THE DEMOLITION DRAWINGS THAT WILL PREVENT ANY PORTIONS OF THE PLUMBING SCOPE OF WORK FROM BEING INSTALLED AS DESIGNED.
2. EXISTING PIPING AT NEW WASTE PIPING CONNECTIONS SHALL BE EQUAL TO OR GREATER THAN THE PIPE SIZE UPSTREAM, INCLUDING BUT NOT LIMITED TO ELBOWS AND TEES..
3. EXISTING PIPING AT NEW DOMESTIC WATER PIPING CONNECTIONS SHALL BE EQUAL TO OR GREATER THAN PIPE SIZE DOWNSTREAM, INCLUDING BUT NOT LIMITED TO ELBOWS AND TEES.

FIRE RATINGS LEGEND

- 1 HOUR FIRE–RATED WALL
- 2 HOUR FIRE–RATED WALL
- 4 HOUR FIRE–RATED WALL

TOTAL CONNECTED LOAD

WASTE FIXTURE UNITS =	343 F.U.
GREASE WASTE FIXTURE UNITS =	32.5 F.U.
TOTAL WASTE FIXTURE UNITS =	375.5 F.U.
COLD WATER DEMAND =	208 GPM
HOT WATER DEMAND =	38 GPM
GAS LOADS	
BUILDING HEATING DEMAND =	5,250 MBH
FUTURE KITCHEN DEMAND =	500 MBH
TOTAL CONNECTED LOAD =	5,750 MBH

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
609 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919)319-0710
Fax: (919)319-7316
LA: C-1135
PE: C-0186

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL SEAL 043164 ENGINEER CAREY D. GILLIAM
3/27/19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

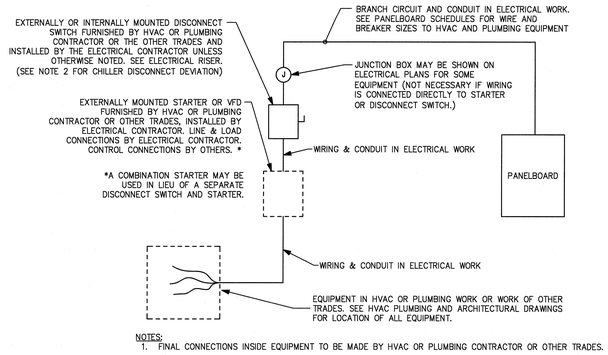
Revisions:

PLUMBING LEGEND, SCHEDULES & DETAILS

P0.1

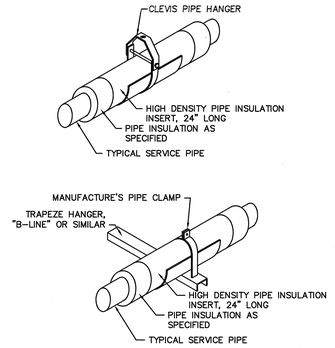
1 OF 15

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



NOTES:
1. FINAL CONNECTIONS INSIDE EQUIPMENT TO BE MADE BY HVAC OR PLUMBING CONTRACTOR OR OTHER TRADES.

A P0.2 **ELECTRICAL CONNECTION TO MECHANICAL EQUIPMENT**
NO SCALE



B P0.2 **PIPE HANGER DETAILS**
NO SCALE

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

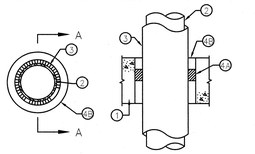
CLH DESIGN, P.A.
459 Regency Forest Drive
Suite 109
Cary, North Carolina 27518
Phone: (919) 319-7278
Fax: (919) 319-7279
LA: C-1108
PE: C-0395

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073
JOB # 18050

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

UL SYSTEM No. CA-J-5002
(FORMERLY SYSTEM NO 91-B)
SEPTEMBER 3, 2004

(F RATINGS – 2 AND 3 HR (SEE ITEM 1A AND 4)
T RATING – 0, 1/2 AND 1 HR (SEE ITEM 1A AND 4)
L RATING AT AMBIENT – 2 CFM/SQ FT
L RATING AT 400 F – LESS THAN 1 CFM/SQ FT



SECTION A–A

1. FLOOR OR WALL ASSEMBLY – MIN 2–1/2 IN. THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100–150 PCF) CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY SIZE **CONCRETE BLOCKS**. MIN. MAX DIAM OF OPENING IS 36 IN.
SEE **CONCRETE BLOCKS** (CAZT) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.
1A. STEEL SLEEVE (OPTIONAL, NOT SHOWN) – NOM 36 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE SLEEVE CAST INTO MIN 4–1/2 IN. THICK CONCRETE FLOOR OR WALL. SLEEVE TO BE FLUSH WITH OR PROJECT A MAXIMUM OF 6 IN. FROM EITHER SURFACE OF FLOOR OR WALL. **WHEN STEEL SLEEVE IS USED, F RATING IS 2 HR AND T RATING IS 0 HR.**
2. PIPE – NOM 4 IN. DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER PIPE. NOM 15 IN. DIAM (OR SMALLER) SERVICE WEIGHT CAST IRON, DUCTILE IRON, SOIL PIPE, NOM 30 IN. DIAM (OR SMALLER) CLASS 50 (OR HEAVIER) DUCTILE IRON PRESSURE PIPE OR NOM 30 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE CENTERED IN THE OPENING AND RIGIDLY SUPPORTED ON BOTH SIDES OF THE FLOOR OR WALL ASSEMBLY.
3. PIPE COVERING* – NOM 1, 2 OR 3 IN. THICK HOLLOW CYLINDRICAL HEAVY DENSITY GLASS FIBER UNITS JACKETED ON THE OUTSIDE WITH AN ALL SERVICE JACKET. LONGITUDINAL JOINTS SEALED WITH METAL FASTENERS OR FACTORY–APPLIED SELF–SEALING LAP. TRANSVERSE JOINTS SECURED WITH METAL FASTENERS OR WITH BUTT STRIP TAPE SUPPLIED WITH THE PRODUCT.
SEE **PIPE AND EQUIPMENT COVERING - MATERIALS*** (BRGU) CATEGORY IN BUILDING MATERIALS DIRECTORY FOR NAMES OF MANUFACTURERS. ANY PIPE COVERING MATERIAL MEETING THE ABOVE SPECIFICATIONS AND BEARING THE UL CLASSIFICATION MARKING WITH A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS MAY BE USED.
4. FIRESTOP SYSTEM – THE DETAILS OF THE FIRESTOP SYSTEM SHALL BE AS FOLLOWS:
A. **FILL,VOID OR CAVITY MATERIAL* - WRAP STRIP** – NOM 1/4 IN. THICK INTUMESCENT ELASTOMERIC MATERIAL FACED ON ONE SIDE WITH ALUMINUM FOIL, SUPPLIED IN 2 IN. (51 MM) WIDE STRIPS. NOM 2 IN. WIDE STRIPS TIGHTLY–WRAPPED AROUND PIPE COVERING (FOIL SIDE EXPOSED) TO FILL ANNULAR SPACE. EACH LAYER OF WRAP STRIP IS TO BE INSTALLED WITH A BUTTED SEAM, WITH THE BUTTED SEAMS IN SUCCESSIVE LAYERS STAGGERED. WRAP STRIP LAYERS SECURELY BOUND WITH STEEL WIRE OR ALUMINUM FOIL TAPE AND SLIDE INTO ANNULAR SPACE SUCH THAT PIPE COVERING IS RECESSED MIN 1/4 IN. FROM TOP SURFACE OF FLOOR. IN WALL ASSEMBLIES, THE WRAP STRIP LAYERS SHALL BE INSTALLED IN THE SAME MANNER USED FOR FLOOR ASSEMBLIES BUT SHALL BE INSTALLED SYMMETRICALLY ON BOTH SIDES OF THE WALL. THE MIN NUMBER OF WRAP STRIP LAYERS REQUIRED IS DEPENDENT UPON THE MAX PIPE SIZE AND THE PIPE COVERING THICKNESS, AS SHOWN IN THE FOLLOWING TABLE:

MIN FLOOR OR WALL THKNS, IN	MAX NOM PIPE COVERING THKNS, IN	ANNULAR SPACE, IN	MIN NUMBER OF WRAP STRIP LAYERS	F RATING HR	T RATING HR
2–1/2	1	1/4 TO 3/8	1	2	1
2–1/2	2	1/2 TO 5/8	2	2	1
2–1/2	3	1/4 TO 3/8	1	2	1/2
4–1/2	1	1/4 TO 3/8	1	2	1
4–1/2	2	1/2 TO 5/8	2	2	1
4–1/2	2	1/2 TO 1	2	3	1
4–1/2	3	3/4 TO 1–1/4	3	3	1
4–1/2	3	1 TO 1–1/2	4	2	1

3M COMPANY – FS–195+

B. FILL,VOID OR CAVITY MATERIALS* – C–AUK OR SEALANT – APPLIED TO FILL THE ANNULAR SPACE (OVER EDGES OF WRAP STRIP LAYERS) TO A MIN DEPTH OF 1/2 IN., FLUSH WITH TOP SURFACE OF FLOOR OR BOTH SURFACES OF WALL.
3M COMPANY – CP 25WB+ C-AUK OR FB–3000 WT SEALANT.
*BEARING THE UL CLASSIFICATION MARKING

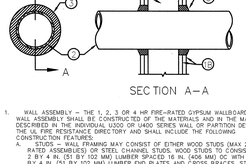
REPRINTED FROM THE ONLINE CERTIFICATIONS DIRECTORY WITH PERMISSION FROM UL.
©2017 UL LLC

NOTE: DETAIL FOR REFERENCE ONLY. THE CONTRACTOR SHALL INSTALL FIRE PROOFING IN COMPLETE ACCORDANCE WITH IT'S UL LISTING AND PENETRATION SYSTEM INSTALLATION INSTRUCTIONS.

C P0.2 **UL SYSTEM No. CA–J–5002**
NO SCALE

UL SYSTEM No. W–L–1001
(FORMERLY SYSTEM NO. 147)
JUNE 15, 2005

F RATINGS – 1, 2, 3 AND 4 HR (SEE ITEMS 2 AND 3)
T RATINGS – 0, 1, 2, 3 AND 4 HR (SEE ITEM 3)
L RATINGS AT AMBIENT – LESS THAN 1 CFM/SQFT
L RATING AT 400 F – LESS THAN 1 CFM/SQ FT



SECTION A–A

1. WALL ASSEMBLY – THE 1, 2, 3 OR 4 HR FIRE–RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL U300 OR U400 SERIES WALL OR PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
A. STUDS – WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS (MAX 2 HR FIRE RATED ASSEMBLIES) OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 BY 4 IN. (51 BY 102 MM) LUMBER SPACED 16 IN. (406 MM) OC WITH NOM 2 BY 4 IN. (51 BY 102 MM) LUMBER END PLATES AND CROSS BRACES. STEEL STUDS TO BE MIN 3–5/8 IN. (92 MM) WIDE BY 1–3/8 IN. (35 MM) DEEP CHANNELS SPACED MAX 24 IN. (610 MM) OC.
B. GYPSUM BOARD* – NOM 5/8 IN. (16 MM) THICK, 4 FT (122 CM) WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM WALLBOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES DESIGN IN THE UL FIRE RESISTANCE DIRECTORY. MAX DIAM OF OPENING IS 26 IN. (660 MM).
2. THROUGH–PENETRANT – ONE METALLIC PIPE, CONDUIT OR TUBING INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE BETWEEN PIPE, CONDUIT OR TUBING AND PERIPHERY OF OPENING SHALL BE MIN OF 0 IN. (0 MM) (POINT CONTACT) TO MAX 2 IN. (51 MM). PIPE, CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES, CONDUITS OR TUBING MAY BE USED:
A. STEEL PIPE – NOM 24 IN. (610 MM) DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.
B. IRON PIPE – NOM 24 IN. (610 MM) DIAM (OR SMALLER) SERVICE WEIGHT (OR HEAVIER) CAST IRON SOIL PIPE. NOM 12 IN. (305 MM) DIAM (OR SMALLER) OR CLASS 150 (OR HEAVIER) DUCTILE IRON PRESSURE PIPE.
C. CONDUIT – NOM 6 IN. (152 MM) DIAM (OR SMALLER) STEEL CONDUIT OR NOM 4 IN. (102 MM) DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING.
D. COPPER TUBING – NOM 6 IN. (152 MM) DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.
E. COPPER PIPE – NOM 6 IN. (152 MM) DIAM (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.
F. THROUGH–PENETRANT PRODUCT* – THE FOLLOWING TYPES OF STEEL FLEXIBLE METAL GAS PIPING MAY BE USED:
1. NOM 2 IN. (51 MM) DIAM (OR SMALLER) STEEL FLEXIBLE METAL GAS PIPING. PLASTIC COVERING ON PIPING MAY OR MAY NOT BE REMOVED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY.

OMEGA FLEX INC

2. NOM 1 IN. (25 MM) DIAM (OR SMALLER) STEEL FLEXIBLE METAL GAS PIPING. PLASTIC COVERING ON PIPING MAY OR MAY NOT BE REMOVED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY.

TITEFLEX CORP
A BUNDY CO

3. NOM 1 IN. (25 MM) DIAM (OR SMALLER) STEEL FLEXIBLE METAL GAS PIPING. PLASTIC COVERING ON PIPING MAY OR MAY NOT BE REMOVED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY.

WARD MFG INC

3. FILL,VOID OR CAVITY MATERIAL* – C–AUK OR SEALANT – MIN 5/8, 1–1/4,1–7/8 AND 2–1/2 IN. (16, 32, 48 AND 64 MM) THICKNESS OF C–AUK FOR 1, 2, 3 AND 4 HR RATED ASSEMBLIES, RESPECTIVELY, APPLIED WITHIN ANNULUS, FLUSH WITH BOTH SURFACES OF WALL. MIN 1/4 IN. (6 MM) DIAM BEAD OF C–AUK APPLIED TO GYPSUM BOARD/PENETRANT INTERFACE AT POINT CONTACT LOCATION ON BOTH SIDES OF WALL.
THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS DEPENDENT UPON THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED, AS SHOWN IN THE FOLLOWING TABLE.
THE HOURLY T RATING OF THE FIRESTOP SYSTEM IS DEPENDENT UPON THE TYPE OR SIZE OF THE PIPE OR CONDUIT AND THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED, AS TABULATED BELOW:

MAX PIPE OR CONDUIT DIAM IN	F RATING HR	T RATING HR
1	1 OR 2	0+1 OR 2
2	3 OR 4	3 OR 4
4	1 OR 2	0
6	3 OR 4	0
12	1 OR 2	0

+WHEN COPPER PIPE IS USED, T RATING IS 0 HR.
3M COMPANY – CP 25WB+ C-AUK OR FB–3000 WT SEALANT.
*BEARING THE UL CLASSIFICATION MARKING

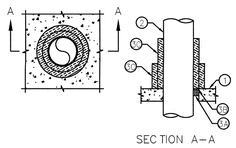
REPRINTED FROM THE ONLINE CERTIFICATIONS DIRECTORY WITH PERMISSION FROM UL.
©2017 UL LLC

NOTE: DETAIL FOR REFERENCE ONLY. THE CONTRACTOR SHALL INSTALL FIRE PROOFING IN COMPLETE ACCORDANCE WITH IT'S UL LISTING AND PENETRATION SYSTEM INSTALLATION INSTRUCTIONS.

E P0.2 **UL SYSTEM No. W–L–1001**
NO SCALE

UL SYSTEM No. F–A–1105
JUNE 24, 2016

F RATINGS – 2 HR
T RATING – 2 HR
L RATING AT AMBIENT – LESS THAN 1 CFM/SQ.FT.
L RATING AT 400 F – 4 CFM/SQ FT
W RATING – CLASS 1 (SEE ITEM 3B)



SECTION A–A

1. FLOOR ASSEMBLY – MIN. 4–1/2 IN. THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE, AS AN ALTERNATE, ANY MIN. 2 HR FIRE RATED D700, D800 OR D900 SERIES FLOOR–CEILING DESIGN IN THE UL FIRE RESISTANCE DIRECTORY. A MIN. 2–1/2 IN. THICKNESS OF LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE TOPPING OVER THE STEEL DECK MAY BE USED. MAX. DIAM. OF OPENING IS 12–3/4 IN.
2. THROUGH – PENETRANT – ONE METALLIC PIPE INSTALLED CONCENTRICALLY OR ECCENTRICALLY WITHIN OPENING. ANNULAR SPACE BETWEEN PENETRANT AND PERIPHERY OF OPENING SHALL BE MIN OF 0 IN. (POINT CONTACT) TO MAX 2 IN. PENETRANT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF PENETRANTS MAY BE USED:
A. **STEEL PIPE** – NOM. 10 IN. DIAM (OR SMALLER) SCHEDULE 40 (OR HEAVIER) STEEL PIPE.
B. **IRON PIPE** – NOM. 10 IN. DIAM. (OR SMALLER) CAST OR DUCTILE IRON PIPE.
C. **CONDUIT** – NOM. 4 IN. DIAM. (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING OR NOM. 6 IN. DIAM. (OR SMALLER) RIGID STEEL CONDUIT.
3. FIRESTOP SYSTEM – THE FIRESTOP SYSTEM SHALL CONSIST OF THE FOLLOWING:
A. **PACKING MATERIAL*** – MIN. 2 IN. THICKNESS OF MIN. 4 PCF MINERAL WOOL BATT INSULATION FIRMLY PACKED INTO OPENING AS A PERMANENT FORM. WHEN CP 604 SEALANT IS USED (SEE ITEM 3B), MIN. THICKNESS OF PACKING MATERIAL IS 4–1/2 IN. WHEN CP 606 SEALANT IS USED, MIN. THICKNESS OF PACKING MATERIAL TO BE RECESSED FROM TOP SURFACE OF FLOOR TO ACCOMODATE THE REQUIRED THICKNESS OF FILL MATERIAL.
B. **FILL, VOID OR CAVITY MATERIALS* – SEALANT** – MIN. 1/2 IN. THICKNESS OF SEALANT APPLIEDWITHIN THE ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI, INC – FS–ONE SEALANT OR CP 604 SELF–LEVELING SEALANT

W RATING APPLIES ONLY WHEN CP 604 SEALANT IS USED.

C. **DUCT WRAP MATERIAL*** – NOM. 2 IN. THICK ENCAPSULATED DUCT WRAP TIGHTLY WRAPPED AROUND PENETRANT TO EXTEND 36 IN. ABOVE FLOOR. AN ADDITIONAL LAYER OF NOM 2 IN. THICK ENCAPSULATED DUCT WRAP TIGHTLY WRAPPED AROUND FIRST LAYER OF DUCT WRAP TO EXTEND 12 IN. ABOVE FLOOR. ALL LONGITUDINAL SEAMS OF BOTH LAYERS OF DUCT WRAP AND JOINTS BETWEEN LAYERS OF DUCT WRAP ARE SEALED WITH FOIL TAPE. ONE OF THE FOLLOWING WRAP MAY BE USED:

C1. NOM. 1–1/2 IN. OF 2 IN. THICK ENCAPSULATED DUCT WRAP.

UNIFRAX I LLC – FIREWRAP DUCT INSULATION OR FIREWRAP DUCT 1.5 INSULATION.

C2. NOM. 1–1/2 IN. THICK ENCAPSULATED DUCT WRAP.

THERMAL CERAMICS INC – FIREMASTER FASTWRAP XL DUCT INSULATION.

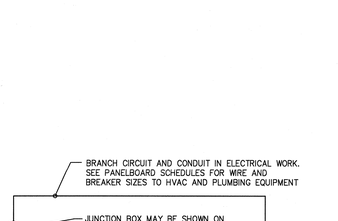
*BEARING THE ULCLASSIFICATION MARKING

REPRINTED FROM THE ONLINE CERTIFICATIONS DIRECTORY WITH PERMISSION FROM UL.
©2017 UL LLC

NOTE: DETAIL FOR REFERENCE ONLY. THE CONTRACTOR SHALL INSTALL FIRE PROOFING IN COMPLETE ACCORDANCE WITH IT'S UL LISTING AND PENETRATION SYSTEM INSTALLATION INSTRUCTIONS.

D P0.2 **UL SYSTEM No. F–A–1105**
NO SCALE

UL System No. W-L-2078
JANUARY 28, 2015
F Ratings — 1 and 2 Hr (See Item 1)
T Ratings — 0, 1 and 2 Hr (See Items 2 and 3)
L Rating At Ambient — 3 CFM/sq ft
L Rating At 400 F — Less Than 1 CFM/sq ft



SECTION A-A

1. Wall Assembly — The fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400 or V400 Series Wall and Partition Designs in the UL fire Resistance Directory and shall include the construction features noted below:
A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced max 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC.
B. Gypsum Board* — Nom 5/8 in. thick gypsum board, as specified in the individual Wall and Partition Design. Max diam of opening is 11-1/2 in. The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. Through-Penetrants — One nonmetallic pipe, conduit or tubing to be installed within the firestop system. The annular space between pipe and periphery of opening shall be min 0 in. (point contact) to max 1/2 in. Pipe or conduit to be rigidly supported on both sides of the wall assembly. The following types and sizes of nonmetallic pipes may be used:
A. Polyvinyl Chloride (PVC) Pipe — Nom 10 in. diam (or smaller) Schedule 40 solid-core or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.
B. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 10 in. diam (or smaller) SDR13.5 CPVC pipe for use in closed (process or supply) piping systems.
C. Acrylonitrile Butadiene Styrene (ABS) Pipe — Nom 6 in. diam (or smaller) Schedule 40 solid-core or cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems
D. Flame Retardant Polypropylene (FRPP) Pipe — Nom 6 in. diam (or smaller) Schedule 40 FRPP pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.
E. Polyvinyl Chloride (PVDF) Pipe — Nom 4 in. diam (or smaller) PVDF pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.
When max 6 in. diam pipe is used, T Rating is equal to the hourly fire rating of the wall. When nom 8 in. or 10 in. diam pipe is used, T Rating is 0 hr.
3. Firestop Device* — Firestop Collar — Firestop collar shall be installed in accordance with the accompanying installation instructions. Collar to be installed and latched around the outside of the pipe or conduit to both sides of the wall using the anchor hooks provided with the collar. (Minimum two anchor hooks for 1-1/2 and 2 in. diam pipes, three anchor hooks for 3 and 4 in. diam pipes, four anchor hooks for 6 in. diam pipes, ten anchor hooks for 8 in. diam pipes and twelve anchor hooks for 10 in. diam pipes). The anchor hooks are to be secured to the surface of wall with 3/16 in. diam by 2-1/2 in. long steel toggle bolts along with washers. As an alternate for pipe sizes of nom 4 in. diam or less, min No. 10 by 1-1/2 in. long drywall or laminate screws with min 3/4 in. steel washers may be used. When the drywall or laminate screw is used, T Rating shall not exceed 1 hr.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 643 50/1.5"N, CP 643 63/2"N, CP 643 90/3"N, CP 643 110/4"N, CP 643 160/6"N, CP 644 200/8" andCP 644 250/10" Firestop Collars
4. Fill, Void or Cavity Material* — Sealant - (Not Shown) — Min 1/2 in. thickness of sealant applied within the annular space for nom 8 in. and 10 in. diam pipes, flush with each side of wall. Sealant in annular space is optional for max 6 in. diam pipes. A min 1/4 in. thickness of sealant is required within the annular space, flush with each side of wall, to attain the L Ratings for max 6 in. diam pipes.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant
***Bearing the UL Classification Mark**

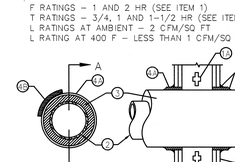
REPRINTED FROM THE ONLINE CERTIFICATIONS DIRECTORY WITH PERMISSION FROM UL.
©2017 UL LLC

NOTE: DETAIL FOR REFERENCE ONLY. THE CONTRACTOR SHALL INSTALL FIRE PROOFING IN COMPLETE ACCORDANCE WITH IT'S UL LISTING AND PENETRATION SYSTEM INSTALLATION INSTRUCTIONS.

F P0.2 **UL SYSTEM No. W–L–2078**
NO SCALE

UL SYSTEM No. W–L–5001
(FORMERLY SYSTEM NO. 147)
MAY 19, 2005

F RATINGS – 1 AND 2 HR (SEE ITEM 1)
T RATINGS – 3/4, 1 AND 1–1/2 HR (SEE ITEM 3)
L RATINGS AT AMBIENT – 2 CFM/SQ FT
L RATING AT 400 F – LESS THAN 1 CFM/SQ FT



SECTION A–A

1. WALL ASSEMBLY – THE 1 OR 2 HR FIRE–RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL U300, U400 OR V400 SERIES WALL OR PARTITION DESIGN IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
A. STUDS – WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 IN. BY 4 IN. (51 MM BY 102 MM) LUMBER SPACED 16 IN. (406 MM) OC WITH NOM 2 BY 4 IN. LUMBER END PLATES AND CROSS BRACES. STEEL STUDS TO BE MIN 3–5/8 IN. (92 MM) WIDE BY 1–3/8 IN. (35 MM) DEEP CHANNELS SPACED MAX 24 IN. (610 MM) OC.
B. GYPSUM BOARD* – NOM 5/8 IN. (16 MM) THICK, 4 FT (122 CM) WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM WALLBOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES DESIGN IN THE UL FIRE RESISTANCE DIRECTORY. MAX DIAM OF OPENING IS 14–1/2 IN (368 MM) FOR WOOD STUD WALLS AND 18 IN. (457 MM) FOR STEEL STUD WALLS.
THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS 1 HR WHEN INSTALLED IN A 1 HR FIRE RATED WALL AND 2 HR WHEN INSTALLED IN A 2 HR FIRE RATED WALL.
2. THROUGH PENETRANTS – ONE METALLIC PIPE OR TUBING TO BE CENTERED WITHIN THE FIRESTOP SYSTEM. PIPE OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES OR TUBING MAY BE USED:
A. STEEL PIPE – NOM 12 IN. (305 MM) DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.
B. COPPER TUBING – NOM 6 IN. (152 MM) DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.
C. COPPER PIPE – NOM 6 IN. (152 MM) DIAM (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.
3. PIPE COVERING* – NOM 1 IN. OR 2 IN. (25 MM OR 51 MM) THICK HOLLOW CYLINDRICAL HEAVY DENSITY GLASS FIBER UNITS JACKETED ON THE OUTSIDE WITH AN ALL SERVICE JACKET. LONGITUDINAL JOINTS SEALED WITH METAL FASTENERS OR FACTORY–APPLIED SELF–SEALING LAP TAPE. TRANSVERSE JOINTS SEALED WITH METAL FASTENERS OR WITH BUTT STRIP TAPE SUPPLIED WITH THE PRODUCT. WHEN NOM 1 IN. (25 MM) THICK PIPE COVERING IS USED, THE ANNULAR SPACE BETWEEN THE PIPE COVERING AND THE CIRCULAR CUTOUT IN THE GYPSUM WALLBOARD LAYERS ON EACH SIDE OF THE WALL SHALL BE MIN 1/4 IN. TO MAX 3/8 IN. (6 MM TO MAX 10 MM). WHEN NOM 2 IN. (51 MM) THICK PIPE COVERING IS USED, THE ANNULAR SPACE BETWEEN THE PIPE COVERING AND THE CIRCULAR CUTOUT IN THE GYPSUM WALLBOARD LAYERS ON EACH SIDE OF THE WALL SHALL BE MIN 1/2 IN. TO MAX 3/4 IN. (13 MM TO MAX 19 MM).
SEE **PIPE AND EQUIPMENT COVERING** – MATERIALS (BRGU) CATEGORY IN BUILDING MATERIALS DIRECTORY FOR NAMES OF MANUFACTURERS. ANY PIPE COVERING MATERIAL MEETING THE ABOVE SPECIFICATIONS AND BEARING THE UL CLASSIFICATION MARKING WITH A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS MAY BE USED.
THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS 3/4 HR WHEN NOM 1 IN. (25 MM) THICK PIPE COVERING IS USED.
THE HOURLY T RATING OF THE FIRESTOP SYSTEM IS 1 HR WHEN NOM 1 IN. (25 MM) THICK PIPE COVERING IS USED WITH 1 HR AND 2 HR FIRE RATED WALLS, RESPECTIVELY.
4. FIRESTOP SYSTEM – THE DETAILS OF THE FIRESTOP SYSTEM SHALL BE AS FOLLOWS:
A. FILL,VOID OR CAVITY MATERIAL* - WRAP STRIP – NOM 1/4 IN. (6 MM) THICK INTUMESCENT ELASTOMERIC MATERIAL FACED ON ONE SIDE WITH ALUMINUM FOIL, SUPPLIED IN 2 IN. (51 MM) WIDE STRIPS. NOM 2 IN. (51 MM) WIDE STRIP TIGHTLY WRAPPED AROUND PIPE COVERING (FOIL SIDE OUT) WITH SEAM BUTTED. WRAP STRIP LAYER SECURELY BOUND WITH STEEL WIRE OR ALUMINUM FOIL TAPE AND SLID INTO ANNULAR SPACE APPROX 1–1/4 IN. (32 MM) SUCH THAT APPROX 3/4 IN. (19 MM) OF THE WRAP STRIP WIDTH PROTRUDES FROM THE WALL SURFACE. ONE LAYER OF WRAP STRIP IS REQUIRED WHEN NOM 1 IN. (25 MM) THICK PIPE COVERING IS USED. TWO LAYERS OF STRIP ARE REQUIRED WHEN NOM 2 IN. (51 MM) THICK PIPE COVERING IS USED.
3M COMPANY – FS–195+
B. FILL,VOID OR CAVITY MATERIALS* - CAULK OR SEALANT – MIN 1/4 IN. (6 MM) DIAM CONTINUOUS BEAD APPLIED TO THE WRAP STRIP/WALL INTERFACE AND TO THE EXPOSED EDGE OF THE WRAP STRIP LAYER APPROX 3/4 IN. (19 MM) FROM THE WALL SURFACE.
3M COMPANY – CP 25WB+, IC 15WB+, FIREDAM 150+ C-AUK OR FB–3000 WT SEALANT

*BEARING THE UL CLASSIFICATION MARKING
REPRINTED FROM THE ONLINE CERTIFICATIONS DIRECTORY WITH PERMISSION FROM UL.
©2017 UL LLC

NOTE: DETAIL FOR REFERENCE ONLY. THE CONTRACTOR SHALL INSTALL FIRE PROOFING IN COMPLETE ACCORDANCE WITH IT'S UL LISTING AND PENETRATION SYSTEM INSTALLATION INSTRUCTIONS.

G P0.2 **UL SYSTEM No. W–L–5001**
NO SCALE

NHCS
Emma B. Trask
Trask Middle
School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

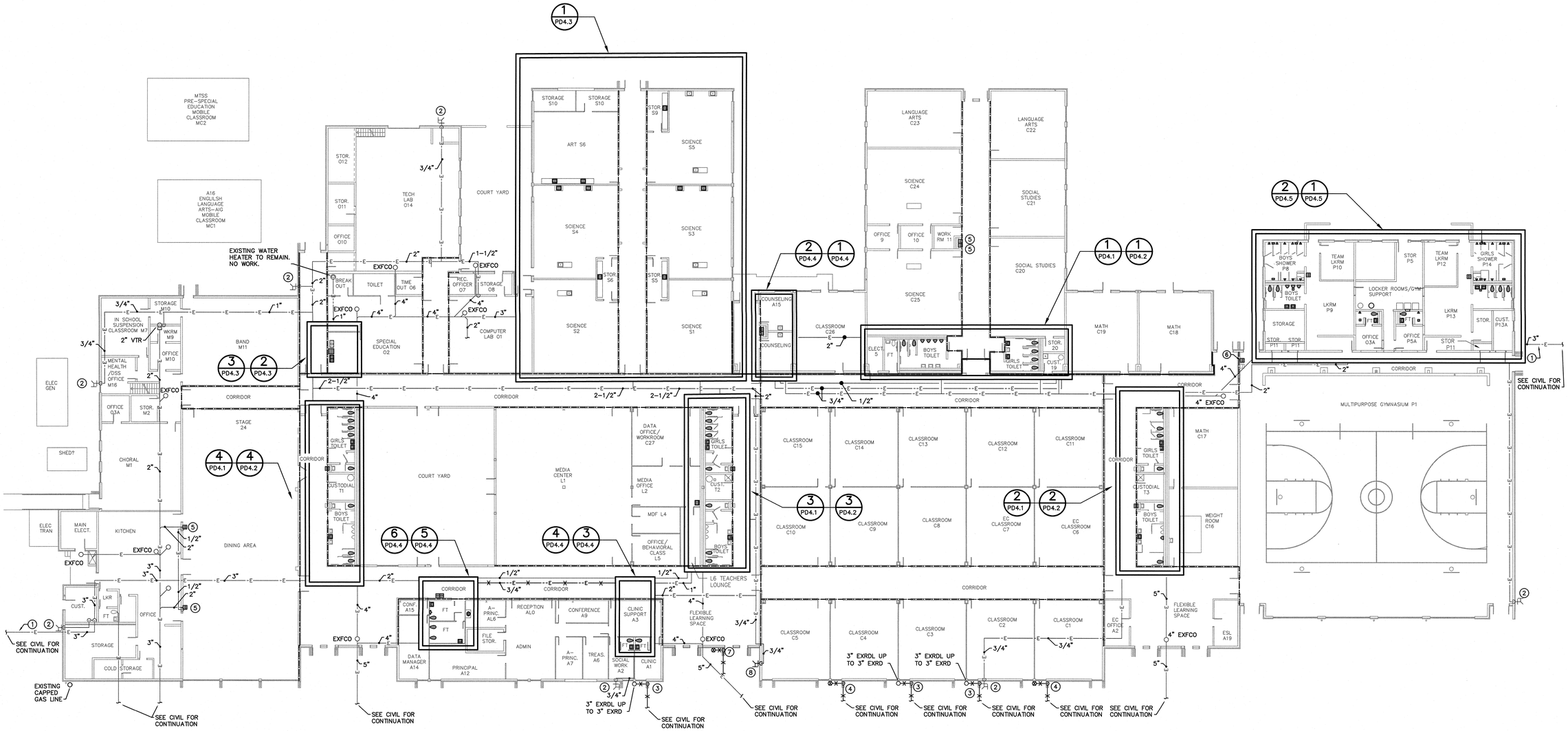
NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

PLUMBING UL DETAILS

P0.2
2 OF 15

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



1 PD1.1 PLUMBING DEMOLITION FLOOR PLAN

SCALE: 1/16" = 1'-0"

Plan North / North

KEYED NOTES: (THIS SHEET ONLY)

1. EXISTING DOMESTIC WATER ENTRANCE, SEE SITE PLANS FOR CONTINUATION.
2. EXISTING WALL HYDRANT TO REMAIN.
3. REMOVE EXISTING 3" RDL FROM RD BACK TO SITE. REMOVE EXISTING INLET FITTING IN STORM MAIN ON SITE. SEE SITE PLANS. RISER IN BRICK TO BE CAPPED AND ABANDONED IN PLACE. RDL AND INLET FITTING IN STORM MAIN TO BE REPLACED.
4. REMOVE EXISTING 3" RDL FROM SITE TO RD. REMOVE EXISTING INLET FITTING IN STORM MAIN ON SITE. SEE SITE PLANS. RISER IN BRICK TO BE CAPPED AND ABANDONED IN PLACE. RDL AND INLET FITTING IN STORM MAIN TO BE REPLACED.
5. REMOVE EXISTING ELECTRIC WATER COOLER. EXISTING ROUGH-INS TO BE REWORKED AND RECONNECTED. REMOVE AND REPLACE EXISTING CARRIER AS REQUIRED. SEE P1.1 FOR NEW WORK.
6. REMOVE EXISTING ELECTRIC WATER COOLER. EXISTING WATER COOLER TO BE RECONNECTED. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. EXISTING ROUGH-INS TO BE REWORKED AND RECONNECTED. REMOVE EXISTING CARRIER AS REQUIRED. SEE P1.1 FOR NEW WORK.
7. REMOVE EXISTING 3" RDL FROM RD BACK TO SITE. REMOVE EXISTING INLET FITTING IN STORM MAIN ON SITE. SEE SITE PLANS. RDL AND INLET FITTING IN STORM MAIN TO BE REPLACED.
8. RELOCATE EXISTING WALL HYDRANT AS NEEDED TO AVOID CONFLICT WITH EXPANDED VESTIBULE. SEE P1.1 FOR NEW WORK.

FIRE RATINGS LEGEND

- 1 HOUR FIRE-RATED WALL
- 2 HOUR FIRE-RATED WALL
- 4 HOUR FIRE-RATED WALL

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
409 Regency Forest Drive Suite 109
Cary, North Carolina 27518
Phone: (919) 319-7477
Fax: (919) 319-7478
LA: C-506
PE: C-0395

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073
JOB # 18050

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL SEAL 043164 ENGINEER CASEY D. GILLIAN 3/27/19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

PLUMBING DEMOLITION FLOOR PLAN

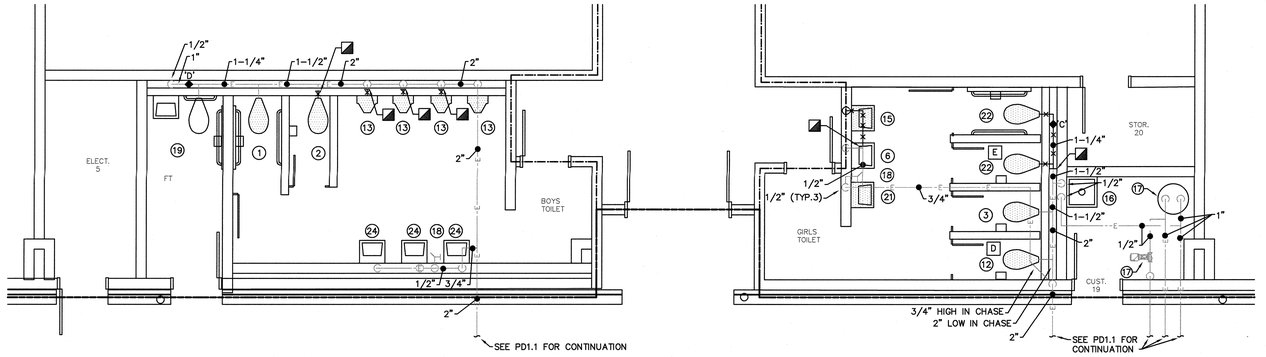
PD1.1

3 OF 15

© 2019 Sawyer Sherwood & Associate- All Rights Reserved

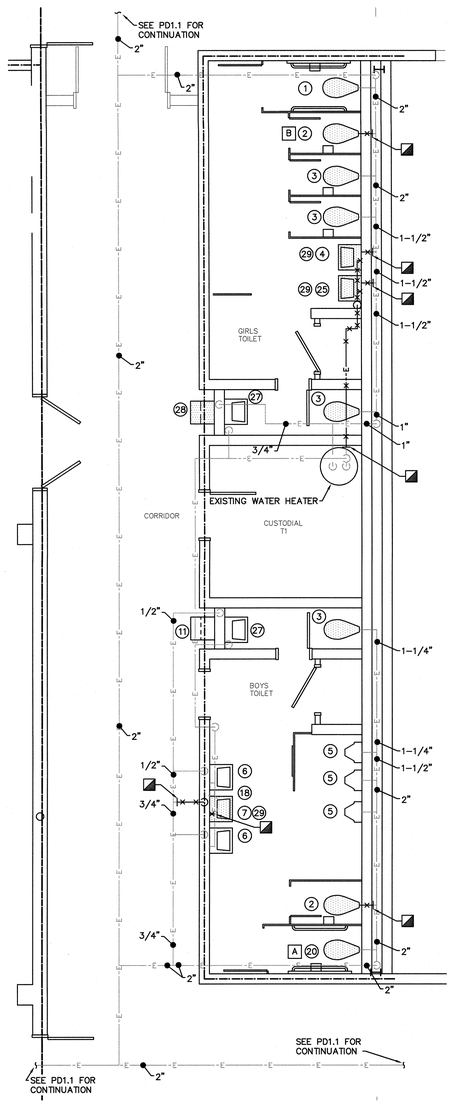
KEYED NOTES: (THIS SHEET ONLY)

1. REMOVE EXISTING WATER CLOSET WITH SENSOR FLUSH VALVE. REMOVE EXISTING FLUSH VALVE FROM BOWL AND TURN OVER TO OWNER. EXISTING BOWL TO BE REUSED. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. EXISTING DOMESTIC WATER TO BE REWORKED AND REUSED. SEE P4.1 FOR NEW WORK.
2. REMOVE EXISTING WATER CLOSET WITH SENSOR FLUSH VALVE. REMOVE EXISTING FLUSH VALVE FROM BOWL AND TURN OVER TO OWNER. EXISTING BOWL TO BE REUSED. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. REMOVE EXISTING DOMESTIC WATER BACK TO MAIN AND CAP.
3. REMOVE EXISTING WATER CLOSET WITH SENSOR FLUSH VALVE. REMOVE EXISTING FLUSH VALVE FROM BOWL AND TURN OVER TO OWNER. EXISTING BOWL TO BE REUSED. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. EXISTING ROUGH-INS TO BE REUSED.
4. REMOVE EXISTING LAVATORY AND ASSOCIATED CARRIER. FIXTURE TO BE RELOCATED ON ADJACENT WALL. SEE P4.1 FOR NEW WORK. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. REMOVE ASSOCIATED DOMESTIC WATER BACK TO MAIN AND CAP.
5. EXISTING WATERLESS URINAL TO REMAIN. PROTECT FROM DAMAGES DURING CONSTRUCTION.
6. EXISTING LAVATORY TO REMAIN. PROTECT FROM DAMAGES DURING CONSTRUCTION.
7. REMOVE EXISTING LAVATORY AND ASSOCIATED CARRIER. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. RELOCATE AS NEEDED OR TURN OVER TO OWNER. REMOVE ASSOCIATED DOMESTIC WATER NOT SERVING EXISTING HOSE BIBB AND CAP. EXISTING HOSE BIBB TO REMAIN.
8. REMOVE EXISTING SINK. REMOVE ASSOCIATED DOMESTIC WATER BACK TO MAINS AND CAP.
9. REMOVE EXISTING URINAL. EXISTING ROUGH-INS TO BE REWORKED AND RECONNECTED. REMOVE AND REPLACE EXISTING CARRIER AS REQUIRED. SEE P4.1 FOR NEW WORK.
10. REMOVE EXISTING ELECTRIC WATER COOLER AND TURN OVER TO OWNER. ASSOCIATED DOMESTIC WATER TO BE REWORKED AND RECONNECTED. SEE P4.1 FOR NEW WORK.
11. EXISTING ELECTRIC WATER COOLER TO REMAIN. PROTECT FROM DAMAGES DURING CONSTRUCTION.
12. REMOVE EXISTING WATER CLOSET WITH MANUAL FLUSH VALVE. FIXTURE TO BE RELOCATED. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. CAP ASSOCIATED DOMESTIC WATER IN WALL.
13. REMOVE EXISTING WATERLESS URINAL AND ASSOCIATED CARRIER. FIXTURE TO BE RELOCATED. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. REMOVE ASSOCIATED DOMESTIC WATER BACK TO MAIN AND CAP.
14. REMOVE EXISTING FAUCET FROM LAVATORY THAT IS TO BE REMOVED AND INSTALL ON ADJACENT LAVATORY THAT IS TO REMAIN.
15. REMOVE EXISTING LAVATORY AND ASSOCIATED CARRIER. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. REMOVE ASSOCIATED DOMESTIC WATER AS INDICATED AND CAP.
16. EXISTING MOP SINK TO REMAIN. NO WORK.
17. EXISTING WATER HEATER AND CIRCULATOR PUMP TO REMAIN. NO WORK.
18. EXISTING HOSE BIBB TO REMAIN. PROTECT FROM DAMAGES DURING CONSTRUCTION.
19. EXISTING STAFF WATER CLOSET WITH SENSOR FLUSH VALVE AND EXISTING STAFF LAVATORY WITH MANUAL HANDLES TO REMAIN. PROTECT FROM DAMAGES DURING CONSTRUCTION.
20. REMOVE EXISTING WATER CLOSET WITH MANUAL FLUSH VALVE. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. EXISTING DOMESTIC WATER TO BE REWORKED AND REUSED. SEE P4.1 FOR NEW WORK.
21. REMOVE EXISTING LAVATORY. LAVATORY TO BE RECONNECTED. EXISTING ROUGH-INS TO BE REWORKED AND RECONNECTED. SEE P4.1 FOR NEW WORK.
22. REMOVE EXISTING WATER CLOSET WITH SENSOR FLUSH VALVE. REMOVE EXISTING FLUSH VALVE FROM BOWL AND TURN OVER TO OWNER. EXISTING BOWL TO BE REUSED. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. REMOVE EXISTING DOMESTIC WATER AS INDICATED.
23. REMOVE EXISTING LAVATORY AND ASSOCIATED CARRIER. FIXTURE TO BE RELOCATED ON ADJACENT WALL. SEE P4.1 FOR NEW WORK. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. REMOVE ASSOCIATED 1-1/2" DOMESTIC WATER BACK TO 2" DOMESTIC WATER AS INDICATED. DOMESTIC WATER TO BE RECONNECTED.
24. REMOVE FAUCET. FAUCET TO BE REPLACED.
25. REMOVE EXISTING LAVATORY AND ASSOCIATED CARRIER. REMOVE EXISTING FAUCET FROM BOWL. FAUCET TO BE REPLACED. BOWL TO BE RELOCATED ON ADJACENT WALL. SEE P4.1 FOR NEW WORK. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. REMOVE ASSOCIATED DOMESTIC WATER BACK TO MAIN AND CAP.
26. EXISTING WATER HEATER TO REMAIN. REWORK EXISTING DOMESTIC WATER PER WH-1 DETAIL ON P0.1.
27. EXISTING LAVATORY TO REMAIN. REMOVE EXISTING FAUCET FROM BOWL. FAUCET TO BE REPLACED. PROTECT BOWL FROM DAMAGES DURING CONSTRUCTION.
28. REMOVE EXISTING ELECTRIC WATER COOLER. RELOCATED AS NEEDED OR TURN OVER TO OWNER. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. EXISTING ROUGH-INS TO BE REWORKED AND RECONNECTED. REMOVE EXISTING CARRIER IF NECESSARY. SEE P4.1 FOR NEW WORK.
29. REMOVE EXISTING HOT WATER AS INDICATED AND CAP.
30. EXISTING TO REMAIN. NO WORK.



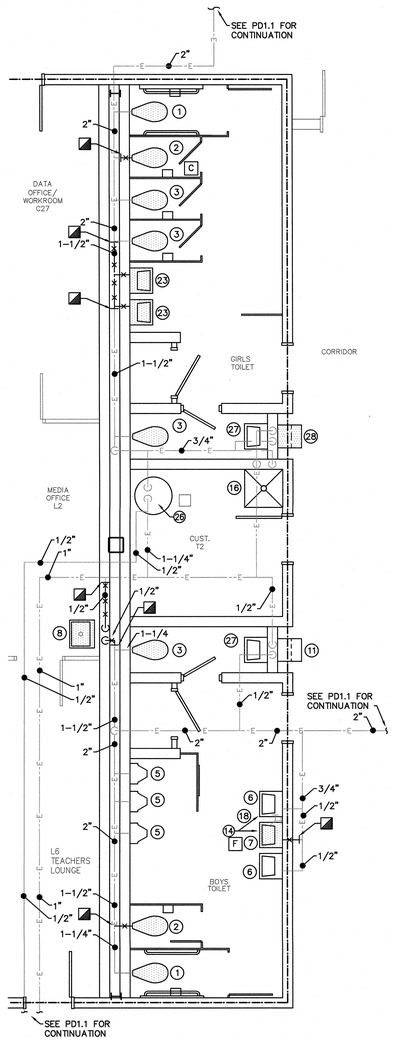
1 PD4.1 ENLARGED GROUP RESTROOMS 1
SCALE: 1/4" = 1'-0"

Plan North North



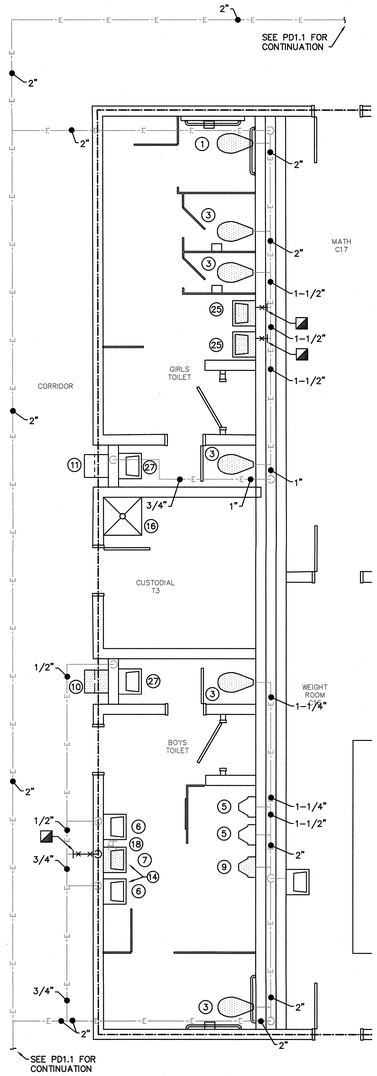
4 PD4.1 ENLARGED GROUP RESTROOMS 4
SCALE: 1/4" = 1'-0"

Plan North North



3 PD4.1 ENLARGED GROUP RESTROOMS 3
SCALE: 1/4" = 1'-0"

Plan North North

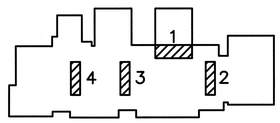


2 PD4.1 ENLARGED GROUP RESTROOMS 2
SCALE: 1/4" = 1'-0"

Plan North North

FIRE RATINGS LEGEND

- 1 HOUR FIRE-RATED WALL
- 2 HOUR FIRE-RATED WALL
- 4 HOUR FIRE-RATED WALL



KEY PLAN

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St. Wilmington, NC 28401
910.762.0892 s2a3.com

CLH DESIGN, P.A.
409 Regency Forest Drive
Suite 201
Cary, North Carolina 27518
Phone: (919)319-9715
Fax: (919)319-7316
LA: C-1126
PE: C-1585

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL SEAL 043164 ENGINEER CASEY D. GILLIAM
3/27/19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

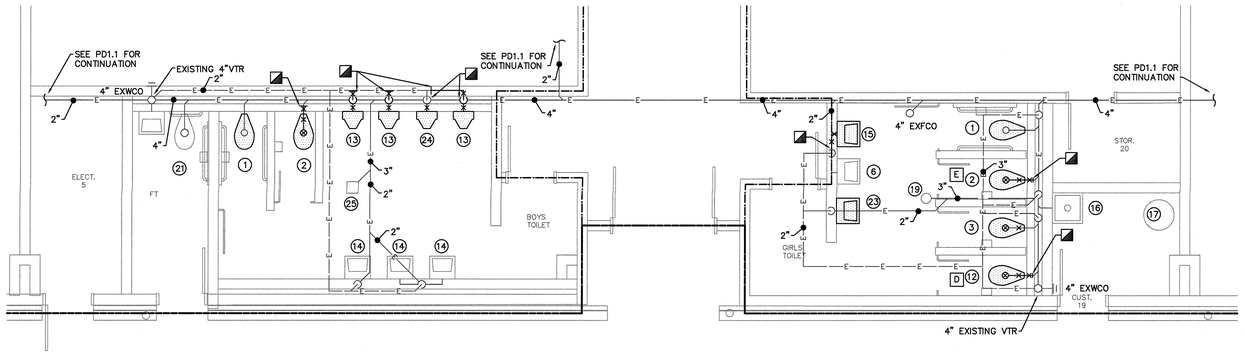
ENLARGED GROUP RESTROOMS DOMESTIC WATER

PD4.1

© 2019 Sawyer Sherwood & Associate- All Rights Reserved

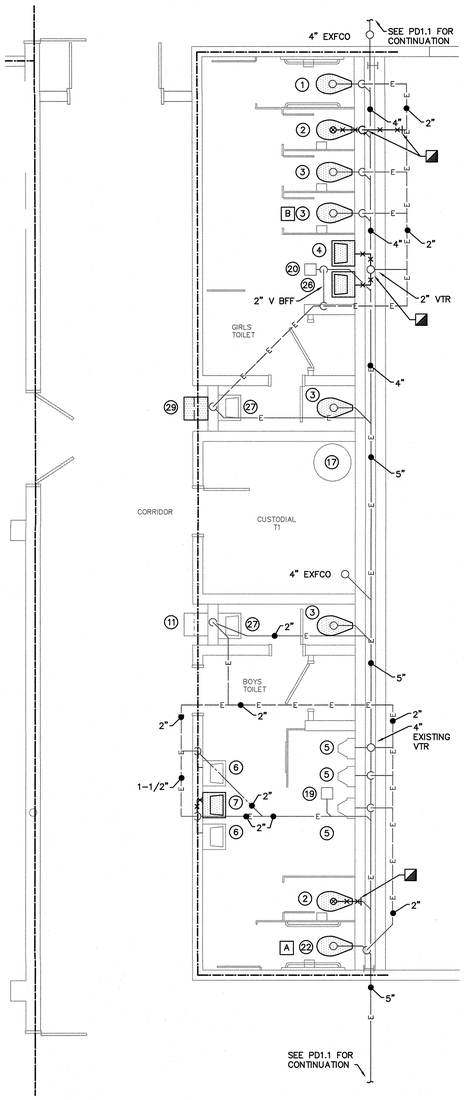
KEYED NOTES: (THIS SHEET ONLY)

1. REMOVE EXISTING WATER CLOSET WITH SENSOR FLUSH VALVE. REMOVE EXISTING FLUSH VALVE FROM BOWL AND TURIN OVER TO OWNER. EXISTING BOWL TO BE REUSED. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. ASSOCIATED WASTE AND VENT TO BE REWORKED AND RECONNECTED. SEE P4.2 FOR NEW WORK.
2. REMOVE EXISTING WATER CLOSET WITH SENSOR FLUSH VALVE. REMOVE EXISTING FLUSH VALVE FROM BOWL AND TURN OVER TO OWNER. EXISTING BOWL TO BE REUSED. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. REMOVE EXISTING WASTE AND VENT BACK TO MAINS AND CAP.
3. REMOVE EXISTING WATER CLOSET WITH SENSOR FLUSH VALVE. REMOVE EXISTING FLUSH VALVE FROM BOWL AND TURN OVER TO OWNER. EXISTING BOWL TO BE REUSED. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. EXISTING ROUGH-INS TO BE RECONNECTED. SEE P4.2 FOR NEW WORK.
4. REMOVE EXISTING LAVATORY AND ASSOCIATED CARRIER. FIXTURE TO BE RELOCATED ON ADJACENT WALL. SEE P4.2 FOR NEW WORK. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. REMOVE ASSOCIATED WASTE BACK TO MAIN AND CAP. ASSOCIATED VENT TO REWORKED AND RECONNECTED. EXISTING VTR TO REMAIN.
5. EXISTING WATERLESS URINAL TO REMAIN. PROTECT FROM DAMAGES DURING CONSTRUCTION.
6. EXISTING LAVATORY TO REMAIN. PROTECT FROM DAMAGES DURING CONSTRUCTION.
7. REMOVE EXISTING LAVATORY AND ASSOCIATED CARRIER. FIXTURE TO BE RELOCATED. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. REMOVE ASSOCIATED WASTE AND VENT NOT SERVING ADJACENT SINK AND CAP.
8. REMOVE EXISTING SINK. REMOVE ASSOCIATED WASTE AND VENT BACK TO MAINS AND CAP.
9. REMOVE EXISTING URINAL. EXISTING ROUGH-INS TO BE REWORKED AND RECONNECTED. REMOVE AND REPLACE EXISTING CARRIER AS REQUIRED. SEE P4.2 FOR NEW WORK.
10. REMOVE EXISTING ELECTRIC WATER COOLER AND TURN OVER TO OWNER. ASSOCIATED WASTE AND VENT TO BE REWORKED AND RECONNECTED. SEE P4.2 FOR NEW WORK.
11. EXISTING ELECTRIC WATER COOLER TO REMAIN. PROTECT FROM DAMAGES DURING CONSTRUCTION.
12. REMOVE EXISTING WATER CLOSET WITH MANUAL FLUSH VALVE. WATER CLOSET TO BE RELOCATED. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. REMOVE ASSOCIATED WASTE BACK TO MAIN AND CAP.
13. REMOVE EXISTING WATERLESS URINAL AND ASSOCIATED CARRIER. FIXTURE TO BE RELOCATED. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. REMOVE ASSOCIATED WASTE BACK TO MAIN AND CAP. REMOVE ASSOCIATED VENT AS INDICATED AND CAP.
14. EXISTING LAVATORY TO REMAIN. PROTECT FROM DAMAGES DURING CONSTRUCTION. REMOVE EXISTING FAUCET FROM BOWL. FAUCET TO BE REPLACED.
15. REMOVE EXISTING LAVATORY AND ASSOCIATED CARRIER. FIXTURE TO BE RELOCATED. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. ASSOCIATED WASTE AND VENT TO BE REWORKED AND REUSED,
16. EXISTING MOP SINK TO REMAIN. NO WORK.
17. EXISTING WATER HEATER TO REMAIN. PROTECT FROM DAMAGES DURING CONSTRUCTION.
18. REMOVE EXISTING WATER COOLER TO BE RELOCATED. ASSOCIATED CARRIER AND ROUGH-INS TO BE RECONNECTED.
19. EXISTING FLOOR DRAIN TO REMAIN. PROTECT FROM DAMAGES DURING CONSTRUCTION.
20. REMOVE EXISTING FLOOR DRAIN. EXISTING WASTE TO BE REWORKED AND REUSED. SEE P4.2 FOR NEW WORK.
21. EXISTING STAFF WATER CLOSET WITH SENSOR FLUSH VALVE AND EXISTING STAFF LAVATORY WITH MANUAL HANDLES TO REMAIN. PROTECT FROM DAMAGES DURING CONSTRUCTION.
22. REMOVE EXISTING WATER CLOSET WITH MANUAL FLUSH VALVE. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. ASSOCIATED WASTE AND VENT TO BE REWORKED AND RECONNECTED.
23. REMOVE EXISTING LAVATORY. LAVATORY TO BE RECONNECTED. EXISTING ROUGH-INS TO BE REWORKED AND RECONNECTED. SEE P4.2 FOR NEW WORK.
24. REMOVE EXISTING WATERLESS URINAL AND ASSOCIATED CARRIER. FIXTURE TO BE RELOCATED. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. REMOVE ASSOCIATED WASTE DOWN TO MAIN IN FLOOR. REMOVE SANITARY TEE. TEE TO BE REPLACED AND RECONNECTED. EXISTING VENT TO REMAIN AND BE RECONNECTED. SEE P4.2 FOR NEW WORK.
25. EXISTING FLOOR DRAIN TO REMAIN. PROTECT FROM DAMAGES DURING CONSTRUCTION.
26. REMOVE EXISTING LAVATORY AND ASSOCIATED CARRIER. REMOVE EXISTING FAUCET FROM BOWL. FAUCET TO BE REPLACED. FIXTURE TO BE RELOCATED ON ADJACENT WALL. SEE P4.2 FOR NEW WORK. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. REMOVE ASSOCIATED WASTE BACK TO MAIN AND CAP. ASSOCIATED VENT TO REWORKED AND RECONNECTED. EXISTING VTR TO REMAIN.
27. EXISTING LAVATORY TO REMAIN. PROTECT FROM DAMAGES DURING CONSTRUCTION. REMOVE EXISTING FAUCET FROM BOWL. FAUCET TO BE REPLACED.
28. REMOVE EXISTING FAUCET FROM LAVATORY THAT IS TO BE REMOVED AND INSTALL ON ADJACENT LAVATORY THAT IS TO REMAIN.
29. REMOVE EXISTING ELECTRIC WATER COOLER. RELOCATE AS NEEDED OR TURN OVER TO OWNER. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. EXISTING ROUGH-INS TO BE REWORKED AND RECONNECTED. REMOVE EXISTING CARRIER IF NECESSARY. SEE P4.2 FOR NEW WORK.



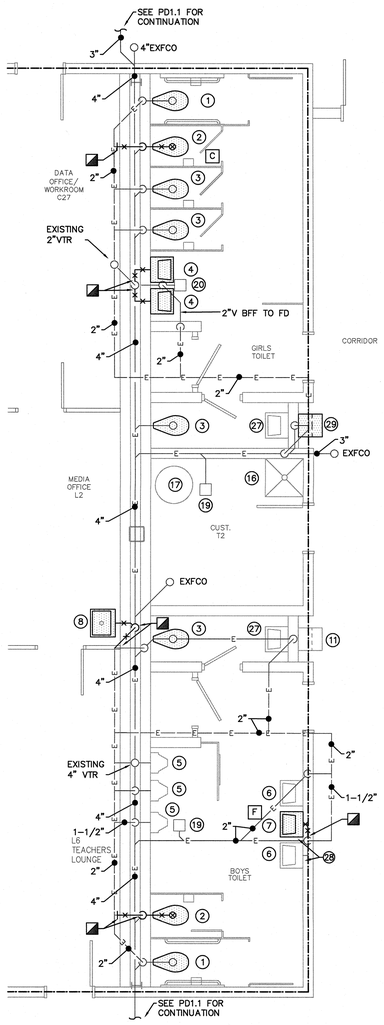
1 PD4.2 ENLARGED GROUP RESTROOMS 1
SCALE: 1/4" = 1'-0"

Plan North / North



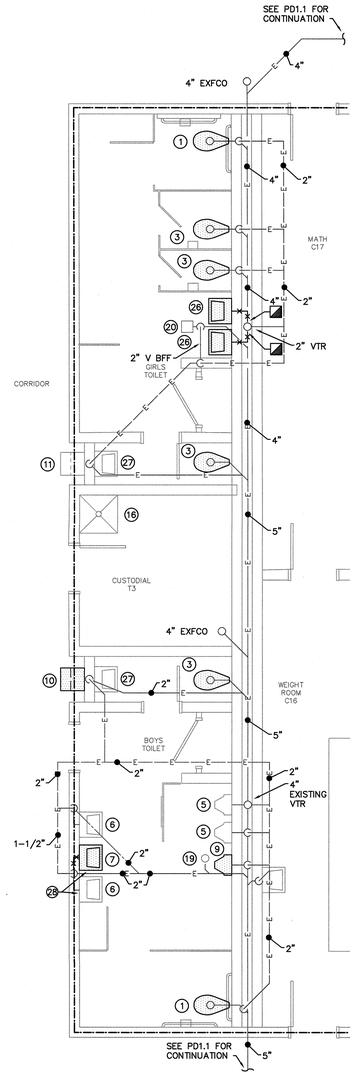
4 PD4.2 ENLARGED GROUP RESTROOMS 4
SCALE: 1/4" = 1'-0"

Plan North / North



3 PD4.2 ENLARGED GROUP RESTROOMS 3
SCALE: 1/4" = 1'-0"

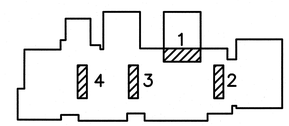
Plan North / North



2 PD4.2 ENLARGED GROUP RESTROOMS 2
SCALE: 1/4" = 1'-0"

Plan North / North

FIRE RATINGS LEGEND
1 HOUR FIRE-RATED WALL
2 HOUR FIRE-RATED WALL
4 HOUR FIRE-RATED WALL



KEY PLAN

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
499 Regency Forest Drive, Suite 109, Cary, North Carolina 27518
Phone: (919) 319-7949
Fax: (919) 319-0104
LA: C-1316
PE: C-1316

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073
JOB # 18050

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL SEAL 043164 ENGINEER CAREY D. GLIMP
3/27/19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

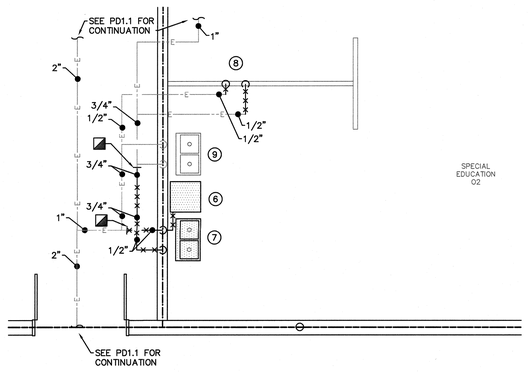
NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

ENLARGED GROUP RESTROOMS WASTE & VENT

PD4.2

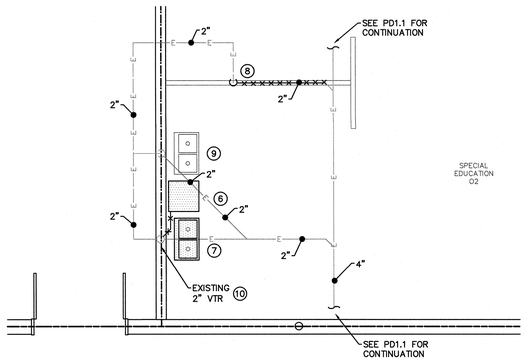
© 2019 Sawyer Sherwood & Associate- All Rights Reserved



2 PD4.3 ENLARGED SPEC. ED. DOMESTIC WATER

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

Plan North / North



3 PD4.3 ENLARGED SPEC. ED. WASTE & VENT

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

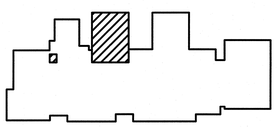
Plan North / North

KEYED NOTES: (THIS SHEET ONLY)

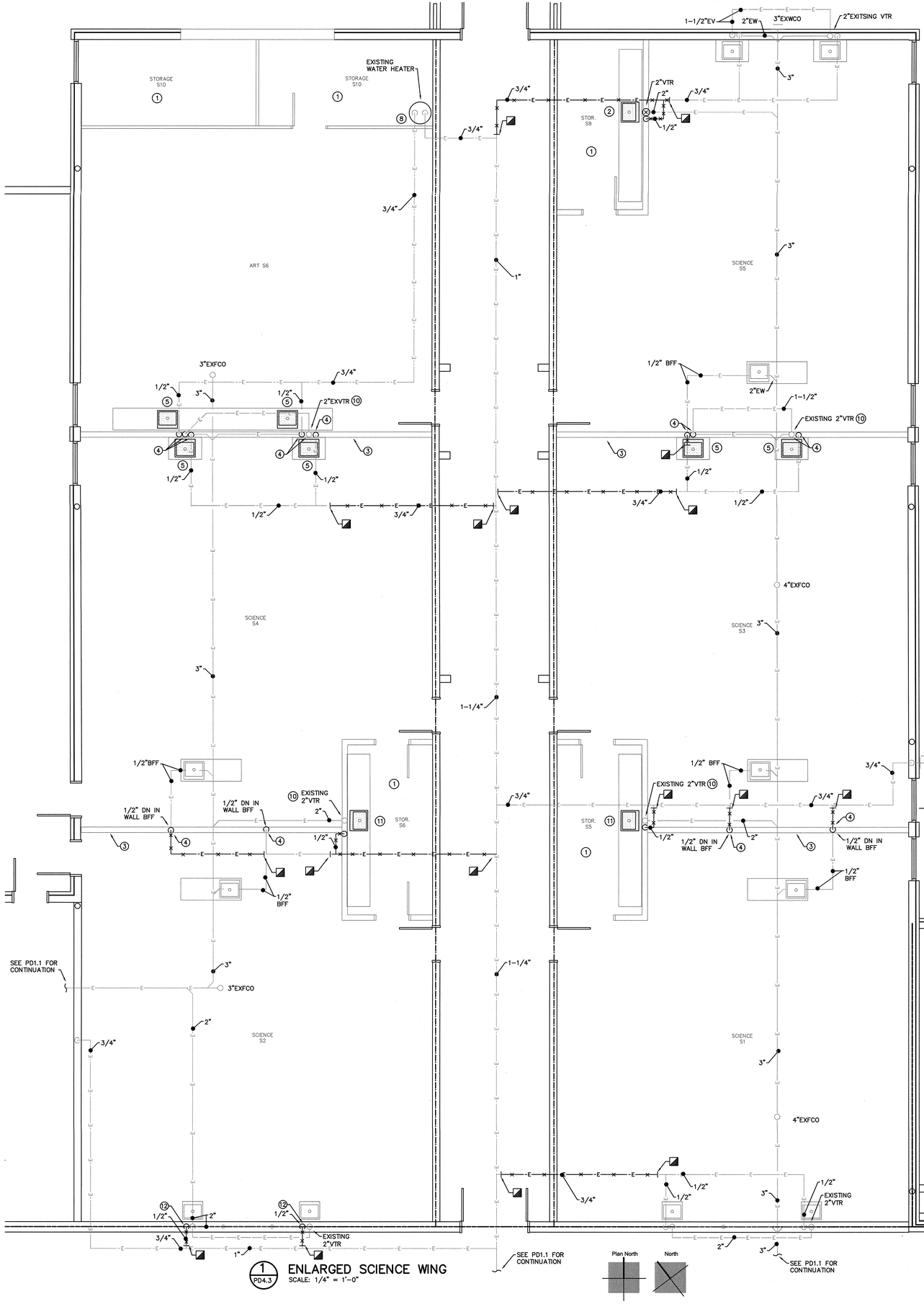
1. NOTE: EXISTING STORAGE ROOM TO BE DEMOLISHED AND REBUILT WITH CMU, SEE ARCHITECTURAL.
2. REMOVE EXISTING COUNTER SINK. REMOVE ASSOCIATED DOMESTIC WATER AS INDICATED AND CAP. REMOVE ASSOCIATED WASTE TO JUST ABOVE FINISHED FLOOR. WASTE TO BE RECONNECTED IN NEW WALL. REMOVE ASSOCIATED VENT TO BELOW ROOF DECK AND CAP ABOVE AND BELOW ROOF SO THAT ALL OPEN ENDS ARE SEALED.
3. NOTE: EXISTING WALL TO BE DEMOLISHED AND REBUILT WITH CMU, SEE ARCHITECTURAL.
4. REMOVE EXISTING PIPING WITHIN WALL CAVITY TO JUST ABOVE FINISHED FLOOR AND/OR ABOVE CEILING AS INDICATED. PIPING TO BE RECONNECTED IN NEW WALL. PROTECT REMAINING PIPING FROM CONTAMINATION AND DAMAGES DURING CONSTRUCTION.
5. REMOVE EXISTING CLASSROOM SINK. STORE AND PROTECT CLASSROOM SINK FROM DAMAGES DURING CONSTRUCTION. ASSOCIATED WASTE, VENT, AND DOMESTIC WATER TO BE RECONNECTED, SEE P4.3 FOR NEW WORK.
6. REMOVE EXISTING DISHWASHER. REMOVE ASSOCIATED WASTE AND DOMESTIC WATER WITHIN CASEWORK ENTIRELY.
7. REMOVE EXISTING CLASSROOM SINK. REMOVE ASSOCIATED WASTE BACK TO VERTICAL PIPING IN WALL AND INSTALL WCO. EXISTING VENT AND VTR TO REMAIN. REMOVE ASSOCIATED DOMESTIC WATER AS INDICATED AND CAP.
8. REMOVE EXISTING WASHER CONNECTIONS IN WALL AS SHOWN. CAP CW, HW, AND V ABOVE CEILING, AND CAP W AT MAIN.
9. REMOVE EXISTING CLASSROOM SINK. REMOVE EXISTING PIPING WITHIN CASEWORK. ASSOCIATED WASTE, VENT, AND DOMESTIC WATER TO BE RECONNECTED,
10. EXISTING VTR TO REMAIN.
11. REMOVE EXISTING COUNTER SINK. REMOVE ASSOCIATED DOMESTIC WATER BACK TO MAIN AND CAP. REMOVE ASSOCIATED WASTE TO JUST ABOVE FINISHED FLOOR. WASTE TO BE RECONNECTED IN NEW WALL. REMOVE ASSOCIATED VENT TO ABOVE CEILING. EXISTING VTR TO REMAIN AND BE RECONNECTED IN NEW WALL. SEE P4.3 FOR NEW WORK.
12. REMOVE EXISTING DOMESTIC COLD WATER FROM MAIN TO JUST ABOVE WALL. CAP AT MAIN. COLD WATER IN WALL TO BE RECONNECTED. WASTE AND VENT TO REMAIN. SEE P4.3 FOR NEW WORK.

FIRE RATINGS LEGEND

- 1 HOUR FIRE-RATED WALL
- 2 HOUR FIRE-RATED WALL
- 4 HOUR FIRE-RATED WALL



KEY PLAN



1 PD4.3 ENLARGED SCIENCE WING

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

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762.0892 s2a3.com

CLH DESIGN, P.A.
409 Regency Forest Drive
Suite 108
Cary, North Carolina 27518
Phone: (919) 319-0189
Fax: (919) 319-7316
LA: C-106
PE: C-1585

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL SEAL 043164 ENGINEER CASEY D. GILLMAN 3/27/19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

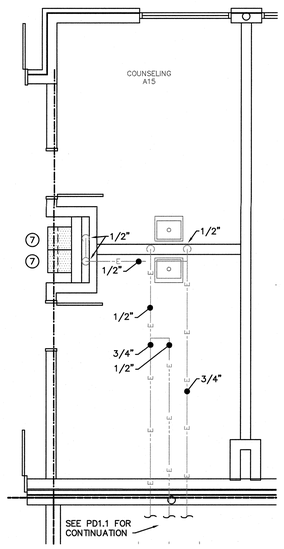
NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

ENLARGED SCIENCE WING PLANS

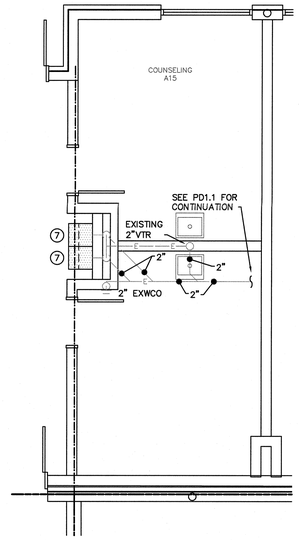
PD4.3

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



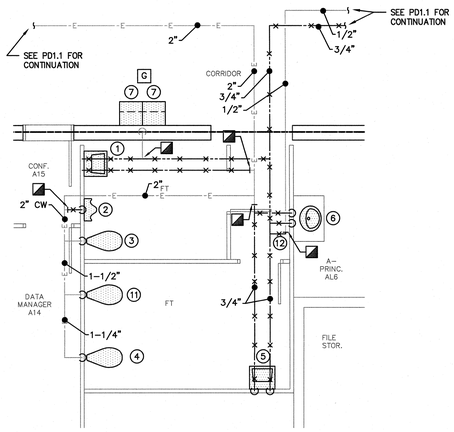
2 PD4.4 ENLARGED COUNCELING DOMESTIC WATER
SCALE: 1/4" = 1'-0"

Plan North North



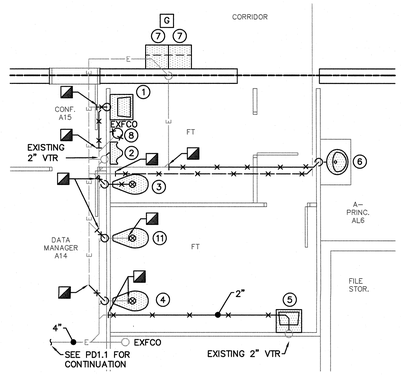
1 PD4.4 ENLARGED COUNCELING WASTE & VENT
SCALE: 1/4" = 1'-0"

Plan North North



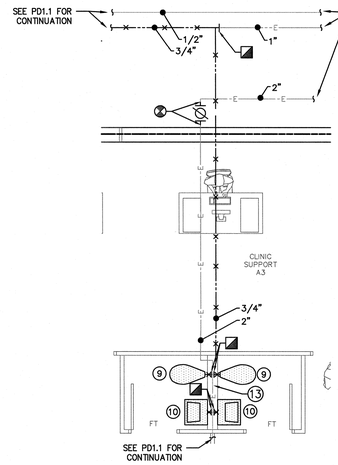
6 PD4.4 ENLARGED STAFF RESTROOM DOMESTIC WATER
SCALE: 1/4" = 1'-0"

Plan North North



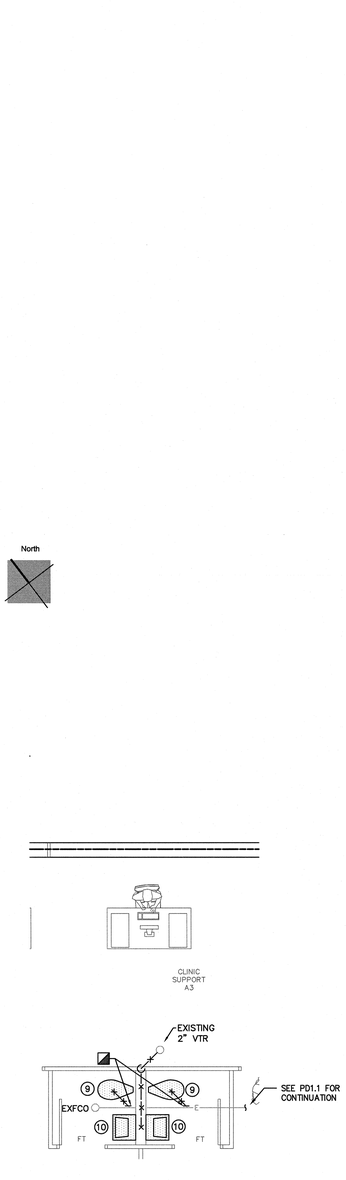
5 PD4.4 ENLARGED STAFF RESTROOMS WASTE & VENT
SCALE: 1/4" = 1'-0"

Plan North North



4 PD4.4 ENLARGED ADMIN. DOMESTIC WATER
SCALE: 1/4" = 1'-0"

Plan North North



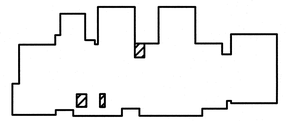
3 PD4.4 ENLARGED ADMIN. WASTE & VENT
SCALE: 1/4" = 1'-0"

Plan North North

KEYED NOTES: (THIS SHEET ONLY)

1. REMOVE EXISTING LAVATORY AND ASSOCIATED CARRIER. REMOVE EXISTING FAUCET FROM BOWL. BOWL TO BE REUSED. STORE AND PROTECT BOWL FROM DAMAGES DURING CONSTRUCTION. REMOVE ASSOCIATED WASTE AND DOMESTIC WATER BACK TO MAINS AND CAP. REMOVE ASSOCIATED VENT TO ABOVE CEILING. VENT TO BE RECONNECTED. SEE P4.4 FOR NEW WORK.
2. REMOVE EXISTING URINAL WITH MANUAL FLUSH VALVE AND ASSOCIATED CARRIER. REMOVE ASSOCIATED WASTE, VENT, AND DOMESTIC WATER BACK TO MAINS AND CAP. REMOVE EXISTING VENT TO ABOVE WALL. EXISTING VTR TO REMAIN.
3. REMOVE EXISTING WATER CLOSET WITH MANUAL FLUSH VALVE. WATER CLOSET TO BE REUSED. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. REMOVE ASSOCIATED WASTE BACK TO MAIN AND CAP. REMOVE ASSOCIATED VENT AS INDICATED AND CAP. REMOVE ASSOCIATED DOMESTIC WATER TO ABOVE CEILING. DOMESTIC WATER TO BE REWORKED AND RECONNECTED. SEE P4.4 FOR NEW WORK.
4. REMOVE EXISTING WATER CLOSET. REMOVE ASSOCIATED WASTE AS INDICATED. WASTE TO BE RECONNECTED. REMOVE ASSOCIATED VENT IN WALL TO ABOVE CEILING. VENT TO BE RECONNECTED IN NEW WALL. REMOVE ASSOCIATED DOMESTIC WATER AS INDICATED AND CAP. SEE P4.4 FOR NEW WORK.
5. REMOVE EXISTING LAVATORY AND ASSOCIATED CARRIER. REMOVE EXISTING FAUCET FROM BOWL. BOWL TO BE REUSED. STORE AND PROTECT BOWL FROM DAMAGES DURING CONSTRUCTION. REMOVE ASSOCIATED WASTE BACK TO MAIN. REMOVE EXISTING 2" SANITARY TEE. TEE TO BE REPLACED. AND WASTE TO BE RECONNECTED. REMOVE ASSOCIATED VENT TO ABOVE CEILING AND CAP. EXISTING VTR TO REMAIN AND BE RECONNECTED. REMOVE ASSOCIATED DOMESTIC WATER AS INDICATED AND CAP. SEE P4.4 FOR NEW WORK.
6. REMOVE EXISTING COUNTER SINK. REMOVE ASSOCIATED WASTE AND DOMESTIC WATER BACK TO MAINS AND CAP. REMOVE ASSOCIATED VENT BACK TO POINT INDICATED. WASTE TO BE RECONNECTED. SEE P4.4 FOR NEW WORK.
7. REMOVE EXISTING ELECTRIC WATER COOLER AND TURN OVER TO OWNER. EXISTING ROUGH-INS TO BE REWORKED AND RECONNECTED. REMOVE AND REPLACE EXISTING CARRIER AS REQUIRED. SEE P4.4 FOR NEW WORK.
8. REMOVE EXISTING FCO. ASSOCIATED WASTE TO BE REWORKED IN NEW WALL. SEE P4.4 FOR NEW WORK.
9. REMOVE EXISTING WATER CLOSET. REMOVE ASSOCIATED WASTE AS INDICATED AND CAP. REMOVE ASSOCIATED DOMESTIC WATER AS INDICATED AND CAP.
10. REMOVE EXISTING LAVATORY AND ASSOCIATED CARRIER. REMOVE ASSOCIATED VENT TO BELOW ROOF DECK AND CAP ABOVE AND BELOW ROOF SO THAT ALL OPEN ENDS ARE SEALED. REMOVE ASSOCIATED DOMESTIC WATER AS INDICATED AND CAP.
11. REMOVE EXISTING WATER CLOSET WITH MANUAL FLUSH VALVE. WATER CLOSET TO BE REUSED. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. REMOVE EXISTING WASTE AS INDICATED. WASTE TO BE RECONNECTED. REMOVE EXISTING VENT AS INDICATED AND CAP. REMOVE ASSOCIATED DOMESTIC WATER TO ABOVE CEILING. DOMESTIC WATER TO BE RECONNECTED. SEE P4.4 FOR NEW WORK.
12. REMOVE EXISTING HOT WATER RETURN AS INDICATED. HOT WATER RETURN TO BE RECONNECTED. SEE P4.4 FOR NEW WORK.
13. EXISTING COLD WATER BRANCH SERVING WALL HYDRANT TO REMAIN.

FIRE RATINGS LEGEND
1 HOUR FIRE-RATED WALL
2 HOUR FIRE-RATED WALL
4 HOUR FIRE-RATED WALL



KEY PLAN

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
409 Regency Forest Drive
Suite 108
Cary, North Carolina 27518
Phone: (919) 319-7111
Fax: (919) 319-7116
LA: C-106
PE: C-1395

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL SEAL 043164 ENGINEER CASEY D. GILLIAM
3/27/19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

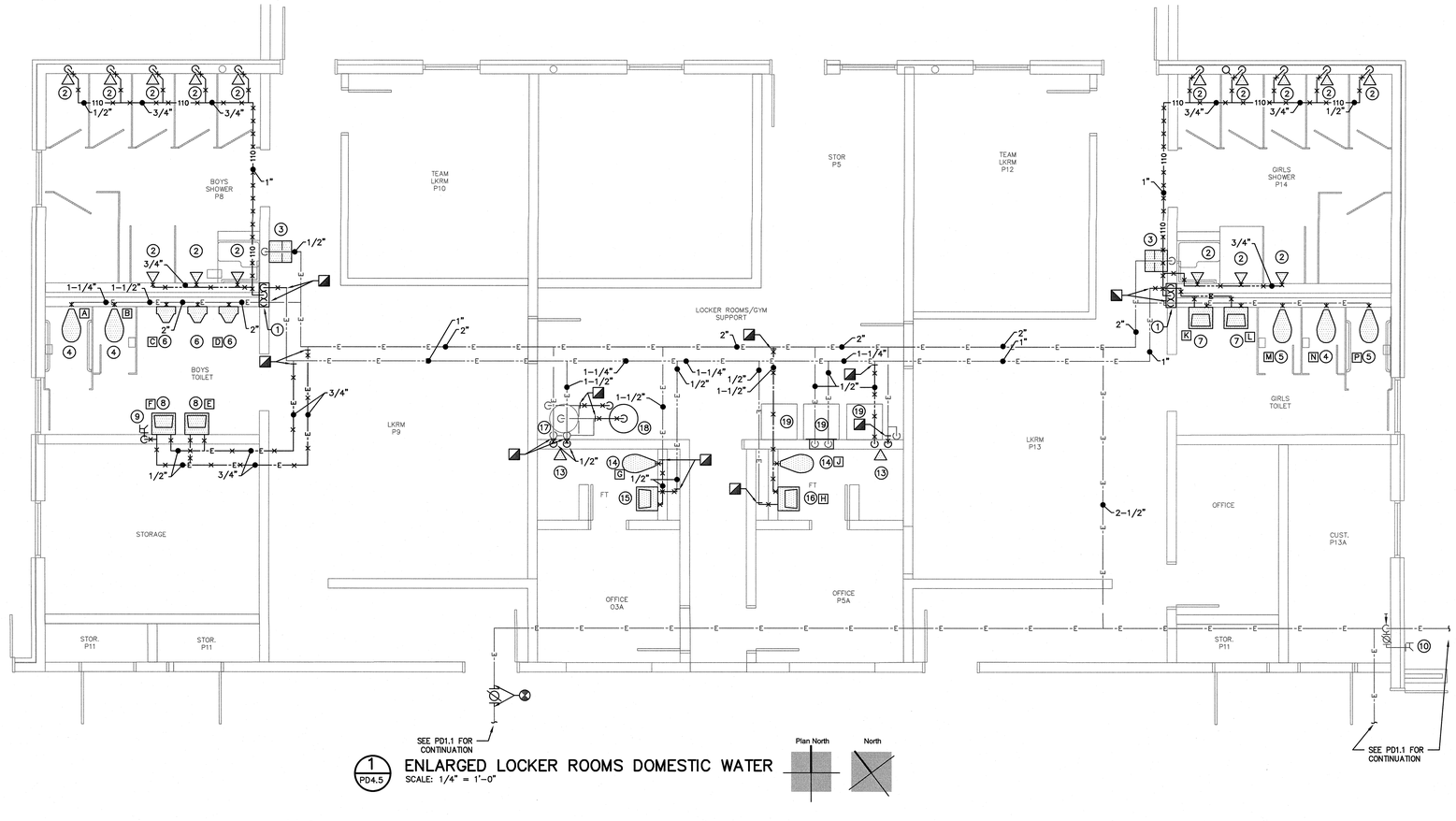
ENLARGED MISCELLANEOUS PLANS

PD4.4

7 OF 15

© 2019 Sawyer Sherwood & Associate- All Rights Reserved

1. ALL WORK ON THIS SHEET SHALL BE PRICED AS ADD ALTERNATE.
2. FIXTURE RELOCATION SUGGESTIONS FOR PD4.5 AND P4.5 REFERENCE ONLY.

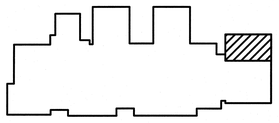


1 PD4.5 ENLARGED LOCKER ROOMS DOMESTIC WATER
SCALE: 1/4" = 1'-0"

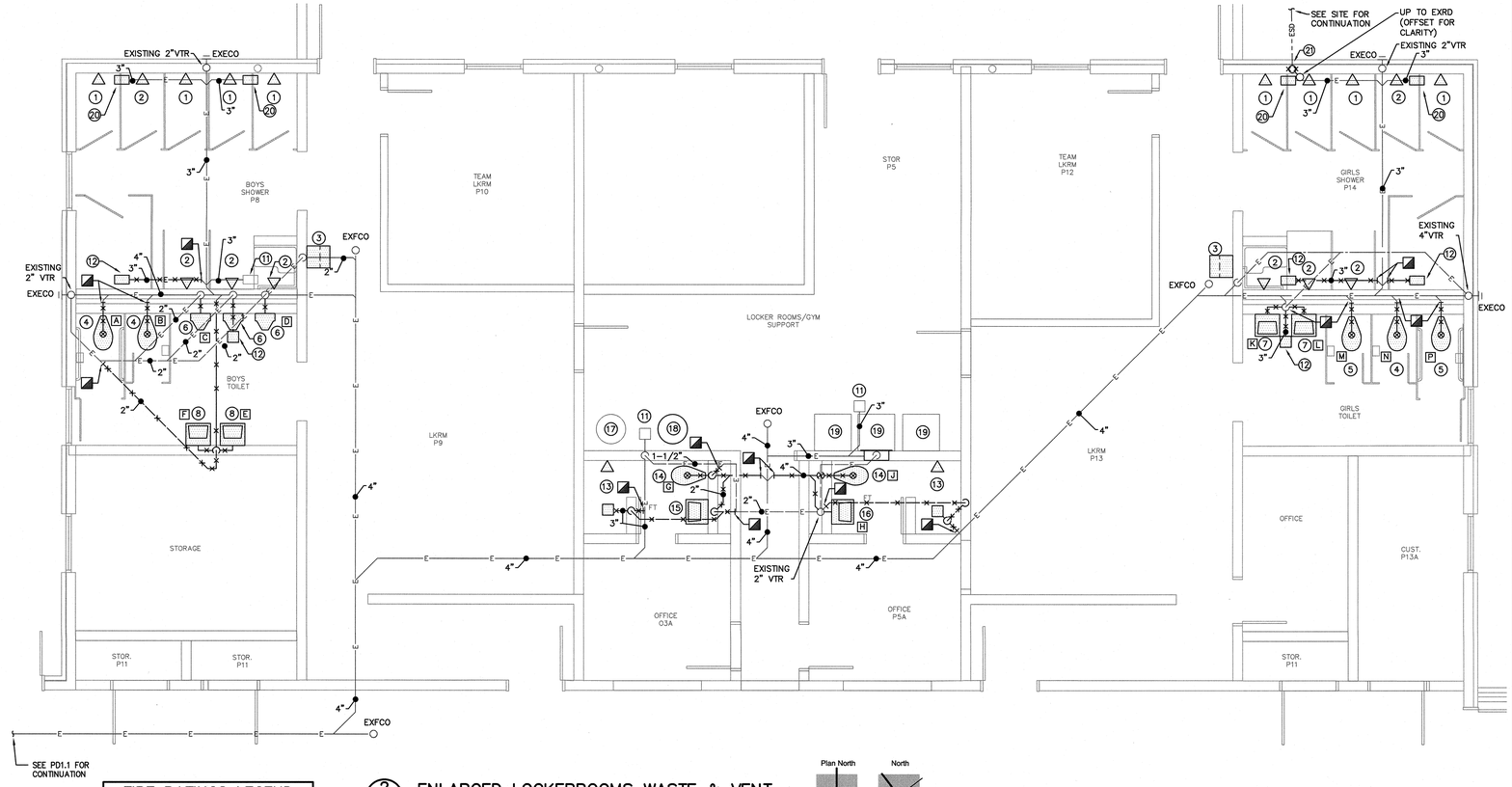
Plan North North

KEYED NOTES: (THIS SHEET ONLY)

1. REMOVE EXISTING MIXING VALVE AND ALL ALL CONNECTED PIPING AS INDICATED. HW PIPING TO BE RECONNECTED. CAP CW PIPING.
2. REMOVE EXISTING SHOWER AND ALL ASSOCIATED COMPONENTS. REMOVE ASSOCIATED DOMESTIC WATER PIPING AS INDICATED AND CAP.
3. REMOVE EXISTING ELECTRIC WATER COOLER AND ASSOCIATED CARRIER. ASSOCIATED DOMESTIC WATER, WASTE, AND VENT TO BE REWORKED AND RECONNECTED. SEE P4.5 FOR NEW WORK.
4. REMOVE EXISTING WATER CLOSET WITH MANUAL FLUSH VALVE. FIXTURE TO BE RELOCATED. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. REMOVE ASSOCIATED DOMESTIC WATER BACK TO VERTICAL PIPING WITHIN WALL CHASE. DOMESTIC WATER TO BE REWORKED AND REUSED. REMOVE ASSOCIATED WASTE BACK TO MAIN AND CAP. SEE P4.5 FOR NEW WORK.
5. REMOVE EXISTING WATER CLOSET WITH SENSOR FLUSH VALVE. REMOVE EXISTING FLUSH VALVE FROM BOWL AND TURN OVER TO OWNER. EXISTING BOWL TO BE REUSED. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. REMOVE ASSOCIATED DOMESTIC WATER BACK TO VERTICAL PIPING WITHIN WALL CHASE. DOMESTIC WATER TO BE REUSED. REMOVE ASSOCIATED WASTE BACK TO MAIN AND CAP.
6. REMOVE EXISTING WATERLESS URINAL AND ASSOCIATED CARRIER. FIXTURE TO BE RELOCATED. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. REMOVE ASSOCIATED DOMESTIC WATER BACK TO VERTICAL PIPING WITHIN WALL CHASE AND CAP. DOMESTIC WATER TO REMAIN. REMOVE ASSOCIATED WASTE PIPING BACK TO VERTICAL PIPING WITHIN WALL CHASE AND CAP. WASTE AND VENT PIPING TO BE REUSED. SEE P4.5 FOR NEW WORK.
7. REMOVE EXISTING LAVATORY AND ASSOCIATED CARRIER. REMOVE EXISTING FAUCET FROM BOWL. FAUCET TO BE REPLACED. FIXTURE TO BE RELOCATED. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. REMOVE ASSOCIATED DOMESTIC WATER BACK TO MAINS AND CAP. EXISTING HOT WATER PIPING SERVING TEMPERED WATER MIXING VALVE TO REMAIN. REMOVE ASSOCIATED WASTE BACK TO MAIN AND CAP. ASSOCIATED VENT TO BE REWORKED AND RECONNECTED.
8. REMOVE EXISTING LAVATORY AND ASSOCIATED CARRIER. FIXTURE TO BE RELOCATED. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. REMOVE ASSOCIATED DOMESTIC WATER BACK TO MAINS AND CAP. REMOVE ASSOCIATED WASTE BACK TO MAIN AND CAP. REMOVE ASSOCIATED VENT AS INDICATED AND CAP.
9. REMOVE EXISTING HOSE BIBB. REMOVE ASSOCIATED DOMESTIC WATER AS INDICATED.
10. EXISTING WALL HYDRANT TO REMAIN. ASSOCIATED DOMESTIC WATER TO REMAIN.
11. EXISTING FLOOR DRAIN AND ASSOCIATED WASTE TO REMAIN.
12. REMOVE EXISTING FLOOR DRAIN. REMOVE ASSOCIATED WASTE PIPING BACK TO MAIN AND CAP.
13. REMOVE EXISTING SHOWER AND ALL ASSOCIATED COMPONENTS. REMOVE ASSOCIATED WASTE AND VENT BACK TO MAINS AND CAP. REMOVE ASSOCIATED DOMESTIC WATER BACK TO POINTS INDICATED AND CAP. DOMESTIC WATER SERVING ICE MACHINE AND WATER HEATER TO REMAIN.
14. REMOVE EXISTING WATER CLOSET WITH MANUAL FLUSH VALVE. REMOVE ASSOCIATED DOMESTIC WATER AS INDICATED. REMOVE ASSOCIATED WASTE AND VENT AS INDICATED AND CAP.
15. REMOVE EXISTING LAVATORY AND ASSOCIATED CARRIER. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. RELOCATED AS NEEDED OR TURN OVER TO OWNER. REMOVE ASSOCIATED DOMESTIC WATER BACK POINTS INDICATED. DOMESTIC WATER TO BE REUSED. REMOVE ASSOCIATED WASTE BACK TO MAIN AND CAP. REMOVE ASSOCIATED VENT AS INDICATED AND CAP.
16. REMOVE EXISTING LAVATORY AND ASSOCIATED CARRIER. FIXTURE TO BE RELOCATED. STORE AND PROTECT FROM DAMAGES DURING CONSTRUCTION. REMOVE ASSOCIATED DOMESTIC COLD WATER BACK TO MAIN AND CAP. REMOVE ASSOCIATED DOMESTIC HOT WATER AS INDICATED. REMOVE ASSOCIATED WASTE BACK TO MAIN AND CAP. REMOVE ASSOCIATED VENT TO ABOVE CEILING AND CAP. EXISTING VTR TO REMAIN.
17. REMOVE EXISTING WATER HEATER. ASSOCIATED EXPANSION TANK TO REMAIN. ASSOCIATED DOMESTIC WATER TO REMAIN AND BE RECONNECTED. PROTECT FROM DAMAGES DURING CONSTRUCTION. SEE P4.5 FOR NEW WORK.
18. REMOVE EXISTING WATER HEATER AND ASSOCIATED EXPANSION TANK AND TURN OVER TO OWNER. REMOVE ASSOCIATED DOMESTIC WATER AS INDICATED AND CAP.
19. EXISTING WASHER, DRYER, AND ICE MACHINE TO REMAIN. PROTECT FROM DAMAGES DURING CONSTRUCTION. ASSOCIATED DOMESTIC WATER, WATER CONNECTION BOX, FLOOR DRAINS, AND VENT TO REMAIN AND BE PROTECTED FROM DAMAGES DURING CONSTRUCTION.
20. REMOVE EXISTING FLOOR DRAIN. EXISTING WASTE TO REMAIN AND BE REWORKED. SEE P4.5 FOR NEW WORK.
21. REMOVE EXISTING 3" RDL IN WALL TO ABOVE CEILING AND TO FLOOR LEVEL. CAP AT FLOOR LEVEL. EXISTING RDL AT CEILING TO BE RECONNECTED. SEE P4.5 FOR NEW WORK.



KEY PLAN



FIRE RATINGS LEGEND

- 1 HOUR FIRE-RATED WALL
- 2 HOUR FIRE-RATED WALL
- 4 HOUR FIRE-RATED WALL

2 PD4.5 ENLARGED LOCKERROOMS WASTE & VENT
SCALE: 1/4" = 1'-0"

Plan North North

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
409 Regency Forest Drive
Suite 109
Cary, North Carolina 27519
Phone: (919) 319-9758
Fax: (919) 319-3414
LA: C-1168
PE: C-1186

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050
NC LICENSE# C-1075

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street
Suite 201
Wilmington, NC 28401
Phone: 910.343.8007
Fax: 910.343.8088
www.woodseng.com

PROFESSIONAL SEAL 043164 ENGINEER CASEY D. GILLIAN
3/27/19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

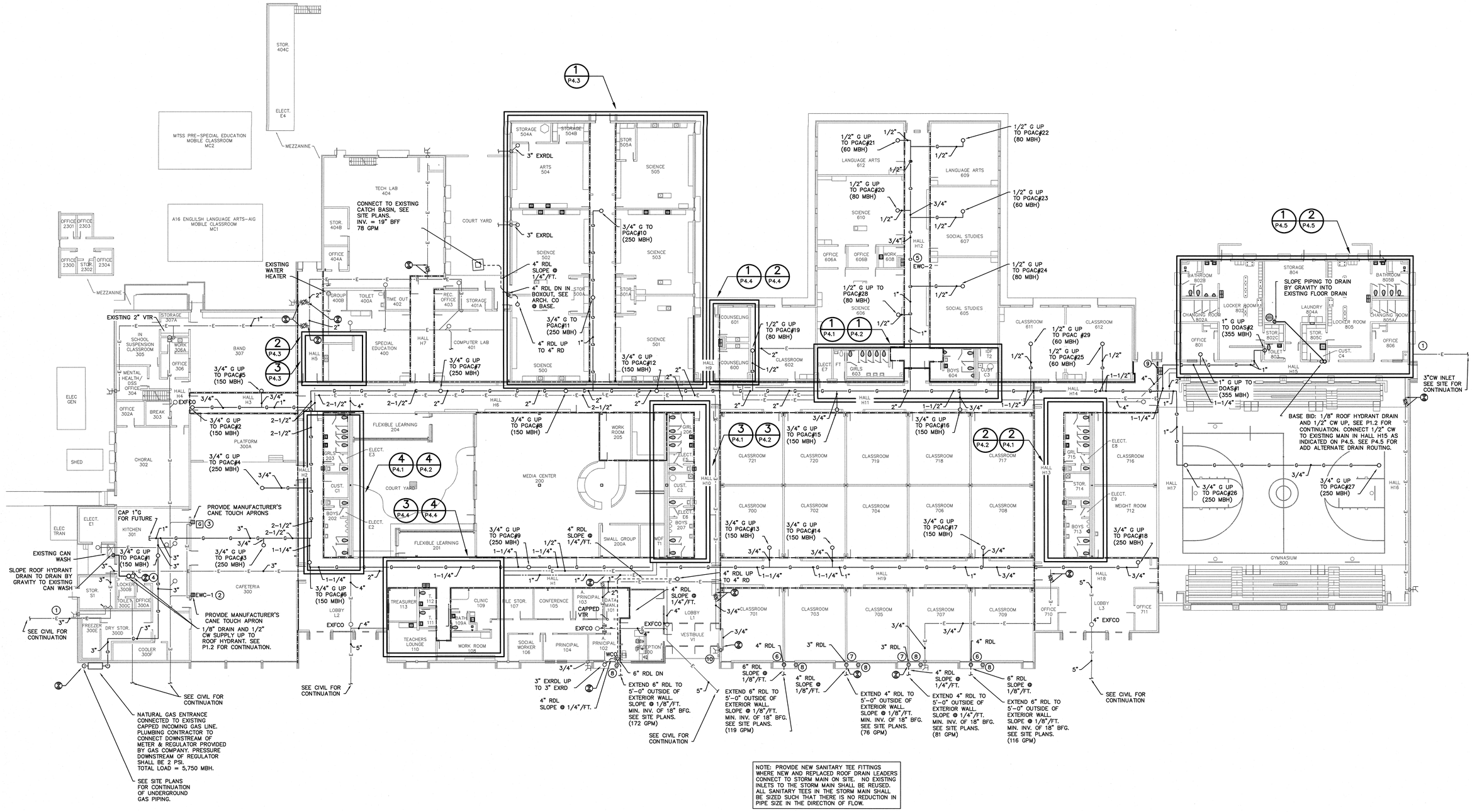
NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

ENLARGED LOCKER ROOM PLANS

PD4.5

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



NOTE: PROVIDE NEW SANITARY TEE FITTINGS WHERE NEW AND REPLACED ROOF DRAIN LEADERS CONNECT TO STORM MAIN ON SITE. NO EXISTING INLETS TO THE STORM MAIN SHALL BE REUSED. ALL SANITARY TEES IN THE STORM MAIN SHALL BE SIZED SUCH THAT THERE IS NO REDUCTION IN PIPE SIZE IN THE DIRECTION OF FLOW.

1 P1.1 PLUMBING RENOVATION FLOOR PLAN

SCALE: 1/16" = 1'-0"

Plan North / North

KEYED NOTES: (THIS SHEET ONLY)

1. EXISTING DOMESTIC WATER ENTRANCE. SEE SITE PLANS FOR CONTINUATION.
2. CONNECT NEW ELECTRIC WATER COOLER TO EXISTING ROUGH-INS PER EWC-1 DETAIL ON P0.1. REWORK ROUGH-INS AS REQUIRED. REMOVE AND REPLACE EXISTING CARRIER AS REQUIRED.
3. CONNECT RELOCATED ELECTRIC WATER COOLER TO EXISTING ROUGH-INS PER EWC-2 DETAIL ON P0.1. REWORK ROUGH-INS AS REQUIRED. REMOVE AND REPLACE EXISTING CARRIER AS REQUIRED.
4. PROVIDE BALL VALVE ABOVE CEILING FOR ROOF HYDRANT IN AN ACCESSIBLE LOCATION.
5. CONNECT NEW ELECTRIC WATER COOLER TO EXISTING ROUGH-INS PER EWC-2 DETAIL ON P0.1. REWORK EXISTING ROUGH-INS AS REQUIRED. REMOVE AND REPLACE EXISTING CARRIER AS REQUIRED.
6. 4" RDL UP TO 4" RD, 4" RDL DN INSIDE OF METAL COVER (SEE ARCH) TO BELOW GRADE. PROVIDE CLEANOUT AT BASE OF RISER.
7. 3" RDL UP TO CONNECT TO 3" EXRD, 3" RDL DN INSIDE OF METAL COVER (SEE ARCH) TO BELOW GRADE. PROVIDE CLEANOUT AT BASE OF RISER.
8. CAPPED AND ABANDONED EXRDL IN BRICK CHASE.
9. RECONNECT EXISTING ELECTRIC WATER COOLER TO EXISTING ROUGH-INS PER EWC-1 DETAIL ON P0.1. REWORK EXISTING ROUGH-INS AS REQUIRED. PROVIDE MANUFACTURERS CANE TOUCH APRON ON BOTH ELECTRIC WATER COOLERS IN THIS LOCATION. REMOVE AND REPLACE EXISTING CARRIER AS REQUIRED.
10. RELOCATE EXISTING WALL HYDRANT AS NEEDED TO AVOID CONFLICT WITH EXPANDED VESTIBULE.

FIRE RATINGS LEGEND

- 1 HOUR FIRE-RATED WALL
- 2 HOUR FIRE-RATED WALL
- 4 HOUR FIRE-RATED WALL

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
409 Regency Forest Drive, Suite 102, Cary, North Carolina 27518
Phone: (919) 319-5678
Fax: (919) 319-5516
LA: C-556
PE: C-0186

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4217
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 043164 CASEY D. GILLIAM
3/27/19

NHCS
Emma B. Trask Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

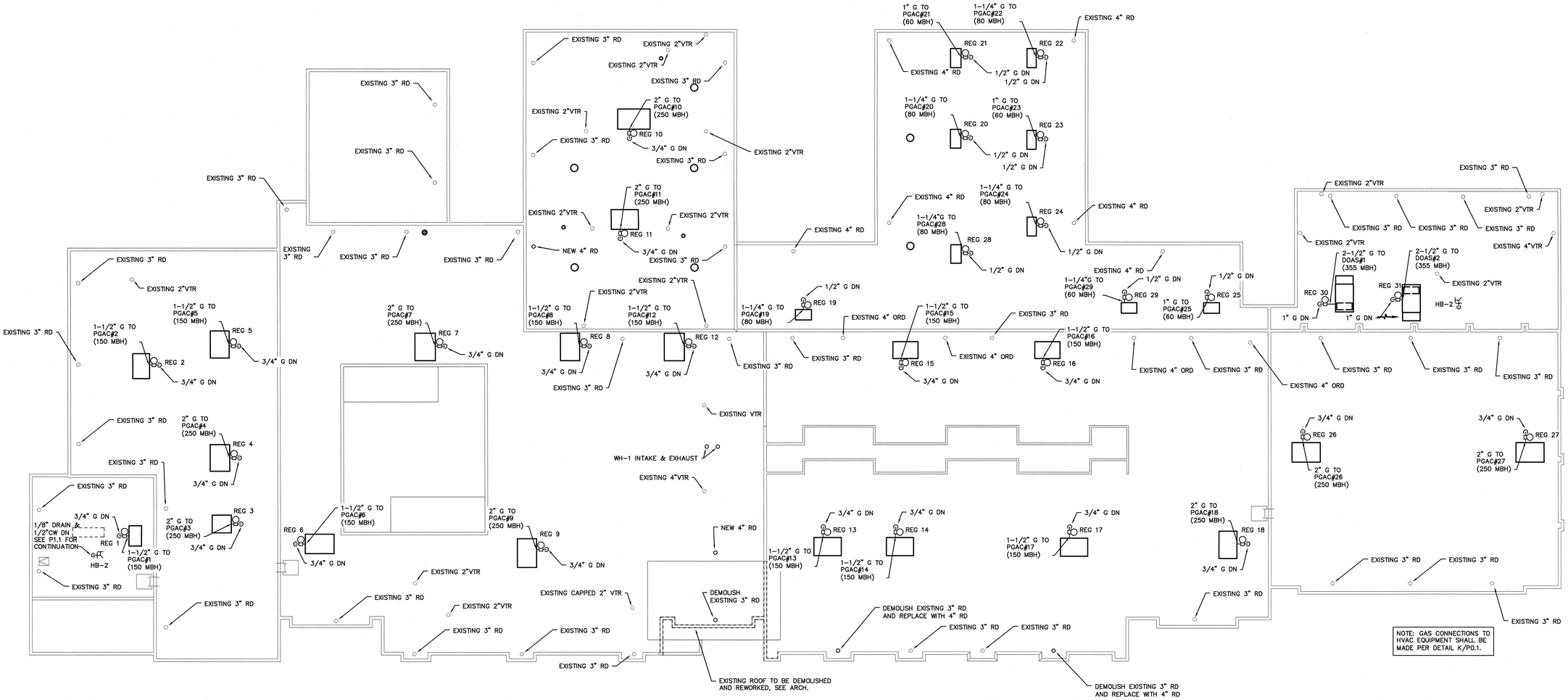
Revisions:

PLUMBING RENOVATION FLOOR PLAN

P1.1

9 OF 15

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



1 P1.2 PLUMBING ROOF PLAN
SCALE: 1/16" = 1'-0"

Plan North North

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
409 Regency Forest Drive
Suite 201
Cary, North Carolina 27518
Phone: (919)319-9719
Fax: (919)319-5104
LA: C-706
PE: C-1595

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073
JOB # 18050

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 043164 CAREY D. GLENN 5/27/19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

PLUMBING ROOF PLAN

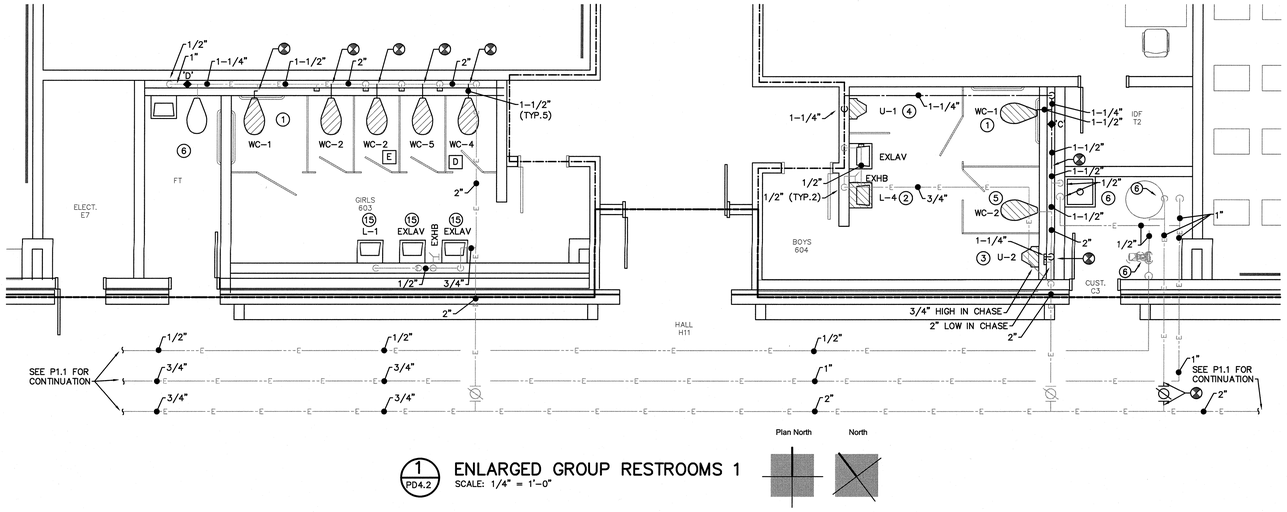
P1.2

10 OF 15

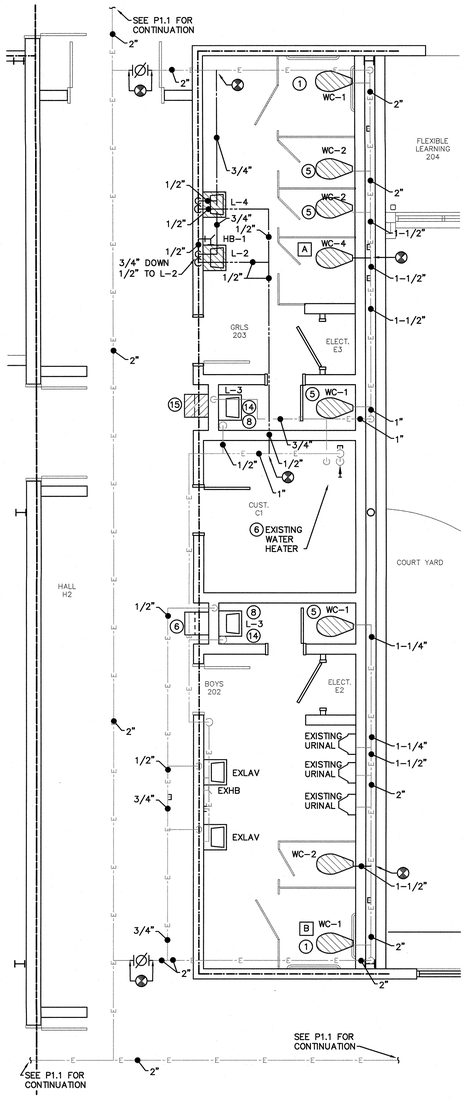
© 2019 Sawyer Sherwood & Associate- All Rights Reserved

KEYED NOTES: (THIS SHEET ONLY)

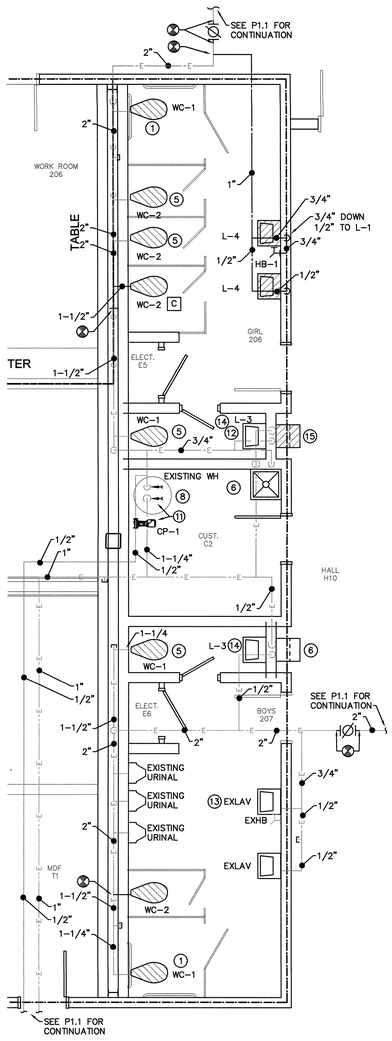
1. CONNECT WATER CLOSET TO EXISTING DOMESTIC WATER PER WC-1 DETAIL ON P0.1. REWORK DOMESTIC WATER AS REQUIRED.
2. RECONNECT EXISTING LAVATORY PER ADA LAVATORY DETAIL ON P0.1. REWORK DOMESTIC WATER AS REQUIRED. REMOVE AND REPLACE CARRIER AS REQUIRED.
3. REWORK EXISTING DOMESTIC WATER, CENTERED ON URINAL, TO APPROX. 54" AFF. AND CAP WITHIN WALL CAVITY. CONNECT URINAL TO WALL PER U-2 DETAIL ON P0.1.
4. CAP DOMESTIC WATER WITHIN WALL CAVITY, CENTERED ON URINAL, APPROX. 47" AFF. CONNECT URINAL TO WALL PER U-1 DETAIL ON P0.1.
5. CONNECT WATER CLOSET TO EXISTING ROUGH-INS. REWORK DOMESTIC WATER AS REQUIRED.
6. EXISTING TO REMAIN. NO WORK.
7. PROVIDE ACCESS PANEL FOR WATER HAMMER ARRESTOR PER PLUMBING SPECIFICATIONS..
8. INSULATE EXISTING PIPING PER SPECIFICATIONS.
9. CONNECT ELECTRIC WATER COOLER TO EXISTING DOMESTIC WATER PER EWC-1 DETAIL ON P0.1. REWORK DOMESTIC WATER AS REQUIRED.
10. CONNECT URINAL TO WALL PER U-1 DETAIL ON P0.1. EXISTING CAPPED DOMESTIC WATER TO REMAIN. REWORK ROUGH-IN AS REQUIRED. REMOVE AND REPLACE EXISTING CARRIER AS REQUIRED.
11. CONNECT EXISTING WATER HEATER AND CP-1 TO EXISTING DOMESTIC WATER PER CP-1 DETAIL ON P0.1.
12. CONNECT EXISTING CAPPED HOT WATER SUPPLY TO LAVATORY.
13. EXISTING LAVATORY WITH RELOCATED FAUCET. RECONNECT TO EXISTING ROUGH-INS.
14. CONNECT NEW FAUCET TO EXISTING BOWL ON WALL. CONNECT LAVATORY TO EXISTING DOMESTIC HOT AND COLD WATER.
15. EXISTING LAVATORY BOWL WITH NEW FAUCET. INSTALL NEW FAUCET PER L-1 FAUCET SPECIFICATIONS. CONNECT LAVATORY TO EXISTING ROUGH-INS.



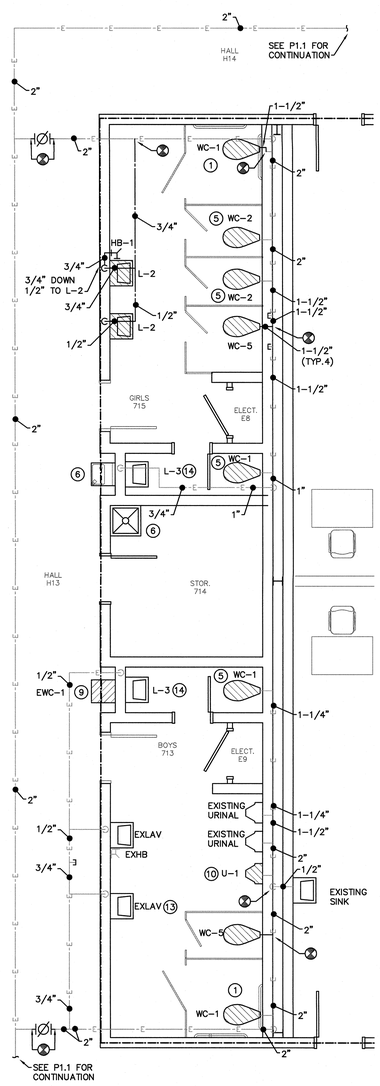
1 PD4.2 ENLARGED GROUP RESTROOMS 1
SCALE: 1/4" = 1'-0"



4 PD4.2 ENLARGED GROUP RESTROOMS 4
SCALE: 1/4" = 1'-0"

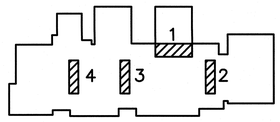


3 PD4.2 ENLARGED GROUP RESTROOMS 3
SCALE: 1/4" = 1'-0"



2 PD4.2 ENLARGED GROUP RESTROOMS 2
SCALE: 1/4" = 1'-0"

FIRE RATINGS LEGEND
1 HOUR FIRE-RATED WALL
2 HOUR FIRE-RATED WALL
4 HOUR FIRE-RATED WALL



KEY PLAN

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
409 Regency Forest Drive
Suite 103
Cary, North Carolina 27518
Phone: (919) 319-7949
Fax: (919) 319-7916
LA: C-106
PE: C-1395

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL SEAL 043164 ENGINEER CASEY D. GILLIAM
3/27/19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

ENLARGED GROUP RESTROOMS DOMESTIC WATER

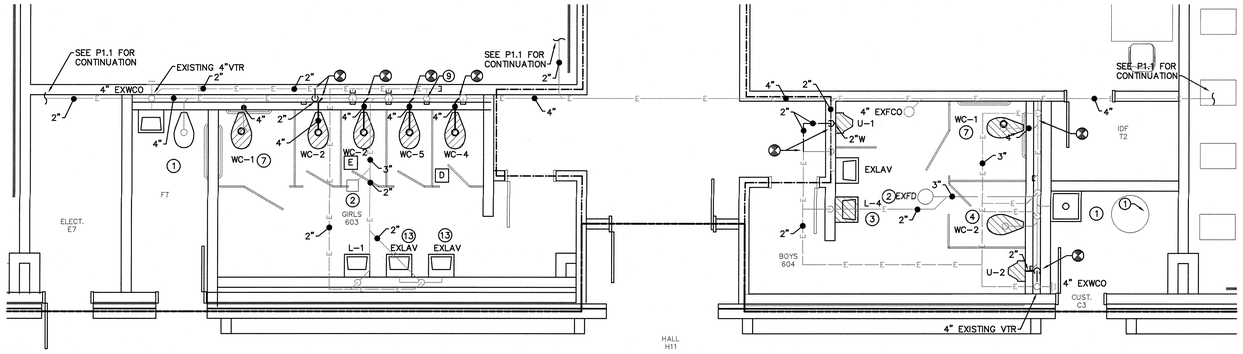
P4.1

11 OF 15

© 2019 Sawyer Sherwood & Associate- All Rights Reserved

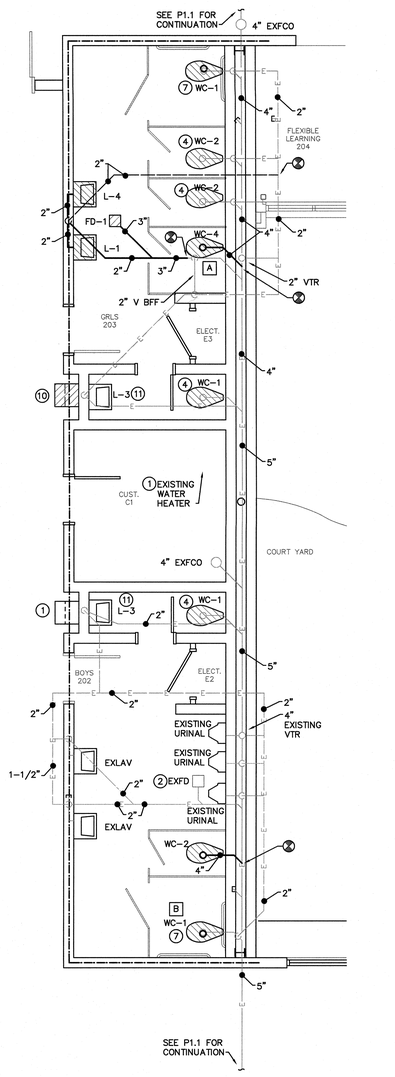
KEYED NOTES: (THIS SHEET ONLY)

1. EXISTING TO REMAIN. NO WORK.
2. REMOVE AND REPLACE EXISTING FLOOR DRAIN GRATE. GRATE SHALL BE INSTALLED FLUSH WITH FINISHED FLOOR AND BE NICKEL BRONZE, HEEL PROOF, WITH VANDAL RESISTANT SECURING SCREWS. FIELD VERIFY EXACT DIMENSIONS OF EACH GRATE. NOTE: SIZE VARIES.
3. RECONNECT EXISTING LAVATORY PER ADA LAVATORY DETAIL ON P0.1. REWORK EXISTING WASTE AND VENT AS REQUIRED. REMOVE AND REPLACE EXISTING CARRIER AS REQUIRED.
4. CONNECT WATER CLOSET TO EXISTING ROUGH-IN.
5. CONNECT NEW ELECTRIC WATER COOLER TO EXISTING ROUGH-INS PER EWC-1 DETAIL ON P0.1. REWORK ROUGH-INS AS REQUIRED. REMOVE AND REPLACE EXISTING CARRIER AS REQUIRED.
6. CONNECT URINAL TO WALL PER U-1 DETAIL ON P0.1. REWORK EXISTING WASTE AND VENT AS REQUIRED.
7. CONNECT WATER CLOSET TO EXISTING WASTE AND VENT PER WC-1 DETAIL ON P0.1. PROVIDE OFFSET FLANGE AS REQUIRED.
8. INSTALL WATER HEATER DRAIN PER WH-1 DETAIL ON P0.1.
9. PROVIDE SANITARY TEE IN MAIN FOR PROPER VENTING FLOW. RECONNECT TO EXISTING VENT IN WALL.
10. RECONNECT EXISTING ELECTRIC WATER COOLER TO EXISTING ROUGH-INS PER EWC-1 DETAIL ON P0.1. REWORK EXISTING ROUGH-INS AS REQUIRED. REMOVE AND REPLACE EXISTING CARRIER AS REQUIRED.
11. RECONNECT EXISTING LAVATORY TO EXISTING ROUGH-INS.
12. EXISTING LAVATORY WITH RELOCATED FAUCET. RECONNECT LAVATORY TO EXISTING ROUGH-INS.
13. EXISTING LAVATORY BOWL WITH NEW FAUCET. INSTALL NEW FAUCET PER L-1 FAUCET SPECIFICATIONS. CONNECT LAVATORY TO EXISTING ROUGH-INS.



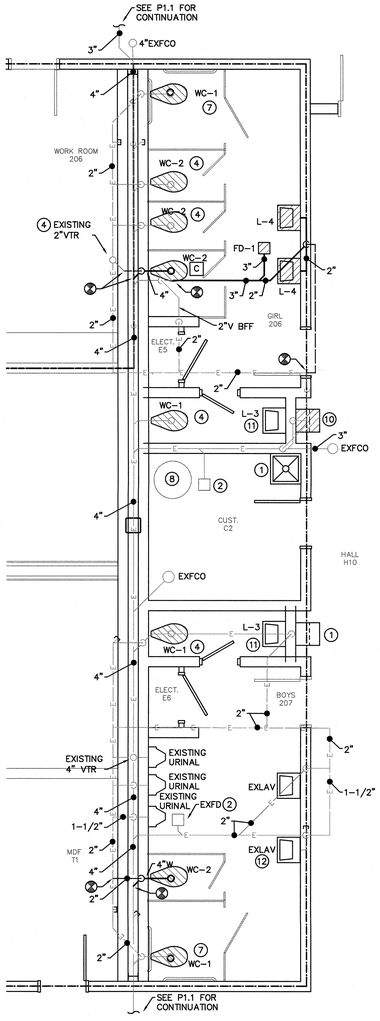
1 / PD4.2 ENLARGED GROUP RESTROOMS 1
SCALE: 1/4" = 1'-0"

Plan North / North



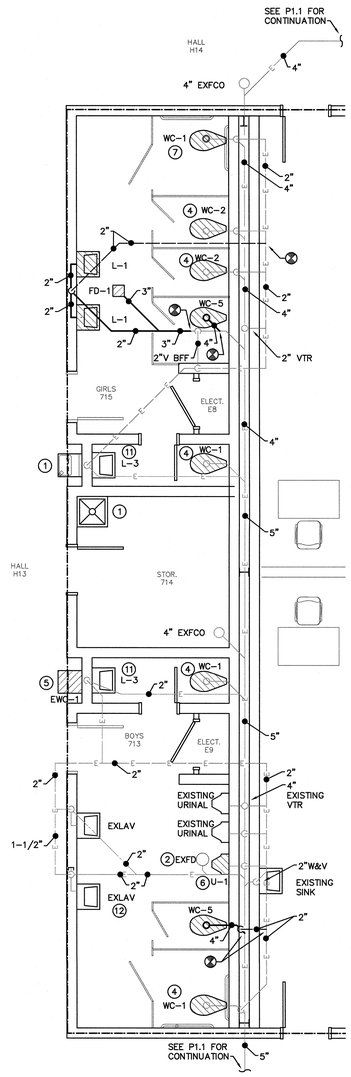
4 / PD4.2 ENLARGED GROUP RESTROOMS 4
SCALE: 1/4" = 1'-0"

Plan North / North



3 / PD4.2 ENLARGED GROUP RESTROOMS 3
SCALE: 1/4" = 1'-0"

Plan North / North

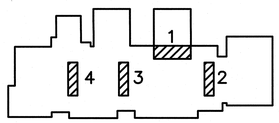


2 / PD4.2 ENLARGED GROUP RESTROOMS 2
SCALE: 1/4" = 1'-0"

Plan North / North

FIRE RATINGS LEGEND

- 1 HOUR FIRE-RATED WALL
- 2 HOUR FIRE-RATED WALL
- 4 HOUR FIRE-RATED WALL



KEY PLAN

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
409 Regency Forest Drive
Suite 202
Cary, North Carolina 27518
Phone: (919)319-0772
Fax: (919)319-7706
LA: C-1395
PE: C-1395

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL SEAL 043164 ENGINEER CAREY D. GILMAN
3/27/19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

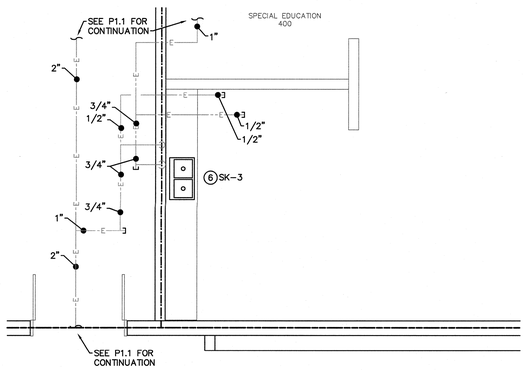
Revisions:

ENLARGED GROUP RESTROOMS WASTE & VENT

P4.2

12 OF 15

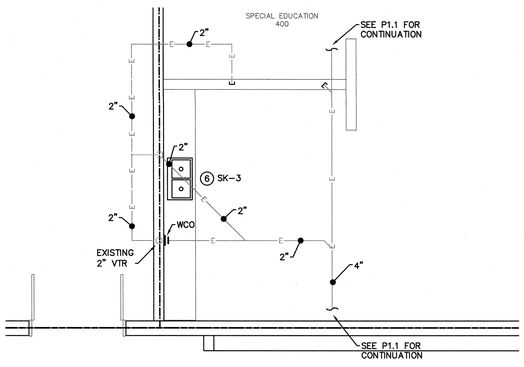
© 2019 Sawyer Sherwood & Associate- All Rights Reserved



2 P4.3 ENLARGED SPEC. ED. DOMESTIC WATER

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

Plan North North



3 P4.3 ENLARGED SPEC. ED. WASTE & VENT

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

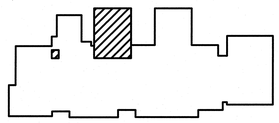
Plan North North

KEYED NOTES: (THIS SHEET ONLY)

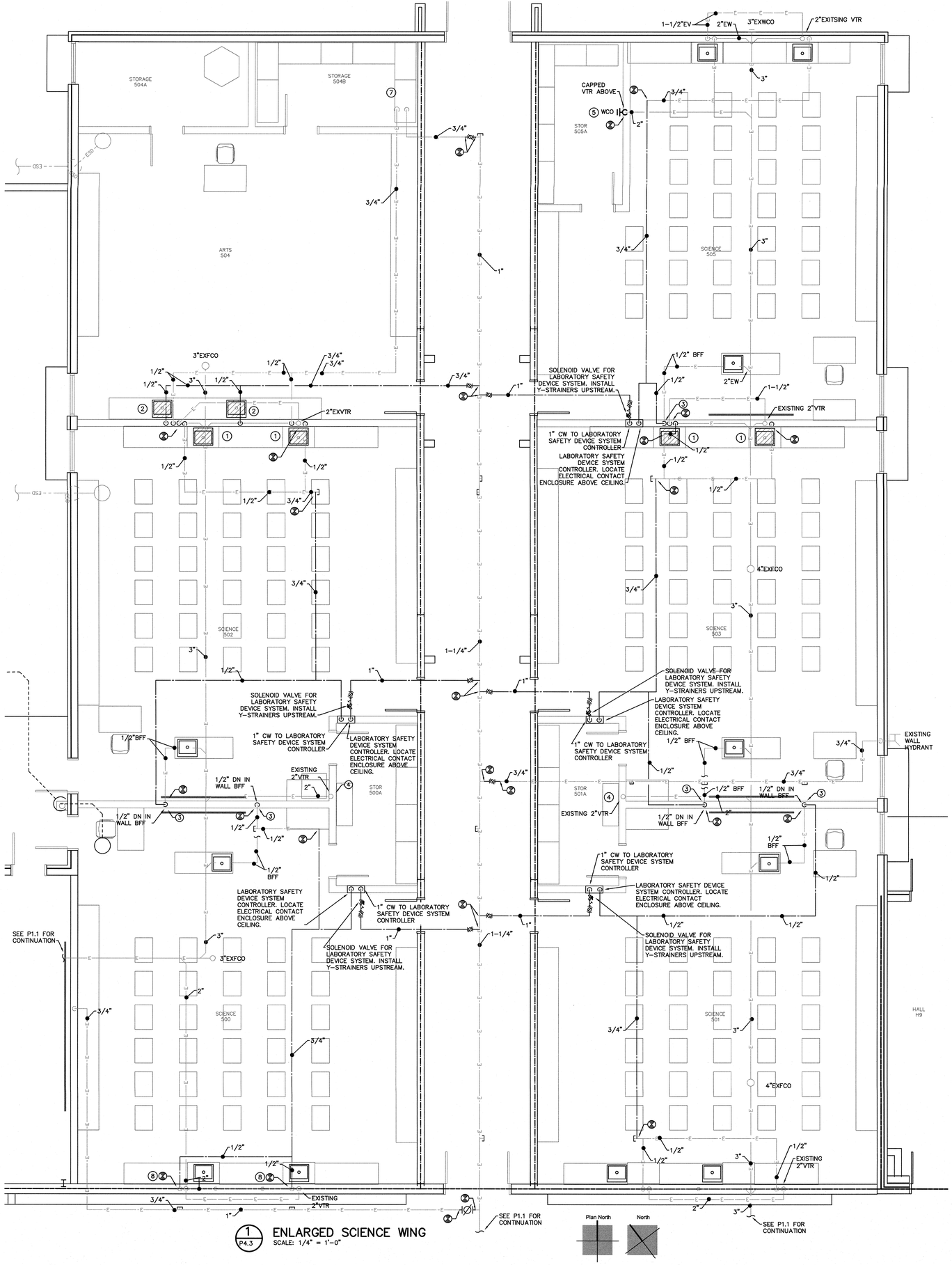
1. RECONNECT CLASSROOM SINK WITH EXISTING WASTE BFF. RECONNECT CLASSROOM SINK WITH EXISTING VENT AND DOMESTIC COLD WATER ABOVE CEILING AS INDICATED.
2. RECONNECT ART ROOM SINK WITH EXISTING WASTE BFF. RECONNECT ART ROOM SINK WITH EXISTING VENT AND DOMESTIC HOT AND COLD WATER ABOVE CEILING AS INDICATED.
3. RECONNECT EXISTING DOMESTIC WATER BFF SERVING TEACHERS SINK WITH EXISTING DOMESTIC WATER ABOVE CEILING IN NEW WALL AS INDICATED.
4. RECONNECT EXISTING WASTE BFF WITH EXISTING VTR ABOVE CEILING.
5. EXTEND EXISTING WASTE AS REQUIRED TO WCO IN NEW WALL.
6. REWORK EXISTING WASTE, VENT, AND DOMESTIC WATER AS REQUIRED AND RECONNECT TO CLASSROOM SINK.
7. EXISTING TO REMAIN. NO WORK.
8. RECONNECT EXISTING DOMESTIC WATER IN WALL AS INDICATED.

FIRE RATINGS LEGEND

- 1 HOUR FIRE-RATED WALL
- 2 HOUR FIRE-RATED WALL
- 4 HOUR FIRE-RATED WALL



KEY PLAN



1 P4.3 ENLARGED SCIENCE WING

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

Plan North North

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762.0892 s2a3.com

CLH DESIGN, P.A.
409 Regency Forest Drive
Suite 201
Cary, North Carolina 27518
Phone: (919)319-8715
Fax: (919)319-7316
LA: C-705
PE: C-1595

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073
JOB # 18050

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street
Suite 201
Wilmington, NC 28401
Phone: 910.343.8007
Fax: 910.343.8088
www.woodseng.com

NORTH CAROLINA PROFESSIONAL SEAL 043164 ENGINEER CASEY D. GLENN 3/27/19

NHCS Emma B. Trask Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

ENLARGED SCIENCE WING PLANS

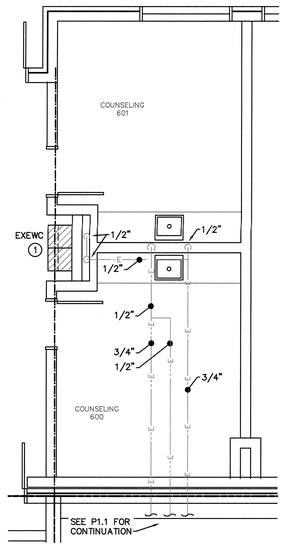
P4.3

13 OF 15

© 2019 Sawyer Sherwood & Associate- All Rights Reserved

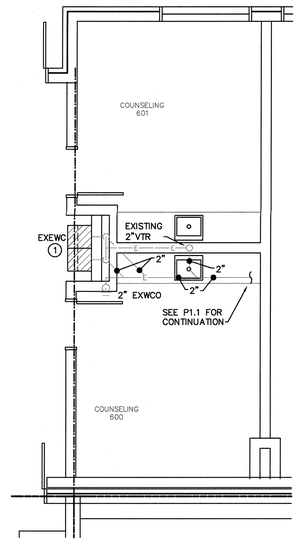
KEYED NOTES: (THIS SHEET ONLY)

1. RECONNECT EXISTING ELECTRIC WATER COOLER TO EXISTING ROUGH-INS PER EWC-2 DETAIL ON P0.1. REWORK EXISTING ROUGH-INS AS REQUIRED. REMOVE AND REPLACE EXISTING CARRIER, AS REQUIRED, PER EWC-2 SPECIFICATIONS.
2. REDUCE EXISTING 4" WASTE BRANCH DOWN TO 2". EXTEND 2" WASTE UP IN NEW WALL TO L-3.
3. CONNECT EWC-2 TO EXISTING ROUGH-INS PER EWC-2 DETAIL ON P0.1. REWORK EXISTING ROUGH-INS AS REQUIRED. PROVIDE MANUFACTURERS CANE TOUCH APRON FOR EACH WATER COOLERS IN THIS LOCATION.
4. REUSE EXISTING TRENCH FOR NEW WASTE BRANCH. INSTALL NEW 4" SANITARY TEE AT MAIN AND EXTEND WASTE AS INDICATED.



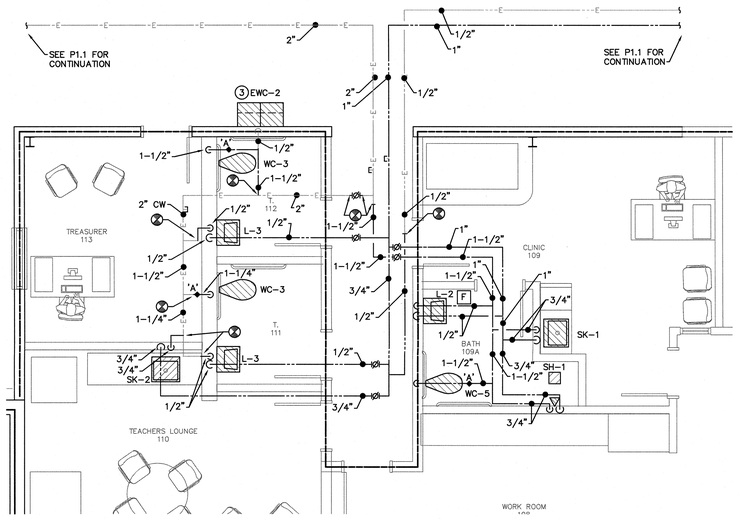
2 P4.4 ENLARGED COUNSELING DOMESTIC WATER
SCALE: 1/4" = 1'-0"

Plan North North



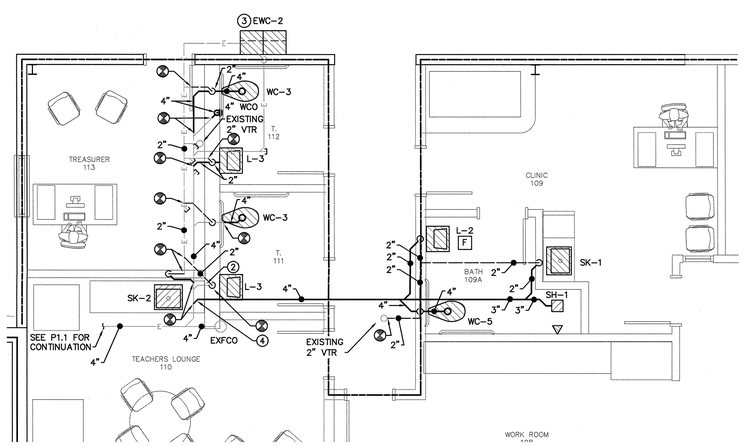
1 P4.4 ENLARGED COUNSELING WASTE & VENT
SCALE: 1/4" = 1'-0"

Plan North North



4 P4.4 ENLARGED ADMINISTRATION DOMESTIC WATER
SCALE: 1/4" = 1'-0"

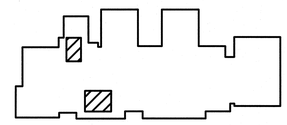
Plan North North



3 P4.4 ENLARGED ADMINISTRATION WASTE & VENT
SCALE: 1/4" = 1'-0"

Plan North North

FIRE RATINGS LEGEND
1 HOUR FIRE-RATED WALL
2 HOUR FIRE-RATED WALL
4 HOUR FIRE-RATED WALL



KEY PLAN

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762.0892 s2a3.com

CLH DESIGN, P.A.
409 Regency Forest Drive
Suite 101
Cary, North Carolina 27518
Phone: (919) 518-5916
Fax: (919) 518-7316
LA: C-1126
PE: C-1585

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL SEAL 043164 ENGINEER CASEY D. GILLMAN
3/27/19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

ENLARGED MISCELLANEOUS PLANS

P4.4

© 2019 Sawyer Sherwood & Associate- All Rights Reserved

1. ALL WORK ON THIS SHEET SHALL BE PRICED AS ADD ALTERNATE WITH THE EXCEPTION OF ROOF HYDRANT WORK.
2. FIXTURE RELOCATION SUGGESTIONS FOR PD4.5 AND P4.5 REFERENCE ONLY.

KEYED NOTES: (THIS SHEET ONLY)

(1) CONNECT NEW ELECTRIC WATER COOLER TO EXISTING ROUGH-INS PER EWC-2 DETAIL ON P0.1. REWORK EXISTING WASTE, VENT, AND DOMESTIC WATER AS REQUIRED. PROVIDE MANUFACTURERS CANE TOUCH APRON FOR EACH WATER COOLER.

(2) CONNECT WATER HEATER TO EXISTING DOMESTIC WATER, WASTE, AND VENT PER WH-1 DETAIL ON P0.1.

(3) REMOVE AND REPLACE EXISTING FLOOR DRAIN GRATE. GRATE SHALL BE INSTALLED FLUSH WITH FINISHED FLOOR AND BE NICKEL BRONZE, HEEL PROOF, WITH VANDAL RESISTANT SECURING SCREWS. FIELD VERIFY EXACT DIMENSIONS OF EACH GRATE. NOTE: SIZE VARIES.

(4) CONNECT URINAL TO EXISTING WASTE AND VENT WITHIN WALL CHASE PER DETAIL U-1 ON P0.1. REWORK AS REQUIRED. EXISTING CAPPED DOMESTIC WATER BRANCH IN CHASE TO REMAIN.

(5) CONNECT URINAL TO EXISTING WASTE AND VENT WITHIN WALL CHASE PER DETAIL U-2 ON P0.1. REWORK AS REQUIRED. EXISTING CAPPED DOMESTIC WATER BRANCH IN CHASE TO REMAIN.

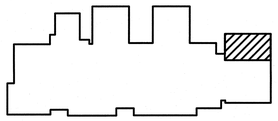
(6) ROOF HYDRANT WORK SHALL BE INCLUDED IN BASE BID. 1/2" CW AND 1/8" ROOF HYDRANT DRAIN UP, SEE P1.2 FOR CONTINUATION. SLOPE ROOF HYDRANT DRAIN PIPING TO DRAIN BY GRAVITY. SEE P1.1 FOR BASE BID ROUTING.

(7) PROVIDE ACCESS PANEL FOR SHOCK ARRESTOR AS SPECIFIED.

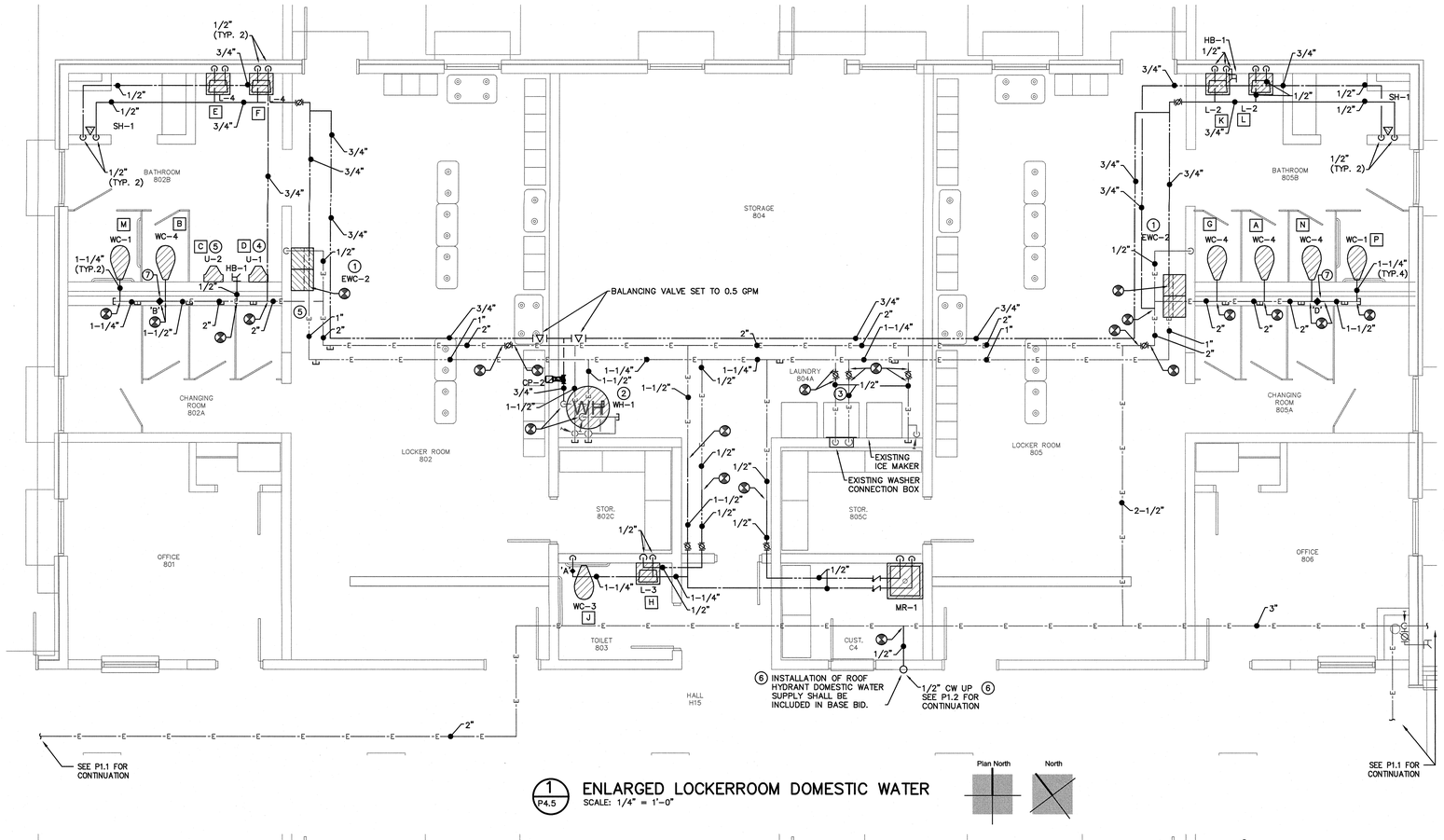
(8) INSTALL NEW RDL SIZED TO MATCH EXISTING IN WALL. CONNECT TO EXISTING ROOF DRAIN LEADER BELOW GRADE AND ABOVE CEILING AS INDICATED.

FIRE RATINGS LEGEND

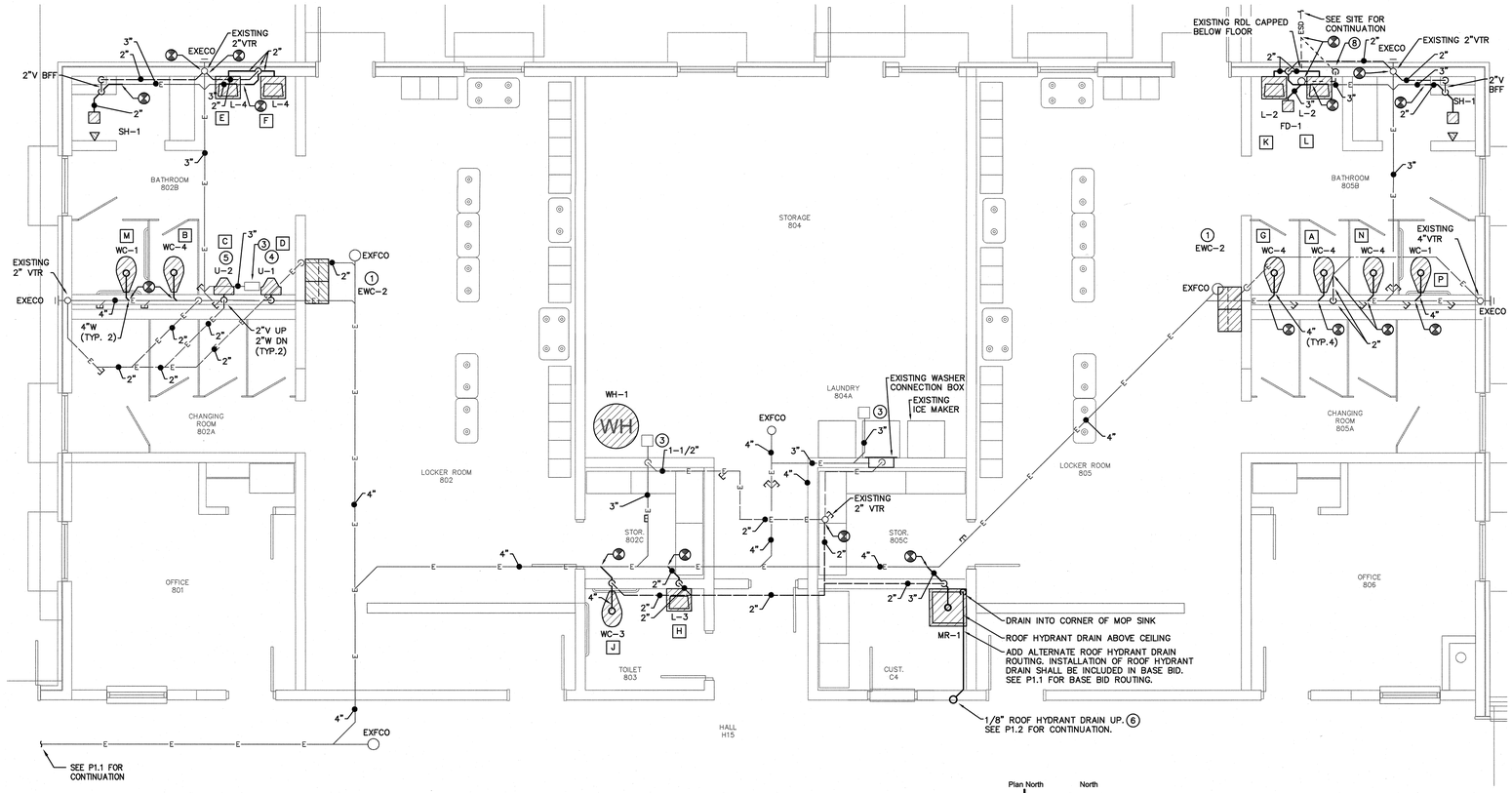
- 1 HOUR FIRE-RATED WALL
- 2 HOUR FIRE-RATED WALL
- 4 HOUR FIRE-RATED WALL



KEY PLAN



1 / P4.5 ENLARGED LOCKERROOM DOMESTIC WATER
SCALE: 1/4" = 1'-0"



2 / P4.5 ENLARGED LOCKERROOM WASTE & VENT
SCALE: 1/4" = 1'-0"

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
459 Regency Forest Drive Suite 109
Cary, North Carolina 27518
Phone: (919) 319-1845
Fax: (919) 319-5745
LA: C-1058
PE: D-0366

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073
JOB # 18050

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street, Suite 201, Wilmington, NC 28401
Phone: 910.343.8007 Fax: 910.343.8088 www.woodseng.com

NORTH CAROLINA PROFESSIONAL SEAL 043164 ENGINEER CASEY D. GILMAN
3/27/19

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

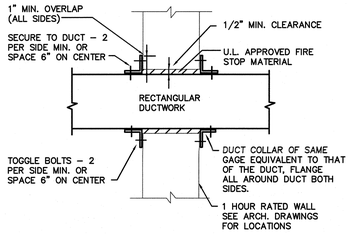
Revisions:

ENLARGED LOCKER ROOM PLANS

P4.5

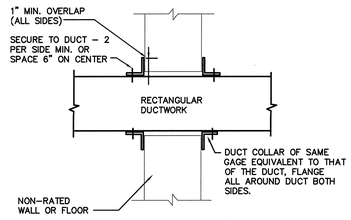
15 OF 15

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



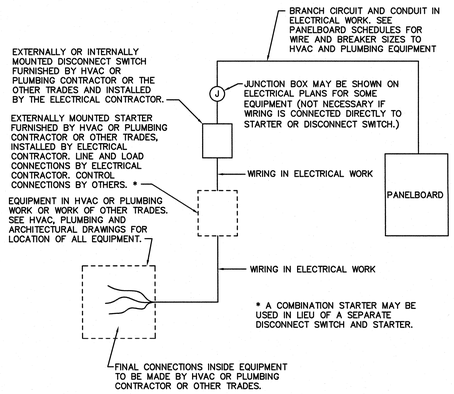
NOTE: DETAIL ONLY FOR THOSE DUCTS 100 SQ. INCHES AND LESS PENETRATING ONE HOUR WALLS THAT ARE NOT INDICATED TO HAVE FIRE DAMPERS.

A M0.1 **1 HOUR WALL PENETRATION**
NO SCALE

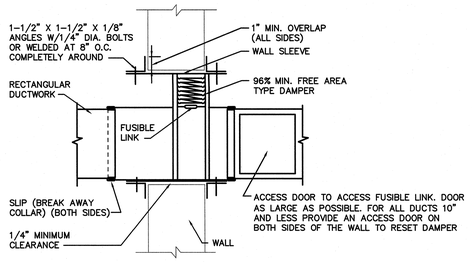


NON-RATED WALLS

B M0.1 **WALL PENETRATION DETAIL**
NO SCALE



C M0.1 **ELECTRICAL CONNECTION TO MECHANICAL EQUIPMENT**
NO SCALE



NOTE: DETAIL FOR REFERENCE ONLY. DAMPERS SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

D M0.1 **TYPICAL VERTICAL FIRE DAMPER DETAIL**
NO SCALE

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 DIAGRAMMATICALLY INDICATE THE GENERAL LOCATION OF DUCTS, PIPING AND EQUIPMENT AND DO NOT SHOW ALL SUPPORTS, 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. WHILE SOME OFFSETS MAY BE SHOWN ON THE DRAWINGS, THE DRAWINGS DO NOT SHOW ALL OFFSETS, SUPPORTS, ETC.
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 BAR JOIST BRIDGING OR ROOFDECK. EQUIPMENT SUPPORTED BY BAR JOISTS SHALL HAVE SUPPORTS ATTACHED AS CLOSE AS POSSIBLE TO BAR JOIST PANEL POINTS. HVAC CONTRACTOR SHALL SUPPLY ANY AND ALL STRUCTURAL MEMBERS NECESSARY TO SUPPORT WORK BETWEEN BAR JOISTS, BEAMS, ETC.
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. HVAC CONTRACTOR/ CONTROLS CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR PROVISIONS OF POWER TO DDC CONTROL SYSTEM CONTROL PANELS, CONTROLLERS, ETC.. NOT SHOWN ON M OR E DRAWINGS. INTENT OF DOCUMENTS IS FOR NEW CONTROLLERS, ETC. TO BE POWERED FROM EXISTING CIRCUITS POWERING EXISTING CONTROLLERS, ETC.. POWER WIRING FROM THOSE POINTS TO EQUIPMENT SHALL BE BY THE HVAC CONTRACTOR/CONTROL CONTRACTOR.
7. ALL PENETRATIONS THROUGH RATED AND NONRATED WALLS SHALL BE PER PENETRATION DETAILS SHOWN ON SHEET M0.1.
8. ALL NEW THERMOSTATS AND SWITCHES FOR MECHANICAL SYSTEMS SHALL BE MOUNTED 44" AFF.
9. COORDINATE MECHANICAL DUCTWORK AND PIPING TO AVOID ELECTRICAL PANELS. COORDINATE WITH ELECTRICAL CONTRACTOR.
10. ACCESS DOORS ARE SHOWN IN GENERAL LOCATIONS. DOOR LOCATIONS NEED TO BE INSTALLED BEFORE AND AFTER EACH CHANGE IN DIRECTION AT A MAXIMUM 50'-0" SPACING. FIELD VERIFY EXACT LOCATIONS TO BE FULLY ACCESSIBLE.
11. WHERE DUCTWORK CONFIGURATION CAUSES OBSTRUCTIONS FOR SUPPORT PROVISIONS OF OTHER SYSTEMS INSTALLED UNDER DUCTWORK, AS PART OF CONSTRUCTION COORDINATION AMONG CONTRACTORS, MAKE PROVISIONS FOR OTHER CONTRACTORS TO UTILIZE DUCTWORK SUPPORT COMPONENTS. WHERE THIS IS NECESSARY, COORDINATE ADDITIONAL LOADING INTRODUCED BY OTHER SYSTEMS TO INSURE SUPPORT COMPONENTS ARE SUITABLY RATED FOR ALL LOADS TO BE SUPPORTED.
12. DUCT CLEANING IS A PART OF BASE BID, SEE SPECIFICATIONS FOR REQUIREMENTS.
13. EXHAUST FAN NUMBERS HAVE BEEN CHANGED FROM ORIGINAL DRAWINGS. CONTROL SEQUENCES WILL BE CHANGED TO MATCH NEW FAN SCHEDULE.

LEGEND

	REMOVE EXISTING DUCTWORK
	REMOVE EXISTING PIPING, LINE SYMBOL INDICATES SERVICE
	EXISTING DUCTWORK TO REMAIN
	DOUBLE WALL SPIRAL DUCTWORK
	RECTANGULAR DUCTWORK
	SUPPLY AIR DUCTWORK TURNED DOWN
	SUPPLY AIR DUCTWORK TURNED UP
	RETURN AIR/EXHAUST AIR TURNED DOWN
	RETURN AIR/EXHAUST AIR TURNED UP
	BRANCH TAKEOFF WITH TURNING VANES, SPLITTER DAMPER AND LOCKING QUADRANT
	DUCT TEE WITH TURNING VANES, SPLITTER DAMPER AND LOCKING QUADRANT
	DUCT WITH RUNOUT (SPIN-IN TAKE OFF WITH DAMPER)
	CEILING RETURN AIR/ EXHAUST AIR REGISTER
	CEILING SUPPLY AIR DIFFUSER
C	AIR CONDITIONING CONDENSATE PIPING
R	REFRIGERANT PIPING
	PUMPED CONDENSATE PIPING
A	REGISTER, GRILLE OR DIFFUSER SYMBOL
	DISCONNECT SWITCH
1	KEYED NOTE SYMBOL
S	SMOKE DETECTOR WITH DUCT ACCESS DOOR, ACCESS DOOR BY THE MECH. CONTR., DETECTOR FURNISHED BY THE ELECT. CONTR. AND INSTALLED BY THE MECH. CONTR. PROVIDE CEILING ACCESS DOOR (16"X16" MIN.) WHERE NECESSARY.
F/D	EXISTING FIRE DAMPER (1-1/2 HOUR RATED) MOUNTED IN WALL.
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
AD	ACCESS DOOR
RD	ROOF DRAIN – VERIFY EXACT LOACATION
	TERMINATION POINT OF DEMOLITION
	POINT OF NEW CONNECTION TO EXISTING
	1 HOUR WALL DESIGNATION
	2 HOUR WALL DESIGNATION
	4 HOUR WALL DESIGNATION

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, C405.5, 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: 28°F
summer dry bulb: 92°F DB/76°F WB

INTERIOR DESIGN CONDITIONS
winter dry bulb: 70°F
summer dry bulb: 75°F
relative humidity: 50%

BUILDING HEATING LOAD: BLOCK LOAD = 2717.3 MBH

BUILDING COOLING LOAD: BLOCK LOAD = 274.7 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 M3.0

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 M3.0

EQUIPMENT SCHEDULES WITH MOTORS (MECHANICAL SYSTEMS)
motor horsepower:
number of phases:
minimum efficiency:
motor type:
# of poles:
} SEE SCHEDULES ON SHEET M3.0

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, PE
TITLE: Professional Engineer

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St. Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
409 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-5115
Fax: (919) 319-7310
LA: C-1058
PE: C-1195

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073
JOB # 18050

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL SEAL 17656 ENGINEER KENNETH LYNCH

NHCS Emma B. Trask Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

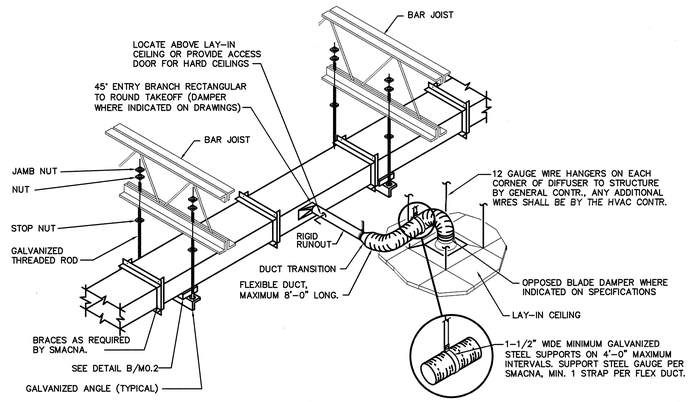
NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

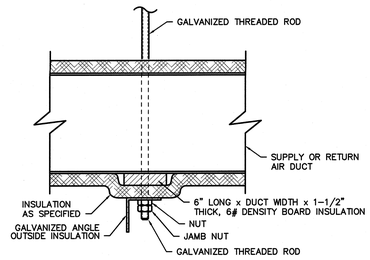
MECHANICAL LEGEND, GENERAL NOTES, SCHEDULES AND DETAILS

M0.1

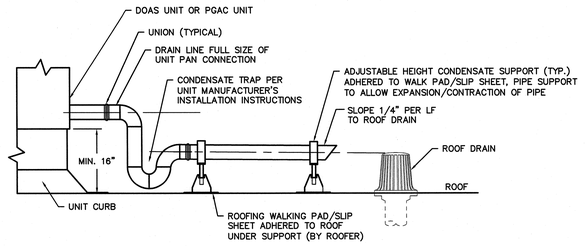
© 2019 Sawyer Sherwood & Associate- All Rights Reserved



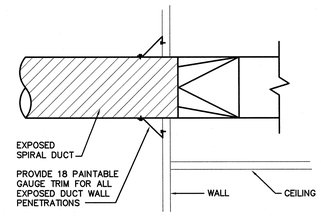
A M0.2 TYPICAL SUPPLY DUCT DETAIL
SCALE: NONE



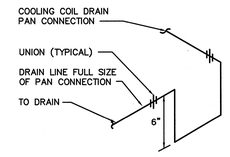
B M0.2 TYPICAL DUCT HANGER DETAIL
SCALE: NONE



C M0.2 CONDENSATE PIPE SUPPORT DETAIL
SCALE: NONE



D M0.2 ROUND DUCT COLLAR DETAIL
NO SCALE



E M0.2 CONDENSATE TRAP DETAIL
NO SCALE

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
402 Regency Forest Drive
Suite 105
Cary, North Carolina 27519
Phone: (919) 319-5716
Fax: (919) 319-7518
LA: C-592
PE: C-1585

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL SEAL 17855 ENGINEER KENNETH LYNCH

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

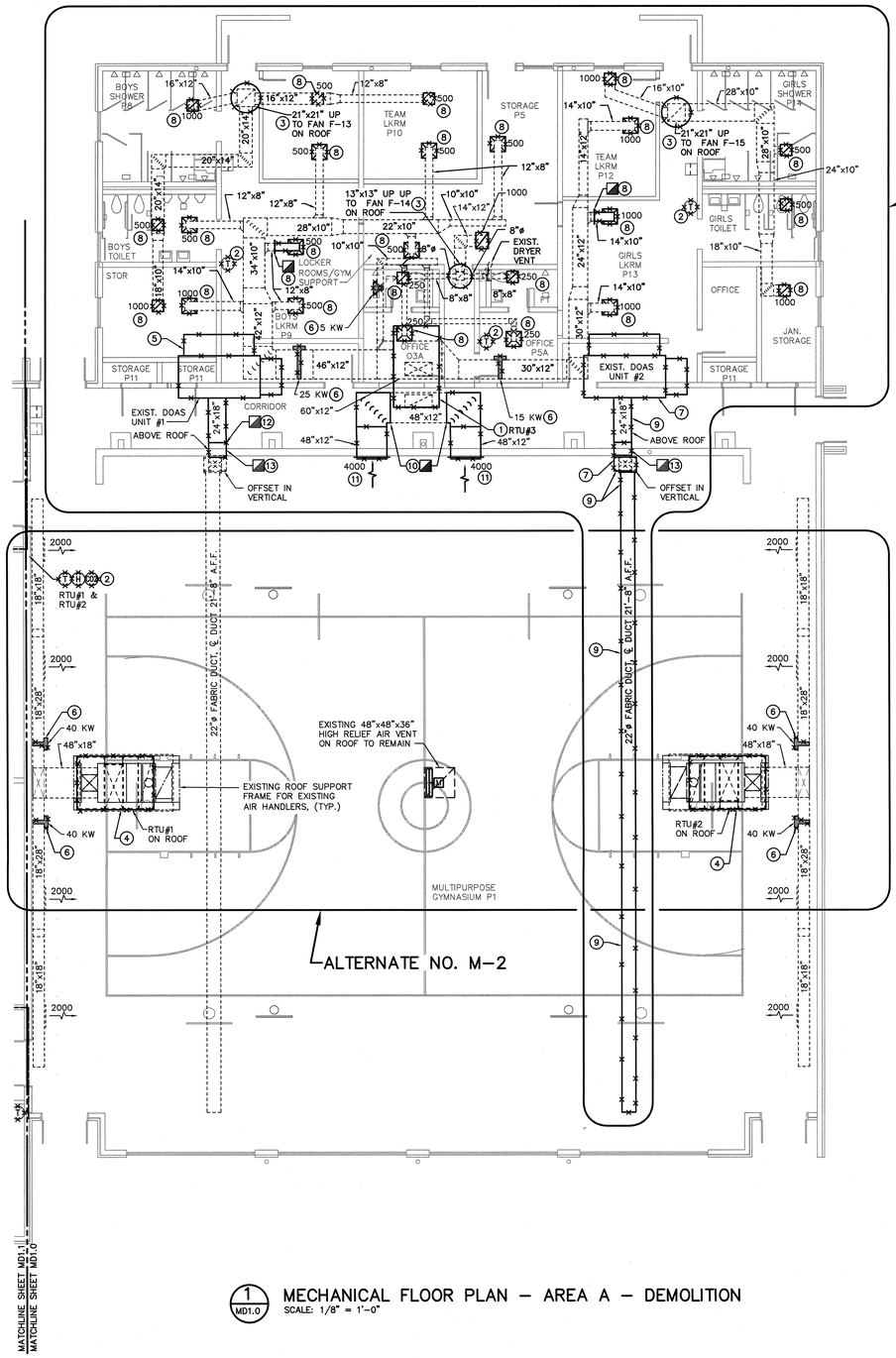
NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

MECHANICAL DETAILS

M0.2

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



ALTERNATE NO. G-2

ALTERNATE NO. M-2

1 MD1.0 MECHANICAL FLOOR PLAN – AREA A – DEMOLITION
SCALE: 1/8" = 1'-0"

KEYED NOTES:

1. ALTERNATE NO. G-2, REMOVE EXISTING ROOFTOP UNIT AND ROOF CURB. REPLACE WITH NEW DEDICATED OUTSIDE AIR UNIT AND ROOF CURB. REMOVE ANY EXISTING DUCTBOARD DUCTWORK. REPLACE WITH EXTERNALLY INSULATED SHEET-METAL DUCTWORK AS SPECIFIED. SEE M1.01 FOR NEW WORK.
2. ALTERNATE NO. M-2 AND G-2, REMOVE EXISTING THERMOSTAT, FIELD VERIFY EXACT LOCATION. SEE M1.0 FOR NEW WORK. PROVIDE BLANK COVER WHERE NOT REUSED.
3. ALTERNATE NO. G-2, REMOVE EXISTING EXHAUST FAN AND ROOF CURB. REPLACE WITH NEW FAN AND ROOF CURB.
4. ALTERNATE NO. M-2, REMOVE EXISTING ROOFTOP UNIT AND ROOF CURB. REPLACE WITH NEW PACKAGED GAS HEATING/ELECTRIC A/C UNIT AND ROOF CURB. REMOVE ANY EXISTING DUCTBOARD DUCTWORK. REPLACE WITH EXTERNALLY INSULATED SHEET-METAL DUCTWORK AS SPECIFIED. SEE M1.0 FOR NEW WORK.
5. ALTERNATE NO. G-2, REMOVE EXISTING ROOFTOP DOAS UNIT AND ROOF CURB. REPLACE WITH NEW ROOFTOP DOAS UNIT AND ROOF CURB. NEW CURB TO FIT NEW EQUIPMENT. FIELD VERIFY AND COORDINATE. SEE M1.0 FOR NEW WORK.
6. ALTERNATE NO. M-2 AND G-2, DEMOLITION EXISTING DUCT MOUNTED ELECTRIC DUCT HEATER, THERMOSTAT AND ALL ACCESSORIES. ADD DUCT ACCESS DOOR MIN. 16"x16" OR 2" SMALLER THAN DUCT WIDTH x 16" LONG AT OLD HEATER LOCATION. FIELD VERIFY EXACT SIZE AND LOCATION. PATCH DUCTWORK AIRTIGHT AND INSULATE AS SPECIFIED.
7. ALTERNATE NO. G-2, REMOVE DOAS UNIT, ROOF CURB, ELECTRICAL, AND ALL ACCESSORIES, DUCTWORK ASSOCIATED WITH UNIT. ROOFER TO REMOVE ROOF CURB AND GENERAL CONTRACTOR TO REPAIR ROOF TO ACCEPT NEW. GENERAL CONTRACTOR TO REPAIR EXISTING WALL PENETRATION AT DUCTWORK REMOVAL TO MATCH EXISTING.
8. ALTERNATE NO. G-2, REMOVE EXISTING LAY-IN CEILING DIFFUSER/REGISTER AND RUNOUT AS SHOWN.
9. ALTERNATE NO. M-2, REMOVE DUCTWORK, FABRIC DUCTWORK HANGERS AND ALL ACCESSORIES.
10. ALTERNATE NO. G-2, REMOVE RETURN AIR DUCTWORK FROM GYMNASIUM TO POINT INDICATED. SEE M1.0 FOR NEW WORK.
11. ALTERNATE NO. G-2, REMOVE SIDEWALL RETURN AIR GRILLE. GENERAL CONTRACTOR TO PATCH EXISTING WALL TO MATCH EXISTING. SEE ARCHITECTURAL DRAWINGS FOR INFORMATION.
12. ALTERNATE NO. G-2, REMOVE DUCTWORK TO POINT INDICATED.
13. BASE BID – REMOVE AND REINSTALL DUCTWORK WHERE WINDOW OPENINGS ARE BEING REPLACED. SEE ARCHITECTURAL DRAWINGS FOR INFORMATION.

FIRE RATINGS LEGEND
1 HOUR FIRE-RATED WALL
2 HOUR FIRE-RATED WALL
4 HOUR FIRE-RATED WALL

D C B A

KEY PLAN

Plan North North

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 120
Cary, North Carolina 27519
Phone: (919) 319-0718
Fax: (919) 319-7518
LA: C-592
PE: C-1995

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073
JOB # 18050

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL SEAL 17655 ENGINEER KENNETH LYNCH

NHCS
Emma B. Trask Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

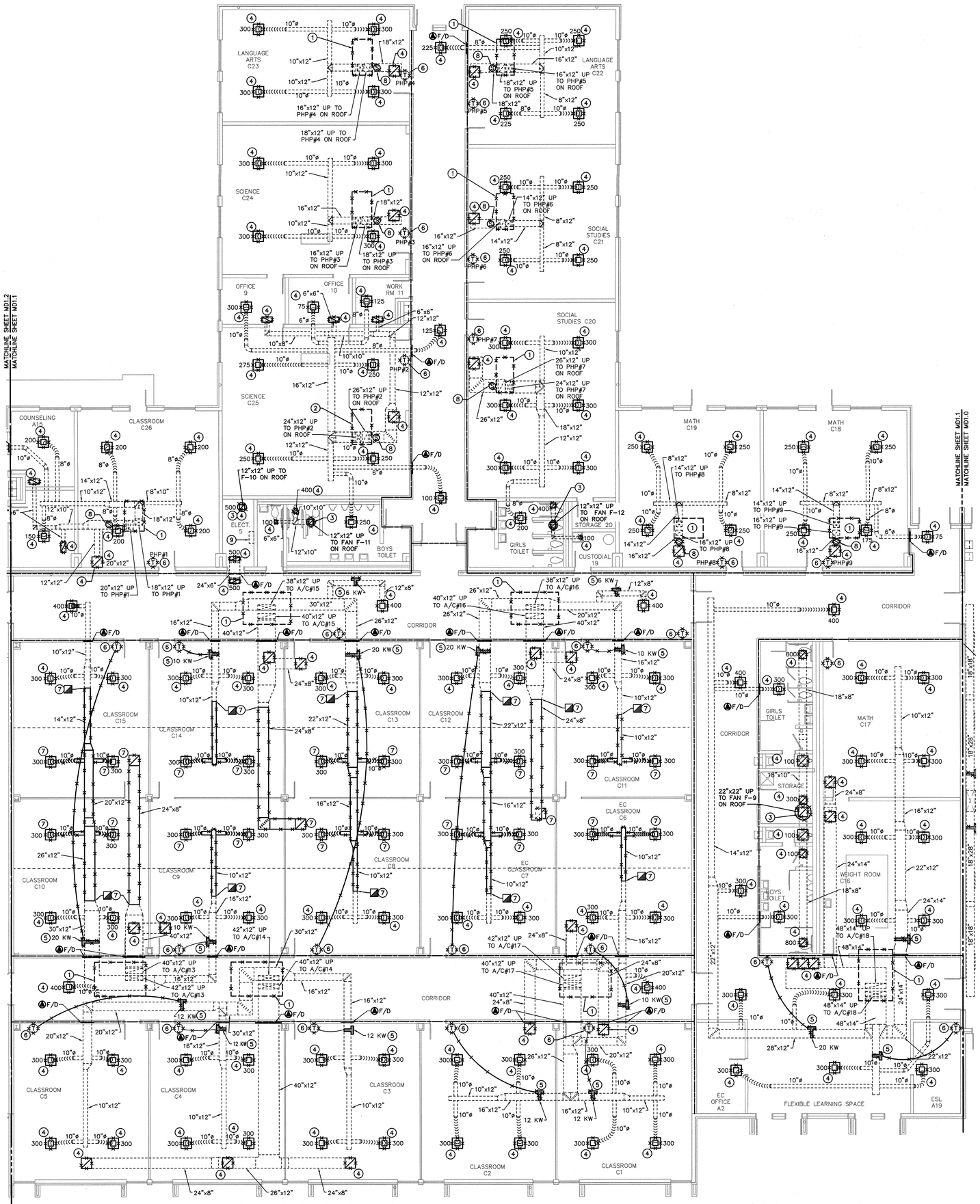
NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

MECHANICAL FLOOR PLAN - AREA A - DEMOLITION

MD1.0

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



1 MD1.1 MECHANICAL FLOOR PLAN – AREA B – DEMOLITION
SCALE: 1/8" = 1'-0"

KEYED NOTES: (THIS SHEET ONLY)

1. REMOVE EXISTING ROOFTOP UNIT AND ROOF CURB. REPLACE WITH NEW PACKAGED GAS HEATING/ELECTRIC A/C UNIT AND ROOF CURB. REMOVE ANY EXISTING DUCTBOARD DUCTWORK. REPLACE WITH EXTERNALLY INSULATED SHEET–METAL DUCTWORK AS SPECIFIED.
2. REMOVE EXISTING ROOFTOP UNIT AND DELIVER TO NHCS AT 2814 CAROLINA BEACH ROAD. DEMOLITION EXISTING ROOF CURB. REPLACE WITH NEW PACKAGED GAS HEATING/ELECTRIC AIR CONDITIONING UNIT ON NEW ROOF CURB. REMOVE ANY EXISTING DUCTBOARD DUCTWORK. REPLACE WITH EXTERNALLY INSULATED SHEET–METAL DUCTWORK AS SPECIFIED.
3. REMOVE EXISTING EXHAUST FAN AND ROOF CURB. REPLACE WITH NEW FAN AND ROOF CURB.
4. REMOVE EXISTING LAY–IN CEILING S.A REGISTER, OR R.A. REGISTER.
5. DEMOLITION EXISTING DUCT MOUNTED ELECTRIC DUCT HEATER, THERMOSTAT AND ALL ACCESSORIES. PROVIDE DUCT ACCESS DOOR MIN. 16"x16" OR 2" SMALLER THAN DUCT WIDTH x 16" LONG AT OLD HEATER LOCATION. FIELD VERIFY EXACT SIZE AND LOCATION. PATCH DUCTWORK AIRTIGHT AND INSULATE DUCT PATCHES AS SPECIFIED.
6. REMOVE EXISTING THERMOSTAT. FIELD VERIFY EXACT LOCATION. SEE M1.1 FOR NEW WORK. GENERAL CONTRACTOR TO PATCH WALL WHERE NOT BEING REUSED, OR PROVIDE BLANK COVER.
7. REMOVE DUCTWORK, GRILLES, DIFFUSERS AIN AREA WHERE CLEARSTORY WILL BE INSTALLED. SEE 1/M1.1 FOR NEW WORK.
8. REMOVE EXISTING DUCT SMOKE DETECTOR. REPAIR DUCTWORK AND INSULATE AS SPECIFIED.
9. EXISTING JCI NAE BUILDING CONTROLLER TO REMAIN AND BE REUSED.

FIRE RATINGS LEGEND
- 1 HOUR FIRE–RATED WALL
- 2 HOUR FIRE–RATED WALL
- 4 HOUR FIRE–RATED WALL

D C B A

KEY PLAN
Plan North North

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 105
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7518
LA: C-1010
PE: C-1395

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17855 KENNETH LYNCH

NHCS
Emma B. Trask Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

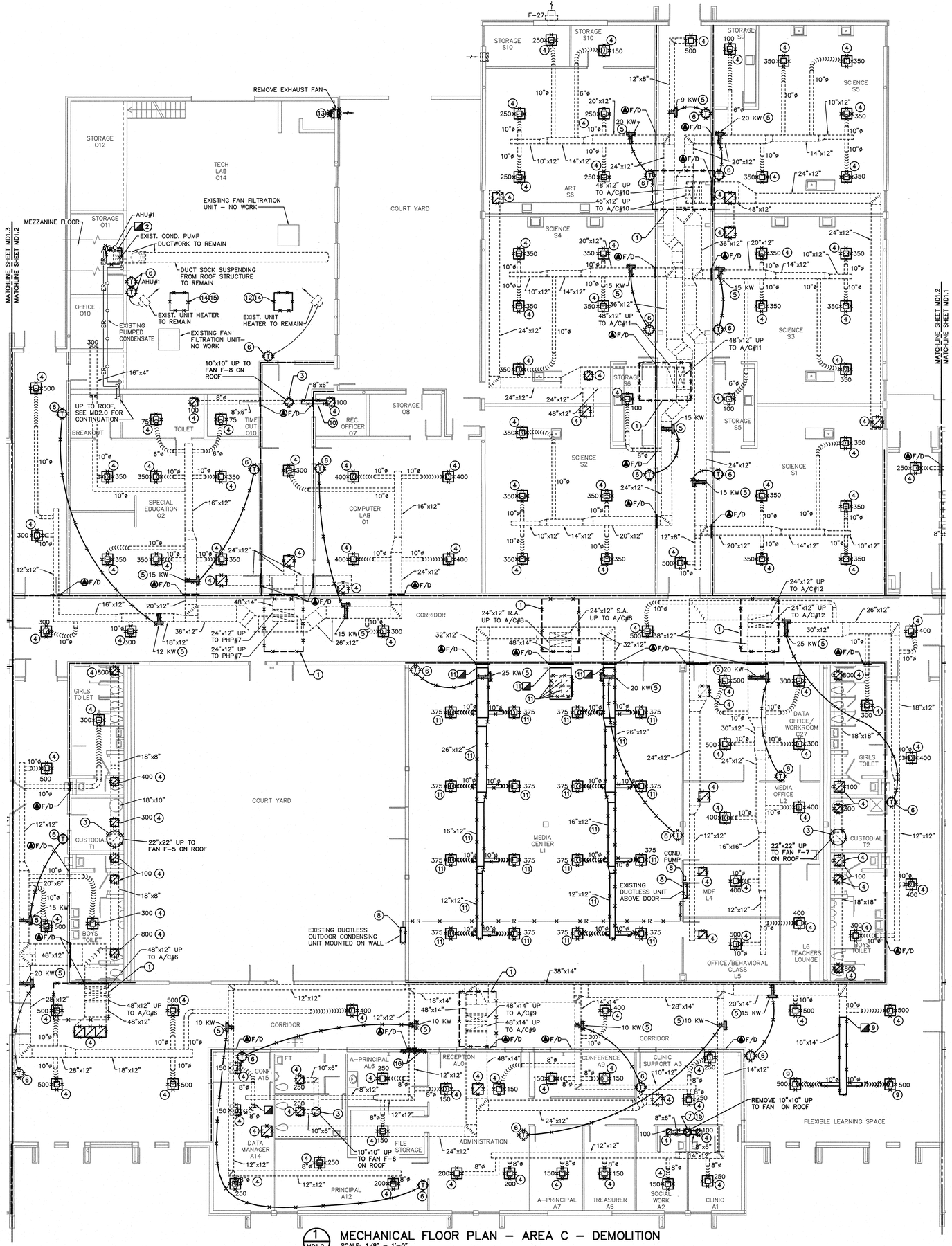
NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

MECHANICAL FLOOR PLAN - AREA B - DEMOLITION

MD1.1

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



1 MD1.2 MECHANICAL FLOOR PLAN – AREA C – DEMOLITION
SCALE: 1/8" = 1'-0"

KEYED NOTES: (THIS SHEET ONLY)

1. REMOVE EXISTING ROOFTOP UNIT AND ROOF CURB. REPLACE WITH NEW PACKAGED GAS HEATING/ELECTRIC A/C UNIT AND ROOF CURB. REMOVE ANY EXISTING DUCTBOARD DUCTWORK. REPLACE WITH EXTERNALLY INSULATED SHEET-METAL DUCTWORK AS SPECIFIED.
2. REMOVE AND REPLACE EXISTING AHU#1 ON MEZZANINE, SUPPLY AIR DUCTWORK TO REMAIN. REUSE REFRIGERANT PIPING.
3. REMOVE EXISTING EXHAUST FAN AND ROOF CURB. REPLACE WITH NEW FAN AND ROOF CURB.
4. REMOVE EXISTING LAY-IN CEILING S.A REGISTER, AND R.A. REGISTER.
5. DEMOLITION EXISTING DUCT MOUNTED ELECTRIC DUCT HEATER, THERMOSTAT AND ALL ACCESSORIES. ADD DUCT ACCESS DOOR MIN. 16"X16" OR 2" SMALLER THAN DUCT WIDTH X 16" LONG AT OLD HEATER LOCATION. FIELD VERIFY EXACT SIZE AND LOCATION. PATCH DUCTWORK AIRTIGHT AND INSULATE DUCT PATCHES AS SPECIFIED.
6. REMOVE EXISTING THERMOSTAT. SEE M1.1 FOR NEW WORK.
7. REMOVE EXISTING EXHAUST FAN ON ROOF, DUCTWORK AND EXHAUST REGISTERS.
8. REMOVE EXISTING MINI SPLIT SYSTEM INDOOR AND OUTDOOR UNITS, REFRIGERANT LINE AND SAVE FOR FUTURE RELOCATION. SEE M1.2 FOR NEW LOCATION. CONDENSATE PUMP TO BE REMOVED AND NOT REUSED.
9. REMOVE DUCTWORK, GRILLES, DIFFUSERS IN AREA WHERE ROOF IS BEING RAISED. SEE 1/M1.2 FOR NEW WORK.
10. REMOVE EXHAUST RUNOUT AND CAP DUCT AIRTIGHT. REMOVE FIRE DAMPER AND GENERAL CONTRACTOR TO PATCH CORRIDOR WALL.
11. REMOVE DUCTWORK, GRILLES, DIFFUSERS IN AREA WHERE CEILING IS BEING REMOVED.
12. REMOVE CURB COMPLETE, ROOFER TO COVER OPENING.
13. REMOVE EXISTING SIDEWALL EXHAUST FAN. GENERAL CONTRACTOR TO FILL IN EXTERIOR WALL, SEE ARCHITECTURAL DRAWINGS. REMOVE ALL ELECTRICAL AND CONTROL WIRING BACK TO SOURCE.
14. REMOVE EXISTING EXHAUST FAN ON ROOF AND MOTORIZED DAMPER. REMOVE ALL ELECTRICAL AND CONTROL WIRING BACK TO SOURCE.
15. REMOVE CURB AND REUSE OPENING. SEE M1.2 FOR NEW CURB AND NEW WORK.
16. REMOVE EXISTING HVAC CONTROL PANELS. GENERAL CONTRACTOR TO PATCH AND PAINT WALL TO MATCH ADJACENT.

FIRE RATINGS LEGEND

- 1 HOUR FIRE-RATED WALL
- 2 HOUR FIRE-RATED WALL
- 4 HOUR FIRE-RATED WALL

D C B A

KEY PLAN

Plan North | North

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St. Wilmington, NC 28401
910.762.0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 420
Cary, North Carolina 27518
Phone: (919)319-9766
Fax: (919)319-7706
LA: C-705
PE: D-1985

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street
Suite 201
Wilmington, NC 28401
Phone: 910.343.8007
Fax: 910.343.8088
www.woodseng.com

NORTH CAROLINA PROFESSIONAL SEAL 17665 ENGINEER KENNETH LYNCH

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

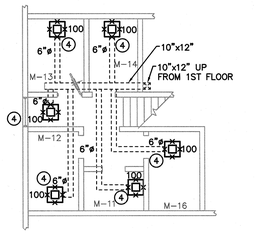
NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

MECHANICAL FLOOR PLAN - AREA C - DEMOLITION

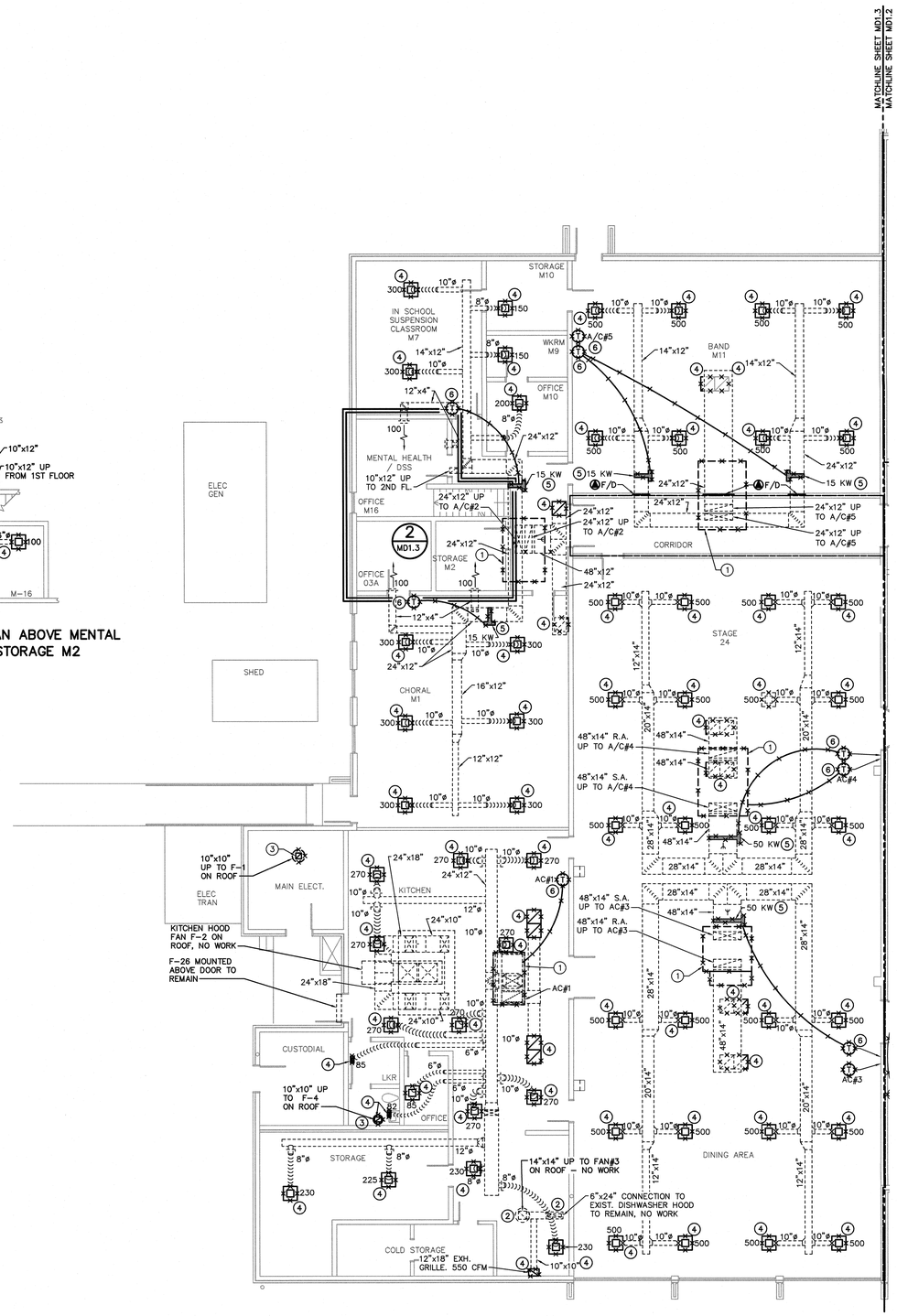
MD1.2

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



ELEC GEN

2 MD1.3 **SECOND FLOOR PLAN ABOVE MENTAL HEALTH/DSS AND STORAGE M2**
SCALE: 1/8"=1'-0"



1 MD1.3 **MECHANICAL FLOOR PLAN – AREA D – DEMOLITION**
SCALE: 1/8" = 1'-0"

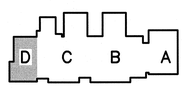
KEYED NOTES: (THIS SHEET ONLY)

1. REMOVE EXISTING ROOFTOP UNIT AND ROOF CURB. REPLACE WITH NEW PACKAGED GAS HEATING/ELECTRIC A/C UNIT AND ROOF CURB. REMOVE ANY EXISTING DUCTBOARD DUCTWORK. REPLACE WITH EXTERNALLY INSULATED SHEET-METAL DUCTWORK AS SPECIFIED.
2. EXISTING EXHAUST FAN TO REMAIN, NO WORK.
3. REMOVE EXISTING EXHAUST FAN AND ROOF CURB. REPLACE WITH NEW FAN AND ROOF CURB.
4. REMOVE EXISTING LAY-IN CEILING S.A REGISTER, AND R.A. REGISTER.
5. DEMOLITION EXISTING DUCT MOUNTED ELECTRIC DUCT HEATER, THERMOSTAT AND ALL ACCESSORIES. ADD DUCT ACCESS DOOR MIN. 16"X16" OR 2" SMALLER THAN DUCT WIDTH X 16" LONG AT OLD HEATER LOCATION. FIELD VERIFY EXACT SIZE AND LOCATION. PATCH DUCTWORK AIRTIGHT AND INSULATE DUCT PATCHES AS SPECIFIED.
6. REMOVE EXISTING THERMOSTAT, VERIFY EXACT LOCATION. SEE M1.1 FOR NEW WORK.

FIRE RATINGS LEGEND

- 1 HOUR FIRE-RATED WALL
- 2 HOUR FIRE-RATED WALL
- 4 HOUR FIRE-RATED WALL

KEY PLAN



SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
450 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919)319-5716
Fax: (919)319-7518
NC 2013
PE C-1585

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3410 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL SEAL 17655 ENGINEER KENNETH LYNCH

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

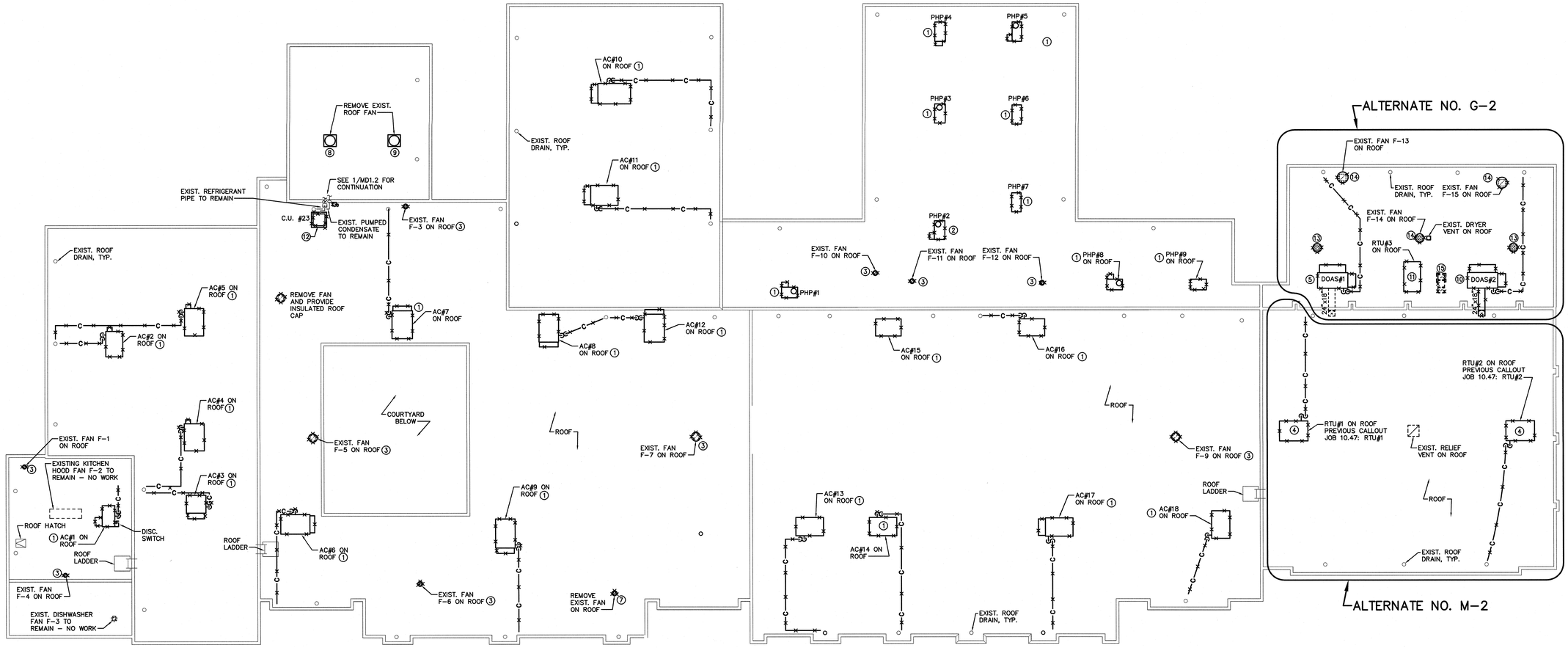
NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

MECHANICAL FLOOR PLAN - AREA D - DEMOLITION

MD1.3

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



1 MD2.0 MECHANICAL ROOF PLAN – DEMOLITION
SCALE: 1/16" = 1'-0"

GRAPHIC SCALE
16' 8' 0 16' 32'
SCALE: 1/16"=1'-0"

KEYED NOTES: (THIS SHEET ONLY)

1. REMOVE EXISTING ROOFTOP UNIT AND ROOF CURB. REPLACE WITH NEW PACKAGED GAS HEATING/ELECTRIC A/C UNIT AND ROOF CURB. REMOVE ANY EXISTING DUCTBOARD DUCTWORK. REPLACE WITH EXTERNALLY INSULATED SHEET-METAL DUCTWORK AS SPECIFIED. SEE M2.0 FOR NEW WORK.
2. CAREFULLY REMOVE EXISTING ROOF TOP UNIT AND DELIVER TO THE OWNER TO REUSED ELSEWHERE. COORDINATE WITH THE OWNER, EXACT LOCATION OF DELIVERY. REMOVE ANY EXISTING DUCTBOARD DUCTWORK. REPLACE EXTERNALLY INSULATED SHEET METAL DUCTWORK AS SPECIFIED. REMOVE NEW PACKAGED GAS HEATING/ELECTRIC/AC UNIT AND ROOF CURB. SEE M2.0 FOR NEW WORK.
3. REMOVE EXISTING EXHAUST FAN AND ROOF CURB. REPLACE WITH NEW FAN AND ROOF CURB.
4. UNDER ALTERNATE NO. M-2, REMOVE EXISTING ROOFTOP UNIT AND ROOF CURB. REPLACE WITH NEW PACKAGED GAS HEATING/ELECTRIC A/C UNIT AND ROOF CURB. SEE M2.0 FOR NEW WORK.
5. UNDER ALTERNATE NO. G-2, REMOVE EXISTING ROOFTOP DOAS UNIT AND ROOF CURB. REPLACE WITH NEW ROOFTOP DOAS UNIT AND ROOF CURB. SEE M2.0 FOR NEW WORK.
6. REMOVE ROOFTOP CONDENSING UNIT AND REPLACE AFTER REROOFING.
7. REMOVE EXISTING EXHAUST FAN, DUCTWORK AND ROOF CURB.
8. REUSE EXISTING ROOF CURB OPENING. PROVIDE NEW ROOF CURB, SEE M2.0 FOR NEW CURB AND LOUVERED PENTHOUSE.
9. REMOVE EXISTING ROOF CURB OPENING – NOT TO BE REUSED, ROOFER TO FILL OPENING AND ROOF OVERTOP.
10. UNDER ALTERNATE NO. G-2, REMOVE EXISTING ROOFTOP DOAS UNIT AND ROOF CURB AND NOT TO BE REUSED, ROOFER TO FILL OPENING AND ROOF OVERTOP.
11. UNDER ALTERNATE NO. G-2, REMOVE EXISTING ROOFTOP UNIT AND ROOF CURB. REPLACE WITH NEW DOAS UNIT AND ROOF CURB.
12. REMOVE CONDENSING UNIT AND CONCRETE PAD ON ROOF.
13. UNDER ALTERNATE NO. G-2, REMOVE GRAVITY VENT AND ROOF CURB COMPLETE.
14. UNDER ALTERNATE NO. G-2, REMOVE EXISTING EXHAUST FAN AND ROOF CURB. REPLACE WITH NEW FAN AND ROOF CURB.
15. REMOVE EXISTING DUCT, ROOF CURB COMPLETE.

Plan North North

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
405 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919)319-0718
Fax: (919)319-7516
NC: C-1583
PE: C-1583

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL SEAL 17855 ENGINEER KENNETH LYNCH

NHCS
Emma B. Trask Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

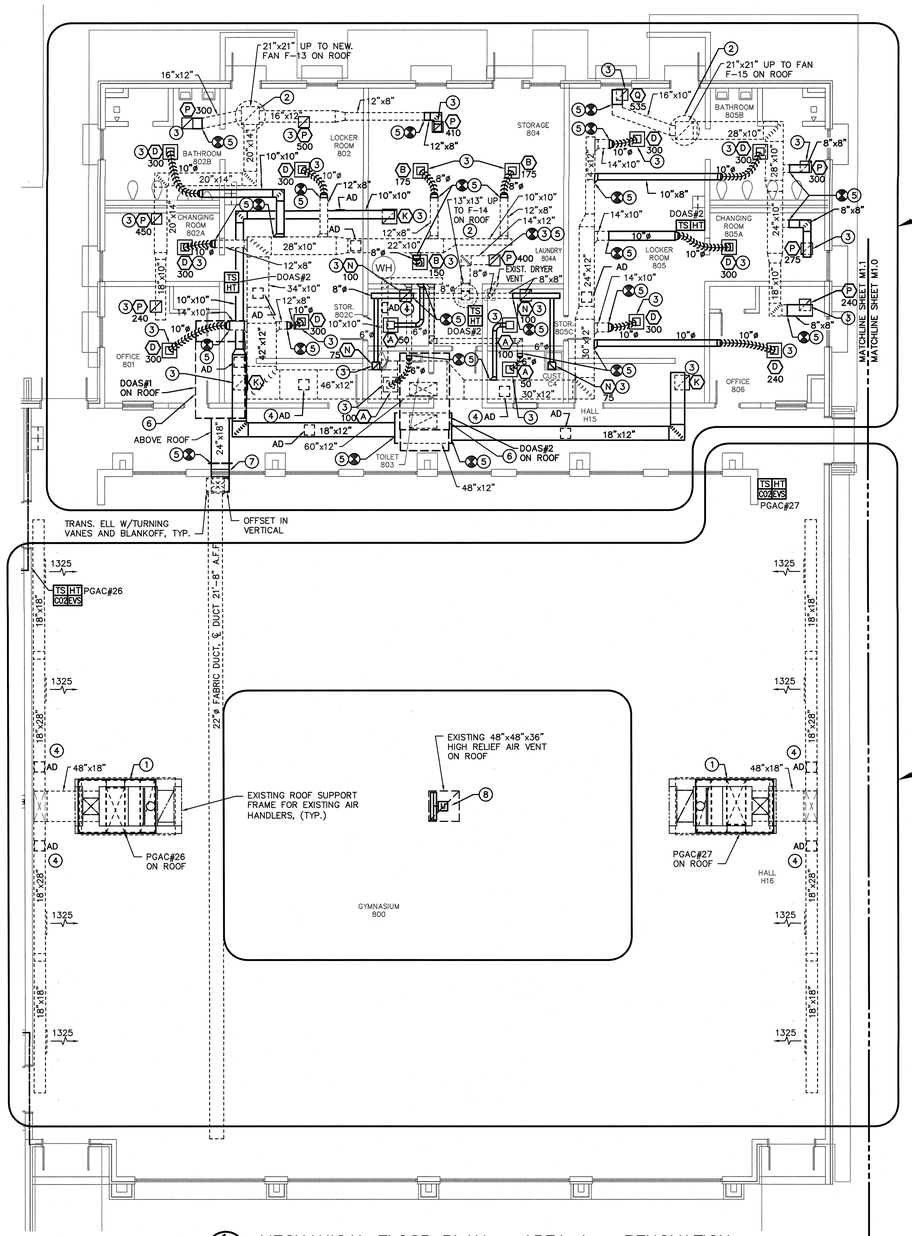
NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

MECHANICAL ROOF PLAN DEMOLITION

MD2.0

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



1 M1.0 MECHANICAL FLOOR PLAN – AREA A – RENOVATION
SCALE: 1/8" = 1'-0"

ALTERNATE NO. G-2

ALTERNATE NO. M-2

KEYED NOTES: (THIS SHEET ONLY)

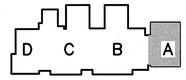
1. ALTERNATE NO. M-2, NEW PACKAGED GAS HEATING/ELECTRIC PGAC UNIT ON NEW ROOF CURB. WHERE DUCTBOARD HAS BEEN REMOVED, PROVIDE EXTERNALLY INSULATED SHEETMETAL DUCTWORK AS SPECIFIED AND RECONNECT DUCTWORK, PROVIDE TRANSITIONS AS NECESSARY.
2. ALTERNATE NO. G-2, NEW EXHAUST FAN ON NEW ROOF CURB, PROVIDE TRANSITION FOR DUCT CONNECTION.
3. ALTERNATE NO. G-2, NEW LAY-IN CEILING DIFFUSER OR REGISTER. EXTEND RUNOUT AS NECESSARY FOR NEW LOCATION. FIELD VERIFY EXACT SIZE AND LOCATION.
4. ALTERNATE NO. M-2 AND G-2, WHERE DUCT HEATERS ARE REMOVED, PROVIDE AN INSULATED DUCT ACCESS DOOR 16"x16" MINIMUM OR 2" SMALLER THAN DUCT WIDTH X 16" LONG. PATCH DUCT AND REINSULATE AS SPECIFIED.
5. ALTERNATE NO. G-2, CONNECT NEW DUCTWORK TO EXISTING TRUNK DUCT AIRTIGHT. INSULATE AS SPECIFIED.
6. ALTERNATE NO. G-2, NEW DOAS UNIT ON NEW ROOF CURB.
7. BASE BID – REMOVE AND REINSTALL DUCTWORK WHERE WINDOW UNITS ARE BEING REPLACED. REFER TO ARCHITECTURAL DRAWINGS FOR INFORMATION.
8. VERIFY EXISTING ACTUATORS ON RELIEF VENT MOTORIZED DAMPERS FOR PROPER OPERATION. REPLACE IF NECESSARY.

DUCT CLEANING

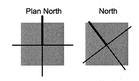
A. CLEAN INTERIOR OF EXISTING DUCT SYSTEMS TO REMAIN IN ACCORDANCE WITH NADCA ACR BY NADCA CERTIFIED SUBCONTRACTOR TO THE HVAC CONTRACTOR.
B. SYSTEMS AND COMPONENTS TO BE CLEANED:
   1. AIR DEVICES FOR SUPPLY AND RETURN AIR INCLUDING EXISTING REGISTERS, GRILLES, AND DIFFUSERS.
   2. DUCTWORK:
      a. SUPPLY-AIR DUCTS, INCLUDING TURNING VANES AND REHEAT COILS, TO THE AIR-HANDLING UNIT.
      b. RETURN-AIR DUCTS TO THE AIR-HANDLING UNIT.
      c. TRANSFER DUCTS.
C. EXHAUST SYSTEMS ARE NOT A PART OF THE DUCT CLEANING SCOPE OF WORK.
D. PROTECT NEW DUCTWORK, NEW AIR DEVICES, NEW HVAC UNITS AND THEIR COILS, ETC. DURING THE CLEANING PROCESS. DEENERGIZE EQUIPMENT DURING THE CLEANING PROCESS. ANY NEW WORK FOUND TO BE DIRTY AS A PART OF THE CLEANING PROCESS SHALL BE CLEANED IN ACCORDANCE WITH SECTION 230130.
E. SEE SPECIFIACTION SECTION 230130 FOR COMPLETE DESCRIPTION OF SCOPE OF WORK AND REQUIREMENTS.

FIRE RATINGS LEGEND

- 1 HOUR FIRE-RATED WALL
- 2 HOUR FIRE-RATED WALL
- 4 HOUR FIRE-RATED WALL



KEY PLAN



SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
409 Regency Forest Drive
Suite 100
Cary, North Carolina 27519
Phone: (919) 319-7616
Fax: (919) 319-7516
LA: C-1555
PE C-1555

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073
JOB # 18050

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL SEAL 17655 ENGINEER KENNETH LYNCH

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

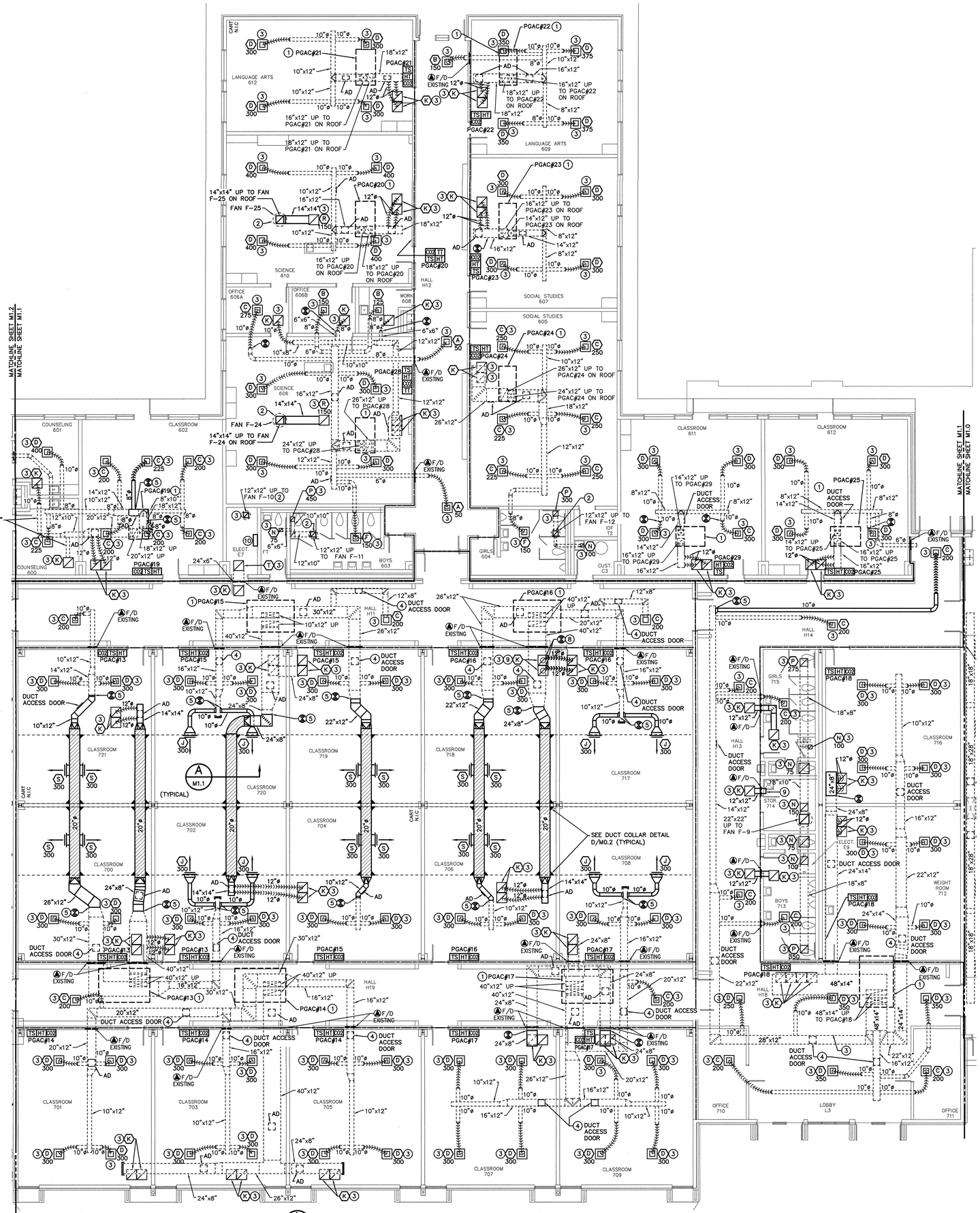
NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

MECHANICAL FLOOR PLAN - AREA A - RENOVATION

M1.0

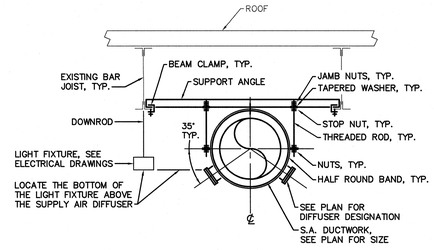
© 2019 Sawyer Sherwood & Associate- All Rights Reserved



1 M1.1 MECHANICAL FLOOR PLAN – AREA B – RENOVATION
SCALE: 1/8" = 1'-0"

KEYED NOTES: (THIS SHEET ONLY)

1. NEW PACKAGED GAS HEATING/ELECTRIC PGAC UNIT ON NEW ROOF CURB. . WHERE DUCTBOARD HAS BEEN REMOVED, PROVIDE EXTERNALLY INSULATED SHEETMETAL DUCTWORK AS SPECIFIED.
2. NEW EXHAUST FAN ON NEW ROOF CURB.
3. NEW LAY–IN CEILING DIFFUSER OR REGISTER.
4. WHERE DUCT HEATERS ARE REMOVED, PROVIDE AN INSULATED DUCT ACCESS DOOR 16"X16" MINIMUM OR 2" SMALLER THAN DUCT WIDTH X 16" LONG. PATCH DUCT AND REINSULATE AS SPECIFIED.
5. CONNECT NEW DUCTWORK TO EXISTING TRUNK DUCT AIRTIGHT. INSULATE AS SPECIFIED.
6. PROVIDE NEW EXHAUST FAN WITH NEW CURB. SEE DETAIL D/M2.0.
7. USE NEW ROOF CURB CAP FOR REFRIGERANT PIPING TO DHP ON ROOF. SEE NEW ROOF PLAN FOR CONTINUATION.
8. CONNECT NEW 12"ø SUPPLY AIR RUNOUT TO EXISTING.
9. COVER OPEN END OF DUCTWORK WITH 1/2"x1/2" WIRE MESH.
10. EXISTING JCI NAE BUILDING CONTROLLER.



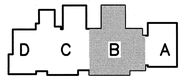
A M1.1 SPIRAL DUCT SECTION
NO SCALE

DUCT CLEANING

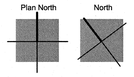
A. CLEAN INTERIOR OF EXISTING DUCT SYSTEMS TO REMAIN IN ACCORDANCE WITH NADCA ACR BY NADCA CERTIFIED SUBCONTRACTOR TO THE HVAC CONTRACTOR.
B. SYSTEMS AND COMPONENTS TO BE CLEANED:
   1. AIR DEVICES FOR SUPPLY AND RETURN AIR INCLUDING EXISTING REGISTERS, GRILLES, AND DIFFUSERS.
   2. DUCTWORK:
      a. SUPPLY–AIR DUCTS, INCLUDING TURNING VANES AND REHEAT COILS, TO THE AIR–HANDLING UNIT.
      b. RETURN–AIR DUCTS TO THE AIR–HANDLING UNIT.
      c. TRANSFER DUCTS.
C. EXHAUST SYSTEMS ARE NOT A PART OF THE DUCT CLEANING SCOPE OF WORK.
D. PROTECT NEW DUCTWORK, NEW AIR DEVICES, NEW HVAC UNITS AND THEIR COILS, ETC. DURING THE CLEANING PROCESS. DEENERGIZE EQUIPMENT DURING THE CLEANING PROCESS. ANY NEW WORK FOUND TO BE DIRTY AS A PART OF THE CLEANING PROCESS SHALL BE CLEANED IN ACCORDANCE WITH SECTION 230130.
E. SEE SPECIFIACTION SECTION 230130 FOR COMPLETE DESCRIPTION OF SCOPE OF WORK AND REQUIREMENTS.

FIRE RATINGS LEGEND

- 1 HOUR FIRE–RATED WALL
- 2 HOUR FIRE–RATED WALL
- 4 HOUR FIRE–RATED WALL



KEY PLAN



SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
409 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-0746
Fax: (919) 319-7516
LA: C-1061
PE: C-1585

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050
NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL SEAL 17685 ENGINEER KENNETH LYNCH

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

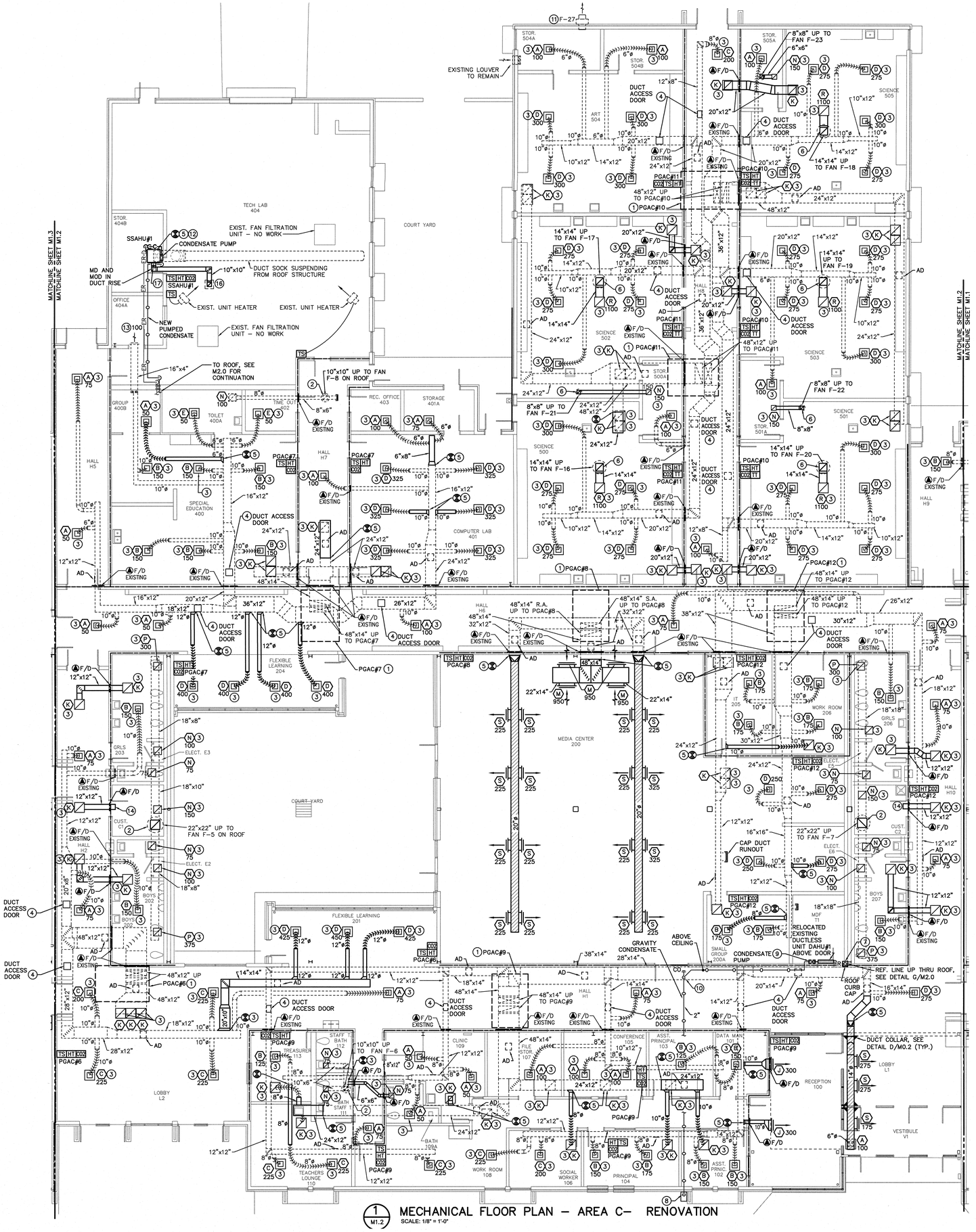
NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

MECHANICAL FLOOR PLAN - AREA B - RENOVATION

M1.1

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



KEYED NOTES: (THIS SHEET ONLY)

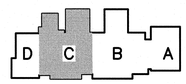
1. NEW PACKAGED GAS HEATING/ELECTRIC PGAC UNIT ON NEW ROOF CURB.. WHERE DUCTBOARD HAS BEEN REMOVED, PROVIDE EXTERNALLY INSULATED SHEETMETAL DUCTWORK AS SPECIFIED.
2. NEW EXHAUST FAN ON NEW ROOF CURB. RECONNECT DUCTWORK AND PROVIDE CURB ADAPTOR AS NECESSARY.
3. NEW LAY–IN CEILING DIFFUSER OR REGISTER.
4. WHERE DUCT HEATERS ARE REMOVED, PROVIDE AN INSULATED DUCT ACCESS DOOR 16"X16" MINIMUM OR 2" SMALLER THAN DUCT WIDTH X 16" LONG. PATCH DUCT AND REINSULATE AS SPECIFIED.
5. CONNECT NEW DUCTWORK TO EXISTING TRUNK DUCT AIRTIGHT. INSULATE AS SPECIFIED.
6. PROVIDE NEW EXHAUST FAN WITH NEW CURB. SEE DETAIL D/M2.0.
7. PROVIDE NEW ROOF CURB CAP FOR REFRIGERANT PIPING TO DHP ON ROOF. SEE NEW ROOF PLAN FOR CONTINUATION.
8. SPILL CONDENSATE ON CONCRETE SPLASH BLOCK.
9. PROVIDE NEW CONDENSATE PUMP FOR RELOCATED DUCTLESS AIR HANDLER UNIT.
10. SPILL PUMPED CONDENSATE INTO GRAVITY CONDENSATE LINE. SLOPE GRAVITY LINE TO OUTSIDE AND INSULATE AS SPECIFIED.
11. EXISTING SIDEWALL KILN FAN TO REMAI,. NO WORK.
12. SSAHU#1– RECONNECT AND REUSE REFRIGERANT PIPING, IF POSSIBLE PROVIDE NEW IF NOT REUSEABLE AND INSULATE AS SPECIFIED. PROVIDE NEW CONDENSATE AND CONNECT TO EXISTING UNIT, INSULATE AS SPECIFIED.
13. SIDEWALL REGISTER TO REMAIN.
14. COVER OPEN END OF DUCTWORK WITH 1/2"x1/2" WIRE MESH.
15. CONDENSATE PUMPS SHALL BE UL LISTED COMPLETE UNIT WITH FLOAT, ABS TANK, SNAP ACTION SAFETY SWITCH, THERMAL OVERLOAD PROTECTION, DISCHARGE CHECK VALVE, AND 3–PRONG MOLDED PLUG. UNITS SHALL HAVE CAPACITY OF260 GPH @ 9 FT OF HEAD AND 1/12 HP 115V–1Ø. COORDINATE POWER RECEPTACLE LOCATION WITH ELECTRICAL CONTRACTOR. PUMP FLOAT SAFETY SWITCHES SHALL BE WIRED TO DEENERGIZE UNIT SERVED ON EXCESSIVE LEVELS OF CONDENSATE IN TANK.
16. REUSE EXISTING CURB FOR LP#1 ON ROOF. PROVIDE CURB ADAPTOR FOR LP.
17. CONNECT OUTSIDE AIR TO RETURN AIR PLENUM BELOW UNIT AIRTIGHT.

DUCT CLEANING

A. CLEAN INTERIOR OF EXISTING DUCT SYSTEMS TO REMAIN IN ACCORDANCE WITH NADCA ACR BY NADCA CERTIFIED SUBCONTRACTOR TO THE HVAC CONTRACTOR.
B. SYSTEMS AND COMPONENTS TO BE CLEANED:
   1. AIR DEVICES FOR SUPPLY AND RETURN AIR INCLUDING EXISTING REGISTERS, GRILLES, AND DIFFUSERS.
   2. DUCTWORK:
      a. SUPPLY–AIR DUCTS, INCLUDING TURNING VANES AND REHEAT COILS, TO THE AIR–HANDLING UNIT.
      b. RETURN–AIR DUCTS TO THE AIR–HANDLING UNIT.
      c. TRANSFER DUCTS.
C. EXHAUST SYSTEMS ARE NOT A PART OF THE DUCT CLEANING SCOPE OF WORK.
D. PROTECT NEW DUCTWORK, NEW AIR DEVICES, NEW HVAC UNITS AND THEIR COILS, ETC. DURING THE CLEANING PROCESS. DEENERGIZE EQUIPMENT DURING THE CLEANING PROCESS. ANY NEW WORK FOUND TO BE DIRTY AS A PART OF THE CLEANING PROCESS SHALL BE CLEANED IN ACCORDANCE WITH SECTION 230130.
E. SEE SPECIFIACTION SECTION 230130 FOR COMPLETE DESCRIPTION OF SCOPE OF WORK AND REQUIREMENTS.

FIRE RATINGS LEGEND

- 1 HOUR FIRE–RATED WALL
- 2 HOUR FIRE–RATED WALL
- 4 HOUR FIRE–RATED WALL



KEY PLAN

Plan North | North

1 / M1.2 MECHANICAL FLOOR PLAN – AREA C– RENOVATION
SCALE: 1/8" = 1'-0"

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
409 Regency Forest Drive Suite 100
Cary, North Carolina 27518
Phone: (919) 678-0015
Fax: (919) 678-0016
LA: C-1246
PE: C-1585

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050
NC LICENSE C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Suite 201 Wilmington, NC 28401
Phone: 910.343.8007 Fax: 910.343.8088 www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17555 KENNETH LYNCH

NHCS Emma B. Trask Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

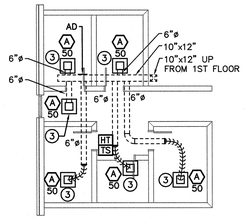
NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

MECHANICAL FLOOR PLAN - AREA C- RENOVATION

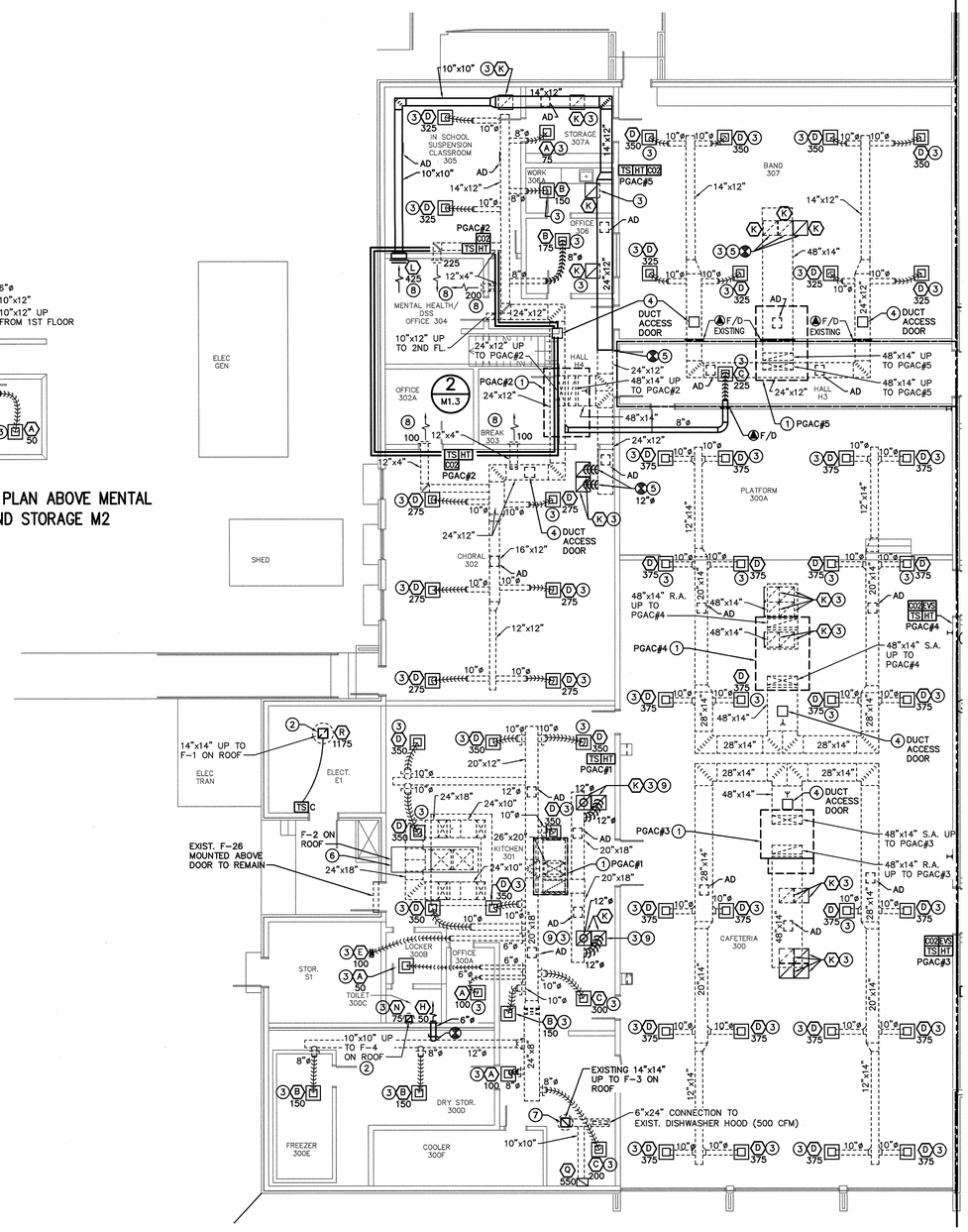
M1.2

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



2 M1.3 SECOND FLOOR PLAN ABOVE MENTAL HEALTH/DSS AND STORAGE M2
SCALE: 1/8" = 1'-0"

ELEC GEN



1 M1.3 MECHANICAL FLOOR PLAN – AREA D – RENOVATION
SCALE: 1/8" = 1'-0"

KEYED NOTES: (THIS SHEET ONLY)

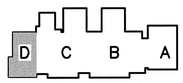
1. NEW PACKAGED GAS HEATING/ELECTRIC PGAC UNIT ON NEW ROOF CURB.. WHERE DUCTBOARD HAS BEEN REMOVED, PROVIDE EXTERNALLY INSULATED SHEETMETAL DUCTWORK AS SPECIFIED.
2. NEW EXHAUST FAN ON NEW ROOF CURB. RECONNECT DUCTWORK AND PROVIDE CURB ADAPTOR AS NECESSARY.
3. NEW LAY–IN CEILING DIFFUSER OR REGISTER.
4. WHERE DUCT HEATERS ARE REMOVED, PROVIDE AN INSULATED DUCT ACCESS DOOR 16"X16" MINIMUM OR 2" SMALLER THAN DUCT WIDTH X 16" LONG. PATCH DUCT AND REINSULATE AS SPECIFIED.
5. CONNECT NEW DUCTWORK TO EXISTING TRUNK DUCT AIRTIGHT. INSULATE AS SPECIFIED.
6. EXISTING KITCHEN HOOD FAN TO REMAIN – NO WORK.
7. EXISTING DISHWASHER FAN TO REMAIN – NO WORK.
8. EXISTING SIDEWALL REGISTER TO REMAIN AND BE CLEANED.
9. GRILLE WITH REMOVABLE FACE FOR CLEANING.

DUCT CLEANING

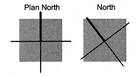
A. CLEAN INTERIOR OF EXISTING DUCT SYSTEMS TO REMAIN IN ACCORDANCE WITH NADCA ACR BY NADCA CERTIFIED SUBCONTRACTOR TO THE HVAC CONTRACTOR.
B. SYSTEMS AND COMPONENTS TO BE CLEANED:
   1. AIR DEVICES FOR SUPPLY AND RETURN AIR INCLUDING EXISTING REGISTERS, GRILLES, AND DIFFUSERS.
   2. DUCTWORK:
      a. SUPPLY–AIR DUCTS, INCLUDING TURNING VANES AND REHEAT COILS, TO THE AIR–HANDLING UNIT.
      b. RETURN–AIR DUCTS TO THE AIR–HANDLING UNIT.
      c. TRANSFER DUCTS.
C. EXHAUST SYSTEMS ARE NOT A PART OF THE DUCT CLEANING SCOPE OF WORK.
D. PROTECT NEW DUCTWORK, NEW AIR DEVICES, NEW HVAC UNITS AND THEIR COILS, ETC. DURING THE CLEANING PROCESS. DEENERGIZE EQUIPMENT DURING THE CLEANING PROCESS. ANY NEW WORK FOUND TO BE DIRTY AS A PART OF THE CLEANING PROCESS SHALL BE CLEANED IN ACCORDANCE WITH SECTION 230130.
E. SEE SPECIFIACTION SECTION 230130 FOR COMPLETE DESCRIPTION OF SCOPE OF WORK AND REQUIREMENTS.

FIRE RATINGS LEGEND

- 1 HOUR FIRE–RATED WALL
- 2 HOUR FIRE–RATED WALL
- 4 HOUR FIRE–RATED WALL



KEY PLAN



SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 130
Cary, North Carolina 27519
Phone: (919) 319-9716
Fax: (919) 319-7516
LA: C-168
PE: C-1385

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073

JOB # 18050

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL SEAL 17855 ENGINEER KENNETH LYNCH

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

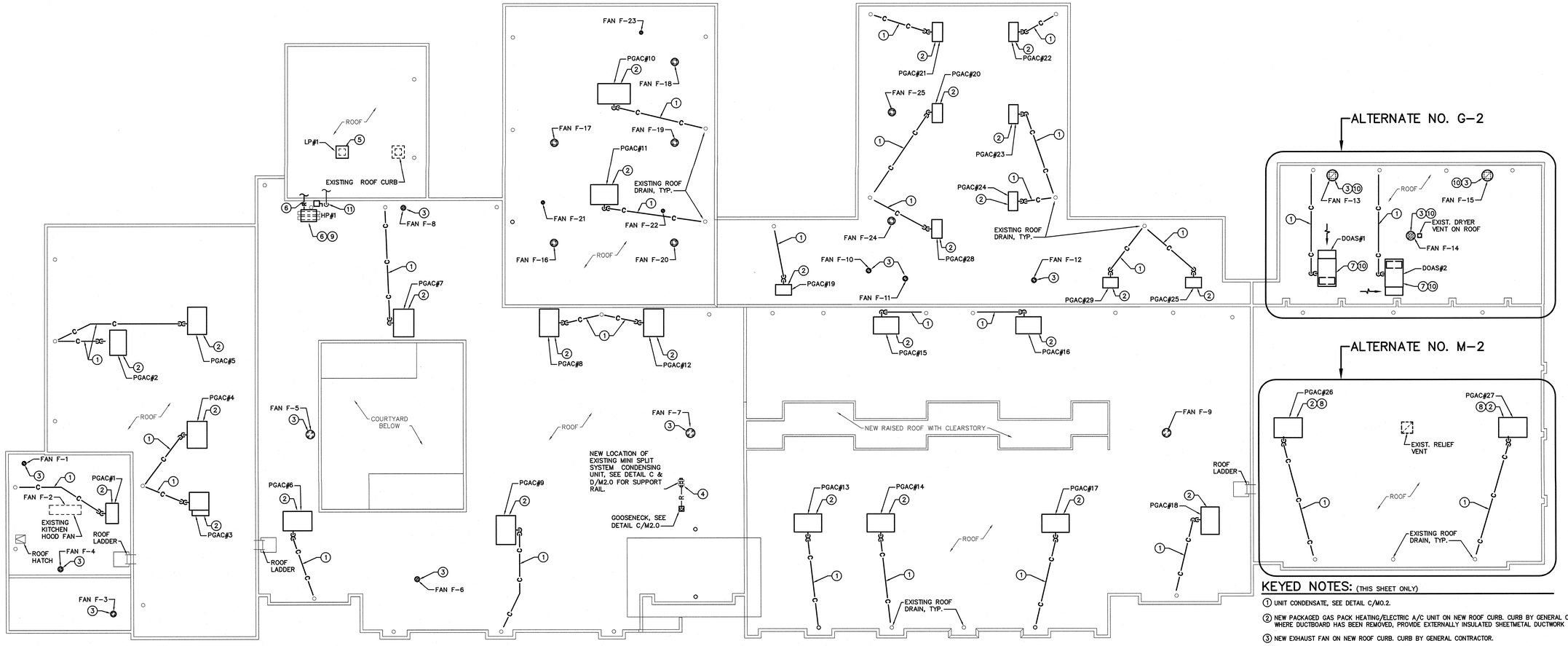
NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

MECHANICAL FLOOR PLAN - AREA D - RENOVATION

M1.3

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



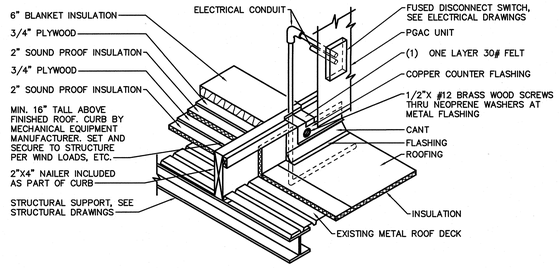
1 M2.0 MECHANICAL ROOF PLAN RENOVATION
SCALE: 1/16" = 1'-0"

Plan North North

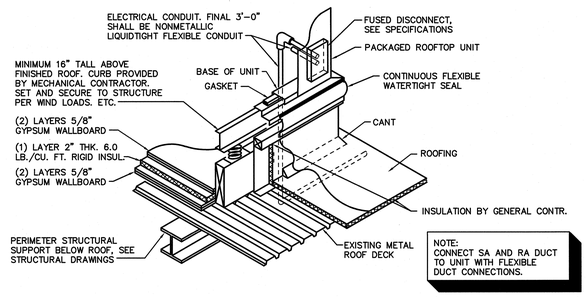
GRAPHIC SCALE
16' 8' 0 16' 32'
SCALE: 1/16"=1'-0"

KEYED NOTES: (THIS SHEET ONLY)

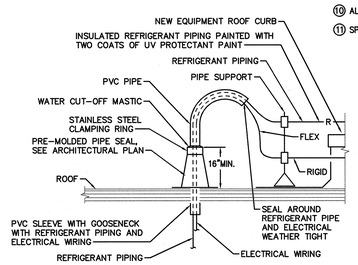
1. UNIT CONDENSATE, SEE DETAIL C/M0.2.
2. NEW PACKAGED GAS PACK HEATING/ELECTRIC A/C UNIT ON NEW ROOF CURB. CURB BY GENERAL CONTRACTOR. WHERE DUCTBOARD HAS BEEN REMOVED, PROVIDE EXTERNALLY INSULATED SHEETMETAL DUCTWORK AS SPECIFIED.
3. NEW EXHAUST FAN ON NEW ROOF CURB. CURB BY GENERAL CONTRACTOR.
4. INSTALL THE EXISTING DUCTLESS CONDENSER UNIT ON THE ROOF ON NEW ROOF RAILS, SEE D/M2.0.. SEE DETAIL E/M2.0.
5. REUSE EXISTING ROOF CURB LOCATION FOR NEW LOUVERED PENTHOUSE LP#1, PROVIDE NEW CURB.
6. NEW HP ON EXISTING ROOF, REUSE EXISTING REFRIGERANT PIPING IF POSSIBLE OR PROVIDE NEW REFRIGERANT PIPING IF NECESSARY.
7. NEW DOAS UNIT ON NEW ROOF CURB. CURB BY GENERAL CONTRACTOR.
8. ALTERNATE NO. M-2.
9. NEW HP#1 MOUNTED ON NEW ROOF RAILS. SEE DETAIL C & D/M2.0 FOR ROOF RAIL INFORMATION.
10. ALTERNATE NO. G-2.
11. SPILL CONDENSATE ONTO EXISTING ROOF.



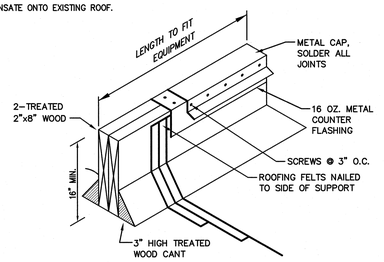
A M2.0 TYPICAL ROOFTOP UNIT CURB AND POWER SUPPLY DETAIL
NO SCALE



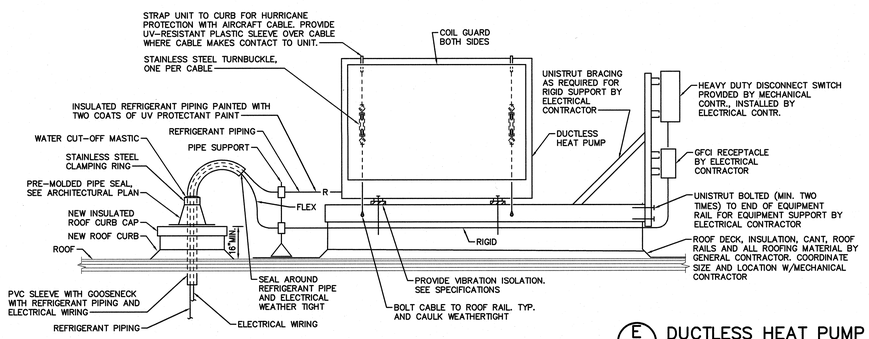
B M2.0 TYPICAL ROOFTOP UNIT CURB AND POWER SUPPLY WITH VIBRATION ISOLATION DETAIL (7.5 TON AND LARGER ONLY)
NO SCALE



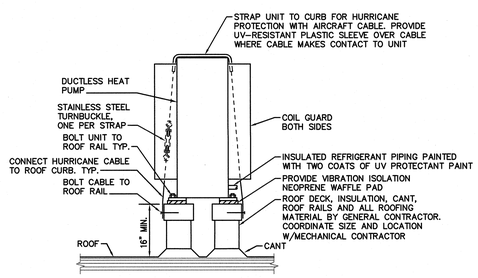
C M2.0 GOOSENECK ROOF PENTRATION DETAIL
SCALE: NONE



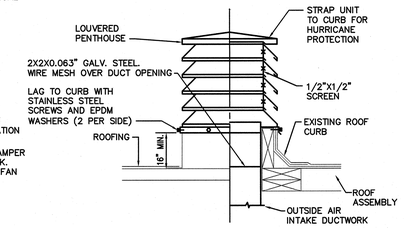
D M2.0 SUPPORT RAIL DETAIL
NO SCALE



E M2.0 DUCTLESS HEAT PUMP DETAIL
SCALE: NONE



F M2.0 POWER ROOF VENTILATOR DETAIL
NO SCALE



G M2.0 LOUVERED PENTHOUSE DETAIL
NO SCALE

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-7111
Fax: (919) 319-7515
LA: C-1555
PE: C-1555

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073
JOB # 18050

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street
Suite 201
Wilmington, NC 28401
Phone: 910.343.8007
Fax: 910.343.8088
www.woodseng.com

NORTH CAROLINA PROFESSIONAL SEAL 17655 ENGINEER KENNETH LYNCH 08/30/19

NHCS Emma B. Trask Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

MECHANICAL ROOF PLAN RENOVATION

M2.0

© 2019 Sawyer Sherwood & Associate- All Rights Reserved

DEDICATED OUTSIDE AIR UNIT SCHEDULE

SYMBOL	AIR QUANTITY		EXT. S.P. "H20 (1)	AIRFLOW	EAT/OUTSIDE AIR			EAT/RETURN AIR			COOLING					HEATING					ELECTRICAL			BASIS OF DESIGN	REMARKS
	OUTSIDE AIR CFM	RETURN AIR CFM			COOLING DB °F	COOLING WB °F	HEATING DB °F	COOLING DB °F	COOLING WB °F	HEATING DB °F	GROSS CAPACITY MBH (2)(5)	DX COOLING COIL LEAVING AIR CONDITIONS DB °F	DX COOLING COIL LEAVING AIR CONDITIONS WB °F	HOT GAS REHEAT COIL MAX LEAVING AIR CONDITIONS (3) DB °F	HOT GAS REHEAT COIL MAX LEAVING AIR CONDITIONS (3) RH	APPLICATION MIN EER AT DESIGN CONDITIONS	EAT °F	MIN LAT °F	TOTAL MBH INPUT	THERMAL EFFICIANCY MIN	GAS SUPPLY (7) SIZE	GAS SUPPLY (7) PRESSURE	MCA	MOCP	VOLTAGE & PHASE		
DOAS#1	3750	NONE	0.65	HORIZONTAL DISCHARGE/NO RETURN	93.0	79.0	23.0	N/A	N/A	N/A	355.0	53.0	52.5	74.0	50.0%	10.2	23.0	82.0	300.0	80%	1-1/4"	7" W.C	72.5	90	460V-3ø	TRANE HORIZON 0AGD360F4	GYM - ALTERNATE BID (6)
DOAS#2	3750	3750 (4)	0.60	VERTICAL DISCHARGE/VERTICAL RETURN	93.0	79.0	23.0	N/A	N/A	N/A	355.0	53.0	52.5	74.0	50.0%	10.2	23.0	82.0	300.0	80%	1-1/4"	7" W.C	72.5	90	460V-3ø	TRANE HORIZON 0AGD360A4	LOCKER ROOM AREA - ALTERNATE BID (6)

(1) EXT. S.P. INCLUDES SUPPLY & RETURN AIR DUCTWORK. MERV 8 FILTERS IN UNIT ARE NOT INCLUDED IN THIS FIGURE.

(2) COOLING CAPCITY BASED ON ENTERING AIR CONDITIONS.

(3) VIA INTEGRAL MODULATING HOT GAS REHEAT COIL.

(4) RECIRCULATING/RETURN AIR ONLY IN UNOCCUPIED MODE.

(5) FOUR COOLING STAGES MINIMUM.

(6) WITH VIBRATION ISOLATION TYPE INSULATED ROOF CURB.

(7) 8:1 TURNDOWN MINIMUM.

REGISTER, GRILLE & DIFFUSER SCHEDULE

SYMBOL	C.F.M.	NECK SIZE	TYPE	RUNOUT SIZE	REMARKS
(A)	50-100	6"x6"	2'x2' LAY-IN CEILING S.A. DIFFUSER	6"ø	
(B)	125-175	9"x9"	2'x2' LAY-IN CEILING S.A. DIFFUSER	8"ø	
(C)	200-275	12"x12"	2'x2' LAY-IN CEILING S.A. DIFFUSER	10"ø	
(D)	300-450	12"x12"	2'x2' LAY-IN CEILING S.A. DIFFUSER	10"-12"ø	
(E)	50-100	6"x6"	CEILING S.A. DIFFUSER	6"ø	
(F)	125-175	9"x9"	CEILING S.A. DIFFUSER	8"ø	
(G)	200-275	12"X12"	CEILING S.A. DIFFUSER	10"ø	
(H)	50-225	12"x6"	SIDEWALL S.A. REGISTER	10"ø	
(J)	250-400	16"x8"	SIDEWALL S.A. REGISTER	10"ø	
(K)	0-1200	22"x22"	2'x2' LAY-IN R.A. GRILLE	-	REMOVABLE FACE
(L)	325-550	18"x10"	SIDEWALL R.A. GRILLE	-	
(M)	600-1000	36"x12"	SIDEWALL R.A. GRILLE		
(N)	50-200	12"X12"	EXHAUST REGISTER	-	
(P)	225-500	15"X15"	EXHAUST REGISTER	-	
(Q)	525-975	18"x18"	EXHAUST REGISTER	-	
(R)	1000-1600	24"x24"	EXHAUST REGISTER	-	
(S)	125 CFM/LF	-	3'-0" LONG SPIRAL LINEAR SLOT DIFFUSER	-	5 SLOT W/ 1" WIDE SLOTS - MIN. 1" FRAME, CURVE FRAME TO MATCH DUCTWORK

SPLIT SYSTEM HEAT PUMP UNIT SCHEDULE

SYMBOL	AIR HANDLING UNIT SECTION						OUTDOOR HEAT PUMP SECTION							REMARKS
	AIR QUANTITY		EXT. S.P. "H20 (1)	ELECTRICAL				ELECTRICAL						
	TOTAL CFM	OUTSIDE CFM		STRIP HEAT (KW)	FAN HP	VOLTAGE & PHASE	SYMBOL	MCA	MOCP	VOLTAGE & PHASE	COOLING CAPACITY MBH (2)	HEATING CAPACITY MBH (3)	SEER	
SSAHU#1	1900	350	0.50"	10.8 (4)	1	208V-3ϕ	HP#1	21	35	208V-3ϕ	57,500	37,000	13.0	

(1) EXT. S.P. INCLUDES SUPPLY & RETURN AIR DUCTWORK. MERV 8 FILTERS IN UNIT ARE NOT INCLUDED IN THIS FIGURE.

(2) CAPACITY WHEN MATCHED WITH INDOOR HEAT PUMP SECTION AT ARI CONDITIONS.

(3) CAPACITY AT 17° F OUTSIDE AIR TEMPERATURE.

(4) MULTISTAGE HEATER.

LOUVERED PENTHOUSE SCHEDULE

SYMBOL	CFM	THROAT SIZE	MAXIMUM AIR PRESS. DROP "H2O	TYPE	SERVING UNITS
LP#1	350	12"x12"	0.10	OUTSIDE AIR INTAKE	SSAHU#1 (1)

(1) PROVIDE CURB ADAPTER AS NECESSARY. FIELD VERIFY EXACT SIZE OF EXISTING ROOF CURB.

PACKAGED GAS/ELECTRIC AIR CONDITIONING UNIT SCHEDULE

SYMBOL	AIR QUANTITY		EXT S.P. "H20 (1)	COOLING		HOT GAS REHEAT COIL SADB °F (3)	HEATING				ELECTRICAL			BASIS OF DESIGN	REMARKS
	TOTAL CFM	OUTSIDE CFM		CAPACITY MBH (2)	MIN EER		TOTAL MBH INPUT	THERMAL EFFICIANCY MIN	GAS SUPPLY (5) SIZE	GAS SUPPLY (5) PRESSURE	MCA	MOCP	VOLTAGE & PHASE		
PGAC#1	3800	500 (8)	0.60	113.0 (6)	12.2	74.0	150.0 (7)	80%	3/4"	7" W.C.	21.9	30	460V-3ϕ	TRANE YHC120	KITCHEN
PGAC#2	3800	750 (4)	0.55	113.0 (6)	12.2	74.0	150.0 (7)	80%	3/4"	7" W.C.	21.9	30	460V-3ϕ	TRANE YHC120	CHORAL/ISS/OFFICES
PGAC#3	4500	1250 (4)	0.65	144.0 (6)	12.0	74.0	250.0 (7)	80%	3/4"	7" W.C.	35.0	45	460V-3ϕ	TRANE YHD150	DINING
PGAC#4	4500	1250 (4)	0.60	144.0 (6)	12.0	74.0	250.0 (7)	80%	3/4"	7" W.C.	35.0	45	460V-3ϕ	TRANE YHD150	DINING
PGAC#5	2700	700 (4)	0.55	89.0 (6)	12.5	74.0	150.0 (7)	80%	3/4"	7" W.C.	20.7	25	460V-3ϕ	TRANE YHC092	BAND
PGAC#6	2700	500 (4)	0.60	89.0 (6)	12.5	74.0	150.0 (7)	80%	3/4"	7" W.C.	20.7	25	460V-3ϕ	TRANE YHC092	LOBBY/TOILETS
PGAC#7	5300	1000 (4)	0.65	174.0 (6)	12.0	74.0	250.0 (7)	80%	3/4"	7" W.C.	38.0	50	460V-3ϕ	TRANE YHD180	COMP/SPECIAL ED.
PGAC#8	3800	925 (4)	0.65	113.0 (6)	12.2	74.0	150.0 (7)	80%	3/4"	7" W.C.	21.9	30	460V-3ϕ	TRANE YHC120	MEDIA CENTER
PGAC#9	4500	750 (4)	0.70	144.0 (6)	12.0	74.0	250.0 (7)	80%	3/4"	7" W.C.	35.0	45	460V-3ϕ	TRANE YHD150	ADMIN
PGAC#10	4500	1000 (4)	0.70	144.0 (6)	12.0	74.0	250.0 (7)	80%	3/4"	7" W.C.	35.0	45	460V-3ϕ	TRANE YHD150	SCIENCE CLRMS
PGAC#11	4500	1000 (4)	0.70	144.0 (6)	12.0	74.0	250.0 (7)	80%	3/4"	7" W.C.	35.0	45	460V-3ϕ	TRANE YHD150	SCIENCE CLRMS/ART
PGAC#12	2700	425 (4)	0.65	89.0 (6)	12.5	74.0	150.0 (7)	80%	3/4"	7" W.C.	20.7	25	460V-3ϕ	TRANE YHC092	MEDIA OFFICES/WKRM/TOILET
PGAC#13	3800	800 (4)	0.65	113.0 (6)	12.2	74.0	150.0 (7)	80%	3/4"	7" W.C.	21.9	30	460V-3ϕ	TRANE YHC120	CLRMS
PGAC#14	3800	800 (4)	0.60	113.0 (6)	12.2	74.0	150.0 (7)	80%	3/4"	7" W.C.	21.9	30	460V-3ϕ	TRANE YHC120	CLRMS
PGAC#15	3800	800 (4)	0.60	113.0 (6)	12.2	74.0	150.0 (7)	80%	3/4"	7" W.C.	21.9	30	460V-3ϕ	TRANE YHC120	CLRMS
PGAC#16	3800	800 (4)	0.60	113.0 (6)	12.2	74.0	150.0 (7)	80%	3/4"	7" W.C.	21.9	30	460V-3ϕ	TRANE YHC120	CLRMS
PGAC#17	3800	800 (4)	0.65	113.0 (6)	12.2	74.0	150.0 (7)	80%	3/4"	7" W.C.	21.9	30	460V-3ϕ	TRANE YHC120	CLRMS
PGAC#18	5300	900 (4)	0.85	174.0 (6)	12.0	74.0	250.0 (7)	80%	3/4"	7" W.C.	38.0	50	460V-3ϕ	TRANE YHD180	CLRM/COUNSELING
PGAC#19	2000	350 (4)	0.50	60.0	14.0 (10)	74.0	80.0	80%	1/2"	7" W.C.	13.8	20	460V-3ϕ	TRANE YHC060	SCIENCE 606
PGAC#20	1600	300 (4)	0.50	49.0	14.0 (10)	74.0	80.0	80%	1/2"	7" W.C.	12.8	15	460V-3ϕ	TRANE YHC048	CLRM
PGAC#21	1200	290 (4)	0.50	37.0	14.0 (10)	74.0	60.0	80%	1/2"	7" W.C.	11.0	15	460V-3ϕ	TRANE YHC036	CLRM
PGAC#22	1600	300 (4)	0.50	49.0	14.0 (10)	74.0	80.0	80%	1/2"	7" W.C.	12.8	15	460V-3ϕ	TRANE YHC048	CLRM/HALL
PGAC#23	1200	290 (4)	0.50	37.0	14.0 (10)	74.0	60.0	80%	1/2"	7" W.C.	11.0	15	460V-3ϕ	TRANE YHC036	SLRM
PGAC#24	1600	330 (4)	0.50	49.0	14.0 (10)	74.0	80.0	80%	1/2"	7" W.C.	12.8	15	460V-3ϕ	TRANE YHC048	CLRM/TOILET
PGAC#25	1200	290 (4)	0.50	37.0	14.0 (10)	74.0	60.0	80%	1/2"	7" W.C.	11.0	15	460V-3ϕ	TRANE YHC036	CLRM
PGAC#26	5300	1250 (4)	0.55	174.0 (6)	12.0	74.0	250.0 (7)	80%	3/4"	7" W.C.	38.0	50	460V-3ϕ	TRANE YHD180	GYM - ALTERNATE NO. M-2
PGAC#27	5300	1250 (4)	0.55	174.0 (6)	12.0	74.0	250.0 (7)	80%	3/4"	7" W.C.	38.0	50	460V-3ϕ	TRANE YHD180	GYM - ALTERNATE NO. M-2
PGAC#28	2000	300 (4)	0.50	60.0	14.0 (10)	74.0	80.0	80%	1/2"	7" W.C.	13.8	20	460V-3ϕ	TRANE YHC060	CLASSROOMS
PGAC#29	1200	150 (4)	0.50	37.0	14.0 (10)	74.0	60.0	80%	1/2"	7" W.C.	11.0	15	460V-3ϕ	TRANE YHC036	CLASSROOMS

(1) EXT. S.P. INCLUDES SUPPLY & RETURN AIR DUCTWORK. MERV 8 FILTERS IN UNIT ARE NOT INCLUDED IN THIS FIGURE.

(2) CAPACITY AT AHRI CONDITIONS.

(3) VIA INTEGRAL HOT GAS REHEAT COIL.

(4) MIN. OUTSIDE AIR CFM INDICATED IS FOR OCCUPIED MODE. WHEN CO2 SENSOR SENSES GREATER OCCUPANCY OF SPACE, OUTSIDE AIR CFM SHALL INCREASE TO MAX INDICATED. MAX CFM SHALL INCREASE HIGHER AS NECESSARY BASED ON 100% OA ECONOMIZER CONTROL WITH BAROMETRIC RELIEF. SEE SPECIFIED SEQUENCE OF OPERATION FOR FURTHER DESCRIPTION OF DCV AND OA ECONOMIZER OPERATION.

(5) NATURAL GAS.

(6) DUAL REFRIGERATION CIRCUIT, MULTISTAGE COOLING.

(7) TWO STAGE HEATING.

(8) MIN. OUTSIDE AIR CFM INDICATED IS FOR OCCUPIED MODE. MAX CFM SHALL INCREASE HIGHER AS NECESSARY BASED ON 100% OA ECONOMIZER CONTROL WITH BAROMETRIC RELIEF. SEE SPECIFIED SEQUENCE OF OPERATION FOR FURTHER DESCRIPTION OF OA ECONOMIZER OPERATION.

(9) TWO SPEED SUPPLY FAN.

(10) SEER.

POWER VENTILATOR SCHEDULE

SYMBOL	CFM	ESP	RPM	TIP SPEED	ELECTRICAL HP	ELECTRICAL VOLTAGE	TYPE	DRIVE	CONTROL	ROOF OPENING (1)	REMARKS
F-1	1175	0.50"	1250	4265	1/2	115V-1ø	ROOF MOUNTED CENTRFIGUAL	DIRECT	COOLING THERMOSTAT	15"x15"	ELECTRICAL E1
F-2	8400	1.50"	660	6219	5	208V-3ø	KITCHEN HOOD EXHAUST	DIRECT	SWITCH ON HOOD	EXISTING	KITCHEN HOOD - EXISTING (4)
	7560	0.63"	500	-	3	208V-3ø	KITCHEN HOOD MAKE-UP				
F-3	1050	0.125"	1400	4078	1/4	115V-1ø	ROOF MOUNTED CENTRFIGUAL	DIRECT	SWITCH ON HOOD	EXISTING	DISHWASHER HOOD - EXISTING (4)
F-4	75	0.50"	1100	3215	1/6	115V-1ø	ROOF MOUNTED CENTRFIGUAL	DIRECT	(2)	15"x15"	TOILET 300C
F-5	1175	0.50"	1250	3215	1/2	115V-1ø	ROOF MOUNTED CENTRFIGUAL	DIRECT	BAS/PGAC#6	15"x15"	BOYS 202, GIRLS 203 & CUST C1
F-6	225	0.50"	1535	4370	1/20	115V-1ø	ROOF MOUNTED CENTRFIGUAL	DIRECT	BAS/PGAC#9	13"x13"	STAFF TOILETS 111 & 112
F-7	1175	0.50"	1250	3215	1/2	115V-1ø	ROOF MOUNTED CENTRFIGUAL	DIRECT	BAS/PGAC#12	15"x15"	GIRLS 206, BOYS 207 & CUST C2
F-8	100	0.50"	1125	3285	1/6	115V-1ø	ROOF MOUNTED CENTRFIGUAL	DIRECT	(2)	15"x15"	TOILET 400A
F-9	1025	0.50"	1060	3640	1/6	115V-1ø	ROOF MOUNTED CENTRFIGUAL	DIRECT	BAS/PGAC#18	15"x15"	BOYS 713, STOR. 714, GIRLS 715, ELECT E8 & ELECT E9
F-10	550	0.50"	1490	4235	1/8	115V-1ø	ROOF MOUNTED CENTRFIGUAL	DIRECT	COOLING THERMOSTAT	13"x13"	ELECTRICAL E7
F-11	525	0.50"	1470	4175	1/8	115V-1ø	ROOF MOUNTED CENTRFIGUAL	DIRECT	BAS/PHP#2	13"X13"	BOYS 603 & FEMALE TOILET
F-12	400	0.50"	1370	3900	1/8	115V-1ø	ROOF MOUNTED CENTRFIGUAL	DIRECT	BAS/PGAC#24	13"X13"	GIRLS 604 & CUST C3
F-13	1900	0.50"	1525	5240	1/2	115V-1ø	ROOF MOUNTED CENTRFIGUAL	DIRECT	BAS/DOAS#2	15"x15"	BOYS LOCKERS & TOILETS - ALTERNATE NO. G-2
F-14	750	0.50"	1025	3500	1/6	115V-1ø	ROOF MOUNTED CENTRFIGUAL	DIRECT	BAS/DOAS#2	15"x15"	GYM CUST & LAUNDRY - ALTERNATE NO. G-2
F-15	1350	0.50"	1360	4650	1/2	115V-1ø	ROOF MOUNTED CENTRFIGUAL	DIRECT	BAS/DOAS#2	15"x15"	GIRLS LOCKERS & TOILETS - ALTERNATE NO. G-2
F-16	1100	0.50"	1200	4105	1/2	115V-1ø	ROOF MOUNTED CENTRFIGUAL	DIRECT	(3)	15"x15"	SCIENCE 500
F-17	1100	0.50"	1200	4105	1/2	115V-1ø	ROOF MOUNTED CENTRFIGUAL	DIRECT	(3)	15"x15"	SCIENCE 502
F-18	1100	0.50"	1200	4105	1/2	115V-1ø	ROOF MOUNTED CENTRFIGUAL	DIRECT	(3)	15"x15"	SCIENCE 505
F-19	1100	0.50"	1200	4105	1/2	115V-1ø	ROOF MOUNTED CENTRFIGUAL	DIRECT	(3)	15"x15"	SCIENCE 503
F-20	1100	0.50"	1200	4105	1/2	115V-1ø	ROOF MOUNTED CENTRFIGUAL	DIRECT	(3)	15"x15"	SCIENCE 501
F-21	150	0.50"	1435	4085	1/20	115V-1ø	ROOF MOUNTED CENTRFIGUAL	DIRECT	CONSTANT	13"x13"	SCIENCE STORAGE 500A
F-22	150	0.50"	1435	4085	1/20	115V-1ø	ROOF MOUNTED CENTRFIGUAL	DIRECT	CONSTANT	13"X13"	SCIENCE STORAGE 501A
F-23	150	0.50"	1435	4085	1/20	115V-1ø	ROOF MOUNTED CENTRFIGUAL	DIRECT	CONSTANT	13"X13"	SCIENCE STORAGE 505A
F-24	1150	0.50"	1235	4215	1/2	115V-1ø	ROOF MOUNTED CENTRFIGUAL	DIRECT	(3)	15"x15"	SCIENCE 606
F-25	1150	0.50"	1235	4215	1/2	115V-1ø	ROOF MOUNTED CENTRFIGUAL	DIRECT	(3)	15"x15"	SCIENCE 610
F-26	1650	-	-	-	2	480V-3ø	FLY FAN ON WALL	DIRECT	DOOR SWITCH	-	KITCHEN FLY FAN - EXISTING (4)
F-27	1200	0.25"	1140	4176	1/2	115V-1ø	SIDEWALL MOUNTED	DIRECT	COOLING T'STAT	-	KILN - EXISTING (4)

(1) FOR BIDDING PURPOSES ONLY, REUSE EXISTING ROOF CURBS AND PROVIDE CURB ADAPTER AS NECESSARY.

(2) VIA LIGHTING CONTROL SYSTEM'S OCCUPANCY SENSOR.

(3) 0-2 HOUR TWIST TIMER WITHOUT HOLD

(4) EXISTING - FOR REFERENCE ONLY

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 130
Cary, North Carolina 27518
Phone: (919) 319-0748
Fax: (919) 319-7518
LA: C-1061
PE: C-1395

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050
NC LICENSE# C-1075

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street
Suite 201
Wilmington, NC 28401
Phone: 910.343.8007
Fax: 910.343.8088
www.woodseng.com

NORTH CAROLINA PROFESSIONAL SEAL 17655 ENGINEER KENNETH LYNCH

NHCS
Emma B. Trask
Trask Middle
School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

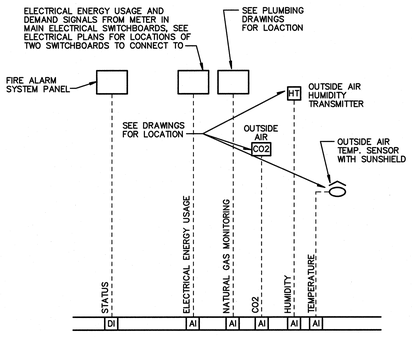
MECHANICAL SCHEDULES

M3.0

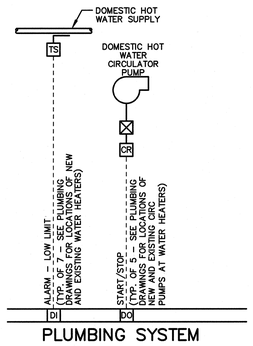
© 2019 Sawyer Sherwood & Associate- All Rights Reserved

DIRECT DIGITAL CONTROL SYSTEM SCOPE OF WORK:

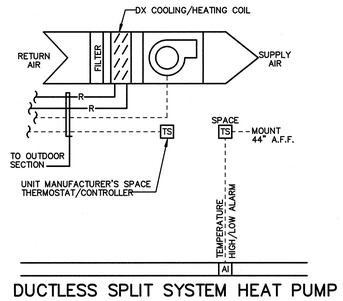
1. BAS SYSTEM SHALL BE PER THE NEW HANOVER COUNTY SCHOOLS' CURRENT DESIGN GUIDELINES FOR DDC CONTROLS.
2. EXISTING JOHNSON CONTROLS NAE METASYS BUILDING CONTROLLER TO REMAIN.
3. PROVIDE NEW COMMUNICATION BUS THROUGHOUT BUILDING TO CONNECT NEW BACnet CONTROLLERS TO EXISTING NAE.
4. UNDER BASE BID, EXISTING N2 COMMUNICATION BUS SHALL REMAIN TO MAINTAIN CONNECTION OF EXISTING CONTROLLERS IN GYM AND LOCKER AREA TO EXISTING NAE.
5. UNDER ALTERNATES NO. G-2 AND M-2, PROVIDE NEW COMMUNICATION BUS TO CONNECT NEW CONTROLLERS TO EXISTING NAE.
6. NEW CONTROLLERS, SENSORS, AND DEVICES SHALL BE PROVIDED AS NECESSARY.
7. HVAC CONTRACTOR/ CONTROLS CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR PROVISIONS OF POWER TO DDC CONTROL SYSTEM CONTROL PANELS, CONTROLLERS, ETC.. NOT SHOWN ON M OR E DRAWINGS. INTENT OF DOCUMENTS IS FOR NEW CONTROLLERS, ETC. TO BE POWERED FROM EXISTING CIRCUITS POWERING EXISTING CONTROLLERS, ETC.. POWER WIRING FROM THOSE POINTS TO EQUIPMENT SHALL BE BY THE HVAC CONTRACTOR/CONTROL CONTRACTOR.
8. ALTERNATE NO M-1 – PREFERRED DDC CONTROLS BY JCI.



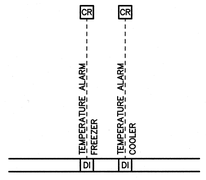
UTILITIES AND GENERAL



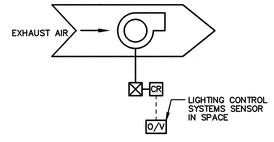
PLUMBING SYSTEM



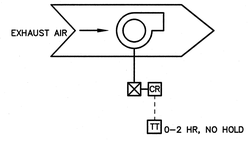
DUCTLESS SPLIT SYSTEM HEAT PUMP



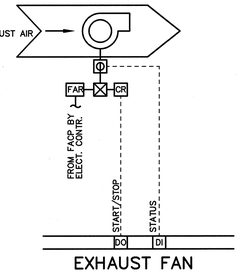
FREEZER/COOLER



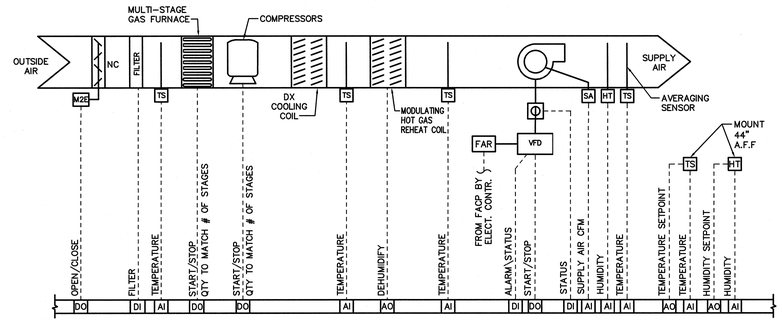
EXHAUST FAN



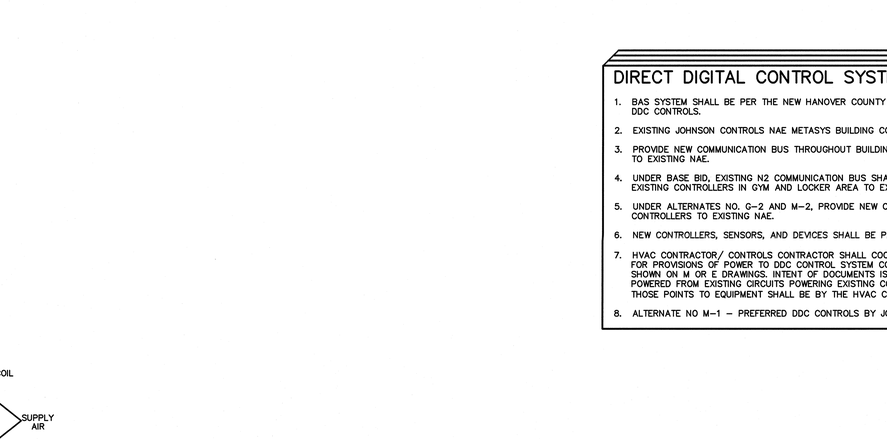
EXHAUST FAN



EXHAUST FAN



DOAS UNIT – GYM – ALTERNATE NO. G-2



DOAS UNIT – LOCKER ROOMS – ALTERNATE NO. G-2

CONTROL SYMBOL LEGEND

TS	TEMPERATURE SENSOR
HT	HUMIDITY SENSOR
VSD	VARIABLE SPEED DRIVE
CR	CONTROL RELAY
ES	EMERGENCY SWITCH
EVS	EVENT SWITCH
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
EN	ENTHALPY
O/V	OCCUPANCY/VACANCY SENSOR
SA	SUPPLY AIR
RA	RETURN AIR
OA	OUTSIDE AIR
	CURRENT SENSOR
	STARTER
TT	TWIST TIMER

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 130
Cary, North Carolina 27519
Phone: (919) 319-0716
Fax: (919) 319-7316
LA: C-1555
PE: C-1555

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050
NC LICENSE# C-1075

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street
Suite 201
Wilmington, NC 28401
Phone: 910.343.8007
Fax: 910.343.8088
www.woodseng.com

NORTH CAROLINA PROFESSIONAL SEAL 17855 ENGINEER KENNETH LYNCH

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

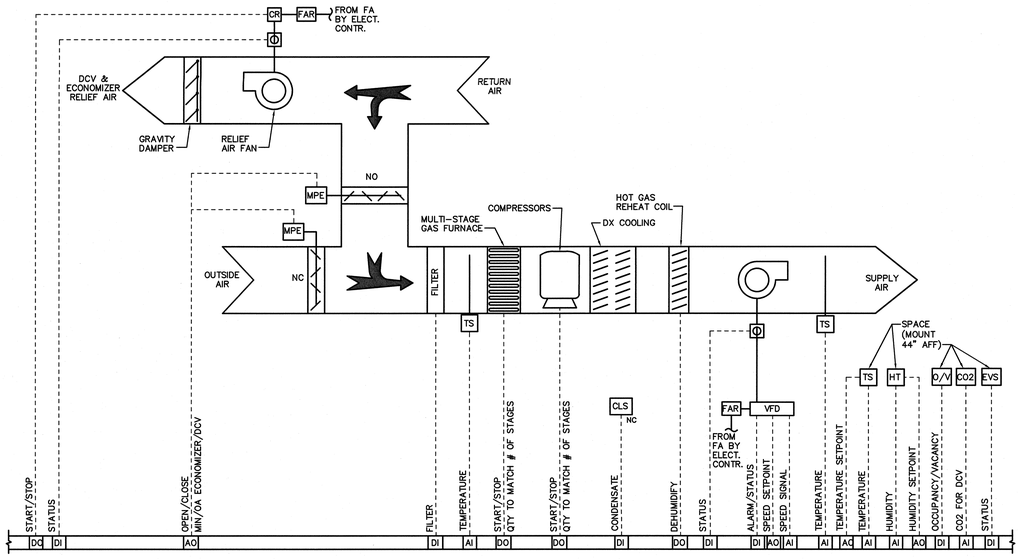
NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

MECHANICAL CONTROL DIAGRAMS

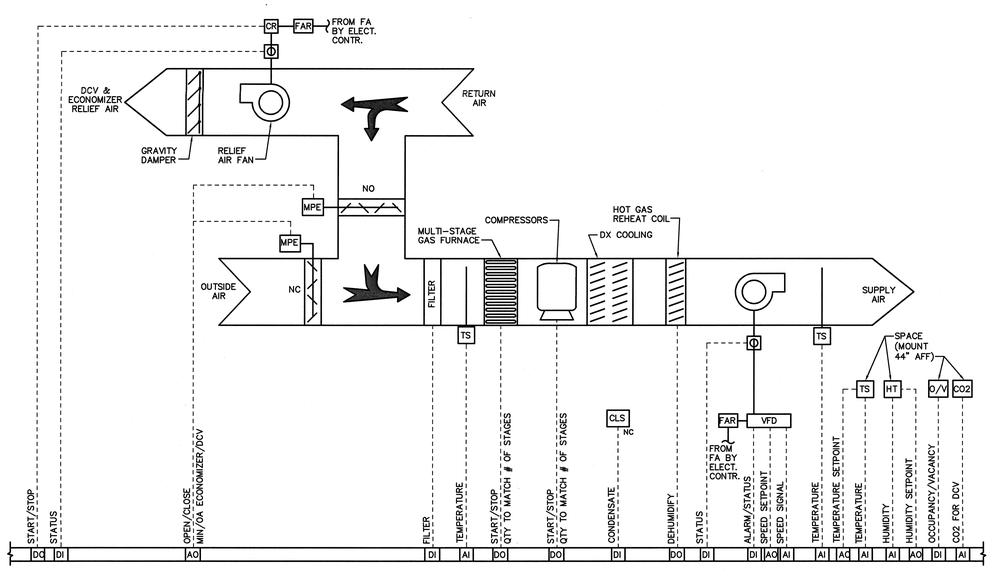
M4.0

© 2019 Sawyer Sherwood & Associate- All Rights Reserved

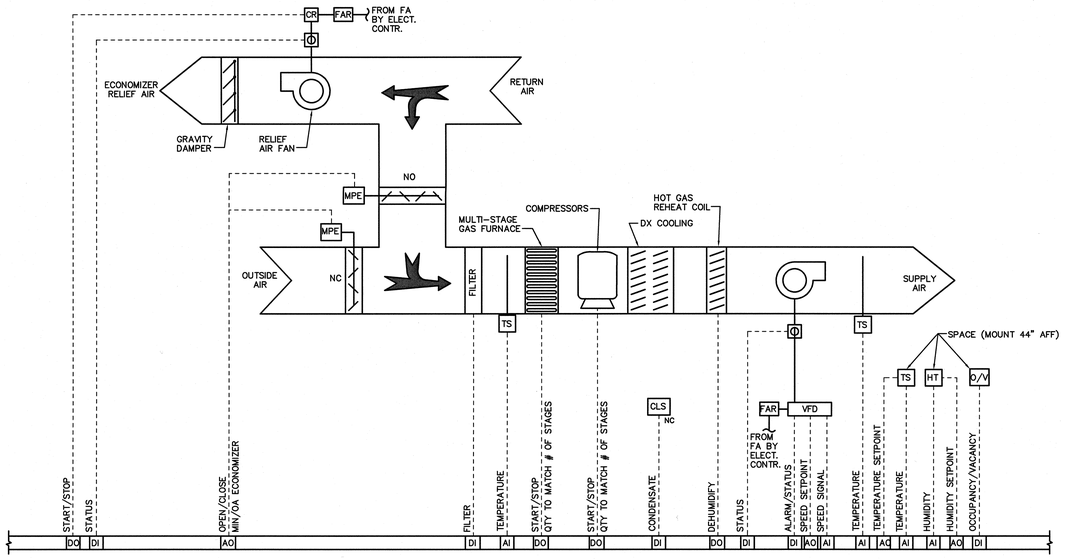


PACKAGED GAS/ELECTRIC AIR CONDITIONING UNIT–TWO–SPEED FAN, OA ECONOMIZER, DEMAND CONTROL VENTILATION, HGRH FOR DEHUMIDIFICATION WITH EVENT SWITCH – DINING & GYM ①

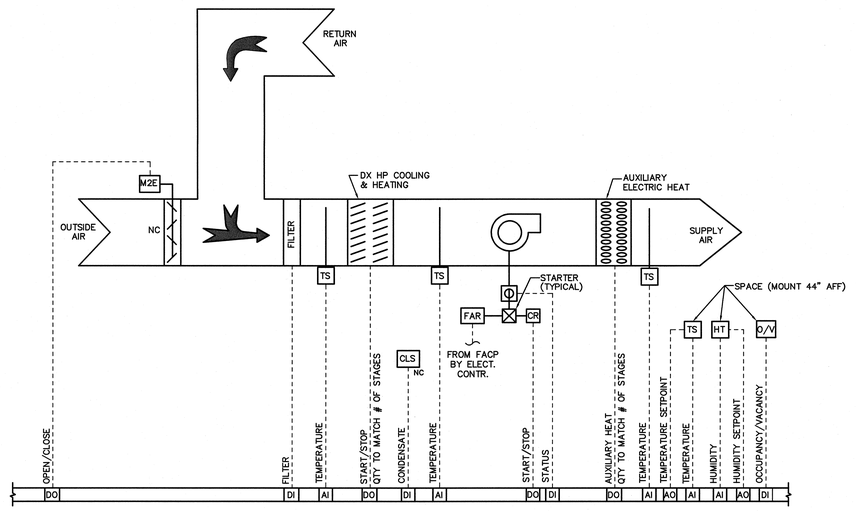
① NOTE GYM PGAC'S ARE ALTERNATE NO. M–2.



PACKAGED GAS/ELECTRIC AIR CONDITIONING UNIT–TWO–SPEED FAN, OA ECONOMIZER, DEMAND CONTROL VENTILATION, HGRH FOR DEHUMIDIFICATION – CLASSROOM, MEDIA & ADMIN



PACKAGED GAS/ELECTRIC AIR CONDITIONING UNIT–TWO–SPEED FAN, OA ECONOMIZER, HGRH FOR DEHUMIDIFICATION – KITCHEN



SPLIT SYSTEM HEAT PUMP – SHOP

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
409 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7316
LA: C-1555
PE: C-1555

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
NC LICENSE# C-1073
JOB # 18050

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street
Suite 201
Wilmington, NC 28401
Phone: 910.343.8007
Fax: 910.343.8088
www.woodseng.com

NORTH CAROLINA PROFESSIONAL SEAL 17655 ENGINEER KENNETH LYNCH

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

MECHANICAL CONTROL DIAGRAMS

M4.1

© 2019 Sawyer Sherwood & Associate- All Rights Reserved

ELECTRICAL NOTES

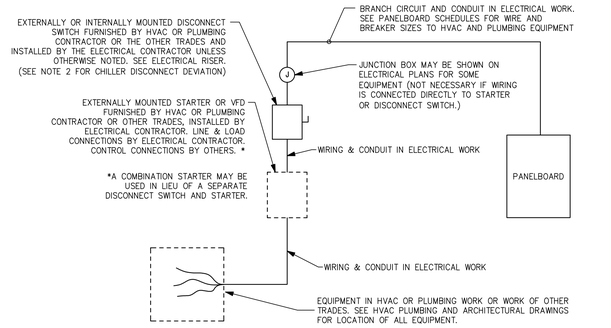
1. ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION.
2. PERMITS FOR ELECTRICAL WORK SHALL BE OBTAINED BY AND PAID BY THE ELECTRICAL CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL PAY FOR ANY ADDITIONAL FEES FOR 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 BID.
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,** ENGINEER, AND/OR OWNER 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 SMOKE PARTITIONS SHALL BE SEALED IN ACCORDANCE WITH REQUIREMENTS OF THE STATE BUILDING CODE. COORDINATE WORK TO INSURE THAT SMOKE PARTITION SEALING IS COMPLETED.
12. 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.
13. 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/OR OWNER.
14. SEE SPECIFICATIONS FOR DIVISION OF RESPONSIBILITY FOR PROVIDING DISCONNECTS, STARTERS, DRIVES, ETC. FOR EQUIPMENT SUPPLIED BY OTHER SUBCONTRACTORS.
15. COORDINATE PRECISE LOCATION OF HVAC EQUIPMENT WITH THE MECHANICAL CONTRACTOR.
16. 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.
17. VERIFY PROPER SIZING OF OVERLOAD DEVICES IN STARTERS BASED ON EQUIPMENT NAMEPLATE DATA.
18. IF HORSEPOWER OR LOAD RATINGS OF EQUIPMENT DIFFER FROM THOSE INDICATED ON THE DRAWINGS, NOTIFY THE ARCHITECT, ENGINEER, AND OWNER FOR DIRECTION.
19. PROVIDE NATIONAL ELECTRICAL CODE REQUIRED CLEARANCES FOR ALL ELECTRICAL EQUIPMENT. COORDINATE RESOLUTION OF CONFLICTS WITH OTHER TRADES.
20. RECEPTACLE, SWITCH, DATA/TELEPHONE OUTLETS SHALL BE FLUSH MOUNTED IN FINISHED SPACES UNLESS OTHERWISE NOTED.
21. WHERE INSTALLED IN PLENUM SPACES, CABLES SHALL BE PLENUM-RATED OR INSTALLED IN METAL RACEWAY.
22. 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.
23. RECESSED LIGHT FIXTURES INSTALLED IN CEILINGS HAVING INSULATION INSTALLED OVER CEILING AND FIXTURES (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. WHERE WORKING IN EXISTING BUILDINGS, FACILITIES, OR STRUCTURES; PROTECT AND MAINTAIN IN OPERATION EXISTING LIFE SAFETY SYSTEMS, PUBLIC ADDRESS SYSTEMS, ELECTRICAL SYSTEMS, ETC. IF SHUTDOWNS ARE REQUIRED, NOTIFY THE ARCHITECT, ENGINEER, AND OWNER FOR COORDINATION WELL IN ADVANCE OF ANY SYSTEM SHUTDOWN. WHERE AN OUTAGE OF EXTENDED DURATION IS NOT ACCEPTABLE TO THE OWNER, PROVIDE TEMPORARY CONNECTIONS AS REQUIRED TO MAINTAIN SERVICE.
28. WHERE WORKING IN EXISTING BUILDINGS, FACILITIES, OR STRUCTURES; WORK MAY BE REQUIRED TO BE PERFORMED WHILE REMAINING OCCUPIED BY OWNER STAFF. WORK SHALL BE COORDINATED WITH THE OWNER TO MINIMIZE DISRUPTION TO THE OWNER.
29. WHERE WORKING IN EXISTING BUILDINGS, FACILITIES, OR STRUCTURES; EXISTING ABANDONED CIRCUITS USED TO CONNECT NEW LOADS IN THE SAME AREA SHALL BE CLEARLY IDENTIFIED ON AS-BUILT MARK-UP DRAWINGS WITH REGARD TO PANEL-CIRCUIT AND CIRCUITRY ROUTING CONFIGURATION.
30. ABANDONED CIRCUITRY (RACEWAY & CONDUCTORS) SHALL BE REMOVED IN ITS ENTIRETY FROM ITS SOURCE. ABANDONED LOW VOLTAGE CABLING SHALL BE REMOVED IN ITS ENTIRETY UNLESS OTHERWISE NOTED.
31. PANEL BUS MATERIAL: COPPER.
32. SHARED NEUTRAL CONDUCTORS SHALL NOT BE USED UNLESS SPECIFICALLY INDICATED SO ON HOMERUN CIRCUITRY DESIGNATIONS.
33. 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.
34. LOAD CIRCUITS SHALL BE INSTALLED AS INDICATED ON THE DRAWINGS. CIRCUITRY REVISIONS WILL NOT BE ACCEPTED UNLESS APPROVED IN WRITING BY THE ENGINEER.
35. MANUAL FIRE ALARM SYSTEM PULL STATIONS HAVE BEEN INTENTIONALLY OMITTED AS PERMITTED BY THE NORTH CAROLINA STATE BUILDING FIRE CODE (2018) 907.2.3 EXCEPTION #4

ABBREVIATIONS

AL	ALUMINMUM
ADA	AMERICAN DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLER UNIT
AIC	AMPS INTERRUPTING CAPABILITY
BKR	BREAKER
C	CONDUIT
C/B	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CLG	CEILING
CKT	CIRCUIT
COMP	COMPRESSOR
CU	COPPER
DIA	DIAMETER
DOAS	DEDICATED OUTSIDE AIR SYSTEM
DWG	DRAWING
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSED
EXSTG	EXISTING
FACP	FIRE ALARM CONTROL PANEL
FACU	FIRE ALARM CONTROL UNIT
G	EQUIPMENT GROUND
GEC	GROUNDING ELECTRODE CONDUCTOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
HP	HEAT PUMP
HP	HORSEPOWER
IMC	INTERMEDIATE METAL CONDUIT
K	KILO (THOUSAND)
LED	LIGHT EMITTING DIODE
LTG	LIGHTING
LTS	LIGHTS
MCB	MAIN CIRCUIT BREAKER
MDP	MAIN DISTRIBUTION PANEL
MFR	MANUFACTURER
MLO	MAIN LUG ONLY
MSB	MAIN SWITCHBOARD
N/A	NOT APPLICABLE
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOC.
NTS	NOT TO SCALE
P	PHASE OR POLE
PH	PHASE
PGAC	PACKAGED GAS/ELECTRIC AIR CONDITIONING
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL
PROJ	PROJECTOR
PS	PROJECTOR SCREEN
PVC	POLYVINYL CHLORIDE
REC	RECEPTACLE
RECPT	RECEPTACLE
REQ.	REQUIRED
RGC	RIGID GALVANIZED CONDUIT
RGS	RIGID GALVANIZED STEEL
S.S.	STAINLESS STEEL
SSAHU	SPLIT SYSTEM AIR HANDLER
SYS	SYSTEM
S/N	SOLID NEUTRAL
TSP	TWISTED SHIELDED PAIR
TYP	TYPICAL
UL	UNDERWRITERS LABORATORY
UNO	UNLESS NOTED OTHERWISE
UON	UNLESS OTHERWISE NOTED
V	VOLTS
VA	VOLT-AMPS
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS
W	WIRE
W/	WITH
WP	WEATHERPROOF
XFMR	TRANSFORMER

SHEET LIST

E0.1	ELECTRICAL NOTES, DETAILS, ABBREVIATIONS
E0.2	ELECTRICAL LEGENDS
ED1.1	ELECTRICAL DEMOLITION PLAN - AREA A
ED1.2	ELECTRICAL DEMOLITION PLAN - AREA B
ED1.3	ELECTRICAL DEMOLITION PLAN - AREA C
ED1.4	ELECTRICAL DEMOLITION PLAN - AREA D
E1.11	ELECTRICAL POWER PLAN - AREA A
E1.12	ELECTRICAL POWER PLAN - AREA B
E1.13	ELECTRICAL POWER PLAN - AREA C
E1.14	ELECTRICAL POWER PLAN - AREA D
E1.15	ELECTRICAL ROOF PLAN
E1.21	ELECTRICAL LIGHTING PLAN - AREA A
E1.22	ELECTRICAL LIGHTING PLAN - AREA B
E1.23	ELECTRICAL LIGHTING PLAN - AREA C
E1.24	ELECTRICAL LIGHTING PLAN - AREA D
E1.31	ELECTRICAL AUXILIARY SYSTEMS PLAN - AREA A
E1.32	ELECTRICAL AUXILIARY SYSTEMS PLAN - AREA B
E1.33	ELECTRICAL AUXILIARY SYSTEMS PLAN - AREA C
E1.34	ELECTRICAL AUXILIARY SYSTEMS PLAN - AREA D
E1.41	ELECTRICAL MOBILE CLASSROOMS SITE PLAN
E1.42	ELECTRICAL MOBILE CLASSROOMS PLAN
E5.1	ELECTRICAL DETAILS
E5.2	ELECTRICAL DETAILS
E5.3	ELECTRICAL DETAILS
E5.4	ELECTRICAL DETAILS
E6.1	ELECTRICAL LUMINAIRE SCHEDULE
E6.2	ELECTRICAL PANEL SCHEDULES
E6.3	ELECTRICAL PANEL SCHEDULES
E7.1	ELECTRICAL DEMOLITION WORK POWER RISER
E7.2	ELECTRICAL NEW WORK POWER RISER
E7.3	ELECTRICAL AUXILIARY SYSTEMS RISERS



NOTES:
1. FINAL CONNECTIONS INSIDE EQUIPMENT TO BE MADE BY HVAC OR PLUMBING CONTRACTOR OR OTHER TRADES.

A E0.1 ELECTRICAL CONNECTION TO MECHANICAL EQUIPMENT
NO SCALE

WARNING

Maximum Available Fault Current:
24,832 Symmetrical RMS Amperes
Date: 02/12/2019
Based on :
Utility Transformer: 1000 kVA (Maxiumum)
Utility Transformer: 5.32% Impedance (Minimum)
Service Feeder: #400kCMIL (3 SETS)(Maximum) Copper
Service Feeder Length: 22' (Minimum)

B E0.1 FAULT CURRENT LABEL FOR SERVICE EQUIPMENT - MSB1
NO SCALE

WARNING

Maximum Available Fault Current:
24,784 Symmetrical RMS Amperes
Date: 02/12/2019
Based on :
Utility Transformer: 1000 kVA (Maxiumum)
Utility Transformer: 5.32% Impedance (Minimum)
Service Feeder: #400kCMIL (3 SETS)(Maximum) Copper
Service Feeder Length: 27' (Minimum)

C E0.1 FAULT CURRENT LABEL FOR SERVICE EQUIPMENT - MSB2
NO SCALE

WARNING

Maximum Available Fault Current:
41,212 Symmetrical RMS Amperes
Date: 03/26/2019
Based on :
Utility Transformer: 167 kVA (Maxiumum)
Utility Transformer: 1.7% Impedance (Minimum)
Service Feeder: #500kCMIL (2 SETS)(Maximum) Copper
Service Feeder Length: 40' (Minimum)

D E0.1 FAULT CURRENT LABEL FOR SERVICE EQUIPMENT - MBP
NO SCALE

LOAD SUMMARY EXISTING SERVICE	MSB1 AND MSB2 TRASK MIDDLE SCHOOL	
12 Month Recorded Peak Demand (kW)	803.0	kW
25% Additional Load (NEC 220.87)	200.8	
Total (kW)	1003.8	kW
Estimated Power Factor	85%	
kVA	1180.9	kVA
Additional Connected Load (kVA)	*	kVA
Total Load (kVA)	1180.9	kVA
Service Voltage	480	Volts
Amps @ Service Voltage	1420.4	Amps

(*) All electric heat will be removed from the building during renovation. Connected load will be lower than existing load.

LOAD SUMMARY

OPTIONAL CALCULATION METHOD FOR SCHOOLS - NEW MOBILE UNITS

CONNECTED LOAD (KVA)	306	
SQUARE FOOTAGE (SF)	94,773	
VA / SF	3.23	
NEC 220.86-->	DEMAND FACTOR	LOAD (VA/SF)
FIRST 3 VA/SF	100%	3
OVER 3 TO 20 VA/SF	75%	0.17
OVER 20 VA/SF	25%	0.00
TOTAL VA/SF		3.17
TOTAL DEMAND (KVA)		301
SERVICE VOLTAGE		240
AMPS @ 240V =		723

SERVICE DISCONNECT #1 — 3/8"H LETTERS
- SERVICE DISCONNECT #2 NEXT TO SERVICE DISCONNECT #1 — 1/4"H LETTERS

SERVICE DISCONNECT #2 — 1/4"H LETTERS
- SERVICE DISCONNECT #1 NEXT TO SERVICE DISCONNECT #2

NOTES:
1. ENGRAVED LABELS SHALL FEATURE RED LETTERS ON WHITE BACKGROUND.
2. FOR APPLICATIONS OTHER THAN NEMA 1 ENCLOSURES, PROVIDE DUPLICATE ID LABELS INSIDE ENCLOSURES.
3. LABELS SHALL BE ATTACHED WITH HIGH PERFORMANCE DOUBLE COATED TAPE - DESIGN BASIS: 3M #06383.

D E0.1 MULTIPLE SERVICE PLAQUE
NO SCALE

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: **71,682 Watts** Exterior Specified: **1262 Watts**
Interior Allowed: **83,590 Watts** Exterior Allowed: **2910 Watts**

ADDITIONAL METHOD OF COMPLIANCE:
- ☐ 506.2.1 More Efficient Mechanical Equipment
- ☒ 506.2.2 Reduced Lighting Power Density
- ☐ 506.2.3 Energy Recovery Ventilation System
- ☐ 506.2.4 Higher Efficiency Service Water Heating
- ☐ 506.2.5 On-Site Supply of Renewable Energy
- ☐ 506.2.6 Automatic Daylighting Control Systems

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 505 of the North Carolina Energy Conservation Code.

SIGNED: Mark A. Ciarrocca
NAME: Mark A. Ciarrocca, P.E.
TITLE: Engineer

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
Civil Engineering
420 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7316
LA: C-105
PE: C-1395

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 043111 MARK A. CIARROCCA
21MAR2019

NHCS
Emma B. Trask Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

ELECTRICAL NOTES, DETAILS, ABBREVIATIONS

E0.1

© 2019 Sawyer Sherwood & Associate- All Rights Reserved

FIRE ALARM LEGEND

SYMBOL	DESCRIPTION	MOUNTING
CM PA	CONTROL / RELAY MODULE FOR SOUND SYSTEM SHUNT. PROVIDE REMOTE POWER CONTROL DEVICE WITH PLUG, CORD, & RECEPTACLE FOR SOUND SYSTEM AMPLIFIER POWER. SEE SPECIFICATIONS.	CEILING / WALL
AMP	AMPLIFIER	WALL
B	BEAM DETECTOR, TRANSMITTER WITH ASSOCIATED REFLECTOR	WALL
CO	CARBON MONOXIDE DETECTOR	CEILING
CM	CONTROL / RELAY MODULE	
CM S	CONTROL / RELAY MODULE FOR SPEAKER BYPASS SEE DETAIL P/E5.3.	
DH	DOOR HOLDER, MAGNETIC	
FACP	FIRE ALARM CONTROL PANEL	WALL
FCPS	FIELD CHARGING POWER SUPPLY	WALL
H	HEAT DETECTOR	CEILING
H CO	HEAT DETECTOR W/ INTEGRAL CARBON MONOXIDE DETECTOR	CEILING
LOC	LOCAL OPERATOR CONSOLE	WALL
MM FS	MONITOR MODULE FOR FLOW SWITCH	
MM SS	MONITOR MODULE FOR COOKING EXHAUST HOOD FIRE SUPPRESSION SYSTEM	
MM PS	MONITOR MODULE FOR PRESSURE SWITCH	
MM TS	MONITOR MODULE FOR TAMPER SWITCH	
MM SS PIV	MONITOR MODULE WITH SURGE SUPPRESSOR FOR CONNECTION OF EXTERNAL CIRCUITRY TO PIV	
P	PULL STATION	WALL
RA	REMOTE ANNUNCIATOR	WALL
R	REMOTE TEST SWITCH FOR BEAM DETECTOR	CEILING / WALL
S	SMOKE DETECTOR	CEILING
S CO	SMOKE DETECTOR W/ INTEGRAL CO DETECTOR	CEILING
HS	SMOKE DETECTOR	WALL
SS	SURGE SUPPRESSOR	

AUDIO/VISUAL FIRE ALARM LEGEND

SYMBOL	DESCRIPTION	MOUNTING
	4 SPEAKER ARRAY, 60W CLUSTER; DESIGN BASIS: WHEELOCK STH-4R	CEILING MTD
1	SPEAKER, 1 WATT	CEILING
1/2-15	SPEAKER STROBE, 1/2 WATT, 15 CANDELA	CEILING
1/2-30	SPEAKER STROBE, 1/2 WATT, 30 CANDELA	CEILING
1/2-75	SPEAKER STROBE, 1/2 WATT, 75 CANDELA	CEILING
1/4-15	SPEAKER STROBE, 1/4 WATT, 15 CANDELA	CEILING
1/8-15	SPEAKER STROBE, 1/8 WATT, 15 CANDELA	CEILING
1-15	SPEAKER STROBE, 1 WATT, 15 CANDELA	CEILING
1-30	SPEAKER STROBE, 1 WATT, 30 CANDELA	CEILING
1-75	SPEAKER STROBE, 1 WATT, 75 CANDELA	CEILING
1-95	SPEAKER STROBE, 1 WATT, 95 CANDELA	CEILING
2-75	SPEAKER STROBE, 2 WATTS, 75 CANDELA	CEILING
2-95	SPEAKER STROBE, 2 WATTS, 95 CANDELA	CEILING
1-75	SPEAKER STROBE, 1 WATT, 75 CANDELA	WALL
1-115	SPEAKER STROBE, 1 WATT, 115 CANDELA	WALL
2-115	SPEAKER STROBE, 2 WATTS, 115 CANDELA	WALL
15	STROBE, 15 CANDELA	CEILING
185	STROBE, 185 CANDELA	CEILING

RECEPTACLE LEGEND

SYMBOL	NEMA	VOLTS	DESCRIPTION
	5-20R	120V 1P 2W	DUPLEX, MTD 18" AFF UNO
CP	5-20R	120V 1P 2W	DUPLEX FOR CONDENSATE PUMP; COORDINATE LOCATION W/ MECH CONTRACTOR
	5-20R	120V 1P 2W	DUPLEX, MTD 6" ABOVE COUNTER HEIGHT UNO
G	5-20R	120V 1P 2W	DUPLEX GFCI, MTD 6" ABOVE COUNTER HEIGHT UNO
EWC	5-20R	120V 1P 2W	DUPLEX ELECTRIC WATER COOLER OUTLET; SUPPLY FROM GROUND FAULT TYPE C/B; COORDINATE MTG LOCATION TO CONCEAL OUTLET WHEN COOLER IS INSTALLED
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
ICE	5-20R	120V 1P 2W	DUPLEX FOR ICE MACHINE; MTD 18" AFF UNO
MW	5-20R	120V 1P 2W	DUPLEX GFCI FOR MICROWAVE; VERIFY MICROWAVE TYPE; MOUNT 6" ABOVE COUNTER HEIGHT FOR COUNTER TOP MICROWAVE -OR- MOUNT FLUSH IN BACK OF UPPER CABINET FOR SUSPENDED MICROWAVE.
PROJ	5-20R	120V 1P 2W	DUPLEX FOR PENDANT MOUNTED PROJECTOR.
PROJ	5-20R	120V 1P 2W	DUPLEX IN PREFAB CEILING PAN. PROVIDE CEILING PAN; SEE SPECIFICATIONS. DESIGN BASIS: PEERLESS #CMJ455 SERIES. SEE AUXILIARY SYSTEMS PLANS FOR PLACEMENT IN GRID.
R	5-20R	120V 1P 2W	DUPLEX FOR REFRIGERATOR; MOUNT 48" AFF UNO. SUPPLY FROM GFCI TYPE C/B.
W/G/R	5-20R	120V 1P 2W	DUPLEX GFCI, MTD 18" ABOVE FINISHED ROOF LEVEL (UNO) FOR EQUIPMENT MAINTENANCE USE; STUB CONDUIT 6" ABOVE MECHANICAL ROOF CURB AND USE 12" SEALTITE FLEX FROM RIGID CONDUIT TO DUPLEX. COORDINATE EXACT LOCATION WITH MECHANICAL CONTRACTOR. LISTED WEATHER-RESISTANT TYPE; PROVIDE CAST ALUMINUM WEATHERPROOF IN-USE COVER WITH CAST ALUMINUM FD WEATHERPROOF BOX
V	5-20R	120V 1P 2W	DUPLEX FOR VENDING MACHINE, MTD 30" AFF UNO. SUPPLY FROM GFCI TYPE C/B.
VE	5-20R	120V 1P 2W	DUPLEX FOR VIDEO EQUIPMENT LOCATED IN RECESSED OUTLET BOX (COORDINATE SPECIFIC LOCATION AND HEIGHT WITH OWNER/ARCHITECT). SEE AUXILIARY SYSTEMS PLANS FOR SHARED BOX WITH DATA OUTLET. DESIGN BASIS ARLINGTON #TVBS613 WITH COVER.
W	5-20R	120V 1P 2W	DUPLEX FOR WASHER, MTD 30" AFF UNO
FAP		120V 1P 2W	POWER FOR FIRE DETECTION & ALARM SYSTEM PANEL / CONTROL UNIT
SCI CNTRL		120V 1P 2W	POWER LABORATORY SAFETY DEVICE SYSTEM CONTROL POWER
SEC		120V 1P 2W	POWER FOR SECURITY SYSTEM COMPONENT
	5-20R	120V 1P 2W	QUAD, MTD 18" AFF UNO
	5-20R	120V 1P 2W	QUAD, MTD IN FLUSH FLOOR BOX; SEE AUX SYS PLANS FOR SHARED BOX; PROVIDE DIVIDER FOR POWER SEPARATION FROM VOICE/DATA
PA	5-20R	120V 1P 2W	SINGLE RECEPTACLE FOR PA EQUIPMENT, MTD 18" AFF UNO
L6-20R	L6-20R	208V 2P 2W	DATA RACK RECEPTACLE. MOUNT AT TOP OF RACK.
L14-30R	L14-30R	208V 2P 2W	DATA RACK RECEPTACLE. MOUNT AT TOP OF RACK.
D	14-30R	208/120V 2P 3W	DRYER OUTLET, MTD 30" AFF UNO
		120V 1P 2W	EXHAUST FAN; SEE MECHANICAL SCHEDULE. PROVIDE POWER PACK FOR SWITCHING WITH CEILING OCCUPANCY SENSOR.

MISC. ELECTRICAL SYMBOL LEGEND

	ENCLOSED CIRCUIT BREAKER, NEMA 1 (UNO), AMPERAGE AS INDICATED OR BASED ON SUPPLY CIRCUIT RATING.
	EQUIPMENT CONNECTION
	SAFETY SWITCH DISCONNECT, HEAVY-DUTY, NON-FUSED, NEMA 1 INSIDE, NEMA 3R OUTSIDE (UNO), AMPERAGE AS INDICATED OR BASED ON SUPPLY CIRCUIT BREAKER RATING.
	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
T	TRANSFORMER, DRY TYPE, RATINGS INDICATED, NEMA 1 ENCLOSURE (UNO). PROVIDE 4" CONCRETE HOUSE KEEPING PAD IF A FLOOR MOUNTED UNIT IS PROVIDED.
	GROUND ROD, 3/4" X 10' COPPER CLAD. WHERE TWO RODS ARE INDICATED, SPACE A MINIMUM OF 20' APART.
K	KIRK-KEY INTERLOCKS

HOMERUN DESIGNATION, #12 CONDUCTORS UNLESS NOTED OTHERWISE.
EQUIPMENT GROUND CONDUCTOR
PHASE CONDUCTOR
NEUTRAL CONDUCTOR

CONDUCTOR TERMINATIONS IN EQUIPMENT BY MC & PC
BY EC
BY EC
BY EC

1 HR FIRE BARRIER
2 HR FIRE BARRIER
4 HR FIRE BARRIER

A / E0.1
LETTER INDICATES ELEVATION OR DETAIL; NUMBER INDICATES PLAN OR SECTION
SHEET NUMBER WHERE PLAN, SECTION, ELEVATION OR DETAIL IS DRAWN

PA AND SECURITY LEGEND

SYMBOL	DESCRIPTION	MOUNTING	NOTES
	PA/INTERCOM SPEAKER	CEILING	
E	EXISTING SECURITY CAMERA		DATA CABLES FOR EXISTING SECURITY CAMERAS TO BE REWORKED, REPULLED, OR REPLACED TO ACCOMMODATE HEAD-END RELOCATION NEW MDF ROOM.
E	EXISTING MOTION DETECTOR TO BE REMOVED		
ES	ELECTRIC STRIKE		FOR SINGLE DOOR, PROVIDE 1/2" FLEXIBLE METALLIC CONDUIT CONCEALED IN DOOR FRAME TO JUNCTION BOX MTD ABOVE CEILING. COORDINATE CABLING REQUIREMENTS WITH SECURITY VENDOR
IC	INTERCOM STATION, 2-WAY COMMUNICATION	WALL	
K	KEYPAD	WALL	SURFACE MOUNTED BOX MTD 42" AFF AT KEYPAD LOCATION WITH 3/4"C TO SECURITY PANEL.
360	MOTION DETECTOR, 360 DEGREE COVERAGE	CEILING	
	MOTION DETECTOR, CORRIDOR COVERAGE	CEILING / WALL	FOR WALL MOUNT, PROVIDE 4" SQUARE BOX RECESSED; STUB 3/4"C TO INDICATED LOCATION OR NEAREST ACCESSIBLE CEILING SPACE
SECM	SECURITY SYSTEM CONTROLLER / CONTROL PANEL	WALL	
P	PANIC ALARM PUSHBUTTON	UNDER DESK	LISTED PANIC ALARM BUTTON WITH FALSE ALARM PREVENTION FEATURES. NEATLY ROUTE EXPOSED WIRING UNDER DESK TO AND CONTINUE TO JUNCTION BOX ABOVE CEILING. 3/4"C FROM JUNCTION BOX TO ACCESSIBLE CEILING AND (1) CAT 6 CABLE TO AUTODAILER LOCATED IN MDF. PUSHBUTTON DESIGN BASIS: SENTROL 3040
DL	PUSHBUTTON FOR DOOR LOCK		SURFACE MTD, MOMENTARY PUSHBUTTON. CONTACTS RATED FOR REQUIRED LOAD. NEATLY ROUTE EXPOSED WIRING UNDER DESK AND CONTINUE TO JUNCTION BOX ABOVE CEILING. PUSHBUTTON #1 LOCK RECEPTION DOOR INTO LOBBY
DR	PUSHBUTTON FOR DOOR RELEASE		SURFACE MTD, MOMENTARY PUSHBUTTON. CONTACTS RATED FOR REQUIRED LOAD. NEATLY ROUTE EXPOSED WIRING UNDER DESK AND CONTINUE TO JUNCTION BOX ABOVE CEILING. PUSHBUTTON #1: RELEASE OUTER VESTIBULE DOOR. PUSHBUTTON #2 RELEASE RECEPTION DOOR INTO LOBBY
S	PA SPEAKER	WALL	

DATA & TELEPHONE OUTLET LEGEND

SYMBOL	DESCRIPTION	MOUNTING	NOTES
AP	DATA OUTLET FOR ACCESS POINT	PROVIDE DATA CABLE COUPLER. SEE DETAIL E5.4.	INSTALL (1) CAT 6A CABLE TO IT ROOM. PROVIDE PATCH CORD FROM OUTLET TO OWNER PROVIDED, CONTRACTOR INSTALLED EQUIPMENT.
APG	DATA OUTLET FOR GYM ACCESS POINT	PROVIDE DATA CABLE COUPLER. SEE DETAIL E5.4. MOUNTED 10' AFF.	PROVIDE NON-METALLIC ENCLOSURE WITH PLASTIC LOCK W/ TRANSLUCENT DOOR AND ANTENNA BRACKET ACCESSORY. ENCLOSURE DESIGN BASIS: OBERON 1016-C-ANPLATE. INSTALL (1) CAT 6A CABLE TO IT ROOM. PROVIDE PATCH CORD FROM OUTLET TO OWNER PROVIDED, CONTRACTOR INSTALLED EQUIPMENT.
APO	DATA OUTLET FOR EXTERIOR WALL MOUNTED ACCESS POINT	PROVIDE DATA CABLE COUPLER. SEE DETAIL E5.4. MOUNTED 10' AFF.	PROVIDE NEMA 4X ENCLOSURE WITH LATCHING LOCKS AND CORD GRIP. ENCLOSURE DESIGN BASIS: VENTEV #V12105LO-CG WITH #CG-B-13.5 (CORD GRIP) INSTALL (1) CAT 6A CABLE TO IT ROOM. PROVIDE PATCH CORD FROM OUTLET TO OWNER PROVIDED, CONTRACTOR INSTALLED EQUIPMENT.
APW	DATA OUTLET FOR WALL MOUNTED ACCESS POINT	4" SQUARE BOX WALL MOUNTED 10' AFF.	PROVIDE RIGHT ANGLE MOUNTING BRACKET FOR HORIZONTAL MOUNTING. RIGHT ANGLE MOUNTING BRACKET DESIGN BASIS: OBERON 1011-00-WH. INSTALL (1) CAT 6A CABLE TO IT ROOM. PROVIDE PATCH CORD FROM OUTLET TO OWNER PROVIDED, CONTRACTOR INSTALLED 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 #B2181T SERIES WHERE SURFACE MOUNTED, PROVIDE DEEP 2GANG WIREMOLD BOX. WIREMOLD RACEWAY SIZED TO ACCOMMODATE NUMBER OF CABLES INDICATED; 800 SERIES SIZE MINIMUM	STUB 1"C TO 6" ABOVE CEILING; WHERE SURFACE MOUNTED IN FINISHED SPACES, PROVIDE WIREMOLD IN LIEU OF CONDUIT. INSTALL (2) CAT 6 CABLES TO IT ROOM; OTHERWISE, # INDICATES QUANTITY OF CABLES IF > 2
	EQUIPMENT RACK	FLOOR	SEE SPECIFICATIONS
	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 TO IT ROOM UTILIZING (1) CONDUIT; OTHERWISE, # INDICATES QUANTITY OF CABLES IF > 2
PIM	IT OUTLET FOR WIRELESS ACCESS CONTROL DEVICE	4" SQUARE BOX	CONTRACTOR SHALL PROVIDE AND INSTALL SCHLAGE/ALLEGION #PIM400-1501 CONTROLLER. INSTALL (1) CAT 6 CABLE TO IT ROOM. PROVIDE PATCH CORD FROM OUTLET TO EQUIPMENT.
PROJ	COMM OUTLET FOR PROJECTOR	4" SQUARE BOX MOUNTED AT TOP OF STRUCTURE. POLE MOUNT TO STRUCTURAL BEAM. PROJECTOR MOUNTED AT 9'-0" AFF. COORDINATE EXACT MOUNTING HEIGHT WITH ARCHITECT.	SEE DETAILS H/E5.4 AND J/E5.4.
PROJ	PROJECTOR PAN COMM OUTLET	IN PREFAB CEILING PAN	INSTALL BOX IN PAN FOR COMM OUTLET. SEE DETAIL G/E5.4.
TP	DATA / TELEPHONE/COMM OUTLETS FOR TEACHER	WALL, 18" AFF UNO; 2-GANG EXTRA DEEP BOX	PROVIDE (1) VGA PATCH CABLE AND (1) 3.5MM AUDIO PATCH CABLE IN EACH CLASSROOM. SEE DETAILS C/E5.4, G/E5.4, H/E5.4, AND J/E5.4.
T	DATA / TELEPHONE/COMM OUTLETS FOR TEACHER	WALL, 18" AFF UNO; 3-GANG EXTRA DEEP BOX	PROVIDE (2) HDMI PATCH CABLES, (1) USB-B PATCH CABLE, AND (1) 3.5MM AUDIO PATCH CABLE IN EACH CLASSROOM. SEE DETAILS B/E5.4 AND F/E5.4.
VE	VIDEO EQUIPMENT OUTLET	WALL; COORDINATE EXACT LOCATION AND MTG HEIGHT WITH ARCHITECT.	VIDEO EQUIPMENT PROVIDED BY OWNER. INSTALLED BY CONTRACTOR. PROVIDE HDMI PATCH CABLES AND USB-A PATCH CABLE FOR EACH EQUIPMENT. SEE DETAILS A/E5.4 AND F/E5.4.

SWITCH LEGEND

SYMBOL	DESCRIPTION	NOTES
$ 02	OCCUPANCY SENSOR WALL SWITCH, DUAL CKT, DUAL TECHNOLOGY	RATED FOR VOLTAGE WHERE APPLIED, 20A; MTD 42" AFF UNO
$ 01	OCCUPANCY SENSOR WALL SWITCH, SINGLE CKT, DUAL TECHNOLOGY	RATED FOR VOLTAGE WHERE APPLIED, 20A; MTD 42" AFF UNO
	OCCUPANCY SENSOR, DUAL TECHNOLOGY; CEILING MTD	INCORPORATE POWER PACK FOR CIRCUITRY SWITCHING, SEE WIRING DIAGRAMS
	PHOTOCELL, EXTERIOR	MOUNT ON NORTH FACE OF BLDG, FACING NORTH
$	TOGGLE SWITCH, SINGLE POLE	120/277V, 20A; MTD 42" AFF UNO
$ 3	3-WAY SWITCH	120/277V, 20A; MTD 42" AFF UNO

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
420 Rogers Forest Drive
Suite 101
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7316
LA: C-556
PE: C-1586

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 027141 MARK A. CIARROCCA 12-27-18

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

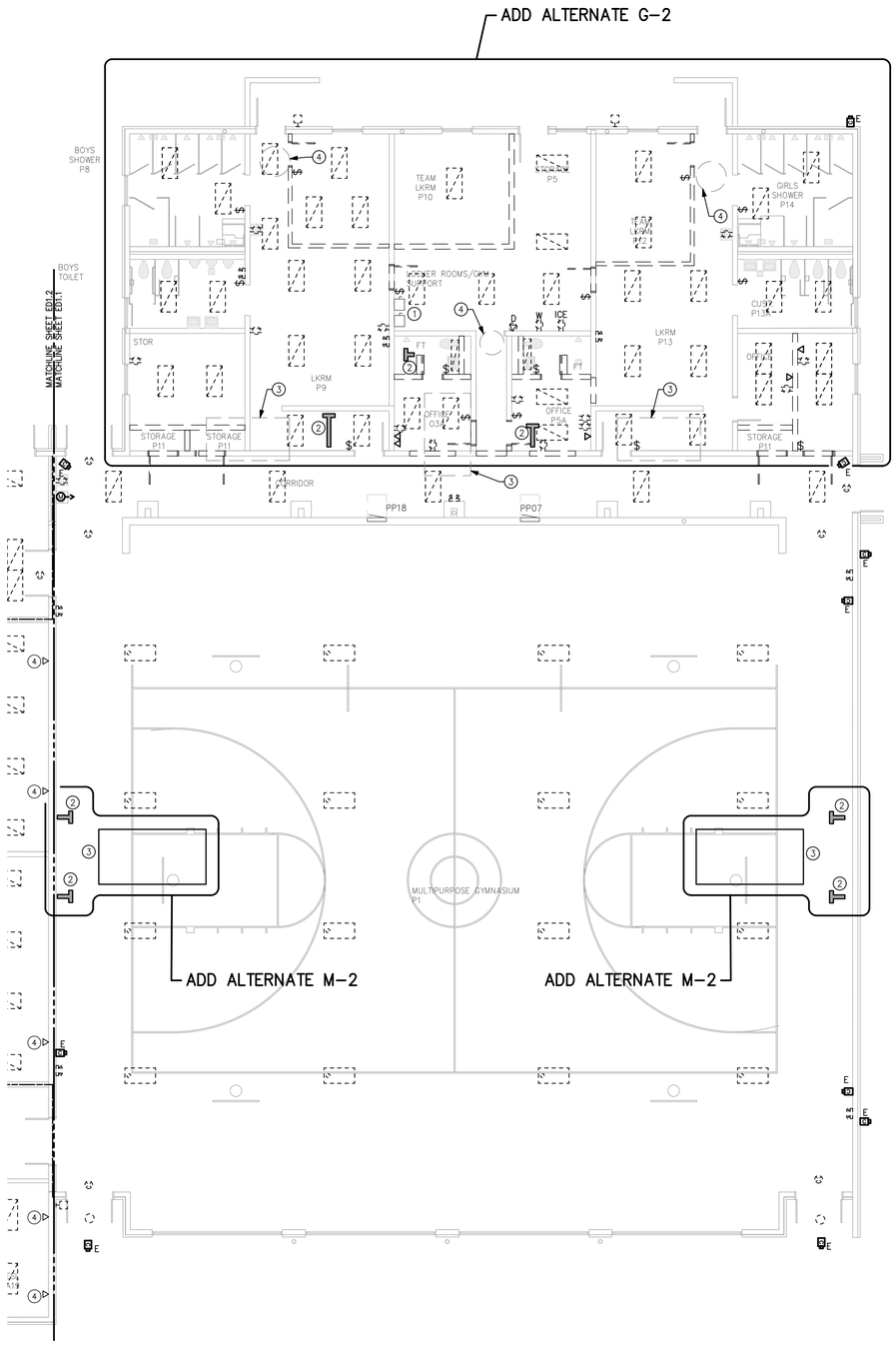
NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

ELECTRICAL LEGENDS

E0.2

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



1 ED1.1 ELECTRICAL DEMOLITION PLAN – AREA A
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE: 1"=1'-0"
0 2 4 8 16

PLAN NORTH TRUE NORTH

DEMOLITION NOTES

1. ALL LIGHT FIXTURES AND SWITCHES SHOWN ARE TO BE REMOVED UNLESS NOTED OTHERWISE. CIRCUITRY TO REMAIN.
2. ALL RECEPTACLES SHOWN ARE TO BE REMOVED UNLESS NOTED OTHERWISE.
3. ALL CAMERAS ARE TO REMAIN UNLESS OTHERWISE NOTED.
4. FIELD INVESTIGATE THE EXTENT OF ELECTRICAL WORK REQUIRED TO SUPPORT THE DEMOLITION ACTIVITIES.
5. THE ELECTRICAL CONTRACTOR SHALL DE-ENERGIZE AND REMOVE EXISTING DEVICES, FIXTURES, CIRCUITRY, ETC. TO ACCOMMODATE THE DEMOLITION ACTIVITIES.
6. ABANDONED CIRCUITRY SHALL BE REMOVED BACK TO ITS SOURCE.
7. EXISTING CIRCUITRY THAT SUPPLIES DEVICES, FIXTURES, ETC. TO REMAIN SHALL BE REWORKED AND EXTENDED AS REQUIRED TO MAINTAIN OPERATION OF THOSE DEVICES AND FIXTURES.
8. ABANDONED AUXILIARY SYSTEMS CABLING SHALL BE REMOVED BACK TO ITS SOURCE.
9. FIELD INVESTIGATE EXISTING HOMERUN CIRCUITRY SUPPLYING LIGHT FIXTURES WITH THE INTENT OF REUSING HOMERUNS FOR NEW LIGHTING.
10. ELECTRICAL POWER PANELS TO REMAIN UNO.
11. ALL FIRE ALARM DEVICES, APPLIANCES, EQUIPMENT, AND CIRCUITRY SHALL BE REMOVED.
12. ALL PA SYSTEM DEVICES SHALL BE REMOVED.
13. ALL DATA CABLES SHALL BE REMOVED FROM EXISTING DATA OUTLET LOCATIONS TO REMAIN. NEW DATA CABLES TO BE INSTALLED THROUGHOUT ENTIRE BUILDING.
14. EXISTING CAMERAS TO REMAIN: FIELD INVESTIGATE WHETHER CABLE RUN IS LENGTHENING BASED ON NEW SECURITY HEADEND EQUIPMENT LOCATION. IF CABLE RUN IS LESSENED, REWORK CABLING TO NEW LOCATION. IF CABLE RUN IS LENGTHENED, REMOVE CAMERA CABLE AND INSTALL NEW TO NEW MDF T1.

KEYED NOTES:

1. EXISTING SAFETY SWITCHES ARE SUPPLIED FROM ONE FEEDER. REMOVE EXISTING SAFETY SWITCHES FOR WATER HEATERS. EXISTING FEEDER TO REMAIN, INSTALL IN JUNCTION BOX FOR CONNECTION (TO NEW WATER HEATER) IN NEW WORK PHASE.
2. EXISTING DUCT HEATER CIRCUITRY AND DISCONNECT SHALL BE REMOVED BACK TO ITS SOURCE.
3. EXISTING HVAC EQUIPMENT CIRCUITRY SHALL BE DISCONNECTED AND REUSED FOR NEW ROOFTOP UNIT. SEE E1.15.
4. EXISTING EXHAUST FAN CIRCUITRY AND DISCONNECT SHALL BE REMOVED BACK TO ITS SOURCE.

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
220 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-0706
Fax: (919) 319-7316
LA: C-156
PE: C-1586

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17411 MARK A. CIARROCCA

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

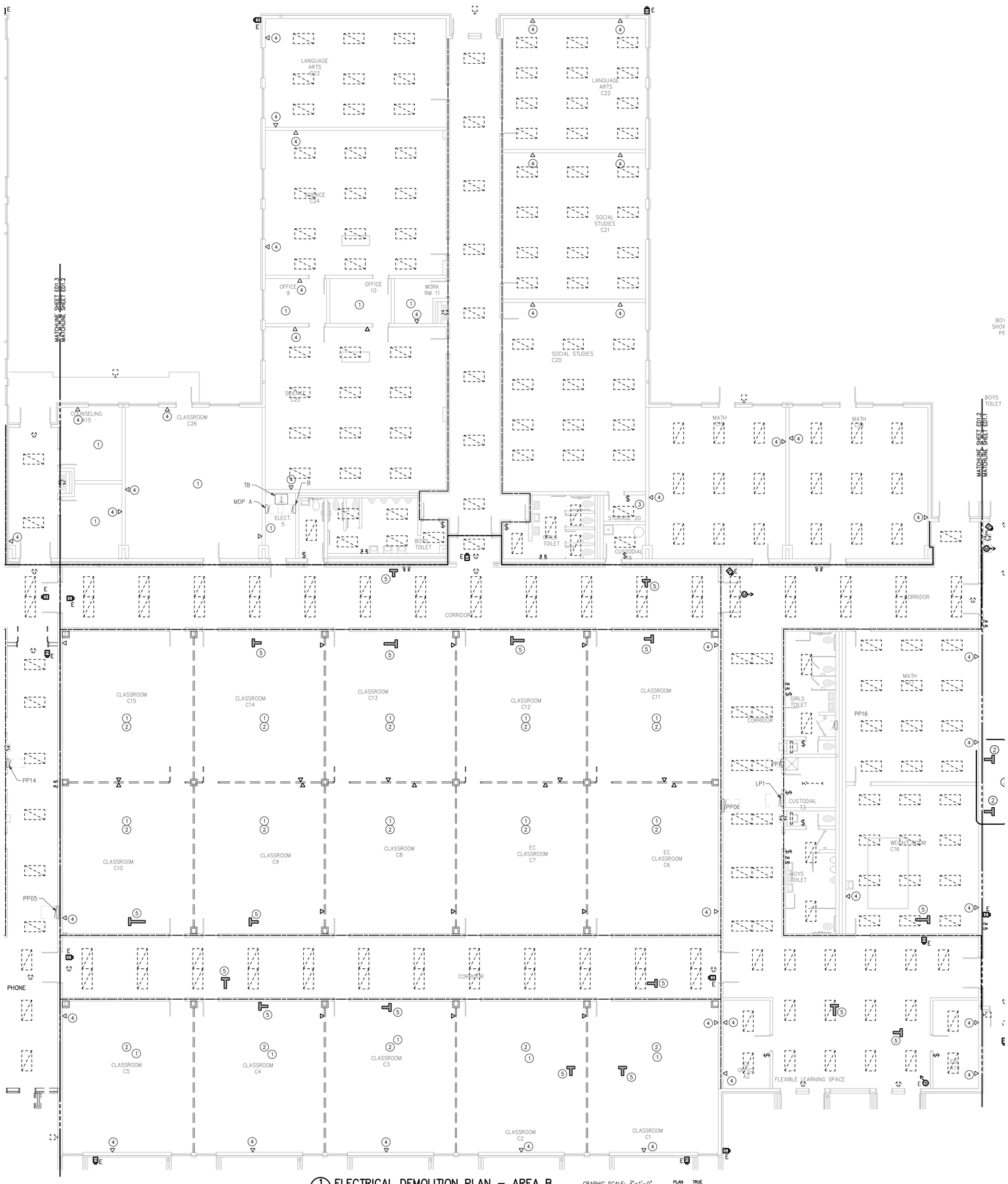
Revisions:

ELECTRICAL DEMOLITION PLAN - AREA A

KEY PLAN

ED1.1

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



1 ED1.2 ELECTRICAL DEMOLITION PLAN – AREA B
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE: 1" = 1'-0"
0 2 4 8 16

PLAN NORTH
TRUE NORTH

DEMOLITION NOTES

1. ALL LIGHT FIXTURES AND SWITCHES SHOWN ARE TO BE REMOVED UNLESS NOTED OTHERWISE. CIRCUITRY TO REMAIN.
2. ALL RECEPTACLES SHOWN ARE TO BE REMOVED UNLESS NOTED OTHERWISE.
3. ALL CAMERAS ARE TO REMAIN UNLESS OTHERWISE NOTED.
4. FIELD INVESTIGATE THE EXTENT OF ELECTRICAL WORK REQUIRED TO SUPPORT THE DEMOLITION ACTIVITIES.
5. THE ELECTRICAL CONTRACTOR SHALL DE-ENERGIZE AND REMOVE EXISTING DEVICES, FIXTURES, CIRCUITRY, ETC. TO ACCOMMODATE THE DEMOLITION ACTIVITIES.
6. ABANDONED CIRCUITRY SHALL BE REMOVED BACK TO ITS SOURCE.
7. EXISTING CIRCUITRY THAT SUPPLIES DEVICES, FIXTURES, ETC. TO REMAIN SHALL BE REWORKED AND EXTENDED AS REQUIRED TO MAINTAIN OPERATION OF THOSE DEVICES AND FIXTURES.
8. ABANDONED AUXILIARY SYSTEMS CABLING SHALL BE REMOVED BACK TO ITS SOURCE.
9. FIELD INVESTIGATE EXISTING HOMERUN CIRCUITRY SUPPLYING LIGHT FIXTURES WITH THE INTENT OF REUSING HOMERUNS FOR NEW LIGHTING.
10. ELECTRICAL POWER PANELS TO REMAIN UNO.
11. ALL FIRE ALARM DEVICES, APPLIANCES, EQUIPMENT, AND CIRCUITRY SHALL BE REMOVED.
12. ALL PA SYSTEM DEVICES SHALL BE REMOVED.
13. ALL DATA CABLES SHALL BE REMOVED FROM EXISTING DATA OUTLET LOCATIONS TO REMAIN. NEW DATA CABLES TO BE INSTALLED THROUGHOUT ENTIRE BUILDING.
14. EXISTING CAMERAS TO REMAIN: FIELD INVESTIGATE WHETHER CABLE RUN IS LENGTHENING BASED ON NEW SECURITY HEADEND EQUIPMENT LOCATION. IF CABLE RUN IS LESSENED, REWORK CABLING TO NEW LOCATION. IF CABLE RUN IS LENGTHENED, REMOVE CAMERA CABLE AND INSTALL NEW TO NEW MDF T1.

KEYED NOTES:

1. LIGHT FIXTURES IN THIS ROOM TO BE REMOVED. CIRCUITRY AND SWITCHES TO REMAIN.
2. ALL ELECTRICAL DEVICES AND ASSOCIATED CIRCUITRY IN THIS ROOM ARE TO BE REMOVED BACK TO PANEL SOURCE. LIGHT FIXTURE CIRCUITRY AND SWITCHES TO REMAIN.
3. LOCATION OF TELECOMMUNICATIONS ROOM. REWORK FIBER SERVING THIS ROOM FROM OLD MDF TO NEW MDF LOCATION.
4. EXISTING DATA OUTLET BOX AND CONDUIT TO REMAIN. REMOVE CABLING BACK TO SOURCE. REMOVE FACEPLATE.
5. EXISTING DUCT HEATER CIRCUITRY AND DISCONNECT SHALL BE REMOVED BACK TO ITS SOURCE.

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
420 Regency Forest Drive
Suite 101
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7316
LA: C-156
PE: C-1586

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17564 MARK A. CIARROCCA 27MAR2019

NHCS
Emma B. Trask Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

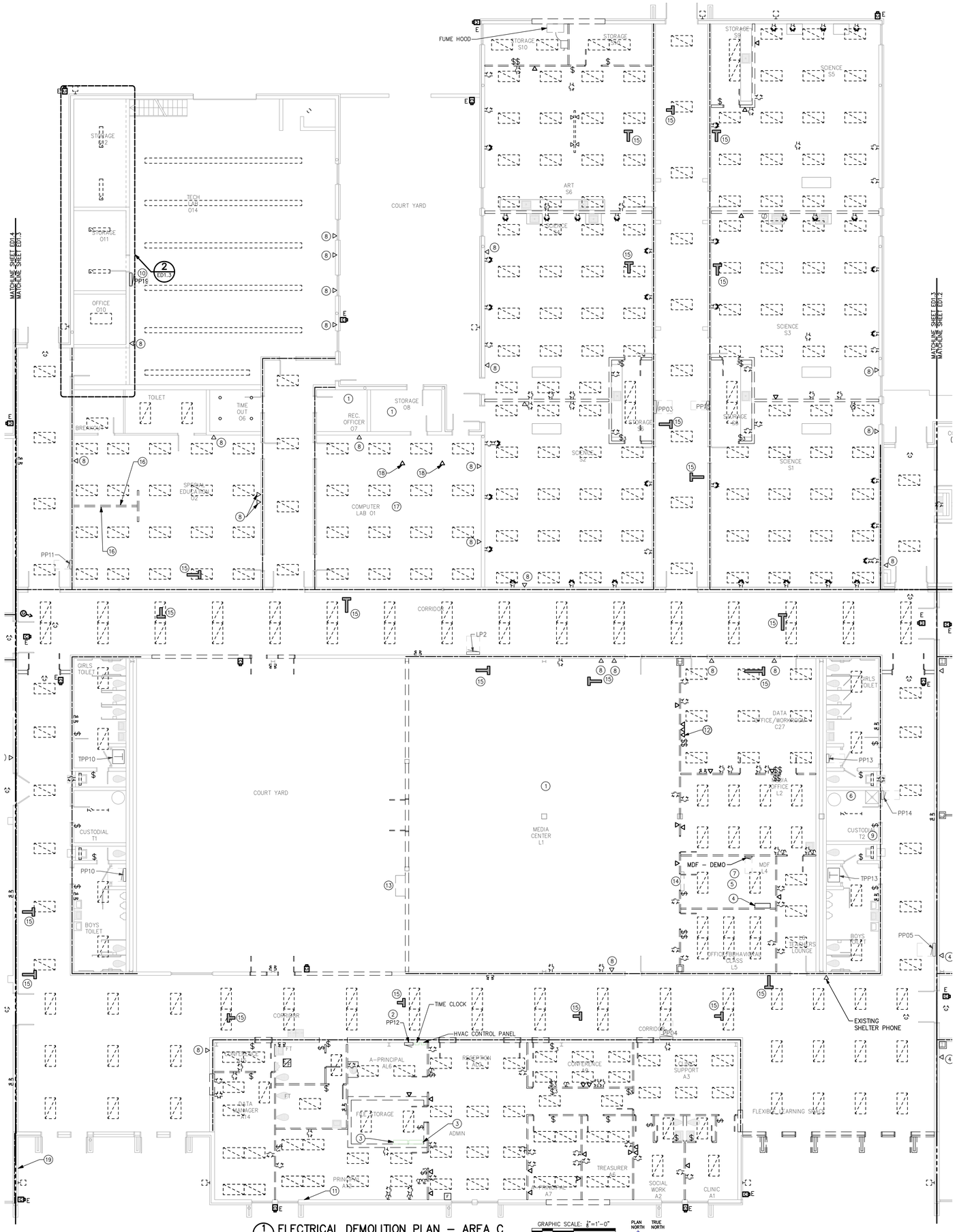
Revisions:

KEY PLAN
D C B A

ELECTRICAL DEMOLITION PLAN - AREA B

ED1.2

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



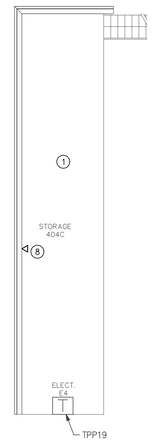
1 ED1.3 ELECTRICAL DEMOLITION PLAN – AREA C
SCALE: 1/8" = 1'-0"

DEMOLITION NOTES

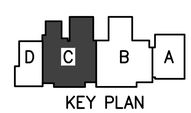
1. ALL LIGHT FIXTURES AND SWITCHES SHOWN ARE TO BE REMOVED UNLESS NOTED OTHERWISE. CIRCUITRY TO REMAIN.
2. ALL RECEPTACLES SHOWN ARE TO BE REMOVED UNLESS NOTED OTHERWISE.
3. ALL CAMERAS ARE TO REMAIN UNLESS OTHERWISE NOTED.
4. FIELD INVESTIGATE THE EXTENT OF ELECTRICAL WORK REQUIRED TO SUPPORT THE DEMOLITION ACTIVITIES.
5. THE ELECTRICAL CONTRACTOR SHALL DE-ENERGIZE AND REMOVE EXISTING DEVICES, FIXTURES, CIRCUITRY, ETC. TO ACCOMMODATE THE DEMOLITION ACTIVITIES.
6. ABANDONED CIRCUITRY SHALL BE REMOVED BACK TO ITS SOURCE.
7. EXISTING CIRCUITRY THAT SUPPLIES DEVICES, FIXTURES, ETC. TO REMAIN SHALL BE REWORKED AND EXTENDED AS REQUIRED TO MAINTAIN OPERATION OF THOSE DEVICES AND FIXTURES.
8. ABANDONED AUXILIARY SYSTEMS CABLING SHALL BE REMOVED BACK TO ITS SOURCE.
9. FIELD INVESTIGATE EXISTING HOMERUN CIRCUITRY SUPPLYING LIGHT FIXTURES WITH THE INTENT OF REUSING HOMERUNS FOR NEW LIGHTING.
10. ELECTRICAL POWER PANELS TO REMAIN UNO.
11. ALL FIRE ALARM DEVICES, APPLIANCES, EQUIPMENT, AND CIRCUITRY SHALL BE REMOVED.
12. ALL PA SYSTEM DEVICES SHALL BE REMOVED.
13. ALL DATA CABLES SHALL BE REMOVED FROM EXISTING DATA OUTLET LOCATIONS TO REMAIN. NEW DATA CABLES TO BE INSTALLED THROUGHOUT ENTIRE BUILDING.
14. EXISTING CAMERAS TO REMAIN: FIELD INVESTIGATE WHETHER CABLE RUN IS LENGTHENING BASED ON NEW SECURITY HEADEND EQUIPMENT LOCATION. IF CABLE RUN IS LESSENED, REWORK CABLING TO NEW LOCATION. IF CABLE RUN IS LENGTHENED, REMOVE CAMERA CABLE AND INSTALL NEW TO NEW MDF T1.

KEYED NOTES:

1. LIGHT FIXTURES IN THIS ROOM TO BE REMOVED. CIRCUITRY AND SWITCHES TO REMAIN.
2. REMOVE EXISTING PANEL PP12 & CIRCUITRY BACK TO SOURCE PANEL PP10.
3. EXISTING PA SYSTEM EQUIPMENT TO BE REMOVED.
4. EXISTING TELEPHONE SYSTEM EQUIPMENT TO BE REMOVED.
5. EXISTING IT AND SECURITY HEADEND EQUIPMENT LOCATED IN THIS ROOM TO BE REMOVED. SEE NEW WORK PLAN FOR NEW LOCATION OF HEADEND EQUIPMENT.
6. REMOVE PANEL EM AND EXISTING BRANCH CIRCUITRY. PROVIDE 600V,3P,100A,S/N,N/F SAFETY SWITCH IN ITS PLACE.
7. REMOVE EXISTING PANEL MDF AND CIRCUITRY BACK TO SOURCE PANEL PP15.
8. EXISTING DATA OUTLET BOX AND CONDUIT TO REMAIN. REMOVE CABLING BACK TO SOURCE. REMOVE FACEPLATE.
9. REMOVE EXISTING TELEPHONE (NOT IN-USE) EQUIPMENT & CABLES.
10. REMOVE EXISTING PANEL COVER & INTERIOR. EXISTING BRANCH CIRCUITS SHALL REMAIN & WILL BE RE-CONNECTED IN THE NEW WORK PHASE. NEW INTERIOR & COVER SHALL BE PROVIDED TO FIT INSIDE EXISTING PANEL CAN. DIMENSIONS OF CAN ARE: L=46", W=20", D=6". SEE PANEL SCHEDULE FOR NEW CIRCUIT BREAKER LAYOUT FOR PANEL PP19.
11. REMOVE EXISTING TRAFFIC CONTROLLER CIRCUITRY AND ANTENNA. FILL HOLE LEFT FROM REMOVAL OF ANTENNA. RELOCATE TO NEW PRINCIPAL'S OFFICE. COORDINATE NEW LOCATION WITH DIRECTION FROM NHCS MAINTENANCE DEPARTMENT. SEE E1.13 FOR NEW LOCATION.
12. REMOVE EXISTING RADIO CABLE AND OUTLET TO ACCOMMODATE DEMOLITION AND REINSTALL ON NEW WALL. SEE E1.33 FOR NEW LOCATION.
13. EXISTING DHP #1 CIRCUITRY (PP15-32,34) SHALL BE RELOCATED TO A JUNCTION BOX IN CEILING. THE CIRCUITRY SHALL BE EXTENDED TO NEW LOCATION IN THE NEW WORK PHASE.
14. EXISTING DAHU #1 CIRCUITRY (POWERED FROM DHP #1) SHALL BE RELOCATED TO A JUNCTION BOX IN CEILING. THE CIRCUITRY SHALL BE EXTENDED TO NEW LOCATION IN THE NEW WORK PHASE.
15. EXISTING DUCT HEATER CIRCUITRY SHALL BE REMOVED BACK TO ITS SOURCE.
16. REMOVE OUTLETS AND CIRCUITRY IN WALL BACK TO SOURCE.
17. REMOVE POWER POLES. CIRCUITRY SHALL BE RELOCATED TO A JUNCTION BOX IN THE CEILING. THE CIRCUITRY SHALL BE EXTENDED TO NEW WALL MOUNTED RECEPTACLES IN NEW WORK.
18. REMOVE DATA POLES. CABLING TO BE REMOVED.
19. REMOVE AIPHONE MASTER AND SUBSTATIONS AND CIRCUITRY. TURN OVER TO OWNER.



2 ED1.4 ELECTRICAL DEMOLITION PLAN – SECOND FLOOR
SCALE: 1/8" = 1'-0"



KEY PLAN

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
420 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7316
LA: C-556
PE: C-1586

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
7412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 043761 MARK A. CIARROCCHI 3/27/2019

NHCS
Emma B. Trask Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

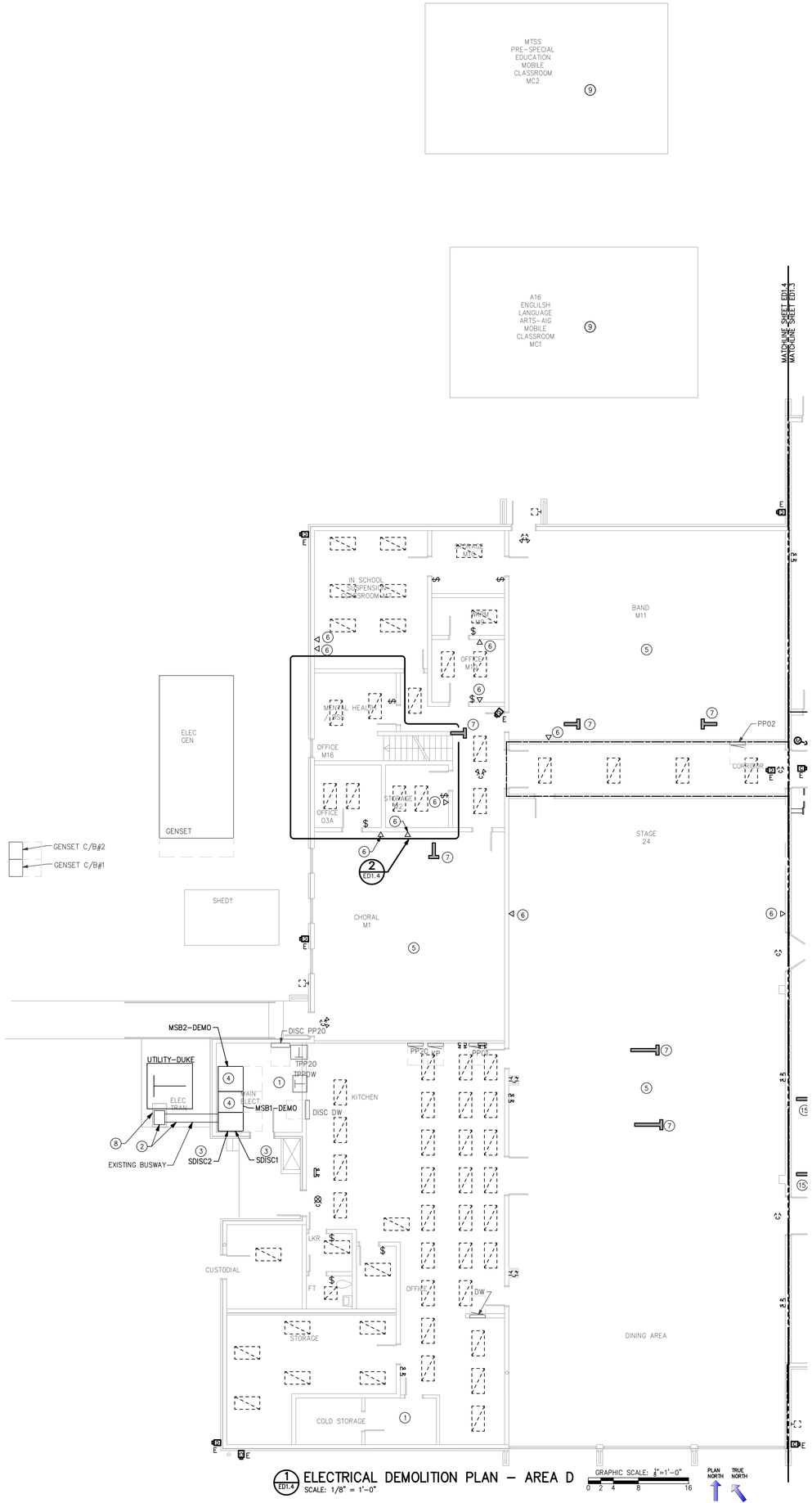
NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

ELECTRICAL DEMOLITION PLAN - AREA C

ED1.3

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



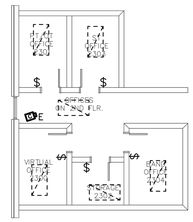
1 ED1.4 ELECTRICAL DEMOLITION PLAN – AREA D
SCALE: 1/8" = 1'-0"

DEMOLITION NOTES

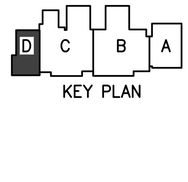
1. ALL LIGHT FIXTURES AND SWITCHES SHOWN ARE TO BE REMOVED UNLESS NOTED OTHERWISE. CIRCUITRY TO REMAIN.
2. ALL RECEPTACLES SHOWN ARE TO BE REMOVED UNLESS NOTED OTHERWISE.
3. ALL CAMERAS ARE TO REMAIN UNLESS OTHERWISE NOTED.
4. FIELD INVESTIGATE THE EXTENT OF ELECTRICAL WORK REQUIRED TO SUPPORT THE DEMOLITION ACTIVITIES.
5. THE ELECTRICAL CONTRACTOR SHALL DE-ENERGIZE AND REMOVE EXISTING DEVICES, FIXTURES, CIRCUITRY, ETC. TO ACCOMMODATE THE DEMOLITION ACTIVITIES.
6. ABANDONED CIRCUITRY SHALL BE REMOVED BACK TO ITS SOURCE.
7. EXISTING CIRCUITRY THAT SUPPLIES DEVICES, FIXTURES, ETC. TO REMAIN SHALL BE REWORKED AND EXTENDED AS REQUIRED TO MAINTAIN OPERATION OF THOSE DEVICES AND FIXTURES.
8. ABANDONED AUXILIARY SYSTEMS CABLING SHALL BE REMOVED BACK TO ITS SOURCE.
9. FIELD INVESTIGATE EXISTING HOMERUN CIRCUITRY SUPPLYING LIGHT FIXTURES WITH THE INTENT OF REUSING HOMERUNS FOR NEW LIGHTING.
10. ELECTRICAL POWER PANELS TO REMAIN UNO.
11. ALL FIRE ALARM DEVICES, APPLIANCES, EQUIPMENT, AND CIRCUITRY SHALL BE REMOVED.
12. ALL PA SYSTEM DEVICES SHALL BE REMOVED.
13. ALL DATA CABLES SHALL BE REMOVED FROM EXISTING DATA OUTLET LOCATIONS TO REMAIN. NEW DATA CABLES TO BE INSTALLED THROUGHOUT ENTIRE BUILDING.
14. EXISTING CAMERAS TO REMAIN: FIELD INVESTIGATE WHETHER CABLE RUN IS LENGTHENING BASED ON NEW SECURITY HEADEND EQUIPMENT LOCATION. IF CABLE RUN IS LESSENED, REWORK CABLING TO NEW LOCATION. IF CABLE RUN IS LENGTHENED, REMOVE CAMERA CABLE AND INSTALL NEW TO NEW MDF T1.

KEYED NOTES:

1. LIGHT FIXTURES IN THIS ROOM TO BE REMOVED. CIRCUITRY AND SWITCHES TO REMAIN.
2. REMOVE EXISTING LUG COMPARTMENT CABINET, BUSWAY, AND SERVICE FEEDER BACK TO UTILITY TRANSFORMER.
3. REMOVE EXISTING SWITCHBOARD SERVICE CIRCUIT BREAKER.
4. REMOVE EXISTING SWITCHBOARDS. CIRCUITRY TO REMAIN. SEE NEW WORK PLAN FOR EXTENDING AND CONNECTING EXISTING CIRCUITRY TO NEW EQUIPMENT.
5. CEILING LIGHT FIXTURES IN THIS ROOM TO REMAIN. EGRESS LIGHTS AND EXIT SIGNS TO BE REMOVED. CIRCUITRY TO REMAIN FROM REMOVED EGRESS LIGHTS AND EXIT SIGNS.
6. EXISTING DATA OUTLET BOX AND CONDUIT TO REMAIN. REMOVE CABLING BACK TO SOURCE. REMOVE FACEPLATE.
7. EXISTING DUCT HEATER CIRCUITRY SHALL BE REMOVED BACK TO ITS SOURCE.
8. CUT & REMOVE CONCRETE PAD FOR EXISTING LUG COMPARTMENT CABINET.
9. REMOVE ALL CABLING FOR DATA OUTLETS, PA DEVICES, AND FIRE ALARM DEVICES. OUTLETS AND DEVICES TO REMAIN. PROVIDE NEW CABLING FROM NEW MDF T1 AND FIRE ALARM PANEL. SEE NEW WORK PLAN FOR LOCATIONS.



2 ED1.4 ELECTRICAL DEMOLITION PLAN – SECOND FLOOR
SCALE: 1/8" = 1'-0"



SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
420 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7316
LA: C-156
PE: C-1586

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 17586 MARK A. CIARROCCA
3/27/2019

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

ELECTRICAL DEMOLITION PLAN - AREA D

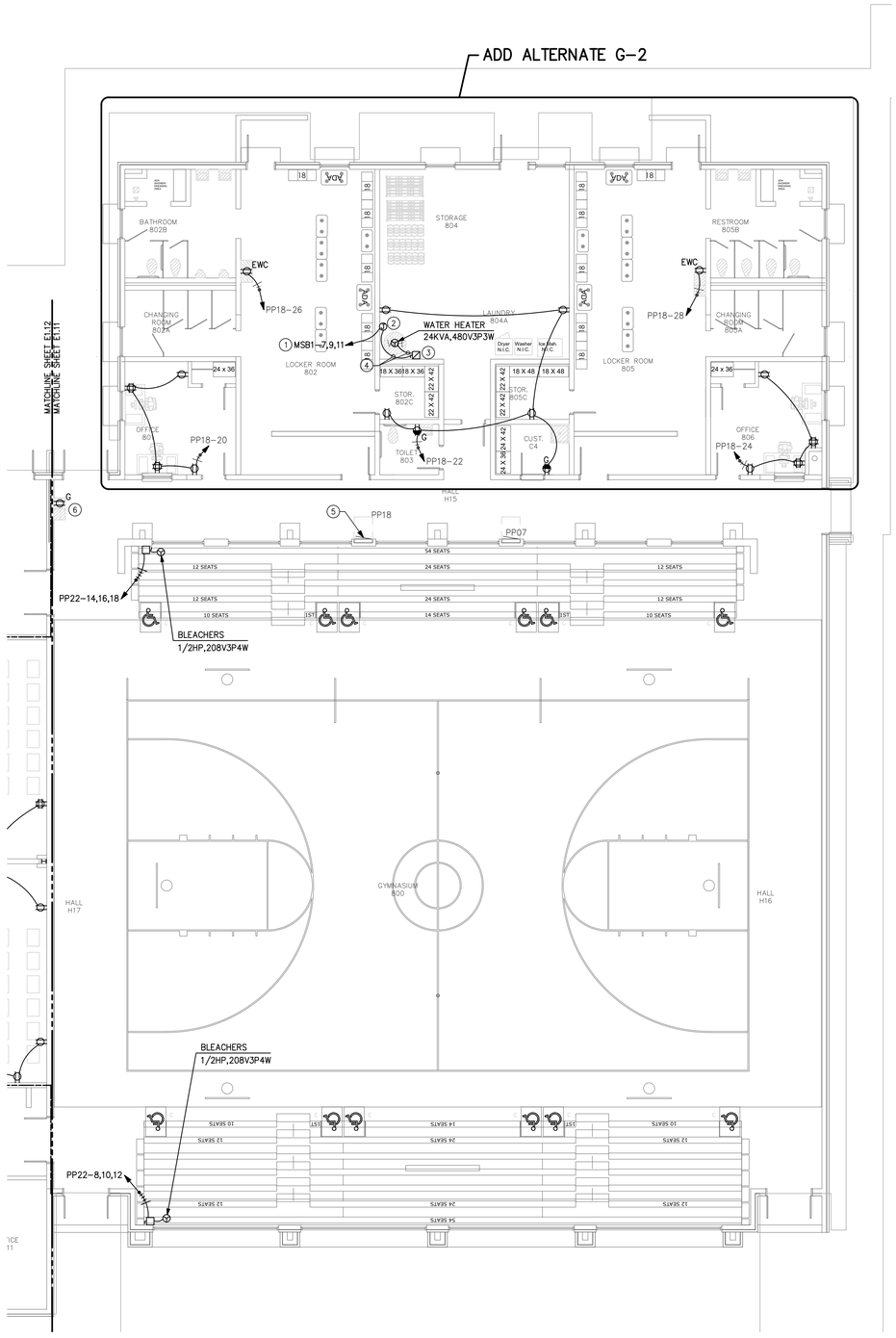
ED1.4

© 2019 Sawyer Sherwood & Associate- All Rights Reserved

NOTES:
1. SEE SPECIFICATION 262416-3.2.B.3 FOR REQUIREMENTS TO PROVIDE FIELD INVESTIGATION AND DIRECTORY UPDATES OF ALL EXISTING PANELS.

KEYED NOTES:

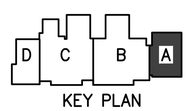
1. EXISTING FEEDER 1 ½"C,3#2,#8G.
2. JUNCTION BOX FOR THE EXISTING FEEDER. PROVIDE PRE-INSULATED TAPS FOR THE FEEDER TO THE NEW SAFETY SWITCH FOR WATER HEATER.
3. SAFETY SWITCH 600V,3P,60A,FUSE AT NAMEPLATE RATING.
4. ¾"C,3#6,#10G.
5. PROVIDE NEW 1P/20A CIRCUIT BREAKER AT POSITIONS 20, 22, AND 24. PROVIDE NEW 1P/20A GFCI CIRCUIT BREAKER AT POSITIONS 26 AND 28. EXISTING PANEL IS MANUFACTURED BY CUTLER/HAMMER (TYPE PRL1A).
6. CONNECT NEW DEVICE INDICATED TO THE EXISTING CIRCUITRY.



1 E1.11 ELECTRICAL POWER PLAN – AREA A
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE: ¼"=1'-0"
0 2 4 8 16

PLAN NORTH / TRUE NORTH



KEY PLAN

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
420 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7316
LA: C-155
PE: C-1586

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17503 MARK A. CIARROCCA

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

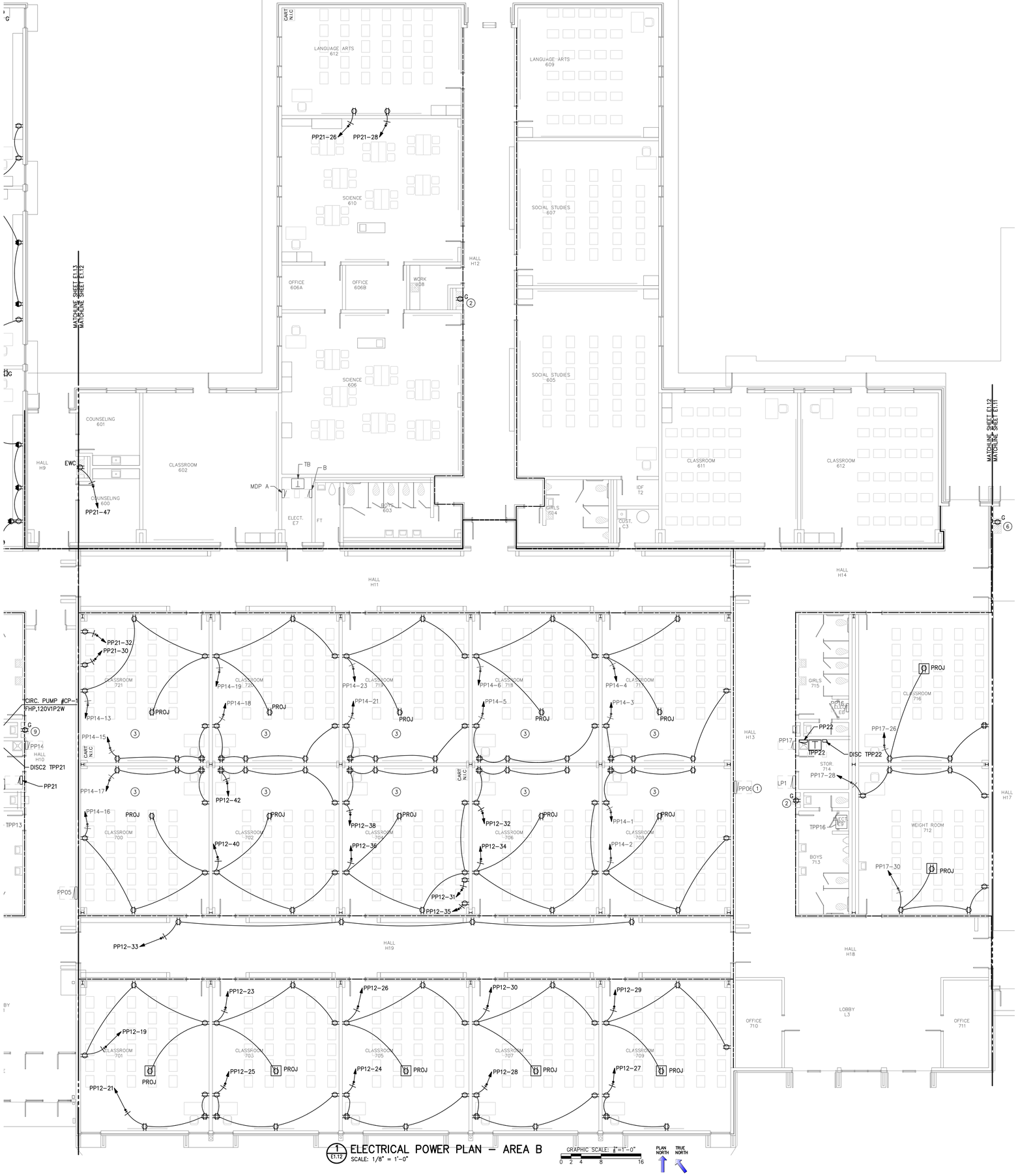
Revisions:

ELECTRICAL POWER PLAN - AREA A

E1.11

© 2019 Sawyer Sherwood & Associate- All Rights Reserved

NOTES:
1. SEE SPECIFICATION 262416-3.2.B.3 FOR REQUIREMENTS TO PROVIDE FIELD INVESTIGATION AND DIRECTORY UPDATES OF ALL EXISTING PANELS.



1 E1.12 ELECTRICAL POWER PLAN – AREA B
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE: 1"=1'-0"
0 2 4 8 16

PLAN NORTH / TRUE NORTH

KEYED NOTES:

1. EXISTING 3P/110A CIRCUIT BREAKER LOCATED IN EXISTING PANEL PP06 SHALL SUPPLY THE NEW TRANSFORMER (TPP22) THAT FEEDS PANEL PP22.
2. CONNECT NEW DEVICE INDICATED TO THE EXISTING CIRCUITRY.
3. CONDUIT SHALL BE RUN PARALLEL AND ATTACHED TO STRUCTURAL STEEL IN THIS ROOM. CONDUIT RUN PERPENDICULAR TO STRUCTURAL STEEL IS NOT ACCEPTABLE UNLESS TIGHT TO WALL.

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
420 Regency Forest Drive
Suite 101
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7316
LA: C-156
PE: C-1586

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17... MARK A. CIARROCCA
4/24/2019

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

D C B A
KEY PLAN

ELECTRICAL POWER PLAN - AREA B

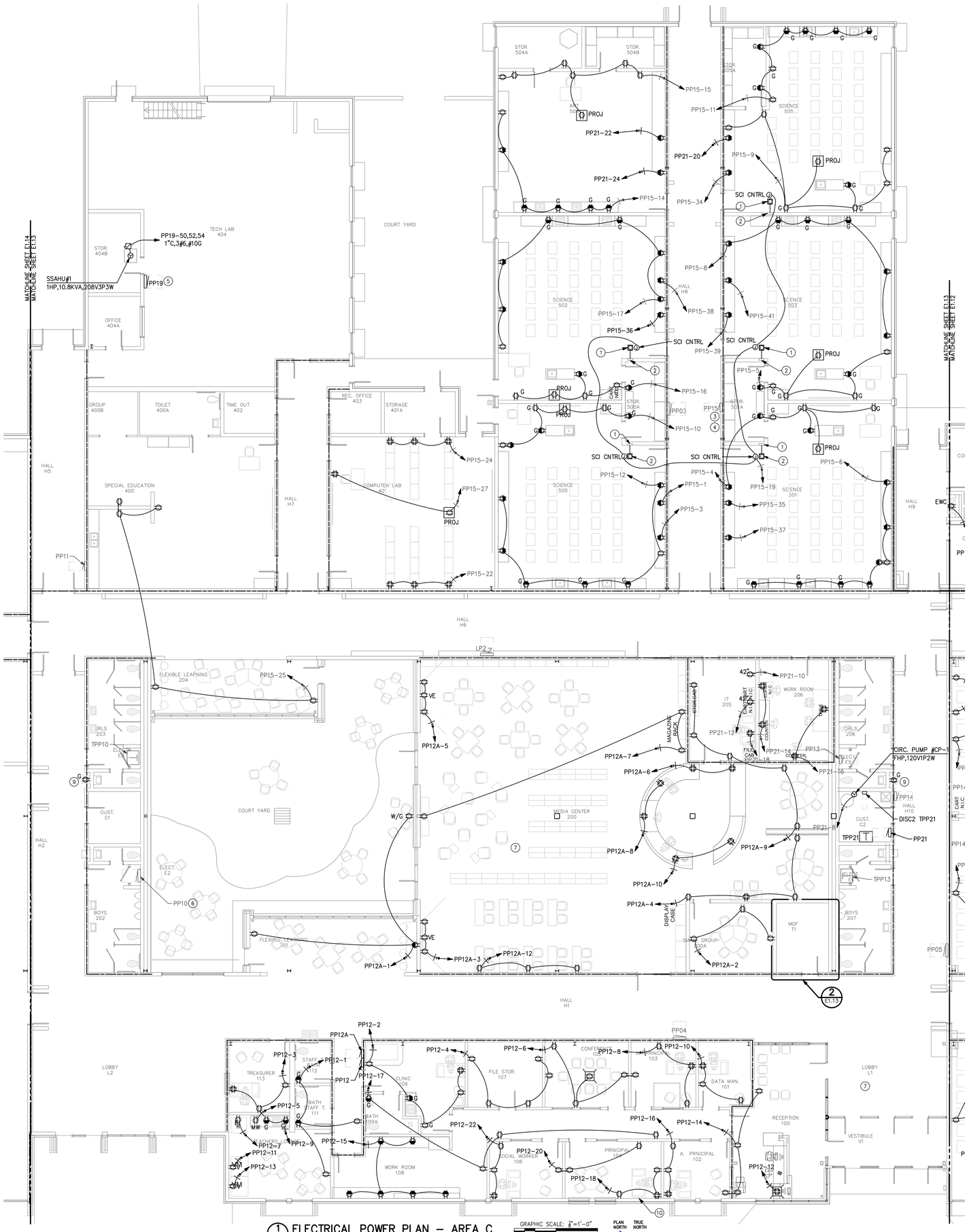
E1.12

© 2019 Sawyer Sherwood & Associate- All Rights Reserved

NOTES:
1. SEE SPECIFICATION 262416-3.2.B.3 FOR REQUIREMENTS TO PROVIDE FIELD INVESTIGATION AND DIRECTORY UPDATES OF ALL EXISTING PANELS.

KEYED NOTES:

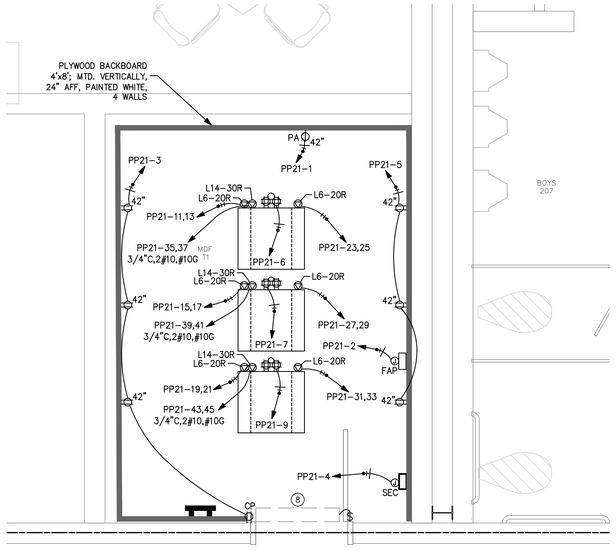
1. LABORATORY SAFETY DEVICE SYSTEM (PROVIDED & INSTALLED BY PLUMBING CONTRACTOR). THIS SYSTEM WILL DISENGAGE THE WATER SYSTEM & POWER TO THE LAB ON ACTIVATION OF THE EMERGENCY STOP SWITCH. ELECTRICAL CONTRACTOR TO COORDINATE WITH PLUMBING CONTRACTOR. SEE SCHEMATIC #A/E5.3.
2. 240V,6P,30A CONTACTOR (PROVIDED & INSTALLED BY ELECTRICAL CONTRACTOR) FOR RECEPTACLE POWER IN THE LAB. SEE SCHEMATIC #A/E5.3. 120V COIL VOLTAGE.
3. REMOVE EXISTING 2P/50A CIRCUIT BREAKER (SPACE #36 & 38). PROVIDE (2) 1P/20A CIRCUIT BREAKERS IN SAME SPACE FOR NEW LOADS. PANEL IS MANUFACTURED BY CUTLER/HAMMER (TYPE PRL1A).
4. PROVIDE (1) 1P/20A CIRCUIT BREAKER IN SPACE PP15-25 FOR NEW LOAD. PANEL IS MANUFACTURED BY CUTLER/HAMMER (TYPE PRL1A).
5. REMOVE EXISTING PANEL COVER & INTERIOR (BUS & CIRCUIT BREAKERS). PANEL IS MANUFACTURED BY SQ-D (NH1B). PROVIDE NEW 54 CIRCUIT INTERIOR & COVER. THE PANEL CAN DIMENSIONS ARE: L=46", W=20", D=6". SEE PANEL SCHEDULE FOR CIRCUIT BREAKERS REQUIRED.
6. PROVIDE (1) 3P/225A CIRCUIT BREAKER FOR NEW PANEL PP12. EXISTING PANEL PP10 IS MANUFACTURED BY SQ-D I-LINE (TYPE HCN).
7. CONDUIT SHALL BE RUN PARALLEL AND ATTACHED TO STRUCTURAL STEEL IN THIS ROOM. CONDUIT RUN PERPENDICULAR TO STRUCTURAL STEEL IS NOT ACCEPTABLE UNLESS TIGHT TO WALL.
8. RELOCATED DAHU #1. RECONNECT TO CIRCUITRY FROM DHP #1.
9. CONNECT NEW DEVICE INDICATED TO THE EXISTING CIRCUITRY.
10. LOCATION OF RELOCATED TRAFFIC CONTROLLER. MOUNT ANTENNA ON ROOF ABOVE PRINCIPAL'S OFFICE.



1 E1.13 ELECTRICAL POWER PLAN – AREA C
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE: 1"=1'-0" (0 2 4 8 16)

PLAN NORTH / TRUE NORTH



2 E1.13 ELECTRICAL ENLARGED PLAN – EQUIPMENT ROOM, MDF T1
SCALE: 1/8" = 1'-0"

KEY PLAN: D C B A

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
Civil Engineering
220 Regency Forest Drive
Suite 120
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7316
LA: C-155
PE: C-1586

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17466 21MAR2019 MARK A. CIARROCCA

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

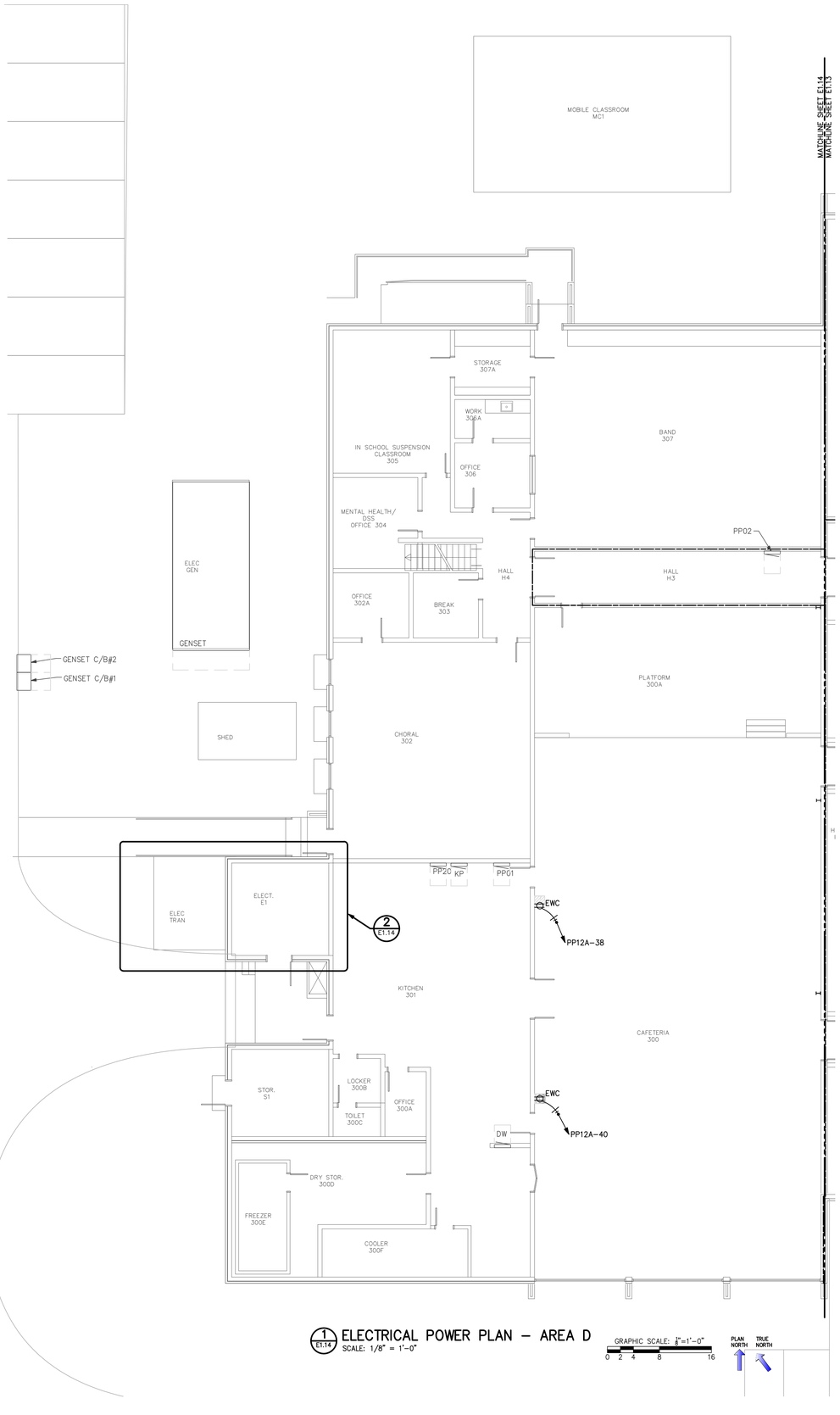
NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

ELECTRICAL POWER PLAN - AREA C

E1.13

© 2019 Sawyer Sherwood & Associate- All Rights Reserved

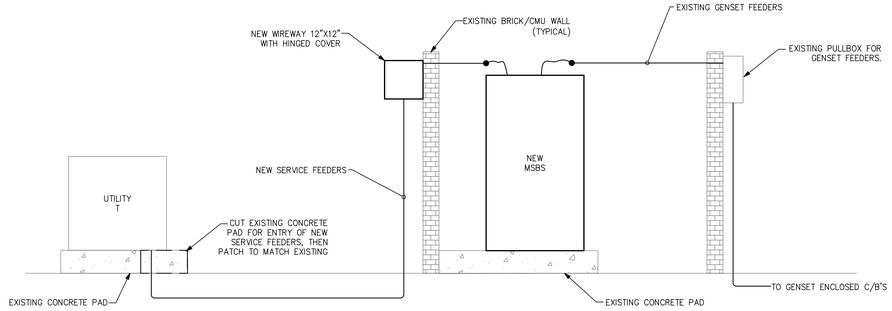


1 E1.14 ELECTRICAL POWER PLAN – AREA D
SCALE: 1/8" = 1'-0"

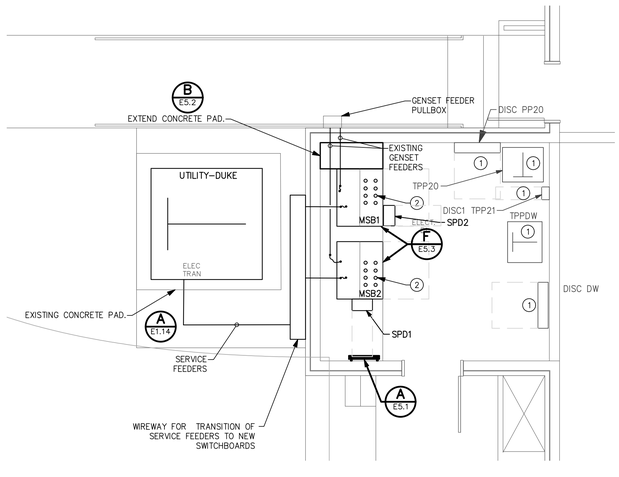
GRAPHIC SCALE: 1/8"=1'-0"
0 2 4 8 16

PLAN NORTH TRUE NORTH

NOTES:
1. SEE SPECIFICATION 262416-3.2.B.3 FOR REQUIREMENTS TO PROVIDE FIELD INVESTIGATION AND DIRECTORY UPDATES OF ALL EXISTING PANELS.



A E1.14 EQUIPMENT ELEVATION – ELECT. E1
SCALE: N/A
NOTE: SEE SHEET #E7.2 FOR ELECTRICAL FEEDER INFORMATION.

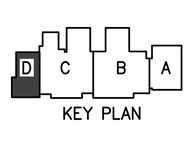


2 E1.14 ELECTRICAL ENLARGED PLAN – ELECT. E1
SCALE: 1/4" = 1'-0"

GRAPHIC SCALE: 1/4"=1'-0"
0 1 2 4 8

KEYED NOTES:

1. EXISTING EQUIPMENT TO REMAIN.
2. EXISTING UNDERGROUND FEEDERS STUB-UPS TO BE SPLICED & RECONNECTED TO THE NEW CIRCUIT BREAKERS IN THE SWITCHBOARD. LOCATE NEW SWITCHBOARDS OVER STUB-UPS.



KEY PLAN

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
430 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7316
LA: C-156
PE: C-1586

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 027418 MARK A. CIARROCCA 3/27/2019

NHCS
Emma B. Trask
Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

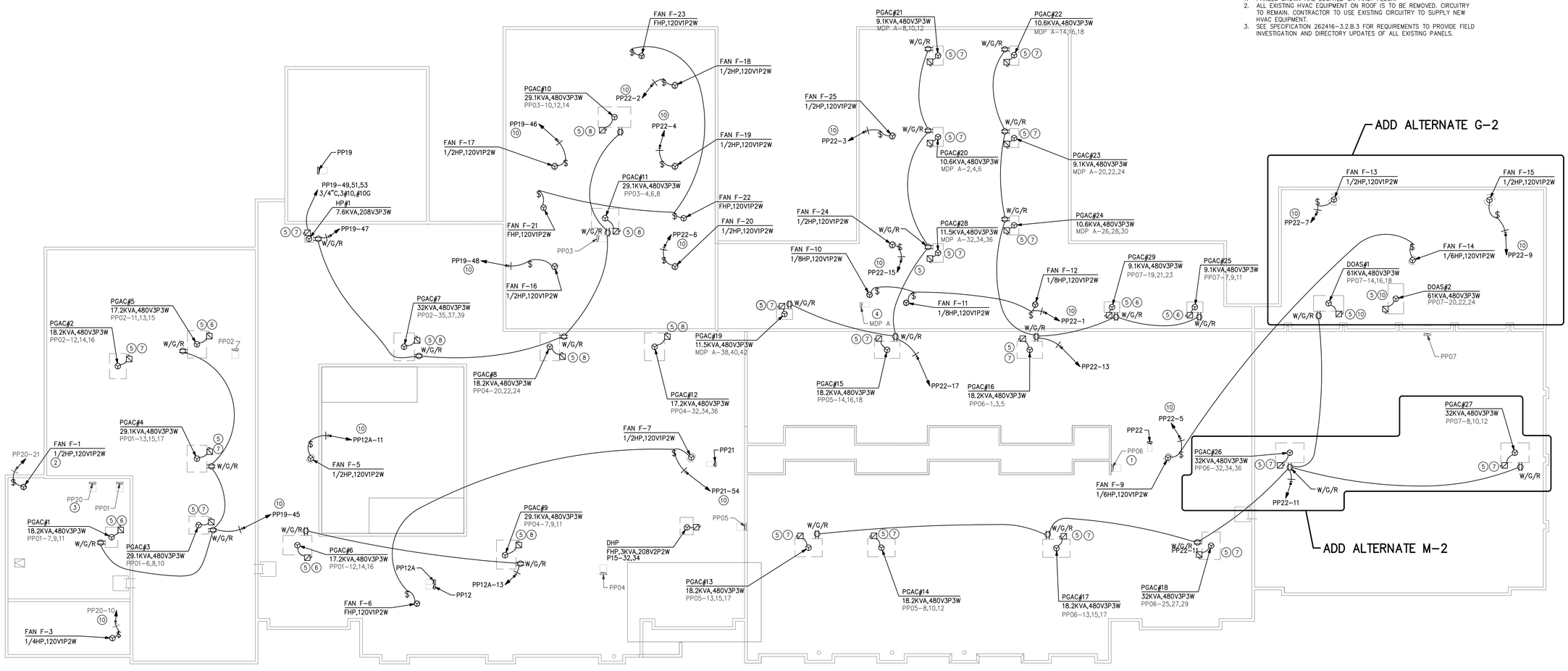
ELECTRICAL POWER PLAN - AREA D

E1.14

© 2019 Sawyer Sherwood & Associate- All Rights Reserved

GENERAL NOTES:

1. PANELS SHOWN ARE LOCATED ON FIRST FLOOR.
2. ALL EXISTING HVAC EQUIPMENT ON ROOF IS TO BE REMOVED. CIRCUITRY TO REMAIN. CONTRACTOR TO USE EXISTING CIRCUITRY TO SUPPLY NEW HVAC EQUIPMENT.
3. SEE SPECIFICATION 262416-3.2.B.3 FOR REQUIREMENTS TO PROVIDE FIELD INVESTIGATION AND DIRECTORY UPDATES OF ALL EXISTING PANELS.



1 E1.15 ELECTRICAL ROOF PLAN
SCALE: 1/16" = 1'-0"

GRAPHIC SCALE: 1/16"=1'-0"
0 4 8 16 32

PLAN NORTH TRUE NORTH

KEYED NOTES:

1. PROVIDE (1) 3P/50A AT POSITIONS #32,34,36. EXISTING PANEL IS MANUFACTURED BY SQ-D, I-LINE (TYPE HCN).
2. RECONNECT EQUIPMENT TO EXISTING CIRCUIT.
3. PROVIDE (1) 1P/20A AT POSITION #10. EXISTING PANEL IS MANUFACTURED BY SQ-D (TYPE NQOD).
4. PROVIDE (1) 3P/20A AT POSITIONS #38,40,42. EXISTING PANEL IS MANUFACTURED BY SQ-D, I-LINE (TYPE HCM).
5. REUSE EXISTING CIRCUITRY INDICATED BY PANEL AND CIRCUIT NUMBER FOR CONNECTION TO THE LINE SIDE OF NEW SAFETY SWITCH FOR THE NEW HVAC EQUIPMENT.
6. 600V,3P,30A. FUSE AT NAMEPLATE.
7. 600V,3P,60A. FUSE AT NAMEPLATE.
8. 600V,3P,100A. FUSE AT NAMEPLATE.
9. 600V,3P,200A. FUSE AT NAMEPLATE.
10. NEW FEEDER FOR EQUIPMENT.

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0822 s2a3.com

CLH DESIGN, P.A.
430 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-0706
Fax: (919) 319-7316
LA: C-155
PE: C-1586

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17444 3/27/2019 WILLIAM A. CIARROCCA

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

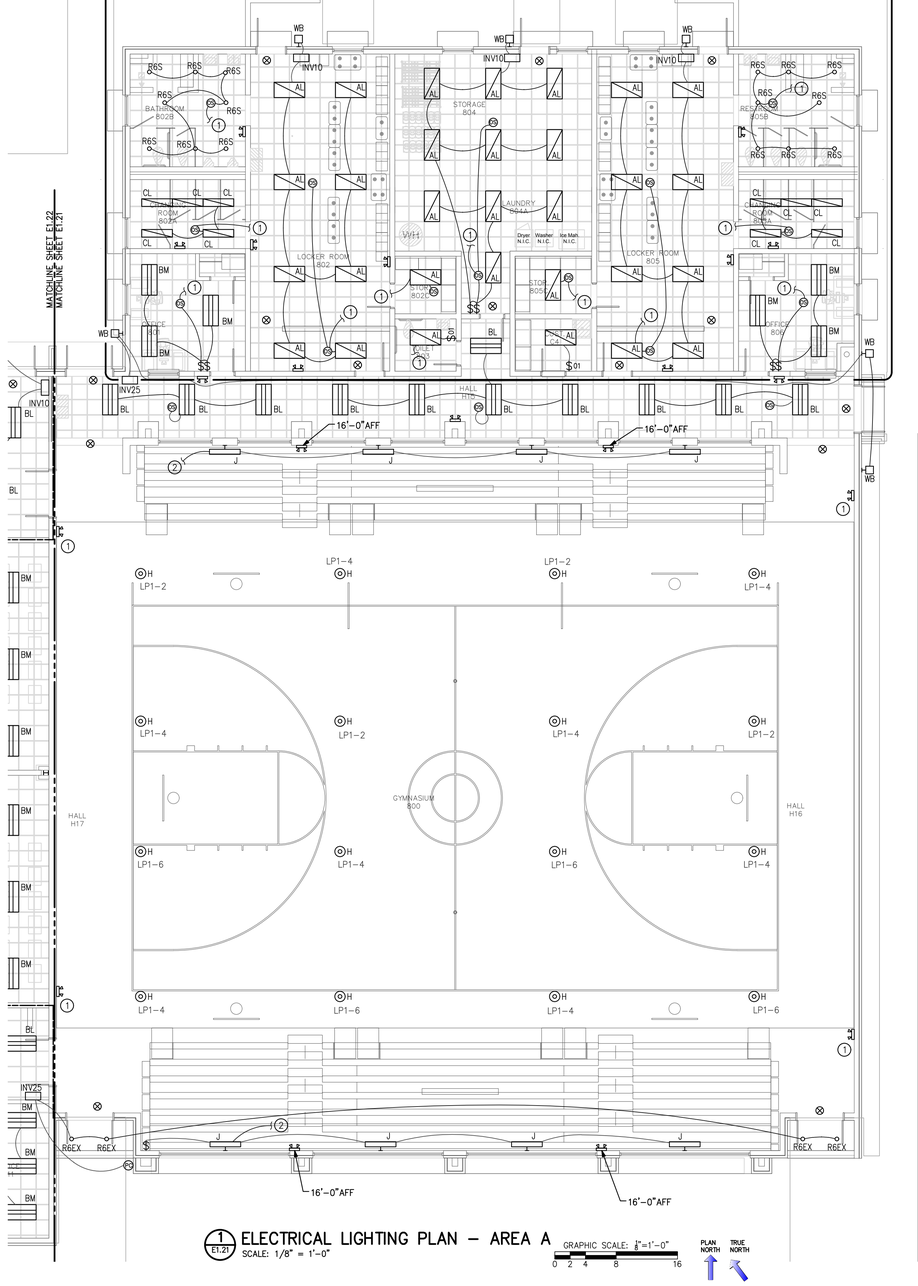
Revisions:

ELECTRICAL ROOF PLAN

E1.15

© 2019 Sawyer Sherwood & Associate- All Rights Reserved

ADD ALTERNATE G-2



1 E1.21 ELECTRICAL LIGHTING PLAN – AREA A
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE: 1/8"=1'-0"
0 2 4 8 16

PLAN NORTH TRUE NORTH

GENERAL NOTES:

1. WHERE CIRCUITRY IS NOT SHOWN, REUSE EXISTING CIRCUITRY AND SWITCHES LEFT IN PLACE FROM DEMOLITION PHASE. CONTRACTOR TO INDICATE PANEL AND CIRCUIT NUMBER ON AS-BUILTS.
2. REFER TO OCCUPANCY SENSOR COVERAGE DIAGRAMS TO OPTIMIZE OCCUPANCY COVERAGE AREA.
3. EXISTING GYM LIGHTING CIRCUITRY HAS TWO CIRCUITS TO EACH FIXTURE. REWORK CIRCUITRY TO ABANDON ONE OF THE BRANCH CIRCUITS AT THE FIXTURE. CIRCUITRY SHALL BE REWORKED WITH CIRCUITRY INDICATED AT FIXTURE.

KEYED NOTES:

1. REUSE EXISTING CIRCUITRY LEFT IN PLACE FROM DEMOLITION PHASE. CONTRACTOR TO INDICATE PANEL AND CIRCUIT NUMBER ON AS-BUILTS.

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
420 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-0706
Fax: (919) 319-7316
LA: C-155
PE: C-1586

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17564 MARK A. CIARROCCA 27MAR2019

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

ELECTRICAL LIGHTING PLAN - AREA A

KEY PLAN

D C B A

E1.21

© 2019 Sawyer Sherwood & Associate- All Rights Reserved

GENERAL NOTES:

1. WHERE CIRCUITRY IS NOT SHOWN, REUSE EXISTING CIRCUITRY AND SWITCHES LEFT IN PLACE FROM DEMOLITION PHASE. WHERE EXISTING SWITCHES ARE BEING USED, INTEGRATE NEW OCCUPANCY SENSOR(S) AND POWER PACK TO BE UPSTREAM OF SWITCHES. CONFIGURE SWITCHES TO CONTROL GROUPED LIGHTS AS INDICATED ON PLAN. CONTRACTOR TO INDICATE PANEL AND CIRCUIT NUMBER ON AS-BUILTS.
2. REFER TO OCCUPANCY SENSOR COVERAGE DIAGRAMS TO OPTIMIZE OCCUPANCY COVERAGE AREA.

KEYED NOTES:

1. REUSE EXISTING HOMERUN CIRCUITRY LEFT IN PLACE FROM DEMOLITION PHASE. CONTRACTOR TO INDICATE PANEL AND CIRCUIT NUMBER ON AS-BUILTS.
2. CONDUIT SHALL BE RUN PARALLEL TO STRUCTURAL STEEL IN THIS ROOM. CONDUIT RUN PERPENDICULAR TO STRUCTURAL STEEL IS NOT ACCEPTABLE.

1 E1.22 ELECTRICAL LIGHTING PLAN – AREA B
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE: 1/8"=1'-0"
0 2 4 8 16

PLAN NORTH / TRUE NORTH

KEY PLAN
D C B A

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0822 s2a3.com

CLH DESIGN, P.A.
420 Regency Forest Drive
Suite 101
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7316
LA: C-156
PE: C-1586

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 037141 MARC A. CIARROCCA

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

ELECTRICAL LIGHTING PLAN - AREA B

E1.22

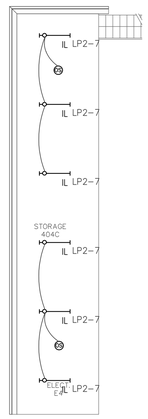
© 2019 Sawyer Sherwood & Associate- All Rights Reserved

GENERAL NOTES:

1. WHERE CIRCUITRY IS NOT SHOWN, REUSE EXISTING CIRCUITRY AND SWITCHES LEFT IN PLACE FROM DEMOLITION PHASE. WHERE EXISTING SWITCHES ARE BEING USED, INTEGRATE NEW OCCUPANCY SENSOR(S) AND POWER PACK TO BE UPSTREAM OF SWITCHES. CONFIGURE SWITCHES TO CONTROL GROUPED LIGHTS AS INDICATED ON PLAN. CONTRACTOR TO INDICATE PANEL AND CIRCUIT NUMBER ON AS-BUILTS.
2. REFER TO OCCUPANCY SENSOR COVERAGE DIAGRAMS TO OPTIMIZE OCCUPANCY COVERAGE AREA.

KEYED NOTES:

1. REUSE EXISTING HOMERUN CIRCUITRY LEFT IN PLACE FROM DEMOLITION PHASE. CONTRACTOR TO INDICATE PANEL AND CIRCUIT NUMBER ON AS-BUILTS.
2. MOUNT LIGHT FIXTURE AS CLOSE TO OVERHANG AS POSSIBLE.
3. CONDUIT SHALL BE RUN PARALLEL TO STRUCTURAL STEEL IN THIS ROOM. CONDUIT RUN PERPENDICULAR TO STRUCTURAL STEEL IS NOT ACCEPTABLE.



2 E1.24 ELECTRICAL LIGHTING PLAN – SECOND FLOOR
SCALE: 1/8" = 1'-0"

1 E1.23 ELECTRICAL LIGHTING PLAN – AREA C
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE: 1/8"=1'-0"
0 2 4 8 16

PLAN NORTH / TRUE NORTH

KEY PLAN
D C B A

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
Civil Engineering
420 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-0706
Fax: (919) 319-7316
LA: C-156
PE: C-1586

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NHCS
Emma B. Trask
Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

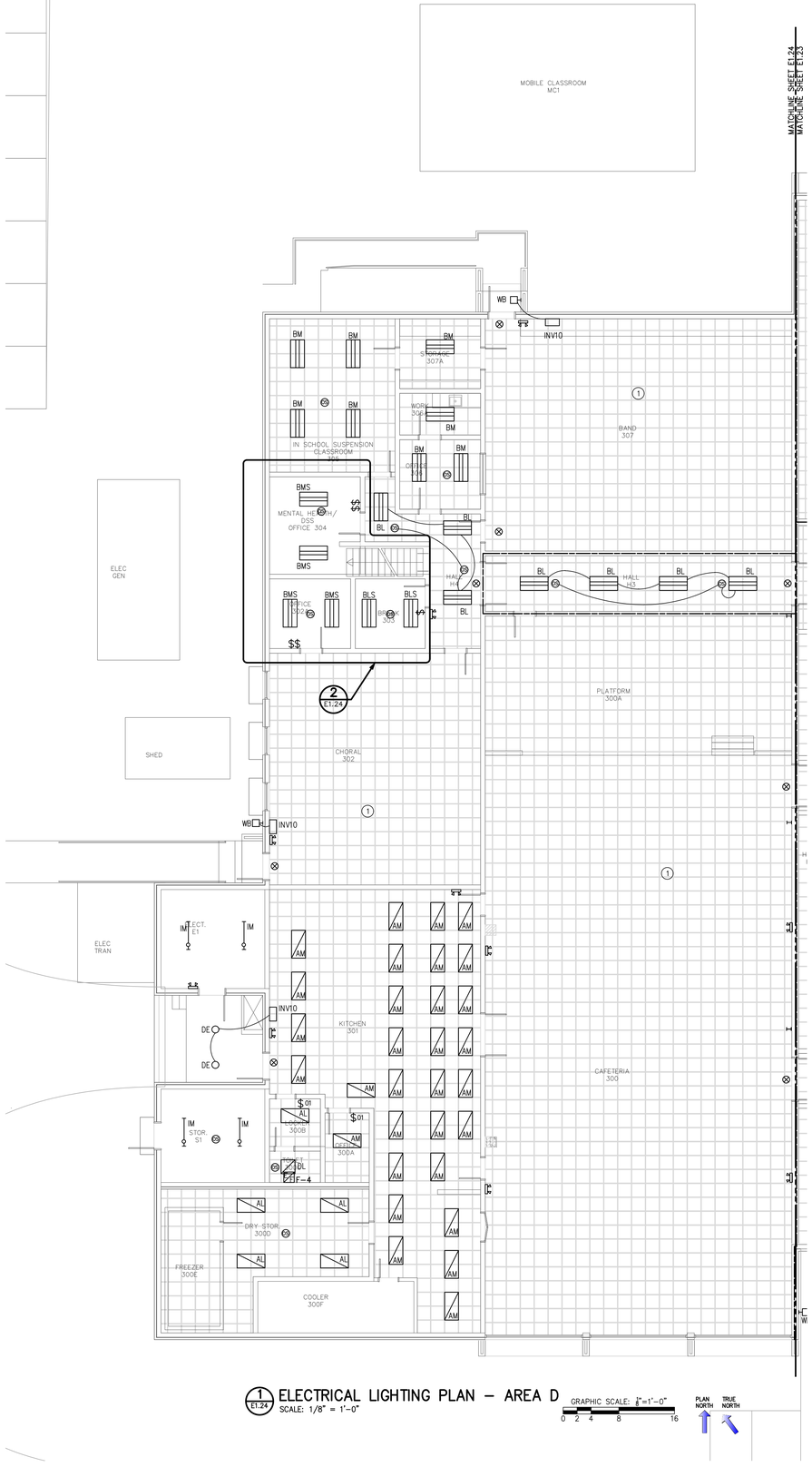
NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

ELECTRICAL LIGHTING PLAN - AREA C

E1.23

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



1 E1.24 ELECTRICAL LIGHTING PLAN – AREA D
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE: 1"=1'-0"
0 2 4 8 16

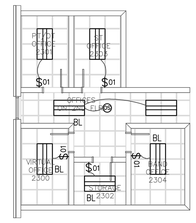
PLAN NORTH
TRUE NORTH

GENERAL NOTES:

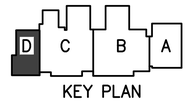
1. WHERE CIRCUITRY IS NOT SHOWN, REUSE EXISTING CIRCUITRY AND SWITCHES LEFT IN PLACE FROM DEMOLITION PHASE. WHERE EXISTING SWITCHES ARE BEING USED, INTEGRATE NEW OCCUPANCY SENSOR(S) AND POWER PACK TO BE UPSTREAM OF SWITCHES. CONFIGURE SWITCHES TO CONTROL GROUPED LIGHTS AS INDICATED ON PLAN. CONTRACTOR TO INDICATE PANEL AND CIRCUIT NUMBER ON AS-BUILTS.
2. REFER TO OCCUPANCY SENSOR COVERAGE DIAGRAMS TO OPTIMIZE OCCUPANCY COVERAGE AREA.

KEYED NOTES:

(1) NO LIGHTING WORK IS DONE IN THIS ROOM EXCEPT EGRESS AND EXITS.



2 E1.24 ELECTRICAL LIGHTING PLAN – SECOND FLOOR
SCALE: 1/8" = 1'-0"



KEY PLAN

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
420 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7316
LA: C-155
PE: C-1586

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17503 MARK A. CIARROCCHI

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

ELECTRICAL LIGHTING PLAN - AREA D

E1.24

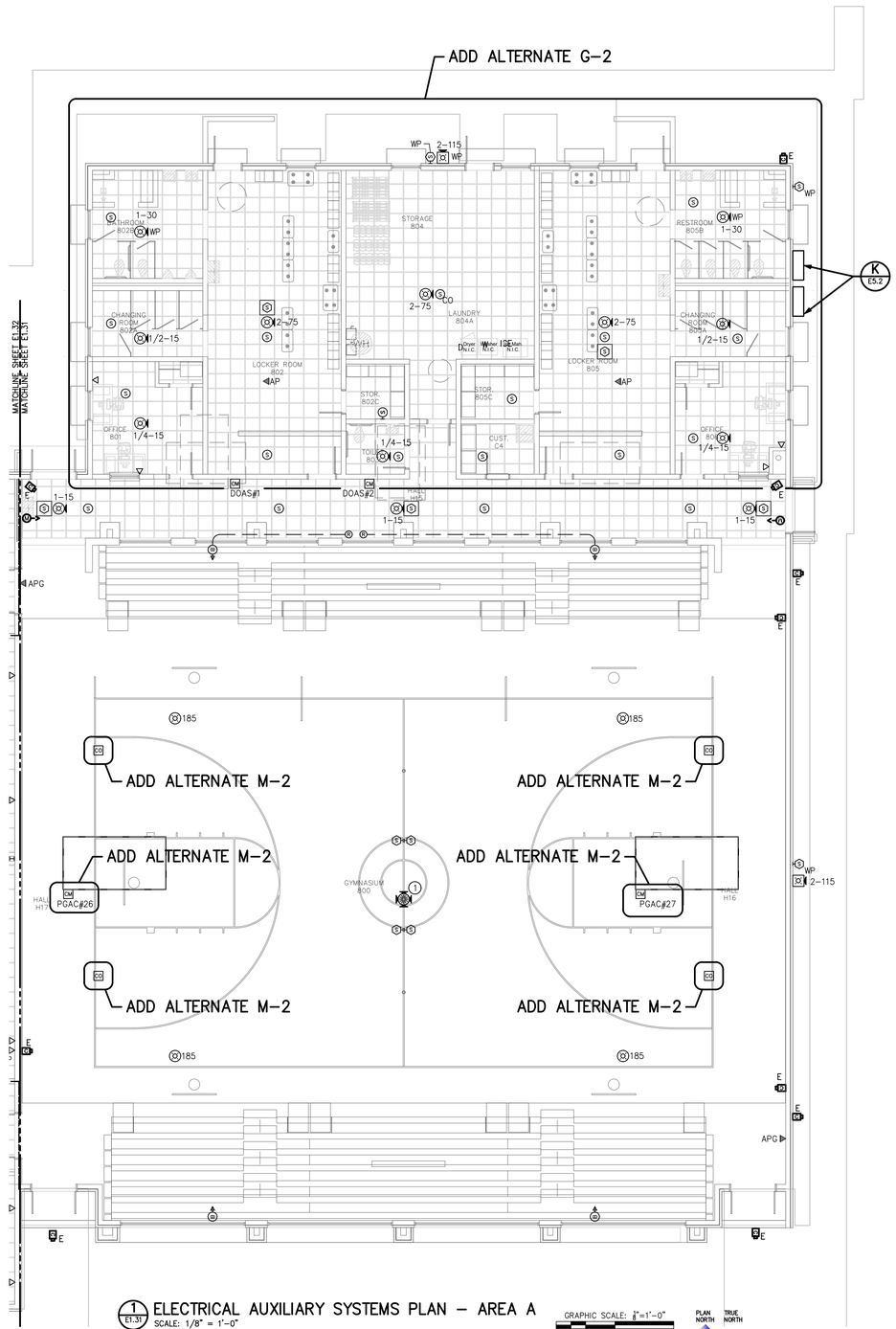
© 2019 Sawyer Sherwood & Associate- All Rights Reserved

KEYED NOTES

(1) COORDINATE SPEAKER ARRAY WITH EXISTING CENTER COURT SPOT LIGHT TO REMAIN.

2 DATA DROPS IN EXISTING DATA OUTLET BOXGENERAL NOTES:

1. ALL EXISTING DATA LOCATIONS SHALL HAVE NEW CABLES AND FACEPLATES.
2. PROVIDE WIRE GUARDS ON ALL DEVICES LOCATED IN:
   - GYMNASIUM 800
   - LOCKER ROOM 805
   - CHANGING ROOM 805A
   - RESTROOM 805B
   - LOCKER ROOM 802
   - CHANGING ROOM 802A
   - BATHROOM 802B
3. ALL EXISTING DATA LOCATIONS SHALL HAVE NEW CABLES AND FACEPLATES.
4. WHERE EXISTING RACEWAYS ARE INSUFFICIENT TO ACCOMMODATE NEW DATA DROP REQUIREMENTS, PROVIDE NEW SURFACE MOUNT WIREMOLD.
5. DATA CABLES FOR EXISTING SECURITY CAMERAS TO REMAIN. REWORK, REPULL, OR REPLACE EXISTING DATA CABLES TO SECURITY CAMERAS TO ACCOMMODATE HEAD-END RELOCATION TO NEW MDF ROOM.
6. BY UTILIZING DETECTION IN ALL PORTIONS OF THE BUILDING SERVED BY THE AIR DISTRIBUTION SYSTEM, DUCT SMOKE DETECTORS HAVE BEEN INTENTIONALLY OMITTED IN HVAC UNIT WITH A RETURN AIR DESIGN CAPACITY GREATER THAT 2,000 CFM OR IN UNITS WITH A DESIGN CAPACITY GREATER THAN 2000CFM AND THE AIR DISTRIBUTION SYSTEM IS INCAPABLE OF SPREADING SMOKE BEYOND THE SPACE WHERE SMOKE MAY BE GENERATED, IN ACCORDANCE WITH THE 2018 NORTH CAROLINA MECHANICAL CODE 606.2 EXCEPTION & 606.2.1 EXCEPTION.



1 E1.31 ELECTRICAL AUXILIARY SYSTEMS PLAN – AREA A
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE: 1/8"=1'-0"
0 2 4 8 16

PLAN NORTH TRUE NORTH

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
420 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7316
LA: C-156
PE: C-1586

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17... MARK A. CIARRA... 27 MAR 2019

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

ELECTRICAL AUXILIARY SYSTEMS PLAN - AREA A

KEY PLAN (D C B A)

E1.31

© 2019 Sawyer Sherwood & Associate- All Rights Reserved

KEYED NOTES:

1. 2 DATA DROPS IN EXISTING DATA OUTLET BOX
2. SECURE PROJECTOR POLE TO STRUCTURAL BEAM IN (2) LOCATIONS. TYPICAL FOR ALL POLE MOUNTED PROJECTORS.
3. CONDUIT SHALL BE RUN PARALLEL TO STRUCTURAL STEEL IN THIS ROOM. CONDUIT RUN PERPENDICULAR TO STRUCTURAL STEEL IS NOT ACCEPTABLE.

GENERAL NOTES:

1. ALL EXISTING DATA LOCATIONS SHALL HAVE NEW CABLES AND FACEPLATES.
2. WHERE EXISTING RACEWAYS ARE INSUFFICIENT TO ACCOMMODATE NEW DATA DROP REQUIREMENTS, PROVIDE NEW SURFACE MOUNT WIREMOLD.
3. DATA CABLES FOR EXISTING SECURITY CAMERAS TO REMAIN. REWORK, REPULL, OR REPLACE EXISTING DATA CABLES TO SECURITY CAMERAS TO ACCOMMODATE HEAD-END RELOCATION TO NEW MDF ROOM.
4. BY UTILIZING DETECTION IN ALL PORTIONS OF THE BUILDING SERVED BY THE AIR DISTRIBUTION SYSTEM, DUCT SMOKE DETECTORS HAVE BEEN INTENTIONALLY OMITTED IN HVAC UNIT WITH A RETURN AIR DESIGN CAPACITY GREATER THAT 2,000 CFM OR IN UNITS WITH A DESIGN CAPACITY GREATER THAN 2000CFM AND THE AIR DISTRIBUTION SYSTEM IS INCAPABLE OF SPREADING SMOKE BEYOND THE SPACE WHERE SMOKE MAY BE GENERATED, IN ACCORDANCE WITH THE 2018 NORTH CAROLINA MECHANICAL CODE 606.2 EXCEPTION & 606.2.1 EXCEPTION.

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
420 Regency Forest Drive
Suite 101
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7316
LA: C-155
PE: C-1586

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19402 MARK A. CIARROCCA
11 MAR 2019

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

D C B A
KEY PLAN

ELECTRICAL AUXILIARY SYSTEMS PLAN - AREA B

E1.32

© 2019 Sawyer Sherwood & Associate- All Rights Reserved

2 E1.33 ELECTRICAL AUXILIARY SYSTEMS PLAN SECOND FLOOR
SCALE: 1/8" = 1'-0"

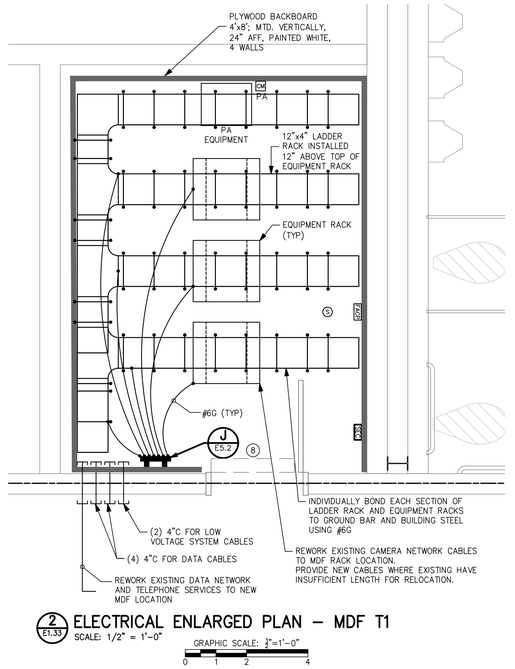
1 E1.33 ELECTRICAL AUXILIARY SYSTEMS PLAN – AREA C
SCALE: 1/8" = 1'-0"

KEYED NOTES

1. 2 DATA DROPS IN EXISTING DATA OUTLET BOX
2. 6 DATA DROPS IN EXISTING DATA OUTLET BOX
3. REINSTALL EXISTING RADIO CABLE AND OUTLET
4. PROVIDE WIRE GUARD FOR SMOKE DETECTOR
5. CONDUIT SHALL BE RUN PARALLEL TO STRUCTURAL STEEL IN THIS ROOM. CONDUIT RUN PERPENDICULAR TO STRUCTURAL STEEL IS NOT ACCEPTABLE.

GENERAL NOTES:

1. ALL EXISTING DATA LOCATIONS SHALL HAVE NEW CABLES AND FACEPLATES.
2. WHERE EXISTING RACEWAYS ARE INSUFFICIENT TO ACCOMMODATE NEW DATA DROP REQUIREMENTS, PROVIDE NEW SURFACE MOUNT WIREMOLD.
3. DATA CABLES FOR EXISTING SECURITY CAMERAS TO REMAIN. REWORK, REPULL, OR REPLACE EXISTING DATA CABLES TO SECURITY CAMERAS TO ACCOMMODATE HEAD-END RELOCATION TO NEW MDF ROOM.
4. BY UTILIZING DETECTION IN ALL PORTIONS OF THE BUILDING SERVED BY THE AIR DISTRIBUTION SYSTEM, DUCT SMOKE DETECTORS HAVE BEEN INTENTIONALLY OMITTED IN HVAC UNIT WITH A RETURN AIR DESIGN CAPACITY GREATER THAT 2,000 CFM OR IN UNITS WITH A DESIGN CAPACITY GREATER THAN 2000CFM AND THE AIR DISTRIBUTION SYSTEM IS INCAPABLE OF SPREADING SMOKE BEYOND THE SPACE WHERE SMOKE MAY BE GENERATED, IN ACCORDANCE WITH THE 2018 NORTH CAROLINA MECHANICAL CODE 606.2 EXCEPTION & 606.2.1 EXCEPTION.



2 E1.33 ELECTRICAL ENLARGED PLAN – MDF T1
SCALE: 1/2" = 1'-0"
GRAPHIC SCALE: 1/2"=1'-0"
0 1 2 4

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
Civil Engineering
420 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7316
LA: C-156
PE: C-1586

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 027418 MARK A. CIARROCCA 3/27/2019

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

ELECTRICAL AUXILIARY SYSTEMS PLAN - AREA C

KEY PLAN

E1.33

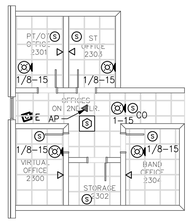
© 2019 Sawyer Sherwood & Associate- All Rights Reserved

KEYED NOTES

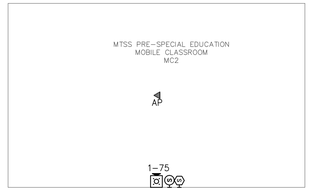
1 2 DATA DROPS IN EXISTING DATA OUTLET BOX

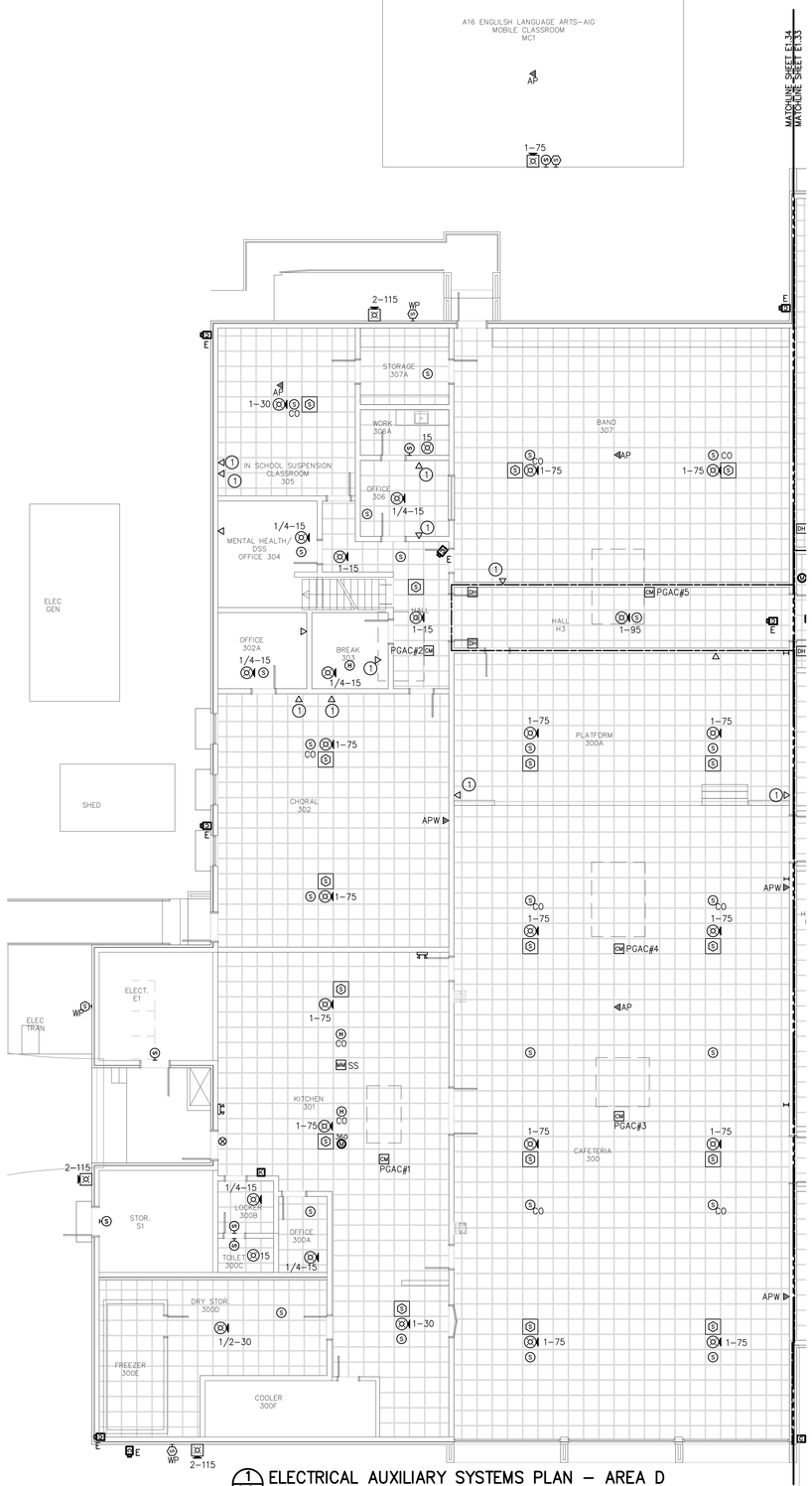
GENERAL NOTES:

1. ALL EXISTING DATA LOCATIONS SHALL HAVE NEW CABLES AND FACEPLATES.
2. WHERE EXISTING RACEWAYS ARE INSUFFICIENT TO ACCOMMODATE NEW DATA DROP REQUIREMENTS, PROVIDE NEW SURFACE MOUNT WIREMOLD.
3. DATA CABLES FOR EXISTING SECURITY CAMERAS TO REMAIN. REWORK, REPULL, OR REPLACE EXISTING DATA CABLES TO SECURITY CAMERAS TO ACCOMMODATE HEAD-END RELOCATION TO NEW MDF ROOM.
4. BY UTILIZING DETECTION IN ALL PORTIONS OF THE BUILDING SERVED BY THE AIR DISTRIBUTION SYSTEM, DUCT SMOKE DETECTORS HAVE BEEN INTENTIONALLY OMITTED IN HVAC UNIT WITH A RETURN AIR DESIGN CAPACITY GREATER THAT 2,000 CFM OR IN UNITS WITH A DESIGN CAPACITY GREATER THAN 2000CFM AND THE AIR DISTRIBUTION SYSTEM IS INCAPABLE OF SPREADING SMOKE BEYOND THE SPACE WHERE SMOKE MAY BE GENERATED, IN ACCORDANCE WITH THE 2018 NORTH CAROLINA MECHANICAL CODE 606.2 EXCEPTION & 606.2.1 EXCEPTION.



2 ET1.34 ELECTRICAL AUXILIARY SYSTEMS PLAN SECOND FLOOR
SCALE: 1/8" = 1'-0"

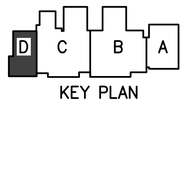




1 E1.34 ELECTRICAL AUXILIARY SYSTEMS PLAN - AREA D
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE: 1/8"=1'-0"
0 2 4 8 16

PLAN NORTH TRUE NORTH



KEY PLAN

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
420 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-0706
Fax: (919) 319-7316
LA: C-156
PE: C-1586

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17444 MARK A. CIARROCCA
27MAR2019

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

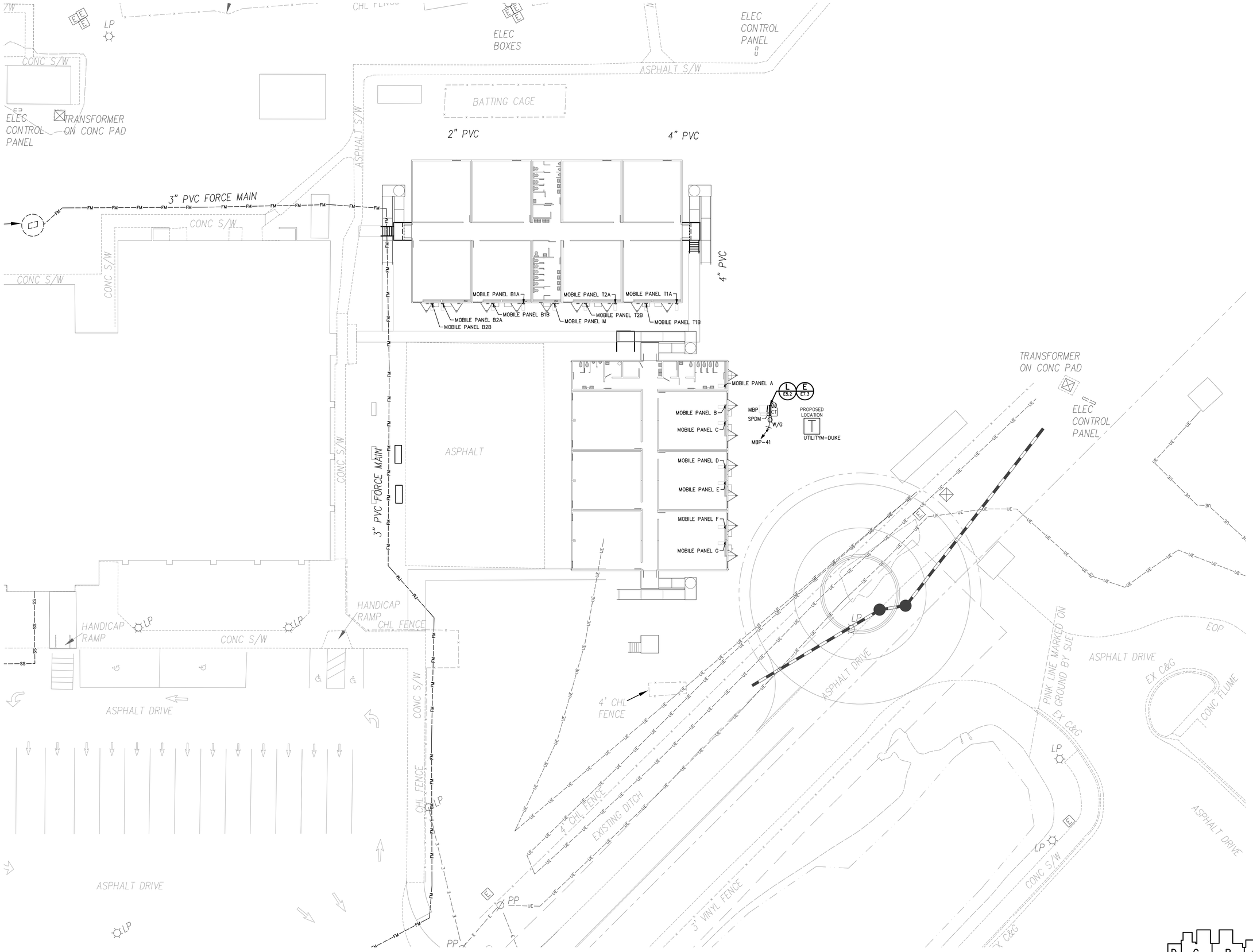
NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

ELECTRICAL AUXILIARY SYSTEMS PLAN - AREA D

E1.34

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



1 E1.41 ELECTRICAL MOBILE CLASSROOMS – SITE PLAN
SCALE: 1/16" = 1'-0"

GRAPHIC SCALE: 1/8"=1'-0"
0 4 8 16 32

PLAN NORTH / TRUE NORTH

MOBILE CLASSROOMS

KEY PLAN

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
430 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7316
LA: C-155
PE: C-1586

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 17564 27MAR2019 ENGINEER MARK A. CIARROCCHI

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

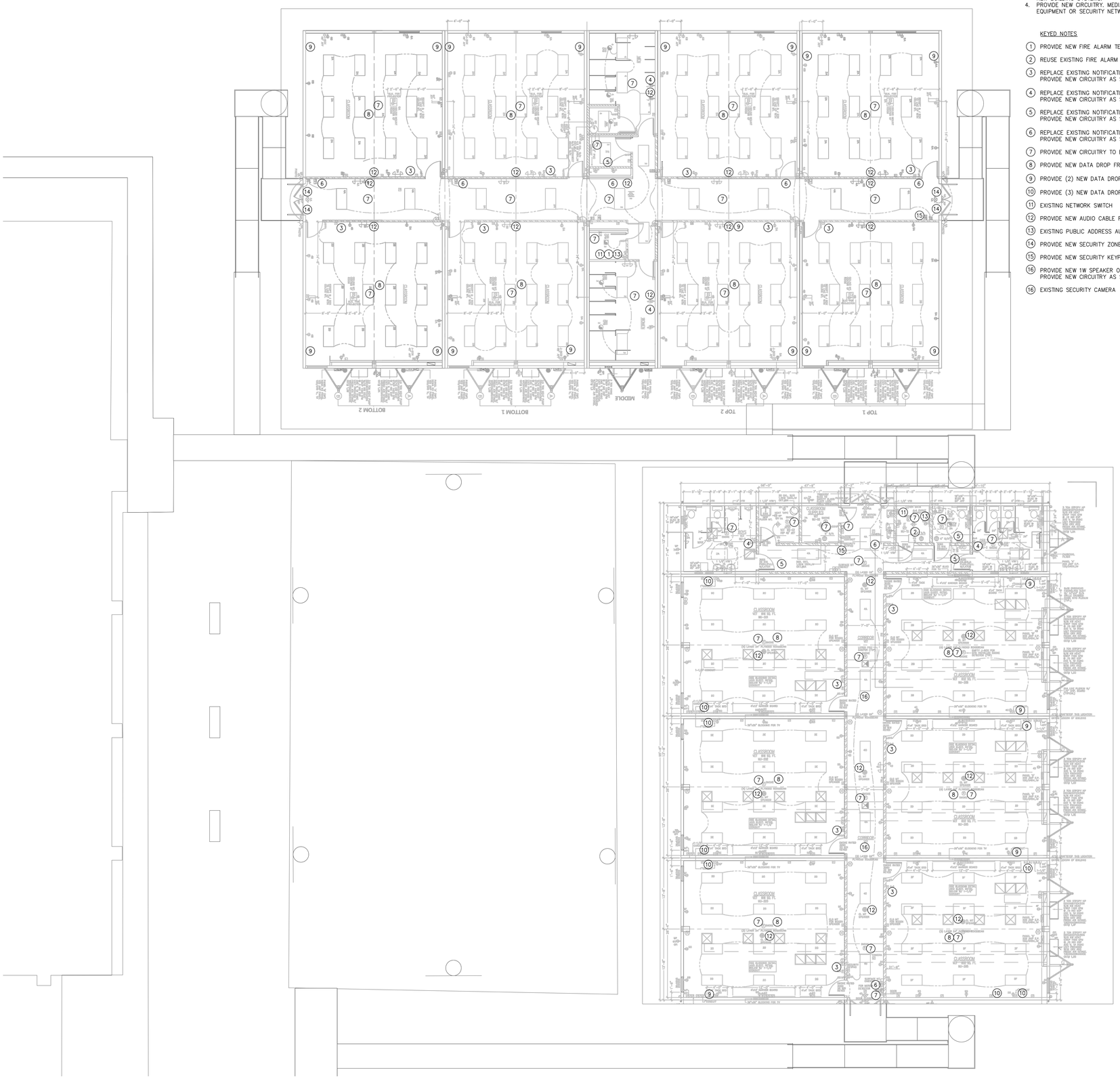
NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

ELECTRICAL
MOBILE
CLASSROOMS
SITE PLAN

E1.41

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



GENERAL NOTES:

1. EXISTING MOBILE UNITS RECORD DRAWINGS SHOWN HERE MAY NOT REFLECT EXACT OR ALL EXISTING CONDITIONS.
   1.1. 8 UNIT MOBILE UNIT RECORD DRAWING BY FIRST STRING SPACE INC., DRAWINGS # FSS6062, SHEET 3 OF 6, SEALED BY JAMES E. BRADLEY P.E. ON 6/6/2018.
   1.2. 6 UNIT MOBILE UNIT RECORD DRAWING BY FIRST STRING SPACE INC., DRAWINGS # FSS6333, SHEET 2 OF 6, SEALED BY JAMES E. BRADLEY P.E. ON 6/17/2018.
2. REMOVE EXISTING ELECTRICAL PANEL FEEDER CIRCUITRY IN A MANNER TO ACCOMMODATE MOBILE UNIT REMOVAL, RELOCATION, AND RECONNECTION TO NEW ELECTRICAL DISTRIBUTION SYSTEM.
3. REMOVE EXISTING FIRE ALARM, SECURITY, PA, & NETWORK CIRCUITRY IN A MANNER TO ACCOMMODATE MOBILE UNIT REMOVAL, RELOCATION, AND RECONNECTION TO NEW BUILDING SYSTEMS.
4. PROVIDE NEW CIRCUITRY, MEDIA CONVERTERS, INJECTORS, AND POWER SUPPLIES TO CONNECT EXISTING SECURITY CAMERAS BACK TO MAIN BUILDING HEAD-END EQUIPMENT OR SECURITY NETWORK.

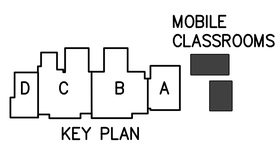
KEYED NOTES

1. PROVIDE NEW FIRE ALARM TERMINAL CABINET IN IT ROOM FOR NEW FIRE ALARM CIRCUITRY BETWEEN MOBILE UNIT AND MAIN BUILDING TERMINAL CABINET
2. REUSE EXISTING FIRE ALARM TERMINAL CABINET IN IT ROOM FOR NEW FIRE ALARM CIRCUITRY BETWEEN MOBILE UNIT AND MAIN BUILDING TERMINAL CABINET
3. REPLACE EXISTING NOTIFICATION DEVICE WITH NEW 75CD, 1W, SPEAKER STROBE
   PROVIDE NEW CIRCUITRY AS SHOWN ON VENDOR SHOP DRAWINGS
4. REPLACE EXISTING NOTIFICATION DEVICE WITH NEW 15CD, 1/4W, SPEAKER STROBE
   PROVIDE NEW CIRCUITRY AS SHOWN ON VENDOR SHOP DRAWINGS
5. REPLACE EXISTING NOTIFICATION DEVICE WITH NEW 15CD, STROBE
   PROVIDE NEW CIRCUITRY AS SHOWN ON VENDOR SHOP DRAWINGS
6. REPLACE EXISTING NOTIFICATION DEVICE WITH NEW 15CD, 1/2W, SPEAKER STROBE
   PROVIDE NEW CIRCUITRY AS SHOWN ON VENDOR SHOP DRAWINGS
7. PROVIDE NEW CIRCUITRY TO EXISTING INITIATING DEVICE AS SHOWN ON VENDOR SHOP DRAWINGS
8. PROVIDE NEW DATA DROP FROM EXISTING NETWORK SWITCH TO EXISTING WIRELESS ACCESS POINT
9. PROVIDE (2) NEW DATA DROPS FROM EXISTING NETWORK SWITCH TO EXISTING DATA OUTLET
10. PROVIDE (3) NEW DATA DROPS FROM EXISTING NETWORK SWITCH TO EXISTING DATA OUTLET
11. EXISTING NETWORK SWITCH
12. PROVIDE NEW AUDIO CABLE FROM EXISTING DEMARC TO EXISTING PUBLIC ADDRESS SPEAKER
13. EXISTING PUBLIC ADDRESS AUDIO DEMARC
14. PROVIDE NEW SECURITY ZONE FROM MAIN BUILDING SECURITY SYSTEM TO EXISTING SECURITY DEVICE
15. PROVIDE NEW SECURITY KEYPAD CABLE FROM MAIN BUILDING SECURITY SYSTEM TO EXISTING KEYPAD
16. PROVIDE NEW 1W SPEAKER ONLY NOTIFICATION DEVICE
    PROVIDE NEW CIRCUITRY AS SHOWN ON VENDOR SHOP DRAWINGS
16. EXISTING SECURITY CAMERA

1 E1.42 ELECTRICAL MOBILE CLASSROOMS
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE: 1/8"=1'-0"
0 2 4 8 16

PLAN NORTH / TRUE NORTH



KEY PLAN

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
420 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-0706
Fax: (919) 319-7316
LA: C-155
PE: C-1586

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17965 3/27/2019 MARK A. CIARROCCA

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

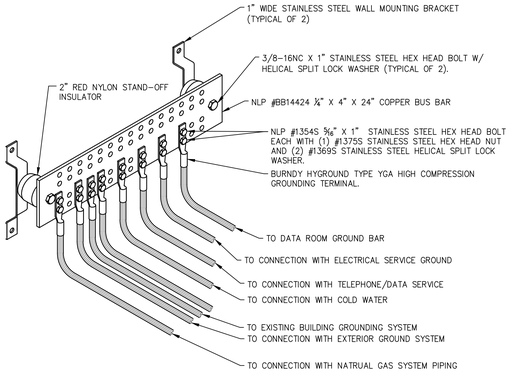
NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

ELECTRICAL
MOBILE
CLASSROOMS
PLAN

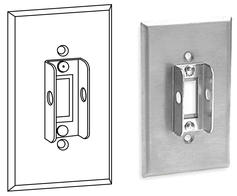
E1.42

© 2019 Sawyer Sherwood & Associate- All Rights Reserved

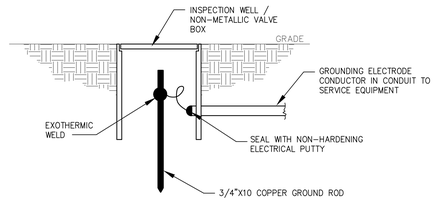


A E5.1 **MAIN GROUND BAR**
NO SCALE

NOTE: PROVIDE LABELS FOR EACH INDIVIDUAL GROUND SYSTEM CONDUCTOR



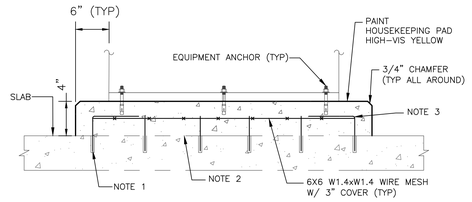
B E5.1 **LOCKABLE TOGGLE SWITCH COVER**
NO SCALE



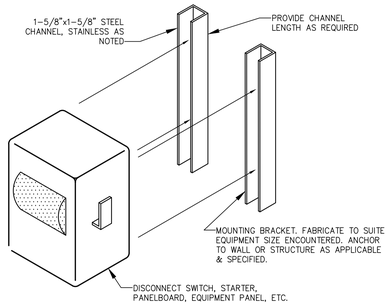
C E5.1 **GROUND ROD & INSPECTION WELL**
NO SCALE

NOTES:

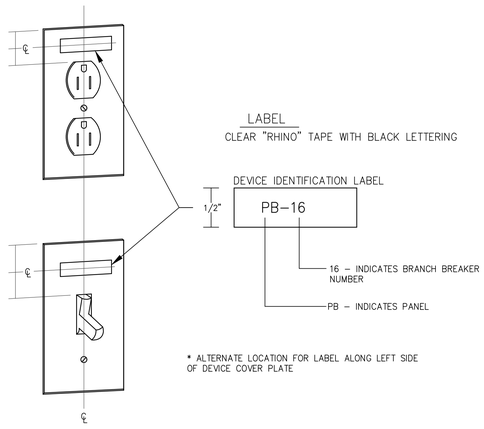
1. PLACE CORNER ANCHORS WITH SPECIFIED 4" COVER, THEN EQUALLY SPACE ANCHORS ALONG SIDES APPROXIMATELY 8" O.C. VERIFY SPACING WITH SEISMIC SUBMITTAL.
2. ROUGHEN AND CLEAN BEFORE COATING WITH BONDING AGENT PRIOR TO POURING PAD.
3. #4 REBAR ADHESIVE ANCHOR W/ 4" COVER FROM EACH EDGE AND MIN. 2.75" EMBEDMENT IN SLAB. BEND AND TIE TO WIRE MESH WITH 6" HOOK. (TYP.).



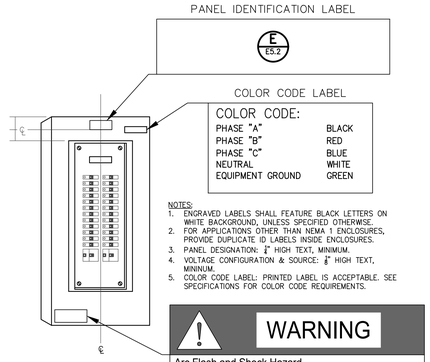
D E5.1 **TYPICAL HOUSEKEEPING PAD DETAIL**
NO SCALE



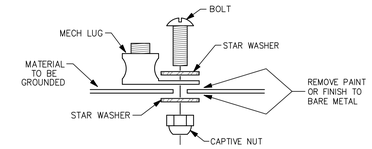
F E5.1 **EQUIPMENT MOUNTING DETAIL**
NO SCALE



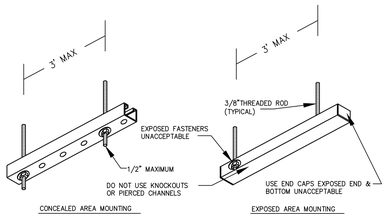
G E5.1 **WIRING DEVICE IDENTIFICATION LABEL**



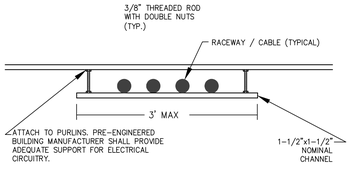
H E5.1 **TYPICAL PANELBOARD IDENTIFICATION**
NO SCALE



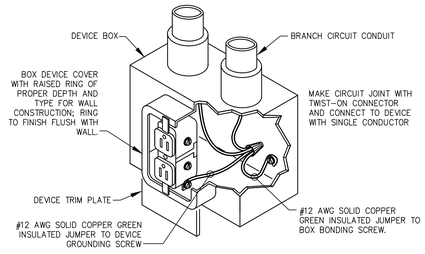
E E5.1 **GROUNDING LUG DETAIL**
NO SCALE



K E5.1 **CHANNEL MOUNTING DETAILS**
NO SCALE



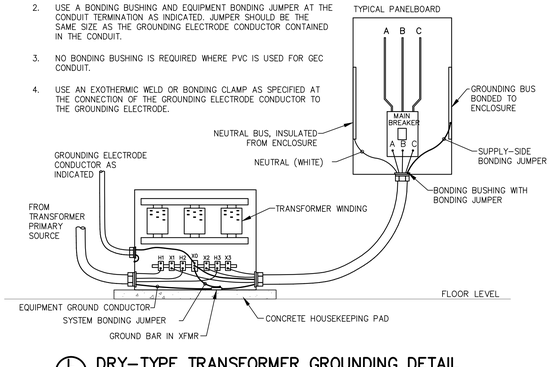
J E5.1 **CHANNEL SUPPORT DETAIL**
NO SCALE



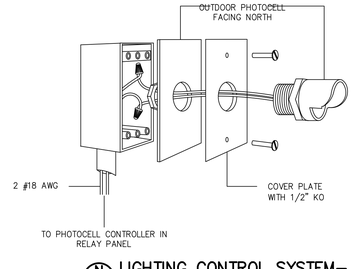
M E5.1 **OUTLET GROUNDING DETAIL**
SCALE: N/A

NOTES

1. IF A TRANSFORMER BONDING STRAP IS NOT PROVIDED BY THE TRANSFORMER MANUFACTURER, IT SHALL BE THE SAME SIZE AS THE SYSTEM BONDING JUMPER. SEE NEC 250.30.
2. USE A BONDING BUSHING AND EQUIPMENT BONDING JUMPER AT THE CONDUIT TERMINATION AS INDICATED. JUMPER SHOULD BE THE SAME SIZE AS THE GROUNDING ELECTRODE CONDUCTOR CONTAINED IN THE CONDUIT.
3. NO BONDING BUSHING IS REQUIRED WHERE PVC IS USED FOR GEC CONDUIT.
4. USE AN EXOTHERMIC WELD OR BONDING CLAMP AS SPECIFIED AT THE CONNECTION OF THE GROUNDING ELECTRODE CONDUCTOR TO THE GROUNDING ELECTRODE.

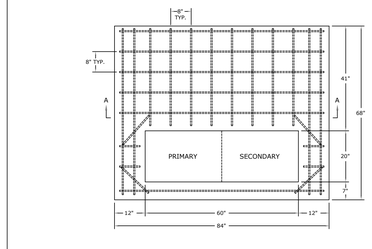


L E5.1 **DRY-TYPE TRANSFORMER GROUNDING DETAIL**
NO SCALE



N E5.1 **LIGHTING CONTROL SYSTEM-OUTDOOR PHOTOCELL**
NO SCALE
NOTE: MOUNT ON NORTHWEST SIDE OF BUILDING.

APPENDIX C - PAGE 1 (DEP ONLY)



NOTES:

1. TRANSFORMER PADS SHALL BE INSTALLED IN A LOCATION TO REMAIN READILY ACCESSIBLE FOR CRANES, LINE TRUCKS OR OTHER NECESSARY LIFTING AND HAULING EQUIPMENT. PADS SHALL HAVE A MINIMUM CLEARANCE FROM OBSTRUCTIONS AND BUILDINGS AS GIVEN IN FIGURE 52.
2. SOIL UNDERNEATH PADS SHALL BE FREE OF ROOTS AND OTHER ORGANIC MATERIALS AND BE THOROUGHLY TAMPED TO PREVENT WASHING. EXERCISE CARE IN BACKFILLING AND GRADING AROUND PAD.
3. SERVICE CONDUIT SHALL BE LOCATED IN THE EXTREME RIGHT SIDE OF THE SECONDARY COMPARTMENT.
4. OTHER UTILITIES ARE NOT TO BE INSTALLED UNDER TRANSFORMER PAD.

DUKE ENERGY.

3				
2				
1	03/01/17	SAMES ENERGY ACCESS		
0	11/01/11	EXEMPTION ENERGY ACCESS		
REVISED BY	CKD	APPR.	DEC DEM	DEP DEF
				X

PRECAST PADS FOR THREE-PHASE, 75KVA - 300KVA

P E5.1 **UTILITY TRANSFORMER PAD DETAIL**
NO SCALE

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
600 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7316
LA: C-155
PE: C-1586

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 43744 BRIAN A. CLARK REGISTERED

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

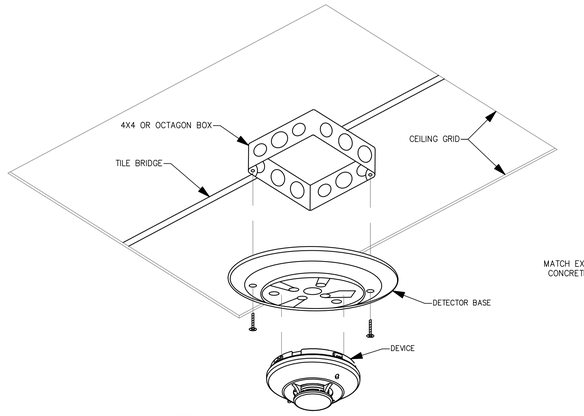
NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

ELECTRICAL DETAILS

E5.1

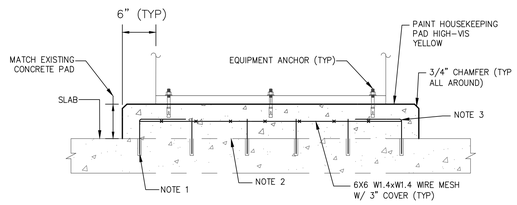
© 2019 Sawyer Sherwood & Associate- All Rights Reserved



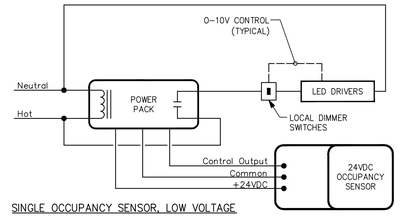
A E5.2 DEVICE MOUNTING DETAIL
NO SCALE

NOTES:

1. PLACE CORNER ANCHORS WITH SPECIFIED 4" COVER, THEN EQUALLY SPACE ANCHORS ALONG SIDES APPROXIMATELY 8" O.C. VERIFY SPACING WITH SEISMIC SUBMITTAL.
2. ROUGHEN AND CLEAN BEFORE COATING WITH BONDING AGENT PRIOR TO POURING PAD.
3. #4 REBAR ADHESIVE ANCHOR W/ 4" COVER FROM EACH EDGE AND MIN. 2.75" EMBEDMENT IN SLAB. BEND AND TIE TO WIRE MESH WITH 6" HOOK. (TYP.).

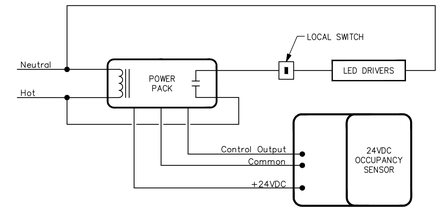


B E5.2 TYPICAL HOUSEKEEPING PAD DETAIL
NO SCALE



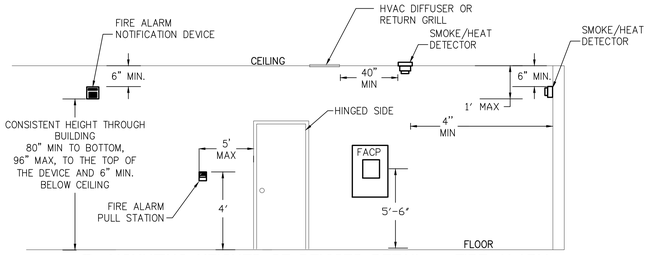
SINGLE OCCUPANCY SENSOR, LOW VOLTAGE

C E5.2 OCCUPANCY SENSOR WIRING FOR DIMMING LEVEL LIGHTING CONTROL
NO SCALE

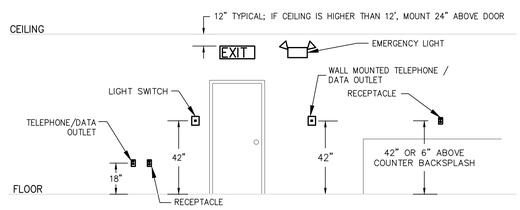


SINGLE OCCUPANCY SENSOR, LOW VOLTAGE

D E5.2 OCCUPANCY SENSOR WIRING LIGHTING CONTROL
NO SCALE



F E5.2 MOUNTING HEIGHTS OF DEVICES DETAIL – FIRE ALARM
NO SCALE



G E5.2 MOUNTING HEIGHTS OF DEVICES
NO SCALE

SWITCHBOARD & PANELBOARD

PANEL DESIGNATION	PANEL:	P2
SOURCE DESIGNATION	SOURCE:	PANEL "P1"/CKT #
RATING DESIGNATION	RATING:	225 AMPS
VOLTAGE & PHASE DESIGNATION	VOLTAGE:	120/208V,3PH,4W

HEIGHT AS REQUIRED (TYPICAL)

LENGTH AS REQUIRED (TYPICAL)

EQUIPMENT SAFETY SWITCH/ENCLOSED CIRCUIT BREAKER/MOTOR STARTER/VFD

EQUIPMENT DESIGNATION	ENCL C/B:	#1
SOURCE DESIGNATION	SOURCE:	PANEL"P"/CKT #
RATING DESIGNATION	RATING:	200 AMPS
VOLTAGE & PHASE DESIGNATION	VOLTAGE:	480/277V,3PH,4W

LIGHTING CONTROL PANEL

PANEL:	LCC – 1	PANEL DESIGNATION
SOURCE:	PANEL"4M"/CKT #	SOURCE DESIGNATION

DISCONNECT

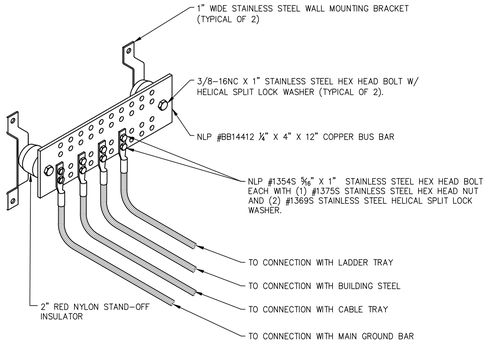
DISCONNECT DESIGNATION	DISCONNECT:	DOAS #1
SOURCE DESIGNATION	SOURCE:	PANEL"4M"/CKT #
RATING DESIGNATION	RATING:	200 AMPS
VOLTAGE & PHASE DESIGNATION	VOLTAGE:	480V,3PH,3W

TRANSFORMER

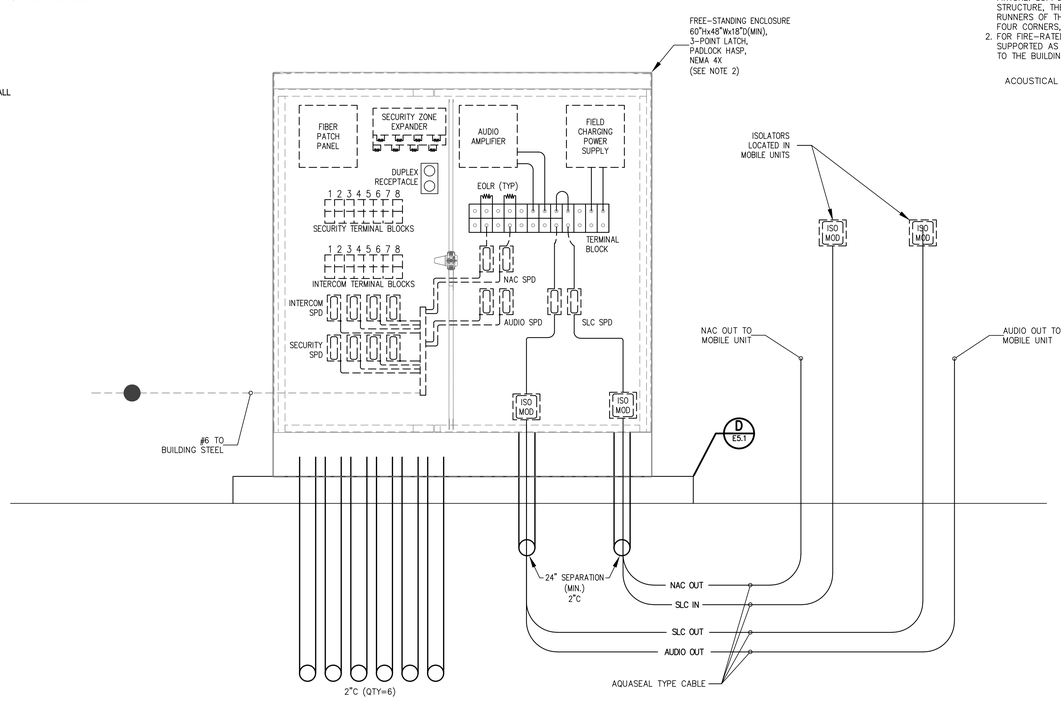
TRANSFORMER:	T1	TRANSFORMER DESIGNATION
SOURCE:	PANEL "4M"/CKT#	SOURCE DESIGNATION
RATING:	75 KVA	RATING DESIGNATION
VOLTAGE:	480:208/120V,3PH,4W	VOLTAGE & PHASE DESIGNATION
SUPPLIES:	PANEL "2P"	EQUIPMENT SUPPLIED

NOTES:
1. ENGRAVED PLASTIC FOR NAMEPLATE.
2. HIGH PERFORMANCE, DOUBLE COATED TAPE WITH ADHESIVE TO ATTACH LABELS. DESIGN BASIS: 3M #06383 OR APPROVED EQUIVALENT.
3. 3/8" ENGRAVED LETTERS EQUIPMENT NAME DESIGNATION AND 1/4" ENGRAVED LETTERS ON ALL OTHER DESIGNATIONS.

E E5.2 TYPICAL NAMEPLATE DETAILS
NO SCALE



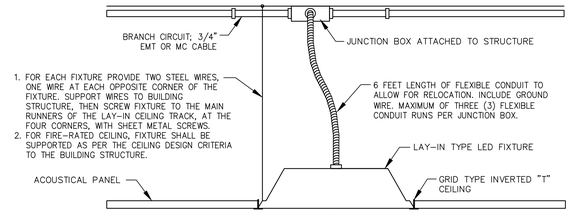
J E5.2 DATA ROOM GROUND BAR
NO SCALE
NOTE: PROVIDE LABELS FOR EACH INDIVIDUAL GROUND SYSTEM CONDUCTOR



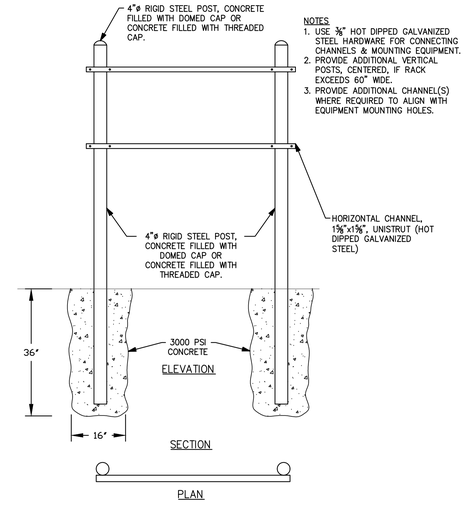
FRONT ELEVATION VIEW

NOTES:
1. ENCLOSURE DESIGN BASIS: HOFFMAN #A604818SSFSDN4
2. ENCLOSURE PROVIDED SHALL BE SUFFICIENTLY SIZED FOR EQUIPMENT AND COMPONENTS PROVIDED AND INSTALLATION AS CONFIGURED BY THE CONTRACTOR.

K E5.2 ENCLOSURE – MOBILE CLASSROOM
NO SCALE



H E5.2 LIGHT FIXTURE MOUNTING DETAIL
SCALE: N/A



L E5.2 EQUIPMENT RACK DETAIL
NO SCALE

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
400 Regency Forest Drive
Suite 101
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7316
LA: C-155
PE: C-1586

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

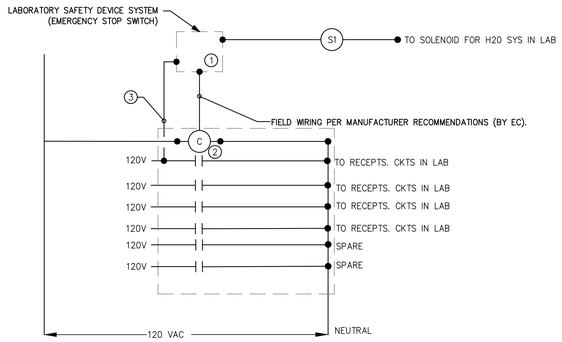
NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

ELECTRICAL DETAILS

E5.2

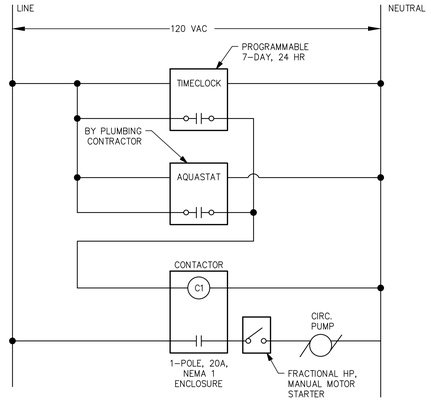
© 2019 Sawyer Sherwood & Associate- All Rights Reserved



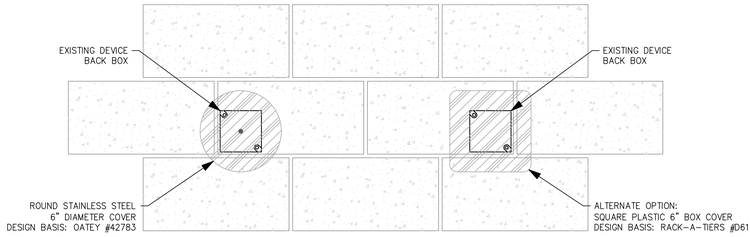
KEYED NOTES (A/E5.3):

1. LABORATORY SAFETY DEVICE SYSTEM (PROVIDED & INSTALLED BY PLUMBING CONTRACTOR). THIS SYSTEM WILL DISENGAGE THE WATER SYSTEM & RECEPTACLES TO THE LAB ON ACTIVATION OF THE EMERGENCY STOP SWITCH. ELECTRICAL CONTRACTOR TO COORDINATE WITH PLUMBER.
2. 240V,6P,30A CONTACTOR (BY ELECTRICAL CONTRACTOR) FOR RECEPTACLE POWER IN THE LAB. 120V COIL VOLTAGE.
3. CONNECT ONE RECEPTACLE CIRCUIT THAT IS LOCATED IN THE ROOM FOR THE CONTROL VOLTAGE FOR THE CONTACTOR. CONTRACTOR SHALL INDICATE WHICH CIRCUIT THEY USED ON THE AS/BUILT DRAWINGS.

A E5.3 LAB EMERGENCY SHUT-OFF CONTROL SCHEMATIC
NO SCALE



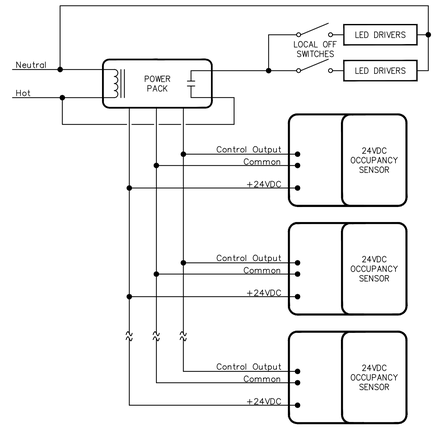
B E5.3 CIRCULATION PUMP CONTROL SCHEMATIC
NO SCALE



NOTES:

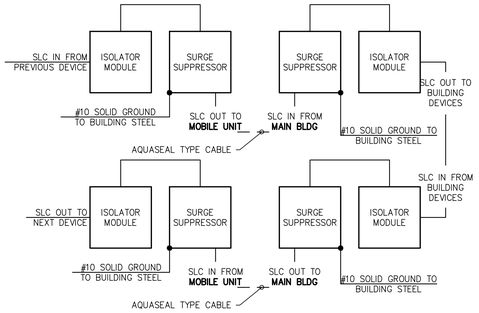
1. PROVIDE A COVER WHERE EXISTING DEVICES HAVE BEEN REMOVED FOR RENOVATION AND THE DEVICE BACKBOX IS TO REMAIN.
2. BACKBOX COVER SHALL ENCOMPASS THE ENTIRE BACKBOX AND SURROUNDING FOOTPRINT OF REMOVED DEVICE TO AVOID PAINTING THIS AREA.
3. IF PAINTING OF SURROUNDING AREA IS REQUIRED, PAINT COLOR MATCH SHALL BE OF A FINISH ACCEPTABLE TO THE OWNER.
4. THE COVER SHALL BE PAINTED TO MATCH AT THE REQUEST OF THE OWNER TO A FINISH ACCEPTABLE TO THE OWNER.

C E5.3 EXISTING ABANDONED DEVICE BACK BOX DETAIL
NO SCALE

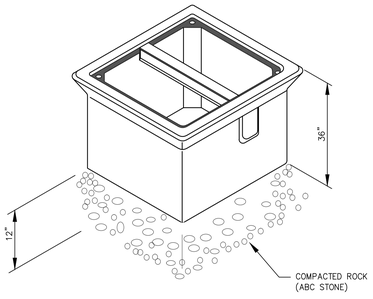


MULTIPLE OCCUPANCY SENSORS, SINGLE CIRCUIT CONTROL

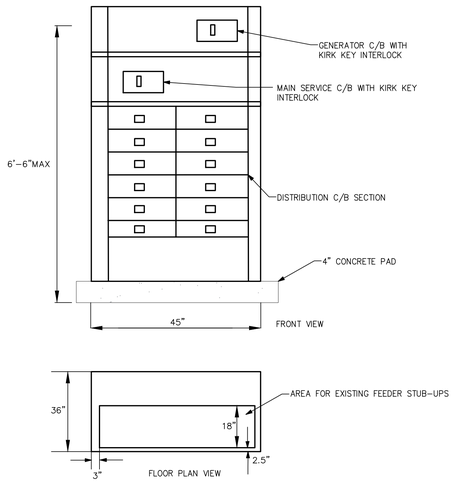
G E5.3 OCCUPANCY SENSOR WIRING FOR DUAL LEVEL LIGHTING CONTROL
NO SCALE



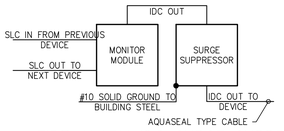
D E5.3 FIRE ALARM SYSTEM SIGNALING LINE CIRCUIT SURGE SUPPRESSION DETAIL
NO SCALE



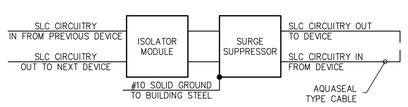
E E5.3 TYPICAL HANDHOLE DETAIL
NO SCALE
DESIGN BASIS: QUAZITE #PG3636HH00-PG3636BA36 (36"X36")



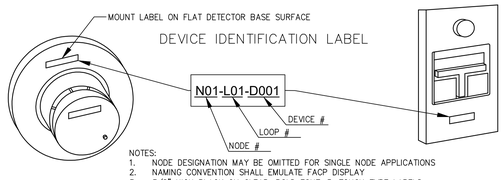
F E5.3 SWITCHBOARD ELEVATION DETAIL
NO SCALE



H E-5.3 FIRE ALARM IDC SURGE SUPPRESSION DETAIL
NO SCALE

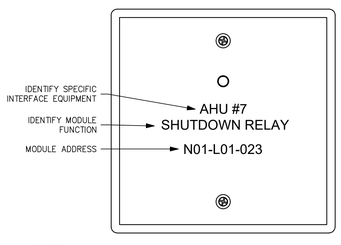


J E-5.3 FIRE ALARM SYSTEM SLC SURGE SUPPRESSION DETAIL
NO SCALE



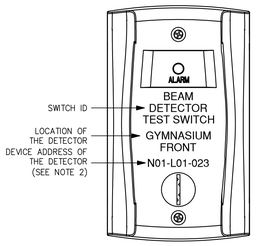
NOTES:
1. NODE DESIGNATION MAY BE OMITTED FOR SINGLE NODE APPLICATIONS
2. NAMING CONVENTION SHALL EMULATE FACP DISPLAY
3. 3/8" HIGH BLACK ON CLEAR, BOLD FONT, P-TOUCH TYPE LABELS
4. LABELS SHALL BE APPLIED STRAIGHT & LEVEL TO DEVICE ORIENTATION
5. EXCESS LABEL MATERIAL SHALL BE TRIMMED

L E5.3 TYPICAL FIRE ALARM DEVICE IDENTIFICATION
NO SCALE



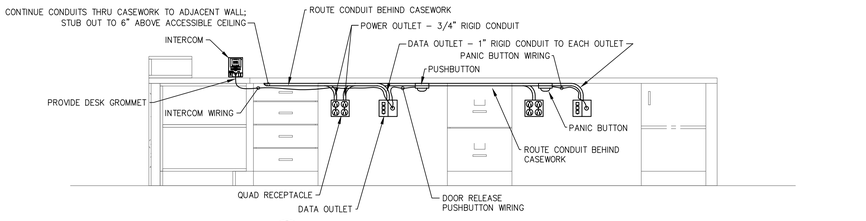
NOTES:
1. NODE DESIGNATION MAY BE OMITTED FOR SINGLE NODE APPLICATIONS
2. NAMING CONVENTION SHALL EMULATE FACP DISPLAY
3. 3/8" HIGH BLACK ON CLEAR, BOLD FONT, P-TOUCH TYPE LABELS
4. LABELS SHALL BE APPLIED STRAIGHT & LEVEL TO DEVICE ORIENTATION
5. EXCESS LABEL MATERIAL SHALL BE TRIMMED

M E5.3 CONTROL/RELAY MODULE LABELING DETAIL
NO SCALE

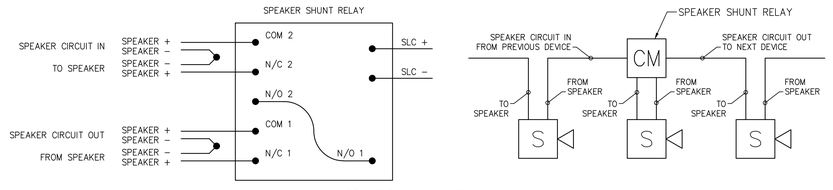


NOTES:
1. NODE DESIGNATION MAY BE OMITTED FOR SINGLE NODE APPLICATIONS
2. NAMING CONVENTION SHALL EMULATE FACP DISPLAY
3. 3/8" HIGH BLACK ON CLEAR, BOLD FONT, P-TOUCH TYPE LABELS
4. LABELS SHALL BE APPLIED STRAIGHT & LEVEL TO DEVICE ORIENTATION
5. EXCESS LABEL MATERIAL SHALL BE TRIMMED

N E5.3 REMOTE TEST SWITCH LABELING DETAIL
NO SCALE



K E5.3 RECEPTION DESK ELECTRICAL DETAIL



O E5.3 SPEAKER SHUNT TRIP RELAY DETAIL
NO SCALE

NOTE:
ALL SHIELDS CONDUCTORS TERMINATED TOGETHER

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
420 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7316
LA: C-155
PE: C-1586

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 17503 MARK A. CIARROCCHI

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

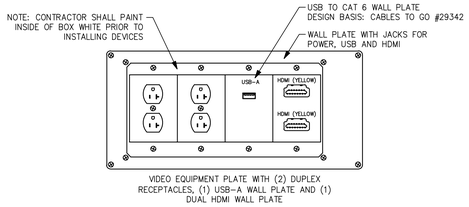
NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

ELECTRICAL DETAILS

E5.3

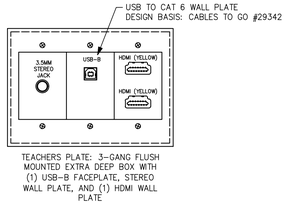
© 2019 Sawyer Sherwood & Associate- All Rights Reserved



VIDEO EQUIPMENT PLATE WITH (2) DUPLEX RECEPTACLES, (1) USB-A WALL PLATE AND (1) DUAL HDMI WALL PLATE

A E5.4 TYPICAL MEDIA CENTER VIDEO EQUIPMENT WALL PLATE DETAIL

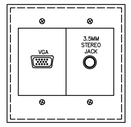
NO SCALE



TEACHERS PLATE: 3-GANG FLUSH MOUNTED EXTRA DEEP BOX WITH (1) USB-B FACEPLATE, STEREO WALL PLATE, AND (1) HDMI WALL PLATE

B E5.4 TYPICAL MEDIA CENTER VIDEO EQUIPMENT TEACHER OUTLET DETAIL

NO SCALE



TEACHERS PLATE: 2-GANG FLUSH MOUNTED EXTRA DEEP BOX WITH (1) VGA WALL PLATE AND (1) STEREO WALL PLATE

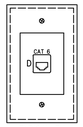
C E5.4 TYPICAL PROJECTOR TEACHER OUTLET DETAIL

NO SCALE

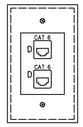
LEGEND

D = DATA RJ45 JACK (GREEN)

NOTE:
1. ALL OUTLET BOXES FOR STANDARD DATA OUTLETS SHALL BE 2-GANG WITH SINGLE GANG FACEPLATES TO FIX 2 GANG BOX.
2. REFER TO DIVISION 27 SPECIFICATIONS.



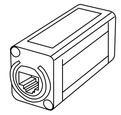
TYPICAL TV PLATE



TYPICAL DATA PLATE

D E5.4 TYPICAL DATA WALL PLATE DETAILS

NO SCALE



WIRELESS ACCESS POINT RJ45 FEED-THROUGH COUPLER AP OUTLET

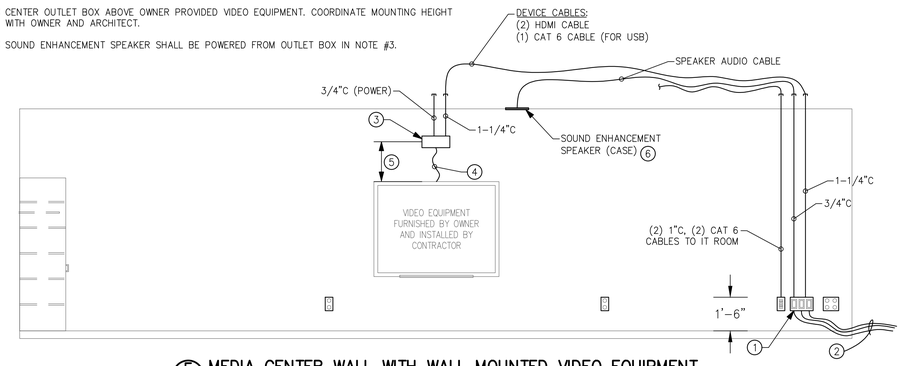
▽ AP

E E5.4 WIRELESS ACCESS POINT COUPLER DETAIL

NO SCALE

KEYED NOTES:

1. OUTLET BOX, 3-GANG EXTRA DEEP BOX, WALL PLATE WITH (2) HDMI FEMALE-FEMALE JACKS; USB-B TO CAT 6 WALL PLATE, AND STEREO CABLE CONNECTORS.
2. PATCH CABLES FROM TEACHER WORKSTATION SHALL BE CONTRACTOR PROVIDED.
3. OUTLET BOX FOR OWNER FURNISHED AND CONTRACTOR INSTALLED VIDEO EQUIPMENT. SEE DETAIL A/E5.4, BOX DESIGN BASIS: ARLINGTON TVBS613. WALL PLATE WITH (2) HDMI FEMALE JACKS, (2) DUPLEX RECEPTACLES, AND (1) USB-A TO CAT 6 WALL PLATE.
4. PATCH CABLES TO DEVICE SHALL BE CONTRACTOR PROVIDED.
5. CENTER OUTLET BOX ABOVE OWNER PROVIDED VIDEO EQUIPMENT. COORDINATE MOUNTING HEIGHT WITH OWNER AND ARCHITECT.
6. SOUND ENHANCEMENT SPEAKER SHALL BE POWERED FROM OUTLET BOX IN NOTE #3.

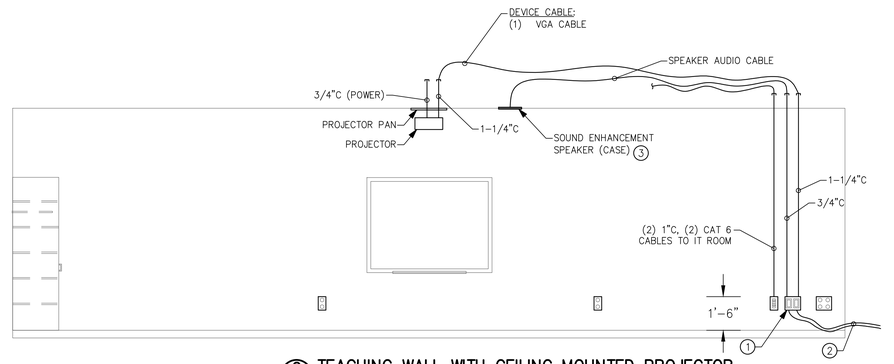


F E5.4 MEDIA CENTER WALL WITH WALL MOUNTED VIDEO EQUIPMENT

NO SCALE

KEYED NOTES:

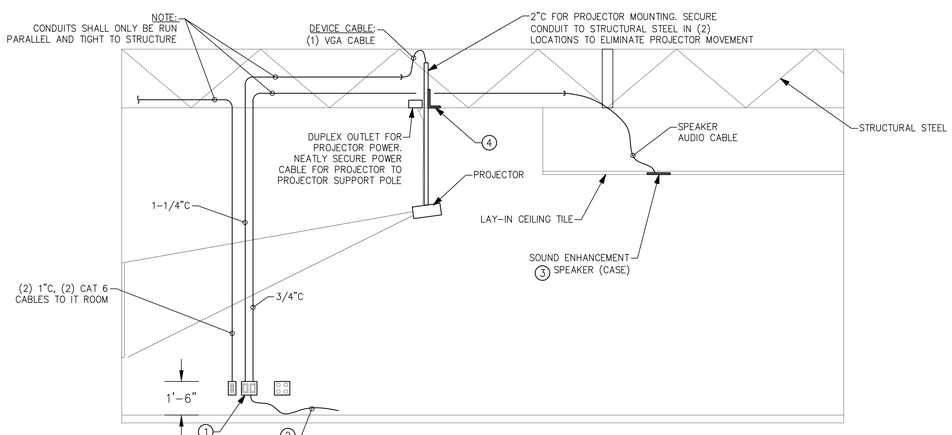
1. OUTLET BOX, 3-GANG EXTRA DEEP BOX, WALL PLATE WITH (1) VGA FEMALE JACK AND STEREO CABLE CONNECTORS.
2. PATCH CABLES FROM TEACHER WORKSTATION SHALL BE CONTRACTOR PROVIDED.
3. SOUND ENHANCEMENT SPEAKER SHALL BE POWERED FROM OUTLET BOX THAT POWERS PROJECTOR.



G E5.4 TEACHING WALL WITH CEILING MOUNTED PROJECTOR

NO SCALE

1. OUTLET BOX, 2-GANG EXTRA DEEP BOX, WALL PLATE WITH (1) VGA FEMALE JACK AND STEREO CABLE CONNECTORS.
2. PATCH CABLES FROM TEACHER WORKSTATION SHALL BE CONTRACTOR PROVIDED.
3. SOUND ENHANCEMENT SPEAKER SHALL BE POWERED FROM OUTLET BOX THAT POWERS PROJECTOR.
4. C-CHANNEL SPANNING STRUCTURAL STEEL BEAM. SECURELY MOUNT PROJECTOR POLE TO C-CHANNEL.

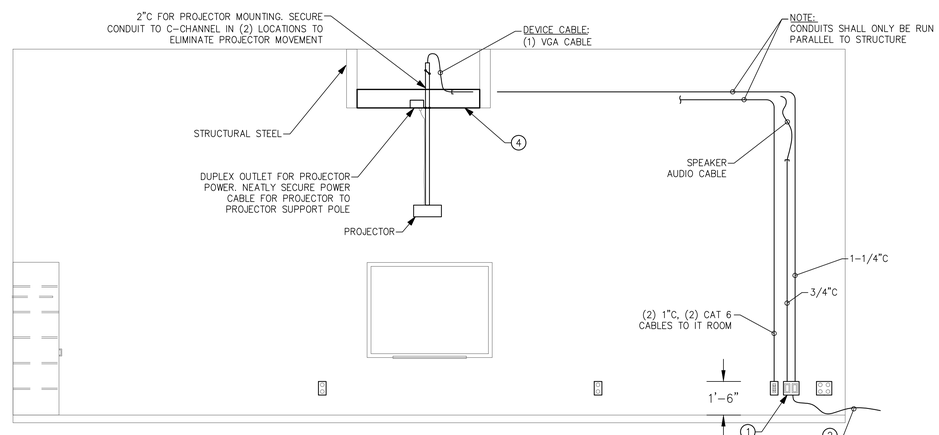


J E5.4 TEACHING WALL WITH POLE MOUNTED PROJECTOR – EAST ELEVATION

NO SCALE

KEYED NOTES:

1. OUTLET BOX, 2-GANG EXTRA DEEP BOX, WALL PLATE WITH (1) VGA FEMALE JACK AND STEREO CABLE CONNECTORS.
2. PATCH CABLES FROM TEACHER WORKSTATION SHALL BE CONTRACTOR PROVIDED.
3. SOUND ENHANCEMENT SPEAKER SHALL BE POWERED FROM OUTLET BOX THAT POWERS PROJECTOR.
4. C-CHANNEL SPANNING STRUCTURAL STEEL BEAM. SECURELY MOUNT PROJECTOR POLE TO C-CHANNEL.



H E5.4 TEACHING WALL WITH POLE MOUNTED PROJECTOR – NORTH ELEVATION

NO SCALE

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
420 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7316
LA: C-155
PE: C-1595

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 31668 21MAR2019 MARK A. CIARROCCO

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

ELECTRICAL DETAILS

E5.4

© 2019 Sawyer Sherwood & Associate- All Rights Reserved

LUMINAIRE SCHEDULE

CALLOUT	SYMBOL	DESCRIPTION	LAMP	BALLAST	VOLTS	MOUNTING	MANUFACTURER / MODEL	NOTES	CALLOUT
AL		2x4, PRISMATIC LENS	(1) 33W LED	LED DIMMABLE DRIVER	277V 1P 2W	RECESSED	COLUMBIA #LJT SERIES DAYBRITE #2T LED SERIES METALUX #2GR LED SERIES	4000 NOMINAL LUMENS. 3500K COLOR TEMPERATURE. 0.156" NOMINAL LENS.	AL
ALF		2x4, PRISMATIC LENS, FLANGED TRIM	(1) 33W LED	LED DIMMABLE DRIVER	277V 1P 2W	RECESSED	COLUMBIA #LJT SERIES DAYBRITE #2T LED SERIES METALUX #2GR LED SERIES	4000 NOMINAL LUMENS. 3500K COLOR TEMPERATURE. 0.156" NOMINAL LENS. FLANGED TRIM FOR RECESSED MOUNTING IN GYPBOARD CEILING.	ALF
AM		2x4, PRISMATIC LENS	(1) 47W LED	LED DIMMABLE DRIVER	277V 1P 2W	RECESSED	COLUMBIA #LJT SERIES DAYBRITE #2T LED SERIES METALUX #2GR LED SERIES	5300 NOMINAL LUMENS. 3500K COLOR TEMPERATURE. 0.156" NOMINAL LENS.	AM
BL		2x4, ARCHITECTURAL LENSED, INDIRECT	(1) 40W LED	LED DIMMABLE DRIVER	277V 1P 2W	RECESSED	COLUMBIA #LCAT SERIES DAYBRITE #2EV SERIES METALUX #24CZ SERIES	4300 NOMINAL LUMENS. 3500K COLOR TEMPERATURE.	BL
BLS		2x4, ARCHITECTURAL LENSED, INDIRECT, SURFACE MOUNT	(1) 40W LED	LED DIMMABLE DRIVER	277V 1P 2W	SURFACE	COLUMBIA #LCAT SERIES DAYBRITE #2EV SERIES METALUX #24CZ SERIES	4300 NOMINAL LUMENS. 3500K COLOR TEMPERATURE. PROVIDE SURFACE MOUNT KIT.	BLS
BM		2x4, ARCHITECTURAL LENSED, INDIRECT	(1) 47W LED	LED STEP DIMMING DRIVER	277V 1P 2W	RECESSED	COLUMBIA #LCAT SERIES DAYBRITE #2EV SERIES METALUX #24CZ SERIES	5300 NOMINAL LUMENS. 3500K COLOR TEMPERATURE.	BM
BMS		2x4, ARCHITECTURAL LENSED, INDIRECT, SURFACE MOUNT	(1) 47W LED	LED DIMMABLE DRIVER	277V 1P 2W	SURFACE	COLUMBIA #LCAT SERIES DAYBRITE #2EV SERIES METALUX #24CZ SERIES	5300 NOMINAL LUMENS. 3500K COLOR TEMPERATURE. PROVIDE SURFACE MOUNT KIT.	BMS
CL		1x4 LED, PRISMATIC LENS	(1) 20W LED	LED DIMMABLE DRIVER	277V 1P 2W	RECESSED	COLUMBIA #LJT SERIES DAYBRITE #1TG SERIES METALUX #1GR SERIES	2300 NOMINAL LUMENS. 3500K COLOR TEMPERATURE. 0.156" NOMINAL LENS.	CL
DE		13" SURFACE DOWNLIGHT, BACKED UP BY BATTERY INVERTER	(1) 30W LED	LED DRIVER	277V 1P 2W	CEILING	LUMINAIRE #APEX-13 SERIES ORACLE LIGHTING #OWM-R-203 SERIES FAIL-SAFE #TRB SERIES	DIFFUSED POLYCARBONATE LENS. DAMP LOCATION LISTED. 4000K COLOR TEMPERATURE. PROVIDE APPROPRIATE MOUNTING HARDWARE TO COVER EXISTING HOLE.	DE
DL		2x2, PRISMATIC LENS	(1) 30W LED	LED DIMMABLE DRIVER	277V 1P 2W	RECESSED	COLUMBIA #LJT22 SERIES DAYBRITE #2TG SERIES METALUX #22GR SERIES	2500 NOMINAL LUMENS. 3500K COLOR TEMPERATURE. 0.156" NOMINAL LENS.	DL
EG		EMERGENCY EGRESS, BATTERY	(2) 6W MR16 LED	BATTERY	277V 1P 2W	SURFACE	EMERGILITE #PREMIER SERIES CHLORIDE #CM-23200 SERIES LIGHTALARMS #2GRA1 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. PROVIDE WIRE GUARD FOR FIXTURES LOCATED IN GYM. DESIGN CRITERIA: 70FT SPACING, UTILIZING 6FT WIDE PATH, 80/50/20 REFLECTANCES, MAINTAINING 1FC AVG AND 01.FC MININUM.	EG
EXW		EMERGENCY EGRESS, BATTERY	(2) 6W MR 16 LED	BATTERY	277V 1P 2W	SURFACE	EMERGILITE #SV SERIES CHLORIDE #RN SERIES SURE-LITES #SELDWA50 SERIES	NIMH OR NICAD BATTERY; CONNECT TO NEAREST UNSWITCHED LIGHT CIRCUIT IN SAME SPACE. WET LOCATION LISTED.	EXW
GL		4' GASKETED	(1) 40W LED	LED DRIVER	120V 1P 2W	SURFACE	WILLIAMS #96 SERIES DAYBRITE #V2 SERIES METALUX #4VT SERIES	4000 NOMINAL LUMENS. 3500K COLOR TEMPERATURE. STAINLESS STEEL MOUNTING HARDWARE & LENS CLAMPS.	GL
H		ROUND HIGH BAY	(1) 240W LED	LED DIMMABLE DRIVER	277V 1P 2W	PENDANT; AT EXISTING FIXTURE HEIGHT	HE WILLIAMS #GC SERIES SOLAS RAY #BLOK SERIES SNOWBALL #HBV SERIES	31,000 NOMINAL LUMENS. 4000K COLOR TEMPERATURE. 90 DEGREE MEDIUM FROSTED POLYCARBONATE LENS.	H
IL		4' INDUSTRIAL	(1) 30W LED	LED DRIVER	277V 1P 2W	PENDANT/SURFACE	COLUMBIA #LCR SERIES DAYBRITE #FSS SERIES METALUX #SNLED SERIES	3700 NOMINAL LUMENS. 3500K COLOR TEMPERATURE. WIRE GUARD.	IL
IM		4' INDUSTRIAL	(1) 40W LED	LED DIMMABLE DRIVER	277V 1P 2W	PENDANT/SURFACE	COLUMBIA #LCR SERIES DAYBRITE #FSS SERIES METALUX #SNLED SERIES	5300 NOMINAL LUMENS. 3500K COLOR TEMPERATURE. WIRE GUARD.	IM
INV10		INVERTER, EGRESS LIGHTING	N/A	BATTERY	277V 1P 2W	SURFACE	EMERGI-LITE #EMIU SERIES HIGH-LITES #PCF SERIES IOTA #IS SERIES	INVERTER FOR BATTERY BACKUP OF EGRESS LIGHTING; 100W FOR 90 MINUTES (MINIMUM). INCLUDE SELF-DIAGNOSTIC OPTION. LOCATE ABOVE CEILING – PROVIDE LABEL ON CEILING GRID BELOW INSTALLED LOCATION "LIGHTING INVERTER".	INV10
INV25		INVERTER, EGRESS LIGHTING	N/A	BATTERY	277V 1P 2W	SURFACE	EMERGI-LITE #EMIU SERIES HIGH-LITES #PCF SERIES IOTA #IS SERIES	INVERTER FOR BATTERY BACKUP OF EGRESS LIGHTING; 250W FOR 90 MINUTES (MINIMUM). INCLUDE SELF-DIAGNOSTIC OPTION. LOCATE ABOVE CEILING – PROVIDE LABEL ON CEILING GRID BELOW INSTALLED LOCATION "LIGHTING INVERTER".	INV25
J		4' GASKETED LED	(1) 40W LED	LED DRIVER	277V 1P 2W	WALL	PARAMOUNT #CO SERIES PHILIPS EQUIVALENT FAILSAFE #HVSL2 SERIES	4000 NOMINAL LUMENS. 3500K COLOR TEMPERATURE. STAINLESS STEEL MOUNTING HARDWARE & LENS CLAMPS. COORDINATE MOUNTING HEIGHT WITH ARCHITECT.	J
KL		DIRECT/INDIRECT PENDANT	(1) 38W LED	LED DIMMABLE DRIVER	277V 1P 2W	PENDANT; 9'-0" AFF	FINELITE #HP-4ID-B-B SERIES LEDALITE #TRUGROOVE SERIES NEO-RAY #DEFINE 4 SERIES	4000 NOMINAL LUMENS. 60/40 DIRECT/INDIRECT RATIO PER 4 FOOT. 3500K COLOR TEMPERATURE. SEE PLANS FOR FIXTURE LENGTH.	KL
KM		4' DIRECT/INDIRECT PENDANT	(1) 44W LED	LED DIMMABLE DRIVER	277V 1P 2W	PENDANT; 9'-0" AFF	FINELITE #HP-4ID-B-H SERIES LEDALITE #TRUGROOVE SERIES NEO-RAY #DEFINE 4 SERIES	5000 NOMINAL LUMENS. 60/40 DIRECT/INDIRECT RATIO PER 4 FOOT. 3500K COLOR TEMPERATURE. SEE PLANS FOR FIXTURE LENGTH.	KM
MM		2x2, PRISMATIC LENS	(1) 40W LED	LED DIMMABLE DRIVER	277V 1P 2W	RECESSED	COLUMBIA #LCAT SERIES DAYBRITE #2EV SERIES METALUX #24CZ SERIES	4500 NOMINAL LUMENS. 3500K COLOR TEMPERATURE. 0.156" NOMINAL LENS.	MM
R6		6" RECESSED CAN	(1) 20W LED	LED DIMMABLE DRIVER	277V 1P 2W	RECESSED	PRESCOLITE #LF6LED SERIES LIGHTOLIER #L6R SERIES PORTFOLIO #LD6A SERIES	2000 NOMINAL LUMENS. 3500K COLOR TEMPERATURE. SELF-FLANGED LENSED REFLECTOR TRIM; LOW IRIDESCENT CLEAR FINISH.	R6
R6EX		6" RECESSED CAN, EXTERIOR, BACKED UP BY BATTERY INVERTER	(1) 18W LED	LED DRIVER	277V 1P 2W	RECESSED	PHILIPS LIGHTOLIER #L6R SERIES WILLIAMS #6DR SERIES ATLANTIC #LED6IC SERIES	DAMP LOCATION, 2000 NOMINAL LUMENS. 3500K 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.	R6EX
R6S		6" RECESSED CAN, SHOWER LIGHT	(1) 18W LED	ELECTRONIC	277V 1P 2W	RECESSED	PRESCOLITE #LF6LED SERIES LIGHTOLIER #L6R SERIES PORTFOLIO #LD6A SERIES	WET LOCATION LISTED. 1500 NOMINAL LUMENS. 3500K COLOR TEMPERATURE. SELF-FLANGED LENSED REFLECTOR TRIM; LOW IRIDESCENT CLEAR FINISH.	R6S
W		WALL PACK	(1) 30W LED	LED DRIVER	277V 1P 2W	WALL	DECO LIGHTING #D440 SERIES GARDCO #104L SERIES RAYON #T650L SERIES	3100 NOMINAL LUMENS. 4000K COLOR TEMPERATURE. TYPE IV DISTRIBUTION. FINISH SELECTION BY ARCHITECT. INTEGRAL PHOTOCELL.	W
WB		HALF CYLINDER WALL PACK, BACKED UP BY BATTERY INVERTER	(1) 20W LED (1) 20W LED	LED DRIVER LED DRIVER	277V 1P 2W	WALL	DECO LIGHTING #D440 SERIES GARDCO #104L SERIES RAYON #T650L SERIES	3800 NOMINAL LUMENS. 4000K COLOR TEMPERATURE. TYPE IV DISTRIBUTION. INTEGRAL PHOTOCELL. DUAL LED DRIVERS AND DUAL LED ARRAYS FOR EGRESS REQUIREMENTS. DOWNLIGHT ONLY. FINISH SELECTION BY ARCHITECT. CONNECT TO UNSWITCHED LIGHT CIRCUIT FROM SPACE THAT IS EXITED.	WB
X		EXIT SIGN, BATTERY BACKUP	(2) 1W LED	BATTERY	277V 1P 2W	UNIVERSAL	DUAL-LITE #LX SERIES LIGHTALARMS #QLXN500R PATHWAY #XR	120/277V INPUT; NICAD BATTERY; CONNECT TO NEAREST UNSWITCHED LIGHT CIRCUIT IN SAME SPACE. PROVIDE WIRE GUARD FOR FIXTURES LOCATED IN GYM. THESE FIXTURES ARE NOT TAGGED WITH "X" ON THE DRAWINGS; ONLY THE SYMBOL IS USED.	X
XW		EXIT SIGN, BATTERY BACKUP, WET LOCATION	(2) 1W LED	BATTERY	277V 1P 2W	UNIVERSAL	DUAL-LITE #LN4XRWE CHLORIDE #ER60MLD SERIES SURE-LITES #LPXW SERIES	CONNECT TO NEAREST UNSWITCHED LIGHT CIRCUIT IN SAME SPACE.	XW

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
430 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-0706
Fax: (919) 319-7316
LA: C-155
PE: C-1586

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 027184 MARK A. CIARROCCA 3-27-19

NHCS
Emma B. Trask
Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

ELECTRICAL
LUMINAIRE
SCHEDULE

E6.1

© 2019 Sawyer Sherwood & Associate- All Rights Reserved

MSB1

ROOM: ELECT E1
MOUNTING: FLOOR
FED FROM: UTILITY–DUKE
NOTE:

VOLTS: 480Y/277V 3P 4W
BUS AMPS: 1000
NEUTRAL: 100%

AIC: 30,000
MAIN BKR: 1000
LUGS: STANDARD

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	125/3	XFMR TPP16	2.26			2	70/3	SPD1	0		
3	|			2.53		4	|			0	
5	|				2.14	6	|				0
7	40/3	WATER HEATER	8			8	800/3	(*)GENSET	0		
9	|			8		10	|			0	
11	|				8	12	|				0
13	225/3	PANEL PP01	31.2			14	100/3	DISCONNECT DISC1 TPP21	15		
15	|			31.2		16	|			14.4	
17	|				31.2	18	|				14.7
19	225/3	PANEL PP02	22.5			20	225/3	PANEL PP03	19.4		
21	|			22.5		22	|			19.4	
23	|				22.5	24	|				19.4
25	20/1	SPARE	0			26	225/3	PANEL LP1	6.29		
27	20/1	SPARE		0		28	|			8.1	
29	20/1	SPARE			0	30	|				5.17
31	20/1	SPARE	0			32	225/3	FUSED DISCONNECT DISC PP20	0		
33	20/1	SPARE		0		34	|			0.936	
35	20/1	SPARE			0	36	|				0.936
37	20/1	SPARE	0			38	20/1	SPARE	0		
39	20/1	SPARE		0		40	20/1	SPARE		0	
41	20/1	SPARE			0	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	105	107	104
								TOTAL CONNECTED AMPS BY PHASE	377	386	375

	CONN KVA	CALC KVA	
LIGHTING	19.6	24.5	(125%)
LARGEST MOTOR	32	8	(25%)
OTHER MOTORS	3.35	3.35	(100%)
RECEPTACLES	13.5	11.8	(50%>10)
KITCHEN EQUIP	0	0	(N/A)

	CONN KVA	CALC KVA	
CONTINUOUS	24	30	(125%)
HEATING	219	219	(100%)
COOLING	219	0	(0%)
NONCONTINUOUS	36	36	(100%)
DIVERSE	0	0	(N/A)
METERED DEMAND	0	0	(125%)
TOTAL KVA	316	333	
BALANCED 3–PHASE AMPS		400	

(*) KIRK KEY INTERLOCK WITH MAIN C/B.

MSB2

ROOM: ELECT E1
MOUNTING: FLOOR
FED FROM: UTILITY–DUKE
NOTE:

VOLTS: 480Y/277V 3P 4W
BUS AMPS: 1000
NEUTRAL: 100%

AIC: 30,000
MAIN BKR: 1000
LUGS: STANDARD

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	400/3	PANEL MDP A	26.3			2	70/3	SPD2	0		
3	|			26.6		4	|		0	
5	|				26.3	6	|			0
7	225/3	PANEL PP04	21.5			8	800/3	(*)GENSET	0		
9	|			21.5		10	|		0		
11	|				21.5	12	|			0	
13	225/3	PANEL PP05	18.2			14	225/3	PANEL PP06	38.6		
15	|			18.2		16	|			38.8	
17	|				18.2	18	|				38.5
19	400/3	PANEL PP07	57.4			20	250/3	XFMR TPP10	13.4		
21	|			57.4		22	|			13.7	
23	|				57.4	24	|				13.6
25	125/3	XFMR TPP19	23			26	225/3	PANEL LP2	11.5		
27	|			22.7		28	|			9.48	
29	|				22.7	30	|				6.06
31	100/3	EXISTING LOAD	0			32	175/3	XFMR TPPDW	0		
33	|			0		34	|			0	
35	|				0	36	|				0
37	125/3	EXISTING LOAD	0			38	125/3	XFMR TPP13	11.9		
39	|			0		40	|			11.6	
41	|				0	42	|				14.6
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	222	220	219
								TOTAL CONNECTED AMPS BY PHASE	800	794	790

	CONN KVA	CALC KVA	
LIGHTING	33.3	41.6	(125%)
LARGEST MOTOR	61	15.3	(25%)
OTHER MOTORS	45.3	45.3	(100%)
RECEPTACLES	83.3	46.6	(50%>10)
KITCHEN EQUIP	1	1	(100%)

	CONN KVA	CALC KVA	
CONTINUOUS	0	0	(125%)
HEATING	485	485	(100%)
COOLING	474	0	(0%)
NONCONTINUOUS	11.5	11.5	(100%)
DIVERSE	1.5	0.85	(57%)
METERED DEMAND	0	0	(125%)
TOTAL KVA	661	647	
BALANCED 3–PHASE AMPS		778	

(*) KIRK KEY INTERLOCK WITH MAIN C/B.

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
600 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7316
LA: C-155
PE: C-1586

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17411 MARK A. CIARROCCA 3/27/2019

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

ELECTRICAL
PANEL SCHEDULES

E6.2

© 2019 Sawyer Sherwood & Associate- All Rights Reserved

PP12

ROOM: OUTSIDE CLINIC 109 | VOLTS: 208Y/120V 3P 4W | AIC: 22,000
MOUNTING: FLUSH | BUS AMPS: 225 | MAIN BKR: MLO
FED FROM: PP10 | NEUTRAL: 100% | LUGS: DOUBLE
NOTE: PROVIDE DOUBLE LUG CONNECTION

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	0.72			2	20/1	REC, REC-GFCI	1.08		
3	20/1	REC		0.72		4	20/1	REC		0.9	
5	20/1	REC-MICROWAVE			1	6	20/1	REC, REC-FLOOR			0.9
7	20/1	(*) REC-REFRIGERATOR	1			8	20/1	REC	0.72		
9	20/1	REC		0.36		10	20/1	REC		0.72	
11	20/1	(*) REC-VENDING			1	12	20/1	REC-FLOOR			0.36
13	20/1	(*) REC-VENDING	1			14	20/1	REC	0.72		
15	20/1	REC		1.08		16	20/1	REC		0.72	
17	20/1	REC			0.72	18	20/1	REC			0.72
19	20/1	REC, REC-PROJECTOR	0.79			20	20/1	REC	0.54		
21	20/1	REC		0.72		22	20/1	REC		0.72	
23	20/1	REC, REC-PROJECTOR			0.79	24	20/1	REC			0.9
25	20/1	REC	0.9			26	20/1	REC, REC-PROJECTOR	0.79		
27	20/1	REC		0.72		28	20/1	REC		0.9	
29	20/1	REC, REC-PROJECTOR			0.79	30	20/1	REC, REC-PROJECTOR			0.79
31	20/1	REC	0.18			32	20/1	REC	0.9		
33	20/1	REC		0.72		34	20/1	REC, REC-PROJECTOR		0.97	
35	20/1	REC			0.18	36	20/1	REC, REC-PROJECTOR			0.97
37	20/1	SPARE	0			38	20/1	REC	0.9		
39	20/1	SPARE		0		40	20/1	REC, REC-PROJECTOR		0.79	
41	20/1	SPARE			0	42	20/1	REC			0.9
								TOTAL CONNECTED KVA BY PHASE	13.5	13.9	13.2
		LUG LOAD: PANEL PP12A	3.3	3.88	3.2			TOTAL CONNECTED AMPS BY PHASE	113	116	110

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0	0	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR	1.18	1.47	(125%)	HEATING	0	0	(N/A)
OTHER MOTORS	0	0	(100%)	COOLING	0	0	(N/A)
RECEPTACLES	33.5	21.8	(50%>10)	NONCONTINUOUS	5	5	(100%)
KITCHEN EQUIP	1	1	(100%)	DIVERSE	0	0	(N/A)
				METERED DEMAND	0	0	(125%)
				TOTAL KVA	40.7	29.2	
(*) INDICATES GCFI C/B				BALANCED 3-PHASE AMPS		81.1	

PP12A

ROOM: OUTSIDE CLINIC 109 | VOLTS: 208Y/120V 3P 4W | AIC: 22,000
MOUNTING: FLUSH | BUS AMPS: 225 | MAIN BKR: MLO
FED FROM: PP12 | 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	0.54			2	20/1	REC	0.54		
3	20/1	REC, VIDEO EQUIP		0.76		4	20/1	REC		0.9	
5	20/1	REC, VIDEO EQUIP			0.76	6	20/1	REC			0.72
7	20/1	REC	0.54			8	20/1	REC	0.72		
9	20/1	REC		0.9		10	20/1	REC		0.72	
11	20/1	FAN F-5			1.18	12	20/1	REC			0.54
13	20/1	REC-ROOF	0.36			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	20/1	SPARE	0		
27	20/1	SPARE		0		28	20/1	SPARE		0	
29	20/1	SPARE			0	30	20/1	SPARE			0
31	20/1	SPARE	0			32	20/1	SPARE	0		
33	20/1	SPARE		0		34	20/1	SPARE		0	
35	20/1	SPARE			0	36	20/1	SPARE			0
37	20/1	SPARE	0			38	20/1	* (*) REC-EWC	0.6		
39	20/1	SPARE		0		40	20/1	+ (*) REC-EWC		0.6	
41	20/1	SPARE			0	42	20/1	SPARE			0
								TOTAL CONNECTED KVA BY PHASE	3.3	3.88	3.2
								TOTAL CONNECTED AMPS BY PHASE	27.5	32.3	26.6

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0	0	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR	1.18	1.47	(125%)	HEATING	0	0	(N/A)
OTHER MOTORS	0	0	(100%)	COOLING	0	0	(N/A)
RECEPTACLES	7.2	7.2	(50%>10)	NONCONTINUOUS	2	2	(100%)
KITCHEN EQUIP	0	0	(N/A)	DIVERSE	0	0	(N/A)
				METERED DEMAND	0	0	(125%)
				TOTAL KVA	10.4	10.7	
*-PROVIDE GFCI C/B.				BALANCED 3-PHASE AMPS		29.6	

PP19

ROOM: TECH LAB 404 | VOLTS: 208Y/120V 3P 4W | AIC: 10,000
MOUNTING: SURFACE | BUS AMPS: 225 | MAIN BKR: MLO
FED FROM: TPP19 | 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	EXISTING REC	0.5			2	20/1	EXISTING REC	0.5		
3	20/1	EXISTING REC		0.5		4	20/1	EXISTING REC		0.5	
5	20/1	EXISTING CEILING FAN			0.5	6	20/1	EXISTING REC			0.5
7	20/1	EXISTING GRINDER, JIGSAW	0.5			8	20/1	EXISTING	0.5		
9	35/1	EXISTING DELTA DRILL PRESS, LATHE		1.5		10	20/1	EXISTING REC		0.5	
11	20/1	EXISTING WELDER FAN & LTS			0.5	12	20/1	EXISTING REC			0.5
13	20/2	EXISTING RADIAL SAW	0.75			14	20/1	EXISTING	0.5		
15	|			0.75		16	20/2	EXISTING DELTA SAW		0.75	
17	20/1	EXISTING REC			0.5	18	|				0.75
19	20/2	EXISTING AIR HANDLER	1.5			20	20/2	EXISTING TABLE SAW	0.75		
21	|			1.5		22	|			0.75	
23	20/2	EXISTING AIR HANDLER			1.5	24	60/2	EXISTING WELDER			2.5
25	|		1.5			26	|		2.5		
27	20/3	EXISTING AIR COMP		0.833		28	50/3	EXISTING AC/ UNIT		4.67	
29	|				0.833	30	|				4.67
31	|		0.833			32	|		4.67		
33	20/1	EXISTING		0.5		34	100/2	EXISTING OUTSIDE TRAILER		0	
35	20/1	EXISTING			0.5	36	|				0
37	20/1	EXISTING	0.5			38	20/1	EXISTING	0.5		
39	20/1	EXISTING		0.5		40	20/1	EXISTING		0.5	
41	20/1	EXISTING			0.5	42	20/1	EXISTING			0.5
43	20/1	SPARE	0			44	20/1	FAN F-21, FAN F-22, FAN F-23	0.3		
45	20/1	REC-ROOF		0.72		46	20/1	FAN F-17		1.18	
47	20/1	REC-ROOF			0.9	48	20/1	FAN F-16			1.18
49	35/3	HP#1	2.53			50	50/3	SSAHU#1	4.18		
51	|			2.53		52	|			4.18	
53	|				2.53	54	|				4.18
								TOTAL CONNECTED KVA BY PHASE	23	22.4	23
								TOTAL CONNECTED AMPS BY PHASE	192	187	193

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0	0	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR	7.6	1.9	(25%)	HEATING	20.1	20.1	(100%)
OTHER MOTORS	31.7	31.7	(100%)	COOLING	9.35	0	(0%)
RECEPTACLES	10.6	10.3	(50%>10)	NONCONTINUOUS	6	6	(100%)
KITCHEN EQUIP	0	0	(N/A)	DIVERSE	0	0	(N/A)
				METERED DEMAND	0	0	(125%)
				TOTAL KVA	68.4	70	
				BALANCED 3-PHASE AMPS		194	

PP21

ROOM: C02 | VOLTS: 208Y/120V 3P 4W | AIC: 10,000
MOUNTING: SURFACE | BUS AMPS: 225 | MAIN BKR: MLO
FED FROM: TPP21 | 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	0.18			2	20/1	(#) FIRE ALARM PANEL	1		
3	20/1	REC, REC-COND. PUMP		0.64		4	20/1	SECURITY SYSTEM		0.2	
5	20/1	REC			0.54	6	20/1	REC			0.72
7	20/1	REC	0.72			8	15/1	CIRC. PUMP #CP-1	0.1		
9	20/1	REC		0.72		10	20/1	REC		0.18	
11	20/2	REC-DATA			1.5	12	20/1	REC			0.18
13	|		1.5			14	20/1	REC	0.72		
15	20/2	REC-DATA		1.5		16	20/1	REC		0.72	
17	|				1.5	18	20/1	REC			0.36
19	20/2	REC-DATA	1.5			20	20/1	REC	0.5		
21	|			1.5		22	20/1	REC		0.5	
23	20/2	REC-DATA			1.5	24	20/1	REC			0.5
25	|		1.5			26	20/1	REC	0.18		
27	20/2	REC-DATA		1.5		28	20/1	REC		0.18	
29	|				1.5	30	20/1	REC			0.18
31	20/2	REC-DATA	1.5			32	20/1	REC	0.18		
33	|			1.5		34	20/1	SPARE		0	
35	25/2	REC-DATA			2.5	36	20/1	SPARE			0
37	|		2.5			38	20/1	SPARE	0		
39	25/2	REC-DATA		2.5		40	20/1	SPARE		0	
41	|				2.5	42	20/1	SPARE			0
43	25/2	REC-DATA	2.5			44	20/1	SPARE	0		
45	|			2.5		46	20/1	SPARE		0	
47	20/1	(*) REC-EWC			0.6	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	FAN F-6, FAN F-7			1.28
								TOTAL CONNECTED KVA BY PHASE	14.6	14.1	15.4
								TOTAL CONNECTED AMPS BY PHASE	121	118	128

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0	0	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR	1.18	1.47	(125%)	HEATING	0	0	(N/A)
OTHER MOTORS	0.3	0.3	(100%)	COOLING	0	0	(N/A)
RECEPTACLES	7.8	7.8	(50%>10)	NONCONTINUOUS	34.8	34.8	(100%)
KITCHEN EQUIP	0	0	(N/A)	DIVERSE	0	0	(N/A)
				METERED DEMAND	0	0	(125%)
				TOTAL KVA	44.1	44.4	
(*) INDICATES GFCI C/B; (#) BREAKER LOCK REQUIRED				BALANCED 3-PHASE AMPS		123	

PP22

ROOM: STORAGE 714 | VOLTS: 208Y/120V 3P 4W | AIC: 10,000
MOUNTING: SURFACE | BUS AMPS: 225 | MAIN BKR: MLO
FED FROM: TPP22 | 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	FAN F-10, FAN F-11, FAN F-12	1.4			2	20/1	FAN F-18	1.18		
3	20/1	FAN F-25		1.18		4	20/1	FAN F-19		1.18	
5	20/1	FAN F-9, FAN F-14			1.06	6	20/1	FAN F-20			1.18
7	20/1	FAN F-13	1.18			8	20/3	BLEACHERS	0.305		
9	20/1	FAN F-15		1.18		10	|			0.305	
11	20/1	REC-ROOF			1.08	12	|				0.305
13	20/1	REC-ROOF	1.08			14	20/3	BLEACHERS	0.305		
15	20/1	FAN F-24		1.18		16	|			0.305	
17	20/1	REC-ROOF			0.9	18	|				0.305
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	20/1	SPARE	0		
27	20/1	SPARE		0		28	20/1	SPARE		0	
29	20/1	SPARE			0	30	20/1	SPARE			0
31	20/1	SPARE	0			32	20/1	SPARE	0		
33	20/1	SPARE		0		34	20/1	SPARE		0	
35	20/1	SPARE			0	36	20/1	SPARE			0
37	20/1	SPARE	0			38	20/1	SPARE	0		
39	20/1	SPARE		0		40	20/1	SPARE		0	
41	20/1	SPARE			0	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	5.45	5.31	4.82
								TOTAL CONNECTED AMPS BY PHASE	45.4	44.3	40.2

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0	0	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR	1.18	1.47	(125%)	HEATING	0	0	(N/A)
OTHER MOTORS	11.3	11.3	(100%)	COOLING	0	0	(N/A)
RECEPTACLES	3.06	3.06	(50%>10)	NONCONTINUOUS	0	0	(100%)
KITCHEN EQUIP	0	0	(N/A)	DIVERSE	0	0	(N/A)
				METERED DEMAND	0	0	(125%)
				TOTAL KVA	15.6	15.9	
				BALANCED 3-PHASE AMPS		44.1	

MBP

ROOM: | VOLTS: 240/120V 2P 3W | AIC: 65,000
MOUNTING: SURFACE | BUS AMPS: 800 | MAIN BKR: 800
FED FROM: UTILITYM-DUKE | NEUTRAL: 100% | LUGS: STANDARD
NOTE:

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B
1	150/2	PANEL MOBILE PANEL T1A	0		2	150/2	PANEL MOBILE PANEL A	0	
3	|			0	4	|		0
5	150/2	PANEL MOBILE PANEL T1B	0		6	150/2	PANEL MOBILE PANEL B	0	
7	|			0	8	|		0
9	150/2	PANEL MOBILE PANEL T2A	0		10	150/2	PANEL MOBILE PANEL C	0	
11	|		0		12	|		0
13	150/2	PANEL MOBILE PANEL T2B	0		14	150/2	PANEL MOBILE PANEL D	0	
15	|			0	16	|		0
17	150/2	PANEL MOBILE PANEL M	0		18	150/2	PANEL MOBILE PANEL E	0	
19	|		0		20	|		0
21	150/2	PANEL MOBILE PANEL B1A	0		22	150/2	PANEL MOBILE PANEL F	0	
23	|			0	24	|		0
25	150/2	PANEL MOBILE PANEL B1B	0		26	150/2	PANEL MOBILE PANEL G	0	
27	|		0		28	|		0
29	150/2	PANEL MOBILE PANEL B2A	0		30	150/2	SPARE	0	
31	|			0	32	|		0
33	150/2	PANEL MOBILE PANEL B2B	0		34	20/1	SPARE	0	
35	|			0	36	20/1	SPARE		0
37	150/2	SPARE	0		38	20/1	SPARE	0	
39	|			0	40	60/2	SPDM		0
41	20/1	REC-EXT GFCI	0.18		42	|			
							TOTAL CONNECTED KVA BY PHASE	0.18	0
							TOTAL CONNECTED AMPS BY PHASE	1.5	0

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0	0	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR	0	0	(N/A)	HEATING	0	0	(N/A)
OTHER MOTORS	0	0	(100%)	COOLING	0	0	(N/A)
RECEPTACLES	0.18	0.18	(50%>10)	NONCONTINUOUS	0	0	(100%)
KITCHEN EQUIP	0	0	(N/A)	DIVERSE	0	0	(N/A)
				METERED DEMAND	0	0	(125%)
				TOTAL KVA	0.18	0.18	
				BALANCED AMPS		0.75	

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
Civil Engineers
420 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7316
LA: C-195
PE: C-3186

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17564 MARK A. CIARROCCA 27MAR2019

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

ELECTRICAL
PANEL SCHEDULES

E6.3

© 2019 Sawyer Sherwood & Associate- All Rights Reserved

KEYED NOTES (DEMOLITION):

D1 EXISTING DUKE ENERGY UTILITY TRANSFORMER. COORDINATE TO DISCONNECT POWER WHEN NEEDED DURING DEMOLITION PHASE.

D2 EXISTING LUG COMPARTMENT CABINET, BUS WAY & FEEDERS TO BE REMOVED.

D3 EXISTING ENCLOSED BUS WAY TO BE REMOVED WITH FEEDERS.

D4 PATCH EXISTING BRICK/CMU WALL TO MATCH EXISTING AFTER BUS WAY REMOVED.

D5 EXISTING SERVICE DISCONNECTS (SDISC1 & SDISC2) TO BE REMOVED.

D6 EXISTING SWITCHBOARD DISTRIBUTION SECTION (MSB1-DEMO) TO BE REMOVED.

D7 EXISTING SWITCHBOARD DISTRIBUTION SECTION (MSB2-DEMO) TO BE REMOVED.

D8 EXISTING BELOW GRADE FEEDERS TO REMAIN. THEY SHALL BE EXTENDED (SPLICED) RECONNECTED IN NEW WORK PHASE.

D9 EXISTING 2"C, 3#3/0,#3/0 N,#6G. (SAFETY SWITCH FOR EMERGENCY LIGHTS, WHICH SHALL BE RELABELED IN NEW WORK PHASE) TO REMAIN. DISCONNECT FROM SWITCHBOARD SECTION.

D10 EXISTING 2 1/2"C,3#4/0,#4G. FOR TRANSFORMER (TPPDW -150KVA) TO REMAIN. DISCONNECT FROM SWITCH BOARD SECTION.

D11 EXISTING SAFETY SWITCH (100A) FOR EMERGENCY LIGHTS TO REMAIN.

D12 EXISTING 2"C, 3#3/0,#3/0 N,#6G. TO REMAIN.

D13 EXISTING 12"X12"X4" JUNCTION BOX TO REMAIN.

D14 EXISTING 2"C, 3#3/0,#3/0 N,#6G. TO EXISTING PANEL EM TO REMAIN.

D15 EXISTING 3/4"C,3#10,#10N,#10G TO BE REMOVED FROM EXISTING PRE-INSULATED TAPS IN JUNCTION BOX. SEAL UNUSED OPENING AT JUNCTION BOX.

D16 EXISTING SAFETY SWITCH TPP21 (30A) FOR ILLUMINATION LIGHTS TO REMAIN. IT SHALL BE RE-FEED IN NEW WORK PHASE.

D17 EXISTING SAFETY SWITCH (400A) FOR TRANSFORMER TPPDW TO REMAIN.

D18 EXISTING TRANSFORMER TPPDW.

D19 EXISTING BRICK/CMU WALL (TYPICAL).

D20 EXISTING PULLBOX TO REMAIN.

D21 EXISTING PULL BOX FOR GENERATOR FEEDERS TO REMAIN & SHALL RECONNECTED IN THE NEW PHASE.

D22 EXISTING ENCLOSED CIRCUIT BREAKER (800A) GENSET C/B#1 IS LOCATED AT EQUIPMENT RACK ADJACENT TO THE GENERATOR.

D23 EXISTING ENCLOSED CIRCUIT BREAKER (800A) GENSET C/B#2 IS LOCATED AT EQUIPMENT RACK ADJACENT TO THE GENERATOR.

D24 EXISTING KIRK KEY TO REMAIN BUT NOT TO BE UTILIZED.

D25 CONCRETE PAD FOR EXISTING LUG COMPARTMENT CABINET TO BE CUT & REMOVED.

D26 REMOVE EXISTING PANEL PP12 AND CIRCUITRY BACK TO SOURCE PANEL. GROUT CONDUIT AT FLOOR.

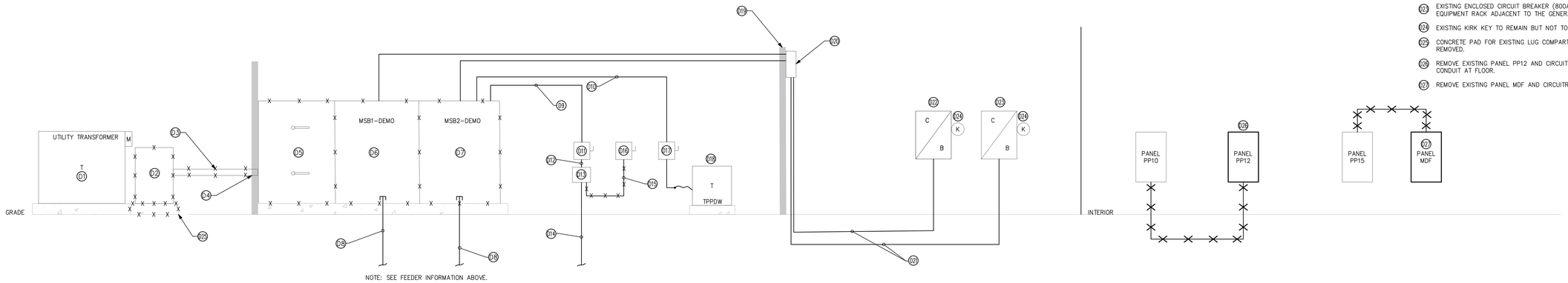
D27 REMOVE EXISTING PANEL MDF AND CIRCUITRY BACK TO SOURCE PANEL.

D18 EXISTING MSB1-DEMO FEEDERS:

1. EXISTING 2"C,3#2/0(AL) FOR EXISTING TRANSFORMER PP16.
2. EXISTING 2 1/2"C,3#300KCM(AL),#300KCM-N(AL) FOR EXISTING PANEL PP01.
3. EXISTING 2 1/2"C,3#300KCM(AL),#300KCM-N(AL) FOR EXISTING PANEL PP02.
4. EXISTING 2 1/2"C,3#300KCM(AL),#300KCM-N(AL) FOR EXISTING PANEL PP03.
5. EXISTING 2 1/2"C,3#300KCM(AL),#300KCM-N(AL) FOR EXISTING PANEL LP1.
6. EXISTING 2 1/2"C,3#300KCM(AL) FOR EXISTING PANEL PP20.

D8 EXISTING MSB2-DEMO FEEDERS:

1. EXISTING 1 1/2"C,3#2 THE EXISTING WATER HEATER.
2. EXISTING 2"C,3#3/0(AL) FOR EXISTING LOAD.
3. EXISTING 2"C,3#3/0(AL) FOR TRANSFORMER TPPDW.
4. EXISTING 1 1/2"C,3#2,#2N FOR EXISTING TRANSFORMER PP19.
5. EXISTING 2 1/2"C,3#300KCM(AL),#300KCM-N(AL) FOR EXISTING PANEL PP07.
6. EXISTING (2 SETS) 3 1/2"C,3#300KCM,#300KCM-N FOR EXISTING PANEL MDP-A.
7. EXISTING 2 1/2"C,3#300KCM(AL) FOR EXISTING TRANSFORMER TPP10.
8. EXISTING 1 1/2"C,3#2 FOR EXISTING TRANSFORMER TPP13.
9. EXISTING 2 1/2"C,3#300KCM(AL),#300KCM-N(AL) FOR EXISTING PANEL LP2.
10. EXISTING 2 1/2"C,3#300KCM(AL),#300KCM-N(AL) FOR EXISTING PANEL PP04.
11. EXISTING 2 1/2"C,3#300KCM(AL),#300KCM-N(AL) FOR EXISTING PANEL PP05.
12. EXISTING 2 1/2"C,3#300KCM(AL),#300KCM-N(AL) FOR EXISTING PANEL PP06.



NOTE: SEE FEEDER INFORMATION ABOVE.

A ELECTRICAL DEMOLITION RISER (E7.1) SCALE: NO SCALE

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
420 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7316
LA: C-155
PE: C-1586

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 17965 ROBERT A. CIARROCCHI 3/27/2019

NHCS Emma B. Trask Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

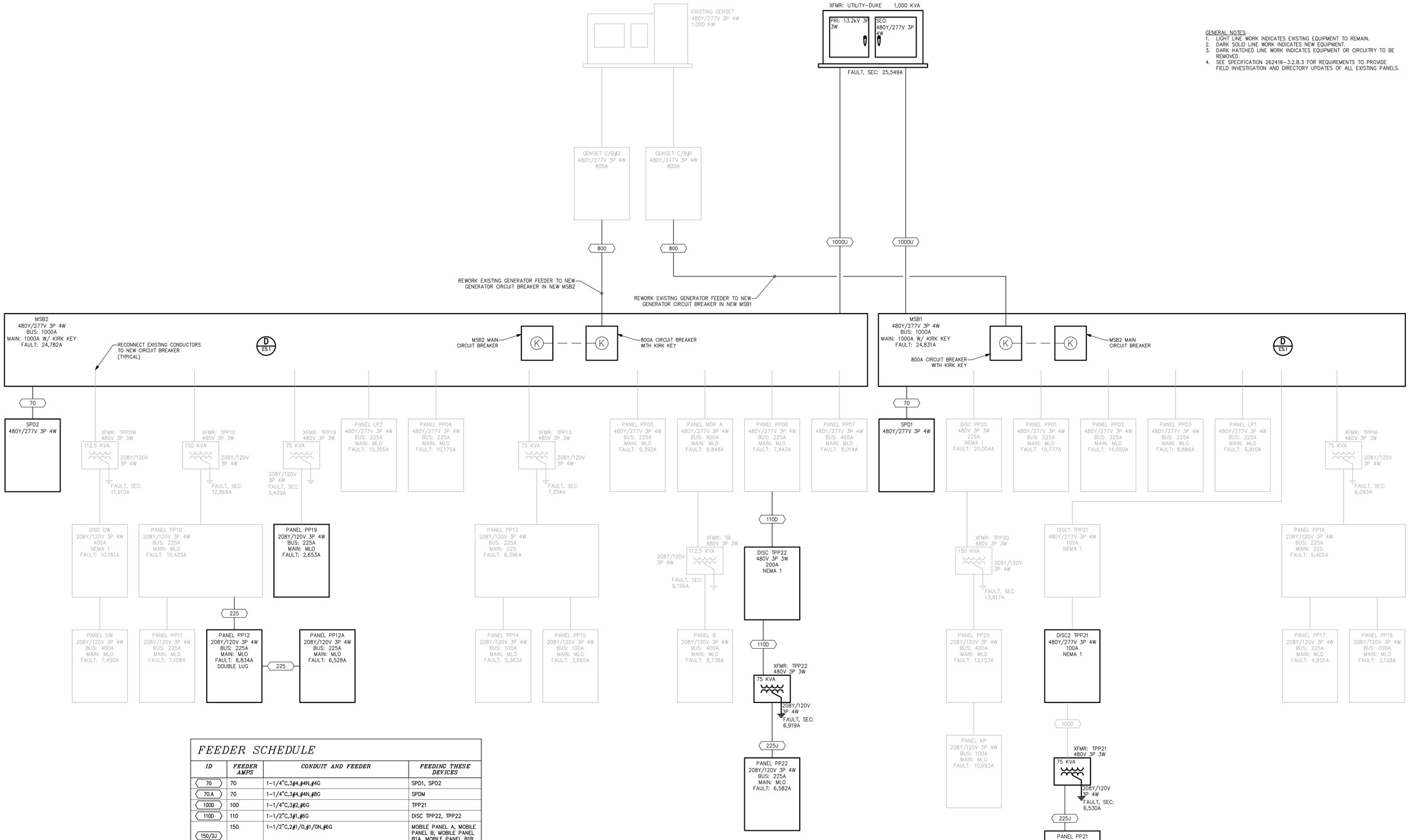
NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

ELECTRICAL
DEMOLITION WORK
POWER RISER

E7.1

© 2019 Sawyer Sherwood & Associate- All Rights Reserved



GENERAL NOTES:
1. LIGHT LINE WORK INDICATES EXISTING EQUIPMENT TO REMAIN.
2. DARK SOLID LINE WORK INDICATES NEW EQUIPMENT.
3. DARK HATCHED LINE WORK INDICATES EQUIPMENT OR CIRCUITRY TO BE REMOVED.
4. SEE SPECIFICATION 262416-3.2.B.3 FOR REQUIREMENTS TO PROVIDE FIELD INVESTIGATION AND DIRECTORY UPDATES OF ALL EXISTING PANELS.

FEEDER SCHEDULE

ID	FEEDER AMPS	CONDUIT AND FEEDER	FEEDING THESE DEVICES
70	70	1-1/4"C,3#4,#4N,#4G	SPD1, SPD2
70.A	70	1-1/4"C,3#4,#4N,#8G	SPDM
100D	100	1-1/4"C,3#2,#6G	TPP21
110D	110	1-1/2"C,3#1,#6G	DISC TPP22, TPP22
150/2J	150	1-1/2"C,2#1/0,#1/0N,#6G	MOBILE PANEL A, MOBILE PANEL B, MOBILE PANEL B1A, MOBILE PANEL B1B, MOBILE PANEL B2A
150J	150	2"C,3#1/0,#1/0N,#6G	MOBILE PANEL B2B, MOBILE PANEL C, MOBILE PANEL D, MOBILE PANEL E, MOBILE PANEL F, MOBILE PANEL G, MOBILE PANEL M, MOBILE PANEL T1A, MOBILE PANEL T1B, MOBILE PANEL T2A, MOBILE PANEL T2B
225	225	2-1/2"C,3#4/0,#4/0N,#4G	PP12, PP12A
225J	225	2-1/2"C,3#4/0,#4/0N,#2G	PP21, PP22
800J	800	(2)3-1/2"C,3#500kcmil,#500kcmil N,#2/0G	MBP
1000U	1000	(3)3"C,3#400kcmil,#400kcmil N	MSB1, MSB2

SIZING METHOD: COPPER, 60°C #12 THROUGH #1, 75°C #1/0 AND ABOVE

A E7.2 ELECTRICAL NEW WORK POWER RISER
SCALE: NO SCALE

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
420 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7316
LA: C-156
PE: C-1586

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 27361 MARK A. CHARCHUT

NHCS
Emma B. Trask
Trask Middle School Renovations

2900 N. College Rd.
Wilmington, NC
28405

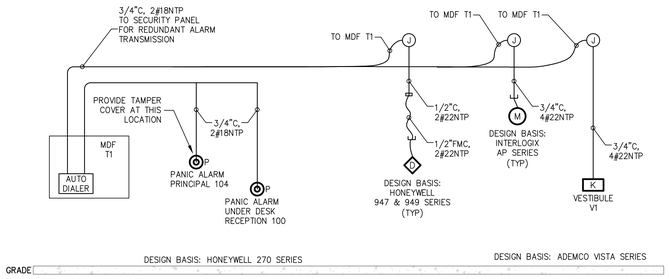
NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

ELECTRICAL
NEW WORK
POWER RISER

E7.2

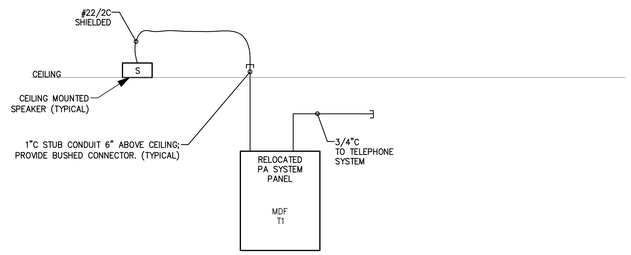
© 2019 Sawyer Sherwood & Associate- All Rights Reserved



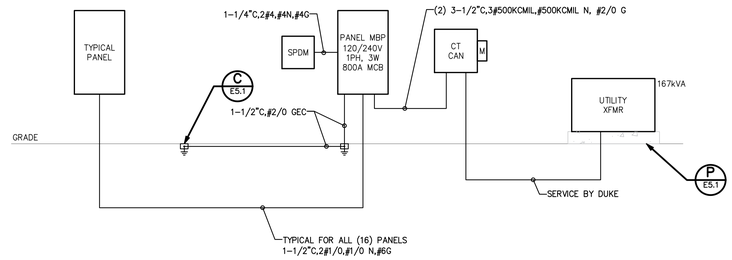
NOTES:

1. SEE ACCESS CONTROL RISER FOR DOOR CONTROL INTERFACE
2. PROVIDE ZONE EXPANDERS AS REQUIRED TO ACCOMMODATE EACH INTERFACE POINT ON A SEPARATE AND DISTINCT ZONE.
   - 2.1. EACH DOOR CONTACT SHALL BE A SEPARATE ZONE INTERFACE POINT, EVEN ON DOUBLE DOORS. COMBINING INTERFACE POINTS SHALL NOT BE ACCEPTED
   - 2.2. EACH MOTION DETECTOR SHALL BE A SEPARATE ZONE INTERFACE POINT. COMBINING INTERFACE POINTS SHALL NOT BE ACCEPTED
   - 2.3. ZONE EXPANDERS MOUNTED REMOTELY FROM THE SECURITY CONTROL PANEL SHALL BE IN A LOCKABLE ENCLOSURE; LOCK TO MATCH SECURITY CONTROL PANEL
     - 2.3.1. ENCLOSURES SHALL BE LABELED AS "SECURITY ZONE EXPANDER" "ZONES XX–XX"
     - 2.3.2. 1/2" HIGH BLACK ON WHITE, BOLD FONT, P–TOUCH TYPE LABEL, APPLIED STRAIGHT & LEVEL

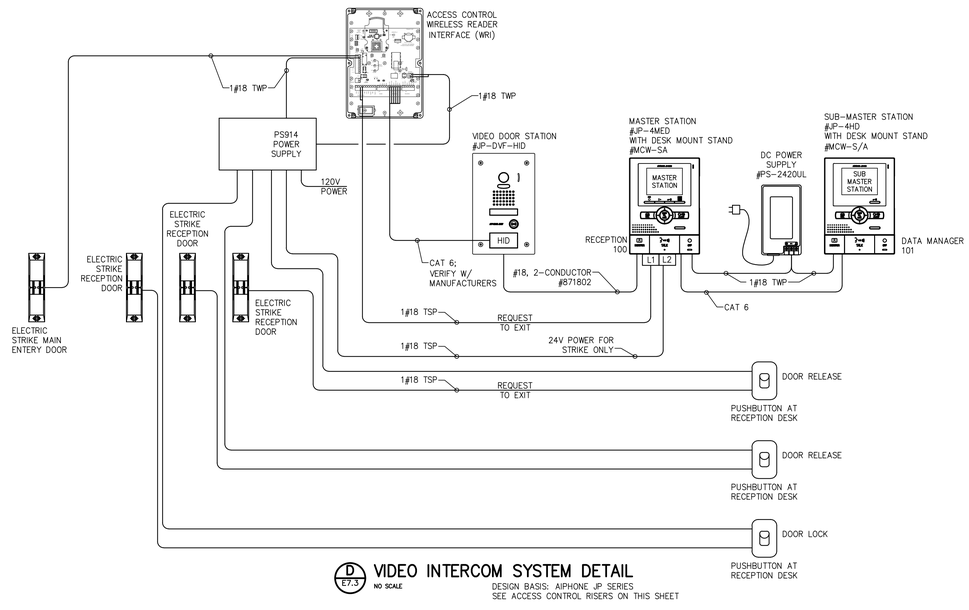
G / E7.3 SECURITY SYSTEMS RISER DIAGRAM
NO SCALE



F / E7.3 PA SYSTEM RISER DIAGRAM
SCALE: N/A



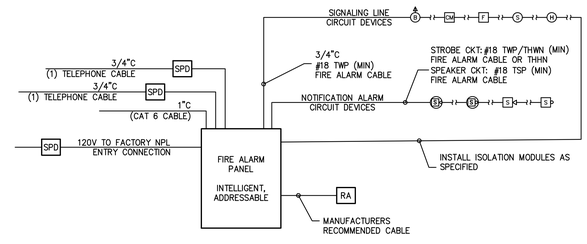
E / E7.3 ELECTRICAL MOBILE UNITS POWER AND GROUND RISER
NO SCALE



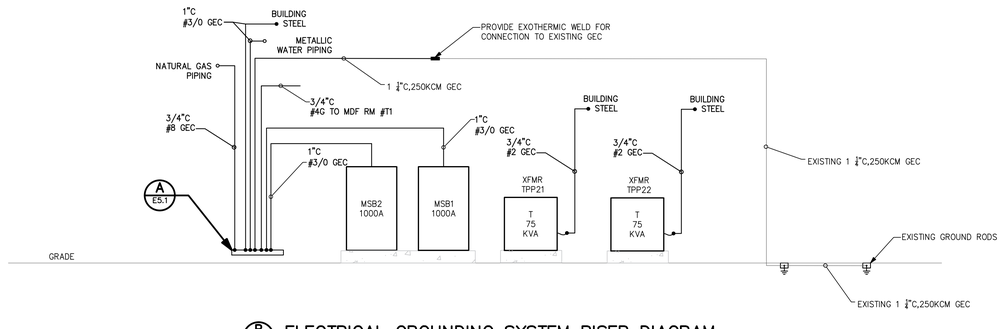
D / E7.3 VIDEO INTERCOM SYSTEM DETAIL
NO SCALE
DESIGN BASIS: AIPHONE JP SERIES
SEE ACCESS CONTROL RISERS ON THIS SHEET

FIRE ALARM OPERATION MATRIX

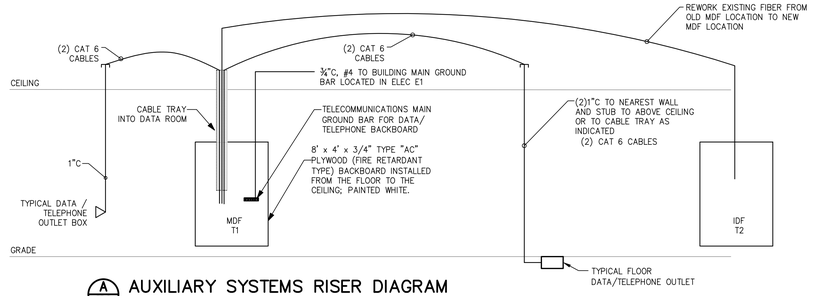
	SYSTEM INPUTS	CONTROL UNIT ANNUNCIATION: ACTIVATE COMMON ALARM SIGNAL INDICATOR (A)	ACTIVATE AUDIBLE ALARM SIGNAL (B)	ACTIVATE COMMON SUPERVISORY SIGNAL INDICATOR (C)	ACTIVATE AUDIBLE SUPERVISORY SIGNAL (D)	ACTIVATE COMMON TROUBLE SIGNAL INDICATOR (E)	ACTIVATE AUDIBLE COMMON TROUBLE SIGNAL (F)	NOTIFICATION: ACTIVATE BUILDING FIRE EVACUATION SIGNALS (H)	ACTIVATE BUILDING CO EVACUATION SIGNALS (H)	TRANSMIT FIRE ALARM SIGNAL TO SUPERVISING STA. (I)	TRANSMIT CO ALERT SIGNAL TO CENTRAL STATION (I)	TRANSMIT TROUBLE SIGNAL TO SUPERVISING STA. (J)	CONTROL: RELEASE MAGNETICALLY HELD FIRE DOORS (K)	SHUT DOWN ALL BUILDING AIR HANDLERS (M)	ACTIVATE EXTERIOR SPEAKERS & STROBES (N)	SHUNT ADJACET AREA SPEAKERS (O)	SHUNT BUILDING PA SYSTEM AND ROOM SOUND SYSTEMS (P)
1	MANUAL PULL STATIONS	X	X					X		X			X	X	X		X
2	SMOKE/HEAT DETECTORS	X	X					X		X			X	X	X		X
3	CARBON MONOXIDE DETECTORS	X	X						X			X				X	X
4	FIRE ALARM SYSTEM POWER FAILURE (8 HRS)			X	X								X				
5	FIRE ALARM SYSTEM LOW BATTERY					X	X						X				
6	OPEN CIRCUIT					X	X						X				
7	GROUND FAULT					X	X						X				
8	NOTIFICATION APPLICANCE CIRCUIT SHORT					X	X						X				
9	AHU SHUTDOWN DEFEAT SWITCH					X	X						X				
10	REMOTE MIC ACTIVATION														X	X	X



C / E7.3 FIRE ALARM SYSTEM RISER DIAGRAM
NO SCALE



B / E7.3 ELECTRICAL GROUNDING SYSTEM RISER DIAGRAM
NO SCALE



A / E7.3 AUXILIARY SYSTEMS RISER DIAGRAM
NO SCALE

SAWYER SHERWOOD & ASSOCIATE ARCHITECTURE
124 Market St, Wilmington, NC 28401
910.762-0892 s2a3.com

CLH DESIGN, P.A.
430 Regency Forest Drive
Suite 100
Cary, North Carolina 27518
Phone: (919) 319-0716
Fax: (919) 319-7316
LA: C-155
PE: C-1086

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PHONE: (910) 452-4210
FAX: (910) 452-4211
OFFICE@CHEATHAMPA.COM
WWW.CHEATHAMPA.COM
JOB # 18050 NC LICENSE# C-1073

WOODS ENGINEERING
Consulting Structural Engineers
254 North Front Street Phone: 910.343.8007
Suite 201 Fax: 910.343.8088
Wilmington, NC 28401 www.woodseng.com

NHCS
Emma B. Trask
Trask Middle School
Renovations

2900 N. College Rd.
Wilmington, NC
28405

NHCS Project #:
900-9009
Construction Documents
March 27, 2019

Revisions:

ELECTRICAL
RISERS

E7.3

© 2019 Sawyer Sherwood & Associate- All Rights Reserved