PRIMROSE SCHOOLS
1788 ROCK SPRINGS RD
RUTHERFORD COUNTY
SMYRNA, TN 37167

SMYRNA FIRE DEPARTMENT
CHIEF WILLIAM CULBERTSON
615-459-9735 EXT. 7500
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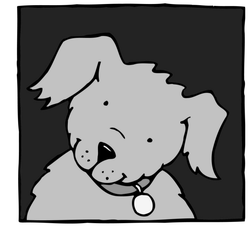
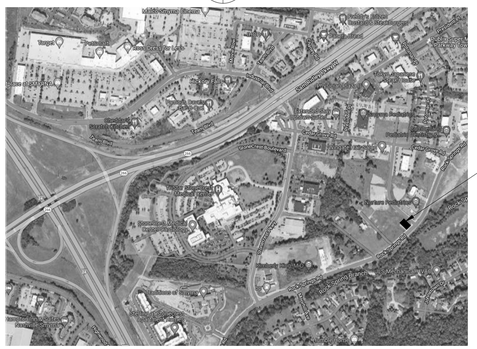
SMYRNA, TN37167



LOCATION MAP



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PROJECT CONTACTS

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GENERAL NOTES

THE GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, A.I.A. DOCUMENT A201, LATEST EDITION ARE HEREBY MADE A PART OF THESE CONSTRUCTION DOCUMENTS AS IF BOUND HEREIN. COPY OF A201, LATEST EDITION OF THE GENERAL CONDITIONS MAY BE OBTAINED FROM THE ARCHITECT OR DIRECTLY FROM THE AMERICAN INSTITUTE OF ARCHITECTS, 1735 NEW YORK AVENUE, N.W. WASHINGTON, D.C. 20006.
CONTRACTOR SHALL BE RESPONSIBLE FOR PERMITTING ALL SIGNS. CONTRACTOR SHALL ENSURE THERE ARE NO CONTRACTOR OR BANK SIGNS ON THE PROPERTY DURING CONSTRUCTION.
THESE DRAWINGS SHOW THE LOCATION AND SPECIFICATIONS FOR THE MINIMUM REQUIRED DESIGN. THESE DOCUMENTS SHALL NOT BE REPRODUCED OR USED BY THE OWNER OR BY OTHERS, EXCEPT WITH WRITTEN APPROVAL FROM PRIMROSE.
FIRE SUPPRESSION SYSTEM SHALL BE DESIGNED IN ACCORDANCE WITH NFPA 13.
FIRE SUPPRESSION SYSTEM SHALL BE SUPERVISED PER IBC 903.
SYSTEM SHALL EXTEND INTO ATTIC & EXTERIOR CANOPIES.

DEFERRED SUBMITTALS:
PROVIDE SHOP DRAWINGS TO THE ARCHITECT & APPROVING GOVERNMENTAL AUTHORITIES FOR THE FOLLOWING SYSTEMS:
1. PREFABRICATED WOOD TRUSSES
2. FIRE ALARM & SMOKE DETECTION SYSTEMS.
3. FIRE SUPPRESSION SYSTEM - NFPA 13.

ALL OTHER SHOP DRAWINGS SHALL BE SUBMITTED & APPROVED BY THE GENERAL CONTRACTOR. ANY DEVIATIONS OR SUBSTITUTIONS TO THE PLANS OR SPECS. SHALL BE SUBMITTED TO & APPROVED BY THE ARCHITECTS CONSTRUCTION MANAGER.

SPECIAL INSPECTIONS:
THE CONTRACTOR SHALL ARRANGE & COORDINATE REQUIRED SPECIAL INSPECTIONS TO BE PAID FOR BY THE CONTRACTOR. THE INSPECTOR(S) SHALL BE QUALIFIED TO PERFORM INSPECTIONS AS DETERMINED BY THE LOCAL BUILDING OFFICIAL. WORK SHALL BE IN ACCORDANCE WITH 2018 INTERNATIONAL BUILDING CODE. REPORTS SHALL BE DISTRIBUTED TO THE OWNER, CONTRACTOR & ARCHITECT.
1. CONCRETE SHALL BE INSPECTED & TESTED PER SPECIFICATION 03010 & 1705.3 CONCRETE CONSTRUCTION & TABLE 1705.3 REQUIRED SPECIAL INSPECTIONS & TESTS OF CONCRETE
2. GEOTECHNICAL & SOILS - PER SPECIFICATION 02100 & 1803.6 & TO BE REPORTED TO THE BUILDING OFFICIAL BY THE PERMIT APPLICANT.

BID ALTERNATES:
1. DEDUCT: IRRIGATED SOD IN INFANT PLAYGROUND AND PRIMROSE PATCH IN LIEU OF ARTIFICIAL TURF.

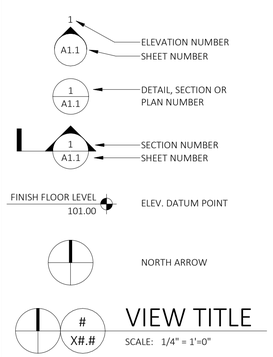
NOTE TO CONTRACTOR:
1. FENCING REQUIRES A SEPARATE PERMIT AND SUBMITTAL
2. SIGNAGE REQUIRES A SEPARATE PERMIT AND SUBMITTAL

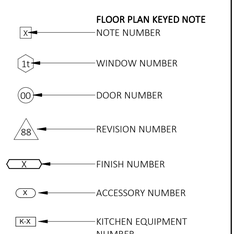
GENERAL NOTES:
1. THE CONTRACTOR SHALL EXAMINE THE DRAWINGS AND SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES IN ELEVATIONS, DIMENSIONS, AND SITE CONDITIONS BEFORE PROCEEDING WITH ANY WORK. COMMISSIONS AND CONFLICTS BETWEEN VARIOUS ELEMENTS OF THE DRAWINGS AND SPECIFICATIONS SHALL BE RESOLVED WITH THE ENGINEER/ARCHITECT PRIOR TO THE START OF WORK.
2. THE DRAWINGS AND SPECIFICATIONS REPRESENT THE COMPLETED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES AND MEANS NECESSARY TO PROTECT PERSONS AND THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING, ETC. OBSERVATION VISITS BY THE ARCHITECT OR ENGINEER DO NOT INCLUDE INSPECTION OF THOSE ITEMS.
3. NOTES AND DETAILS ON THE DRAWINGS TAKE PRECEDENCE OVER THESE STANDARD NOTES. TYPICAL DETAILS SHALL BE USED WHENEVER APPLICABLE. REFER TO THE SPECIFICATIONS FOR INFORMATION NOT COVERED BY THESE NOTES OR THE DRAWINGS.
4. ALL WORK NOT DETAILED OR NOTED SHALL BE CONSTRUCTED IN ACCORDANCE WITH SIMILAR WORK SHOWN ON THE DRAWINGS AND TYPICAL DETAILS. DIMENSIONS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.
5. NO PIPES OR DUCTS SHALL BE PLACED IN STRUCTURAL MEMBERS UNLESS SPECIFICALLY DETAILED AND APPROVED BY THE ENGINEER.
6. ASTM AND SIMILAR REFERENCES ARE FOR LATEST REVISIONS AND ISSUE, UNLESS OTHERWISE NOTED.
7. CONTRACTOR SHALL INVESTIGATE SITE DURING CLEARING AND EXCAVATION FOR UNSUITABLE CONDITIONS: UNCONSOLIDATED AND UNDOCUMENTED FILLS, BURIED STRUCTURES, UTILITIES, ETC. AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER OF ANY SITE CONDITIONS NOT REFLECTED ON THE DRAWINGS OR DIFFERENT FROM MAXIMUM AND MINIMUM DIMENSIONS INDICATED, INCLUDING CONFLICTS IN GRADE, ADVERSE SOIL CONDITIONS, GROUND WATER PRESENT, DEEPENED FOOTINGS, UNCOVERED AND UNEXPECTED UTILITY LINES, ETC.
8. CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON STRUCTURAL FRAME. LOAD SHALL NOT EXCEED THE DESIGN OF LIVE LOADS. PROVIDE SHORING AND BRACING WHERE DESIGN STRENGTH HAS NOT BEEN ATTAINED OR STRUCTURE IS NOT COMPLETE.
9. THE CONTRACTOR SHALL DETERMINE THE LOCATION OF UTILITY SERVICES IN THE AREA TO BE EXCAVATED BEFORE DIGGING. EXERCISE EXTREME CAUTION WHEN EXCAVATING AND TRENCHING.
10. SCOPE OF SERVICES: **SITE SURVEILLANCE AND OR SPECIAL INSPECTIONS** FOR THIS PROJECT HAS NOT BEEN INCLUDED IN THE PROFESSIONAL OF RECORD'S SCOPE OF SERVICES. THE OWNER WILL BE PROVIDING FOR THESE SERVICES UNDER A SEPARATE MEANS.

ABBREVIATIONS

AC	AIR CONDITIONING	MFR	MANUFACTURER
AFF	ABOVE FINISH FLOOR	MIN	MINIMUM
AHU	AIR HANDLING UNIT	MO	MASONRY OPENING
AL	ALUMINUM	MR	MIRROR/ MOISTURE RESISTANT
ASPH	ASPHALT	MT	MARBLE THRESHOLD
AT	ALUMINUM THRESHOLD	MTL	METAL
BD	BOARD	NA	NOT APPLICABLE
BLKT	BLANKET	NIC	NOT IN CONTRACT
BT	BRASS THRESHOLD	NOM	NOMINAL
CJ	CONTROL JOINT	NTS	NOT TO SCALE
CLG	CEILING	OC	ON CENTER
CMU	CONCRETE MASONRY UNIT	OPP	OPPOSITE
COL	COLUMN	PLYWD	PLYWOOD
CONC	CONCRETE	PREFAB	PREFABRICATED
CONT	CONTINUOUS	PSF	POUNDS PER SQUARE FOOT
CPT	CARPET	PT	PAINT/ PRESSURE TREATED
CT	CERAMIC TILE	QT	QUARRY TILE
C/L	CENTER LINE	R	RISER/ RADIUS
DBL	DOUBLE	REBAR	REINFORCING BAR
DF	DRINKING FOUNTAIN	REF	REFERENCE
DIA	DIAMETER	REINF	REINFORCE
DIM	DIMENSION	REQ'D	REQUIRED
DN	DOWN	RO	ROUGH OPENING
DS	DOWNSPOUT	SB	SPLASHBLOCK
EA	EACH	SHLVS	SHELVES
EJ	EXPANSION JOINT	SIM	SIMILAR
ELEC	ELECTRICAL	SPEC	SPECIFICATION
ELEV/EL	ELEVATION	SS	STAINLESS STEEL
EQ	EQUAL	STL	STEEL
EXIST	EXISTING	STOR	STORAGE
FD	FLOOR DRAIN	SUSP	SUSPENDED
FE	FIRE EXTINGUISHER	T	TREAD
FEC	FIRE EXTINGUISHER CABINET	TELE	TELEPHONE
FF	FINISH FLOOR	TPD	TOILET PAPER DISPENSER
FND	FOUNDATION	TS	TRANSITION STRIP
FR	FIRE RATED	TYP	TYPICAL
GALV	GALVANIZED	UNO	UNLESS NOTED OTHERWISE
GYP BD	GYPSUM BOARD	VCT	VINYL COMPOSITE TILE
HC	HANDICAPPED	VERT	VERTICAL
HDW	HARDWARE	VT	VINYL THRESHOLD
HM	HOLLOW METAL	WC	WATER CLOSET
HVAC	HEATING, VENTILATION & AIR CONDITIONING	WD	WOOD
INFO	INFORMATION	WP	WATERPROOF
INSUL	INSULATION	WWF	WELDED WIRE FABRIC
MAS	MASONRY	W/	WITH
MAX	MAXIMUM		
MECH	MECHANICAL		

SYMBOL LEGEND





PROJECT DESCRIPTION

SCOPE OF WORK: NEW CONSTRUCTION
STATE LICENSING AGENCY: TENNESSEE DEPARTMENT OF HUMAN SERVICES COMMUNITY AND SOCIAL SERVICES DIVISION
LICENSING TYPE: CHILD CARE CENTER
THIS FACILITY DESIGN IS BASED ON THE FOLLOWING DESIGN CRITERIA:
BUILDING CLASSIFICATIONS AND DATA

LOCAL ADOPTED BUILDING CODES LIST

2018 International Building Code
2018 International Fire Code
2018 International Plumbing Code
2018 International Mechanical Code
2018 International Fuel Gas Code
2017 National Electrical Code
2018 International Energy Conservation Code

STATE ADOPTED BUILDING CODE LIST
INTERNATIONAL BUILDING CODE, 2012 EDITION (EXCLUDING CHAPTER 11 AND SECTION 3411)
INTERNATIONAL FUEL GAS CODE, 2012 EDITION
INTERNATIONAL MECHANICAL CODE, 2012 EDITION
NATIONAL ELECTRIC CODE, NFPA 70, 2017 EDITION
INTERNATIONAL ENERGY CONSERVATION CODE, 2012 EDITION / CLIMATE ZONE: 4A
INTERNATIONAL FIRE CODE, 2012 EDITION.
NFPA 101 LIFE SAFETY CODE, 2012 EDITION (STATE BUILDINGS, EDUCATIONAL OCCUPANCIES AND ANY OCCUPANCY REQUIRING AN INSPECTION BY THE TSFMO FOR INITIAL LICENSURE)

OCCUPANY GROUP CLASSIFICATION: NON-SEPARATED OCCUPANCIES PER **SECTION 508.3**
GROUP: E-DAYCARE FACILITIES (**SECTION 305.2**)
PER **SECTION 308.6.1**: A CHILD DAY CARE FACILITY THAT PROVIDES CARE FOR MORE THAN 5 MORE THAN 100 CHILDREN 2-1/2 YEARS OR LESS OF AGE, WHERE THE ROOMS IN WHICH THE CHILDREN ARE CARED FOR ARE LOCATED ON A LEVEL OF EXIT DISCHARGE SERVING SUCH ROOMS AND EACH OF THESE CHILD CARE ROOMS HAS AN EXIT DIRECTLY TO THE EXTERIOR, SHALL BE CLASSIFIED AS GROUP E.
B - BUSINESS (**SECTION 304**)
ACCESSORY USE GROUP S-1 - STORAGE (**SECTION 311**)

TYPE OF CONSTRUCTION CLASSIFICATION:
TYPE V-B - UNPROTECTED - SPRINKLED

BUILDING AREA:
ALLOWABLE AREA:
TABULAR AREA (TABLE 506.2): 38,000 SF

BUILDING HEIGHT:
MAXIMUM ALLOWABLE PER TABLE 504.3 = 60'-0"
ALLOWABLE NUMBER OF STORIES PER TABLE 504.4 = 2

ACTUAL BUILDING HEIGHT:
TOP OF CUPOLA (HIGHEST POINT = 35'-6"±
ACTUAL NUMBER OF STORIES = 1

DRAFTSTOPPING IN ATTICS: (SECTION 718.4)
EXCEPTION: DRAFTSTOPPING NOT REQUIRED IN BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1, PROVIDED THAT AUTOMATIC SPRINKLERS ARE INSTALLED IN THE COMBUSTIBLE CONCEALED SPACE WHERE THE DRAFTSTOPPING IS BEING OMITTED. BUILDING AND ATTIC ARE EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM.

CORRIDORS: (SECTION 1020)
CORRIDORS SHALL BE FIRE RESISTANCE RATED IN ACCORDANCE WITH TABLE 1020.1
A FIRE RESISTANCE RATING IS NOT REQUIRED FOR CORRIDORS IN AN OCCUPANCY GROUP E WHERE BUILDINGS ARE EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1 OR 903.3.1.2 WHERE ALLOWED.

REFER TO LS1.0 'LIFE SAFETY PLAN' FOR EXITING INFORMATION

NOTE TO CONTRACTOR RE: MOLD/MILDEW

1. THE FOLLOWING REQUIREMENTS SHALL APPLY TO ALL NEW AND REMODEL CONSTRUCTION PROJECTS.

2. IN THE EVENT THE CONTRACTOR DISCOVERS, AT ANY TIME DURING DEMOLITION, CONSTRUCTION, AND / OR REMODELING OPERATIONS, EXISTING CONDITIONS THAT COULD INCLUDE THE PRESENCE OF MOLD AND / OR MILDEW, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE AND THE PROFESSIONAL OF RECORD, IN WRITING, OF THE CONCERNS AND/OR SUSPICIONS.

3. CONCURRENTLY, THE CONTRACTOR SHALL BE RESPONSIBLE TO RETAIN A MOLD AND MILDEW CERTIFIED TESTING AGENCY TO PERFORM AN INVESTIGATION AND TESTING AS REQUIRED TO EVALUATE THE NATURE AND EXTENT OF THE PROBLEM. IF THE TESTING AGENCY CONFIRMS HAZARDS, THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN A MINIMUM OF THREE (3) BIDS FROM COMPANIES QUALIFIED AND LICENSED TO PERFORM ALL NECESSARY REMEDIATION WORK, COMPLYING WITH ALL LOCAL, STATE AND FEDERAL ENVIRONMENTAL REGULATIONS, CODES, AND STATUTES.

4. ONCE DISCOVERY OR SUSPICION OF MOLD AND / OR MILDEW IS MADE, THE CONTRACTOR SHALL TAKE ALL REASONABLE AND PRACTICAL PRECAUTIONS TO PROTECT ALL CONSTRUCTION PERSONNEL AND THE PUBLIC FROM THE EXPOSURE TO MOLD AND / OR MILDEW, AND SUCH PRECAUTIONS SHALL REMAIN IN PLACE UNTIL SUCH TIME AS THE OWNER OR HEALTH AUTHORITY DIRECTS OTHERWISE. CONSTRUCTION OPERATIONS SHALL NOT BE STOPPED OR CURTAILED, EXCEPT IN THE AREA OF MOLD / MILDEW CONCERN, DUE TO THESE REQUIRED PRECAUTIONS.

5. THE CONTRACTOR SHALL MAKE ALL REASONABLE EFFORTS TO AVOID CONDITIONS FAVORABLE TO THE DEVELOPMENT OF MOLD AND MILDEW, ESPECIALLY IN VOIDS WHICH WILL BE CONCEALED AND NOT VENTILATED. IN ALL CASES, INTERIOR SPACES AND INTERIOR FINISHED CONSTRUCTION SHALL BE MAINTAINED IN DRY AND WELL-VENTILATED CONDITIONS.

6. THE CONTRACTOR SHALL COMPLY WITH FEDERAL ENVIRONMENTAL AND OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS AND ALL LOCAL AND STATE HEALTH DEPARTMENT REQUIREMENTS AND RECOMMENDATIONS REGARDING MOLD AND MILDEW.

7. ALL PENETRATIONS SHALL BE SEALED WATER-TIGHT TO PREVENT MOISTURE MIGRATION FROM ENTERING THE BUILDING OR WALL CAVITIES.

8. ALL CONDENSATE DRAIN PANS SHALL BE CLEANED AND KEPT FREE FROM DEBRIS UNTIL AND WHEN THE FACILITY IS TURNED OVER TO THE OWNER. INSURE POSITIVE DRAINAGE AT ALL DRAIN PANS. INSURE THAT ALL "COLD" SURFACES ARE INSULATED AND COVERED WITH A FULLY SEALED AND CONTINUOUS VAPOR BARRIER. ("COLD" SURFACES INCLUDE, BUT ARE NOT LIMITED TO, DOMESTIC COLD WATER PIPING, CHILLED WATER PIPING, INTERIOR RAIN LEADERS, OUTDOOR AIR INTAKES, AND DUCTWORK CARRYING AIR CONDITIONED SUPPLY AIR.)

9. ENSURE THAT THERE ARE NO WATER LEAKS IN CONCEALED PLUMBING CHASES. RETURN AIR PATHS AND PLENUMS SHALL BE KEPT DRY. ALL EXISTING SUPPLY AIR PATHS AND ALL EXISTING DUCTWORK TO BE RE-USED SHALL BE CLEANED AND TREATED AS REQUIRED TO REMOVE THE POTENTIAL FOR MOLD AND MILDEW. ALL DAMP AREAS SHALL BE DRIED THOROUGHLY PRIOR TO ENCLOSURE.

CALCULATED AREA

BUILDING SQUARE FOOT AREA SUMMARY

NAME	AREA
EDUCATION & BUSINESS USE:	
EDUCATIONAL DAYCARE	3,247 SF
EDUCATIONAL CLASSROOM	5,818 SF
BUSINESS USE GROUP	767 SF
KITCHEN	334 SF
HALL	1,253 SF
TOILETS	762 SF
ACCESSORY USES:	
STORAGE USE GROUP	469 SF
INTERIOR WALLS	619 SF
NET AREA (INSIDE FACE OF EXT. WALLS)	13,269 SF
EXTERIOR WALLS	317 SF
TOTAL BUILDING S.F.	13,586 SF

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CONSTR. DOC. & REVISIONS

No.	Description	Date
1	POST BID ADD 1 - CODE RESP. / FO REVISIONS	11/10/22

JAMES A. SCHMITT
REGISTERED ARCHITECT
AGRICULTURE
COMMERCE
No. 102092
STATE OF TENNESSEE
04/06/23

Professional of Record:
JAMES A. SCHMITT
LICENSE NO: 102092
EXP. DATE: 08/31/24

Drawn/Checked	MS / DSC
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

TITLE SHEET

T1.0

4/6/2023 4:02:13 PM

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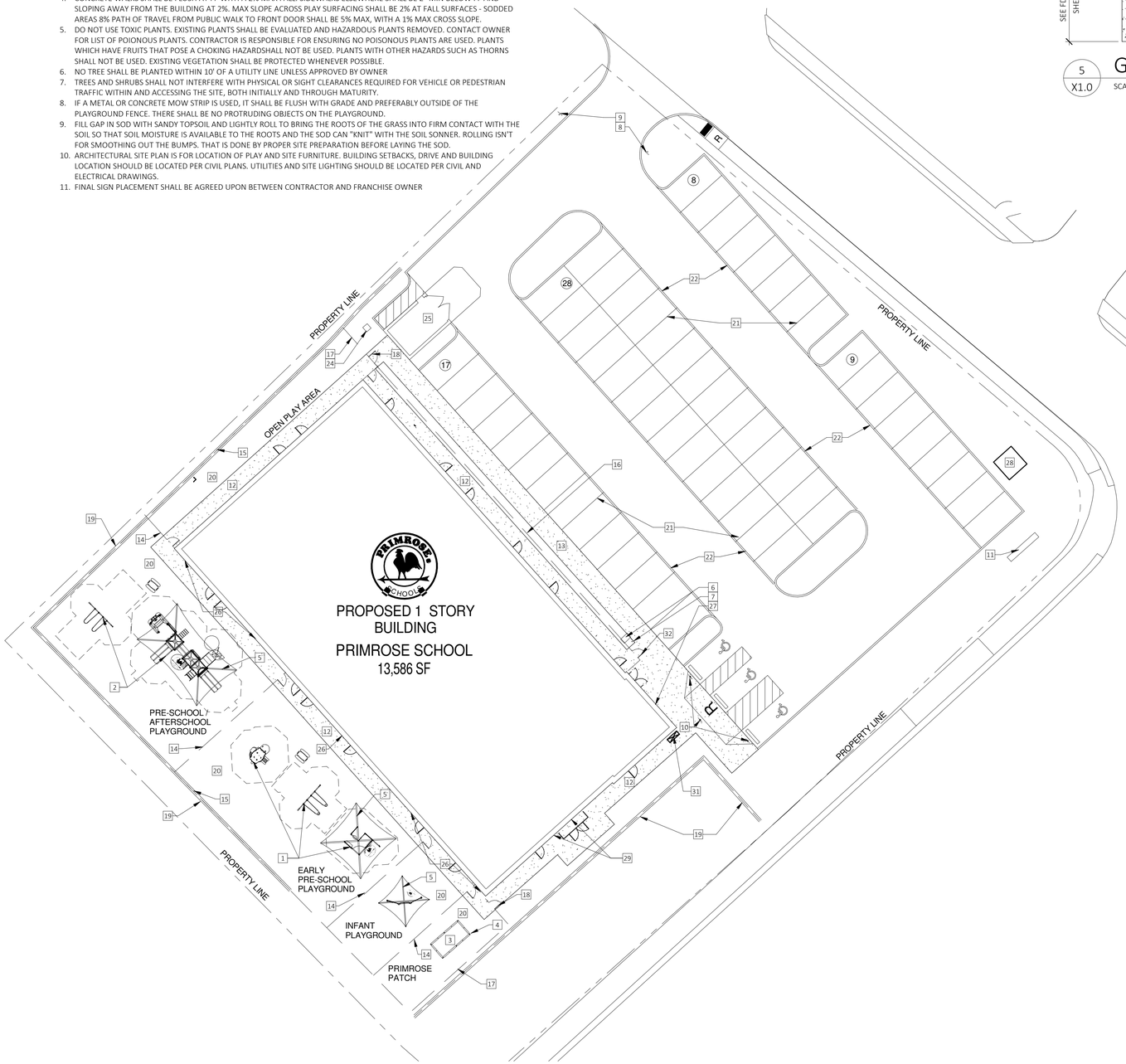
SITE SUMMARY:

BUILDING AREA: 13,586 S.F.
PLAYGROUND AREA: 10,447 S.F.
PROPOSED PARKING SPACES: 62
LOT AREA: 64,892 S.F. +/- (1.49 ACRES)

SITE PLAN GENERAL NOTES

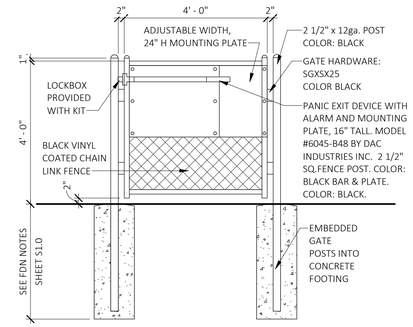
1. ENTRAPMENT. THE DISTANCE BETWEEN ANY OPPING SURFACES SHALL NOT BE GREATER THEN 3.5 INCHES AND LESS THAN 9 INCHES.
2. CONTRACTOR TO FURNISH, ASSEMBLE AND INSTALL PER MANUFACTURER'S INSTRUCTIONS ALL EQUIPMENT LISTED ON THIS PLAN UNLESS OTHERWISE NOTES.
3. CONCRETE EXPANSION JOINTS ARE TO BE PLANNED AND SET WITH CONSIDERATION TO OVERALL SITE LAYOUT AND DESIGN. EXPANSION JOINTS SHALL OCCUR TO CREATE SQUARES NO GREATER THAN 20 FEET IN EACH DIRECTION. CONTROL JOINTS SHALL BE 1/2 INCH DEEP TOOLED JOINTS AND CREATE SQUARES NO GREATER THEN 10 FEET X 10 FEET IN EACH DIRECTION.
4. CONCRETE WALKS SHALL BE FLUSH AT FF WITH A 2% MAX FALL. SIDEWALKS ELSEWHERE SHALL BE 2" MIN BELOW FF AND SLOPING AWAY FROM THE BUILDING AT 2%. MAX SLOPE ACROSS PLAY SURFACING SHALL BE 2% AT FALL SURFACES - SODDED AREAS 8% PATH OF TRAVEL FROM PUBLIC WALK TO FRONT DOOR SHALL BE 5% MAX, WITH A 1% MAX CROSS SLOPE.
5. DO NOT USE TOXIC PLANTS. EXISTING PLANTS SHALL BE EVALUATED AND HAZARDOUS PLANTS REMOVED. CONTACT OWNER FOR LIST OF POIONOUS PLANTS. CONTRACTOR IS RESPONSIBLE FOR ENSURING NO POISONOUS PLANTS ARE USED. PLANTS WHICH HAVE FRUITS THAT POSE A CHOKING HAZARDSHALL NOT BE USED. PLANTS WITH OTHER HAZARDS SUCH AS THORNS SHALL NOT BE USED. EXISTING VEGETATION SHALL BE PROTECTED WHENEVER POSSIBLE.
6. NO TREE SHALL BE PLANTED WITHIN 10' OF A UTILITY LINE UNLESS APPROVED BY OWNER
7. TREES AND SHRUBS SHALL NOT INTERFERE WITH PHYSICAL OR SIGHT CLEARANCES REQUIRED FOR VEHICLE OR PEDESTRIAN TRAFFIC WITHIN AND ACCESSING THE SITE, BOTH INITIALLY AND THROUGH MATURITY.
8. IF A METAL OR CONCRETE MOW STRIP IS USED, IT SHALL BE FLUSH WITH GRADE AND PREFERABLY OUTSIDE OF THE PLAYGROUND FENCE. THERE SHALL BE NO PROTRUDING OBJECTS ON THE PLAYGROUND.
9. FILL GAP IN SOD WITH SANDY TOPSOIL AND LIGHTLY ROLL TO BRING THE ROOTS OF THE GRASS INTO FIRM CONTACT WITH THE SOIL SO THAT SOIL MOISTURE IS AVAILABLE TO THE ROOTS AND THE SOD CAN "KNIT" WITH THE SOIL SONNER. ROLLING ISN'T FOR SMOOTHING OUT THE BUMPS. THAT IS DONE BY PROPER SITE PREPARATION BEFORE LAYING THE SOD.
10. ARCHITECTURAL SITE PLAN IS FOR LOCATION OF PLAY AND SITE FURNITURE. BUILDING SETBACKS, DRIVE AND BUILDING LOCATION SHOULD BE LOCATED PER CIVIL PLANS. UTILITIES AND SITE LIGHTING SHOULD BE LOCATED PER CIVIL AND ELECTRICAL DRAWINGS.
11. FINAL SIGN PLACEMENT SHALL BE AGREED UPON BETWEEN CONTRACTOR AND FRANCHISE OWNER



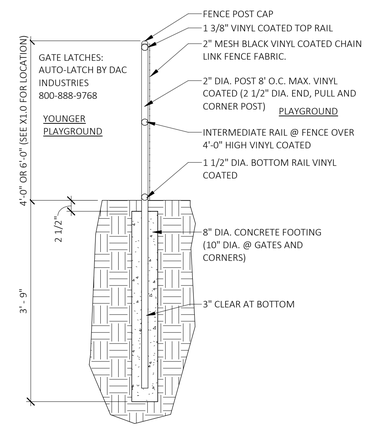
6 X1.0 ARCHITECTURAL SITE PLAN
SCALE: 1" = 20'-0"

SITE PLAN KEYED NOTES

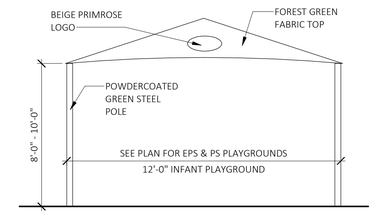
1. EARLY PRESCHOOL PLAYGROUND EQUIPMENT - SEE 1/A7.2
2. PRESCHOOL/AFTER SCHOOL PLAYGROUND EQUIPMENT - SEE 2/A7.2
3. PRIMROSE PATCH - 6'x12' - SEE 6/A7.2
4. PRIMROSE PATCH SIGN - SEE 3/A7.2
5. 12' x 12' SUNSPORTS SUNSHADE. FOREST GREEN WITH BEIGE LOGO. SEE 3/X1.0
6. MAILBOX - SEE 5/A7.2
7. SMOKE FREE SIGN - SEE 3/A7.2
8. BUCKLE UP SIGN - SEE 3/A7.2
9. WATCH FOR CHILDREN SIGN - SEE 3/A7.2
10. HC PARKING SIGNAGE - SEE CIVIL DRAWINGS
11. MONUMENT SIGN - SEE DETAIL 10/A7.1
12. 5' W. SIDEWALK - SEE 7/A7.2
13. 6' W. SIDEWALK - SEE CIVIL
14. 4' BLACK VINYL CLAD CHAIN LINK FENCE, TYPICAL ALL INTERIOR FENCES - SEE 6/X1.0
15. 6' BLACK VINYL CLAD CHAIN LINK FENCE, (NON-STREET SIDE), 3-RAIL WITH MIDDLE RAIL @ 24" A.F.G. - SEE 4/X1.0
16. 4' BLACK AMERISTAR FENCE, TYPICAL FENCES AT FRONT OF BUILDING - SEE 1/X1.0 & 2/X1.0 SIMILAR
17. 6' BLACK AMERISTAR FENCE TYPICAL AT PERIMETER FENCES (FRONT AND STREET SIDES) - SEE 1/X1.0 & 2/X1.0
18. 4' W. x 6' H BLACK GATE W/ PANIC HARDWARE TO MATCH FENCE MATERIAL, TYP. - SEE 2/X1.0 & 5/X1.0
19. RETAINING WALL - SEE CIVIL
20. PROVIDE ARTIFICIAL TURF THROUGHOUT PLAYGROUND - SEE 8/A7.2
21. PERMIABLE PAVERS - SEE CIVIL
22. 6" RIBBON CURB, SEE CIVIL
23. NOT USED
24. FLAGPOLE - SEE 8/A7.1
25. PROPOSED MASONRY TRASH ENCLOSURE, WITH CONC. APPROACH. PROVIDE DRAIN INSIDE ENCLOSURE THAT DISCHARGES THROUGH A GREASE INTERCEPTOR BEFORE ENTERING THE STORMWATER SYSTEM. SEE CIVIL DRAWINGS AND SHEET A7.1
26. DOWNSPOUT - CONNECT W/ 4" PVC TO STORM - SEE ROOF PLAN
27. PROVIDE A KNOX BOX NEAR THE FRONT ENTRANCE FOR FIRE DEPT. ACCESS. COORDINATE W/ LOCAL FIRE OFFICIAL.
28. PAD MOUNTED TRANSFORMER. SEE ELECTRICAL DRAWINGS.
29. METER AND C.T. CABINET INSTALLED BY GC. GC TO VERIFY EXACT LOCATION (PRIOR TO ROUGH-IN) WITH ELECTRIC UTILITY REP.
30. NOT USED
31. GAS METER LOCATION - SEE PLUMBING
32. 4'W x 4'H BLACK GATE W/ PANIC HARDWARE TO MATCH FENCE MATERIAL, TYP. - SEE 2/X1.0 & 5/X1.0



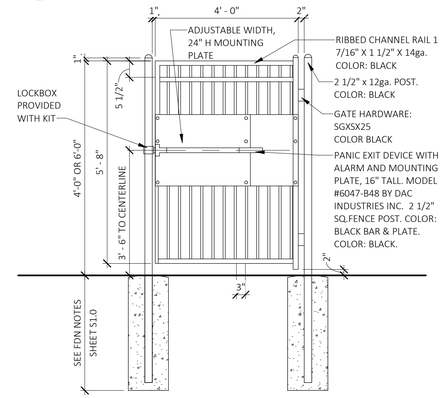
5 X1.0 GATE ELEVATION
SCALE: 1/2" = 1'-0"



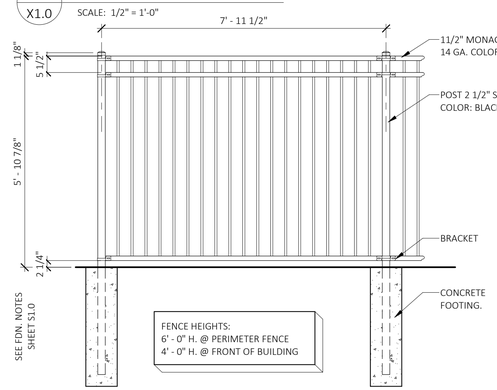
4 X1.0 CHAIN LINK FENCE
SCALE: 3/4" = 1'-0"



3 X1.0 SHADE STRUCTURE
SCALE: 1/4" = 1'-0"



2 X1.0 GATE ELEVATION
SCALE: 1/2" = 1'-0"



1 X1.0 FENCE ELEVATION
SCALE: 1/2" = 1'-0"

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SMYRNA, TN 37167

PRIMROSE SCHOOL FRANCHISING COMPANY
3200 WINDY HILL ROAD, SUITE 1200 E
ATLANTA, GEORGIA 30339-5640

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No.	Description	Date
	CONSTR. DOC. & REVSIONS	

JAMES A. SCHMITT REGISTERED ARCHITECT AGRICULTURE COMMERCE NO. 102092 STATE OF TENNESSEE
04/06/23
Professional of Record:
JAMES A. SCHMITT
LICENSE NO: 102092
EXP. DATE: 08/31/24

Drawn/Checked	MS / DSC
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

ARCHITECTURAL SITE PLAN

X1.0

4/6/2023 7:00:34 AM

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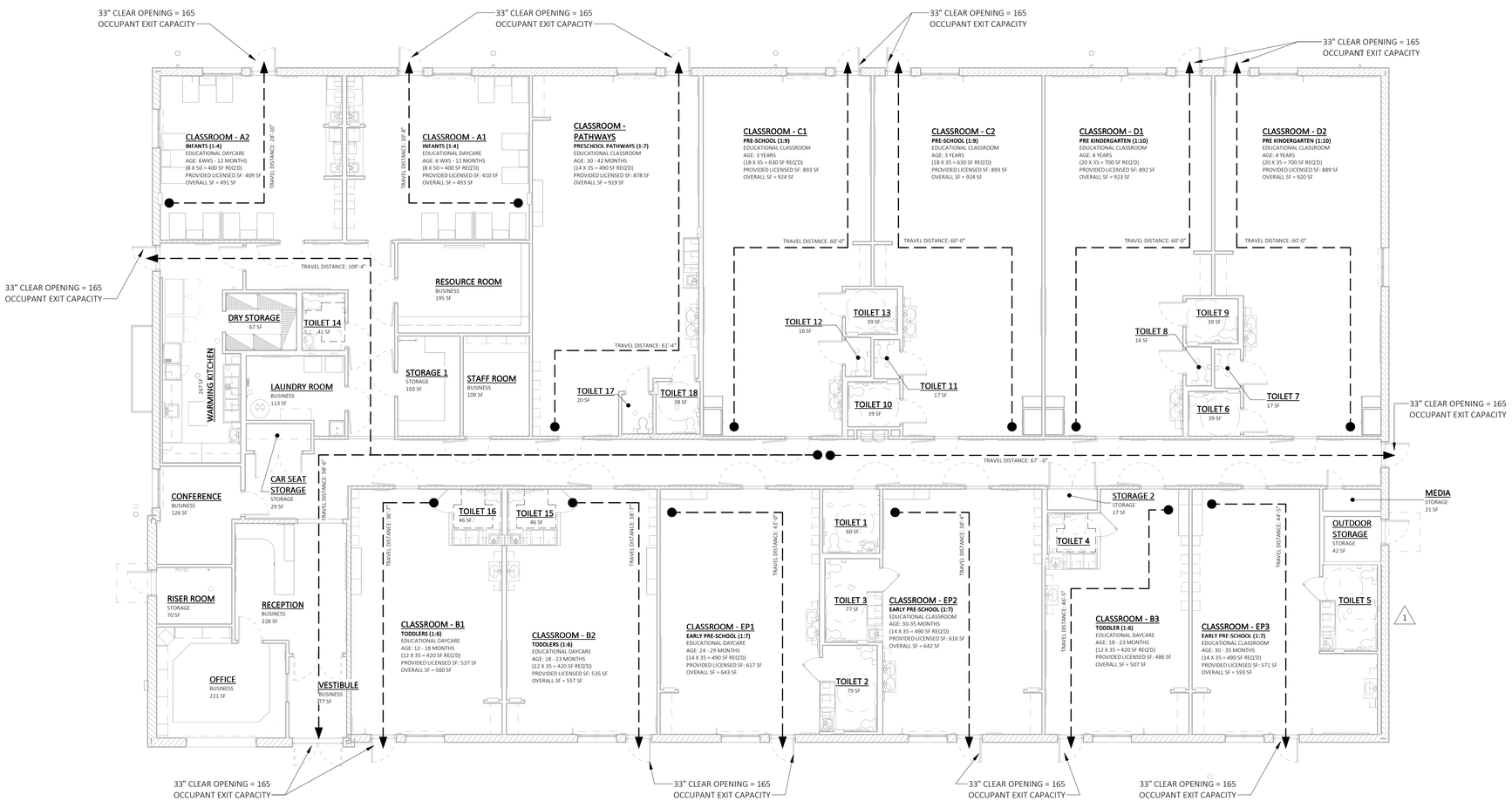

1 LS1.0
NORTH

LIFE SAFETY PLAN

SCALE: 1/8" = 1'-0"

BUILDING PROGRAM - TENNESSEE

Primrose School - Tennessee (TN) 08/24/2022

Name	Ages	Primrose S.F. Per Child	TN State Ratio	Max. Group Size	PSFC Staff Ratio	Proposed Room Capacity	Staff Required	Required Area S.F.
A1 - Infants	6 Wks - 12 Months	50	1:4	8	1:4	8	2	400
A2 - Infants	6 Wks - 12 Months	50	1:4	8	1:4	8	2	400
B1 - Young Toddlers	12 - 18 Months	35	1:6	12	1:5	10	2	350
B2 - Older Toddlers	18 - 23 Months	35	1:6	12	1:6	12	2	420
B3 - Older Toddlers	18 - 23 Months	35	1:6	12	1:6	12	2	420
EP1 - Early Preschool	24 - 29 Months	35	1:7	14	1:7	14	2	490
EP2 - Early Preschool	30 - 35 Months	35	1:7	14	1:7	14	2	490
EP3 - Early Preschool	30 - 35 Months	35	1:7	14	1:7	14	2	490
Preschool Pathways	30 - 42 Months	35	1:7	14	1:7	14	2	490
C1 - Preschool	3 Years	35	1:9	18	1:9	18	2	630
C2 - Preschool	3 Years	35	1:9	18	1:9	18	2	630
D1 - Pre - Kindergarten	4 Years	35	1:13	20	1:10	20	2	700
D2 - Pre - Kindergarten	4 Years	35	1:13	20	1:10	20	2	700
						182	26	6610

1

OCCUPANT LOAD:				
	AREA	AREA SUM	OCCUPANTS	TOILET FIXTURES (TABLE 2902.1)
USE GROUPS	EDUCATION: DAYCARE	3,247 S.F. / 35 =	93	1 FIXTURE / 50 OCC. = 2 FIXTURES
	EDUCATION: CLASSROOM	5,818 S.F. / 20 =	291	1 FIXTURE / 50 OCC. = 6 FIXTURES
	KITCHEN:	334 S.F. / 200 =	2	1 FIXTURE / 25 OCC. = 1 FIXTURE
	BUSINESS:	767 S.F. / 150 =	6	1 FIXTURE / 25 OCC. = 1 FIXTURE
ACCESS-SORY USE	STORAGE:	469 S.F. / 300 =	2	1 FIXTURE / 100 OCC. = 1 FIXTURE
	TOTAL NET OCCUPANTS:		394	TOTAL: 11 FIXTURES
				TOILET FIXTURES PROVIDED: 20 FIXTURES

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NOTE:
EXTERIOR WALLS, TOILETS AND COORIDORS ARE CONSIDERED UNOCCUPIED SPACE AND NOT CALCULATED IN THE OCCUPANCY.

EXIT REQUIREMENTS:

TRAVEL DISTANCE	250' (TABLE 1017.2)
MAXIMUM DEAD END CORRIDOR LENGTH	50' (SECTION 1020.4)
EGRESS WIDTH (INCHES PER OCCUPANT)	0.2" (SECTION 1005.1)
MINIMUM CORRIDOR OR AISLE WIDTH	44" (TABLE 1020.2)
MINIMUM CLEAR OPENING EXIT DOOR	32" (SECTION 1010.1.1)
MINIMUM DOOR HEIGHT	80" (SECTION 1010.1.1)

REQUIRED NUMBER OF EXITS: SECTION 1006
REQUIRED: (2) EXITS
PROVIDED: (16) EXITS

EXIT WIDTH:
REQUIRED: 394 OCCUPANTS x 0.2" = 79"
PROVIDED: 16 DOORS @ 33" = 528"
TOTAL: 528" PROVIDED > 79" REQUIRED

1

CORRIDORS: SECTION 1020
CORRIDORS SHALL BE FIRE RESISTANCE RATED IN ACCORDANCE WITH TABLE 1020.1

A FIRE RESISTANCE RATING IS NOT REQUIRED FOR CORRIDORS IN AN OCCUPANCY GROUP E WHERE BUILDINGS ARE EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1 OR 903.3.1.2 WHERE ALLOWED.

BUILDING HEIGHT:
MAXIMUM ALLOWABLE PER TABLE 504.3 = 60'-0"
ALLOWABLE NUMBER OF STORIES PER TABLE 504.4 = 2

ACTUAL BUILDING HEIGHT:
TOP OF CUPOLA (HIGHEST POINT) = 35'-6" +/-
ACTUAL NUMBER OF STORIES = 1

OCCUPANCY LOAD:
MAX. FLOOR AREA ALLOWANCES PER OCCUPANT (TABLE 1004.5)

CALCULATED AREA

BUILDING SQUARE FOOT AREA SUMMARY

NAME	AREA
EDUCATION & BUSINESS USE:	
EDUCATIONAL DAYCARE	3,247 SF
EDUCATIONAL CLASSROOM	5,818 SF
BUSINESS USE GROUP	767 SF
KITCHEN	334 SF
HALL	1,253 SF
TOILETS	762 SF
ACCESSORY USES:	
STORAGE USE GROUP	469 SF
INTERIOR WALLS	619 SF
NET AREA (INSIDE FACE OF EXT. WALLS)	13,269 SF
EXTERIOR WALLS	317 SF
TOTAL BUILDING S.F.	13,586 SF

1

1

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CONSTR. DOC. & REVISIONS

No.	Description	Date
1	POST BID ADD 1 - CODE RESP. / FO REVISIONS	11/10/22

JAMES A. SCHMITT
REGISTERED ARCHITECT
ARCHITECTURE
STATE OF TENNESSEE
04/06/23

Professional of Record:
JAMES A. SCHMITT
LICENSE NO: 102092
EXP. DATE: 08/31/24

Drawn/Checked	MS / DSC
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

LIFE SAFETY PLAN

LS1.0

4/6/2023 7:00:11 AM

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DIVISION 1 - BIDDING AND CONTRACT DOCUMENTS

SECTION 00100 - INVITATION TO BID

1. This document contains instructions to bidders for the project named above. This bidding document is not part of the contract documents, unless specifically referenced in the Owner/Contractor Agreement.
2. To obtain bidding documents contact the Architect.
3. Submission of bids: Submit Documents "Attachment A - Bid Proposal Form" and "Attachment B - Bid Form" before the time and date below. Submit bids via email. Provide "Attachment B - Bid Form" in .xls file format.
4. Due date and time of day: Per Invitation to Bid.
5. The Owner reserves the right to reject or accept any or all bids or to enter into negotiations with any contractor.
6. The Owner reserves the right to modify the contract documents and rebid the project, if necessary, to meet the Owner's budgetary requirements.

SECTION 00110 - INSTRUCTIONS TO BIDDERS

1. Bids entitled to consideration shall be filled out completely without alterations or erasures.
2. Each bid shall be made out on a form, a copy of which will be attached to bid documents. Upon the request of Owner after the bid opening, list of subcontractors shall be submitted within forty-eight (48) hours.
3. LEGAL CONDITIONS: Bidders are notified to familiarize themselves with the laws of the State and of all governing ordinance or codes of the State, County or City, or other authority having jurisdiction relating to the hours and protection of labor, use of streets, protection against fire, and any other conditions which may be required.
4. EXAMINATION OF THE SITE: Before bidding, Contractor shall examine the site and satisfy himself as to existing conditions under which he will have to operate in performing the work. No allowance shall be made subsequently for his failure to do so.
5. WITHDRAWING BIDS: Bids received after the time and date specified will be returned unopened to the Bidder. Any bid may be withdrawn prior to the time set for opening of bids, but no bid may be withdrawn for a period of sixty (60) days after the date set for receipt of the bid. In order for bid to be considered, bidder must hold appropriate license enabling him to do the work.
6. REJECTION OF BIDS: It is understood that the Owner will not be responsible for any errors or omissions on the part of the Contractor in making his Proposal. The Owner reserves the right to reject any or all bids and to waive any informality or irregularity in any bid if the Bidder failed to furnish any required bid security (if required) or to submit the data requested by the bid documents or if the bid is in any way incomplete or irregular.
7. INTERPRETATION OF PLANS AND SPECIFICATIONS: All bidders shall carefully examine the drawings and specification to inform themselves fully as to all conditions and limitations. If there is any doubt as to the true meaning of any parts of the drawings, specifications or other documents, the Bidder shall submit to the Architect a request for an interpretation thereof. Any interpretation of documents shall be made by Addendum only, duly issued, and a copy of each such Addendum will be emailed or delivered to each person or firm receiving a set of bid documents. The Owner will not be responsible for any other explanation or interpretation of the Contract Documents. No questions will be answered by either the Owner or Architect within forty-eight (48) hours of the bid date and time.
8. ADDENDA: The effect of all Addenda to the Contract Documents shall be considered in the Bid, and said Addenda shall be made part of the Contract Documents. Before submitting they Bid, each Bidder shall inform themself as to whether or not any Addenda have been issued, and failure to cover Addenda in their Bid may result in its rejection.
9. CONTRACT REQUIREMENTS: The following are required to be supplied by the successful low bidder within ten (10) days notification of selection for the award of a contract, and all Contractors bidding the Work shall include the cost of the following in their bids:
   a. A certificate indicating the Contractor's Liability and Property Damage Insurance is in force and with a company acceptable to the Owner, and indicating the Owner and Architect as additionally insured.
   b. Minimum insurance coverage requirements specified in Supplementary Conditions.
   c. A certificate indicating compliance with the State Workman's Compensation Law.
   d. A Construction Schedule Bar Chart listing all critical path trades and milestone dates.
   e. Within forty-eight (48) hours of the Owner's request, a Schedule of Values, listing Subcontractors that the General Contractor will employ on this Project and associated price breakdowns.
   f. The SBA loan/lender will now be disbursing funds directly to subcontractors and suppliers with purchase orders over $5000.00 . Please let your accounting staff know of these changes.
10. EXECUTION OF CONTRACT:
   a. The Owner reserves the right to have performed the entire amount of work, or such parts of the work as he may select.
   b. If this is an SBA loan, the lender will be disbursing funds directly to subcontractors and suppliers with purchase orders over $5000.00 . Please let your accounting staff know of these changes.
11. CONTRACT AWARDING: The Bidder to whom the job is awarded will be required to execute a written contract with the Owner after notification of award. The Architect will forward to the Contractor for his signature:
   a. Five (5) sets of contracts, with the appropriate figures and information.
   b. One (1) sets of Drawings and Specifications in PDF form. General Contractor shall ensure that a complete set of **Construction Documents** given to all Subcontractors prior to bid submission.
   c. The Contractor shall sign and return all Contracts to the Owner for further signature processing.
12. CONSTRUCTION COMMENCEMENT AND COMPLETION SCHEDULES: The base bid will be based on a completion time as you list on the Primrose Bid Form with a maximum as listed in the Bid Form, from the date of the commencement of construction. The Contractor submitted Construction Schedule shall show the method of completing the entire project, including one (1) week for punch out, by the determined completion date.
   a. The job shall commence upon Architect's authorization to proceed. However, no construction shall begin until construction contracts have been signed; and written notice by the Architect to proceed is given to the Contractor. Extensions will be considered only by the Owner if they are presented in written form for either commencement or completion of the building. It is the intent of the Owner to proceed with the start of construction as quickly as possible within the aforementioned criteria. During construction, the Architect will supply one (1) set of plans in paper and electronic form for the Contractor to use, including all revisions. Additional construction sets may be purchased from the office of the Architect at cost.
13. CONSTRUCTION PROGRESS REPORTS: Contractor awarded the job shall supply the Architect and Owner with a written construction schedule within five (5) days of Notice to Proceed. During the Work, Contractor shall supply the Owner & Architect with written daily construction reports on a weekly basis that indicate work accomplished on the project during the week. Provide digital photos of all work underway.

SECTION 00500 - BID BOND
Not required.

SECTION 00600 - FORM OF CONTRACT

1. AGREEMENT: The Agreement between Owner and Contractor, shall include the following forms:
   a. Construction Contract shall be AIA Form A-101 Standard Form of Agreement between Owner and Contractor 2017 edition with modification as required by the lending institution. A copy of this document is available from the Owner upon written request by a General Contractor bidding this project.
   b. Standard AIA Document G701, most recent edition, "Change Order".
   c. Standard AIA Document G702 & G703, most recent edition, "Application and Certificate for Payment"
   d. Standard AIA Document G703, most recent edition, "Continuation Sheet".
   e. Standard AIA Document G704, most recent edition, "Certificate of Substantial Completion".
   f. Standard AIA Document G706, most recent edition, "Contractor's Affidavit of Payment of Debts and Claims".
   g. Standard AIA Document G706A, most recent edition, "Contractor's Affidavit of Release of Liens".
   h. Request for Extension of Time - Contractor's own form (or Field Order form).

SECTION 01000 - GENERAL CONDITIONS

1. Standard AIA Document A201, 2017 edition, "General Conditions of the Contract for Construction" with Primrose modifications is hereby incorporated into and made a part of the Contract by reference.
2. A copy of this document is available from the Architect upon written request by a General Contractor bidding this project.

SECTION 01100 - SUPPLEMENTARY GENERAL CONDITIONS

1. The following supplements modify, change, delete, or add to the General Conditions. Where any part of the General Conditions is modified or voided by these articles, the unaltered provisions of that part shall remain in effect.
2. Add the following:

1.1.9 The construction shall be in accordance with the applicable National, State, County, and Local building codes and the requirements of the specifications hereinafter included. The construction shall be in accordance with such code and generally recognized standards or requirements with no additional expense to the Owner.

1.1.9.1 When more than one (1) code is applicable to the work, construction will conform to the most stringent requirement. Where the requirement of the specifications exceed code requirements, the Work shall conform with the specifications.

1.1.9.2 The Owner shall obtain the following agency approvals or as required:
   a. State and Local Fire Marshal permit
   b. State and Local Health and Welfare Departments permit
   c. State and Local Building Department overall permit

All other minor permits shall be the responsibility of the Contractor and his Subcontractors.

1.1.9.3 Contractor shall be responsible to pay those fees specified at the time of contract signing. Required fees, not covered in documentation, paid by Contractor to expedite construction will be reimbursed by Owner.

1.1.9.4 Owner will pay the site bonding fees where required. The Contractor shall reimburse Owner for any bond fees not returned by the local jurisdiction to Owner at the conclusion of the project, unless it is necessary to hold a landscaping bond past conclusion.

1.1.9.5 It is the responsibility of the General Contractor to verify that all utilities are as noted on the site plan.

1.2.4 In case of difference between drawings and specifications, the most expensive requirement shall govern. Contact Owner and/or Architect for resolution. Anything mentioned in the drawings and not in the specifications and vice-versa, shall have like affect as if mentioned in both. Large scale drawings take precedence over small scale drawings.

3.2.5 Reference to any product in the specifications shall be interpreted as establishing a standard of quality and shall not be construed as limiting competition unless stated in specification. Products of equal quality may be substituted if approved by the Architect prior to bidding.

3.7.1.1 The Owner will attempt to secure the general building permit, health department approval, and fire department approval before starting construction. Owner will pay for these permits only, unless noted otherwise in the Contract Documents.

3.9.1.1 PROJECT SUPERVISION: Contractor will be responsible for providing proper, adequate and competent job site supervision and management of the project. The Owner reserves the right to remove any of the project job site supervision and or management, if Owner if under the opinion that the personnel in question is either not competent for the position, and/or is not satisfying the requirements and standards of the project, as specified in the Contract Documents. **At a minimum, a superintendant employed by the Contractor on-site at all times any work is occurring or deliveries are made.**

7.5 Overhead and profit for changes:

7.5.1 It is the intent of the owner, wherever possible, to establish the cost or credit from a change in the work by a mutually acceptable fixed price. It is hereby agreed that the allowance for the overhead and profit combined included in the total cost to the owner, shall be based upon the following schedule:
   a. To the contractor performing with own forces - not to exceed 20% of the net additional cost.
   b. To the subcontractor performing with own forces - Not to exceed 10% of the net additional cost.
   c. To the contractor, not to exceed 10% of the amount due a subcontractor.

8.3.4 It is understood that the contract time will stop at Substantial Completion or the issuance of a Certificate of Occupancy, whichever is first to occur. Substantial Completion is defined as when the Owner can take beneficial occupancy of the building. This is defined as the ability to stock the building with FF&E.

9.3.1.3 Each monthly application for payment shall be accompanied by a report as to the status of the work in relation to the progress schedule, and if behind schedule, what steps are being taken to regain lost time.

9.3.1.4 On a date as set in the contract, ninety (90%) percent of the value, based on contract prices, or labor and material incorporated into the work and of materials suitably stored at the site thereof up to the first day of that month, as estimated by the architect, less the aggregate of previous payments; and upon substantial completion of the entire work, ninety (90%) percent of the contract price, application for the remaining 10%, to be paid upon completion and acceptance of the work by the owner.

9.3.1.5 No lien releases will be required with the first draw. With the second draw and all subsequent draws, unconditional, original copies of the lien releases covering the full amount of previous draw will be required.

9.3.2.1 A portion of the retainage may be withheld until all inspection requirements have been satisfied and bonds released. This will include the contractor securing all "final government inspections", but not limited to highway, sewer, water, engineering, landscaping, arborist; all in the mode required by the municipal or other governing body to cause them to issue a release of all required bonds, escrows, letters of credit, and/or refundable.

9.3.4 In the event the contractor requests a final inspection, and upon arrival the architect finds the work incomplete for inspection, the contractor will be issued a deductive change order for the cost of travel, not to exceed **$1,500**.

11.5 SPECIFIC INSURANCE REQUIREMENTS

11.5.3 The contractor shall comply with the workman's compensation laws of governing at the site. Submit a certificate to the architect showing proof of the ability to pay compensation directly.

11.5.4 The contractor shall, during the progress of the work, maintain builder's risk insurance, thereon in the amount of the full insurable value thereof. Such insurance shall cover all work in place or stored. The company issuing and the form of policy shall be acceptable to the owner. Insurance shall cover "all risks" including theft (in place or stored material), vandalism, and malicious mischief. Provide a certificate of insurance acceptable to the owner prior to commencing construction. Owner and contractor waive all rights against each other for damages caused by fire or other perils to the extent covered by insurance obtained for the work. Contractor shall require similar waivers in favor of the owner and contractor by any subcontractors.

11.5.5 The contractor shall maintain owner's protective liability insurance, taken out in the name of the owner as insured with limits as follows:
   A. Personal injury including death: **$500,000** per person and **$500,000** for each occurrence.
   B. Property damages: Limits of **$100,000** per occurrence and **$250,000** for aggregate operations.
   C. A certificate shall be submitted to the owner prior to commencing work.

11.5.6 The contractor shall maintain contractor's protective liability insurance with limits as follows:
   A. Personal injury including death: **$500,000** per person and **$500,000** for each occurrence.
   B. Property damages: Limits of **$100,000** per occurrence and **$250,000** for aggregate operations.
   C. A certificate shall be submitted to the owner prior to commencing work.

11.5.7 The contractor shall maintain contractor's public liability insurance including completed operations and contractual liability with limits as follows:
   A. Personal injury including death: **$500,000** per person and **$500,000** for each occurrence.
   B. Property damages: Limits of **$100,000** per occurrence and **$250,000** for aggregate operations.
   C. A certificate shall be submitted to the owner prior to commencing work.

11.5.8 The contractor shall maintain contractor's comprehensive automobile liability insurance with the limits as follows:
   A. Personal injury including death: **$500,000** per person and **$500,000** for each occurrence.
   B. Property damages: Limits of **$100,000** per occurrence and **$250,000** for aggregate operations.
   C. A certificate shall be submitted to the owner prior to commencing work.

11.5.9 All coverages shall include the owner, Architect, and Architect's Consultants as an additional named insured and shall provide the owner with not less than 10 days advance notice of the cancellation or material change to these policies. These coverages shall continue throughout the term of the contract, including any extensions made thereto. The form of the policy for such insurance shall be acceptable to the owner, and such policy shall be issued by a company acceptable to the owner.

11.5.10 In any case of employees engaged in hazardous work under this contract not protected under the workmen's compensation statute, the contractor shall have adequate coverage provided for the protection of employees so engaged and not otherwise protected.

11.5.11 Provide an umbrella liability policy with limits of not less than **$1,000,000** to be excess of any other coverage required. Such coverage shall be at least as broad as the primary coverage above, with any excess umbrella layers written on a strict following form basis over the primary umbrella. All such policies shall be endorsed to provide defense coverage obligations.

13.6 Contractor shall promptly pay to owner all costs and reasonable attorney fees incurred in connection with any legal action in which the owner prevails, in whole or in part, based on a breach of the contract or any other dispute arising out of or in connection with the contract.

13.6.1 It is mutually agreed that any legal action arising out of or in connection with this contract shall be filed and heard in the jurisdiction where the project is constructed.

SECTION 01110 - GENERAL PROVISIONS

1. Definitions: The General Conditions of the Contract is to be amended to read as follows:
   a. OWNER: Primrose School Franchising Company's franchise owner.
   b. CONTRACTOR: As used herein, refers to the Principal Contractors, foreman, agents, and employees thereof.
   c. PRIMROSE: Where referred to, means : Primrose School Franchising Company.
   d. ARCHITECT: CASCO - Aaron Becker - Project Manager, 12 Sunnen Drive, Suite 100, St. Louis MO 63143, (314) 821-1100
2. Measurements: Before ordering any materials or doing any work, the contractor and his subcontractors shall verify all measurements at the building and be responsible for same. The contractor shall verify all grades, levels, lines and dimensions. No extra charge will be allowed due to differences in field and plan dimensions. Any differences shall be reported to the Architect for consideration before proceeding.
3. Layout: The Contractor shall employ a licensed surveyor to establish grades, benchmarks, and lay out the work. Contractor shall maintain and safeguard all benchmarks.
4. The Contractor and all their Subcontractors agree to fully comply with any and all OSHA regulations. The Contractor and their Subcontractors as a term and condition of this contract shall keep and save the Owner and Architect harmless from any claims and charges of any kind by reason of Contractor and/or Subcontractor failing to fully comply with the act and regulations and agrees to reimburse the Owner any fines, damages, or expenses of any kind incurred by the Contractor and/or Subcontractor by reason of the their failure to comply.
5. Fire: The Contractor shall take all necessary precautions the guard against and eliminate possible fire hazards and to prevent damage to the work, materials, equipment, temporaries, and public/private property. Provide fire extinguishers and maintain in good order during construction as required by Fire Officials and applicable regulations. No workman shall be allowed to start fires with gasoline or other flammable materials. No open fires shall be allowed. Salamanders shall be set in earth, concrete, or other non-combustible flooring. Keep eight feet of clearance to any combustible material. Remove all oil soaked rags, papers, or other highly combustible materials from the building.
6. Signs: The Contractor and/or Subcontractors shall not display nor permit any signs or advertisements without the permission of the Owner. The Owner will furnish any Job Signs deemed necessary to advertise the building. Contractor shall install, maintain, and remove the signage during the construction process.
7. Hazardous Materials: The Architect and Owner requires from material suppliers and equipment manufacturers representations concerning hazardous materials per the following language: It is the intent of the specifications that no product or material be incorporated into the building that contains any hazardous substance, or that such products shall be properly identified prior to use or incorporation.
8. ADA: The products and materials furnished for this building shall be fabricated, constructed, and installed in compliance with the Americans with Disabilities Act, applicable to this facility. Should any equipment, item, or element of the work not comply with the applicable provisions of the ADA, the Architect shall be notified during the bidding period.
9. The Contractor shall keep at the site of the Work a copy of the Drawings, Specifications, Site Plan, and other pertinent documents, and shall at all times allow the Owner and duly authorized representatives free access thereto. Such sets of documents shall not be used by workmen, exposed to the weather, or otherwise used for any purpose other than consultation by/or with the above-named persons.
10. Record Drawings: The Contractor shall maintain and keep up to date a complete set of construction documents that shall be corrected daily to indicate the precise dimensioned location of concealed work, including equipment, piping, and conduit. Upon completion of the work, this set shall be forwarded the Architect.

SECTION 01200 - SPECIAL CONDITIONS

1. The work shall commence at the time stipulated in the Notice to Proceed, and shall be fully complete by the date or time stipulated in the Bid Form.
2. Time is the essence of the Contract. Any delay of the work as provided for in the Contract Documents will cause loss and damage to the Owner in lost business, interest cost, and increased administrative charges. Therefore a time charge equal to **$250** (Two hundred and Fifty dollars) per day for each day for the first 30 calendar days, and **$350** (Three Hundred and Fifty dollars) per day for every calendar day thereafter beyond the Completion Date as provided in the Contract Documents. The monies shall be paid to the Owner out of funds otherwise due the Contractor in the Final Payment, not as a penalty, but as liquidated damages sustained, it being mutually understood and agreed between the parties thereto that such amount is reasonable as liquidated damages.
3. Substantial Completion shall occur at the latter of the building being ready for delivery of FF&E as determined by Primrose Corporate or the delivery of a temporary certificate of occupancy that will allow the building to be stocked and training to occur. It is understood the time period between Substantial Completion and Final Completion will be used by the Contractor to finish the final punch list and address any governmental final inspection issues.
4. When it rains on the construction site, based on the agreed upon precipitation records address (e) below), at any time during the construction period, from notice to proceed to substantial completion/Certificate of Occupancy, each separate rain event shall add day(s) to the contract time in the following manner:
   1. Up to .25 inch of precipitation: no time will be added to the contract.
   2. From .26 inch up to .50 inch of precipitation in a twenty-four hour period: 1 (one) day will be added to the contract schedule.
   3. From .51 inch to 1.00 inch of precipitation in a twenty-four hour period: 2 (two) days will be added to the contract schedule.
   4. Over 1 inch of precipitation in a twenty-four hour period: 3 (three) days will be added to the contract schedule. Precipitation records to be obtained from the following address http://www.wunderground.com
5. The Contractor shall provide the testing, adjusting, and balancing of the HVAC system. The exclusive independent, certified, and national T&B firm is Melink Corporation (no exceptions). Call Melink to confirm price for preliminary visit plus visit to test and balance per the current program pricing and terms (available upon request) A kickoff call shall occur at the beginning of the project between Melink, Contractor, HVAC Contractor, and Construction Manager. On the call the team should schedule the first visit or at least get a rough estimate of when the first visit will be. The general Contractor shall be responsible for scheduling the testing, adjusting, and balancing directly with Melink Corporation at least 4 weeks in advance. The first step is a preliminary inspection to inspect the equipment in place and plan for the final balance when the HVAC systems are complete and fully operational. This work shall be performed after the HVAC system start-up and before turnover to Operations. Gas and electric power must be turned on, all doors and windows installed, and ceiling tiles in place. The purpose of testing, adjusting, and balancing the HVAC system is to ensure optimal performance, comfort, and energy efficiency for the Owner's benefit. This service covers all heating and air-conditioning and exhaust ventilation systems. A certified report will be submitted to the Owner within 1-2 weeks of completion. The T&B work shall be completed in accordance with the following checklist:

A. General
   1. Inquire about any design, equipment, and installation problems.
   2. Compare installed system to mechanical plans.
   3. Document design specifications for report.
   4. Ensure all fans are running for balance.
   5. Measure initial building pressure.
      1. Inspect the HVAC System
   6. Inspect units and document any deficiencies.
   7. Record unit nameplate data.
   8. Check thermostats for proper wiring and settings.
   9. Check for correct fan rotation (include condenser fans).
   10. Check conditions of filters and coils.
   11. Check position of outside air dampers.
   12. Check gas lined and condensate lines.
   13. Check belt tension and pulley alignment.
   14. Check disconnect switches and covers.
   15. Check any fan noises and vibration.
   16. Check heating/cooling modes of RTUs.
      1. Test and Balance the HVAC System
   17. Measure supply and return airflows.
   18. Adjust RPM as necessary to achieve design.
      1. Check actual amps versus motor FLA.
      2. Note adjustments made on pulleys.
      3. Measure final RPMs.
   19. Damper at branch takeoffs first and at diffusers second.
   20. Check for drafts and hot/cold spots
   21. Ensure slightly positive building pressure.
      1. Fine tune position of OA dampers.
      2. Measure final building pressure.
      3. Final Review
   22. Review report and data for completeness.
   23. Discuss findings and results with superintendent.
   24. Submit certified report along with recommendations to Owner.
      1. Air quantities shall be balanced to within +/- 10% of design as a general rule. However, in some cases, the air quantities may need to be adjusted differently in order to ensure acceptable comfort levels, proper hood capture, positive building pressure, etc. Melink shall notify the superintendent of any deficiencies needing immediate attention, and the G.C. shall have the mechanical and electrical contractors available on call to promptly correct any such problems (i.e. burned out motors, failed thermostats, incorrect wiring, bad circuit breakers and starters, dirty filters, missing dampers, undersized RTU outside air intake).
      2. In the event Melink need to reschedule a follow-up visit to test and balance any equipment not ready on the originally scheduled T&B date, the G.C. shall pay the additional cost involved, including travel.
      3. Required Vendor: Melink Contact Information: Pete Warther,
         5140 River Valley Rd.
         Milford, OH 45150
         Phone: 513-965-7024
         Cell: 513-709-7896
         pwarther@melinkcorp.com

SECTION 01500 - TEMPORARY FACILITIES

1. Job Site Trailer: The Contractor shall provide a job trailer at the building site. **In addition, provide a minimum 150 square foot area, 7' interior height storage container, lockable. The container must be on site a minimum of six week prior to scheduled completion.**
2. Water: The Contractor shall make arrangements for the use of water during the construction period. They shall pay for and provide all temporary piping, meters, connections, etc. as required to make water available at all times on the site.
3. Electricity: The Contractor shall make all arrangements, pay all fees and charges, and maintain temporary electrical power at all times on the site. Power shall be sufficient for all electrical tools and equipment, and as necessary to provide and maintain temporary lighting in all areas of the job throughout the course of construction.
4. Temporary Heat and Protection: The Contractor shall provide at their own expense, temporary heat, protection, and adequate ventilation as necessary to protect the work against injury from freezing and frost. After drywall, woodwork, ceiling panels, and other finish materials have been installed, the temperature shall be maintained at not less than 55 degrees at all times.
5. Temporary Toilets: The Contractor shall provide, maintain, and clean temporary chemical toilets of a type and quantity approved by local authorities for use by workmen during the construction period.
6. Pumping: The Contractor shall promptly remove all water in excavations, trenches, etc. at any time during the progress of the work and they shall keep the premises free from standing water at all times until the completion of the work.

SECTION 01700 - GENERAL REQUIREMENTS/PROJECT CLOSEOUT

1. The following items are the responsibility of the General Contractor to the Owner prior to final acceptance:
   a. Unrestricted Certificate of Occupancy.
   b. Fire Marshal approval.
   c. Health Department Approval (as related to building items installed in the kitchen, pantry, laundry and toilets as a part of the contract).
2. The contractor will provide the following to Owner at the time of the Final Inspection:
   a. Maintenance and equipment manuals (2 copies of each).
   b. Guarantees and warranties for each piece of equipment or material installed that carries such. All guarantees and warranties shall extend from either the date of building acceptance by Owner or the date building is placed into daily operation, not from the date of installation of the equipment.
   c. A written guarantee from the Exterminator drawn in favor of the Owner for not less than one (1) year making good any damage caused by subterranean termites.
   d. A list of all Subcontractors, including addresses and telephone numbers.
   e. Warranty on roof to Owner.
   f. Material: Touchup paint and stains. One unopened can of each.
   g. Two (2) percent of floor surfaces used.
   h. State and/or local Fire Marshall approval as applicable.
   i. State and/or local Health Department approval as applicable.
   j. A Certificate of Occupancy or final building inspection report by local building official as applicable.

SECTION 01710 - CLEAN-UP

1. Damage and Breakage: The Contractor shall be responsible for all damage, breakage, or other injury to the building or equipment. The Contractor shall protect all adjacent property, roads, streets, curbs, plantings, etc. during construction operations. All damages shall be repaired/replaced by the Contractor at his expense.
2. Protection: The Contractor shall provide drop cloths, planks, runways, etc. to protect all finished work from soiling, staining, or damage. The Contractor shall provide dust abatement for all involved portions of the site by watering, sprinkling, or the use of calcium chloride.
3. Clean-up: The Contractor shall clean all surfaces, equipment, and fixtures inside and outside the building for the Final Inspection. Cleaning shall leave the building dust free. All paint, drywall compound, etc. shall be removed from window frames, glass, etc.

Broom clean building every day.

DIVISION 2 - SITEWORK

SECTION 02000 - SUBSURFACE INVESTIGATION

PART 1 - GENERAL
1. Subsurface investigation report will be furnished to the Contractor by the Owner and shall become a part of the Construction Documents. Data on subsurface investigation is not intended as representation or warrants of continuity of such conditions between soil borings. The Owner will not be responsible for interpretations or conclusions drawn by the Contractor.

SECTION 02100 - EARTHWORK

PART 1 - GENERAL
1. Fills, Finish Grading: See below for specific grade slopes and drainage requirements.
2. Fills shall be of materials as specified herein or in the soils report, with all slopes uniform.
3. Grading must be accomplished in a manner so as not to allow water to pond. All cutting, filling, compaction of fills, rough, and finish grading to subgrades as follows:
4. For surfaced areas such as roads, parking areas, walks: To the underside of the surfacing or base course. The elevations are fixed by the finished grades of the surfaces.
5. For lawn and planted areas: Topsoil shall be 4" thick; therefore, grade to four (4) inches below finished grade before placing topsoil.
6. Included in the scope of work is the grubbing, clearing, and removal of all trash, brush, trees, organic matter, and vegetation on site and not shown to remain. Remove all trash and debris from the site. Dispose in an approved dump off premises. Do not burn on-site.
7. During the construction period provide temporary drainage ditches to keep construction areas free of accumulated water.
8. Provide dust control for all earthwork operations. Cover area with light coating of water or other approved method.
9. Any earthwork in place and tested that is subjected to freezing before the pouring shall be reworked and proof rolled prior to concrete placement.
10. Fill and backfill shall be placed in accordance with recommendations set forth in "Subsurface Investigation Report". Professional Engineering supervision of excavation and compaction will be required. Testing shall be done by an independent testing laboratory approved by the Owner. **CONTRACTOR** shall pay for all such tests. Perform one density test on each type of fill material. Perform one field density test for each lift or of the existing subgrade. Existing subgrade shall be proofrolled and compacted to 95% proctor density or as noted in the geotechnical report for minimum standards. Whichever requirement is more stringent will govern. Additionally, each lift of building or subgrade fill shall not exceed 6" in depth and shall be compacted to 95% proctor density. Perform field density tests in accordance with ASTM D1556 (sand cone method, ASTM D2167 (rubber balloon method) or nuclear method, as applicable. Provide one test on each column footing and one test per thirty feet of linear footing excavation. Provide additional tests as necessary for areas which do not meet the specified density requirements. Testing as described above shall be required for areas under the building pad not requiring fill, I.e. areas in cut, or areas not requiring cut or fill. Reports shall be simultaneously forwarded to the Architect and Contractor. Contractor shall cooperate with the testing agency in coordinating compaction and other required testing.
11. Topsoil: Strip all existing topsoil and stockpile on site. Seed stockpiled topsoil to prevent erosion. Place four (4) inches thick over areas to be seeded or two (2) inches over area to be sodded. Protect all existing streets and improvements. Any excess topsoil shall be removed from the site and disposed of at no additional cost to the Owner.
12. Excess and Waste: Remove waste material, including unacceptable and unused excavation material, trash, and debris, from the property and legally dispose at no cost to the Owner.

PART 2 - PRODUCTS
1. Fill material shall be new or on-site materials as defined by the soils report and the Soils Engineer. Maintain optimum moisture contents while compacting.
2. Top soil shall be defined as agricultural top soil. Such top soil shall be free of debris, trash, weeds, roots larger than 1/2" diameter and chemicals that may prevent the normal growth of sod and plant materials. Top soil, organic soil and related soil classifications shall not be used under the building, under footings or foundations, or under paved areas. Remove all existing topsoil under these areas.
3. Erosion control materials shall consist of three foot wide, 10 mil, 100% spun bonded nylon reinforced silt fence fabric with a maximum vertical water flow of 500 gallons per minute per square foot. Posts shall be steel T posts, minimum five feet long. Contractor may use Silt Soxx in lieu of silt fencing or straw bales.

PART 3 - EXECUTION
1. The Contractor shall protect and maintain active all elements on the site and surrounding affected areas during the construction period. All existing pavement, curbs, walks, signage, storm water structures, and utilities shall be kept active and free of mud and debris at all times.
2. Use of explosives is prohibited.
3. After clearing, grubbing and removal of topsoil, the area shall be scarified and proof rolled per the soil report. Any soft spots or otherwise unsuitable materials shall be removed and replaced or reworked at the direction of the Soils Engineer. All such work shall be included in the base bid. All paved areas shall have the subgrade proof rolled just prior to application of the paving material. These areas shall have optimum moisture content at the time paving operations are conducted.
4. Uniformly grade all areas and transition areas. Provide a smooth finished surface, within a tolerance of 1/2" over 10^{1}.
5. The Contractor shall comply with soil erosion requirements of the code and local ordinances. The Contractor shall periodically inspect conditions of fences and/or bales and repair and/or clean to maintain in working order.
6. The Contractor shall take all steps necessary to protect adjoining property, public and private, resulting from the movement of debris or earth. The Contractor shall take immediate action to any damage.
7. The Contractor shall hold the Owner harmless from any and all claims of any type whatsoever resulting from damages to adjoining public or private property, including reasonable attorney's fees incurred by the Owner. Further, if the Contractor fails to take necessary steps to prevent said damage, the Owner may, but need not, take necessary actions and deduct the cost thereof from amounts due to the Contractor.
8. The Contractor shall locate existing underground utilities in areas of the work. If utilities are to remain in place, provide adequate means of support and protection during earthwork operations. Underground utilities shown on the drawings have been taken from existing public records, Owner's records and available as-built drawings and are correct to the best of our knowledge and provided for information only. Should uncharted or incorrectly charted utilities be encountered during excavation, consult utility owner immediately for instructions. Cooperate with Owner and companies in keeping services and facilities in operation. Repair damaged utilities caused by Contractor's negligence to the satisfaction of the utility at no cost to the Owner. Provide minimum 48 hour notice to utility before interrupting any service.
9. Barricade open excavations occurring as a part of this work and provide warning lights. Slope sides of excavations to comply with local codes and ordinances having jurisdiction. Shore and brace when sloping is not possible because of space restrictions or the stability of the soil excavated. Maintain in safe condition until backfilling is complete.
10. Perform excavations within drip line of trees to remain by hand, and protect the root systems from damage or dryout to the greatest extent possible. Maintain moist conditions for root systems and cover with burlap. Paint roots cut of 1" diameter and larger with emulsified asphalt tree paint.
11. Do not place finish topsoil until all construction debris, trash, equipment, and surplus material have been removed. Loosen surface of subgrade to a depth of 2" minimum to ensure a positive bond between the subgrade and topsoil. In areas to be sodded, spread and compact topsoil to a uniform 2" depth, 1" to 1-1/2" below the finish grade shown on the plans. Where topsoil is spread, use a cultipacker, pulverizer, or similar tool to pulverize the soil and eliminate all lumps.
12. Finish grade slopes - Unless local conditions warrant otherwise, the following finish slopes shall apply:
   a. Hard surface should slope away from the building at two (2) percent, minimum; four (4) percent maximum: 4% preferred.
   b. Playground - Maximum one (1) percent slope at playground equipment with maximum eight (8) percent slope for the remainder of the play area.
   c. Minimum one-one half (1-1/2) percent slope in landscaped areas with swales at a minimum of two (2) percent.
   d. Pavement - Maximum six (6) percent in parking area. Minimum one-half (.5) percent for portland cement concrete paving. Minimum one (1) percent for asphaltic concrete paving.
   e. Adhere carefully to finish grades on engineered site plans to effect proper drainage of the entire lot. Notify Architect of discrepancies between above standards and engineered plans.
13. Prepare finish grade for sodding or seeding with only light raking required by the Landscape Contractor.
   a. Round finished surfaces at abrupt changes in slope.
   b. Should spot elevations conflict with grade contours, spot elevations shall govern.
   c. Finish grades to uniform levels or slopes between points where levels are given or between such points and existing grades.
   d. Positively drain all lawn areas to designated surface water collection points, streets, and/or waterways.
   e. After placement, maintain surfaces to indicated finished grades; deposit whatever additional topsoil is needed to correct any settlement or erosion up to the date of final acceptance. Scarify surfaces upon which additional topsoil is to be deposited, or otherwise satisfactorily prepare to ensure proper bond.
   f. Where settling is measurable or observable at excavated areas during the warranty period, remove surface (pavement, lawn, or other surface), add backfill material, compact and replace finish surface or finish to match adjacent work. Eliminate evidence of restoration to greatest extent possible.

CASCO
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PRIMROSE SCHOOLS

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No.	Description	Date
	CONSTR. DOC. & REVSIONS	

JAMES A. SCHMITT
REGISTERED ARCHITECT
AGRICULTURE
COMMERCE
No. 102092
STATE OF TENNESSEE
04/06/23

Professional of Record:
JAMES A. SCHMITT
LICENSE NO: 102092
EXP. DATE: 08/31/24

Drawn/Checked	MS / DSC
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

SPECIFICATIONS

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SECTION 02200 - TERMITE CONTROL

PART 1 - GENERAL
1. If the project is located in an area that does not have termite or other wood boring insects, and similar projects in the area do not require treatment, notify the Architect prior to bid date for an exception to this requirement.
2. Installer shall have a minimum of three years experience in such installations. The chemicals used shall be approved by Federal, State, and local authorities.
3. The treatment shall be considered "pre-construction" type. Coordinate the placement of all chemicals with other trades working on the project. Provide adequate ventilation for the protection of all workmen.
4. Only the portion under the building and extending 5'-0" beyond the outside face of the building shall be treated. All other portions of the project site are excluded from treatment.
5. Chemicals shall be applied before the slab on grade and adjacent sidewalks are poured, but after all backfilling and utility trenching in complete.
6. Chemicals shall be compatible with the foundation insulation (Styrofoam) if applicable.
7. Installer shall provide a standard written warranty to the Owner. The Owner intends to contract for continuing service as required to maintain the bond. At a minimum, warrant against termite infestation for a period of one (1) year from date of Substantial Completion, including treatment of termite protection and all repairs without cost to the Owner. Installer shall offer to the Owner a continuing service and a bond to pay for any damage caused by termites or other wood boring insects.

PART 2 - PRODUCTS
1. Soil treatment chemicals and installation shall be provided by a local company registered with the state to provide and install termite protection.
2. Treatment shall be provided by Terminix, Orkin, or another company as approved by the Architect during the bidding process.

PART 3 - EXECUTION
1. Apply chemical to the soil under and around the building in strict accordance with federal, state and local regulations. Chemicals shall be delivered to the site in new containers that clearly state the active ingredients on the label.
2. Apply chemicals at the rate recommended for pre-construction, slab-on-grade work. Minimum rates shall be 1.5 gallons per 10 square feet as an overall treatment under the slab areas and 2 gallons per 5 lineal feet along foundation walls and other vertical penetrations. Utility trenches shall receive special treatment within the building and 5' beyond the foundation walls.
3. Provide necessary equipment and services to place the chemicals at soil depth to adequately protect from subterranean termite infestation. Apply chemicals before the installation of the porous fill and vapor barrier.

SECTION 02300 - PAVING AND SURFACING

PART 1 - GENERAL
1. See engineered site plan for site specific information regarding paving types.
2. All work shall comply with the requirements of the Standard State Highway Department Specifications.
3. Subgrade Fills, Backfills and Compaction shall be accomplished as recommended in the "Subsurface Investigation Report" as supplied by the Owner.

SECTION 02350 EXTERIOR CONCRETE FLATWORK

PART 1 - GENERAL
1. Concrete Walks & Porches: Concrete shall be four (4) inches thick, air entrained and having a psi strength as specified in Section 03010, with 6x6 1.4/1.4 welded wire fabric, or fibermesh added to the concrete at a rate of 1.5 pounds per cubic yard, poured over properly prepared subgrade unless noted otherwise on the plans. Pour to uniform surface and finish with a medium fine brush. All exposed edges shall be rounded to a 1" radius.
2. Concrete Dumpster Pad: Concrete shall be thickness as shown on drawings. Perimeter edges thickened to provide support for fence enclosure. See details on plans. Location and size to be specified on the final approved site plan.
3. Dumpster Approach Pad: Concrete shall be a minimum of six (6) inches thick with #4 @ 18"o.c. or per recommendations of "Subsurface Investigation Report" supplied by the Owner. Pad shall be the width of the dumpster pad and a minimum of 20' long.

SECTION 02351 - ASPHALTIC CONCRETE PAVING

PART 1 - GENERAL
1. Core tests shall be taken to verify thickness and subsurface compaction. Provide for three samples, randomly located. Test for extraction, gradation, laboratory density, and Marshalls Stability. Provide a certificate from the testing agency that materials and installation comply with specifications, signed by the asphaltic concrete producer and Contractor. All costs of the tests shall be paid by the Owner. If tests show the installation does not meet specifications, the paving shall be removed, replaced, and retested at no additional cost to the Owner.
2. The entire installation shall comply with all local and state laws and ordinances.
3. Take precautions that equipment and vehicles do not damage or disturb existing site grading, walks, drives, utilities, plants, etc.
4. Provide temporary barricades and warning lights as required for the protection of the work and public safety.

PART 2 - PRODUCTS
1. Asphalt cement, fine aggregate, and coarse aggregate shall be in compliance with state highway department standards for parking areas and driveways. See Civil Engineering plans for specifications. The minimum specification shall be:
   a. Base Course: per civil plans and/or soils report.
   b. Bituminous Binder Course: per civil plans and/or soils report.
   c. Bituminous Wearing Course: per civil plans and/or soils report.
   d. Surface Sealer: Equal to Advanced Formula J-16 Pavement Sealer as manufactured by Maintenance, Inc., Wooster, Ohio.

PART 3 - EXECUTION
1. Check subgrade surface elevation prior to placement of asphaltic concrete paving; method subject to approval of Architect.
2. Proof roll prepared subgrade surface to check for unstable areas and areas needing additional compaction. Notify contractor of unsatisfactory conditions. Do not begin paving work until deficient subgrade areas have been repaired.
3. Asphaltic concrete paving shall not be placed on surfaces which are damp or wet nor when the air temperature on the road three feet above the surface is less than 45 degrees F, except that work may begin before noon on bright sunny days when the air temperature three feet above the road surface is over 40 degrees F. and rising.
4. When laying surfaces which require three or more adjacent passes of the finishing machine, the outer lanes shall be laid first and closure of the surface shall be made by the interior strips near the center line.
5. The use of wood or metal headers to form the edge of the joint during the rolling of the fresh mixture will not be permitted. The edges of all fixtures in the streets, edges, or curbs, bridges or cold asphaltic concrete shall be lightly painted or sprayed with RC-70 or equal to facilitate a tight joint with the fresh mixture.
6. The asphaltic concrete shall be thoroughly compacted while hot, by rolling and/or tamping. All areas of binder or surface courses inaccessible to the roller shall be thoroughly tamped while hot enough to compact properly. All depressed areas around weep holes shall be thoroughly tamped. Compaction of both surface and base course shall be a minimum of 96% of Laboratory Density if not specified otherwise.
7. After the second rolling the surface course shall be checked with a 10' straightedge placed parallel to the center line and any variation greater than 1/4" in the surface course shall be corrected. In removal of bumps, the surface shall first be warmed with a surface heater to soften the mixture, without burning it, until the surface can be loosened, and smoothed with rakes and straightedge. While still hot, the mixture shall be rolled to obtain proper density.

SECTION 02362 - PAVEMENT MARKING

PART 1 - GENERAL
1. Striping: All parking areas shall have four (4) inch white lines with separation between lines as shown on final approved Site Plan or as required by Local Code.
2. Handicapped Striping & Symbol: Locate as indicated on final approved Site Plan and paint as required per Local Code.

SECTION 02400 - STORM DRAINAGE

PART 1 - GENERAL
1. Where connection to storm drains is necessary, furnish and install all pipe, structures, gratings and drains (per local codes and/or specifications) in sizes as noted on engineered site plans.
2. Yard drains in the playground shall have locking plastic lids. No metal inlet covers will be allowed.

SECTION 02500 - IRRIGATION SYSTEMS

PART 1 - GENERAL
1. Scope of the Work:
   a. The work consists of designing and installing a complete underground irrigation system as shown on the drawings and as hereinafter specified, including the furnishing of all labor, plant, equipment, appliances and materials and in performing all operations in connection with the construction of the irrigation system. It shall include furnishing and installing all plastic and pipe fittings, control valves, pressure relied valves, check valves, automatic drain valves, impulse sprinkler heads as required for a complete system as shown on the Drawings or as called for in these Specifications or as may be required for proper operation of the system. The system shall provide 100% coverage of all turf and planted areas. Irrigation shall be provided to the Primrose Patch, see Site Plan for location.
   b. All local, Municipal and State Laws and Rules and Regulations governing or relating to any portion of this work are hereby incorporated into and made a part of these Specifications and their provisions shall be carried out by the Sprinkler Contractor. Include backflow preventer with unions as required by local codes.
   c. Furnish the Owner with one set of blueline prints, showing all sprinkler work required under this contract.
2. Installation:
   a. All pipe, fittings and valves, etc., shall be carefully placed in the trenches with concrete thrust blocks to be poured at all fittings and valves, where required. Interior of pipes shall be kept free from dirt and debris and when pipe laying is not in progress, open ends of pipe shall be closed by approved means.
   b. Heights of sprinkler heads or sprinkler valves in relation to ground level shall be agreed upon by the Owner and the Contractor prior to installation.
   c. All piping shall be properly graded so that the entire system of piping may be drained to a depth below the area's frost line.

SECTION 02600 - VINYL COATED CHAIN LINK FENCE

PART 1 - GENERAL
1. Interior fence shall be four feet (4'-0") high or height as shown on plans with six (6) gauge finish material with two (2) inch mesh fabric coated with aluminum or zinc. All end, corner and gate posts to be two and one-half (2-1/2) inch O.D. with two (2) inch O.D. line posts and one and three-eighths (1- 3/8) inch O.D. top and intermediate rails, and one and one-half (1-1/2) inch bottom rail. All framework pipe shall be galvanized steel pipe, Postmaster, Allied SS20 or approved equal. All fabric, posts, and rails shall be coated with vinyl unless noted otherwise on plans. Bolt ends on perimeter to face out. Color of all parts shall be **black**. All fence posts shall be set in solid concrete to a minimum depth of three (3') feet in solid ground. Line post spacing shall not exceed eight feet (8') on center. Line post footing shall be eight (8") diameter. Provide bolt caps on bolts facing into the playground or cut off flush.
2. Provide gates as shown on Drawings in compliance with ASTM F 654. Provide access to all yards with double four foot wide gates for maintenance access to all areas of the playground. Provide four (4') foot wide gates for pedestrian access. All fence posts to be set in solid concrete to a minimum depth of three (3') feet in solid ground.
3. Unless specified otherwise on X-1, provide childproof free exit latches such as a pool latch by Hoover Fence CSL-3 or "Auto-Latch" by DAC Industries (800)-888-9768 on all playground gates. Double gates shall have Magna-Latch Lokk Bolt Lockable Drop Rod (cane bolt) Model LB124BX-black or equal. If panic devices are required, see specifications on detail.
4. Provide fence with knuckle sleeve top & bottom. Fabric shall comply with ASTM F 668, Class 1. Vinyl on fabric, post, rails, and frames shall comply with ASTM F 934. Fittings for a complete installation in accordance with ASTM F 626. Tie wires in compliance with ASTM F 626 shall be tied to line posts 12"o.c. and rails at 24"o.c.
5. Fence fabric shall be installed facing playground areas if allowed by local code. Child safety regulations require no space between 3-1/2" and 9" exist anywhere on the constructed fence (entrapment zone).

SECTION 02625 - DECORATIVE IRON FENCE - Ameristar

PART 1 - GENERAL
1. If specified on the architectural site plan, interior fence shall be four feet (4'-0") high or height as shown on plans. Bolt ends on perimeter to face out. Color shall **be black**. All fence posts shall be set in solid concrete to a minimum depth of three (3') feet in solid ground. Line post spacing shall not exceed **eight** (8') on center. Provide bolt caps on bolts facing into the playground.
2. All perimeter fence not shown on the site plan otherwise, shall be six (6') feet high with gauge as provided by Ameristar Montage Plus. All fence parts shall **be black**. All fence posts shall be set in solid concrete to a minimum depth of three (3') feet in solid ground. Line post spacing shall not exceed **eight** (8') on center. Provide bolt caps on bolts facing into the playground or cut bolts flush with nuts.
3. All fencing shall be Ameristar (Tulsa, OK) Montage Plus ornamental steel Majestic Design, flush bottom rail treatment, 3-rail style. Pickets shall be **¾" 16 gauge** tubing. Posts shall be **12 gauge** tubing, and rails shall be **14 gauge** tubing. Child safety regulations require no space between 3-1/2" and 9" exist anywhere on the constructed fence (entrapment zone). Provide three rails on all fences; connect to posts with approved fasteners. Top and bottom rails shall be flush. Steel tube pickets in picket holes in the rail shall be spaced 3.75" O.C. See details for further information. Ameristar reference drawing shall be #11-100-9032.Finish shall be per manufacturer's specification.
4. Finish shall be per manufacturer's specification.
5. Provide gates as shown on Drawings. Provide access to all yards with double four foot wide gates for maintenance access to all areas of the playground. Provide cane bolt on passive gate with lock. Provide four (4) foot wide gates for pedestrian access. All fence posts to be set in solid concrete to a minimum depth of three (3') feet in solid ground.
6. Unless specified otherwise on X-1, gate latches shall be Magna latch magnetic pool safety gate latches #ML3TPKA black. Double gates shall have Magna-Latch Lokk Bolt Lockable Drop Rod (cane bolt) Model LB124BX-black or equal. If panic devices are required, see specifications on detail.

   Ameristar
   Montage Ornamental Steel Majestic Design
   Color: black
   Contact: Mark Murphy
   Phone: (918) 877-3548
   E-Mail: mark.murphy@assabloy.com

SECTION 02625 - DECORATIVE IRON FENCE - FORTRESS VERSAI ASSURANCE

PART 1 - GENERAL
1. Provide Ornamental Rackable welded steel fence system, Fortress Iron's VERSAI products including a 20-year limited warranty from the date of purchase for defects in material and workmanship including protection against cracking, peeling, blistering and corrosion (rusting). Color shall **be black**. Refer to 20 Year Warranty Sheet.
   Fortress Iron Railing and Fence Systems:
   1800 Jay Ell, Suite 200
   Richardson, Texas 75081
   Contact: James Shaw
   Phone: 469-337-5139
   Web site: www.fortressfence.com
   E-Mail: james@fortressbp.com

PART 2 - PRODUCTS
1. Rails are Grade A cold rolled steel formed U-Channel and Pickets are Grade A cold rolled steel formed and welded tubing, both conforming to ASTM A500 with G 60 zinc coating (0.60 oz/ft2) total inside and outside surfaces in accordance with the ASTM A123 hot dipped electroplating process. Materials also conform to ASTM E935 testing (Methods A, B, C and D) and load testing in accordance with AC174 (Sections 4.2.2, 4.2.3 and 4.2.4). Rails: 14-gauge formed U-Channel ASTM 500 galvanized steel, 1-9/16-inch Leg X 1 3/16 inch Web.
2. Pickets: 16-gauge ASTM A500 galvanized welded and formed steel tubing for 4' 5' & 6' tall panels, ASTM A500 galvanized welded and formed steel tubing for 7' & 8' tall panels' 3/4-inch square. Pickets shall be spaced with 3" air space.
3. Posts: 12-gauge 2 1/2inch square. ASTM A500 galvanized formed and welded steel tubing with powder coated factory finish. Post caps can be pressed steel dome.
4. Fasteners: All nuts, bolts, sheet metal and wood screws are stainless steel conforming to ASTM F593-02e2 standards.
5. Fittings: Fabricated tees, elbows, splice connections; wall returns, wall ends and other similar components are of the same material, specification and finish as fence panels.
6. If specified on the architectural site plan, interior fence shall be four feet (4'-0") high or height as shown on plans.
7. Bolt ends on perimeter to face out. Color shall **be black**. All fence posts shall be set in solid concrete to a minimum of three (3'-0") in solid ground
8. Fortress Iron's Versai Commercial Fence Flat Top Flat Bottom (FT/FB) style.
9. Commercial Fence panels are fabricated in standard length of 90 1/2" and standard heights of 46", 58", 70", 82" and 94". All fence panels comply with all requirements indicated for materials, thickness, design and details of construction. All welded connections comply with AWS standards for recommended practice in shop welding. All components are accurately cut and drilled to receive hardware, fasteners and accessories. Panels shall be capable of supporting a 300 lb. load (applied at mid-span) without permanent deformation. Panels shall be rackable to a 30" change in grade.
10. Metal parts are assembled and finished individually prior to shipment. Galvanized steel fence components are cleaned with a non-petroleum solvent followed by the application of a sealing zinc phosphate coating. Immediately after sealing, a two-step finishing process consisting first of an electrostatic dipping process in a lead free high corrosion resistant epoxy resin leaving a coating of approximately 20 microns followed by a thermosetting carboxyl polyester resin top coat with a minimum dry film thickness of 60 to 70 microns. The second coating will be applied by the electrostatic spray process.

PART 3 - EXECUTION
1. Stake layout showing locations of all gates and posts. Contact "CALL BEFORE YOU DIG" prior to beginning any excavation work.
2. Install fences in accordance with written instructions and in accordance with authorities having jurisdiction.
3. Concrete Set Posts: Drill hole in firm soil. Posts holes will be a minimum of 36 inches deep with a minimal diameter of 8 inches. Fence post (2 ½") shall be spaced 95" on-center to accommodate installation of brackets on 2 ½" post.
4. Install Fortress brackets onto fence section and posts as indicated in printed instructions for specific fence style. Attach fence sections to brackets with approved fasteners and techniques to insure that fence sections are parallel to grade within ¼-inch in 12 feet.
5. Gate Installation: Install in accordance with manufacturer's instructions. Do not mount gate from wall of a structure. Provide gate post on both sides of a gate. For double drive gate installation, provide concrete center drop to foundation depth and drop rod retainers at center. Lubricate to insure smooth operation and verify proper latch operation.
6. Unless specified otherwise, gate latches shall be Magna latch magnetic pool safety gate latches #ML3TPKA black. If panic devices are required, see specifications on detail.
7. Remove all cutting and drilling chips that are attached to the fencing, post, brackets or additions to prevent corrosion. Repair scratches and other installation-incurred damage. Using a spray paint of the appropriate color that includes a zinc additive, repaint and seal any scratches or holes drilled in the fencing, post, brackets, or additions to prevent rust from forming. Clean up debris and unused material, and remove from site.

SECTION 02700 - PLAYGROUND EQUIPMENT

PART 1 - GENERAL
1. The Contractor is responsible for providing and installing the playground equipment site area as specified on site plan, including final grading (maximum two (2) percent slope) suitable for installation of playground equipment.
2. Equipment shall be ordered from the Owner's supplier. The Contractor is responsible to receive, verify, and store, playground equipment when delivered. The Owner's suppliers of equipment is listed on sheet T-1 and A-2.2.
3. GC shall purchase the playground equipment from the vendor and the install shall be done by the Little Tikes certified installer or installer that meets all the certifications needed by Little Tikes to qualify as a "certified installer". **NO EXCEPTIONS.**
4. Playground equipment is installed after grade has been established in the fall zone areas; any required drainage of the fall zone areas is installed and connected to the approved storm system. The perimeter timbers may be installed prior to the playground installation. Immediately preceding the completion of the play structure installation, the sod and remaining landscape features shall be completed. The playground sod shall be installed and complete a minimum of 30 days prior to Occupancy. Refer to the plans and specs' for additional information. **Do not install the sod prior to installation of the playground structures.**

   REQUIRED VENDOR:
   PlayPower LT Farminton, Inc.
   878 E Highway 60
   Monett, MO 65708
   primrose.support@playpower.com

   Jolean Boyer - National Accounts Manager
   Jolean.Boyer@playpower.com
   573.366.6333

   Danielle Owens
   Danielle.Owens@playpower.com
   573.631.2428

SECTION 02824 - ARTIFICIAL TURF SURFACING

PART 1 - GENERAL
1. Provide all labor, materials, equipment, and tools necessary for the complete installation of synthetic grass safety surface. Surface shall meet the requirements of ASTM F1292-13, that states that the surface must yield both a peak deceleration of no more than 200 g's and a Head Injury Criteria (HIC) value of no more than 1,000 for a headfirst fall from the accessible height of the play equipment. System must be PEMA certified and supported by test data that is less than 3 years executed. The system shall consist of, but not necessarily be limited to, the following:
   a. Synthetic grass consisting of fibers that are 1.55" long. Turf fiber construction consisting of polyethylene monofilament and texturized polyethylene thatch tufted to a 2-layer stabilized woven polypropylene fabric (primary backing), with a secondary backing (stitch binder) of DuraFlo. (XGrass® Prime synthetic turf).
   b. Synthetic Grass Infill, consisting of anti-microbial acrylic coated round silica particles, designed to provide the look, feel, and performance of optimally maintained natural grass. (EnviroFill®)
   c. 1/2" Screenings, 3/4" clean aggregate, compacted 4" deep
   d. Synthetic grass shall be CPSIA compliant with valid supporting test documents2. A resilient infill system, consisting of coated sand granules.
2. Submittals:
   a. Data: Submit manufacturer's product data, including installation instructions and subsurface instructions.
   b. Samples: Submit samples of synthetic grass, infill, pad underlayment.
   c. Warranty: Submit manufacturer's standard 10-year warranty. Please refer to the current XGrass warranty for details.

PART 2 - PRODUCTS
1. SYNTHETIC GRASS SAFETY SURFACE
   A. Aggregate Base – 1/2" Screenings, 3/4" Clean Aggregate, Compacted 4" deep (Refer to Section 3.2-3).
   B. Synthetic grass:
      Vendors:
      The Recreational Group
      Stacy Collier - Exec Vice President of Sales
      Cell: (573) 760 - 2560
      Office: (877) 881 - 8477
      stacy.collier@recreationalgroup.com

      Forever Lawn
      www.foreverlawn.com
      Office: (866) 992 - 7876

      Southwest Greens Midwest
      www.southwestgreens.com
      Office: (877) 260 - 7888

      SynLawn
      www.synlawn.com
      Office: 866.796.5296
      a. Face Weight: 53 oz/sy
      b. Face Yarn Type: Polyethylene
      c. Yarn Size: 10800/7300
      d. Pile Height: 1.55"
      e. Color: Summer Blend (Heat Block)
      f. Construction: Broadloom tufted
      g. Stitch Rate: 8 per 3 inches
      h. Tufting Gauge: 3/8"
      i. Tuft Bind: 13.1 lbs
      j. Permeability: 405.7 inches/hour
      k. Primary Backing: Stabilized dual layered woven polypropylene
      l. Secondary Backing: 10 oz. DuraFlo
      m. Total Product Weight: 72.7 oz/sy
      n. Finished Roll Width: 180" untrimmed
      o. Warranty: 10 Year
      p. Manufactured in the USA, Internationally manufactured products will not be accepted
   A. Pad Underlayment System: SofPad™ 100% recycled, non-contaminated, Post industrial cross-link, closed cell Polyethylene – polyolefin foam pad from XGrass.
      1. Foam Type: Polyethylene – Polyolefin
      2. Bulk Density: 5.0-8.0 lb/cu ft
      3. Effective Size: 24 sq ft (net coverage)
      4. Tensile Strength: 34-36 psi
   B. Synthetic Grass Infill: EnviroFill® from XGrass, 1224 Riverbend Dr. Dalton, GA 30721, Phone (877) 881-8477. Coating: Priority acrylic with Microban®, iron oxide and chromium oxide.
      1. Grain shape: Hardness: 6-8 Mohs
      2. Curvature: 0.7+
      3. Specific Gravity: 1.76 g/cm3
      4. Bulk Density: 110 lb/cu ft
      5. Uniform Coefficient: 1.10 to 1.40
      6. Effective Size: .84 –1.68 mm
   C. Splicing Material: 1000 denier coated nylon (Cordura®) 12" wide minimum.
   D. Adhesive: Synthetic Turf Adhesive (from XGrass)

PART 3 - EXECUTION
1. GROUND PREPARATION:
   a. General: The ground area to receive synthetic grass safety surface is indicated on the Drawings.
   b. Leveling and Site Preparation: All organic material and organic debris to be removed. Soil to be graded level and stabilized (compacted) 6-7 " below grade, per site requirements. Compaction shall be done with mechanical compactors, including vibratory compactors, and/or powered tampers, and rollers.
2. BASE & CONSTRUCTION
   a. General: The area to be smooth and graded to allow for proper drainage. Refer to engineered grading plan if available. The overall grade of the playground is not to exceed 2%, with 1% under equipment.
   b. Nailer Board: Installation of pressure treated or composite board per site requirements.
      1. Concrete edges: Nailer board attached directly to vertical concrete edge with a Tapcon hardware situated 3/4" below concrete grade.
      2. Non-concrete edges: Nailer board installed with round, steel stake, 3 per 10' board. Top of nailer boards to be situated 3/4" below grade.
   c. Compacted Aggregate Base: Place 4" of 3/4" clean aggregate base and 1/2" of screening as leveling layer compacted to 90% of max density per AASHTO T99. Compaction shall be done with mechanical compactors, including vibratory compactors, and/or powered tampers, and rollers.
   d. Underlayment Pad: Lay underlayment pad with seam staggered, trimming edge to fit flush against the nailer board.
   e. Synthetic Grass: Place turf and cut to fit configuration as shown on Drawings. Splice seams. All seams must be attached with splicing film/fabric and adhesive as approved by the manufacturer for this type of installation of their product.
   f. Anchoring/Edging: Edges of turf will be secured to nailer board perimeter.
   g. Infill: Apply layers of synthetic grass infill evenly with a drop spreader and broom the turf fibers with stiff bristle broom to stand fibers up and allow infill to settle into the bottom. Broom in infill round approximately 3 pounds per square foot.

SECTION 02900 - LANDSCAPING

PART 1 - GENERAL
1. Sodding Of Lawn Areas -- See Landscape Plan for locations:
   a. Variety of sod shall be per the site plan, or as selected by the Owner's representative.
   b. Sod shall be grown locally, strongly rooted and reasonably free of pernicious weeds and apparent disease.
   c. Fertilizer shall be Milorganite and shall be distributed uniformly at the rate recommended by manufacturer. The fertilizer shall be delivered to the site unopened in original containers, each bearing the manufacturer's guaranteed analysis and in conformity with state fertilizer laws.
   d. Prior to sodding, all vegetation which might interfere shall be mowed, grubbed, raked and the debris removed from the site. Area then shall be thoroughly tilled to a depth of at least six (6) inches.
   e. Sod strips twelve (12) to eighteen (18) inches wide shall be laid smoothly, edge to edge, and with staggered joint. The sod shall be watered immediately after laying and rolled to the proper grade within forty eight (48) hours after harvesting. On slopes, the sodding shall begin at the bottom and progress upward with strips laid transverse to the flow of water.
   f. Maintain sodded areas until final acceptance by Owner. Maintenance shall consist of mowing, weeding and watering as necessary to maintain healthy turf. Any dead or deficient sod shall be removed and replaced.
   g. Warrant all sodded areas for a period of (1) one year after final acceptance. Resod all areas deemed unsatisfactory at the end of the warranty period.
2. Sodding Of Lawn Areas -- See Landscape Plan for locations:
   a. Variety of sod shall be per the site plan, or as selected by the Owner's representative.
   b. Sod shall be grown locally, strongly rooted and reasonably free of pernicious weeds and apparent disease.
   c. Fertilizer shall be Milorganite and shall be distributed uniformly at the rate recommended by manufacturer. The fertilizer shall be delivered to the site unopened in original containers, each bearing the manufacturer's guaranteed analysis and in conformity with state fertilizer laws.
   d. Prior to sodding, all vegetation which might interfere shall be mowed, grubbed, raked and the debris removed from the site. Area then shall be thoroughly tilled to a depth of at least six (6) inches.
   e. Sod strips twelve (12) to eighteen (18) inches wide shall be laid smoothly, edge to edge, and with staggered joint. The sod shall be watered immediately after laying and rolled to the proper grade within forty eight (48) hours after harvesting. On slopes, the sodding shall begin at the bottom and progress upward with strips laid transverse to the flow of water.
   f. Maintain sodded areas until final acceptance by Owner. Maintenance shall consist of mowing, weeding and watering as necessary to maintain healthy turf. Any dead or deficient sod shall be removed and replaced.
   g. Warrant all sodded areas for a period of (1) one year after final acceptance. Resod all areas deemed unsatisfactory at the end of the warranty period.
3. Planting Of Trees, Shrubs and Ground Cover:
   a. Provide trees, shrubs and ground cover complying with the recommendations and requirements of ANSI Z60.1 "Standard for Nursery Stock" and as further specified.
   b. Fertilizer shall be uniform in composition, free-flowing and delivered to the site unopened in original containers each bearing the manufacturer's guaranteed analysis and in conformity with state fertilizer laws.
   c. Peat shall be free from lumps, roots, woody material and stones or other foreign matter and shall contain no less than ninety (90) percent organic matter by weight on an oven-dry basis. Peat moss shall be free of mineral matter harmful to plant life, water-absorbing capacity to 1,100 to 2,000 percent; moisture content thirty (30%) percent natural; acid reaction four (4) to five (5) pH.
   d. Provide stakes which are straight, sound, rough sawn, not less than two (2) inches if square, or two and one-half (2-1/2) inches in diameter if round and eight (8) feet long. Provide wire ties and guys of 2-strand twisted, pliable galvanized iron wire not lighter than twelve (12) gallons. Provide new 2-ply garden hose not less than one-half (1/2") inch in diameter.
   e. Provide (2) 6' steel tee post align north-south nylon webbing equal to arbortie or Provide 2-strand twisted, pliable galvanized iron wire not lighter than twelve (12) gallons. Provide new 2-ply garden hose not less than one-half (1/2") inch in diameter.
   f. Mulch shall be medium size, dried Pine bark chips or equal. Spread evenly to a thickness of two (2) inches in tree and shrub saucers and in ground cover planting beds.
   g. Weed barrier fabric shall be 30-mil, multi-use woven flat ribbon polypropylene (black) yarn with a facing of polypropylene, needle-punched fiber. Weed barrier fabric shall be designed to assure positive permeability, strength and durability. WEED BARRIER SHALL BE APPLIED IN ALL ROCK OR BARK LANDSCAPED AREAS.
   h. Topsoil shall be a natural, friable topsoil, representative of productive soils in the vicinity. It shall be obtained from well-drained areas, free of subsoil, foreign matter, toxic substances and any harmful material.
   i. Plant trees, shrubs and ground covers during normal season for such work.
   j. Spread 2" of compost (Back To Earth Soil Conditioner), 1" of pine bark mulch, and Osmocote fertilizer (1 lb. Per 100 sq. Ft.) Incorporate to a depth of 6".
   k. Prune, thin out and shape trees, shrubs and ground covers in accordance with standard horticultural practice.
   l. Maintain plant material until final acceptance by the Owner. Maintenance shall consist of spraying, pruning, watering and weeding as required for healthy growth. Any plant material found to be dead or in a unhealthy condition shall be removed and replaced.
   m. Warrant all plantings for a period of one (1) year after final acceptance. At the end of the warranty period dead and deficient material will be removed and replaced at no cost to the owner.
4. Installation of Erosion Control Fabric:
   a. Fabric shall be "Soil Saver" as is distributed by Jim Walls Company in Dallas, Texas (214) 239-8577; or "Curlex Blankets" as is distributed by American Excelsior Company in North Kansas City, Missouri (816) 842-3034; or approved equal.
   b. Staples shall be #11 gauge steel wire formed into a "U" shape, six (6) inches long.
   c. Fabric shall be rolled out in place. Fabric shall be applied without stretching and shall lie smoothly, but loosely on the soil surface.
   d. The Contractor shall refer to the Drawings for details of fabric fastening.
   e. It is intended that non-seeded areas indicated on the Drawings to be protected from erosion be left unprotected. Therefore, application of the erosion control fabric shall occur the same day that the seeding of an area has taken place.
   f. Fabric shall completely cover all areas which are shown on the Drawings to be protected from erosion. After fabric installation the entire area shall be rolled with a smooth roller weighing between 200 to 250 pounds. After rolling, the fabric shall be in intimate contact with the soil surface at all points. Any clods, etc. which hold the fabric off the ground should be removed. The fabric shall be forced down into any depressions and held there with a staple.

DIVISION 3 - CONCRETE

SECTION 03010 - POURED-IN-PLACE CONCRETE

PART 1 - GENERAL
1. Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed on at least one composite sample for each 50 cubic yard or fraction thereof of each concrete mixture placed each day. Provide one slump test per ASTM C 143 for each load of concrete at the point of discharge. Provide one air content test for each compressive strength test. Cast and laboratory and/or field cure at least three sets of two standard cylinder specimens for each composite sample according to ASTM C 31/C 31M. Test one set of two specimens at 7 days and one set of two specimens at 28 days according to ASTM C 39/C 39M, the third set is retained for later testing if required. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi. All costs of testing shall be borne by the **Contractor**. Results of the tests shall be reported by the laboratory directly to the Architect. If a test indicates strength less than desired, additional testing shall be ordered at the Contractor's cost at the direction of the Architect. If results are still unsatisfactory, those portions of the structure shall be removed and replaced, or reinforced at the direction of the Architect at the Contractor's expense.

CASCO
CASCO DIVERSIFIED CORPORATION
12 Sunwest Drive, Suite 100, St. Louis, MO 63141 T: 314.821.1200

PRIMROSE SCHOOLS
1788 ROCK SPRINGS RD
RUTHERFORD COUNTY
SMYRNA, TN 37167

PRIMROSE SCHOOL FRANCHISING COMPANY
3200 WINDY HILL ROAD, SUITE 1200 E
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CONSTR. DOC. & REVISIONS

No.	Description	Date

JAMES A. SCHMITT
REGISTERED ARCHITECT
AGRICULTURE
COMMERCE
No. 102092
STATE OF TENNESSEE
04/06/23

Professional of Record:
JAMES A. SCHMITT
LICENSE NO: 102092
EXP. DATE: 08/31/24

Drawn/Checked	MS / DSC
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
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SPECIFICATIONS

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PART 2 - PRODUCTS
1. Concrete properties for concrete exposed to freeze/thaw cycles shall be determined from designated Exposure Category F Class F2 as described in Section 4.2.1 of the latest edition of ACI 318, unless noted otherwise.
   a. Minimum Compressive Strength: f'c = 3000 psi at 28 days, normal weight, typical. 4500 psi at dumpster and transformer pads.
   b. Maximum water/cement ratio limit (w/cm): 0.45
   c. Air Content w/ 3/4" aggregate size = 6% +/- 1.5%
2. Concrete properties for concrete not exposed to freeze/thaw cycles shall be determined from designated Exposure Category F Class F0 as described in Section 4.2.1 of the latest edition of ACI 318, unless noted otherwise.
   a. Minimum Compressive Strength: f'c = 3000 psi at 28 days, normal weight.
   b. Maximum water/cement ratio limit (w/cm): N/A
   c. Air Content w/ 3/4" aggregate size = N/A
3. Maximum slump per Section 2.5.1 ACI 117: 3" +/- 1" for slabs and footings, 4" +/- 1" for walls, columns and beams.
4. Water: Potable.
5. Concrete shall be ready mixed in accordance w/ ASTM C94. Portland cement shall conform to ASTM C150, Type I or II. Normalweight aggregate shall conform to ASTM C33.
6. Admixtures: Air Entraining Agent shall be neutralized vinsol resin conforming to ASTM C-260. Water Reducing Agent shall be Pozzolith by Master Builders Co. conforming to ASTM C-494 or equal. Admixtures may not be used without prior approval of the Architect. Admixtures to increase the workability of the concrete shall not reduce the strength of the concrete.
7. Curing compound shall conform to ASTM C309, Type 2, Class B.
8. Interior concrete slabs to receive a hard-troweled finish shall not utilize an air-entrained agent or shall the air content exceed 3%.
9. All concrete shall have a minimum cementitious materials content of 470 pounds per cubic yard, unless noted otherwise. Minimum cementitious materials content for floors shall be 540 pounds per cubic yard, unless noted otherwise.
10. Calcium Chloride shall not be added to concrete.
11. Material, mixing, placement and workmanship shall be in accordance with the requirements of the latest edition of the "Building Code Requirements for Reinforced Concrete" (ACI 318) and Section 1905 of the IBC. Each proposed concrete mix shall include test data.
12. Concrete Placement: Cold weather is defined by ACI 306 as "The air temperature has fallen to, or is expected to fall below, 40°F"; when cold weather conditions exist, place concrete complying with ACI 306. Hot weather is defined by ACI 305 as "any combination of high air temperature, low relative humidity, and wind velocity tending to impair the quality of fresh or hardened concrete or otherwise resulting in abnormal properties"; when hot weather conditions exist, place concrete complying with ACI 305.
13. All Detailing, Fabrication, and Erection of reinforcing shall conform to latest edition of ACI "Manual of Standard Practice for Detailing Reinforced Concrete Structures" (ACI 315) and the current "Building Code Requirements for Reinforced Concrete" (ACI 318).
14. Reinforcing Steel:
   - ASTM A615 - Grade 40 for #3, Grade 60 for #4 and larger.
   - ASTM A706 - Where welding is required, at shear wall boundary elements (trim bars) and lateral frame elements
   - ASTM A185 - Welded Wire Reinforcement
15. The following minimum concrete cover shall be provided for reinforcement per ACI 318.
   1. Concrete cast against and permanently exposed to earth: 3"
   2. Concrete cast against forms and exposed to earth or weather
      A. #6 through #18 bars: 2"
      B. #5 bar and smaller: 1-1/2"
   3. Concrete not exposed to weather or in contact with ground
      A. Slabs, walls, joists: 3/4"
      B. Beams, columns: 1-1/2"
16. Unless noted otherwise, lap splices in concrete shall be class "B" tension lap splices (2'-0" minimum) per the latest edition of ACI 318. Stagger alternate splices a minimum of one lap length. Lap welded wire fabric so that the overlap between outermost cross wires of each sheet is not less than the cross wire spacing plus 2 inches. All splice locations are subject to approval by Engineer and shall be made only where indicated on the drawings. Extend all horizontal reinforcing continuous around corners and intersections or provide bent corner bars to match and lap with horizontal bars at corners and intersections of footings and walls.
17. Provide bar supports and spacers to support all reinforcement in proper locations and wire adequately at intersections to hold bars firmly in position while concrete is placed. Bar supports and spacers which rest on or exposed surfaces shall be hot dipped galvanized or plastic coated.
18. Vertical dowels shall match the size and spacing of the wall reinforcement and be secured and supported in place prior to placing concrete, unless noted otherwise.
19. Welding of reinforcement is not permitted unless specifically noted or approved in writing by the Engineer.
20. All slabs on grade shall be placed on a material base in accordance with the geotechnical report.
21. Slab on grade shall be reinforced as indicated on plans.
22. Location of slab construction or pour joints must be approved by the Engineer if different from those shown on these drawings. Joints shall be placed at a maximum spacing of 12'-0" unless noted otherwise.
23. Isolation Joint Material shall be 1/2" thick full height of joint, unless noted otherwise, in compliance with ASTM D1751.
24. All saw cut joints shall be "Sof Cut" sawn as soon as allowed by saw manufacturer recommendations. Joints shall be made within 4 hours in hot weather and within 12 hours in cold weathers after slab finish is completed.
25. Chamfer exposed edges of concrete slabs, flatwork, beams, and columns 3/4" unless noted otherwise.
26. Grout under all column base plates and beam bearing plates with non-shrink, non-metallic, 1" minimum thickness.
27. No conduits placed in the slab on grade shall have an outside diameter greater than 1/3 the thickness of the slab. No conduit shall be embedded in a slab on grade that is less than 3-1/2" thick except for local offsets. Minimum clear distance between conduits shall be 6".
28. Slab reinforcement shall extend through all construction joints, unless noted otherwise. Slab penetrations shall not exceed 30% of the slab thickness and spaced no less than four diameters apart, unless specifically indicated otherwise.
29. Formwork: All wood forms shall be free from defects when concrete is exposed. All wood forms and stakes shall be completely removed.
30. Granular/Porous Fill: See Subsurface Investigation Report for project specific requirements.
31. Vapor Barrier: 6-mil thick plain polyethylene sheeting, unless noted otherwise in the Subsurface Investigation Report.. Lap end and side joints six (6) inches and completely seal joints and ALL penetrations. Install over granular fill, unless otherwise indicated by Subsurface Investigation Report.
32. Where slabs abutt vertical surfaces, provide one-half (1/2) inch pre- moulded expansion joint in compliance with ASTM D1751.

PART 3 - EXECUTION
1. Concrete shall not be placed on muddy or frozen ground. Interior slabs on grade shall not be placed until all danger of frost has passed. Before pouring against set concrete, the hardened surface shall be carefully cleaned and wetted.
2. Notify testing agency a minimum of 24 hours before commencement of operations.
3. Finish: Floor slab shall be steel troweled to a smooth plain surface, free of score marks, grooves, and depressions. Variations in surface shall not be more than one-quarter (1/4) inch in twelve (12) feet. When concrete has set sufficiently to ring under the trowel, it shall be given a second troweling to produce a smooth dense surface. The application of additional cement or "dryer" is expressly prohibited.
4. Protect concrete against frost, wind, rain, ice, and rapid drying. Keep moist for at least seven days after placing. During this period the concrete shall be maintained at temperatures between 50deg. and 80deg. F. Floor shall be cured by wetting and covering with sand or six (6) mil visqueen, or apply Sonneborne liquid curing compound or equal. Temperature shall be maintained by placing sheet insulation over the slab.
5. Saw cut concrete within 24 hours of placing, cut 1/4" deep.
6. Cold Weather Concrete: When the air temperature is 40deg. or below or expected to drop below 40deg. within 24 hours of placement, the following precautions shall be taken:
   a. Adequately heat all material. No frozen ingredients shall be used.
   b. Temperature of the delivered concrete shall be 70deg. +/- 10deg. F.
   c. Concrete shall not come into contact with frozen ground or forms.
   d. Concrete when placed shall have a slump not to exceed four inches.
   e. During placing and finishing, concrete shall be maintained at a temperature of 50 degrees F. or above, but not more than 80 degrees.
   f. Troweling shall be delayed in order to avoid bringing an excess of fines to the surface.
   g. During placement and finishing, slabs shall be protected from wind to prevent loss of heat and rapid drying.
   h. Sudden cooling of ambient air temperature in excess of 20 degrees F. in any 24 hour period shall not be allowed. During this period the concrete shall not be allowed to drop to a temperature below 40 degrees.
   i. Newly finished flatwork shall be covered and protected during cold weather for at least 14 days against exposure to rain, sleet and ice.
   j. During the entire protection period, adequate means shall be provided to prevent loss of moisture from the concrete surface.
7. Hot Weather Concrete: When the air temperature is above 80 degrees or is forecast to rise above that temperature within 24 hours of placement, the following precautions shall be taken:
   a. Stockpiled aggregates shall be saturated and the surface kept moist by intermittent sprinkling or continuous fog spray.
   b. Mixing water shall be kept cool.
   c. When necessary to produce and maintain concrete at an acceptable temperature, chopped or crushed ice up to a limit of 50% of the required water may be added at a rate and in a manner that it will be completely melted during the mixing period.
   d. The cement factor required by the design mix shall be increased as necessary to maintain the specified water- cement ratio whenever additional water is added to compensate for loss of slump during transportation, handling, or placing.
   e. Retarding admixtures may be added with the approval of the Architect.
   f. Temperature of the concrete when placed shall not exceed 85 degrees.
   g. Forms, reinforcing, and subgrade shall be wetted immediately before concrete is placed. Wetting down areas around the pour is recommended to reduce air temperature and increase humidity.
   h. Placing and finishing shall be done as quickly as possible. Adequate manpower and equipment shall be available to handle and place the concrete immediately after its mixing or delivery to the site of the work.
   i. Concrete shall be placed to avoid cold joints.
   j. In extremely hot weather, or in very dry and/or windy weather, sunshades, wind breaks or fog nozzles, or a combination of such items, will be required during flat slab operations.
   k. Concrete shall be kept cool and moist during the curing period. Initial curing media shall be placed within 20 minutes of final finishing of each area.
8. Form Removal: Forms shall be removed without damage to concrete. The time of removal shall be governed by the weather and local conditions, but shall generally stay in place a minimum of four days.
9. After form removal, rub smooth and knock off rough places, Cut out all loose and honeycombed concrete to solid concrete; fill all voids with cement mortar, rub to match adjacent surfaces, and completely conceal. There shall be no sharp edges present on any concrete flatwork.

DIVISION 4 - MASONRY

SECTION 04200 - CONCRETE MASONRY UNITS

PART 1 - GENERAL
1. Manufacturer: Obtain units from one manufacturer, of uniform texture and color for each kind required.
2. Craftsmanship: All masonry shall be made waterproof by quality craftsmanship and installation of the specified materials.
3. Shipping: All masonry units shall be packaged, shipped and transported in a manner to minimize chipping and damage to the units. All units damaged in transit shall not be incorporated into the finally exposed walls.
4. Coordination: The design calls for close tolerances at all window and door openings and at certain design features. Consult the drawings and coordinate the masonry construction with masons and other trades.
5. Protection: The tops of all walls and all completed walls shall be covered at night and at all times of precipitation to prevent water snow or ice from entering the wall cavity or from damaging the exterior surface. All protections shall be held firmly in place against wind displacement.
6. Cold Weather Precautions: Do not lay masonry in less than 40 degree F. or expected lower temperatures unless suitable means are provided to heat the materials and to protect the uncured mortar from frost damage. No antifreeze compounds or calcium chloride may be added to the mortar at any time. Remove snow and ice from all previously laid masonry by elevating the temperature of the air around it, do not heat the masonry directly. Consult Architect and/or Construction Manager for protection/heating requirements if masonry is to be laid in colder than 40 degree F. weather. If ice crystals form on the surface of the mortar during the tooling and compressing stage, rake the mortar out to a depth of 1/2" and cover wall. When air temperatures recover above 40 degrees F. and will not fall below 32 degrees F. again within 12 hours, tuck point the raked joint with fresh mortar, tool and compress.
7. Hot Weather Protection: If the job site air temperature is above 80 degrees F. during the work day, mortar shall be placed in final position within one hour after mixing.

PART 2 - PRODUCTS
1. Concrete Masonry Units: ASTM C90, Grade N, Type I load bearing moisture controlled units or as called for on drawings. Solid units ASTM C145 or C55. Size: eight (8) inches by sixteen (16) inches nominal face dimension by thickness as indicated. Provide fire rated units where indicated on the Drawings. Drying shrinkage shall not exceed 0.10 per cent for normal weight units as determined by ASTM C426, latest addition.
2. Provide jamb and end units, bond beams, half units, solid units, pilaster blocks, and other special units as required for a complete installation. All cells in retaining walls shall be filled solid with grout. All cells containing rebar shall be filled with concrete fill, and shall not contain conduit or electrical boxes. Bond beams shall be constructed of double open ended bond beam block with reinforcing bar(s).
3. Normal weight aggregates shall conform to ASTM C33.
4. Lightweight aggregates shall conform to ASTM C331.
5. Drying shrinkage shall not exceed 0.10 per cent for normal weight units as determined by ASTM C426, latest addition.
6. Mortar: Type M for masonry in contact with the earth and for filling concrete block, Type S for exposed masonry walls. one (1) part Portland cement, one-quarter (1/4) part hydrated lime, and not less than 2-1/4 or more than three times the sum of the volumes of the cements and lime used for sand. No antifreeze liquid, salts or other substances shall be used in the mortar or grout to lower the freezing point. Mortar color shall be medium gray or as per Exterior Color Schedule. Compressive strength of the mortar at 28 days shall be:
   a. Type M - 2500 psi
   b. Type S - 2000 psi
7. Water Mortar: Where masonry will be subject to excessive moisture or normal hydrostatic pressures (i.e. below grade, retaining walls) a water mortar such as Hydrocide Powder, a product of Sonneborn- Rexnord, shall be added to the mortar per the manufacturer's recommendations.
8. All bond beams, filled horizontal elements, vertically reinforced masonry block cells and similar conditions shall be filled with 3,000 psi concrete, not mortar, or as called for on the Structural drawings. Aggregate size shall be 3/8" or 1/2" at the Contractor's option.
9. Flashing: 45 mil cured EDPM. Lap all joints 12".
10. Bond breaker strip: 15# asphalt roofing felt ASTM D226.
11. Pre-molded control joint strips: Solid rubber designed to fit standard block and maintain lateral stability.

PART 3 - EXECUTION
1. Preparation: Layout and course all masonry to conform with the drawings and the various elements to be incorporated. Establish locations of all anchors, ties, reinforcing, lintels, etc. and coordinate with other trades. No exposed cut ends will be allowed. No cores shall be exposed, use a solid unit with facing.
2. Do not wet concrete masonry units.
3. Face units in vertical walls shall be laid in a standard running bond, except as specifically noted on the drawings. Exposed masonry shall be lain with vertical joints plumb and aligned.
4. Joints: Shall be nominal 3/8" wide vertically and horizontally. Joints on all exposed masonry shall be tooled and compressed concave. When mortar is thumbprint hard, use a round jointer/tooler to produce joint. Mortar shall be hard and firmly compressed. Shrinkage and other type cracks will not be acceptable and must be repaired in an approved manner. Joints shall be weather tight. Where fresh masonry joins partially set masonry, remove loose units and mortar, clean and lightly wet contact surfaces. Stop horizontal runs by racking back one half (1/2) unit in each course. Toothing shall not be permitted.
5. Mortar droppings shall be removed as they occur, and shall not be allowed to harden on exposed faces. Do not allow mortar to drop into the empty cells.
6. Control joints shall occur at a minimum of 30 feet on center at exterior wall and 40 feet on center at interior partitions. Locations for control joints shall be as located on drawings or as approved by Architect in the field. Control joints shall consist of units laid to a plumb, true thru wall vertical joint with pre-molded rubber separator and sealant on each side. Horizontal reinforcing shall be cut at the joints.
7. Weepholes: Provide rope wicks, trimmed flush at 32" o.c. Rope wicks shall be untreated cotton or fiberglass rope with a diameter of not less than 3/16" nor greater than 1/4" diameter. Wicks shall extend 8" vertically in a void cavity. Hold in place with duct tape. Keep cavity free of mortar droppings.
8. 8Installation: Install masonry plumb and true to lines in all directions. Discard all units that are not within tolerance as to size or shape, are chipped, or off color. Install units with finished face out. Do not pound or hammer to fit units after they are in position. When adjustment must be made after mortar has begun to set, remove mortar and replace it with fresh. Do not allow mortar to harden on the finally exposed portions of the work. Lay CMU in a running bond, with full head and bed joints. All joints shall be uniform in width and thickness. Place horizontal joint reinforcement continuous on top of the first course at bottom of the wall.
9. Reinforcing: Reference drawings for masonry columns, vertically reinforced walls and wall stiffeners. Concrete for vertical reinforced masonry shall be rod vibrated as placed. Lifts shall not exceed 4'-8" and the lift shall stop 1-1/2" below the top of the course to form a key at pour joints.. All vertical reinforcing shall be continuous thru horizontal bond beams at all locations unless noted otherwise on drawings. All reinforcing shall be rust free and lapped 40 diameters minimum. Hold in place with wire anchors or chairs when filling. Where reinforcement is not detailed, provide one #5 at all sides of and adjacent to every opening which exceeds 24" in either direction. Extend vertical reinforcement full height of wall and horizontal reinforcement 24" beyond each side of opening
10. CMU reinforcing shall truss type, hot dipped galvanized, cold drawn steel conforming to ANSI/ASTM A82. Install at 16"o.c. starting with the top face of the first course unless noted otherwise on drawings. Ends shall be lapped 16". Provide preformed corner bracing and lap 24".
11. Cleaning: Masonry shall be cleaned upon completion of all work. Masonry cement shall be cleaned from windows, doors, concrete and other materials. Point up exposed masonry voids, cracks, and surface imperfections. Use water and a stiff wire brush to clean off excess mortar. Do no strike off surface mortar with metallic objects as this may pall off the finished face of the unit causing it to be replaced. Masonry cleaning products to be applied according to manufacturer's directions. Any solution used shall be acid and efflorescent free, similar to Sure-Klan as manufactured by Protocol, Inc. Wash off all traces of cleaning agent when complete and flood surface to remove all contaminates.

SECTION 04300 - BRICK MASONRY

PART 1 - GENERAL
1. General: All exposed and concealed masonry shall be installed in accordance with applicable sections of the Brick Institute of America and Structural Clay Products Institue "Technical Notes", latest editions.
2. Craftsmanship: All brick shall be made waterproof by quality craftsmanship and installation of the specified materials.
3. Shipping: All brick shall be packaged, shipped and transported in a manner to minimize chipping and damage to the units. All units damaged in transit shall not be incorporated into the finally exposed walls.
4. Coordination: The design calls for close tolerances at all window and door openings and at certain design features. Consults the drawings and coordinate the masonry construction with masons and other trades.
5. Protection: The tops of all walls and all completed walls shall be covered at night and at all times of precipitation to prevent water snow or ice from entering the wall cavity or from damaging the exterior surface. All protections shall be held firmly in place against wind displacement.
6. Cold Weather Precautions: Do not lay brick in less than 40 degree F. or expected lower temperatures unless suitable means are provided to heat the materials and to protect the uncured mortar from frost damage. No antifreeze compounds or calcium chloride may be added to the mortar at any time. Remove snow and ice from all previously laid masonry by elevating the temperature of the air around it, do not heat the masonry directly. Consult Architect for protection/heating requirements if brick is to be laid in colder than 40 degree F. weather. If ice crystals form on the surface of the mortar during the tooling and compressing stage, rake the mortar out to a depth of 1/2" and cover wall. When air temperatures recover above 40 degrees F. and will not fall below 32 degrees F. again within 12 hours, tuck point the raked joint with fresh mortar, tool and compress.
7. Hot Weather Protection: If brick units shall be dampened to prevent prehydration of the contact surfaces between the brick and mortar in conformance with the Structural Clay Products Institute recommendations. If the job site air temperature is above 80 degrees F. during the work day, mortar shall be placed in final position within one hour after mixing.

PART 2 - PRODUCTS
1. Brick: ASTM C-216, Grade SW, Typr FBS, standard modular face brick size. (2-5/8"x4"x8"). See Exterior Color Schedule for brick manufacturer and color.
2. Mortar: Type M for masonry in contact with the earth and for filling concrete block, Type S for exposed masonry walls. One (1) part Portland cement, onequarter (1/4) part hydrated lime, and not less than 2-1/4" or more than three times the sum of the volumes of the cements and lime used for san. Mortar color per Exterior Color Schedule. Compressive strength of the mortar at 28 days shall be:
   A. Type M - 2500 psi
   B. Type S - 2000 psi
3. Water Mortar: Where masonry will be subject to excessive moisture or noraml hydrostatic pressures (i.e. below grade, retaining walls) a water mortar such as Hydrocide Powder, a product of Sonneborn-Rexnord, shall be added to the mortar per the manufacturer's recommendations.
4. Base Flashing: 30-50 mil PVC peel and stick thru-wall flashing installed per MFR's installation instructions. GCP Applied Technologies - Perm-A Barrier or equal.

PART 3 - EXECUTION
1. Preparation: Layout and course all brick to conform with the drawings and the various elements to be incorporated. Establish locations of all anchors, ties, reinforcing, lintels, etc. and coordinate with other trades. No exposed cut ends will be allowed. No cores shall be exposed, use a solid brick with facing.
2. Wetting: Wet brick so the absorption rate does not exceed ASTM C-67 standards. When the air temperature is very hot and dry, or moderately hot and windy, wet the brick several times to insure all the bricks have been wetted. This shall be done several hours ahead of usage so the brick has no surface water, but the absorption rate has been reduced to prevent sucking the water out of the mortar mixture.
3. Face units in vertical walls shall be laid in a standard running bond, except as specifically noted on the drawings. Window sills shall be laid rowlock, or as called for on the drawings. Exposed brick shall be lain with vertical joints plumb and aligned.
4. Joints: Shall be nominal 3/8" wide vertically and horizontally. Joints on all exposed masonry shall be standard tooled and compressed concave. When mortar is thumbprint hard, use a round jointed/tooler to product joint. Mortar shall be hard and firmly compressed.
5. Joining: Where fresh masonry joins partially set masonry, remove loose bricks and mortar, clean and lightly wet contact surfaces. Stop horizontal runs by racking back one half (1/2) unit in each course. Toothing shall not be permitted.
6. Thru-Wall Base Flashing: Install thru-wall flashing as shown on the drawings and extend up 8" the face of the sheathing. Overlap 4" minimum and seal. Any cavity space below the flashing at the wall base shall be completely filled with mortar. A thin bed of mortat or a comparable mastic shall be spread onto the brick before the flashing is set in palce. Extend flashing atop bottom ledge and trim and flush to outside face of brick to conceal.
7. Weepholes: rope wicks, trimmed flush at 24" o.c. Rope wicks shall be untreated cotton or fiberglass rope with a diameter of not less than 3/16" nor greater than 1/4" diameter. Wicks shall extend 8" vertically in the cavity. Hold in place with duct tape. Keep cavity between sheathing and brick free of mortar droppings.
8. Installation: Install brick plumb and true to lines in all directions. Discard all bricks that are not within tolerance as to size or shape, are chipped, or off color. Install brick with finished face out. Do not pound or hammer to fit units after they are in position. When adjustment must be made after mortar has begun to set, remove mortar and replace it with fresh. Remove mortar dropping on the face of all exposed bricks as they occur. Do no allow mortar to harden on the finally exposed portions of the work.
9. Reinforcing: Anchors shall be equal to Wire Bond #1004 screw on anchor, 14 gauage, with 3/16" diameter, 4"x4" triangle, mill galvanized steel. Spacing shall be 16" maximum o.c. horizontally, and 16" o.c. vertically commencing 8" above the start of the first course and 12" o.c. around all openings.
10. Cleaning: Brick shall be cleaned upon completion of all brick work. Masonry cement shall be cleaned from windows, doors, concrete and other materials. Point up exposed masonry voids, crack, and surface imperfections. Use water and stiff wire brush to clean off excess mortar. Do no strike off surface mortar with metallic objects as this may pall off the finished face of the brick causing it to be replaced. Masonry cleaning products to be applied according to manufacturer's directions. Any solution used shall be acid and efflorescent free, similar to Sure-Klean as manufactured by ProSoCo, Inc. Wash off all traces of cleaning agent when complete and flood surface to remove all contaminates.

SECTION 04730 - MANUFACTURED STONE (LONESTAR)

PART 1 - GENERAL
1. Product Data: To ensure proper stone has been delivered and mortar color is acceptable provide a "laid-up" sample using the selected stone and mortar materials and showing the full range of colors expected in the finishes Work; minimum sample size: 4 by 4 feet.
2. Submittals: Proof of manufacturer's proof of installer qualifications, ICC-ES Report, veneer manufacturer's installation instructions. All windows shall be provided with screens on the active side.
3. At closeout submit maintenance instructions and special Warranties.
4. Store moisture-sensitive materials in weather protected enclosures.
5. Maintain materials and ambient temperature in area of installation at minimum 40 degrees F (4 degrees C) prior to, during, and for 48 hours following installation. When air temperature is 40 degrees F (4.5 degrees C) or below, consult local building code for Cold-Weather Construction requirements.
6. Provide manufacturer's 75 year standard limited warranty coverage against defects in materials when installed in accordance with manufacturer's installation instructions and upon Substantial Completion.
7. Extra Materials: Furnish extra manufactured stone material in a variety of shapes and sizes in quantity equal to one percent of the installed stone.

PART 2 - PRODUCTS
1. Stone shall be manufactured by Lone Star Stone, Incorporated, PO BOX 2125 Fax: (254) 694-0815, WHITNEY, TEXAS 76692-2125. www.lonestarstone.com or approved equal.
2. See sheet A4.0 Exterior Elevations for stone specification.
3. Manufactured Masonry Physical Properties: Precast veneer units consisting of portland cement, lightweight aggregates, and mineral oxide pigments.
   a. Compressive Strength: ASTM C 192 and ASTM C 39, 5 sample average: greater than 1,800 psi (12.4MPa)
   b. Shear Test: ASTM C 482: 50 psi (345kPa)
   c. Thermal Resistance: ASTM 177, R-factor, 0.355 per inch (25.4mm) of thickness.
   d. Freeze-Thaw Test: ASTM C 67: Less than 3 percent weight loss and no disintegration.
   e. Fire Hazard Test, ASNI/UL 723 Flame spread: 0, Smoke Development: 0
   f. Maximum Veneer Unit Weight: 15 psf (73 kg/m2).

   Materials:
   a. In order to minimize variations in appearance or color, do not change the source of cement, aggregates, or water for the duration of the job.
   b. Materials shall be free of salts, chertz, expansive clays or other deleterious materials.
   c. Portland Cement - ASTM C150, Type 1.
   d. Lime - ASTM C 207, Type S.
   e. Sand - Natural Sand, ASTM C 144.
   f. Colors - Mineral oxide pigments, guaranteed to be sunfast and limeproof.
   g. Water - Clean and free from injurious and deleterious substances.

   Accessory Materials:
   a. Reinforcing - Steel reinforcing bars conforming to ASTM A615 galvanized.
   b. Setting buttons - Lead of plastic, non-staining to cast stone, sized to suit joint thickness and bed depths.
   c. Plastic Tubing - Medium density polyethylene, outside diameter 1/4 inch, length required to extend between exterior face of stone and cavity behind.
   d. Cramps and anchors - Stainless steel, configurations as indicated, with additional attachment devices if recommended by cast stone manufacturer.
   e. Flashing - As specified or shown on drawings.

PART 3 - EXECUTION
1. PREPARATION
   a. Furnish to installers of other work, items to be built into such work for anchoring, supporting and flashing of cast stone. Furnish drawings or templates showing locations of items furnished.
2. INSTALLATION
   a. Do not install damaged stones.
   b. Do no lay cast stone when air temperature is below 40 degrees F and falling.
   c. Install and adjust anchors, supports fasteners and other attachment indicated or necessary to secure stones accurately in locations with uniform joints and widths and edges and face aligned. Install all cast stone work with anchors except where only masonry bond indicated.
   d. Support each stone with both gravity and lateral anchors. Provide a minimum of four (4) anchors for panels up to 12 square feet and two (2) additional anchors for each additional 8 square feet of surface area. Attach anchors securely to stones and to back-up surfaces.
   e. For stones supported on clip or continuous angles, set stones in bed of mortar using setting buttons. Maintain joint between bottom of relieving angles and top edge of stones below angles free of mortar.
   f. Install concealed flashing under all copings and at continuous shelf angles, lintels, ledges and similar features.
   g. Place setting buttons of size, quantity, and thickness required to prevent mortar from squeezing out and to maintain joint widths. Hold buttons minimum of one (1) joint width back from face of stones.
   h. Immediately before setting the stone, clean and dampen all surfaces in contact with mortar. Set the work accurately, true to line, level and plumb, with bed joints and anchor holes filled with fresh mortar.
   i. Place weepholes in joints at locations where moisture may accumulate including base of cavity walls, above shelf angles and flashing at 24" o.c. max.
3. CLEANING AND PATCHING
   a. Prior to caulking and as soon as possible after installation, clean the work using clean water, mild soap and fiber brushes. After cleaning, rinse the stones and adjacent materials thoroughly with clean water to remove the cleaning solution.
   b. Do no use acid solutions, wire brushes, or other materials or methods, which could damage stones.
   c. Patching - The repairing of stone chipped or damaged after installation shall be performed only by mechanics skilled in this work, using materials furnished by the cast stone manufacturer and according to his direction. Stones that cannot be repaired with small patching shall be removed and replaced with new perfect stones.
4. SEALING
   Sealer: Water based, silane or siloxane masonry sealer, clear.

DIVISION 5 - METALS

SECTION 05100 - STRUCTURAL METALS

PART 1 - GENERAL
1. All structural steel shall conform to latest ASTM specifications, AISC Codes and Specifications, AWS D1.1 Structural Welding Code, and AWS Standard Qualification Procedure.
2. All structural steel elements shall receive a shop coating of a rust inhibitive primer and all surfaces, except those surfaces where friction fitting or welding will be performed. After connecting, these areas shall be field painted with matching paint. All exterior structural steel permanently exposed to the weather shall be hot dipped galvanized after fabrication.

PART 2 - PRODUCTS
1. All materials shall be rust free, new and shop painted.
2. Anchor bolts shall conform with ASTM A 307 formed without heat. Where bolts are not called out, use 3/4" diameter machine bolts.
3. Bolts shall conform to ASTM A325-F (friction type).
4. For items called for to be galvanized,: ASTM A 153 or ASTM A 386. All welding done after galvanizing shall be protected with two coats of "Galvanized" or "Galvaloy".
5. Misc. Fasteners: ASTM A 307, Grade A.
6. Structural Steel Shapes, Columns, and Elements: ASTM A 36 as a minimum. See drawings for other types and grades of steel.
7. Washers: ASTM A 325 large cut type. Provide 2" round washers for attaching wood elements to any steel member, bolt or anchor bolt.

PART 3 - EXECUTION
1. Fabricate and assemble in shop to greatest extent possible. Mark and identify all elements for field assembly. Verify all dimensions with architectural and structural drawings.
2. Exposed structural elements shall be free of marks, mill identifications, burrs, welding splatters, or other defects that will adversely effect the exposed surfaces.
3. Loose Items: All All steel angles supporting masonry shall bear each end on solid masonry as indicated on the drawings.

DIVISION 6 - WOOD AND PLASTIC

SECTION 06010 - ROUGH CARPENTRY

PART 1 - GENERAL
1. Grading Rules: Southern Pine - latest edition of Standard Grading Rules, Southern Pine Inspection Bureau (SPIB). Douglas Fir, Western Larch, Western Hemlock- latest edition of Standard Grading Rules published by Western Wood Products Association (WWPA) or West Coast Lumber Inspection Bureau (WCLIB). All material manufactured in accordance with U.S. Product Standard and shall carry grade trademarks on each piece.
2. Workmanship: Employ only skilled carpenters. All carpentry shall be accurately set, plumb, true, even and securely fastened in accordance with referenced standard or manufacturer's recommendations.

PART 2 - PRODUCTS
1. Materials:
   a. Joists, beams, planks, rafters, headers, exterior wall top plates: S4S, #1 SP (Southern Pine) or #1 DF-L, air-dried to a moisture content of nineteen (19) percent or less. Truss lumber to be per design Engineer's specifications and 06190. Structural Composite Lumber to be laminated veneer lumber with the following minimum design values: Fb=2,600 psi, Fv=285 psi, E=2,000,000 psi
   b. Plates, blocking, furring, and bracing: S4S, #2SP (Southern Pine) or #2 DF-L or better.
   c. Studs: Bearing walls, posts and partitions to be # 2 S-P (Southern Pine) or #2 DF-L. Non-bearing walls or partitions to be No. 2, Construction Grade or better. All studs shall be air-dried to a maximum moisture content nineteen (19) percent. Bearing wall studs at sixteen (16) inches on center. Non-bearing wall studs at sixteen (16) inches on center, unless local code requires closer spacing.
   d. Roof Sheathing: 19/32" CDX exterior grade plywood APA rated 40/20, and conforming with Product Standard PS-1-80. Install full 2x blocking at all sheathing edges. Install with face grain perpendicular to supports. Nailing to remain exposed for inspection if local code requires.
   e. Exterior Wall Sheathing: 15/32" CDX exterior grade plywood APA rated 32/16. All exterior walls are shear walls. Nailing to remain exposed for inspection. Install full depth 2x blocking at all panel edges (except where 3x framing is required by shear wall schedule) . Provide additional framing at wall ends and breaks for Simpson Anchors. Cover all sheathing with building wrap (Tyvek) installed starting from the bottom, with 6 inch overlaying laps. Lap vertical joints 12 inches.
   f. Preservative treatment: All lumber in contact with concrete or exposed to weather shall be pressure treated in compliance with AWPA Standards C1 & C2, 15% maximum moisture content equal to MCQ or ACQ as approved by the EPA.
2. Simpson Connectors: Metal ties, connections, tie-downs, hold-downs, straps, and related items shall be those of the Simpson "Strong-Tie" Connectors, without substitution and based on their latest catalog. All holes shall be filled with he proper nail or bolt as specified by manufacturer. Reference drawings for metal connections and include connectors based on the following criteria:
   a. All exterior walls shall be tied to the top and bottom of studs, columns, posts, and related elements.
   b. All interior bearing shall be tied to the top and bottom of studs, columns, posts, and related elements.
   c. All roof trusses shall have ties connecting them to the bearing plates, beams, and related items.
   d. All conventional roof members shall have ties connecting them to plates, beams, and other structural elements.
3. Fasteners: All rough hardware and fasteners used on the exterior shall be corrosion resistant and non-staining. Unless called out otherwise, they shall be galvanized or stainless steel. **2"x2"x3/16" plate washers** shall be used under bolt heads and nuts against wood. Use heavy plate or mallable iron washers for all bolts designed to act in tension, such as hold down anchors.

PART 3 - EXECUTION
1. All wall penetrations shall have a minimum of double studs each side of the opening, one full height to the top plate and one becoming a cripple stud supporting a header. If the opening width exceeds five (5') feet, provide an additional stud extending to the top plate. If the opening exceeds seven feet (7') provide an additional cripple stud. If a wall height exceeds ten (10) feet, provide 2x bridging, same width as wall, preferably at mid-height, but not to exceed intervals of 8 feet.
2. All dimensions and measurements shall be field verified to produce proper fit and function. All members shall be self fitting without fillers. Fasteners and anchorages shall bring the members into a tight fit without movement when a dead and live load are superimposed.
3. All framing lumber, blocking, studs, joists and related members shall be closely fitted with square or shaped ends, accurately set to required lines and level, plumb and true in all dimensions. Members on a slope shall be accurately cut to fit the angle. All wood members shall be nailed or bolted to the abutting material to hold them firmly in place. No framing member shall be diminished in cross sectional area to accommodate pipes, wires, or conduits without the approval of the Architect. Studs are sized to accommodate a 3/4" hole when drilled in the middle of the width. Bolt holes shall be the same size as the nominal size of the bolt used. Retighten all nuts prior to closing in. Pre-drill all holes for 20d and larger nails and all lag bolts. DO NOT bore or notch joists, rafters, headers, or beams. Holes through sills, plates, studs, and double plates in interior/exterior bearing walls and shear wall framing shall not exceed 1/3 the plate or stud width. Center all bored holes in wall framing.
4. Provide wood blocking to support wire shelves, casework, paper towel dispensers, toilet paper holders, grab bars, mirrors, and electrical/plumbing/HVAC items as required. Provide solid blocking for all rafters more than 10 inches deep at 10'-0" o.c., and for all floor joists 8 inches or more in depth at 8'-0" o.c. maximum.

SECTION 06190 - WOOD TRUSSES

PART 1 - GENERAL
1. Pre-engineered wood trusses shall be used for roof framing. Sizing of members and design of system to be by the fabricator. Fabricator to supply necessary engineering certification to comply with Local Building Codes. Truss shop drawings shall be stamped by a Professional Engineer registered in the state of the project construction. Copies will be submitted to the Architect for approval. The Contractor shall submit copies of design shop drawings to local design review departments, if required. The truss configurations indicated on the drawings are schematic in nature to show required spans and roof slopes. The truss manufacturer shall be solely responsible for the structural design of the trusses, including fabrication and erection.
2. Trusses shall be fabricated by a certified member of the Truss Plate Institute. Design, fabrication and erection shall conform to Truss Plate Institute Standards. Connector plates shall be ICBO approved with a minimum size of 2" x 4". All chord members shall have lumber grade stamps; all web members from the same lumber grade with at least 50% of the web members bearing a grade stamp.
3. Design Truss Loadings: See Plans.
   a. The general contractor or truss manufacturer shall provide the truss Design Engineer of Record copies of all construction documents necessary to establish/check all applicable truss design loads.
   b. All trusses shall be designed for the uniform loads shown in addition to applicable wind, snow drift, unbalance snow, and mechanical platform loading shown. Verify Design Loads meet or exceed ASCE 7-10 for live and snow loading. Total load deflection shall be limited to L/240.
   c. The truss manufacturer shall be responsible for the design of all trusses used as drag struts and shall ensure such trusses are placed as shown on the plans. The amount of load transmitted laterally by the member shall be a minimum of 2000 pounds unless noted otherwise on the framing plans.
   d. The truss Design Engineer of Record shall select (truss

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SECTION 06200 - FINISH CARPENTRY

PART 1 - GENERAL
1. It is the intent of this section to set minimum standards for materials and installation of all interior and exterior finish carpentry, including cabinetwork and tops.
2. Provide shop drawings for all casework, shelving, and counters to Architect for approval before installation.

PART 2 - PRODUCTS
1. Interior millwork shall conform to the "Standard Grade" criteria of the AWI standards. Where trim will be painted; therefore, finger joint trim will be acceptable.
2. All wood and wood trim for exposed exterior finish carpentry shall be clear Hardie trim except as called for on the drawings. Nails shall be as required to hold members securely in place without splitting the material. All nails shall be hot dipped galvanized.
   a. Board Siding (where occurs): "Hardiplank" as manufactured by James Hardie Building Products or approved equal. Siding shall be 5/16" thick, 7-1/2" wide (6-1/4" coverage), Woodgrain pattern, 12' long. Product shall have a 50 year, limited, transferable warranty. "R" value shall equal .15. Prefinished material with color as noted on Exterior Color Schedule - sheet A-4 shall be used.
   b. Fascia, Frieze and Running Trim: Shall be prefinished Hardi-trim with color as noted on Exterior Color Schedule - sheet A-4.
   c. Interior Running Trim: Painted wood may be #1 paint grade poplar or fir. Finger joint material is acceptable. Stained material shall be white oak, rift sawn, premium grade or equal.
3. Vinyl Shutters: Copolymer with molded through UV stabilized color and 40 year limited warranty as manufactured by architecturaldepot.com, Mid-America or approved equal. Color to be as specified on Exterior Color Schedule. Height shall match window height. Furnish and install all attachment hardware, and install in accordance with manufacturer's specifications.
4. Seal all countertops to adjacent surfaces with silicone sealants only.
5. Millwork and Cabinet Work: All casework shown on the drawings shall be provided per the specifications on the drawings and as specified below by one of the following manufacturers (no substitutes):
   Calhoun Millworks
   995 W Line St
   Calhoun, GA , 30701-7913
   706-625-2288
   706-629-6802 - fax
   Al Schellhorn - Owner/President
   alschellhorn@yahoo.com
   a. Fabricate, including finishing and hardware installation, before shipment to the maximum extent possible.
   b. All hardware shall be steel or brass with chromium plate finish, ball bearing (KV 1300 or equal) side mount drawer slides; self adjusting and self-closing inside mounted hinges.
   c. Provide approved securing devices (child-proof) on all drawers and doors (key locks).
   d. Bottoms of all cabinets below a sink or lavatory shall be constructed of 3/4" marine grade plywood.
6. Plastic laminate countertops shall have laminates manufactured by Formica, Laminart, or Wilsonart. Seal all countertops to adjacent surfaces with silicone sealants only.
7. See plan for location of cultured marble tops. Tops shall be premium grade and fabricated with an integral recessed rim.
8. Drop Staircase units shall be Werner 3008 with an insulating cover installed, which prevents attic air/moisture from infiltrating the heated/cooled area of the building. Insulating unit shall be equal to ESS Energy Products R-39 Energy Guardian. The kit is comprised of a lid and frame. The air seal is formed when the lid fits into the frame. The lid weighs approximately 10 lb. and the frame is less than 5 lb.

PART 3 - EXECUTION
1. All interior and exterior corners shall be mitered. No exposed butt cuts will be allowed, except on small shoe mould or quarter round that may be terminated on a 22-1/2 degree angle. Joints shall be held to a minimum on continuous runs of millwork. Glues and adhesives shall be kept off exposed surfaces to receive stain or paint.
2. Cracks, splits, mill marks, hammer marks, and related exposed defects shall be corrected by replacing the entire section of millwork.
3. All interior and exterior joinery shall be to very close tolerances with equal fittings. Fill all joints before finishing. All laminate top seams/splices/joints shall be filled with a filler that matches the laminate color; so the seam/joint is not visible.
4. All hanging casework/cabinets should be caulked on all sides, and underneath the cabinet, where the cabinet abuts the wall surface. Cabinet seams, which are the result two pieces of casework abutting one another should be filled with a caulk/putty that matches the color of the casework; so the seams are not visible.

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

SECTION 07200 - FIBERGLASS INSULATION

PART 1 - GENERAL
1. It is the intent of this section to establish minimum standards for insulation products and their installation.

PART 2 - PRODUCTS
1. Materials:
   a. Installer to provide the Owner with a certificate to guarantee the R-Value. Minimum R-Value for exterior walls = **R-19**
   b. Maximum flame spread: 10 - Maximum smoke developed: 10
   c. Exterior Walls: Type: Kraft-faced glass fiber thermal insulation complying with ASTM C 665, Type II, Class C.
   d. Interior Sound Walls: Owens Corning Sound Attenuation Batts 2 1/2" thick
   e. Comply with ASTM C 665, Type I and ASTM E 136. ASTM C 665

PART 3 - EXECUTION
1. Installation: Comply with manufacturer's instructions and recommendations. Fill all areas around voids, pipes, between structural elements and as called for on drawings. Pack all voids completely with insulation. Do not compress as the R- value will be lowered as the density increases.
2. Protect insulation from physical damage and from becoming wet, soiled, or covered with ice or snow. Comply with manufacturer's recommendations for handling, storage and protection during installation.
3. Do not use unfaced insulation in exposed applications where there is potential for skin contact and irritation. Use of faced insulation is approved in sloped ceilings and under the mechanical platform, areas that must be insulated prior to drywall.
4. Label insulation packages to include material name, production date and/or product code
5. Kraft and standard foil facings will burn and must not be left exposed. The facing must be installed in substantial contact with an approved roof/ceiling construction material. Protect facing from any open flame or heat source.
6. If specified, maintain vapor retarder integrity by tightly abutting adjacent insulation. Repair punctures or tears in vapor retarder facing by taping. Follow tape manufacturer's application recommendations.
7. Sound Walls: Seal the perimeter using a nonhardening caulk such as a butyl rubber-based compound to seal walls at both top and bottom plates. Two layers of properly staggered wallboard, with joint compound and tape will effectively seal corners where required.
8. Friction-fit Sound Attenuation Batts in place until the interior finish is applied. When insulation is being applied in continuous heights greater than 8' or when batts do not fill the cavity depth, supplementary support should be provided to hold the insulation in place.

SECTION 07210 - FOUNDATION INSULATION

PART 1 - GENERAL
1. It is the intent of this section to specify minimum standards for products and installation of foundation insulation.

PART 2 - PRODUCTS
1. Materials: Frost Barrier Rigid thermal insulation, thickness as shown on Drawings, to be Styrofoam by Dow Chemical extruded polystyrene type SM or SB or approved equal.
2. Minimum R-Value = **R-10**

PART 3 - EXECUTION
1. Foundation insulation shall be applied vertically and horizontally (if required by local code), on the inside of all exterior foundation walls laid atop the porous fill and under the vapor barrier and concrete slabs.

SECTION 07220 - FOAMED IN PLACE INSULATION

PART 1 - GENERAL
1.1 RELATED DOCUMENTS
   A. Drawings and general provisions of the Contract, including Contractual Conditions and Division 01 Specification Sections, apply to this Section.
1.2 SUMMARY
   A. Section Includes: Light density, open celled, flexible, 100 percent water blown polyurethane foam insulation.
   B. Coordinate mechanical ventilation and fresh air supply with Mechanical sections and ASHRAE Guidelines for optimum indoor air quality.
1.3 REFERENCES
   A. American Society for Testing and Materials International (ASTM)
      1. ASTM C 518: Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus
      2. ASTM C 1338: Standard Test Method for Determining Fungi Resistance of Insulation Materials and Facings
      3. ASTM E 84: Test Method for Surface Burning Characteristics of Building Materials
      4. ASTM E 96: Standard Test Methods for Water Vapor Transmission of Materials
      5. ASTM E 2178: Standard Test Method for Air Permeance of Building Materials
1.4 SUBMITTALS
   A. Product Data for each type of insulation product specified.
   B. Product test reports performed by a qualified independent testing agency evidencing compliance of insulation products with specified requirements including those for thermal resistance, fire-test-response characteristics, water-vapor transmission, water absorption, and other properties, based on comprehensive testing of current products.
   C. Evaluation Report: Evidence of compliance of foam-plastic insulations with International Building Code (IBC), International Residential Code (IRC), International Energy Conservation Code (IECC).
   D. Manufacturer's certificate certifying insulation provided meets or exceeds specified requirements.
   E. Installer's certificate showing the Icynene installation certification.
   F. Sample warranty
1.5 QUALITY ASSURANCE
   a. Manufacturer's Qualifications: Product produced in an ISO9001 registered factory.
   b. Single Source Responsibility: Single source product from one manufacturer.
   c. Installer Qualifications: Engage an Icynene Licensed Dealer (applicator) who has been trained and certified by Icynene.
   d. Fire-Test-Response Characteristics: Provide materials specified as determined by testing identical products per test method indicated below by a testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.
1. Surface-Burning Characteristics: ASTM E 84
   a. Toxicity/Hazardous Materials
2. Provide products that contain no urea-formaldehyde
3. Products and equipment requiring or using CFCs, HCFCs, or HFCs during the manufacturing or application process will not be permitted
4. Provide products that contain no PBDEs
5. Provide products that are "Low-emitting"
1.6 DELIVERY, STORAGE, AND HANDLING
   A. Comply with manufacturers written instructions for handling and protection prior to and during installation.
   B. Store both components in a temperature controlled area between 50 deg F (15 deg C) and 100 deg F (32 deg C). Do not allow product to freeze.
   C. Use only those components that are supplied by the Manufacturer.
1.7 PROJECT CONDITIONS
   A. Do not expose to sunlight, except to extent necessary for period of installation and concealment.
1.8 WARRANTY
   A. Manufacturer's standard limited lifetime warranty.
   B. Refer to www.Icynene.com for full warranty terms.

PART 2 - PRODUCTS
2.1 MANUFACTURERS
   A. Polyurethane Spray Foam Insulation: Icynene Classic UltraTM by Icynene Inc., or approved equal.
   B. Intumescent paint:
      1. DC-315 by International Fireproof Technology Inc.
      2. Fireshell F10E by TPR2
      3. No-Burn Plus ThB by No-Burn
2.2 MATERIALS
   A. General: Provide insulating materials that comply with requirements and with referenced standards.
   B. Icynene Classic UltraTM (LD-C-50) Spray Foam Insulation: Low-density, water-blown, conforming to the following:
      1. Thermal Resistance (R-Value/inch @75 deg F): ASTM C 518; 3.7 hr/sq ft/degree F/BTU
      2. Air Permeance (for 3 inches of material): ASTM E 2178; < 0.014 L/s.m2 @ 75 Pa
      3. Water Vapor Transmission (for 5.5 inches of material): ASTM E 96; 11 perms [627 ng /(Pa.s.m2)]
      4. Flame Spread and Smoke Developed Rating: ASTM E 84
         a. Flame Spread: Less than 20
         b. moke Development: Less than 400
      5. Bacterial and Fungal Growth and Food Value: ASTM C 1338: no growth
   C. Product Description:
      1. ICC/ES Evaluation Report No. ESR 1826
      2. Collaborative for High-Performance Schools (CHPS) "Low-emitting material" per CA 01350 Criteria
   D. Intumescent Paint
      1. DC-315 Thermal Barrier Coating: 14 wet mils
      2. Fireshell F10E Thermal Barrier Coating: 21 wet mils
      3. No-Burn Plus ThB Thermal Barrier Coating: 18 wet mils
2.3 SOURCE QUALITY CONTROL
   A. Product produced in an ISO 9001 registered factory.

PART 3 - EXECUTION
3.1 EXAMINATION
   A. Examine substrates and conditions, under which work is to be performed. Do not proceed until unsatisfactory conditions have been corrected.
1. Review placement area to determine final location will not be within 3 inches of any heat source where the temperature will exceed 200 deg F per ASTM C 411 or in accordance with authorities having jurisdiction.
3.2 PREPARATION
   A. Clean substrates and cavities of loose materials capable of interfering with insulation placement.
3.3 APPLICATION
   A. Site mix liquid components manufactured by Icynene and supplied by Independent Icynene Licensed Dealer.
   B. Apply insulation to substrates in compliance with manufacturer's written instructions.
   C. Apply insulation to produce thickness required for indicated R Value.
   D. Extend insulation in thickness indicated to envelop entire area to be insulated.
   E. Water-Piping Coordination: If water piping is located within insulated exterior walls, coordinate location of piping to ensure that it is placed on warm side of insulation and insulation encapsulates piping.
3.4 REPAIRS
   A. Any repairs must be effected by an Icynene Licensed Dealer.
3.5 PROTECTION
   Protect installed insulation from damage due to harmful weather exposures, physical abuse, and other causes. Provide temporary coverings where insulation is subject to abuse.

SECTION 07270 - AIR BARRIER WRAP

PART 1 - GENERAL
1. Furnish and install air barrier/weather resistant barrier over exterior of wall sheathing at all locations regardless of whether or not indicated on drawings to protect exterior sheathing and interior walls.

PART 2 - PRODUCTS
1. Acceptable Manufacturer:

   DuPont Weatherization Systems
   4417 Lancaster Pike - Building 728
   Wilmington, DE 19805
   800-448-9835
   www.tyvek.com
   ANY OTHER PRODUCT MUST HAVE PRIOR APPROVAL AND HAVE THE SAME OR BETTER PERFORMANCE CHARACTERISTICS.
2. Materials - DuPont™ Tyvek® Commercial Wrap®: A flash spunbonded olefin, non-woven, non-perforated secondary weather resistant barrier. Where required by James Hardie provide minimum 90% efficiency water resitive barrier (DuPont™ Tyvek® Drain Wrap®).
3. Performance Characteristics
   a. AATCC-127, Water Penetration Resistance, exceeded at 280
   b. TAPPI T-460, Gurley Hill (sec/100cc) Air infiltration at >1500 seconds
   c. ASTM E 96 Method B(g/m2-24hr.)Water vapor transmission of 200
   d. TAPPI T-41D, Basis weight of 2.7oz/yd
   e. ASTM E96 Method B, Water Vapor Transmission, 28 perms
   f. ASTM E1677, Air Retarder Material Standard Specification, Type I air barrier
4. Sealing Tape/Fasteners
   a. DuPont™ Tyvek® Tape, DuPont Weatherization Systems.
   b. For steel frame construction: DuPont™ Tyvek® Wrap Cap Screws, DuPont Weatherization Systems. 1 5/8" rust resistant screws with 2" diameter plastic cap.
   c. For wood frame construction: DuPont™ Tyvek® Wrap Caps, DuPont Weatherization Systems. Nails with large heads or plastic washers.
   d. Caulks or Sealanta: polyurethane or elastomeric sealants
      a. OSI® Quad Pro-Series®, solvent release butyl rubber sealant.
      b. DAP® Dynaflex 230™
      c. Other products as approved and recommended by air barrier/weather resistant barrier manufacturer.

PART 3 - EXECUTION
1. Installation - Install Air Barrier over exterior side of exterior wall sheathing. Install Air Barrier after sheathing is installed and before windows and doors are installed. Install lower level barrier prior to upper layers to ensure proper shingling of layers.
2. Overlap Air Barrier at corners of building by a minimum of 12 inches.
3. Overlap Air Barrier vertical seams by a minimum of 6 inches.
4. Ensure barrier is plum and level with foundation, and unroll extending Air Barrier over window and door openings.
5. Attach Air Barrier to wood, insulated sheathing board or exterior gypsum with plastic cap nails every 12" to 18" on vertical stud line with wood stud framing. When attaching to masonry, use adhesive recommended by manufacturer.
6. Prepare window and door rough openings as follows: Prepare each window rough opening by cutting a modified "I" pattern in the Air Barrier. Horizontally cut Air Barrier along bottom of header. Vertically cut Air Barrier down the center of window openings from the top of the window opening down to 2/3 of the way to the bottom of the window openings. Diagonally cut Air Barrier from the bottom of the vertical cut to the left and right corners of opening. Fold side and bottom flaps into window opening and fasten every 6 inches. Trim off excess. Prepare each rough door opening by cutting a standard "I" pattern in the Air Barrier. Horizontally cut Air Barrier along bottom of door frame header and along top of sill. Vertically cut Air Barrier down the center of door openings from the top of the door opening (header) down to the bottom of the door opening (sill). Fold side flaps inside around door openings and fasten every 6 inches. Trim off excess.
7. Tape all horizontal and vertical seam of Air Barrier with DuPont™ Tyvek® Tape. Seal all tears and cuts in Air Barrier with DuPont™ Tyvek® Tape.
8. **CONTRACTOR SHALL PROVIDE TESTING TO PROVE THE AIR LEAKAGE RATE OF THIS BUILDING DOES NOT EXCEED 0.40 CFM/SF AT A PRESSURE DIFFERENTIAL OF 0.3 INCH W.G. (1.57 PSF). TESTS SHALL BE ACCOMPLISHED USING EITHER PRESSURIZATION OR DEPRESSURIZATION OR BOTH. WHOLE BUILDING TESTING SHALL BE ACCOMPLISHED IN ACCORDANCE WITH ASTM E 779 OR APPROVED SIMILAR TEST. UNER ASTM E 779 IT IS PERMISSIBLE TO TEST THE BUILDING USING THE BUILDING HVAC SYSTEM.**

1.1 APPLICATION
A. Site apply liquid components manufactured by Icynene Inc. and installed by an Icynene Licensed Dealer.
B. Apply insulation to substrates in compliance with manufacturer's written instructions.
C. Apply insulation to produce thickness required for indicated R Value.
   1. R-13 is achieved at 3 1/2 inches
   2. R-20 is achieved at 5 1/2 inches
D. Extend insulation in thickness indicated to envelop entire area to be insulated.
E. Water-Piping Coordination: If water piping is located within insulated exterior walls, coordinate location of piping to ensure that it is placed on warm side of insulation and insulation encapsulates piping.

1.2 REPAIRS
A. Any repairs must be effected by an Icynene Licensed Dealer.

1.3 PROTECTION
A. Protect installed insulation from damage due to harmful weather exposures, physical abuse, and other causes. Provide temporary coverings where insulation is subject to abuse.

SECTION 07411 - METAL ROOF PANELS

PART 1 - GENERAL
1. It is the intent of this section to establish minimum standards for metal roof panels and installation.
2. Product Data: For each type of product indicated. include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each roof panel and accessory.
3. Samples for Verification: For each type of exposed finish required, prepare samples of size indicated below:
   a. Metal Roof Panels: 12 inches long by actual panel width; include fasteners, clips, battens, closures and other metal roof panel accessories.
   b. Trim and Closures: 12 inches long; include fasteners and other exposed accessories.
   c. Accessories: 12 inch long samples of each.
   d. Self-Adhering Underlayment: 12 inches square sample.
4. Qualification data for qualified installer that has been trained and approved by manufacturer.
5. Warranties:
   a. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace metal roof panel assemblies that fail in materials or workmanship within 20 years from date of Substantial Completion.
   b. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal roof panels that show evidence of deterioration of factory-applied finishes within 20 years from the date of Substantial Completion.
   c. Special Weathertightness Warranty for Standing-Seam Metal Roof Panels: Manufacturer's standard form in which manufacturer agrees to repair or replace standing-seam metal roof panel assemblies that fail to remain weathertight, including leaks, within 2 years from date of Substantial Completion.

PART 2 - PRODUCTS
1. Metal Roof Panel Assembly: Integral-Standing Seam Metal Roof Panels: Formed with integral ribs at panel edges and flat pan between ribs; design for sequential installation by mechanically attaching panels to supports using concealed clips located under one side of panel and lapping and interconnecting side edges of adjacent panels.
   a. Metal Roof Panels shall be manufactured by Berridge Manufacturing (CEE-LOCK System, 24 gage), or approved equal. See sheet A2.0 for finish.
   b. Underlayment material shall be Grace Ice & Watershield, 40 mil minimum, or approved equal.
   c. Panel Sealants as recommended by metal panel manufacturer.
   d. Fasteners: Fasteners include self-tapping screws, bolts, nuts, self-locking rivets and bolts, end-welded studs and other suitable fasteners designed to withstand design loads. Provide exposed fasteners with heads matching color of metal roof panels by means off plastic caps or factory-applied coating. Provide EPDM, PVC, or neoprene sealing washers.
   e. Accessories: Provide components approved by roof panel manufacturer as required for complete metal roof panel assembly including trim, copings, fasciae, corner units, ridge closures, clips, flashing's, sealants, gaskets, fillers, closure strips and similar items. Match material and finish of metal roof panels unless noted otherwise.
   f. Flashing's and trim shall be formed from same material as roof panels, pre-painted with coil coating, minimum 0.018 inch thick.
   g. Where January average daily temperature is 25 degrees or less, provide Grace Ice Shield winter ice dam protection a minimum of 6' up on all eaves (from exterior wall line below), 3' around all roof penetrations, and 3' to either side of all valleys.

PART 3 - EXECUTION
1. Install all roofing in accordance with manufacturer's recommendations and in accordance with local codes.
2. Examine substrates, areas and conditions, with Installer present, to ensure roof surface is clean of all objects which may puncture or tear underlayment.
3. Verify that roof sheathing joints are supported by framing or blocking and that installation is within flatness tolerances required by metal roof panel manufacturer.
4. Examine rough-ins for components and systems penetrating metal roof panels to verify actual locations of penetrations relative to seam locations of metal roof panels before metal roof panel installation.
5. Install self-adhering sheet underlayment, wrinkle free, on roof deck. Install at locations indicated below, lapped in direction to shed water. Lap sides not less that 3-1/2 inches. Lap ends not less than 6 inches, staggered 24 inches between courses. Roll laps with roller. Cover underlayment within 7 days.
   a. Eaves: Extend from edges of eaves 48 inches beyond interior face of exterior wall.
   b. Rakes: Extend from edges of rake 48 inches beyond interior face of exterior wall.
   c. Valleys: Extend from lowest to highest point, 18 inches on each side.
   d. Roof Slope Transitions: Extend 18 inches on each roof slope.
6. Install flashing to cover underlayment.
7. Provide and install metal roof panels of full length from eave to ridge, unless otherwise indicated or restricted by shipping limitations.
8. Fasten metal roof panels to supports with concealed clips at each standing seam joint at location and spacing recommended by manufacturer.
   a. Install clips to supports with self-tapping fasteners.
   b. Snap Joint: Nest standing seams and fasten together by interlocking and completely engaging factory-applied sealant.
   c. Apply battens to metal roof panel seams, fully engaging to provide weathertight joints.
9. Remove temporary protective coverings and strippable films, if any, as metal roof panels are installed, unless otherwise directed by manufacturer's written installation instructions. Upon completion of metal panel installation, clean finished surfaces as recommended by metal roof panel manufacturer. Maintain clean condition during construction.
10. Replace any metal roof panels that have been damaged or have deteriorated beyond successful repair by finish touchup or other similar minor repair procedures.

SECTION 07460 - SIDING

PART 1 - GENERAL
1. It is the intent of this section to set minimum standards for the fiber-cement siding and trim.
2. Product Data: For each type off product listed.
3. Samples for Verification: For each type, color, texture and pattern required.
   a. Board & Batten: 24 inch wide by 36 inch high sample panel assembled on plywood backing.
   b. Trim: 12 inch long by actual width sample of each trim indicated.
4. Qualification data for qualified installer that has been trained and approved by manufacturer.
5. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace siding and/or trim that fails within the specified warranty period. Failures include, but are not limited to, cracking, deforming, or otherwise deteriorating beyond normal weathering. Warranty period to be 50 years from the date of Substantial Completion.
6. Store all materials in a dry, well-ventilated, weathertight place.

PART 2 - PRODUCTS
1. All exposed exterior siding and wood trim shall be manufactured by James Hardie Incorporated, or approved equal.
   a. Siding made from fiber-cement board that does not contain asbestos fibers; complies with ASTM C 1186, Type A, Grade II; is classified as noncombustible when tested in accordance with ASTM D 136; and has a flame-spread index of 25 or less when tested according to ASTM E 84.
2. Refer to Exterior Finish Legend on sheet A2.0 for specified siding and trim products, sizes and finishes.

PART 3 - EXECUTION
1. Weather Limitations: Proceed with siding installation only if substrate is completely dry and if existing and forecasted weather conditions permit siding to be installed according to manufacturer's written instructions.
2. Examine all substrates for compliance with requirements for installation tolerances and other conditions affecting performance of siding. Proceed with installation only after unsatisfactory conditions have been corrected.
3. Coordinate installation with flashings and other adjoining construction to ensure proper sequencing.
4. Fasteners: Fasteners for attaching fiber-cement siding and trim shall be corrosive-resistant, hot-dip galvanized, or stainless steel fasteners.
5. Clean substrates of projections and substances detrimental to application.
6. Comply with siding manufacturer's written installation instructions applicable to products and applications indicated unless more stringent requirements apply.

SECTION 07531 - EPDM MEMBRANE ROOFING (Alternate Bid)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY
A. This Section includes the following:
   1. Adhered membrane roofing system.
   2. Vapor retarder.
   3. Roof insulation.

1.3 DEFINITIONS
A. Roofing Terminology: Refer to ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" for definition of terms related to roofing work in this Section.
B. Design Uplift Pressure: The uplift pressure, calculated according to procedures in SPRI's "Wind Load Design Guide for Fully Adhered and Mechanically Fastened Roofing Systems," before multiplication by a safety factor.
C. Systems," after multiplication by a safety factor.

1.4 PERFORMANCE REQUIREMENTS
A. General: Provide installed roofing membrane and base flashings that remain watertight; do not permit the passage of water; and resist specified uplift pressures, thermally induced movement, and exposure to weather without failure.
B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by roofing membrane manufacturer based on testing and field experience.
C. Roofing System Design: Provide a membrane roofing system that is identical to systems that have been successfully tested by a qualified testing and inspecting agency to resist uplift pressure calculated according to ASCE 7.
D. FMG Listing: Provide roofing membrane, base flashings, and component materials that comply with requirements in FMG 4450 and FMG 4470 as part of a membrane roofing system and that are listed in FMG's "Approval Guide" for Class 1 or noncombustible construction, as applicable. Identify materials with FMG markings.
   1. Fire/Windstorm Classification: Class 1A-**90**. See structural drawings.
E. Roofing System Design: Provide a membrane roofing system that is identical to systems that have been successfully tested by a qualified testing and inspecting agency to resist the factored design uplift pressures calculated according to SPRI's "Wind Load Design Guide for Fully Adhered and Mechanically Fastened Roofing Systems."

1.5 SUBMITTALS
A. Product Data: For each type of product indicated.
B. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other Work.
   1. Base flashings and membrane terminations.
   2. Insulation fastening patterns.
C. Samples for Verification: For the following products:
   1. 12-by-12-inch square of sheet roofing, of color specified, including T-shaped side and end lap seam.
   2. 12-by-12-inch square of roof insulation.
   3. 12-by-12-inch square of walkway pads or rolls.
   4. 12-inch length of metal termination bars.
   5. Six insulation fasteners of each type, length, and finish.
D. Installer Certificates: Signed by roofing system manufacturer certifying that Installer is approved, authorized, or licensed by manufacturer to install roofing system.
E. Manufacturer Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
   1. Submit evidence of meeting performance requirements.
F. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for components of roofing system.
G. Research/Evaluation Reports: For components of membrane roofing system.
H. Maintenance Data: For roofing system to include in maintenance manuals.
I. Warranties: Special warranties specified in this Section.

1.6 QUALITY ASSURANCE
A. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's warranty.
B. Manufacturer Qualifications: A qualified manufacturer that has UL listing for membrane roofing system identical to that used for this Project.
C. Testing Agency Qualifications: An independent testing agency with the experience and capability to conduct the testing indicated, as documented according to ASTM E 548.
D. Source Limitations: Obtain components for membrane roofing system approved by roofing membrane manufacturer.
E. Fire-Test-Response Characteristics: Provide membrane roofing materials with the fire-test-response characteristics indicated as determined by testing identical products per test method below by UL, FMG, or another testing and inspecting agency acceptable to authorities having jurisdiction. Materials shall be identified with appropriate markings of applicable testing and inspecting agency.
   1. Fire-Resistance Ratings: ASTM E 119, for fire-resistance-rated roof assemblies of which roofing system is a part.
F. Preinstallation Conference: Conduct conference at Project site. Review methods and procedures related to roofing system including, but not limited to, the following:
   1. Meet with Owner; Architect; Owner's insurer if applicable; testing and inspecting agency representative; roofing Installer; roofing system manufacturer's representative; deck Installer; and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
   2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
   3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
   4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
   5. Review structural loading limitations of roof deck during and after roofing.
   6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
   7. Review governing regulations and requirements for insurance and certificates if applicable.
   8. Review temporary protection requirements for roofing system during and after installation.
   9. Review roof observation and repair procedures after roofing installation.
1.7 DELIVERY, STORAGE, AND HANDLING
A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, and directions for storing and mixing with other components.
B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.
   1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
D. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

1.8 PROJECT CONDITIONS
A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

1.9 WARRANTY
A. Special Warranty: Manufacturer's standard form, without monetary limitation, in which manufacturer agrees to repair or replace components of membrane roofing system that fail in materials or workmanship within specified warranty period. Failure includes roof leaks.
   1. Special warranty includes roofing membrane, base flashings, roofing accessories, roof insulation, vapor retarder, walkway products and other components of membrane roofing system.
   2. Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS
2.1 MANUFACTURERS
A. In other Part 2 articles where subparagraph titles below introduce lists, the following requirements apply for product selection:
   1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the products specified.
   2. Products: Subject to compliance with requirements, provide one of the products specified.
   3. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the manufacturers specified.
   4. Manufacturers: Subject to compliance with requirements, provide products by the manufacturers specified.

2.2 EPDM ROOFING MEMBRANE
A. EPDM Roofing Membrane: ASTM D 4637, Type **II, scrim or fabric internally reinforced** uniform, flexible sheet made from EPDM, and as follows:
   1. Manufacturers:
      a. Carlisle SynTec Incorporated.
      b. Celotex Corporation.
      c. Firestone Building Products Company.
      d. GenFlex Roofing Systems.
      e. Johns Manville International, Inc.
      f. Sarnifil, Inc
      g. Versico Inc.
B. Thickness: 60 mils, nominal.
C. Exposed Face Color: White-on-black.

2.3 AUXILIARY MATERIALS
A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with membrane roofing.
   1. Liquid-type auxiliary materials shall meet VOC limits of authorities having jurisdiction.
B. Sheet Flashing: 60-mil- thick EPDM, partially cured or cured, according to application.
C. Bonding Adhesive: Manufacturer's standard bonding adhesive.
D. Seaming Material: Manufacturer's standard synthetic-rubber polymer primer and 3-inch- wide minimum, butyl splice tape with release film.
E. Lap Sealant: Manufacturer's standard single-component sealant, color to match roofing membrane.
F. Water Cutoff Mastic: Manufacturer's standard butyl mastic sealant.
G. Metal Termination Bars: Manufacturer's standard predrilled stainless-steel or aluminum bars, approximately 1 by 1/8 inch thick; with anchors.
H. Metal Battens: Manufacturer's standard aluminum-zinc-alloy-coated or zinc-coated steel sheet, approximately 1 inch wide by 0.05 inch thick, prepunched.
I. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening membrane to substrate, and acceptable to membrane roofing system manufacturer.
J. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, in-seam sealants, termination reglets, cover strips, and other accessories.

2.4 SUBSTRATE BOARDS
A. Substrate Board: ASTM C 728, perlite board, **3/4 inch** thick, seal coated.
B. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening substrate panel to roof deck.

2.5 VAPOR RETARDER
A. Polyethylene Vapor Retarder: ASTM D 4397, 6 mils thick, minimum, with maximum permeance rating of 0.13 perm.
   1. Tape: Pressure-sensitive tape of type recommended by vapor-retarder manufacturer for sealing joints and penetrations in vapor retarder.
   2. Adhesive: Manufacturer's standard lap adhesive, FMG approved for vapor-retarder application.
B. Laminated-Sheet Vapor Retarder: Kraft paper, 2 layers, laminated with asphalt and edge reinforced with woven fiberglass yarn with maximum permeance rating of 0.50 perm and manufacturer's standard roofing adhesive.

2.6 ROOF INSULATION
A. General: Provide preformed roof insulation boards that comply with requirements and referenced standards, selected from manufacturer's standard sizes and of thickness indicated.
B. Polyisocyanurate Board Insulation: ASTM C 1289, Type **II, felt or glass-fiber mat** facer on both major surfaces.
   1. Manufacturers:
      a. Carlisle SynTec Incorporated.
      b. Celotex Corporation.
      c. Firestone Building Products Company.
      d. GAF Materials Corp.
      e. GenFlex Roofing Systems.
      f. Johns Manville International, Inc.
      g. RMAX.
C. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated.

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No.	CONSTR. DOC. & REVISIONS Description	Date

JAMES A. SCHMITT
REGISTERED ARCHITECT
AGRICULTURE
NO. 102092
COMMERCE
STATE OF TENNESSEE
04/06/23

Professional of Record:
JAMES A. SCHMITT
LICENSE NO: 102092
EXP. DATE: 08/31/24

Drawn/Checked	MS / DSC
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

SPECIFICATIONS

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PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with the following requirements and other conditions affecting performance of roofing system:
   1. Verify that roof openings and penetrations are in place and set and braced .
   2. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
   3. Verify that concrete substrate is visibly dry and free of moisture. Test for capillary moisture by plastic sheet method according to ASTM D 4263.
   4. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.
B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction.
C. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at the end of the workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

3.3 VAPOR-RETARDER INSTALLATION

A. Loosely lay polyethylene-film vapor retarder in a single layer over area to receive vapor retarder, side and end lapping each sheet a minimum of 2 inches and 6 inches, respectively.
B. Seal side and end laps with **tape**.
C. Completely seal vapor retarder at terminations, obstructions, and penetrations to prevent air movement into membrane roofing system.

3.4 INSULATION INSTALLATION

A. Coordinate installing membrane roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.
B. Comply with membrane roofing system manufacturer's written instructions for installing roof insulation.
C. Install one or more layers of insulation under area of roofing to achieve required thickness. Where overall insulation thickness is 3 inches or greater, install 2 or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches in each direction.
D. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.
E. Install insulation with long joints of insulation in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch with insulation.
   1. Cut and fit insulation within 1/4 inch of nailers, projections, and penetrations.
F. Mechanically Fastened and Adhered Insulation: Install each layer of insulation and secure first layer of insulation to deck using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to deck type.
   1. Fasten first layer of insulation according to requirements in FMG's "Approval Guide" for specified Windstorm Resistance Classification.
   2. Fasten first layer of insulation to resist uplift pressure at corners, perimeter, and field of roof.
   3. Install subsequent layers of insulation in a cold fluid-applied adhesive.

3.5 ADHERED ROOFING MEMBRANE INSTALLATION

A. Install roofing membrane over area to receive roofing according to membrane roofing system manufacturer's written instructions. Unroll roofing membrane and allow to relax before installing.
B. Start installation of roofing membrane in presence of membrane roofing system manufacturer's technical personnel.
C. Accurately align roofing membrane and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
D. Bonding Adhesive: Apply bonding adhesive to substrate and underside of roofing membrane at rate required by manufacturer and allow to partially dry before installing roofing membrane. Do not apply bonding adhesive to splice area of roofing membrane.
E. Mechanically or adhesively fasten roofing membrane securely at terminations, penetrations, and perimeter of roofing.
F. Apply roofing membrane with side laps shingled with slope of roof deck where possible.
G. Adhesive Seam Installation: Clean both faces of splice areas, apply splicing cement, and firmly roll side and end laps of overlapping roofing membranes according to manufacturer's written instructions to ensure a watertight seam installation. Apply lap sealant and seal exposed edges of roofing membrane terminations.
   1. Apply a continuous bead of in-seam sealant before closing splice if required by membrane roofing system manufacturer.
H. Repair tears, voids, and lapped seams in roofing that does not meet requirements.
I. Spread sealant or mastic bed over deck drain flange at deck drains and securely seal roofing membrane in place with clamping ring.

3.6 BASE FLASHING INSTALLATION

A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to membrane roofing system manufacturer's written instructions.
B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate and allow to partially dry. Do not apply bonding adhesive to seam area of flashing.
C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.
D. Clean splice areas, apply splicing cement, and firmly roll side and end laps of overlapping sheets to ensure a watertight seam installation. Apply lap sealant and seal exposed edges of sheet flashing terminations.
E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

3.7 WALKWAY INSTALLATION

A. Flexible Walkways: Install walkway products in locations indicated. Adhere walkway products to substrate with compatible adhesive according to roofing system manufacturer's written instructions.

3.8 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to perform roof tests and inspections and to prepare test reports.
B. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion and submit report to Architect.
C. Repair or remove and replace components of membrane roofing system where test results or inspections indicate that they do not comply with specified requirements.
D. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.9 PROTECTING AND CLEANING

A. Protect membrane roofing system from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.
B. Correct deficiencies in or remove membrane roofing system that does not comply with requirements, repair substrates and repair or reinstall membrane roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

3.10 ROOFING INSTALLER'S WARRANTY

A. Roofing Installer has contracted (either directly with Owner or indirectly as a subcontractor) to warrant said work against leaks and faulty or defective materials and workmanship for designated Warranty Period,
B. Roofing Installer hereby warrants, subject to terms and conditions herein set forth, that during Warranty Period he will, at his own cost and expense, make or cause to be made such repairs to or replacements of said work as are necessary to correct faulty and defective work and as are necessary to maintain said work in a watertight condition.
C. This Warranty is made subject to the following terms and conditions:
   1. Specifically excluded from this Warranty are damages to work and other parts of the building, and to building contents, caused by:
      a. lightning;
      b. peak gust wind speed exceeding 90 mph;
      c. fire;
      d. failure of roofing system substrate, including cracking, settlement, excessive deflection, deterioration, and decomposition;
      e. faulty construction of parapet walls, copings, chimneys, skylights, vents, equipment supports, and other edge conditions and penetrations of the work;
      f. vapor condensation on bottom of roofing; and
      g. activity on roofing by others, including construction contractors, maintenance personnel, other persons, and animals, whether authorized or unauthorized by Owner.
   2. When work has been damaged by any of foregoing causes, Warranty shall be null and void until such damage has been repaired by Roofing Installer and until cost and expense thereof have been paid by Owner or by another responsible party so designated.
   3. Roofing Installer is responsible for damage to work covered by this Warranty but is not liable for consequential damages to building or building contents resulting from leaks or faults or defects of work.
   4. During Warranty Period, if Owner allows alteration of work by anyone other than Roofing Installer, including cutting, patching, and maintenance in connection with penetrations, attachment of other work, and positioning of anything on roof, this Warranty shall become null and void on date of said alterations, but only to the extent said alterations affect work covered by this Warranty. If Owner engages Roofing Installer to perform said alterations, Warranty shall not become null and void unless Roofing Installer, before starting said work, shall have notified Owner in writing, showing reasonable cause for claim, that said alterations would likely damage or deteriorate work, thereby reasonably justifying a limitation or termination of this Warranty.
   5. During Warranty Period, if original use of roof is changed and it becomes used for, but was not originally specified for, a promenade, work deck, spray-cooled surface, flooded basin, or other use or service more severe than originally specified, this Warranty shall become null and void on date of said change, but only to the extent said change affects work covered by this Warranty.
   6. Owner shall promptly notify Roofing Installer of observed, known, or suspected leaks, defects, or deterioration and shall afford reasonable opportunity for Roofing Installer to inspect work and to examine evidence of such leaks, defects, or deterioration.
   7. This Warranty is recognized to be the only warranty of Roofing Installer on said work and shall not operate to restrict or cut off Owner from other remedies and resources lawfully available to Owner in cases of roofing failure. Specifically, this Warranty shall not operate to relieve Roofing Installer of responsibility for performance of original work according to requirements of the Contract Documents, regardless of whether Contract was a contract directly with Owner or a subcontract with Owner's General Contractor.

SECTION 07540 TPO MEMBRANE ROOFING SYSTEM (Base Bid)

- This roofing system must be installed by a Manufacturer Authorized Roofing Applicator in compliance with shop drawings as approved by Manufacturer.
- Upon completion of the installation, an inspection will be conducted by a Technical Representative of Manufacturer to ascertain the roofing system has been installed according to Manufacturer's specifications and details.
- This roofing system meets Underwriters Laboratories (UL) and Factory Mutual (FM) requirements (minimum required FM design is FM Class1A-90). For specific code approvals achieved with this system, refer to Manufacturer's Code Approval Guide, Factory Mutual Approval Guide or Underwriters Laboratories Fire Resistance and Roofing Materials and Systems Directories.

PRODUCT DELIVERY, STORAGE AND HANDLING

A. Deliver materials to job site in original, unopened containers labeled with the manufacturer's name, brand name and installation instructions.
B. Job site storage temperatures in excess of 90°F may affect shelf life of curable materials (i.e., uncured flashing, adhesives, sealants, primers, Pourable Sealer and Pressure-Sensitive Flashings).
C. When liquid adhesives and sealants are exposed to lower temperatures, restore to a minimum of 60°F before use. Do not store adhesive containers with opened lids due to loss of solvent, which will occur from flash off.
D. Insulation and underlayment must be stored so it is kept dry and is protected from the elements. Store insulation on a skid and completely cover with a breathable material such as tarp or canvas. If the insulation is lightweight, it should be weighted to prevent possible wind damage.

JOB CONDITIONS

A. This roofing system must not be applied on portions of a project where the slope exceeds 18 inches in one horizontal foot.
B. The use of a vapor retarder to protect insulation and reduce moisture accumulation within an insulated roofing assembly should be investigated by the specifier. Consult the latest publications by ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.) and NRCA (National Roofing Contractors Association) for specific information.
C. If this roofing system is installed during windy conditions or on projects, which are not encapsulated, precautionary measures must be taken to utilize temporary ballast during installation.
D. Coordination between trades is essential to avoid unnecessary rooftop traffic over sections of the roof and to prevent damage to the membrane.

WARRANTY

A. Roofing - 5 years by manufacture. A 20 year Golden Seal Total System Warranty which utilize all components manufactured or marketed by Manufacturer., with a wind speed coverage up to 72 mph is available for a charge. Extended wind uplift coverage (greater than 55 mph) is available only upon review by Manufacturer and at Manufacturer's sole discretion.

Note: Due to the various wind uplift conditions, these projects must be reviewed by Manufacturer prior to bid, preferably in the design phase, to determine system enhancements that may be applicable.

PART II - PRODUCTS

GENERAL

The components of this roofing system are to be products of Manufacturer or accepted by Manufacturer as compatible. The installation, performance or integrity of products by others, when selected by the specifier and accepted by Manufacturer is not the responsibility of Manufacturer and is expressly disclaimed by the Manufacturer's Warranty.

MEMBRANE

White, .060" thick reinforced Thermoplastic Polyolefin (TPO membrane) is used for this system. Field membrane sheets are 10' or 8' by 100' long based on project conditions. Perimeter sheets are 5' wide (used with 10' field sheets) or 4' wide (used with 8' field sheets).

Roof Insulation

A. Roof insulation shall be polyisocyanurate roof insulation with a minimum **"R" value of 38** (5.0" thick minimum)in accordance with LTTR procedures. Polyisocyanurate shall have a typical compressive strength of 20 psi. Polyisocyanurate roof insulation shall meet Federal Specification HH-I-1972/2-Class I, UL Class A rating and Factory Mutual (FM) Class 1 approval.
   - Provide in all locations.
   - Apply in two (2) layers with staggered joints.
   - Provide 1" rigid insulation at all preformed curbs without factory installed insulation.
B. All insulation shall be mechanically fastened to the roof deck with a minimum six (6) fasteners per 48 inches per a 96 inch board. Additional fasteners shall be located as required to eliminate high spots in boards.
C. Insulation joints shall be 1/4" or less in width. Repair all joints wider than 1/4" with insulation. Stagger all joints.
D. Broken corners shall be cut out and replaced with sections of insulation large enough to be supported on two or more deck flutes.
E. All roof insulation shall be installed in accordance with the recommendations of Factory Mutual (FM) and the roof insulation manufacturer.
F. Tapered roof insulation and necessary fill boards forming all crickets between each scupper (where applicable), crickets on the high side of roof scuttle, crickets formed on high side of smoke/heat release vents, HVAC units and all other roof penetrations with curbs, as shown on roof plan shall be polyisocyanurate roof insulation meeting Federal Specifications HH-1-1972/2 Class 1 and Factory Mutual (FM) Class 1 approval. Taper insulation to provide 1/4" per foot minimum slope at areas noted as crickets on roof plan.
G. Insulation must be accepted in writing by roof membrane manufacturer.

Related Materials

Non-Reinforced or Reinforced Flashing, Bonding Adhesive, Cut Edge Sealant, Water Cut-Off Mastic, Sealant, Splicing Cement, Membrane Cleaner, Heat Weldable Walkway Pads, Pre-Molded Inside/Outside Corners, Pipe Flashings and Sealant Pockets.

Part III - Execution

General

A. When feasible, begin the application at the highest point of the highest roof level and work to the lowest point to prevent moisture infiltration and to minimize construction traffic on completed sections. This will include completion of all flashings and terminations.
B. Follow criteria outlined in the "Design Criteria" Section of Manufacturer's technical manual to prepare the roof deck or the substrate prior to the application of the new roofing system.

Roof Deck Criteria

A. A proper substrate shall be provided by the building owner. The structure shall be sufficient to withstand normal construction loads and live loads.
B. Defects in the roof deck must be reported and documented to the specifier, general contractor and building owner for assessment. The Manufacturer Authorized Roofing Applicator shall not proceed unless the defects are corrected.
C. Acceptable decks and the applicable Manufacturer Fasteners:
   1. Oriented Strand Board (OSB), minimum 7/16 inch thick - Manufacturer HP Woodie Fasteners are required with a minimum pullout of 360 pounds per fastener. On minimum 5/8 inch thick OSB decks, HP-X Fasteners/Piranha Plates may be used with a minimum pullout of 360 pounds.

Substrate Preparation

A. For all projects, substrate must be even without noticeable high spots or depressions and free of accumulated water, ice or snow. Clear substrate of debris and foreign material. Fresh bitumen based roof cement must be removed or concealed.

INSTALLATION

Refer to the applicable Material Safety Data Sheets and Technical Data Bulletins for cautions and warnings. Remove excess dust and dirt from the membrane by wiping with a clean rag. If necessary, scrub the sheets with warm soapy water and rinse with clean water.

A. Insulation Attachment
   1. Insulation shall be mechanically fastened to the roof deck as follows:
      a. For HP Recovery Board or minimum 1-1/2" thick Polyisocyanurate, a minimum of 5 fasteners and plates per 4' x 8' board are required.
      b. For Polyisocyanurate less than 1-1/2" thick or Foamular® or DOW Extruded Polystyrene, any thickness, a minimum of 6 fasteners and plates per 4' x 8' board are required. Insulation boards 4' x 4', regardless of thickness, must be fastened at the minimum rate of 1 fastener and plate every 4 square feet.
   2. Manufacturer's Piranha Plates, Seam Fastening Plates (2" diameter) or Insulation Fastening Plates (3" diameter) must be used with appropriate fastener for insulation attachment.
B. Membrane Placement and Attachment and Hot Air Welding
   1. A minimum of one perimeter sheet shall be installed at edges of each roof level and either 10' or 8' wide membrane shall be installed in the field of the roof.
   2. Membrane sheets shall be mechanically fastened with the appropriate Fastener/Fastening Plate spaced 6" to 12" on center, depending on project criteria, within the membrane splice. Refer to the "Design Criteria" section for required number of perimeter membrane sheets and fastener spacing.
   3. Overlap adjacent membrane sheets approximately 5--1/2" at those locations where Fastening Plates are located (along length of membrane) and a minimum of 2" at end roll sections (width of the membrane).
   4. Hot air weld the membrane sheets a minimum of 1-1/2" with an Automatic Hot Air Welding Machine.
   5. Membrane that has been exposed to the elements for approximately 7 days must be prepared with Sure-Weld Membrane Cleaner. Wipe the surface where Sure-Weld Membrane Cleaner has been applied with a clean, dry HP Splice Wipe or other white rag to remove cleaner residue prior to hot air welding.
C. Additional Membrane Securement
   1. The membrane must be secured at the perimeter of each roof level, roof section, expansion joint, curb, skylight, interior wall, penthouse, etc., at any angle change which exceeds 2" in one horizontal foot and at all other penetrations in accordance with Manufacturer's Published Details.
D. Membrane Flashing
   1. Flash all walls and curbs with Sure-Weld reinforced membrane. Non-Reinforced membrane shall be limited to inside and outside corners, field fabricated pipe seals, scuppers and Sealant Pockets where the use of premolded accessories are not practical. Terminate the flashing in a manner approved by Manufacturer.
   2. On vertical surfaces, such as walls, curbs and pipes, Bonding Adhesive is not required when the flashing height is 12" or less and the membrane is terminated under a metal counterflashing (nailed). When a coping or termination bar is used for vertical terminations, Bonding Adhesive may be eliminated for flashing heights 18" or less.
E. Other Related Work
   1. Walkways are required at all traffic concentration points (i.e., roof hatches, access doors, rooftop ladders, etc.), regardless of traffic frequency. Walkways are considered a maintenance item and are excluded from the Manufacturer's Warranty.
      a. Heat Weldable Walkway Rolls are required when walkway pads are specified and are heat welded to the membrane.
      b. Smooth concrete pavers, when used, shall be loose laid over a slip sheet of reinforced membrane or 2 layers of HP Protective Mat.

SECTION 07600 - FLASHING & SHEET METAL

PART 1 - GENERAL

1. It is the intent that all sheet metal flashings, drips, counter flashings, downspouts, gutters, head flashings, and as called for on the drawings shall be water and weather tight under all weather conditions and exposed portions shall be painted or prefinished.
2. Standards: Architectural Sheet Metal Manual of the Sheet Metal and Air Conditioning Contractors National Association shall be used as a basis for the installation of items not shown in detail or not specified. Also reference ASTM A-525 and ASTM A-527.

PART 2 - PRODUCTS

1. Roof edge flashing shall be and drip edge shall be .032 prefinished aluminum. Fabricate to profiles on drawings. Exterior and exposed sheet metal shall be 22 ga. Zinc-Coated steel with paint grip surface.
2. Fasteners shall be of the same material as the flashings or a compatible non-corrosive metal as recommended by SMACNA.
3. Gutters shall be 6" wide, .032 prefinished aluminum. Install with minimum pitch to downspouts. Seamless gutters matching the profile and color shown will be accepted. Provide spike and ferrule anchoring.
4. Downspouts shall be 3" x 4" prefinished aluminum. Pipe all downspouts to approved storm drainage system. Color shall match gutters.
5. Soffit Vents - provide non-vented aluminum soffit vents equal to Norandex Aluminum 12" Soffit Panel .019" thick

PART 3 - EXECUTION

1. Shop fabricate to the greatest extent possible.
2. Provide for horizontal expansion with joints as detailed by SMACNA.
3. Form all sheet metal on conventional equipment to insure metal is free from oil-canning, buckling, tool marks, equipment marks, dents, crushing and true in line and dimension. Exposed edges shall be folded back to form hems free of tool and die marks.
4. Anchor all pieces firmly in place, providing for thermal expansion. Use concealed fasteners at all locations exposed to public view and minimize exposed fasteners at all other locations. Caulk at any condition that cannot be otherwise made water and weathertight with elastomeric sealant.

SECTION 07900 - JOINT SEALANTS

PART 1 - GENERAL

1. It is the intent of this section to specify minimum standards for interior and exterior joint sealant products and installation. See various other sections for related sealants.

PART 2 - PRODUCTS

1. Materials:
   a. Interior Caulking: GE Silicone Sanitary 1702 Sealant or equal in white, almond or clear, to match adjacent surfaces.
   b. Exterior Caulking: GE Construction 1200 Silicone Sealant, or equal. See Exterior Color Schedule.

PART 3 - EXECUTION

1. Installation: Install materials in accordance with manufacturer's recommendations.
2. All joints shall be tooled water and weatherproof. No joint greater than 1/4" shall be sealed or caulked. Remove excess sealant and leave surfaces clean, smooth, and neat.
3. **Interior - Seal tops and bottoms of all baseboards and wainscot trim, all intersections of walls and casework, bottoms of door frames, behind mirrors, and all similar conditions inside. Apply a clean smooth raised bead of silicone caulk on all gaps and seams between immovable equipment, and walls and floors. Silicone seal all joints and connections in the FRP wallcovering system.**
4. **Exterior - seal all joints in the building envelope that are sources of air leakage, such as around window and door frames, between wall cavities and window and door frames, between bottom plate and foundations, between ceiling and wall intersections, at all utilities through ceilings and walls and at similar conditions outside the building.**
5. **Holes in the building envelope for electrical and telecommunications equipment shall be sealed including the service entrance, wires, conduits, panels, light fixtures, and fans.**

DIVISION 8 - DOORS AND WINDOWS

SECTION 08100 - HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1. It is the intent of this section to establish minimum standards for the exterior hollow metal doors, exterior metal insulated doors, and interior/exterior hollow metal frames.
2. Work specified in other sections includes, but is not limited to, Aluminum Doors & Frames, Interior Wood Doors, Glass and Glazing, Finish Hardware, and Painting.
3. Contractor shall cooperate closely with the hardware supplier as required for proper preparation of doors and frames for the reception of all items as specified in Section 08700 Finish Hardware.
4. See drawings and schedules for type, size, design, and location of hollow metal doors, louvers, vision panels, frames, etc.
5. Referenced Standards:
   a. ASTM E152 - Method of Fire Tests of Door Assemblies.
   b. DHI - Installation Guide for Doors and Hardware.
   c. NFPA 80 - Fire Doors and Windows.
   d. NFPA 252 - Fire Tests for Door Assemblies.
   e. SDI-100 - Standard Steel Doors and Frames.
   f. SDI-105 - Recommended Erection Instructions for Steel Frames.
   g. UL 10B - Fire Tests of Door Assemblies.
   h. ANSI A151.1 - Endurance Test.
   i. ANSI 115 - Hardware Preparation.
6. Delivery, Storage and Protection:
   a. Storage of Doors
      Doors shall be stored in an upright position under cover. Place the units on at least 4" (100mm) wood sills on floors in a manner that will prevent rust and damage. Do not use non-vented plastic or canvas shelters which create a humidity chamber and promote rusting. If the corrugated wrapper on the door becomes wet, or moisture appears, remove the wrapper immediately. Provide a 1/4" (6.35mm) space between the doors to promote air circulation.
   b. torage of Frames
      Frames shall be stored under cover on 4" (100mm) wood sills on floors in a manner that will prevent rust and damage. Do not use non-vented plastic or canvas shelters, which create a humidity chamber and promote rusting. Assembled frames shall be stored in a vertical position, five units maximum in a stack. Provide a 1/4" (6.35 mm) space between frames to promote air circulation.

PART 2 - PRODUCTS

1. Manufacturer: Standard Hollow Metal Manufacturer shall be Republic or approved equal.
2. The required vendor for hollow metal frames and doors is:
   1. Consolidated Millwork Supply, Inc.
      P.O. Box 61038
      Dayton, Ohio 45406-1038
      Attn: Mike Vagedes
      Tel: (937) 278-0706
      Fax: (937) 278-7604
      Email: mvagedes@donet.com
3. Hollow Metal Doors shall be Republic DL Series Embossed doors or approved equal with a Polystyrene core (R value 4.35). Doors shall be made of commercial quality, hot dipped, A-40 galvannealed steel in accordance with ASTMA635 free from scale, pitting, or other surface defects. Face sheets for exterior doors shall be not less than 18 gage and primed.
4. Door thickness shall be 1-3/4".
5. All doors shall be strong, rigid and neat in appearance, free from warps and buckles. Corner bends shall be true and straight and of minimum radius for the gauge of metal used.
6. Top Channel & Bottom Channels shall be 16 gage and extending the full width and spot welded to the faces. Top Channels shall be flush. Openings shall be provided at the bottom channel for the escape of trapped moisture.
7. Vertical edges shall be beveled 1/8" in 2".
8. Doors shall be reinforced at the factory for hardware in strict accordance with the specified hardware and in accord with instructions and templates provided by the hardware supplier. Where surface mounted hardware is to be applied, the door shall have reinforcing plates.
9. Where specified or scheduled, provide hollow metal moldings to secure glazing in accordance with glass sizes shown on the plans. Fixed moldings shall be securely welded to the door on the security side. Loose stops shall be not less than 20 gauge steel, with mitered corner joints, secured to the framed opening with cadmium or zinc-coated countersunk screws.
10. Finish shall be a rust-inhibitive primer applied to all surfaces of the door, then fully cured before shipment. After fabrication, all tool marks and surface imperfections shall be dressed, filled, and sanded as required to make all faces and vertical edges smooth, level, and free from irregularities. Doors shall then be chemically treated to ensure maximum paint adhesion.
11. Exterior Hollow Metal Frames shall be Republic ME Series or approved equal. Interior Hollow Metal Frames shall be Republic MH series or approved equal. Frame sizes, profile, and general detail as indicated on the drawings. No screws or fasteners shall be exposed except as specified. Punch all interior frames for silencers, 3 on knob side of single acting doors, 2 in the head of double doors. Where continuous safety hinges (Hager 780-113) are specified, there shall be **no stop** on the hinge jamb.
12. Exterior Frames shall be commercial grade cold rolled steel conforming to ASTM A336-66T, not less than 16 gage and shall be zinc coated. Frames shall be designed for a minimum 25 psf horizontal load.
13. Interior Frames shall be commercial grade cold rolled steel conforming to ASTM A336-66T, not less that 16 gage.
14. Exterior frames shall be set up with welded and ground smooth corners. **Knock down exterior frames will not be allowed.** Interior frames shall be Knock down with tight fitting mitered and reinforced corners.
15. All finished work shall be strong and rigid, neat in appearance, square and true, and free from defects, warps, or buckles. Corner joints shall have all contact edges closed tight, with trim faces mitered and continuously welded, and stops mitered. The use of gussets shall not be permitted. Minimum depth of stops shall be 5/8".
16. Frames shall be reinforced at the factory for hardware in strict accordance with the specified hardware and in accord with instructions and templates provided by the hardware supplier. Where surface mounted hardware is to be applied, the door shall have reinforcing plates.
17. Floor anchors for exterior frames shall be single reverse base anchors securely welded inside each jamb (locate on exterior side of frame so that threshold covers up anchor), with one hole provided for floor attachment. Minimum thickness of floor anchors shall be 14 gage.
18. Interior Frames shall be provided with compression anchor at head and sill anchors at the base. Exterior Frames shall be anchored to wood studs, concrete or masonry with anchors of suitable design.
19. Exterior frames shall be provided with a temporary steel spreader bar attached to the feet of both jambs to serve as a temporary brace during shipping and handling. Do not remove until bucks are finally secured in place.
20. Labeled doors and frames shall be provided for those openings requiring fire protection ratings as determined and scheduled on the plans. Such doors and frames shall be constructed as tested, approved and labeled by a recognized testing agency having a factory inspection service. If any door specified cannot qualify for an appropriate rating because of it's design, hardware, or any other reason, the Architect shall be notified prior to submitting a bid.
21. Finish shall be a rust-inhibitive primer applied to all surfaces of the frame, then fully cured before shipment. After fabrication, all tool marks and surface imperfections shall be dressed, filled, and sanded as required to make all faces and vertical edges smooth, level, and free from irregularities. Frames shall then be chemically treated to ensure maximum paint adhesion.
22. The location of hardware on doors and frames shall be as follows:
   a. Locks & Latches: 36" from floor to centerline.
   b. Panic Hardware: 36" from floor to centerline.
   c. Door Pulls: 36" from floor to centerline.
23. Clearances at edges shall be as follows:
   a. Between door and frame at head and jamb: - 1/8".
   b. Meeting edge of pair of doors - 1/8".

PART 3 - EXECUTION

1. Frame Installation: Frames shall be set holding head level and maintaining jambs square and plumb. Secure all anchorages to adjacent construction. Leave spreader bars intact until frames are completely set.
2. Door Installation: Apply hardware in accordance with manufacturer templates and instructions. Adjust all operable parts for correct function. Remove hardware with the exception of prime coated items, tag, box, and reinstall after field painting is completed. Installation of fire rated doors and hardware shall be in conformance to UL requirements.
3. Touch-up: Immediately after erection, areas where prime coat has been damaged shall be sanded smooth and touched up with the same primer applied at the shop. Remove all rust before touching-up.

SECTION 08210 - PLASTIC LAMINATE DOORS

PART 1 - GENERAL

1. Extent and location of each wood door is shown on the plans. Types include solid core fire rated doors and hollow core doors.
2. Doors shall be factory prepped for hardware.
3. Fire rated doors shall be tested in accordance with ASTM E 152 and shall be labeled and listed by a testing agency and inspection organization such as U.L. or Factory Mutual.
4. Obtain all doors from a single manufacturer to ensure uniformity in quality, appearance and construction.
5. Solid core interior wood doors shall carry a five year warranty.

PART 2 - PRODUCTS

1. Wood doors shall comply with ANSI/NWMA I.S. 1 "Industry Standard for Flush Wood Doors" published by National Woodwork Manufacturer's Association as manufactured by Oshkosh Door Company or equal.
2. The required vendor for wood doors is:
   1. Consolidated Millwork Supply, Inc.
      P.O. Box 61038
      Dayton, Ohio 45406-1038
      Attn: Mike Vagedes
      Tel: (937) 278-0706
      Fax: (937) 278-7604
      Email: mvagedes@donet.com
3. Doors shall be standard plastic laminate doors with HPL faces and edges.**Doors shall have internal closer blocking.**
4. Fire rated solid core wood doors shall have faces as specified and shall have the manufacturer's standard core as required to obtain fire rating, and shall have a solid wood frame on all sides large enough to accept all hardware. Doors shall be 1-3/4" thick.
5. Comply with tolerance requirements of AWI for prefitting.
6. Cut and trim openings through doors as shown on drawings. Lite openings shall be factory cut and trimmed with **metal vision kits.** Lites in fire rated doors shall be constructed and tested as an assembly and shall come to the jobsite assembled.

PART 3 - EXECUTION

1. Condition doors to average prevailing humidity in installation area prior to hanging.
2. Install doors in strict accordance with manufacturer's instructions.
3. See finish hardware specification for tolerances required when hanging doors.
4. Adjust all doors to swing freely, and protect all completed work.

SECTION 08500 - VINYL SINGLE HUNG WINDOWS

PART 1 - GENERAL

1. It is the intent of this section to establish minimum standards for the fabrication and installation of the vinyl windows. Aluminum windows will not be accepted. Reference the drawings for the locations, sizes, and details of all products specified in this section.
2. It is the intent that all installed products shall be weather and water tight.
3. Applicable provisions of the ADA shall be incorporated into the fabrication and installation of the various elements.
4. All windows shall be provided with screens on the active side.
5. Horizontal load on the assembly shall be 24 pounds per square foot unless local code requires a higher loading. The fabricator shall add internal structural reinforcing sections as required to ensure the structural adequacy of the assembly.

PART 2 - PRODUCTS

1. Windows shall be single hung style, color per Exterior Color Schedule, and equal to the Ply Gem series vinyl window listed below.
   a. Builder Series 1100 Rectangle to be used at the Office and Conference Room;
   b. Builder Series 100 Single Hung to be used at all Classrooms.
2. Glazing shall carry a five year warranty against obstruction of vision due to seal failure (other than breakage). Glass shall be tempered, Warm Edge Plus, HP SC, double glazed, argon gas.
3. **Window unit shall have a "U" factor of .35 or lower, and a SHGC of .25 or lower. ALL GLAZING SHALL BE TEMPERED.**
4. All windows shall have a tilt sash, interlock at sash meeting rails, tilt-in sashes, stainless steel constant force balances, and dual vent locks. All windows shall have removable stops added to prevent the bottom sash from moving.
5. Screens shall be manufacturer's aluminum screen.
6. Framing members provided under this section shall meet or exceed the following performance requirements:
   a. Air Infiltration not to exceed .14 CFM per square foot when tested in accordance with AAMA 101 - DP H-R30.
   b. No water shall pass the interior frame of the system when tested in accordance with ASTM E-331 at a test pressure of 5.25 PSF.
   c. When tested in accordance with ASTM E-330, the maximum stress shall not exceed 45 PSI and the maximum deflection of any member shall not exceed 1/175 of its span. When the load is removed there shall be no evidence of any permanent deformation or damage.

PART 3 - EXECUTION

1. Windows shall be installed, glazed and adjusted by experienced tradesmen in accordance with the manufacturer's printed instructions. After installation the contractor shall adjust all elements for proper operation. Protect all exposed portions from damage by other trades.
2. Members shall be accurately fitted and mechanically attached by means of screws and other fasteners which for the most part shall be concealed; exposed fasteners shall match the finish of the vinyl/aluminum members.
3. Screws, bolts, and other fasteners shall be firmly seated forming connections that are free of voids, gaps, and cracks that will allow water to pass.
4. Vertical elements shall be plumb, straight, and square.
5. Prior to erection the installer shall verify the opening provided is adequate to support the assembly.
6. Intersections with other work and materials shall be made neatly, with even joints. All vinyl to masonry shall be sealed with Dymeric sealant, tooled and compressed complete with backer rod. The color shall match that of the exposed vinyl.
7. All ferrous metals, including galvanized iron, shall be separated from the frame with a bond breaker.
8. Protect all exposed vinyl from damage at all times, including masonry cleaning solutions and other chemicals.

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CONSTR. DOC. & REVISIONS

No.	Description	Date

JAMES A. SCHMITT
REGISTERED ARCHITECT
No. 102092
STATE OF TENNESSEE
04/06/23

Professional of Record:
JAMES A. SCHMITT
LICENSE NO: 102092
EXP. DATE: 08/31/24

Drawn/Checked	MS / DSC
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

SPECIFICATIONS

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SECTION 08700 - FINISH HARDWARE

PART 1 - GENERAL
1. It is the intent of this section to establish minimum standards for the fabrication and installation of the finish hardware. Reference the drawings for the location of all products scheduled.
2. It is the intent of this section for all operable doors to have finish hardware. Any door not having hardware specifically called for shall be fitted with finish hardware based on similar doors with similar functions.
3. The Owner desires all cores on all buildings be of the same manufacturer and specification; therefore, no substitutions will be allowed.
4. All labeled hardware shall conform to U.L. specifications. NFPA #80 Pamphlet shall be the guide for fire and safety.
5. Hardware templates shall be transmitted to the Aluminum Door, Hollow Metal, Wood Door, and other related suppliers.
6. All locations shall be verified and coordinated by the Hardware Supplier before fabrication.
7. Unless otherwise directed, hardware shall be mounted per specifications, or the hardware manufacturer's standards. Accessible door hardware shall be installed in conformance with ADA regulations. It is the intent to have all hardware usable by the children to be installed low enough so small children can operate doors in normal and emergency situations.
8. Each hardware item shall be packaged separately with all screws, wrenches, templates, and instructions. Mark with door number to which each piece belongs.

PART 2 - PRODUCTS
1. The numbers used in the schedule are of the following manufacturers:
2. All cylinder locks shall be removable core. Provide construction cores for all doors.
   a. Provide 2 keys per core, 6 master keys and 3 control keys to the Owner upon completion of the project. Locks shall be keyed per the direction of the Architect.
3. Where closers are specified, install closers on the push side of outswing doors.
4. Hardware shall comply with the requirements of state and local codes.
5. All hardware shall be furnished as listed in the hardware schedule.
6. The required vendor for hardware is:
   1. Consolidated Millwork Supply, Inc.
      P.O. Box 61038
      Dayton, Ohio 45406-1038
      Attn: Mike Vagedes
      Tel: (937) 278-0706
      Fax: (937) 278-7604
      Email: mvagedes@donet.com

PART 3 - EXECUTION
1. All hardware shall be carefully fitted, secured, and adjusted by skilled mechanics in accordance with the manufacturer's instructions. Damage to surrounding surfaces shall be repaired to completely conceal the damage and/or replaced at the direction of the Architect.
2. All doors shall operate without binding of any type and shall return to a smooth even fit with the surface of the door equal distant from the sides and faces of the frame. Closers shall gently return all doors to the closed position with latches fully engaged. Labeled hardware shall have the labels and other operating portions masked off before painting commences, remove after painting is complete.
3. All hollow metal frames for doors shall have three rubber silencers in the strike jamb. Fire rated doors shall have smoke seals.
4. Thresholds, regardless of location, shall be set in a full bed of silicone.
5. Adjust, clean and oil all hardware before final inspection.

SECTION 08800 - GLAZING

PART 1 - GENERAL
1. It is the intent of this section to establish minimum standards for the manufacturer and installation of glass and glazing.
2. All glass products shall comply with State and Federal safety regulations and shall be in compliance with child care licensing regulations for the area.
3. Vertical exterior glass shall be designed to sustain 24 PSF wind loads without failure.
4. Reference drawings for locations and sizes of all glass panels.
5. The glass installer shall be responsible and shall verify all glass sizes, dimensions, and framed openings.
6. Where there is an exterior and interior surface orientation to be maintained, the piece shall have a label on the exterior surface indicating this side out.
7. All glass products shall be cleaned of all dust, dirt, and surface contaminates prior to punch list. Both sides of all glass shall be cleaned at all locations.
8. Any glass product that has a crack, internal/external flaw, chips, holes, voids, or other surface damage shall be replaced at no cost to the Owner.
9. Glass products shall be protected from the work of adjacent trades. Protect glass from masonry cleaning solutions and all paint.
10. It is the intent of this section that all glass and glazing be water and weather tight in all wind loading and moisture situations.
11. All glass shall be from the same manufacturer to insure consistent color and transparency.

PART 2 - PRODUCTS
1. All glass products shall be PPG, Pittsburgh Plate Glass Company or approved equal. All glass to be float glass. Glass shall be manufactured to meet Federal Specification DD- G-45ld and ANSI Z97.1.
2. All glass in the center shall be safety tempered or laminated.
3. See Section 08500 for Vinyl Window glazing.
4. Interior Glazing shall be 1/4" tempered or laminated, clear. Laminated safety glass shall be one-quarter (1/4) inch thick clear laminated glass equal to that manufactured by Hordis Brothers, Inc.
5. Mirrors shall be 1/4" polished plate mirror quality with concealed fasteners. Size shall be 24"x36" unless noted otherwise on plans.
6. All glazing in fire rated doors or walls shall be 1/4" wire glass, equal to that manufactured by Hordis Brothers, Inc., in U.L. listed pre-finished metal frames.
7. Glazing Compound for Hollow Metal Frames: Pecora "M-242", Dow Corning "795" or equal.
8. Reference Section 08200 for requirements of Aluminum Door and Frame glazing and installation.

PART 3 - EXECUTION
1. All glass shall be set atop setting blocks of resilient rubber with a minimum 5/8" bite on all glass and proper tolerance for glass and aluminum expansion in the vertical and horizontal directions.
2. All pressure plates and covers shall be installed to produce an even pressure with distortion free images.
3. All aluminum to glass sealants shall be silicone based. All aluminum to masonry sealants shall be two part Dymeric to match adjacent aluminum.
4. All glass products shall have temporary markings and symbols on one or both sides to clearly indicate the opening has been glazed with a glass product. Specifically doors, sidelights and glass at normal walking levels and pathways shall be marked. Remove all markings prior to final punchlist.
5. Comply with siding manufacturer's written installation instructions applicable to products and applications indicated unless more stringent requirements apply.
6. Adjusting and Cleaning:
   a. Remove damaged, improperly installed, or otherwise defective siding or trim materials and replace with new materials complying with specified requirements.
   b. Clean finished surfaces according to siding manufacturer's written instructions and maintain in a clean condition during construction.

DIVISION 9 - FINISHES

SECTION 09250 - GYPSUM WALLBOARD

PART 1 - GENERAL
1. It is the intent of this section to establish the minimum standards for the installation and manufacture of Drywall.
2. All the drywall shall be provided, hung, taped, sanded and ready for painting, vinyl covering, and related finishes. Drywall above the ceiling line is required to be properly taped.
3. Draftstops shall be installed in the attic area as shown on drawings. Draftstops (if shown) shall be standard type drywall and require fire taping only, no finish sanding is required.
4. Material systems specified are those of United States Gypsum Company (USG) and shall establish a standard of quality. Johns-Manville and Bestwall Gypsum Company are acceptable alternates; however, all products must meet or exceed the minimum standard of quality.
5. Coordinate work with other trades, especially electrical and mechanical, for location of accessories in drywall construction. At a minimum, mark all studs on the subfloor with a permanent black marker. Also, mark location of pipes hidden in walls. Spray paint a red circle below every electrical box to be covered with drywall.
6. Temperatures in the building shall be maintained within the range of 55 degrees F. to 95 degrees F. Adequate ventilation shall be provided to eliminate excess moisture within the building during this same period.

PART 2 - PRODUCTS
1. Interior Partitions:
   a. Wallboard: As shown on Drawings, shall be ASTM C1396 Regular (Type III, Grade R, Class I) or Fire-Rated (Type III, Grade X, Class I) wallboard as indicated with thickness to be five-eighths (5/8) inch and width to be forty-eight (48) inches.
   b. Use 5/8" Water Resistant (W/R) type wallboard ASTM C1396 as a 4' wainscot in all toilet rooms, utility rooms, and kitchen.
   c. Use Georgia-Pacific ToughRock Mold-Guard (ASTM C1396, Section 7; CSA-A82.27-M, Type VII Grade W) gypsum board (or equal) as indicated with thickness to be five-eighths (5/8) inch and width to be forty-eight (48) inches.
   d. Ceilings: As shown on drawings, shall be ASTM C1396 drywall with thickness to be five-eighths (5/8) inch, (Type III, Grade R, Class I).
2. Fastening System: Nails or screws per manufacturer's specifications. Nails in accordance with ASTM C514 and steel screws in accordance with ASTM C954 and C1002.
3. Trim Accessories:
   a. All external corners to be reinforced with U.S. Gypsum Dur-A-Bead No. 103, single length.
   b. Metal Trim: U.S. Gypsum, 200-A U-shaped channel.
4. Joint Tape and Joint Compound: Use the three (3) coat finishing method. Drywall shall be left ready to paint. Use Durabond 90 Joint Compound and Perf-A-Tape Joint Reinforcing tape in accordance with ASTM C474 and C475. Exterior applications require a water resistant joint treatment and galvanized accessories.

PART 3 - EXECUTION
1. Electrical and mechanical piping, equipment, fixtures, cabinets, and miscellaneous accessories shall be enclosed in partitions. Contractor shall coordinate with other trades to install partitions of the required thickness to enclose work.
2. Cut all board accurately. Apply the long dimension parallel and over framing members. Joints shall be staggered. Position all end joints over stud. Stagger joints at multiple layer applications.
3. Walls shall be screwed a minimum of 8" o.c. on edges on framing members and 12"o.c. in the field of the board.
4. Ceilings shall be screwed 6"o.c. on edges supported by framing members and 8" o.c. in the field of the board.
5. Coordinate the application of drywall with other trades for the installation of their work, in particular wood blocking for the attachment of shelves, door stops, fixtures, etc.
6. All vertical and horizontal outside corners shall be reinforced with #900 corner bead fastened with staples not more than 6"o.c. at both flanges along the entire length of the bead.
7. Expansion joints equal to USG 093 shall be located as shown on drawings. When drywall terminates at masonry or other dissimilar materials, apply a USG Metal 200-A fastened at the perforated side at 6"o.c. with staples spaced 6"o.c. The trim shall firmly abut the dissimilar material forming a neat joint.
8. Perf-A-Tape Joint System shall cover all metal trim, face board joints, fastenings, and any defect. Tape shall be applied over the full length of all joints, but shall not overlap at intersections. At wall-ceiling intersections, and interior wall and partition corners, tape shall be folded and installed as above, working from top to bottom. All interior corners shall have tape positioned to bridge the joint. Taping shall be done in a three step application, final coat to be feathered out to a total width of not less than 12" at tapered joints, and 18" at butt joints. Sand smooth and leave ready for painting or coating, take care not to roughen paper surface.
9. Fill and finish all depressions around nail and screw heads.
10. Lightly mop all walls to be painted after final sanding.
11. At the completion of all drywall work, all joint compound shall be cleaned from beads, screeds, metal base and trim, leaving work ready for decoration by others. All drywall mud and trash shall be removed from building, leaving floors broom clean.

SECTION 09310 - CERAMIC TILE

PART 1 - GENERAL
1. The extent of the ceramic tile work is indicated on the plans and schedules.
2. Provide materials from one source for each type of tile.
3. Provide tile as specified. If unable to find specified tile provide Architect with a full size sample of tile.
4. Installer shall examine the substrate and the conditions under which the tile is to be installed. Notify the General Contractor in writing of any conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the installer.

PART 2 - PRODUCTS
1. Ceramic tile shall as specified on plans.
2. All floor tile shall have a skid inhibiting surface.
3. Trim pieces shall be as required for a complete, continuously coved installation, of same material, size, color, and finish of field tile.
4. At all transitions to vinyl, vinyl tile, carpet or other floor surfaces, provide a vinyl threshold located directly under the door unit.
5. Mortar shall be dryset presanded portland cement and additives complying with ANSI A118.3.
6. Grout shall be latex portland cement as specified on Interior Finish Schedule.
7. Sealant shall be urethane multi-part equal to Sumitseal SL 99.
8. Schluter-DITRA polyethylene membrane with a grid structure of square cavities shall be installed on plywood substrates.

PART 3 - EXECUTION
1. Comply with ANSI standard installation specifications A108.1 through A108.7 except as otherwise indicated. Maintain minimum temperature levels as recommended by material manufacturers.
2. Extend all tile work into recesses and under equipment and fixtures to form a complete covering without interruptions, except as otherwise shown. Terminate work neatly at obstructions, edges and corners without disruption of pattern or joint alignment.
3. Comply with the manufacturer's instructions for mixing and installation of proprietary materials.
4. Neutralize and seal substrates in accordance with mortar and adhesive manufacturer's instructions.
5. Use organic adhesive only on clean, smooth drywall walls.
6. Unless shown otherwise, lay tile in a neat grid pattern. Align joints when adjoining tiles on floor, base, walls, and trim are the same size. Lay out tile work and center tile fields in both directions in each space or on each wall area. Adjust to minimize tile cutting. Provide uniform joint widths, unless shown otherwise.
7. Apply sealer to tile surface and grouted joints after installation.
8. Seal the top edge of all coved tile base with GE Silicone #1702 or approved equal.
9. Leave finished installation free of cracked, chipped, broken, unbonded or otherwise defective work. Protect all floor tile installations with Kraft paper or other heavy covering during construction period to prevent staining or damage. No foot or wheel traffic permitted on floor for at least seven (7) days after grouting. Clean as necessary for final inspection.

SECTION 09512 - SUSPENDED ACOUSTICAL CEILING SYSTEM

PART 1 - GENERAL

1.1 The general provisions of Division 1 apply to the work specified in this section.

1.2 REFERENCES
1. American Society for Testing Materials (ASTM), latest edition.
   a. ASTM C367 - Standard Test Methods for Strength Properties of Prefabricated Architectural Acoustical Tile or Lay-In Ceiling Panels.
   b. ASTM C635 - Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-In Panel Ceilings.
   c. ASTM C636 - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels.
   d. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
   e. ASTM E795 - Standard Practices for Mounting Test Spacious During Sound Absorption Tests.
   f. ASTM E1264 - Standard Classification for Acoustical Ceiling Products.

1.3 SCOPE OF WORK
1. Furnish all labor, materials, tools, equipment and scaffolding required for completing acoustical tile ceilings, suspension systems and related items indicated on the drawings and herein specified.
2. The extent of the work is indicated on the drawings and specified herein. Types of ceilings specified in this section include acoustical panel ceilings.

1.4 QUALITY ASSURANCE
1. The acoustical tile, suspension systems and related items shall meet or exceed the following standards:
   a. Comply with ASTM C367, C635, and E84.
   b. Underwriters Laboratories (UL) Fire Resistance Index - Where acoustical ceilings are components of fire rated assemblies, provide complete ceiling systems complying with UL design numbers corresponding with construction assemblies indicated and identified ceiling components with appropriate marking of applicable testing and inspecting agency.
   c. CISCA Ceiling Systems Handbook-Ceilings and Interior Systems Construction Association.
2. Installer Qualifications: Firm with not less than five years of successful experience in installation of acoustical ceilings similar to requirements for this project and which is acceptable to manufacturer of acoustical units, as shown by current written statement from manufacturer.
3. Coordination of Work: Coordinate layout and installation of acoustical ceiling units and suspension system components with other work supported by or penetrating through, ceilings, including light fixtures, HVAC equipment, fire suppression system components and partition system.

1.5 SUBMITTALS
1. Product Data: Manufacturer's product specifications and installation instructions for each acoustical ceiling material required, and each suspension system.
   a. Samples: Set of 6-inch by 4-inch samples for each lay-in unit required, showing full range of exposed color and texture to be expected in completed work.
   b. Set of 12-inch long samples of each exposed runner and molding.

1.6 DELIVERY, STORAGE, AND HANDLING
1. Deliver materials to the project site in original unopened packages bearing manufacturer's name and specific product identification.
2. Store materials in a dry place with continuous support to avoid warping units and protect against damage, direct sunlight, or surface contamination from other areas.
3. Handle materials carefully to avoid damaging or discoloring. Replace materials, which have been damaged or discolored.
4. Allow ceiling units to reach room temperature and a stabilized moisture content prior to installation.

PART 2 - PRODUCTS

2.1 ACOUSTICAL CEILING PANELS
1. Manufacturer's: Subject to compliance with requirements, provide products only of the manufacturer's indicated.
2. Acoustic Ceiling Tile - C4: Armstrong "Cirrus Tegular" 534, 24-inches x 24-inches x 15/16-inch tile w/angled tegular edge, White. No substitutions will be allowed unless critical delivery schedules cannot be met. Refer to Room Finish Schedule for location.
   a. LR: 0.86
   b. NRC: 0.70
   c. CAC: 38
3. Acoustic Ceiling Tile - C5: Armstrong "Kitchen Zone" 763, 24-inches x 24-inches x 15/16-inch tile w/square edge, White. No substitutions will be allowed unless critical delivery schedules cannot be met. Refer to Room Finish Schedule for location.
   a. LR: 0.89
   b. NRC: N/A
   c. CAC: 33

2.2 METAL SUSPENSION SYSTEM FOR ACOUSTICAL PANEL CEILING
1. Metal Suspension Systems: Provide metal suspension systems of type, structural classification and finish specified which comply with applicable ASTM C635 requirements.
2. Manufacturer: Provide ceiling suspension systems by same manufacturer as acoustical ceiling panel manufacturer;
3. Structural Classification: Intermediate duty system complying with ASTM C635. Classify cross tees as main tees.
4. Main tee shall have 15/16 inch exposed flange with a rolled cap and 1 1/2-inches deep web with double web design. Wall moldings shall be angle shape.
5. Finish of exposed surfaces: Matte white.
6. Attachment Devices: Tested for a carrying capacity of not less than 5 times the design load involved.
7. Hangers: As recommended by manufacturer to comply with the specified structural classification (ASTM C635). Wire hangers, if recommended, to be not less than 12-gauge (0.016-inch diameter), galvanized, soft annealed, mild steel wire.
8. Primary and Secondary Supporting Members: As further specified and required suspension systems.
9. Assembly Devices and Accessories: As recommended by manufacturer and as required to comply with ceiling performance requirements.
10. Edge Moldings and Trim: Metal of types and profiles indicated or, if not indicated, provide manufacturer's standard molding for edges and penetrations of ceiling which fits with type of edge detail and suspension system indicated.
11. Provide hold down clips for fire rated ceilings and elsewhere as required by codes or indicated on drawings.

PART 3 - EXECUTION

3.1 INSPECTION
1. Installer must examine the conditions under which the suspended ceiling work is to be performed and notify the Contractor in writing of any unsatisfactory conditions. Do not proceed with suspended ceiling work until unsatisfactory conditions have been corrected in a manner acceptable to the installer.
2. Installer shall consult other trades and Contractors involved prior to start of ceiling work, to determine areas of potential interference. Do not start installation until interferences have been resolved to the satisfaction of the installer.
3. Coordinate layout with other work, which penetrates or is supported by ceiling suspension system.
4. Measure each ceiling area and establish layout of acoustical units to balance border widths at opposite edges of each ceiling. Avoid use of less-than-half width units at borders, and comply with reflected ceiling plans.
5. Refer to reflected ceiling plan of main sales area. Layout ceiling precisely as shown. Consult with Project Manager or Owner's representative prior to start of work to assure that ceiling grid layout will conform to ceiling plan and Owner's intentions.

3.2 INSTALLATION
1. Install Fire Rated Assemblies:
   a. Install suspension systems which are part of non-fire rated assemblies in accordance with manufacturer's instructions; and ASTM C636; and further specified.
   b. Secure to structural and intermediate framing members by attaching to metal clips designed for the type of member involved, or where possible, by looping and wire-tying directly to members. Do not attach hangers to metal roof deck.
   c. Space hangers to fall not more than 6 inches from ends and not more than 4 feet o.c., between ends of primary suspension members, and as required to support other work resting in or on ceiling. Provide at least 2 hangers at diagonally opposite corners of light fixtures as required to prevent deflection of suspension system members in excess of ASTM C635 requirements. Do not attach hangers to ducts, pipes or other similar work, which occurs above ceilings; provide additional suspended ceiling members at such locations.
   d. Install continuous metal moldings for support of runners and units where suspended ceilings meet walls, partitions and other vertical elements in order to conceal edges of acoustical units. Secure moldings to building construction by fastening through holes in web at intervals of not over 16 inches o.c. and not more than 3-inches from ends, leveling ceiling suspension system to tolerance of 1/8-inch in 12-feet. Miter cut inside and outside corners.
2. Exposed Grid Systems:
   a. Main Runners: Support directly from hangers; space as required to support ceiling units and other work resting in, or on, ceilings and as required to comply with ceiling performance requirements. Provide unjointed main runners of manufacturer's maximum standard length wherever possible; join abutting sections with manufacturer's standard splice connection; do not pop rivet flanges of abutting runners.
   b. Cross Runners: Support by interlocking ends of cross runners with main runners (or cross runners classified as main runners) to form 90-degree angle between intersecting runners. Space as required to support each panel unit used in the work
   c. Moldings: Install with exposed leg in same plane as bottom flange of exposed runners, unless otherwise shown or specified.
3. Acoustical Panels:
   a. Install acoustical panels only after the building is enclosed and moisture is at a low level compatible with manufacturer's requirements. Workmen shall not fingerprint panels with dirty hands or gloves. Scribe and cut panels to fit accurately at borders and at penetrations.

3.3 REPLACEMENTS
1. Contractor to provide one carton of each type of ceiling tile to be used for replacement of any tiles damaged or discolored in the future. Tile shall be packaged with protective covering for storage and identified with appropriate labels.

3.4 ADJUST AND CLEAN
1. Clean exposed surfaces of acoustical ceilings, including trim, edge moldings, and suspension members; comply with manufacturer's instructions for cleaning and touch_up of minor finish damage. Remove and replace work, which cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

SECTION 09651 - LUXURY VINYL TILE

PART 1 - GENERAL
1. The extent of resilient floor is shown on the plans and schedules.
2. Whenever possible, all materials shall be produced by a single manufacturer.
3. Provide not less than 30 tiles after the completion of the work for replacement materials on the job site.
4. Surfaces to receive resilient flooring shall meet the requirements of ASTM F 710, "Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring." Install no materials over surfaces failing to meet the above.
5. Installation of the floor tile constitutes acceptance of the substrate by this Contractor.

PART 2 - PRODUCTS
1. Luxury Vinyl Tile: Shall be as manufactured by Patcraft or approved equal. For sizes and colors see Finish Legend.
2. Adhesive for tile installation will be as recommended by the manufacturer.
3. Concrete primer shall be a non-staining type as recommended by flooring manufacturer.
4. Cove base as manufactured by Roppe conforming to specifications in Finish Legend, provided in 120' coils to minimize joints, and with **pre-formed inside and outside corners**.

PART 3 - EXECUTION
1. Installation will be accomplished in strict accordance with manufacturer's recommendations. Install flooring after finishing operations, including painting.
2. Butt tightly to all adjacent surfaces. Scribe around obstructions to produce neat joints, laid tight, even, and straight. Extend flooring into toe spaces, door reveals, and into closets and similar openings.
3. Maintain a temperature of not less than 70 degrees nor more than 90 degrees for a minimum of 24 hours before and 48 hours after tile installation.
4. General Contractor will sweep, then damp mop the entire floor with a neutral detergent solution, carefully scrubbing excessive marks and soil. If construction activity compromises the finish condition after cleaning is completed, but prior to FFE delivery, the contractor shall cause the floors to be re-cleaned to their original condition. It will be the franchise owners responsibility to secure a floor/cleaning company to maintain the flooring after the delivery of the FFE.

SECTION 09861 - TILE CARPETING

PART 1 - GENERAL
1. Install modular carpet tile as specified on Sheet A5.1 and indicated on the drawings.
2. Product Data: Manufacturer's product specifications and installation instructions for each flooring material required.
   a. Samples: 12-inch square sample for each carpet tile, pattern/color specified.
3. Provide not less than 30 tiles after the completion of the work for replacement materials on the job site.
4. Surfaces to receive modular carpet tile shall meet the guidelines of the latest edition of the Carpet & Rug Institute Installation Standard, where applicable. Install no materials over surfaces failing to meet these standards.
5. Do not install carpet tiles until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, and ambient temperature an humidity conditions are maintained at levels planned for building occupants during the remainder of the construction period.
6. Installation of the carpet tile constitutes acceptance of the substrate by this Contractor.
7. Warranties:
   a. Limited 15-year Stain Resistant Warranty
   b. Limited 15-year Bleach Resistant Warranty
   c. Limited Lifetime wear and Backing Warranty.

PART 2 - PRODUCTS
1. Modular Carpet Tile: Shall be as manufactured by Patcraft, as indicated in Drawings, or approved equal. For specified material, sizes, pattern and color see sheet Interior Finish Legend on sheet A5.1.

PART 3 - EXECUTION
1. Installation will be accomplished in strict accordance with manufacturer's recommendations. Install flooring after finishing operations, including painting.
2. Butt tightly to all adjacent surfaces. Scribe around obstructions to produce neat joints, laid tight, even, and straight. Extend flooring into toe spaces, door reveals, and into closets and similar openings.
3. The permanent HVAC system must be operational and functional and set to a minimum of 65 F or a maximum of 85 F, for a minimum of 7 days prior to, during, and after installation. Once the installation is complete the temperature should not exceed 85 F.

SECTION 099113 - EXTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY
A. Section includes surface preparation and the application of paint systems on **exterior substrates.**
   1. Concrete.
   2. Fiber-cement board.
   3. Clay masonry.
   4. Concrete masonry units (CMU).
   5. Steel.
   6. Galvanized metal.
   7. Aluminum (not anodized or otherwise coated).
   8. Stainless-steel flashing.
   9. Wood.
   10. Plastic trim fabrications.
   11. Exterior portland cement plaster (stucco).
   12. Exterior gypsum board.
B. Related Requirements:
   1. Section 099123 "Interior Painting" for surface preparation and the application of paint systems on interior substrates.
   2. Section 099300 "Staining and Transparent Finishing" for surface preparation and the application of wood stains and transparent finishes on exterior wood substrates.
   3. Section 099600 "High-Performance Coatings" for tile-like coatings.

1.3 ACTION SUBMITTALS
A. Product Data: For each type of product. Include preparation requirements and application instructions.
   1. Indicate VOC content.
B. Samples for Initial Selection: For each type of topcoat product.
C. Product List: For each product indicated, include the following:
   1. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.

1.4 CLOSEOUT SUBMITTALS
A. Coating Maintenance Manual: Provide coating maintenance manual including area summary with finish schedule, area detail designating location where each product/color/finish was used, product data pages, material safety data sheets, care and cleaning instructions, touch-up procedures, and color samples of each color and finish used.

1.5 MAINTENANCE MATERIAL SUBMITTALS
A. Furnish extra materials **from the same product run,** that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
   1. Paint: **1 gal.** each color applied.

1.6 DELIVERY, STORAGE, AND HANDLING
A. Delivery and Handling: Deliver products to Project site in an undamaged condition in manufacturer's original sealed containers, complete with labels and instructions for handling, storing, unpacking, protecting, and installing. Packaging shall bear the manufacture's label with the following information:
   1. Product name and type (description).
   2. Batch date.
   3. Color number.
   4. VOC content.
   5. Environmental handling requirements.
   6. Surface preparation requirements.
   7. Application instructions.
B. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
   1. Maintain containers in clean condition, free of foreign materials and residue.
   2. Remove rags and waste from storage areas daily.

1.7 FIELD CONDITIONS
A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.
B. Do not apply paints in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.
C. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
   1. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner.
D. Hazardous Materials: Hazardous materials including lead paint **may be** present in buildings and structures to be painted. A report on the presence of known hazardous materials is on file for review and use. Examine report to become aware of locations where hazardous materials are present.
   1. Do not disturb hazardous materials or items suspected of containing hazardous materials except under procedures specified.
   2. Perform preparation for painting of substrates known to include lead paint in accordance with EPA Renovation, Repair and Painting Rule and additional requirements of authorities having jurisdiction.

PART 2 - PRODUCTS

2.1 MANUFACTURERS
A. Basis-of-Design Product: Subject to compliance with requirements, provide HYPERLINK "https://www.sherwin-williams.com/architects-specifiers-designers/specifications/" Sherwin-Williams Company; products indicated or comparable product from one of the following:
   1. **Benjamin Moore Co.**.
B. Comparable Products: Comparable products of approved manufacturers will be considered in accordance with Section 016000 "Product Requirements," and the following:
   1. Products are approved by manufacturer in writing for application specified.
   2. Products meet performance and physical characteristics of basis of design product including published ratio of solids by volume, plus or minus two percent.
C. Source Limitations: Obtain paint materials from single source from single listed manufacturer.
   1. Manufacturer's designations listed on a separate color schedule are for color reference only and do not indicate prior approval.

2.2 PAINT, GENERAL
A. Material Compatibility:
   1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
   2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
B. VOC Content: For field applications, provide paints and coatings that complies with VOC content limits of authorities having jurisdiction.

PART 3 - EXECUTION

3.1 EXAMINATION
A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers. Where acceptability of substrate conditions is in question, apply samples and perform in-situ testing to verify compatibility, adhesion, and film integrity of new paint application.
   1. Report, in writing, conditions that may affect application, appearance, or performance of paint.
B. Substrate Conditions:
   1. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
      a. Concrete: 12 percent.
      b. Fiber-Cement Board: 12 percent.
      c. Masonry (Clay and CMU): 12 percent.
      d. Wood: 15 percent.
      e. Portland Cement Plaster: 12 percent.
      f. Gypsum Board: 12 percent.
   2. Portland Cement Plaster Substrates: Verify that plaster is fully cured.
   3. Exterior Gypsum Board Substrates: Verify that finishing compound is sanded smooth.
C. Proceed with coating application only after unsatisfactory conditions have been corrected; application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION
A. Comply with manufacturer's written instructions and recommendations in "MPI Manual" applicable to substrates and paint systems indicated.
B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
   1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.
C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
   1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.
D. Concrete Substrates: Remove release agents, curing compounds, efflorescence, and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions.
E. Masonry Substrates: Remove efflorescence and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces or mortar joints exceeds that permitted in manufacturer's written instructions.
F. Steel Substrates: Remove rust, loose mill scale, and shop primer if any. Clean using methods recommended in writing by paint manufacturer[.] [**but not less than the following:**]
   1. SSPC-SP 2, "Hand Tool Cleaning."
   2. SSPC-SP 3, "Power Tool Cleaning."
   3. SSPC-SP 7/NACE No. 4, "Brush-off Blast Cleaning."
   4. SSPC-SP 11, "Power Tool Cleaning to Bare Metal."
G. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.
H. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.
I. Aluminum Substrates: Remove loose surface oxidation.
J. Wood Substrates:
   1. Scrape and clean knots. Before applying primer, apply coat of knot sealer recommended in writing by topcoat manufacturer for exterior use in paint system indicated.
   2. Sand surfaces that will be exposed to view, and dust off.
   3. Prime edges, ends, faces, undersides, and backsides of wood.
   4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.

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CONSTR. DOC. & REVISIONS

No.	Description	Date

JAMES A. SCHMITT
REGISTERED ARCHITECT
AGRICULTURE
COMMERCE
NO. 102092
STATE OF TENNESSEE
04/06/23

Professional of Record:
JAMES A. SCHMITT
LICENSE NO: 102092
EXP. DATE: 08/31/24

Drawn/Checked	MS / DSC
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

SPECIFICATIONS

A0.6

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K. Plastic Trim Fabrication Substrates: Remove dust, dirt, and other foreign material that might impair bond of paints to substrates.

3.3 APPLICATION

A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Manual."
1. Use applicators and techniques suited for paint and substrate indicated.
2. Paint surfaces behind movable items same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.
3. Paint both sides and edges of exterior doors and entire exposed surface of exterior door frames.
4. Paint entire exposed surface of window frames and sashes.
5. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
6. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.

B. Tint undercoats same color as topcoat**,** but tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Provide sufficient difference in shade of undercoats to distinguish each separate coat.

C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.

D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

E. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:
1. Paint the following work where exposed to view:
   a. Equipment, including panelboards[**and switch gear**].
   b. Uninsulated metal piping.
   c. Uninsulated plastic piping.
   d. Pipe hangers and supports.
   e. Metal conduit.
   f. Plastic conduit.
   g. Tanks that do not have factory-applied final finishes.
   h. <**Insert mechanical items to be painted**>.

3.4 FIELD QUALITY CONTROL

A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.
1. Contractor shall touch up and restore painted surfaces damaged by testing.
2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 EXTERIOR PAINTING SCHEDULE

A. **Concrete, Portland Cement Plaster (Stucco), Cementitious Siding,** Nontraffic Surfaces:
1. Latex System:
   a. Prime Coat: Primer sealer, latex.
      1. S-W Loxon Concrete & Masonry Primer Sealer, A24W8300, at 8.0 mils wet, 3.2 mils dry.
   b. Prime Coat: Latex, exterior, matching topcoat.
      1. S-W A-100 Exterior Latex Low Sheen, A12 Series, at 4.0 mils wet, 1.5 mils dry, per coat.
   c. Topcoat: Latex, exterior, satin.
      1. S-W A-100 Exterior Latex Satin, A82 Series, at 4.0 mils wet, 1.5 mils dry, per coat.

B. CMU Substrates:
1. Latex System:
   a. Block Filler: Block filler, latex, interior/exterior:
      1. S-W PrepRite Block Filler, B25W25, at 75 to 125 sq. ft. per gal.
   b. Intermediate Coat: Latex, exterior, matching topcoat.
   c. Topcoat: Latex, exterior, satin.
      1. S-W A-100 Exterior Latex Satin, A82 Series, at 4.0 mils wet, 1.5 mils dry, per coat.

C. Ferrous Metal, Galvanized-Metal, and Aluminum Substrates:
1. Water-Based Light Industrial Coating System:
   a. Prime Coat: Primer, water based.
      1. S-W Pro Industrial Pro-Cryl Universal Primer, B66-310 Series, 5.0 to 10.0 mils wet, 2.0 to 4.0 mils dry.
   b. Intermediate Coat: Light industrial coating, exterior, water based, matching topcoat.
   c. Topcoat: Light industrial coating, exterior, water based, semi-gloss.
      1. S-W Pro Industrial Acrylic Semi-Gloss Coating, B66-650 Series, at 2.5 to 4.0 mils dry, per coat.

D. Wood Substrates: Including exposed wood items not indicated to receive shop-applied finish.
1. Latex System:
   a. Prime Coat: Primer, latex for exterior wood.
      1. S-W Exterior Latex Primer, B42, at 4.0 mils wet, 1.4 mils dry, per coat.
   b. Intermediate Coat: Latex, exterior, matching topcoat.
   c. Topcoat: Latex, exterior, semi-gloss:
      1. S-W Solo Acrylic Semi-Gloss, A76 Series, at 4.0 mils wet, 1.5 mils dry, per coat.

E. Plastic Trim Fabrication Substrates: Including architectural PVC, plastic, and fiberglass items.
1. Latex System:
   a. Prime Coat: Primer, bonding, water-based:
      1. S-W PrepRite ProBlock Latex Primer/Sealer, B57-620 Series, at 4.0 mils wet, 1.4 mils dry.
   b. Intermediate Coat: Latex, exterior, matching topcoat.
   c. Topcoat: Latex, exterior, satin:
      1. S-W A-100 Exterior Latex Satin, A82 Series, at 4.0 mils wet, 1.5 mils dry, per coat.

F. Exterior Gypsum Board Substrates:
1. Latex System:
   a. Prime Coat: Primer bonding, water-based.
      1. S-W PrepRite ProBlock Latex Primer/Sealer, B57-620 Series, at 4.0 mils wet, 1.4 mils dry.
   b. Intermediate Coat: Latex, exterior, matching topcoat.
   c. Topcoat: Latex, exterior, satin:
      1. S-W A-100 Exterior Latex Satin, A82 Series, at 4.0 mils wet, 1.5 mils dry, per coat.

G. **Exterior Insulation Finish Systems (EIFS)**:
1. Latex System:
   a. First Coat: Latex, exterior, matching topcoat.
   b. Topcoat: Latex, exterior, satin:
      1. S-W A-100 Exterior Latex Satin, A82 Series, at 4.0 mils wet, 1.5 mils dry, per coat.

SECTION 099123 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes surface preparation and the application of paint systems on **interior substrates.** [**not all will apply to individual projects]**
1. Concrete.
2. Concrete masonry units (CMU).
3. Steel.
4. Galvanized metal.
5. Aluminum (not anodized or otherwise coated).
6. Wood.
7. Gypsum board.
8. Plaster.
9. Spray-textured ceilings.

B. Related Requirements:
1. Section 099113 "Exterior Painting" for surface preparation and the application of paint systems on exterior substrates.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product. Include preparation requirements and application instructions.
1. Indicate VOC content.

B. Samples for Verification: For each type of paint system and in each color and gloss of topcoat.
1. Submit Samples on rigid backing.
2. Label each coat of each Sample.

C. Product List: For each product indicated, include the following:
1. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.

1.4 CLOSEOUT SUBMITTALS

1. Coating Maintenance Manual: Provide coating maintenance manual including area summary with finish schedule, area detail designating location where each product/color/finish was used, product data pages, material safety data sheets, care and cleaning instructions, touch-up procedures, and color samples of each color and finish used.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials**, from the same product run,** that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
1. Paint: **1 gal.** of each color applied.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Delivery and Handling: Deliver products to Project site in an undamaged condition in manufacturer's original sealed containers, complete with labels and instructions for handling, storing, unpacking, protecting, and installing. Packaging shall bear the manufacturer's label with the following information:
1. Product name and type (description).
2. Batch date.
3. Color number.
4. VOC content.
5. Environmental handling requirements.
6. Surface preparation requirements.
7. Application instructions.

B. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
1. Maintain containers in clean condition, free of foreign materials and residue.
2. Remove rags and waste from storage areas daily.

1.7 FIELD CONDITIONS

A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.

B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

C. Lead Paint: It is not expected that lead paint will be encountered in the Work.
1. If suspected lead paint is encountered, do not disturb; immediately notify Architect and Owner.

D. Lead Paint: Lead paint [**is**] [**may be**] present in buildings and structures to be painted. A report on the presence of lead paint is on file for review and use. Examine report to become aware of locations where lead paint is present.
1. Do not disturb lead paint or items suspected of containing hazardous materials except under procedures specified.
2. Perform preparation for painting of substrates known to include lead paint in accordance with EPA Renovation, Repair and Painting Rule and additional requirements of authorities having jurisdiction.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Product: Subject to compliance with requirements, provide HYPERLINK "https://www.sherwin-williams.com/architects-specifiers-designers/specifications/" Sherwin-Williams Company; products indicated or comparable product from one of the following:
   1. Benjamin Moore Co.

B. Comparable Products: Comparable products of approved manufacturers will be considered in accordance with Section 016000 "Product Requirements," and the following:
1. Products are approved by manufacturer in writing for application specified.
2. Products meet performance and physical characteristics of basis of design product including published ratio of solids by volume, plus or minus two percent.

C. Source Limitations: Obtain paint materials from single source from single listed manufacturer.
1. Manufacturer's designations listed on a separate color schedule are for color reference only and do not indicate prior approval.

2.2 PAINT, GENERAL

A. Material Compatibility:
1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

B. VOC Content: For field applications that are inside the weatherproofing system, paints and coatings shall provide materials that comply with VOC limits of authorities having jurisdiction and for interior paints and coatings applied at Project site, the following VOC limits exclusive of colorants added to a tint base, when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
1. Flat Paints and Coatings: 50 g/L.
2. Nonflat Paints and Coatings: 150 g/L.
3. Primers, Sealers, and Undercoaters: 200 g/L.
4. Anticorrosive and Antirust Paints Applied to Ferrous Metals: 250 g/L.
5. Floor Coatings: 100 g/L.
6. Shellacs, Clear: 730 g/L.
7. Shellacs, Pigmented: 550 g/L.

C. Low-Emitting Materials: Interior paints and coatings shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small Scale Environmental Chambers."

D. Colors: As noted on the drawings.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers. Where acceptability of substrate conditions is in question, apply samples and perform in-situ testing to verify compatibility, adhesion, and film integrity of new paint application.
1. Report, in writing, conditions that may affect application, appearance, or performance of paint.

B. Substrate Conditions:
1. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
   a. Concrete: 12 percent.
   b. Masonry (Clay and CMU): 12 percent.
   c. Wood: 15 percent.
   d. Gypsum Board: 12 percent.
   e. Plaster: 12 percent.
2. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.
3. Plaster Substrates: Verify that plaster is fully cured.
4. Spray-Textured Ceiling Substrates: Verify that surfaces are dry.

C. Proceed with coating application only after unsatisfactory conditions have been corrected; application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Manual" applicable to substrates indicated.

B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.

C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.

D. Concrete Substrates: Remove release agents, curing compounds, efflorescence, and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions.
1. Concrete Floors: Remove oil, dust, grease, dirt, and other foreign materials. Comply with SSPC-SP-13/NACE 6 or ICRI 03732.

E. Masonry Substrates: Remove efflorescence and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces or mortar joints exceed that permitted in manufacturer's written instructions.

F. Steel Substrates: Remove rust, loose mill scale, and shop primer, if any. Clean using methods recommended in writing by paint manufacturer[.] [**but not less than the following**:]
1. SSPC-SP 2, "Hand Tool Cleaning."
2. SSPC-SP 3, "Power Tool Cleaning."
3. SSPC-SP 7/NACE No. 4, "Brush-off Blast Cleaning."
4. SSPC-SP 11, "Power Tool Cleaning to Bare Metal."

G. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.

H. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal fabricated from coil stock by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.

I. Aluminum Substrates: Remove loose surface oxidation.

J. Wood Substrates:
1. Scrape and clean knots, and apply coat of knot sealer before applying primer.
2. Sand surfaces that will be exposed to view, and dust off.
3. Prime edges, ends, faces, undersides, and backsides of wood.
4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.

K. Cotton or Canvas Insulation Covering Substrates: Remove dust, dirt, and other foreign material that might impair bond of paints to substrates.

3.3 APPLICATION

A. Apply paints according to manufacturer's written instructions and to recommendations in "MPI Manual."
1. Use applicators and techniques suited for paint and substrate indicated.
2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.

B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.

C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.

D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

E. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:
1. Paint the following work where exposed in equipment rooms:
   a. Equipment, including panelboards[**and switch gear**].
   b. Uninsulated metal piping.
   c. Uninsulated plastic piping.
   d. Pipe hangers and supports.
   e. Metal conduit.
   f. Plastic conduit.
   g. Tanks that do not have factory-applied final finishes.
   h. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
2. Paint the following work where exposed in occupied spaces:
   a. Equipment, including panelboards.
   b. Uninsulated metal piping.
   c. Uninsulated plastic piping.
   d. Pipe hangers and supports.
   e. Metal conduit.
   f. Plastic conduit.
   g. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
   h. Other items as directed by Architect.
3. Paint portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets that are visible from occupied spaces.

3.4 FIELD QUALITY CONTROL

A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.
1. Contractor shall touch up and restore painted surfaces damaged by testing.
2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 INTERIOR PAINTING SCHEDULE

A. Concrete Substrates, Nontraffic Surfaces:
1. Latex System:
   a. Prime Coat: Primer, latex, interior.
      1) S-W Loxon Concrete & Masonry Primer Sealer, A24W8300, at 8.0 mils wet, 3.2 mils dry.
   b. Intermediate Coat: Latex, interior, matching topcoat.
   c. Topcoat: Latex, interior, eggshell.
      1) S-W ProMar 200 Zero VOC Latex Eg-Shel, B20-2600 Series, at 4.0 mils wet, 1.7 mils dry, per coat .

B. Metal Substrates (Aluminum, Steel, Galvanized Steel):
1. Latex System:
   a. Prime Coat: Primer, rust-inhibitive, water based:
      1) S-W Pro Industrial Pro-Cryl Universal Primer, B66-310 Series, at 5.0 to 10 mils wet, 2.0 to 4.0 mils dry.
   b. Intermediate Coat: Water-based acrylic, interior, matching topcoat.
   c. Topcoat: Water-based acrylic, semi-gloss:
      1) S-W Pro Industrial Acrylic Semi-Gloss Coating, B66-650 Series, at 2.5 to 4.0 mils dry, per coat.

C. Wood Substrates: Including exposed wood items not indicated to receive shop-applied finish.
1. Latex System:
   a. Prime Coat: Primer sealer, latex, interior:
      1) S-W PrepRite ProBlock Primer Sealer, B51-620 Series, at 4.0 mils wet, 1.4 mils dry.
   b. Intermediate Coat: Latex, interior, matching topcoat.
   c. Topcoat: Latex, interior, semi-gloss:
      1) S-W ProMar 200 Zero VOC Latex Semi-Gloss, B31-2600 Series, at 4.0 mils wet, 1.6 mils dry, per coat.

D. Gypsum Board and Spray-Texture Ceiling] Substrates:
1. Latex System:
   a. Prime Coat: Primer, latex, interior:
      1) S-W ProMar 200 Zero VOC Latex Primer, B28W2600, at 4.0 mils wet, 1.0 mils dry.
   b. Intermediate Coat: Latex, interior, matching topcoat.
   c. Topcoat: Latex, interior, flat:
      1) S-W ProMar 200 Zero VOC Latex Flat, B30-2600 Series, at 4.0 mils wet, 1.6 mils dry, per coat.
   d. Topcoat: Latex, interior, low sheen:
      1) S-W ProMar 200 Zero VOC Latex Low Sheen Enamel, B24-2600 Series, at 4.0 mils wet, 1.6 mils dry, per coat.
   e. Topcoat: Latex, interior, eggshell:
      1) S-W ProMar 200 Zero VOC Latex Eg-Shel, B20-2600 Series, at 4.0 mils wet, 1.7 mils dry, per coat.
   f. Topcoat: Latex, interior, semi-gloss:
      1) S-W ProMar 200 Zero VOC Latex Semi-Gloss, B31-2600 Series, at 4.0 mils wet, 1.6 mils dry, per coat.

SECTION 09986 - FRP

PART 1 - GENERAL

1. Install FRP (Fiberglass Reinforced Panels) as called for on the drawings.

PART 2 - PRODUCTS

1. FRP: Panel shall be 4' x 8' x 3/32" pebble surface fiberglass reinforced panel. Adhesive as required by manufacturer or install over gypsum board as shown on plans in accordance with manufacturer's instructions.
   a. Class 'A' fire rated FRP panels to be used where local codes require. Marlite, Kemlite or equal acceptable.
   b. All exposed edges of FRP panels to be finished with vinyl molding equal to #390/square cap strip by Mercer Plastics Company, Inc.
   c. olor per Interior Color Schedule.
2. Moldings: Shall match corresponding wall panel as furnished by panel manufacturer. Moldings shall include those necessary for a complete workmanlike finish including inside corners, outside corners, divider bars and end stops. End stops (panel abutment moldings) are to be used between panels of different thickness and at gypsum board ceilings.

PART 3 - EXECUTION

1. Install as per manufacturer's directions and as indicated on Finish Schedule.
2. Before proceeding with work, obtain exact dimensions as required for an accurate fit.
3. The installer must examine the substrate to which the product will be applied and the conditions under which the work will be performed. Notify the Contractor in writing of any unsatisfactory condition. Do not proceed until the unacceptable condition is corrected.
4. Install panels level, plumb and true with no distortions. Shim as required using concealed shims. Before making cut- outs, drill pilot holes in all corners. Center panels to minimize seams and waste.
5. Seal all joints between FRP and trim with clear silicone sealant or silicone sealant colored to match panels.

DIVISION 10 - SPECIALTIES

SECTION 10350 - FLAGPOLE

PART 1 - GENERAL

1. Flagpole shall be Contractor furnished and installed per manufacturer's instructions and in accordance with the Soils Report.
2. Flagpole shall be as specified on the Architectural Site Plan. one-piece aluminum with spun satin finish. Provide with all hardware: ground sleeve, flash collar, cleat, halyard, snaphooks, stationary truck and ball.
3. If wind speed as specified on structural drawings exceeds 100mph, provide a "high wind speed" flagpole.

SECTION 10400 - IDENTIFYING DEVICES

PART 1 - GENERAL

1. Coming Soon Sign- Contractor shall coordinate with LOCAL sign vendor, approved by owner, to install a Coming Soon Sign. Sign shall be placed in a high visibility location as approved by owner. Sign shall be placed at the beginning of construction and remain in place (if code allows) until acceptance of building at which time contractor shall remove the sign. Contractor shall apply and pay for any necessary sign permits and shall pay for the purchase and installation of the sign. An allowance of two thousand dollars ($2,000) shall be included in the bid breakdown under SITEWORK. Owner will provide contractor with Primrose approved artwork to give to LOCAL sign vendor. If code requires artwork to change then Primrose will assist owner and contractor in obtaining code required artwork. Contractor shall submit final artwork to Owner and Primrose for approval.
2. Standard Monument Sign: Contractor will be responsible for providing sign and lights for proposed sign location (coordinate location with sign company). Contractor shall apply for and pay for any necessary sign permit from local jurisdiction authority, as required. Contractor responsible for base construction, permitting, sign purchase and installation.
3. Building Signs: Round logo sign shall be Contractor furnished and installed from the supplier designated by Primrose. Contractor shall be responsible, as of paragraph two (2) per this section, for obtaining any permit, as required. Contractor shall provide any wood trim required.
4. Interior Door Signs: As indicated on drawings and room signage will be Provide all traffic control devices required by fire authorities and ADA.
5. The required Primrose sign vendor is listed below. See A2.0 & AS1.3 for additional information.

   Michael Martin - One Hour Signs Inc.
   4011 Canton Rd.
   Marietta, GA 30066
   770-591-1111 X4
   michael@onehoursigns.com

SECTION 10520 - FIRE EXTINGUISHERS

PART 1 - GENERAL

1. Standard Fire Extinguishers: Multi-Purpose dry chemical, 5 pound multi purpose dry chemical 2-A, 10-BC, complete with wall mounting brackets by the Ansul Company or equal.
2. Mounting height to be 48" MAX A.F.F. to highest operable part. Number and location as noted on the Plans, Contractor to coordinate number and locations with local Fire Authority.
3. In corridor furnish semi-recessed fire extinguisher cabinet mounted 48" MAX A.F.F. to highest operable part. Location as noted on the plans. Cabinet shall be Larsen Model #AL2409-R3 with clear tempered safety glass, or approved equal. Install per manufacturer's instructions.
4. Kitchen Fire Extinguisher: To be type "K", twenty (20) pounds, by Ansul Company or equal. Coordinate size and location with local Fire Authority.
5. Provide knox-box key holder at Door #1 in accordance with fire authorities regulations.
6. Provide adequate blocking in walls to mount extinguishers.

SECTION 10800 - TOILET AND BATH ACCESSORIES

PART 1 - GENERAL

1. Blocking: Provide adequate blocking in walls for all grab bars and other items, as required.

PART 2 - PRODUCTS

1. Mirrors: Twenty-four (24) inches wide by thirty-six (36) inches high located at each wall hung lavatory. Mirror shall have stainless steel channel frame of not less than 20-gauge, with square corners carefully mitered to hairline joints and mechanically interlocked. Provide No. 430 bright polished finish. Mirrors at classroom vanities and **above change tables** are special sizes and shall be safety mirrors cut to size and installed per manufacturer's instructions.
2. Grab Bars: Bobrick B-6806 size and length per plan to be located per plans at accessible toilets. Verify compliance with state and local codes.
3. Paper Towel Dispensers: As furnished by Owner, G.C. shall install as shown on plans and at a minimum at each children's vanity, changing table, one in kitchen, and one at each lavatory inside a toilet room.
4. Toilet Paper Holders: As furnished by Owner, G.C. shall install so that one is accessible from each toilet. Mounting heights as shown on the Architectural Plans.

PART 3 - EXECUTION

1. Install all accessories neatly and securely. Use concealed fasteners whenever possible. Provide anchors, bolts, and other accessories securely in locations as shown or specified. Exposed mounting devices finish shall match accessory finish.

DIVISION 11 - EQUIPMENT

SECTION 11400 - KITCHEN & LAUNDRY EQUIPMENT

PART 1 - GENERAL

1. Provide and install the equipment listed on sheet A5.2.
2. The preferred supplier (not required) is:
   Mark Fallon - National Accounts
   Tundra Specialties
   Direct Ph: (303) 440-4142 x7180
   mfallon@etundra.com
   www.etundra.com

   Boelter
   Rusty Staggs
   Phone: 937-409-4955
   E-Mail: rstaggs@boelter.com

www.etundra.com

1. Install in accordance with manufacturer's instructions. Securely anchor units to counters or cabinetry with concealed fasteners. Verify clearances are adequate for proper functioning, and that rough openings are completely concealed.
2. Place freestanding equipment after all finishes are in place. Verify clearances are adequate for proper operation.
3. Verify all power and utility connections and coordinate all trades prior to rough-in.
4. Verify all accessory items have been provided.

Remove all packing material and leave units clean, ready to operate.

DIVISION 12 - FURNISHINGS

SECTION 12510 - BLINDS

PART 1 - GENERAL

1. Provide window shades on all exterior windows. Window shades to be as indicated in Interior Finish Legend, or approved equal.
2. Install blinds in accordance with manufacturer's instructions.
   SWF Contract Shading Systems:
   Michelle Dye (Territory Sales Manager)
   Tel: 614-563-2142
   michelle.dye@SWFcontract.com

   inpro Architectural Products
   Kevin Macoubrie (Sales Representative)
   Office: 800-222-5556 x5290
   kmacoubrie@inprocorp.com

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CASCO
CASCO DIVERSIFIED CORPORATION
12 Sunwest Drive, Suite 100, St. Louis, MO 63141 T: 314-821-1300

PRIMROSE SCHOOLS

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3200 WINDY HILL ROAD, SUITE 1200 E
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CONSTR. DOC. & REVISIONS

No.	Description	Date
1	FOR CONSTRUCTION	04/06/23

JAMES A. SCHMITT
REGISTERED ARCHITECT
AGRICULTURE COMMERCE
No. 102092
STATE OF TENNESSEE
04/06/23

Professional of Record:
JAMES A. SCHMITT
LICENSE NO: 102092
EXP. DATE: 08/31/24

Drawn/Checked	MS / DSC
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

SPECIFICATIONS

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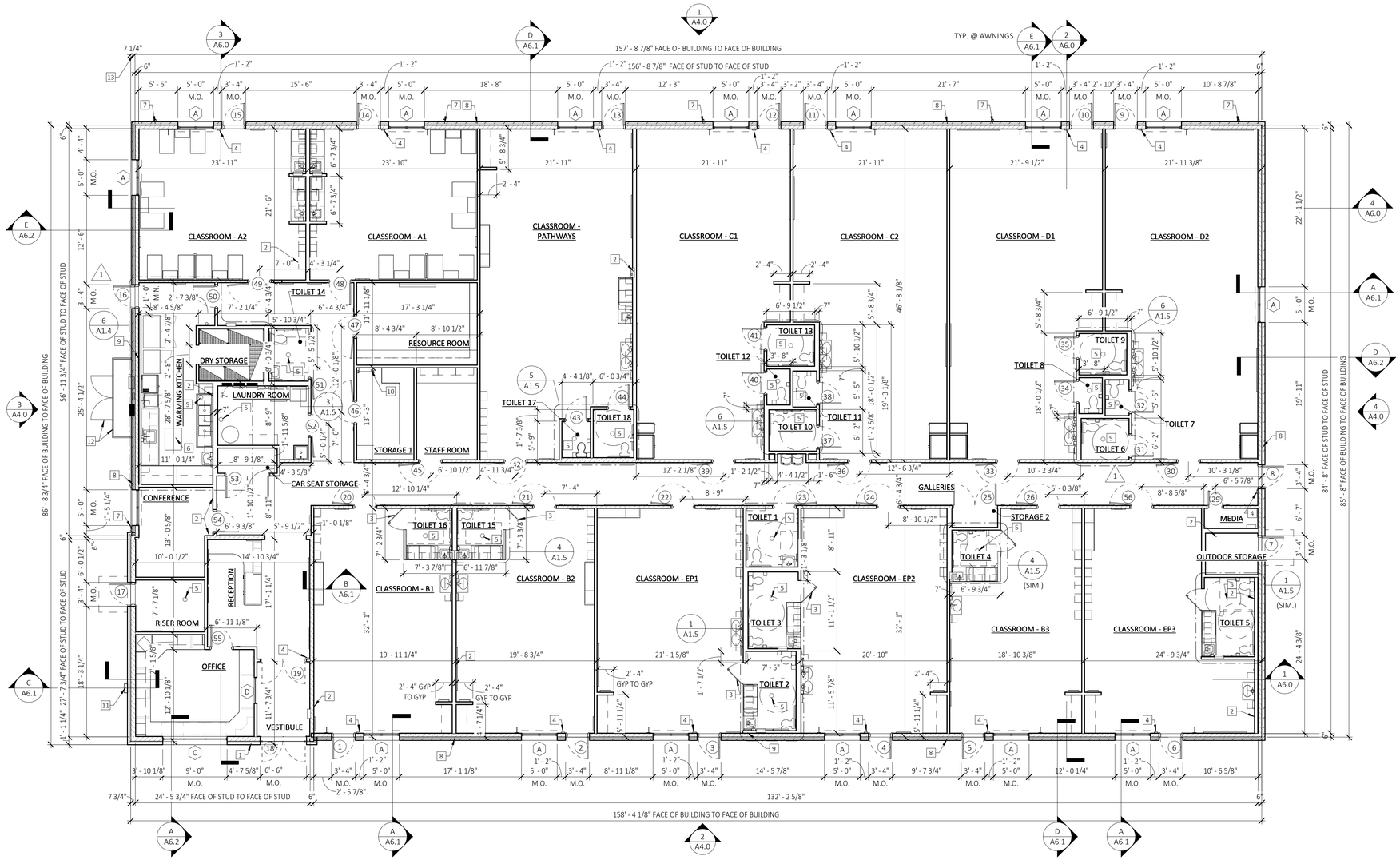

NORTH

FLOOR PLAN

SCALE: 1/8" = 1'-0"

FLOOR PLAN LEGEND

- EXTERIOR SHEAR/BEARING WALL (ENTRY TOWER EXTERIOR WALLS): STONE VENEER WITH BRICK SOLDIER COURSE AND HARDIE BOARD AND BATTEN SIDING ON 2X8 WOOD STUDS @ 16" O.C. WITH EXTERIOR SHEATHING AND 5/8" GYPSUM BOARD ON INTERIOR - SEE EXTERIOR ELEVATIONS AND STRUCTURAL DRAWINGS.
- EXTERIOR SHEAR/BEARING WALL (MAIN BLDG EXTERIOR WALLS): BRICK AND STONE VENEER ANCHORED EVERY 16" MAX. HORIZ. & VERT. ON 2X6 WOOD STUDS @ 16" O.C. WITH EXTERIOR SHEATHING AND 5/8" GYPSUM BOARD ON INTERIOR - SEE EXTERIOR ELEVATIONS AND STRUCTURAL DRAWINGS.
- TYPICAL INTERIOR BEARING WALL: 2X4 OR 2X6 WOOD STUDS @ 16" O.C. (MAX.) TO BOTTOM OF ROOF TRUSSES. PROVIDE 5/8" GYPSUM BOARD BOTH SIDES - SEE STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
- TYPICAL INTERIOR WALL: 2X4 WOOD STUDS @ 16" O.C. TO BE FRAMED 1" BELOW BOTTOM CHORD OF TRUSS, THEY SHALL BE ATTACHED WITH SIMPSON STC ROOF TRUSS CLIP TO ALLOW FOR VERTICAL MOVEMENT WHEN LOADS ARE APPLIED. SIMPSON STRONG-TIE SHALL BE PLACED EVERY 48" O.C.. WALL IS TO HAVE 5/8" GYPSUM BOARD ON BOTH SIDES - SEE DETAILS.
- TYPICAL INTERIOR HALF WALL: 2X4 WOOD STUDS @ 16" O.C. WITH 5/8" GYPSUM BOARD ON BOTH SIDES. SEE DETAILS **7 AND 8/A2.4**
- 00 DOOR TAG, SEE DOOR SCHEDULE.
- 1t WINDOW TAG, SEE WINDOW LEGEND.

NOTES:
1. NOMINAL DIMENSIONS ARE TO FACE OF STUD.
2. PROVIDE DOUBLE 2X4 WOOD STUD WALLS BEHIND ALL TOILETS, AT ELECTRICAL PANELS AND WALL BETWEEN LAUNDRY AND KITCHEN.

FLOOR PLAN KEYED NOTES

1. PROVIDE A KNOX BOX NEAR THE FRONT ENTERNCE FOR FIRE DEPT. ACCESS. COORDINATE WITH LOCAL FIRE OFFICIAL.
2. 2 X 6 STUD WALL
3. HALF HEIGHT GATE, PART OF MILLWORK PACKAGE. SEE DETAIL 7/A2.4
4. PROVIDE TACTILE EXIT SIGN AT LATCH SIDE OF EXIT DOOR
5. FLOOR DRAIN, SEE PLUMBING
6. GREASE TRAP, SEE PLUMBING
7. DOWNSPOUT. SEE EXTERIOR ELEVATIONS FOR EXACT LOCATION. COORDINATE WITH CIVIL DRAWINGS FOR UNDERGROUND PIPING CONNECTIONS (TYP.)
8. HOSE BIBB. SEE PLUMBING DRAWINGS. COORDINATE WITH INTERIOR WALL.
9. PROVIDE AN ADDITIONAL 2 X 4 STUD WALL AT INTERIOR SIDE OF THE EXTERIOR WALL. BOTH STUD SPACES ARE TO BE FULLY INSULATED. PIPING SHOULD ONLY BE PLACED IN THE INSULATED INTERIOR WALL.
10. ROOF ACCESS LADDER. CENTER LADDER ON ROOF HATCH ABOVE. SEE DETAIL 1/A2.4
11. LOCATION OF GAS METER, SEE MECHANICAL AND PLUMBING DRAWINGS
12. 4'-0" HIGH SOLID VINYL FENCE WITH (2) 3'-0" WIDE GATES
13. REFER TO OFFSET OF WALL AT ENTRY FOR OVERALL DIMENSION COMPARISON

GENERAL FLOOR PLAN NOTES

1. ALL INTERIOR DIMENSIONS ARE TO FACE OF STUDS, UNLESS NOTED OTHERWISE.
2. ALL EXTERIOR DIMENSIONS ARE TO THE FACE OF STUD OR ROUGH OPENING, UNLESS NOTED OTHERWISE.
3. PROVIDE BLOCKING IN WALL BEHIND ALL WALL MOUNTED FIXTURES & CASEWORK (TYPICAL).
4. CONTROLS AND OPERATING MECHANISMS:
   CONTROLS SPECIFICALLY INTENDED FOR ADULTS SUCH AS INTERCOMS, THERMOSTATS, ETC, SHALL BE MOUNTED AT 48" A.F.F. TO THE OPERATING PARTS. CONTROLS SUCH AS LIGHT SWITCHES, ALARM CONTROLS, SHALL BE MOUNTED AT 48" A.F.F. TO THE OPERATING PARTS. VERIFY WITH OWNER BEFORE INSTALLING CONTROLS.
5. SECURITY SYSTEM NOTES:
   A. THIS IS A REQUIRED SYSTEM. THE CONTRACTOR IS RESPONSIBLE FOR HIRING A LICENSED SECURITY FIRM FOR THEIR SCHOOL.
   B. SECURITY SYSTEM SUBCONTRACTOR TO SEAL ALL WIRING PENETRATIONS FOR SECURITY SYSTEM AT POINTS OF CONTACT.
6. BUILDING ADDRESS MUST BE VISIBLE FROM THE STREET. NUMBER HEIGHT A MINIMUM OF 6" FOR UP TO 50' DISTANCE, THEN LETTERS SHALL BE AN ADDITIONAL 1" TALLER PER EACH ADDITIONAL 10'-0" OF DISTANCE.
7. THERE ARE NO RECEPTACLES IN ANY OF THE TOILET ROOMS.
8. HOLD DOORS 4" FROM WALLS UNLESS NOTED OTHERWISE
9. G.C. SHALL CONFIRM EXACT QUANTITY & LOCATION OF SOAP AND PAPER TOWEL DISPENSERS WITH FRANCHISE OWNER PRIOR TO ORDERING.
10. ALL PARTITIONS EXTEND TO UNDERSIDE OF ROOF TRUSSES, UNLESS NOTED OTHERWISE, REFER TO BUILDING SECTIONS FOR ADDITIONAL INFORMATION.
11. REFER TO REFLECTED CEILING PLAN FOR LOCATION OF SOUND BATTS.
12. ALL DOWNSPOUTS ARE TO BE ROUTED TO UNDERGROUND STORM DRAIN SYSTEM.
13. ALL INTERIOR WALLS ARE 2X4s WITH 5/8" GYPSUM BOARD EACH SIDE, UNLESS NOTED OTHERWISE.
14. MOISTURE RESISTANT GYPSUM BOARD REQUIRED IN TOILET ROOMS, KITCHEN, AT WATER COOLERS AND LAUNDRY ROOM.
15. JOINT ALONG PERIMETER OF BUILDING AT ADJOINING FLATWORK SHALL BE SEALED.
16. MINIMUM R-VALUES:
   EXTERIOR WALLS = R-19 KRAFT FACED
   ROOF = R-38 (SEE SPECIFICATIONS)

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ATLANTA, GEORGIA 30339-5640

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CONSTR. DOC. & REVISIONS

No.	Description	Date
1	POST BID ADD 1 - CODE RESP. / FO REVISIONS	11/10/22

JAMES A. SCHMITT
REGISTERED ARCHITECT
AGRICULTURE COMMERCE
NO. 102092
STATE OF TENNESSEE
04/06/23

Professional of Record:
JAMES A. SCHMITT
LICENSE NO: 102092
EXP. DATE: 08/31/24

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Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

FLOOR PLAN

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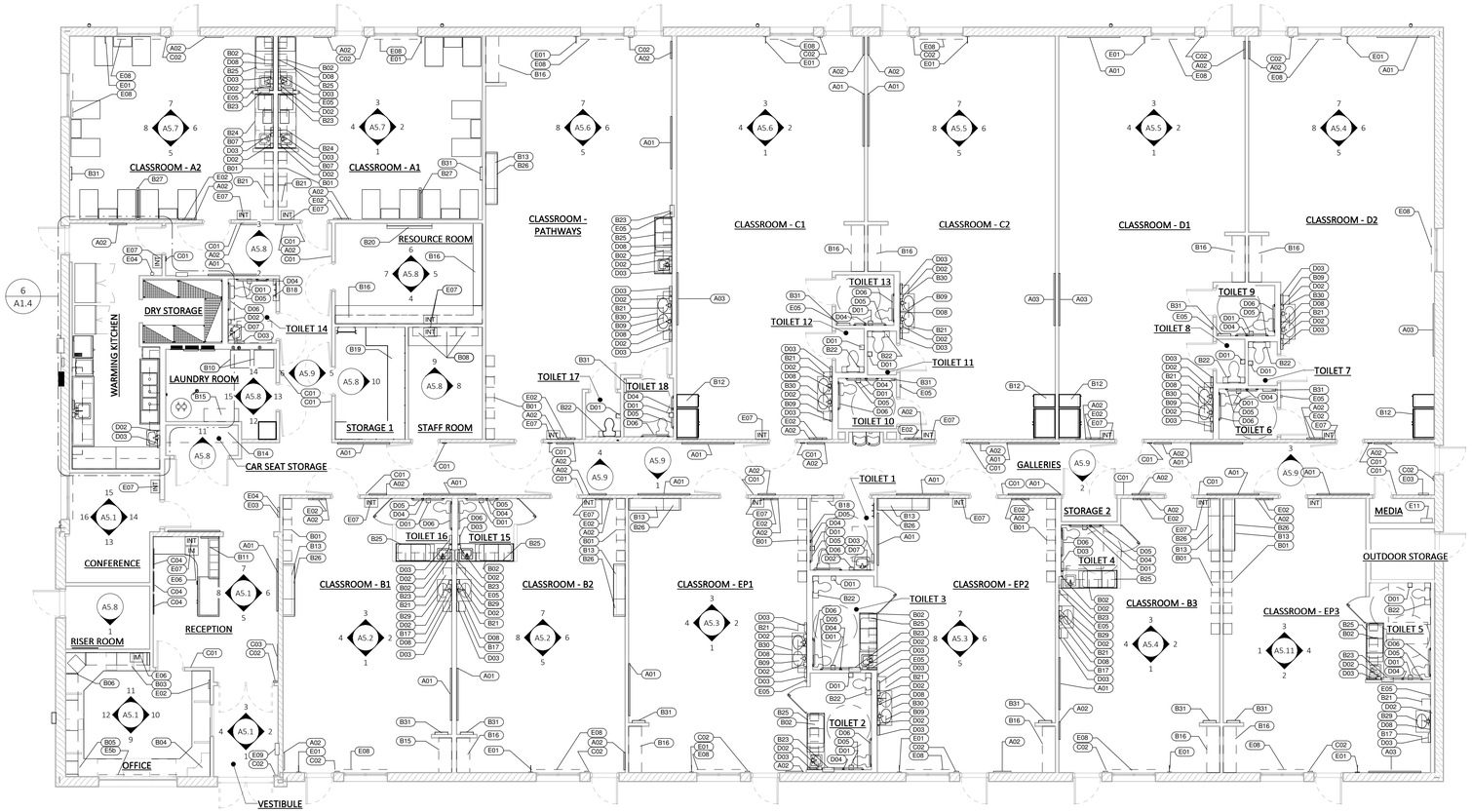

NORTH

1 A1.2 CASEWORK/EQUIPMENT PLAN

SCALE: 1/8" = 1'-0"

ACCESSORY GENERAL NOTES

1. PROVIDE COAT HOOKS IN ALL CLASSROOMS @ 12" O.C. MOUNTED @ CENTER OF CHAIR RAIL. (SEE LS1.0 FOR QUANTITIES). PROVIDE COAT HOOK MOUNTED @ 4'-0" IN ADULT TOILET ROOMS (1, & 14).
2. THE GENERAL CONTRACTOR SHALL FASTEN ALL ITEMS WITH APPROVED FASTENERS, ETC. AND MISC. ITEMS WHICH THE OWER NEEDS TO HAVE PERMANENTLY ATTACHED TO WALLS OR FLAT SURFACES.
3. SEE INTERIOR ELEVATIONS FOR ANY ADDITIONAL CASEWORK OR EQUIPMENT NOT SHOWN OR NOTED ON THIS PLAN.
4. CONTRACTOR SHALL COORDINATE ALL TRADES TO ENSURE THERE ARE NO OUTLETS, INTERCOMS, SSWITCHES,THERMOSTATS, ETC. LOCATED BEHIND AND BULLETIN BOARD LOCATIONS.
5. PROVIDE AND PAY FOR THREE PULLS FOR A 10 YARD DUMPSTER FOR DISPOSAL OF TRASH GENERATED BY THE INSTALLATION OF THE OWNER'S FF&E.
6. SECURE ONE TRIM CARPENTER/PUNCH PERSONFOR 1 WEEEK/40 HOURS TO ASSIST WITH FF&E INSTALLATION.
7. REFER TO ENLARGED TOILET ROOM PLANS AND TOILET ROOM ELEVATIONS FOR TOILET ROOM ACCESSORIES.

ACCESSORY SCHEDULE

	ITEM	OWNER FURNISHED	OWNER INSTALLED	CONTRACTOR FURNISHED	CONTRACTOR INSTALLED
"A" DISPLAY BOARDS					
A01	6'W x 4'H BULLETIN BOARD. SET BOT. @ 3" ABOVE CHAIR RAIL.	O			O
A02	2'W x 3'H BULLETIN BOARD. SET BOT. @ 3" ABOVE CHAIR RAIL.	O			O
A03	6'W x 4'H WHITE BOARD. SET BOT. @ 3" ABOVE CHAIR RAIL.	O			O
"B" SHELVING/CUBBIES/CABINETS					
				O	O
B01	CUBBIES, SEE ELEVATIONS FOR QUANTITY			O	O
B02	CUBBIES ABOVE CHANGE TABLE			O	O
B03	16" DEEP X 3'-6"W X 3'-6"H SURFACED MOUNTED			O	O
B04	16" DEEP x 3'-0"W x 3'-6"H CORNER CABINET			O	O
B05	16" DEEP X 1'-6"W X 3'-6"H SURFACE MOUNTED			O	O
B06	16" DEEP X 1'-3"W X 3'-6"T SURFACE MOUNTED			O	O
B07				O	O
B08	12" DEEP X 2'-6"W X 3'-3"T WALL CABINET			O	O
B09	12" DEEP X 3'-0"W X 3'-0"T WALL CABINET			O	O
B10	STACKED WASHER AND DRYER			O	O
B11	RECEPTION DESK CABINETS			O	O
B12	30" X 40" CURRICULUM CABINET				
B13	16" DEEP X 4' LONG WALL CABINET			O	O
B14	CAR SEAT STORAGE SHELVING			O	O
B15	24"D x 36"L ADJ. WD SHELVES W/ 1'-6" L STANDARDS			O	O
B16	18"DEEP ADJUSTABLE WOOD SHELVES, SEE ELEVATIONS			O	O
B17	12" DEEP X 3'-0"W X 3'-0"T SURFACE MOUNTED			O	O
B18	8" DEEP X 2'-6"W X 3'-0" SEMI - RECESSED			O	O
B19	STORAGE ROOM SHELVING			O	O
B20	PAPER ROLL HOLDER			O	O
B21	12" DEEP X 2'-6" LONG WOOD SHELF			O	O
B22	8" DEEP X 2'-6"W X 3'-0" SURFACE MOUNTED			O	O
B23	2'-0"H X 1'-4"W X 6"D DISINFECTANT CABINETS			O	O
B24	KITCHENETTE BASE CABINETS			O	O
B25	BABY CHANGING TABLE WITH SNEEZE GUARDS			O	O
B26	"PUT DOWN" COUNTER			O	O
B27	INFANT PARTITION			O	O
B29	SINGLE LAVATORY			O	O
B30	DOUBLE LAVATORY			O	O
B31	RECESSED BROOM CLOSET, SEE DETAIL 19/A2.3. (OPTIONAL - CHECK WITH OWNER PRIOR TO ORDERING)			O	O
"C" SIGNS & BANNERS					
C01	ROOM NAME SIGN			O	O
C02	TACTILE EXIT SIGN 6" X 6"			O	O
C03	GENERAL LICENESES	O			O
C04	PICTURES	O			O
"D" TOILET ACCESSORIES & MIRRORS					
D01	TOILET TISSUE DISPENSER	O			O
D02	SURFACE MOUNTED SOAP DISPENSER, SEE INTERIOR ELEVATIONS	O			O
D03	SURFACE MOUNTED PAPER TOWEL DISPENSER, SEE INTERIOR ELEVATION	O			O
D04	24" GRAB BAR. SEE ELEVATION			O	O
D05	42" GRAB BAR. SEE ELEVATION.			O	O
D06	36" GRAB BAR. SEE ELEVATION.			O	O
D07	24" X 36" RESTROOM MIRROR			O	O
D08	SAFETY MIRROR CUT TO FIT			O	O
"E" MISCELLANEOUS					
E01	FLAGMOUNT	O			O
E02	WALL CLOCK MOUNTED 15" BELOW CEILING			O	O
E03	SEMI RECESSED FIRE EXTINGUISHER CABINET & FIRE EXTINGISHER			O	O
E04	SURFACE MOUNTED FIRE EXTINGUISHER			O	O
E05	AIR FRESHENER MOUNTED 90" TO TOP	O			O
E06	INTERCOM MASTER PANEL			O	O
E07	INTERCOM			O	O
E08	WINDOW COVERINGS			O	O
E09	FIRE ALARM ANNUNCIATOR PANEL			O	O
E10	FIRE ALARM CONTROL PANEL			O	O
E11	SECURITY SYSTEM PANEL			O	O

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04/06/23

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CASEWORK & EQUIPMENT PLAN

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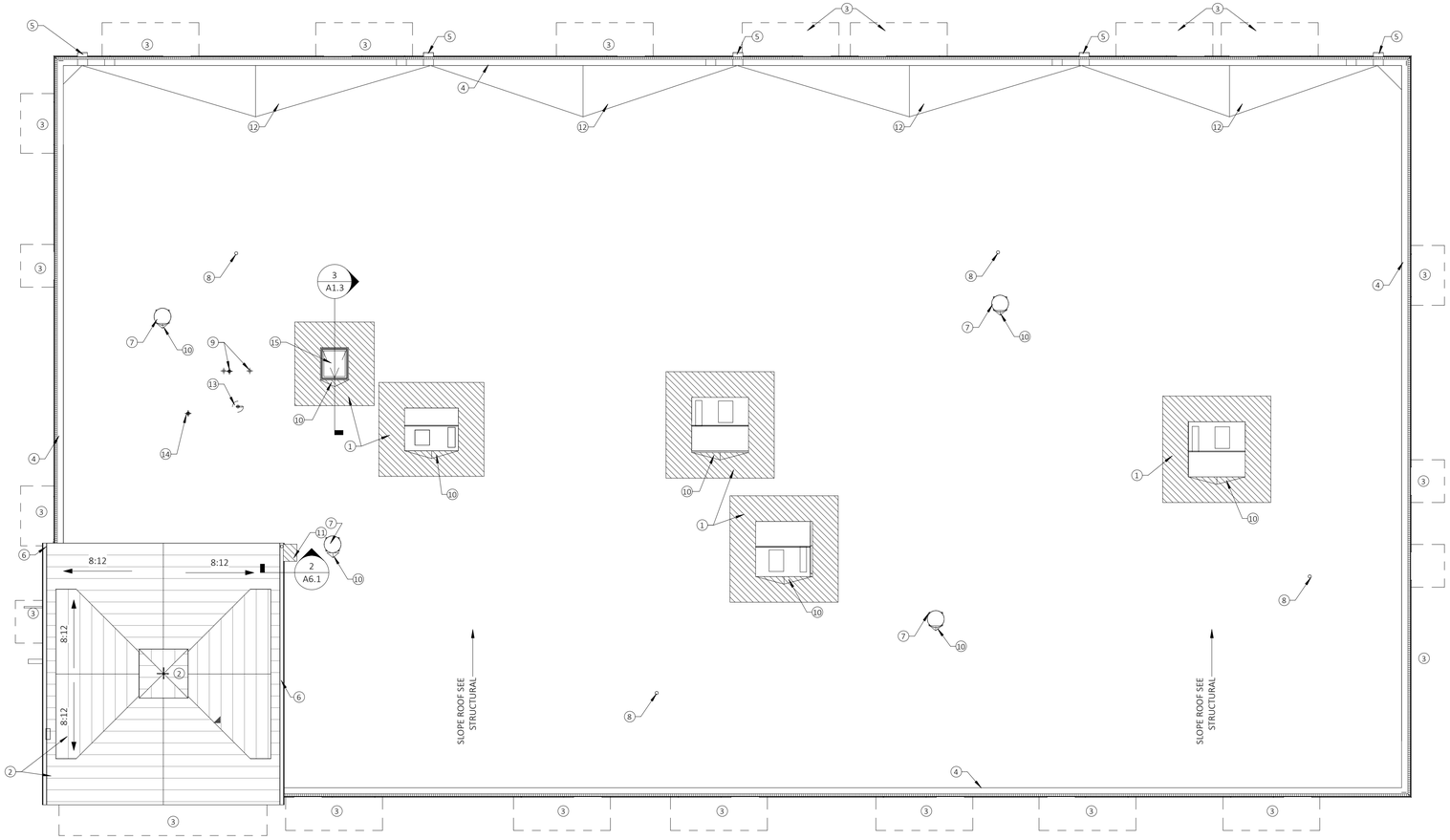


1 A1.3 ROOF PLAN

SCALE: 1/8" = 1'-0"

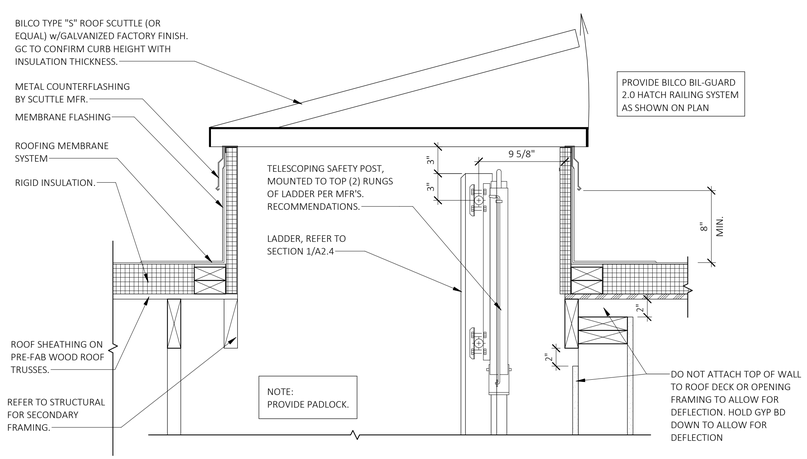
NORTH

GENERAL ROOF PLAN NOTES

1. ALL ROOF MOUNTED EQUIPMENT SHALL BE PAINTED TO MATCH ROOF COLOR.
2. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION
3. VERIFY LOCATIONS OF ALL ROOF PARAMETERS WITH STRUCTURAL, PLUMBING, MECHANICAL, AND ARCHITECTURAL DRAWINGS.
4. ALL EQUIPMENT ON ROOF TO BE MOUNTED ON CURBS.
5. EXHAUST FANS AND VENTS TO BE LOCATED A MINIMUM OF 10'-0" FROM A.C. INTAKE AND A MIN. OF 5'-0" FROM PARAPET WALLS. VERIFY ALL LOCATIONS WITH PLUMBING AND MECHANICAL DRAWINGS.
6. ALL ROOF PENETRATIONS TO BE SEALED BY A GENERAL CONTRACTOR.
7. SEE MECHANICAL/PLUMBING DRAWINGS FOR ADDITIONAL NOTES, DETAILS, VENTS, ETC.
8. MECHANICAL SUB-CONSTRACTOR TO COORDINATE INSTALLATION AND ACCEPTANCE OF PRE-FABRICATED CURBS AND PENETRATIONS WITH ROOF MEMBRANE SUB-COTNRACTOR. GENERAL CONTRACTOR TO PROVIDE BLOCKING, NAILING, ETC. AS NECESSARY FOR A WATERTIGHT AND WATERPROOF BUILDING.
9. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO VERIFY, COORDINATE, AND/OR INSTALL ALL ADJACENT AND/OR RELATED FLASHING, BLOCKING, NAILERS, INSULATION STOPS, CRICKETS, ETC. NECESSARY FOR THE COMPLETE INSTALLATION OF THE ROOF MEMBRANE WHICH ARE REQUIRED FOR A COMPLETE WARRANTED, WATERTIGHT, AND WATERPROOF INSTALLATION.
10. ALL ROOF PENETRATIONS REQUIRE PRESSURE TRATED 2 X 6 WOOD BLOCKING AT INSULATION AROUND ENTIRE PERIMETER OF OPENING FOR FLASHING ATTACHMENT IN ACCORDANCE W/ SELECTED ROOF TYPE.
11. GAS PIPING ON ROOF TO BE PAINTED: YELLOW, UNLESS PROHIBITED BY SPECIFIC JOB CONDITIONS. IF THIS OCCURS, VERIFY PAINT COLOR W/ OWNER'S PREPRESENTATIVE PRIOR TO PAINTING.
12. DO NOT ATTACH 4 X 4 WOOD SLEEPERS TO DECK FOR SUPPORT OF GAS PIPING. PROVIDE MEMBRANE-ROOFING PADS BELOW SLEEPERS.

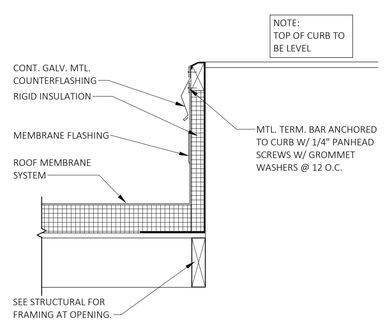
ROOF PLAN KEYED NOTES

1 3'-0" PVC WALK PAD AT RTU OR ROOF HATCH.
2 STANDING SEAM METAL ROOF. REFER TO EXTERIOR ELEVATIONS FOR COLOR.
3 METAL AWNING BELOW. REFER TO EXTERIOR ELEVATIONS FOR COLOR.
4 METAL PARAPET COPING. SEE EXTERIOR ELEVATIONS FOR COLOR.
5 METAL SCUPPER BOX AND DOWNSPOUT. REFER TO EXTERIOR ELEVATIONS AND SECTIONS.
6 ALUMINUM GUTTER. SEE EXTERIOR ELEVATIONS FOR COLOR.
7 EXHAUST FAN. REFER TO MECHANICAL DRAWINGS.
8 PLUMBING VENT. REFER TO PLUMBING DRAWINGS.
9 DRYER VENT. REFER TO MECHANICAL DRAWINGS.
10 BUILT-UP TAPERED RIGID INSULATION CRICKET, TYPICAL.
11 AT DOWNSPOUT, PROVIDE 24" X 24" WALK PAD AS SPLASH BLOCK
12 BUILT-UP TAPERED RIGID INSULATION CRICKET. HOLD 4" (MAX) ABOVE PRIMARY DRAIN ELEVATION.
13 HOSE BIBB. REFER TO PLUMBING DRAWINGS.
14 WATER HEATER CONCENTRIC VENT. REFER TO PLUMBING DRAWINGS.
15 30" x 36" ROOF HATCH, SEE 3/A1.3



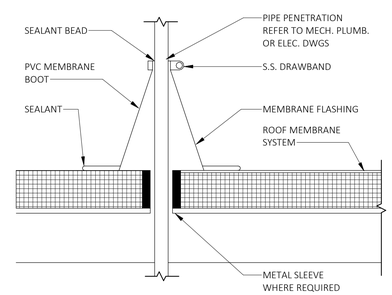
3 A1.3 DETAIL @ ROOF HATCH

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



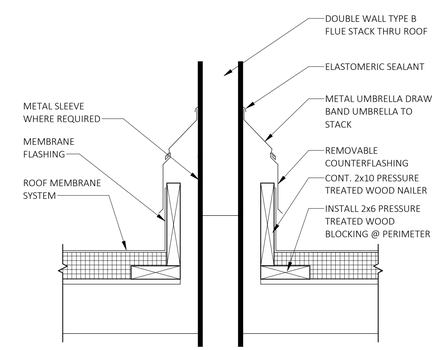
4 A1.3 DETAIL @ RTU CURB

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



5 A1.3 DETAIL @ PIPE PENETRATION

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



6 A1.3 DETAIL @ FLUE PENETRATION

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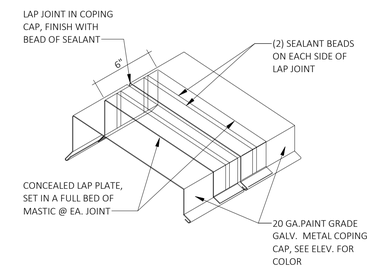

2 A1.3 TYP. COPING LAP JOINT

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

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ROOF PLAN

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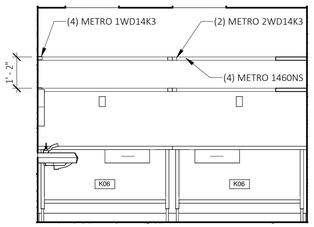
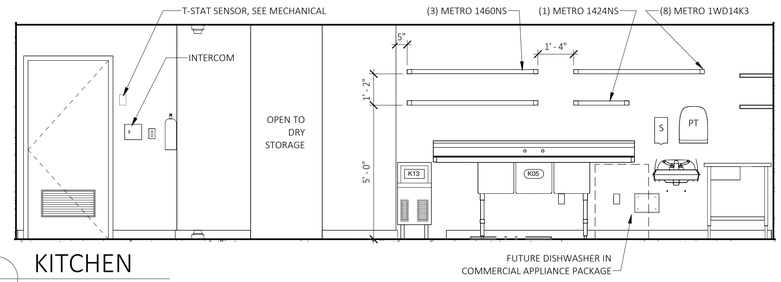


1 A1.4 KITCHEN
SCALE: 3/8" = 1'-0"



2 A1.4 KITCHEN
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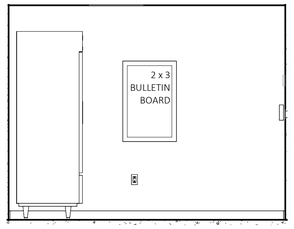
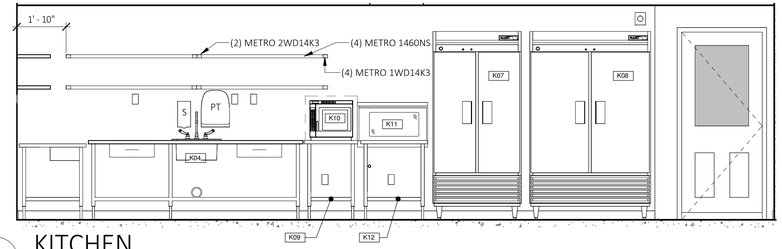
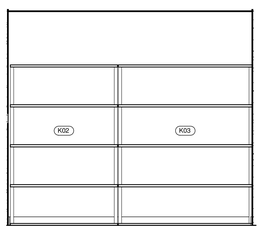


3 A1.4 KITCHEN
SCALE: 3/8" = 1'-0"

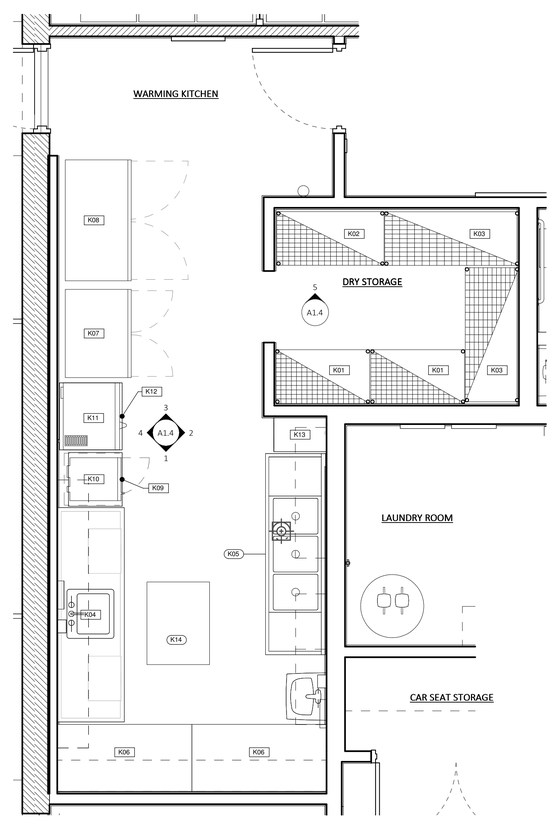


4 A1.4 KITCHEN
SCALE: 3/8" = 1'-0"



5 A1.4 DRY STORAGE
SCALE: 3/8" = 1'-0"

PROVIDE WALL BLOCKING FOR ALL WALL HUNG SHELVING & EQUIPMENT. METRO IS BASIS OF DESIGN. EQUAL NSF PRODUCTS ACCEPTABLE.



NORTH

6 A1.4 WARMING KITCHEN FLOOR PLAN
SCALE: 3/8" = 1'-0"

CONTRACTOR PURCHASED AND INSTALLED ITEMS

RESIDENTIAL APPLIANCE PACKAGE

PREFERRED VENDORS: TUNDRA SPECIALTIES OR BOELTER, REFER TO SPECIFICATIONS FOR CONTACAT INFORMATION

ESTIMATED QUANTITY	ITEM #	DESCRIPTION
2	SEE NOTE 3	FRONT LOAD WASHER
2	SEE NOTE 4	FRONT LOAD DRYER
1	JES1460DSWW	G.E. - MICROWAVE 1.4 CU. FT. - 1100 WATTS
1	FFAR23L	SUMMIT - 1.7 CU. FT. SMALL REFRIG. FOR MEDICINE STORAGE (OR EQUAL)
SEE PLAN	FF6WB17ADA	SUMMIT - REFRIGERATOR IN CLASSROOMS A1 & A2

NOTES:
1. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE SPACE REQUIREMENTS OF ANY EQUIPMENT SUBSTITUTION.
2. PROVIDE CUT SHEETS OF ANY EQUIPMENT SUBSTITUTION FOR ARCHITECT'S APPROVAL.
3. WASHER - 4.3 CU.FT. CAPACITY STAINLESS STEEL FRONT LOAD WASHER 120V APPROX. 12A. SIZE APPROX. 27"W X 33"D X 40"T. NO PEDESTAL. ENERGY STAR APPROVAL RECOMMENDED. COLOR TO BE SELECTED BY FRANCHISE OWNER.
4. DRYER - 7.5 CU.FT. CAPACITY STAINLESS STEEL FRONT LOAD ELECTRIC DRYER, WITH 30AMP CIRCUIT BREAKER, APPROX. 5.6KW (24A) @ 240V OR 4.4 KW (22A) @ 208V. PROVIDE BRACKETS FOR STACKING OVER WASHER. SIZE APPROX. 27"W X 33"D X 40"T. DRYER SHALL BE EXHAUSTED TO THE OUTSIDE. ENERGY STAR APPROVAL RECOMMENDED. COLOR TO BE SELECTED BY FRANCHISE OWNER.
5. PROVIDE AN ALLOWANCE OF $5,000 FOR THE WASHERS, DRYERS, AND STACKING KITS

COMMERCIAL APPLIANCE PACKAGE

QUANTITY	MANUFACTURER	ITEM #	DESCRIPTION
1	TRUE or TURBO-AIR	T-35 / TSR-35SD-N	REFRIGERATOR
1	TRUE or TURBO-AIR	T-49 / TSF-49SD-N	FREEZER
1	SCOTSMAN	CU0515GA-1	SELF-CONTAINED ICE MACHINE
1	AMANA	RC30S2	COMMERCIAL MICROWAVE/ STEAMER
1	CADCO	XAF-193	COMMERCIAL CONVECTION OVEN
1	CADCO	OST-195-C	STAND AND CORD
1	CMA DISHMACHINES	UC50e	HIGH TEMP UNDERCOUNTER DISHWASHER AND GLASSWASHER

NOTES:
1. CONTRACTOR IS RESPONSIBLE TO VERIFY SPACE REQUIREMENT FOR ANY EQUIPMENT SUBSTITUTION.
2. PROVIDE CUT SHEETS OF ANY EQUIPMENT SUBSTITUTION FOR ARCHITECT'S APPROVAL.
3. SEE INTERIOR KITCHEN ELEVATIONS FOR SHELVING SPECIFICATIONS.

NOTE: KITCHEN TABLES AND SHELVING ARE SHOWN FOR LOCATION ONLY. ACTUAL SIZES AND TYPES OF EQUIPMENT REQUIRED MAY VARY BASED ON FIELD CONDITIONS. ADDITIONAL CHANGES TO KITCHEN LAYOUT MAY OCCUR.
SEE RESIDENTIAL AND COMMERCIAL APPLIANCE PACKAGE ON THIS SHEET FOR SPECIFIC MODEL NUMBERS AND ADDITIONAL INFORMATION THAT IS NOT SHOWN BELOW.

KITCHEN EQUIPMENT SCHEDULE

MARK	SPECIFICATION
K01	WIRE SHELVING, CENTAUR MODEL NO. C2442K OR EQUAL (10 TOTAL) 42"W X 24"D, GREEN EPOXY, NSF STATIONARY POST - CENTAUR C86K (8 TOTAL) 86-5/8"H, WITH LEVELING BOLT & CAP, GREEN EPOXY
K02	WIRE SHELVING, CENTAUR MODEL NO. C2448K OR EQUAL (5 TOTAL) 48"W X 24"D, GREEN EPOXY, NSF STATIONARY POST - CENTAUR C86K (4 TOTAL) 86-5/8"H, WITH LEVELING BOLT & CAP, GREEN EPOXY
K03	WIRE SHELVING, CENTAUR MODEL NO. C2460K OR EQUAL (10 TOTAL) 60"W X 24"D, GREEN EPOXY, NSF STATIONARY POST - CENTAUR C86K (8 TOTAL) 86-5/8"H, WITH LEVELING BOLT & CAP, GREEN EPOXY
K04	WORK TABLE, STAINLESS STEEL TOP ADVANCE TABCO MODEL NO. FMS-308 WORK TABLE, 96"W X 30"D, 16 GAUGE 304 STAINLESS STEEL TOP WITH 1-1/2" REAR UPTURN, ADJUSTABLE 18 GAUGE STAINLESS STEEL UNDERSHELF, STAINLESS STEEL LEGS & AJDUSTABLE BULLET FEET, NSF (2) SS - 2020 DELUXE DRAWERS, 20" x 20" x 5" DEEP DRAWER PAN INSERT, STAINLESSSTEEL, WITH DRAWER SLIDES (1 ON EACH SIDE OF SINK). WELD IN SINK TA-11C SINK WELDED INTO TABLE TOP, 20"W x 20"D x 8" DEEP BOWL, INCLUDES FAUCET (MUST SPECIFY SINK LOCATION) K-316-LUHA WRIST HANDLES ONLY, FOR SPLASH OR DESK MOUNT HAND SINK FAUCET (1 PAIR HOT & COLD 4" LONG BLADES), FITS FAUCETS SUPPLIED WITH HOT & COLD COLOR RINGS THAT DO NOT HAVE EXPOSED SCREW HEAD K-5 DRAIN, TWIST OPERATED, 2" NPT & 1-1/2" IPS OUTLET CONNECTIONS K-4 SUPPORT BRACKET, FOR LEVER WASTE DRAIN HANDLE, (1) SUPPORT REQUIRED FOR EACH LEVER DRAIN
K05	90" x 30" STAINLESS STEEL 3 COMP SINK. (SEE PLUMBING FOR SPECS)
K06	WORK TABLE, 60"W x 30"D 16 GAUGE 304 STAINLESS STEEL TOP WITH 5"H BACKSPLASH, 18 GAUGE STAINLESS STEEL ADJUSTABLE UNDERSHELF, STAINLESS STEEL LEGS & ADJUSTABLE BULLET FEET, NSF SS - 2020 DELUXE DRAWER, 20"W x 20"D x 5" DEEP DRAWER PAN INSERT, STAINLESS STEEL, WITH DRAWER SLIDES (SEE ELEVATIONS FOR DRAWER LOCATIONS)
K07	WARMING KITCHEN REFRIGERATOR
K08	WARMING KITCHEN FREEZER
K09	COMMERICAL MIRCROWAVE STAND - TURBO AIR TSW - 2424SS (24"L x 24"W x 34"H)
K10	COMMERICAL MIRCROWAVE
K11	CONVECTION OVEN
K12	COMMERICAL CONVECTION OVEN STAND OST - 195 - C
K13	ICE MACHINE
K14	GREASE TRAP SEE PLUMBING

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CONSTR. DOC. & REVISIONS

No.	Description	Date

JAMES A. SCHMITT
REGISTERED ARCHITECT
AGRICULTURE
COMMERCE
No. 102092
STATE OF TENNESSEE
04/06/23

Professional of Record:
JAMES A. SCHMITT
LICENSE NO: 102092
EXP. DATE: 08/31/24

Drawn/Checked	MS / DSC
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

WARMING KITCHEN PLAN & ELEVATIONS

A1.4

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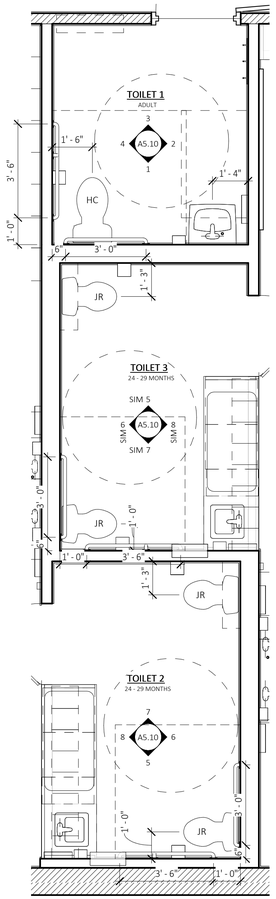
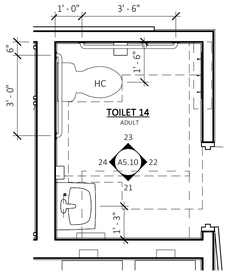
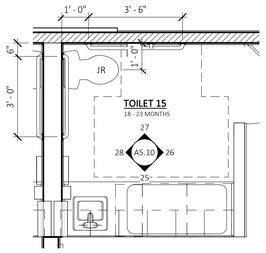


1 A1.5 TOILET 1, 2, 3
SCALE: 3/8" = 1'-0"

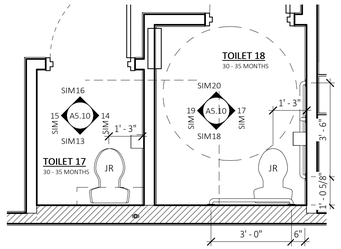
2 A1.5 NOT USED
SCALE: 3/8" = 1'-0"



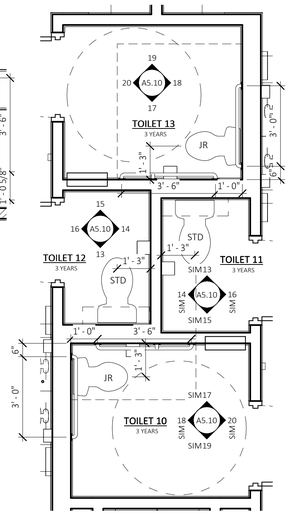
3 A1.5 TOILET 14
SCALE: 3/8" = 1'-0"



4 A1.5 TOILET 15
SCALE: 3/8" = 1'-0" **SIM.** TLT 16 (12 - 18 MONTHS)



5 A1.5 TOILET 17, 18
SCALE: 3/8" = 1'-0"



6 A1.5 TLT 10, 11, 12, 13
SCALE: 3/8" = 1'-0" **SIM.** TLT 6-9 (4 YR)

TOILET ROOM GENERAL NOTES

1. ALL INTERIOR DIMENSIONS ARE TO FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE.
2. HOT WATER AND DRAIN PIPES UNDER LAVATORIES SHALL BE INSULATED OR OTHERWISE CONFIGURED TO PROTECT AGAINST CONTACT. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES.
3. RECESSED CABINETS SHALL NOT PROTRUDE MORE THAN 4" FROM FACE OF DRYWALL

ACCESSIBILITY NOTES

WATERCLOSETS

1. THE SEAT HEIGHT OF THE WATER CLOSET SHALL BE 17" TO 19" FOR ADULTS.
2. FLUSH CONTROLS SHALL BE MOUNTED FOR USE ON THE OPEN SIDE OF THE TOILET.
3. GRAB BARS SHALL BE MOUNTED AS SHOWN IN PLAN AND ELEVATIONS.

LAVATORIES

1. PROVIDE A MIN. CLEARANCE OF 27" A.F.F. TO THE BOTTOM OF THE APRON. THE RIM SHALL BE NO HIGHER THAN 34" MAX. SINK BOWLS SHALL HAVE A MAXIMUM DEPTH OF 6.5"
2. HOT WATER AND DRAIN PIPES UNDER THE LAV SHALL BE INSULATED AND PROTECTED.
3. ALL FAUCETS SHALL BE LEVER TYPE.
4. MIRRORS SHALL BE MOUNTED WITH THE BOTTOM OF THE REFLECTIVE SURFACE NO HIGHER THAN 40", (34" MAX. AT CHILDRENS).

GRAB BARS

1. COMPLY FOR ALLOWABLE STRESSES IN BENDING, SHEAR AND TENSION SHALL NOT BE EXCEEDED FOR MATERIALS USED WHEN A VERTICAL OR HORIZONTAL FORCE OF 250 LBS. IS APPLIED AT ANY POINT ON THE GRAB BAR.

NOTE: HANDRAILS SHALL PROVIDE AN EQUIVALENT GRIPPING SURFACE OF A NOMINAL DIAMETER OR WIDTH OF 1 1/4" TO 1 1/2".

TOILET PAPER DISPENSERS

1. INSTALL AS INDICATED ON ELEVATIONS. DISPENSERS THAT CONTROL DELIVERY, OR THAT DO NOT PERMIT CONTINUOUS PAPER FLOW, SHALL NOT BE USED.
2. INSTALL TOILET PAPER DISPENSER 7"-9" FROM FRONT EDGE OF TOILET TO CENTERLINE OF DISPENSER.

CHILDREN'S TOILET ROOM DOORS

1. MOUNT PULL AT 34" A.F.F. TO THE BOTTOM OF PULL.

NOTE TO GENERAL CONTRACTOR:
A COPY OF THIS SHEET SHALL BE FURNISHED TO THE PLUMBING CONTRACTOR.

MOUNTING HEIGHTS

CHILDREN'S DIMENSIONS (1.5" Ø GRAB BARS ASSUMED)

TOILET TYPE	SIDE BAR HEIGHT	(CONFIRM) TOILET TANK HEIGHT	REAR BAR HEIGHT	DISPENSER OUTLET HEIGHT
JUNIOR (JR)	18" - 20" TOP	26"	27.5" BOT	14"
STANDARD (STD)	20" - 25" TOP	29"	30.5" BOT	14" - 17"
ADA (HC)	33" - 36" TOP	30.25"	33" - 36" TOP	15" - 48" TOP

TOILET SIZES

JUNIOR SIZE TOILETS: TOILET ROOMS 2, 3, 10, 13, 15, 16, 17, 18

STANDARD SIZE TOILETS: TOILET ROOMS 4, 5, 6, 7, 8, 9, 11, 12

ADA SIZE TOILETS: TOILET ROOMS 1, 14

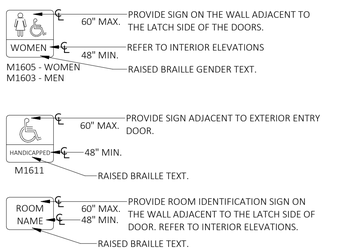
NOTE:
G.C. SHALL CONFIRM EXACT QUANTITY & LOCATION OF SOAP AND PAPER TOWEL DISPENSERS WITH FRANCHISE OWNER PRIOR TO ORDERING.

CABINETRY NOTES

1. ALL BASE CABINET PARTS, DRAWER FRONTS AND DOORS SHALL BE FABRICATED FROM 3/4" PARTICLE BOARD W/PLASTIC LAMINATE FINISH. CABINET BACK PANEL SHALL BE 1/4" HARDBOARD W/ PLASTIC LAM. FINISH AND 1X4 WOOD BLOCKING CONT. SEE CABINETRY SPEC. AND DETAILS FOR CONSTRUCTION.
2. ALL WALL MOUNTED CABINET PARTS AND DOORS SHALL BE FABRICATED FROM 3/4" PARTICLE BOARD W/PLASTIC LAMINATE FINISH. CABINET BACK PANEL SHALL BE 3/8" PLYWOOD W/ PLASTIC LAM. FINISH AND 1X4 WOOD BLOCKING CONT. SEE CABINETRY SPEC. AND DETAILS FOR CONSTRUCTION.
3. ALL CABINET DOORS AND DRAWERS IN CLASSROOMS TO HAVE CHILD RESISTANT KEY TYPE LATCHING DEVICES. USE METAL DRAWER SIDES WITH POWDER-COATED EPOXY FINISH INSTEAD OF PLYWOOD BOXES U.N.O.
4. ALL COUNTERTOPS TO HAVE 1 1/2" MIN. RADIUS ROUNDED CORNERS. ALL SHARP CORNERS SHALL BE CHAMFERED OR ROUNDED OVER.
5. ALL CASEWORK TO HAVE GAPS AND VOIDS FILLED WITH APPROPRIATE CAULK SEALANT, APPLIED PER MFG. SPECS. SILICONE SEAL ALL JUNCTURES BETWEEN PLASTIC LAMINATE TOPS, BACKSPLASHES, AND WALLS.
6. PULLS SHALL BE CHROME BOW.
7. ALL FOOD STORAGE SHELVES SHALL HAVE A SMOOTH, CLEANABLE AND DURABLE FINISH AT ALL SIDES OF SHELVES. NO EXPOSED RAW WOOD FINISH.
8. USE PVC FOR ALL CABINET EDGE BANDING.
9. USE MELAMINE ON VERTICAL SURFACES.
10. ALL CABINET INTERIORS TO BE WHITE MELAMINE.
11. BLOCKING: G.C. TO PROVIDE ADEQUATE WOOD BLOCKING IN WALLS FOR ALL CABINETS, SHELVES AND ANY OTHER WALL MOUNTED ITEM, AS REQUIRED.
12. SEE **A2.2** FOR PLASTIC LAMINATE COLORS.
13. CASEWORK SHALL BE KEYED AS FOLLOWS:
    1. OFFICE AND CHECKS
    2. RECEPTION,-KITCHEN
    3. CLASSROOMS

ACCESSIBILITY SIGNAGE DETAILS

1. THE CHARACTERS AND SYMBOLS SHALL CONTRAST WITH THEIR BACKGROUND. THE SIGNAGE SHALL CONSIST OF BLACK LETTERS AND CHARACTERS ON A WHITE BACKGROUND. THE SIGN SHALL HAVE A NON-GLARE FINISH.
2. LETTERS & NUMERALS SHALL BE RAISED 1/32", UPPER CASE "SANS SERIF OR SIMPLE SERIF" TYPE, ACCOMPANIED WITH GRADE 2 BRAILLE. RAISED CHARACTERS SHALL BE AT LEAST 5/8" HIGH, BUT NO HIGHER THAN 2".
3. THE SIGNAGE PACKET PURCHASED THROUGH AN APPROVED VENDOR SHALL COMPLY WITH THE SIGNAGE SECTION OF THE LOCAL ACCESSIBILITY CODE.
4. TEXT, SYMBOLS, ETC. SHALL BE OF CONTRASTING COLOR TO SIGN BACKGROUND.
5. SIGNAGE CONTAINING TACTILE CHARACTERS SHOULD BE MOUNTED AT THE STRIKE SIDE OF THE DOOR & SHOULD BE LOCATED SO THAT A CLEAR FLOOR SPACE OF 18" MIN. BY 18" MIN., CENTERED ON THE TACTILE CHARACTERS, IS PROVIDED BEYOND THE ARC OF ANY DOOR SWING BETWEEN THE CLOSED POSITION & 45 DEGREE OPEN POSITION.
6. THE PICTOGRAM FIELD MUST HAVE A HEIGHT OF 6" MIN. CHARACTER & BRAILLE SHALL NOT BE LOCATED IN THE PICTOGRAM FIELD.



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CONSTR. DOC. & REVSIONS

No.	Description	Date
1	POST BID ADD 1 - CODE RESP. / FO REVISIONS	11/10/22

JAMES A. SCHMITT
REGISTERED ARCHITECT
AGRICULTURE COMMERCE
No. 102092
STATE OF TENNESSEE
04/06/23

Professional of Record:
JAMES A. SCHMITT
LICENSE NO: 102092
EXP. DATE: 08/31/24

Drawn/Checked	MS / DSC
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

ENLARGED TOILET ROOM PLANS

A1.5

4/6/2023 6:59:31 AM

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DOOR SCHEDULE

	Door			Door		Frame		Hardware	Details			
Door #	Type	Material	Width	Height	Thickness	Material	Finish	Group	Head	Jamb	Sill	Remarks
1	A	HM	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	3	4/A2.1	5/A2.1	6/A2.1	NOTE 1
2	A	HM	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	3	4/A2.1	5/A2.1	6/A2.1	NOTE 1
3	A	HM	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	3	4/A2.1	5/A2.1	6/A2.1	NOTE 1
4	A	HM	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	3	4/A2.1	5/A2.1	6/A2.1	NOTE 1
5	A	HM	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	3	4/A2.1	5/A2.1	6/A2.1	NOTE 1
6	A	HM	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	3	4/A2.1	5/A2.1	6/A2.1	NOTE 1
7	A	HM	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	2	4/A2.1	5/A2.1	6/A2.1	NOTE 3
8	A	HM	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	2	4/A2.1	5/A2.1	6/A2.1	NOTE 1
9	A	HM	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	3	4/A2.1	5/A2.1	6/A2.1	NOTE 1
10	A	HM	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	3	4/A2.1	5/A2.1	6/A2.1	NOTE 1
11	A	HM	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	3	4/A2.1	5/A2.1	6/A2.1	NOTE 1
12	A	HM	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	3	4/A2.1	5/A2.1	6/A2.1	NOTE 1
13	A	HM	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	3	4/A2.1	5/A2.1	6/A2.1	NOTE 1
14	A	HM	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	3	4/A2.1	5/A2.1	6/A2.1	NOTE 1
15	A	HM	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	3	4/A2.1	5/A2.1	6/A2.1	NOTE 1
16	A	HM	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	15	4/A2.1	5/A2.1	6/A2.1	NOTE 3
17	A	HM	3' - 0"	7' - 0"	1 3/4"	HM	PAINT	4	4/A2.1	5/A2.1	6/A2.1	NOTE 3
18	E	HM	PR 3' - 0"	7' - 0"	1 3/4"	HM	PAINT	5	4/A2.1	5/A2.1	6/A2.1	NOTE 1
19	F	PLAM	PR 3' - 0"	6' - 8"	1 3/4"	HM	PAINT	1	2/A2.1	3/A2.1	-	
20	B	PLAM	3' - 0"	6' - 8"	1 3/4"	HM	PAINT	7	2/A2.1	3/A2.1	-	
21	B	PLAM	3' - 0"	6' - 8"	1 3/4"	HM	PAINT	7	2/A2.1	3/A2.1	-	
22	B	PLAM	3' - 0"	6' - 8"	1 3/4"	HM	PAINT	7	2/A2.1	3/A2.1	-	
23	C	PLAM	3' - 0"	6' - 8"	1 3/4"	HM	PAINT	9	2/A2.1	3/A2.1	-	NOTE 2
24	B	PLAM	3' - 0"	6' - 8"	1 3/4"	HM	PAINT	7	2/A2.1	3/A2.1	-	
25	C	PLAM	PR 3' - 0"	6' - 8"	1 3/4"	HM	PAINT	6	2/A2.1	3/A2.1	-	
26	B	PLAM	3' - 0"	6' - 8"	1 3/4"	HM	PAINT	7	2/A2.1	3/A2.1	-	
29	C	PLAM	2' - 0"	6' - 8"	1 3/4"	HM	PAINT	12	2/A2.1	3/A2.1	-	NOTE 10
30	B	PLAM	3' - 0"	6' - 8"	1 3/4"	HM	PAINT	7	2/A2.1	3/A2.1	-	
31	C	PLAM	3' - 0"	6' - 8"	1 3/4"	HM	PAINT	8	2/A2.1	3/A2.1	-	NOTE 2
32	C	PLAM	3' - 0"	6' - 8"	1 3/4"	HM	PAINT	8	2/A2.1	3/A2.1	-	NOTE 2
33	B	PLAM	3' - 0"	6' - 8"	1 3/4"	HM	PAINT	7	2/A2.1	3/A2.1	-	
34	C	PLAM	3' - 0"	6' - 8"	1 3/4"	HM	PAINT	8	2/A2.1	3/A2.1	-	NOTE 2
35	C	PLAM	3' - 0"	6' - 8"	1 3/4"	HM	PAINT	8	2/A2.1	3/A2.1	-	NOTE 2
36	B	PLAM	3' - 0"	6' - 8"	1 3/4"	HM	PAINT	7	2/A2.1	3/A2.1	-	
37	B	PLAM	3' - 0"	6' - 8"	1 3/4"	HM	PAINT	8	2/A2.1	3/A2.1	-	NOTE 2
38	B	PLAM	3' - 0"	6' - 8"	1 3/4"	HM	PAINT	8	2/A2.1	3/A2.1	-	NOTE 2
39	B	PLAM	3' - 0"	6' - 8"	1 3/4"	HM	PAINT	7	2/A2.1	3/A2.1	-	
40	B	PLAM	3' - 0"	6' - 8"	1 3/4"	HM	PAINT	8	2/A2.1	3/A2.1	-	NOTE 2
41	B	PLAM	3' - 0"	6' - 8"	1 3/4"	HM	PAINT	8	2/A2.1	3/A2.1	-	NOTE 2
42	B	PLAM	3' - 0"	6' - 8"	1 3/4"	HM	PAINT	7	2/A2.1	3/A2.1	-	
43	B	PLAM	3' - 0"	6' - 8"	1 3/4"	HM	PAINT	8	2/A2.1	3/A2.1	-	NOTE 2
44	B	PLAM	3' - 0"	6' - 8"	1 3/4"	HM	PAINT	8	2/A2.1	3/A2.1	-	NOTE 2
45	B	PLAM	3' - 0"	6' - 8"	1 3/4"	HM	PAINT	11	2/A2.1	3/A2.1	-	
46	C	PLAM	3' - 0"	6' - 8"	1 3/4"	HM	PAINT	11	2/A2.1	3/A2.1	-	
47	C	PLAM	3' - 0"	6' - 8"	1 3/4"	HM	PAINT	11	2/A2.1	3/A2.1	-	
48	B	PLAM	3' - 0"	6' - 8"	1 3/4"	HM	PAINT	7	2/A2.1	3/A2.1	-	
49	B	PLAM	3' - 0"	6' - 8"	1 3/4"	HM	PAINT	7	2/A2.1	3/A2.1	-	
50	C	PLAM	3' - 0"	6' - 8"	1 3/4"	HM	PAINT	14	2/A2.1	3/A2.1	-	NOTE 8
51	C	PLAM	3' - 0"	6' - 8"	1 3/4"	HM	PAINT	9	2/A2.1	3/A2.1	-	NOTE 2
52	C	PLAM	3' - 0"	6' - 8"	1 3/4"	HM	PAINT	11	2/A2.1	3/A2.1	-	NOTE 7
53	C	PLAM	3' - 0"	6' - 8"	1 3/4"	HM	PAINT	6	4/A2.1	3/A2.1	-	
54	D	PLAM	3' - 0"	6' - 8"	1 3/4"	HM	PAINT	10	2/A2.1	3/A2.1	-	
55	D	PLAM	PR 3' - 0"	6' - 8"	1 3/4"	HM	PAINT	10	2/A2.1	3/A2.1	-	
56	B	PLAM	3' - 0"	6' - 8"	1 3/4"	HM	PAINT	7	2/A2.1	3/A2.1	-	

1

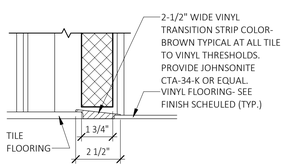
DOOR SCHEDULE NOTES

NOTES:

1. PROVIDE FINGER GUARD PROTECTION ON ALL EXTERIOR DOORS (AT INTERIOR SIDE ONLY). FINGER SAFE USA INC., 888-346-4723, MODEL MK1A. COLOR: WHITE.
2. PROVIDE 1" UNDERCUT.
3. DOOR GLAZING TO RECEIVE TINTED FILM. TINT - 1. SEE INTERIOR FINISH LEGEND
4. REFER TO ROOM FINISH SCHEDULE FOR ALL DOOR FINISHES THAT ARE NOT FACTORY FINISHED.
5. KICK PLATE TO BE INSTALLED ON PUSH SIDE OF DOOR. (GENERAL NOTE, WHERE OCCURS)
6. CHANGE IN FLOORING MATERIAL OR TRANSITION STRIPS AT DOORS TO OCCUR AT FACE OF DOOR STOP AT PULL SIDE OF DOOR FRAME. SEE DETAIL **2/A2.1** FOR ADDITIONAL CLARIFICATION. (GENERAL NOTE)
7. PANIC BAR REQUIRED.
8. PROVIDE 12" X 24" LOUVER.
9. ALL CLOSERS ON INTERIOR WOOD DOORS WILL BE INSTALLED WITH THE SUPPLED HEX BOLT, NOT SCREWED TO THE FACE OF THE DOOR. (GENERAL NOTE)
10. PROVIDE 12" X 12" LOUVER.

KEYING SCHEDULE:

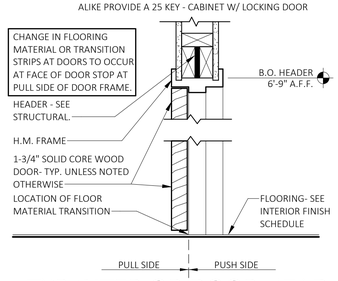
#1 OFFICE
#2 CLOSET / STAFF / RESOURCE / LAUNDRY / CONFERENCE
#3 KITCHEN
#4 DOORS 17 & 51
#5 ALL OUTSIDE CLASSROOM AND HALLWAY EXIT DOORS KEYED ALIKE PROVIDE A 25 KEY - CABINET W/ LOCKING DOOR



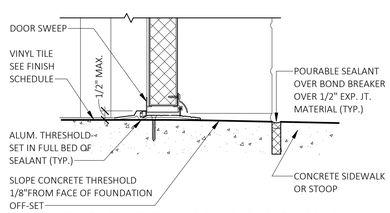
TILE TO VINYL TRANSITION STRIP

NOTE:
TRANSITION STRIPS: INTERIOR CHANGES IN LEVEL DUE TO TRANSITION STRIPS SHALL COMPLY WITH ALL ACCESSIBILITY CODES.

1 / A2.1 THRESHOLD
SCALE: 3" = 1'-0"



2 / A2.1 TYP INTERIOR DOOR HEAD
SCALE: 1 1/2" = 1'-0"



6 / A2.1 TYP EXTERIOR DOOR SILL
SCALE: 3" = 1'-0"

HARDWARE GROUPS

INTERIOR DOORS SHALL BE FINISHED "URBAN" COLOR

HARDWARE SET 1 (INTERIOR VESTIBULE)

QTY	ITEM	MODEL	FINISH	MFR
2EA	SAFETY HINGE	780-113/224 79"	ALUM	HAGER
2EA	RIM EXIT DEVICE	9300B	US32D	DORMA
1EA	DIGITAL LEVER TRIM	ETDL-S-D93 @ RHR	US26D	ALARM
1EA	RIM CYLINDER	87R-T (install in ETDL)	US26D	DORMA
1EA	FINAL CORE	IC7A MKD	US26D	MBS
2EA	CLOSER W/ STOP	8616 SDS COV SNDPK	ALUM	DORMA
2EA	KICKPLATE	190S 8" x 34"	US32D	HAGER
6EA	SILENCER	307D	GRAY	HAGER

NOTE: FRAME TO HAVE A 2" CENTER MULLION

HARDWARE SET 2 (EXTERIOR CORRIDOR)

QTY	ITEM	MODEL	FINISH	MFR
1EA	CONTINUOUS HINGE	780-224 83"	ALUM	HAGER
1EA	RIM EXIT DEVICE	9300B	US32D	DORMA
1EA	STOREROOM TRIM	YR03R-T	US32D	DORMA
1EA	FINAL CORE	IC7A MKD	US26D	MBS
1EA	CLOSER W/ STOP	8616 SDS COV DPK	ALUM	DORMA
1EA	KICKPLATE	190S 8" x 32" TEK	US32D	HAGER
1EA	THRESHOLD	2005AT 36" MSES10	ALUM	PEMKO
1EA	WEATHER SEAL	KERF 17'	DK BRZ	REPUBLIC
1EA	DOOR SWEEP	223ANB 36" TEK	ALUM	PEMKO
1EA	FINGER GUARD	MK1A 83"	WHITE	FRINGER

NOTE: MOUNT KICK PLATE AFTER FINGER GUARD

HARDWARE SET 3 (EXTERIOR CLASSROOM)

QTY	ITEM	MODEL	FINISH	MFR
1EA	CONTINUOUS HINGE	780-224 83"	ALUM	HAGER
1EA	STOREROOM LOCK	CL780-T LRE	US26D	DORMA
1EA	FINAL CORE	IC7A MKD	US26D	MBS
1EA	CLOSER W/ STOP	8616 SDS COV DPK	ALUM	DORMA
1EA	KICKPLATE	190S 8" x 32" TEK	US32D	HAGER
1EA	THRESHOLD	2005AT 36" MSES10	ALUM	PEMKO
1EA	WEATHER SEAL	KERF 17'	DK BRZ	REPUBLIC
1EA	DOOR SWEEP	223ANB 36" TEK	ALUM	PEMKO
1EA	FINGER GUARD	MK1A 83"	WHITE	FRINGER

NOTE: MOUNT KICK PLATE AFTER FINGER GUARD

HARDWARE SET 4 (RISER ROOM, OUTSIRE STORAGE)

QTY	ITEM	MODEL	FINISH	MFR
1EA	CONTINUOUS HINGE	780-224 83"	ALUM	HAGER
1EA	STOREROOM LOCK	CL780-T LRE	US26D	DORMA
1EA	FINAL CORE	IC7A MKD	US26D	MBS
1EA	CHAIN STOP	300D 25 1/2"	US26D	HAGER
1EA	THRESHOLD	2005AT 36" MSES10	ALUM	PEMKO
1EA	WEATHER SEAL	KERF 17'	DK BRZ	REPUBLIC
1EA	DOOR SWEEP	223ANB 36" TEK	ALUM	PEMKO

HARDWARE SET 5 (EXTERIOR VESTIBULE)

QTY	ITEM	MODEL	FINISH	MFR
2EA	CONTINUOUS HINGE	780-224 83"	ALUM	HAGER
2EA	RIM EXIT DEVICE	9300B	US32D	DORMA
2EA	CLASSROOM TRIM	YR08-T	US32D	DORMA
2EA	FINAL CORE	IC7A MKD	US26D	MBS
2EA	CLOSER W/ STOP	8616 SDS COV DPK	ALUM	DORMA
2EA	KICKPLATE	190S 8" x 32" TEK	US32D	HAGER
2EA	THRESHOLD	2005AT 36" MSES10	ALUM	PEMKO
2EA	WEATHER SEAL	KERF 17'	DK BRZ	REPUBLIC
2EA	DOOR SWEEP	223ANB 36" TEK	ALUM	PEMKO
2EA	FINGER GUARD	MK1A 83"	WHITE	FRINGER

NOTE: MOUNT KICK PLATE AFTER FINGER GUARD
NOTE: FRAME TO HAVE A 2" CENTER MULLION

HARDWARE SET 6 (CAR SEAT - DOUBLE DOOR)

QTY	ITEM	MODEL	FINISH	MFR
2EA	SAFETY HINGE	780-113/224 79"	ALUM	HAGER
2EA	FLUSH BOLT	283D	US26D	HAGER
1EA	DUST PROOF STRIKE	280X	US26D	HAGER
1EA	STOREROOM LOCK	CL780-T LRE	US26D	DORMA
1EA	DUMMY LEVER	CL701 LRE	US26D	DORMA
1EA	FINAL CORE	IC7A MKD	US26D	MBS
1EA	OVERHEAD STOP	702 @RHR	ALUM	DORMA
2EA	SILENCER	307D	GRAY	HAGER

HARDWARE SET 7 (INTERIOR CLASSROOM)

QTY	ITEM	MODEL	FINISH	MFR
1EA	SAFETY HINGE	780-113/224 79"	ALUM	HAGER
1EA	PASSAGE SET	CL710 LRE	US26D	DORMA
1EA	CLOSER	8616 AF86P COV SNDPK	ALUM	DORMA
1EA	KICKPLATE	190S 8" x 34"	US32D	HAGER
1EA	WALL STOP	236W	US32D	HAGER
3EA	SILENCER	307D	GRAY	HAGER

HARDWARE SET 8 (INTERIOR CHILDREN TOILET)

QTY	ITEM	MODEL	FINISH	MFR
1EA	SAFETY HINGE	780-113/224 78 1/4"	ALUM	HAGER
1EA	PUSH PLATE	40R 3 1/2" x 15"	US32D	HAGER
1EA	PULL PLATE	43R 3 1/2" x 15"	US32D	HAGER
1EA	CLOSER	8616 AF86P COV SNDPK	ALUM	DORMA
1EA	KICKPLATE	190S 8" x 34"	US32D	HAGER
1EA	WALL STOP	236W	US32D	HAGER
3EA	SILENCER	307D	GRAY	HAGER

HARDWARE SET 9 (INTERIOR STAFF TOILET)

QTY	ITEM	MODEL	FINISH	MFR
1EA	SAFETY HINGE	780-113/224 78 1/4"	ALUM	HAGER
1EA	PRIVACY	CL740 LRE	US26D	DORMA
1EA	CLOSER	8616 AF86P COV SNDPK	ALUM	DORMA
1EA	KICKPLATE	190S 8" x 34"	US32D	HAGER
1EA	WALL STOP	236W	US32D	HAGER
3EA	SILENCER	307D	GRAY	HAGER

HARDWARE SET 10 (INTERIOR OFFICE)

QTY	ITEM	MODEL	FINISH	MFR
1EA	SAFETY HINGE	780-113/224 79"	ALUM	HAGER
1EA	ENTRY/ OFFICE	CL750-T LRE	US26D	DORMA
1EA	FINAL CORE	IC7A MKD	US26D	MBS
1EA	CLOSER	8616 AF86P COV SNDPK	ALUM	DORMA
1EA	KICKPLATE	190S 8" x 34"	US32D	HAGER
1EA	WALL STOP	236W	US32D	HAGER
3EA	SILENCER	307D	GRAY	HAGER

HARDWARE SET 11 (INTERIOR STAFF, RESOURCE, LAUNDRY ROOM)

QTY	ITEM	MODEL	FINISH	MFR
1EA	SAFETY HINGE	780-113/224 79"	ALUM	HAGER
1EA	STOREROOM LOCK	CL780-T LRE	US26D	DORMA
1EA	FINAL CORE	IC7A MKD	US26D	MBS
1EA	CLOSER	8616 AF86P COV SNDKP	ALUM	DORMA
1EA	KICKPLATE	190S 8" x 34"	US32D	HAGER
1EA	WALL STOP	236W	US32D	HAGER
3EA	SILENCER	307D	GRAY	HAGER

HARDWARE SET 12 (INTERIOR MEDIA/ STORAGE)

QTY	ITEM	MODEL	FINISH	MFR
1EA	SAFETY HINGE	780-113/224 79"	ALUM	HAGER
1EA	STOREROOM LOCK	CL780-T LRE	US26D	DORMA
1EA	FINAL CORE	IC7A MKD	US26D	MBS
1EA	O.H. OR WALL STOP	701 OR 702	ALUM	DORMA
3EA	SILENCER	307D	GRAY	HAGER

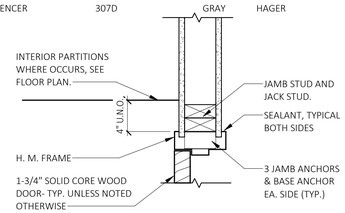
HARDWARE SET 13 (CONF. ROOM BARN DOOR)
NOTE USED.

HARDWARE SET 14 (INTERIOR KITCHEN)

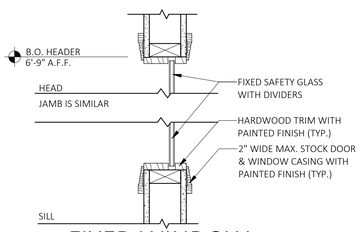
QTY	ITEM	MODEL	FINISH	MFR
1EA	SAFETY HINGE	780-113/224 79"	ALUM	HAGER
1EA	STOREROOM LOCK	CL780-T LRE	US26D	DORMA
1EA	FINAL CORE	IC7A MKD	US26D	MBS
1EA	CLOSER W/ STOP	8616 AF89P COV DPK	ALUM	DORMA
1EA	KICKPLATE	190S 8" x 34"	US32D	HAGER
3EA	SILENCER	307D	GRAY	HAGER

HARDWARE SET 15 (EXTERIOR KITCHEN DOOR)

QTY	ITEM	MODEL	FINISH	MFR
1EA	CONT HINGE	780-224 83"	ALUM	HAGER
1EA	STOREROOM LOCK	CL780-T LRE	US26D	DORMA
1EA	FINAL CORE	IC7A MKD	US26D	MBS
1EA	CLOSER W/ STOP	8616 SDS COV DPK	ALUM	DORMA
1EA	KICKPLATE	190S 8" x 34" TEK	US32D	HAGER
1EA	THRESHOLD	2005AT 36" MSES10	ALUM	PEMKO
1EA	WEATHER SEAL	KERF 17'	DK BRZ	REPUBLIC
1EA	DOOR SHOE	223ANB 36"	ALUM	PEMKO

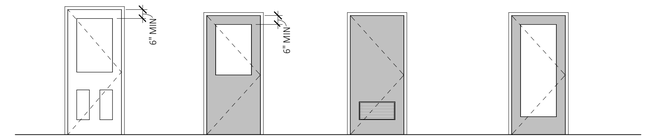


3 / A2.1 TYP INTERIOR DOOR JAMB
SCALE: 1 1/2" = 1'-0"



7 / A2.1 FIXED WINDOW
SCALE: 1 1/2" = 1'-0"

DOOR TYPES LEGEND

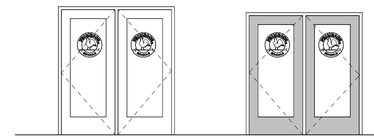


METAL INSULATED DOOR
W/ 24" X 36" CLEAR 1" INSULATED, LOW-E TEMPERED OR LAMINATED SAFETY GLASS

PLAM
W/ 24" x 32" CLEAR TEMPERED OR LAMINATED SAFETY GLASS

PLAM

PLAM
W/ 24" X 66" CLEAR TEMPERED OR LAMINATED SAFETY GLASS

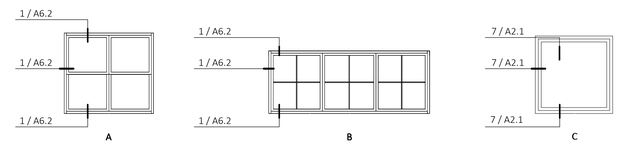


METAL INSULATED DOOR
W/ 24" X 66" CLEAR 1" INSULATED, LOW-E TEMPERED OR LAMINATED SAFETY GLASS

PLAM
W/ 24" X 66" CLEAR TEMPERED OR LAMINATED SAFETY GLASS

THRESHOLDS PROVIDED AT EXTERIOR DOORWAYS SHALL BE 1/2" HIGH MAXIMUM.

WINDOW TYPES LEGEND



(2) 2'-6" x 4'-6" SINGLE-HUNG

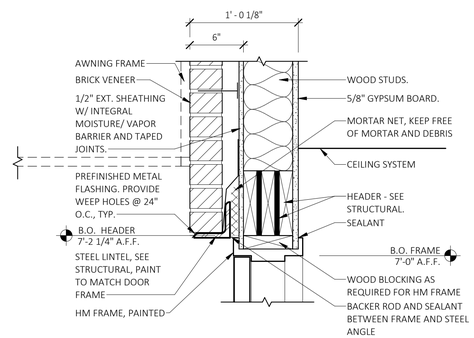
(3) 3'-0" x 3'-6" FIXED

SHUTTERS: SEE EXTERIOR ELEVATIONS FOR SPEC

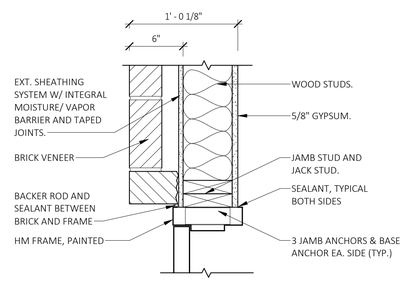
(1) 44" X 44" FIXED WINDOW (FIELD CONSTRUCTED)

NOTES:

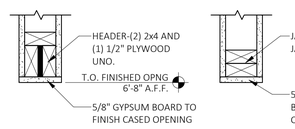
1. ALL GLAZING IN BUILDING SHALL BE TEMPERED OR LAMINATED SAFETY GLASS.
2. INSULATED GLASS WITH A MIN. THICKNESS OF 5/8" WITH TWO LIGHTS OF CLEAR LOW-E SAFETY GLASS
3. EXTERIOR WINDOWS TO HAVE THERMALLY BROKEN FRAME
4. PROVIDE CONTINUOUS CLIP ANCHORS AND JOINING MULLIONS FOR COMBINATION WINDOWS
5. WINDOWS SHALL BE WHITE
6. WINDOW UNIT SHALL HAVE A U-FACTOR OF .35 OR LOWER, AND A SHGC OF .25 OR LOWER.



4 / A2.1 TYP EXTERIOR DOOR HEAD
SCALE: 1 1/2" = 1'-0"



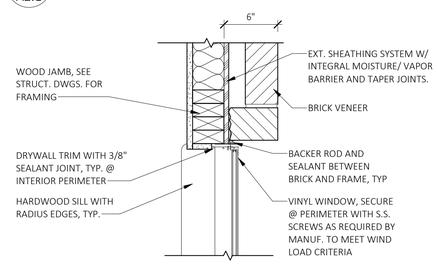
5 / A2.1 TYP EXTERIOR DOOR JAMB
SCALE: 1 1/2" = 1'-0"



HEAD DETAIL

JAMB DETAIL

8 / A2.1 TYP CASED OPENING
SCALE: 1 1/2" = 1'-0"



9 / A2.1 JAMB
SCALE: 1 1/2" = 1'-0"

CASCO
CASCO ENTERPRISED CORPORATION
12 Sunset Drive, Suite 100, St. Louis, MO 63141 T: 314-821-1300

PRIMROSE SCHOOLS
1788 ROCK SPRINGS RD
RUTHERFORD COUNTY
SMYRNA, TN 37167

PRIMROSE SCHOOL FRANCHISING COMPANY
3200 WINDY HILL ROAD, SUITE 1200 E
ATLANTA, GEORGIA 30339-5640

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CONSTR. DOC. & REVISIONS

No.	Description	Date
1	POST BID ADD 1 - CODE RESP. / FO REVISIONS	11/10/22

JAMES A. SCHMITT
REGISTERED ARCHITECT
AGRICULTURE
COMMERCE
No. 102092
STATE OF TENNESSEE
04/06/23

Professional of Record:
JAMES A. SCHMITT
LICENSE NO: 102092
EXP. DATE: 08/31/24

Drawn/Checked	MS / DSC
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

DOOR & WINDOW SCHEDULE & DETAILS

A2.1

4/6/2023 6:59:34 AM

FINISH SCHEDULE

ROOM	FLOORING MAT.	FLOORING BASE	Wall Finish / Chair Rail	CEILING FINISH	DOOR/WIN FRAMES	INT. DOOR	EXT. DOOR (INT. FACE)	REMARKS
CAR SEAT STORAGE	F-4	B-1	P-2	C-4	P-3	PL-4	-	NOTE 1, 3
CLASSROOM - A1	F-4	B-1	P-2/CR-1 (P-5)	C-4	P-3	PL-4	P-3	NOTE 1, 3, 4, 6, 11
CLASSROOM - A2	F-4	B-1	P-2/CR-1 (P-5)	C-4	P-3	PL-4	P-3	NOTE 1, 2, 3, 4, 6, 11
CLASSROOM - B1	F-4	B-1	P-2/CR-1 (P-5)	C-4	P-3	PL-4	P-3	NOTE 1, 2, 3, 4,11
CLASSROOM - B2	F-4	B-1	P-2/CR-1 (P-5)	C-4	P-3	PL-4	P-3	NOTE 1, 2, 3, 4,11
1 CLASSROOM - B3	F-4	B-1	P-2/CR-1 (P-5)	C-4	P-3	PL-4	P-3	NOTE 1, 2, 3, 4,11
CLASSROOM - C1	F-4	B-1	P-2/CR-1 (P-4)	C-4	P-3	PL-4	P-3	NOTE 1, 2, 3, 4,11
CLASSROOM - C2	F-4	B-1	P-2/CR-1 (P-4)	C-4	P-3	PL-4	P-3	NOTE 1, 2, 3, 4,11
CLASSROOM - D1	F-4	B-1	P-2/CR-1 (P-5)	C-4	P-3	PL-4	P-3	NOTE 1, 2, 3, 4,11
CLASSROOM - D2	F-4	B-1	P-2/CR-1 (P-5)	C-4	P-3	PL-4	P-3	NOTE 1, 2, 3, 4,11
CLASSROOM - EP1	F-4	B-1	P-2/CR-1 (P-4)	C-4	P-3	PL-4	P-3	NOTE 1, 2, 3, 4,11
1 CLASSROOM - EP2	F-4	B-1	P-2/CR-1 (P-4)	C-4	P-3	PL-4	P-3	NOTE 1, 2, 3, 4,11
CLASSROOM - EP3	F-4	B-1	P-2/CR-1 (P-4)	C-4	P-3	PL-4	P-3	NOTE 1, 2, 3, 4,11
CLASSROOM - PATHWAYS	F-4	B-1	P-2/CR-1 (P-4)	C-4	P-3	PL-4	P-3	NOTE 1, 2, 3, 4,11
CONFERENCE	F-4	B-3/P-3	P-2/CR-1 (P-3)	C-4	P-3	PL-4	-	NOTE 1, 3, 4, 11
2 DRY STORAGE	F-2	B-2	FRP-1	C-5	P-3	-	-	NOTE 3, 9
GALLERIES	F-4	B-3/P-3	P-2/CR-1 (P-3)	C-1	P-3	PL-4	P-3	NOTE 3, 4
LAUNDRY ROOM	F-2	B-2	P-2/FRP-1	C-5	P-3	PL-4	-	NOTE 3, 12, 13
MEDIA	F-4	B-1	P-2	C-1	P-3	PL-4	-	NOTE 3
OFFICE	F-4	B-1	P-2	C-4	P-3	PL-4	-	NOTE 1, 3, 4, 11
OUTDOOR STORAGE	F-1	-	P-6	C-3	P-3	-	P-3	NOTE 10
RECEPTION	F-4	B-3/P-3	P-2/SL-1/CR-1 (P-3)	C-1	P-3	PL-4	P-3	NOTE 1, 3, 4
RESOURCE ROOM	F-4	B-1	P-2	C-4	P-3	PL-4	-	NOTE 1, 3
RISER ROOM	F-1	-	P-6	C-3	P-3	-	P-3	NOTE 10
STAFF ROOM	F-4	B-1	P-2	C-4	P-3	PL-4	-	NOTE 1, 3
STORAGE 1	F-4	B-1	P-2	C-4	P-3	PL-4	-	NOTE 1, 3
STORAGE 2	F-4	B-1	P-2	C-4	P-3	PL-4	-	NOTE 1, 3, 7
TOILET 1	F-2	B-2	P-2	C-2	P-3	PL-4	-	NOTE 1, 3, 13
TOILET 2	F-2	B-2	P-2/FRP-1	C-2	P-3	PL-4	-	NOTE 1, 3, 8, 13
TOILET 3	F-2	B-2	P-2/FRP-1	C-2	P-3	PL-4	-	NOTE 1, 3, 8, 13
TOILET 4	F-2	B-2	P-2/FRP-1	C-2	P-3	PL-4	-	NOTE 1, 3, 8, 13
TOILET 5	F-2	B-2	P-2/FRP-1	C-2	P-3	PL-4	-	NOTE 1, 3, 8, 13
TOILET 6	F-2	B-2	P-2/FRP-1	C-2	P-3	PL-4	-	NOTE 1, 3, 8, 13
TOILET 7	F-2	B-2	P-2/FRP-1	C-2	P-3	PL-4	-	NOTE 1, 3, 8, 13
TOILET 8	F-2	B-2	P-2/FRP-1	C-2	P-3	PL-4	-	NOTE 1, 3, 8, 13
TOILET 9	F-2	B-2	P-2/FRP-1	C-2	P-3	PL-4	-	NOTE 1, 3, 8, 13
TOILET 10	F-2	B-2	P-2/FRP-1	C-2	P-3	PL-4	-	NOTE 1, 3, 8, 13
TOILET 11	F-2	B-2	P-2/FRP-1	C-2	P-3	PL-4	-	NOTE 1, 3, 8, 13
TOILET 12	F-2	B-2	P-2/FRP-1	C-2	P-3	PL-4	-	NOTE 1, 3, 8, 13
TOILET 13	F-2	B-2	P-2/FRP-1	C-2	P-3	PL-4	-	NOTE 1, 3, 8, 13
TOILET 14	F-2	B-2	P-2	C-2	P-3	PL-4	-	NOTE 1, 3, 13
TOILET 15	F-2	B-2	P-2/FRP-1	C-2	P-3	PL-4	-	NOTE 1, 3, 8, 13
TOILET 16	F-2	B-2	P-2/FRP-1	C-2	P-3	PL-4	-	NOTE 1, 3, 8, 13
TOILET 17	F-2	B-2	P-2/FRP-1	C-2	P-3	PL-4	-	NOTE 1, 3, 8, 13
TOILET 18	F-2	B-2	P-2/FRP-1	C-2	P-3	PL-4	-	NOTE 1, 3, 8, 13
VESTIBULE	F-3	B-3/P-3	P-2/SL-1	C-1	P-3	PL-4	P-3	NOTE 3
WARMING KITCHEN	F-2	B-2	FRP-1	C-5	P-3	PL-4	P-3	NOTE 3, 9, 10

FINISH SCHEDULE GENERAL NOTES

1. REFER TO VENDORS MILLWORK DRAWINGS, FOR SPECIFIC MILLWORK DETAILS AND FINISH LOCATION.
2. F.R.P. TO RUN FULL HEIGHT OF WALLS IN THE COT STORAGE ALCOVE. F.R.P. TO TERMINATE AT A POINT EVEN WITH WING WALL. ALL EXPOSED EDGES TO RECEIVE APPROPRIATE TRIM PIECE. SEE INTERIOR ELEVATIONS FOR F.R.P. LOCATION AT OPPOSITE SIDE OF WING WALL.
3. REFER TO REFLECTED CEILING PLAN FOR CEILING HEIGHT.
4. REFER TO INTERIOR ELEVATIONS FOR LOCATIONS OF CHAIR RAIL.
5. ALL WALLS SHALL RECIEVE A LEVEL 4 SMOOTH DRYWALL FINISH.
6. INFANT DIVIDER PARTITIONS TO BE PAINTED P - 5.
7. PROVIDE 1/2" THICK PLYWOOD FULL HEIGHT BEHIND ROOF ACCESS LADDER.
8. F.R.P. FROM TOP OF BASE TO 4' - 4" A.F.F., SEE INTERIOR ELEVATIONS, PAINT ABOVE. EXPOSED EDGE OF F.R.P. TO RECEIVE APPROPRIATE TRIM PIECE. SEE 4/A2.3
9. F.R.P. FULL HEIGHT ALL WALLS. USE APPORPRIATE TRIM PIECES.
10. GLAZING IN EXTERIOR DOOR TO RECEIVE TINT - 1.
11. WT-1 TO BE USED AT ALL EXTERIOR WINDOWS.
12. SEE INTERIOR ELEVATIONS FOR F.R.P. HEIGHTS / LOCATIONS AT LAUNDRY ROOM.
13. PROVIDE SMOOTH PAINT FINISH ABOVE F.R.P. IN LAUNDRY AND TOILET ROOMS.
14. CONTRACTOR SHALL SUPPLY MATCHING PVC EDGE BANDING ON ALL MILLWORK.

INTERIOR FINISH LEGEND

MARK	DESCRIPTION	SPECIFICATION
1 - FLOORING		
~~F-1~~	~~SEALED CONCRETE~~	~~SONNEBORN - KURE-N-SEAL-W, TWO (2) COATS.~~
2 F-2	12" x 12" TILE	TRINITY SURFACES (SERIES: PATHWAYS TILE, COLOR: LIGHT GREY, SIZE: 12" X 12", FINISH: MATTE), GROUT: LATTICRETE READY TO USE SANDED, COLOR: #24 NATURAL GREY, NO SEALENT PER MANUFACTURER'S RECOMMENDATIONS.
F-3	24" x 24" CARPET TILE	PATCRAFT, FOOT IN THE DOOR II, STYLE: #10304 WALK RIGHT IN II, COLOR: CHOCOLATE.
F-4	7.5" x 48" PLANK	PATCRAFT ANEW 1542V, 0074D "AMARETTO" *RANDOM STAGGERED JOINTS, PLANKS TO RUN ONE DIRECTION THROUGHOUT, PARALLEL TO MAIN HALLWAY. COVER WITH HEAVY PAPER. LEVEL THE FLOOR SURFACE AS NEEDED USING A PORTLAND CEMENT LEVELING COMPOUND. FILL IN LOW OR UNEVEN AREAS UNTIL FLOOR IS SMOOTH AND LEVEL.
FT-1	TRANSITION STRIP	SCHLUTER SYSTEMS, SCHIENE. FINISH: STAINLESS STEEL. *FIELD VERIFY SPECIFIC HEIGHT REQ'D.
2 - BASE		
~~B-1~~	~~4" COVE BASE~~	~~ROPPE, COLOR: P-631 SAHARA.~~
2 B-2	TILE COVE BASE	TRINITY PATHWAYS - LIGHT GREY - 1" X 12"; GROUT: TO MATCH FLOOR TILE
B-3	WOOD BASE	1" x 4" PAINT GRADE POPLAR
3 - CEILING		
C-1	PAINT	SW 7063 - NEBULOUS WHITE
C-2	PAINT	SW 7063 - NEBULOUS WHITE, SMOOTH NON-ABSORBANT
C-3		OPEN TO STRUCTURE
C-4	ACT & GRID	ARMSTRONG "CIRRUS TEGULAR" 534, 2x2 TILE WITH ANGLED TEGULAR EDGE. COLOR: WHITE. ARMSTRONG PRELUD XL 15/16 EXPOSED TEE GRID. COLOR: WHITE
C-5	ACT & GRID	ARMSTRONG "KITCHEN ZONE" 673. 2x2 TILE WITH SQUARE EDGE. COLOR: WHITE. ARMSTRONG PRELUD XL 15/16" EXPOSED TEE GRID. COLOR: WHITE.
4 - PLASTIC LAMINATE		
PL-1	MAMBO, FINE GRAIN FINISH	WILSONART #7948K-07, MELAMINE FINISH
PL-2	CAVALCADE SOUTH, SUEDE	PIONITE AT650 + MATCHING EDGE BAND, MELAMINE FINISH
PL-3	ENGLISH LACE, TEXTURED	NEVAMAR S2085T. MELAMINE FINISH
PL-4	INTERIOR DOORS	MAMBO (SEE PL-1)
5 - INTERIOR PAINT		
P-1		SW 7063 NEBULOUS WHITE
P-2		SW6149 RELAXED KHAKI
P-3		SW 7531 CANVAS TAN
P-4		SW 9039 BROCCOFLOWER
P-5		SW 7609 GEORGIAN REVIVAL BLUE
P-6		UNPAINTED. TAP AND MUD
6 - MISCELLANEOUS		
CP-1	CULTURED MARBLE	IMPERIAL MARBLE CORP. COLOR: TO BE SELECTED FROM MFR'S FULL RANGE.
CR-1	WOOD CHAIR RAIL	1" x 4" PAINT GRADE POPLAR, SEE 2/A2.3
FRP-1		MARLITE #P-140 IVORY, PEBBLE FINISH. SEE FINISH SCHEDULE NOTES AND INTERIOR ELEVATIONS FOR HEIGHTS AND LOCATIONS
SL-1	VERTICAL WOOD SHIP LAP	1"x4" PAINT GRADE POPLAR, SEE INTERIOR ELEVATIONS. PAINT P-3
TINT-1	TINTED FILM	3M FASARA GLASS FINISHES, MILKY MILK (SAN MARINO) SH2MAMM
2 WT-1	WINDOW TREATMENT (SHADES)	SWFCONTRACT - CROSSHATCH R300 WHITE/CREAM C8210 (VANGUARD 3% CORTINA 48210) ULTRA LITE CORDLESS, FABRIC WRAPPED HEMBAR, CASSETTE VALANCE, OR INPRO ARCHITECTURAL PRODUCTS

CASEWORK COLOR SCHEDULE

PIECE	CASEWORK SURFACE	COUNTERTOP
CAR SEAT STORAGE	PL-2	
CHANGING TABLES	PL-1	PL-2
COT STORAGE	PL-2	
CR CABINETS	PL-1	
CR SHELF	PL-1	
CUBBIES	PL-2	
CURRICULUM CABINET	PL-1	
DISINFECTANT	PL-1	
EXP SCIENCE	PL-1	

CASEWORK COLOR SCHEDULE

PIECE	CASEWORK SURFACE	COUNTERTOP
KITCHENETTE	PL-1	PL-2
OFFICE	PL-1	PL-2
POTTY POD CUBBIES	PL-2	
POTTY POD GATES	PL-1	
PUT DOWN	PL-2	PL-2
PUT DOWN CABINETS	PL-1 UNDER PUT DOWN	
RECEPTION	PL-1	SS-1
SHELVING	PL-2	
VANITIES	PL-1	CP-1

FINISH LEGEND GENERAL NOTES

1. ANY INTERIOR WALL AND CEILING FINISH SHALL HAVE A MAXIMUM FLAME - SPREAD INDEX OF 26 - 75 (CLASS II AT CORRIDORS (EXIT WAYS), AND A MAXIMUM FLAME - SPREAD INDEX OF 76 - 200 (CLASS III) AT OTHER AREAS AND CLASSROOMS. WHEN AN ADEQUATE FIRE SPRINKLER SYSTEM IS PROVIDED, THE FLAME - SPREAD CLASSIFICATION MAY BE REDUCED BY ONE CLASSIFICATION.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN WRITTEN APPROVAL FROM PRIMROSE SCHOOL FRANCHISING COMPANY FOR ANY AND ALL SUBSTITUTIONS.
3. CHANGES IN FLOORING MATERIAL OR TRANSITION STRIPS AT DOORS TO OCCUR AT FACE OF DOOR STOP AT PULL SIDE OF DOOR FRAME. SEE DETAIL 2/A2.1 FOR ADDITIONAL CLARIFICATION.
4. PAINT SHEENS THROUGHOUT:
   TOILET ROOMS: SEMI-GLOSS ON WALLS/CEILINGS
   KITCHEN: SEMI-GLOSS AT CEILING (WALLS RECIEVE FRP)
   LAUNDRY ROOM: SEMI-GLOSS ON WALLS/CEILING THAT DO NOT RECIEVE FRP
   ALL OTHER WALLS/CEILING NOT LISTED ABOVE: EGGSHELL
   INTERIOR WOOD TRIM/DOOR FRAMES: SEMI-GLOSS

PRIMROSE NATIONAL ACCOUNT VENDORS

PATCRAFT (SHAW INDUSTRIES) (FLOORING):
** CONTRACT NUMBER 00001385.
PRIMARY CONTACT: TRACY ROAN, ACCOUNT MANAGER, 404-316-4631, tracy.roan@patcraft.com

TRINITY SURFACES:
**CONTRACT NUMBER 33957
PRIMARY CONTACT: ANDY KING, ACCOUNT MANAGER, 404-858-2391, aking@trinitysurface.com

INTERCOM AND DOOR BELL SYSTEM

REQUIRED VENDOR: VALET SYSTEM
ADDRESS: 12101 31st COURT NORTH, ST. PETERSBURG, FL 33716
WEB: http://www.centralvacuumstores.com/intercoms/voice-only/Valet-System-one/index.php
CONTACT: Don Owens
PHONE: 800-546-3729 x136
EMAIL: dowens@fullnet.com

CUSTOMER SERVICE
PHONE: 800-221-8227
EMAIL: salesinfo@centralvacuumstores.com

QUANTITY	ITEM #	DESCRIPTION
1	VVTW	AUDIO INPUT VOLUME & TONE CONTROL - MOUNT HORIZ. IN 1 GANG BOX
UP TO 20	V3SW	VALET MINI ROOM STATION - WHITE
UP TO 20		RECESSED HOUSING ROUGH-IN
1	VDSL	DOOR STATION WITH DOOR PUSH BUTTON - WHITE
1	VPS3DC	TRANSFORMER
1	VPSC	TRANSFORMER POWER CORD
AS REQ'D	8VM500	CAT 5 CABLE OR VALET 8-CONDUCTOR INTERCOM CABLE
2	BK105	NUTONE ELECTRONIC DOOR CHIME
1	PB53LWH	PUSH BUTTON AT THE FRONT DOOR

SIGNAGE PACKAGE SCHEDULE - ALTERNATES WILL NOT BE ACCEPTED

REQUIRED VENDOR: ONE HOUR SIGNS, INC.
ATTN: MICHAEL MARTIN
michael@onehoursigns.com
4011 CANTON RD.
MARIETTA, GA 30066
PHONE: 770-591-1111 x 4
FAX: 770-591-7542
TOLL FREE: 866-591-5911

NOTE:
ALL SIGNS NOT PREPARED BY ONE HOUR SIGNS, INC.
REQUIRE PRIOR WRITTEN APPROVAL FROM
PRIMROSE CORPORATE OFFICE. CONTRACTOR
RESPONSIBLE FOR PERMITTING ALL SIGNS

ESTIMATED QUANTITY	DESCRIPTION	
1	60" ROUND PRIMROSE LOGO	LED LIGHTED CAN
1	18" x 24" BUCKLE UP SIGN WITH 6' PVC POST	
1	PRIMROSE PATCH SIGN WITH 8" PCV POST	
1	11" x 28" ADDRESS PANEL WITH 8" REFLECTIVE BLACK NUMBERS	SEE EXTERIOR ELEVATIONS
1	12" x 12" SMOKE FREE CAMPUS SIGNS WITH 2 x 2 x 36" PVC POST	LOCATE OUTSIDE BUILDING'S MAIN ENTRY
1	24" ROUND ACRYLIC PRIMROSE LOGO	OPTIONAL FOR CONFERENCE ROOM WALL
1	MAILBOX PACKAGE WITH PVC POST AND PRIMROSE LOGOS	
2	HANDICAP SIGNS WITH VAN ACCESS AND TRAFFIC POSTS	VERIFY STYLE WITH LOCAL AUTHORITIES
1	INTERIOR SIGN PACKAGE - CLASSROOM/ RESTROOM DOOR SIGNAGE	SEE NOTE 1
1	12" VINYL LOGO FOR CONFERENCE ROOM GLASS DOOR. (ETCHED GLASS LOOK)	
1	22" VINYL LOGO FOR OFFICE GLASS VIEWING WINDOW. (ETCHED GLASS LOOK)	
1	PLEASE SLOW DOWN SIGN WITH 6' PVC POST	

NOTES:
1. CONTRACTOR TO VERIFY WITH OWNER THE NAME OF EACH CLASSROOM PRIOR TO APPROVING THE INTERIOR SIGNAGE.
2. CONTRACTOR TO PULL MONUMENT SIGN PERMIT AND VERIFY WITH OWNER THE SCHOOL NAME PRIOR TO APPROVING THE MONUMENT SIGN.

MONUMENT SIGNAGE PACKAGE SCHEDULE

NOTE: SEE 10/A7.1 FOR DETAILS

CASEWORK PACKAGE

REQUIRED VENDOR: CALHOUN MILLWORKS
CONTACT: AL SCHELLHORN
ADDRESS: 995 W LINE STREET, CALHOUN, GA 30701-7913
PHONE: 706-625-2288
FAX: 706-629-6802

DESCRIPTION
REFER TO SHEET A1.2.
CASEWORK, MILLWORK AND INSTALL PACKAGE IS AVAILABLE FROM THIS VENDOR

FLAGS

VENDOR: FLAG SOURCE SOUTHEAST, INC.
ADDRESS: 1956 LOWER ROSWELL RD., SUITE C, MARIETTA, GA, 30068
CONTACT: MARK EGGLESTON
PHONE: 770-977-3331
EMAIL: flagsource@bellsouth.net

QUANTITY	ITEM #	DESCRIPTION
1	POLE	ECSS 25 25' FLAG POLE
1	PSFC FLAG	PRIMROSE FLAG
1	FLAG	4' x 6' U.S. NYLON II FLAG

NOTE:
1. PROVIDE 4 HALYARD CLIPS W/ POLE. PROVIDE HIGH WIND POLE PER SPECIFICATIONS WHEN REQUIRED.

PLAYGROUND EQUIPMENT

REQUIRED VENDOR: PLAYPOWER, INC.
ADDRESS: 878 E HIGHWAY 60, MONETT, MO 65708
DANIELLE OWENS
DANIELLE.OWENS@PLAYPOWER.COM
573.631.2428

JOLEAN BOYER - NATIONAL ACCOUNTS MANAGER
JOLEAN.BOYER@PLAYPOWER.COM
573.366.6333

EMAIL: PRIMROSE.SUPPORT@PLAYPOWER.COM

QUANTITY	ITEM #	DESCRIPTION
1		APPROVED PLAYGROUND PACKAGE
SEE SITE		KID TIMBERS (APPROX TOTAL)
6		KID TIMBERS (FOR PRIMROSE PATCH)

DISCLAIMER: LITTLE TIKES PLAY SYSTEMS, INC. PRIMROSE SCHOOL FRANCHISING COMPANY HAS CONTRACTED WITH LITTLE TIKES PLAY SYSTEMS AS THE ONLY APPROVED PLAYGROUND EQUIPMENT SUPPLIER. PRIOR TO ORDERING EQUIPMENT, YOU MUST HAVE YOUR APPROVED PLAYGROUND PLAN ON FILE WITH PRIMROSE SCHOOL FRANCHISING COMPANY. APPROVAL IS TO BE GIVEN BY P.S.F.C.

TO ENSURE ON-TIME DELIVERY AND INSTALLATION, YOU MUST ORDER EQUIPMENT TWELVE (12 WEEKS) PRIOR TO YOUR OPENING DATE. IF LITTLE TIKES PLAY SYSTEMS IS CONTRACTED FOR THE INSTALLATION, THIS WILL ENSURE THEM TURNING THE PLAYGROUND OVER TO YOU FOR COMPLETION OF FALL ZONE, ETC. TWO (2) WEEKS PRIOR TO OPENING. PRIMROSE SCHOOL FRANCHISING COMPANY RECOMMENDS LITTLE TIKES PLAY SYSTEMS TO INSTALL THE EQUIPMENT TO REDUCE YOUR LIABILITY AND INSURE PROPER INSTALLATION.

COAT HOOKS

REQUIRED VENDOR: COMMUNITY PLAYTHINGS
ATTN: JEENE KING
sales@communityplaythings.com
PHONE: 800-777-4244
FAX: 800-336-5948

QUANTITY	ITEM #	DESCRIPTION
200	S214-10	COAT HOOK, PLASTIC W/ 20 2-3/4" SCREWS - HD PLASTIC COLOR: BEIGE - SET OF 10

NOTE:
COAT HOOKS SHALL BE LOCATED IN THE FIELD BY PRIMROSE OPERATIONS CONSULTANT

WEATHERVANE PACKAGE

REQUIRED VENDOR: WEATHERVANES OF MAINE
CONTACT: KYLE MCDOUGAL
ADDRESS: 867 BLACKSTREAM RD. HERMON, ME 04401
PHONE: 207-848-8163
EMAIL: weathervanesofmaine@yahoo.com

DESCRIPTION
REFER TO SHEET A4.0 & A6.3
LARGE COPPER ROOSTER #348 WITH STAINLESS STEEL UPGRADE- WELDED SHAFTS & LOCKING PIN FOR HIGH WIND.

CASCO
CASCO ENTERPRISES CORPORATION
12 Sunnen Drive, Suite 100, St. Louis, MO 63143 T: 314-821-1200

PRIMROSE SCHOOLS
1788 ROCK SPRINGS RD
RUTHERFORD COUNTY
SMYRNA, TN 37167

PRIMROSE SCHOOL FRANCHISING COMPANY
3200 WINDY HILL ROAD, SUITE 1200 E
ATLANTA, GEORGIA 30339-5640

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CONSTR. DOC. & REVSIONS

No.	Description	Date
1	POST BID ADD 1 - CODE RESP. / FO REVISIONS	11/30/22
2	FOR CONSTRUCTION	04/06/23

JAMES A. SCHMITT
REGISTERED ARCHITECT
AGRICULTURE COMMERCE
No. 102092
STATE OF TENNESSEE
04/06/23
Professional of Record:
JAMES A. SCHMITT
LICENSE NO: 102092
EXP. DATE: 08/31/24

Drawn/Checked	MS / DSC
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

FINISH LEGENDS & SCHEDULES

A2.2

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4/6/2023 6:59:35 AM

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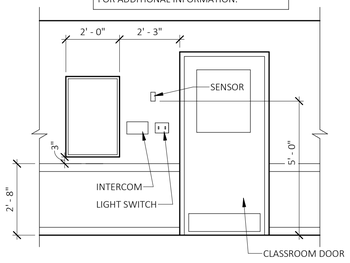
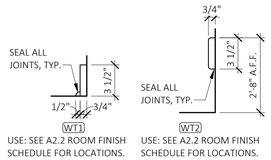
INTERCOM, LIGHT SWITCHES AND HVAC SENSOR LOCATIONS MAY OCCUR ON EITHER SIDE OF DOOR. REFER TO INTERIOR ELEVATIONS, ELEC. AND MECH. DRAWINGS FOR ADDITIONAL INFORMATION.



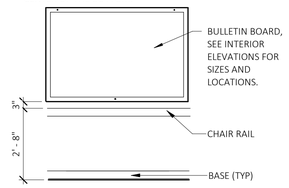
1 A2.3 TYP. DOOR ELEVATION
SCALE: 3/8" = 1'-0"



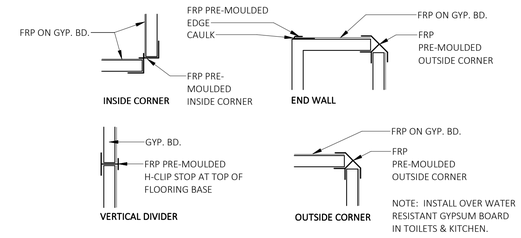
1. TRIM TO BE SOLID WOOD, PAINT GRADE POPLAR OR FIR. TRIM TO BE SANDED SMOOTH. ALL VOIDS AND GAPS TO BE CAULKED AS NEEDED
2. TRIM THE CHAIR RAIL IF NEEDED TO CLEAR ANY CONFLICTS WITH THE CABINETRY AND/OR BACKSPLASH
3. ROUND ALL EDGES, OUTSIDE CORNERS, ETC. REFER TO A2.2 FOR COLOR.

2 A2.3 TYPICAL WOOD TRIM PROFILES
SCALE: 1 1/2" = 1'-0"

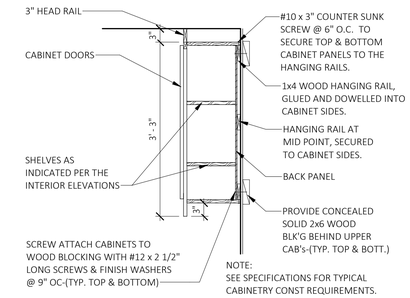
INSTALLATION NOTES:
BULLETIN BOARDS ARE SUPPLIED WITH THE F.F.E. BY BECKERS. MOUNT BOARDS WITH DRYWALL SCREWS ATTACHED TO STUDS JUST INSIDE THE WOOD FRAMES. USE TWO SCREWS AT TOP OF BOARD AND ONE AT CENTER OF THE BOTTOM.



3 A2.3 BULLETIN BOARD
SCALE: 3/8" = 1'-0"

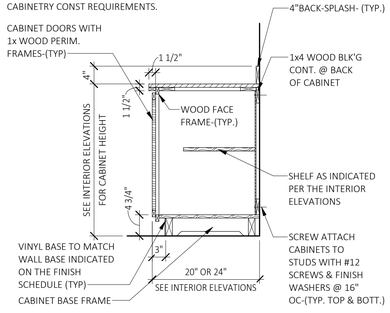


4 A2.3 FRP
SCALE: 3" = 1'-0"

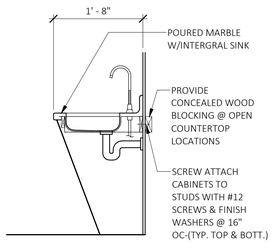


5 A2.3 TYP - UPPER CABINET
SCALE: 3/4" = 1'-0"

NOTE:
SEE SPECIFICATIONS FOR TYPICAL CABINETRY CONST REQUIREMENTS.

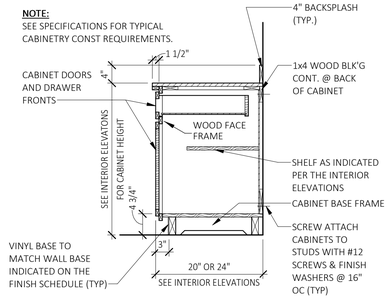


6 A2.3 BASE CABINET (1 DOOR)
SCALE: 3/4" = 1'-0"

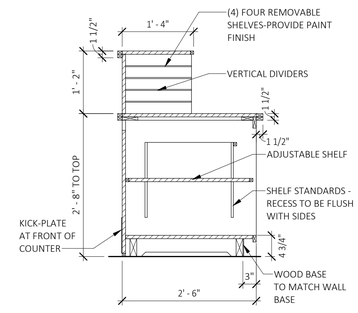


7 A2.3 TYP - SINK CABINET
SCALE: 3/4" = 1'-0"

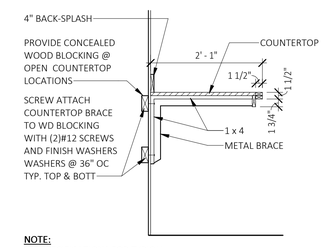
NOTE:
SEE SPECIFICATIONS FOR TYPICAL CABINETRY CONST REQUIREMENTS.



8 A2.3 BASE CAB (1 DR/1 DWR)
SCALE: 3/4" = 1'-0"

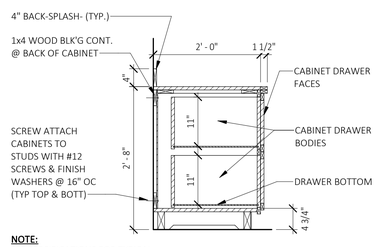


9 A2.3 RECEPTION COUNTER
SCALE: 3/4" = 1'-0"



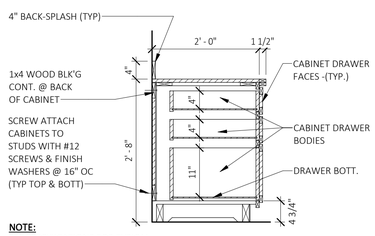
NOTE:
SEE SPECIFICATIONS FOR TYPICAL CABINETRY CONST. REQUIREMENTS.

10 A2.3 TYP - COUNTER
SCALE: 3/4" = 1'-0"



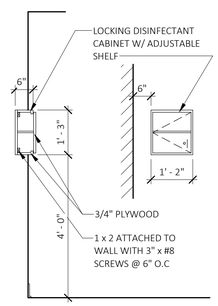
NOTE:
SEE SPECIFICATIONS FOR TYPICAL CABINETRY CONST REQUIREMENTS.

11 A2.3 BASE CAB (2 DRAWERS)
SCALE: 3/4" = 1'-0"



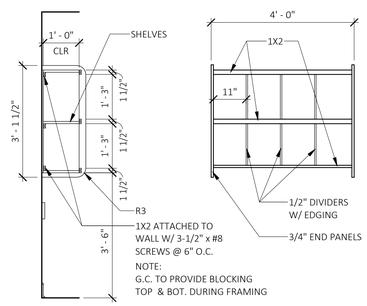
NOTE:
SEE SPECIFICATIONS FOR TYPICAL CABINETRY CONST REQUIREMENTS.

12 A2.3 BASE CAB (3 DRAWERS)
SCALE: 3/4" = 1'-0"

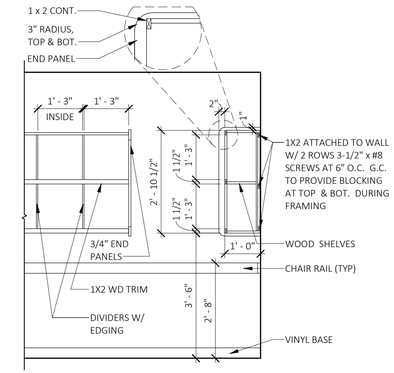


NOTE:
RECESS ALL DISINFECTANT CABINETS

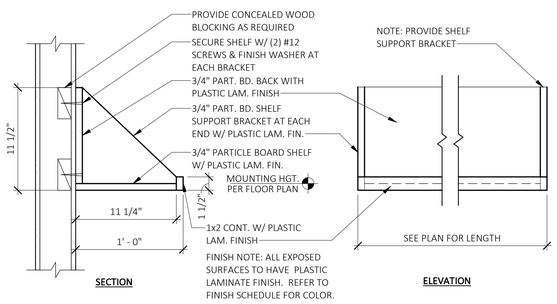
13 A2.3 DISINFECTANT CAB
SCALE: 1/2" = 1'-0"



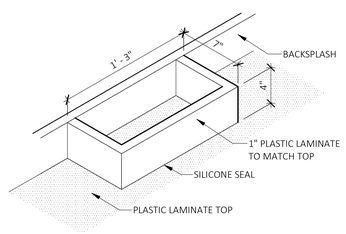
14 A2.3 INFANT CUBBIE
SCALE: 1/2" = 1'-0"



15 A2.3 CUBBIE
SCALE: 1/2" = 1'-0"

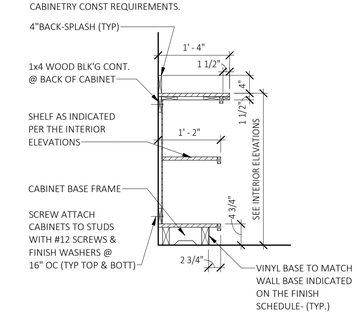


16 A2.3 WOOD SHELF
SCALE: 1 1/2" = 1'-0"

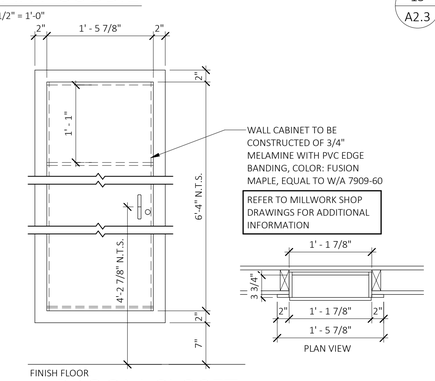


17 A2.3 BOTTLE WARMER HOLDER
SCALE: 1 1/2" = 1'-0"

NOTE:
SEE SPECIFICATIONS FOR TYPICAL CABINETRY CONST REQUIREMENTS.



18 A2.3 PUT DOWN COUNTER
SCALE: 3/4" = 1'-0"



REFER TO MILLWORK SHOP DRAWINGS FOR ADDITIONAL INFORMATION

19 A2.3 BROOM CLOSET
SCALE: 1" = 1'-0"

NOTE:
DETAILS ARE SHOWN FOR REFERENCE ONLY. ALL MILLWORK IS SUPPLIED BY CALHOUN MILLWORKS AS NOTED IN SPECIFICATIONS.

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No.	Description	Date

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REGISTERED ARCHITECT
AGRICULTURE
COMMERCE
LICENSE NO. 102092
STATE OF TENNESSEE
04/06/23

Professional of Record:
JAMES A. SCHMITT
LICENSE NO: 102092
EXP. DATE: 08/31/24

Drawn/Checked	MS / DSC
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

INTERIOR DETAILS

A2.3

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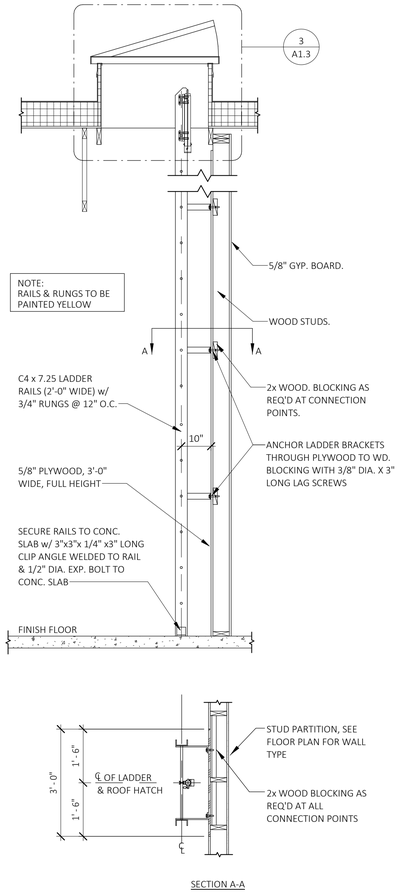
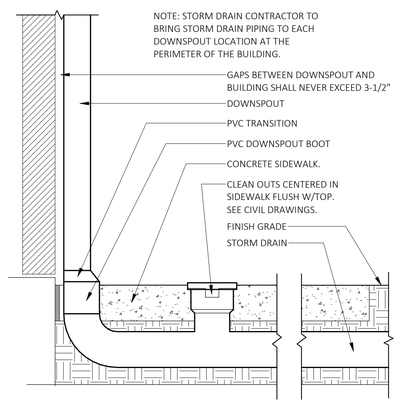


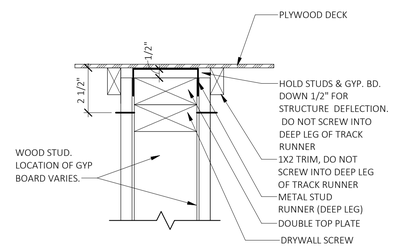
1 A2.4 LADDER

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



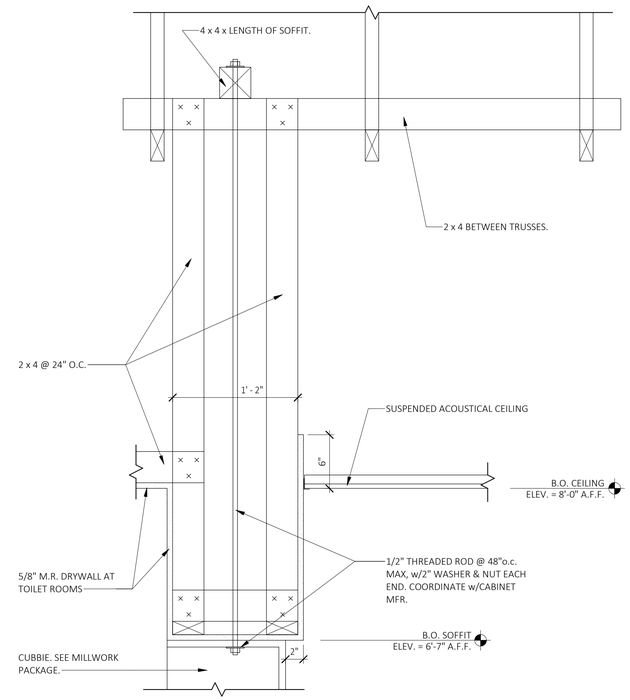
2 A2.4 DOWNSPOUT

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



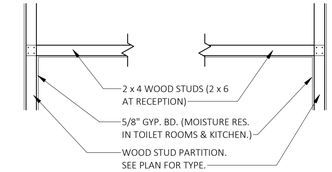
3 A2.4 PARTITION SLIP JOINT

SCALE: 3" = 1'-0"



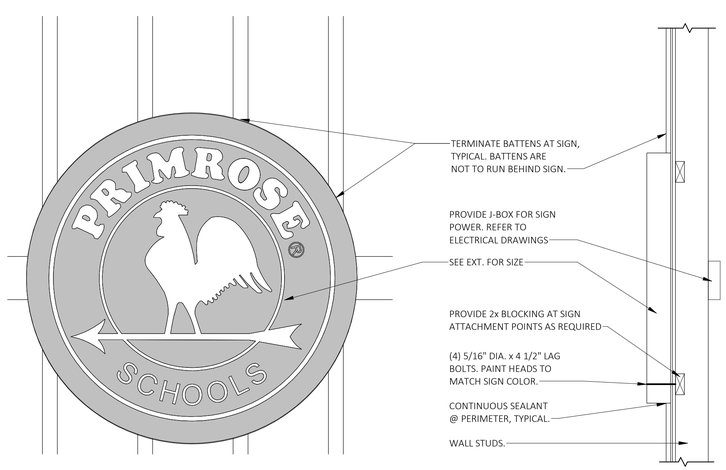
4 A2.4 SOFFIT

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



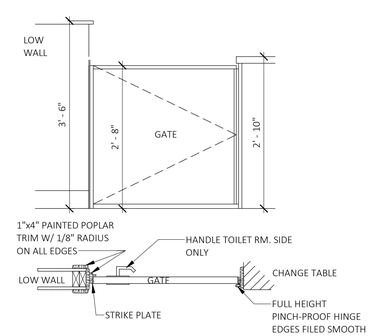
5 A2.4 TYP GYP BD CLG

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



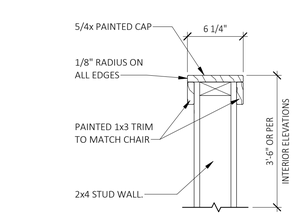
6 A2.4 SIGN MOUNTING

SCALE: 1" = 1'-0"



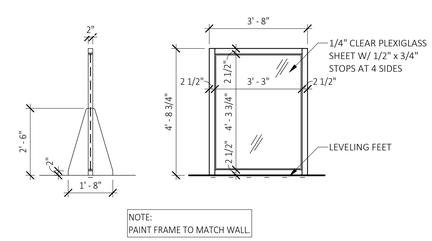
7 A2.4 GATE

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



8 A2.4 LOW WALL

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



9 A2.4 MOBILE INFANT PARTITION DETAIL

SCALE: 3/8" = 1'-0"

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MISCELLANEOUS DETAILS

A2.4

4/6/2023 6:59:37 AM

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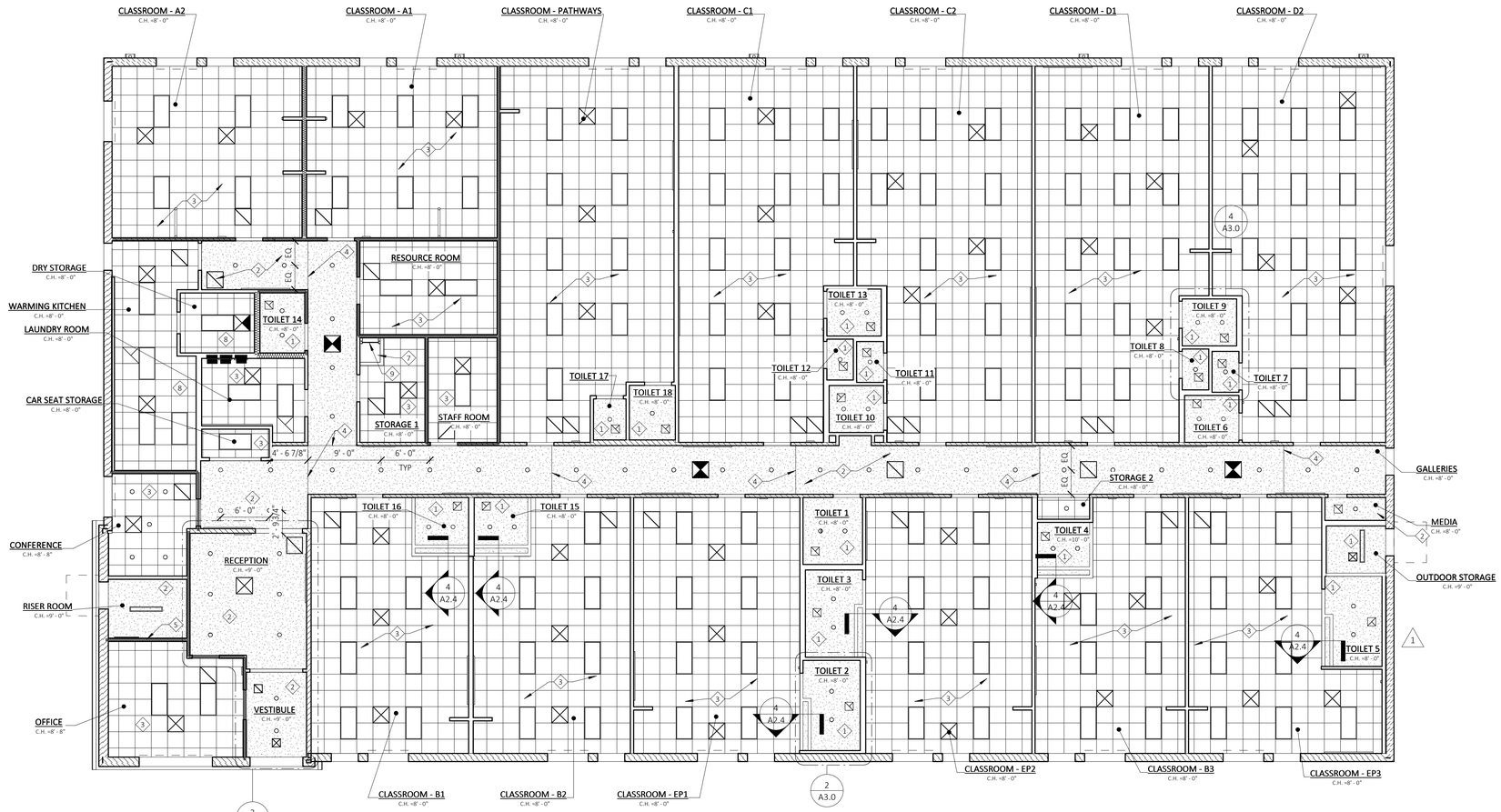
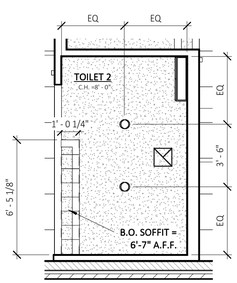


1 A3.0 REFLECTED CEILING PLAN

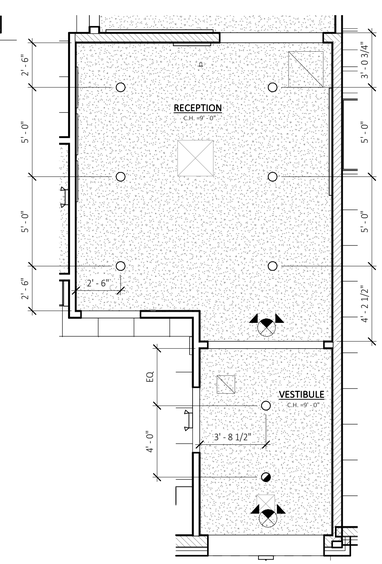
SCALE: 1/8" = 1'-0"

NORTH



2 A3.0 ENLARGED TOILET PLAN

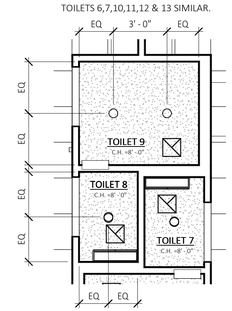
SCALE: 1/4" = 1'-0"



3 A3.0 ENLARGED RECEPTION PLAN

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

TOILETS 6,7,10,11,12 & 13 SIMILAR.



4 A3.0 ENLARGED TOILET PLAN

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

CEILING LEGEND

- DRYWALL CEILING. CEILING HEIGHT (C.H.) AS INDICATED.
- SUSPENDED LAY - IN ACOUSTICAL TILE CEILING. CEILING HEIGHT (C.H.) AS INDICATED.
- SOUND WALL - FILL CAVITY FROM FLOOR TO DECK W / SOUND ATTENUATION BATTS.
- EXTERIOR WALL MOUNTED FIXTURE. MOUNT 84" A.F.F. TO BOTTOM OF FIXTURE, U.N.O. EXTERIOR ELEVATIONS. SEE ELECTRICAL.
- EXTERIOR EMERGENCY LIGHT FIXTURE, SEE ELECTRICAL.
- INTERIOR EMERGENCY LIGHT FIXTURE, SEE ELECTRICAL.
- 1' X 4' LIGHT FIXTURE, CEILING MOUNTED. SEE MECHANICAL.
- 2' X 4' LIGHT FIXTURE, RECESSED. SEE ELECTRICAL.
- 2' X 4' LIGHT FIXTURE, RECESSED - NIGHT LIGHT. SEE ELECTRICAL.
- RECESSED DOWNLIGHT. SEE ELECTRICAL.
- CEILING / WALL MOUNTED BATTERY POWERED EMERGENCY EXIT LIGHT W / EMERGENCY LIGHT HEADS. SEE ELECTRICAL.
- RETURN AIR - SEE MECHANICAL.
- EXHAUST GRILLE - SEE MECHANICAL
- SUPPLY AIR - SEE MECHANICAL

RCP KEYED NOTES

1. 5/8" MOISTURE RESISTANT GYPSUM BOARD CEILING.
2. 5/8" GYPSUM BOARD CEILING
3. 2' X 2' SUSPENDED CEILING GRID WITH LAY IN ACOUSTICAL TILES. CENTER LIGHTS U.N.O.
4. DRYWALL CONTROL JOINT. MAXIMUM SPACING 30' - 0" O.C.
5. ELECTRIC HEATER. SEE MECHANICAL FOR ADDITIONAL INFORMATION.
7. 36" X 30" BILCO "TYPE S" ROOF HATCH OR EQUAL.
8. 2' X 2' SUSPENDED CEILING GRID WITH "KITCHEN ZONE" LAY IN ACOUSTICALTILES, CENTER LIGHTS, U.N.O. COLOR AS INDICATED ON FINISH SCHEDULE.
9. ROOF LADDER, SEE 1/A2.4

CEILING GENERAL NOTES

A. ALL INTERIOR DIMENSIONS ARE TO FACE OF GYPSUM BOARD, UNLESS NOTED OTHERWISE.
B. CENTER LIGHT FIXTURES IN ROOMS, UNLESS NOTED OTHERWISE.
C. COORDINATE CEILING PLAN & INSTALLATION WITH ALL ARCHITECTURAL, MECHANICAL & ELECTRICAL TRADES. (REFER TO MECHANICAL, PLUMBING, FIRE PROTECTION & ELECTRICAL DRAWINGS FOR REQUIREMENTS)
D. REFER TO ROOM FINISH SCHEDULE AND SPECS FOR FINISH CEILING TYPES & INSTALLATION REQUIREMENTS.
E. PROVIDE AND INSTALL SEISMIC CEILING BRACING & RESTRAINTS. WHERE REQUIRED BY STATE OR LOCAL LAWS, CODES AND ORDINANCES.
F. MECHANICAL CONTRACTOR SHALL COORDINATE ALL GRILLES, DIFFUSERS, EQUIPMENT, DUCTS, ETC. WITH ALL OTHER TRADES INCLUDING, BUT NOT LIMITED TO THE MILLWORK, CABINETRY THAT EXTENDS TO THE CEILING IN TOILET ROOMS, ELECTRICAL CONTRACTOR, AND LIGHTING.
G. ALL GYP. BD. CEILING PENETRATIONS TO BE SEALED, TEXTURED, AND FINISHED.
H. CENTER ALL SUSPENDED CEILING GRIDS IN BOTH DIRECTIONS, TYPICAL UNLESS NOTED OR DIMENSIONED.
I. EXTEND GYP. BD. TO 6" ABOVE SUSPENDED CEILINGS, U.N.O.
J. GC TO COORDINATE EXACT ROOF HATCH OPENING LOCATION WITH WALL AND LADDER BELOW AS WELL AS TRUSS SHOP DRAWINGS.

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No.	Description	Date
1	POST BID ADD 1 - CODE RESP. / TO REVISIONS	11/10/22

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Drawn/Checked	MS / DSC
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For Construction	04/06/23
Re-Bid Date	10/23/23

REFLECTED CEILING PLAN

A3.0

4/6/2023 8:59:40 AM

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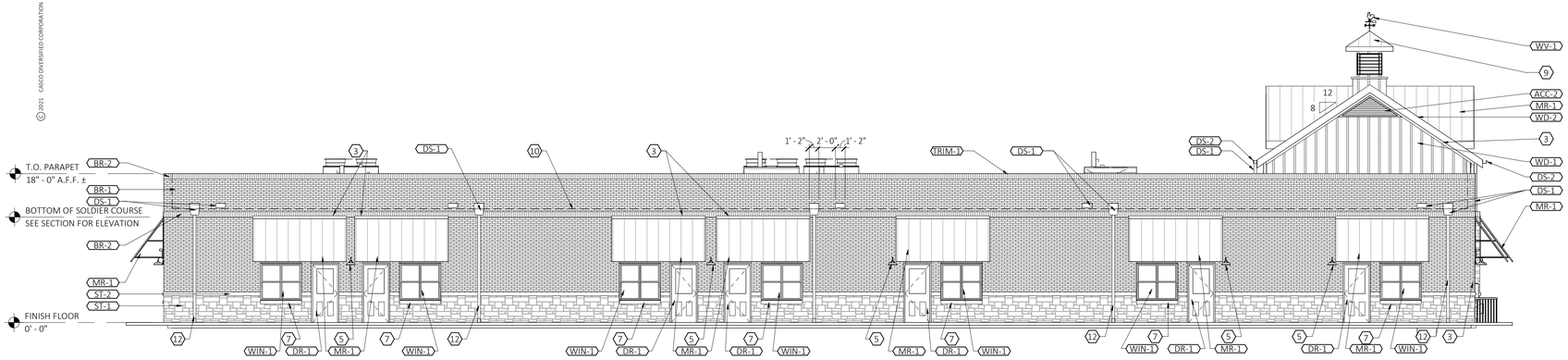
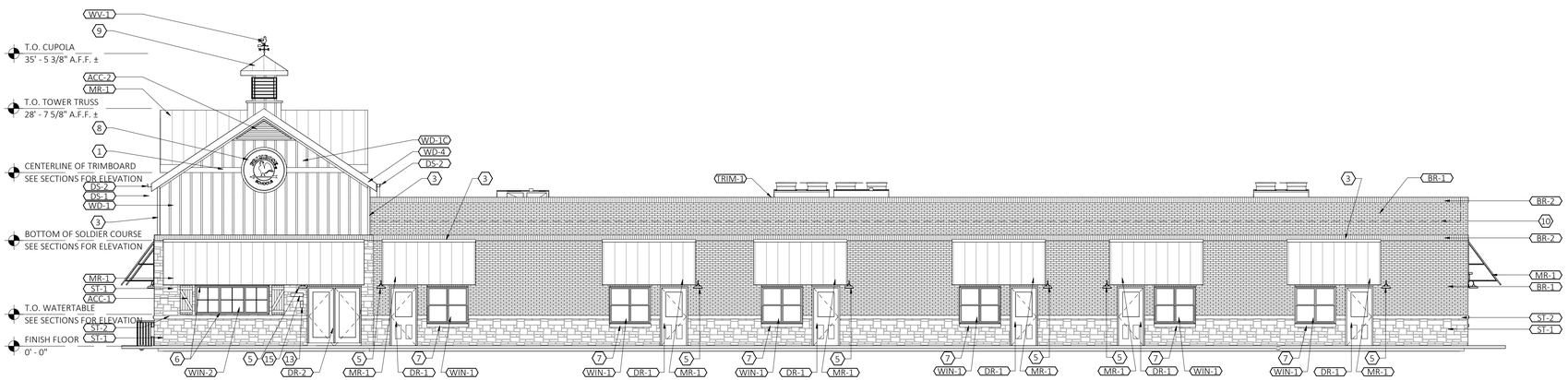


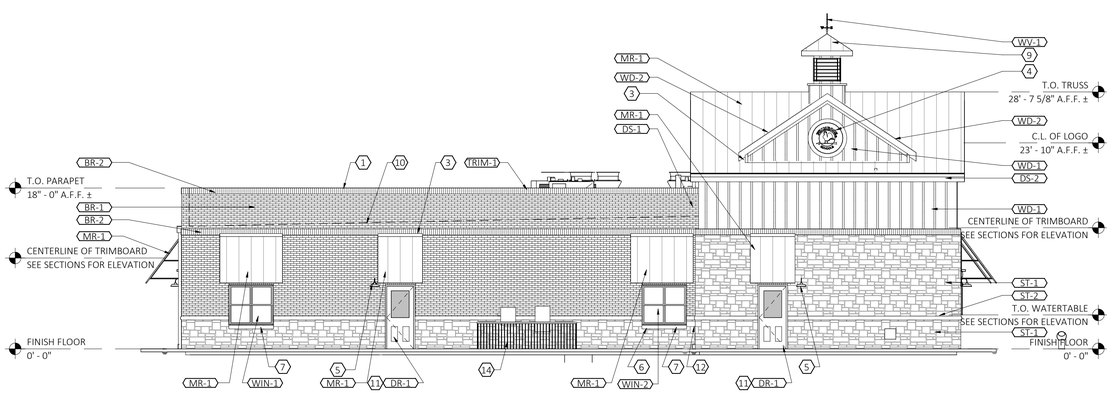
1 A4.0 SOUTH ELEVATION

SCALE: 1/8" = 1'-0"



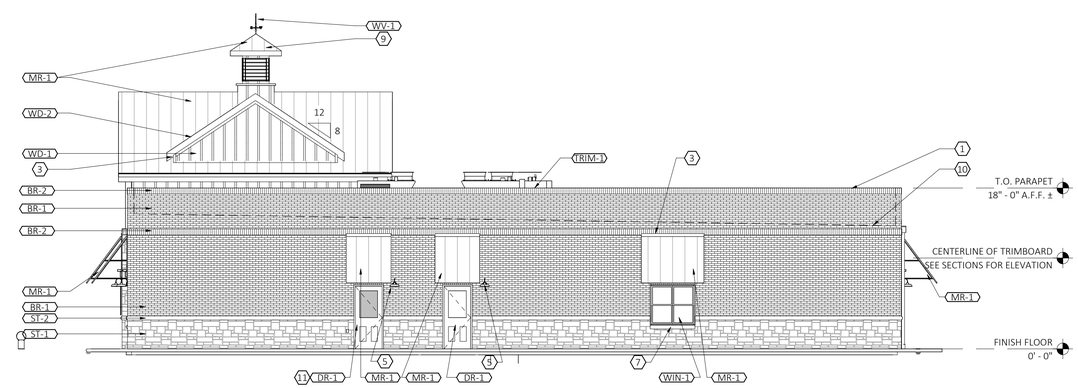
2 A4.0 NORTH ELEVATION

SCALE: 1/8" = 1'-0"



3 A4.0 EAST ELEVATION

SCALE: 1/8" = 1'-0"



4 A4.0 WEST ELEVATION

SCALE: 1/8" = 1'-0"

ELEVATION KEYED NOTES

1. 5/4 x 8 TRIMBOARD, WD - 1
2. NOT USED
3. 5/4 x 4 TRIMBOARD, WD - 1
4. 42" ROUND LED LIGHTED SIGN (INTERNALLY LIT). SEE 6/A2.4 FOR MOUNTING DETAIL.
5. LIGHTING, REFER TO ELECTRICAL DRAWINGS.
6. TRIMBOARD AT OFFICE & CONF ROOM WINDOWS: HORIZ TO BE 5/4 x 6, VERT TO BE 5/4 x 4, BOTH WD-1
7. BULLNOSE WINDOW SILL
8. 60" ROUND LED LIGHTED SIGN (INTERNALLY LIT). SEE 6/A2.4 FOR MOUNTING DETAIL
9. CUPOLA WITH WEATHERVANE. PAINT ALL SURFACES TO MATCH "ARCTIC WHITE", ROOF TO BE MR - 1 REFER TO 1A/A6.3 FOR CONSTRUCTION.
10. ROOF LINE BEHIND PARAPET WALL.
11. GLAZING TO RECIEVE WINDOW FILM, TINT - 1. SEE FINISH SCHEDULE SHEET A2.2
12. DOWNSPOUTS TIED INTO UNDERGROUND STORM SEWER BELOW GRADE.
13. KNOX BOX OR APPROVED EQUAL. COORDINATE LOCATION WITH LOCAL FIRE OFFICIAL
14. 4' - 0" HIGH SOLID VINYL FENCE WITH (2) 3' - 0"W GATES.
15. BEIGE ALUMINUM PLAGUE W/6" REFLECTIVE BLACK VINYL NUMBERS. PROVIDED BY 1 HOUR SIGN. COORDINATE LOCATION WITH LOCAL FIRE OFFICIAL.

EXTERIOR FINISH LEGEND

MARK	DESCRIPTION	SPECIFICATION
ACC-1	SHUTTERS	EKENA MILLWORK: TWO BATTEN W/Z-BAR BOARD & BATTEN COMPOSITE SHUTTERS. 3' - 6"T x 1' - 6"W. SHUTTERS TO BE ORDERED PRIMED, PAINT TO MATCH "COBBLESTONE"
ACC-2	LOUVERS	AMERICAN LOUVER & VENT COMPANY, TGV81260 OR APPROVED EQUAL. (COLOR TO MATCH "COBBLESTONE")
BR-1	BRICK	MERIDIAN BRICK PHENIX CITY, AL COLLECTION, COLOR: VIRGINIAN
BR-2	SOLIDIER COURSE	MERIDIAN BRICK PHENIX CITY, AL COLLECTION, COLOR: VIRGINIAN
DR-1	HALF LITE DOORS	EXTERIOR INSULATED METAL HALF LITE DOOR; COLOR (INTERIOR & EXTERIOR): WHITE. SEE DOOR SCHEDULE FOR ADDITIONAL INFORMATION.
DR-2	FULL LITE DOOR	EXTERIOR INSULATED METAL FULL LITE DOOR : COLOR (INTERIOR & EXTERIOR): WHITE. SEE DOOR SCHEDULE FOR ADDITIONAL INFORMATION.
DS-1	GUTTERS, DOWNSPOUTS & GABLED ROOF	COLOR TO MATCH "COBBLESTONE": 6" GUTTERS AND DOWN SPOUTS U.N.O.
DS-2	GUTTERS ALONG METAL ROOF	COLOR: TO MATCH "MR - 1"
MR-1	METAL ROOF	BERRIDGE CEE-LOCK SYSTEM. COLOR: DARK BRONZE.
ST-1	STONE WAINSCOT	LONESTAR STONE - LIBERTY CLASSIC - AUTUMN; GROUT: LIGHT BUFF; COLOR: MORTAR
ST-2	STONE CAP @ WAINSCOT	STONE SILL COLOR: NATURAL WHITE
TRIM	MISC METAL TRIM & FLASHING	ANY MISC METAL FLASHING AND TRIM NOT NOTED AS TRIM-1 OR TRIM-2 SHOULD MATCH COLOR OF ADJACENT SURFACE. CONTACT ARCHITECT FOR DIRECTION AS REQ'D.
TRIM-1	MTL TRIM @ PARAPET WALLS	COLOR TO MATCH "COBBLESTONE"
TRIM-2	MTL TRIM @ METAL ROOF	COLOR: TO MATCH "MR-1"
WD-1	BOARD & BATTEN SIDING	HARDIE PANEL (4' X 10') & HARDIE TRIM BATTEN BOARDS (2 1/2" WIDE @ 2' - 0" O.C.) FINISH: SMOOTH COLOR: COBBLESTONE (PRIMED AND FIELD PAINTED)
WD-2	TRIM (FASCIA TRIM @ METAL ROOF)	HARDIE TRIM BOARDS, 5/4 NT3 SMOOTH, SEE WALL SECTIONS FOR WIDTH. COLOR: PAINT TO MATCH MR-1
WIN-1	VINYL WINDOWS	ANDERSEN: SILVERLINE 2200 SERIES. COLOR: WHITE. SEE WINDOW SCHEDULE.
WIN-2	VINYL WINDOWS (@ OFFICE)	ANDERSEN: 100 SERIES. COLOR: WHITE. SEE WINDOW SCHEDULE
WV-1	WEATHER VANE	LARGE COPPER ROOSTER WEATHERVANE. SEE 1A/A6.3 FOR ADDITIONAL INFORMATION.

MATERIAL	NORTH ELEVATION	SOUTH ELEVATION	EAST ELEVATION	WEST ELEVATION
BRICK	58%	69%	50%	76%
STONE	22%	16%	34%	18%
SIDING	8%	5%	10%	1%
OPENINGS	12%	10%	6%	5%

CASCO
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12 Sunwest Drive, Suite 100, St. Louis, MO 63143 T: 314-821-1200

PRIMROSE SCHOOLS

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RUTHERFORD COUNTY
SMYRNA, TN 37167

PRIMROSE SCHOOL FRANCHISING COMPANY
3200 WINDY HILL ROAD, SUITE 1200 E
ATLANTA, GEORGIA 30339-5640

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CONSTR. DOC. & REVISIONS

No.	Description	Date

JAMES A. SCHMITT
REGISTERED ARCHITECT
AGRICULTURE COMMERCE
NO. 102092
STATE OF TENNESSEE
04/06/23

Professional of Record:
JAMES A. SCHMITT
LICENSE NO: 102092
EXP. DATE: 08/31/24

Drawn/Checked	MS / DSC
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

EXTERIOR ELEVATIONS

A4.0

4/6/2023 6:59:45 AM

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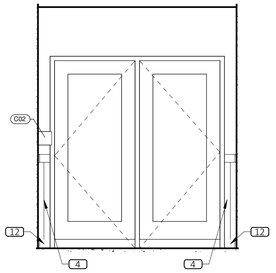
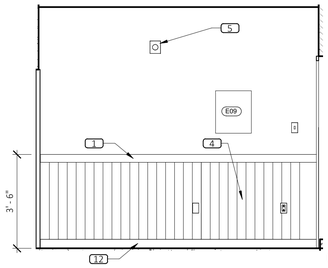


1 A5.1 VESTIBULE
SCALE: 3/8" = 1'-0"



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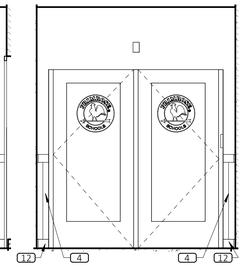

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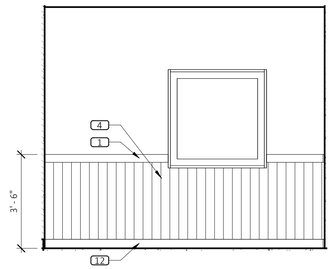

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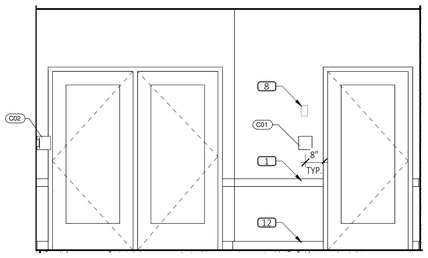

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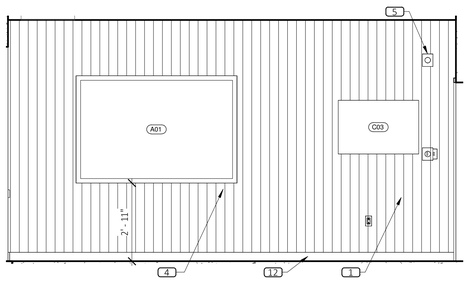

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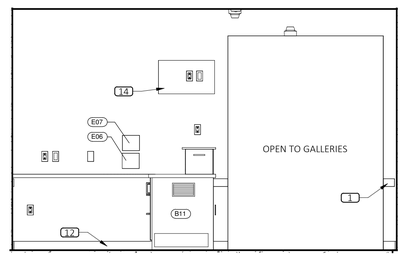

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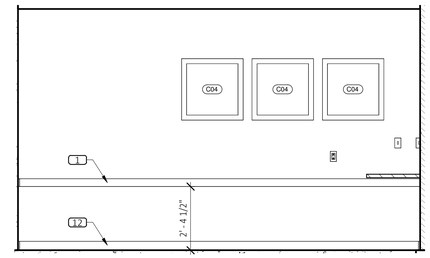

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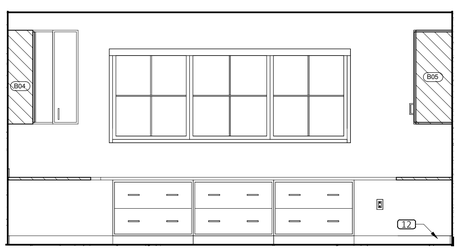

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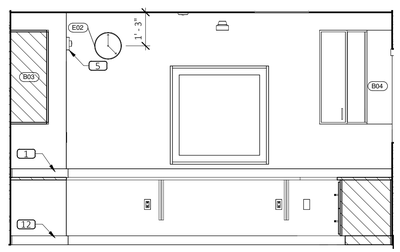

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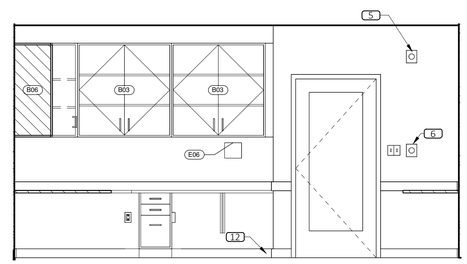

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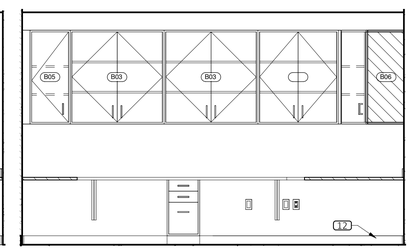

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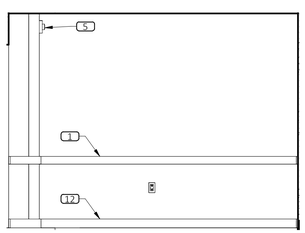

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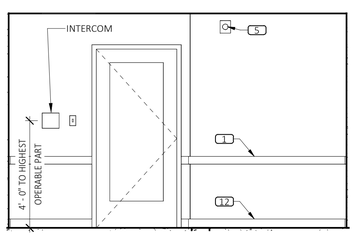

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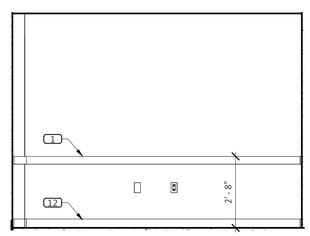

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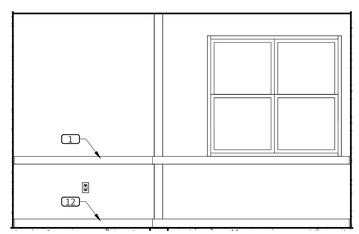

16 A5.1 CONFERENCE
SCALE: 3/8" = 1'-0"

ELEVATION KEYED NOTES (X)

1 CHAIR RAIL, SEE FINISH SCHEDULE
2 PROVIDE FULL HEIGHT FRP AT COT STORAGE ALCOVE. EXTEND FRP TO END FACE OF WING WALL & TERMINATE W/ J-MOULD (TYP.)
3 PROVIDE BLOCKING FOR WOOD SHELF
4 1" x 4" SHIP LAP. PROVIDE WOOD BLOCKING IN WALL AS NEEDED.
5 FA VISUAL STROBE
6 FA PULL STATION
7 8" BACK SPLASH
8 TEMPERATURE SENSOR, SEE MECHANICAL.
9 HOSE BIBB ACCESS PANEL
10 MOP SINK
11 FRP
12 COVE BASE
13 COAT HOOKS
14 29" MONITOR. PROVIDE OUTLET, SEE ELECTRICAL
15 CASLINK LIGHTING CONTROL PANEL

ACCESSORY SCHEDULE

	ITEM	OWNER FURNISHED	OWNER INSTALLED	CONTRACTOR FURNISHED	CONTRACTOR INSTALLED
"A" DISPLAY BOARDS					
A01	6'W x 4'H BULLETIN BOARD. SET BOT. @ 3" ABOVE CHAIR RAIL.	O			O
A02	2'W x 3'H BULLETIN BOARD. SET BOT. @ 3" ABOVE CHAIR RAIL.	O			O
A03	6'W x 4'H WHITE BOARD. SET BOT. @ 3" ABOVE CHAIR RAIL.	O			O
"B" SHELVING/CUBBIES/CABINETS					
				O	O
B01	CUBBIES, SEE ELEVATIONS FOR QUANTITY			O	O
B02	CUBBIES ABOVE CHANGE TABLE			O	O
B03	16" DEEP X 3'-6"W X 3'-6"H SURFACED MOUNTED			O	O
B04	16" DEEP x 3'-0"W x 3'-6"H CORNER CABINET			O	O
B05	16" DEEP X 1'-6"W X 3'-6"H SURFACE MOUNTED			O	O
B06	16" DEEP X 1'-3"W X 3'-6"T SURFACE MOUNTED			O	O
B07				O	O
B08	12" DEEP X 2'-6"W X 3'-3"T WALL CABINET			O	O
B09	12" DEEP X 3'-0"W X 3'-0"T WALL CABINET			O	O
B10	STACKED WASHER AND DRYER			O	O
B11	RECEPTION DESK CABINETS			O	O
B12	30" X 40" CURRICULUM CABINET				
B13	16" DEEP X 4' LONG WALL CABINET			O	O
B14	CAR SEAT STORAGE SHELVING			O	O
B15	24"D x 36"L ADJ. WD SHELVES W/ 1'-6" L STANDARDS			O	O
B16	18"DEEP ADJUSTABLE WOOD SHELVES, SEE ELEVATIONS			O	O
B17	12" DEEP X 3'-0"W X 3'-0"T SURFACE MOUNTED			O	O
B18	8" DEEP X 2'-6"W X 3'-0" SEMI - RECESSED			O	O
B19	STORAGE ROOM SHELVING			O	O
B20	PAPER ROLL HOLDER			O	O
B21	12" DEEP X 2'-6" LONG WOOD SHELF			O	O
B22	8" DEEP X 2'-6"W X 3'-0" SURFACE MOUNTED			O	O
B23	2'-0"H X 1'-4"W X 6"D DISINFECTANT CABINETS			O	O
B24	KITCHENETTE BASE CABINETS			O	O
B25	BABY CHANGING TABLE WITH SNEEZE GUARDS			O	O
B26	"PUT DOWN" COUNTER			O	O
B27	INFANT PARTITION			O	O
B29	SINGLE LAVATORY			O	O
B30	DOUBLE LAVATORY			O	O
B31	RECESSED BROOM CLOSET, SEE DETAIL 19/A2.3. (OPTIONAL - CHECK WITH OWNER PRIOR TO ORDERING)			O	O
"C" SIGNS & BANNERS					
C01	ROOM NAME SIGN			O	O
C02	TACTILE EXIT SIGN 6" X 6"			O	O
C03	GENERAL LICENESES	O			O
C04	PICTURES	O			O
"D" TOILET ACCESSORIES & MIRRORS					
D01	TOILET TISSUE DISPENSER	O			O
D02	SURFACE MOUNTED SOAP DISPENSER, SEE INTERIOR ELEVATIONS	O			O
D03	SURFACE MOUNTED PAPER TOWEL DISPENSER, SEE INTERIOR ELEVATION	O			O
D04	24" GRAB BAR. SEE ELEVATION			O	O
D05	42" GRAB BAR. SEE ELEVATION.			O	O
D06	36" GRAB BAR. SEE ELEVATION.			O	O
D07	24" X 36" RESTROOM MIRROR			O	O
D08	SAFETY MIRROR CUT TO FIT			O	O
"E" MISCELLANEOUS					
E01	FLAGMOUNT	O			O
E02	WALL CLOCK MOUNTED 15" BELOW CEILING			O	O
E03	SEMI RECESSED FIRE EXTINGUISHER CABINET & FIRE EXTINGISHER			O	O
E04	SURFACE MOUNTED FIRE EXTINGUISHER			O	O
E05	AIR FRESHENER MOUNTED 90" TO TOP	O			O
E06	INTERCOM MASTER PANEL			O	O
E07	INTERCOM			O	O
E08	WINDOW COVERINGS			O	O
E09	FIRE ALARM ANNUNCIATOR PANEL			O	O
E10	FIRE ALARM CONTROL PANEL			O	O
E11	SECURITY SYSTEM PANEL			O	O

CASCO
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Drawn/Checked	MS / DSC
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

INTERIOR ELEVATIONS

A5.1

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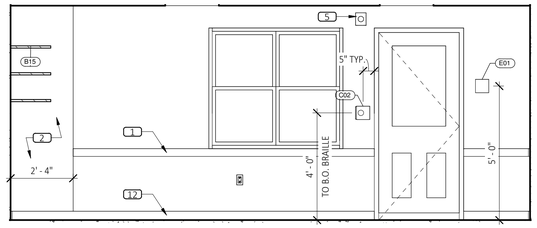

1 A5.2 CLASSROOM B1
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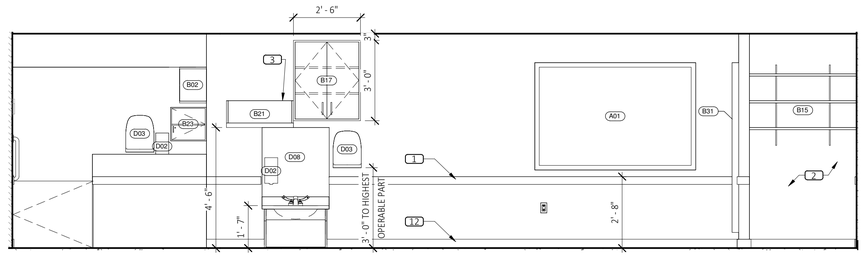

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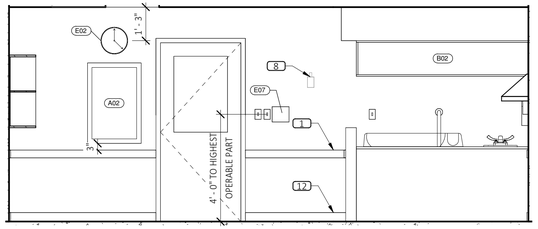

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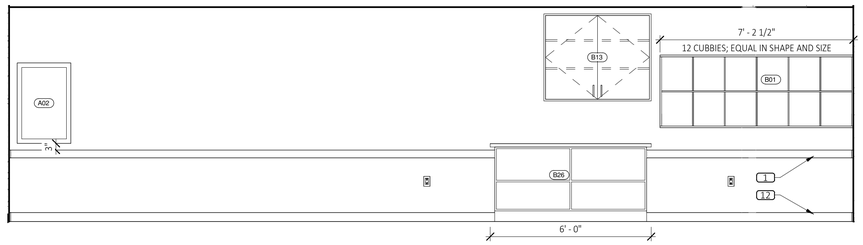

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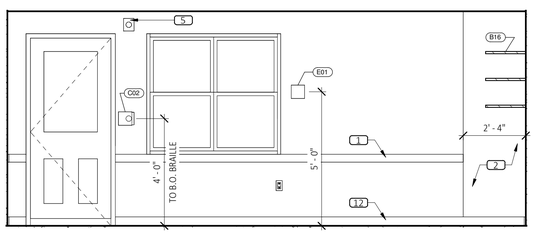

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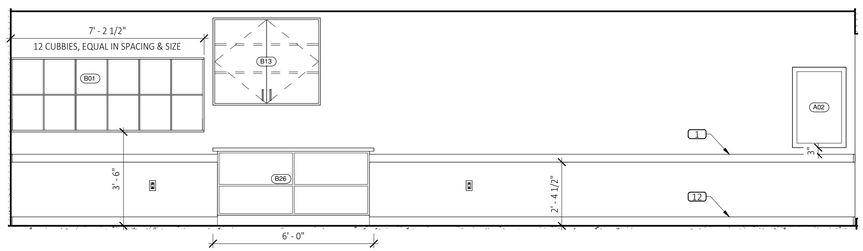

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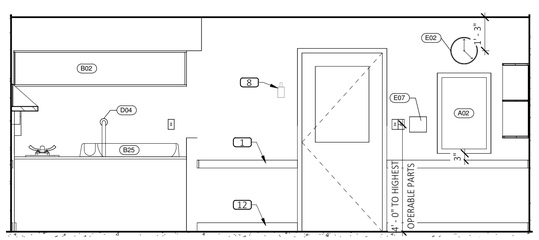

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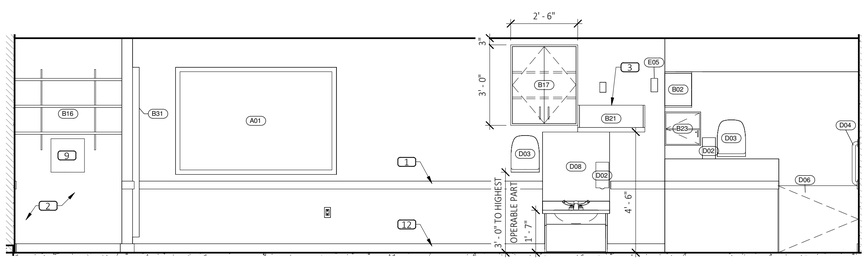

8 A5.2 CLASSROOM B2
SCALE: 3/8" = 1'-0"

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ELEVATION KEYED NOTES X

1 CHAIR RAIL, SEE FINISH SCHEDULE
2 PROVIDE FULL HEIGHT FRP AT COT STORAGE ALCOVE. EXTEND FRP TO END FACE OF WING WALL & TERMINATE W/ J-MOULD (TYP.)
3 PROVIDE BLOCKING FOR WOOD SHELF
4 1" x 4" SHIP LAP. PROVIDE WOOD BLOCKING IN WALL AS NEEDED.
5 FA VISUAL STROBE
6 FA PULL STATION
7 8" BACK SPLASH
8 TEMPERATURE SENSOR, SEE MECHANICAL.
9 HOSE BIBB ACCESS PANEL
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11 FRP
12 COVE BASE
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14 29" MONITOR. PROVIDE OUTLET, SEE ELECTRICAL
15 CASLINK LIGHTING CONTROL PANEL

ACCESSORY SCHEDULE

	ITEM	OWNER FURNISHED	OWNER INSTALLED	CONTRACTOR FURNISHED	CONTRACTOR INSTALLED
"A" DISPLAY BOARDS					
A01	6'W x 4'H BULLETIN BOARD. SET BOT. @ 3" ABOVE CHAIR RAIL.	O			O
A02	2'W x 3'H BULLETIN BOARD. SET BOT. @ 3" ABOVE CHAIR RAIL.	O			O
A03	6'W x 4'H WHITE BOARD. SET BOT. @ 3" ABOVE CHAIR RAIL.	O			O
"B" SHELVING/CUBBIES/CABINETS					
				O	O
B01	CUBBIES, SEE ELEVATIONS FOR QUANTITY			O	O
B02	CUBBIES ABOVE CHANGE TABLE			O	O
B03	16" DEEP X 3'-6"W X 3'-6"H SURFACED MOUNTED			O	O
B04	16" DEEP x 3'-0"W x 3'-6"H CORNER CABINET			O	O
B05	16" DEEP X 1'-6"W X 3'-6"H SURFACE MOUNTED			O	O
B06	16" DEEP X 1'-3"W X 3'-6"T SURFACE MOUNTED			O	O
B07				O	O
B08	12" DEEP X 2'-6"W X 3'-3"T WALL CABINET			O	O
B09	12" DEEP X 3'-0"W X 3'-0"T WALL CABINET			O	O
B10	STACKED WASHER AND DRYER			O	O
B11	RECEPTION DESK CABINETS			O	O
B12	30" X 40" CURRICULUM CABINET				
B13	16" DEEP X 4' LONG WALL CABINET			O	O
B14	CAR SEAT STORAGE SHELVING			O	O
B15	24"D x 36"L ADJ. WD SHELVES W/ 1'-6" L STANDARDS			O	O
B16	18"DEEP ADJUSTABLE WOOD SHELVES, SEE ELEVATIONS			O	O
B17	12" DEEP X 3'-0"W X 3'-0"T SURFACE MOUNTED			O	O
B18	8" DEEP X 2'-6"W X 3'-0" SEMI - RECESSED			O	O
B19	STORAGE ROOM SHELVING			O	O
B20	PAPER ROLL HOLDER			O	O
B21	12" DEEP X 2'-6" LONG WOOD SHELF			O	O
B22	8" DEEP X 2'-6"W X 3'-0" SURFACE MOUNTED			O	O
B23	2'-0"H X 1'-4"W X 6"D DISINFECTANT CABINETS			O	O
B24	KITCHENETTE BASE CABINETS			O	O
B25	BABY CHANGING TABLE WITH SNEEZE GUARDS			O	O
B26	"PUT DOWN" COUNTER			O	O
B27	INFANT PARTITION			O	O
B29	SINGLE LAVATORY			O	O
B30	DOUBLE LAVATORY			O	O
B31	RECESSED BROOM CLOSET, SEE DETAIL 19/A2.3. (OPTIONAL - CHECK WITH OWNER PRIOR TO ORDERING)			O	O
"C" SIGNS & BANNERS					
C01	ROOM NAME SIGN			O	O
C02	TACTILE EXIT SIGN 6" X 6"			O	O
C03	GENERAL LICENESES	O			O
C04	PICTURES	O			O
"D" TOILET ACCESSORIES & MIRRORS					
D01	TOILET TISSUE DISPENSER	O			O
D02	SURFACE MOUNTED SOAP DISPENSER, SEE INTERIOR ELEVATIONS	O			O
D03	SURFACE MOUNTED PAPER TOWEL DISPENSER, SEE INTERIOR ELEVATION	O			O
D04	24" GRAB BAR. SEE ELEVATION			O	O
D05	42" GRAB BAR. SEE ELEVATION.			O	O
D06	36" GRAB BAR. SEE ELEVATION.			O	O
D07	24" X 36" RESTROOM MIRROR			O	O
D08	SAFETY MIRROR CUT TO FIT			O	O
"E" MISCELLANEOUS					
E01	FLAGMOUNT	O			O
E02	WALL CLOCK MOUNTED 15" BELOW CEILING			O	O
E03	SEMI RECESSED FIRE EXTINGUISHER CABINET & FIRE EXTINGISHER			O	O
E04	SURFACE MOUNTED FIRE EXTINGUISHER			O	O
E05	AIR FRESHENER MOUNTED 90" TO TOP	O			O
E06	INTERCOM MASTER PANEL			O	O
E07	INTERCOM			O	O
E08	WINDOW COVERINGS			O	O
E09	FIRE ALARM ANNUNCIATOR PANEL			O	O
E10	FIRE ALARM CONTROL PANEL			O	O
E11	SECURITY SYSTEM PANEL			O	O

CASCO
CASCO DIVERSIFIED CORPORATION
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PRIMROSE SCHOOLS
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SMYRNA, TN 37167

PRIMROSE SCHOOL FRANCHISING COMPANY
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ATLANTA, GEORGIA 30339-5640

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CONSTR. DOC. & REVSIONS

No.	Description	Date

JAMES A. SCHMITT
REGISTERED ARCHITECT
AGRICULTURE COMMERCE
NO. 102092
STATE OF TENNESSEE
04/06/23
Professional of Record:
JAMES A. SCHMITT
LICENSE NO: 102092
EXP. DATE: 08/31/24

Drawn/Checked	MS / DSC
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

INTERIOR ELEVATIONS

A5.2

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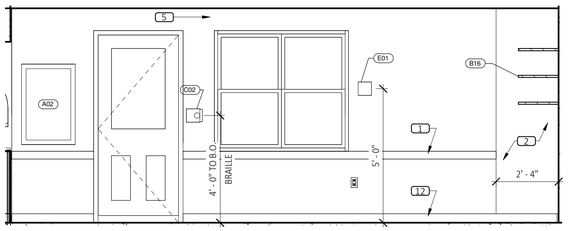
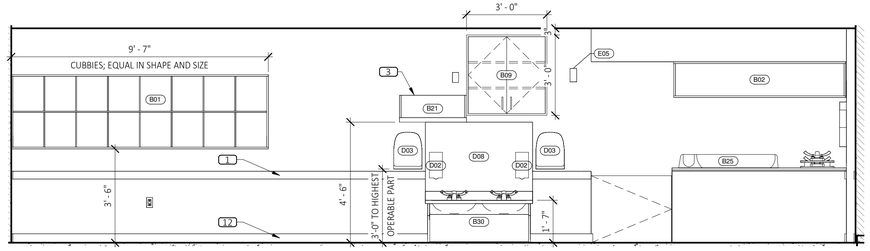


1 A5.3 CLASSROOM EP1
SCALE: 3/8" = 1'-0"



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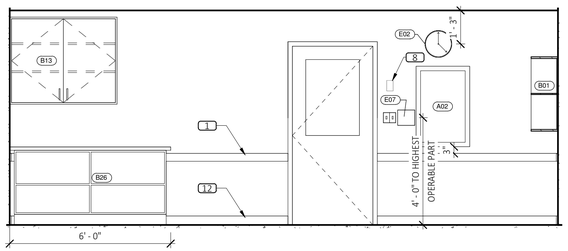

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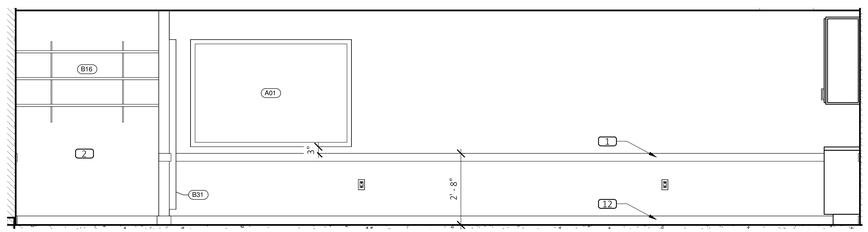

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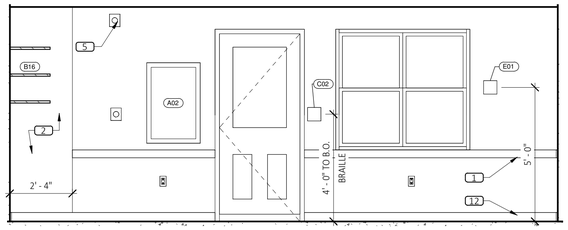
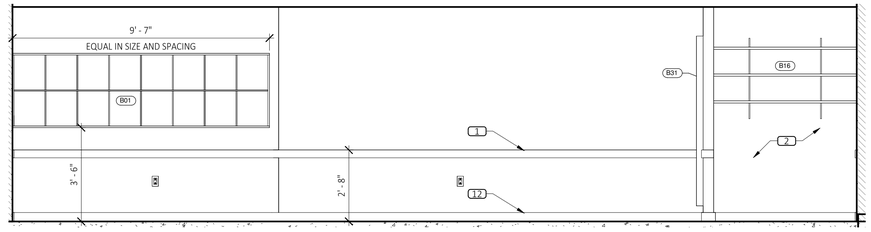


5 A5.3 CLASSROOM EP2
SCALE: 3/8" = 1'-0"



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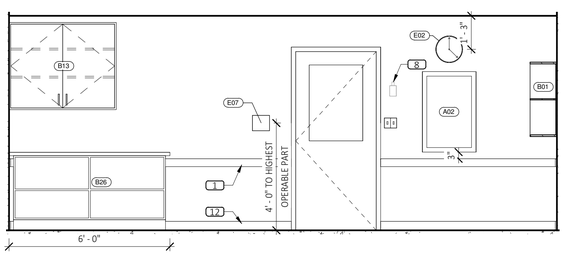
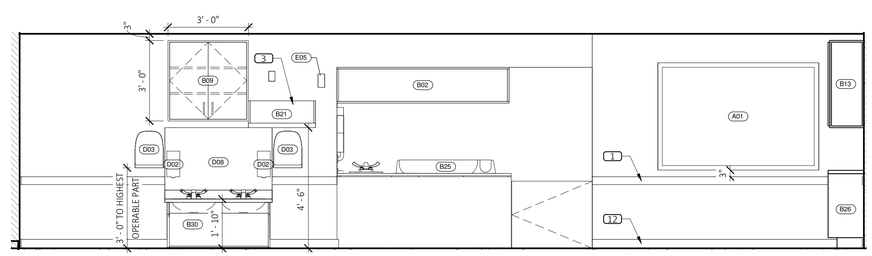


7 A5.3 CLASSROOM EP2
SCALE: 3/8" = 1'-0"



8 A5.3 CLASSROOM EP2
SCALE: 3/8" = 1'-0"

4/6/2023 6:09:55 AM

ELEVATION KEYED NOTES (X)

1 CHAIR RAIL, SEE FINISH SCHEDULE
2 PROVIDE FULL HEIGHT FRP AT COT STORAGE ALCOVE. EXTEND FRP TO END FACE OF WING WALL & TERMINATE W/ J-MOULD (TYP.)
3 PROVIDE BLOCKING FOR WOOD SHELF
4 1" x 4" SHIP LAP. PROVIDE WOOD BLOCKING IN WALL AS NEEDED.
5 FA VISUAL STROBE
6 FA PULL STATION
7 8" BACK SPLASH
8 TEMPERATURE SENSOR, SEE MECHANICAL.
9 HOSE BIBB ACCESS PANEL
10 MOP SINK
11 FRP
12 COVE BASE
13 COAT HOOKS
14 29" MONITOR. PROVIDE OUTLET, SEE ELECTRICAL
15 CASLINK LIGHTING CONTROL PANEL

ACCESSORY SCHEDULE

	ITEM	OWNER FURNISHED	OWNER INSTALLED	CONTRACTOR FURNISHED	CONTRACTOR INSTALLED
"A" DISPLAY BOARDS					
A01	6'W x 4'H BULLETIN BOARD. SET BOT. @ 3" ABOVE CHAIR RAIL.	O			O
A02	2'W x 3'H BULLETIN BOARD. SET BOT. @ 3" ABOVE CHAIR RAIL.	O			O
A03	6'W x 4'H WHITE BOARD. SET BOT. @ 3" ABOVE CHAIR RAIL.	O			O
"B" SHELVING/CUBBIES/CABINETS					
				O	O
B01	CUBBIES, SEE ELEVATIONS FOR QUANTITY			O	O
B02	CUBBIES ABOVE CHANGE TABLE			O	O
B03	16" DEEP X 3'-6"W X 3'-6"H SURFACED MOUNTED			O	O
B04	16" DEEP x 3'-0"W x 3'-6"H CORNER CABINET			O	O
B05	16" DEEP X 1'-6"W X 3'-6"H SURFACE MOUNTED			O	O
B06	16" DEEP X 1'-3"W X 3'-6"T SURFACE MOUNTED			O	O
B07				O	O
B08	12" DEEP X 2'-6"W X 3'-3"T WALL CABINET			O	O
B09	12" DEEP X 3'-0"W X 3'-0"T WALL CABINET			O	O
B10	STACKED WASHER AND DRYER			O	O
B11	RECEPTION DESK CABINETS			O	O
B12	30" X 40" CURRICULUM CABINET				
B13	16" DEEP X 4' LONG WALL CABINET			O	O
B14	CAR SEAT STORAGE SHELVING			O	O
B15	24"D x 36"L ADJ. WD SHELVES W/ 1'-6" L STANDARDS			O	O
B16	18"DEEP ADJUSTABLE WOOD SHELVES, SEE ELEVATIONS			O	O
B17	12" DEEP X 3'-0"W X 3'-0"T SURFACE MOUNTED			O	O
B18	8" DEEP X 2'-6"W X 3'-0" SEMI - RECESSED			O	O
B19	STORAGE ROOM SHELVING			O	O
B20	PAPER ROLL HOLDER			O	O
B21	12" DEEP X 2'-6" LONG WOOD SHELF			O	O
B22	8" DEEP X 2'-6"W X 3'-0" SURFACE MOUNTED			O	O
B23	2'-0"H X 1'-4"W X 6"D DISINFECTANT CABINETS			O	O
B24	KITCHENETTE BASE CABINETS			O	O
B25	BABY CHANGING TABLE WITH SNEEZE GUARDS			O	O
B26	"PUT DOWN" COUNTER			O	O
B27	INFANT PARTITION			O	O
B29	SINGLE LAVATORY			O	O
B30	DOUBLE LAVATORY			O	O
B31	RECESSED BROOM CLOSET, SEE DETAIL 19/A2.3. (OPTIONAL - CHECK WITH OWNER PRIOR TO ORDERING)			O	O
"C" SIGNS & BANNERS					
C01	ROOM NAME SIGN			O	O
C02	TACTILE EXIT SIGN 6" X 6"			O	O
C03	GENERAL LICENESES	O			O
C04	PICTURES	O			O
"D" TOILET ACCESSORIES & MIRRORS					
D01	TOILET TISSUE DISPENSER	O			O
D02	SURFACE MOUNTED SOAP DISPENSER, SEE INTERIOR ELEVATIONS	O			O
D03	SURFACE MOUNTED PAPER TOWEL DISPENSER, SEE INTERIOR ELEVATION	O			O
D04	24" GRAB BAR. SEE ELEVATION			O	O
D05	42" GRAB BAR. SEE ELEVATION.			O	O
D06	36" GRAB BAR. SEE ELEVATION.			O	O
D07	24" X 36" RESTROOM MIRROR			O	O
D08	SAFETY MIRROR CUT TO FIT			O	O
"E" MISCELLANEOUS					
E01	FLAGMOUNT	O			O
E02	WALL CLOCK MOUNTED 15" BELOW CEILING			O	O
E03	SEMI RECESSED FIRE EXTINGUISHER CABINET & FIRE EXTINGISHER			O	O
E04	SURFACE MOUNTED FIRE EXTINGUISHER			O	O
E05	AIR FRESHENER MOUNTED 90" TO TOP	O			O
E06	INTERCOM MASTER PANEL			O	O
E07	INTERCOM			O	O
E08	WINDOW COVERINGS			O	O
E09	FIRE ALARM ANNUNCIATOR PANEL			O	O
E10	FIRE ALARM CONTROL PANEL			O	O
E11	SECURITY SYSTEM PANEL			O	O

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REGISTERED ARCHITECT
AGRICULTURE COMMERCE
NO. 102092
STATE OF TENNESSEE
04/06/23

Professional of Record:
JAMES A. SCHMITT
LICENSE NO: 102092
EXP. DATE: 08/31/24

Drawn/Checked	MS / DSC
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	**10/23/23**

INTERIOR ELEVATIONS

A5.3

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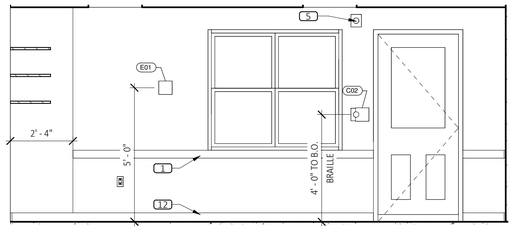
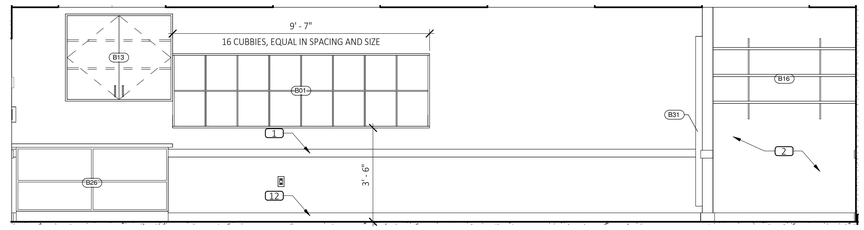


1 A5.4 CLASSROOM B3
SCALE: 3/8" = 1'-0"



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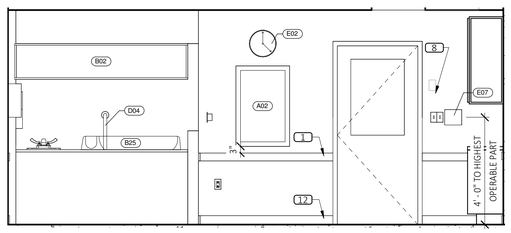

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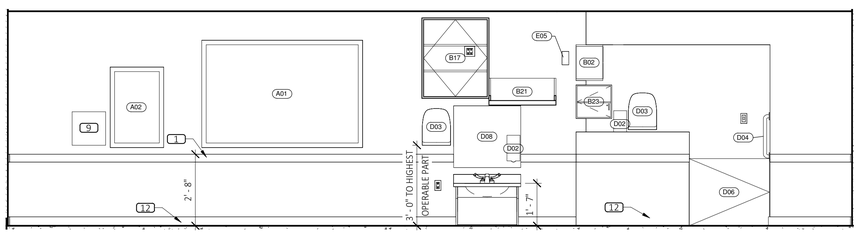

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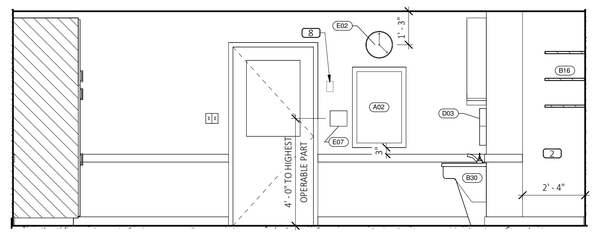

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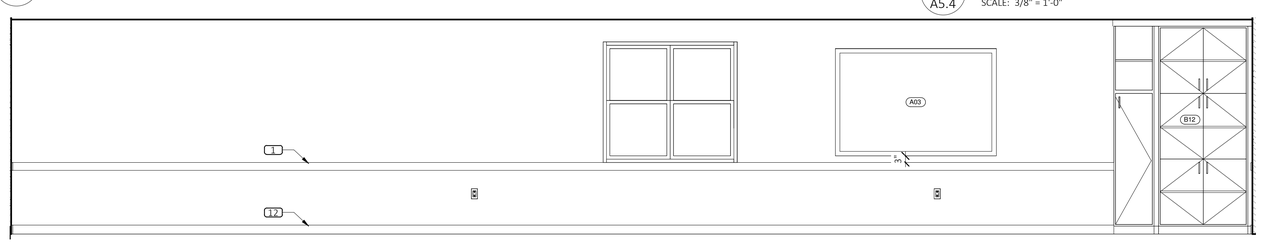

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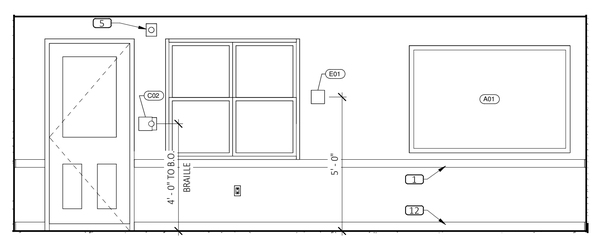

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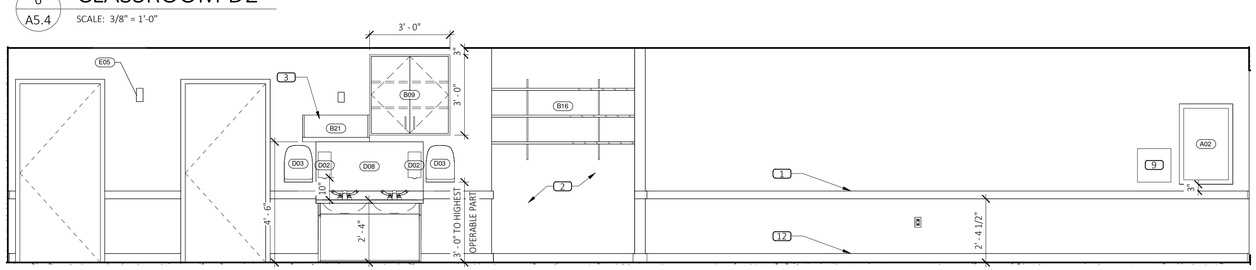

8 A5.4 CLASSROOM D2
SCALE: 3/8" = 1'-0"

1

ELEVATION KEYED NOTES

1	CHAIR RAIL, SEE FINISH SCHEDULE
2	PROVIDE FULL HEIGHT FRP AT COT STORAGE ALCOVE. EXTEND FRP TO END FACE OF WING WALL & TERMINATE W/ J-MOULD (TYP.)
3	PROVIDE BLOCKING FOR WOOD SHELF
4	1" x 4" SHIP LAP. PROVIDE WOOD BLOCKING IN WALL AS NEEDED.
5	FA VISUAL STROBE
6	FA PULL STATION
7	8" BACK SPLASH
8	TEMPERATURE SENSOR, SEE MECHANICAL.
9	HOSE BIBB ACCESS PANEL
10	MOP SINK
11	FRP
12	COVE BASE
13	COAT HOOKS
14	29" MONITOR. PROVIDE OUTLET, SEE ELECTRICAL
15	CASLINK LIGHTING CONTROL PANEL

ACCESSORY SCHEDULE

	ITEM	OWNER FURNISHED	OWNER INSTALLED	CONTRACTOR FURNISHED	CONTRACTOR INSTALLED
"A" DISPLAY BOARDS					
A01	6'W x 4'H BULLETIN BOARD. SET BOT. @ 3" ABOVE CHAIR RAIL.	O			O
A02	2'W x 3'H BULLETIN BOARD. SET BOT. @ 3" ABOVE CHAIR RAIL.	O			O
A03	6'W x 4'H WHITE BOARD. SET BOT. @ 3" ABOVE CHAIR RAIL.	O			O
"B" SHELVING/CUBBIES/CABINETS					
				O	O
B01	CUBBIES, SEE ELEVATIONS FOR QUANTITY			O	O
B02	CUBBIES ABOVE CHANGE TABLE			O	O
B03	16" DEEP X 3'-6"W X 3'-6"H SURFACED MOUNTED			O	O
B04	16" DEEP x 3'-0"W x 3'-6"H CORNER CABINET			O	O
B05	16" DEEP X 1'-6"W X 3'-6"H SURFACE MOUNTED			O	O
B06	16" DEEP X 1'-3"W X 3'-6"T SURFACE MOUNTED			O	O
B07				O	O
B08	12" DEEP X 2'-6"W X 3'-3"T WALL CABINET			O	O
B09	12" DEEP X 3'-0"W X 3'-0"T WALL CABINET			O	O
B10	STACKED WASHER AND DRYER			O	O
B11	RECEPTION DESK CABINETS			O	O
B12	30" X 40" CURRICULUM CABINET				
B13	16" DEEP X 4' LONG WALL CABINET			O	O
B14	CAR SEAT STORAGE SHELVING			O	O
B15	24"D x 36"L ADJ. WD SHELVES W/ 1'-6" L STANDARDS			O	O
B16	18"DEEP ADJUSTABLE WOOD SHELVES, SEE ELEVATIONS			O	O
B17	12" DEEP X 3'-0"W X 3'-0"T SURFACE MOUNTED			O	O
B18	8" DEEP X 2'-6"W X 3'-0" SEMI - RECESSED			O	O
B19	STORAGE ROOM SHELVING			O	O
B20	PAPER ROLL HOLDER			O	O
B21	12" DEEP X 2'-6" LONG WOOD SHELF			O	O
B22	8" DEEP X 2'-6"W X 3'-0" SURFACE MOUNTED			O	O
B23	2'-0"H X 1'-4"W X 6"D DISINFECTANT CABINETS			O	O
B24	KITCHENETTE BASE CABINETS			O	O
B25	BABY CHANGING TABLE WITH SNEEZE GUARDS			O	O
B26	"PUT DOWN" COUNTER			O	O
B27	INFANT PARTITION			O	O
B29	SINGLE LAVATORY			O	O
B30	DOUBLE LAVATORY			O	O
B31	RECESSED BROOM CLOSET, SEE DETAIL 19/A2.3. (OPTIONAL - CHECK WITH OWNER PRIOR TO ORDERING)			O	O
"C" SIGNS & BANNERS					
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C02	TACTILE EXIT SIGN 6" X 6"			O	O
C03	GENERAL LICENESES	O			O
C04	PICTURES	O			O
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D02	SURFACE MOUNTED SOAP DISPENSER, SEE INTERIOR ELEVATIONS	O			O
D03	SURFACE MOUNTED PAPER TOWEL DISPENSER, SEE INTERIOR ELEVATION	O			O
D04	24" GRAB BAR. SEE ELEVATION			O	O
D05	42" GRAB BAR. SEE ELEVATION.			O	O
D06	36" GRAB BAR. SEE ELEVATION.			O	O
D07	24" X 36" RESTROOM MIRROR			O	O
D08	SAFETY MIRROR CUT TO FIT			O	O
"E" MISCELLANEOUS					
E01	FLAGMOUNT	O			O
E02	WALL CLOCK MOUNTED 15" BELOW CEILING			O	O
E03	SEMI RECESSED FIRE EXTINGUISHER CABINET & FIRE EXTINGISHER			O	O
E04	SURFACE MOUNTED FIRE EXTINGUISHER			O	O
E05	AIR FRESHENER MOUNTED 90" TO TOP	O			O
E06	INTERCOM MASTER PANEL			O	O
E07	INTERCOM			O	O
E08	WINDOW COVERINGS			O	O
E09	FIRE ALARM ANNUNCIATOR PANEL			O	O
E10	FIRE ALARM CONTROL PANEL			O	O
E11	SECURITY SYSTEM PANEL			O	O

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ATLANTA, GEORGIA 30339-5640

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CONSTR. DOC. & REVSIONS

No.	Description	Date
1	POST BID ADD 1 - CODE RESP. / FO REVISIONS	11/10/22

JAMES A. SCHMITT
REGISTERED ARCHITECT
AGRICULTURE COMMERCE
NO. 102092
STATE OF TENNESSEE
04/06/23

Professional of Record:
JAMES A. SCHMITT
LICENSE NO: 102092
EXP. DATE: 08/31/24

Drawn/Checked	MS / DSC
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

INTERIOR ELEVATIONS

A5.4

4/6/2023 6:59:58 AM

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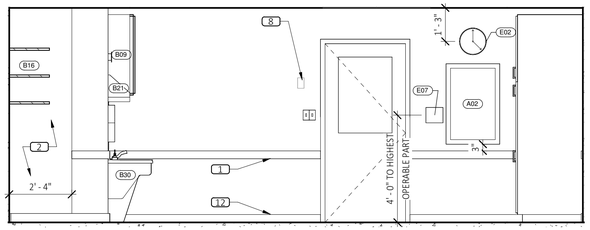
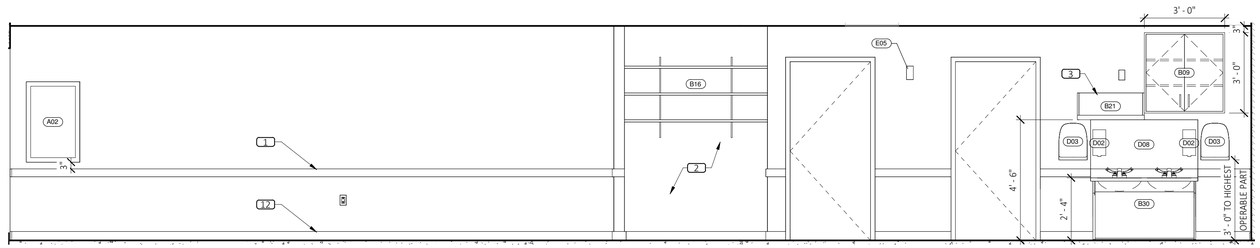


1 A5.5 CLASSROOM D1

SCALE: 3/8" = 1'-0"



2 A5.5 CLASSROOM D1

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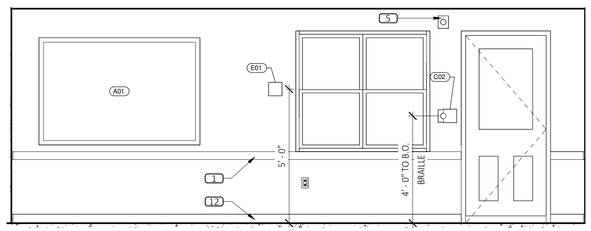

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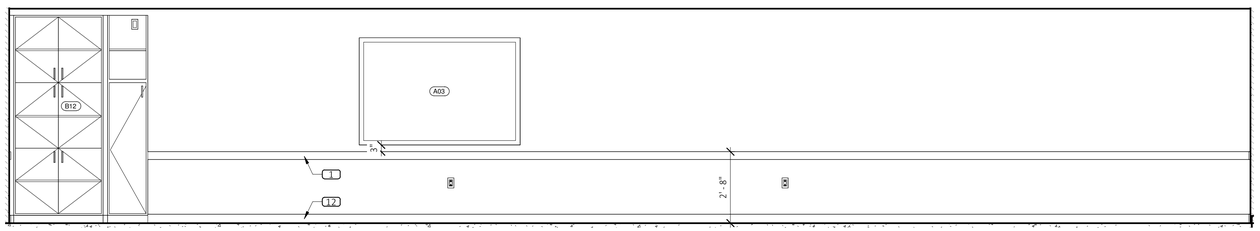

4 A5.5 CLASSROOM D1

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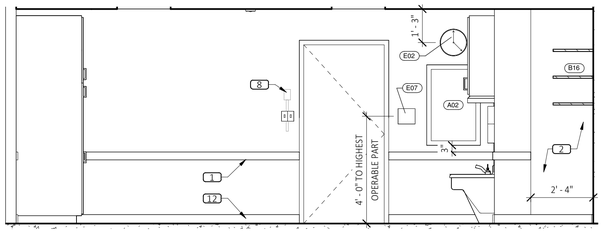

5 A5.5 CLASSROOM C2

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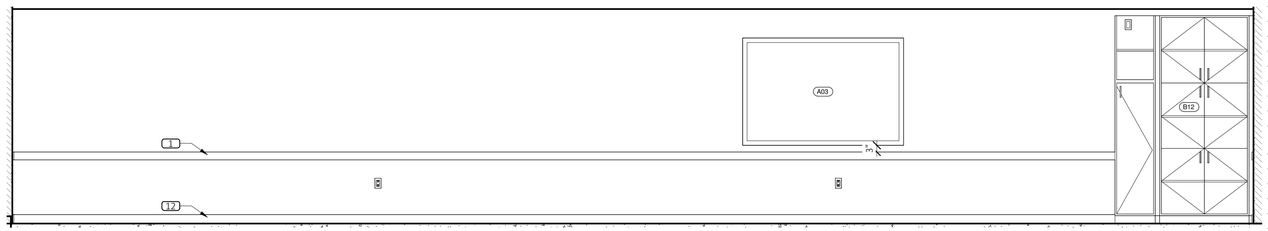

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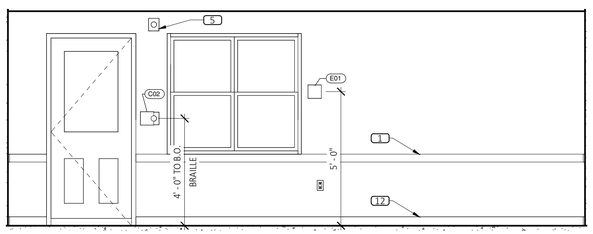

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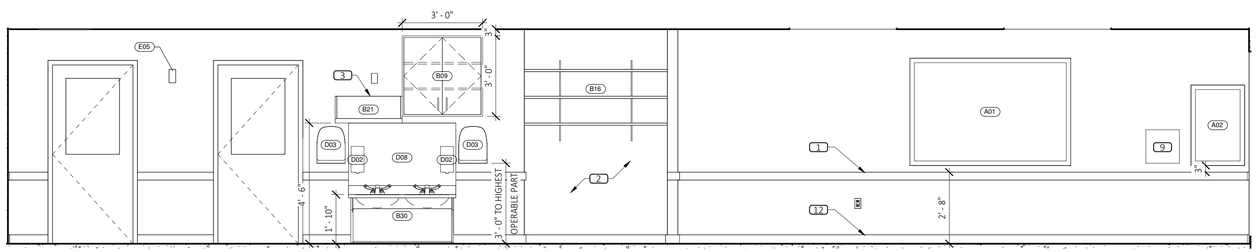
SCALE: 3/8" = 1'-0"



8 A5.5 CLASSROOM C2

SCALE: 3/8" = 1'-0"

ELEVATION KEYED NOTES (X)

1 CHAIR RAIL, SEE FINISH SCHEDULE
2 PROVIDE FULL HEIGHT FRP AT COT STORAGE ALCOVE. EXTEND FRP TO END FACE OF WING WALL & TERMINATE W/ J-MOULD (TYP.)
3 PROVIDE BLOCKING FOR WOOD SHELF
4 1" x 4" SHIP LAP. PROVIDE WOOD BLOCKING IN WALL AS NEEDED.
5 FA VISUAL STROBE
6 FA PULL STATION
7 8" BACK SPLASH
8 TEMPERATURE SENSOR, SEE MECHANICAL.
9 HOSE BIBB ACCESS PANEL
10 MOP SINK
11 FRP
12 COVE BASE
13 COAT HOOKS
14 29" MONITOR. PROVIDE OUTLET, SEE ELECTRICAL
15 CASLINK LIGHTING CONTROL PANEL

ACCESSORY SCHEDULE

	ITEM	OWNER FURNISHED	OWNER INSTALLED	CONTRACTOR FURNISHED	CONTRACTOR INSTALLED
"A" DISPLAY BOARDS					
A01	6'W x 4'H BULLETIN BOARD. SET BOT. @ 3" ABOVE CHAIR RAIL.	O			O
A02	2'W x 3'H BULLETIN BOARD. SET BOT. @ 3" ABOVE CHAIR RAIL.	O			O
A03	6'W x 4'H WHITE BOARD. SET BOT. @ 3" ABOVE CHAIR RAIL.	O			O
"B" SHELVING/CUBBIES/CABINETS					
				O	O
B01	CUBBIES, SEE ELEVATIONS FOR QUANTITY			O	O
B02	CUBBIES ABOVE CHANGE TABLE			O	O
B03	16" DEEP X 3'-6"W X 3'-6"H SURFACED MOUNTED			O	O
B04	16" DEEP x 3'-0"W x 3'-6"H CORNER CABINET			O	O
B05	16" DEEP X 1'-6"W X 3'-6"H SURFACE MOUNTED			O	O
B06	16" DEEP X 1'-3"W X 3'-6"T SURFACE MOUNTED			O	O
B07				O	O
B08	12" DEEP X 2'-6"W X 3'-3"T WALL CABINET			O	O
B09	12" DEEP X 3'-0"W X 3'-0"T WALL CABINET			O	O
B10	STACKED WASHER AND DRYER			O	O
B11	RECEPTION DESK CABINETS			O	O
B12	30" X 40" CURRICULUM CABINET				
B13	16" DEEP X 4' LONG WALL CABINET			O	O
B14	CAR SEAT STORAGE SHELVING			O	O
B15	24"D x 36"L ADJ. WD SHELVES W/ 1'-6" L STANDARDS			O	O
B16	18"DEEP ADJUSTABLE WOOD SHELVES, SEE ELEVATIONS			O	O
B17	12" DEEP X 3'-0"W X 3'-0"T SURFACE MOUNTED			O	O
B18	8" DEEP X 2'-6"W X 3'-0" SEMI - RECESSED			O	O
B19	STORAGE ROOM SHELVING			O	O
B20	PAPER ROLL HOLDER			O	O
B21	12" DEEP X 2'-6" LONG WOOD SHELF			O	O
B22	8" DEEP X 2'-6"W X 3'-0" SURFACE MOUNTED			O	O
B23	2'-0"H X 1'-4"W X 6"D DISINFECTANT CABINETS			O	O
B24	KITCHENETTE BASE CABINETS			O	O
B25	BABY CHANGING TABLE WITH SNEEZE GUARDS			O	O
B26	"PUT DOWN" COUNTER			O	O
B27	INFANT PARTITION			O	O
B29	SINGLE LAVATORY			O	O
B30	DOUBLE LAVATORY			O	O
B31	RECESSED BROOM CLOSET, SEE DETAIL 19/A2.3. (OPTIONAL - CHECK WITH OWNER PRIOR TO ORDERING)			O	O
"C" SIGNS & BANNERS					
C01	ROOM NAME SIGN			O	O
C02	TACTILE EXIT SIGN 6" X 6"			O	O
C03	GENERAL LICENESES	O			O
C04	PICTURES	O			O
"D" TOILET ACCESSORIES & MIRRORS					
D01	TOILET TISSUE DISPENSER	O			O
D02	SURFACE MOUNTED SOAP DISPENSER, SEE INTERIOR ELEVATIONS	O			O
D03	SURFACE MOUNTED PAPER TOWEL DISPENSER, SEE INTERIOR ELEVATION	O			O
D04	24" GRAB BAR. SEE ELEVATION			O	O
D05	42" GRAB BAR. SEE ELEVATION.			O	O
D06	36" GRAB BAR. SEE ELEVATION.			O	O
D07	24" X 36" RESTROOM MIRROR			O	O
D08	SAFETY MIRROR CUT TO FIT			O	O
"E" MISCELLANEOUS					
E01	FLAGMOUNT	O			O
E02	WALL CLOCK MOUNTED 15" BELOW CEILING			O	O
E03	SEMI RECESSED FIRE EXTINGUISHER CABINET & FIRE EXTINGISHER			O	O
E04	SURFACE MOUNTED FIRE EXTINGUISHER			O	O
E05	AIR FRESHENER MOUNTED 90" TO TOP	O			O
E06	INTERCOM MASTER PANEL			O	O
E07	INTERCOM			O	O
E08	WINDOW COVERINGS			O	O
E09	FIRE ALARM ANNUNCIATOR PANEL			O	O
E10	FIRE ALARM CONTROL PANEL			O	O
E11	SECURITY SYSTEM PANEL			O	O

CASCO
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12 Sunwest Drive, Suite 100, St. Louis, MO 63143 T: 314-821-1200

PRIMROSE SCHOOLS

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RUTHERFORD COUNTY
SMYRNA, TN 37167

PRIMROSE SCHOOL FRANCHISING COMPANY
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INTERIOR ELEVATIONS

A5.5

4/6/2023 7:00:01 AM

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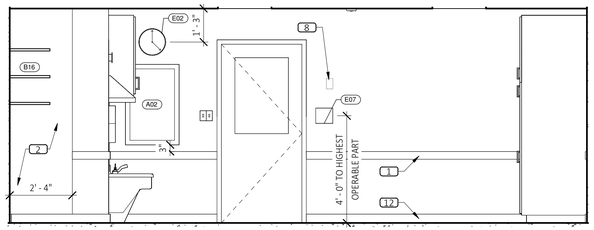

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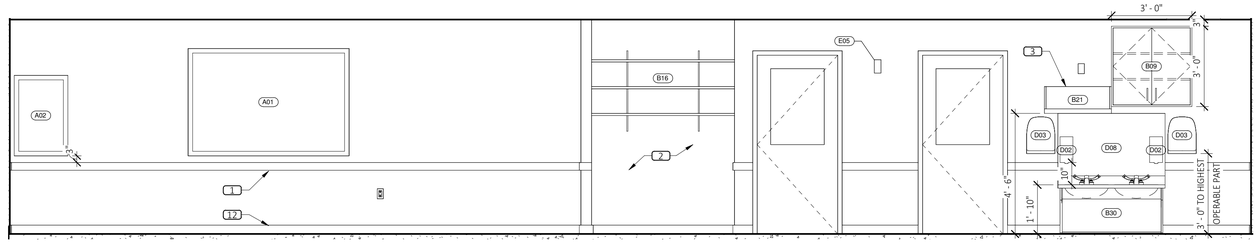

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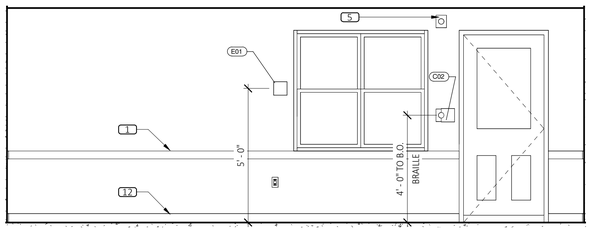

3 A5.6 CLASSROOM C1
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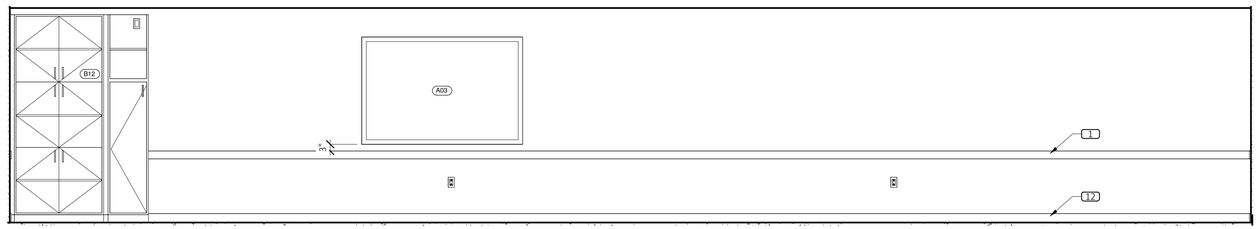

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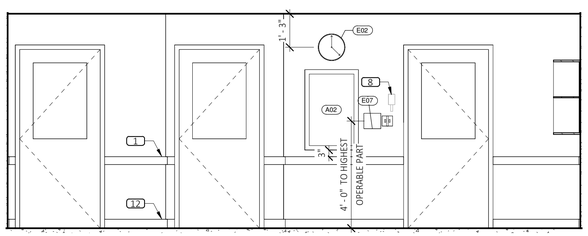

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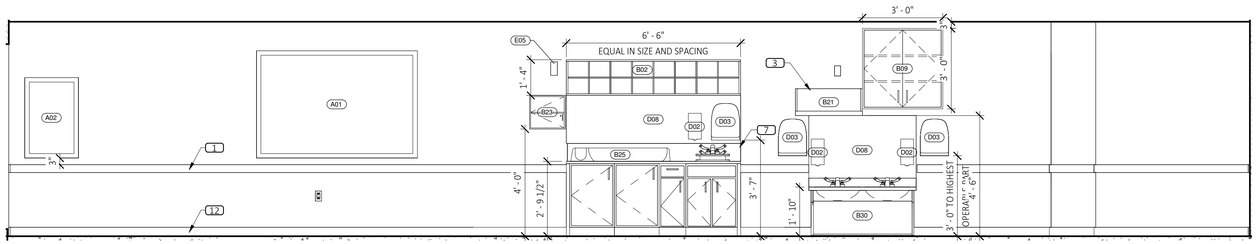

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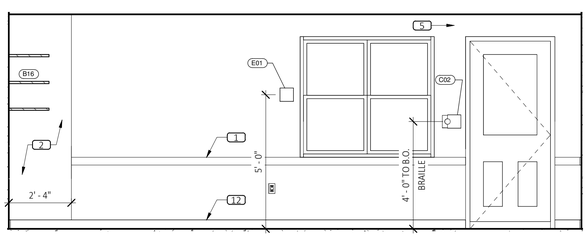

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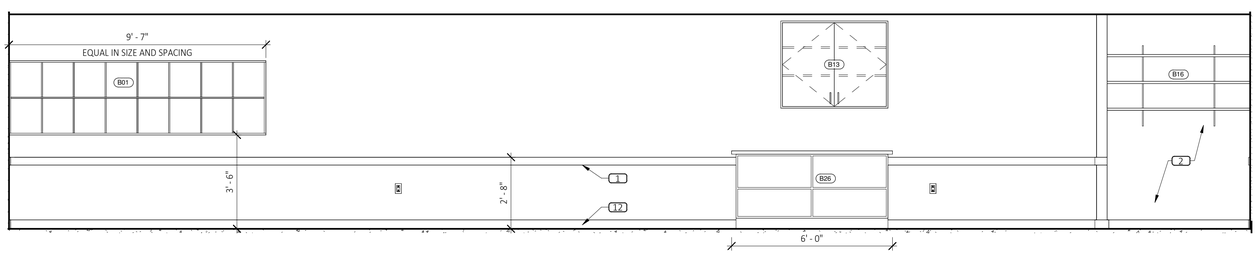

8 A5.6 PATHWAY
SCALE: 3/8" = 1'-0"

ELEVATION KEYED NOTES X

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3. PROVIDE BLOCKING FOR WOOD SHELF
4. 1" x 4" SHIP LAP. PROVIDE WOOD BLOCKING IN WALL AS NEEDED.
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8. TEMPERATURE SENSOR, SEE MECHANICAL.
9. HOSE BIBB ACCESS PANEL
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14. 29" MONITOR. PROVIDE OUTLET, SEE ELECTRICAL
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ACCESSORY SCHEDULE

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A02	2'W x 3'H BULLETIN BOARD. SET BOT. @ 3" ABOVE CHAIR RAIL.	o			o
A03	6'W x 4'H WHITE BOARD. SET BOT. @ 3" ABOVE CHAIR RAIL.	o			o
"B" SHELVING/CUBBIES/CABINETS					
				o	o
B01	CUBBIES, SEE ELEVATIONS FOR QUANTITY			o	o
B02	CUBBIES ABOVE CHANGE TABLE			o	o
B03	16" DEEP X 3'-6"W X 3'-6"H SURFACED MOUNTED			o	o
B04	16" DEEP x 3'-0"W x 3'-6"H CORNER CABINET			o	o
B05	16" DEEP X 1'-6"W X 3'-6"H SURFACE MOUNTED			o	o
B06	16" DEEP X 1'-3"W X 3'-6"T SURFACE MOUNTED			o	o
B07				o	o
B08	12" DEEP X 2'-6"W X 3'-3"T WALL CABINET			o	o
B09	12" DEEP X 3'-0"W X 3'-0"T WALL CABINET			o	o
B10	STACKED WASHER AND DRYER			o	o
B11	RECEPTION DESK CABINETS			o	o
B12	30" X 40" CURRICULUM CABINET				
B13	16" DEEP X 4' LONG WALL CABINET			o	o
B14	CAR SEAT STORAGE SHELVING			o	o
B15	24"D x 36"L ADJ. WD SHELVES W/ 1'-6" L STANDARDS			o	o
B16	18"DEEP ADJUSTABLE WOOD SHELVES, SEE ELEVATIONS			o	o
B17	12" DEEP X 3'-0"W X 3'-0"T SURFACE MOUNTED			o	o
B18	8" DEEP x 2'-6"W X 3'-0" SEMI - RECESSED			o	o
B19	STORAGE ROOM SHELVING			o	o
B20	PAPER ROLL HOLDER			o	o
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B24	KITCHENETTE BASE CABINETS			o	o
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B26	"PUT DOWN" COUNTER			o	o
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B29	SINGLE LAVATORY			o	o
B30	DOUBLE LAVATORY			o	o
B31	RECESSED BROOM CLOSET, SEE DETAIL 19/A2.3. (OPTIONAL - CHECK WITH OWNER PRIOR TO ORDERING)			o	o
"C" SIGNS & BANNERS					
C01	ROOM NAME SIGN			o	o
C02	TACTILE EXIT SIGN 6" X 6"			o	o
C03	GENERAL LICENESES	o			o
C04	PICTURES	o			o
"D" TOILET ACCESSORIES & MIRRORS					
D01	TOILET TISSUE DISPENSER	o			o
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D04	24" GRAB BAR. SEE ELEVATION			o	o
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E01	FLAGMOUNT	o			o
E02	WALL CLOCK MOUNTED 15" BELOW CEILING			o	o
E03	SEMI RECESSED FIRE EXTINGUISHER CABINET & FIRE EXTINGISHER			o	o
E04	SURFACE MOUNTED FIRE EXTINGUISHER			o	o
E05	AIR FRESHENER MOUNTED 90" TO TOP	o			o
E06	INTERCOM MASTER PANEL			o	o
E07	INTERCOM			o	o
E08	WINDOW COVERINGS			o	o
E09	FIRE ALARM ANNUNCIATOR PANEL			o	o
E10	FIRE ALARM CONTROL PANEL			o	o
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4/6/2023 7:00:06 AM

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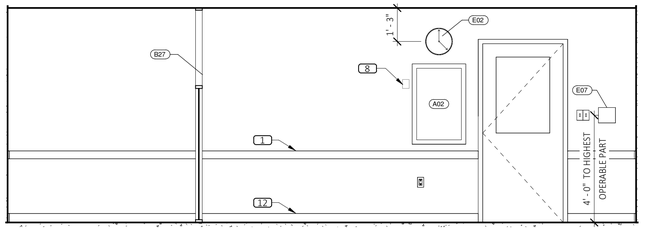
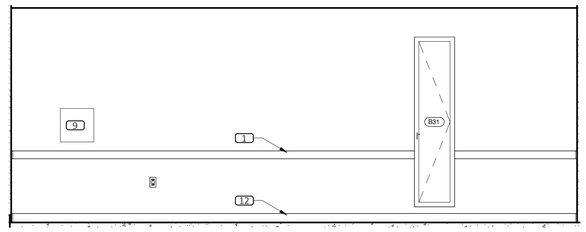


1 A5.7 CLASSROOM A1
SCALE: 3/8" = 1'-0"



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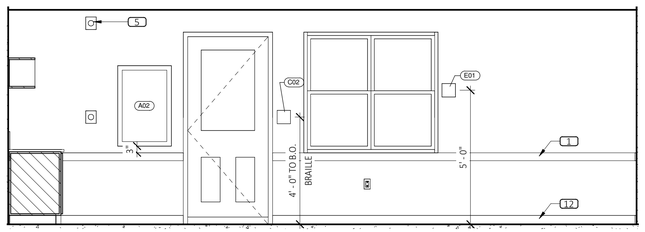

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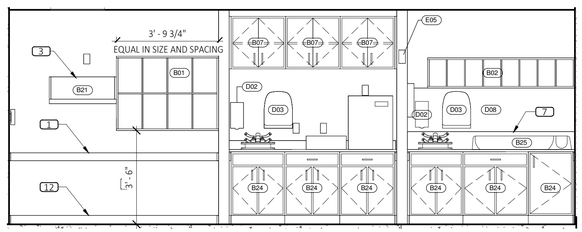

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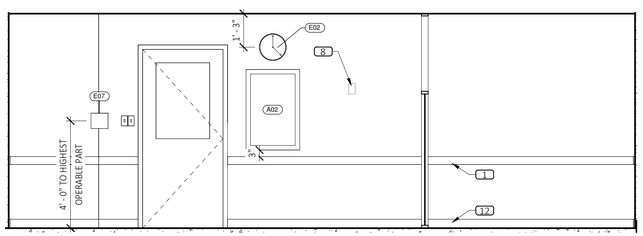
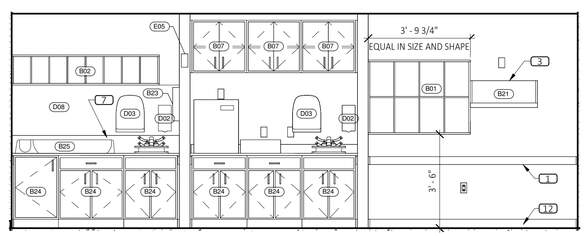
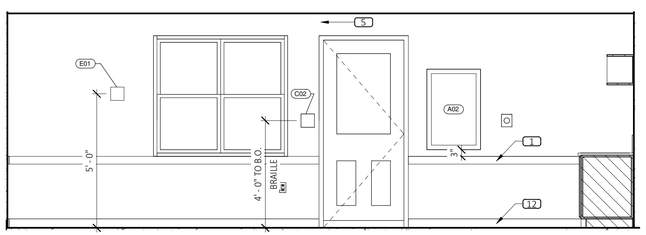


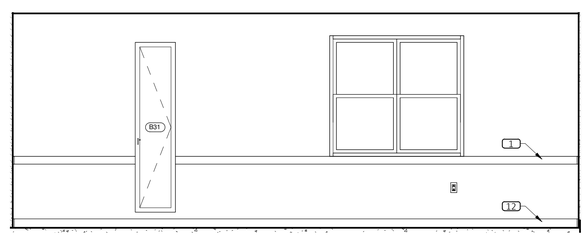
5 A5.7 CLASSROOM A2
SCALE: 3/8" = 1'-0"



6 A5.7 CLASSROOM A2
SCALE: 3/8" = 1'-0"



7 A5.7 CLASSROOM A2
SCALE: 3/8" = 1'-0"



8 A5.7 CLASSROOM A2
SCALE: 3/8" = 1'-0"

4/6/2023 7:00:07 AM

ELEVATION KEYED NOTES (X)

1 CHAIR RAIL, SEE FINISH SCHEDULE
2 PROVIDE FULL HEIGHT FRP AT COT STORAGE ALCOVE. EXTEND FRP TO END FACE OF WING WALL & TERMINATE W/ J-MOULD (TYP.)
3 PROVIDE BLOCKING FOR WOOD SHELF
4 1" x 4" SHIP LAP. PROVIDE WOOD BLOCKING IN WALL AS NEEDED.
5 FA VISUAL STROBE
6 FA PULL STATION
7 8" BACK SPLASH
8 TEMPERATURE SENSOR, SEE MECHANICAL.
9 HOSE BIBB ACCESS PANEL
10 MOP SINK
11 FRP
12 COVE BASE
13 COAT HOOKS
14 29" MONITOR. PROVIDE OUTLET, SEE ELECTRICAL
15 CASLINK LIGHTING CONTROL PANEL

ACCESSORY SCHEDULE

	ITEM	OWNER FURNISHED	OWNER INSTALLED	CONTRACTOR FURNISHED	CONTRACTOR INSTALLED
"A" DISPLAY BOARDS					
A01	6'W x 4'H BULLETIN BOARD. SET BOT. @ 3" ABOVE CHAIR RAIL.	O			O
A02	2'W x 3'H BULLETIN BOARD. SET BOT. @ 3" ABOVE CHAIR RAIL.	O			O
A03	6'W x 4'H WHITE BOARD. SET BOT. @ 3" ABOVE CHAIR RAIL.	O			O
"B" SHELVING/CUBBIES/CABINETS					
				O	O
B01	CUBBIES, SEE ELEVATIONS FOR QUANTITY			O	O
B02	CUBBIES ABOVE CHANGE TABLE			O	O
B03	16" DEEP X 3'-6"W X 3'-6"H SURFACED MOUNTED			O	O
B04	16" DEEP x 3'-0"W x 3'-6"H CORNER CABINET			O	O
B05	16" DEEP X 1'-6"W X 3'-6"H SURFACE MOUNTED			O	O
B06	16" DEEP X 1'-3"W X 3'-6"T SURFACE MOUNTED			O	O
B07				O	O
B08	12" DEEP X 2'-6"W X 3'-3"T WALL CABINET			O	O
B09	12" DEEP X 3'-0"W X 3'-0"T WALL CABINET			O	O
B10	STACKED WASHER AND DRYER			O	O
B11	RECEPTION DESK CABINETS			O	O
B12	30" X 40" CURRICULUM CABINET				
B13	16" DEEP X 4' LONG WALL CABINET			O	O
B14	CAR SEAT STORAGE SHELVING			O	O
B15	24"D x 36"L ADJ. WD SHELVES W/ 1'-6" L STANDARDS			O	O
B16	18"DEEP ADJUSTABLE WOOD SHELVES, SEE ELEVATIONS			O	O
B17	12" DEEP X 3'-0"W X 3'-0"T SURFACE MOUNTED			O	O
B18	8" DEEP X 2'-6"W X 3'-0" SEMI - RECESSED			O	O
B19	STORAGE ROOM SHELVING			O	O
B20	PAPER ROLL HOLDER			O	O
B21	12" DEEP X 2'-6" LONG WOOD SHELF			O	O
B22	8" DEEP X 2'-6"W X 3'-0" SURFACE MOUNTED			O	O
B23	2'-0"H X 1'-4"W X 6"D DISINFECTANT CABINETS			O	O
B24	KITCHENETTE BASE CABINETS			O	O
B25	BABY CHANGING TABLE WITH SNEEZE GUARDS			O	O
B26	"PUT DOWN" COUNTER			O	O
B27	INFANT PARTITION			O	O
B29	SINGLE LAVATORY			O	O
B30	DOUBLE LAVATORY			O	O
B31	RECESSED BROOM CLOSET, SEE DETAIL 19/A2.3. (OPTIONAL - CHECK WITH OWNER PRIOR TO ORDERING)			O	O
"C" SIGNS & BANNERS					
C01	ROOM NAME SIGN			O	O
C02	TACTILE EXIT SIGN 6" X 6"			O	O
C03	GENERAL LICENESES	O			O
C04	PICTURES	O			O
"D" TOILET ACCESSORIES & MIRRORS					
D01	TOILET TISSUE DISPENSER	O			O
D02	SURFACE MOUNTED SOAP DISPENSER, SEE INTERIOR ELEVATIONS	O			O
D03	SURFACE MOUNTED PAPER TOWEL DISPENSER, SEE INTERIOR ELEVATION	O			O
D04	24" GRAB BAR. SEE ELEVATION			O	O
D05	42" GRAB BAR. SEE ELEVATION.			O	O
D06	36" GRAB BAR. SEE ELEVATION.			O	O
D07	24" X 36" RESTROOM MIRROR			O	O
D08	SAFETY MIRROR CUT TO FIT			O	O
"E" MISCELLANEOUS					
E01	FLAGMOUNT	O			O
E02	WALL CLOCK MOUNTED 15" BELOW CEILING			O	O
E03	SEMI RECESSED FIRE EXTINGUISHER CABINET & FIRE EXTINGISHER			O	O
E04	SURFACE MOUNTED FIRE EXTINGUISHER			O	O
E05	AIR FRESHENER MOUNTED 90" TO TOP	O			O
E06	INTERCOM MASTER PANEL			O	O
E07	INTERCOM			O	O
E08	WINDOW COVERINGS			O	O
E09	FIRE ALARM ANNUNCIATOR PANEL			O	O
E10	FIRE ALARM CONTROL PANEL			O	O
E11	SECURITY SYSTEM PANEL			O	O

CASCO
CASCO DIVERSIFIED CORPORATION
12 Sunset Drive, Suite 100, St. Louis, MO 63143 T: 314-821-1200

PRIMROSE SCHOOLS

1788 ROCK SPRINGS RD
RUTHERFORD COUNTY
SMYRNA, TN 37167

PRIMROSE SCHOOL FRANCHISING COMPANY
3200 WINDY HILL ROAD, SUITE 1200 E
ATLANTA, GEORGIA 30339-5640

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CONSTR. DOC. & REVISIONS

No.	Description	Date

JAMES A. SCHMITT
REGISTERED ARCHITECT
AGRICULTURE COMMERCE
NO. 102092
STATE OF TENNESSEE
04/06/23

Professional of Record:
JAMES A. SCHMITT
LICENSE NO: 102092
EXP. DATE: 08/31/24

Drawn/Checked	MS / DSC
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

INTERIOR ELEVATIONS

A5.7

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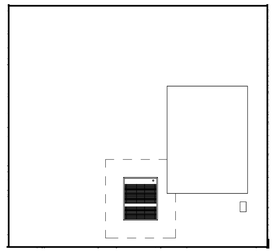

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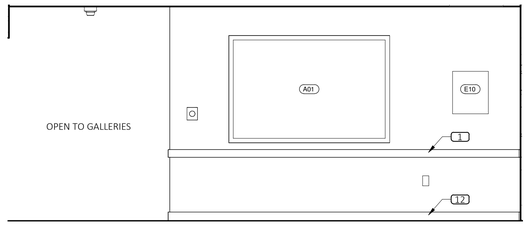

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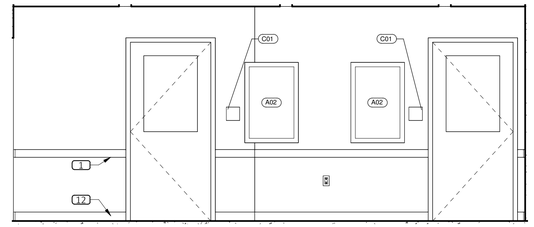

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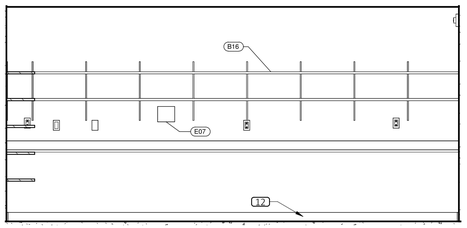

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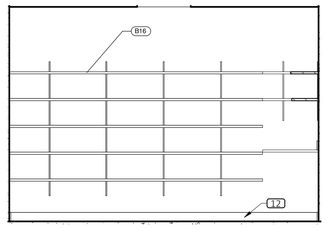

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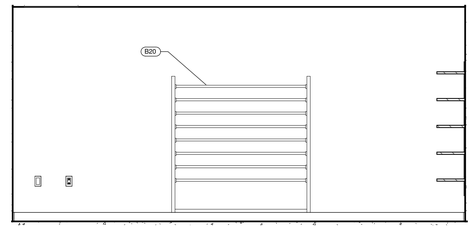

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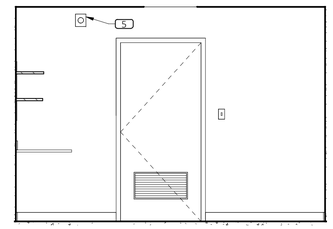

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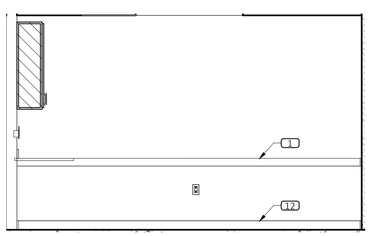

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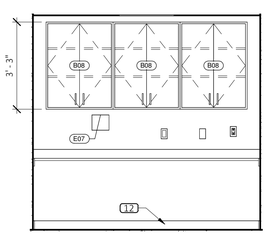

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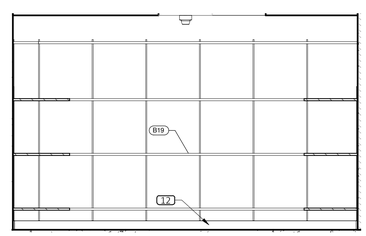

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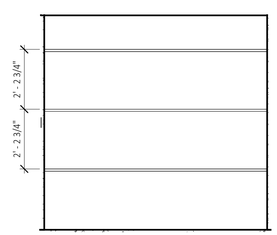

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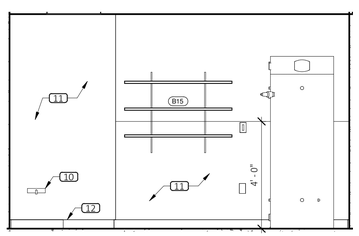

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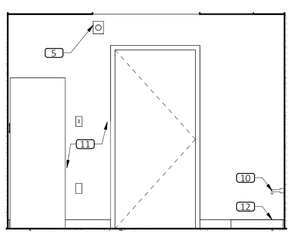

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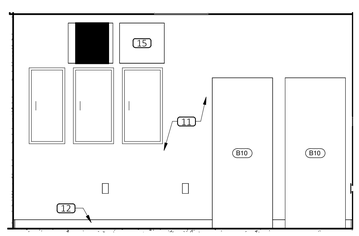

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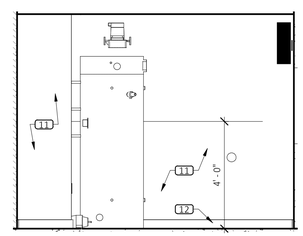

15 A5.8 LAUNDRY
SCALE: 3/8" = 1'-0"

ELEVATION KEYED NOTES (X)

1 CHAIR RAIL, SEE FINISH SCHEDULE
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3 PROVIDE BLOCKING FOR WOOD SHELF
4 1" x 4" SHIP LAP. PROVIDE WOOD BLOCKING IN WALL AS NEEDED.
5 FA VISUAL STROBE
6 FA PULL STATION
7 8" BACK SPLASH
8 TEMPERATURE SENSOR, SEE MECHANICAL.
9 HOSE BIBB ACCESS PANEL
10 MOP SINK
11 FRP
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15 CASLINK LIGHTING CONTROL PANEL

ACCESSORY SCHEDULE

	ITEM	OWNER FURNISHED	OWNER INSTALLED	CONTRACTOR FURNISHED	CONTRACTOR INSTALLED
"A" DISPLAY BOARDS					
A01	6'W x 4'H BULLETIN BOARD. SET BOT. @ 3" ABOVE CHAIR RAIL.	O			O
A02	2'W x 3'H BULLETIN BOARD. SET BOT. @ 3" ABOVE CHAIR RAIL.	O			O
A03	6'W x 4'H WHITE BOARD. SET BOT. @ 3" ABOVE CHAIR RAIL.	O			O
"B" SHELVING/CUBBIES/CABINETS					
				O	O
B01	CUBBIES, SEE ELEVATIONS FOR QUANTITY			O	O
B02	CUBBIES ABOVE CHANGE TABLE			O	O
B03	16" DEEP X 3'-6"W X 3'-6"H SURFACED MOUNTED			O	O
B04	16" DEEP x 3'-0"W x 3'-6"H CORNER CABINET			O	O
B05	16" DEEP X 1'-6"W X 3'-6"H SURFACE MOUNTED			O	O
B06	16" DEEP X 1'-3"W X 3'-6"T SURFACE MOUNTED			O	O
B07				O	O
B08	12" DEEP X 2'-6"W X 3'-3"T WALL CABINET			O	O
B09	12" DEEP X 3'-0"W X 3'-0"T WALL CABINET			O	O
B10	STACKED WASHER AND DRYER			O	O
B11	RECEPTION DESK CABINETS			O	O
B12	30" X 40" CURRICULUM CABINET				
B13	16" DEEP X 4' LONG WALL CABINET			O	O
B14	CAR SEAT STORAGE SHELVING			O	O
B15	24"D x 36"L ADJ. WD SHELVES W/ 1'-6" L STANDARDS			O	O
B16	18"DEEP ADJUSTABLE WOOD SHELVES, SEE ELEVATIONS			O	O
B17	12" DEEP X 3'-0"W X 3'-0"T SURFACE MOUNTED			O	O
B18	8" DEEP X 2'-6"W X 3'-0" SEMI - RECESSED			O	O
B19	STORAGE ROOM SHELVING			O	O
B20	PAPER ROLL HOLDER			O	O
B21	12" DEEP X 2'-6" LONG WOOD SHELF			O	O
B22	8" DEEP X 2'-6"W X 3'-0" SURFACE MOUNTED			O	O
B23	2'-0"H X 1'-4"W X 6"D DISINFECTANT CABINETS			O	O
B24	KITCHENETTE BASE CABINETS			O	O
B25	BABY CHANGING TABLE WITH SNEEZE GUARDS			O	O
B26	"PUT DOWN" COUNTER			O	O
B27	INFANT PARTITION			O	O
B29	SINGLE LAVATORY			O	O
B30	DOUBLE LAVATORY			O	O
B31	RECESSED BROOM CLOSET, SEE DETAIL 19/A2.3. (OPTIONAL - CHECK WITH OWNER PRIOR TO ORDERING)			O	O
"C" SIGNS & BANNERS					
C01	ROOM NAME SIGN			O	O
C02	TACTILE EXIT SIGN 6" X 6"			O	O
C03	GENERAL LICENESES	O			O
C04	PICTURES	O			O
"D" TOILET ACCESSORIES & MIRRORS					
D01	TOILET TISSUE DISPENSER	O			O
D02	SURFACE MOUNTED SOAP DISPENSER, SEE INTERIOR ELEVATIONS	O			O
D03	SURFACE MOUNTED PAPER TOWEL DISPENSER, SEE INTERIOR ELEVATION	O			O
D04	24" GRAB BAR. SEE ELEVATION			O	O
D05	42" GRAB BAR. SEE ELEVATION.			O	O
D06	36" GRAB BAR. SEE ELEVATION.			O	O
D07	24" X 36" RESTROOM MIRROR			O	O
D08	SAFETY MIRROR CUT TO FIT			O	O
"E" MISCELLANEOUS					
E01	FLAGMOUNT	O			O
E02	WALL CLOCK MOUNTED 15" BELOW CEILING			O	O
E03	SEMI RECESSED FIRE EXTINGUISHER CABINET & FIRE EXTINGISHER			O	O
E04	SURFACE MOUNTED FIRE EXTINGUISHER			O	O
E05	AIR FRESHENER MOUNTED 90" TO TOP	O			O
E06	INTERCOM MASTER PANEL			O	O
E07	INTERCOM			O	O
E08	WINDOW COVERINGS			O	O
E09	FIRE ALARM ANNUNCIATOR PANEL			O	O
E10	FIRE ALARM CONTROL PANEL			O	O
E11	SECURITY SYSTEM PANEL			O	O

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JAMES A. SCHMITT
REGISTERED ARCHITECT
AGRICULTURE COMMERCE
NO. 102092
STATE OF TENNESSEE
04/06/23

Professional of Record:
JAMES A. SCHMITT
LICENSE NO: 102092
EXP. DATE: 08/31/24

Drawn/Checked	MS / DSC
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

INTERIOR ELEVATIONS

A5.8

4/6/2023 7:00:11 AM

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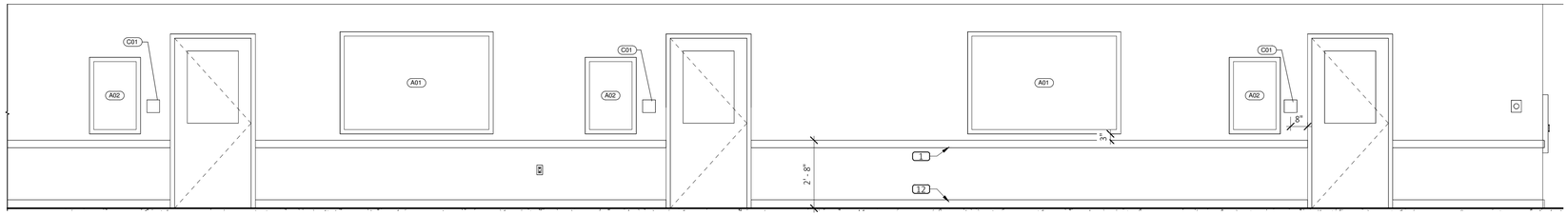
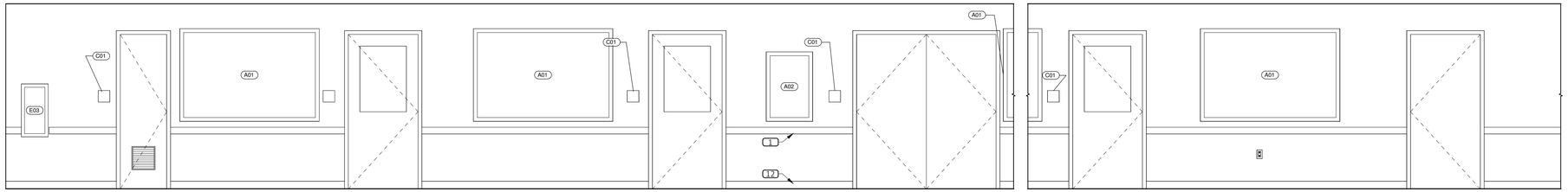


1 A5.9 GALLERY 1

SCALE: 3/8" = 1'-0"



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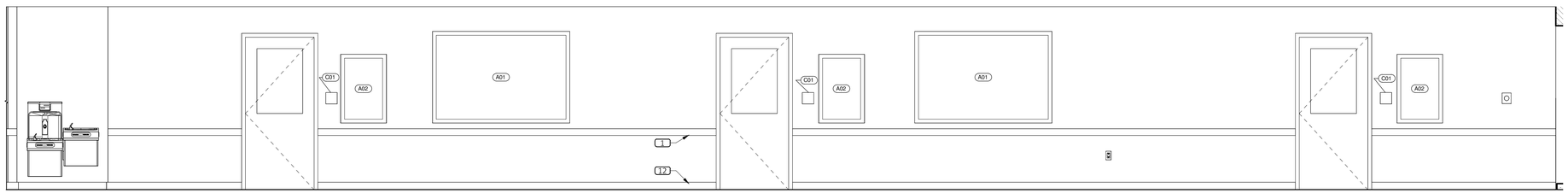

3 A5.9 GALLERY 1

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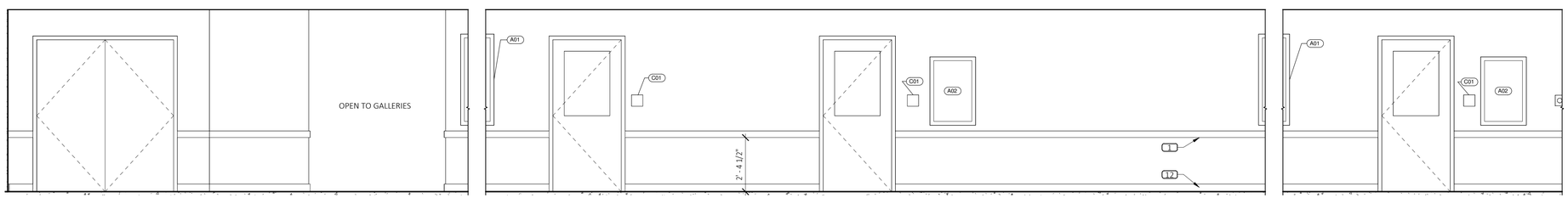

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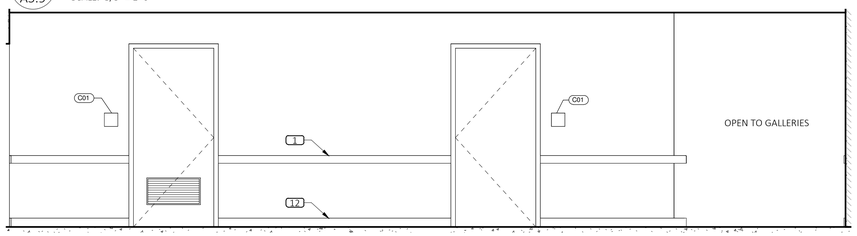

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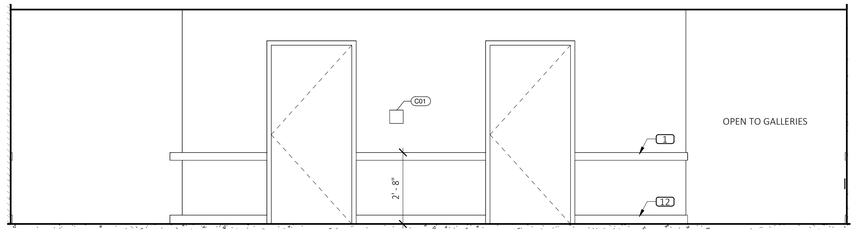

6 A5.9 GALLERY 2

SCALE: 3/8" = 1'-0"

ELEVATION KEYED NOTES (X)

1 CHAIR RAIL, SEE FINISH SCHEDULE
2 PROVIDE FULL HEIGHT FRP AT COT STORAGE ALCOVE. EXTEND FRP TO END FACE OF WING WALL & TERMINATE W/ J-MOULD (TYP.)
3 PROVIDE BLOCKING FOR WOOD SHELF
4 1" x 4" SHIP LAP. PROVIDE WOOD BLOCKING IN WALL AS NEEDED.
5 FA VISUAL STROBE
6 FA PULL STATION
7 8" BACK SPLASH
8 TEMPERATURE SENSOR, SEE MECHANICAL.
9 HOSE BIBB ACCESS PANEL
10 MOP SINK
11 FRP
12 COVE BASE
13 COAT HOOKS
14 29" MONITOR. PROVIDE OUTLET, SEE ELECTRICAL
15 CASLINK LIGHTING CONTROL PANEL

ACCESSORY SCHEDULE

	ITEM	OWNER FURNISHED	OWNER INSTALLED	CONTRACTOR FURNISHED	CONTRACTOR INSTALLED
"A" DISPLAY BOARDS					
A01	6'W x 4'H BULLETIN BOARD. SET BOT. @ 3" ABOVE CHAIR RAIL.	O			O
A02	2'W x 3'H BULLETIN BOARD. SET BOT. @ 3" ABOVE CHAIR RAIL.	O			O
A03	6'W x 4'H WHITE BOARD. SET BOT. @ 3" ABOVE CHAIR RAIL.	O			O
"B" SHELVING/CUBBIES/CABINETS					
				O	O
B01	CUBBIES, SEE ELEVATIONS FOR QUANTITY			O	O
B02	CUBBIES ABOVE CHANGE TABLE			O	O
B03	16" DEEP X 3'-6"W X 3'-6"H SURFACED MOUNTED			O	O
B04	16" DEEP x 3'-0"W x 3'-6"H CORNER CABINET			O	O
B05	16" DEEP X 1'-6"W X 3'-6"H SURFACE MOUNTED			O	O
B06	16" DEEP X 1'-3"W X 3'-6"T SURFACE MOUNTED			O	O
B07				O	O
B08	12" DEEP X 2'-6"W X 3'-3"T WALL CABINET			O	O
B09	12" DEEP X 3'-0"W X 3'-0"T WALL CABINET			O	O
B10	STACKED WASHER AND DRYER			O	O
B11	RECEPTION DESK CABINETS			O	O
B12	30" X 40" CURRICULUM CABINET				
B13	16" DEEP X 4' LONG WALL CABINET			O	O
B14	CAR SEAT STORAGE SHELVING			O	O
B15	24"D x 36"L ADJ. WD SHELVES W/ 1'-6" L STANDARDS			O	O
B16	18"DEEP ADJUSTABLE WOOD SHELVES, SEE ELEVATIONS			O	O
B17	12" DEEP X 3'-0"W X 3'-0"T SURFACE MOUNTED			O	O
B18	8" DEEP X 2'-6"W X 3'-0" SEMI - RECESSED			O	O
B19	STORAGE ROOM SHELVING			O	O
B20	PAPER ROLL HOLDER			O	O
B21	12" DEEP X 2'-6" LONG WOOD SHELF			O	O
B22	8" DEEP X 2'-6"W X 3'-0" SURFACE MOUNTED			O	O
B23	2'-0"H X 1'-4"W X 6"D DISINFECTANT CABINETS			O	O
B24	KITCHENETTE BASE CABINETS			O	O
B25	BABY CHANGING TABLE WITH SNEEZE GUARDS			O	O
B26	"PUT DOWN" COUNTER			O	O
B27	INFANT PARTITION			O	O
B29	SINGLE LAVATORY			O	O
B30	DOUBLE LAVATORY			O	O
B31	RECESSED BROOM CLOSET, SEE DETAIL 19/A2.3. (OPTIONAL - CHECK WITH OWNER PRIOR TO ORDERING)			O	O
"C" SIGNS & BANNERS					
C01	ROOM NAME SIGN			O	O
C02	TACTILE EXIT SIGN 6" X 6"			O	O
C03	GENERAL LICENESES	O			O
C04	PICTURES	O			O
"D" TOILET ACCESSORIES & MIRRORS					
D01	TOILET TISSUE DISPENSER	O			O
D02	SURFACE MOUNTED SOAP DISPENSER, SEE INTERIOR ELEVATIONS	O			O
D03	SURFACE MOUNTED PAPER TOWEL DISPENSER, SEE INTERIOR ELEVATION	O			O
D04	24" GRAB BAR. SEE ELEVATION			O	O
D05	42" GRAB BAR. SEE ELEVATION.			O	O
D06	36" GRAB BAR. SEE ELEVATION.			O	O
D07	24" X 36" RESTROOM MIRROR			O	O
D08	SAFETY MIRROR CUT TO FIT			O	O
"E" MISCELLANEOUS					
E01	FLAGMOUNT	O			O
E02	WALL CLOCK MOUNTED 15" BELOW CEILING			O	O
E03	SEMI RECESSED FIRE EXTINGUISHER CABINET & FIRE EXTINGISHER			O	O
E04	SURFACE MOUNTED FIRE EXTINGUISHER			O	O
E05	AIR FRESHENER MOUNTED 90" TO TOP	O			O
E06	INTERCOM MASTER PANEL			O	O
E07	INTERCOM			O	O
E08	WINDOW COVERINGS			O	O
E09	FIRE ALARM ANNUNCIATOR PANEL			O	O
E10	FIRE ALARM CONTROL PANEL			O	O
E11	SECURITY SYSTEM PANEL			O	O

CASCO
CASCO DIVERSIFIED CORPORATION
12 Sunset Drive, Suite 100, St. Louis, MO 63143 T: 314-821-1200

PRIMROSE SCHOOLS

1788 ROCK SPRINGS RD
RUTHERFORD COUNTY
SMYRNA, TN 37167

PRIMROSE SCHOOL FRANCHISING COMPANY
3200 WINDY HILL ROAD, SUITE 1200 E
ATLANTA, GEORGIA 30339-5640

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CONSTR. DOC. & REVISIONS

No.	Description	Date

JAMES A. SCHMITT
REGISTERED ARCHITECT
AGRICULTURE
COMMERCE
No. 102092
STATE OF TENNESSEE

04/06/23

Professional of Record:
JAMES A. SCHMITT
LICENSE NO: 102092
EXP. DATE: 08/31/24

Drawn/Checked	MS / DSC
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

INTERIOR ELEVATIONS

A5.9

4/6/2023 7:00:14 AM

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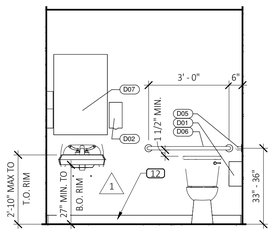
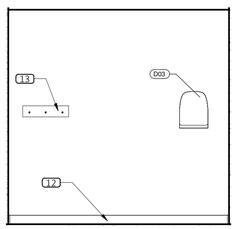


1 A5.10 TOILET 1 (ADULT)
SCALE: 3/8" = 1'-0"



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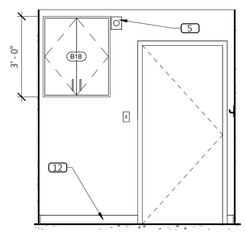

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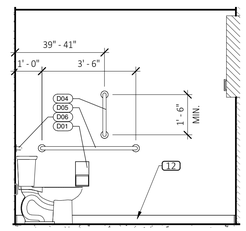

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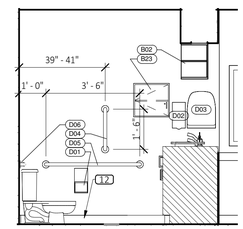
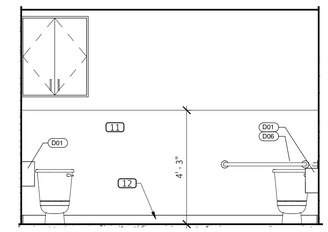
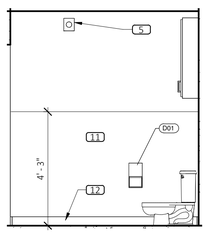


5 A5.10 TOILET 2 (24-29 MO)
SCALE: 3/8" = 1'-0" **SIM.** TLT 3 (24-29 MO)



6 A5.10 TOILET 2 (24-29 MO)
SCALE: 3/8" = 1'-0" **SIM.** TLT 5 (5 YR+)



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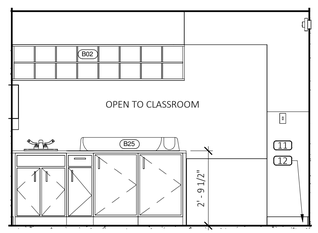

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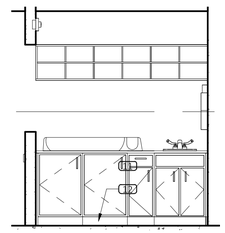

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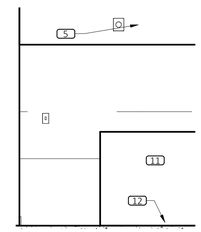
SCALE: 3/8" = 1'-0" **SIM.** TLT 5 (5 YR+)



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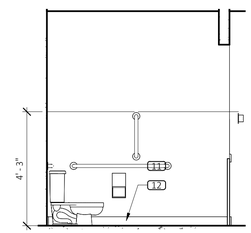

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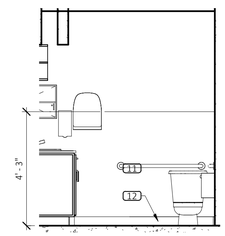

12 A5.10 TOILET 4 (5 YR+)
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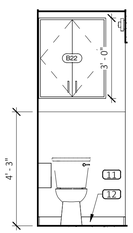
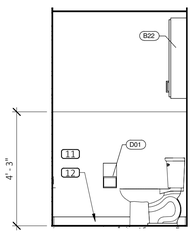
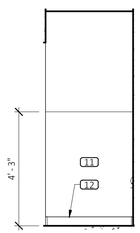


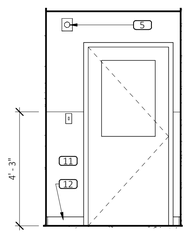
13 A5.10 TLT 12 (3 YR)
SCALE: 3/8" = 1'-0" **SIM.** TLT 11 (3 YR) **SIM.** TLT 7, TLT 8 (4 YR)



14 A5.10 TLT 12 (3 YR)
SCALE: 3/8" = 1'-0" **SIM.** TLT 11 (3 YR) **SIM.** TLT 7, TLT 8 (4 YR)



15 A5.10 TLT 12 (3 YR)
SCALE: 3/8" = 1'-0" **SIM.** TLT 11 (3 YR) **SIM.** TLT 7, TLT 8 (4 YR)



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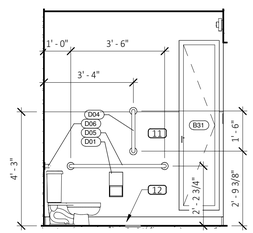

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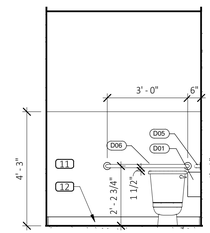
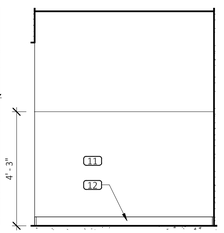
SCALE: 3/8" = 1'-0" **SIM.** TLT 10 (3 YR) **SIM.** TLT 6, TLT 9 (4 YR)



18 A5.10 TLT 13 (3 YR)
SCALE: 3/8" = 1'-0" **SIM.** TLT 10 (3 YR) **SIM.** TLT 6, TLT 9 (4 YR)



19 A5.10 TLT 13 (3 YR)
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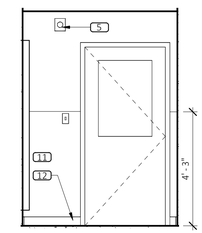

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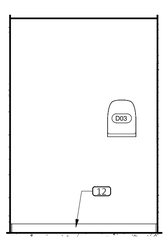
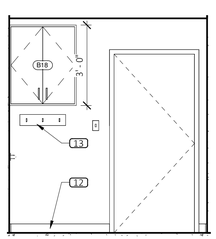


21 A5.10 TLT 14 (ADULT)
SCALE: 3/8" = 1'-0"



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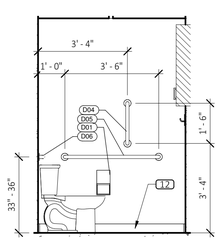

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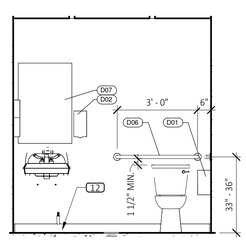

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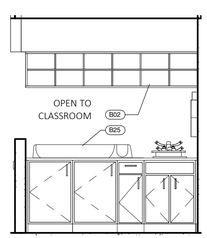

25 A5.10 TLT 15 (18-23 MO)
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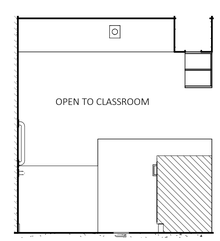

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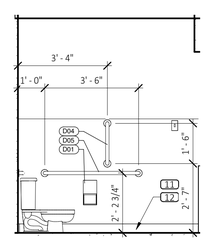

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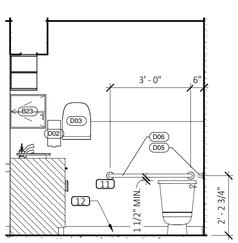

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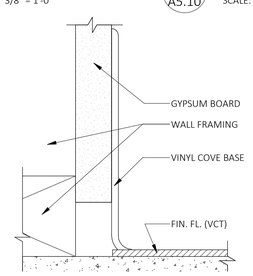


29 A5.10 COVE BASE DETAIL
SCALE: 12" = 1'-0"

ACCESSIBILITY NOTES

WATERCLOSETS

1. THE SEAT HEIGHT OF THE WATER CLOSET SHALL BE 17" TO 19" FOR ADULTS.
2. FLUSH CONTROLS SHALL BE MOUNTED FOR USE ON THE OPEN SIDE OF THE TOILET.
3. GRAB BARS SHALL BE MOUNTED AS SHOWN IN PLAN AND ELEVATIONS.

LAVATORIES

1. PROVIDE A MIN. CLEARANCE OF 27" A.F.F. TO THE BOTTOM OF THE APRON. THE RIM SHALL BE NO HIGHER THAN 34" MAX. SINK BOWLS SHALL HAVE A MAXIMUM DEPTH OF 6.5"
2. HOT WATER AND DRAIN PIPES UNDER THE LAV SHALL BE INSULATED AND PROTECTED.
3. ALL FAUCETS SHALL BE LEVER TYPE.
4. MIRRORS SHALL BE MOUNTED WITH THE BOTTOM OF THE REFLECTIVE SURFACE NO HIGHER THAN 40", (34" MAX. AT CHILDRENS).

GRAB BARS

1. COMPLY FOR ALLOWABLE STRESSES IN BENDING, SHEAR AND TENSION SHALL NOT BE EXCEEDED FOR MATERIALS USED WHEN A VERTICAL OR HORIZONTAL FORCE OF 250 LBS. IS APPLIED AT ANY POINT ON THE GRAB BAR.

NOTE: HANDRAILS SHALL PROVIDE AN EQUIVALENT GRIPPING SURFACE OF A NOMINAL DIAMETER OR WIDTH OF 1 1/4" TO 1 1/2".

TOILET PAPER DISPENSERS

1. INSTALL AS INDICATED ON ELEVATIONS. DISPENSERS THAT CONTROL DELIVERY, OR THAT DO NOT PERMIT CONTINUOUS PAPER FLOW, SHALL NOT BE USED.
2. INSTALL TOILET PAPER DISPENSER 7"-9" FROM FRONT EDGE OF TOILET TO CENTERLINE OF DISPENSER.

CHILDREN'S TOILET ROOM DOORS

1. MOUNT PULL AT 34" A.F.F. TO THE BOTTOM OF PULL.

NOTE TO GENERAL CONTRACTOR:
A COPY OF THIS SHEET SHALL BE FURNISHED TO THE PLUMBING CONTRACTOR.

MOUNTING HEIGHTS

CHILDREN'S DIMENSIONS (1.5" Ø GRAB BARS ASSUMED)

TOILET TYPE	SIDE BAR HEIGHT	(CONFIRM) TOILET TANK HEIGHT	REAR BAR HEIGHT	DISPENSER OUTLET HEIGHT
JUNIOR (JR)	18" - 20" TOP	26"	27.5" BOT	14"
STANDARD (STD)	20" - 25" TOP	29"	30.5" BOT	14" - 17"
ADA (HC)	33" - 36" TOP	30.25"	33" - 36" TOP	15" - 48" TOP

TOILET SIZES

JUNIOR SIZE TOILETS: TOILET ROOMS 2, 3, 10, 13, 15, 16, 17, 18

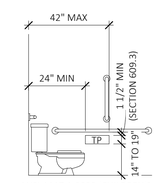
STANDARD SIZE TOILETS: TOILET ROOMS 4, 5, 6, 7, 8, 9, 11, 12

ADA SIZE TOILETS: TOILET ROOMS 1, 14

NOTE:
G.C. SHALL CONFIRM EXACT QUANTITY & LOCATION OF SOAP AND PAPER TOWEL DISPENSERS WITH FRANCHISE OWNER PRIOR TO ORDERING.

ELEVATION KEYED NOTES (X)

1 CHAIR RAIL, SEE FINISH SCHEDULE
2 PROVIDE FULL HEIGHT FRP AT COT STORAGE ALCOVE. EXTEND FRP TO END FACE OF WING WALL & TERMINATE W/ J-MOULD (TYP.)
3 PROVIDE BLOCKING FOR WOOD SHELF
4 1" x 4" SHIP LAP. PROVIDE WOOD BLOCKING IN WALL AS NEEDED.
5 FA VISUAL STROBE
6 FA PULL STATION
7 8" BACK SPLASH
8 TEMPERATURE SENSOR, SEE MECHANICAL.
9 HOSE BIBB ACCESS PANEL
10 MOP SINK
11 FRP
12 COVE BASE
13 COAT HOOKS
14 29" MONITOR. PROVIDE OUTLET, SEE ELECTRICAL
15 CASLINK LIGHTING CONTROL PANEL



ANSI A117.1-2009 (CHILDREN'S)
FIG. 604.11.7
CHILDREN'S DISPENSER OUTLET LOCATION

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No.	Description	Date
1	POST BID ADD 1 - CODE RESP. / FO REVISIONS	11/10/22

04/06/23

Professional of Record:
JAMES A. SCHMITT
LICENSE NO: 102092
EXP. DATE: 08/31/24

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Re-Bid Date	10/23/23

TOILET ROOM DETAILS

A5.10

4/6/2023 7:00:19 AM

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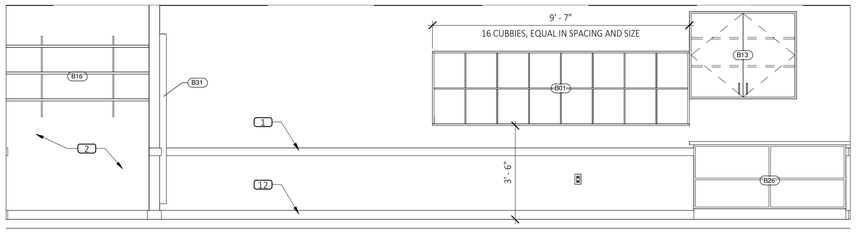
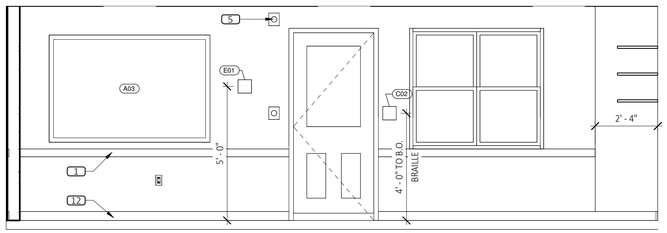


1 A5.11 CLASSROOM EP3

SCALE: 3/8" = 1'-0"



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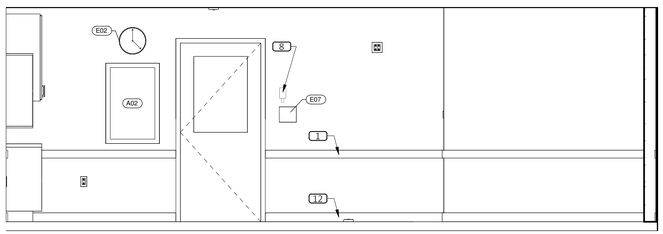
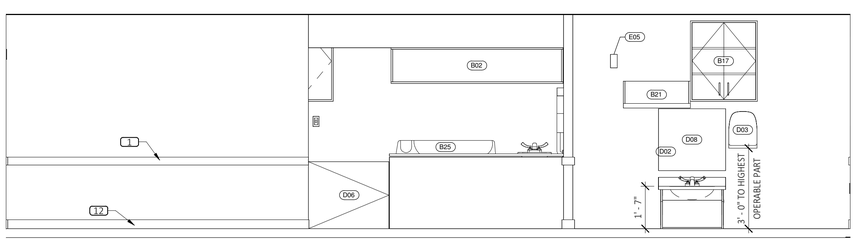


3 A5.11 CLASSROOM EP3

SCALE: 3/8" = 1'-0"



4 A5.11 CLASSROOM EP3

SCALE: 3/8" = 1'-0"

ELEVATION KEYED NOTES

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2 PROVIDE FULL HEIGHT FRP AT COT STORAGE ALCOVE. EXTEND FRP TO END FACE OF WING WALL & TERMINATE W/ J-MOULD (TYP.)
3 PROVIDE BLOCKING FOR WOOD SHELF
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7 8" BACK SPLASH
8 TEMPERATURE SENSOR, SEE MECHANICAL.
9 HOSE BIBB ACCESS PANEL
10 MOP SINK
11 FRP
12 COVE BASE
13 COAT HOOKS
14 29" MONITOR. PROVIDE OUTLET, SEE ELECTRICAL
15 CASLINK LIGHTING CONTROL PANEL

ACCESSORY SCHEDULE

	ITEM	OWNER FURNISHED OWNER INSTALLED	CONTRACTOR FURNISHED CONTRACTOR INSTALLED
"A" DISPLAY BOARDS			
A01	6'W x 4'H BULLETIN BOARD. SET BOT. @ 3" ABOVE CHAIR RAIL.	O	O
A02	2'W x 3'H BULLETIN BOARD. SET BOT. @ 3" ABOVE CHAIR RAIL.	O	O
A03	6'W x 4'H WHITE BOARD. SET BOT. @ 3" ABOVE CHAIR RAIL.	O	O
"B" SHELVING/CUBBIES/CABINETS			
			O O
B01	CUBBIES, SEE ELEVATIONS FOR QUANTITY		O O
B02	CUBBIES ABOVE CHANGE TABLE		O O
B03	16" DEEP X 3'-6"W X 3'-6"H SURFACED MOUNTED		O O
B04	16" DEEP x 3'-0"W x 3'-6"H CORNER CABINET		O O
B05	16" DEEP X 1'-6"W X 3'-6"H SURFACE MOUNTED		O O
B06	16" DEEP X 1'-3"W X 3'-6"T SURFACE MOUNTED		O O
B07			O O
B08	12" DEEP X 2'-6"W X 3'-3"T WALL CABINET		O O
B09	12" DEEP X 3'-0"W X 3'-0"T WALL CABINET		O O
B10	STACKED WASHER AND DRYER		O O
B11	RECEPTION DESK CABINETS		O O
B12	30" X 40" CURRICULUM CABINET		
B13	16" DEEP X 4' LONG WALL CABINET		O O
B14	CAR SEAT STORAGE SHELVING		O O
B15	24"D x 36"L ADJ. WD SHELVES W/ 1'-6" L STANDARDS		O O
B16	18"DEEP ADJUSTABLE WOOD SHELVES, SEE ELEVATIONS		O O
B17	12" DEEP X 3'-0"W X 3'-0"T SURFACE MOUNTED		O O
B18	8" DEEP X 2'-6"W X 3'-0" SEMI - RECESSED		O O
B19	STORAGE ROOM SHELVING		O O
B20	PAPER ROLL HOLDER		O O
B21	12" DEEP X 2'-6" LONG WOOD SHELF		O O
B22	8" DEEP X 2'-6"W X 3'-0" SURFACE MOUNTED		O O
B23	2'-0"H X 1'-4"W X 6"D DISINFECTANT CABINETS		O O
B24	KITCHENETTE BASE CABINETS		O O
B25	BABY CHANGING TABLE WITH SNEEZE GUARDS		O O
B26	"PUT DOWN" COUNTER		O O
B27	INFANT PARTITION		O O
B29	SINGLE LAVATORY		O O
B30	DOUBLE LAVATORY		O O
B31	RECESSED BROOM CLOSET, SEE DETAIL 19/A2.3. (OPTIONAL - CHECK WITH OWNER PRIOR TO ORDERING)		O O
"C" SIGNS & BANNERS			
C01	ROOM NAME SIGN		O O
C02	TACTILE EXIT SIGN 6" X 6"		O O
C03	GENERAL LICENESES	O	O
C04	PICTURES	O	O
"D" TOILET ACCESSORIES & MIRRORS			
D01	TOILET TISSUE DISPENSER	O	O
D02	SURFACE MOUNTED SOAP DISPENSER, SEE INTERIOR ELEVATIONS	O	O
D03	SURFACE MOUNTED PAPER TOWEL DISPENSER, SEE INTERIOR ELEVATION	O	O
D04	24" GRAB BAR. SEE ELEVATION		O O
D05	42" GRAB BAR. SEE ELEVATION.		O O
D06	36" GRAB BAR. SEE ELEVATION.		O O
D07	24" X 36" RESTROOM MIRROR		O O
D08	SAFETY MIRROR CUT TO FIT		O O
"E" MISCELLANEOUS			
E01	FLAGMOUNT	O	O
E02	WALL CLOCK MOUNTED 15" BELOW CEILING		O O
E03	SEMI RECESSED FIRE EXTINGUISHER CABINET & FIRE EXTINGISHER		O O
E04	SURFACE MOUNTED FIRE EXTINGUISHER		O O
E05	AIR FRESHENER MOUNTED 90" TO TOP	O	O
E06	INTERCOM MASTER PANEL		O O
E07	INTERCOM		O O
E08	WINDOW COVERINGS		O O
E09	FIRE ALARM ANNUNCIATOR PANEL		O O
E10	FIRE ALARM CONTROL PANEL		O O
E11	SECURITY SYSTEM PANEL		O O

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REGISTERED ARCHITECT
STATE OF TENNESSEE
NO. 102092
04/06/23

Professional of Record:
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Re-Bid Date	10/23/23

INTEIOR ELEVATIONS

1

A5.11

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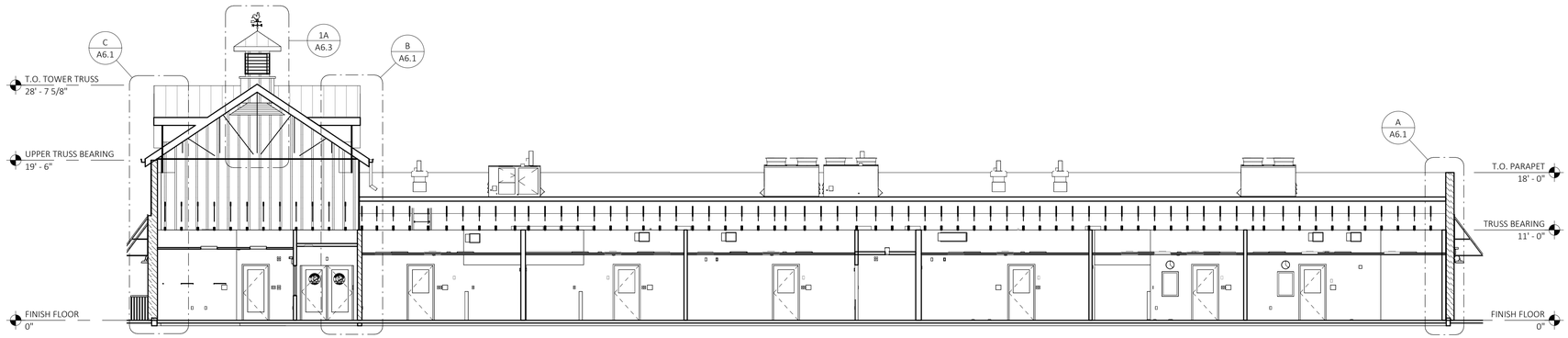
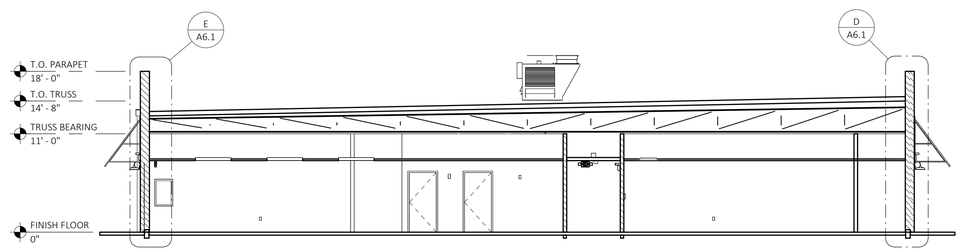


1 A6.0 BUILDING SECTION

SCALE: 1/8" = 1'-0"



2 A6.0 BUILDING SECTION

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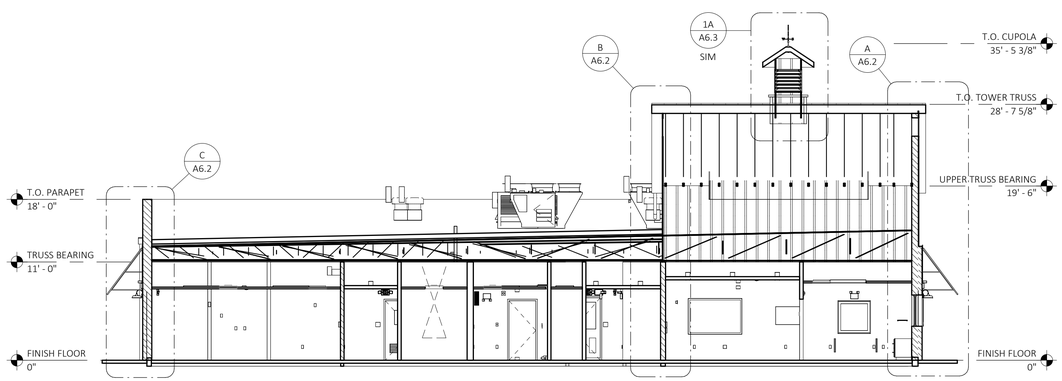

3 A6.0 BUILDING SECTION

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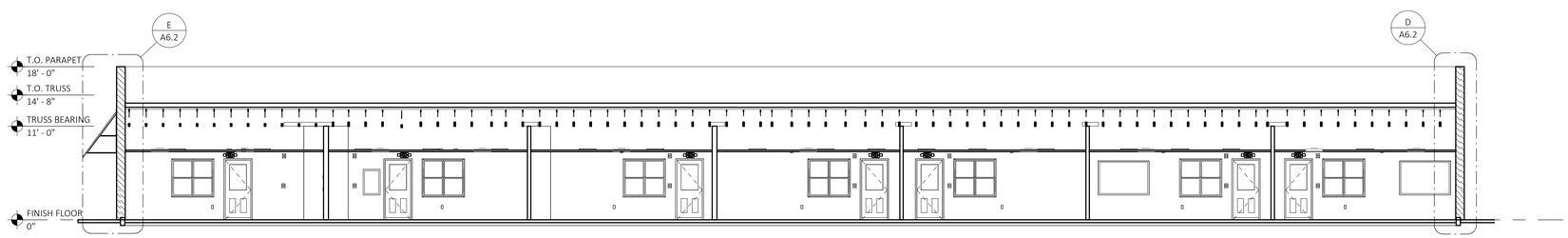

4 A6.0 BUILDING SECTION

SCALE: 1/8" = 1'-0"

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102092
STATE OF TENNESSEE

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BUILDING SECTIONS

A6.0

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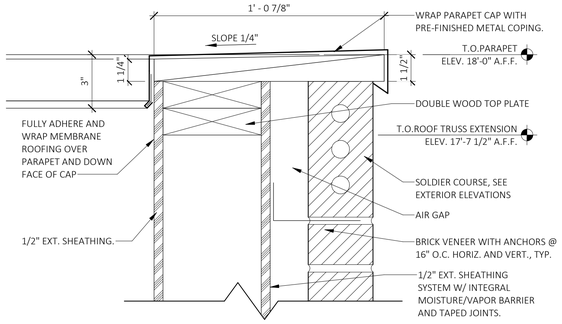
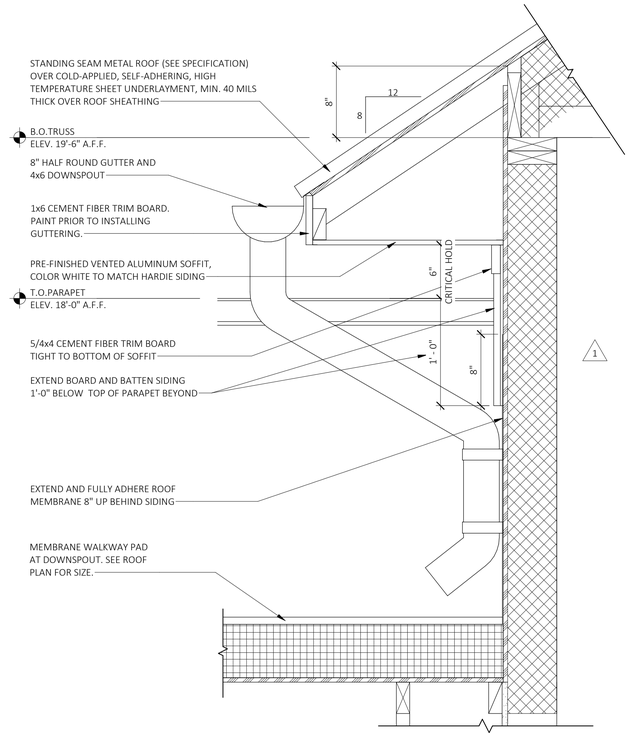
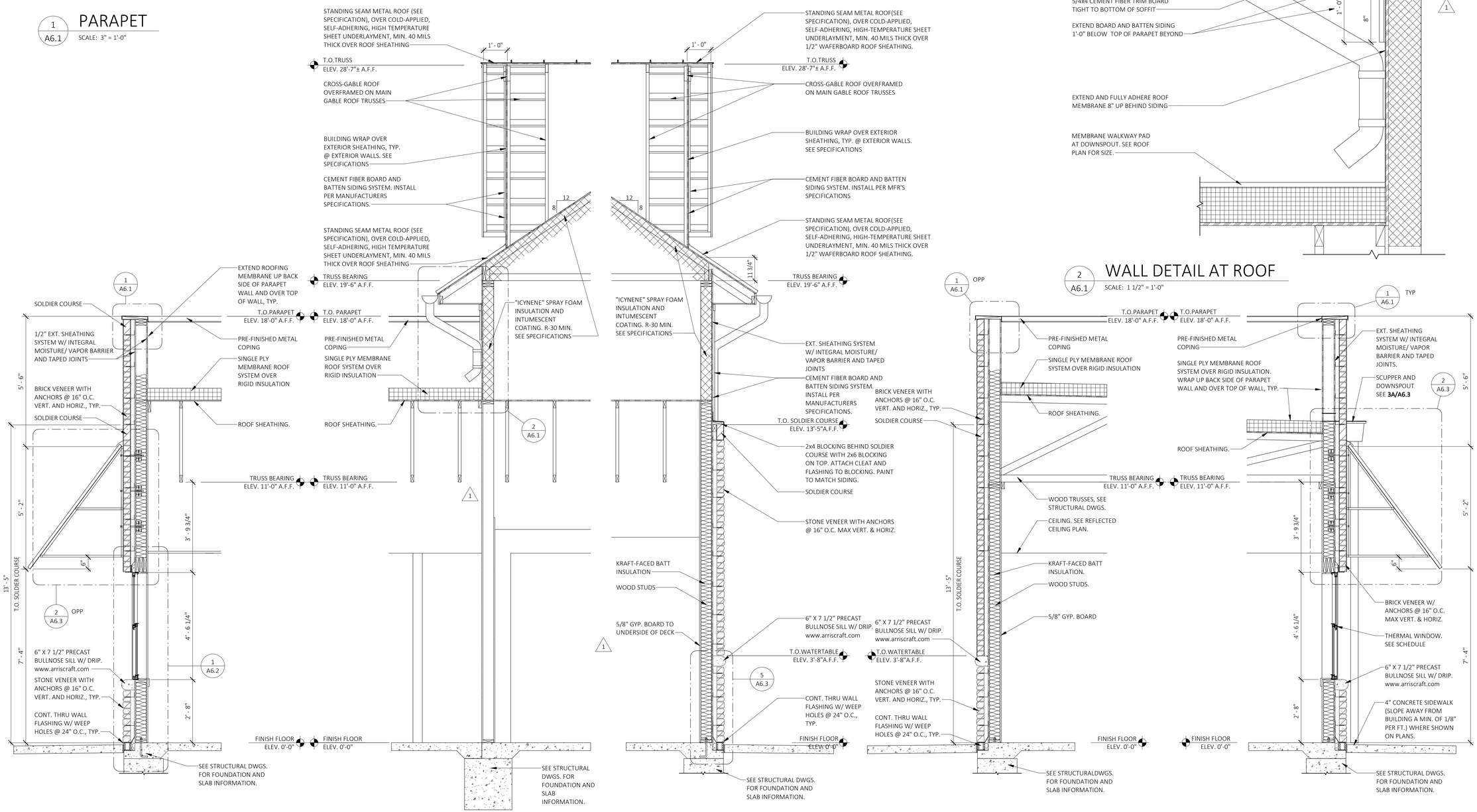


1 / A6.1 PARAPET
SCALE: 3" = 1'-0"



2 / A6.1 WALL DETAIL AT ROOF
SCALE: 1 1/2" = 1'-0"



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WALL SECTIONS & DETAILS

A6.1

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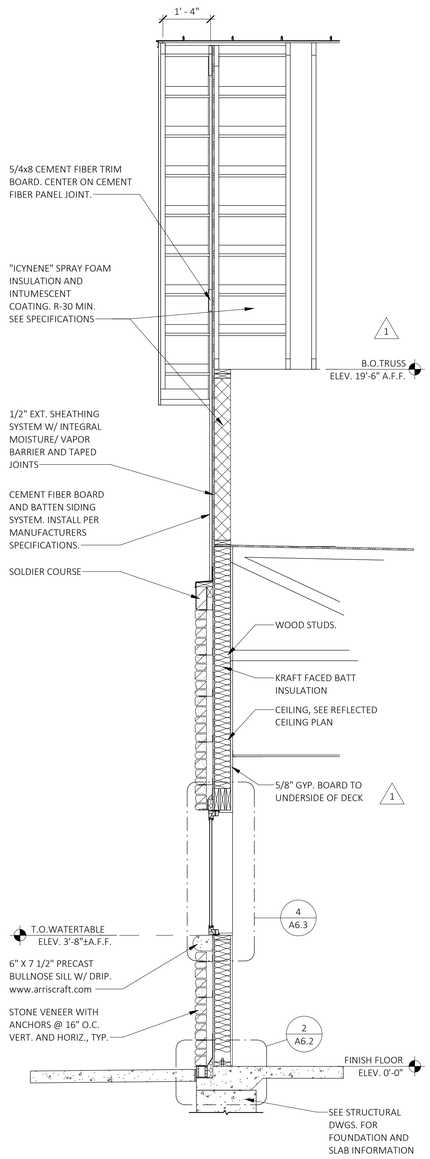

A A6.2 WALL SECTION
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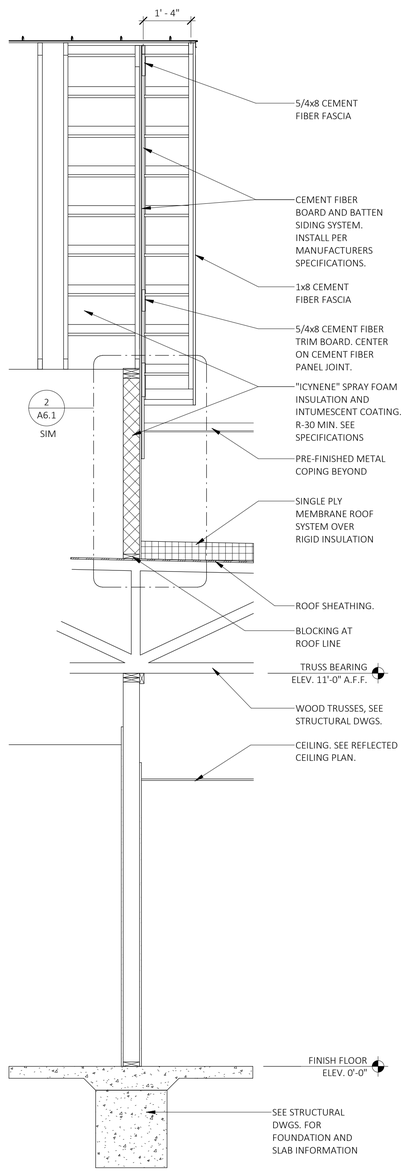
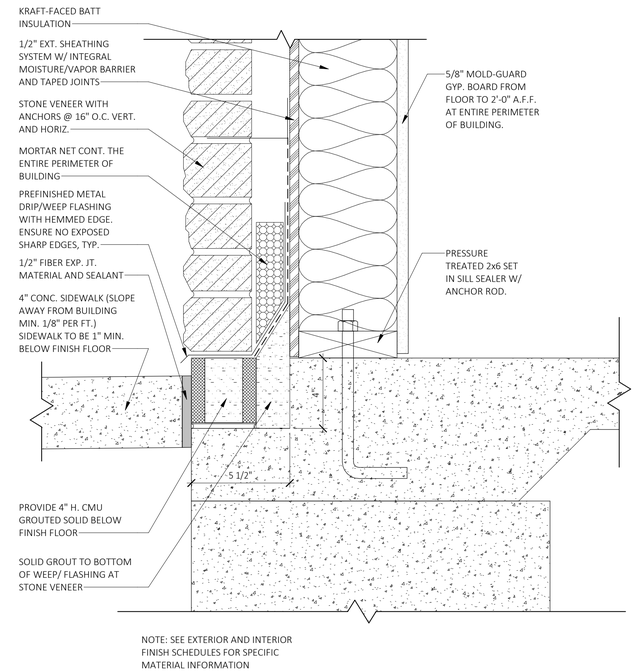


B A6.2 WALL SECTION
SCALE: 1/2" = 1'-0"

1 A6.2 WINDOW
SCALE: 1 1/2" = 1'-0"



NOTE: SEE EXTERIOR AND INTERIOR FINISH SCHEDULES FOR SPECIFIC MATERIAL INFORMATION

2 A6.2 BASE WALL
SCALE: 3" = 1'-0"

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WALL SECTIONS & DETAILS

A6.2

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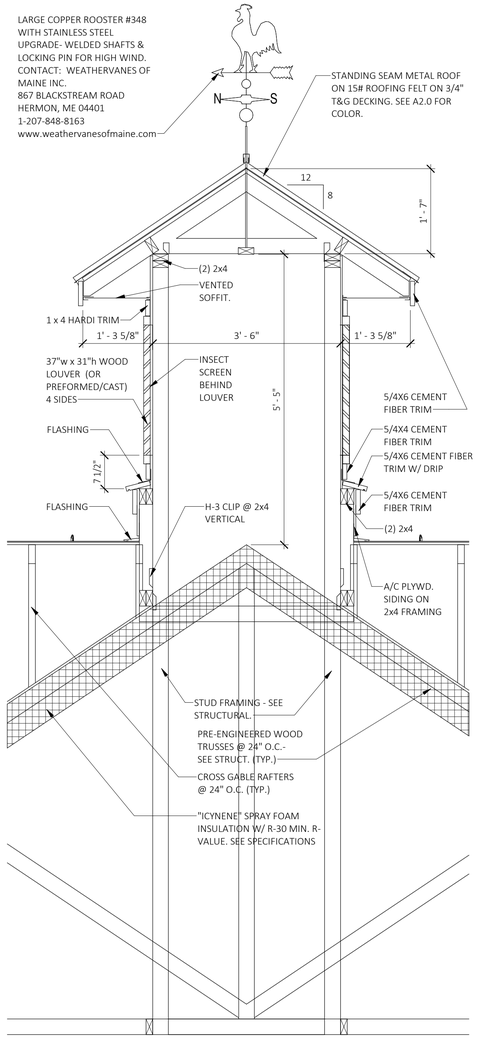
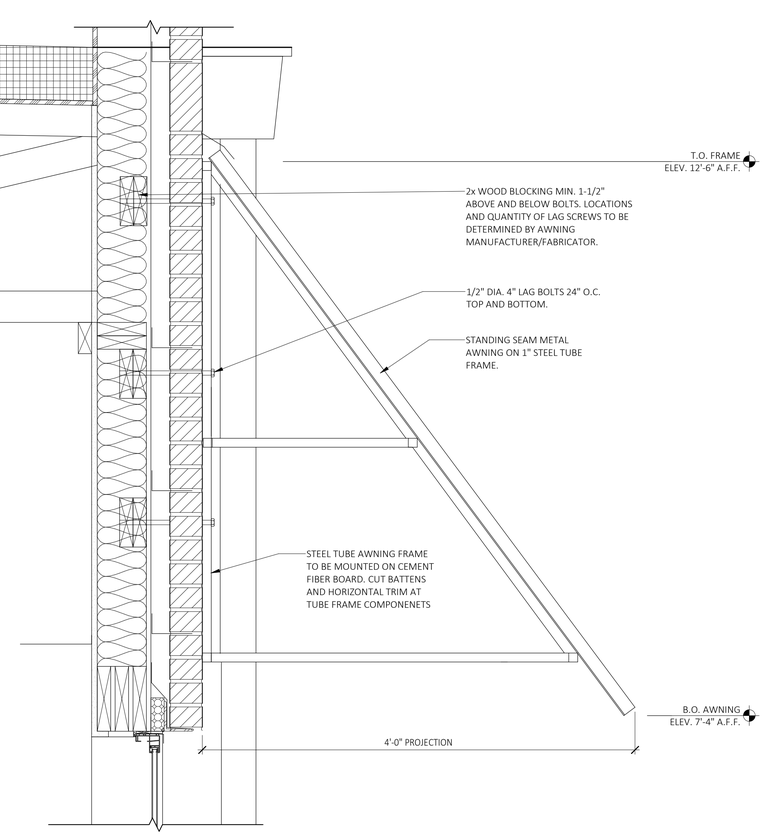


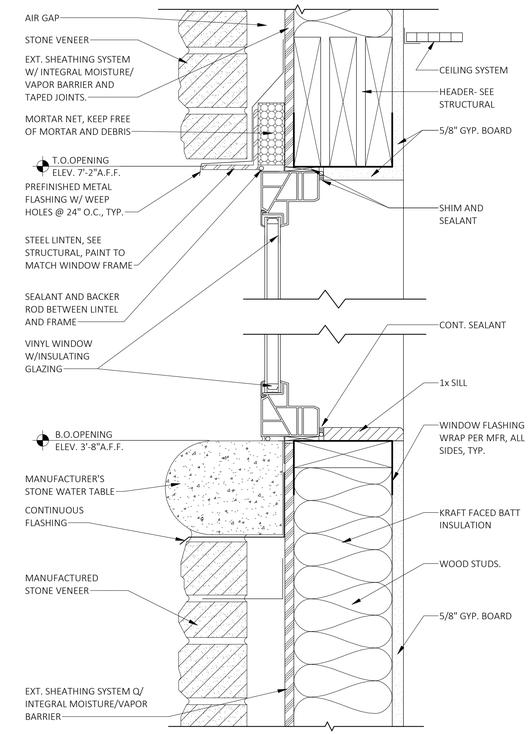
1A A6.3 CUPOLA SECTION

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



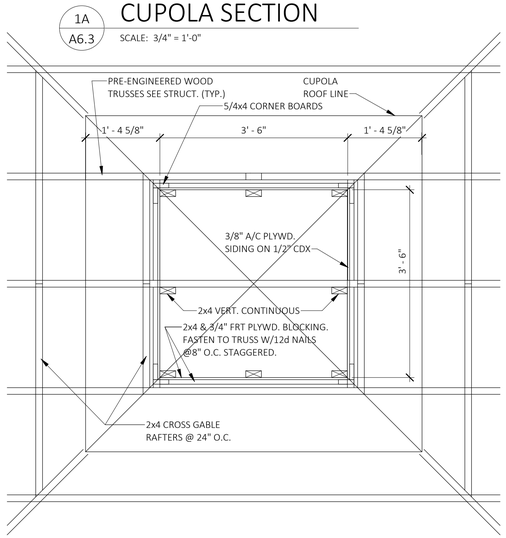
2 A6.3 TYP. AWNING SECTION

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



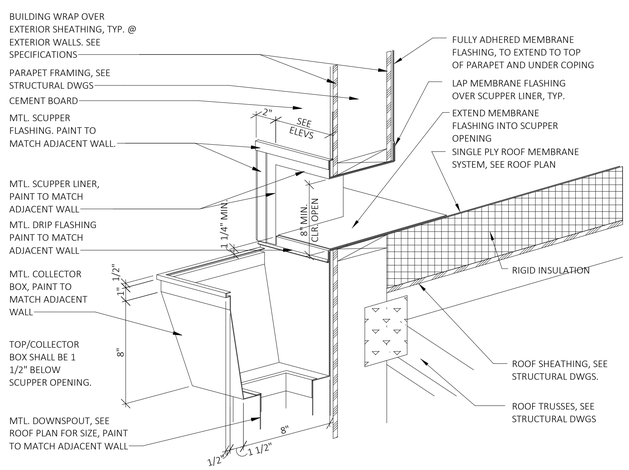
4 A6.3 SECTION @ OFFICE WINDOW

SCALE: 3" = 1'-0"



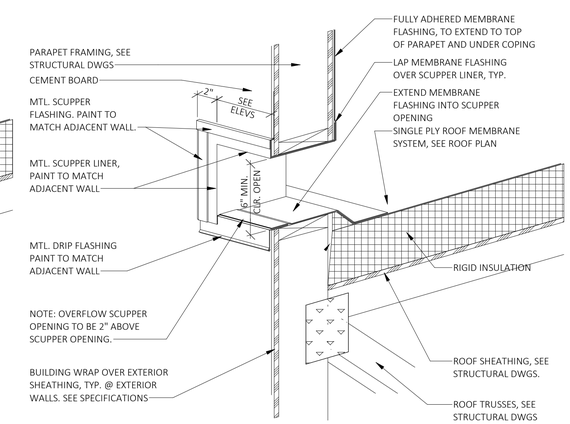
1B A6.3 CUPOLA PLAN

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



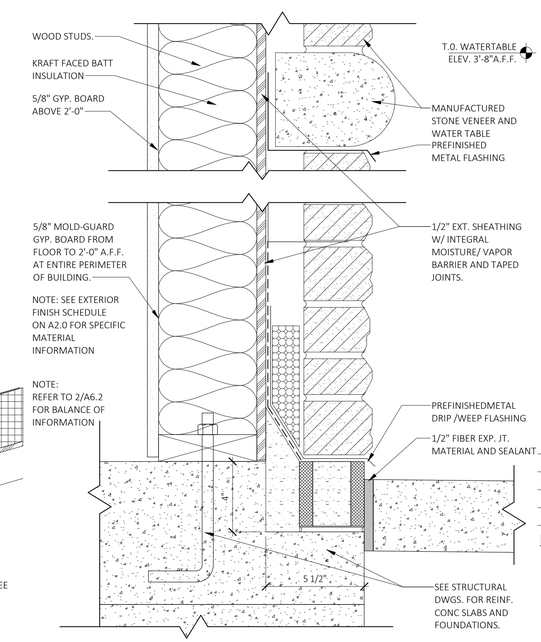
3A A6.3 SCUPPER

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



3B A6.3 OVERFLOW DRAIN

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



5 A6.3 SECTION @ STONE VENEER

SCALE: 3" = 1'-0"

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JAMES A. SCHMITT
PROFESSIONAL ENGINEER
LICENSED
102092
STATE OF TENNESSEE
04/06/23

Professional of Record:
JAMES A. SCHMITT
LICENSE NO: 102092
EXP. DATE: 08/31/24

Drawn/Checked	MS / DSC
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

EXTERIOR SECTIONS & DETAILS

A6.3

4/6/2023 7:00:27 AM

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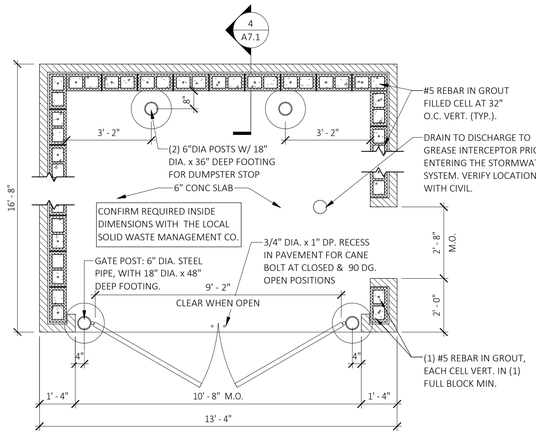
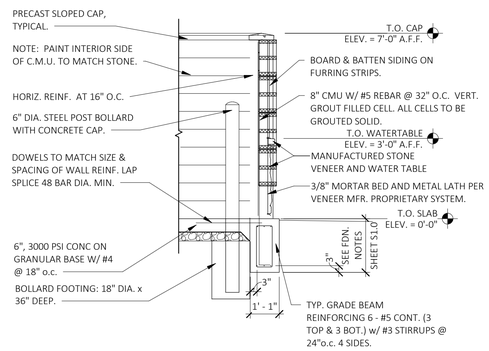


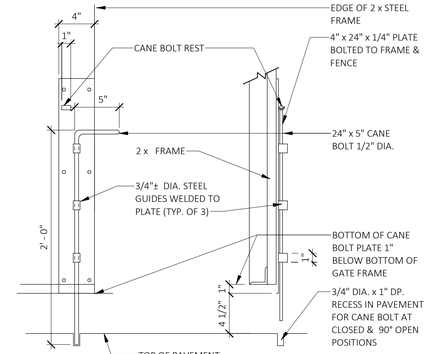
1 A7.1 DUMPSTER PLAN

SCALE: 3/8" = 1'-0"

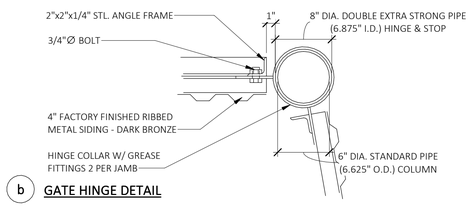


4 A7.1 DUMPSTER ENCLOSURE SECTION

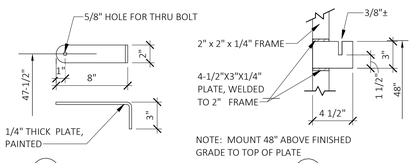
SCALE: 3/8" = 1'-0"



a **CANE BOLT-1 PER GATE.** (3 TOTAL)



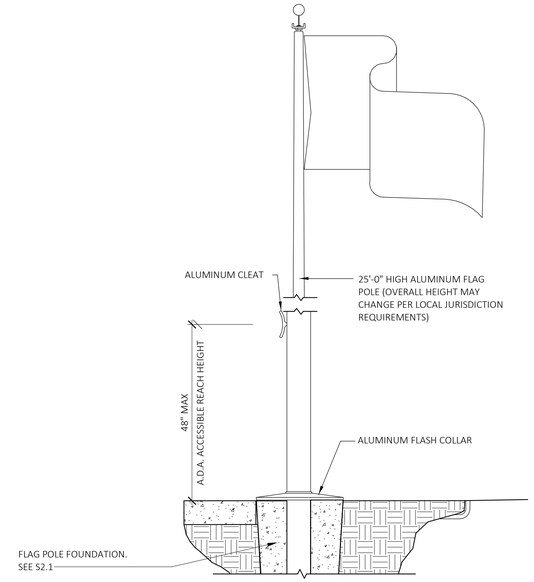
b **GATE HINGE DETAIL**



c **SWING LATCH** d **STOP PLATE**

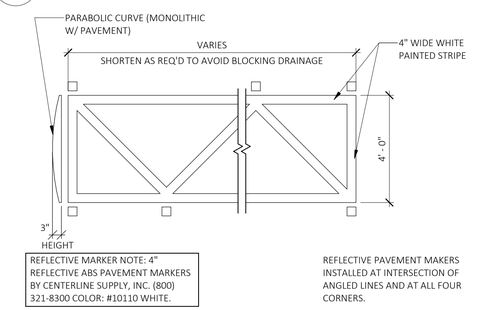
7 A7.1 HARDWARE

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



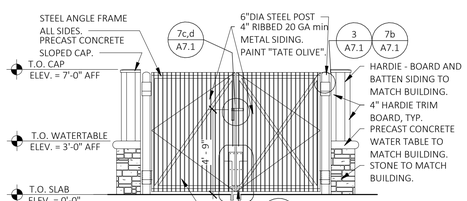
8 A7.1 FLAG POLE

SCALE: 1" = 1'-0"

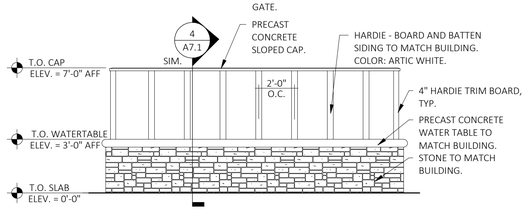


9 A7.1 SPEED REDUCER

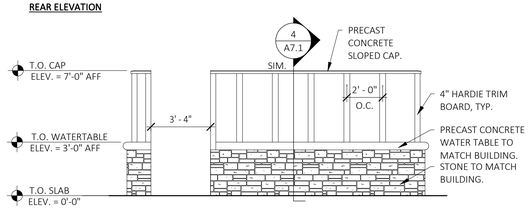
SCALE: 3/8" = 1'-0"



FRONT ELEVATION



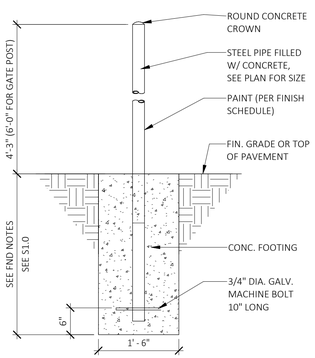
REAR ELEVATION



RIGHT SIDE ELEVATION (LEFT SIDE OPPOSITE,SIMILAR)

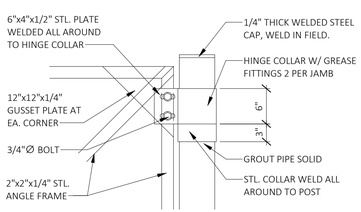
2 A7.1 DUMPSTER ELEVATION

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



6 A7.1 BOLLARD POST

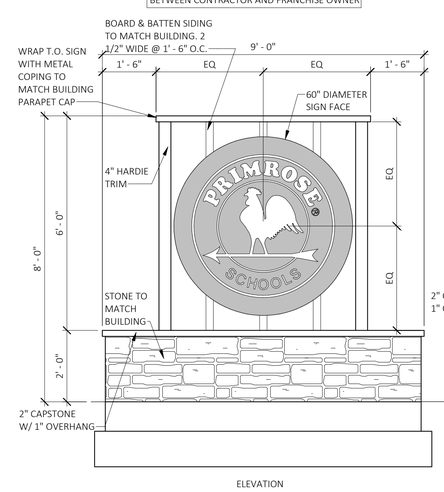
SCALE: 3/4" = 1'-0"



3 A7.1 HINGE

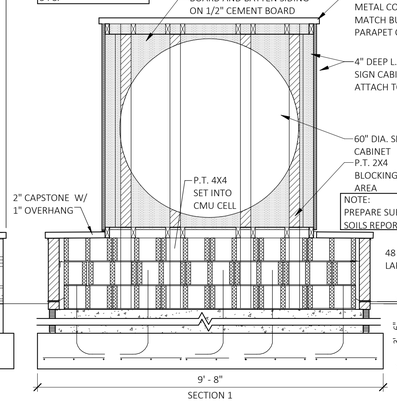
SCALE: 1/2" = 1'-0"

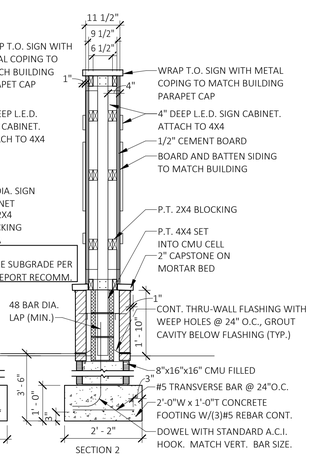
FINAL SIGN PLACEMENT SHALL BE AGREED UPON BETWEEN CONTRACTOR AND FRANCHISE OWNER



SIGN AREAS (ONE SIDE)

LOGO - 24"DIA =19.6 S.F.
OVERALL STRUCTURE= 54 SF





10 A7.1 MONUMENT SIGN

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

CASCO
CASCO DIVERSIFIED CORPORATION
12 Sunset Drive, Suite 100, St. Louis, MO 63143 T: 314-821-1300

PRIMROSE SCHOOLS
1788 ROCK SPRINGS RD
RUTHERFORD COUNTY
SMYRNA, TN 37167

PRIMROSE SCHOOL FRANCHISING COMPANY
3200 WINDY HILL ROAD, SUITE 1200 E
ATLANTA, GEORGIA 30339-5640

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CONSTR. DOC. & REVISIONS

No.	Description	Date

JAMES A. SCHMITT
REGISTERED ARCHITECT
STATE OF TENNESSEE
NO. 102092
04/06/23

Professional of Record:
JAMES A. SCHMITT
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SITE DETAILS

A7.1

4/6/2023 7:00:28 AM

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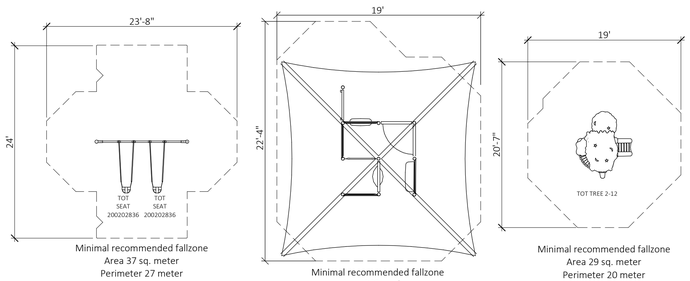
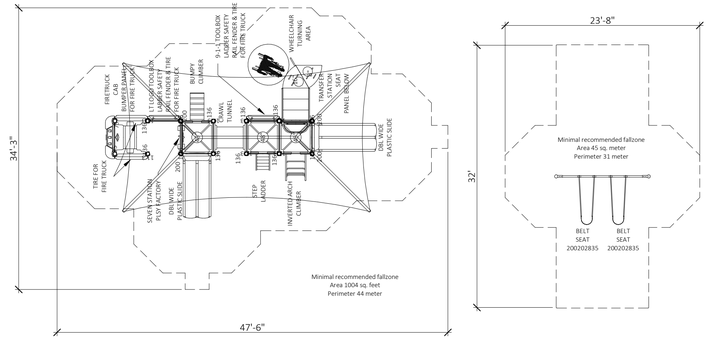


1 A7.2 EARLY PRESCHOOL PLAYGROUND EQUIPMENT

SCALE: NTS

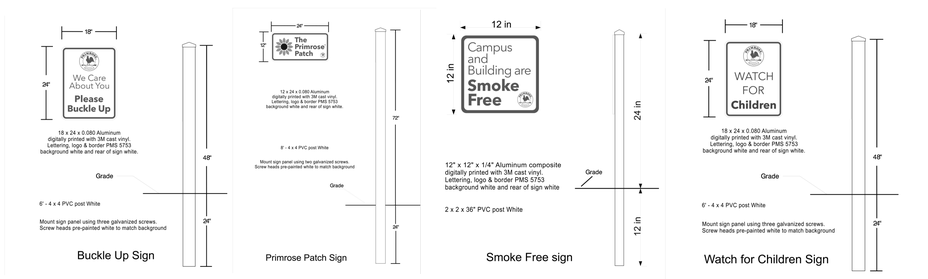


2 A7.2 AFTER SCHOOL / PRESCHOOL PLAYGROUND EQUIPMENT

SCALE: NTS

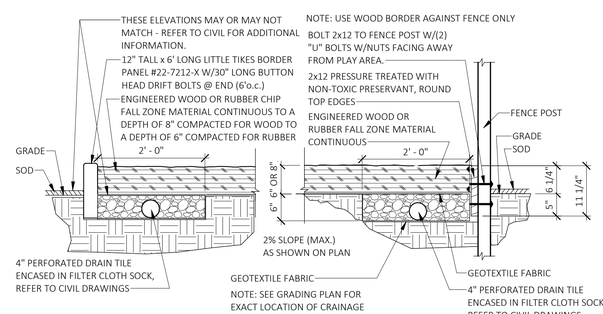
PLAYGROUND EQUIPMENT GENERAL NOTES:

1. THE AMERICAN WITH DISABILITIES ACT (ADA) MAY REQUIRE THAT YOU MAKE YOUR PARK AND/OR PLAYGROUND ACCESSIBLE WHEN VIEWED IN ITS ENTIRETY. PLEASE CONSULT YOUR LEGAL COUNSEL TO DETERMINE IF THE ADA APPLIES TO YOU.
2. FOR PLAYGROUND EQUIPMENT TO BE CONSIDERED ACCESSIBLE, ECCESSIBLE SURFACING MUST BE UTILIZED IN APPLICABLE AREAS.
3. ALTHOUGH A PARTICULAR PLAYGROUND DESIGN MAY NOT MEET THE PROPOSED ACCESS BOARD REGULATIONS IN REGARDS TO THE APPROPRIATE NUMBER OF GROUND LEVEL EVENTS, THE ACTUAL PLAYGROUND MAY BE IN COMPLIANCE WHEN CONSIDERING PLAY COMPONENTS.
4. ALL DECK HEIGHTS ARE MEASURES FROM TOP OF GROUND COVER.
5. FALL ABSORBING GROUND COVER IS REQUIRED UNDER AND AROUND ALL PLAY EQUIPMENT.
6. THE MINIMUM RECOMMENDED FALL ZONE AROUND THE ENTIRE PLAY STRUCTURE IS SHOWN. THIS ZONE MUST BE FREE OF ALL TRIPPING OR COLLISION HAZARDS(I.E.ROOTS, ROCKS, BOARDER MATERIAL, ECT.).
7. PLAYGROUND EQUIPMENT MUST MEET THE PERFORMANCE AND SAFETY REQUIREMENTS OF ASTM FOR CHILDREN 2-12 YEARS OLD. NOT ALL EQUIPMENT MAY BE APPROPRIATE FOR ALL CHILDREN. SUPERVISION IS REQUIRED.
8. ALL POST LENGTHS ARE IDENTIFIED BY TEXT SHOWING THE POST LENGTHS, I.E. 96 REPRESENTS A 96-INCH POST, AND 2210 REPRESENTS A 2210MM POST.
9. THE REQUIREMENT FOR A KID KUBE INSTALLATION IS THAT A LEVEL SITE BE USED.
10. THE REQUIREMENT FOR A PLAY BUILDER INSTALLATION IS THAT THE POST CANNOT BE SET PRIOR RO INSTALLING THE DECKS.
11. PICINIC TABLE/SANDBOX TO BE PLACED AT COSTOMER'S DISCRETION. DECK-TO-DECK ENCLOSE PANEL LOCATIONS ARE MARKED BY AN ASTERISK. THE HEIGHT OF EACH PANEL MEY BE FOUND BY SUBTRACTING THE LOWEST DECK FROM THE HIGHEST DECK TO WHICH THE DECK-TO-DECK ENCLOSE PANEL MOUNTS.
12. RUBBER FALL ZONE MATS SHALL BE PLACED AT THE END OF EACH PLAYGROUND SLIDE AND UNDERNEATH EACH SWING.



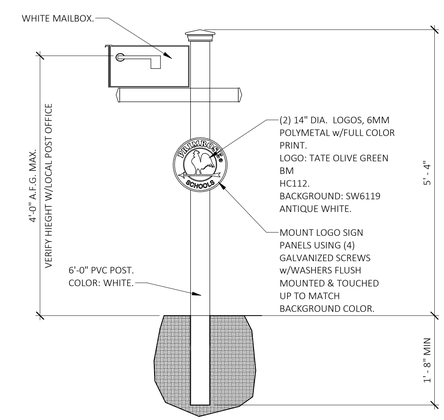
3 A7.2 SITE SIGNAGE PACKAGE

SCALE: NTS



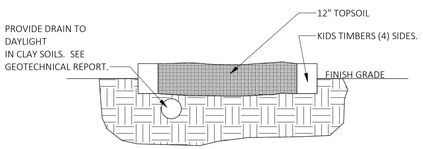
4 A7.2 FALL ZONE

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



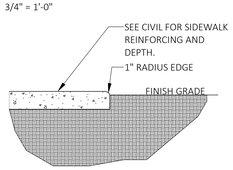
5 A7.2 USPS MAIL BOX

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



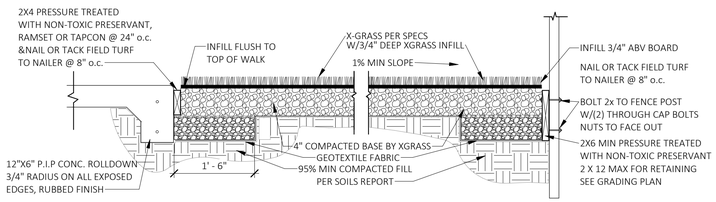
6 A7.2 PRIMROSE PATCH

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



7 A7.2 TYP. CONCRETE EDGE

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



NOTES:
FALL SURFACING SHALL COMPLY WITH ASTM F1951 FOR WHEELCHAIR ACCESSIBILITY & ASTM F1292 FOR FALL ATTENUATION.

8 A7.2 ARTIFICIAL TURF

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

CASCO
CASCO ENTERPRISED CORPORATION
12 Sarnen Drive, Suite 100, St. Louis, MO 63141 T: 314-821-1200

PRIMROSE SCHOOLS
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PLAYGROUND / SITE DETAILS

A7.2

4/6/2023 7:00:29 AM

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DESIGN CRITERIA:

1. LOCAL ADOPTED BUILDING CODE - 2018 INTERNATIONAL BUILDING CODE

2. STATE ADOPTED BUILDING CODE - 2012 INTERNATIONAL BUILDING CODE

3. ROOF DEAD LOADS:
   - ASPHALT SHINGLES = 6.0 PSF
   - WOOD STRUCTURAL PANEL SHEATHING = 2.0 PSF
   - WOOD TRUSSES = 3.0 PSF
   - CEILING/INSULATION/MISCELLANEOUS = 3.0 PSF
   - MECHANICAL/ELECTRICAL/FIRE PROTECTION = 4.0 PSF

4. MINIMUM ROOF LIVE LOAD: = 20.0 PSF

5. SNOW LOADS:
   - GROUND SNOW LOAD, P_g = 10.0 PSF
   - FLAT ROOF SNOW LOAD, P_s = 7.7 PSF
   - FLAT ROOF SNOW LOAD INCLUDING RAIN-ON-SNOW = 12.7 PSF
   - SNOW EXPOSURE FACTOR, C_e = 1.0
   - SNOW LOAD IMPORTANCE FACTOR, I_s = 1.1
   - THERMAL FACTOR, C_t = 1.0
   - ROOF SLOPE FACTOR, C_s (TOWER) = 0.56

6. WIND LOAD:
   - ULTIMATE WIND SPEED, V_{ult} = 115 MPH
   - RISK CATEGORY = III
   - BUILDING CATEGORY = ENCLOSED
   - OVERAL EXPOSURE CATEGORY = C

7. COMPONENTS AND CLADDING DESIGN WIND PRESSURES: PER TABLE BELOW.

NOMINAL (ASD) COMPONENTS AND CLADDING WIND DESIGN PRESSURES (PSF)

	ZONE	EFFECTIVE WIND AREA (SF)	WINDWARD PRESSURE	LEEWARD PRESSURE ROOF SLOPE < 7°
ROOF	1	10	10.8	-17.2
		20	10.0	-16.7
		50	10.0	-16.1
		100	10.0	-15.6
	2	10	10.8	-30.0
		20	10.0	-27.6
		50	10.0	-24.4
		100	10.0	-22.0
	3	10	10.8	-44.3
		20	10.0	-41.4
		50	10.0	-37.6
		100	10.0	-34.8
WALLS	4	10	18.8	-20.4
		20	17.9	-19.5
		50	16.8	-18.4
		100	16.0	-17.6
		500	14.0	-15.6
	5	10	18.8	-25.2
		20	17.9	-23.5
		50	16.8	-21.3
		100	16.0	-19.5
		500	14.0	-15.6

* ZONE 1 INCLUDES THOSE ROOF ELEMENTS LOCATED OUTSIDE OF 10 FEET OF A ROOF EDGE.
ZONE 2 INCLUDES THOSE ROOF ELEMENTS LOCATED WITHIN 10 FEET A ROOF EDGE.
ZONE 3 INCLUDES THOSE ROOF ELEMENTS LOCATED WITHIN 10 FEET OF A ROOF EDGE AND WITHIN 10 FEET OF A BUILDING CORNER.
ZONE 4 INCLUDES THOSE WALL ELEMENTS LOCATED OUTSIDE OF 10 FEET OF A BUILDING CORNER.
ZONE 5 INCLUDES THOSE WALL ELEMENTS LOCATED WITHIN 10 FEET OF A BUILDING CORNER.

8. SEISMIC LOADS:
   - RISK CATEGORY = III
   - SEISMIC IMPORTANCE FACTOR, I_e = 1.25
   - MAPPED SPECTRAL RESPONSE COEFFICIENTS:
     - S_S = 0.259
     - S_1 = 0.130
   - SITE CLASS = B
   - DESIGN SPECTRAL RESPONSE COEFFICIENTS:
     - S_{DS} = 0.155
     - S_{D1} = 0.069
   - SEISMIC DESIGN CATEGORY = B
   - BASIC SEISMIC FORCE-RESISTING SYSTEM = LIGHT FRAMED (WOOD) WALLS SHEATHED WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR RESISTANCE
   - DESIGN BASE SHEAR (ULTIMATE) = 10.7K
   - SEISMIC RESPONSE COEFFICIENT, C_S = 0.030
   - RESPONSE MODIFICATION COEFFICIENT, R = 6.5
   - ANALYSIS PROCEDURE = EQUIVALENT LATERAL FORCE PROCEDURE

FOUNDATIONS - GENERAL:

1. THE FOUNDATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE RECOMMENDATIONS BASED ON THE "GEOTECHNICAL EXPLORATION AND ASSESSMENT" DATED SEPTEMBER 22, 2021 PREPARED BY PROFESSIONAL SERVICE INDUSTRIES, INC. (PROJECT No. 03581674).

2. SPREAD FOOTINGS SHALL BEAR ON STRUCTURAL FILL AS DEFINED IN THE REFERENCED REPORT CAPABLE OF SUSTAINING A NET ALLOWABLE BEARING PRESSURE OF 3,000 PSF FOR INDIVIDUAL COLUMN FOOTINGS AND CONTINUOUS WALL FOOTINGS UNDER FULL SERVICE DEAD AND LIVE LOADS.

3. ALL BUILDING PAD AND SIDEWALK SUBGRADE SHALL BE PREPARED IN STRICT ACCORDANCE WITH THE REFERENCED GEOTECHNICAL REPORT.

4. ALL BEARING MATERIAL SHALL BE INSPECTED BY THE INDEPENDENT TESTING AGENCY PRIOR TO CONCRETE PLACEMENT. THE INDEPENDENT TESTING AGENCY SHALL BE THE SOLE JUDGE AS TO THE SUITABILITY OF THE BEARING MATERIAL. FOOTING ELEVATIONS SHALL BE ADJUSTED OR EXISTING SOILS SHALL BE REMOVED AND REPLACED AS REQUIRED.

5. FOOTINGS MAY BE POURED INTO AN EARTH-FORMED TRENCH IF SOIL CONDITIONS PERMIT.

6. THE TOP OF EXTERIOR FOOTING ELEVATION SHALL BE SET A MINIMUM OF 8" BELOW LOWEST FINAL ADJACENT EXTERIOR GRADE AND A MINIMUM OF 8" BELOW FINISH FLOOR. THE BOTTOM OF EXTERIOR WALL FOOTINGS SHALL BEAR A MINIMUM OF 1'-6" BELOW LOWEST FINAL ADJACENT EXTERIOR GRADE UNLESS NOTED OTHERWISE.

7. THE BOTTOM OF INTERIOR FOUNDATIONS SHALL BE A MINIMUM OF 12" BELOW THE FINISH FLOOR ELEVATION.

8. FOUNDATION WALLS THAT RETAIN EARTH SHALL BE BRACED AGAINST BACKFILLING PRESSURES UNTIL FLOOR SLABS AT TOP AND BOTTOM ARE IN PLACE, OR UNTIL THE CONCRETE OR MASONRY HAS ATTAINED ITS FULL COMPRESSIVE STRENGTH FOR CANTILEVER WALLS.

9. WHERE FOUNDATION WALLS ARE TO HAVE EARTH PLACED ON EACH SIDE, PLACE FILL SIMULTANEOUSLY SO AS TO MAINTAIN A COMMON ELEVATION ON EACH SIDE OF THE WALL.

10. VERIFY THE USE AND EXTENT OF PERIMETER INSULATION WITH THE ARCHITECTURAL DRAWINGS PRIOR TO THE INSTALLATION OF FOUNDATIONS. INSTALL PERIMETER INSULATION AS REQUIRED.

NOTE:

SEE SPECIFICATION SHEETS A0.1-A0.7 FOR THE BALANCE OF STRUCTURAL NOTES

MISCELLANEOUS:

1. THESE GENERAL NOTES SUPPLEMENT THE PROJECT SPECIFICATIONS. REFER TO THE PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

2. THE STRUCTURAL DRAWINGS ARE INTENDED TO BE USED WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING REQUIREMENTS FROM SUCH DRAWINGS INTO THEIR SHOP DRAWINGS AND WORK.

3. ANY DETAIL TITLED AS A TYPICAL DETAIL IS APPLICABLE THROUGHOUT THE DESIGN DRAWINGS. THESE DETAILS ARE DEFINED AS GENERAL STANDARDS THAT ARE USUALLY NOT IDENTIFIED BY SPECIFIC REFERENCE WITHIN THE DRAWINGS. THESE DETAILS MAY BE MODIFIED OR SUPERSEDED BY SPECIFIC DETAILS THAT ARE REFERENCED WITHIN THE DRAWINGS.

4. NO OPENINGS SHALL BE MADE IN ANY STRUCTURAL MEMBER WITHOUT THE WRITTEN APPROVAL OF THE PROFESSIONAL-OF-RECORD.

5. NO CHANGE IN SIZE OR DIMENSION OF STRUCTURAL MEMBERS SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE PROFESSIONAL-OF-RECORD.

6. OPENINGS IN WALLS AND DECK, WHICH ARE 1'-4" AND LESS ON A SIDE, ARE GENERALLY NOT SHOWN ON THE STRUCTURAL DRAWINGS. REFER TO THE ARCHITECTURAL AND MECHANICAL DRAWINGS FOR SUCH OPENINGS.

7. THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED UPON THE STRUCTURAL FRAMING. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF THE FRAMING AT THE TIME THE LOADS ARE IMPOSED.

8. THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION. THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL TEMPORARY BRACING AND/OR SUPPORT THAT MAY BE REQUIRED AS THE RESULT OF THE CONTRACTOR'S CONSTRUCTION METHODS AND/OR SEQUENCES.

9. DO NOT SCALE THESE DRAWINGS. USE SPECIFIED DIMENSIONS.

10. THE CONTRACTOR'S CONSTRUCTION AND/OR ERECTION SEQUENCES SHALL RECOGNIZE AND CONSIDER THE EFFECTS OF THERMAL MOVEMENTS OF STRUCTURAL ELEMENTS DURING THE CONSTRUCTION PERIOD.

11. THE CONTRACTOR SHALL INFORM THE PROFESSIONAL-OF-RECORD IN WRITING OF ANY DEVIATION FROM THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL NOT BE RELIEVED OF THE RESPONSIBILITY OF SUCH DEVIATION BY THE PROFESSIONAL-OF-RECORD REVIEW OF SHOP DRAWINGS, PRODUCT DATA, ETC., UNLESS THE CONTRACTOR HAS SPECIFICALLY INFORMED THE PROFESSIONAL-OF-RECORD OF SUCH DEVIATION AT THE TIME OF SUBMISSION, AND THE PROFESSIONAL-OF-RECORD HAS GIVEN WRITTEN APPROVAL TO THE SPECIFIC DEVIATION.

SPECIAL INSPECTIONS:

1. THE OWNER WILL EMPLOY THE SERVICES OF ONE OR MORE SPECIAL INSPECTORS TO PROVIDE SPECIAL INSPECTIONS DURING CONSTRUCTION FOR THE REQUIRED SPECIAL INSPECTION ITEMS.

2. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL RESPONSIBLE FOR THE DESIGN OF THE STRUCTURE, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.

3. DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR:
   A. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK ASSIGNED FOR CONFORMANCE WITH THE APPROVED DESIGN DRAWINGS AND SPECIFICATIONS. THE INSPECTOR MAY NOT ALTER, MODIFY, ENLARGE OR WAVE ANY OF THE REQUIREMENTS OF THE DOCUMENTS.
   B. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, THE PROFESSIONAL-OF-RECORD, AND THE CONTRACTOR. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, THEN, IF UNCORRECTED, SUBMIT A COMPLETE LIST OF ALL OUTSTANDING DISCREPANCIES ON A WEEKLY BASIS TO THE OWNER, THE BUILDING OFFICIAL, AND THE PROFESSIONAL-OF-RECORD, UNTIL ALL CORRECTIONS HAVE BEEN COMPLETED.
   C. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF THE INSPECTOR'S KNOWLEDGE, IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE BUILDING CODE.

4. WHERE SPECIAL INSPECTION REQUIREMENTS DUPLICATE THE REQUIREMENTS OF OTHER SPECIFIED TESTING, DUPLICATE INSPECTIONS SHALL NOT BE REQUIRED.

5. SPECIAL INSPECTIONS SHALL BE REQUIRED FOR THE GENERAL AREAS. IDENTIFIED IN THE FOLLOWING TABLE.

6. STRUCTURAL OBSERVATION (AS DEFINED IN CHAPTER 17 OF THE BUILDING CODE) IS NOT REQUIRED, UNLESS SPECIFICALLY REQUIRED BY THE BUILDING OFFICIAL.

SPECIAL INSPECTIONS SCHEDULE

SPECIAL INSPECTION	FREQUENCY	REFERENCED STANDARD(S)
SOILS:		
1. VERIFY MATERIALS BELOW FOOTINGS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	PERIODIC	GEOTECHNICAL ENGINEERING REPORT; IBC 1705.6
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	PERIODIC	
3. PERFORM CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS.	PERIODIC	
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESS DURING PLACEMENT AND COMPACTION OF CONTROLLED FILL.	CONTINUOUS	
5. PRIOR TO THE PLACEMENT OF CONTROLLED FILL, OBSERVE SUBGRADE AND VERIFY THAT THE SITE HAS BEEN PREPARED PROPERLY.	PERIODIC	
ADHESIVE ANCHORS/REINFORCEMENT:		
1. INSTALLATION PROCESS OF ADHESIVE ANCHORS OR REINFORCEMENT EMBEDDED WITH ADHESIVE (AS SPECIFIED ON THE CONSTRUCTION DOCUMENTS) IN MASONRY AND HARDENED CONCRETE:	CONTINUOUS	
A. SIZE AND EMBEDMENT OF ANCHORS/REINFORCING	CONTINUOUS	MANUFACTURER'S INSTALLATION INSTRUCTIONS
B. ANCHORS/REINFORCEMENT INSTALLED PER MANUFACTURERS RECOMMENDATIONS.	CONTINUOUS	
INSPECTION OF FABRICATORS		
1. PREFABRICATED WOOD ROOF TRUSSES		IBC 1704.2.5

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CONSTR. DOC. & REVSIONS

No.	Description	Date
1	POST BID ADD 1 - CODE RESP./FO REVISIONS	11/10/22

MARK A. SPALINGER
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
NO. 114349
STATE OF TENNESSEE
04/06/23

Professional of Record:
MARK A. SPALINGER
LICENSE NO: 114349
EXP. DATE: 02/28/25

Drawn/Checked	DJW / RCK
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

GENERAL NOTES

S1.0

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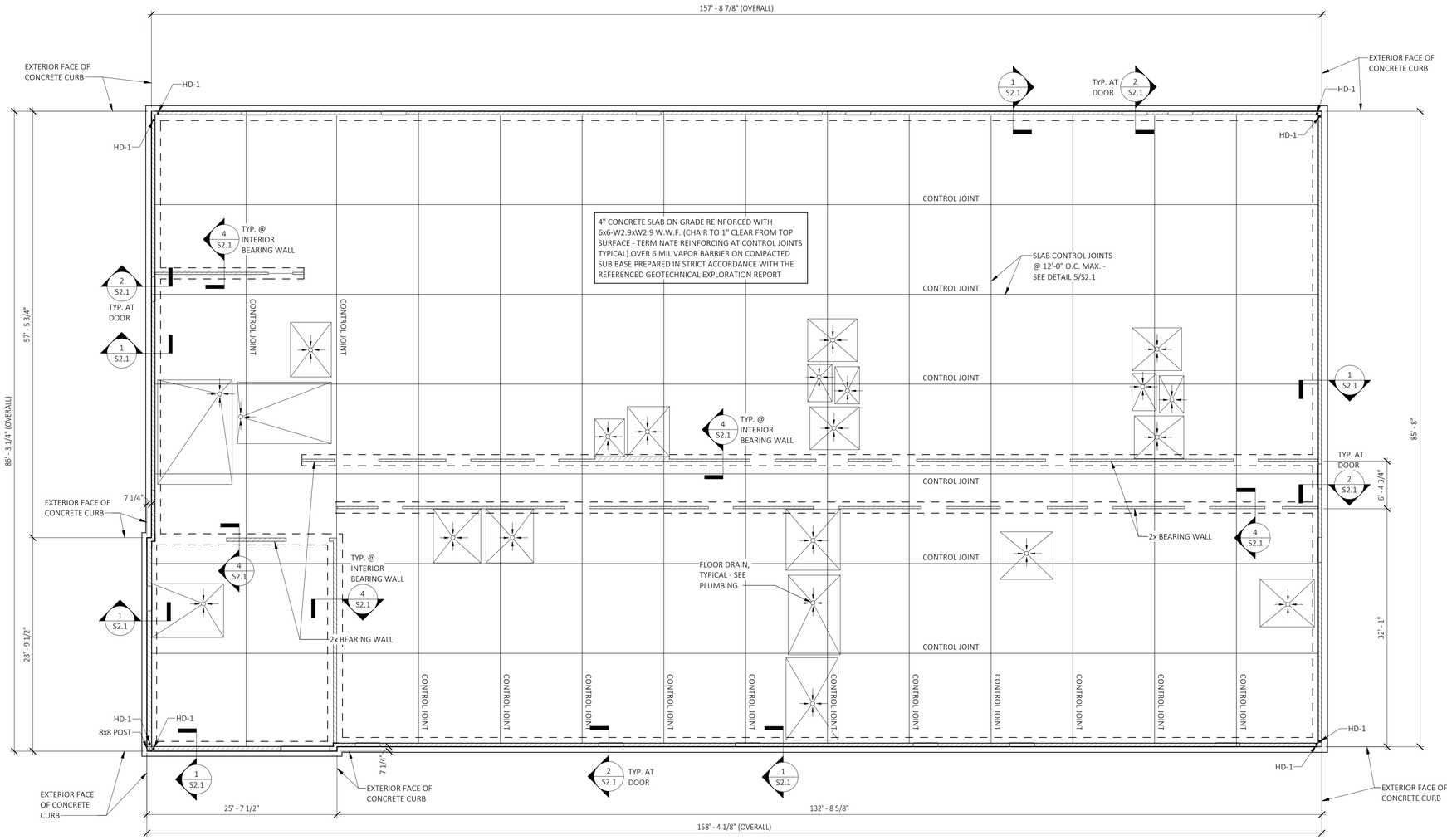

NORTH

FOUNDATION PLAN

SCALE: 1/8" = 1'-0"

FOUNDATION PLAN NOTES

1. SEE SHEET S1.0 FOR GENERAL NOTES. SEE SHEET S2.1 FOR TYPICAL DETAILS.
2. ALL ELEVATIONS ARE BASED ON FINISH FLOOR ELEVATION OF 0'-0" FOR REFERENCE ONLY. SEE CIVIL FOR ACTUAL FINISH FLOOR ELEVATION.
3. BOX OUT FOR ALL FLOOR DRAINS AND CLEAN OUTS TO ALLOW MAXIMUM SLOPE OF 1/8" PER FOOT TO DRAIN. GROUT AFTER COMPLETED SETTING OF FLOOR DRAIN AND/OR CLEAN OUT
4. INSTALL (2) 1" DIAMETER CONDUIT AT RISER ROOM LOCATION FOR IRRIGATION SYSTEM, TELEPHONE, AND CABLE TV WIRING. SEE ARCHITECTURAL DRAWINGS FOR LOCATION.
5. HD-"X" ON PLAN INDICATES HOLD DOWN ANCHOR - SEE SHEAR WALL SCHEDULE SHEET S4.1.
6. UNLESS NOTED OTHERWISE ON PLAN, ALL EXTERIOR WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SW-1 - SEE SHEAR WALL SCHEDULE SHEET S4.1.
7. SEE 3/S2.1 FOR ATTACHMENT FOR NON-LOAD BEARING INTERIOR WALL TO SLAB. SEE ARCHITECTURAL DRAWINGS FOR FRAMING SIZES AND LOCATIONS.
8. SEE 4/S4.2 FOR ATTACHMENT OF THE TYPICAL WALL FRAMING DETAIL FOR THE INTERIOR LOAD BEARING AND ALL EXTERIOR WALLS.
9. ▨ ON PLAN DENOTES ROOF TRUSS BEARING WALL OR EXTERIOR SHEAR WALL.

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FOUNDATION PLAN

S1.1

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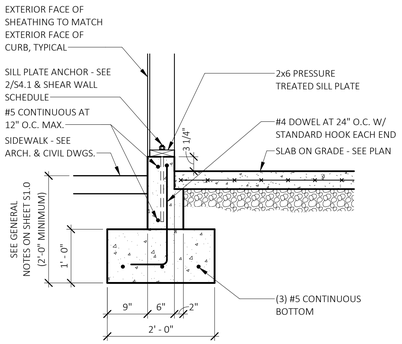
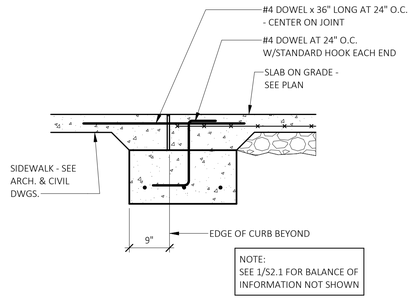


1 S2.1 SECTION

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



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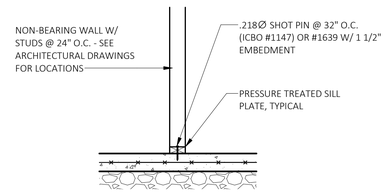

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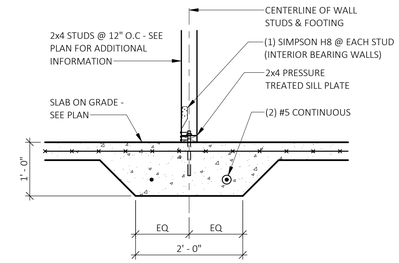
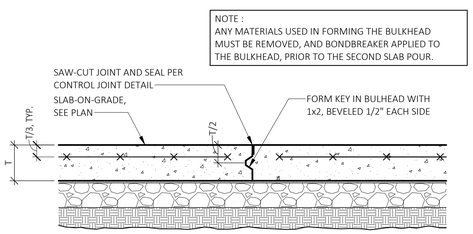
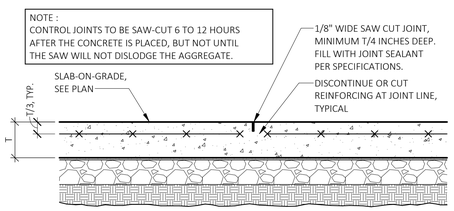


4 S2.1 SECTION

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



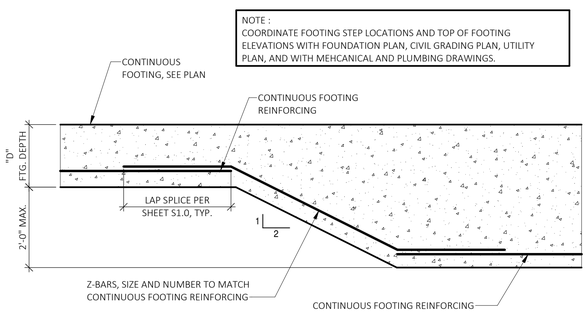
SLAB CONSTRUCTION JOINT DETAIL



SLAB CONTROL JOINT DETAIL

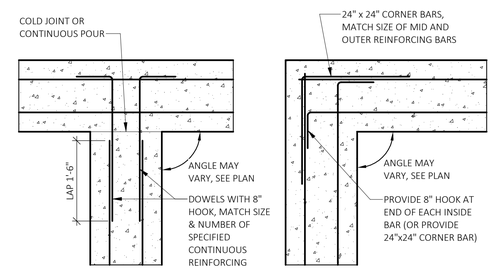
5 S2.1 TYPICAL INTERIOR SLAB JOINT DETAILS

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



6 S2.1 TYPICAL STEPPED FOOTING DETAIL

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



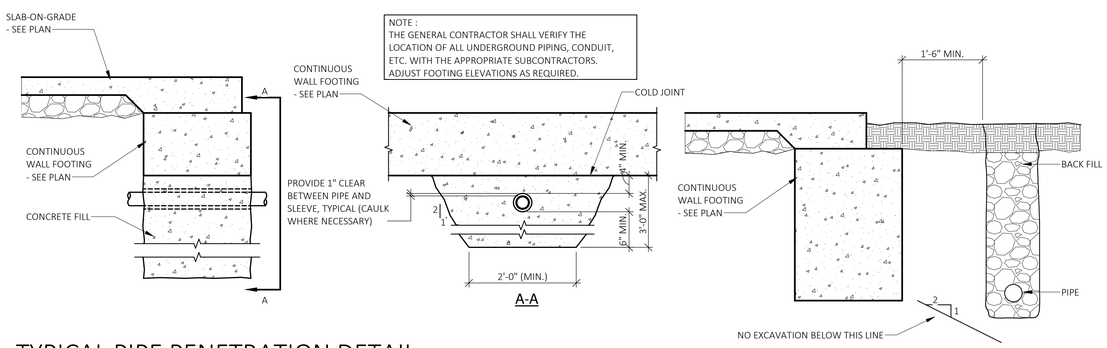
AT FOOTING INTERSECTIONS

AT FOOTING CORNERS

TYPICAL FOOTING DETAILS AT

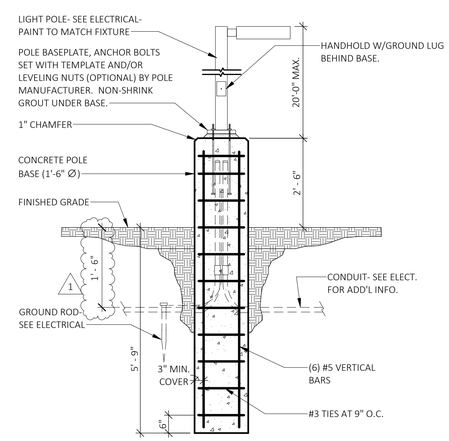
7 S2.1 CORNERS/INTERSECTIONS

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



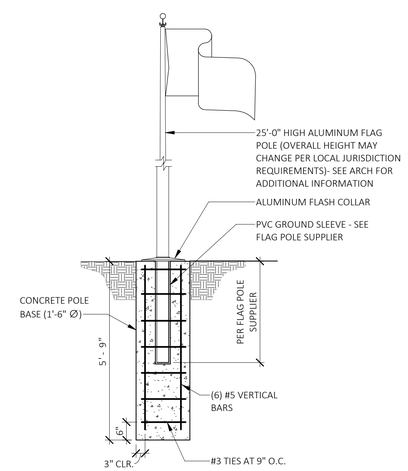
8 S2.1 TYPICAL PIPE PENETRATION DETAIL

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



9 S2.1 LIGHT POLE FOUNDATION

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



10 S2.1 FLAG POLE

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

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No.	Description	Date
1	POST BID ADD 1 - CODE RESP./FO REVISIONS	1/10/22

MARK A. SPALINGER
REGISTERED ENGINEER
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COMMERCE
114349
STATE OF TENNESSEE
04/06/23

Professional of Record:
MARK A. SPALINGER
LICENSE NO: 114349
EXP. DATE: 02/28/25

Drawn/Checked	DJW / RCK
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

FOUNDATION DETAILS & SECTIONS

S2.1

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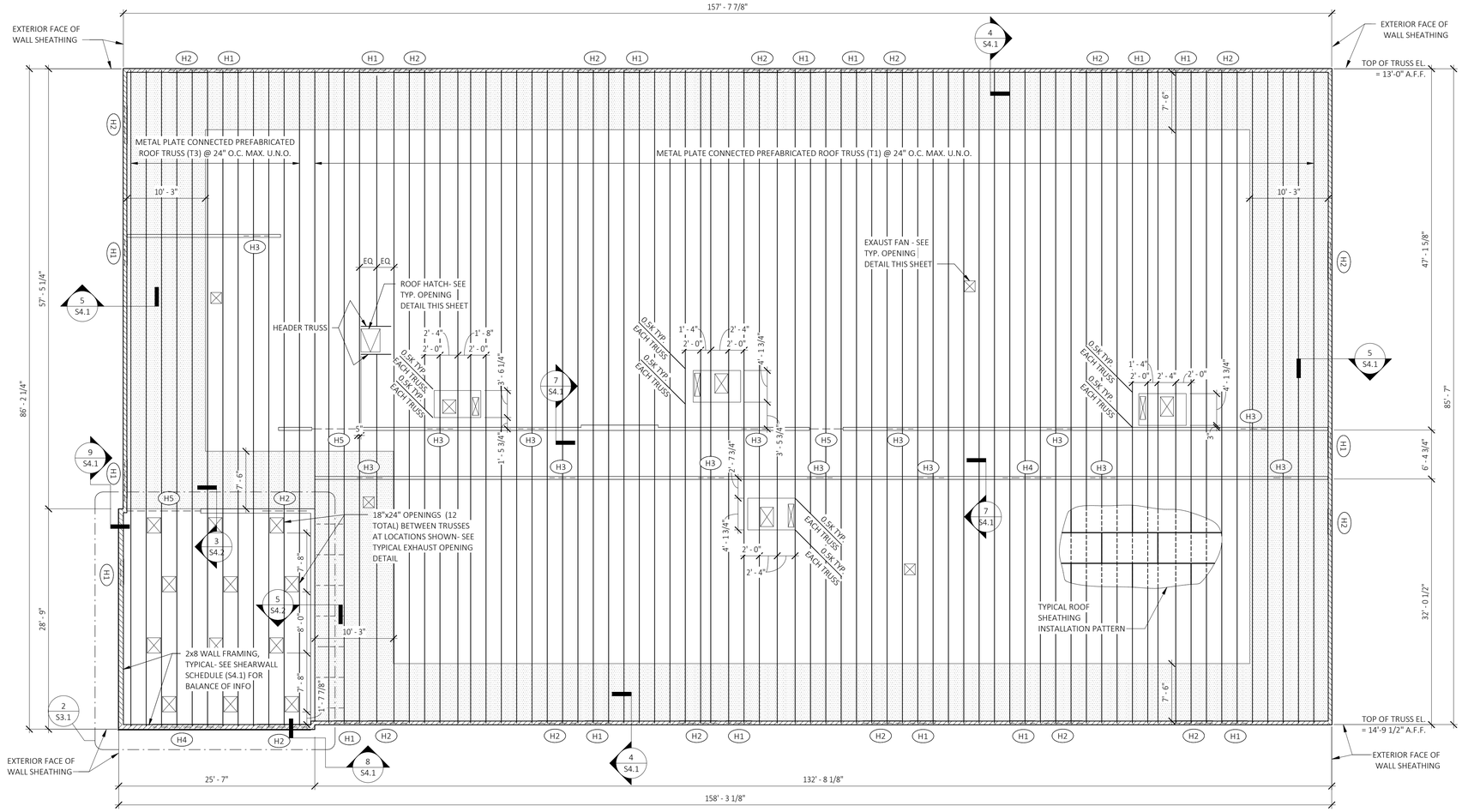


1 S3.1 ROOF FRAMING PLAN

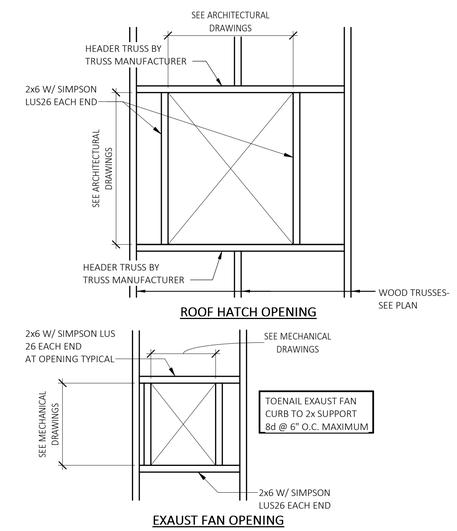
SCALE: 1/8" = 1'-0"

ROOF FRAMING PLAN NOTES

1. SEE SHEET S1.0 FOR GENERAL NOTES.
2. UNLESS NOTED OTHERWISE, ALL DIMENSIONS ON PLAN ARE TO OUTSIDE FACE OF WALL STUD.
3. SEE SPECIFICATION SHEET A0.4 FOR ROOF SHEATHING MATERIAL AND INSTALLATION REQUIREMENTS. FASTEN ROOFSHEATHING TO ALL SUPPORTING WOOD FRAMING WITH 10d @ 6" O.C. AT PANEL JOINTS AND BOUNDARY CONDITIONS AND 12"O.C. AT ALL FIELD SUPPORTS. ALL PANEL EDGES, RIDGE LINES, AND VALLEY LINES SHALL BE BLOCKED WITH FULL DEPTH 2x FRAMING.
4. UNLESS NOTED OTHERWISE ON PLAN, ALL EXTERIOR WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SW-1 - SEE SHEET S4.1 FOR SHEAR WALL SCHEDULE.
5. ALL INTERIOR LOAD BEARING WALL STUDS SHALL BE 2x4 @ 12" O.C. MAXIMUM - SEE ARCHITECTURAL DRAWINGS FOR INTERIOR NON-LOAD BEARING WALL STUDS - SEE SPECIFICATION SHEET A.04 FOR MATERIAL REQUIREMENTS.
6. UNLESS NOTED OTHERWISE ON PLAN, ALL WALL DOUBLE TOP PLATE SPLICES SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAIL 4/S3.1.
7. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF WOOD STUD WALLS AND NON-LOAD BEARING PARTITIONS. SEE GENERAL NOTES FOR WALL FRAMING INFORMATION.
8. SEE SHEET S4.1 FOR ROOF TRUSS TYPES AND TRUSS NOTES.
9. SEE 4/S4.2 FOR TYPICAL WALL OPENING FRAMING DETAIL.
10. ON PLAN DENOTES ROOF TRUSS BEARING WALL OR EXTERIOR SHEAR WALL.
11. ON PLAN DENOTES TRIANGULAR SHAPED DRIFTING SNOW LOAD WITH MAXIMUM DRIFTING LOAD = 39 PSF AT PARAPETS OR HIGH ROOF WALLS, AND DECREASING LINEARLY TO 0 PSF AT INTERIOR END OF DRIFT AREA. DRIFTING SNOW LOADS SHALL BE COMBINED WITH FLAT ROOF SNOW LOAD ON SHEET S1.0.

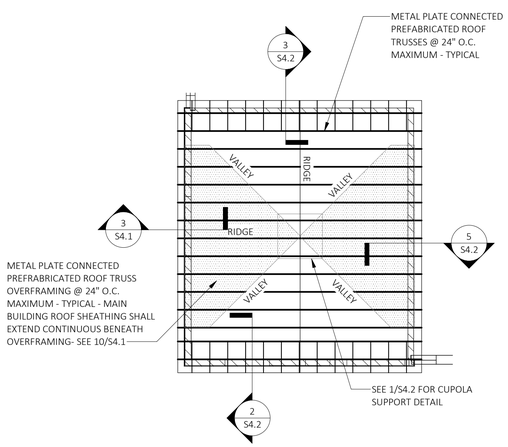
HEADER SCHEDULE

MARK	FRAMING MEMBER	HEADER SUPPORT
H1	(3) - 2x8	UNLESS OTHERWISE NOTED ON PLAN (1) JAMB STUDS AND (1) FULL HEIGHT TRIMMER STUDS EACH SIDE OF OPENING
H2	(3) - 2x10	UNLESS OTHERWISE NOTED ON PLAN (2) JAMB STUDS AND (2) FULL HEIGHT TRIMMER STUDS EACH SIDE OF OPENING
H3	(2) - 2x8	(1) JAMB STUD AND (1) FULL HEIGHT TRIMMER STUD EACH SIDE OF OPENING
H4	(2)- 1 3/4"x9 1/4" LVL	(2) JAMB STUDS AND (2) FULL HEIGHT TRIMMER STUDS EACH SIDE OF OPENING
H5	UPSET HEADER (2)-1 3/4"x9 1/4" LVL	(2) JAMB STUDS AND (1) FULL HEIGHT TRIMMER STUD EACH SIDE OF OPENING SEE 6/S4.2 FOR UPSET HEADER BEARING DETAIL



5 S3.1 TYPICAL OPENING DETAIL

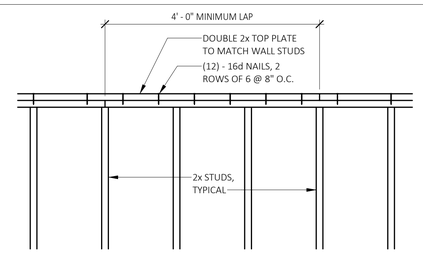
SCALE: 3/4" = 1'-0"



2 S3.1 PARTIAL ROOF FRAMING PLAN

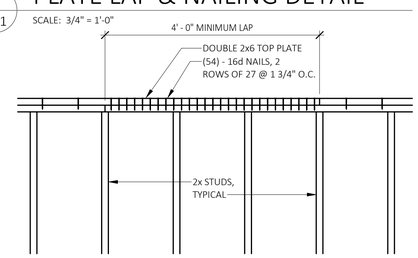
SCALE: 1/8" = 1'-0"

NORTH



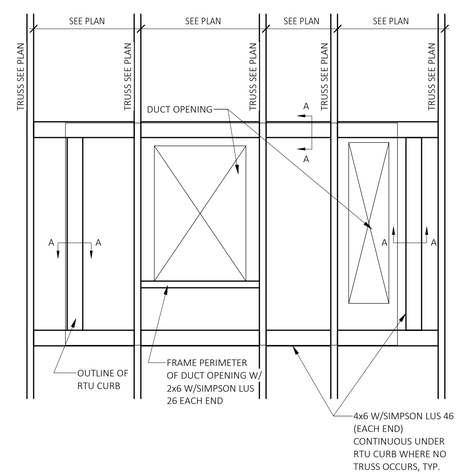
3 S3.1 INTERIOR WALL DOUBLE TOP PLATE LAP & NAILING DETAIL

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



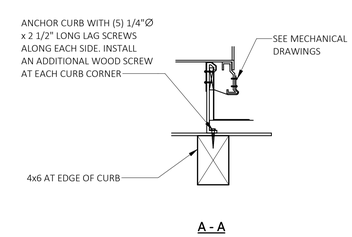
4 S3.1 EXTERIOR WALL DOUBLE TOP PLATE LAP & NAILING DETAIL

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



6 S3.1 TYPICAL RTU SUPPORT DETAIL

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



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No.	Description	Date
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MARK A. SPALINGER REGISTERED ENGINEER AGRICULTURE COMMERCE NO. 114349 STATE OF TENNESSEE

04/06/23

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LICENSE NO: 114349
EXP. DATE: 02/28/25

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Re-Bid Date	10/23/23

ROOF FRAMING PLAN

S3.1

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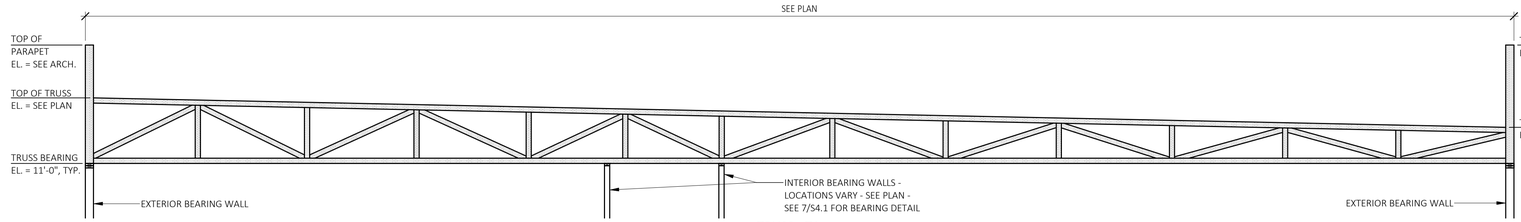

TRUSS - T1

SHEAR WALL SCHEDULE

MARK	WALL STUDS	HOLDDOWN MARK	HOLDDOWN (SIMPSON)	HOLDDOWN ANCHOR	END POST	PANEL EDGE & END POST NAILING (PROVIDE BLOCKING @ ALL PANEL EDGES)	FIELD NAILING	SILL PLATE ANCHOR SPACING
SW-1	2x6 @ 16" O.C. MAX. (see note 6 below)	HD-1	HDU5-SDS2.5	5/8"Ø HILTI HAS (see note 5 below)	(2) 2x6	10d at 6" O.C.	10d at 12" O.C.	32"

NOTES:
1. SEE SHEET A0.3 (SECTION 06010.2.1) MATERIAL SPECIFICATIONS.
2. SEE FOUNDATION PLAN SHEET S1.1 FOR HOLDDOWN MARKS.
3. HOLDDOWNS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS.
4. SEE 2/S4.1 FOR SILL PLATE ANCHORAGE DETAIL.
5. DRILL & ADHERE 5/8"Ø ANCHOR THROUGH FULL HEIGHT OF CONCRETE STEM WALL AND A MINIMUM OF 6" INTO HARDENED CONCRETE WALL FOOTING WITH HILTI HIT-HY 200 ADHESIVE ANCHORING SYSTEM (SEE SPECIAL INSPECTION REQUIREMENTS SHEET S1.0).
6. PROVIDE 2x8 @ 16" O.C. MAXIMUM AT LOCATIONS INDICATED ON THE ROOF FRAMING PLAN.

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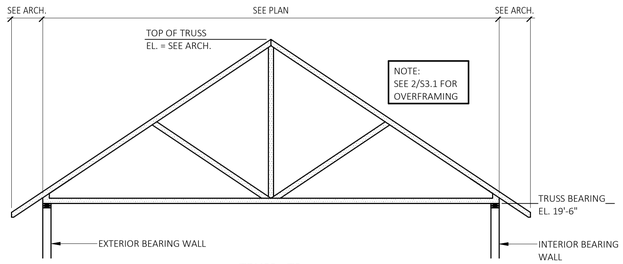
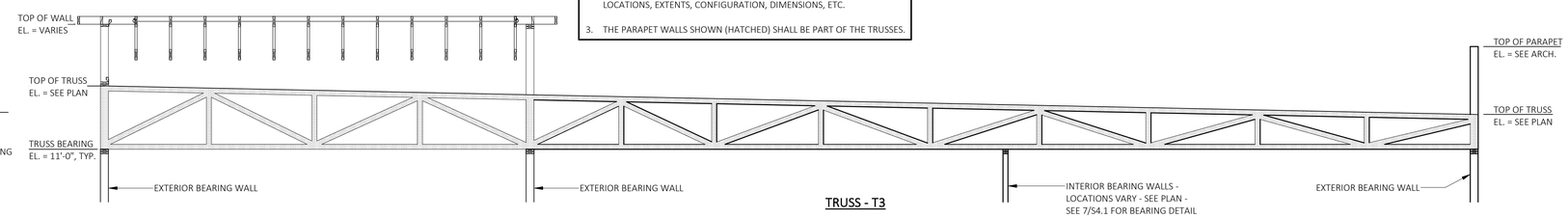
12 Sunset Drive, Suite 100, St. Louis, MO 63143 T: 314-821-1200



TRUSS - T2

TRUSS NOTES:
1. THE TRUSSES ARE SHOWN FOR GENERAL CONFIGURATION ONLY. THE TRUSS MANUFACTURER SHALL DESIGN TRUSSES IN ACCORDANCE WITH THE GENERAL NOTES SHEET A0.3.
2. SEE ALL OTHER DISCIPLINE DRAWINGS NECESSARY TO DEFINE ALL TRUSS LOCATIONS, EXTENTS, CONFIGURATION, DIMENSIONS, ETC.
3. THE PARAPET WALLS SHOWN (HATCHED) SHALL BE PART OF THE TRUSSES.



TRUSS - T3

1 / S4.1 TRUSS ELEVATIONS

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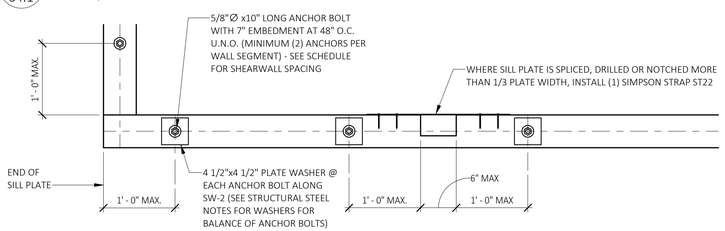
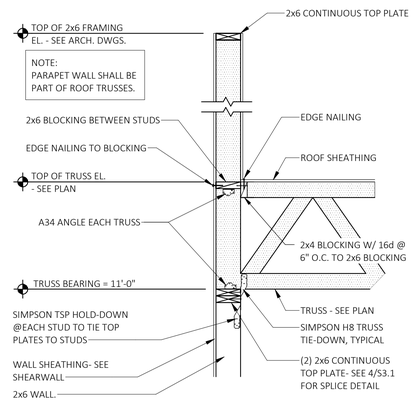


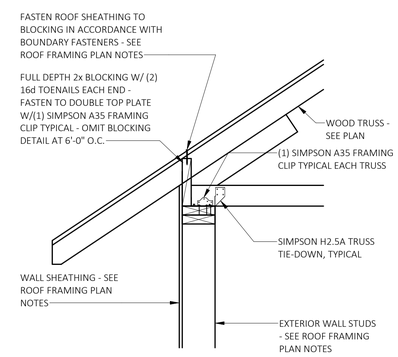
2 / S4.1 SILL PLATE DETAIL

SCALE: 1" = 1'-0"



4 / S4.1 SECTION

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



6 / S4.1 SECTION

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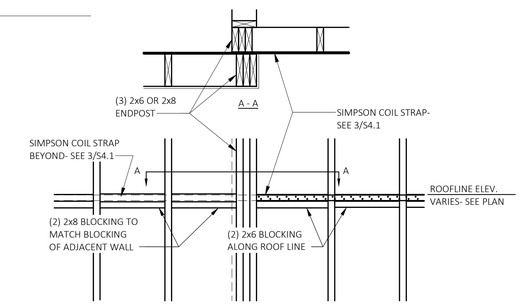
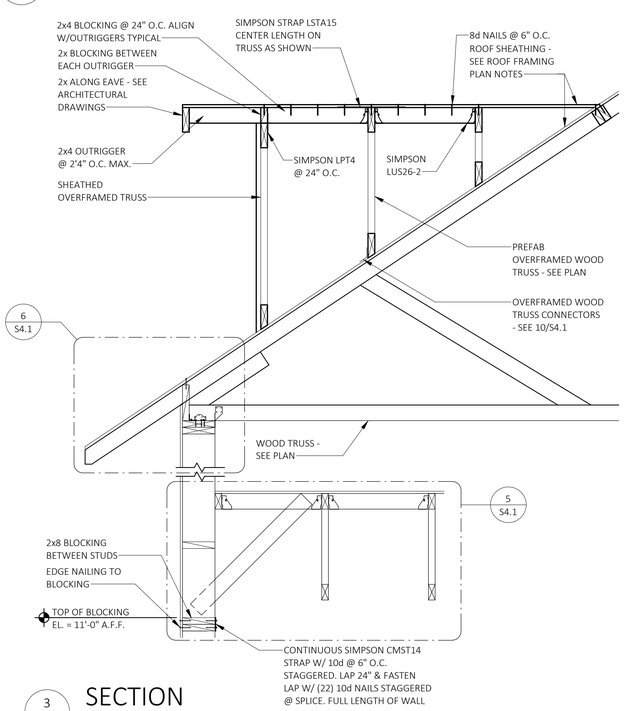


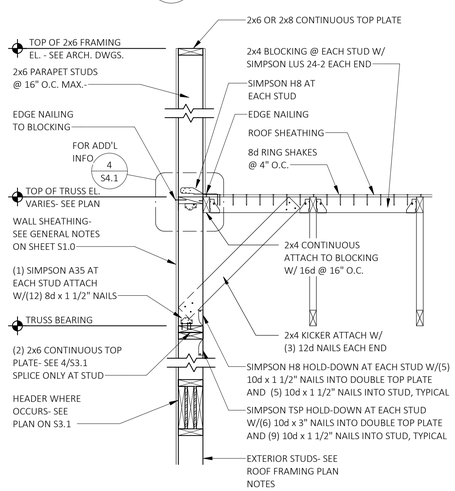
8 / S4.1 ELEVATION

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



3 / S4.1 SECTION

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



5 / S4.1 SECTION

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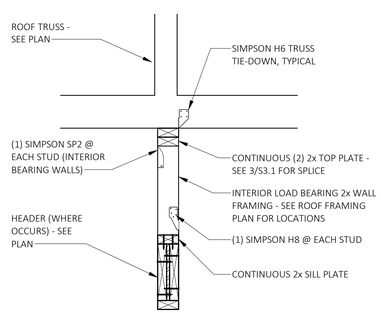

7 / S4.1 SECTION

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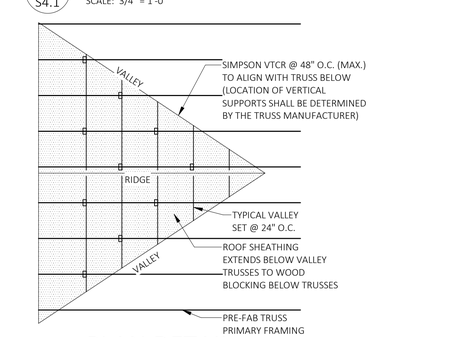

10 / S4.1 PLAN DETAIL

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

PRIMROSE SCHOOLS

ROCK SPRINGS RD & MEDICAL PARK DR.
SMYRNA, TN

PRIMROSE SCHOOL FRANCHISING COMPANY
3200 WINDY HILL ROAD, SUITE 1200 E
ATLANTA, GEORGIA 30339-5640

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CONSTR. DOC. & REVISIONS

No.	Description	Date

MARK A. SPALINGER
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 114349
STATE OF TENNESSEE
04/06/23

Professional of Record:
MARK A. SPALINGER
LICENSE NO: 114349
EXP. DATE: 02/28/25

Drawn/Checked	DJW / RCK
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

FRAMING DETAILS & SECTIONS

S4.1

4/6/2023 10:37:21 AM

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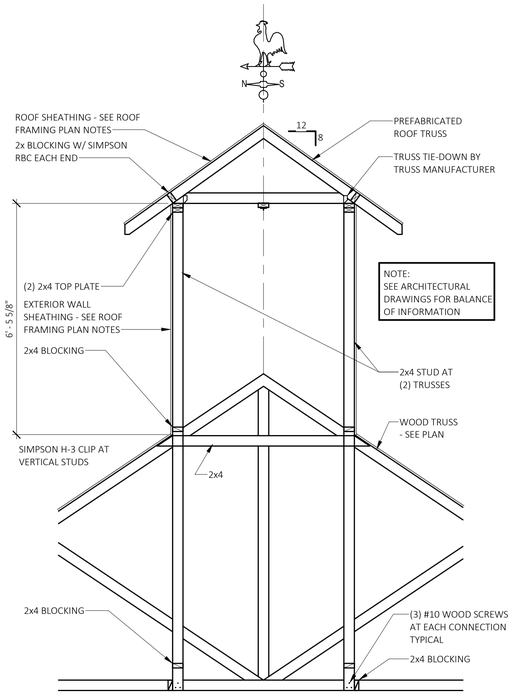

1 S4.2 SECTION

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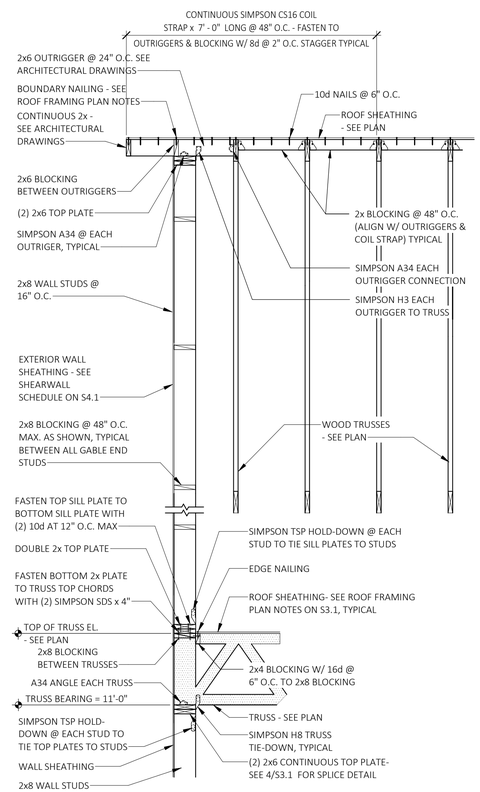

2 S4.2 SECTION

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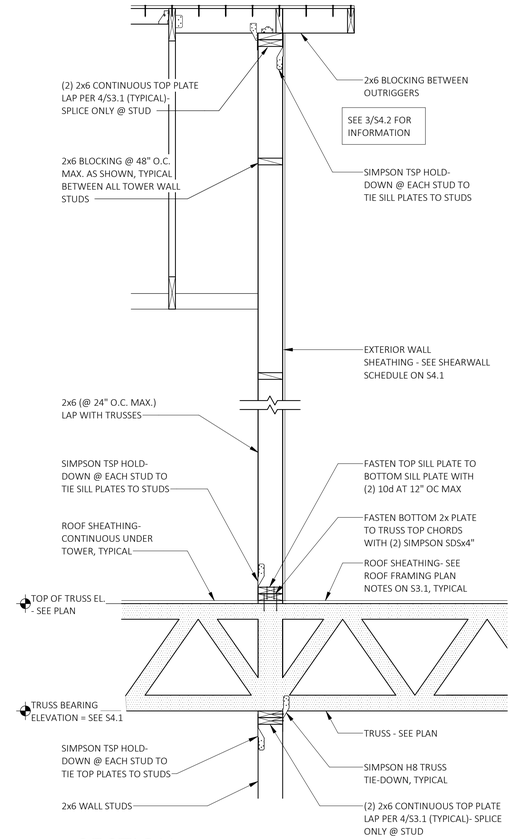

3 S4.2 SECTION

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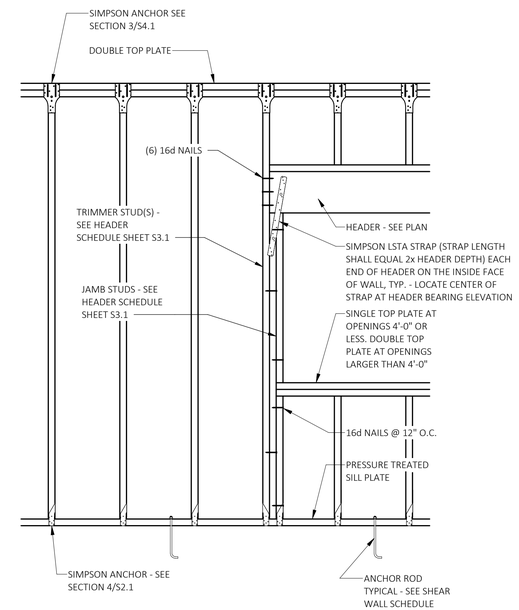
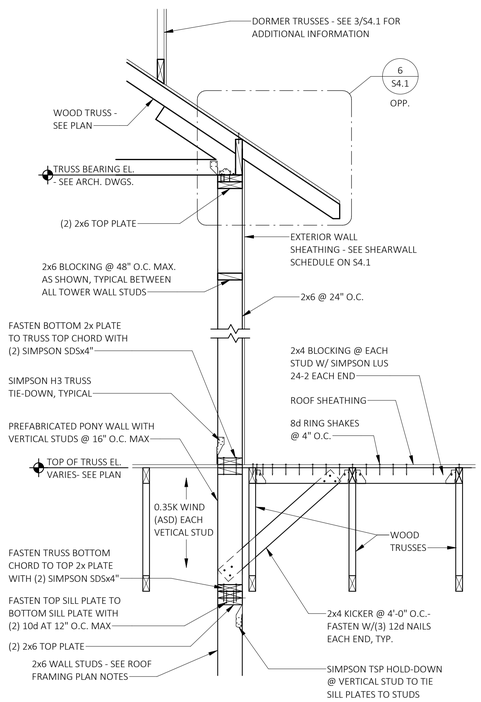


4 S4.2 TYPICAL WALL FRAMING DETAIL

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



5 S4.2 SECTION

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

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FRAMING DETAILS & SECTIONS

S4.2

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DIVISION 15 - PLUMBING & MECHANICAL

SECTION 15400 - PLUMBING

PART 1 - GENERAL

1. Scope of work: Plumbing Contractor shall furnish and install all plumbing piping where required, complete as called for or indicated on the Plans and Specifications according to all local codes, with these Plans as a minimum requirement.
2. Plumbing Contractor shall verify the exact location of all existing sanitary, water and storm lines prior to starting work. Plumbing Contractor shall visit the site prior to bid and note all existing conditions to be met.
3. All plumbing work shall conform to the local plumbing code and amendments.
4. Piping layouts are diagrammatic and intend to show the general arrangement, size and capacity. All offsets are not necessarily shown. Plumbing Contractor shall arrange and coordinate the work, furnish necessary offsets, valves, vents, and fittings to avoid conflicts with other mechanical and electrical services and with structural and architectural elements.

PART 2 - PRODUCTS

1. Water Piping: Connect to the city water main as required by the city. Meter to be adequate size for demand indicated on the Drawings. Piping shall be type "K" copper below slab or grade and type "L" copper above slab. If allowed locally, PEX as manufactured and tested according to national consensus standards: ASTM F 876, F 877, AWWA C904 and CSA B137.5 may be used. NO JOINTS UNDER SLAB. PIPES AND PIPE FITTINGS, INCLUDING VALVES AND FAUCETS, SHALL HAVE NO LEAD CONTENT. Water piping below grade 3" and larger shall be class 150 molded ductile iron pipe and fittings with mechanical compression joints.
   a. Soldered joints shall be done in accordance with ASTM B 828 with a lead free solder that conforms with ASTM B 32 and flux that conforms with ASTM B 813. Lead free shall mean a chemical composition equal to or less than .2 percent lead.
   b. PEX connections shall be per the two approved standard specifications for PEX connections: ASTM F 1807 and ASTM F 1960. Both reference mechanical insert fittings. The crimp fittings specified in ASTM F1807 are the most widely used. PEX Shall not be joined by solvent cement or heat fusion methods
   c. Pipes passing through concrete or other corrosive materials shall be protected from external corrosion by a protective sheathing or wrapping or other means that will withstand any reaction from lime or acid of concrete or other corrosive material. Sheathing or wrapping shall allow for expansion and contraction of piping to prevent any rubbing action. Minimum wall thickness of material shall be 0.025 inches.
   d. See section 10 for insulation requirements.
2. Waste and Vent Piping: Shall be schedule 40 PVC plastic with fittings installed as recommended by the manufacturer. Connect to the city sewer as required by the city.
3. Vacuum Breakers: Where shown on the Drawings, or as required, shall be angle pattern with built-in lift type check valve.
4. Valves: Plumbing Contractor shall furnish all valves of one manufacturer, figure number and type throughout the entire installation of the work, unless otherwise specified. The following numbers are from the Nibco catalog. Valves of reputable manufacturers, such as Crane., Watts Regulator Co., and Walworth Co. will be acceptable alternates, where shown to be equal to those specified. Install gate valves at each equipment connection.
   a. Gate Valves: two (2) inch and smaller shall be brass or bronze body, brass trim, Union Bonnet. Built for a minimum 125 lbs. working pressure. Nibco #S-136, T-136 or an approved equal.
   b. Globe Valves: Two (2) inch and smaller shall be brass or bronze body, brass trim, screwed bonnet, built for 125 lbs. working pressure Nibco #S-211, T-211 or an approved equal.
   c. Check Valves: Two (2) inch and smaller shall be brass or bronze body, vertical lift, teflon disc, built for 125 lbs. working pressure, Nibco #S-480-Y, T-480-Y or an approved equal.
2. Unions: Provide unions at each equipment connection, provide proper dielectric unions where connections are made between materials of dissimilar metals.
3. Relief Valves: Temperature and Pressure Relief Valve of required size and adequate capacity shall be installed at hot water heater (also on hot water supply line to dishwasher, if dishwasher is noted on plans).
4. Thermometer: Furnish and in install a Weksler AF04 with a S3B4 well. Thermometer shall have a five (5) inch dial, adjustable pointer, 304 stainless steel case, 360 degrees adjustable head with brass wells. Temperature range as required. Approved equals by Ashcroft or Palmer are acceptable.
5. Water hammer: Water-hammer arrestors shall be installed where quick-closing valves are utilized, shall be installed in accordance with the manufacturer's instructions and shall conform to ASSE 1010. Water hammer sizing and placement shall be in accordance with PDI WH201. 1
6. Insulation: Water piping to be run on warm side of exterior walls, when not in slab. Insulate all hot water pipe. Insulate all cold water pipe in exterior walls. Insulation shall be ONE (1) inch thick Armaflex flexible cellular insulation. Fiberglass insulation is not acceptable. Accessible lavatory insulation shall be TCI Products SKAL Gard Model SG-100B or Truebro Products Handi Lav-Guard Model #102.
7. Roof Flashing: Shall be PVC with 16 x 16 base and eight (8) inch high boot.
8. Gas piping: Installation and gas piping required to conform to "Standard for the Installation of Gas Appliances and Gas Piping" per local codes ANSI standards, NFPA pamphlets No. 54 and 58, and per local codes governing the installation of gas piping. Piping system shall be sized and laid out as indicated on the drawings. All piping shall be graded a minimum of one quarter (1/4) inch per fifteen (15) feet of length. A full size tee fitting and six (6) inch long capped dirt leg shall be installed at the bottom of each riser or drop and at each low point in a horizontal run. An approved type gas cock shall be installed in each branch connection and near each appliance. Gas piping installed in concealed spaces shall not have unions, tubing fittings or running threads. Gas piping above ground shall be schedule 40 black steel with 125 pound black malleable iron screwed fittings. Gas piping compound at joints shall be per NFPA bulletin #54 and local codes. Gas valves shall be UL listed for gas service such as dezurick model S-425 for 2" and less.
9. Condensate Piping: Shall be CPVC plastic. Piping shall be installed / supported as noted and detailed on sheet MP2.0.
10. Insulation: Water piping to be run on warm side of exterior walls, when not in slab. Insulate all hot water pipe. Insulate all cold water pipe in exterior walls. Insulation shall be ONE (1) inch thick Armaflex flexible cellular insulation (or equivalent). Fiberglass insulation is not acceptable. Accessible lavatory insulation shall be TCI Products SKAL Gard Model SG-100B or Truebro Products Handi Lav-Guard Model #102. All unground insulated pipe shall be protected from compacted soil and water infiltration per one of the methods listed below.
   a. Copper pipe below slab: Shall be insulated and placed in a sealed carrier pipe
   b. PEX pipe below slab: Shall be insulated and placed in a sealed carrier pipe
   c. PEX pipe below slab: Shall be a pre-manufactured assembly including pipe, 1" minimum insulation and sealed protective carrier wrap.

PART 3 - EXECUTION

1. Perform all tests required by code or necessary to demonstrate the integrity of the finished installation.
2. Install cleanouts as shown, as called for in the code, and where required for proper maintenance. Cleanouts shall be flush with wall or floor and completely accessible. Provide cleanouts at all dead ends and changes of direction. Cleanouts shall be no more than 1 pipe size smaller than the portion of the building drain or branch served.
3. All suspended horizontal piping shall be supported by hangers spaced maximum 8'-0" o.c.. No piping shall be self supporting. Install to provide free expansion and contraction unless firm anchorage is required. Pitch piping to low points in the system and install drain valves.
4. Soil and waste lines are designed for a minimum slope of 1/8" per foot for 3" and larger, 1/4" per foot for 2" and smaller. All grease waste lines prior to grease interceptor shall be sloped a minimum of 1/4" per foot. All changes of direction shall be made with "Y" fittings and 1/8 bends. All drain lines shall be protected from freezing.
5. The flow velocity of the water distribution system shall be controlled to reduce the possibility of water hammer. A water-hammer arrestor shall be installed where quick-closing valves are utilized including the ice maker and washing machines. Water-hammer arrestors shall be installed in accordance with the manufacturer's specifications. Water-hammer arrestors shall conform to ASSE 1010.
6. All new sanitary piping shall be tested per local codes with a full static pressure test.
7. New potable water piping shall be cleaned and disinfected as follows:
   a. The pipe system shall be flushed with clean potable water until all outlets run clear.
   b. The piping shall be filled with a water/chlorine solution containing at least 50 parts per million of chlorine (50mg/L) and the system valved off and allowed to stand for 24 hours. After the required standing time, flush completely with potable water.

SECTION 15410 - PLUMBING FIXTURES AND TRIM

PART 1 - GENERAL

1. Acceptable Manufacturers: Equal products of Crane, American Standard, Eljer or Beneke will be accepted in place of those specified (see General Conditions of Contract), unless otherwise noted.
2. Fixture Efficiency: The following maximum flow rates shall be required in a type and style fixture as designated hereinafter.
   a. The maximum flow from a sink or lavatory faucet shall not exceed 2.2 gpm at 60 psi.
   b. The maximum volume of water per flush from a water closet shall not exceed 1.6 gal.
   c. All drinking water fountains shall be operated by a self-closing valve.

PART 2 - PRODUCTS

1. Fixture Trim: Exposed metal parts to be of heavy weight polished brass, heavily chromium plated or best quality, as regularly furnished by the plumbing fixture manufacturer. Provide approved fixtures, where required, to conform to all state and local handicap codes.
2. Fixtures:
   See schedule on P5.0.

SECTION 15500 - AUTOMATIC SPRINKLER SYSTEM

PART 1 - GENERAL

1. General Requirements: The notice to Bidders, General Conditions, Special Conditions and all subsequent addenda or bulletins shall be considered a part of this division of the Specifications and shall apply to the Contractor for the work under this division insofar as they apply to them or their work. The system shall be wet type (unless wet/dry required by permitting authorities) with compressor, when required, installed in sprinkler room.
   a. System shall be designed as Light Hazard Occupancy.
   b. Pipe sizing shall be per NFPA 13 Hydraulic Calculation method.
   c. Fire Sprinkler Contractor shall be responsible for obtaining a flow test for the purposes of hydraulic design.
2. The Contractor for the work under this division shall carefully read the above mentioned documents and study the drawings of all trades. Contractor shall be responsible for neglect to read or attend to any paragraph or items contained herein.
3. The term "provide" shall be defined as "to furnish and install complete and in working order". The terms "this Contractor" or the Contractor" shall refer to the Sprinkler Contractor.
4. Scope of Work:
   a. The work shall include, but is not necessarily limited to the sprinkler systems and any appurtenances common to the systems, generally consisting of pipe, fittings, valves, hangers, covering, painting, cleaning, testing and such other work as is necessary and specified. This contractor shall schedule delivery of equipment and piping and complete his work so that there is no interruption in the project work schedule.
   b. The Contractor is responsible for complete piping drawings. Any pipings layout on plans is for effect only.
5. Shop Drawings:
   a. This Contractor shall submit to the Architect shop drawings or catalog cuts in accordance with the general conditions and special conditions. Shop drawings and/or catalog cuts shall be furnished for, but are not necessarily limited to the following:
   b. Alarm Valves
   c. Sprinkler Heads
   d. Indicator Post Valves
   e. Valves
   f. Water Motor Gongs
   g. Siamese Connections
   h. Complete Sprinkler System Layout
   i. Air Compressor (Dry System) connected to riser, sized by contractor.
6. Approval:
   a. Layout drawings shall be approved by the Fire Marshal or appropriate authority prior to commencing fabrication or installation.
7. Regulations and Permits: All work under this section of the Specifications shall comply with all laws, ordinances, rules and regulations of the local authorities having jurisdiction according to NFPA, pamphlet no. 13 and the Associated Factory Mutual approval and shall be subject to the inspection and approval of the authorities having jurisdiction, notwithstanding anything in this Specification to the contrary. The Contractor for the work, under this division of the Specifications, shall obtain and pay for all permits required to initiate and complete the work under this contract.
8. Tests:
   a. Upon completion and prior to acceptance of the sprinkler installation, the Contractor shall subject the system to the tests required by the appropriate governing agency and N.F.P.A. No. 13.
   b. Contractor shall furnish and install, adjacent to the sprinkler riser main, a printed sheet, protected by transparent cover, giving brief instructions regarding control, emergency procedure and other matters necessary for full utilization of the system.
9. Fire Protection Equipment Guarantee: All equipment and components furnished under this Specification shall be guaranteed for a period of one (1) year from the date of acceptance. Failures of any part of the guaranteed equipment during the guarantee period shall be promptly replaced with new parts by and at the expense of the Contractor.

PART 3 - EXECUTION

1. General Notes: (Applicable where required.)
   a. Sprinkler piping shall be pitched to drain. Pitch shall be one quarter (1/4) inch to one-half (1/2) inch fall per each ten (10) feet of run.
   b. Occupied areas shall have chrome wet pendant sprinkler (165 deg. F). Concealed attic area above ceiling shall have upright sprinkler (212 deg. F). Mechanical rooms shall have chrome wet pendant sprinkler (286 degrees F).
   c. All sprinkler piping shall be run concealed. Siamese Connection shall be brass of size required by local jurisdiction and, lettered "Automatic Sprinkler". Do not run piping above electrical panels.
   d. Provide a four (4) inch pipe from main service to Siamese Connection. Provide Ball Drip. Run all piping concealed. Locate per floor plan or site plan for access by Fire Department truck.
   e. Main four (4) inch piping runs and branching tees may be grooved piping. All branch and runout piping shall be threaded and screwed fittings.

SECTION 15800 - MATERIALS AND WORKMANSHIP - HVAC

PART 1 - GENERAL

1. Materials and Workmanship:
   a. This Subcontractor shall provide for all cutting and excavating not provided in other sections of the plans and specifications which may be necessary for the admission of any part of the heating, air conditioning and refrigeration systems. All required special foundations and supports not shown on the Architectural and Structural Plans shall be provided by this Subcontractor.
   b. Equipment as specified and shown on working drawings.
   c. All work shall be in accordance with applicable code and accomplished in a workmanlike manner.
   d. Compliance and Permits: This Subcontractor shall agree to complete compliance with all applicable requirements of the National Board of Fire Underwriters and all local codes and laws applicable to this type of work. He shall obtain and pay for all permits required by competent authorities for this work and file such permits with the Owner when obtained.
2. Tests and Guarantees:
   a. The Subcontractor shall work with the Test & Balance company employed by the General Contractor as described in Section 01200 Special Conditions, #4.
   b. Furnish the services necessary for a minimum of two complete adjustments of the air handling system and exhaust systems for the first cooling season and the first heating season after the job is complete and operating under load conditions. Supply and return air grilles and registers shall be checked with a recently tested and calibrated direct reading velocity instrument and all shall be properly adjusted to deliver or return the specified amounts of air before Test & Balance company performs their work.
   c. The Subcontractor shall guarantee all equipment, materials and workmanship for a period of one (1) year from date of completion of the first test period. A five (5) year warranty is required on the compressors. Contractor shall promptly replace or repair to the satisfaction of the Owner, any portion of the work which proves defective during the guarantee period. This guarantee shall cover the cost of material and labor.
   d. The Subcontractor shall furnish first charges of refrigerant, grease, oils, etc., and shall be responsible for all such full charges for the guarantee period. Two sets of filters for each unit shall be provided. First sets of filters to be used during construction.
   e. The Subcontractor shall make available to Owner, without added cost, free service during the guarantee period. This shall not include cleaning or replacing of filters.
   f. The Subcontractor shall guarantee that individual pieces of equipment furnished shall have equal or greater capacity than specified herein.
3. Electrical Work:
   a. The Electrical Subcontractor will provide all power wiring and connections to all electrically operated heating, air conditioning and ventilation equipment, except as otherwise specified, as shown on the Electrical Plans.
   b. The Heating and Air Conditioning Subcontractor shall furnish and install all required motor starting equipment, as specified and/or required; and shall furnish all controls as specified and as required to properly complete the installation of the system.
   c. Electrical Subcontractor shall provide all primary wiring; Heating and Air Conditioning Subcontractor shall provide all secondary wiring. Coordinate breaker sizes and lighting locations with Electrical Subcontractor.

PART 2 - PRODUCTS

1. Rooftop Units (RTU's): Units shall be rooftop units with matching components.
   a. Units shall be as listed on M2.0. No approved alternate manufacturers.
   b. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
   c. Cabinet panels shall be easily removable and located for service.
   d. Condensate pan shall be externally trapped.
   e. Provide vibration isolation and flexible connections.
2. Supply and Exhaust Fans: As specified on M2.0.
3. This Subcontractor shall supply and install all materials necessary for proper venting of bath exhausts, but not limited to, ductwork, flashing and roof caps.
   a. Exhaust fans and Curbs shall be supplied by owner as specified on M2.0.
   b. Curbs shall have 14" minimum flashing and shall be 14" minimum high.
4. Ductwork:
   a. Horizontal and vertical supply and return main and trunk ducts: Shall be supported by blocking. Fasten to trusses at maximum 4'-0" O.C. All ductwork shall be installed in accordance with the latest issue of SMACNA's and ASHRAE's minimum installation standards. All duct connections shall be sealed with duct mastic and duct tape. Sheet metal shall comply with ANSI/ASTM A 527, lockforming quality, with ASTM A 525 G90 zinc coating on exposed locations. Gauges and reinforcement shall comply with SMACNA "Low Pressure Duct Standards", latest edition. Ductboard is not allowed.
   b. Flexible Ducts: Will be installed with no angular bends. Length of duct shall not exceed 4 feet. Atco Rubber Products, Inc. Flexible Duct or equal. Insulation shall be 1" thick, "R" 5.3 minimum fiberglass. Jacket shall have a flame spread rating of 25 or less and a smoke developed of 50 or less. Flexible duct shall be used for supply and outside air only.
   c. Balancing Dampers: Provide a manual damper for each supply diffuser and each return/exhaust branch as shown on plans. Manual dampers shall be constructed in accordance with SMACNA "HVAC Duct Construction Standards". Dampers shall be accessible for balancing.
   d. Duct Sealing: Seal all supply, return, outside air and exhaust ducts to SMACNA Class "C" seal using fiberglass mesh & mastic sealant equal to United Duct Sealer meeting U.L. 181B-M. Seal entire perimeter of all joints. Seal around the duct and ceiling penetrations throughout the building to maintain the integrity of the walls and ceilings. Mastic sealant shall be non-hardening, non-migrating, elastic sealant, type applicable for fabrication/installation detail, as compounded and recommended by manufacturer specifically for sealing joints and seams in ductwork. The application process for mastic requires that all duct connections be mechanically fastened with screws or rivets or, when using flex duct, with metal or plastic bands. The area to be joined should be wiped clean with a dry rag. The mastic is then applied with a trowel or brush (according to its viscosity) and spread one inch beyond the opening. For 1/4 to 1/2 inch openings use fiberglass mesh tape under the mastic. A larger gap needs a rigid material covering. If tape is used for sealing ducts, it should be U.L. 181 foil tape. The tape rating must be stated on the tape and must meet U.L. 181B-FX (flex duct). However, mastic is preferred over tape. All connections (splices, Ys, Ts, and boots) must be sealed. Additionally, boots should be sealed to the sheetrock. Penetrations into the plenum shall be sealed. Flex duct inner liner requires air sealing, while the outer jacket needs only to be secured with a band or draw-tie. The air handler itself must be sealed, including sealing the air handler to the platform. The return plenum shall be lined on the interior with duct board (foil face in), and sealed. Penetrations into the plenum, such as refrigerant line chases, shall be sealed.
5. Duct Insulation:
   a. Internal liner shall not be allowed. Exterior wrap for supply, return, and exhaust air duct shall have a minimum installed value of R-8. All ductwork shall be insulated in accordance with the latest issue of SMACNA's and NESCA's minimum installation standards.
   b. Insulation shall have a flame spread rating of twenty-five (25) or less and smoke developed rating of fifty (50) or less.
6. Ceiling Supply Diffusers: Shall be per M2.0. Aluminum with a white baked powder coat finish. Balancing damper shall be adjustable from room as called for on plan.
7. Access Doors in Duct: Shall be hinged type with Cam locks. Doors shall be hinged to provide tight seal with the air pressure. Doors shall be factory fabricated as manufactured by Air Balance Inc. Provide access door for each fire damper (if occurs).
8. Exhaust / Return Registers: Rectangular exhaust / return registers shall be aluminum per schedule on M2.0 or an approved equal with white backed powder coat finish. Balancing damper shall be adjustable from room as called for on plan.
9. Supply Sidewall: Sidewall grilles shall be all aluminum per M2.0 or an approved equal with white baked power coat finish.
10. Return Air Filters: Shall be accessible through a removable access door with no screw removal (tool-less).
   a. Units will be supplied with (1) set of washable metal filters, 2" MERV 8 and 2" MERV 13 filters.
   b. Contractor shall clean washable metal filters and replace MERV 8 and MERV 13 filters after construction is complete and prior to turnover.
   c. Owner shall clean / replace filters at a minimum of every 2 months to keep mechanical HVAC systems in proper working order.
11. Controls: All HVAC controls shall be through the CaptiveAire CASLink control system. The user interface for the CaptiveAire CASLink control system is completely cloud based. Owner may provide a dedicated device with-in office space if desired. Contractor shall verify with manufacturer all wiring requirements prior to installation and install in strict accordance with the manufacturer's published installation requirements. Coordinate exact location of sensors in field so as not to interfere with bulletin boards. Refer to sheet M3.1 and M3.2 for sequence of operations. Note: All devices shall be hard wired.
12. Smoke detectors shall be factory installed in return air section of any rooftop unit supplying 2000 CFM or greater. On detection of smoke the units shut down.
13. Variable Air Volume Terminal Units: As specified on M2.0. Must be located in accessible location. All manufacturers required clearances must be maintained.
15. Air Purification: Provide Global Plasma Solutions Bi-Polar Ionizers as scheduled on sheet M2.0.
   a. UV lights, powered particular filters, and uni-polar ion generators shall not be acceptable.
   b. Project is designed using ASHRAE Standard 62 IAQ Procedure and shall require manufacture to provide indoor air quality calculations using the formulas within ASHRAE Standard 62.1 to validate indoor air quality at the quantity of outdoor air scheduled.
   c. Air purification system shall have been tested by UL or Intertek/ETL to prove conformance to UL 867-2007 including ozone chamber testing and peak ozone test for electronic devices.
   d. Bi-polar ionization system shall be capable of killing microorganisms (mold, bacteria, virus, ect...), MRSA, E. coli, TB, C.diff, controlling gas phase contaminants generated from human occupants, capable of reducing static charges.
   e. Shall be self cleaning.
   f. Each electrode pair shall provide a minimum of 200 million ions per cubic centimeter.

PART 3 - EXECUTION

1. Maintenance: Furnish complete necessary maintenance information with equipment which requires preventive maintenance for efficient operation. Required routine maintenance actions shall be clearly stated and incorporated on an accessible label, which may be limited to identifying, by title and/or publication number, the operating and maintenance manual for that particular model and type of product. Furnish Owner at least one copy of this information.

MECHANICAL ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
BTUH	BRITISH THERMAL UNITS PER HOUR
CD	CONTROL DAMPER
CFM	CUBIC FEET PER MINUTE
CU	COPPER
CU-#	CONDENSING UNIT
DB	DRY BULB
DIA, Ø	DIAMETER
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EF	EXHAUST FAN
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
F	FURNACE
FLEX	FLEXIBLE
FPM	FEET PER MINUTE
FT	FLOOR, FEET
FV	FACE VELOCITY
°F	DEGREES FAHRENHEIT
GA	GAUGE
HP	HORSEPOWER
HR	HOUR
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
HZ	HERTZ
IF	INLINE FAN
IN	INCH, INCHES
IN WG	INCHES WATER GAUGE
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LB	POUND
LRA	LOCKED ROTOR AMPERES
MAX	MAXIMUM
MECH	MECHANICAL
MIN	MINIMUM
MISC	MISCELLANEOUS
NTS	NOT TO SCALE
OA	OUTSIDE AIR
RA	RETURN AIR
RET	RETURN
RLA	RATED LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
TEFC	TOTALLY ENCLOSED FAN COOLED
TEMP	TEMPERATURE
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
V	VENT
WB	WET BULB

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No.	Description	Date
1	FOR CONSTRUCTION	04/06/23

CONSTR. DOC. & REVISIONS

MICHAEL C. GRAPPERHAUS
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 120854
STATE OF TENNESSEE

04/06/23

Professional of Record:
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LICENSE NO: 120854
EXP. DATE: 11/30/23

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For Construction	04/06/23
Re-Bid Date	10/23/23

MECHANICAL & PLUMBING SPECIFICATIONS

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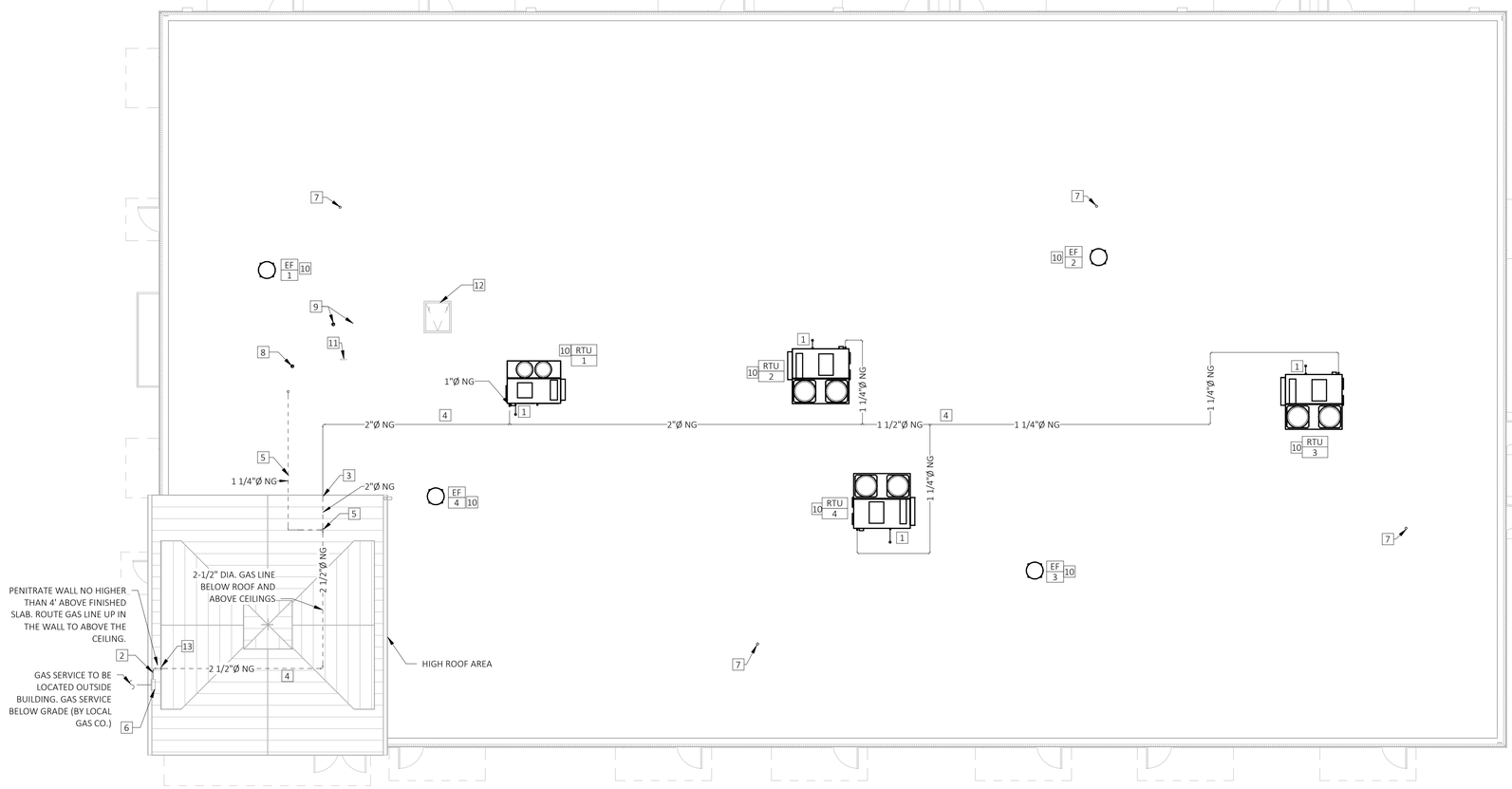


1 MP2.0 MECH / PLUM ROOF PLAN

SCALE: 1/8" = 1'-0"

NORTH

ROOF LEGEND & ABBREVIATIONS

XX (TYPE) / # (INDEX)	EQUIPMENT TAG, SEE SCHEDULES ON SHEET M2.0
X	KEYED NOTE
NG	NATURAL GAS PIPING ABOVE ROOF
NG	NATURAL GAS PIPING BELOW ROOF
C	CONDENSATE PIPING
VTR	VENT THROUGH ROOF
RTU	ROOFTOP UNIT
EF	EXHAUST FAN

NATURAL GAS LOAD/SIZE

LOAD CHART

PRIMROSE SCHOOL

		MBH
RTU	1	100.5
RTU	2	163.4
RTU	3	126.7
RTU	4	163.4
WATER HEATER	1	200
TOTAL		**754 MBH**

SIZING TABLE (10") W.C.

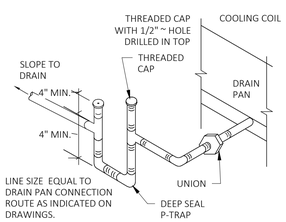
BASED ON 0.5" WC PRESSURE DROP
TOTAL PIPE LENGTH = 250 FT.

SIZE	MAX MBH
1/2"	30
3/4"	63
1"	119
1-1/4"	244
1-1/2"	366
2"	704
2-1/2"	1120

PER 2018 INTERNATIONAL FEUL GAS CODE - IFGC

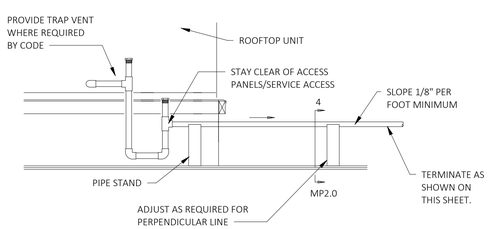
M/P ROOF PLAN KEYED NOTES

1. PROVIDE CPVC CONDENSATE DRAIN WITH MINIMUM 2" DEEP SEAL TRAP, ONLY IF EQUIPMENT IS NOT SUPPLIED WITH BUILT-IN TRAP SYSTEM. DRAIN SHALL EXTEND A MINIMUM OF 3'-0" ON THE DOWNHILL SIDE OF THE UNIT. PROVIDE SPLASH BLOCK AT END OF DRAIN LINE. CAP ALL UNUSED CONDENSATE DRAIN FITTINGS. TYPICAL ALL UNITS.
2. ROUTE 2-1/2"Ø (10" WC) GAS LINE INTO BUILDING DIRECTLY OFF METER. ROUTE PIPE INSIDE OF EXTERIOR WALL UP TO ABOVE THE CEILING.
3. ROUTE 2"Ø GAS LINE THRU VERTICAL WALL ONTO ROOF. PROVIDE STORM COLLAR TO ENSURE THAT PENETRATION IS WEATHER TIGHT.
4. GAS PIPING SHALL BE INSTALLED ON ROOF EXCEPT WHERE NOTED, REFER TO ROOF PIPING SUPPORT DETAIL ON THIS SHEET.
5. ROUTE GAS LINE BELOW ROOF TO WATER HEATER.
6. GAS METER AND REGULATOR ARE BY GAS COMPANY. CONTRACTOR SHALL VERIFY THAT GAS METER ASSEMBLY IS REGULATED FOR 10" WC ON BUILDING SIDE OF ASSEMBLY AND HAS A MINIMUM CAPACITY OF 712 MBH. GAS PIPING IS SIZED BASED ON 10" WC PRESSURE, A 0.5" WC PRESSURE DROP AND A 250' DEVELOPED LENGTH PER TABLE 402.4(2) OF THE 2018 INTERNATIONAL FUEL AND GAS CODE. COORDINATE WITH LOCAL NATURAL GAS UTILITY COMPANY FOR FINAL METER LOCATION AND UNDERGROUND GAS SERVICE PIPING INSTALLATION.
7. PLUMBING VENT THRU ROOF. SEAL ROOF PENETRATION WEATHER TIGHT. VENT MUST BE A MINIMUM OF 10' FROM ANY FRESH AIR INTAKE.
8. CONCENTRIC VENT THRU ROOF FROM WATER HEATER. SEAL ROOF PENETRATION WEATHER TIGHT. VENT MUST BE A MINIMUM OF 10' FROM ANY FRESH AIR INTAKE.
9. 4"Ø RIGID METAL DRYER DUCT/VENT THRU ROOF WITH CAP VENT AND BACKDRAFT DAMPER. INSTALL VENT WITH CAP VENT AND BACKDRAFT DAMPER. INSTALL VENT PER MANUFACTURERS INSTALLATION MANUAL. REFER TO DETAIL ON SHEET M3.0
10. MECHANICAL EQUIPMENT; REFER TO SHEET M2.0 FOR SCHEDULE AND SHEET M3.0 FOR DETAIL.
11. PROVIDE 3/4"Ø CW TO HOSE BIBB (HB-2) WITH AUTOMATIC DRAINAGE AT ROOF CURB. REFER TO P2.0 FOR CW LINE LOCATION AND TO DETAIL ON THIS SHEET FOR MORE INFORMATION. (1)
12. ROOF HATCH - SEE ARCHITECTURAL FOR ADDITIONAL INFORMATION
13. CONTRACTOR MUST PROVIDE PROTECTIVE METAL STRIKE PLATE BEHIND FACE OF DRYWALL THE ENTIRE VERTICAL LENGTH OF PIPE. PLATE SHALL EXTEND A MINIMUM OF SIX INCHES (6") ON ALL SIDES OF THE PIPE. PROTECTIVE METAL STRIKE PLATE SHALL BE A MINIMUM OF 14 GA STEEL.



2 MP2.0 CONDENSATE P-TRAP

SCALE: NOT TO SCALE



3 MP2.0 CONDENSATE PIPING DETAIL

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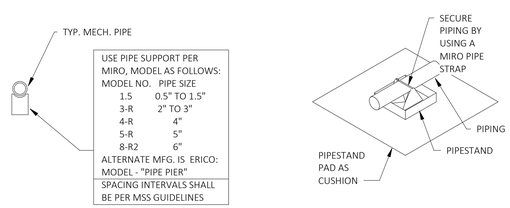

4 MP2.0 PIPESTAND AND DETAIL

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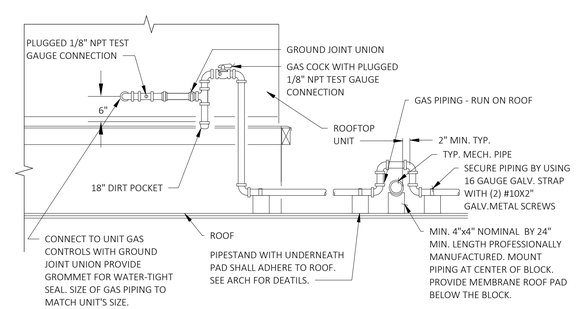

5 MP2.0 GAS PIPING CONNECTION & SUPPORT DETAIL

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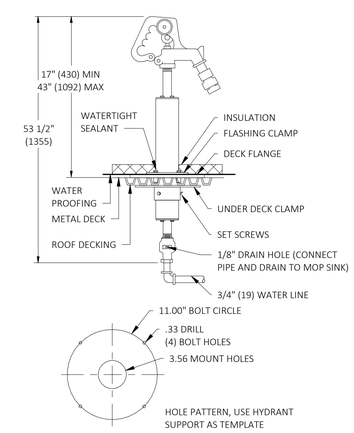

6 MP2.0 ROOF MOUNTED HOSE BIBB

SCALE: NOT TO SCALE (1)

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REGISTERED ENGINEER
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NO. 120854
STATE OF TENNESSEE
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MECHANICAL & PLUMBING ROOF PLAN

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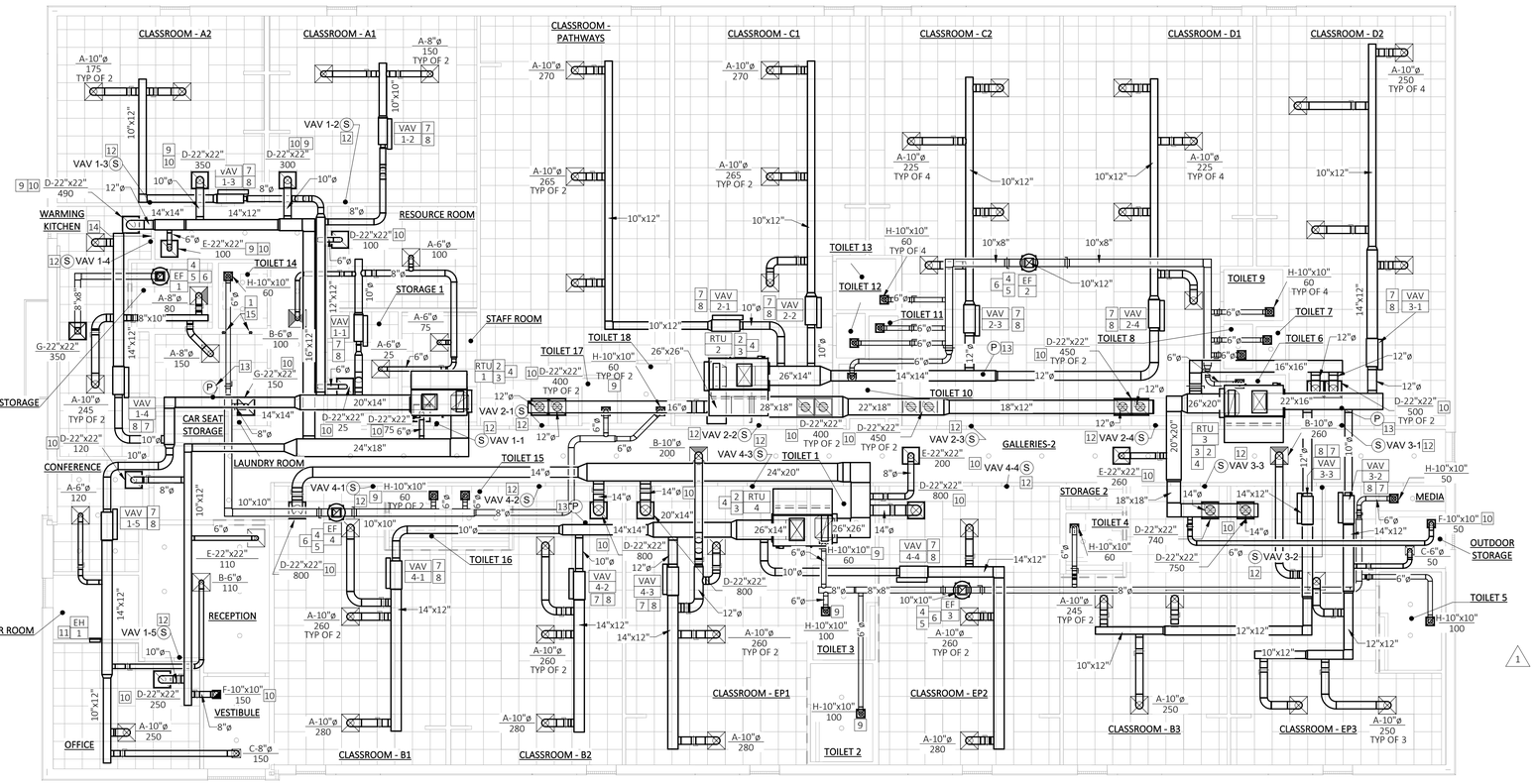

HVAC DUCT PLAN

1 M1.0 NORTH

SCALE: 1/8" = 1'-0"

MECHANICAL LEGEND

- SUPPLY DUCT (SHEET METAL)
- RETURN DUCT (SHEET METAL)
- EXHAUST DUCT (SHEET METAL)
- FLEX DUCT (SUPPLY ONLY)
- _"x_" — RECTANGULAR DUCT DIMENSION
- _"Ø — ROUND DUCT DIMENSION
- SUPPLY DUCT UP / SUPPLY DUCT DOWN
- RETURN DUCT UP / RETURN DUCT DOWN
- EXHAUST DUCT UP / EXHAUST DUCT DOWN
- SUPPLY / RETURN / EXHAUST AIR TERMINAL
- S X-# — EQUIPMENT REFERENCE — TEMPERATURE SENSOR. LOCATED AS SHOWN ON PLAN.
- P — STATIC PRESSURE SENSOR WITHIN DUCT.
- MANUAL VOLUME DAMPER
- RTU / 1 — EQUIPMENT TYPE / EQUIPMENT INDEX — EQUIPMENT TAG, SEE SCHEDULES ON SHEET M2.0,
- X-8"Ø / 250 — AIR TERMINAL MARK / NECK SIZE / AIR FLOW (CFM) — AIR TERMINAL TAG, SEE SCHEDULE ON SHEET M2.0

MECHANICAL PLAN KEYED NOTES

1. 4" DIA. RIGID ALUMINUM DRYER VENT THRU ROOF, TERMINATE WITH CAP VENT AND BACKDRAFT DAMPER. DRYER SHALL BE EXHAUSTED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. VENT SHALL BE ROUTED IN THE STRAIGHTEST ROUTE WITH THE FEWEST ELBOWS POSSIBLE. SEE DETAIL ON SHEET M3.0.
2. RTU TO BE INSTALLED ON FACTORY CURB. EXTEND FULL SIZE SUPPLY AND RETURN DUCT DROPS THRU ROOF. TRANSITIONS TO BE MADE IN VERTICAL DROP, TRANSITION TO THE SIZE SHOWN ON THIS PLAN. SEE SHEET M3.0 FOR DETAIL.
3. OUTSIDE AIR INTAKES SHALL BE LOCATED A MINIMUM OF 10' FROM ANY HAZARD OR NOXIOUS CONTAMINANT SUCH AS CHIMNEYS, PLUMBING VENTS, STREETS, ALLEYS, PARKING LOTS, EXCEPT AS SPECIFIED OTHERWISE IN CODES. WHERE A SOURCE OF CONTAMINANT IS LOCATED WITHIN 10' OF AN INTAKE OPENING, SUCH OPENING SHALL BE LOCATED A MINIMUM OF 2' BELOW THE CONTAMINATION SOURCE.
4. MARK THE RTU/EF WITH UNIT NUMBER AND WHICH ROOM THEY SERVE, ON SIDE OF THE UNITS MOST VISIBLE FROM THE ROOF HATCH.
5. EXTEND DUCT UP AT SIZE SHOWN ON PLAN AND PROVIDE DUCT TRANSITION AS REQUIRED TO CONNECT TO EF.
6. EXHAUST FAN SHALL BE MOUNTED ON ROOF. SEE DETAIL SHEET M3.0.
7. CONTRACTOR SHALL TRANSITION AS NECESSARY TO CONNECT DUCTWORK FROM SIZES SHOWN ON PLANS TO VAV UNIT INPUT AND OUTPUT.
8. CONTRACTOR SHALL INSTALL VAV BOX NO MORE THAN 12" ABOVE THE CEILING IN AN ACCESSIBLE LOCATION. UNIT SHALL BE HUNG FROM THE THE STRUCTURE ABOVE WITH FOUR (4) COMMERCIAL GRADE HANGER STRAPS CONNECTED DIRECTLY TO EACH CORNER OF THE MAIN UNIT. CONTRACTOR MUST LEAVE MINIMUM OF 4' OF STRAIGHT, NON-INTERRUPTED DUCT BEFORE AND AFTER THE VAV BOX. THESE 4' SECTIONS SHALL BE THE SIZE OF THE VAV BOX INLETS AND OUTLETS RESPECTIVELY.
9. DIFFUSER MUST BE PROVIDED WITH DAMPER. DAMPER MUST BE ACCESSIBLE FROM ROOM.
10. TRANSITION FROM SQUARE NECK ON DIFFUSER TO ROUND DUCT AS SHOWN ON PLAN AS NECESSARY.
11. MOUNT BOTTOM OF ELECTRIC UNIT HEATER AT 12" AFF. HEATER TO BE PROVIDED WITH INTEGRAL THERMOSTAT AND SET TO TURN ON WHEN THE SPACE TEMPERATURE FALLS BELOW 50 DEG F. INSTALL UNIT PER MANUFACTURER'S INSTRUCTION. REFER TO SHEET M2.0 FOR SCHEDULE.
12. INSTALL HARD WIRED COMMUNICATION TEMPERATURE SENSOR AT 60" A.F.F.
13. STATIC PRESSURE SENSOR TO CONTROL RTU. INSTALL IN DUCT AS SHOWN ON PLAN.
14. KITCHEN DOOR TO BE LOUVERED SEE ARCHITECTURAL PLANS FOR MORE INFORMATION.
15. DRYER DUCT SHALL HAVE 4"DIA. SECONDARY DRYER LINT TRAP INSTALLED APPROXIMATELY 4 FEET FROM THE OUTLET AND BELOW THE CEILING IN LAUNDRY ROOM. REFER TO DETAIL ON SHEET M3.0, AND ARCHITECTURAL INTERIOR ELEVATIONS.

MECHANICAL GENERAL NOTES

1. DUCTWORK AND HVAC EQUIPMENT SHOWN IS DIAGRAMMATIC. COORDINATE AND FIELD ROUTE DUCTWORK TO MEET JOB REQUIREMENTS. LOCATION OF EQUIPMENT MUST BE COORDINATED WITH ALL DISCIPLINES BEFORE FINAL LOCATIONS ARE SELECTED. WEIGHTS OF EQUIPMENT MUST BE VERIFIED AND COORDINATED WITH STRUCTURAL SYSTEMS BEFORE EQUIPMENT CAN BE INSTALLED AT JOB SITE.
2. ALL SUPPLY & RETURN DUCT WORK SHALL BE INSULATED WITH MINIMUM INSTALLED VALUE OF R-8 DUCT WRAP WITH ALL SERVICE JACKET & SEALED. WRAP INTAKE & EXHAUST DUCTS WITH MINIMUM INSTALLED VALUE OF R-8 DUCT WRAP INSULATION.+VAPOR RETARDER & SEAL.
3. ALL DUCT SHALL BE SHEET METAL EXCEPT LAST 4' OF SUPPLY DUCT TO DIFFUSER MAY BE FLEX. NO ANGULAR BENDS ALLOWED IN FLEX DUCT. SEE DETAIL ON SHEET M3.0.
4. PROVIDE TURNING VANES AT ALL RECTANGULAR ELBOWS
5. SHEET METAL DUCT GAUGES AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA LOW PRESSURE DUCT STANDARDS.
6. MOUNT ALL SENSORS 60" A.F.F.
7. REFER TO ARCHITECTURAL DRAWING FOR EXACT LOCATION OF ALL GRILLES, DIFFUSERS, ETC.
8. LABEL ALL SENSORS, EXHAUST FANS, ROOFTOP UNITS, AND VAV UNITS WITH ENGRAVED PLASTIC SIGNS.
9. ROUTE ALL DUCT WORK ABOVE CEILINGS AND BELOW BOTTOM CHORD OF TRUSSES.
10. VENTS SHALL BE TERMINATED A MINIMUM OF 1'-0" ABOVE ROOF AND 3'-0" AWAY FROM PARAPETS OR WALLS AND 10'-0" AWAY FROM ANY MECHANICAL AIR INTAKES.
11. PROVIDE SENSORS TO SENSE TEMPERATURE AT LOCATIONS SHOWN ON PLAN.
12. CONTRACTOR SHALL COORDINATE ALL SENSOR LOCATIONS WITH ALL OTHER DISCIPLINES PRIOR TO INSTALLATION.
13. ALL TOILET ROOM DOORS MUST BE UNDERCUT 1" MINIMUM. COORDINATE WITH GENERAL CONTRACTOR. REFER TO ARCHITECTURAL DRAWINGS.
14. CONTRACTOR SHALL VERIFY EXACT SPACING OF TRUSSES PRIOR TO STARTING DUCTWORK. CONTRACTOR SHALL VERIFY THAT ALL DUCTS HAVE ADEQUATE SPACE ABOVE CEILINGS. IF THERE IS ANY CONFLICTS, NOTIFY ARCHITECT.
15. CONTRACTOR SHALL TRANSITION DUCTS BETWEEN RECTANGULAR AND ROUND AS REQUIRED TO CONNECT TO MECHANICAL EQUIPMENT AND DIFFUSERS.
16. ALL ROOF PENETRATIONS SHALL BE SEALED AND MADE WEATHER TIGHT BY CONTRACTOR.
17. OWNER TO FURNISH (THROUGH CAPTIVEAIRE AGREEMENT) AND CONTRACTOR TO INSTALL FACTORY HVAC EQUIPMENT CURBS.
18. CONTRACTOR TO CHANGE OUT ALL FILTERS AT CERTIFICATE OF OCCUPANCY AND TO PROVIDE ONE NEW FILTER REPLACEMENT FOR ALL UNITS.
19. SPACE ALLOCATED FOR MECHANICAL AND OTHER WORK ABOVE THE CEILINGS IS CRITICAL. LIGHT FIXTURES AND AIR DEVICES HAVE BEEN LOCATED TO ACHIEVE A DEFINITE ARCHITECTURAL EFFECT AND MAY NOT BE CHANGED WITHOUT THE CONSENT OF THE ARCHITECT AND/OR OWNER. BECOME FAMILIAR WITH THE ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS PRIOR TO FABRICATING AND INSTALLING ANY MATERIALS AND/OR DUCTWORK.
20. ALL WORK SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, LOCAL CODES, LAWS, ACTS, AMENDMENTS AND AUTHORITIES HAVING JURISDICTION.
21. THE COMPLETED INSTALLATION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE INDUSTRY STANDARDS OF GOOD PRACTICE AND SAFETY. THE MANUFACTURERS STRICTEST RECOMMENDATIONS FOR EQUIPMENT AND PRODUCT APPLICATION AND/OR INSTALLATION SHALL BE FOLLOWED.
22. ALL WORK SHALL BE INSTALLED TO AVOID CONFLICTS WITH OTHER TRADES CLOSELY COORDINATE ALL WORK WITH ALL OTHER TRADES. FAILURE OF THE CONTRACTOR TO COORDINATE WITH ALL OTHER TRADES SHALL RELIEVE THE ARCHITECT/ENGINEER AND THE OWNER FROM ANY ADDED COST.
23. ALL WORK SHALL BE INSTALLED TO PROVIDE ADEQUATE CLEARANCE FOR ARCHITECTURAL DESIGN AND PROPER OPERATION AND SERVICE OF EQUIPMENT.
24. ALL TEMPERATURE AND HUMIDITY SET POINTS SHALL BE FIXED WITH-IN THE CAPTIVEAIRE CASLINK CONTROL SYSTEM. NO ADJUSTMENT SHALL BE AT THE SPACE SENSORS.
25. MECHANICAL CONTRACTOR SHALL COORDINATE ALL GRILLES, DIFFUSERS, DUCTS, ETC. WITH ALL OTHER TRADES INCLUDING BUT NOT LIMITED TO THE MILLWORK, CABINETRY THAT EXTENDS TO THE CEILING IN TOILET ROOMS, ELECTRICAL CONTRACTOR, LIGHTING.
26. CONTRACTOR SHALL VERIFY A PLASMA TUBE HAS BEEN INSTALLED IN EACH ROOFTOP UNIT AS PER SCHEDULE ON SHEET M2.0 AND DETAIL ON SHEET M3.0. ALL VENTILATION CALCULATIONS CAN BE FOUND ON SHEET M4.0. PLASMA TUBE SHALL BE INSTALLED BY CAPTIVEAIRE SERVICE TECH DURING RTU STARTUP.
27. CONTRACTOR SHALL ENSURE THAT ALL BALANCING DAMPERS ARE INSTALLED IN AN ACCESSIBLE LOCATION. WHERE DAMPERS CAN BE ACCESSIBLE THROUGH LAY-IN/ACT CEILING AT THE BRANCH LOCATIONS AS SHOWN IN DETAIL ON SHEET M3.0 THEY SHALL BE INSTALLED IN THE DUCTWORK. IF WHEN DAMPERS ARE LOCATED IN THE DUCTWORK THEY ARE INACCESSIBLE FOR BALANCING THEN THE AIR TERMINAL SHALL BE PROVIDED WITH DAMPER TO BE ADJUSTED AT THE FACE OF GRILLE. (SEE SPECIFICATIONS ON MP1.0). KEYED NOTE 9 IS USED ON PLAN TO INDICATE KNOWN LOCATIONS WHERE DAMPERS ARE LOCATED IN AIR TERMINAL. FINAL COORDINATION SHALL BE BY CONTRACTOR.

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CONSTR. DOC. & REVISIONS

No.	Description	Date
1	POST BID ADD 1 - CODE RESP./FO REVISIONS	11/30/22
2	FOR CONSTRUCTION	04/06/23

MICHAEL C. GRAPPERHAUS
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 120854
STATE OF TENNESSEE
04/06/23

Professional of Record:
MICHAEL C. GRAPPERHAUS
LICENSE NO: 120854
EXP. DATE: 11/30/23

Drawn/Checked	CL / JV
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

MECHANICAL FLOOR PLAN

M1.0

4/6/2023 2:00:17 PM

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2018 IECC POST CONSTRUCTION REQUIREMENTS

PER THE REQUIREMENTS OF THE 2018 INTERNATIONAL ENERGY CODE, THE GENERAL CONTRACTOR SHALL OBTAIN & PROVIDE THE FOLLOWING MECHANICAL RELATED ITEMS LISTED BELOW. CONTRACTOR SHALL PROVIDE A COPY TO THE TENANT AND WRITTEN CONFIRMATION TO THE PROFESSIONAL OF RECORD PROVING SAID INFORMATION HAS BEEN PROVIDED.

1. HVAC O&M DOCUMENTS FOR ALL MECHANICAL EQUIPMENT AND SYSTEMS PROVIDED TO THE TENANT BY THE MECHANICAL CONTRACTOR WITH 90 DAYS OF SYSTEM ACCEPTANCE.
2. A COMMISSIONING PLAN SHALL BE DEVELOPED BY APPROVED AGENCY.
3. HVAC EQUIPMENT AND CONTROL SYSTEMS SHALL BE TESTED TO ENSURE PROPER OPERATION.
4. A PRELIMINARY COMMISSIONING REPORT SHALL BE COMPETED AND CERTIFIED BY APPROVED AGENCY.
5. HVAC AS-BUILT DRAWINGS SHALL BE SUBMITTED WITHIN 90 DAYS OF SYSTEM ACCEPTANCE.
6. AN AIR BALANCING REPORT SHALL BE PROVIDED FOR HVAC SYSTEMS.
7. A FINAL COMMISSIONING REPORT SHALL BE PROVIDED TO BUILDING OWNER WITHIN 90 DAYS OF RECEIPT OF CERTIFICATE OF OCCUPANCY.
8. ALL HVAC CONTROL SYSTEMS SHALL BE TESTED TO ENSURE PROPER OPERATION, CALIBRATION AND ADJUSTMENT OF CONTROLS.

CAPTIVEAIRE CONTACT INFORMATION:
BRANDEN GOAD
(629) 401-7547
BRANDEN.GOAD@CAPTIVEAIRE.COM

ROOFTOP UNIT SCHEDULE (GAS)

MARK	MANUFACTURER	MODEL	AREA SERVED	OUTSIDE AIR (CFM) MIN	SUPPLY FAN SUPPLY (CFM)	SUPPLY FAN TONS	SUPPLY FAN ESP (IN-WC)	SUPPLY FAN MOTOR HP	AMB DB (°F)	COOLING COIL NET TOTAL (MBH)	COOLING COIL NET SENSIBLE (MBH)	GAS HEATING INPUT (MBH)	GAS HEATING OUTPUT (MBH)	IEER	ELECTRICAL VOLTS	ELECTRICAL PHASE	ELECTRICAL FREQ (HZ)	ELECTRICAL MCA	ELECTRICAL MOCP	WEIGHT (LBS)	ACCESSORIES	NOTES
RTU-1	CAPTIVEAIRE	CASRTU1-I.150-15-6T-DOAS	SEE VAV SCHEDULE	310	2300	6.0	1.75	3	98.9	71.60	60.20	100.5	81.4	19.5	208	3	60	39.2	45	1369	1-15	1-13
RTU-2	CAPTIVEAIRE	CASRTU2-I.200-18-10T-DOAS	SEE VAV SCHEDULE	720	3400	10.0	1.75	5	98.9	117.70	95.10	163.4	132.4	18.6	208	3	60	67.8	80	1990	1-15	1-13
RTU-3	CAPTIVEAIRE	CASRTU2-I.150-18-8T-DOAS	SEE VAV SCHEDULE	500	2800	8.0	1.75	5	98.9	80.70	69.60	126.7	102.7	20.2	208	3	60	48.8	60	1893	1-15	1-13
RTU-4	CAPTIVEAIRE	CASRTU2-I.200-18-10T-DOAS	SEE VAV SCHEDULE	720	3400	10.0	1.75	5	98.9	117.70	95.10	163.4	132.4	18.6	208	3	60	67.8	80	1990	1-15	1-13

NOTES:
1. CAPTIVEAIRE WARRANTY: 5 YEAR PARTS AND LABOR (ALTERNATE EXTENDABLE TO 10 YEARS PARTS WARRANTY - TO BE SELECTED BY OWNER IF DESIRED)
2. SEE SPECIFICATION FOR ADDITIONAL REQUIREMENTS
3. PROVIDE PERMANENT (SUN-RESISTANT) ENGRAVED BLACK LABEL WITH WHITE LETTERS SHOWING UNIT NUMBER AND ROOM NUMBERS SERVED
4. COORDINATE WITH ELECTRICAL CONTRACTOR
5. ALL UNITS TO BE FURNISHED WITH HIGH-PRESSURE AND LOW-PRESSURE SWITCHES
6. ALL UNITS SHALL HAVE FACTORY-FURNISHED AND INSTALLED SMOKE DETECTOR IN RETURN AIR SECTION.
7. FURNISH WITH TWO SETS OF BOTH 2" MERV 8 AND 2" MERV 13 FILTERS
8. ALL UNITS SHALL BE PROVIDED WITH R-410A REFRIGERANT.
9. ALL UNITS SHALL BE SUITABLE FOR OPERATION WITH CASLINK CONTROLS AND MONITORING SYSTEM.
10. ALL UNITS TO BE FURNISHED WITH AS MULTI-ZONE VARIABLE AIR VOLUME UNITS.
11. ALL UNITS TO BE FURNISHED WITH SINGLE CIRCUIT INVERTER DUTY COMPRESSOR
12. MANUFACTURER REPRESENTATIVE TO PERFORM UNIT STARTUP AND FINALIZE SYSTEM CONTROLS AND PROVIDE TRAINING OF THE CONTROLS SYSTEM TO THE OWNER.
13. EQUIPMENT PROVIDED BY OWNER AGREEMENT THROUGH CAPTIVEAIRE REFER TO CAPTIVEAIRE CONTACT INFORMATION.

ACCESSORIES (FACTORY-INSTALLED IF AVAILABLE, OR SHIPPED FOR FIELD INSTALLATION):
1. 14" TALL STANDARD FACTORY INSULATED ROOF CURB
2. HINGED AND REMOVABLE ACCESS PANELS
3. NON-FUSED DISCONNECT SWITCH
4. GFCI SERVICE OUTLET (FIELD WIRED)
5. ECONOMIZER WITH WITH DIFFERENTIAL ENTHALPY CONTROL
6. FACTORY INSTALLED HUMIDITY CONTROL PACKAGE - MODULATING HOT GAS REHEAT
7. CLOGGED FILTER SWITCH
8. CRANKCASE HEATER
9. BAROMETRIC RELIEF DAMPER
10. HAIL GUARDS
11. PROVIDE EXTRA SET OF 2" MERV 8 AND 2" MERV 13 FILTERS FOR CONTRACTOR TO INSTALL BEFORE TURNOVER
12. FREEZESTAT
13. DISCHARGE DEWPOINT CONTROL
14. TOTAL CFM MONITORING FOR RTU
15. ECM CONDENSING FANS

AIR PURIFICATION SCHEDULE

SYMBOL	MANUFACTURER	MODEL	VOLTAGE	WATTS	PRESSURE DROP	MILLION ION DENSITY
GPS 1-4	GLOBAL PLASMA SOLUTIONS	GPS-FC48-AC	24-240 (AC)	10	0.05" W.G.	200 MILLION

NOTES:
1. ONE DEVICE TO BE FIELD INSTALLED IN RTU-1 THROUGH RTU-4.
2. NO APPROVED EQUALS
3. MOUNT BI-POLAR ION GENERATOR PER DETAIL ON SHEET M3.0
4. POWER SHALL BE PROVIDED FROM BLOWER MOTOR
5. PROVIDE WITH INTEGRAL SELF CLEANING SYSTEM
6. EQUIPMENT PROVIDED BY OWNER AGREEMENT THROUGH CAPTIVEAIRE REFER TO CAPTIVEAIRE CONTACT INFORMATION.
7. EQUIPMENT SHALL BE INSTALLED ON SITE BY THE CAPTIVEAIRE TECH DURING RTU STARTUP
8. ORDERS SHALL BE PLACED THROUGH ACCOUNT MANAGER
   GLOBAL PLASMA SOLUTIONS ACCOUNT MANAGER: TODD E. BEELER:
   PHONE: 865-250-1792 - EMAIL: TODD.E.BEELER@GLOBALPLASMASOLUTIONS.COM

EXHAUST FAN SCHEDULE

MARK	MANUFACTURER	MODEL	DESCRIPTION	CFM	ESP (IN. WG.)	DRIVE	ELECTRICAL DATA HP	ELECTRICAL DATA VOLTAGE	ELECTRICAL DATA PHASE	AREA SERVED	REMARKS
EF-1	CAPTIVEAIRE	DR12HFA	ROOF MOUNTED	350	0.500	DIRECT	1/4	115 V	1	WARMING KITCHEN	CONTROLLED BY MANUAL TIMER SWITCH (BY EC) IN KITCHEN
EF-2	CAPTIVEAIRE	DR12HFA	ROOF MOUNTED	480	0.500	DIRECT	1/4	115 V	1	TOILET	CONTROLLED BY BAS - CONSTANT ON DURING OCCUPIED HOURS
EF-3	CAPTIVEAIRE	DR12HFA	ROOF MOUNTED	430	0.500	DIRECT	1/4	115 V	1	TOILET / MEDIA	CONTROLLED BY BAS - CONSTANT ON DURING OCCUPIED HOURS
EF-4	CAPTIVEAIRE	DR12HFA	ROOF MOUNTED	450	0.500	DIRECT	1/4	115 V	1	TOILET/LAUNDRY	CONTROLLED BY BAS - CONSTANT ON DURING OCCUPIED HOURS

NOTES:
1. ALL FANS SHALL HAVE A DISCONNECT SWITCH
2. ALL FANS SHALL BE PROVIDED WITH BIRDSCREEN AND BACKDRAFT DAMPER
2 3. ALL FANS SHALL BE PROVIDED WITH 14" PRE-FAB CURB
4. ALL FANS SHALL BE OFF DURING UNOCCUPIED HOURS (NIGHT / WEEKEND SETBACK)
5. EQUIPMENT PROVIDED BY OWNER AGREEMENT THROUGH CAPTIVEAIRE REFER TO CAPTIVEAIRE CONTACT INFORMATION.

BUILDING AIR BALANCE SCHEDULE

CLASSIFICATION	UNIT	CFM
OUTSIDE AIR		
	RTU - 1	310
	RTU - 2	720
	RTU - 3	500
	RTU - 4	720
TOTAL		2250
EXHAUST AIR		
	EF - 1	350
	EF - 2	480
	EF - 3	430
	EF - 4	450
TOTAL		1710

BUILDING FINAL PRESSURE:
WITH KITCHEN EXHAUST FAN ON: POSSITIVE 540 CFM
WITH KITCHEN EXHAUST FAN OFF: POSSITIVE 890 CFM

AIR TERMINAL SCHEDULE

MARK	FUNCTION	MANUFACTURER	MODEL	DESCRIPTION	FACE SIZE
A	SUPPLY AIR	PRICE	AMD	SUPPLY AIR DIFFUSER, RECTANGULAR FULL LOUVERED FACE, 18X18 NECK WITH SQUARE TO ROUND NECK, LAY-IN. WHITE FINISH. SEE PLANS FOR ROUND NECK SIZE	24"X24"
B	SUPPLY AIR	PRICE	AMD	SUPPLY AIR DIFFUSER, RECTANGULAR FULL LOUVERED FACE, 18X18 NECK WITH SQUARE TO ROUND NECK, SURFACE MOUNT. WHITE FINISH. SEE PLANS FOR ROUND NECK SIZE	24"X24"
C	SUPPLY AIR	PRICE	AMD	SUPPLY AIR DIFFUSER, RECTANGULAR FULL LOUVERED FACE, 9X9 NECK WITH SQUARE TO ROUND NECK, SURFACE MOUNT. WHITE FINISH. SEE PLANS FOR ROUND NECK SIZE	12"X12"
D	RETURN AIR	PRICE	630	RETURN AIR GRILLE, RECTANGULAR FACE, RECTANGULAR NECK, LAY-IN MOUNT. WHITE FINISH. 22X22 NECK SIZE	24"X24"
E	RETURN AIR	PRICE	630	RETURN AIR GRILLE, RECTANGULAR FACE, RECTANGULAR NECK, SURFACE MOUNT. WHITE FINISH. 22X22 NECK SIZE	24"X<varies>
F	RETURN AIR	PRICE	630	RETURN AIR GRILLE, RECTANGULAR FACE, RECTANGULAR NECK, SURFACE MOUNT. WHITE FINISH. 10X10 NECK SIZE	12"X12"
G	EXHAUST AIR	PRICE	630	EXHAUST AIR GRILLE, RECTANGULAR FACE, RECTANGULAR NECK, LAY-IN MOUNT. WHITE FINISH. 22X22 NECK SIZE	24"X24"
H	EXHAUST AIR	PRICE	630	EXHAUST AIR GRILLE, RECTANGULAR FACE, RECTANGULAR NECK, SURFACE MOUNT. WHITE FINISH. 10X10 NECK SIZE	12"X12"

NOTES:
1. ALL AIR DEVICES SHALL BE ALUMINUM.
2. REFER TO ARCHITECTURAL DRAWINGS FOR TYPE OF CEILING.
3. REFER TO MECHANICAL PLANS FOR NECK SIZE.
4. COORDINATE MOUNTING FRAMES AND LOCATION WITH ARCHITECTURAL DRAWING A3.0. SURFACE MOUNT FRAMES SHALL BE TYPE 1- DRYWALL FRAMES.
5. ALL AIR DEVICES SHALL BE PROVIDED WITH FULL LOUVERED FACE AND NO PANEL FACE.
6. ALL SUPPLY AIR DIFFUSERS 4-WAY THROW U.N.O.
7. WERE 2 OR 3-WAY TRHOW IS CALLED FOR ON PLAN INCLUDE DIRECTIONAL BAFEL IN NECK OF DIFFUSER TO DIVERT AIR FLOW.
8. SOME AIR DEVICES SHALL BE PROVIDED WITH BALANCING DAMPERS. SEE PLAN FOR LOCATION. SEE SPECIFICATIONS ON MP1.0. FINAL COORDINATION OF WHICH AIR TERMINALS REQUIRE DAMPERS SHALL BE VERIFIED IN FIELD PRIOR TO ORDERING.
9. EQUIPMENT PROVIDED BY OWNER AGREEMENT THROUGH CAPTIVEAIRE REFER TO CAPTIVEAIRE CONTACT INFORMATION.

ELECTRIC UNIT HEATER SCHEDULE

MARK	AREA SERVING	MANUFACTURER	MODEL	INPUT (KW)	BTU/HR OUTPUT	POWER AMPS	POWER VOLTAGE	POWER PHASE	POWER FREQ (HZ)
EH-1	RISER ROOM	Q-MARK	AWH-4404	3	10235	14.4	208	1	60

NOTES:
1. UNIT SHALL BE PROVIDED WITH DISCONNECT SWITCH
2. UNIT SHALL BE PROVIDED WITH INTEGRAL THERMOSTAT
3. UNIT SHALL BE PROVIDED WITH BACK BOX FOR RECESSED MOUNT
4. UNIT SHALL BE PROVIDED WITH FRONT PANEL / GRILLE
5. EQUIPMENT PROVIDED BY OWNER AGREEMENT THROUGH CAPTIVEAIRE REFER TO CAPTIVEAIRE CONTACT INFORMATION.

VAV WITH ELECTRIC HEAT SCHEDULE

MARK	AREA SERVED	MANUFACTURER	MODEL	INLET DIAMETER (IN.)	AIR FLOW (CFM) MIN.	AIR FLOW (CFM) MAX.	ELECTRIC HEAT FREQ. (HZ)	ELECTRIC HEAT PHASE	ELECTRIC HEAT VOLTAGE	ELECTRIC HEAT MCA	ELECTRIC HEAT MOCP	ELECTRIC HEAT HEAT (KW)	ELECTRIC HEAT CONTROL
VAV 1-1	STAFF, RESOURSE, STORAGE	PRICE	SDV	7	150	300	60	3	208	7.20	15.0	1.9	SCR
VAV 1-2	CLASSROOM A1	PRICE	SDV	7	150	300	60	3	208	7.20	15.0	1.9	SCR
VAV 1-3	CLASSROOM A2	PRICE	SDV	7	175	350	60	3	208	8.30	15.0	2.2	SCR
VAV 1-4	KITCHEN, LAUNDRY	PRICE	SDV	10	360	720	60	3	208	17.40	20.0	4.6	SCR
VAV 1-5	ENTRY, OFFICE, CONFERENCE	PRICE	SDV	10	315	630	60	3	208	15.10	20.0	4.0	SCR
VAV 2-1	CLASSROOM PATHWAYS	PRICE	SDV	10	400	800	60	3	208	19.30	20.0	5.1	SCR
VAV 2-2	CLASSROOM C1	PRICE	SDV	10	400	800	60	3	208	19.30	20.0	5.1	SCR
VAV 2-3	CLASSROOM C2	PRICE	SDV	12	450	900	60	3	208	21.60	25.0	5.7	SCR
VAV 2-4	CLASSROOM D1	PRICE	SDV	12	450	900	60	3	208	21.60	25.0	5.7	SCR
VAV 3-1	CLASSROOM D2	PRICE	SDV	12	500	1000	60	3	208	23.80	25.0	6.3	SCR
VAV 3-2	CLASSROOM EP3	PRICE	SDV	10	400	800	60	3	208	19.30	20.0	5.1	SCR
1 VAV 3-3	CLASSROOM B3	PRICE	SDV	12	500	1000	60	3	208	23.80	25.0	6.3	SCR
VAV 4-1	CLASSROOM B1	PRICE	SDV	10	400	800	60	3	208	19.30	20.0	5.1	SCR
VAV 4-2	CLASSROOM B2	PRICE	SDV	10	400	800	60	3	208	19.30	20.0	5.1	SCR
VAV 4-3	CLASSROOM EP1	PRICE	SDV	12	500	1000	60	3	208	23.80	25.0	6.3	SCR
VAV 4-4	CLASSROOM EP2	PRICE	SDV	10	400	800	60	3	208	19.30	20.0	5.1	SCR

NOTES:
1. ALL SHALL BE PROVIDED WITH A FACTORY MOUNTED DISCONNECT SWITCH
2. ALL SHALL BE PROVIDED WITH A TRANSFORMER
3. ALL SHALL BE PROVIDED WITH A DISCHARGE AIR TEMPERATURE SENSOR
4. ALL SHALL BE PROVIDED WITH SCR CONTROL.
5. ALL SIZED BASED ON A TEMPERATURE RISE OF 40 DEG F.
6. ALL SHALL BE INDIVIDUALLY CONTROLLED BY BAS.
7. EQUIPMENT PROVIDED BY OWNER AGREEMENT THROUGH CAPTIVEAIRE REFER TO CAPTIVEAIRE CONTACT INFORMATION.

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MECHANICAL SCHEDULES

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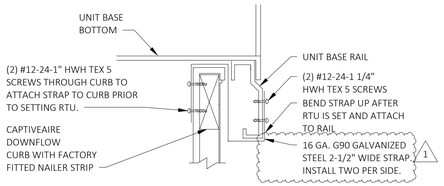
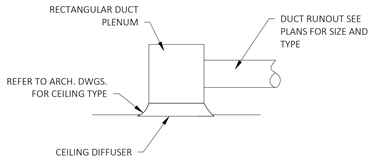


1 M3.0 TYPICAL RTU CURB DETAIL

SCALE: NOT TO SCALE



2 M3.0 CONSTRAINED SPACE CONNECTION

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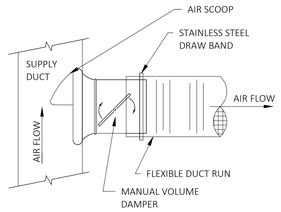

3 M3.0 FLEX DUCT CONNECTION

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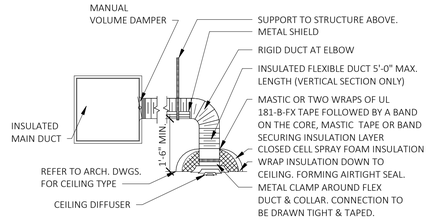
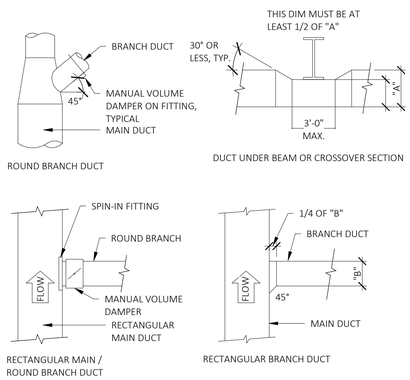


NOTES

1. METHOD OF INSTALLATION FOR AIRTIGHT SEAL WILL BE TYPICAL FOR ALL FLEX CONNECTIONS TO AIR DISTRIBUTION DEVICES. CONNECTIONS SHALL BE PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. REFER DIFFUSER SCHEDULE FOR CORRECT CEILING DIFFUSER.
3. CLOSED CELL SPRAY FOAM INSULATION SHALL BE APPLIED TO COMPLETLY COVER ENTIRE DIFFUSER AND ALL METAL SUPPORTS FOR AND AROUND DIFFUSER.

4 M3.0 CEILING DIFFUSER DETAIL

SCALE: NOT TO SCALE



5 M3.0 DUCT CONNECTION DETAIL

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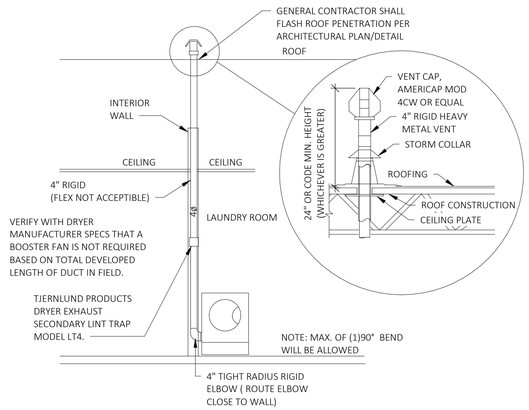

6 M3.0 DRYER VENT ROOF PENETRATION DETAIL

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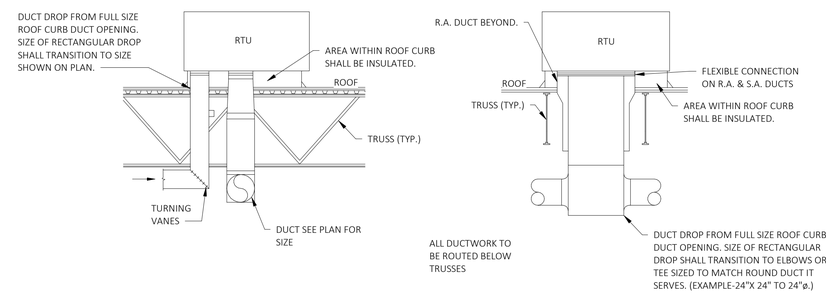

7 M3.0 RTU DUCTWORK DETAILS

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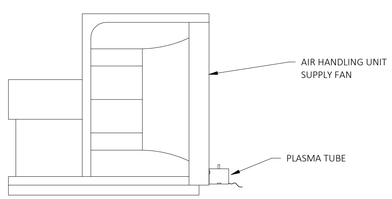
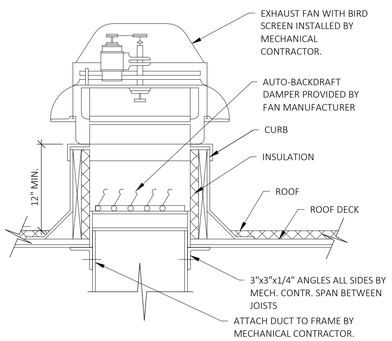


NOTES:

1. MOUNT GPS-FC48-AC TO FAN INLET.
2. USE TWO SELF-TAPPING SCREWS OR RARE EARTH MAGNETS TO SECURE GPS-FC48-AC TO FAN INLET, ENSURING SCREWS DO NOT CONTACT FAN SCROLL.
3. WIRE GPS-FC48-AC BLOWER MOTOR.
4. GPS-FC48-AC TO BE INSTALLED ONSITE BY CAPTIVEAIRE.

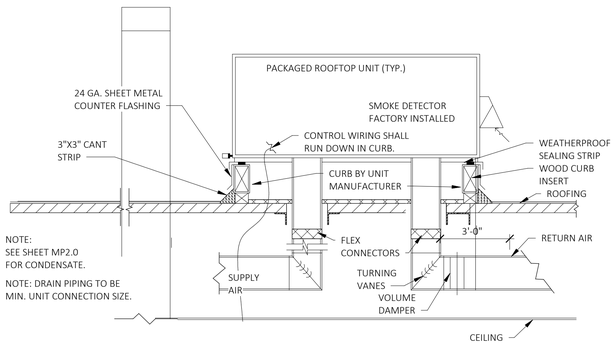
8 M3.0 GPS-FC48-AC MOUNTING DETAIL

SCALE: NOT TO SCALE



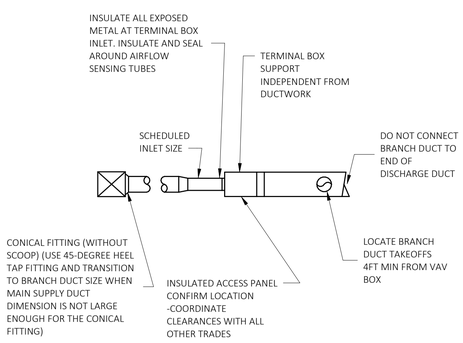
9 M3.0 ROOF MOUNTED DOWNFLOW EXHAUST FAN

SCALE: NOT TO SCALE



10 M3.0 ROOF UNIT MOUNTING DETAIL

SCALE: NOT TO SCALE



11 M3.0 M3.0 VAV BOX INSTALLATION DETAIL

SCALE: NOT TO SCALE 1

CASCO

CASCO DIVERSIFIED CORPORATION
12 Sunset Drive, Suite 100, St. Louis, MO 63143 T: 314-821-1300

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CONSTR. DOC. & REVISIONS

No.	Description	Date
1	FOR CONSTRUCTION	04/06/23

MICHAEL C. GRAPPERHAUS
REGISTERED ENGINEER
AGRICULTURE COMMERCE
NO. 120854
STATE OF TENNESSEE

04/06/23

Professional of Record:
MICHAEL C. GRAPPERHAUS
LICENSE NO: 120854
EXP. DATE: 11/30/23

Drawn/Checked	CL / JV
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

MECHANICAL DETAILS

M3.0

4/6/2023 2:00:20 PM

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Set Points

TEMPERATURE SETPOINTS:

RTU COOLING MODE:	>60.0 DEG F INTAKE MAT
RTU COOLING LAT:	50.0 DEG F DRY BULB
SPACE COOLING OCCUPIED:	72.0 DEG F DRY BULB
SPACE COOLING UNOCCUPIED:	74.0 DEG F DRY BULB
RTU HEATING MODE:	<56.0 DEG F INTAKE MAT
RTU HEATING LAT:	62.0 DEG F DRY BULB
VAV HEATING LAT:	95.0 DEG F DRY BULB
SPACE HEATING OCCUPIED:	70.0 DEG F DRY BULB
SPACE HEATING UNOCCUPIED:	64.0 DEG F DRY BULB

DEHUMIDIFICATION SETPOINTS:

RTU HOT GAS REHEAT:	58.0 DEG F DEW POINT
RTU REHEAT DISCHARGE:	56.0 DEG F DRY BULB
VAV DAMPER MODULATION:	58.0 DEG F DEW POINT

DUCT STATIC PRESSURE SETPOINTS:

MAINTAIN +1" ESP INSIDE DUCT RELATIVE TO SPACE

MODES OF OPERATIONS

OCCUPIED MODE:

RTU-1, 2, 3, 4 will be commanded on and operating in communication with VAV boxes and local space senosrs. See Sequence of Operation for more detailed information.

Building Lighting (Wall paks, flag pole, sign light) will be commanded on/off in accordance with AHJ / owner requirements. Typical operation: a photocell (by EC) will be used to command lights on at dusk and off at dawn. Where required, CASLink will be used to command lights on/off.

Site Lighting (Pole lights) will be commanded on/off in accordance with AHJ / owner requirements. Typical operation: a photocell (by EC) will be used to command lights on at dusk and off at dawn. Where required, CASLink will be used to command lights on/off.

EF-1 turned on by manual timer switch in kitchen only (switch by EC).

EF-2, 3, 4 will be commanded on via interlock with RTU-2, 3, 4.

Hot water recirculation pump will be commanded on.

UNOCCUPIED MODE

RTU-1, 2, 3, 4 will be commanded on in 100% recirculating, auto blower mode in communication with VAV boxes and local space sensors. See Sequence of Operation for more detailed information.

EF-2, 3, 4 will be commanded off via interlock with RTU-2, 3, 4.

Building Lighting (Wall paks, flag pole, sign light) will be commanded on/off in accordance with AHJ / owner requirements. Typical operation: a photocell (by EC) will be used to command lights on at dusk and off at dawn. Where required, CASLink will be used to command lights on/off.

Site Lighting (Pole Lights) will be commanded on/off in accordance with AHJ / owner requirements. Typical operation: a photocell (by EC) will be used to command lights on at dusk and off at dawn. Where required, CASLink will be used to command lights on/off.

Hot water recirculation pump will be commanded off.

SEQUENCE OF OPERATIONS

Sequence of Operations
RTU-1,2,3,4

Occupied Mode:
During occupied periods, the supply fan will run continuously and the outside air damper will open to maintain minimum ventilation requirements. The unit controller will control the supply fan speed to maintain the current duct static pressure setpoint (adj.).The DX cooling and gas heat will modulate (based on intake mixed air temperature (MAT) setpoints (adj.)) to maintain the current discharge air temperature setpoint. If economizing is enabled the outside air damper will modulate to maintain the current discharge air temperature setpoint.

Unoccupied Mode:
When the space temperature is below the unoccupied heating setpoint of 64.0 deg. F (adj.) the supply fan will start, the outside air damper will remain closed and the gas heat will be enabled. When the space temperature rises above the unoccupied heating setpoint of 64.0 deg. F (adj.) the supply fan will stop and the gas heat will be disabled.When the space temperature is above the unoccupied cooling setpoint of 74.0 deg. F (adj.) the supply fan will start, the outside air damper will open if economizing is enabled and remain closed if economizing is disabled and the DX cooling will be enabled. When the space temperature falls below the unoccupied cooling setpoint of 74.0 deg. F (adj.) the supply fan will stop, the DX cooling will be disabled and the outside air damper will close.

Occupied Override:
When an occupied bypass request is received from CASLink remotely or onboard the HMI inside of the controls vestibule, the unit will transition from its current occupancy mode to occupied override mode and the unit will maintain the space temperature to the occupied bypass request setpoints (adj.) until 1 hour (adj.) has passed.

Cooling Mode:
The unit controller shall use the intake mixed air temperature and humidity sensor to maintain scheduled discharge air temperature. Discharge air setpoint shall be maintained by modulating the economizer or the DX cooling as required to maintain the discharge air setpoint. Once all economizing requirements have been met, compressor operation will be enabled if the economizer alone can not meet the demand. Once the active cooling demand has been satisfied, the compressor will modulate down to the either the minimum possible speed necessary or shut off in order to discharge scheduled LAT.

Economizer:
Using Differential Total control the economizer will modulate open from the current position if the outdoor air wet bulb temperature is less than the economizer dew point set point (55 deg F adj.), and the outdoor dry bulb temperature is less than the economizer temperature set point (75 deg F adj.). If the return dew point is less than the dew point set point, the unit will use the return dew point as the beginning of the modulation band. the modulation occurs from the current damper position to fully open over a specific dew point temperature band. The barometric (gravity operated) relief dampers will open with increased building pressure. As the building pressure increases, the pressure in the unit return section also increases, opening the dampers and relieving air.

Supply Fan:
The supply fan will be enabled while in the occupied mode and cycled on (Auto Blower Mode) during the unoccupied mode. A differential pressure switch will monitor the differential pressure across the fan. If the switch does not open after a request for fan operation, a fault will be annunciated at the HMI and communicated through CASLink, the unit will stop, requiring a manual reset.

Supply Duct Static Pressure Control:
The unit controller will modulate the supply fan speed as required to maintain the duct static pressure setpoint. If the duct static pressure falls below the supply air static setpoint + deadband, the unit controller will increase the output to the supply fan to maintain setpoint. If the duct static pressure rises above the supply air static setpoint + deadband, the unit controller will decrease the output to the supply fan to maintain setpoint. The duct static pressure setpoint shall be set either remotely through CASLink or on the onboard HMI, and shall be reset between the minimum and maximum static pressure limits to maintain the critical zone VAV air damper in a position between 65% and 75% open (adj.).

Filter Status:
A differential pressure switch will monitor the differential pressure across the filter when the fan is running. If the switch closes after a request for fan operation a dirty filter alarm will be annunciated through CASLink and on the onboard HMI in the controls vestibule. The unit will, however, continue running as usual.

Smoke Detector Shutdown: The unit will shut down in response to a signal from the smoke detector indicating the presence of smoke. The smoke detector will be interlocked to the unit through the dry contacts of the smoke detector. A manual reset of the smoke detector will be required to restart the unit.

All sensors shall be wired back to the main control board that continuously monitors all critical components and makes decisions based on pre-determined logic to accurately control the following:

1. PID logic to control heater modulation ensuring precise discharge temperature control.
2. PID logic to control compressor speed to provide precise control over evaporative coil temperatures, leaving dew point, and discharge temperatures.
3. PID logic for outdoor fan modulation to maintain an optimal outdoor coil temperature.
4. PID logic for Electronic Expansion Valve position to maintain a precise superheat temperature.
5. PID logic for Modulating Reheat valve to limit supply air temperature and relative humidity based off of discharge conditions.

Ventilation Control (Fixed):
When the unit is in unoccupied mode, the ventilation airflow setpoint will be zero. When the unit is in occupied mode, the ventilation airflow setpoint will equal the design outdoor airflow (see RTU schedule).

Dehumidification mode:
During occupied mode modulating hot gas reheat shall be engaged when the intake mixed air dewpoint is above setpoint and shall run with a discharge air temperature setpoint of 56 deg F dry bulb (adj.) until intake mixed air dewpoint is below setpoint.

During unoccupied mode modulating hot gas reheat shall be off.

VAV SYSTEM

Sequence of Operations
ALL VAV BOXES SCHEDULED

Building Automation System Interface:
CASLink will send each VAV controller Occupied and Unoccupied commands. CASLink may also send a Heat/Cool mode, priority shutdown
commands, space temperature and/or space temperature setpoint. If communication is lost with CASLink, the VAV controller will operate using its local setpoints.

Occupancy Mode:
The occupancy mode will be communicated or hardwired to the controller via a binary input. Valid occupancy modes for the unit will be:

Occupied:
Normal operating mode for occupied spaces or daytime operation. When the unit is in the occupied mode the VAV will maintain the space temperature at the active occupied heating or cooling setpoint. Applicable ventilation and airflow setpoints will be enforced. The occupied mode will be the default mode of the VAV.

Unoccupied:
Normal operating mode for unoccupied spaces or nighttime operation. When the unit is in unoccupied mode the VAV controller will maintain the space temperature at the stored unoccupied heating or cooling setpoint regardless of the presence of a hardwired or communicated setpoint. When the space temperature is within the setpoint deadband the active unoccupied setpoint the VAV will modulate fully closed, and the RTU fan will turn off.

Occupied Override:
Mode used to temporarily place the unit into the occupied operation. Tenants will be able to override the unoccupied mode from CASLink or the HMI controller onboard each RTU. The override will last for a maximum of 1 hour (adj.). The tenants will be able to cancel the override from CASLink or the onboard RTU HMI at any time. During the override the unit will operate in occupied mode.

Heat/Cool Mode:
The Heat/Cool mode will be set by a communicated value or automatically by the VAV controller. In standalone or auto mode the VAV controller will compare the primary air temperature with the configured auto changeover setpoint to determine if the air is "hot" or "cold". Heating mode implies the primary air temperature is hot. Cooling mode implies the primary air temperature is cold.

Heat/Cool Setpoint:
The space temperature setpoint will be determined either by CASLink controller setpoint. The VAV will use the locally stored default setpoints when neither a local setpoint nor communicated setpoint is present. If both a local setpoint and communicated setpoint exist, the VAV will use the communicated value.

Cooling Mode:
When the unit is in cooling mode, the VAV controller will maintain the space temperature at the active cooling setpoint by simultaneously modulating both the VAV damper (between the active cooling minimum and maximum airflow setpoints) and the RTU fan speed (between the minimum and maximum RTU fan speed airflow setpoints). Based on the VAV controller occupancy mode, the active cooling setpoint will be one of the following:

Setpoint

Occupied Cooling Setpoint	72.0 deg. F
Unoccupied Cooling Setpoint	74.0 deg. F
Occupied Min Cooling Airflow Setpoint	See VAV Schedule
Occupied Max Cooling Airflow Setpoint	See VAV Schedule

The VAV controller will use the measured space temperature and the active cooling setpoint to determine the requested cooling capacity of the unit. The outputs will be controlled based on the unit configuration and the requested cooling capacity.

Heating Mode:
When the unit is in heating mode, the VAV controller will maintain the space temperature at the active heating setpoint by simultaneously modulating both the VAV
damper (between the active heating minimum and maximum airflow setpoints) and the RTU fan speed (between the minimum and maximum RTU fan speed airflow setpoints). Based on the VAV controller occupancy mode, the active heating setpoint will be one of the following:

Setpoint

Occupied Heating Setpoint	70.0 deg. F
Unoccupied Heating Setpoint	64.0 deg. F
Occupied Min Heating Airflow Setpoint	See VAV Schedule
Occupied Max Heating Airflow Setpoint	See VAV Schedule

Electric heater shall be modulated to maintain space heating setpoint.

Dehumidification mode:
During occupied mode VAV damper shall modulate open when space dewpoint is above setpoint and modulate based on space dry bulb temperature when space dewpoint is below setpoint.

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CONSTR. DOC., & REVISIONS

No.	Description	Date

MICHAEL C. GRAPPERHAUS
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 120854
STATE OF TENNESSEE
04/06/23

Professional of Record:
MICHAEL C. GRAPPERHAUS
LICENSE NO: 120854
EXP. DATE: 11/30/23

Drawn/Checked	CL / JV
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

MECHANICAL CONTROL NOTES

M3.1

4/6/2023 2:00:30 PM

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VERSION 1.6 running ASHRAE 62.1-2013

Zone Tag	Facility Type	Zone Use	Zone Floor Area (square ft) Az	Zone Max Occupancy Pz	Table 6.1 OA per Occupant Rp	Table 6.1 cfm/ft2 Ra	Pz * Rp Pz * Rp	Az * Ra Az * Ra	Table 6.2 Ventilation Effectiveness Ez	Outdoor Air to Zone (CFM) with Ez correction (Vbz/Ez) OA required per VRP
RTU-1	Educational Facilities	Daycare (through Age 4)	966.0	20.0	10.0	0.18	200	174	0.8	467

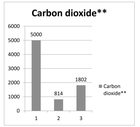
Zone Height (feet)	8.0
Desired Outside Air (Vo) IAQP	160
Supply Air Full Flow (Vs)	650
Supply Air Minimum Flow (Vs)	195
Return Air (Vr)	490
Recirc. Flow Factor (R)	0.75
Design Flow Reduction Factor (F	0.071
Ventilation Effectiveness (Ez)	0.8
Level of Physical Activity	Standing (desk work)
Filter Location	B
HVAC Flow Type	VAV
Outdoor Air Flow Type	Constant

Air Changes Per Hour	5.0
Outside Air Per VRP	467 CFM
Outside Air Per IAQ	160 CFM
Outside Air Savings	307 CFM
OA Summer Drybulb	92.3
OA Summer Wetbulb	74.5
Coil Leaving Air Drybulb (F)	55.0
Coil Leaving Air Wetbulb (F)	55.0
OA MBH Saved Summer*	#NAME?
OA Tons Saved Summer*	#NAME?

VRP OA CFM per person	23.4
IAQ OA CFM per person	8.0
Winter Heating Savings	
OA Winter Design DB (F)	18.5
Supply Air DB Setpoint (F)	85
MBH Saved Winter	22.2
KW Saved Winter	6.5

*OA = Outside Air
**OSHA, NIOSH & WHO most conservative values us
http://www.cdc.gov/niosh/npg/npgpym-a.html

Indoor Contaminants Generated By People & From Outdoors	Maximum Threshold Value (PPM)	Steady State Using the VRP* (Prescribed OA) Plasma Off	Steady State Using the IAQ Method (Reduced OA) Plasma On	Is Steady State Level Acceptable at Reduced OA Levels?	Contaminant Generation Rate (PPM)	Filtration Effectiveness	Cognizant Authority***
Acetaldehyde	100.0	0.01111	0.00507	Yes	0.00048	50%	OSHA
Acetone	250.0	0.00161	0.00149	Yes	0.00654	50%	NIOSH
Ammonia	25.00	0.01321	0.03100	Yes	0.21460	50%	NIOSH
Benzene	1.0000	0.00252	0.00116	Yes	0.00022	50%	OSHA
2- Butanone (MEK)	200.0	0.00017	0.00023	Yes	0.00133	50%	NIOSH
Carbon dioxide**	5000	814	1802	Yes	441	0%	NIOSH
Chloroform	2.0000	0.00011	0.00005	Yes	0.00004	50%	NIOSH
Dioxane	100.0	0.00000	0.00000	Yes	0.00000	50%	OSHA
Hydrogen Sulfide	10.0	0.00000	0.00000	Yes	0.00000	50%	NIOSH
Methane	NA	1.68094	1.68094	Yes	0.00000	0%	NA
Methanol	200.0	0.00000	0.00000	Yes	0.00000	0%	NIOSH
Methylene Chloride	25.0	0.00076	0.00046	Yes	0.00121	50%	OSHA
Propane	1000.0	0.00998	0.00998	Yes	0.00000	0%	NIOSH
Tetrachloroethane	5.0000	0.00000	0.00000	Yes	0.00000	50%	OSHA
Tetrachloroethylene	100.0000	0.00037	0.00014	Yes	0.00031	50%	OSHA
Toluene	300.0000	0.00533	0.00244	Yes	0.00032	50%	NIOSH
1,1,1 - Trichloroethane	350.0000	0.00021	0.00041	Yes	0.00058	50%	NIOSH
Xylene	100.0000	0.00230	0.00104	Yes	0.00000	50%	OSHA



1 = ASHRAE & NIOSH CO2 Limit
2 = CO2 Level at Ventilation Rate OA Flow Rate
3 = CO2 Level at IAQ Procedure OA Flow Rate
**Carbon dioxide has been provided for reference only for gathering demand control ventilation (DCV) setpoints. The National Research Council was commissioned by the US Navy to prove CO2 is not a contaminant of concern when using air purification to control the other contaminants of concern, as found on submarines.

Building materials and furnishings assumed to have no VOCs and off-gassing is complete: All yellow shaded boxes require user input or review

Is IAQ acceptable at reduced outside air levels? Yes

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Date	10/4/2022
Job Name	Primrose School - Smyrna, TN
Representative	
Engineer	CASCO
Contractor	-

IMC 2006 & later allows for ASHRAE 62 IAQP through the engineered exception found in Section 403.2
Exhaust flow rates may differ from Table 6.5 based on ASHRAE 62 IAQP via Section 6.5.2

RTU-1 VENTILATION RATE IS AN AMALGAMATION OF 2 DISSIMILAR ZONES 1A AND 1B. BASED ON VENTILATION RATES PRESCRIBED BY THE 2018 INTERNATIONAL MECHANICAL CODE, RTU-1 WILL NEED TO PROVIDE 688 CFM OF OUTSIDE AIR AS PER EXCEPTIONS OF PARAGRAPH 403.2 OF THE 2018 INTERNATIONAL MECHANICAL CODE, THIS RATE OF 688 CFM HAS BEEN REDUCED TO 310 CFM DUE TO AN ENGINEERED VENTILATION SYSTEM WHICH CONSISTS OF A PLASMA TUBE ADDED INTO SUPPLY AIRFLOW

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VERSION 1.6 running ASHRAE 62.1-2013

Zone Tag	Facility Type	Zone Use	Zone Floor Area (square ft) Az	Zone Max Occupancy Pz	Table 6.1 OA per Occupant Rp	Table 6.1 cfm/ft2 Ra	Pz * Rp Pz * Rp	Az * Ra Az * Ra	Table 6.2 Ventilation Effectiveness Ez	Outdoor Air to Zone (CFM) with Ez correction (Vbz/Ez) OA required per VRP
RTU-1	Educational Facilities	Office Space	2,109.0	10.0	5.0	0.06	50	127	0.8	221

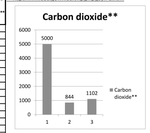
Zone Height (feet)	8.0
Desired Outside Air (Vo) IAQP	150
Supply Air Full Flow (Vs)	1,800
Supply Air Minimum Flow (Vs)	465
Return Air (Vr)	1400
Recirc. Flow Factor (R)	0.90
Design Flow Reduction Factor (F	0.225
Ventilation Effectiveness (Ez)	0.8
Level of Physical Activity	Standing (desk work)
Filter Location	B
HVAC Flow Type	VAV
Outdoor Air Flow Type	Constant

Air Changes Per Hour	5.5
Outside Air Per VRP	221 CFM
Outside Air Per IAQ	150 CFM
Outside Air Savings	71 CFM
OA Summer Drybulb	92.3
OA Summer Wetbulb	74.5
Coil Leaving Air Drybulb (F)	55.0
Coil Leaving Air Wetbulb (F)	55.0
OA MBH Saved Summer*	#NAME?
OA Tons Saved Summer*	#NAME?

VRP OA CFM per person	22.1
IAQ OA CFM per person	15.0
Winter Heating Savings	
OA Winter Design DB (F)	18.5
Supply Air DB Setpoint (F)	85
MBH Saved Winter	5.1
KW Saved Winter	1.5

*OA = Outside Air
**OSHA, NIOSH & WHO most conservative values us
http://www.cdc.gov/niosh/npg/npgpym-a.html

Indoor Contaminants Generated By People & From Outdoors	Maximum Threshold Value (PPM)	Steady State Using the VRP* (Prescribed OA) Plasma Off	Steady State Using the IAQ Method (Reduced OA) Plasma On	Is Steady State Level Acceptable at Reduced OA Levels?	Contaminant Generation Rate (PPM)	Filtration Effectiveness	Cognizant Authority***
Acetaldehyde	100.0	0.01112	0.00272	Yes	0.00048	50%	OSHA
Acetone	250.0	0.00163	0.00057	Yes	0.00654	50%	NIOSH
Ammonia	25.00	0.01388	0.00914	Yes	0.21460	50%	NIOSH
Benzene	1.0000	0.00252	0.00062	Yes	0.00022	50%	OSHA
2- Butanone (MEK)	200.0	0.00018	0.00008	Yes	0.00133	50%	NIOSH
Carbon dioxide**	5000	844	1102	Yes	441	0%	NIOSH
Chloroform	2.0000	0.00011	0.00003	Yes	0.00004	50%	NIOSH
Dioxane	100.0	0.00000	0.00000	Yes	0.00000	50%	OSHA
Hydrogen Sulfide	10.0	0.00000	0.00000	Yes	0.00000	50%	NIOSH
Methane	NA	1.68094	1.68094	Yes	0.00000	0%	NA
Methanol	200.0	0.00000	0.00000	Yes	0.00000	0%	NIOSH
Methylene Chloride	25.0	0.00076	0.00022	Yes	0.00121	50%	OSHA
Propane	1000.0	0.00998	0.00998	Yes	0.00000	0%	NIOSH
Tetrachloroethane	5.0000	0.00000	0.00000	Yes	0.00000	50%	OSHA
Tetrachloroethylene	100.0000	0.00037	0.00009	Yes	0.00031	50%	OSHA
Toluene	300.0000	0.00533	0.00131	Yes	0.00032	50%	NIOSH
1,1,1 - Trichloroethane	350.0000	0.00021	0.00020	Yes	0.00058	50%	NIOSH
Xylene	100.0000	0.00230	0.00056	Yes	0.00000	50%	OSHA



1 = ASHRAE & NIOSH CO2 Limit
2 = CO2 Level at Ventilation Rate OA Flow Rate
3 = CO2 Level at IAQ Procedure OA Flow Rate
**Carbon dioxide has been provided for reference only for gathering demand control ventilation (DCV) setpoints. The National Research Council was commissioned by the US Navy to prove CO2 is not a contaminant of concern when using air purification to control the other contaminants of concern, as found on submarines.

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Is IAQ acceptable at reduced outside air levels? Yes

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Date	10/4/2022
Job Name	Primrose School - Smyrna, TN
Representative	
Engineer	CASCO
Contractor	-

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Exhaust flow rates may differ from Table 6.5 based on ASHRAE 62 IAQP via Section 6.5.2

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Zone Tag	Facility Type	Zone Use	Zone Floor Area (square ft) Az	Zone Max Occupancy Pz	Table 6.1 OA per Occupant Rp	Table 6.1 cfm/ft2 Ra	Pz * Rp Pz * Rp	Az * Ra Az * Ra	Table 6.2 Ventilation Effectiveness Ez	Outdoor Air to Zone (CFM) with Ez correction (Vbz/Ez) OA required per VRP
RTU-2	Educational Facilities	Daycare (through Age 4)	3,937.0	96.0	10.0	0.18	960	709	0.8	2086

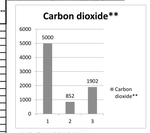
Zone Height (feet)	8.0
Desired Outside Air (Vo) IAQP	720
Supply Air Full Flow (Vs)	3,400
Supply Air Minimum Flow (Vs)	1,020
Return Air (Vr)	2680
Recirc. Flow Factor (R)	0.79
Design Flow Reduction Factor (F	0.112
Ventilation Effectiveness (Ez)	0.8
Level of Physical Activity	Standing (desk work)
Filter Location	B
HVAC Flow Type	VAV
Outdoor Air Flow Type	Constant

Air Changes Per Hour	6.5
Outside Air Per VRP	2086 CFM
Outside Air Per IAQ	720 CFM
Outside Air Savings	1366 CFM
OA Summer Drybulb	92.3
OA Summer Wetbulb	74.5
Coil Leaving Air Drybulb (F)	55.0
Coil Leaving Air Wetbulb (F)	55.0
OA MBH Saved Summer*	#NAME?
OA Tons Saved Summer*	#NAME?

VRP OA CFM per person	21.7
IAQ OA CFM per person	7.5
Winter Heating Savings	
OA Winter Design DB (F)	18.5
Supply Air DB Setpoint (F)	85
MBH Saved Winter	98.5
KW Saved Winter	28.9

*OA = Outside Air
**OSHA, NIOSH & WHO most conservative values us
http://www.cdc.gov/niosh/npg/npgpym-a.html

Indoor Contaminants Generated By People & From Outdoors	Maximum Threshold Value (PPM)	Steady State Using the VRP* (Prescribed OA) Plasma Off	Steady State Using the IAQ Method (Reduced OA) Plasma On	Is Steady State Level Acceptable at Reduced OA Levels?	Contaminant Generation Rate (PPM)	Filtration Effectiveness	Cognizant Authority***
Acetaldehyde	100.0	0.01112	0.00465	Yes	0.00048	50%	OSHA
Acetone	250.0	0.00164	0.00142	Yes	0.00654	50%	NIOSH
Ammonia	25.00	0.01407	0.03031	Yes	0.21460	50%	NIOSH
Benzene	1.0000	0.00252	0.00107	Yes	0.00022	50%	OSHA
2- Butanone (MEK)	200.0	0.00018	0.00023	Yes	0.00133	50%	NIOSH
Carbon dioxide**	5000	852	1902	Yes	441	0%	NIOSH
Chloroform	2.0000	0.00011	0.00005	Yes	0.00004	50%	NIOSH
Dioxane	100.0	0.00000	0.00000	Yes	0.00000	50%	OSHA
Hydrogen Sulfide	10.0	0.00000	0.00000	Yes	0.00000	50%	NIOSH
Methane	NA	1.68094	1.68094	Yes	0.00000	0%	NA
Methanol	200.0	0.00000	0.00000	Yes	0.00000	0%	NIOSH
Methylene Chloride	25.0	0.00076	0.00045	Yes	0.00121	50%	OSHA
Propane	1000.0	0.00998	0.00998	Yes	0.00000	0%	NIOSH
Tetrachloroethane	5.0000	0.00000	0.00000	Yes	0.00000	50%	OSHA
Tetrachloroethylene	100.0000	0.00037	0.00013	Yes	0.00031	50%	OSHA
Toluene	300.0000	0.00533	0.00224	Yes	0.00032	50%	NIOSH
1,1,1 - Trichloroethane	350.0000	0.00077	0.00038	Yes	0.00058	50%	NIOSH
Xylene	100.0000	0.00230	0.00095	Yes	0.00000	50%	OSHA



1 = ASHRAE & NIOSH CO2 Limit
2 = CO2 Level at Ventilation Rate OA Flow Rate
3 = CO2 Level at IAQ Procedure OA Flow Rate
**Carbon dioxide has been provided for reference only for gathering demand control ventilation (DCV) setpoints. The National Research Council was commissioned by the US Navy to prove CO2 is not a contaminant of concern when using air purification to control the other contaminants of concern, as found on submarines.

Building materials and furnishings assumed to have no VOCs and off-gassing is complete: All yellow shaded boxes require user input or review

Is IAQ acceptable at reduced outside air levels? Yes

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Date	10/4/2022
Job Name	Primrose School - Smyrna, TN
Representative	
Engineer	CASCO
Contractor	-

IMC 2006 & later allows for ASHRAE 62 IAQP through the engineered exception found in Section 403.2
Exhaust flow rates may differ from Table 6.5 based on ASHRAE 62 IAQP via Section 6.5.2

BASED ON VENTILATION TABLE PRESCRIBED BY THE 2018 INTERNATIONAL MECHANICAL CODE, RTU-2 WILL NEED TO PROVIDE 2086 CFM OF OUTSIDE AIR AS PER EXCEPTIONS OF PARAGRAPH 403.2 OF THE 2018 INTERNATIONAL MECHANICAL CODE, THIS RATE OF 2086 CFM HAS BEEN REDUCED TO 720 CFM DUE TO AN ENGINEERED VENTILATION SYSTEM WHICH CONSISTS OF A PLASMA TUBE ADDED INTO SUPPLY AIRFLOW

Global Plasma Solutions
10 Mall Terrace, Building C
Savannah, GA 31406
Phone: (912) 356-0115 Fax: (912) 356-0114
Email: info@globalplasmasolutions.com Web: www.globalplasmasolutions.com
VERSION 1.6 running ASHRAE 62.1-2013

Zone Tag	Facility Type	Zone Use	Zone Floor Area (square ft) Az	Zone Max Occupancy Pz	Table 6.1 OA per Occupant Rp	Table 6.1 cfm/ft2 Ra	Pz * Rp Pz * Rp	Az * Ra Az * Ra	Table 6.2 Ventilation Effectiveness Ez	Outdoor Air to Zone (CFM) with Ez correction (Vbz/Ez) OA required per VRP
RTU-3	Educational Facilities	Daycare (through Age 4)	2,630.0	58.0	10.0	0.18	580	473	0.8	1317

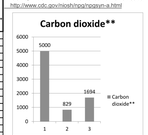
Zone Height (feet)	8.0
Desired Outside Air (Vo) IAQP	500
Supply Air Full Flow (Vs)	2,800
Supply Air Minimum Flow (Vs)	840
Return Air (Vr)	2300
Recirc. Flow Factor (R)	0.82
Design Flow Reduction Factor (F	0.148
Ventilation Effectiveness (Ez)	0.8
Level of Physical Activity	Standing (desk work)
Filter Location	B
HVAC Flow Type	VAV
Outdoor Air Flow Type	Constant

Air Changes Per Hour	8.0
Outside Air Per VRP	1317 CFM
Outside Air Per IAQ	500 CFM
Outside Air Savings	817 CFM
OA Summer Drybulb	92.3
OA Summer Wetbulb	74.5
Coil Leaving Air Drybulb (F)	55.0
Coil Leaving Air Wetbulb (F)	55.0
OA MBH Saved Summer*	#NAME?
OA Tons Saved Summer*	#NAME?

VRP OA CFM per person	22.7
IAQ OA CFM per person	8.6
Winter Heating Savings	
OA Winter Design DB (F)	18.5
Supply Air DB Setpoint (F)	85
MBH Saved Winter	58.9
KW Saved Winter	17.3

*OA = Outside Air
**OSHA, NIOSH & WHO most conservative values us
http://www.cdc.gov/niosh/npg/npgpym-a.html

Indoor Contaminants Generated By People & From Outdoors	Maximum Threshold Value (PPM)	Steady State Using the VRP* (Prescribed OA) Plasma Off	Steady State Using the IAQ Method (Reduced OA) Plasma On	Is Steady State Level Acceptable at Reduced OA Levels?	Contaminant Generation Rate (PPM)	Filtration Effectiveness	Cognizant Authority***
Acetaldehyde	100.0	0.01112	0.00419	Yes	0.00048	50%	OSHA
Acetone	250.0	0.00162	0.00118	Yes	0.00654	50%	NIOSH
Ammonia	25.00	0.01354	0.02387	Yes	0.21460	50%	NIOSH
Benzene	1.0000	0.00252	0.00096	Yes	0.00022	50%	OSHA
2- Butanone (MEK)	200.0	0.00018	0.00018	Yes	0.00133	50%	NIOSH
Carbon dioxide**	5000	829	1694	Yes	441	0%	NIOSH
Chloroform	2.0000	0.00011	0.00004	Yes	0.00004	50%	NIOSH
Dioxane	100.0	0.00000	0.00000	Yes	0.00000	50%	OSHA
Hydrogen Sulfide	10.0	0.00000	0.00000	Yes	0.00000	50%	NIOSH
Methane	NA	1.68094	1.68094	Yes	0.00000	0%	NA
Methanol	200.0	0.00000	0.00000	Yes	0.00000	0%	NIOSH
Methylene Chloride	25.0	0.00076	0.00039	Yes	0.00121	50%	OSHA
Propane	1000.0	0.00998	0.00998	Yes	0.00000	0%	NIOSH
Tetrachloroethane	5.0000	0.00000	0.00000	Yes	0.00000	50%	OSHA
Tetrachloroethylene	100.0000	0.00037	0.00014	Yes	0.00031	50%	OSHA
Toluene	300.0000	0.00533	0.00202	Yes	0.00032	50%	NIOSH
1,1,1 - Trichloroethane	350.0000	0.00076	0.00034	Yes	0.00058	50%	NIOSH
Xylene	100.0000	0.00230	0.00086	Yes	0.00000	50%	OSHA



1 = ASHRAE & NIOSH CO2 Limit
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3 = CO2 Level at IAQ Procedure OA Flow Rate
**Carbon dioxide has been provided for reference only for gathering demand control ventilation (DCV) setpoints. The National Research Council was commissioned by the US Navy to prove CO2 is not a contaminant of concern when using air purification to control the other contaminants of concern, as found on submarines.

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Date	10/4/2022
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Representative	
Engineer	CASCO
Contractor	-

IMC 2006 & later allows for ASHRAE 62 IAQP through the engineered exception found in Section 403.2
Exhaust flow rates may differ from Table 6.5 based on ASHRAE 62 IAQP via Section 6.5.2

BASED ON VENTILATION RATES PRESCRIBED BY THE 2018 INTERNATIONAL MECHANICAL CODE, RTU-3 WILL NEED TO PROVIDE 1317 CFM OF OUTSIDE AIR AS PER EXCEPTIONS OF PARAGRAPH 403.2 OF THE 2018 INTERNATIONAL MECHANICAL CODE, THIS RATE OF 1317 CFM HAS BEEN REDUCED TO 500 CFM DUE TO AN ENGINEERED VENTILATION SYSTEM WHICH CONSISTS OF A PLASMA TUBE ADDED INTO SUPPLY AIRFLOW

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VERSION 1.6 running ASHRAE 62.1-2013

Zone Tag	Facility Type	Zone Use	Zone Floor Area (square ft) Az	Zone Max Occupancy Pz	Table 6.1 OA per Occupant Rp	Table 6.1 cfm/ft2 Ra	Pz * Rp Pz * Rp	Az * Ra Az * Ra	Table 6.2 Ventilation Effectiveness Ez	Outdoor Air to Zone (CFM) with Ez correction (Vbz/Ez) OA required per VRP
RTU-4	Educational Facilities	Daycare (through Age 4)	3,378.0	62.0	10.0	0.18	620	608	0.8	1535

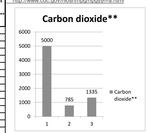
Zone Height (feet)	8.0
Desired Outside Air (Vo) IAQP	720
Supply Air Full Flow (Vs)	3,400
Supply Air Minimum Flow (Vs)	1,020
Return Air (Vr)	2680
Recirc. Flow Factor (R)	0.79
Design Flow Reduction Factor (F	0.112
Ventilation Effectiveness (Ez)	0.8
Level of Physical Activity	Standing (desk work)
Filter Location	B
HVAC Flow Type	VAV
Outdoor Air Flow Type	Constant

Air Changes Per Hour	7.5
Outside Air Per VRP	1535 CFM
Outside Air Per IAQ	720 CFM
Outside Air Savings	815 CFM
OA Summer Drybulb	92.3
OA Summer Wetbulb	74.5
Coil Leaving Air Drybulb (F)	55.0
Coil Leaving Air Wetbulb (F)	55.0
OA MBH Saved Summer*	#NAME?
OA Tons Saved Summer*	#NAME?

VRP OA CFM per person	24.8
IAQ OA CFM per person	11.6
Winter Heating Savings	
OA Winter Design DB (F)	18.5
Supply Air DB Setpoint (F)	85
MBH Saved Winter	58.8
KW Saved Winter	17.2

*OA = Outside Air
**OSHA, NIOSH & WHO most conservative values us
http://www.cdc.gov/niosh/npg/npgpym-a.html

Indoor Contaminants Generated By People & From Outdoors	Maximum Threshold Value (PPM)	Steady State Using the VRP* (Prescribed OA) Plasma Off	Steady State Using the IAQ Method (Reduced OA) Plasma On	Is Steady State Level Acceptable at Reduced OA Levels?	Contaminant Generation Rate (PPM)	Filtration Effectiveness	Cognizant Authority***
Acetaldehyde	100.0	0.01111	0.00463	Yes	0.00048	50%	OSHA
Acetone	250.0	0.00159	0.00111	Yes	0.00654	50%	NIOSH
Ammonia	25.00	0.01256	0.01983	Yes	0.21460	50%	NIOSH
Benzene	1.0000	0.00252	0.00108	Yes	0.00022	50%	OSHA
2- Butanone (MEK)	200.0	0.00017	0.00016	Yes	0.00133	50%	NIOSH
Carbon dioxide**	5000	785	1335	Yes	441	0%	NIOSH
Chloroform	2.0000	0.00011	0.00005	Yes	0.00004	50%	NIOSH
Dioxane	100.0	0.00000	0.00000	Yes	0.00000	50%	OSHA
Hydrogen Sulfide	10.0	0.00000	0.00000	Yes	0.00000	50%	NIOSH
Methane	NA	1.68094	1.68094	Yes	0.00000	0%	NA
Methanol	200.0	0.00000	0.00000	Yes	0.00000	0%	NIOSH
Methylene Chloride	25.0	0.00075	0.00039	Yes	0.00121	50%	OSHA
Propane	1000.0	0.00998	0.00998	Yes	0.00000	0%	NIOSH
Tetrachloroethane	5.0000	0.00000	0.00000	Yes	0.00000	50%	OSHA
Tetrachloroethylene	100.0000	0.00037	0.00015	Yes	0.00031	50%	OSHA
Toluene	300.0000	0.00533	0.00223	Yes	0.00032	50%	NIOSH
1,1,1 - Trichloroethane	350.0000	0.00076	0.00035	Yes	0.00058	50%	NIOSH
Xylene	100.0000	0.00230	0.00095	Yes	0.00000	50%	OSHA



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Date	10/4/2022
Job Name	Primrose School - Smyrna, TN
Representative	
Engineer	CASCO
Contractor	-

IMC 2006 & later allows for ASHRAE 62 IAQP through the engineered exception found in Section 403.2
Exhaust flow rates may differ from Table 6.5 based on ASHRAE 62 IAQP via Section 6.5.2

BASED ON VENTILATION RATES PRESCRIBED BY THE 2018 INTERNATIONAL MECHANICAL CODE, RTU-4 WILL NEED TO PROVIDE 1535 CFM OF OUTSIDE AIR AS PER EXCEPTIONS OF PARAGRAPH 403.2 OF THE 2018 INTERNATIONAL MECHANICAL CODE, THIS RATE OF 1535 CFM HAS BEEN REDUCED TO 720 CFM DUE TO AN ENGINEERED VENTILATION SYSTEM WHICH CONSISTS OF A PLASMA TUBE ADDED INTO SUPPLY AIRFLOW

CASCO
CASCO DIVISION OF PRIMROSE CORPORATION
12 Sunnen Drive, Suite 100, St. Louis, MO 63143 T: 314-821-1200

PRIMROSE SCHOOLS
1788 ROCK SPRINGS RD
SMYRNA, TN 37167

PRIMROSE SCHOOL FRANCHISING COMPANY
3200 WINDY HILL ROAD, SUITE 1200 E
ATLANTA, GEORGIA 30339-5640

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No.	Description	Date
	CONSTR. DOC. & REVSIONS	

04/06/23
Professional of Record:
MICHAEL C. GRAPPERHAUS
LICENSE NO: 120854
EXP. DATE: 11/30/23

Drawn/Checked	CL / JV
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

MECHANICAL VENTILATION CALCULATIONS

M4.0

4/6/2023 2:00:21 PM

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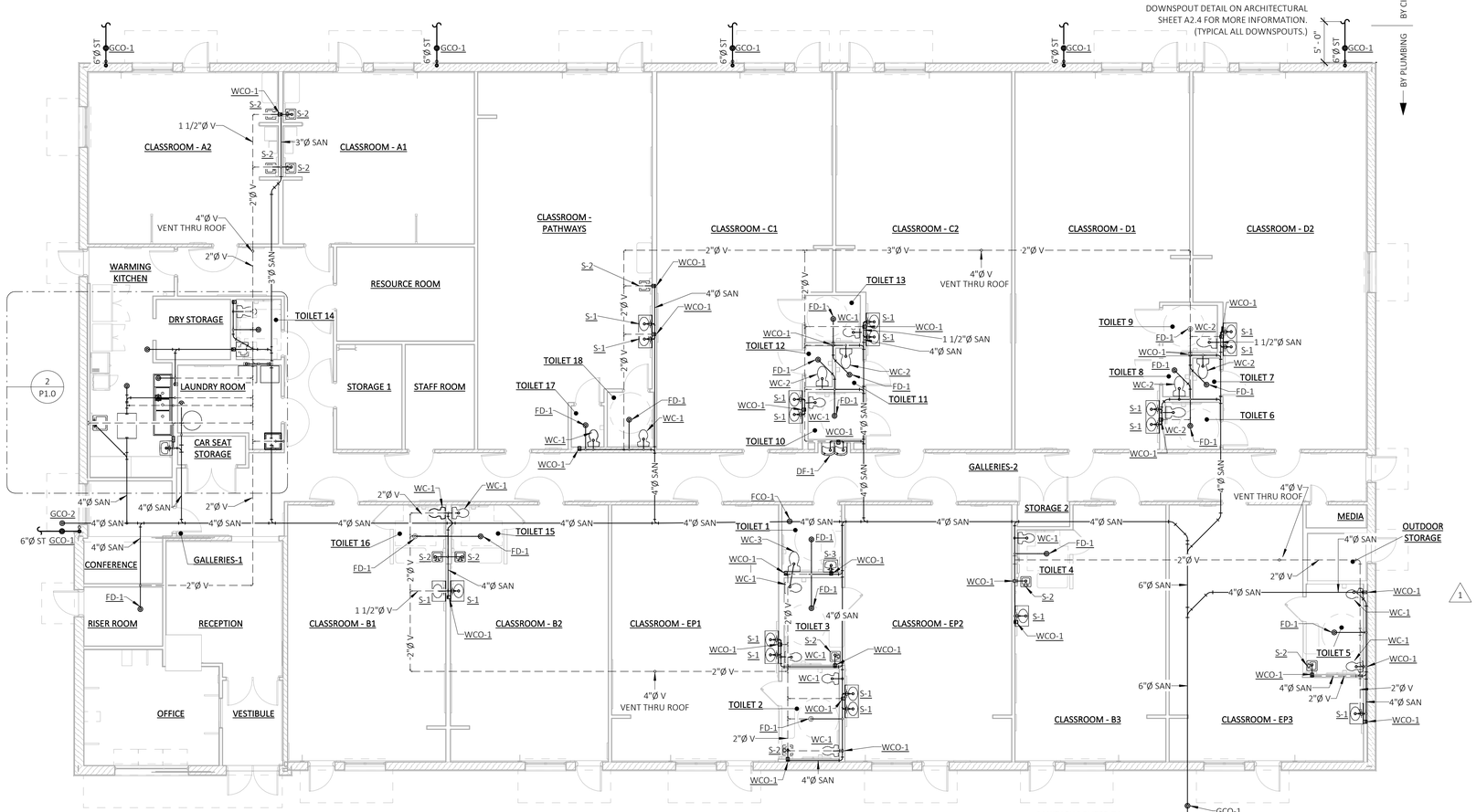
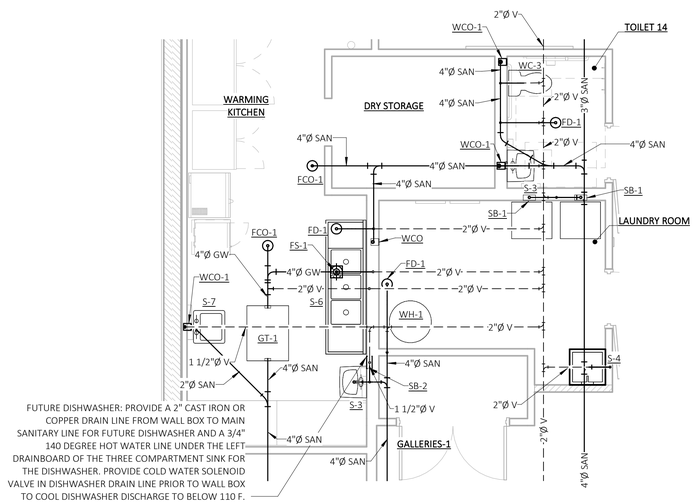
DOWNSPOUTS INSTALLED BY GENERAL CONTRACTOR. PLUMBING CONTRACTOR TO COORDINATE FINAL DOWNSPOUT LOCATIONS WITH GENERAL CONTRACTOR PRIOR TO START OF WORK. SEE DOWNSPOUT DETAIL ON ARCHITECTURAL SHEET A2.4 FOR MORE INFORMATION. (TYPICAL ALL DOWNSPOUTS.)



SANITARY FLOOR PLAN

1 / P1.0

SCALE: 1/8" = 1'-0"



ENLARGED KITCHEN SANITARY PLAN

2 / P1.0

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

PLUMBING LEGEND

X	PLUMBING FIXTURE TAG
0	KEYED NOTE
SAN	SANITARY PIPING
V	SANITARY VENT PIPING
GW	SANITARY DRAIN GREASE WASTE
ST	STORM WATER PIPING

ABBREVIATIONS

W	WASTE	WCO	CLEAN OUT IN WALL
V	VENT	FCO	CLEAN OUT IN FLOOR
VTR	VENT THROUGH ROOF	GCO	CLEAN OUT TO GRADE
SAN	SANITARY	BFF	BELOW FINISHED FLOOR
STD	STANDARD	UG	UNDER GROUND

PLUMBING GENERAL NOTES

1. LOCATE ALL VENTS ON ROOF. LOCATE ALL VENTS MINIMUM OF 10' AWAY FROM ANY INTAKE DUCT. COORDINATE WITH GENERAL CONTRACTOR THE EXACT LOCATION.
2. ALL CLEANOUTS ARE TO BE THE FULL SIZE OF THE SANITARY OR WASTE BRANCH TO WHICH THEY ARE INSTALLED.
3. ALL 6" AND 4" SANITARY AND WASTE LINES ARE TO BE SLOPED AT MIN. 1/8" PER FT. ALL GREASE WASTE LINES PRIOR TO GREASE INTERCEPTOR SHALL BE SLOPED A MINIMUM OF 1/4" PER FT.
4. FLUSH CONTROLS SHALL BE ON THE OPEN SIDE OF THE ACCESSIBLE WATER CLOSET, AWAY FROM WALL.
5. CONTRACTOR IS CAUTIONED THERE IS A LONG LEAD TIME FOR JR. CLOSETS & THE ROUGH-IN IS NOT A STANDARD DIMENSION.
6. GROUT/SEAL ALL FIXTURES TO THE WALL OR FLOOR.
7. THIS CONTRACTOR SHALL PROVIDE SEWER CONNECTIONS TO THE PROPER UTILITY AS SHOWN ON THE SITE UTILITY PLANS.
8. ALL CLEANOUT LOCATIONS SHALL BE VERIFIED WITH PRIMROSE CONSTRUCTION MANAGER PRIOIR TO INSTALLATION. ALL GROUND CLEANOUTS INSTALLED IN SIDEWALKS SHALL BE CENTERED IN SIDEWALK.
9. ALL TWO-WAY GROUND CLEANOUTS SHALL BE INSTALLED PER TWO-WAY CLEANOUT DETAIL ON SHEET P5.0.
10. SEE ISOMETRIC DRAWINGS FOR MORE IN DEPTH SIZING NOTES.
11. PLUMBING CONTRACTOR SHALL COORDINATE SANITARY ROUGH-IN LOCATIONS WITH STURCTURAL FOOTINGS AND FOUNDATIONS PRIOR TO INSTALLING ANY PIPING.

CIVIL ENGINEERING DESIGN COORDINATION NOTICE

NOTICE TO ALL PARTIES HAVING AN INTEREST INTHIS CONSTRUCTION PROJECT:

1. CIVIL ENGINEERING FOR THIS PROJECT IS BEING PERFORMED BY OTHERS.
2. CONTRACTORS RELYING ON DOCUMENTS NOT COORDINATED WITH THE CIVIL ENGINEERING WORK SHALL DO SO AT THEIR OWN RISK.
3. COORDINATION WITH THE CIVIL ENGINEERING DOCUMENTS HAS BEEN COMPLETED ONLY AS SHOWN BELOW.

CIVIL ENGINEERING CONSULTANT IS: RAGAN SMITH
1500 MEDICAL CENTER PKWY, SUITE 2J - MURFREESBORO, TN 37129

CIVIL SHT. DWG. NO.	CIVIL SHEET DWG. TITLE	REV. NO.	REV. DATE	REV. NO.	REV. DATE	REV. NO.	REV. DATE
C4.0	UTILITY PLAN	1	9/27/22	-	-	-	-

COORDINATION CHECKED BY: DISCIPLINE: **PLUMBING**	INTIALS	DATE	INTIALS	DATE	INTIALS	DATE
	XXX	X/X/XX	-	-	-	-

PLUMBING FIXTURE UNIT CALCULATIONS

EQUIVALENT COLD WATER FLOW RATE (GPM):	45
ADDITIONAL DEMAND LOAD (GPM):	0
PRESSURE AVAILABLE AT MAIN (PSI, VERIFY IN FIELD PRIOR TO WORK):	60
PRESSURE BOOSTER PUMP (PSI):	-
ELEVATION RISE (FT):	15
EQUIVALENT PIPE LENGTH FROM METER TO MOST REMOTE FIXTURE (FT):	257
TOTAL DEVELOPED LENGTH OF PIPE (ABOVE X 1.2) (FT):	308
BUILDING LOSS:	
MINIMUM REQUIRED FIXTURE PRESSURE (PSI):	8
STRAINER (PSI):	5
METER LOSS (PSI):	10
BACKFLOW PREVENTER LOSS (PSI):	15
STATIC PRESSURE LOSS (ELEVATION X .433) (PSI):	6
ADDITIONAL LOSSES (PSI):	0
TOTAL BUILDING PRESSURE LOSS (PSI)	44
FRICTION LOSS PRESSURE AVAILABLE (PSI):	16
MAXIMUM ALLOWABLE FRICTION LOSS (PSI/100 FT):	5
WATER FLOW VELOCITY (FPS):	6
CALCULATED FRICTION HEAD LOSS (PSI/100 FT):	5.19
MINIMUM REQUIRED 'WATER' PIPE SIZE (INCHES):	2
MINIMUM REQUIRED 'WASTE' PIPE SIZE (INCHES):	4

(PER 2018 IPC)

MARK	QTY.	PLUMBING FIXTURE TYPE	2018 IPC - TABLE 709.1 DFU	TOTAL DFU	2018 IPC - TABLE E103.3(2) WSFU	Total WSFU
WC-1	13	JUNIOR WATER CLOSET	4	52	2.2	28.6
WC-2	6	STANDARD WATER CLOSET	4	24	2.2	13.2
~~WC-3~~	~~2~~	~~ADA WATER CLOSET~~	~~4~~	~~8~~	~~5~~	~~10~~
2 S-1	18	JUNIOR SINK	1	18	0.7	12.6
S-2	11	COUNTER SINK	2	22	0.7	7.7
1 S-3	3	ADA LAVATORY	1	3	2	6
S-4	1	MOP SINK	2	2	3	3
S-6	1	3 COMPARTMENT SINK	0	0	4	4
S-7	1	PREP SINK	2	2	1.4	1.4
FS-1	1	FLOOR SINK	2	2	0	0
SB-1	2	SUPPLY BOX (WASHING MACHINE)	3	6	4	8
SB-2	1	SUPPLY BOX (DISHWASHER)	2	2	1.4	1.4
DF-1	1	DRINKING FOUNTAIN	0.5	0.5	0.25	0.25
HB-1	6	HOSE BIBB	0	0	2.5	15
HB-2	1	ROOF HOSE BIBB	0	0	2.5	2.5
FD-1	21	FLOOR DRAIN	2	42	0	0
				183.5		113.65

2018 IECC POST CONSTRUCTION REQUIREMENTS

PER THE REQUIREMENTS OF THE 2018 INTERNATIONAL ENERGY CODE, THE GENERAL CONTRACTOR SHALL OBTAIN & PROVIDE THE FOLLOWING PLUMBING RELATED ITEMS LISTED BELOW. CONTRACTOR SHALL PROVIDE A COPY TO THE TENANT AND WRITTEN CONFIRMATION TO THE PROFESSIONAL OF RECORD PROVING SAID INFORMATION HAS BEEN PROVIDED.

1. O&M DOCUMENTS FOR ALL PLUMBING EQUIPMENT AND SYSTEMS PROVIDED TO THE TENANT BY THE PLUMBING CONTRACTOR WITH 90 DAYS OF SYSTEM ACCEPTANCE.
2. A COMMISSIONING PLAN SHALL BE DEVELOPED BY APPROVED AGENCY.
3. PLUMBING EQUIPMENT AND CONTROL SYSTEMS SHALL BE TESTED TO ENSURE PROPER OPERATION.
4. A PRELIMINARY COMMISSIONING REPORT SHALL BE COMPETED AND CERTIFIED BY APPROVED AGENCY.
5. AS-BUILT DRAWINGS SHALL BE SUBMITTED WITHIN 90 DAYS OF SYSTEM ACCEPTANCE.
6. A FINAL COMMISSIONING REPORT SHALL BE PROVIDED TO BUILDING OWNER WITHIN 90 DAYS OF RECEIPT OF CERTIFICATE OF OCCUPANCY.
7. ALL PLUMBING CONTROL SYSTEMS SHALL BE TESTED TO ENSURE PROPER OPERATION, CALIBRATION AND ADJUSTMENT OF CONTROLS.

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1	POST BID ADD 1 - CODE RESP./FO REVISIONS	11/30/22
2	FOR CONSTRUCTION	04/06/23

MICHAEL C. GRAPPERHAUS
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 120854
STATE OF TENNESSEE
04/06/23

Professional of Record:
MICHAEL C. GRAPPERHAUS
LICENSE NO: 120854
EXP. DATE: 11/30/23

Drawn/Checked	JSP / NJH
Project Number	2101021
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For Construction	04/06/23
Re-Bid Date	**10/23/23**

SANITARY FLOOR PLAN

P1.0

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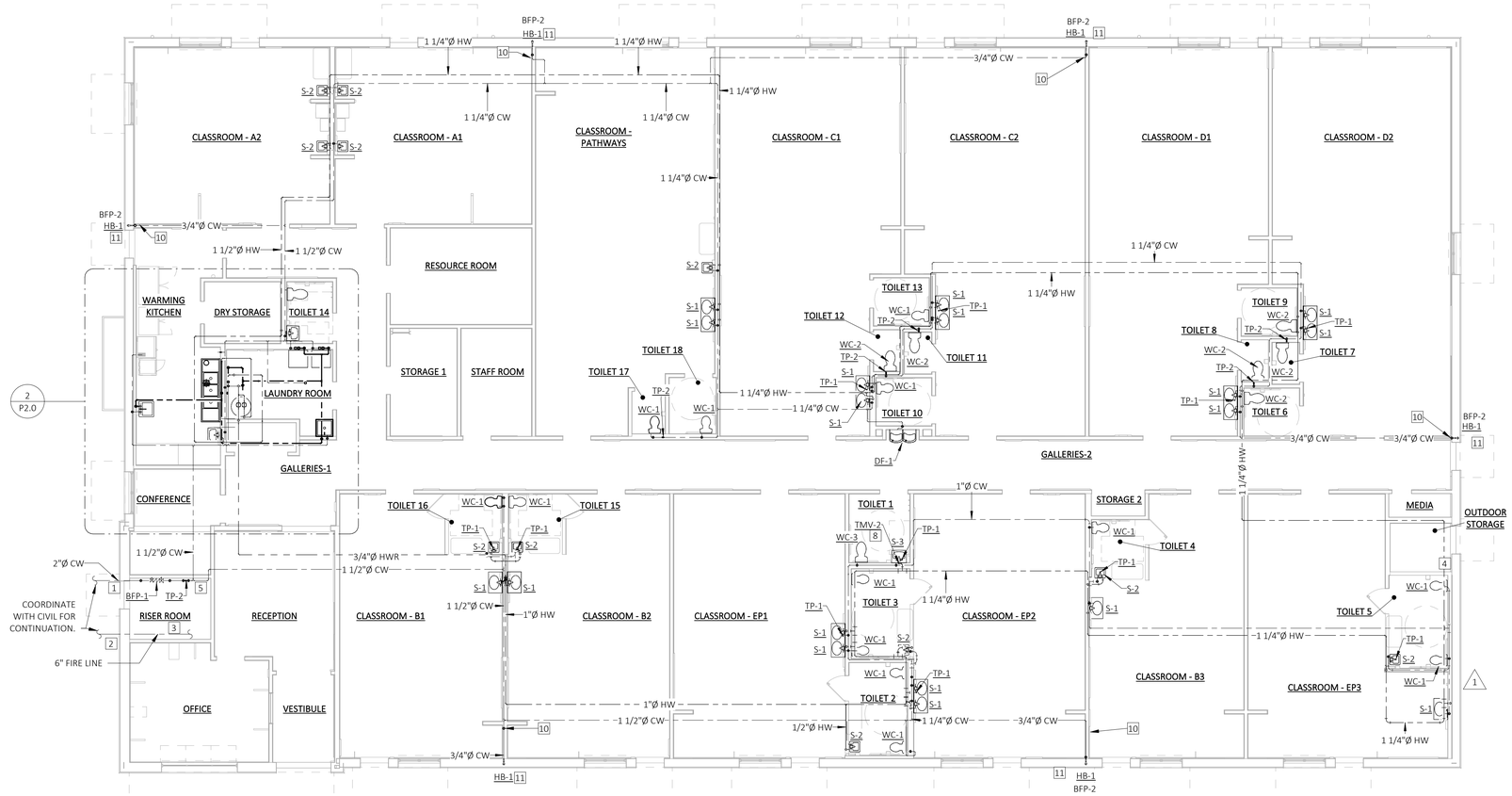


FLOOR PLAN - WATER SYSTEM

SCALE: 1/8" = 1'-0"

PLUMBING LEGEND

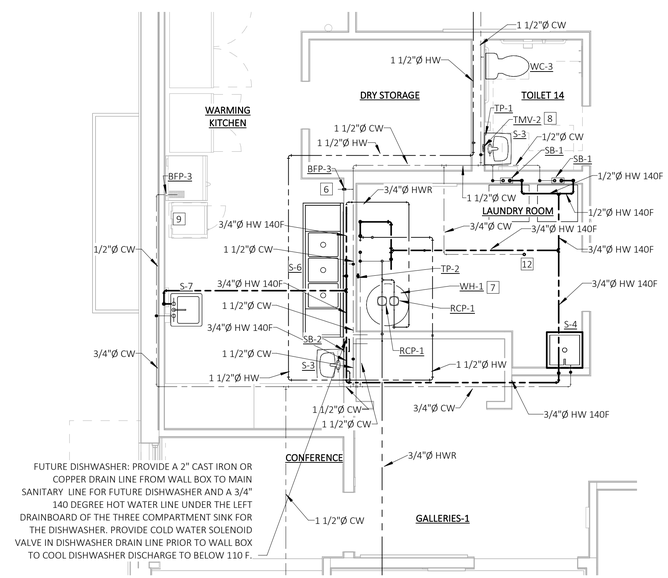
X	PLUMBING FIXTURE TAG
0	KEYED NOTE
CW	COLD WATER SUPPLY
HW	HOT WATER SUPPLY (110 DEGREES)
HW	HOT WATER SUPPLY (140 DEGREES)
HWR	HOT WATER RETURN
	SHUT OFF VALVE
	UNION

ABBREVIATIONS

FD	FLOOR DRAIN	GV	GATE VALVE
FS	FLOOR SINK	ASV	ACCESSIBLE SHUT-OFF VALVE
HB	HOSE BIBB	STD	STANDARD
HD	HUB DRAIN	BFF	BELOW FINISHED FLOOR

WATER PLAN KEYED NOTES

1. 2" DOMESTIC WATER SERVICE WITH 2" METER AND 2" BACKFLOW PREVENTER IN BUILDING. COORDINATE WITH CIVIL ENGINEERING DRAWINGS. CONTRACTOR TO PROVIDE SHUT OFF AT INSIDE OF BUILDING. (2)
2. 6" FIRE SERVICE INTO BUILDING. SEE CIVIL ENGINEERING DRAWINGS.
3. FIRE LINE TO FIRE SPRINKLER SYSTEM. SEE SPECIFICATIONS SHEET MP1.0. COORDINATE FIRE DEPARTMENT CONNECTION (FDC) LOCATION WITH LOCAL AUTHORITIES. FIRE PROTECTION CONTRACTOR SHALL PROVIDE RPZ BACKFLOW ASSEMBLY IN ROOM IF NOT PROVIDED ON SITE.
4. DROP FIRE SPRINKLER TEST TEE PIPING DOWN IN WALL IN TOILET ROOM. PREFERRED LOCATION, FINAL LOCATION TO BE COORDINATED WITH FIRE PROTECTION ENGINEER / CONTRACTOR.
5. COLD WATER MANIFOLD PIPING WITH SHUT-OFF VALVES.
6. 3/4" CW TO ICE MAKER WITH BACKFLOW PREVENTER. (2)
7. WH-1 - WATER HEATER - SEE SCHEDULE AND PIPING DETAIL SHEET P5.0.
8. PROVIDE POINT OF USE MIXING VALVE AT LAVATORY. SEE SCHEDULE AND DETAIL ON SHEET P5.0.
9. 1/2" CW TO CONVECTION OVEN WITH BACKFLOW PREVENTER. (2)
10. INSTALL ACCESSIBLE STOP VALVES ON PIPING SERVING HOSE BIBBS. PROVIDE ACCESS PANEL IN INTERIOR WALL. COORDINATE LOCATION WITH ARCHITECTURAL INTERIOR ELEVATIONS. ACCESS COVERS SHALL BE J.R. SMITH # 4730, 15"X15"-NB-U FLUSH WITH WALL COVER.
11. NON-FREEZE HOSE BIBB AT 24" AFG WITH KEY LOCK & VACUUM BREAKER.
12. 3/4" CW LINE TO NON-FREEZE ROOF HYDRANT. REFER TO SHEET P5.0 FOR SCHEDULE, AND SHEET MP2.0 FOR DETAIL. SEAL ROOF PENETRATIONS WEATHER TIGHT. COORDINATE IN FIELD WITH ALL OTHER TRADES TO DETERMINE FINAL LOCATION PRIOR TO INSTALLATION. INSTALL ACCESSIBLE SHUT-OFF VALVE IN WATER LINE BELOW ROOF.



ENLARGED KITCHEN WATER PLAN

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

PLUMBING GENERAL NOTES

1. INSULATE ALL HOT WATER PIPING WITH 1" ARMAFLEX BELOW FLOOR, ABOVE CEILING, AND IN INTERIOR WALLS.
2. PROVIDE 3/8" CW SUPPLY TO ALL FLOOR DRAIN TRAP PRIMERS.
3. THE CONTRACTOR SHALL PROVIDE WATER CONNECTIONS TO THE EXISTING LINES AS SHOWN ON THIS PLAN.
4. WATER PIPING RUN ABOVE CEILINGS WITHIN JOIST SPACE. ALL VALVES MUST BE INSTALLED IN ACCESSIBLE LOCATIONS.
5. NO JOINTS OR FITTINGS ALLOWED BELOW FLOOR.
6. SEE ISOMETRIC DRAWINGS FOR MORE IN DEPTH SIZING NOTES.

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WATER SYSTEM FLOOR PLAN

P2.0

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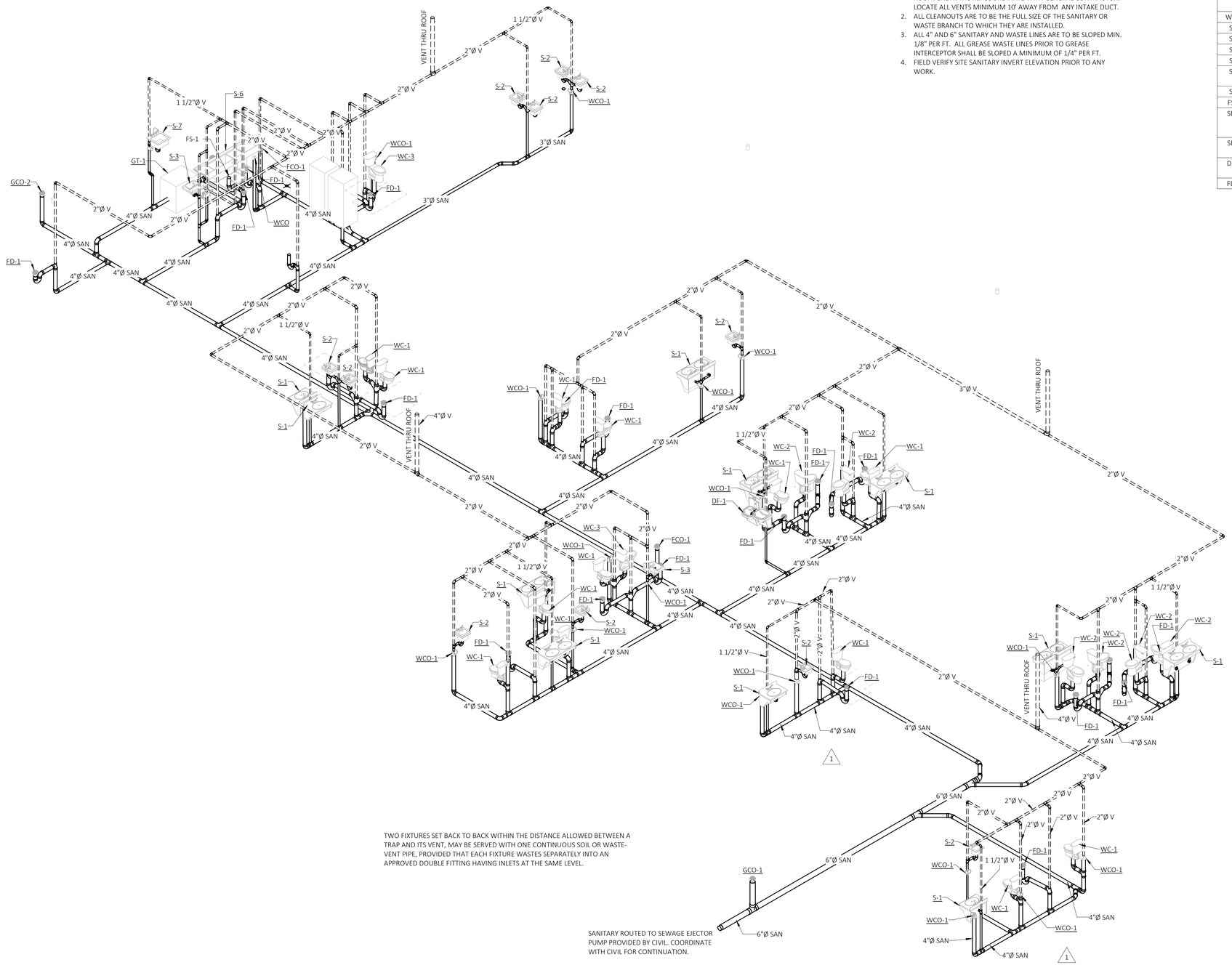
NOTES:
SEE SHEET P5.0 FOR FIXTURE TAGS

1. LOCATE ALL VENTS ON REAR ROOFS IN AREAS DESIGNATED FOR ROOF PENETRATIONS. COORDINATE WITH GENERAL CONTRACTOR. LOCATE ALL VENTS MINIMUM 10' AWAY FROM ANY INTAKE DUCT.
2. ALL CLEANOUTS ARE TO BE THE FULL SIZE OF THE SANITARY OR WASTE BRANCH TO WHICH THEY ARE INSTALLED.
3. ALL 4" AND 6" SANITARY AND WASTE LINES ARE TO BE SLOPED MIN. 1/8" PER FT. ALL GREASE WASTE LINES PRIOR TO GREASE INTERCEPTOR SHALL BE SLOPED A MINIMUM OF 1/4" PER FT.
4. FIELD VERIFY SITE SANITARY INVERT ELEVATION PRIOR TO ANY WORK.

SANITARY/VENT ROUGH-IN

MARK	PLUMBING TYPE	SAN ø	Vent ø
WC-1	JUNIOR WATER CLOSET	4"	2"
WC-2	STANDARD WATER CLOSET	4"	2"
WC-3	ADA WATER CLOSET	4"	2"
S-1	JUNIOR SINK	1 1/2"	1 1/2"
S-2	COUNTER SINK	1 1/2"	1 1/2"
S-3	ADA LAVATORY	1 1/2"	1 1/2"
S-4	MOP SINK	3"	2"
S-6	3 COMPARTMENT SINK	2"	1 1/2"
S-7	PREP SINK	2"	1 1/2"
FS-1	FLOOR SINK	4"	2"
SB-1	SUPPLY BOX (WASHING MACHINE)	2"	2"
SB-2	SUPPLY BOX (DISHWASHER)	2"	2"
DF-1	DRINKING FOUNTAIN	1 1/2"	1 1/2"
FD-1	FLOOR DRAIN	4"	2"



TWO FIXTURES SET BACK TO BACK WITHIN THE DISTANCE ALLOWED BETWEEN A TRAP AND ITS VENT, MAY BE SERVED WITH ONE CONTINUOUS SOIL OR WASTE-VENT PIPE, PROVIDED THAT EACH FIXTURE WASTES SEPARATELY INTO AN APPROVED DOUBLE FITTING HAVING INLETS AT THE SAME LEVEL.

SANITARY ROUTED TO SEWAGE EJECTOR PUMP PROVIDED BY CIVIL. COORDINATE WITH CIVIL FOR CONTINUATION.

1 / P3.0 WASTE AND VENT RISER

SCALE: NOT TO SCALE

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SANITARY ISOMETRIC

P3.0

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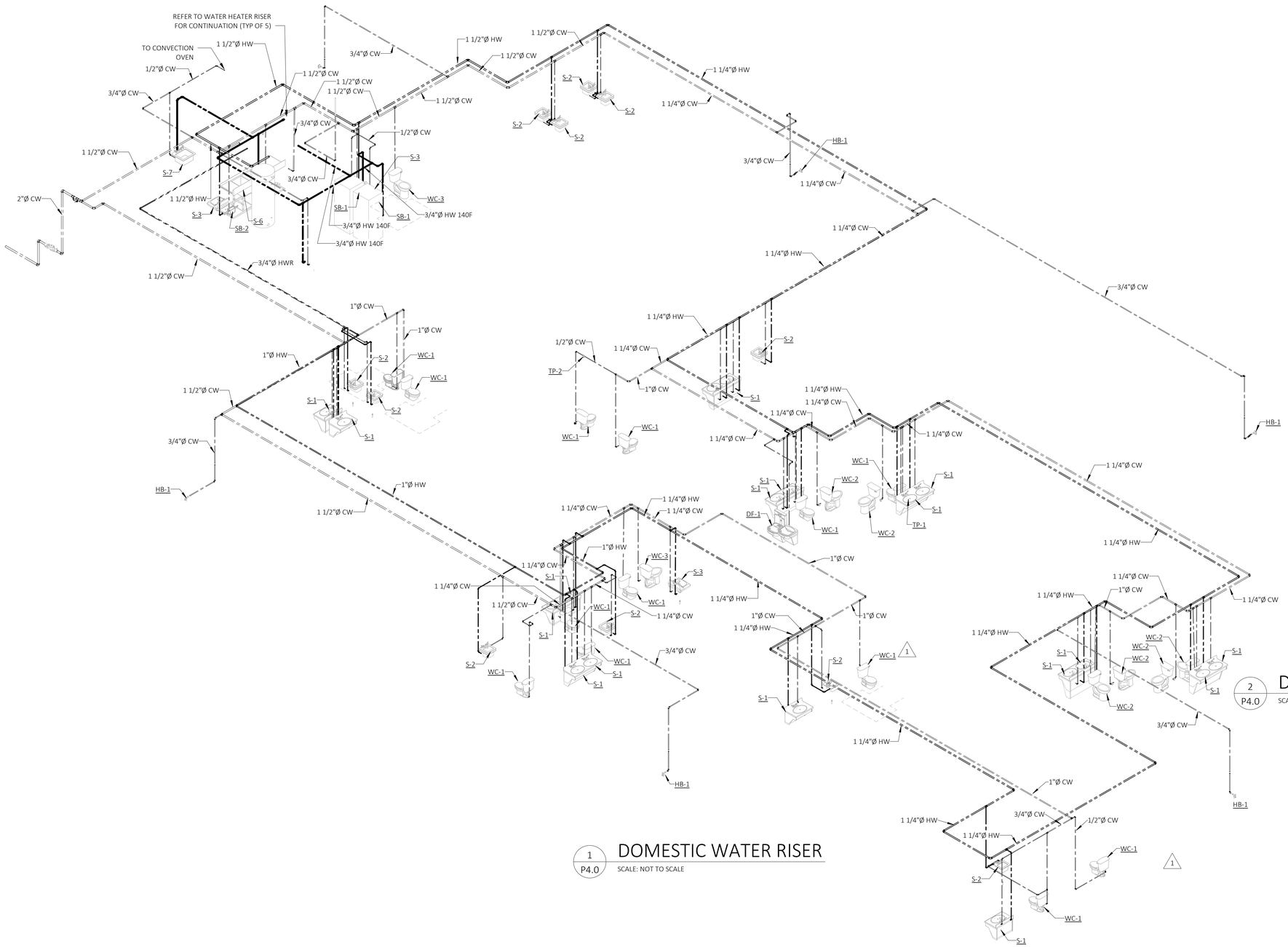
NOTES:
SEE SHEET P5.0 FOR FIXTURE TAGS.

1. REFER TO THE SPECIFICATIONS FOR A COMPLETE LIST OF MANUFACTURER'S MODEL NUMBERS AND ADDITIONAL INFORMATION REGARDING THE PLUMBING FIXTURES AND SYSTEMS.
2. WATER PIPING RUN ABOVE CEILING WITHIN JOIST SPACE. WHERE REQUIRED TO BE BELOW FLOOR NO JOINTS OR FITTINGS ALLOWED IN WATER PIPING BELOW FLOOR.
3. PROVIDE EXPANSION LOOPS IN 140 DEGREE HOT WATER PIPING AT ALL FIXTURE CONNECTIONS.

WATER ROUGH-IN

MARK	PLUMBING TYPE	CWø	HWø
WC-1	JUNIOR WATER CLOSET	1/2"	0"
WC-2	STANDARD WATER CLOSET	1/2"	0"
WC-3	ADA WATER CLOSET	1/2"	0"
S-1	JUNIOR SINK	1/2"	1/2"
S-2	COUNTER SINK	1/2"	1/2"
S-3	ADA LAVATORY	1/2"	1/2"
S-4	MOP SINK	3/4"	3/4"
S-6	3 COMPARTMENT SINK	3/4"	3/4"
S-7	PREP SINK	1/2"	1/2"
SB-1	SUPPLY BOX (WASHING MACHINE)	1/2"	1/2"
SB-2	SUPPLY BOX (DISHWASHER)	1/2"	1/2"
DF-1	DRINKING FOUNTAIN	1/2"	0"
HB-1	HOSE BIBB	3/4"	0"
HB-2	ROOF HOSE BIBB	3/4"	0"
RCP-1	RECIRCULATION PUMP	0"	3/4"
TMV-1	THERMOSTATIC MIXING VALVE	1"	1"
TMV-2	THERMOSTATIC MIXING VALVE	1/2"	1/2"
WH-1	WATER HEATER	1 1/2"	1 1/2"
TP-1	TRAP PRIMER	3/8"	0"
TP-2	TRAP PRIMER	1/2"	0"
BFP-1	BACKFLOW PREVENTER	2"	0"
BFP-2	BACKFLOW PREVENTER	3/4"	0"
BFP-3	BACKFLOW PREVENTER	0"	0"



1 P4.0 DOMESTIC WATER RISER
SCALE: NOT TO SCALE

2 P4.0 DOMESTIC WATER HEATER RISER
SCALE: NOT TO SCALE

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REFER TO OVERALL PLAN FOR

WATER SYSTEM ISOMETRIC

P4.0

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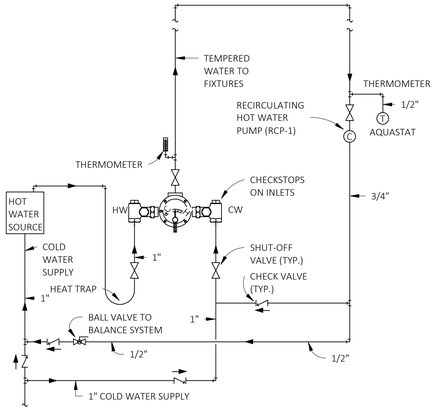
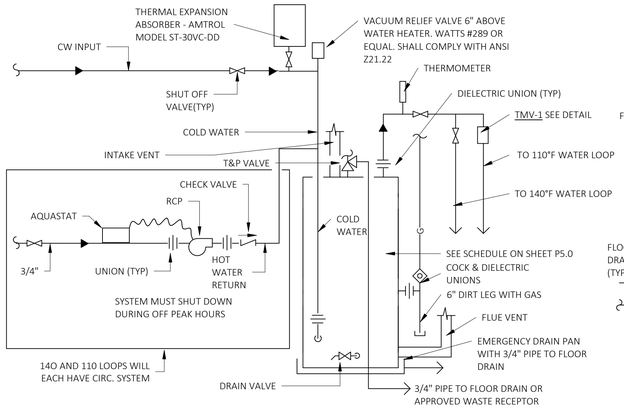


NOTE:
REFER TO AND INSTALL PER ALL MANUFACTURERS RECOMMENDED PIPING INSTRUCTIONS

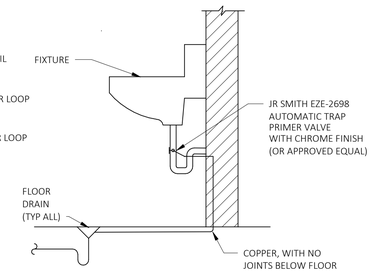
1 / P5.0 THERMOSTATIC MIXING VALVE (TMV-1)

SCALE: NOT TO SCALE



2 / P5.0 WATER HEATER PIPING DETAIL

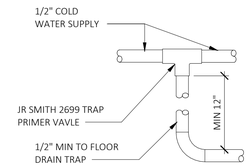
SCALE: NOT TO SCALE



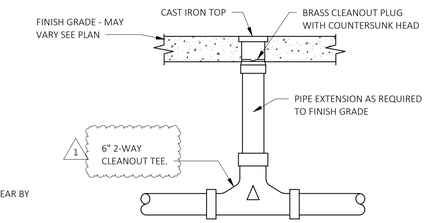
TYPICAL ALL FLOOR DRAINS WHERE A LAVATORY IS NEAR BY

3 / P5.0 TRAP PRIMER

SCALE: NOT TO SCALE



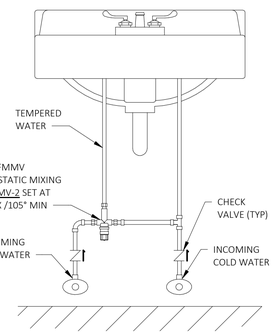
TYPICAL ALL FLOOR DRAINS WHERE A LAVATORY IS NOT NEAR BY



NOTE:
ALL CLEANOUT LOCATIONS SHALL BE VERIFIED WITH PRIMROSE CM PRIOR TO INSTALLATION

4 / P5.0 TYPICAL TWO-WAY CLEANOUT

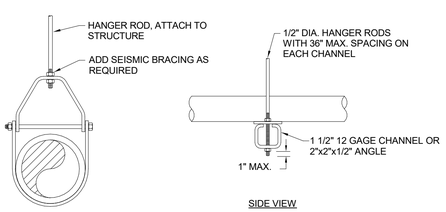
SCALE: NOT TO SCALE



5 / P5.0 POINT OF USE MIXING VALVE

SCALE: NOT TO SCALE

MAXIMUM PIPE/TUBING SUPPORT SPACING, FEET								
NOM. SIZE	THRU 1"	1	11/4	11/2	2	21/2	3	4
PIPE	7 FT	7	7	9	10	11	12	14
TUBING	5 FT	6	7	8	8	9	10	12
NOTE: FOR TRAPEZE HANGER TAKE SPACING OF SMALLEST SIZE ON TRAPEZE.								



1 / 6 / P5.0 TYPICAL PIPE HANGER DETAIL

SCALE: NOT TO SCALE

PLUMBING FIXTURE SCHEDULE

MARK	PLUMBING TYPE	FIXTURE SPECIFICATIONS MANUFACTURER	MODEL	CWø	HWø	SANø	Vent ø	FAUCET MANUFACTURER	MODEL	CWø	HWø	DESCRIPTION
WC-1	JUNIOR WATER CLOSET	American Standard	2315.228	1/2"	0"	4"	2"					JUNIOR 10" WATER CLOSET, WHITE: TANK WITH COVER LOCKING DEVICE, ROUND FRONT SIPHON ACTION BOWL, 1.28 GALLONS PER FLUSH, WHITE, CHURCH #1580CT OPEN FRONT SEAT, NO COVER SEAT WITH CHECK HINGES, 2 BOLT CAPS, ANGLE VALVE BRASSCRAFT #OCR19XC, 1/2" NOM. COMP INLET X 3/8" OD COMP OUTLET POLISHED CHROME WITH 12" RISER, AND ONE PIECE CHROME PLATED BRASS ESCUTCHEON. GERBER MODEL HE-20-601 IS AN APPROVED EQUAL. TRIP LEVER SHALL BE ON OPEN SIDE OF ACCESSIBLE TOILETS.
WC-2	STANDARD WATER CLOSET	American Standard	CADET 215CA.104	1/2"	0"	4"	2"					STANDARD 15"RIM HEIGHT WATER CLOSET, WHITE: 4188A.164 TANK WITH COVER LOCKING DEVICE, ENLONGATED BOWL, 1.28 GALLONS PER FLUSH, WHITE, CHURCH #2955SSCT OPEN FRONT SEAT, NO COVER SEAT WITH SELF SUSTAINING HINGES, 2 BOLT CAPS, ANGLE VALVE BRASSCRAFT #OCR19XC, 1/2" NOM. COMP INLET X 3/8" OD COMP OUTLET POLISHED CHROME WITH 12" RISER, AND ONE PIECE CHROME PLATED BRASS ESCUTCHEON. APPROVED EQUALS ONLY. SEE MANUFACTURE'S CUTSHEETS FOR RIGHT HAND TRIP LEVERS WHERE REQUIRED ON THE OPEN SIDE OF ACCESSIBLE TOILETS.
WC-3	ADA WATER CLOSET	American Standard	CADET 215AA.104	1/2"	0"	4"	2"					ADA COMPLIANT 16.5" RIM HEIGHT, WHITE: 4188A.164 TANK WITH COVER LOCKING DEVICE, ELONGATED BOWL, 1.28 GALLONS PER FLUSH, WHITE, CHURCH #2955SSCT OPEN FRONT SEAT, NO COVER SEAT WITH SELF SUSTAINING HINGES, 2 BOLT CAPS, ANGLE VALVE BRASSCRAFT #OCR19XC, 1/2" NOM. COMP INLET X 3/8" OD COMP OUTLET POLISHED CHROME WITH 12" RISER, AND ONE PIECE CHROME PLATED BRASS ESCUTCHEON. APPROVED EQUALS ONLY. SEE MANUFACTURE'S CUTSHEETS FOR RIGHT HAND TRIP LEVERS WHERE REQUIRED ON THE OPEN SIDE OF ACCESSIBLE TOILETS.
S-1	JUNIOR SINK	Cabinet Manufacturer		1/2"	1/2"	1 1/2"	1 1/2"	MOEN	8215	1/2"	1/2"	CULTURED MARBLE TOP BY CABINET MANUFACTURER WITH MOEN 8215 OR DELTA 2529LF-LGHDF 4" CENTERS FAUCET WITH WRISTBLADE HANDLES AND GRID DRAIN K-77129-A COMPLETE SINK ASSEMBLY WITH STOPS AND CAST BRASS "P" TRAP. APPROVED EQUALS ONLY.
S-2	COUNTER SINK	Elkay Dayton	D-11515	1/2"	1/2"	1 1/2"	1 1/2"	MOEN	8215	1/2"	<varies>	MOEN OR DELTA 2529LF-LGHDF 4" CENTERS FAUCET WITH WRISTBLADE HANDLES, 5" SPOUT WITH AERATOR, PROVIDE WITH K-7129-A 1-1/4" OFFSET DRAIN WITH OPEN STRAINER, I.P.S. SUPPLIES WITH LOOSE KEY STOPS (2); 1-1/4" INSULATE 1-1/4" WASTE WITH 1/2" ARMAFLEX INSULATION.
S-3	ADA LAVATORY	Kohler	K-2005	1/2"	1/2"	1 1/2"	1 1/2"	MOEN	8215	1/2"	1/2"	WHITE WALL HUNG VITREOUS CHINA ADA COMPLIANT LAVATORY WITH MOEN OR DELTA 2529LF-LGHDF 4" CENTERS FAUCET WITH WRISTBLADE HANDLES, 5" SPOUT WITH AERATOR, PROVIDE WITH K-7129-A 1-1/4" OFFSET DRAIN WITH OPEN STRAINER, I.P.S. SUPPLIES WITH LOOSE KEY STOPS (2); 1-1/4" INSULATE 1-1/4" WASTE WITH 1/2" ARMAFLEX INSULATION.
S-4	MOP SINK	Swan	MS-2424	3/4"	3/4"	3"	2"	SPEAKMAN	SC-5811-RCP	3/4"	3/4"	SWAN OR MUSTEE 63M MOP SERVICE BASIN (24"X24") FLOOR MOUNTED WITH MOP HANGER MODEL NO. MS-2437, VINYL RIM GUARD MODEL NO. MS-2408 AND MOP SINK FAUCET (MT'D @ 36" A.F.F.) MODEL SPEAKMAN SC-5811-RCP WITH FOUR ARM HOLDERS OR EQUAL. INSTALL WATTS LFWCV SWING VALVES ON EACH OF THE HOT AND COLD SUPPLY LINES 1
S-6	3 COMPARTMENT SINK	Eagle Group	414-16-3-18	3/4"	3/4"	2"	1 1/2"	T&S BRASS	B-0133-01	3/4"		STAINLESS STEEL WITH TWO (2) 18" DRAINBOARDS (L&R). COMPLETE WITH TWO INCH STRAINERS T&S B-3950 ROTARY WASTE VALVE W/ TWIST HANDLE AND STAINLESS STEEL LEGS (NSF APPROVED). PRE-RINSE UNIT WITH 14" FAUCET. APPROVED EQUALS ONLY.
S-7	PREP SINK			1/2"	1/2"	2"	1 1/2"			1/2"	1/2"	SEE ARCHITECTURAL KITCHEN PLAN FOR SINK AND FAUCET SPECIFICATIONS.
FS-1	FLOOR SINK	Plastic Oddities	PDS-300-T	0"	0"	4"	2"					FLOOR SINK RECEPTOR WITH DOME TOP STRAINER AND 3/4 GRATE. PROVIDE A REDUCER ON THE INDIRECT PIPE ENTERING THE FLOOR SINK TO PREVENT OVERFLOWS AND SPLASHING. FOR A TYPICAL 3" DRAIN FROM A 3 OR 4 COMPARTMENT SINK, PROVIDE A 1-1/2" REDUCER.
SB-1	SUPPLY BOX (WASHING MACHINE)	GUY GRAY	WB-200	1/2"	1/2"	2"	2"					DUO -CLOZ BALL VALVES 1/2" MPT BRASS SWEAT CONNECTION AND 2" TRAPPED STANDPIPE PVC DRAIN. MAKE FINAL CONNECTION TO MACHINE.
SB-2	SUPPLY BOX (DISHWASHER)	GUY GRAY	WB-200	1/2"	1/2"	2"	2"					DUO -CLOZ BALL VALVES 1/2" MPT BRASS SWEAT CONNECTION AND 2" TRAPPED STANDPIPE PVC DRAIN. MAKE FINAL CONNECTION TO MACHINE.
GT-1	GREASE TRAP	SCHIER PRODUCTS	GB3	0"	0"	4"	2"					GREAT BASIN HIGH EFFICIENCY GREASE INTERCEPTOR (HYDRO-MECHANICAL TYPE) POLYETHYLENE TANK WITH TRAFFIC RATED COVERS AND BUILT-IN FLOW CONTROL DEVICE. INTERCEPTOR SHALL BE UNDER SLAB IN KITCHEN IN LOCATION AS SHOWN ON PLAN. CONTRACTOR TO DETERMINE TELEGLIDE RISER SIZE AND MODEL, SIZE BASED ON FIELD CONDITIONS AND LOCAL CODE REQUIREMENTS.
DF-1	DRINKING FOUNTAIN	Elkay	LZSTL8WSLP	1/2"	0"	1 1/2"	1 1/2"					ADA BARRIER FREE TWO LEVEL ELKAY WITH EZH2O BOTTLE FILLER STATION - WALL HUNG UNIT. PROVIDE 1.5" CP CAST IRON TRAP AND ANGLE SUPPLIES WITH LOOSE KEY STOPS.
HB-1	HOSE BIBB	JAY R. SMITH	5609QT	3/4"	0"	0"	0"					FROST-FREE WITH INTERIOR PANEL FOR BLOW DOWN WHERE FREEZING MAY OCCUR. ALIGN WITH PERPENDICULAR WALL AND PROVIDE INTERIOR SHUT-OFF VALVE. COMMON EXTERIOR HOSE BIBBS ACCEPTABLE IN CLIMATES THAT DO NOT HAVE FREEZING WEATHER. ALL HOSE BIBBS SHALL HAVE REMOVABLE KEY AND A VACUUM BREAKER.
HB-2	ROOF HOSE BIBB	JAY R. SMITH	5907	3/4"	0"	0"	0"					NON-FREEZE ROOF HYDRANT WITH CHECK VALVE AND VACCUME BREAKER. 1/8" DIA DRAIN TO BE PIPED TO DRAIN IN MOP SINK IN LAUNDRY ROOM.
RCP-1	RECIRCULATION PUMP	Grundfos	UPS15-35SUC	0"	3/4"	0"	0"					DOMESTIC HOT WATER RECIRCULATION PUMP, SYSTEM LUBRICATED CIRCULATOR, 3 SPEED, 110 WATTS, 115 V, 1 PHASE, WITH AQUASTAT AND 3/4" UNION.
TMV-1	THERMOSTATIC MIXING VALVE	LAWLER MFG	66-80	1"	1"	0"	0"					MIXING VALVE WITH THREE-WAY PROTECTION, TAMPER RESISTANT CONTROL ADJUSTMENT, FULLY ROTATABLE INLETS & OUTLETS, INTEGRAL MOUNTING FLANGE CAST IN THE BODY, ASSE 1017 AND CSA B125.3 CERTIFIED. 1" INLETS & OUTLET. SET VALVE @ 110 DEG F.
TMV-2	THERMOSTATIC MIXING VALVE	WATTS	LFMMV	1/2"	1/2"	0"	0"					THERMOSTATIC MIXING VAVLE. INSTALLED UNDER PUBLIC LAVATORY IN ACCESSIBLE LOCATION. SET AT 110 DEG F MAX / 105 DEG MIN
WH-1	WATER HEATER	Bradford White	EF-100T-199E-5N	1 1/2"	1 1/2"	0"	0"					COMMERCIAL POWER DIRECT VENT; 100 GALLONS; 199,999 BTUH INPUT; 97% THERM. EFF.; VENT AND INTAKE TO TERMINATE THROUGH ROOF WITH 4" CONCENTRIC VENT KIT; PROVIDE CONDENSATE NEUTRALIZER KIT (P/N A2123601); SET TANK TEMP TO 140 DEG F.; PROVIDE WITH AMTROL ST-30VC-DD EXPANSION TANK. 235 GPH RECOVERY AT 100 DEG F RISE.
FD-1	FLOOR DRAIN	Plastic Oddities	PHD 822R	0"	0"	4"	2"					HEAVY DUTY ADJUSTABLE DRAIN WITH 5" NICKEL STRAINER WITH ROUND TOP. FLOOR DRAINS SHALL BE FORMED AROUND TO PREVENT CONCRETE FROM TOUCHING AT POURING OF SLAB. FLOOR DRAINS SHALL BE GROUTED AFTER ADJUSTMENT FOR ELEVATION FOR FINISHED FLOOR. APPROVED EQUALS BY JAY R. SMITH, ZURN, WADE, WATTS, SOUIX CHEIF OR JOSAM ARE ACCEPTABLE
FCO-1	FLOOR CLEANOUT	JAY R. SMITH	4025	0"	0"	0"	0"					CLEAN OUT SHALL BE FLUSH WITH FINISHED FLOOR. SHALL BE FORMED AROUND TO PREVENT CONCRETE FROM TOUCHING AT POURING OF SLAB AND SHALL BE GROUTED AFTER ADJUSTMENT FOR ELECATION FOR FINISHED FLOOR AND TO RECEIVE FINISHED FLOOR MATERIALS. APPROVED EQUALS BY ZURN, WADE, WATTS, SOUIX CHEIF OR JOSAM ARE ACCEPTABLE
GCO-1	2-WAY GROUND CLEANOUT	JAY R. SMITH	4280	0"	0"	0"	0"					2-WAY GROUND CLEAN OUT SHALL BE FLUSH WITH FINISHED GRADE. SHALL BE SET IN 18"X18"X6" CONCRETE PAD AND BE FORMED AROUND TO PREVENT CONCRETE FROM TOUCHING AT POURING OF PAD AND SHALL BE GROUTED AFTER ADJUSTMENT FOR ELEVATION FOR FINISHED GRADE. APPROVED EQUALS BY ZURN, WADE, WATTS, SOUIX CHEIF OR JOSAM ARE ACCEPTABLE
GCO-2	1-WAY GROUND CLEANOUT	JAY R. SMITH	4280	0"	0"	0"	0"					1-WAY GROUND CLEAN OUT SHALL BE FLUSH WITH FINISHED GRADE. SHALL BE SET IN 18"X18"X6" CONCRETE PAD AND BE FORMED AROUND TO PREVENT CONCRETE FROM TOUCHING AT POURING OF PAD AND SHALL BE GROUTED AFTER ADJUSTMENT FOR ELEVATION FOR FINISHED GRADE. APPROVED EQUALS BY ZURN, WADE, WATTS, SOUIX CHEIF OR JOSAM ARE ACCEPTABLE
WCO-1	WALL CLEANOUT	JAY R. SMITH	4530	0"	0"	0"	0"					CLEAN OUT SHALL BE FLUSH WITH FINISHED WALL. SHALL BE LOCATED IN ACCESSABLE LOCATION AND PAINTED TO MATCH ADJACENT WALL. APPROVED EQUALS BY ZURN, WADE, WATTS, SOUIX CHEIF OR JOSAM ARE ACCEPTABLE
TP-1	TRAP PRIMER	JAY R. SMITH	EZE-2698	3/8"	0"	0"	0"					AUTOMATIC TRAP PRIMER VALVE WTIH CHROME FINISH. OR APPROVED EQUAL SEE DETAIL THIS SHEET. 1
TP-2	TRAP PRIMER	JAY R. SMITH	2699	1/2"	0"	0"	0"					AUTOMATIC TRAP PRIMER VALVE WITH CHROME FINISH. TO BE USED FOR FLOOR DRAINS WHERE A LAVATORY IS NOT NEARBY. OR APPROVED EQUAL SEE DETAIL THIS SHEET. 1
BFP-1	BACKFLOW PREVENTER	WATTS	LF009-QT	2"	0"	0"	0"					PROVIDE AT BUILDING SERVICE ENTRANCE. SEE NOTES ON PLAN TO DETERMINE IF LOCATED WITHIN BUILDING OR ON SITE.
BFP-2	BACKFLOW PREVENTER	WATTS	LFN9-CD	3/4"	0"	0"	0"					PROVIDE AT ALL HOSE BIBB LOCATIONS AND MOP SINK.
BFP-3	BACKFLOW PREVENTER	WATTS	9D	0"	0"	0"	0"					PROVIDE 3/4" AT ICE MACHINE AND 1/2" AT CONVECTION OVEN.

CASCO
CASCO DIVERSIFIED CORPORATION
12 Sunset Drive, Suite 100, St. Louis, MO 63143 T: 314-821-1300

PRIMROSE SCHOOLS

1788 ROCK SPRINGS RD
SMYRNA, TN 37167

PRIMROSE SCHOOL FRANCHISING COMPANY
3200 WINDY HILL ROAD, SUITE 1200 E
ATLANTA, GEORGIA 30339-5640

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CONSTR. DOC. & REVISIONS

No.	Description	Date
1	FOR CONSTRUCTION	04/06/23

MICHAEL C. GRAPPERHAUS
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 120854
STATE OF TENNESSEE
04/06/23

Professional of Record:
MICHAEL C. GRAPPERHAUS
LICENSE NO: 120854
EXP. DATE: 11/30/23

Drawn/Checked	JSP / NJH
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

PLUMBING DETAILS

P5.0

4/6/2023 2:20:35 PM

FIRE PROTECTION AND AUTOMATIC SPRINKLER NOTES

1. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH ANY EXISTING CONDITIONS, THE LOCATION OF EXISTING WATER SERVICE, AND SHALL PAY ALL REQUIRED TAP AND PERMIT FEES FOR THE NEW SPRINKLER SYSTEM
2. CONFIRM FIRE PROTECTION COVERAGE REQUIREMENTS WITH AUTHORITIES HAVING JURISDICTION & OWNER'S INSURANCE CARRIER
3. FIRE PROTECTION SYSTEM TO CONFORM TO ALL REQUIREMENTS OF NFPA 13, ALL STATE AND LOCAL RULES AND REGULATIONS, AS WELL AS OWNER'S INSURANCE COMPANY. SPRINKLER HEAD LOCATIONS AND PIPE ROUTING ARE SHOWN FOR COORDINATION ONLY. CONTRACTOR TO PROVIDE MORE OR LESS HEADS AS REQUIRED, WITH THE MOST EFFICENT PIPE ROUTING. INTERIOR PIPING MAT'L TO BE STEEL.
4. CONTRACTOR SHALL FURNISH AND INSTALL A COMPLETE AUTOMATIC SPRINKLER SYSTEM. THE ENTIRE BUILDING SHALL BE SPRINKLED. THE SPRINKLER SYSTEM SHALL BE HYDRAULICALLY CALCULATED USING THE THE FOLLOWING CRITERIA:
   - A. COMMON AREAS, OFFICES, CLASSROOMS, TOILET ROOMS, AND LIKE OCCUPANCIES WELL SUBDIVIDED: 0.1 GPM DENSITY OVER MOST REMOTE 1,950 SQ. FT., HEAD COVERAGE 225 SQ. FT/HEAD MAXIMUM USING 155°F HEADS.
   - B. STORAGE ROOMS: 0.15 GPM DENSITY OVER THE MOST REMOTE 1500 SQ. FT., HEAD COVERAGE 130 SQ. FT/HEAD MAXIMUM USING 200°F HEADS.
   - C. EQUIPMENT ROOMS & LIKE OCCUPANCIES: 0.15 GPM OVER THE MOST REMOTE 1,500 SQ. FT., HEAD COVERAGE 130 SQ. FT./HEAD MAXIMUM USING 286°F HEADS
   - D. ATTIC SPACE: 0.10 GPM OVER THE MOST REMOTE 2535 SF; HEAD COVERAGE 168 SQ. FT./HEAD MAXIMUM USING 200°F UPRIGHT HEADS
   - E. PROVIDE SPRINKLERS ABOVE AND BELOW CEILINGS WHERE DEEMED NECESSARY TO CONFORM TO NFPA REQUIREMENTS.
5. FURNISH AND INSTALL THE FOLLOWING SPRINKLER TYPES:
   - A. FINISHED SPACES: CLASSROOMS, TOILET ROOMS, CORRIDORS, AND LIKE OCCUPANCIES SHALL BE PROVIDED WITH STANDARD PENDENT SPRINKLERS, CHROME FINISH.
   - B. FINISHED SPACES: STORAGE ROOMS, EQUIPMENT ROOMS, AND LIKE OCCUPANCIES SHALL BE PROVIDED WITH BRASS UPRIGHT SPRINKLERS.
   - C. FINISHED SPACES: ROOMS WITH HIGH FINISHED CEILINGS SHALL BE PROVIDED WITH BRASS UPRIGHT SPRINKLERS
   - D. UNFINISHED SPACES: EQUIPMENT ROOMS AND LIKE OCCUPANCIES SHALL BE PROVIDED WITH BRASS UPRIGHT SPRINKLERS.
6. THE FIRE PROTECTION CONTRACTOR SHALL SECURE ALL APPROVALS, PERMITS, TESTS, TAPS, EQUIPMENT, AND PAY ALL REQUIRED FEES.
7. PROVIDE WATER FLOW SWITCH AND TAMPER SWITCH AT P.I.V. FOR FIRE ALARM CONNECTION BY OTHERS.
8. PROVIDE ALL NECESSARY COMPONENTS AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM AND TO COMPLY WITH ALL CODES, REGULATIONS, AND RESTRICTIONS.
9. PROVIDE SHOP DRAWING SUBMITTALS FOR:
   - A. PRODUCT DATA FOR EACH TYPE SPRINKLER HEAD, VALVE, PIPING SPECIALTY, FIRE PROTECTION SPECIALTY AND FIRE DEPARTMENT CONNECTION.
   - B. SHOP DRAWINGS PREPARED IN ACCORDANCE WITH NFPA 13 IDENTIFIED AS "WORKING PLANS" INCLUDING HYDRAULIC CALCULATIONS WHERE APPLICABLE, AND WHICH HAVE BEEN APPROVED BY THE AUTHORITY HAVING JURISDICTION.

NOTE:

1. THE FIRE PROTECTION SYSTEM SHALL BE DESIGNED AND INSTALLED BY A FIRE PROTECTION CONTRACTOR LICENSED BY THE STATE OF TENNESSEE FOR THIS TYPE WORK. THE CONTRACTOR SHALL SUBMIT HYDRAULIC CALCULATIONS, PRODUCT DATA AND SPECIFICATIONS TO THE ARCHITECT, LOCAL AUTHORITY HAVING JURISDICTION AND / OR STATE FIRE MARSHALL FOR APPROVAL BEFORE COMMENCEMENT OF ANY WORK. THE FIRE PROTECTION SYSTEM TO BE DESIGNED AND INSTALLED PER ALL REQUIREMENTS OF NFPA 13 AS WELL AS ANY LOCAL CODES AND REGULATIONS
2. OCCUPANCY CLASSIFICATION: LIGHT HAZARD
3. FLOW TEST DATA:

STATIC PRESSURE:	120 PSI
RESIDUAL PRESSURE:	115 PSI
FLOW:	1500 GPM
LINE SIZE:	24"
TEST LOCATION:	ON ROCK SPRINGS RD APPROX. 75 FT WEST OF PROPERTY
HYDRANT ELEVATION:	0 FT
INFO PROVIDED BY:	SMYRNA UTILITY DEPT.
TEST DATE:	8/22/22

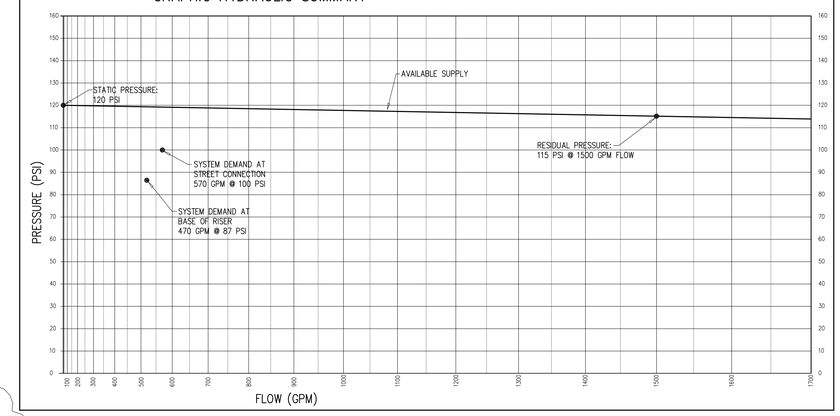
4. MIN DEMAND:

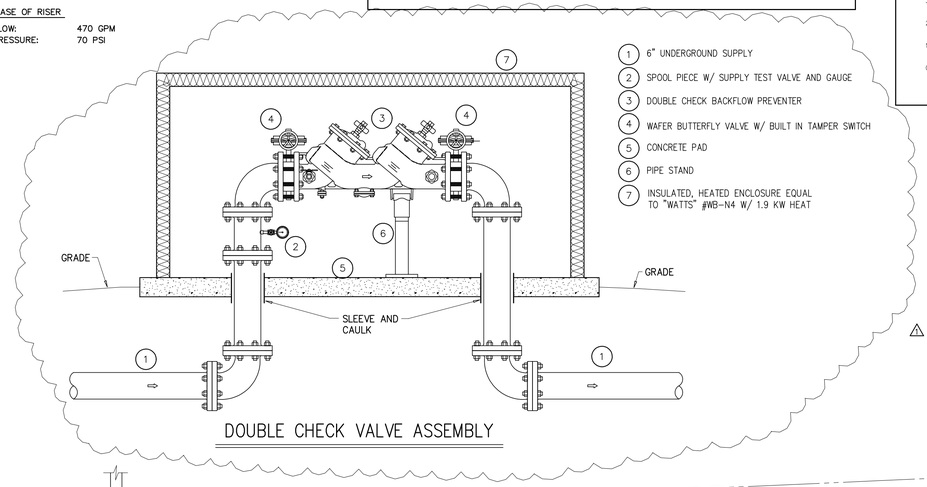
AT STREET CONNECTION	
FLOW:	570 GPM
PRESSURE:	80
AT BASE OF RISER	
FLOW:	470 GPM
PRESSURE:	70 PSI

PRELIMINARY SPRINKLER HYDRAULIC CALCULATIONS

A. TOTAL CALCULATED FLOW (28 HEADS FLOWING PLUS 100 GPM HOSE ALLOWANCE)	570	GPM
B. RESIDUAL CITY WATER PRESSURE AVAILABLE @ CALCULATED FLOW	119	PSI
C. STATIC HEAD LOSS FROM CITY MAIN TO B.O.R. (BASE OF RISER)	0.0	PSI
D. PIPE FRICTION LOSS FROM CITY MAIN TO BUILDING	10	PSI
E. PRESSURE AVAILABLE AT B.O.R. [B-(C+D)]	109	PSI
F. STATIC HEAD LOSS FROM BASE OF RISER TO HIGHEST SPRINKLER HEAD	15	PSI
G. RESIDUAL PRESSURE REQUIRED AT MOST REMOTE HEAD	15	PSI
H. PIPE FRICTION LOSS FROM B.O.R. TO MOST REMOTE SPRINKLER HEAD	25	PSI
I. PRESSURE LOSS THRU BACKFLOW PREVENTER	15	PSI
J. PRESSURE REQUIRED AT B.O.R. (F+G+H+I)	70	PSI
K. PRESSURE REQUIRED FOR SPRINKLER SYSTEM (C+D+J)	80	PSI
L. CITY WATER SURPLUS RESIDUAL PRESSURE (B-K)	49	PSI

GRAPHIC HYDRAULIC SUMMARY

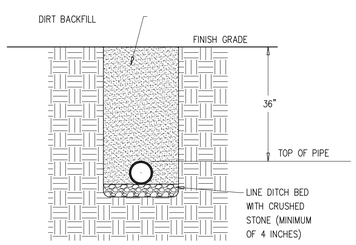




1. 6" UNDERGROUND SUPPLY
2. SPOOL PIECE W/ SUPPLY TEST VALVE AND GAUGE
3. DOUBLE CHECK BACKFLOW PREVENTER
4. WAFER BUTTERFLY VALVE W/ BUILT IN TAMPER SWITCH
5. CONCRETE PAD
6. PIPE STAND
7. INSULATED, HEATED ENCLOSURE EQUAL TO "WATTS" #WIS-N4 W/ 1.9 KW HEAT

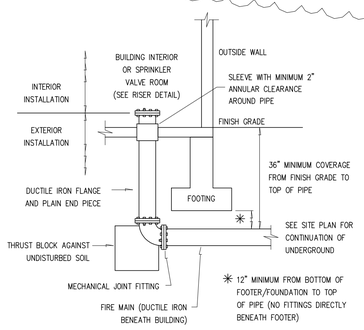
DOUBLE CHECK VALVE ASSEMBLY

NOTE: THE FIRE PROTECTION SYSTEM SHALL BE DESIGNED AND INSTALLED BY A FIRE PROTECTION CONTRACTOR LICENSED BY THE STATE OF TENNESSEE FOR THIS TYPE WORK. THE CONTRACTOR SHALL SUBMIT HYDRAULIC CALCULATIONS, PRODUCT DATA AND SPECIFICATIONS TO THE LOCAL AUTHORITY HAVING JURISDICTION AND / OR STATE FIRE MARSHALL FOR APPROVAL BEFORE COMMENCEMENT OF ANY WORK. THE FIRE PROTECTION SYSTEM TO BE DESIGNED AND INSTALLED PER ALL REQUIREMENTS OF NFPA 13R AS WELL AS ANY LOCAL CODES AND REGULATIONS

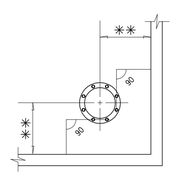


TRENCH DETAIL

NO SCALE



SECTION VIEW



✳✳ CONFIRM CORRECT DISTANCE OFF WALLS WITH SPRINKLER CONTRACTOR (THIS IS IMPORTANT IF WALL INDICATOR IS USED)

PROVIDE MINIMUM OF 2" OF CLEARANCE AROUND PERIMETER OF PIPE. IF A PIPE SLEEVE IS USED, IT SHALL BE A MIN. OF 2 NOMINAL PIPE DIAMETERS LARGER THAN THE UNDERGROUND PIPE.

PLAN VIEW

UNDERGROUND RUN-IN DETAIL

NO SCALE

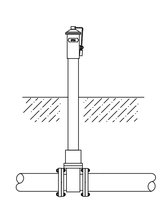
AREA OF BEARING FACE REQUIRED										
PIPE	a BEND		b BEND		a BEND		TEE		PLUG	
SIZE	A	B	A	B	A	B	A	B	A	B
2h	6	4	4	6	3	4	4	6	6	8
4	9	7	5	8	4	6	7	8	8	12
6	16	10	9	10	6	8	10	12	10	21
8	22	13	12	13	8	10	13	16	12	29
10	26	17	14	17	10	13	16	20	14	36
12	32	20	17	20	12	16	20	24	16	45
NOTE: ALL DIMENSIONS GIVEN IN INCHES										

NOTES:
1) AREAS OF BEARING SHOWN IN CHART ARE TO BE USED WHEN SOIL IS A SUITABLE EQUIVALENT TO SAND AND GRAVEL MIXED WITH CLAY. FOR OTHER SOILS THE DIMENSIONS SHOWN SHALL BE MULTI-PLIED BY THE APPROPRIATE FACTOR:
   - SOFT CLAY: 4.0
   - SAND: 2.0
   - SAND & GRAVEL: 1.33
   - SHALE: 0.4
2) CONCRETE FOR THRUST BLOCKS SHALL BE MIN. 3000 PSI.
3) THRUST BLOCKS SHALL BE POURED BETWEEN UN-DISTURBED SOIL AND THE FITTING TO BE RESTRAINED, LEAVING ALL JOINTS UNCOVERED & ACCESSIBLE.

PLAN VIEW – BEND | SECTION X–X | PLAN & ELEV. – PLUG | PLAN VIEW – TEE

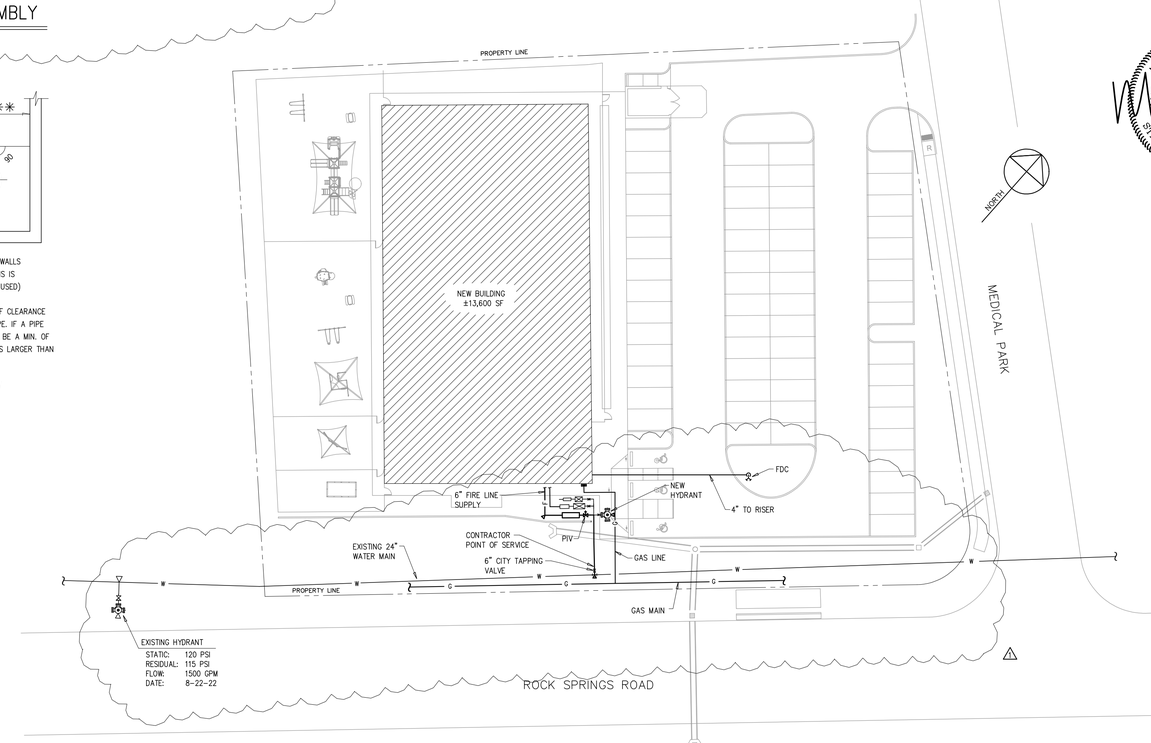
THRUST BLOCK DETAILS

Not To Scale



POST INDICATOR VALVE

NO SCALE



1 / FP-1 SPRINKLER SITE PLAN

0 15 30 60 FEET SCALE: 1" = 30'

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MORRISTOWN TN 37816
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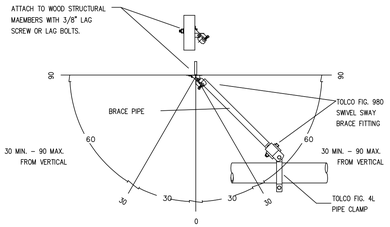
max@cookeng.net

MAX A. COOK REGISTERED ENGINEER AGRICULTURE NO. 179906 STATE OF TENNESSEE 10-17-22

SPRINKLER DESIGN INTENT

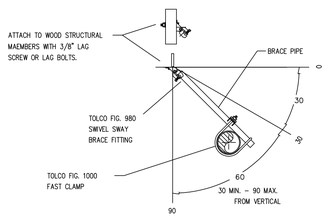
NEW BUILDING FOR: PRIMROSE SCHOOLS 1788 ROCK SPRINGS RD. SMYRNA, TN

DRAWN	MAC
CHECKED	MAC
SCALE	AS SHOWN
ISSUE DATE	10-17-22
REVISIONS	1 11/10/22- GENERAL REVISIONS PER CODE REVIEW
SHEET	FP-1
REVISION	1



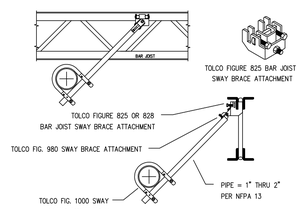
LONGITUDINAL SWAY BRACE

NO SCALE



LATERAL SWAY BRACE

NO SCALE



SWAY BRACE TO STEEL

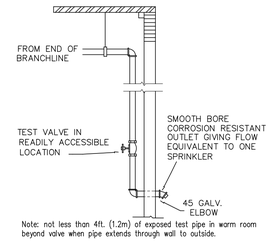
NO SCALE

SEISMIC BRACING DETAILS

1– ALL BRACING SHALL BE INSTALLED IN ACCORDANCE WITH NFPA # 13

2– GENERAL SPACING REQUIREMENTS:

- ALL PIPING 2–1/2" AND LARGER SHALL BE BRACED IN ACCORDANCE WITH NFPA # 13
- LONGITUDINAL BRACING REQUIRED WITHIN 40 FT. OF DEAD END MAINS
- LONGITUDINAL BRACING MAXIMUM SPACING 80 FT.
- LATERAL BRACING IS REQUIRED WITHIN 20 FT. OF END OF DEAD END MAINS.
- LATERAL BRACING MAXIMUM SPACING 40'–0"
- LATERAL BRACING WITHIN 24" OF THE INTERSECTION OF TWO MAINS MAY ACT AS LONGITUDINAL BRACING.
- LONGITUDUDINAL BRACING WITHIN 24" OF THE INTERSECTION OF TWO MAINS MAY ACT AS LATERAL BRACING.
- SPRIG–UPS IN EXCESS OF FOUR FEET SHALL HAVE LATERAL BRACING

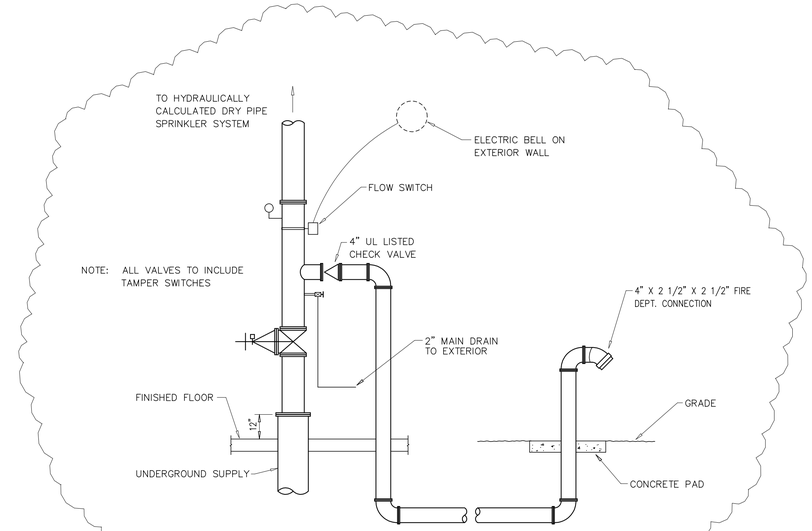


WET TEST CONNECTION

(PER NFPA 13)

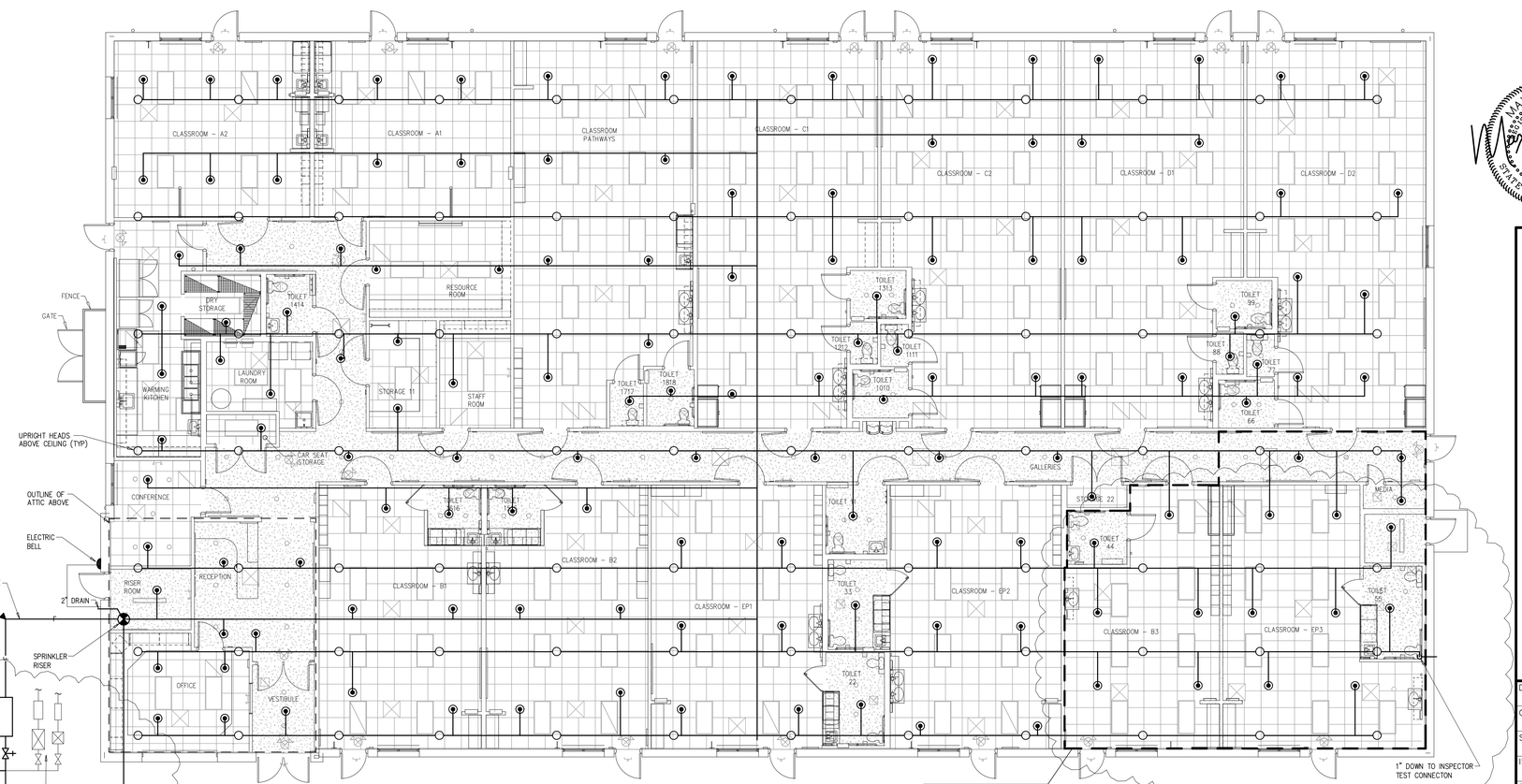
SPRINKLER HEADS

SYMBOL	TYPE	SIZE	K–FACTOR	RATING
○	UPRIGHT	1/2"	5.6	200°
◉	PENDANT	1/2"	5.6	155°



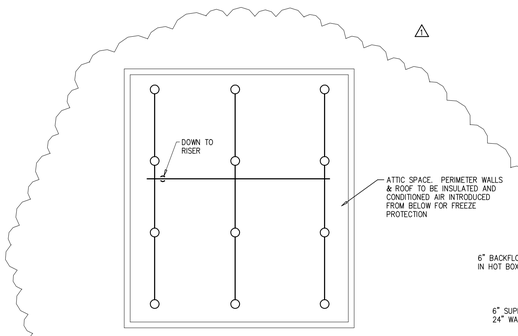
2 FP–2 SPRINKLER RISER

NO SCALE



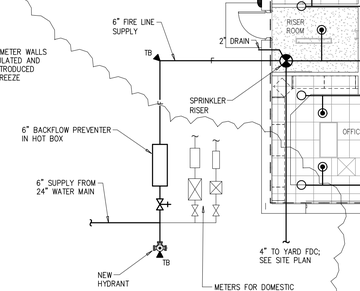
1 FP–2 FIRE SPRINKLER PLAN

-- SCALE: 1/8" = 1'–0"



2 FP–2 FIRE SPRINKLER PLAN – ATTIC

-- SCALE: 1/8" = 1'–0"



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10-17-22

SPRINKLER DESIGN INTENT

NEW BUILDING FOR:

PRIMROSE SCHOOLS
1788 ROCK SPRINGS RD.
SMYRNA, TN

DRAWN	MAC
CHECKED	MAC
SCALE	AS SHOWN
ISSUE DATE	10–17–22
REVISIONS	1 11/10/22– GENERAL REVISIONS PER CODE REVIEW
SHEET	FP-2
REVISION	1

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DIVISION 16 - ELECTRICAL

SECTION 16050 - BASIC MATERIALS AND METHODS

PART 1 - GENERAL

1. Scope of Work: Furnish all labor, materials, tools, supplies, services and equipment necessary to complete the electrical work indicated on the drawings and hereinafter specified.
2. Codes and Ordinances: All work shall conform to all regulations and codes of the various departments of the local, state and/or national authorities having jurisdiction and in accordance with their latest governing rules and regulations, the utility, and with the latest edition of the National Electrical Code, NFPA 70.

PART 2 - PRODUCTS

1. Wiring:
   a. Wiring shall be installed in concealed thin wall electrical metallic tubing, except conduit outdoors or in slab shall be rigid galvanized steel. Conduit below grade shall be Schedule 40 PVC. Minimum conduit size shall be ½ inch. NMC & MC cable with grounding conductor may be used if allowed by any authority having jurisdiction and accepted by Franchisee as alternate branch wiring system in accordance with NEC 330 &334.
   b. Equipment connections shall be made utilizing flexible metal conduit for interior use and liquidtight flexible conduit for exterior use.
   c. Conductors shall be copper, 600-volt insulation, type THWN/THHN insulation. Minimum size shall be No. 12 and maximum size 500 KCMIL. All wire No. 10 and larger shall be stranded.
   d. Wire and cable shall be as manufactured by Anaconda, General Cable, Triangle, Phelps-Dodge or approved equal.
   e. Label wiring and cable with panel and circuit number at device and panelboard.
2. Outlet Boxes:
   a. Outlet boxes shall be galvanized or sherardized sheet steel boxes, at least one and one-half (1-1/2) inch deep and of sufficient size to accommodate devices and conductors to be installed in same. Boxes shall be mounted flush with finished wall or ceiling. Boxes shall conform to Article 370 of NEC. Boxes shall be Appleton, Steel City, Raco or approved equal.
   b. Wall switches, receptacles, telephone outlets and special purpose outlet boxes shall be four (4) inch square, flush with finished wall. Single-gang boxes shall only be used where four (4) inch square boxes will not fit.
   c. Ceiling and wall bracket outlets shall be four (4) inch octagonal, not less than one and one-half (1-1/2) inch deep.
   d. Receptacles mounted above counters shall be installed to avoid splash boards, cabinets and other equipment.
   e. Ground Fault Receptacles shall be installed in lieu of standard receptacles in Handicap Toilet, Kitchen, infant kitchenette and exterior areas. Ground fault receptacle shall be located to be readily accessible or contractor shall install GFI circuit breaker.
3. Wiring Devices: Shall be Arrow Hart, Pass and Seymour, Hubbell, Sierra or approved equal. Wiring devices shall not be installed until all painting, plastering and other work is finished.
   a. Wall receptacles: Safety type duplex, grounded, IVORY, 15A, 120V, flush-mounted. Mount at eighteen (18) inches above finish floor, unless otherwise noted.
   b. Dryer Receptacle: Grounded black, to match cord set furnished with dryer.
   c. Switches: IVORY, rated 15A, 120/277V.
   d. Device Plates: Furnish and install wall plates of appropriate type and size for all wall outlets. Plates shall be IVORY, manufactured by device manufacturer. Where two or more devices are shown at the same location, use gang plate. Use weatherproof plates outdoors.
4. Panels: Panelboards shall be deadfront, completely enclosed for surface or flush mounting as shown on the drawings. The circuit breaker units shall be molded case type with thermal-magnetic tripping mechanism. Permanent, individual circuit numbers shall be affixed to each breaker or to the panel enclosure and a typewritten directory card shall be provided indicating circuit controlled and located in a card holder on the inside of the door. Each multi-pole breaker in main and/or power panels shall be furnished with a nameplate affixed to the panel enclosure indicating circuit controlled.
   a. All panelboards bussing and breakers as a unit shall be fully rated to safely interrupt available short circuit currents as established on the drawings or as otherwise required, 10,000 AIC minimum. Panels shall be Square D, Siemens/ITE, Challenger, Eaton or GE.
   b. Safety Switches: The Contractor shall furnish and install fusible or non-fusible switches as indicated on the drawings or as otherwise required by the National Electrical Code. All switches shall be heavy-duty, quick-make, quick-break in a NEMA 1 or NEMA 3R enclosure and shall disconnect all ungrounded conductors. Fuses shall be provided for all fusible switches. Provide dual element, time delay type for motor loads. Provide fuses for HVAC equipment with "let-through" short circuit current at less than 5,000A.
5. Electrical Service: Electrical service to the building shall be as shown on drawings and as permitted by local codes and ordinances. Service shall be as indicated on the drawings. Meter equipment shall be furnished and/or installed per local utility company requirements. Extend service feeders from the service equipment to the point of secondary service as directed by local utility company.
6. Branch Circuit Wiring: Balance circuits on panel on each phase and neutral as evenly as possible.

PART 3 - EXECUTION

1. General: The installation of all systems, devices, components, connections etc., shall be done in a first-class manner and in complete accordance with governing code requirements, manufacturer's recommendations and procedures, and these specifications.
   a. Contractor shall pay for all permits, fees, inspections and testing.
2. Conduit: Generally, conduits shall be concealed. Install exposed only in unfinished areas or where specifically indicated on the drawings. Install exposed conduits parallel with or at right angles to the building walls. All conduits shall be kept at least 6 inches from runs of flues, steam pipes, hot water pipes or other heat producing devices. No bends shall be made with a radius of less than six times the diameter of the conduit, nor more than 90 degrees. Conduits ends shall be cut square, reamed smooth and drawn up tight. All underground site conduit shall be buried a minimum of 36" below finish grade.
   a. Secure all conduit in place and protect to prevent damage to the work during construction. Plug conduit ends with cork or oakum to avoid filling with foreign matter during construction.
   b. Circuit layout on the drawings is shown diagrammatically only, and where changes are necessary due to structural conditions, other apparatus or causes, such changes shall be made without any additional cost to the Owner. Offsets in conduits are not indicated and must be furnished as required.
   c. Provide all empty conduits with a number 14 galvanized fishwire. Provide plastic bushings on ends to protect future cable pulls.
   d. Conduit bends shall be made with an approved bending device. Where bends do not meet National Electrical Code requirements, the intent of these specifications or conduit manufacturer's standards, the Contractor shall be required to replace such conduit in an approved manner.
   e. All openings around electrical penetrations through fire resistance rated walls, partitions, floors or ceilings shall be provided with an approved fire seal in UL assembly standards.
   f. Provide junction and/or pull boxes as required to avoid excessive runs or bends between outlets and/or equipment, sized in accordance with the National Electrical Code.
3. Conductors: Conductors shall not be pulled in until conduit runs are complete. No grease, oil, or lubricant, other than powdered soapstone or approved pulling compound shall be used to facilitate the pulling of conductors.
   a. All conductors shall be color coded in accordance with good wiring practices. The neutral conductor shall have an identifying white covering and the grounding conductor shall have a green covering. Ungrounded conductors shall be color coded in accordance with system voltage.
   b. Splices, terminations, taps, etc., shall be located in approved junction boxes, cabinets, wiring troughs, outlets, etc., properly sized in accordance with the National Electrical Code.

Otherwise, conductors shall be continuous and not spliced in panelboards, fittings, conduits, etc. Any splices 40A or more shall be insulated, lug-type.
4. Outlet Boxes: Wall outlets shall be single or ganged as required. Wall switches shall be installed for outlet control as indicated on the drawings.
   a. All outlet boxes shall be furnished of proper size with plates, adaptors, connectors, etc., as required.
   b. Lighting switches shall be grouped with one plate and located approximately 2 inches from door frame unless noted otherwise.
5. Power Wiring: Install as shown or as otherwise required, all wiring systems in accordance with these specifications. All motors and equipment shall be connected, protected and grounded in accordance with the National Electrical Code and these specifications.
   a. Provide disconnects for all motors or equipment as indicated on the drawings or as required by the National Electrical Code. Motor or equipment protection shall be in accordance with nameplate data and the National Electrical Code. Coordinate with others and provide over current protection and disconnecting means per actual nameplate maximum over current protection (MOCP).
   b. It shall be understood that this contractor is responsible for providing all necessary switches, fuse protection, overload protection, devices, etc., as may be required, by each piece of equipment under base bid.
   c. Motor starters shall be furnished by others, unless otherwise noted, but installed and connected by this contractor, except such starters indicated as an integral part of the specific equipment. All equipment shall be connected for correct rotation by this Contractor.
6. Grounding: The neutral conductor, at point of service only, and metal enclosures of the total wiring system shall be grounded in accordance with the National Electrical Code and as specified herein. The cold water pipe system and concrete footing rebar shall serve as the system ground and shall be connected by means of a ground electrode conductor, sized as indicated on the drawings, or as otherwise required, and connected with an approved ground clamp. The size of cold water pipe shall be as specified by the National Electrical Code and this Contractor shall provide an approved ground jumper around the water meter of equal size to the system grounding electrode conductor. A driven rod(s) supplemental electrode system shall also be established in accordance with these specifications.
   a. Grounding provisions shall be complete, continuous, in accordance with these specifications and NFPA requirements.
   b. All grounding electrode conductors shall be bare copper enclosed in galvanized rigid conduit, with an approved bonding bushing at each end, and accessible in accordance with the National Electrical Code.
   c. Ground clamps shall be the compression type by Kearney, Thomas & Betts, Penn-Union or approved equal.
   d. All connections to ground rods, building structure or any splice, "T" connection, etc., below grade shall be the exothermically welded type as manufactured by Cadweld or approved equal. All system components shall be supplied by one manufacturer.
   e. Ground rods shall be 3/4" copper clad encased steel, 10 foot lengths sectional type and driven full length into the ground. Resistance of all electrodes shall be in accordance with the National Electrical Code and additional rods shall be provided as required. Measurements shall be taken during normally dry conditions.
   f. Various branch circuits shall be equipped with an insulated, green grounding conductor as indicated on the drawings, or as otherwise required. Conduit raceways shall serve as a redundant grounding path as applicable and in accordance with the National Electrical Code.
   g. All EMT, plastic or flexible conduits shall be provided with a grounding conductor in addition to those indicated. Increase conduit size as applicable.
   h. Bond all grounding conductors to each of the pull boxes, junction boxes, cabinets and other enclosure through which the circuits pass, unless noted otherwise.
7. Wiring Devices: Unless otherwise noted, install wall devices vertically, so that devices of the same mounting heights will align exactly. Plates shall be plumb and true with all four edges in continuous contact with wall surfaces. Mount receptacles with the ground terminal on bottom. Do not install devices until plastering or other wall finishes are complete. If installed ahead of painting, protect devices from paint spills.
   a. Outlets at counters shall be installed to avoid conflict with splashboards, upper cabinets and other equipment. The Contractor is responsible for coordinating with the latest elevations, details, sections and the General Contractor and shall adjust mounting heights as directed.
   b. At receptacle devices where branch circuits feed through to additional outlets, pigtail connections shall be established for the neutral and grounding conductor (as applicable). It shall be possible to remove and/or disconnect any one device without disrupting the neutral or grounding path of another device.
8. Supports: All conduits, outlet boxes, pull boxes, equipment, panels, etc., shall be supported adequately in accordance with the National Electrical Code. General support spacing requirements shall be in accordance with the Code unless additional support is needed due to conditions encountered. Additional support shall be provided if so directed by the Architect and/or Engineer at no additional cost if conditions warrant.
9. Equipment Connections: Provide electrical connections to all equipment as shown on the drawings or as otherwise required. For equipment provided with portable cords, provide outlets of the proper NEMA configuration. All equipment shall be connected ready for operation in accordance with the manufacturer's recommendations, and these specifications.
   a. HVAC equipment power wiring shall be furnished and installed by this contractor. Control equipment and control wiring shall be furnished under DIVISION 15 unless otherwise noted. Coordinate exact location of all equipment, devices, outlets, etc. with the mechanical drawings and DIVISION 15 of these specifications.
   b. Auxiliary Systems: Provide devices, outlets, raceways, wiring, etc., for auxiliary systems, i.e. telephone, cable tv, fire alarm, intercom, etc. to the extent indicated on the drawings and as specified in Section 16700.

SECTION 16500 - LIGHTING

PART 1 - GENERAL

1. Furnish and install all lighting fixtures, complete with lamps, as indicated on schedule and floor plan. Catalog numbers are for basic units. Furnish and install all appurtenances necessary for a complete installation.
2. Prior to passing a final inspection the contractor shall produce evidence that the lighting control systems have been tested to ensure that the control hardware is calibrated, adjusted and programmed in accordance with construction documents and manufacturer's instructions (IECC C408.3.1).
3. Provide light fixtures as specified in the Light Fixture Schedule on drawings. No substitutions allowed.

PART 2 - PRODUCTS

1. All fixtures shall be LED, uno.
2. Provide adequate and substantial supports from structure for lighting fixtures. Do not rely on false or furred ceiling for support.
3. Provide shop drawings for lighting fixtures if not exactly as specified on the plans.
4. All LED fixtures shall be circuited with a dedicated neutral, shared neutrals is not allowed.

SECTION 16705 - FIRE ALARM SYSTEM PERFORMANCE SPECIFICATION

PART 1 - GENERAL

1. Fire Alarm System: Design and provide a complete fire alarm system. System shown on the Drawings is diagrammatic. A duly licensed fire alarm contractor shall be responsible for the system. The Contractor shall ensure compliance with national, state daycare licensing requirements and local fire codes, ordinances and regulations. The devices shown on the plans are schematic only and do not represent an engineered design. The Fire Alarm Contractor shall be responsible for the entire Fire Alarm system design and installation. Fire alarm system shall be installed, wired, connected, tested and left in operating condition. Test all components after installation for operation.
2. System shall be installed to enable remote 24 hour monitoring of the system. Remote station shall be as selected by Owner or as required by local authorities.
3. The Fire Alarm Subcontractor shall research all local, state, and national codes. He shall ascertain any additional requirements and identify same at the time of bid to the General Contractor. The Fire Alarm Contractor shall include in his price, at the time of contract, a system that is in full compliance with the codes.
4. System shall meet the requirements of NFPA-72 and UL.
5. Shop drawings signed and sealed by a licensed Fire Protection Engineer in the state of the project location, will be required to be submitted to the local permitting authorities. Include the following:
   a. Product data sheets and equipment description.
   b. Complete sequencing of operations and functions.
   c. List of all zones .
   d. Component wiring diagrams.
   e. Standby battery power calculations.
   f. Operating and maintenance instructions.
   g. Carbon Monoxide detector & trouble alert.

PART 2 - PRODUCTS

1. Equipment shall be by Simplex, ADT or Honeywell. System shall be addressable and devices shall be point addressable.
2. Fire alarm control panel shall be Simplex (Bases of Design) or equal to 4100ES (Emergency Voice/Alarm Communication Equipments) modular/solid state microprocessor based electronics including backlit liquid crystal display, individual red system alarm LEDs, amber supervisory service LEDs, individual yellow trouble LEDs, individual yellow alarm silenced LEDs, green power on LED, alarm acknowledge key, supervisory acknowledge key, trouble acknowledge key, alarm silence key, and system reset key. The control panel shall be in a locked recessed wall cabinet with transparent door for full view of indicators and controls. Devices listed shall be compatible with 4100-ES system.
3. Zone adaptor modules shall be Individual Addressable Modules (IAM) shall be Simplex type 4190-9150 with Addressable Automatic Detector mounting bases - Simplex 4098-9792.
4. Annunciator shall be Simplex 4606-9101 serial LCD type.
5. Manual pull stations shall be Simplex type 4099-9003 addressable single action with raised white lettering.
6. Heat sensors shall be Simplex type 4098-9733 on 4098-9792 base rated at 135 degrees F.
7. Smoke detectors shall be type 4098-9714 on 4098-9792 base.
8. Duct smoke detectors shall be Simplex Type 4098-9752 addressable photoelectric. Provide necessary sampling tubes across the entire width of ductwork. Provide to HVAC contractor for installation. Duct smoke detectors shall be connected to fire alarm system. Coordinate with notes on M0.1 and M1.0.
9. Sprinkler water flow and tamper switches shall be furnished by others and wired under this contract.
10. Audio visual devices shall be Simplex 4903-9247 semi flush mounted on a standard electrical box. Flash rate shall be flash per second with a candela rating on axis flash intensity as required by code. Horn shall be 100db.
11. Visual device shall be Simples 4904-9341 UL listed to UL Standard 1971. Flash rate shall be 1HZ with candela per code on-axis flash intensity.

PART 3 - EXECUTION

1. Install in accordance with plans, specifications, and shop drawings, and in accordance with all national and local codes, NEC criteria, and manufacturer's instructions. All signal wiring shall be twisted and shielded cable.
2. Use red boxes or spray paint boxes red.
3. Use red colored jacket wiring throughout the work.
4. Verify location of all devices and equipment with Fire Marshall's office and Owner's Project Representative prior to rough in.
5. All cabling shall be neatly routed and tie-wrapped. All cables shall be routed parallel to building lines.
6. Provide a NFPA 72 completion form, one year warranty, full wiring diagram, technical literature, and operating/maintenance instructions to the Owner.
7. Fully test in the presence of the Owner's representative and instruct same in the use of the system in a minimum four (4) hour systems operation training session.
8. Provide instruction manuals for the specific system including maintenance instructions and system documentation.

SECTION 16720 - TELEPHONE SYSTEM

PART 1 - GENERAL

1. Telephones:
   a. Provide and install boxes, wire and backboard for a complete telephone and data system.
   b. Wiring shall be four pair, 24 AWG cable with homeruns from all outlets to the backboard. Cable shall be continuous and may be attached to trusses. Cable shall not be attached to or laid on light fixtures, diffusers or the lay-in ceiling. Install cable at 90- degree angles to electrical conduits and wires.
   c. Provide one 4'x4'x3/4" plywood backboard mounted at 36" AFF at location shown on drawings or as directed in the field. See drawings.
   d. Install single gang boxes at heights indicated on drawings.
   e. At outlet locations, pull cable down wall to box, coil 6' and store in box. At equipment room leave 20' excess cable, coiled and hung from ceiling. Label both ends of each cable with a permanent marker or cable tag with the same distinct number on each end.
   f. Face plates and all final terminations will be by the telephone contractor.. All locations shall have a RJ11C or RJ14 jack - confirm compatibility with Owner's equipment.
   g. Provide a service entrance conduit of the size as specified by the local telephone company. Coordinate tie in points with local telephone company engineer. Entrance cable shall be at least 12 pair. Terminate building end in room as indicated on the drawings. Conduit shall be against wall under plywood backboard rise level to 12" AFF.
   h. On lower left of backboard provide a #6 AWG ground wire tied to the building ground system. Provide ground bar connector and mount on plywood.
   i. Provide a 15 amp 110 volt four plex outlet adjacent to the backboard.
   j. Provide wire from box to outlet for all outlets shown on plans and for the following:
      1. Fire Alarm panel to backboard.
      2. Wall hung phone in Kitchen.
      3. Office desk phone.
      4. Reception desk phone..

SECTION 16730 - INTERCOM SYSTEM

PART 1 - GENERAL

1. Intercom system installation shall comply with all governing codes and ordinances enforced by state and local agencies.
2. Contractor shall provide a complete and fully functional intercom system. Verify all components with manufacturer prior to bid.
3. All equipment shall be as listed on Sheet A-2.2. All parts shall be compatible with parts specified below.

PART 2 - PRODUCTS

1. Wiring shall be as required by the system manufacturer, with homeruns from all outlets to the main station. Cable shall be continuous and may be attached to trusses. Cable shall not be attached to or laid on light fixtures, diffusers or the ceiling. Install cable at 90- degree angles to electrical conduits and wires.

PART 3 - EXECUTION

1. Install system in strict accordance with manufacturer's instructions.
2. Owner's project manager shall approve all locations and mounting heights prior to rough-in. Installer shall be responsible for coordinating with other trades for availability of preferred locations.
3. Installer shall coordinate with General Contractor for any additional blocking or supports necessary to properly install the system.
4. Installer shall include in the bid a one hour training session for Owner's staff. Training shall be held at the project site with the system fully operational. Schedule training date and time with Owner no less than 10 days prior to actual date.

SECTION 16790 - BURGLAR ALARM SYSTEM

PART 1 - GENERAL

1. Security system will be provided by the Contractor.

PART 2 - PRODUCTS

1. The Main Security Panel shall be connected to a separate dedicated branch circuit, maximum 20 amperes. This circuit shall be labeled at the power panel as SECURITY.
2. See Electrical Plan E-3 for device locations.
3. Provide magnetic door contacts , recessed mount, electrical configuration normally open, loop configuration closed, material ABS plastic, color white Coordinate exact type of device with Owner's security vendor.
4. Provide motion detectors as shown on plan mounted at ceiling, above bulletin boards, equal to GE Precision Line PIR/RCR white. Coordinate exact type of device with Owner's security vendor.
5. Provide an allowance of $300 for control panel.
6. Wiring shall be shielded multi-conductor riser security cable (NEC type CL3R cable).

SECTION 16800 - COMPUTER WIRING SYSTEM

PART 1 - GENERAL

1. Computer wiring and outlet boxes shall be provided by the Contractor.

PART 2 - PRODUCTS

1. The extent of work is shown on sheet E-5, Network Plan.
2. Provide boxes as shown on plan, with conduit to above ceiling containing CAT-6 shielded wiring extended to Media Room with 6 ft. of slack on both ends. General Contractor to coordinate with Owner's vendor for specific cable requirements prior to installation.

PART 3 - EXECUTION

1. Run all wiring in a neat and workmanlike manner, without blocking walkways or access to equipment.

ABBREVIATIONS

(NOTE: NOT ALL ABBREVIATIONS ARE USED)

AFF	ABOVE FINISHED FLOOR	EM	EMERGENCY
AL	ALUMINUM	EWC	ELECTRIC WATER COOLER
AMP	AMPERE	EXIST'G	EXISTING
ATS	AUTO-TRANSFER SWITCH	GFCI	GROUND FAULT CIRCUIT INTERRUPTER
BFG	BELOW FINISHED GRADE	FL	FLOOR
BLDG	BUILDING	FLUOR	FLUORESCENT
CB	CIRCUIT BREAKER	GRD OR (G)	GROUND
CKT	CIRCUIT	IG	ISOLATED GROUND
CLG	CEILING	JB	JUNCTION BOX
COND OR "C"	CONDUIT	MCB	MAIN CIRCUIT BREAKER
CONN	CONNECT	MDP	MAIN DISTRIBUTION PANEL
CU	COPPER	MLO	MAIN LUG ONLY
C/T	CURRENT TRANSFORMER	MTG HT	MOUNTING HEIGHT
DIM	DIMMER	NF	NON FUSED
DMC	DESTINATION MATERNITY	NIC	NOT IN CONTRACT
DISC SW	DISCONNECT SWITCH	OFOI	OWNER FURNISH, OWNER INSTALL
DP	DOUBLE POLE	RT	RAIN TIGHT, NEMA 3R
DT	DOUBLE THROW	RTU	ROOF TOP UNIT
DPP	DISTRIBUTION POWER PANEL	SW	SWITCH
EC	EMPTY CONDUIT	UG	UNDERGROUND
EF	EXHAUST FAN	UNO	UNLESS KNOWN OTHERWISE
V.I.F.	VERIFY IN FIELD	WP	WEATHERPROOF
		XFMR	TRANSFORMER

ELECTRICAL SYMBOLS

(NOT ALL SYMBOLS ARE USED)

FIXTURE TYPE, SEE LIGHT FIXTURE SCHEDULE — CIRCUIT NUMBER — SWITCH LEG OR "NL" IF NON-SWITCHED

LIGHTING CIRCUITING KEY

- WALL MOUNTED FIXTURE
- 2' X 4' LED LIGHT FIXTURE, LAY-IN, NIGHT LIGHT
- 2' X 4' LED LIGHT FIXTURE, LAY-IN
- 5" X 4' LED LIGHT FIXTURE, CEILING MOUNTED
- 5" X 4' LED LIGHT FIXTURE, CEILING MOUNTED, NIGHT LIGHT
- RECESSED DOWNLIGHT
- OUTDOOR FLOOD LIGHTS
- $ — SINGLE POLE SW-20A-120/277V-LEVITON CSB1-20 IVORY OR EQ, MOUNT 48" AFF
- $ 3 — SAME AS ABOVE EXCEPT 3-WAY LEVITON CSB3-20 IVORY OR EQ, MOUNT 48" AFF
- $ M — SINGLE POLE SWITCH, MOTOR RATED, MOUNT 48" AFF
- $ D — SINGLE POLE OR 3-WAY 0-10V DIMMING SWITCH, LUTRON DVSTV-IV, MOUNT 48" AFF
- $ OS — SINGLE POLE WALL MOUNTED OCCUPANCY SENSOR, LEVITON OSSMT-GD, MOUNT 48" AFF
- $ OS 2P — TWO POLE WALL MOUNTED OCCUPANCY SENSOR, LEVITON OSSMD-GD, MOUNT 48" AFF
- OS — CEILING MOUNTED OCCUPANCY SENSOR, LEVITON ODC10-MDW
- OS LV — CEILING MOUNTED OCCUPANCY SENSOR, LOW VOLTAGE, LEVITON OSC10-RMW
- PP — POWER PACK FOR LOW VOLTAGE OCCUPANCY SENSOR, LEVITON OSP20-NDO
- DUPLEX RECEPTACLE TAMPER RESISTANT, LEVITON T-5320 IVORY OR EQ, MOUNT 18" AFF UNO, QUAD OUTLET = LEVITON 831-48689
- CR — CONTROLLED DUPLEX RECEPTACLE , LEVITON TBR15-52I IVORY OR EQ, MOUNT 18" AFF UNO
- T — TWIST LOCK RECEPTACLE
- GROUND FAULT RECEPTACLE, LEVITON T-7599 IVORY, 18" AFF UNO
- SPECIAL EQUIPMENT OUTLET, MOUNT AT 18" AFF UNO, CONFIRM NEMA CONFIRGURATION AND PROVIDE MATCHING PLUG IF NOT PROVIDED.
- TELEPHONE OUTLET WITH CABLE (8 WIRE) TO TELEPHONE INTERFACE ON EXTERIOR WALL OF BLDG AS APPROVED BY LOCAL UTILITY, MOUNT 18" AFF UNO
- COMPUTER LINE, PROVIDE CAT 5 WIRE TO ROUTER IN EXP ROOM, MOUNT 18" AFF UNO
- WALL MOUNTED TWIN HEAD BATTERY OPERATED EMERGENCY LIGHT FIXTURE, MOUNT 84" AFF, UNO
- BATTERY POWERED EMERGENCY EXIT LIGHT W/EMERGENCY LIGHT HEADS
- MOTOR
- J — JUNCTION BOX, SIZE AS REQUIRED
- DISTRIBUTION PANELBOARD
- BRANCH PANELBOARD
- DISCONNECT SWITCH, SIZE AS NOTED
- FAAP — FIRE ALARM ANNUNCIATOR PANEL
- FACP — FIRE ALARM CONTROL PANEL
- F — FA MANUAL PULL STATION, MOUNT 48" AFF
- F — FA VISUAL STROBE, MOUNT 80" AFF
- SS — FA SPEAKER & STROBE, MOUNT 80" AFF
- F — FA HORN AND STROBE, MOUNT 80" AFF
- DD — FA DUCT SMOKE DETECTOR
- SD — FA SMOKE DETECTOR
- HD — FA HEAT DETECTOR
- CO — CO ALARM, BRK ELECTRONICS CO5120BN, PROVIDE INTERCONNECTION AND WIRE ALL TOGETHER
- CH — DOOR BELL CHIME, NUTONE FLUSH MTD. LB14WH W/101T (2 REQ'D)
- DOOR BELL PUSHBUTTON NUTONE PB12NWH
- INT — INTERCOM STATION, MOUNT 48" AFF
- IM — INTERCOM MASTER
- VH — VENT HOOD
- A-7 — BRANCH CIRCUIT HOMERUN TO PANELBOARD; ALPHA-NUMERIC NOTATION INDICATES PANEL DESIGNATION AND CIRCUIT NUMBER
- T — TRANSFORMER
- SEC — SECURITY PANEL
- TC — TIMECLOCK, SEE RISER DIAGRAM
- C — LIGHTING CONTACTOR
- HTR — ELECTRIC WALL HEATER
- TSTAT — THERMOSTAT

SECURITY SYSTEM LEGEND

- M — MOTION DETECTOR, MOUNT 84" AFF
- P — PANIC BUTTON, TIE TO SECURITY SYSTEM, (1) UNDER RECEPTION COUNTER, (1) UNDER OFFICE COUNTER, & (1) IN RESOURCE ROOM NEXT TO HALLWAY DOOR AT 72" AFF, SHALL NOT BE VISIBLE TO THE GENERAL PUBLIC

CASCO
CASCO DIVERSIFIED CORPORATION
12 Sunken Drive, Suite 100, St. Louis, MO 63143 T: 314-821-1100

PRIMROSE SCHOOLS

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PRIMROSE SCHOOL FRANCHISING COMPANY
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No.	Description	Date

CONSTR. DOC. & REVISIONS

WILLIAM J. KINNEY — REGISTERED ENGINEER — AGRICULTURE — COMMERCE — No. 125877 — STATE OF TENNESSEE
04/06/23

Professional of Record:
WILLIAM J. KINNEY
LICENSE NO: 125877
EXP. DATE: 02/29/24

Drawn/Checked	TAT / WJK
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

SPECIFICATIONS

E0.1

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EQUIPMENT SCHEDULE

FILE: 2201021 LOAD.xlsm

PLAN MARK	EQUIPMENT SERVED	LOAD	VOLT/ PHASE	FED BY	DISC BY	MCA	MOCPD	FEEDER	REMARKS
RTU 1	ROOF TOP UNIT	14.12KVA	208/3	MDP	BUILT IN	39.2A	45A	(3)#6,#8G 3/4"C	
RTU 2	ROOF TOP UNIT	24.43KVA	208/3	MDP	BUILT IN	67.8A	80A	(3)#3,#8G 1-1/4"C	
RTU 3	ROOF TOP UNIT	17.58KVA	208/3	MDP	BUILT IN	48.8A	60A	(3)#4,#8G 1"C	
RTU 4	ROOF TOP UNIT	24.43KVA	208/3	MDP	BUILT IN	67.8A	80A	(3)#3,#8G 1-1/4"C	
VAV 1-1	VARIABLE AIR VOLUME	2.59KVA	208/3	MDP	BUILT IN	7.2A	15A	(3)#12,#12G 1/2"C	
VAV 1-2	VARIABLE AIR VOLUME	2.59KVA	208/3	MDP	BUILT IN	7.2A	15A	(3)#12,#12G 1/2"C	
VAV 1-3	VARIABLE AIR VOLUME	2.99KVA	208/3	MDP	BUILT IN	8.3A	15A	(3)#12,#12G 1/2"C	
VAV 1-4	VARIABLE AIR VOLUME	6.27KVA	208/3	MDP	BUILT IN	17.4A	20A	(3)#12,#12G 1/2"C	
VAV 1-5	VARIABLE AIR VOLUME	5.44KVA	208/3	MDP	BUILT IN	15.1A	20A	(3)#12,#12G 1/2"C	
VAV 2-1	VARIABLE AIR VOLUME	6.95KVA	208/3	MDP	BUILT IN	19.3A	20A	(3)#12,#12G 1/2"C	
VAV 2-2	VARIABLE AIR VOLUME	6.95KVA	208/3	MDP	BUILT IN	19.3A	20A	(3)#12,#12G 1/2"C	
VAV 2-3	VARIABLE AIR VOLUME	7.78KVA	208/3	MDP	BUILT IN	21.6A	25A	(3)#10,#10G 1/2"C	
VAV 2-4	VARIABLE AIR VOLUME	7.78KVA	208/3	MDP	BUILT IN	21.6A	25A	(3)#10,#10G 1/2"C	
VAV 3-1	VARIABLE AIR VOLUME	8.57KVA	208/3	MDP	BUILT IN	23.8A	25A	(3)#10,#10G 1/2"C	
VAV 3-2	VARIABLE AIR VOLUME	15.96KVA	208/3	MDP	BUILT IN	44.3A	45A	(3)#6,#8G 3/4"C	
VAV 4-1	VARIABLE AIR VOLUME	6.95KVA	208/3	MDP	BUILT IN	19.3A	20A	(3)#12,#12G 1/2"C	
VAV 4-2	VARIABLE AIR VOLUME	6.95KVA	208/3	MDP	BUILT IN	19.3A	20A	(3)#12,#12G 1/2"C	
VAV 4-3	VARIABLE AIR VOLUME	8.57KVA	208/3	MDP	BUILT IN	23.8A	25A	(3)#10,#10G 1/2"C	
VAV 4-4	VARIABLE AIR VOLUME	6.95KVA	208/3	MDP	BUILT IN	19.3A	20A	(3)#12,#12G 1/2"C	
DRY 1	DRYER	4.41KVA	208/120/1	A	PLUG	21.2A	30A	(3)#10,#10G 1/2"C	PROVIDE NEMA 14-30R REC
DRY 2	DRYER	4.41KVA	208/120/1	A	PLUG	21.2A	30A	(3)#10,#10G 1/2"C	PROVIDE NEMA 14-30R REC
MCR 1	MICROWAVE	4.41KVA	208/1	A	PLUG	21.2A	30A	(2)#10,#10G 1/2"C	PROVIDE NEMA 6-30R REC
OVN 1	CONVECTION OVEN	5.60KVA	208/1	A	PLUG	26.9A	30A	(2)#10,#10G 1/2"C	PROVIDE NEMA L6-30R LOCKING REC
EH 1	ELECTRIC HEATER	3.00KVA	208/1	A	BUILT IN	14.4A	20A	(2)#12,#12G 1/2"C	
DW 1	DISHWASHER (FUTURE)	6.00KVA	208/1	A	EC	28.8A	35A	(2)#8,#10G 3/4"C	PROVIDE 60A NF DISC MOUNTED UNDER COUNTER NEAR ICE MACHINE
EF 1	EXHAUST FAN	0.52KVA	120/1	A	EC	4.3A	15A	(2)#12,#12G 1/2"C	
EF 2	EXHAUST FAN	0.52KVA	120/1	A	EC	4.3A	15A	(2)#12,#12G 1/2"C	
EF 3	EXHAUST FAN	0.52KVA	120/1	A	EC	4.3A	15A	(2)#12,#12G 1/2"C	
EF 4	EXHAUST FAN	0.52KVA	120/1	A	EC	4.3A	15A	(2)#12,#12G 1/2"C	

VOLTAGE DROP CALCULATIONS

PANEL /LOAD	FEEDER AWG	SETS	CU/AL	PH	OHMS/K-FT NEC TABLES	LENGTH	Z	LOAD	V-DROP	V	%V-DROP
MDP	#300	3	CU	3	0.065 OHM/K-FT	204 FT	0.0044 OHM	577 A	2.55 V	208 V	1.23%

UT. XFRM FAULT CB3:E40ALC		2201021 LOAD.xlsm
SERVICE ENTRANCE		CALCULATION
VOLTAGE (L-L):	208V	I-FLA=[RATED KVA * 1000]/ [V-LL*SQRT(PHASE)]
PHASE (PH):	3	
AMPS:	800A	I-FLA= 833A
FULL LOAD KVA:	288KVA	
TRANSFORMER:	300KVA	M=100/%Z= 90.1
IMPEDANCE (%Z):	1.1%Z	I-SC=I-FLA*M= 75 KA

CALCULATION IS BASED ON ESTIMATED TRANSFORMER SIZE WITH %Z FROM BUSSMANN SPD. CONTRACTOR SHALL CONTACT UTILITY AND VERIFY I-SC AVAILABLE AT SECONDARY OF TRANSFORMER. CONTACT ENGINEER FOR RE-CALCULATION IF LARGER THAN CALCULATED.

MOTOR LOAD FAULT CALC		2201021 LOAD.xlsm
STARTING I-SC:	75 KA	CALCULATION
MOTOR LOAD (KVA):	140KVA	I-SC(ML)=I-ML*6= 2,332A
MOTOR LOAD (A):	389A	I-SC=I-SC+I-SC(ML)= 77 KA

SERVICE FEEDER FAULT CALC		2201021 LOAD.xlsm
STARTING I-SC:	77 KA	IMPEDANCE BASED ON 3 SINGLE CONDUCTORS IN NON-MAGNETIC CONDUIT (WORSE CASE)
VOLTAGE (L-L):	208V	
PHASE (PH):	3	
FEEDER SIZE:	300	CALCULATION
FEEDER MATERIAL:	CU	f=[SQRT(PHASE)*L*IS-C]/ [Q*C*V-LL]
PARALLEL SETS (Q):	2 SETS	
FEEDER LENGTH (L):	210FT	f= 3.269
FEET PER OHMS (C):	20,686 FT/OHMS	M=1/(1+f)= 0.234
		I-SC=I-SC*M= 18.12 KA

NOTE: CALCULATION BASED ON BUSSMANN SPD

MDP-1, MDP-2, A FEEDER FAULT CALC		2201021 LOAD.xlsm
STARTING I-SC:	18 KA	IMPEDANCE BASED ON 3 SINGLE CONDUCTORS IN NON-MAGNETIC CONDUIT (WORSE CASE)
VOLTAGE (L-L):	208V	
PHASE (PH):	3	
FEEDER SIZE:	3/0	CALCULATION
FEEDER MATERIAL:	CU	f=[SQRT(PHASE)*L*IS-C]/ [Q*C*V-LL]
PARALLEL SETS (Q):	1 SETS	
FEEDER LENGTH (L):	24FT	f= 0.260
FEET PER OHMS (C):	13,923 FT/OHMS	M=1/(1+f)= 0.794
		I-SC=I-SC*M= 14.38 KA

NOTE: CALCULATION BASED ON BUSSMANN SPD

1

LOCATION
MOUNT CONTACTORS ABOVE PANELS IN LAUNDRY ROOM.

HVAC CONTROLLER PROVIDED BY MECHANICAL CONTRACTOR. PROVIDE CIRCUITRY AS SHOWN. COORDINATE WORK.

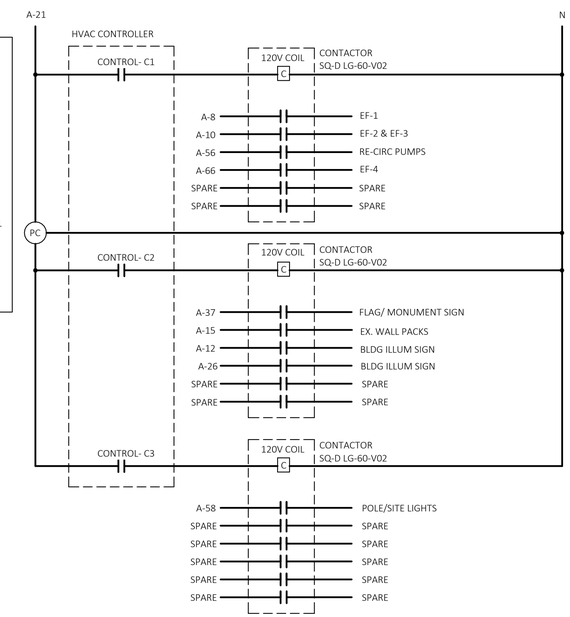
CONTROL-1
SET TO "ON" WHEN BUILDING OPENS AND "OFF" WHEN CLOSED. USE OPTION TO BLOCK SAT/SUN.

CONTROL-2
SET TO "ON" FROM DUSK TO DAWN.

CONTROL-3
SET TO "OFF" AS DIRECTED BY FRANCHISEE. TURNS OFF SITE POLE LIGHTS IN MIDDLE OF THE NIGHT.

NOTE:
HVAC CONTROLER IS PROVIDED BY MC.
CONTACTORS ARE PROVIDED BY EC.

SEE SHEET M3.1 & M3.2 FOR MORE INFOMARTION.



3 E1.0 HVAC CONTROL PANEL WIRING DIAGRAM

SCALE: NTS

GENERAL ONE-LINE NOTES

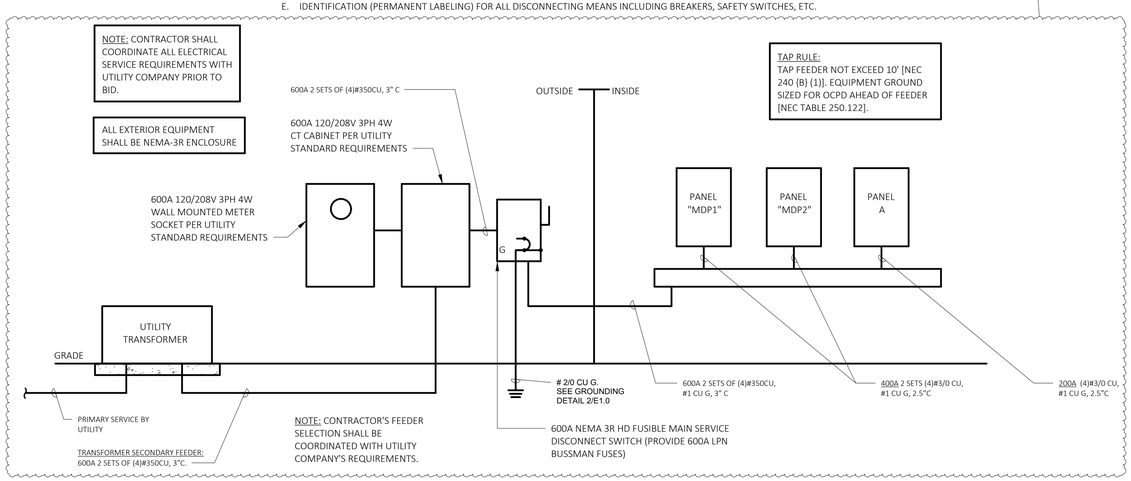
A. ALL SERVICE EQUIPMENT SHALL BE PROVIDED IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS - VERIFY VOLTAGE, PHASE, UNDERGROUND POINT OF CONNECTION, ETC.
B. ALL WORK SHALL BE IN ACCORDANCE WITH NFPA 70 (NEC) AND LOCAL ORDINANCES.
C. SPACE RESTRICTIONS APPLY. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR AND SHALL VERIFY AVAILABLE SPACE WITH ACTUAL DIMENSION OF ALL SUBSTITUTION FROM DESIGN SPECIFICATIONS.
D. CONFIRM BREAKER SIZES WITH MECHANICAL CONTRACTOR PRIOR TO INSTALLATION.
E. IDENTIFICATION (PERMANENT LABELING) FOR ALL DISCONNECTING MEANS INCLUDING BREAKERS, SAFETY SWITCHES, ETC.

1

NOTE: CONTRACTOR SHALL COORDINATE ALL ELECTRICAL SERVICE REQUIREMENTS WITH UTILITY COMPANY PRIOR TO BID.

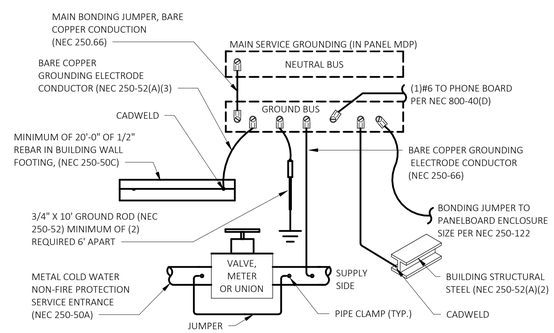
ALL EXTERIOR EQUIPMENT SHALL BE NEMA-3R ENCLOSURE

TAP RULE:
TAP FEEDER NOT EXCEED 10' [NEC 240 (B) (1)]. EQUIPMENT GROUND SIZED FOR OCPD AHEAD OF FEEDER [NEC TABLE 250.122].



1 E1.0 ELECTRICAL ONE-LINE DIAGRAM

SCALE: NOT TO SCALE



NOTE: ALL GROUNDING SHALL BE INSTALLED IN ACCORDANCE WITH ARTICLE 250-53 OF THE NATIONAL ELECTRICAL CODE.

GENERAL GROUNDING NOTES

A. FULL SIZE GROUND MEANS THAT GROUND CONNECTOR SIZE SHALL BE AS SHOWN ON SERVICE EQUIPMENT ON THE POWER RISER DIAGRAM.
B. AFTER GROUNDING SYSTEM IS INSTALLED, GROUND RESISTANCE SHALL BE MEASURED, TO ASSURE THAT GROUND VALUE OF 15 OHM MAXIMUM RESISTANCE IS ACHIEVED. IF NOT, ADDITIONAL GROUNDING SHALL BE PROVIDED TO MEET THE SPECIFIC VALUE.
C. ALL CONNECTIONS TO GROUND RODS SHALL BE EXOTHERMIC WELD CONNECTIONS.
D. WHERE LOCATED OUTSIDE OF BUILDING, TOP OF GROUND ROD SHALL BE 12" (MINIMUM) BELOW GRADE. PROVIDE NON-METALIC INSPECTION WELL WITH REMOVABLE COVER.
E. GROUND CONNECTOR SHALL BE LOCATED WITHIN OR NEAR BOTTOM OF CONCRETE FOUNDATION OR FOOTING THAT IS IN DIRECT CONTACT WITH THE EARTH, AND SHALL CONSIST OF AT LEAST 20 FEET OF ONE OR MORE STEEL REINFORCING BARS OR RODS OF NOT LESS THAN 1/2 INCH DIAMETER OR OF AT LEAST 20 FEET OF BARE COPPER CONDUCTOR ALL CONDUCTORS SHALL BE COPPER. BONDING OF HOT WATER PIPE, COLD WATER PIPE, AND UTILITY SYSTEM.
F. ALL CONDUCTORS SHALL BE COPPER.

2 E1.0 GROUNDING DETAIL

SCALE: NTS

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Date
04/06/23

CONSTR. DOC. & REVSIONS

No.	Description
1	FOR CONSTRUCTION

WILLIAM J. KINNEY JR. REGISTERED ENGINEER AGRICULTURE COMMERCE No. 125877 STATE OF TENNESSEE
04/06/23
Professional of Record:
WILLIAM J. KINNEY
LICENSE NO: 125877
EXP. DATE: 02/29/24

Drawn/Checked	TAT / WJK
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

ONE LINE & SCHEDULES

E1.0

4/6/2023 9:08:17 AM

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1

MOUNT:	FLUSH	120/208 Wye	PHASE: 3	WIRES: 4	PANEL	MDP1	CAPACITY:	400 A	INT CAP:	22 KA
LOCATION:	LAUNDRY ROOM 7				LUGS:	MLO	DEMAND LOAD:	209 A	AV. FAULT:	14.38 KA

N...	CKT	LTG	REC	HVAC	MISC	NP	DESCRIPTION	AMP	P...	A	B	C	P...	AMP	DESCRIPTION	NP	MISC	HVAC	REC	LTG	CKT	N...
C	1			4.7			RTU-1	45	3				3	80	RTU-2			8.1			2	C
--	3			4.7			--	--	--				--	--	--			8.1			4	--
--	5			4.7			--	--	--				--	--	--			8.1			6	--
	7			0.7			VAV 1-1	15	3				3	15	VAV 1-2			0.9			8	
--	9			0.7			--	--	--				--	--	--			0.9			10	--
--	11			0.7			--	--	--				--	--	--			0.9			12	--
	13			1.0			VAV 1-3	15	3				3	20	VAV 1-4			2.1			14	
--	15			1.0			--	--	--				--	--	--			2.1			16	--
--	17			1.0			--	--	--				--	--	--			2.1			18	--
	19			1.8			VAV 1-5	20	3				3	20	VAV 2-1			2.3			20	
--	21			1.8			--	--	--				--	--	--			2.3			22	--
--	23			1.8			--	--	--				--	--	--			2.3			24	--
	25			2.3			VAV 2-2	20	3				3	25	VAV 2-3			2.6			26	
--	27			2.3			--	--	--				--	--	--			2.6			28	--
--	29			2.3			--	--	--				--	--	--			2.6			30	--
	31		2.2				DRY - 1	30	2				2	30	DRY -2				2.2		32	
--	33		2.2				--	--	--				--	--	--				2.2		34	--
GFI	35		2.2				MCR-1	30	2												36	
--	37		2.2				--	--	--												38	
	39																				40	
	41																				42	

PHASE BALANCE			
LOAD...	33.2	31.0	28.8
CURRENT...	279	261	261
PHASE %:	36	33	31

LOAD TYPE	DEMAND FORMULA	CONNECTED	DEMAND FACTOR	DEMAND	TOTAL LOAD CONNECTED	TOTAL LOAD DEMAND
Lighting	LOAD * 125% NEC 210.9 CONTINUOUS	0 VA	0.00%	0 VA	92909 VA	75358 VA
Receptacle	10kVA + 50% REMAINDER NEC 220.44	13230 VA	87.79%	11615 VA	258 A	209 A
HVAC	LOAD * 80% (USED MCA IN CALCULATION)	79679 VA	80.00%	63743 VA		
Misc.	LOAD * 100% NEC 210.19 NON-CONTINUOUS	0 VA	0.00%	0 VA		
Non-Peak	0 NON-COINCIDENTAL LOADS NEC 220.60	0 VA	0.00%	0 VA		

NOTES:
A. PANEL REQUIRED TO BE FULLY RATED. MAY NOT SERIES RATE DUE TO MOTOR LOAD PER NEC 240.86.C
B. PROVIDE LABELING TO IDENTIFY THE SERIES RATING OF THE PANELS PER NEC 110.22(B),(C).
C. HACR RATED BREAKER. BREAKER FOR HVAC UNITS SHALL BE SIZED PER MANUFACTURER REQUIERMENTS.

MOUNT:	FLUSH	120/208 Wye	PHASE: 3	WIRES: 4	PANEL	MDP2	CAPACITY:	400 A	INT CAP:	22 KA
LOCATION:	LAUNDRY ROOM 7				LUGS:	MLO	DEMAND LOAD:	261 A	AV. FAULT:	14.38 KA

N...	CKT	LTG	REC	HVAC	MISC	NP	DESCRIPTION	AMP	P...	A	B	C	P...	AMP	DESCRIPTION	NP	MISC	HVAC	REC	LTG	CKT	N...
C	1			5.9			RTU-3	60	3				3	80	RTU-4			8.1			2	C
--	3			5.9			--	--	--				--	--	--			8.1			4	--
--	5			5.9			--	--	--				--	--	--			8.1			6	--
	7			2.6			VAV 2-4	25	3				3	25	VAV 3-1			2.9			8	
--	9			2.6			--	--	--				--	--	--			2.9			10	--
--	11			2.6			--	--	--				--	--	--			2.9			12	--
	13			2.3			VAV 3-2	20	3				3	20	VAV 3-3			2.9			14	
--	15			2.3			--	--	--				--	--	--			2.9			16	--
--	17			2.3			--	--	--				--	--	--			2.9			18	--
	19			2.3			VAV 4-1	20	3				3	20	VAV 4-2			2.3			20	
--	21			2.3			--	--	--				--	--	--			2.3			22	--
--	23			2.3			--	--	--				--	--	--			2.3			24	--
	25			2.9			VAV 4-3	25	3				3	20	VAV 4-4			2.3			26	
--	27			2.9			--	--	--				--	--	--			2.3			28	--
--	29			2.9			--	--	--				--	--	--			2.3			30	--
GFI	31		2.8				OVN-1	30	2				2	35	DW-1...		3.0				32	GFI
--	33		2.8				--	--	--				--	--	--		3.0				34	--
	35						SPARE	20	1				1	20	SPARE						36	
	37						SPARE	20	1				1	20	SPARE						38	
	39						SPARE	20	1				1	20	SPARE						40	
	41						SPARE	20	1				1	20	SPARE						42	

PHASE BALANCE			
LOAD...	40.2	40.2	34.4
CURRENT...	342	342	342
PHASE %:	35	35	30

LOAD TYPE	DEMAND FORMULA	CONNECTED	DEMAND FACTOR	DEMAND	TOTAL LOAD CONNECTED	TOTAL LOAD DEMAND
Lighting	LOAD * 125% NEC 210.9 CONTINUOUS	0 VA	0.00%	0 VA	114787 VA	94150 VA
Receptacle	10kVA + 50% REMAINDER NEC 220.44	5600 VA	100.00%	5600 VA	319 A	261 A
HVAC	LOAD * 80% (USED MCA IN CALCULATION)	103187 VA	80.00%	82550 VA		
Misc.	LOAD * 100% NEC 210.19 NON-CONTINUOUS	6000 VA	100.00%	6000 VA		
Non-Peak	0 NON-COINCIDENTAL LOADS NEC 220.60	0 VA	0.00%	0 VA		

NOTES:
A. PANEL REQUIRED TO BE FULLY RATED. MAY NOT SERIES RATE DUE TO MOTOR LOAD PER NEC 240.86.C
B. PROVIDE LABELING TO IDENTIFY THE SERIES RATING OF THE PANELS PER NEC 110.22(B),(C).
C. HACR RATED BREAKER. BREAKER FOR HVAC UNITS SHALL BE SIZED PER MANUFACTURER REQUIERMENTS.

MOUNT:	FLUSH	120/208 Wye	PHASE: 3	WIRES: 4	PANEL	A	CAPACITY:	200 A	INT CAP:	22 KA
LOCATION:	LAUNDRY ROOM 7				LUGS:	MLO	DEMAND LOAD:	127 A	AV. FAULT:	14.38 KA

NOTE	CKT	LTG	REC	HVAC	MISC	NP	DESCRIPTION	AMP	P...	A	B	C	P...	AMP	DESCRIPTION	NP	MISC	HVAC	REC	LTG	CKT	NOTE
	1	1.6					LTG CLASSROOM D2,D1,C2	20	1				1	20	LTG CONF. RECPT. OFFICE					0.4	2	
	3	1.3					LTG CLASSROOM C1, EP3	20	1				1	20	LTG CLASS B1,B2, EP1					1.0	4	
	5	0.5					LTG WARMING KITCHEN	20	1				1	20	LTG CLASS EXP, EP2 TOILETS					1.1	6	
	7		0.2				IPAD CHARGING STATION	20	1				1	15	EF-1			0.5			8	
	9	0.5					LTG GALLERY	20	1				1	15	EF 2 & EF 3			1.0			10	CP
	11		1.1				REC CLASSROOM A1	20	1				1	20	BLDG SIGN					1.2	12	CP
	13		0.9				REC CLASSROOM A2	20	1				1	20	COPY RESOURCE				1.2		14	
CP	15	0.2					EXTERIOR LIGHTING	20	1				1	20	REC KITCHEN				0.9		16	
	17		0.9				REC CLASSROOM B2	20	1				1	20	REC GALLERY				1.4		18	
	19		0.9				REC CLASSROOM EP3	20	1				1	20	EWC				0.5		20	GFI
LO	21				0.2		LTG CONTROLS	20	1				1	20	REC UC REFRIGERATOR RECEPTION				1.2		22	GFI
	23		0.7				TBB	20	1				1	20	REC OUTDOOR STORAGE				0.5		24	
	25		0.2				IRRIGATION	20	1				1	20	LTG BLDG SIGN					1.2	26	
GFI	27		1.6				ICE MAKER	20	1				1	20	REFRIGERATOR				1.2		28	GFI
LO	29				0.2		FACP	20	1				1	20	FREEZER				1.2		30	GFI
	31				0.2		INTERCOM	20	1				1	20	WASHER 1				1.4		32	
LO	33				0.3		SECURITY	20	1				1	20	WASHER 2				1.4		34	
	35		1.1				RTU REC	20	1				1	20	GARB DISP (FUTURE)			0.6			36	GFI
CP	37	0.5					MONUMENT SIGN	20	1				1	20	REC CLASSROOM B3				1.3		38	
	39		1.2				REFRIG CLASSROOM A1	20	1				1	20	REC CLASSROOM EP2				0.9		40	
	41		1.2				REFRIG CLASSROOM A2	20	1				1	20	REC CLASSROOM EP1				1.1		42	
	43		1.3				REC CLASSROOM D2	20	1				1	20	REC CLASSROOM B1				0.9		44	
	45		1.3				REC CLASSROOM D1	20	1				1	20	REC RECEPTION				1.2		46	
	47		1.3				REC CLASSROOM C2	20	1				1	20	REC CONFERENCE RM				0.5		48	
	49		1.3				REC CLASSROOM C1	20	1				1	20	REC KITCHEN				0.8		50	
	51		0.4				REC CLASSROOM A1	20	1				1	20	REC LAUNDRY				0.6		52	
	53		0.5				REC CLASSROOM A2	20	1				1	15	WATER HEATER			1.1			54	
	55		0.5				REC RESOURCE	20	1				1	20	RE-CIRC PUMP 1&2			0.4			56	CP
	57		0.5				REC STAFF	20	1				1	20	SITE LIGHTING					0.3	58	CP
	59		0.5				REC OFFICE	20	1				1	20	REC OFFICE				0.4		60	
	61			1.5			EH 1	20	2				1	20	REC MONITOR RECEPTION				0.2		62	
--	63			1.5			--	--	--				1	20	CAPTIVEAIRE CONTROL PANEL			1.1			64	
	65		0.4				REC RECEPTION 3	20	1				1	15	EF-4				0.5		66	CP
	67				1.1		CAPTIVEAIRE CONTROL PANEL	20	1				1	20	REC CLASSROOM EP3				1.3		68	
	69				0.2		FAAP	20	1				1	20	SPARE						70	
	71						SPARE	20	1				1	20	SPARE						72	
	73						SPARE	20	1				1	20	SPARE						74	
	75						SPARE	20	1				1	20	SPARE						76	
	77						SPARE	20	1				1	20	SPARE						78	
	79						SPARE	20	1				1	20	SPARE						80	
	81						SPARE	20	1				1	20	SPARE						82	
	83						SPARE	20	1				1	20	SPARE						84	

PHASE BALANCE			
LOAD...	20.2	20.2	18.2
CURREN...	171	171	171
PHASE %:	35	35	31

LOAD TYPE	DEMAND FORMULA	CONNECTED	DEMAND FACTOR	DEMAND	TOTAL LOAD CONNECTED	TOTAL LOAD DEMAND
Lighting	LOAD * 125% NEC 210.9 CONTINUOUS	9715 VA	125.00%	12143 VA	58152 VA	45666 VA
Receptacle	10kVA + 50% REMAINDER NEC 220.44	37820 VA	63.22%	23910 VA	161 A	127 A
HVAC	LOAD * 80% (USED MCA IN CALCULATION)	5070 VA	80.00%	4056 VA		
Misc.	LOAD * 100% NEC 210.19 NON-CONTINUOUS	5425 VA	100.00%	5425 VA		
Non-Peak	0 NON-COINCIDENTAL LOADS NEC 220.60	0 VA	0.00%	0 VA		

NOTES:
A. PROVIDE LABELING TO IDENTIFY THE SERIES RATING OF THE PANELS PER NEC 110.22(B),(C).
B. "LO" PROVIDE LOCKABLE CIRCUIT BREAKER WITH ABILITY TO BE "LOCKED ON".
C. "GFI" PROVIDE GFCI CIRCUIT BREAKER.
D. "CP" CIRCUIT TO BE CONTROLLED BY HVAC CONTROL PANEL, REFER TO DETAIL 3/E1.O FOR WIRING DIAGRAM.
E. HACR RATED BREAKER. BREAKER FOR HVAC UNITS SHALL BE SIZED PER MANUFACTURER REQUIERMENTS.

120/208	3-PHASE, 4W	LOAD	CAPACITY: 600A DEMAND LOAD: 539A	
LOAD TYPE	CONNECTED	DEMAND	DEMAND FORMULA	TOTAL LOAD CONNECTED / DEMAND
LIGHTING	9.7 KVA	12.1 KVA	LOAD X 125% NEC 210.19 CONTINUOUS	
RECEPTACLE	57.7 KVA	33.9 KVA	10KVA + 50% REMAINDER NEC 220.44	265.8 KVA / 215.2KVA
HVAC	187.9 KVA	150.3 KVA	LOAD X 80% (USED MCA IN CALCULATION)	809.0A / 539.0A
MISC	11.4 KVA	11.4 KVA	LOAD X 100% NEC 210.19 NON-CONT.	FILENAME:
NP	0.0 KVA	0.0 KVA	0 NONCOINCIDENTAL LOADS NEC 220.60	2201021 LOAD.xlsm

1

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Date
04/06/23

CONSTR. DOC. & REVISIONS

No.	Description
1	FOR CONSTRUCTION

WILLIAM J. KINNEY
REGISTERED ENGINEER
AGRICULTURE COMMERCE
No. 125877
STATE OF TENNESSEE
04/06/23

Professional of Record:
WILLIAM J. KINNEY
LICENSE NO: 125877
EXP. DATE: 02/29/24

Drawn/Checked	TAT / WJK
Project Number	2101021
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Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

PANEL SCHEDULES

E1.1

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NORTH

1 E2.0

LIGHTING PLAN

SCALE: 1/8" = 1'-0"

LIGHTING PLAN KEYED NOTES

1. NO AUTOMATIC LIGHTING CONTROLS IN CORRIDORS DUE TO SECURITY OF ROOM AND SAFETY OF OCCUPANTS.
2. SEE ARCHITECTURAL EXTERIOR ELEVATIONS SHEET A4.O FOR MOUNTING HIEGHTS OF LIGHT FIXTURES.
3. MULTI-LEVEL SWITCH SHALL BE PROVIDED FOR EACH ROOM AS SHOWN.
4. NO AUTOMATIC LIGHTING CONTROLS IN KITCHEN OR IN LAUNDRY ROOM DUE TO LIFE SAFETY AND ELECTRICAL PANELS.
5. DAYLIGHTING ZONE - EXEMPT WHERE THERE IS LESS THAN 150W WITHIN DAYLIGHT ZONE, 50% OR MORE OF LIGHT FIXTURE MUST BE WITHIN THE ZONE TO REQUIRE DAYLIGHTING CONTROLS.

LIGHTING GENERAL NOTES

A. DEVICE LOCATIONS SHOWN ON THE PLAN SHALL BE PLACED EXACTLY AS SHOWN. REFER ANY QUESTIONS TO THE ARCHITECT.
B. ALL FIXTURES, WIRE, AND ELECTRIC DEVICES SHALL BE U.L. APPROVED.
C. ALL OUTSIDE LIGHTING SHALL BE ON PHOTCELL CONTROL.
D. ALL BRANCH LIGHTING AND RECEPTACLE CIRCUITS IN EXCESS OF 100 FT TO LOAD CENTER FROM PANEL SHALL BE #10 AWG.
E. ALL LIGHTING SHALL BE CIRCUITED TO PANEL A.
F. ALL LED LIGHTS SHALL HAVE DEDICATED NEUTRAL.
G. ALL CONDUITS THROUGH CEILING AND ALL INTERIOR RECESSED DOWNLIGHTS TO BE SEALED AROUND FIXTURE TO PREVENT LIGHT LEAKS AND AIR PENETRATION INTO CEILING SPACE.

IECC 2018 - LIGHTING CONTROLS:

A. EXCEPTION TO ALL CONTROLS (C405.2)
  A.A. SECURITY OR EMERGENCY AREAS THAT ARE REQUIRED TO BE CONTINUOUSLY LIT.
    A.A.A. EXEMPT ROOMS - LAUNDRY, KITCHEN FOR LIFE SAFETY
  A.B. INTERIOR EXIT STAIRWAYS, RAMPS, AND PASSAGEWAYS.
    A.B.A. EXEMPT ROOMS - MAIN HALLWAY (GALLERIES)
  A.C. EMERGENCY EGRESS THAT IS NORMALLY OFF.

B. OCCUPANCY SENSORS (C405.2.1)
  B.A. CLASSROOOMS, CONFERENCE, BREAK ROOMS, OFFICES, RESTROOMS, STORAGE, JANITOR, WAREHOUSE, AND 300 SQUARE FOOT OR LESS AND ENCLOSED, WAREHOUSE.
  B.B. FUNCTION (C405.2.1.1)
    B.B.A. 20 MINUTES TO AUTOMATIC OFF
    B.B.B. MANUAL ON (VACANCY SENSOR)
      B.B.B.A. EXCEPTIONS:
        B.B.B.A.A. CORRIDORS
        B.B.B.A.B. RESTROOMS
        B.B.B.A.C. ENTRANCE-LOBBIES
        B.B.B.A.D. AREAS DUE TO SAFETY OR SECURITY OF THE ROOM.
    B.B.C. ALL AREAS MUST HAVE LOCAL CONTROLS

C. TIME-SWITCH CONTROLS (C405.2.2)
  C.A. PERTAINS TO AREAS WITHOUT OCC SENSORS
  C.B. EXCEPTION WITH LIGHT REDUCTION (C405.2.2.2)
    C.B.A. AUTOMATIC SHUT-OFF WOULD ENDANGER (ELEC ROOMS)
    C.B.B. NIGHT LIGHTS
  C.C. FUNCTION (C405.2.2.1)
    C.C.A. 2-HOUR MANUAL OVER-RIDE
    C.C.B. OVER-RIDE FOR 5,000 SF MAX
  C.D. LIGHT REDUCTION CONTROLS OF AT LEAST 50% (C405.2.2.2)
    C.D.A. REQUIRED EVERYWHERE WITHOUT OCC SENSORS
      C.D.A.A. EXCEPTIONS:
        C.D.A.A.A. (1) LUMINAIRE LESS THAN 100W
        C.D.A.A.B. 0.6W/SF OR LESS
        C.D.A.A.C. CORRIDORS, EQUIP ROOMS, PUBLIC LOBBIES, ELEC OR MECH ROOMS
        C.D.A.A.D. DAYLIGHTING ZONES AUTOMATICALLY CONTROLLED.
  C.E. MANUAL CONTROLS (C405.2.2.3)
    C.E.A. READILY ACCESSIBLE
    C.E.B. VISIBLE TO LIGHTS OR LABEL SWITCHES

D. DAYLIGHTING CONTROLS (C405.2.3)
  D.A. AUTOMATIC CONTROLS (DAYLIGHT-RESPONSIVE CONTROLS)
    D.A.A. EXCEPTIONS:
      D.A.A.A. LESS THAN 150W OF GENERAL LIGHTING
  D.B. SIDELIGHT ZONE (WINDOW) (C405.2.3.2)
    D.B.A. AREA: WIDTH OF WINDOW + 2' ON EACH SIDE BY HEIGHT OF TOP OF WINDOW INSIDE (7'-0")
    D.B.B. EXEMPT: SPACES WHICH HAVE LESS THAN 150W OF GENERAL LIGHTING IN THEIR DAYLIGHT ZONES

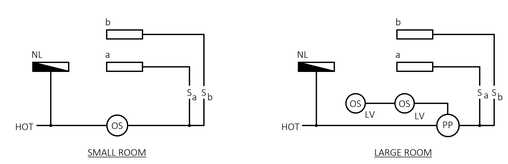
E. SPECIFIC CONTROLS (C405.2.4)
  E.A. DISPLAY AND ACCENT CONTROLLED SEPARATELY
  E.B. CASES CONTROLLED SEPARATELY
  E.C. UNDERCABINET LIGHTING CONTROL INTEGRAL (ROCKER SWITCH) OR INDEPENDENT WALL SWITCH

F. EXTERIOR CONTROLS (C405.2.5)
  F.A. ALL - PHOTOCELL
  F.B. FAÇADE AND LANDSCAPE - PHOTOCELL AND TIMECLOCK (OPEN/CLOSE)
  F.C. EXIT LIGHTS - 5W PER SIDE MAX (C405.3)

1

LIGHTING FIXTURE SCHEDULE

FIXTURE TYPE	MANUFACTURER	CATALOG NUMBER	LAMP DATA TYPE	LUMENS	COLOR TEMP	VOLTAGE	WATTAGE	REMARKS
A	COOPER	24CGT4535C	LED	4268 lm	3500 K	120 V	39 W	2'x4' RECESSED COMMERCIAL SERIES LED TROFFER, 0-10V DIMMING DRIVER.
B	COOPER	4VT2-LD5-4-DR-UNV-L840-CD1-WL-U	LED	4000 lm	4000 K	120 V	30 W	VAPORITE 7"WD x 48" LG LED STRIP LIGHT, SURFACE MOUNT.
C	CONTECH	HOUSING: RL38-ICESA LAMP: LEDDR56FLCCT1	LED	1100 lm	3500 K	120 V	14 W	INTERIOR 6" DIAMETER DOWNLIGHT, RECESSED CEILING MOUNT, 0-10V DIMMABLE FIXTURE, ADJUSTABLE COLOR TEMPERATURE.
E	EXITRONIX	LED-90	LED	---	---	120 V	3 W	EMERGENCY LIGHT (90 MIN. BATTERY), MOUNT AT 7'-6" HIGH ON 18' CENTERS TO ACHIEVE REQUIRED 1 FC AVERAGE ON 3' WIDE PATH, WALL MOUNT.
EM	EXITRONIX	CLED-WP	LED	---	---	120 V	3 W	EXTERIOR EMERGENCY LIGHT (90 MIN BATTERY) CIRCUIT VIA TYPE X FIXTURE, WALL MOUNT.
G	HI-LITE	FIXTURE: H-15312-B-119-CGU LAMP: 12-LED3-30-BCM-M	LED	1200 lm	4000 K	120 V	12 W	EXTERIOR WALL-MOUNT 15" DIAMETER WAREHOUSE STYLE LIGHT.
L	AFX	VRAU22WH	LED	4228 lm	4000 K	120 V	15 W	22"L X 2.2"W X 1"D LED SWITCHABLE UNDERCABINET LIGHT, FIELD ADJUSTABLE COLOR TEMPERATURE.
N	RAB	X17XFU60	LED	8372 lm	4000 K	120 V	60 W	GROUND MOUNTED FLOOD LIGHT, FIELD ADJUSTABLE COLOR CELL, WITH PHOTOCELL.
T	COOPER	HEAD: PFPRV-X-X-TX-20-0-N/AB POLE: SSS4A20SFM4	LED	13140 lm	4000 K	120 V	96 W	SITE LIGHT POLE & FIXTURE COMBO UNIT (20FT. POLE W/ 2.5FT BASE), 0-10V DIMMING DRIVER.
X	EXITRONIX	VLED-1-WH-EL90-R	LED	---	---	120 V	3 W	SINGLE FACE COMBINATION EXIT/EMERGENCY LIGHT (90 MIN. BACK-UP BATTERY) WITH REMOTE HEAD CAPABILITY FOR TYPE 'EM' LIGHT FIXTURE.



2 E2.0

OCCUPANCY SENSOR WIRING DIAGRAM

SCALE: NO SCALE

NOTES:

A. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF QUANTITY AND LOCATION OF EXIT SIGNS AND EMERGENCY LIGHTS WITH LOCAL AUTHORITY HAVING JURISDICTION AND MAKING ADJUSTMENTS REQUIRED BY FIRE MARSHAL/AHJ.
B. PROVIDE ALL NECESSARY ACCESSORIES, CONNECTORS, HANGERS, END CAPS, ETC FOR A COMPLETE OPERABLE INSTALLATION.
C. PROVIDE GLASS ENCLOSURE TO MEET CODE FOR FIRE SAFETY.
D. PREFERED VENDOR: BRYAN BIRDWELL - VILLA LIGHTING SUPPLY, INC - 2929 CHOUTEAU AV, ST. LOUIS, MO 63103 - CELL: 615-319-0984 - DIRECT: 314-633-0546 - OFFICE: 800-325-0963 EMAIL: BRYAN.BIRDWELL@VILLALIGHTING.COM - WEB SITE: WWW.VILLALIGHTING.COM.

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CONSTR. DOC. & REVISIONS

No.	Description	Date
1	FOR CONSTRUCTION	04/06/23

WILLIAM J. KINNEY JR. REGISTERED ENGINEER AGRICULTURE COMMERCE No. 125877 STATE OF TENNESSEE
04/06/23
Professional of Record:
WILLIAM J. KINNEY
LICENSE NO: 125877
EXP. DATE: 02/29/24

Drawn/Checked	TAT / WJK
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

LIGHTING PLAN

E2.0

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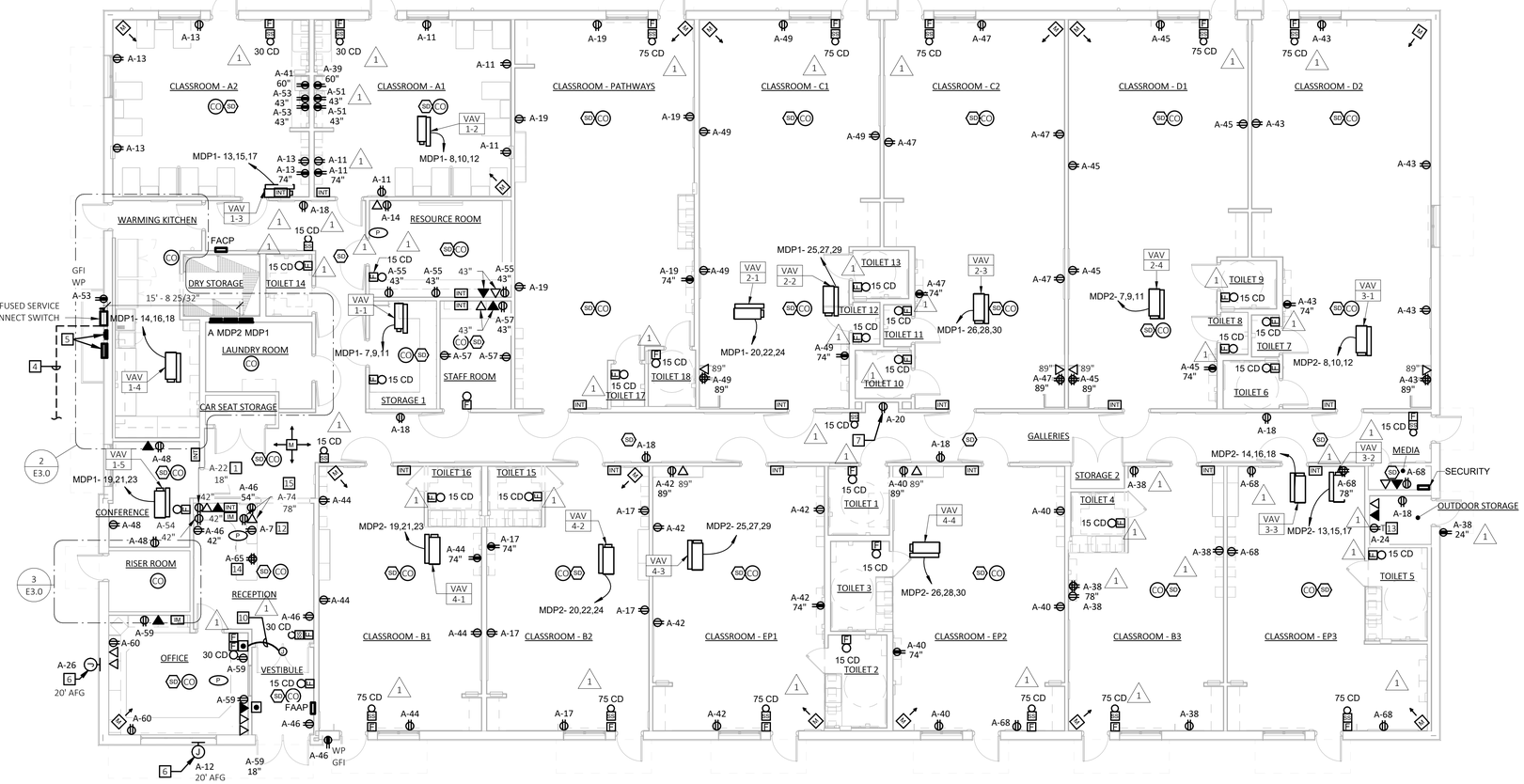


1 E3.0 POWER PLAN

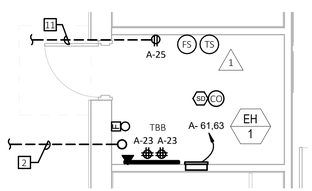
SCALE: 1/8" = 1'-0"

POWER PLAN KEYED NOTES

1. PROVIDE RECEPTACLE BEHIND UNDER-COUNTER REFRIGERATOR.
2. PROVIDE 4" CONDUIT TO PEDESTAL. COORDINATE REQUIREMENTS WITH TELEPHONE COMPANY SERVICE REPRESENTATIVE PRIOR TO ROUGH-IN. SEE SITE PLAN SHEET E6.0.
3. PROVIDE WALL TIMER SWITCH: INTERMATIC #EC210WK OR APPROVED EQUAL, 1800W, 120V SPST WITH RECESSED BOX OR APPROVED EQUAL, SPRING WOUND, 2-HR TIMER. PROVIDE ENGRAVED NAMEPLATE DENOTING "EF-1".
4. SERVICE FEEDERS & CONDUITS SEE RISER DIAGRAM SHEET E1.0 AND ELECTRICAL SITE PLAN SHEET E6.0.
5. ELEC SERVICE WALL MOUNTED METER AND CT CABINET. CONTRACTOR SHALL VERIFY EXACT LOCATION WITH UTILITY.
6. EXTERIOR SIGNS, EC TO PROVIDE WEATHERPROOF JUNCTION BOXES, CONNECTIONS AND QUANTITY REQUIRED. VERIFY EXACT LOCATION AND REQUIREMENTS WITH SIGN MANUFACTURER AND PRIMROSE CONSTRUCTION MANAGER.
7. PROVIDE GFI CIRCUIT BREAKER FOR DEVICES BEHIND EQUIPMENT AND NOT ACCESSIBLE PER NEC.
8. FUTURE DISHWASHER PROVIDE A 3/4" CONDUIT WITH PULL STRING TO J-BOX AT 18" AFF WITH BLANK PLATE.
9. FUTURE GARBAGE DISPOSAL PROVIDE A 1/2" CONDUIT WITH PULL STRING TO J-BOX AT 18" AFF WITH BLANK PLATE.
10. ROUGH-IN FOR MAGNETIC LOCK WITH RELEASE IN OFFICE.
11. PROVIDE 3/4" CONDUIT W/PULL WIRE TO NEAREST LANDSCAPE ISLAND. COORDINATE WITH IRRIGATION INSTALLER.
12. PROVIDE RECEPTACLE UNDER RECEPTION DESK FOR IPAD CHARGING STATION.
13. PROVIDE 20A-1P TWIST-LOCK RECEPTACLE WITH #6 GROUND.
14. PROVIDE QUAD RECEPTACLE MOUNTED INSIDE RECEPTION CABINET. INSTALL AS DIRECTED IN FIELD.
15. MONITOR AT END OF HIGH COUNTER, PROVIDE 1" FLEX CONDUIT FROM UNDER THE DESK AT 18" AFF FOR BOX AT 78" AFF FOR MONITOR.
16. CASLINK CONTROL PANEL MOUNTED ABOVE CIRCUIT PANELS, PROVIDED BY CAPTIVEAIRE. COORDINATE WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.

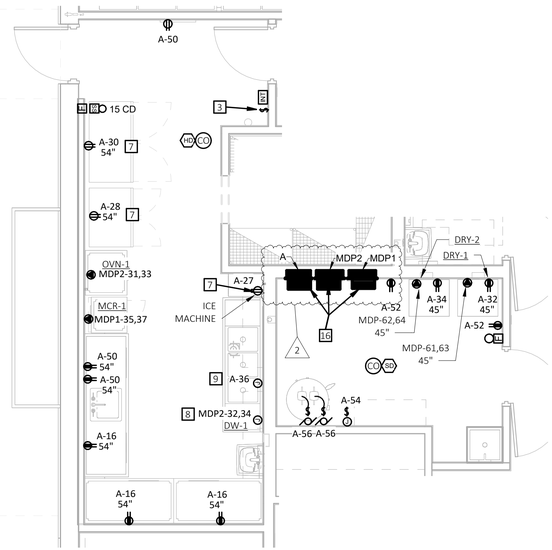
POWER GENERAL NOTES

A. DEVICE LOCATIONS SHOWN ON THE PLAN SHALL BE PLACED EXACTLY AS SHOWN. COORDINATE WITH INTERIOR ELEVATIONS ON A5 SERIES SHEETS.
B. ALL ELECTRIC OUTLETS IN CLASSROOMS AND HALLWAY SHALL BE INSTALLED 18" AFF TO CENTER OF OUTLET, UNLESS NOTED OTHERWISE.
C. ALL FIXTURES, WIRE, AND ELECTRIC DEVICES SHALL BE UL APPROVED.
D. ALL OUTSIDE OUTLETS SHALL BE GFCI RECEPTACLES WITH WEATHER PROOF COVERS, MOUNTED AT 24" AFG, UNO.
E. ALL APPLIANCES ARE SPECIFIED ON A2.2.
F. ALARM PANEL AUTOMATIC CALL TYPE TO MEET NFPA 72 - CURRENT EDITION.
G. ALL WIRING SHALL BE AS SPECIFIED ON DIVISION 16 - ELECTRICAL.
H. ALL EMERGENCY ALARMS SHALL BE IN COMPLIANCE WITH MINIMUM DESIGN OF STYLE B. - NFPA 72 - CURRENT EDITION.
I. ALL VISUAL AND VOICE ALARMS SHALL COMPLY WITH SECTION 4.28, "ALARMS", OF THE FEDERAL ADAAG.
J. FIRE PULL STATIONS DESIGN SHOULD TAKE THE EXCEPTION TO IFC SECTION 907.4.1 FOR FULLY SPRINKLED GROUP E OCCUPANCIES.
K. ALL BRANCH LIGHTING AND RECEPTACLE CIRCUITS IN EXCESS OF 100 FT. TO LOAD CENTER FROM PANEL SHALL BE #10 AWG.
L. CONTRACTOR SHALL COORDINATE WITH FRANCHISEE FOR THE INSTALLATION OF A SECURITY SYSTEM AS SHOWN. IN ADDITION, THE FRANCHISEE MAY ELECT TO UPGRADE THE ENTRY SECURITY DEVICE TO A MAG LOCK SYSTEM. CONSULT WITH THE FRANCHISEE EARLY ENOUGH TO ALLOW FOR ROUGH-IN TO OCCUR.
M. PROVIDE SLEEVES FOR LOW VOLTAGE SYSTEM ABOVE NON-ACCESIBLE CEILING.
N. ALL FIRE ALARM DEVICES ARE 45dBA, U.O.N.



3 E3.0 ENLARGED RISER ROOM PLAN

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



2 E3.0 ENLARGED KITCHEN PLAN

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

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CONSTR. DOC. & REVISIONS

No.	Description	Date
1	POST BID ADD 1 - CODE RESP./FO REVISIONS	11/10/22
2	FOR CONSTRUCTION	04/06/23

WILLIAM J. KINNEY JR. REGISTERED ENGINEER DEPARTMENT OF AGRICULTURE COMMERCE No. 125877 STATE OF TENNESSEE

04/06/23

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POWER PLAN

E3.0

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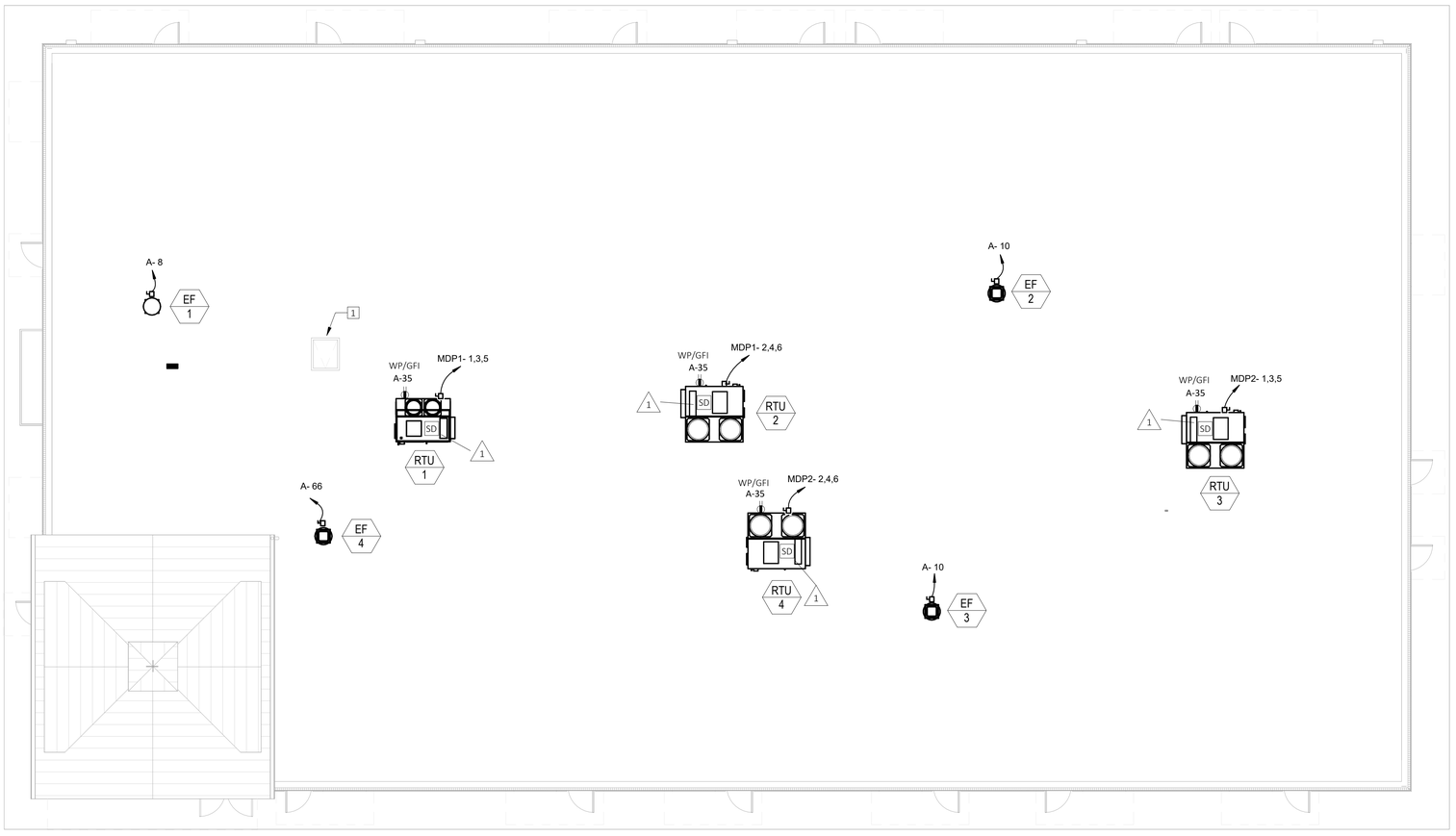

NORTH

1
E4.0

HVAC POWER PLAN

SCALE: 1/8" = 1'-0"

HVAC POWER KEYED NOTES

1 ROOF ACCESS/MAINTENANCE DOOR SHALL NOT BE BLOCKED BY ANY DUCT, PIPES, WIRES, CONDUITS OR OTHER FIXED ITEMS.

HVAC POWER GENERAL NOTES

A. ALL WIRING SHALL BE AS SPECIFIED ON DIVISION 16 - ELECTRICAL
B. ALL BRANCH RECEPTACLE CIRCUITS IN EXCESS OF 100 FT. TO LOAD CENTER FROM PANEL SHALL BE #10 AWG.
C. WP GFCI SERVICE RECEPTACLES FOR RTU UNITS PROVIDED BY MC AND WIRED BY EC.
D. EC SHALL COORDINATE WITH MC.
E. SEE SHEET E1.1 FOR PANEL SCHEDULE AND SHEET E1.0 FOR ONE-LINE DIAGRAM.

PRIMROSE SCHOOLS

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SMYRNA, TN 37167

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CONSTR. DOC. & REVISIONS

No.	Description	Date
1	POST BID ADD 1 - CODE RESP./FO REVISIONS	11/10/22

WILLIAM J. KINNEY
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 125877
STATE OF TENNESSEE

04/06/23

Professional of Record:
WILLIAM J. KINNEY
LICENSE NO: 125877
EXP. DATE: 02/29/24

Drawn/Checked	TAT / WJK
Project Number	2101021
Bid Date	10/04/22
Permit Date	10/04/22
For Construction	04/06/23
Re-Bid Date	10/23/23

ELECTRICAL ROOF PLAN

E4.0

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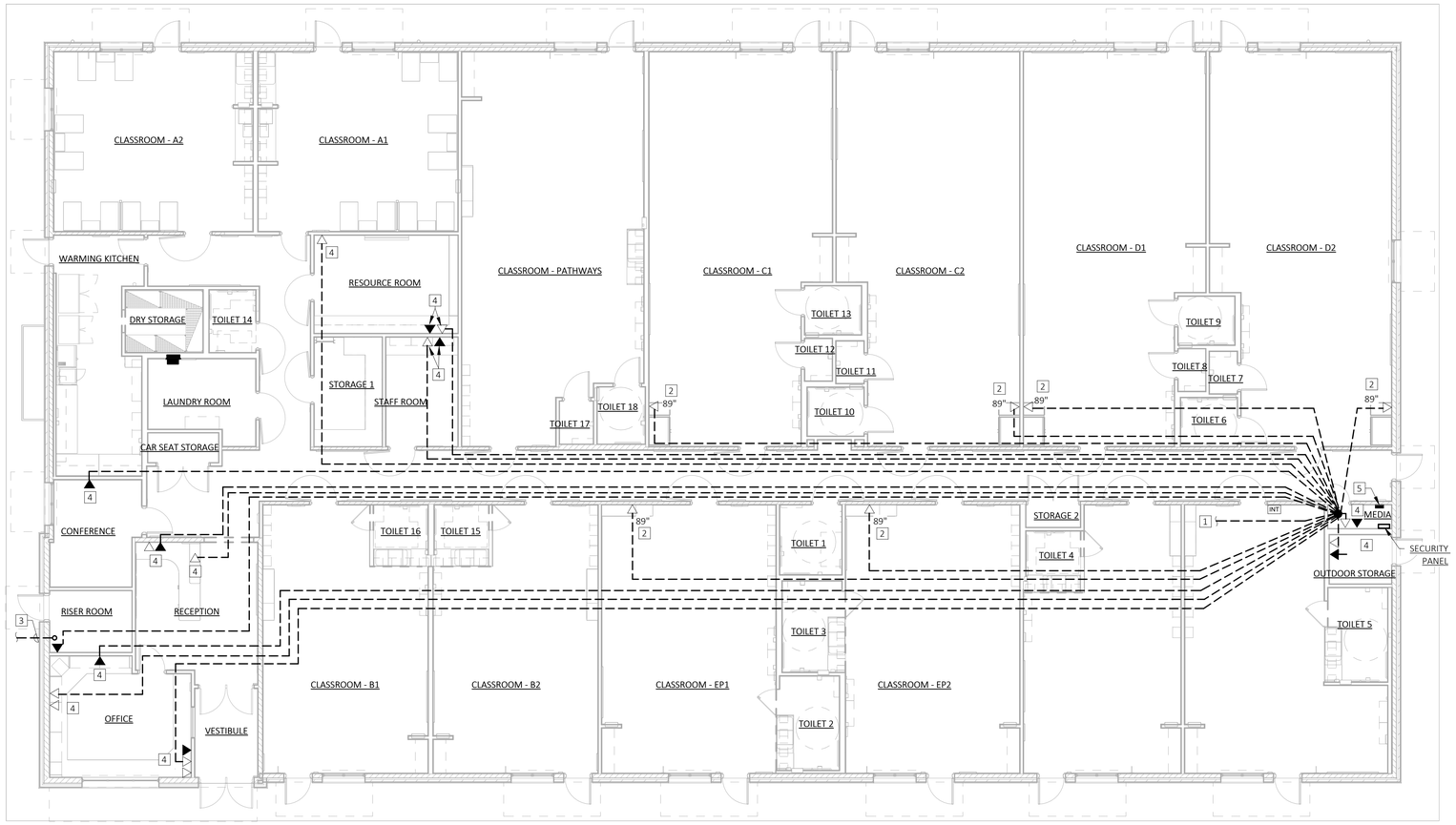


1 E5.0

COMMUNICATIONS PLAN

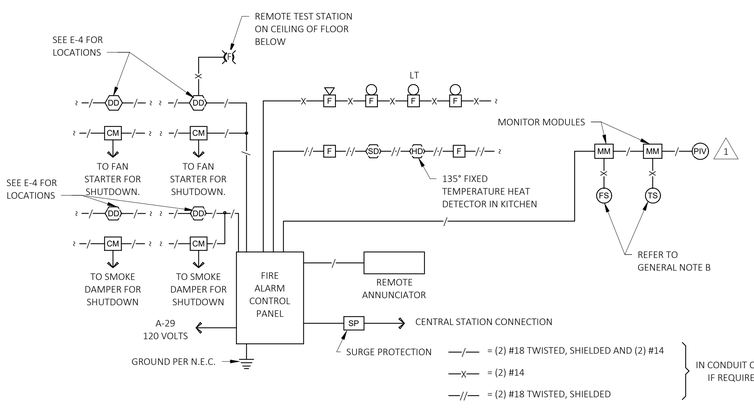
SCALE: 1/8" = 1'-0"

COMM GENERAL NOTES

A. FIRE ALARM DESIGN IS THE RESPONSIBILITY OF A DULY LICENSED FIRE ALARM CONTRACTOR. THE DEVICES SHOWN ON THE PLANS ARE SCHEMATIC ONLY AND DO NOT REPRESENT AN ENGINEERED DESIGN.
B. THE FIRE ALARM SYSTEM IS SOLELY THE RESPONSIBILITY OF THE LICENSED FIRE ALARM CONTRACTOR.

COMM PLAN KEYED NOTES

1. WIRELESS ROUTER (OFOI) PROVIDE 2" CONDUIT ABOVE CEILING WITH CABLE PER OWNER'S INTERNET PROVIDER TO POINT OF ENTRY.
2. POA (OFOI) IN UPPER CABINET PROVIDE QUAD RECEPTACLE AND NETWORK JACK/FACEPLATE WITH WIRE IN 3/4" CONDUIT TO ABOVE CEILING, RUN WIRE TO NETWORK SWITCH.
3. POINT OF ENTRY FOR TELEPHONE, SECURITY AND INTERNET.
4. NETWORK FACEPLATE @18" AFF UNO. RUN 3/4" CONDUIT TO ABOVE CEILING INSULATION. PROVIDE WIRE TO POINT DESIGNATED ON PLAN. LEAVE MIN. 6'-0" OF SLACK ON BOTH ENDS. RUN ALL WIRE IN NEAT MANNER, DO NOT BLOCK ANY WALKWAYS OR PATHS.
5. NETWORK SWITCH (OFOI) LOCATED IN MEDIA ROOM.



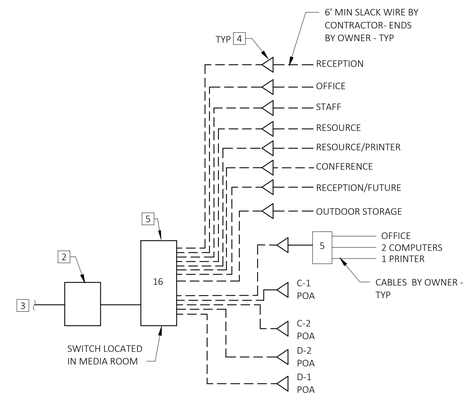
GENERAL FIRE ALARM NOTES

A. FIRE ALARM DESIGN IS THE RESPONSIBILITY OF A DULY LICENSED FIRE ALARM CONTRACTOR. THE DEVICES SHOWN ON THE PLANS ARE SCHEMATIC ONLY AND DO NOT REPRESENT AN ENGINEERED DESIGN.
B. WATER FLOW AND TAMPER SWITCHES - REFER TO FIRE PROTECTION DRAWINGS FOR ESTIMATE OF LOCATIONS AND QUANTITY. FINAL TO BE BASED ON SHOP DRAWINGS - INCLUDING AT POST INDICATOR IF SHOWN ON SITE PLANS.
C. DETECTION SHALL BE LOCATED IN ROOM CONTAINING FIRE ALARM CONTROL PANEL.
D. WHERE DUCT CONFIGURATION PROHIBITS PROPER LOCATION OF ONE DETECTOR PER UNIT, CONTRACTOR SHALL PROVIDE AND INSTALL MULTIPLE DETECTORS TO PROVIDE ADEQUATE COVERAGE. NO EXCEPTIONS WILL BE TOLERATED FOR FAILURE TO INCLUDE THIS IN BID PRICING.
E. 120V. CIRCUIT DISCONNECTING MEANS SHALL HAVE A RED MARKING (RED TAPE) AND BE IDENTIFIED AS "FIRE ALARM CIRCUIT CONTROL" PER NFPA 72.
F. WIRING SHOWN IS FOR ESTIMATING PURPOSES ONLY. CONTRACTOR SHALL INCLUDE PROPER WIRING IN ACCORDANCE WITH APPROVED SHOP DRAWINGS.
G. PROVIDE & INSTALL SUPPRESSOR TO PROTECT VIA POWER & TELE LINES. DITEK #DTK-FPK1 FIRE PROTECTION KIT WITH 19,500A PEAK SURGE CURRENT CAPACITY. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
H. ALL REQUIRED DOCUMENTATION REGARDING THE DESIGN OF FIRE DETECTION, ALARM, AND COMMUNICAION SYSTEMS AND THE PROCEDURES FOR MAINTENANCE, INSPECTION, AND TESTING OF FIRE DETECTION, ALARM, AND COMMUNICATIONS SYSTEMS SHALL BE MAINTAINED AT AN APPROVED, SECURE LOCATION FOR THE LIFE OF THE SYSTEM.

2 E5.0

TYPICAL FIRE ALARM WIRING DIAGRAM

SCALE: NOT TO SCALE



3 E5.0

SCHEMATIC WIRING DIAGRAM

SCALE: NOT TO SCALE

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COMMUNICATIONS PLAN

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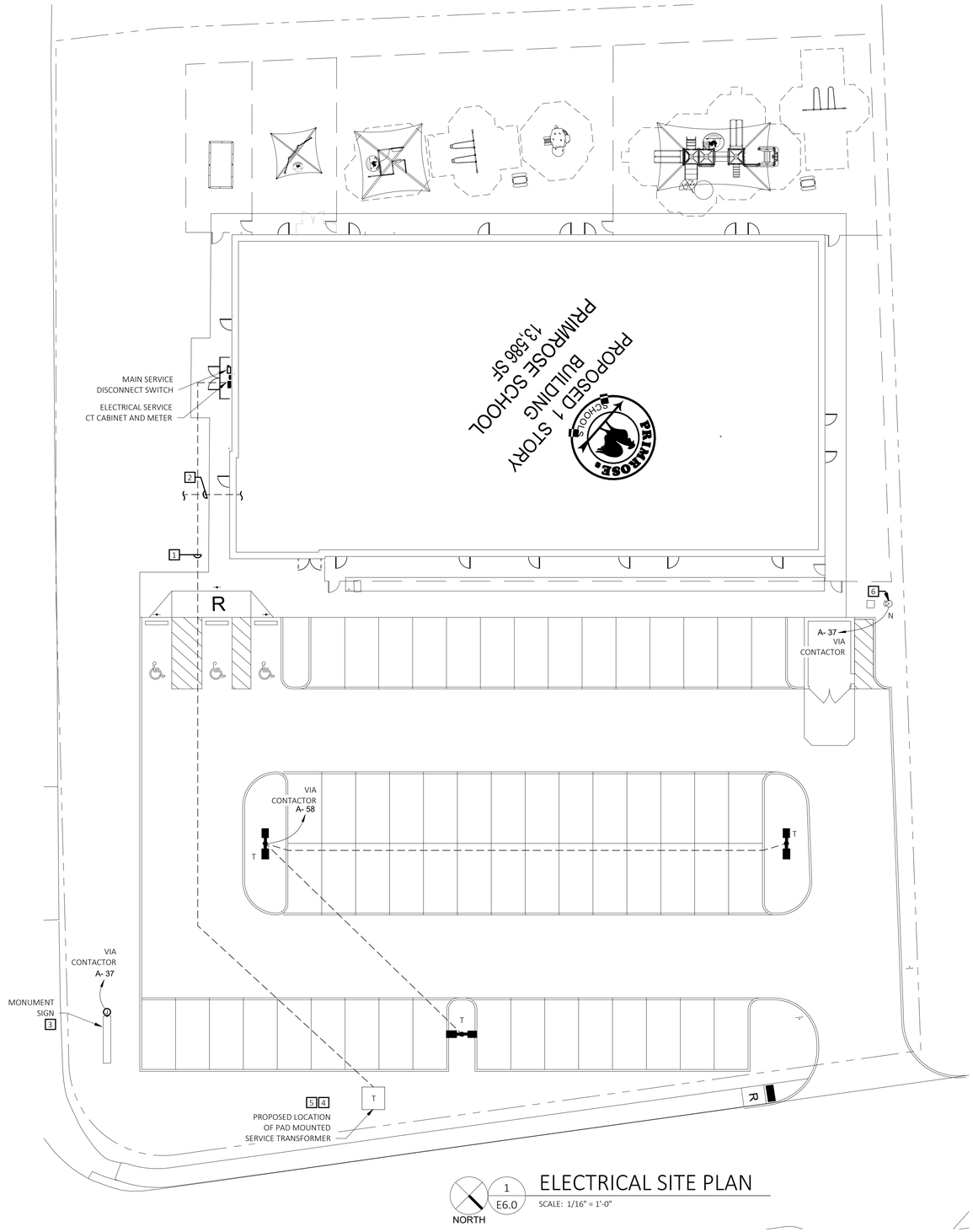

NORTH

1
E6.0

ELECTRICAL SITE PLAN

SCALE: 1/16" = 1'-0"

ELEC SITE PLAN KEYED NOTES

1. EC SHALL PROVIDE UNDERGROUND SECONDARY ELECTRIC SERVICE WITH WARNING TAPE 12" BELOW GRADE ALONG ENTIRE ROUTE TO CT CABINET AT EXTERIOR BUILDING WALL. SEE ONE-LINE DIAGRAM ON SHEET E1.0.
2. EC SHALL PROVIDE (2)4" UNDERGROUND CONDUIT TO TELEPHONE TERMINAL BOARD IN SPRINKLER ROOM. COORDINATE CONDUIT SIZE, ROUTE AND PEDESTAL LOCATION WITH TELEPHONE COMPANY.
3. MONUMENT SIGN: PROVIDE WP JUNCTION BOX WITH CIRCUIT FOR INTERNALLY ILLUMINATED SIGN.
4. UTILITY COMPANY IS RESPONSIBLE FOR THE TRANSFORMER, PRIMARY SERVICE, PRIMARY CONDUITS AND WIRES TO THE TRANSFORMER. EC IS RESPONSIBLE FOR THE TRANSFORMER PAD AND THE SECONDARY FEEDER FROM THE TRANSFORMER TO THE BUILDING, CT CABINET AND SERVICE METER. CONTRACTOR SHALL PROVIDE MATERALS AND SERVICE REQUIREMENTS FOR COMPLETE AND OPERATIONAL SYSTEM.
5. CONTRACTOR SHALL COORDINATE TRANSFORMER PAD WORK WITH UTILITY.
6. FLAG POLE LIGHT, EC SHALL PROVIDE GROUND MOUNTED STANCHION FLOOD LIGHT, LOCATE AND AIM AT FLAG. SEE 3/E1.O FOR CONTROLS.

ELECTRICAL SITE GENERAL NOTES

A. IMPORTANT: IMMEDIATELY FOLLOWING AWARD OF CONTRACT & PRIOR TO START OF WORK, EC SHALL CONTACT THE POWER COMPANY AND THE TELEPHONE COMPANY TO COORDINATE NEW SERVICES. EC TO VERIFY: LOCATION OF PRIMARY SOURCE, TRANSFORMER, AND SECONDARY FEEDER; LOCATION OF TELEPHONE SOURCE (POLE OR PEDESTAL); AVAILABLE VOLTAGE INCLUDING PHASE; AND METER INSTALLATION REQUIREMENTS. NOTIFY THE ENGINEER AND CONSTRUCTION MANAGER OF ANY DISCREPANCIES.
B. SITE LIGHTING CIRCUITRY (2)#10; #10G; 3/4" CONDUIT, UNO.
C. REFER TO SHEET S2.1 FOR POLE BASE DETAIL.
D. SEE LIGHT FIXTURE SCHEDULE ON SHEET E2.0.
E. UNDERGROUND WIRE TO SIGN LIGHT TO BE U.L. & CODE APPROVED TYPE UF AND CONNECTED TO GROUND FAULT CIRCUIT.

UTILITY CONTACTS
COMPANY NAME: Middle Tennessee Electric (MTE)
CONTACT: Josh Howland
EMAIL: josh.howland@mtemc.com
PHONE: 877-777-9020

TELEPHONE UTILITY COMPANY
COMPANY NAME: AT&T
PHONE: 866-499-8008

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04/06/23

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ELECTRICAL SITE PLAN

E6.0

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SITE PLAN
FOR
PRIMROSE SCHOOL
CASCO

CONTACTS

OWNER/DEVELOPER
TED TILLMAN
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3200 WINDY HILL RD
SUITE 1200E
ATLANTA, GA 30339
(770)799-5525
ttillman@primroseschools.com

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RAGAN SMITH
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SUITE 2 J
MURFREESBORO, TN 37129
(615) 546-6050
jhunter@ragansmith.com

LANDSCAPE ARCHITECTURE
MATT HAMILTON
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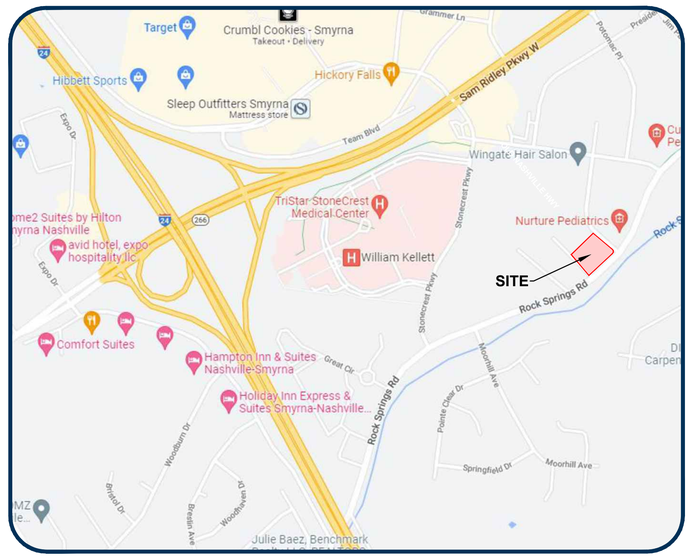
1500 MEDICAL CENTER PKWY,
SUITE 2 J
MURFREESBORO, TN 37129
(615) 546-6050
mhamilton@ragansmith.com



LOCATION MAP
NOT TO SCALE

INDEX OF SHEETS

	SHEET	DESCRIPTION
	C0.0	COVER SHEET
	CIVIL PLANS	
	C0.1	CIVIL NOTES
	C0.2	EXISTING CONDITIONS
6	C1.0	INITIAL EROSION CONTROL PLAN
	C2.0	SITE LAYOUT PLAN
	C2.1	FIRE TRUCK MOVEMENT PLAN
6	C3.0	SITE GRADING & DRAINAGE PLAN
	C3.1	FEMA FLOOD PLAIN REALIGNMENT PLAN
	C3.2	FINAL EROSION CONTROL PLAN
6	C4.0	SITE UTILITY PLAN
	C5.0	EPSC DETAILS
	C5.1	CIVIL DETAILS
	C5.2	UTILITY DETAILS
	LANDSCAPE ARCHITECTURAL PLANS	
	L1.0	LANDSCAPE PLAN
	L2.0	LANDSCAPE NOTES AND DETAILS

TOWN OF SMYRNA, RUTHERFORD COUNTY, TENNESSEE

RaganSmith

Nashville - Murfreesboro - Chattanooga
ragansmith.com

JOSHUA WILLIAM HUNTER
REGISTERED ENGINEER
AGRICULTURE COMMERCE
No. 118698
STATE OF TENNESSEE
02/08/2023

PRIMROSE SCHOOL
FOR
CASCO

1788 ROCK SPRINGS ROAD, TOWN OF SMYRNA, RUTHERFORD COUNTY, TENNESSEE

Scale: N.T.S.

Date: SEPTEMBER 19, 2022

Approved By: J. HUNTER

Revisions:
6 02/08/2023 PER CITY COMMENTS
5 12/13/2022 PER TDEC COMMENTS
4 11/10/2022 POST BID ADD.1 CODE RESP./FO REVISIONS
3 10/06/2022 BID SET
2 10/05/2022 PER CITY COMMENTS
1 09/27/2022 PER CITY COMMENTS

Drawing Title:
COVER SHEET

Drawing No.
C0.0

Project No.
21-0286

811 Know what's below. Call before you dig.

G:\21-0286\-CIVIL ENGINEERING\C-PLAN SHEETS\0286 COVER.DWG
PLOTTED BY DAVID ARNHAM ON: 2/8/2023 4:41 PM LAST UPDATED BY RSCUTHARD ON: 2/8/2023 10:32 AM

RSA STANDARD NOTES

SITE GENERAL NOTES

1. The contractor shall verify the location of all existing utilities in the proximity of the construction area and report any discrepancies to the owner's representative prior to beginning work.
2. The contractor shall conform to all local, state and federal codes and obtain all permits prior to beginning work.
3. The contractor shall check all finished grades and dimensions and report any discrepancies to the owner's representative prior to beginning work.
4. Dimensions are to the face of curb, edge of concrete and face of building unless noted otherwise.
5. Proposed building footprint is for graphic purposes only. Contractor shall use the current architectural drawings for building stakeout and verify that there are no discrepancies with these plans.
6. All traffic markings shall conform to the manual of uniform traffic control device (MUTCD). All pavement marking shall be thermoplastic unless directed otherwise by the owner's representative.
7. All handicap ramps, parking spaces and accessible routes shall comply with the current ADA requirements.
8. Exterior door landings shall be provided per the local building code. Contractor shall coordinate door locations and adjacent sidewalk/landing grades with these plans and report any discrepancies to the owner's representative.
9. Maintain one set of as-built drawings on the job site for distribution to the architect/engineer upon completion: include detention pond topo, all utility locations, and all new sidewalk ramps. elevations for all sanitary and storm sewer structures shall be included, drawings shall include vertical and horizontal information on all new utilities as well as existing utilities discovered during construction. final drawings shall be produced and stamped by licensed surveyor.
10. Provide a smooth transition between existing pavement and new pavement. Field adjustment of final grades may be necessary. Install all utilities prior to installation of pavement.

SITE CONSTRUCTION NOTES

1. The necessary permits for the work shown on these site development plans will be obtained by the contractor prior to commencement of any work on this project. The contractor shall give all necessary notices and obtain all permits and pay all fees involved in securing said permits. He shall also comply with all city, county and state building laws, ordinances or regulations relating to the construction of the project.
2. The contractor shall be responsible for and shall bear all expenses of field staking necessary for site and building layout. All layout shall be performed in accordance with the site layout plan.
3. The location of existing piping and underground utilities, such as water and gas lines, electrical and telephone conduits, etc., as shown on this portion of the plans have been determined from the best available information by actual surveys, or taken from the records and drawings of the existing utilities. However, the civil engineer does not assume responsibility that, during construction, the possibility of utilities other than those shown may be encountered or that actual location of those shown may vary somewhat from the location designated on this portion of the plans. In areas where it is necessary that the exact locations of underground lines be known, the contractor shall, at this own expense, furnish all labor and tools to either verify and substantiate or definitively establish the location of the lines.
4. The contractor must understand that the work is entirely at his risk until same is accepted and he will be held responsible for its safety by the owner. Therefore, the contractor shall furnish and install all necessary temporary works for the protection of the work, including barricades, warning signs, and lights.
5. The site development portion of this project will be subject to the inspection and final approval of the local planning, codes, water and sewer departments (and/or utility districts), engineering/public works departments and fire marshal's office.
6. If, during the construction of the site development portion of this project, a question of intent or clarity arises from either the plans or specifications, the contractor will immediately bring the matter to the attention of the civil engineer or owner's representative for resolution before the affected work items are initiated or pursued further.
7. The contractor will exercise extreme caution in the use of equipment in and around overhead and/or underground power lines. If at any time in the pursuit of this work the contractor must work in close proximity of the above-noted lines, the electric and/or telephone companies shall be contacted prior to such work and the proper safety measures taken. The contractor should make a thorough examination of the overhead lines in the project area prior to the initiation of construction.
8. The contractor shall be responsible for any damage done to the premises or adjacent premises, or injuries to the public during the construction of the work, caused by himself, his subcontractors, or the carelessness of any of his employees.

DEMOLITION NOTES

1. The contractor will be required to remove all excavated materials and such items shall become the property of the contractor. All items shall be properly disposed of at an off-site location. The contractor shall outline any and all possible haul routes and shall be prepared to submit such to the local jurisdiction public works department, the civil engineer and other authorities for approval.
2. If, at any time, prior to or during the demolition work, hazardous material is encountered, the contractor shall notify the owner's representative and appropriate governmental agency.
3. The contractor shall notify adjacent owners of work that may affect their property, potential noise, utility outage or disruption. Such operations shall be conducted by the contractor with minimum interference to adjacent owners. Adjacent egress and access shall be properly maintained at all times. Do not close or obstruct any roadways, parking or sidewalks without permission from the adjacent owners or the local jurisdiction public works department.
4. Prior to the commencement of demolition/grading operations, all overhead and underground utilities shall be located. All removal and/or relocation of utilities shall be coordinated with the respective utility companies.
5. The contractor will provide all necessary protective measures to safeguard existing utilities from damage during construction of this project. In the event that special equipment is required to work over or around the utilities, the contractor will be required to furnish such equipment at no additional cost to owner.
6. The contractor will be solely responsible for contacting all affected utilities prior to submitting his bid to determine the extent to which utility disconnections and/or adjustments will have upon the schedule of the work for the project. Some utility facilities may need to be adjusted concurrently with the contractor's operations, while some work may be required 'around' utility facilities that will remain in place. It is understood and agreed that the contractor will receive no additional compensation for delays or inconvenience caused by the utility adjustment.

EROSION PREVENTION AND SEDIMENT CONTROLS

1. All control measures must be properly installed and maintained in accordance with the manufacturer's specifications, TDEC and local standards.
2. Design, inspection, and maintenance of BMPs described and shown on these plans shall be consistent or exceed recommendations contained in the current edition of TDEC's Tennessee erosion control handbook.
3. BMP capacity [sediment traps, silt fences, sedimentation ponds, and other sediment control] shall not be reduced by more than 50% at any given time. If periodic inspections or other information indicates a control has been used inappropriately or incorrectly, the contractor must replace or modify the control for relevant site situations.
4. Where permanent or temporary vegetation cover is used as a control measure, the timing of the planting is critical. Planning for planting of vegetation cover during winter or dry months should be avoided.
5. If sediment escapes the permitted area, off-site accumulations of sediment that have not reached a stream must be removed at a frequency sufficient to minimize offsite impacts. The contractor shall not initiate remediation/restoration of a stream without consulting the division first. The NOI general permit does not authorize access to private property. Arrangements concerning removal of sediment on adjoining property must be settled by the contractor and adjoining landowner.
6. Litter, construction debris, and construction chemicals exposed to storm water shall be picked up prior to anticipated storm events or before being carried off of the site by wind or otherwise prevented from becoming a pollutant source for storm water discharges. After use, materials used for EPSC should be removed or otherwise prevented from becoming a pollutant source for storm water discharge.
7. Erodible material storage areas (including overburden and stockpiles of soil) and borrow pits are considered part of the site and should be addressed with appropriate BMPs accordingly.
8. Pre-construction vegetative ground cover shall not be destroyed, removed, or disturbed more than 14 days prior to grading or earth moving unless the area is stabilized. Contractor shall sequence events to minimize the exposure time of graded or denuded areas. Clearing and grubbing shall be held to the minimum necessary for grading and equipment operation. Existing vegetation at the site should be preserved to the maximum extent practicable.
9. EPSC measures must be in place and functional before moving operations begin and must be constructed and maintained throughout the construction period. Temporary measures may be removed at the beginning of the workaday, but must be replaced at the end of the workday.
10. The following records shall be maintained on or near site: the dates when major grading activities occur; the dates when construction activities temporarily or permanently cease for a portion of the site; the dates when stabilization measures are initiated; inspection records and rainfall records. Contractor shall maintain a rain gauge and daily rainfall records at the site, or use a reference site for a record of daily amount of precipitation.
11. A copy of the SWPPP shall be retained on-site and should be accessible to the director and the public. Once the site is inactive or does not have an onsite location adequate to store the SWPPP, the location of the SWPPP, along with a contact phone number, shall be posted on-site. If the SWPPP is located off-site, reasonable local access to the plan, during normal working hours, must be provided.
12. Off-site vehicle tracking of sediments and the generation of dust shall be minimized. A stabilized construction access (a point of entrance/exit to a construction site) shall be constructed as needed to reduce the tracking of mud and dirt onto public roads by construction vehicles.
13. Inspections must be performed at least twice every calendar week. Inspections shall be performed at least 72 hours apart. where sites or portions of construction sites have been temporarily stabilized, or runoff is unlikely due to winter conditions or due to extreme drought, such inspection has to be conducted once per month until thawing or precipitation results in runoff or construction activities resume. Inspection requirements do not apply to definable areas that have been finally stabilized, as designed by the engineer. Written notification of the intent to change the inspection frequency and the justification for such request must be submitted to the local environmental field office, or the division's Nashville central office for projects of TDOT or TVA. Should the division discover that monthly inspections of the site are not appropriate due to insufficient stabilization measures or otherwise, twice weekly inspections shall resume. The division may inspect the site to confirm or deny the notification to conduct monthly inspections.
14. Inspectors performing the required twice weekly inspections must have an active certification and a record of certification must be kept on site. Based on the results of the inspection, any inadequate control measures or control measures in disrepair shall be replaced or modified, or repaired as necessary, before the next rain event, but in no case more than 7 days after the need identified.
15. Outfall points shall be inspected to determine whether EPSC measures are effective in preventing significant impacts to receiving waters. Where discharge locations are inaccessible, nearby downstream locations shall be inspected. Locations where vehicles enter or exit the site shall be inspected for evidence of offsite sediment tracking.

TREE PROTECTION NOTES

1. Any required excavation in or around the protection zone to accommodate underground services, footings, etc., shall be indicated on the plan, and shall be excavated by hand. In addition, related root pruning shall be accomplished by a certified arborist via ANSI A-300-95 standard so as to minimize impact of the general root system.
2. The storage of building materials or stockpiling shall not be permitted within the limits of or against the protection barriers.
3. Trees within the protection barriers must be adequately cared for throughout the construction process (i.e., they must be watered sufficiently, particularly if the tree's root system has been disturbed by excavation). Fill shall not be placed upon the root system in such a manner as to endanger the health or life of the affected tree.
4. Tree protection barrier shall be constructed prior to the issuance of any permits and shall remain intact throughout the entire period of construction.

SITE GRADING & STORM DRAINAGE NOTES

1. Erosion control sediment barriers and tree protection barriers shall be installed prior to beginning site work.
2. No heavy equipment shall cross or be stored outside the limits of construction, within tree protections zones, or under the drip line of existing trees to remain.
3. Topsoil stripped from areas to be graded shall be stockpiled on site in a location approved by the owner's representative. Drainage shall be routed around stockpile locations for the duration of grading operations. Erosion control measures shall be installed to prevent loss of topsoil material.
4. Prior to beginning construction, contractor shall review geotechnical report.
5. All cut and fill shall be performed under the direction/observation of the geotechnical engineer.
6. The suitability of soils for fill material shall be determined by the geotechnical engineer.
7. Unless directed otherwise by geotechnical engineer, all fill areas shall be raised in lifts not exceeding 8" in thickness. the relative compaction of each layer shall not be less than 95% of the standard proctor maximum dry density (ASTM D-698) in all areas of fill within open areas and 98% of same specification for areas under roads, parking, sidewalks, building slabs, and foundations.
8. All grading shall be completed to the grades indicated within these plans. final grades shall provide proper drainage and prevent standing water.
9. All storm drainage castings to be John Bouchard & Sons Co. or approved equal, unless otherwise noted.
10. All storm drainage pipes to be RCP, Class III, unless otherwise noted.
11. Installation of pipe material shall be placed with a screen stone envelope and when under pavement entire trench to be backfilled with screen stone to subgrade. Size of stone, envelopes, and trenches to be specified by municipalities for public lines and private lines to adhere to common practices for installation requirements.
12. Existing structure castings to remain shall be adjusted to match new grade.

SITE UTILITY NOTES

1. All materials and workmanship for utility lines and appurtenances shall be in strict compliance with the governing utility company and local codes. Prior to construction contractor shall notify utility company. (see utility contact information on sheet C4.0)
2. Contractor shall coordinate site electrical, gas, telephone, and cable with the respective utility company for service layout and design information. Any proposed layout of these utilities depicted on these drawings is graphical only and not intended to represent design of these utilities.
3. Prior to commencement of construction, contractor shall obtain all permits and pay any required tap and connection fees.
4. All trenching, pipe laying and backfilling shall be in accordance with federal OSHA regulations.
5. Site contractor shall construct all utility services to within 5' of building.
6. Contractor shall be responsible for coordinating the sequencing of construction for all utility lines to avoid conflicts.
7. Contractor shall coordinate size and location of water, sewer and stormwater connections to the building as depicted on the building mechanical plans and the site utility plan and notify the engineer or owner's representative of any discrepancies.
8. Water services lines ¼" - 3" shall be PEX-A and 4" or larger shall be PVC C900 DR14 unless otherwise required by utility company.
9. Fire line installation and thrust blocking location and sizing shall be per N.F.P.A. and local fire department requirements.
10. Water meter manufacturer/model number and vault specifications shall be per the water utility company.
11. Backflow device (RPBP (DDCVA not allowed)) manufacturer/model number shall be per the water utility company.
12. Contractor shall install hot box enclosure (pre-finished dark green) on all exterior above-ground backflow devices. Domestic and fire backflow devices shall be heated. Contractor shall coordinate providing appropriate electrical service to backflow device.
13. Contractor shall coordinate location of backflow device with the building mechanical drawings.
14. Sanitary sewer service lines shall be SDR 26 PVC unless specified otherwise.
15. Maintain a 10' horizontal and 18" vertical separation between sanitary sewer and water lines.
16. All fire line mains to be installed by licensed fire protection contractor.
17. Installation of pipe material shall be placed with a screen stone envelope and when under pavement entire trench to be backfilled with screen stone to subgrade. Size of stone, envelopes, and trenches to be specified by municipalities for public lines and private lines to adhere to common practices for installation requirements.
18. Contact local fire department before locating and installing fire department connection. Location and type subject to change to meet required codes.
19. Coordinate with local utility and/or fire department on approved meter, fire hydrant, reduced pressure backflow preventor, and double detector check valve assembly and vault manufacturers.
20. Detailed water and sanitary sewer plans and shop drawings to be approved by jurisdictional agencies prior to construction.
21. Any existing water or sewer service that will no longer remain active at the completion of construction must be removed and capped at the main.

GEOTECHNICAL NOTE:

1. A geotechnical report has been prepared for this site by TTL dated 11/30/2021. The contractor shall be responsible for reviewing the geotechnical report and shall incorporate all geotechnical considerations, recommendations and special notes into the construction and stabilization of this project.

RSA SPECIAL NOTES

PROJECT SPECIFIC NOTES

1. Pavement dimensions shown are from edge of pavement to edge of pavement.
2. Driveways to be replaced with like materials to the tie down locations shown on plans. Any necessary paving of driveways will be done during paving operations on the main roadway.
3. All pay items have been explicitly set forth as such in the proposal; all other items of cost are to be included in the price of the items actually bid upon.
4. Before any clearing/grubbing work is initiated, the contractor and representatives of both architect and civil engineer will "walk-out" the "limit of clear line" and insure that it is clearly marked and visible.
5. The contractor shall make available soil test reports taken during and after the grading operation to show that the compaction requirements have been met. The cost of this report shall be borne by the contractor.

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JOSHUA WILLIAM HUNTER
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 118668
STATE OF TENNESSEE
02/08/2023

PRIMROSE SCHOOL
FOR
CASCO

1788 ROCK SPRINGS ROAD, TOWN OF SMYRNA, RUTHERFORD COUNTY, TENNESSEE

Scale: NO SCALE

Date: SEPTEMBER 19, 2022

Approved By: J. HUNTER

Revisions:

6 02/08/2023 PER CITY COMMENTS
5 12/13/2022 PER TDEC COMMENTS
4 11/10/2022 POST BID ADD.1 CODE RESP./FO REVISIONS
3 10/06/2022 BID SET
2 10/05/2022 PER CITY COMMENTS
1 09/27/2022 PER CITY COMMENTS

Drawing Title:

CIVIL NOTES

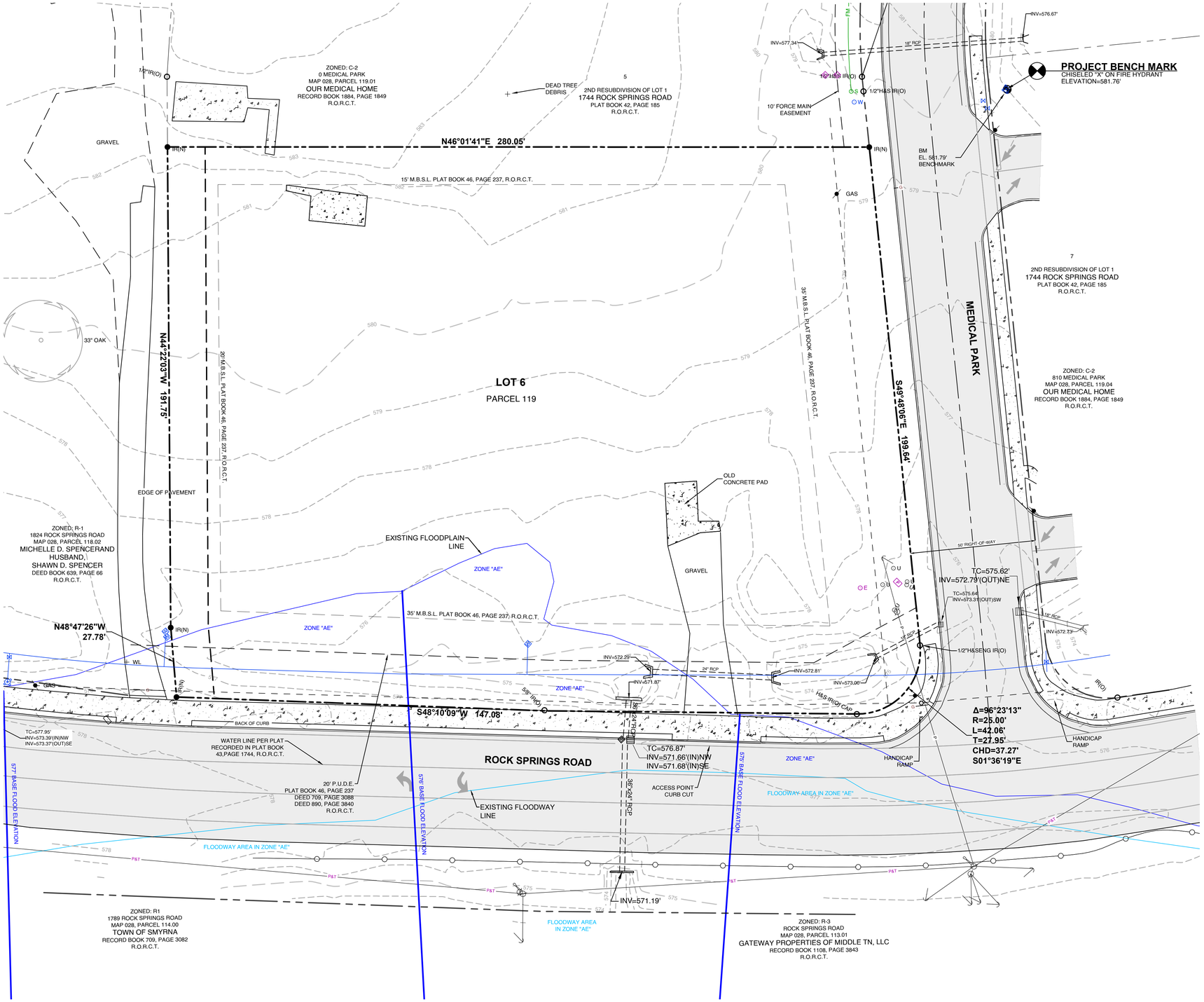
Drawing No.

C0.1

Project No.

21-0286

G:\2-RSMI-CIVIL ENGINEERING\21-PLAN SHEETS\C0.0 NOTES.DWG
PLOTTED BY DAVID GROGAN ON 2/8/2023 AT 1 PM LAST UPDATED BY READY-HARD ON 11/4/2022 1:27 PM



GENERAL NOTES

1. BEARINGS SHOWN HEREON ARE BASED ON THE TENNESSEE COORDINATE SYSTEM OF 1983. GPS EQUIPMENT WAS USED TO DETERMINE THE POSITION OF TWO (2) CONTROL POINTS FOR THE SURVEYED PROPERTY TO ESTABLISH AS BASIS FOR BEARING FOR THE SURVEY. TYPE OF GPS EQUIPMENT USED: TRIMBLE MODEL R10, DUAL FREQUENCY RECEIVER. TYPE OF GPS SURVEY: TDOT NETWORK ADJUSTED REAL TIME KINEMATIC. THE AVERAGE POSITIONAL QUALITY IS H .XX V XX

2. BY SCALED MAP LOCATION AND GRAPHIC PLOTTING ONLY, THIS PROPERTY LIES WITHIN FLOOD ZONES "AE", AND "X" (OTHER AREAS), AS DESIGNATED ON CURRENT FEDERAL EMERGENCY MANAGEMENT AGENCY MAP NUMBER 47149C0106H, WITH AN EFFECTIVE DATE OF JANUARY 5, 2007, WHICH MAKES UP A PART OF THE NATIONAL FLOOD INSURANCE ADMINISTRATION REPORT; COMMUNITY NUMBER 47169, PANEL NUMBER 0106, SUFFIX H, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR THE COMMUNITY IN WHICH SAID PREMISES IS SITUATED. SAID MAP DEFINES ZONE "AE" UNDER "SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD" AS BASE FLOOD ELEVATIONS DETERMINED. SAID MAP DEFINES ZONE "X" (OTHER FLOOD AREAS) UNDER "OTHER FLOOD AREAS" AS AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD. SAID MAP DEFINES ZONE "X" (OTHER AREAS) UNDER "OTHER AREAS" AS AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.

3. THE LOCATION OF THE PROPERTY BOUNDARIES DEPICTED HERON, BASED ON THE APPROPRIATE BOUNDARY LAW PRINCIPLES GOVERNED BY THE FACTS AND EVIDENCE GATHERED DURING THE COURSE OF THIS SURVEY. PER ACCURACY AND PRECISION REQUIRED BY THE STATE OF TENNESSEE, IN THE OPINION OF THIS SURVEYOR THE MONUMENTS SHOWN REPRESENTS CORNERS OF THE PROPERTY. CORNERS HAVE BEEN FOUND OR SET AS INDICATED HEREON. AS A PROFESSIONAL OPINION, THIS SURVEY CARRIES NO GUARANTEES OR WARRANTIES, EXPRESSED OR IMPLIED.

4. THE DEPICTION OF ANY IMPROVEMENTS ON THIS PLAT DOES NOT CREATE ANY EASEMENT, SETBACK, BUILDING PAD, OR OTHER MATTER AND IS FOR INFORMATIONAL PURPOSES ONLY.

LEGEND

W	WATER STUBOUT
S	SEWER STUBOUT
E	ELECTRIC STUBOUT
U	UTILITY STUBOUT
	FIRE HYDRANT
	WATER VALVE
W	WATER METER
	CATCH BASIN
TC	TOP OF CASTING
INV	INVERT
	SANITARY SEWER MANHOLE
	GAS VALVE
G	GAS METER
—P—	OVERHEAD ELECTRIC POWER LINE
	SIGN
RCP	REINFORCED CONCRETE PIPE
E	ELECTRIC BOX
P	TRANSFORMER PAD
M.B.S.L.	MINIMUM BUILDING SETBACK LINE
P.U.D.E.	PUBLIC UTILITY & DRAINAGE EASEMENT
	HEADWALL
	CONCRETE SURFACE
R.O.R.C.T.	REGISTER'S OFFICE FOR RUTHERFORD COUNTY, TENNESSEE

TOTAL AREA = 64,892 SQUARE FEET OR 1.49 ACRES±

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Drawing Title:

EXISTING CONDITIONS PLAN

Drawing No.

C0.2

Project No.

21-0286

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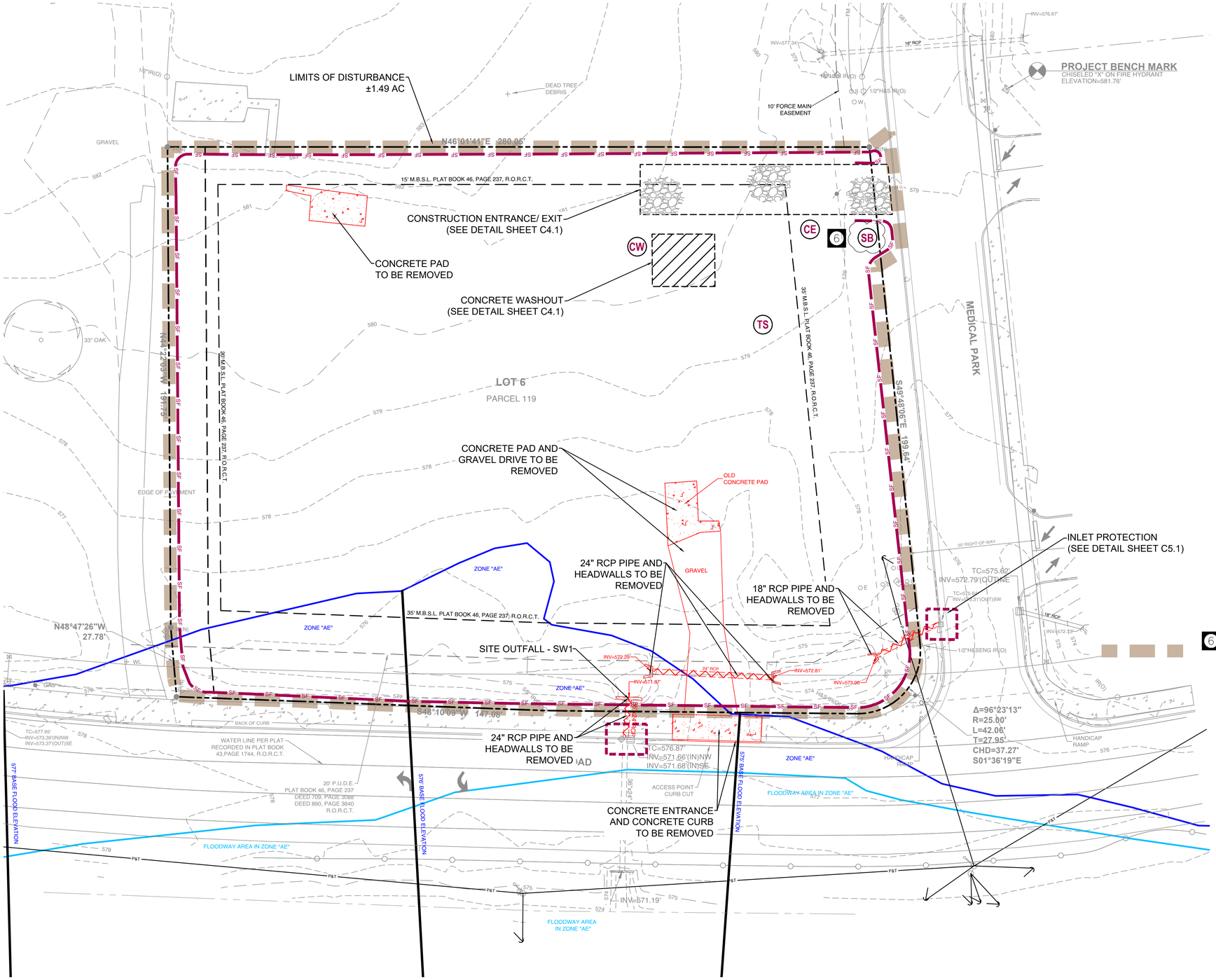

EROSION/SILTATION CONTROL NOTES:

1. AREAS AND TIME OF EXPOSURE OF UNPROTECTED SOILS SHALL BE KEPT TO A MAXIMUM OF 14 DAYS.
2. KEEP DUST WITHIN TOLERABLE LIMITS BY SPRINKLING OR OTHER ACCEPTABLE MEANS.
3. USE TEMPORARY VEGETATION AND/OR MULCH TO PROTECT BARE AREAS FROM EROSION DURING CONSTRUCTION.
4. NO OTHER WORK WILL BE INITIATED ON THE PROJECT UNTIL THE EROSION/ SILTATION MEASURES SHOWN ON THE PLANS AND DETAILS ARE PROPERLY IN PLACE.
5. SILT FENCE SHOWN THUS —SF— IS TO BE USED AS TEMPORARY SEDIMENT BARRIERS.
6. SEDIMENT TUBE SHOWN THUS — · — IS TO BE USED AS TEMPORARY SEDIMENT BARRIERS.
7. IF, AT ANY TIME DURING THE CONSTRUCTION PHASE OF THIS PROJECT, THE EROSION/SILTATION MEASURES INSTALLED FAIL TO FUNCTION PROPERLY, NEED MAINTENANCE OR REPAIR, OR NEED NEW REPLACEMENT, THE CONTRACTOR WILL EFFECT SUCH ACTIONS AS NEEDED TO CORRECT THE SITUATION AT NO ADDITIONAL COST TO THE OWNER.
8. DISTURBED AREAS ARE TO BE GRADED TO DRAIN AS INDICATED ON PLAN TO SEDIMENT BARRIERS DURING AND UPON COMPLETION OF CONSTRUCTION.
9. ALL CUT/FILL AREAS TO HAVE A MINIMUM OF 6-INCH DEPTH TOPSOIL COVER. AREAS DRESSED WITH TOPSOIL WILL RECEIVE 12 POUNDS PER 1000 SQUARE FEET OF 6-12-12 FERTILIZER, 5 POUNDS OR MORE OF KENTUCKY 31 FESCUE SEED PER 1000 SQUARE FEET AND A STRAW MULCH OF 70%-80% COVERAGE (APPROXIMATELY 125 POUNDS PER 1000 SQUARE FEET) EXCEPT AS OTHERWISE DETERMINED BY PLAN.
10. UPON STABILIZATION OF THE PROJECT SITE WITH A GOOD (ACCEPTABLE) STAND OF GRASS AND/OR GROUND COVER, THE EROSION/SILTATION INSTALLATIONS WILL BE REMOVED AND THE AREA DISTURBED WILL BE SEEDED AND MULCHED WITH THE SAME TREATMENT AS OTHER NEW GRASSED AREAS OF THE PROJECT.
11. A STONE ACCESS RAMP IS TO BE CONSTRUCTED AT THE SITE ENTRANCE WITH A MINIMUM WIDTH OF 20 FEET AND MINIMUM LENGTH OF 100 FEET. RAMP IS TO BE BASED WITH 6 INCHES OF ASTM D 448, SIZE NO. 1 STONE, AND MAINTAINED THROUGHOUT CONSTRUCTION.
12. PRIOR TO THE ISSUANCE OF A GRADING PERMIT, ALL EROSION/SILTATION CONTROL MEASUREMENTS INDICATED ON THE PLANS SHALL BE INSTALLED.
13. CONTRACTOR SHALL PROVIDE AN AREA FOR CONCRETE WASHOUT AND EQUIPMENT FUELING IN ACCORDANCE WITH METRO CP-10 and CP-13, RESPECTIVELY. CONTRACTOR MUST COORDINATE EXACT LOCATION WITH NPDES DEPARTMENT DURING PRE-CONSTRUCTION MEETING. CONTROL OF OTHER SITE WASTES SUCH AS DISCARDED BUILDING MATERIALS, CHEMICALS, MAY CAUSE ADVERSE IMPACTS TO WATER QUALITY IS ALSO REQUIRED BY THE GRADING PERMITTEE.
14. SITE DRAINS TO A 303(d) LISTED STREAM.
15. STEEP SLOPES ARE TO BE STABILIZED WITHIN 7 DAYS OF FINAL GRADING.

BEST MANAGEMENT PRACTICES (BMP):

- LAND CLEARING SHALL TAKE PLACE ONLY IN AREAS WHERE ACTIVE CONSTRUCTION WILL BEGIN WITHIN A REASONABLE AMOUNT OF TIME. LAND CLEARING DURING THE RAINY SEASON SHALL BE AVOIDED IN SENSITIVE AREAS SUSH AS STEEP SLOPES AND BUFFERS, IF POSSIBLE.
- ANY NATURAL WATERCOURSE ON SITE SHALL NOT BE DISTURBED UNLESS ABSOLUTELY NECESSARY.
- DENUDED AREAS, SOIL STOCKPILES, DIKES, DAMS, CHANNELS, ETC., ARE TO BE SEEDED AND MULCHED. AREAS AND TIME OF EXPOSURE OF UNPROTECTED SOILS SHALL BE KEPT TO A MAXIMUM OF 14 DAYS. SUCH AREAS ARE TO IMMEDIATELY RECEIVE SEED AND MULCH STABILIZATION FOLLOWING THIS TIME PERIOD. ON STEEP SLOPES AND CHANNELS, SOD SHALL BE FASTENED TO THE GROUND WITH WIRE STAPLES OR WOOD PEGS. WHERE SURFACE WATER CANNOT BE DIVERTED FROM FLOWING OVER THE FACE OF SLOPES, INSTALL A STRIP OF HEAVY JUTE OR PLASTIC NETTING IS TO BE FASTENED TIGHT ALONG THE CROWN OR TOP OF THE SLOPE FOR EXTRA PROTECTION AGAINST LIFTING AND UNDERCUTTING OF SOD.
- SUITABLE BARRICADES AND GUARDS SHALL BE ERECTED TO PREVENT EQUIPMENT OR MATERIAL FROM BEING PLACED ON ANY PLANTED AREA.
- PLASTIC LINING SHALL BE USED ON ALL DITCHES AND EXPOSED SURFACES WHEN TIME DOES NOT PERMIT THE CONTRACTOR TO USE SEED AND MULCH FOR STABILIZATION.
- SLOPE AND DITCHES THAT ARE CONSTRUCTED TO FINAL SUB-GRADE OR A PORTION OF ANY SLOPE OR DITCH THAT IS CONSTRUCTED TO SUB-GRADE SHALL IMMEDIATELY RECEIVE TOPSOIL AND FINAL STABILIZATION. ALL SLOPES ARE TO RECEIVE SEED AND MULCH. ALL DITCHES SHALL RECEIVE STABILIZATION AS INDICATED ON THE CONSTRUCTION PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING SEEDED AREAS TO PREVENT THE SOIL FROM DRYING OUT UNTIL APPROVED AND ACCEPTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RE-SEEDING BARE SPOTS FOR A PERIOD OF ONE YEAR AFTER INSTALLATION OR ACCEPTANCE OF THIS PROJECT.
- STEEP AND UNSTABLE SLOPES SHALL NOT BE DISTURBED IF THEY ARE OUTSIDE OF THE APPROVED GRADING PLAN AREA. RUNOFF SHALL BE CONVEYED FROM THE TOP OF THE SLOPE IN A SAFE MANNER ENSURING THAT THE SLOPE IS STABILIZED AS SOON AS POSSIBLE. ALL RUNOFF EXITING THE CONSTRUCTION SITE SHALL BE FREE OF EXCESSIVE SEDIMENT, AND OTHER POLLUTANTS.
- EROSION CONTROL BARRIERS (SILT FENCE) SHALL BE PLACED WHERE INDICATED PRIOR TO CLEARING, GRUBBING, AND GRADING. EROSION CONTROL BARRIERS (SILT FENCE) SHALL BE ADJUSTED AND PLACED ALONG THE NEWLY ESTABLISHED CONTOURS UNTIL THE DEVELOPMENT IS STABILIZED (SEE EROSION/SILTATION CONTROL NOTES)
- STREET AND/OR CURB INLET PROTECTION DEVICES SHALL BE PLACED AROUND ALL INLETS UPON THE CONSTRUCTION OF THE STORM WATER SEWER SYSTEM.
- 6 ALL CHEMICALS MUST BE PROPERLY STORED, ALL SPILLS MUST BE CLEANED ASAP, AND ALL LITTER MUST BE KEPT TO A MINIMUM.

LEGEND

- LIMITS OF DISTURBANCE
  SITE AREA = ±1.49 AC
  L.O.D. = ±1.58 AC
- SF — SF — EROSION/SILTATION FENCE WITH WIRE BACKING
- EROSION/SILTATION TUBE
- INLET PROTECTION
- PROPERTY LINE
- TEMPORARY CONSTRUCTION ENTRANCE (SEE DETAIL, C5.0)
- CE
- CW — CONCRETE WASHOUT (SEE DETAIL, 5.0)
- TS — TEMPORARY CONSTRUCTION STORAGE TRAILERS
- 6 SB — STORM WATER POLLUTION PREVENTION PLAN BOX
- UTILITIES TO BE DEMOLISHED
- TREE TO BE REMOVED

SILT BARRIER MAINTENANCE:

1. SILT BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.
2. CLOSE ATTENTION SHALL BE PAID TO THE REPAIR OF DAMAGED SILT BARRIER, END RUNS AND UNDERCUTTING BENEATH SILT BARRIER.
3. NECESSARY REPAIRS TO BARRIERS OR REPLACEMENT OF SILT BARRIER SHALL BE ACCOMPLISHED PROMPTLY.
4. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH RAINFALL. THEY MUST BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
5. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.

WATER QUALITY NOTES:

1. WATER QUALITY BMPs SHALL NOT BE INSTALLED UNTIL BUILDOUT IS NEAR COMPLETION TO PREVENT CONSTRUCTION SEDIMENT FROM ENTERING WATER QUALITY BMPs.
2. WATER QUALITY AREAS SHALL NOT BE USED AS SEDIMENT BASINS DURING CONSTRUCTION.
3. WATER QUALITY BMPs SHOULD BE PROTECTED BY SILT FENCING AND/OR SEDIMENT TUBING DURING CONSTRUCTION. HEAVY EQUIPMENT SHALL NOT BE ALLOWED IN THE WATER QUALITY BMP FOOTPRINT.

CONCRETE WASHOUT NOTES:

CONTRACTOR SHALL PROVIDE AN AREA FOR CONCRETE WASHOUT AND EQUIPMENT REFUELING IN ACCORDANCE WITH METRO CP-10 AND CP-13, RESPECTIVELY. CONTRACTOR TO COORDINATE EXACT LOCATION WITH NPDES DEPARTMENT DURING PRECONSTRUCTION MEETING. CONTROL OF OTHER SITE WASTES SUCH AS DISCARDED BUILDING MATERIALS, CHEMICALS, LITTER, AND SANITARY IMPACTS TO WATER QUALITY IS ALSO REQUIRED BY THE GRADING PERMITTEE.

EROSION CONTROL SEQUENCING:

PHASE I

- EPSC CONTROLS INSTALLED, ALL PERIMETER MEASURES MUST BE IN PLACE BEFORE GRADING.
- CONSTRUCTION ENTRANCE INSTALLED.
- INITIAL CLEARING AND GRUBBING/DEMOLITION OF SITE.
- CONCRETE WASHOUT INSTALLED.

DEMOLITION NOTES

1. EROSION CONTROL MEASURES SHALL BE PUT IN PLACE AND FUNCTIONING PRIOR TO DEMOLITION BEGINNING.
2. NO DISTURBANCE OR DEMOLITION OF ANY UTILITY INFRASTRUCTURE SHALL TAKE PLACE WITHOUT PRIOR COORDINATION WITH UTILITY OWNER.

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JOSHUA WILLIAM HUNTER REGISTERED ENGINEER AGRICULTURE COMMERCE No. 118698 STATE OF TENNESSEE 02/08/2023

PRIMROSE SCHOOL
FOR
CASCO

1788 ROCK SPRINGS ROAD, TOWN OF SMYRNA, RUTHERFORD COUNTY, TENNESSEE

Scale: 1"=20'

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Drawing Title:

INITIAL EROSION CONTROL AND DEMOLITION PLAN

Drawing No.

C1.0

Project No.

21-0286

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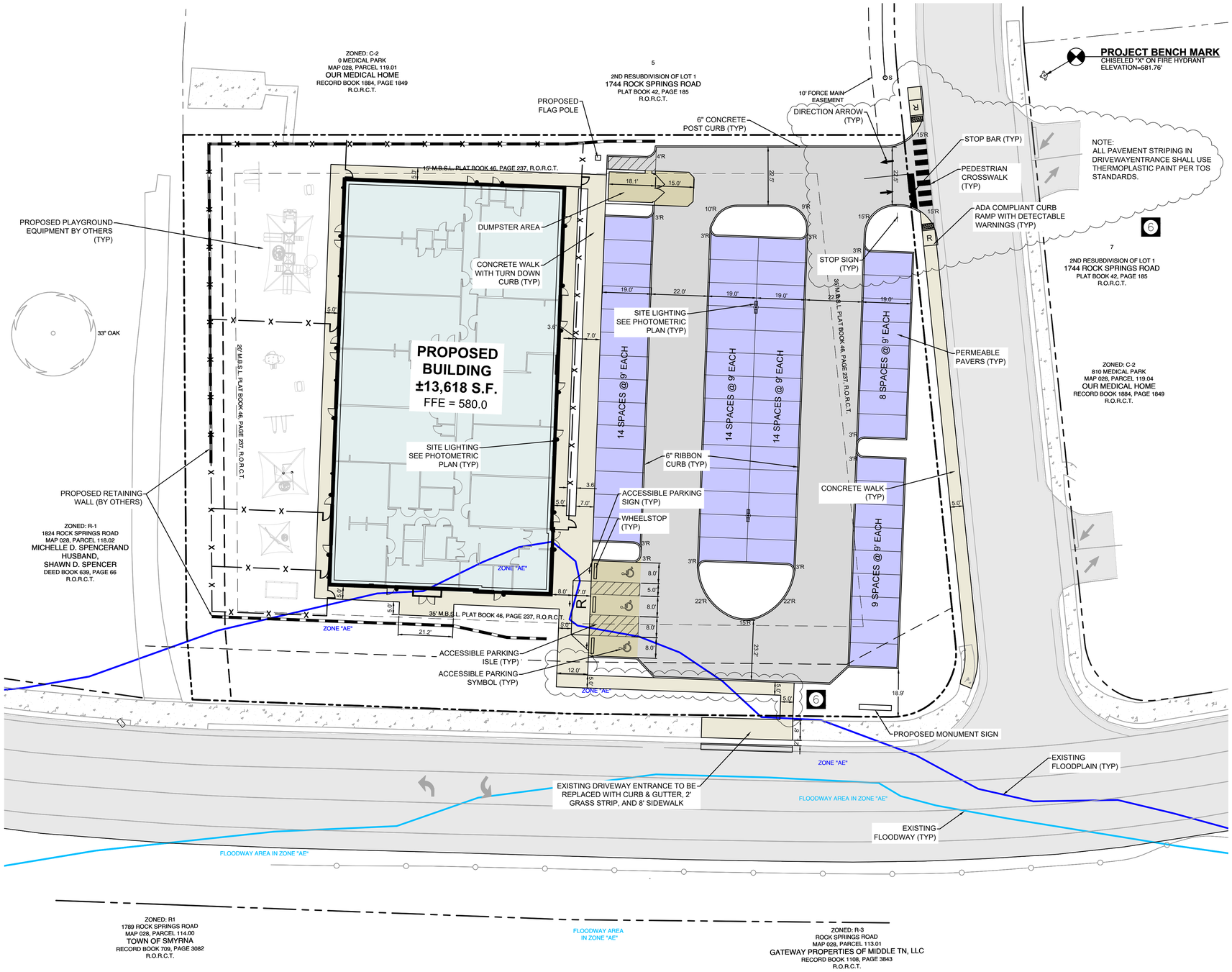

SITE DATA

PROPERTY INFORMATION:

STREET ADDRESS:	1788 ROCK SPRINGS ROAD, SMYRNA TN 37167
TAX MAP:	28
PARCEL:	119
SITE ACREAGE:	±1.49 AC (64,891.65 S.F.)
RECORD BOOK:	1735
PAGE:	3594
COUNCIL DISTRICT NUMBER:	10
COUNCIL DISTRICT MEMBER:	PHIL WILSON

OWNER/DEVELOPER

TED TILLMAN
PRIMROSE SCHOOLS
3200 WINDY HILL RD
SUITE 1200E
ATLANTA, GA 30339
(770)799-5525
ttillman@primroseschools.com

PROJECT MANAGER:

JOSH HUNTER
RAGAN-SMITH ASSOCIATES, INC.
315 WOODLAND STREET
NASHVILLE, TN 37206
(615) 244-8591
JHUNTER@RAGANSMITH.COM

PROJECT INFORMATION:

ZONING CLASSIFICATION:	C-2, GENERAL COMMERCIAL
EXISTING USE:	VACANT
PROPOSED USE:	DAYCARE SCHOOL
TOTAL BUILDING S.F.:	13,618 S.F.
MAX BUILDING LOT COVERAGE:	70%
PROPOSED BUILDING LOT COVERAGE:	21%
MAX HEIGHT:	40'
PROPOSED HEIGHT:	35'
TOTAL IMPERVIOUS AREA:	±40,642
TOTAL VEHICULAR USE AREA:	±22,732
MINIMUM FRONT SETBACK:	35'
MINIMUM SIDE SETBACK:	15'
MINIMUM REAR SETBACK:	20'

PARKING INFORMATION:

PARKING REQUIREMENT:	DAY CARE CENTER 1 SPACE/EMPLOYEE + 1 SPACE/5 CHILDREN
PARKING SPACES REQUIRED:	62 SPACES
PARKING PROVIDED:	62 SPACES (INCLUDES 3 ADA SPACES)

ZONING COMPLIANCE NOTE:

ALL CONSTRUCTION AND USE OF THE PROPOSED FACILITY TO MEET THE APPLICABLE PERFORMANCE STANDARDS AS SET FORTH IN THE TOWN OF SMYRNA ZONING ORDINANCE SECTION 3.120.6.

FLOOD NOTE:

BY SCALED MAP LOCATION AND GRAPHIC PLOTTING ONLY, THIS PROPERTY LIES WITHIN FLOOD ZONES "AE", "X" (OTHER FLOOD AREAS). AND "X" (OTHER AREAS), AS DESIGNATED ON CURRENT FEDERAL EMERGENCY MANAGEMENT AGENCY MAP NUMBER 47149C0106H, WITH AN EFFECTIVE DATE OF JANUARY 5, 2007, WHICH MAKES UP A PART OF THE NATIONAL FLOOD INSURANCE ADMINISTRATION REPORT; COMMUNITY NUMBER 47169, PANEL NUMBER 0106, SUFFIX H, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR THE COMMUNITY IN WHICH SAID PREMISES IS SITUATED. SAID MAP DEFINES ZONE "AE" UNDER "SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD" AS BASE FLOOD ELEVATIONS DETERMINED. SAID MAP DEFINES ZONE "X" (OTHER FLOOD AREAS) UNDER "OTHER FLOOD AREAS" AS AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD. SAID MAP DEFINES ZONE "X" (OTHER AREAS) UNDER "OTHER AREAS" AS AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.

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Drawing Title:

SITE LAYOUT PLAN

Drawing No.

C2.0

Project No.

21-0286

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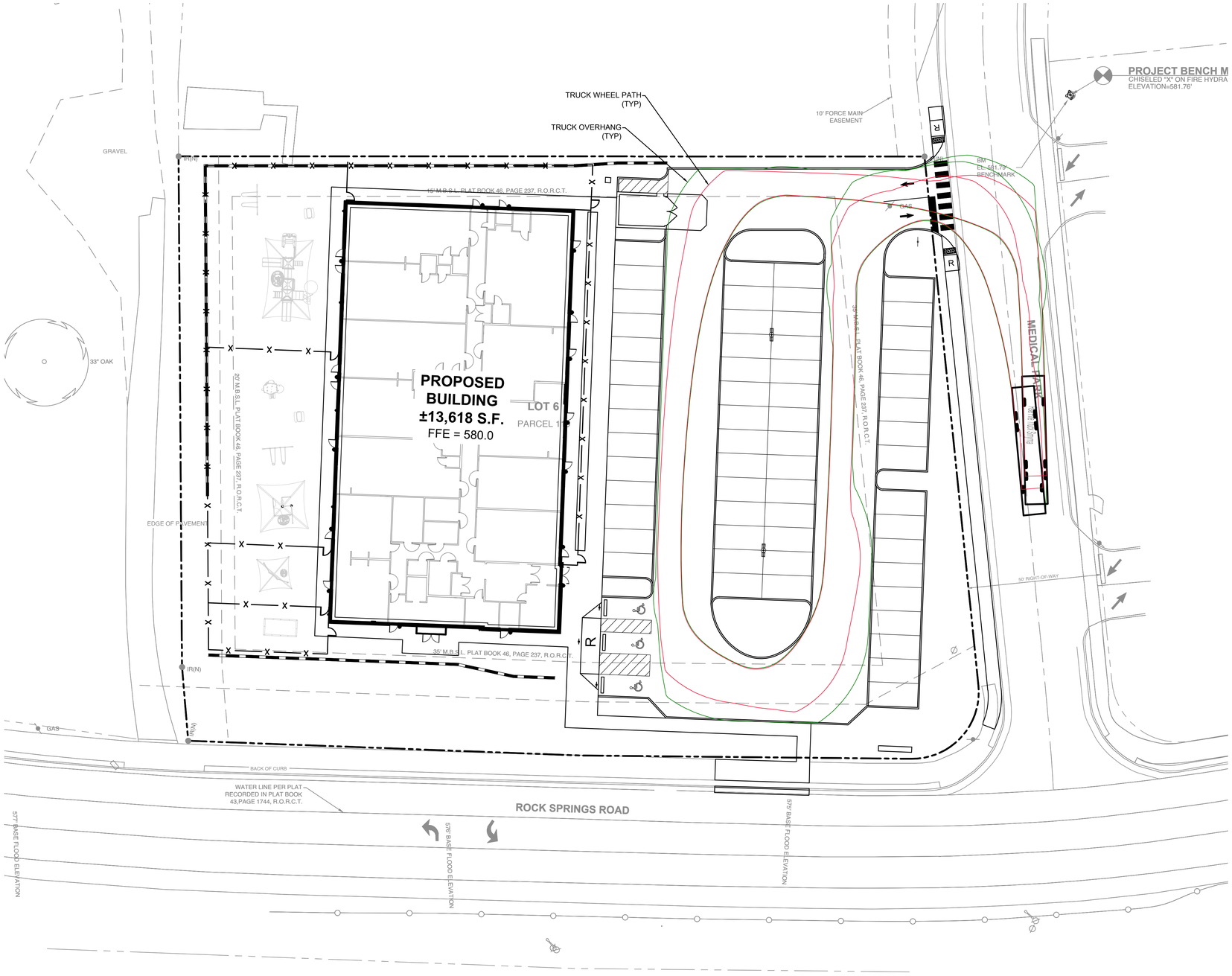

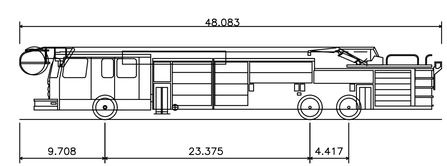

Rsa Fire Truck Smyrna

Overall Length	48.083ft
Overall Width	8.333ft
Overall Body Height	8.303ft
Min Body Ground Clearance	0.627ft
Track Width	8.000ft
Lock-to-lock time	6.00s
Wall to Wall Turning Radius	42.000ft

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FOR
CASCO

1788 ROCK SPRINGS ROAD, TOWN OF SMYRNA, RUTHERFORD COUNTY, TENNESSEE

Scale: 1"=20'

Date: SEPTEMBER 19, 2022

Approved By: L. HORN

Revisions:

6 02/08/2023 PER CITY COMMENTS
5 12/13/2022 PER TDEC COMMENTS
4 11/10/2022 POST BID ADD.1 CODE RESP./FO REVISIONS
3 10/06/2022 BID SET
2 10/05/2022 PER CITY COMMENTS
1 09/27/2022 PER CITY COMMENTS

Drawing Title:

FIRE TRUCK MOVEMENT PLAN

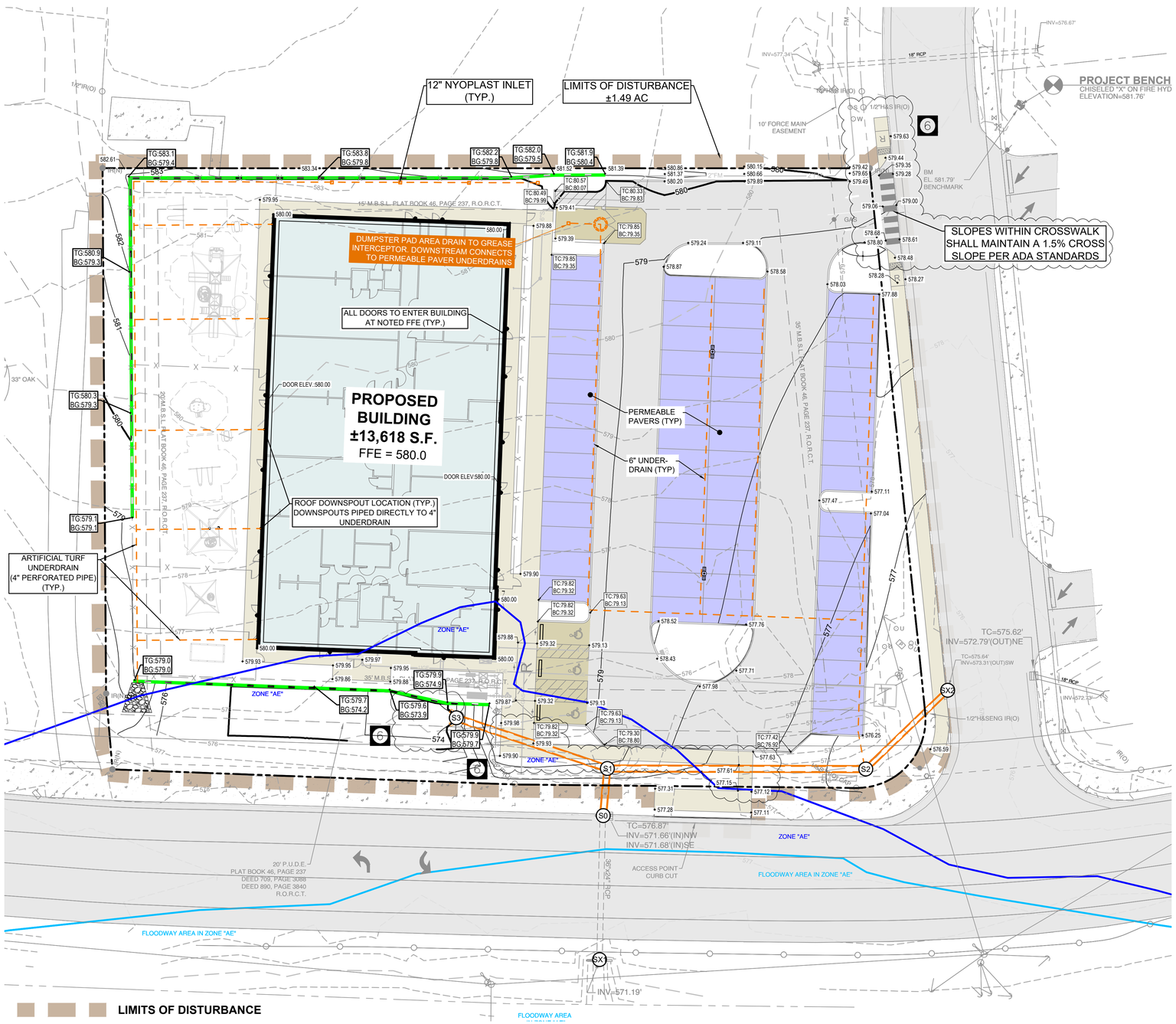
Drawing No.

C2.1

Project No.

21-0286

G:\2-0286\-CIVIL ENGINEERING\2-PLAN SHEETS\0286 TRUCK.DWG
PLOTTED BY DAVID BRANNAN ON 2/8/2023 4:48 PM LAST UPDATED BY HPELHAM ON 11/8/2022 11:32 AM



LIMITS OF DISTURBANCE

SITE AREA = ±1.49 AC
L.O.D. = ±1.49 AC

SPOT ELEVATION LEGEND

100.00	SPOT IS LOCATED AT FLOWLINE UNLESS NOTED OTHERWISE
TC:100.00	SPOT INDICATES TOP OF CURB
BC:100.00	SPOT INDICATES BOTTOM OF CURB
F:100.00	SPOT INDICATES FLUSH CONDITION
DOOR:100.00	SPOT INDICATES A DOOR LOCATION
EG:100.00	SPOT INDICATES EXISTING GRADE

STORM DRAINAGE NOTES:

1. ALL STORMWATER WORKS ON THIS PROJECT WILL BE CONSTRUCTED TO BE IN COMPLIANCE WITH THE TOWN OF SMYRNA ENGINEERING DIVISION SPECIFICATIONS AND REQUIREMENTS.
2. TRENCHES FOR STORMWATER PIPING WILL BE BEDDED WITH 4" OF CRUSHED STONE TO RECEIVE THE CULVERT PIPE AND GIVE A UNIFORM BEARING ALONG THE RUN OF THE TRENCH. REMAINING TRENCH SECTION TO BE BACKFILLED WITH CLEAN STONE #57 TO TOP OF PIPE OR TO SUBGRADE WHEN LOCATED IN PAVEMENT.
3. RIM REFERS TO TOP OF GRATE OF "K" AND "M" & "H" CASTINGS. DRAINAGE STRUCTURE CASTING SHALL BE DRY SET WHEN BUILT AND MORTAR SET LATER WHEN ADJUSTED TO GRADE OF FINAL SURFACE TREATMENT.
4. ALL INVERT ELEVATIONS ON EXISTING STORMWATER STRUCTURE TIE IN POINTS TO BE VERIFIED PRIOR TO CONSTRUCTION.
5. ALL ROOF DRAINS TO TIE TO UNDERGROUND DRAINAGE.

GRADING NOTE (ACCESSIBLE ENTRANCE):

ALL ENTRANCES ON ANY BUILDING WHICH IS CONSIDERED A HANDICAP ACCESSIBLE ENTRANCE IS TO BE PROVIDED FOR A MINIMUM OF 60"x60" LANDING FOR A SINGLE DOOR AND A 72"x60" LANDING FOR A DOUBLE DOOR, IF A PROPOSED ACCESS EXCEEDS A 72" WIDTH THE LANDING IS TO ACCOMMODATE SAID ACCESS WIDTH. SAID LANDING IS NOT TO EXCEED A 1% GRADE (1/8"/FOOT FALL) IN ANY DIRECTION. CONTRACTOR IS TO COORDINATE WITH DESIGNING ARCHITECT FOR ALL LOCATIONS, LAYOUTS, ELEVATIONS AND TREATMENTS TO ANY PROPOSED BUILDING ACCESS.

NO SITE WORK (CLEARING, GRUBBING, GRADING, OR STOCKPILING) SHALL BEGIN UNTIL THE APPROVED INITIAL EROSION CONTROL MEASURES ARE IN PLACE, INSPECTED, AND A LAND DISTURBANCE PERMIT (LDP) FROM THE TOWN OF SMYRNA ENGINEERING DIVISION HAS BEEN ISSUED FOR THIS SITE.

NOTE:
ANY SIDEWALK DAMAGED DURING CONSTRUCTION TO BE REPLACED BY THE CONTRACTOR.

DRAINAGE STRUCTURE SCHEDULE

NO.	TYPE*	CASTING	RIM	INVERTS
S0	EX. CURB INLET	EXISTING	576.87	571.68 (S1) 571.68 (SX1)
S1	AREA DRAIN	4300	578.64	572.00 (S2) 572.00 (S3) 571.90 (S0)
S2	AREA DRAIN	4300	576.47	572.50 (S1) 573.00 (SX2)
S3	HEADWALL	REINFORCED CONCRETE	576.25	573.50 (S1)
SX1	HEADWALL	EXISTING	573.94	571.19 (S0)
SX2	EX. CURB INLET	EXISTING	575.64	573.31 (S2)

ALL CASTING TO BE JOHN BOUCHARD & SONS CO. OR APPROVED EQUAL, UNLESS OTHERWISE NOTED.

PIPE TABLE

LINE	SIZE/TYPE	LENGTH	SLOPE
S0-S1	24" RCP	17'	1.27%
S1-S2	24" RCP	94'	0.53%
S1-S3	24" RCP	58'	2.58%
S2-SX2	18" RCP	41'	0.75%
SX1-S0	24" RCP	53'	0.93%

ALL PIPES TO BE RCP, CLASS III, UNLESS OTHERWISE NOTED.

Tennessee Construction General Permit Notice of Coverage (NOC) Certification

The project associated with these submitted plans is covered under Tennessee Construction General Permit **TNR246425**

The Total Disturbed Area is: **1.49 acres**

Check all that apply: This site discharges into waters identified by TDEC as:

☐ Impaired for siltation ☐ Impaired for habitat alteration ☐ Exceptional

September 19, 2022
Signature - Date

Circle one: Developer (Project Engineer) Other _____

Please attach a copy of the Notice of Coverage under the Construction General Permit.

NOTE: A project will not be scheduled for a Pre-Construction Meeting until the State Construction General Permit NOC letter is submitted.

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JOSHUA WILLIAM HUNTER REGISTERED ENGINEER AGRICULTURE No. 118698 COMMERCE STATE OF TENNESSEE 02/08/2023

PRIMROSE SCHOOL
FOR
CASCO

1788 ROCK SPRINGS ROAD, TOWN OF SMYRNA, RUTHERFORD COUNTY, TENNESSEE

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Drawing Title:

SITE GRADING AND DRAINAGE PLAN

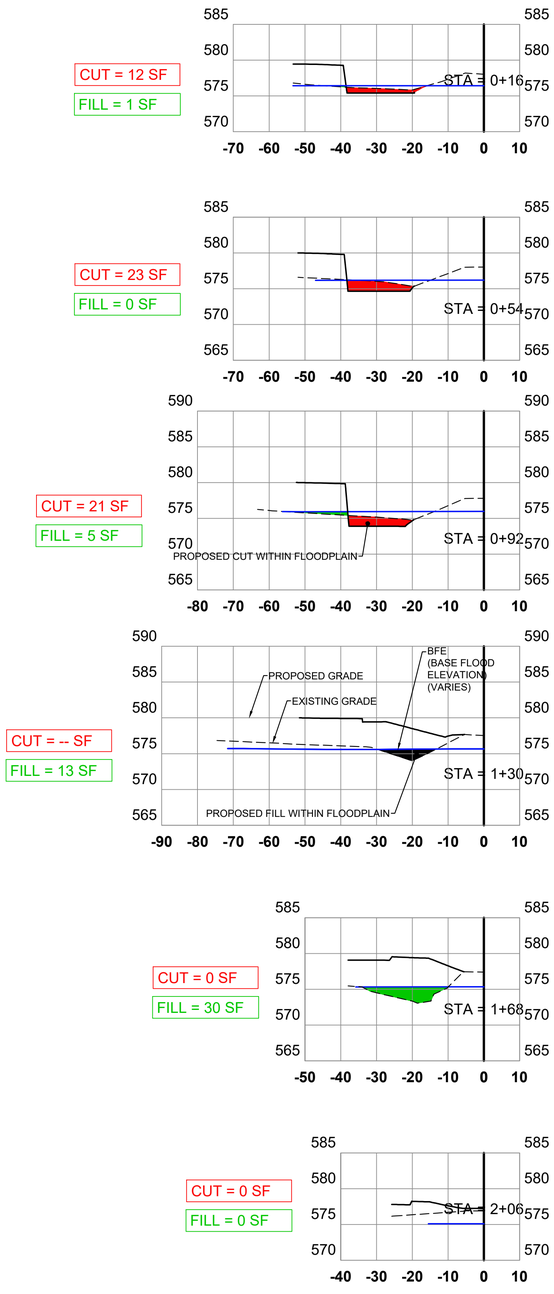
Drawing No.

C3.0

Project No.

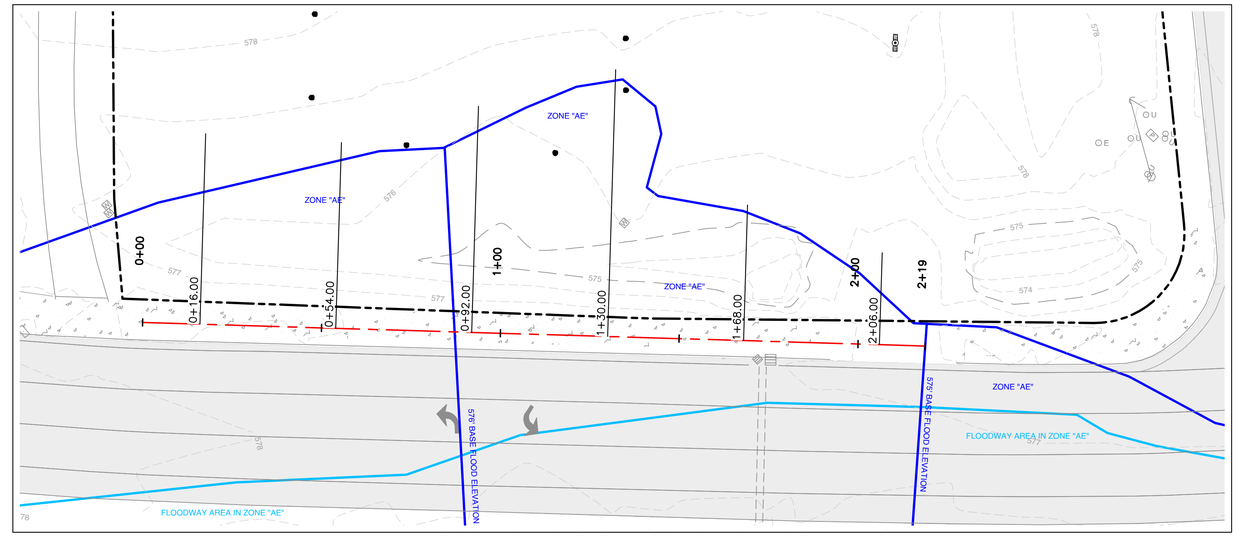
21-0286

G:\21-0286\-CIVIL ENGINEERING\C-PLAN SHEETS\06-GRADING.DWG
PLOTTED BY DAVID NRYNAMOW ON 2/8/2023 4:45 PM LAST UPDATED BY KBOUTHARD ON 2/8/2023 12:45 PM



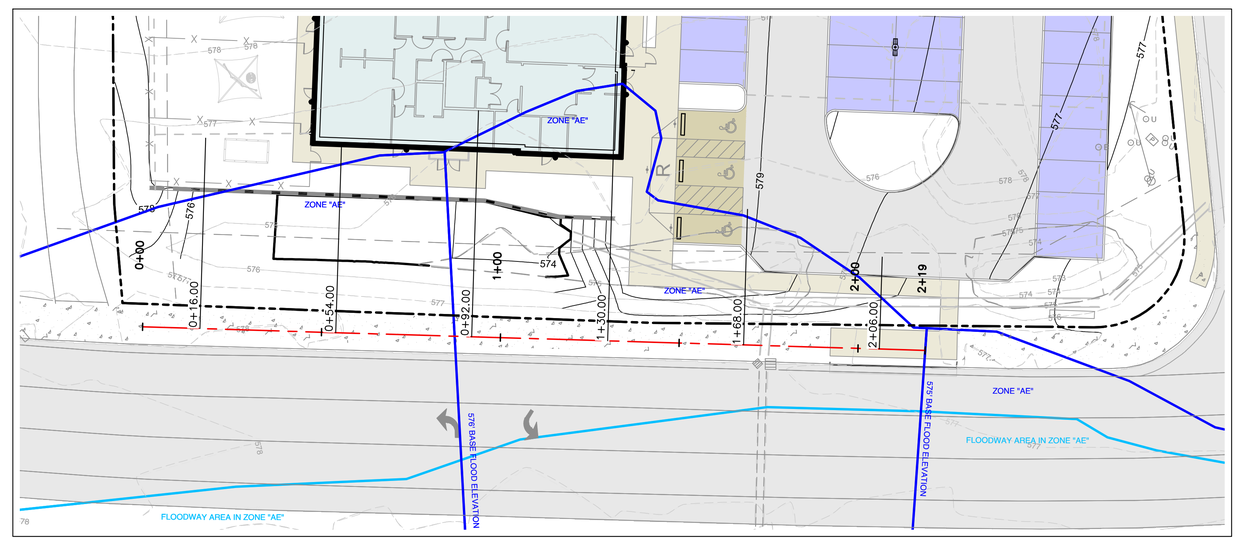
FLOOPLAIN CUT-FILL SECTIONS

1"=20'



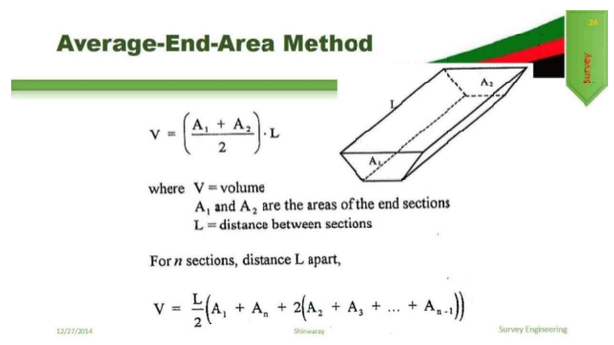
FLOOPLAIN SECTIONS (PLAN VIEW, EXISTING)

1"=10'



FLOOPLAIN SECTIONS (PLAN VIEW, PROPOSED)

1"=10'



	(from cross sections)		AVERAGE END METHOD			
STATION	CUT (sf)	FILL (sf)	CUT (cf)	(FILL) (cf)	(CUT) (cy)	(FILL) (cy)
0+16	12	1	665	19	25	1
0+54	23	0	836	95	31	4
0+92	21	5	399	342	15	13
1+30	0	13	0	817	0	30
1+68	0	30	0	570	0	21
2+06	0	0	0	0	0	0
				TOTAL FILL =		68
				TOTAL CUT =	70	

CUT-FILL CALCULATIONS USING AVERAGE END METHOD

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JOSHUA WILLIAM HUNTER
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 118868
STATE OF TENNESSEE
02/08/2023

PRIMROSE SCHOOL

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Drawing Title:

FEMA FLOOD PLAIN REALIGNMENT PLAN

Drawing No.

C3.1

Project No.

21-0286

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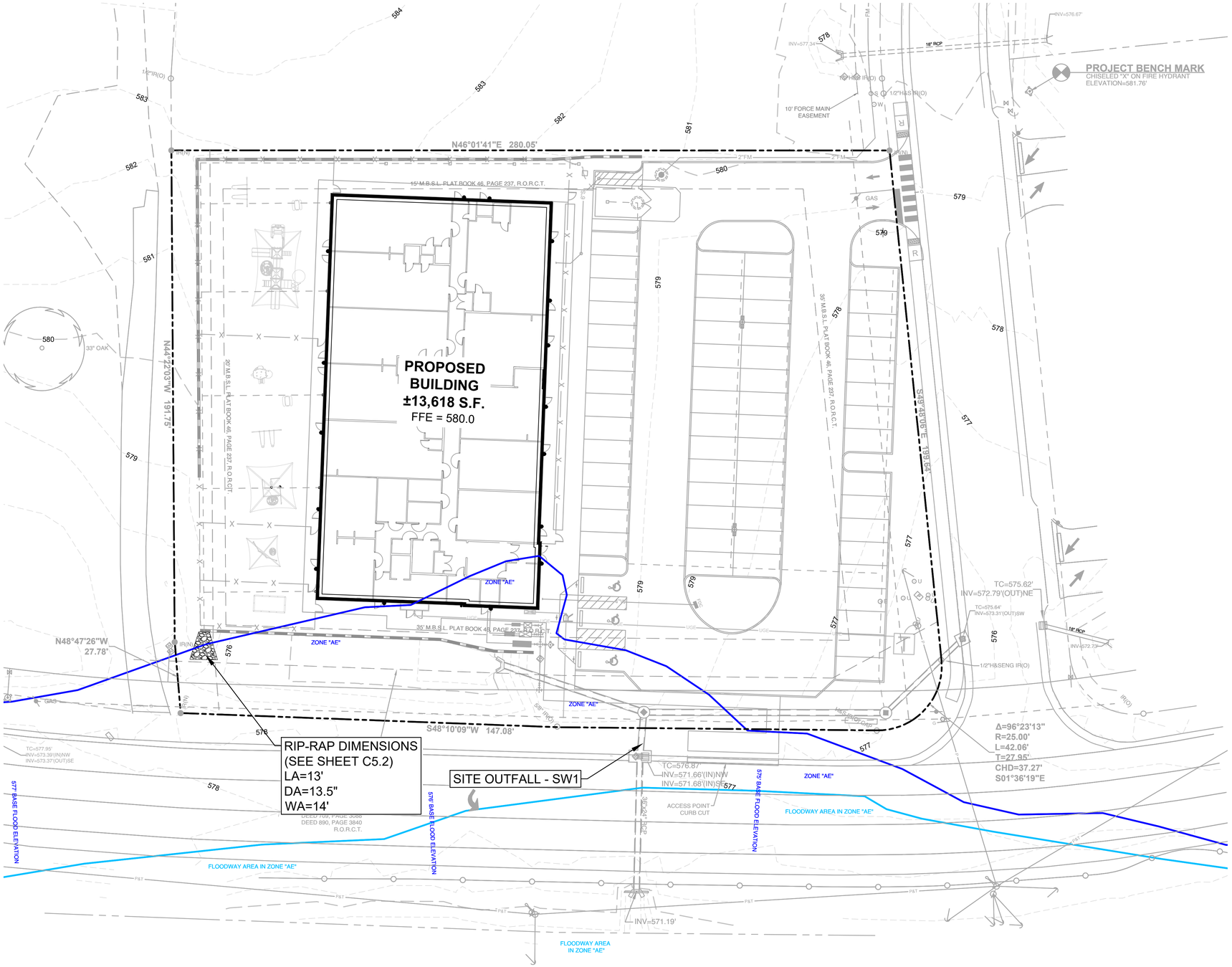
PLOTTED BY DAVID ABRAHAMSON 2/8/2023 4:49 PM LAST UPDATED BY HPISLAMAN ON 12/7/2022 12:16 PM



FINAL STABILIZATION:

UPON COMPLETION THE FOLLOWING METHODS SHALL BE USED AS FINAL STABILIZATION FOR EROSION CONTROL.

1. ALL TEMPORARY OR "DURING CONSTRUCTION" EROSION CONTROL MEASURES SHALL BE REMOVED. I.E. SILT FENCE, CONSTRUCTION ENTRANCE, INLET PROTECTION, EXCESSIVE RIP RAP, ETC.
2. SEDIMENT ACCUMULATION SHALL BE REMOVED FROM SEDIMENT TRAP, SWALES, DITCHES, INLETS, AND OUTFALLS.
3. SEDIMENT AND DEBRIS REMOVED SHALL BE DISPOSED OF PROPERLY. IF CONTAMINATION OF MATERIALS SUSPECTED, CONTACT TDEC OR LOCAL WASTE MANAGEMENT FOR PROPER DISPOSAL.
4. ALL AREAS OF EXPOSED SOILS SHALL RECEIVE SEED/STRAW, SODDING, EROSION CONTROL MATTING, AND/OR MULCH.
5. ALL SWALES AND DITCHES SHALL HAVE A HEALTHY STAND OF GRASS.
6. THE SEDIMENT TRAP SHALL BE REMOVED IF APPROVED BY THE CITY.
7. ALL OUTFALLS SHALL POSSESS AN APPROPRIATE AMOUNT OF RIPRAP OR OTHER APPROVE MEANS TO PREVENT SCOURING.

EROSION CONTROL SEQUENCING:

PHASE IV

- FINAL STABILIZATION OF DISTURBED AREAS.
- REMOVAL OF TEMPORARY EROSION CONTROL DEVICES.

LIMITS OF DISTURBANCE

SITE AREA = ±1.49 AC
L.O.D. = ±1.49 AC

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JOSHUA WILLIAM HUNTER
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No. 118668
STATE OF TENNESSEE
02/08/2023

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Drawing Title:

FINAL EROSION CONTROL PLAN

Drawing No.

C3.2

Project No.

21-0286

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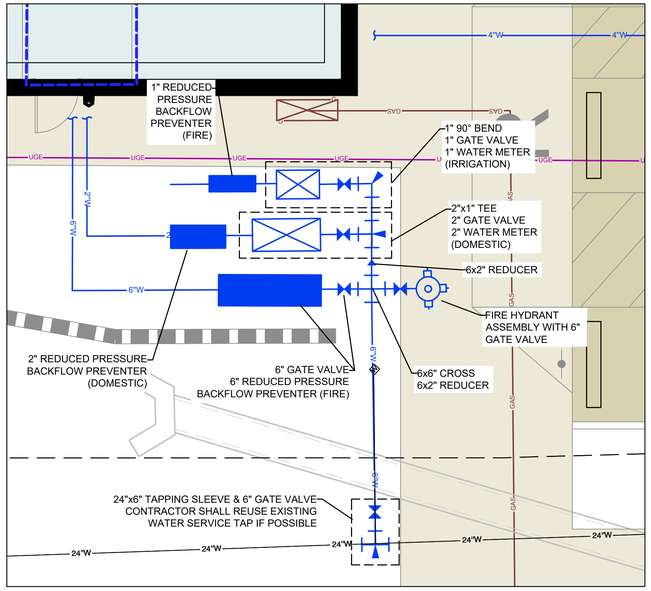
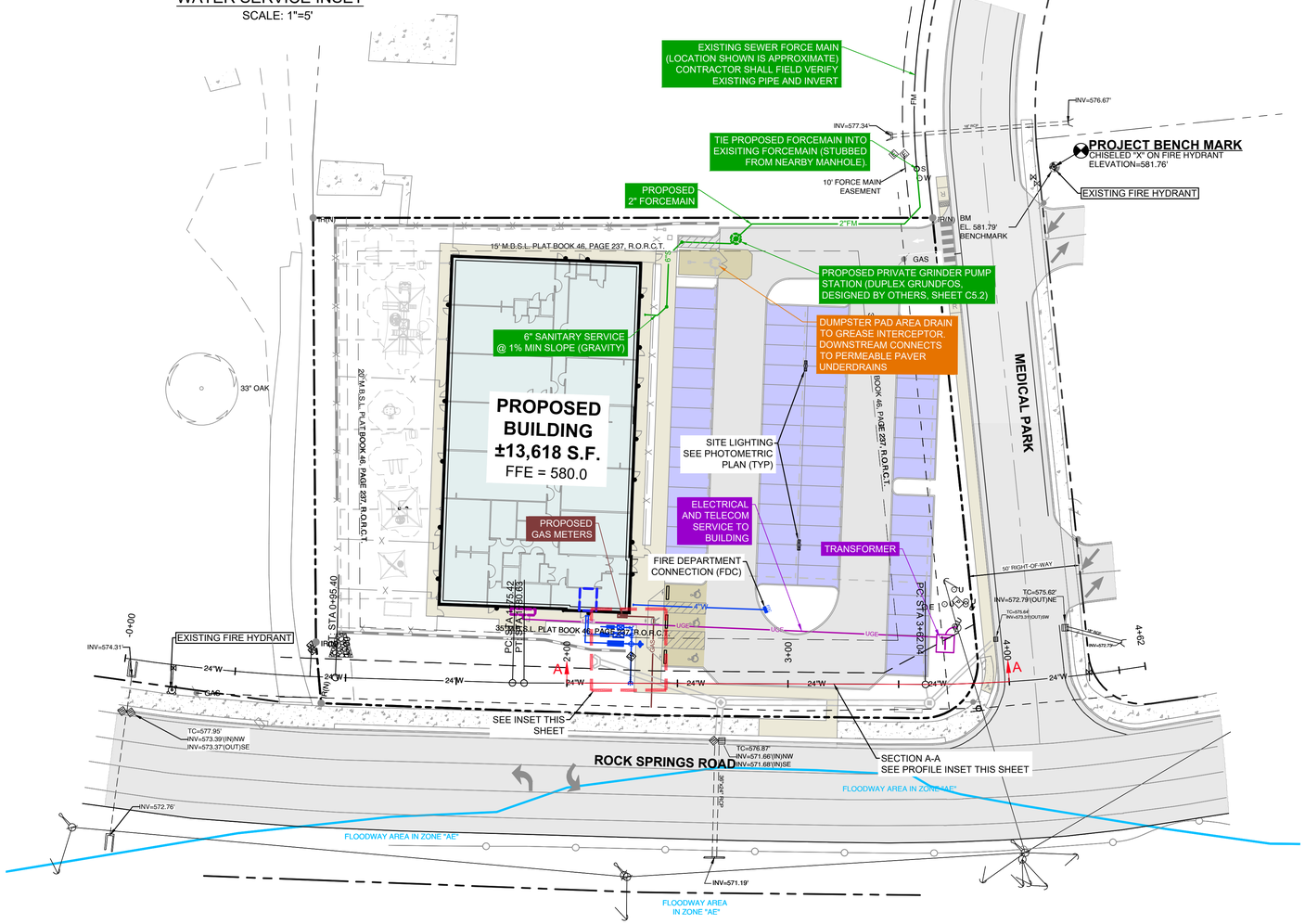


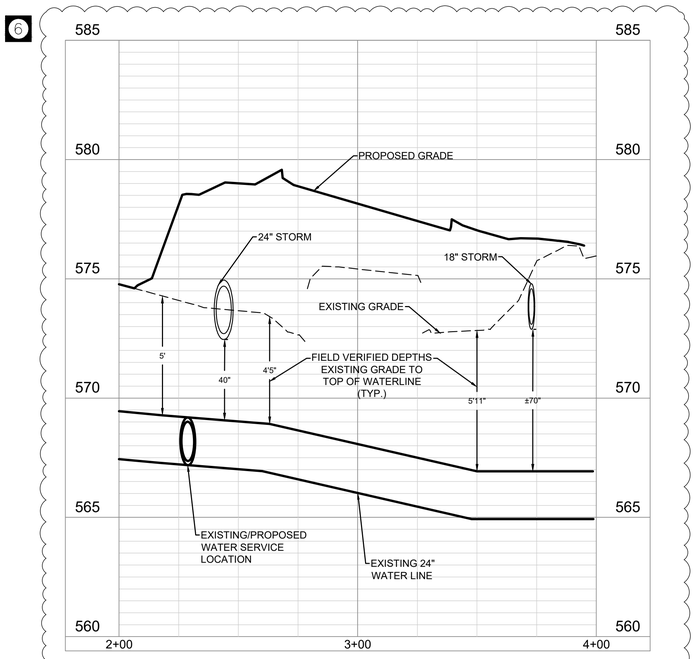
WATER SERVICE INSET

SCALE: 1"=5'

GENERAL NOTES FOR WATER LINE CONSTRUCTION:

1. ALL WATER LINE CONSTRUCTION AND MATERIALS WILL BE IN STRICT COMPLIANCE WITH THE CURRENT APPROVED SPECIFICATIONS FOR THE TOWN OF SMRYNA UTILITIES DEPARTMENT AS ON FILE WITH THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION, DIVISION OF WATER QUALITY CONTROL.
2. BEFORE ANY WATER LINE WORK IS INITIATED ON THIS PROJECT, THE CONTRACTOR SHOULD CONTACT THE TOWN OF SMYRNA AND SATISFY ALL REQUIREMENTS OF THE TOWN OF SMYRNA. UPON COMPLETION OF THE WATER LINE INSTALLATION, THE CONTRACTOR WILL PERFORM A PRESSURE TEST AND DISINFECT THE LINE UNDER THE INSPECTION OF THE TOWN OF SMYRNA. THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR THE COST OF REASONABLE INSPECTION FEES OF THE TOWN OF SMYRNA.
3. ANY AND ALL FEES, LICENSES, AND PERMITS NECESSARY FOR THIS CONSTRUCTION ARE TO BE OBTAINED AND PAID PRIOR TO THE INITIATION OF CONSTRUCTION AND THE COST THEREFORE WILL BE BORNE BY THE CONTRACTOR.
4. THE TOWN OF SMYRNA WILL SUPPLY THE APPROPRIATE WATER METER(S) AND SHALL BE REIMBURSED BY THE CONTRACTOR FOR MATERIAL COSTS.
5. WATER LINE CONSTRUCTION IS TO BE COMPLETED BY THE CONTRACTOR EXCEPT FOR THE ACTUAL CONNECTIONS TO EXISTING WATER LINE. AT LEAST 72 HOURS PRIOR TO CONNECTING PROPOSED WATER LINE TO THE SYSTEM, THE CONTRACTOR WILL NOTIFY THE TOWN OF SMYRNA AND COORDINATE METHOD OF CONNECTION AND TIME TO SHUT DOWN EXISTING WATER LINE IF REQUIRED.
6. THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL EXISTING UTILITIES (INCLUDING STORM DRAINAGE PIPES OR STRUCTURES) BEFORE COMMENCEMENT OF CONSTRUCTION.
7. WATER LINE MATERIAL WILL BE DUCTILE IRON PIPE, CLASS #52 WITH DUCTILE IRON FITTINGS AND DUCTILE IRON OR BRASS TAPS AS APPROPRIATE.
8. WHEN CONSTRUCTION IS COMPLETED, THE DEVELOPER IS TO FORWARD TWO (2) COPIES OF "AS BUILT" DRAWINGS TO THE TOWN OF SMYRNA.
9. ALL BENDS, TEES, CROSSES, PLUGS, AND PRESSURE CONNECTIONS, ETC., SHALL BE BACKED UP AND ANCHORED WITH CONCRETE BLOCKING.
10. BACKFLOW PREVENTER ARE TO BE INSTALLED BY TENNESSEE CERTIFIED INSTALLERS WHO SPECIALIZE IN BACKFLOW PREVENTION. ALL INSTALLATIONS ARE TO MEET THE TOWN OF SMYRNA REQUIREMENTS. ALSO, THE CONTRACTOR MUST SCHEDULE A TIME FOR TESTING OF THE DEVICE WITH THE DISTRICT'S INSPECTOR BEFORE COMPLETION OF THE PROJECT. IT IS NECESSARY FOR THE CONTRACTOR TO BE PRESENT DURING THIS TEST IN ORDER TO CORRECT ANY POTENTIAL PROBLEMS PRIOR TO OCCUPANCY OF THE PROPERTY.
11. BE SURE TO NOTIFY THE STATE, WHEN REQUIRED BY STATE REGULATIONS, BEFORE YOU BEGIN ANY WATER LINE CONSTRUCTION.
12. ALL VALVES SHALL OPEN BY TURNING TO THE LEFT AND BE SECURED USING MEGA-LUGS. ALL PIPE FITTINGS SHALL BE SECURED USING MEGA-LUGS.
13. IF STATE REVIEW AND APPROVAL REQUIRED, OWNER/DEVELOPER SHALL SUBMIT A STATE APPROVED SET OF PLANS TO THE TOWN SMYRNA A MINIMUM OF TWO (2) WEEKS PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR SHALL MAINTAIN A SET OF STATE APPROVED PLANS AND SPECIFICATIONS ON THE PROJECT SITE AT ALL TIMES.
14. UNLESS WRITTEN AUTHORIZATION FROM THE TOWN OF SMYRNA PROVIDES OTHERWISE, ALL WATER METERS SHALL BE PLACED IN AN ALIGNMENT THAT IS PERPENDICULAR TO THE ROAD FRONTING THE STRUCTURE BEING SERVED; THEY SHALL BE PLACED A MINIMUM OF 2'-0" FROM ANY STRUCTURE, INCLUDING, BUT NOT LIMITED TO SIDEWALKS, DRIVEWAYS, MAILBOXES, TREES, ETC.; AND THEY SHALL BE LOCATED AT THE FRONT OF THE STRUCTURE.
15. UNLESS WRITTEN AUTHORIZATION FROM THE TOWN OF SMYRNA PROVIDES OTHERWISE, NO FIRE HYDRANTS SHALL BE PLACED BETWEEN A SIDEWALK AND THE ROAD OR CURBING.
16. UNLESS WRITTEN AUTHORIZATION FROM THE TOWN OF SMYRNA PROVIDES OTHERWISE, NO WATER MAINS SHALL BE PLACED UNDER A SIDEWALK, EXTENDING PARALLEL TO THE SIDEWALK.
17. ANY WATER MAINS INSTALLED CROSSING UNDER PAVEMENT CARRYING VEHICULAR TRAFFIC SHALL BE BACKFILLED WITH STONE, PER THE TOWN OF SMYRNA TRENCH DETAIL – TYPE B ANY PAVEMENT CARRYING VEHICULAR TRAFFIC, PLACED OVER EXISTING WATER MAINS, SHALL REQUIRE THE MAIN TO BE BEDDED WITH STONE, PER THE TOWN OF SMYRNA TRENCH DETAIL–TYPE B.
18. UNLESS WRITTEN AUTHORIZATION FROM THE TOWN OF SMYRNA PROVIDES OTHERWISE, NO WATER VALVES SHALL BE PLACED IN SIDEWALKS OR RESIDENTIAL DRIVEWAYS.
19. UNLESS WRITTEN AUTHORIZATION FROM THE TOWN OF SMYRNA PROVIDES OTHERWISE, WATER MAINS IN RESIDENTIAL DEVELOPMENTS SHALL BE PLACED IN THE MIDDLE OF ONE LANE OF A STREET.
20. ON-SITE THE TOWN OF SMYRNA APPROVAL OF A PART OF A PROJECT'S WATER SYSTEM INSTALLATION DOES NOT CONSTITUTE THE DEPARTMENT'S APPROVAL OF ALL OF THE PROJECT'S WATER SYSTEM INSTALLATION. FINAL ON-SITE APPROVAL OF THE PROJECT'S TOTAL WATER SYSTEM INSTALLATION MUST BE OBTAINED BEFORE THE TOWN OF SMYRNA WILL RECEIVE OWNERSHIP OF THAT WATER SYSTEM. FROM THE TIME OF THE ON-SITE INSPECTION AND FINAL APPROVAL OF THE TOTAL WATER SYSTEM INSTALLATION BY A REPRESENTATIVE OF THE TOWN OF SMYRNA, FURTHER CHANGES IMPACTING THE CONDITIONS OF OR THE ACCESSIBILITY TO THE WATER SYSTEM FACILITIES ARE STRICTLY FORBIDDEN, WITHOUT THE PRIOR APPROVAL OF THE TOWN OF SMYRNA. THESE INCLUDE, BUT ARE NOT LIMITED TO, CHANGES IN OVERBURDEN SLOPE OR DEPTH ON THE WATER MAIN, CHANGES THAT ADVERSELY EFFECT, IN THE OPINION OF THE TOWN OF SMYRNA, VEHICULAR OR EQUIPMENT ACCESS TO THE WATER MAINS, THE PLANTING OF TREES, SHRUBS, ETC. IN THE WATER UTILITIES EASEMENT OR THE LATER CONSTRUCTION OR PLACEMENT OF STRUCTURES CONSTRICTING THE WIDTH OF THE WATER UTILITIES EASEMENT. SHOULD THESE OR OTHER TYPES OF CHANGES BE MADE WITHOUT PRIOR APPROVAL OF THE TOWN OF SMYRNA, THEY SHALL BE RETURNED BACK TO THE ORIGINAL CONDITIONS AT THE TIME OF FINAL APPROVAL, AT THE COST OF THE PROPERTY OWNER DURING THOSE CHANGES.
21. THE ENGINEER OR ARCHITECT OF THE PROJECT PLANS BEING SUBMITTED TO THE TOWN OF SMYRNA FOR APPROVAL OF THE WATER SYSTEM INSTALLATION SHALL BE RESPONSIBLE FOR INSURING THAT THOSE PLANS INCLUDE ALL ASPECTS OF THE PROJECT IMPACTING THE WATER SYSTEM ADDITIONS OR MODIFICATIONS. ANY SUBSEQUENT CHANGES IN PLANS, ADVERSELY IMPACTING THE WATER SYSTEM INSTALLATION, IN THE OPINION OF THE TOWN OF SMYRNA, AFTER APPROVAL OF THE ORIGINAL PLANS SUBMITTED TO THE TOWN OF SMYRNA, SHALL NEGATE THE PRIOR APPROVAL AND GIVE CAUSE FOR A RESUBMITTAL OF THE REVISED PLANS TO THE TOWN OF SMYRNA FOR APPROVAL. THE PLAN SHEETS OF THE WATER SYSTEM ADDITIONS OR MODIFICATIONS SHALL BE THE CONTROL SHEETS FOR THE REVIEW OF THE TOWN OF SMYRNA FOR APPROVAL AND SHALL INCLUDE ALL PROPER CROSS-REFERENCE NOTES TO ANY OTHER SHEETS SHOWING INFORMATION RELATED TO PIPE DEPTH, GROUND SLOPE, ETC. THE WATER MAIN DEPTH, AT ALL TIMES, SHALL BE THREE (3) FEET FROM THE GROUND ELEVATION TO THE TOP OF THE PIPE, UNLESS OTHER PROJECT ISSUES, SUCH AS EXISTING UTILITIES, ETC., REQUIRE A GREATER DEPTH FOR THE WATER MAIN. UNLESS APPROVAL HAS BEEN PROVIDED BY THE TOWN OF SMYRNA, NO WATER MAIN DEPTH SHALL BE GREATER THAN SIX (6) FEET UPON FINAL CONSTRUCTION OF THE PROJECT.





SECTION A-A

EX. WATERLINE PROFILE

NOTES:

- HVAC LOCATED ON ROOF. SEE ARCHITECTURAL PLANS.
- CONTRACTOR TO LOCATE/FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. ANY DISCREPANCIES TO PLAN SET TO BE REVIEWED WITH ENGINEER PRIOR TO WORK.

SCALES:

PLAN VIEW	PROFILE VIEW
1" =30'	1" =30' HORIZONTAL
	1" =3' VERTICAL

FIRE HYDRANT FLOW TEST DATA

HYDRANT 1 (28P-1935)
STATIC: 120 PSI
RESIDUAL: 115 PSI

HYDRANT 2 (28P-707)
PITOT: 80 PSI
FLOW: 1500 GPM

UTILITY CONTACTS:

WATER	TOWN OF SMYRNA (615) 355-5740 MARK PARKER
SEWER	TOWN OF SMYRNA (615) 355-5740 MARK PARKER
PUBLIC WORKS	TOWN OF SMYRNA (615) 459-9766 TOM ROSE
ELECTRIC	MIDDLE TENNESSEE ELECTRIC MEMBERSHIP CORPORATION 1-877-777-9020
TELEPHONE	COMCAST XFINITY/AT@T (800)-266-2278/(877)-281-0341

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PRIMROSE SCHOOL
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Drawing Title:

SITE UTILITY PLAN

Drawing No.

C4.0

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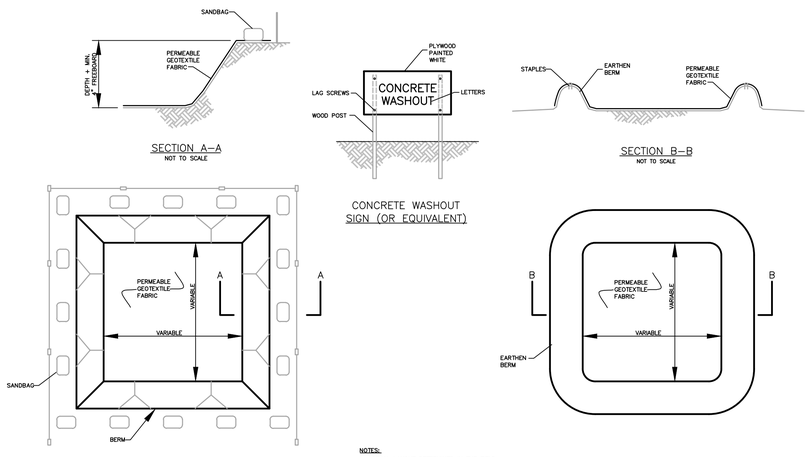
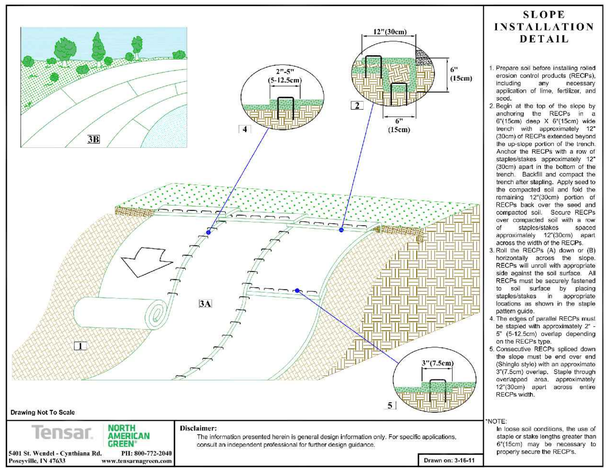
PLOTTED BY DAVID KINNAMAN ON 3/8/2023 4:49 PM LAST UPDATED BY REDUTHAVEL ON 3/8/2023 12:54 PM



NOTES:
1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
2. SIGNAGE IDENTIFYING THE CONCRETE WASHOUT AREA SHALL BE INSTALLED WITHIN 5FT.OF THE WASHOUT FACILITY.

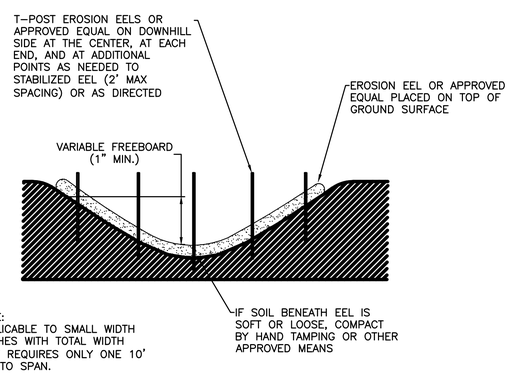
EROSION CONTROL PLAN LEGEND: CONCRETE WASHOUT — CONCRETE WASHOUT

CONCRETE WASHOUT
NOT TO SCALE



EROSION CONTROL MATTING
NOT TO SCALE
METRO TCP–09

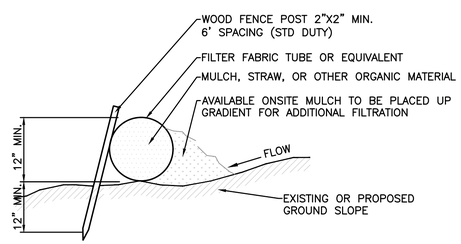
NOTE:
SLIGHTLY ANGLE STAKES WITH TOP FACING TOWARDS DIRECTION OF FLOW.



NOTE:
APPLICABLE TO SMALL WIDTH DITCHES WITH TOTAL WIDTH THAT REQUIRES ONLY ONE 10' EEL TO SPAN.

(SMALL DITCH CHECKS FOR 9.5" DIA. AND 20" DIA. EELS)

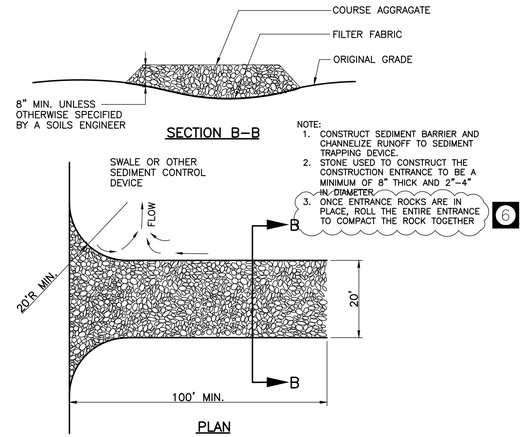
CHECK DAM
NOT TO SCALE



TO BE INSTALLED ALONG CONTOURS AS INDICATED ON PLANS.

TO BE INSTALLED AS NOTED ON PLAN BEFORE COMMENCING GRADING OPERATION AND LEFT IN PLACE UNTIL A GOOD STAND OF GRASS IS ESTABLISHED OVER ALL DISTURBED AREAS.

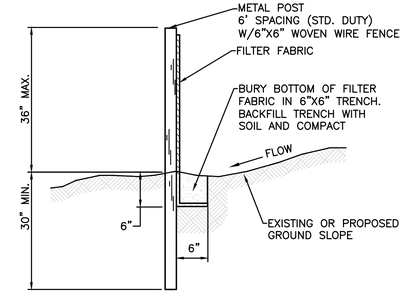
EROSION/SILTATION TUBE
NOT TO SCALE
REFER TO TDEC BMP MANUAL, SECTION 7.37



NOTE:
1. CONSTRUCT SEDIMENT BARRIER AND CHANNELIZE RUNOFF TO SEDIMENT TRAPPING DEVICE.
2. STONE USED TO CONSTRUCT THE CONSTRUCTION ENTRANCE TO BE A MINIMUM OF 8" THICK AND 2"–4" IN DIAMETER.
3. ONCE ENTRANCE ROCKS ARE IN PLACE, ROLL THE ENTIRE ENTRANCE TO COMPACT THE ROCK TOGETHER

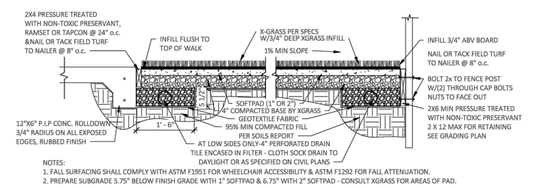
6

STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE
METRO TCP–03



TO BE INSTALLED AS NOTED ON PLAN BEFORE COMMENCING GRADING OPERATION AND LEFT IN PLACE UNTIL A GOOD STAND OF GRASS IS ESTABLISHED OVER ALL DISTURBED AREAS. PRIOR TO INSTALLATION, CONTRACTOR SHOULD CONFIRM WITH THE PUBLIC WORKS DEPT. THAT THIS DETAIL IS THE CURRENT AND APPROVED EROSION/SILTATION BARRIER.

EROSION/SILTATION FENCE WITH WIRE BACKING
NOT TO SCALE
METRO TCP–13

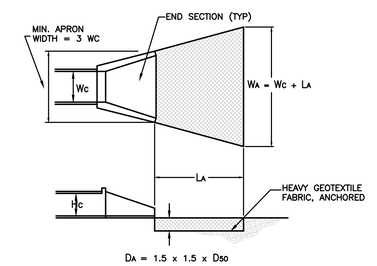


NOTES:
1. FALL SURFACING SHALL COMPLY WITH ASTM F1951 FOR WHEELCHAIR ACCESSIBILITY & ASTM F1292 FOR FALL ATTENUATION.
2. PREPARE SUBGRADE 5.75" BELOW FINISH GRADE WITH 1" SOFTPAD & 6.75" WITH 2" SOFTPAD - CONSULT XGRASS FOR AREAS OF PAD.

8 / A7.2 ARTIFICIAL TURF
SCALE: 3/4" = 1'-0"

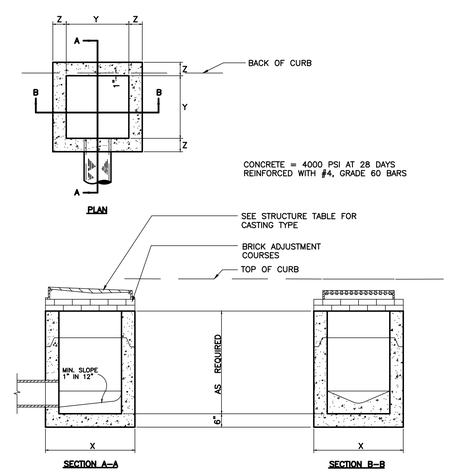
RIPRAP APRONS FOR LOW TAILWATER (DOWNSTREAM FLOW DEPTH < 0.5 x PIPE DIAMETER)																	
CULVERT DIAMETER	LOWEST VALUE			INTERMEDIATE VALUES TO INTERPOLATE FROM											HIGHEST VALUE		
	Q	LA	DMX	Q	LA	DMX	Q	LA	DMX	Q	LA	DMX	Q	LA	DMX	Q	LA	DMX
	CFS	FT	IN	CFS	FT	IN	CFS	FT	IN	CFS	FT	IN	CFS	FT	IN	CFS	FT	IN
12"	4	7	2.5	6	10	3.5	9	13	6	12	16	7	14	17	8.5			
15"	6.5	8	3	10	12	5	15	16	7	20	18	10	25	20	12			
18"	10	9	3.5	15	14	5.5	20	17	7	30	22	11	40	25	14			
21"	15	11	4	25	18	7	35	22	10	45	26	13	60	29	18			
24"	21	13	5	35	20	8.5	50	26	12	65	30	16	80	33	19			
27"	27	14	5.5	50	24	9.5	70	29	14	90	34	18	110	37	22			
30"	36	16	6	60	25	9.5	90	33	15.5	120	38	20	140	41	24			
36"	56	20	7	100	32	13	140	40	18	180	45	23	220	50	28			
42"	82	22	8.5	120	32	12	160	39	17	200	45	20	240	52	26			
48"	120	26	10	170	37	14	220	46	19	270	54	23	320	64	37			

HC = HEIGHT OF CULVERT
WC = WIDTH OF CULVERT
LA = LENGTH OF RIP–RAP APRON
WA = WIDTH OF RIP–RAP APRON AT END
D50 = MEDIAN RIP–RAP SIZE
DMAX = MAXIMUM SIZE OF RIP–RAP = 1.5 D50
DA = DEPTH OF RIP–RAP APRON = 1.5 DMAX
SEPARATOR = GEOTEXTILE UNDERLAYMENT OR GRAVEL FILTER BLANKET

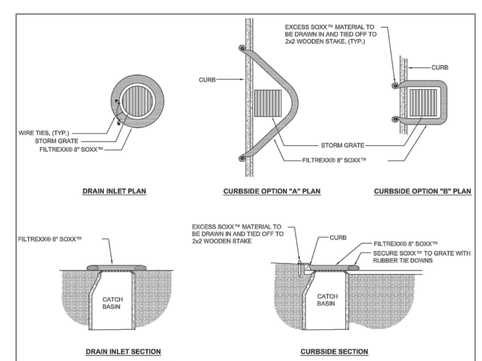


TAILWATER < 0.5 Hc AND ASSUMING FULL CULVERT FLOW (LOW TAILWATER CONDITIONS)

RIP-RAP OUTLET PROTECTION DETAIL
NOT TO SCALE



SINGLE INLET (PRECAST)
NOT TO SCALE



NOTES:
1. ALL MATERIAL TO MEET FILTREXX® SPECIFICATIONS.
2. FILTER MEDIA™ FILL TO MEET APPLICATION REQUIREMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

FILTREXX® INLET PROTECTION
NTS

METRO TCP–24

RaganSmith
Nashville - Murfreesboro - Chattanooga
ragansmith.com

JOSHUA WILLIAM HUNTER REGISTERED ENGINEER AGRICULTURE COMMERCE No. 118698 STATE OF TENNESSEE 02/08/2023

PRIMROSE SCHOOL
FOR
CASCO

1788 ROCK SPRINGS ROAD, TOWN OF SMYRNA, RUTHERFORD COUNTY, TENNESSEE

Scale: NO SCALE

Date: SEPTEMBER 19, 2022

Approved By: J. HUNTER

Revisions:

6 02/08/2023 PER CITY COMMENTS
5 12/13/2022 PER TDEC COMMENTS
4 11/10/2022 POST BID ADD.1 CODE RESP./FO REVISIONS
3 10/06/2022 BID SET
2 10/05/2022 PER CITY COMMENTS
1 09/27/2022 PER CITY COMMENTS

Drawing Title:

EPSC DETAILS

Drawing No.

C5.0

Project No.

21-0286

G:\21-0286\CIVIL ENGINEERING\CP-PLAN SHEETS\0286 DETAILS.DWG
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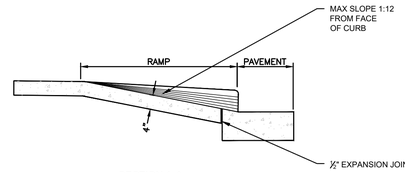
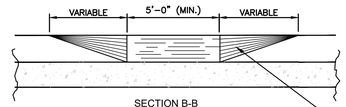
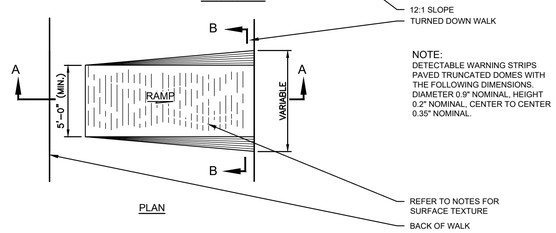


SECTION A-A



SECTION B-B

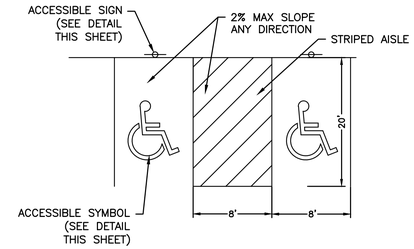


NOTE:
DETECTABLE WARNING STRIPS PAVED TRUNCATED DOMES WITH THE FOLLOWING DIMENSIONS. DIAMETER 0.9" NOMINAL, HEIGHT 0.2" NOMINAL, CENTER TO CENTER 0.35" NOMINAL.

PLAN

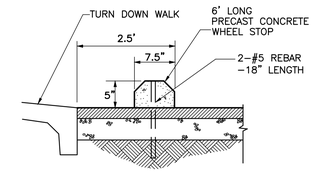
ACCESSIBLE RAMP

NOT TO SCALE



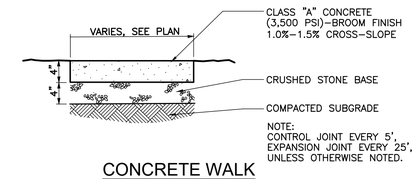
ACCESSIBLE SPACES

NOT TO SCALE



PRECAST CONCRETE WHEEL STOP

NOT TO SCALE

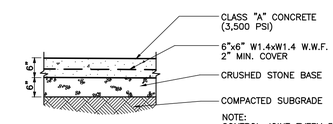


NOTE:
CONTROL JOINT EVERY 5', EXPANSION JOINT EVERY 25', UNLESS OTHERWISE NOTED.

CONCRETE WALK

NOT TO SCALE

NOTE:
PAVEMENT DEPTH SHOULD BE VERIFIED BY GEOTECHNICAL ENGINEER.



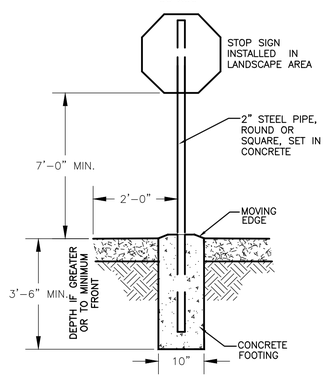
NOTE:
CONTROL JOINT EVERY 5', EXPANSION JOINT EVERY 25', UNLESS OTHERWISE NOTED.

CONCRETE PAVEMENT

NOT TO SCALE

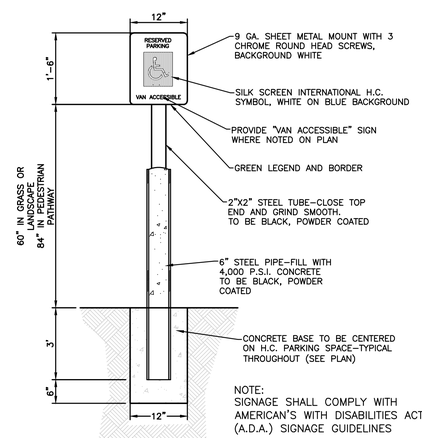
NOTE:
PAVEMENT DEPTH SHOULD BE VERIFIED BY GEOTECHNICAL ENGINEER.

R1-1
30"X30"



STOP SIGN

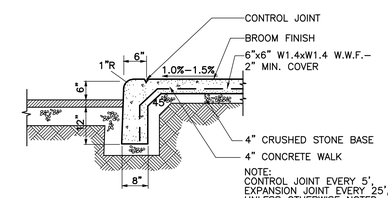
NOT TO SCALE



NOTE:
SIGNAGE SHALL COMPLY WITH AMERICAN'S WITH DISABILITIES ACT (A.D.A.) SIGNAGE GUIDELINES

EXTERIOR ACCESSIBLE SIGN W/ BOLLARD

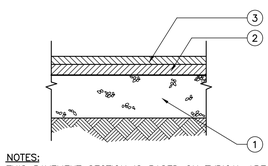
NOT TO SCALE



NOTE:
CONTROL JOINT EVERY 5', EXPANSION JOINT EVERY 25', UNLESS OTHERWISE NOTED.

CONCRETE WALK & TURN DOWN CURB

NOT TO SCALE



NOTES:
1. THIS PAVEMENT SECTION IS BASED ON TYPICAL AREA SOIL TYPES, SITE CONDITIONS AND LOADING. CONTRACTOR SHALL REFER TO GEOTECHNICAL ENGINEER FOR SITE SPECIFIC PAVEMENT RECOMMENDATIONS.
2. REFER TO "TDOT STANDARD SPECIFICATIONS AND BRIDGE CONSTRUCTION" FOR PAVING MATERIALS AND SPECIFICATIONS.

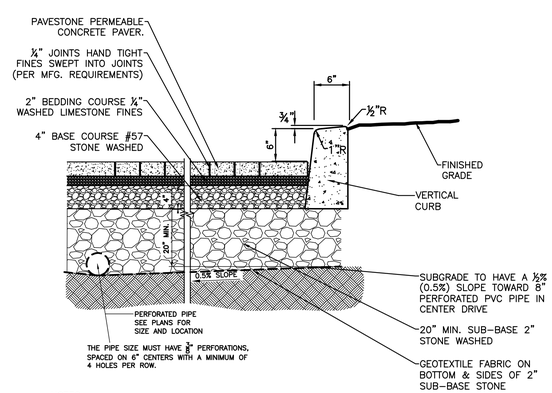
HEAVY DUTY PAVEMENT

NOT TO SCALE

PROPOSED PAVEMENT SCHEDULE

	MATERIAL	THICKNESS (INCHES)
1.	ASPHALTIC SURFACE COURSE	2
2.	ASHPALTIC BINDER COURSE	3
3.	CRUSHED STONE BASE	8

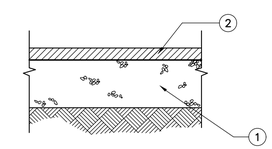
NOTE:
PAVEMENT DEPTH SHOULD BE VERIFIED BY GEOTECHNICAL ENGINEER.



NOTES:
1. NO "CRUSH AND RUN" STONE TO BE USED IN THE INSTALLATION OF THESE PAVERS.
2. NO SAND TO BE USED IN THE INSTALLATION OF THESE PAVERS.
3. THIS DETAIL MUST BE VERIFIED WITH THE PROJECT GEOTECHNICAL ENGINEER FOR CONFORMITY WITH THE GEOTECH REPORT PRIOR TO INSTALLATION.
4. THE PERMEABLE PAVER INSTALLER SHALL BE AN INTERLOCKING CONCRETE PAVEMENT INSTITUTE (ICPI) CERTIFIED INSTALLER OR SHALL PROVIDE APPROVED EQUAL CERTIFICATION.
5. INSTALL PER MANUFACTURERS SPECIFICATIONS.

VERTICAL CURB WITH PERMEABLE PAVERS

NOT TO SCALE



NOTES:
1. THIS PAVEMENT SECTION IS BASED ON TYPICAL AREA SOIL TYPES, SITE CONDITIONS AND LOADING. CONTRACTOR SHALL REFER TO GEOTECHNICAL STUDY FOR SITE SPECIFIC PAVEMENT RECOMMENDATIONS.
2. REFER TO "TDOT STANDARD SPECIFICATIONS AND BRDIGE CONSTRUCTION" FOR PAVING MATERIALS AND SPECIFICATIONS.

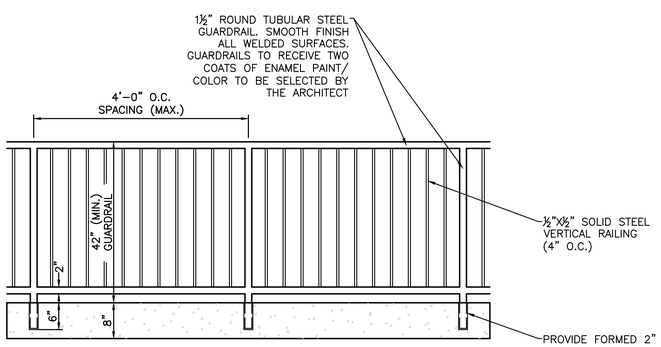
LIGHT DUTY PAVEMENT

NOT TO SCALE

PROPOSED PAVEMENT SCHEDULE

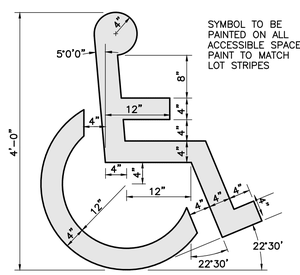
	MATERIAL	THICKNESS (INCHES)
1.	ASPHALTIC SURFACE COURSE	1.5
2.	ASHPALTIC BINDER COURSE	2
3.	CRUSHED STONE BASE	6

NOTE:
PAVEMENT DEPTH SHOULD BE VERIFIED BY GEOTECHNICAL ENGINEER.



GUARDRAIL

NOT TO SCALE



SYMBOL TO BE PAINTED ON ALL ACCESSIBLE SPACES PAINT TO MATCH LOT STRIPES

PAINTED ACCESSIBLE SYMBOL

NOT TO SCALE

RaganSmith

Nashville - Murfreesboro - Chattanooga
ragansmith.com

JOSHUA WILLIAM HUNTER
REGISTERED ENGINEER
AGRICULTURE COMMERCE
No. 118698
STATE OF TENNESSEE
02/08/2023

PRIMROSE SCHOOL

FOR

CASCO

1788 ROCK SPRINGS ROAD, TOWN OF SMYRNA, RUTHERFORD COUNTY, TENNESSEE

Scale: NO SCALE

Date: SEPTEMBER 19, 2022

Approved By: J. HUNTER

Revisions:

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1 09/27/2022 PER CITY COMMENTS

Drawing Title:

CIVIL DETAILS

Drawing No.

C5.1

Project No.

21-0286

G:\21-0286\CIVIL ENGINEERING\2-PLAN SHEETS\CIVIL DETAILS.DWG
PLOTTED BY DAVID ADRAMMADIN, 2/8/2023 4:59 PM LAST UPDATED BY HRYUMAN ON, 1/20/2023 3:19 PM

TEES, CROSSES & 45° PLUGS					90° BENDS					45° BENDS					22-1/2° BENDS					11-1/4° BENDS					PIPE SIZE
H1	H2	Y	B	$\Delta_{\pm 1/4}$	H1	H2	Y	B	$\Delta_{\pm 1/4}$	H1	H2	Y	B	$\Delta_{\pm 1/4}$	H1	H2	Y	B	$\Delta_{\pm 1/4}$	H1	H2	Y	D	$\Delta_{\pm 1/4}$	
18"	12"	18"	18"	1.00	18"	12"	18"	18"	1.00	18"	6"	12"	18"	1.00	18"	6"	12"	18"	1.00	18"	6"	12"	18"	1.00	2" - 2½"
24"	12"	18"	18"	2.25	24"	12"	18"	18"	2.25	18"	8"	12"	18"	1.50	18"	8"	12"	18"	1.50	18"	8"	12"	18"	1.00	3" - 4"
24"	16"	18"	18"	3.50	30"	16"	18"	18"	4.25	24"	10"	16"	18"	3.25	24"	10"	16"	18"	3.25	24"	10"	16"	18"	2.25	6"
36"	18"	18"	24"	5.25	36"	18"	24"	18"	7.30	30"	12"	18"	18"	5.00	30"	12"	18"	18"	5.00	30"	12"	18"	18"	3.40	8"
48"	24"	18"	24"	7.15	54"	22"	24"	18"	10.75	36"	15"	21"	18"	6.60	36"	15"	21"	18"	6.60	36"	15"	21"	18"	4.60	10"
54"	30"	24"	24"	12.50	60"	27"	24"	24"	16.10	42"	18"	24"	24"	8.80	42"	18"	24"	24"	8.80	42"	18"	21"	18"	6.10	12"
60"	33"	30"	24"	17.50	66"	40"	24"	24"	25.00	48"	24"	30"	24"	11.00	48"	24"	30"	24"	11.00	48"	24"	21"	18"	7.80	14"
66"	36"	36"	24"	20.50	66"	48"	24"	24"	25.00	48"	30"	36"	24"	17.00	48"	30"	24"	24"	17.00	48"	30"	24"	24"	9.10	16"
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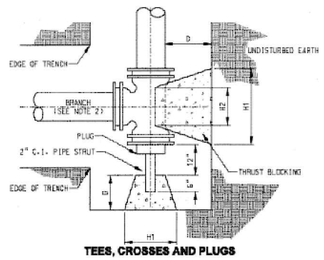
	42"		24"			60"		24"			48"		24"			42"		24"			48"		24"		24"
	54"		24"			66"		24"			72"		24"			72"		24"			48"		42"		30"

NOTES:

1. THRUST BLOCKING WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR 3000 PSI CONCRETE FOR THE VOLUME SHOWN IN THE ABOVE TABLE FOR EACH FITTING SO BLOCKED ONLY IF A SEPARATE ITEM APPEARS IN THE SCHEDULE OF A PROPOSAL FOR A UNIT PRICE CONTRACT. OTHERWISE, THERE WILL BE NO SEPARATE PAYMENT FOR CONCRETE THRUST BLOCKING.

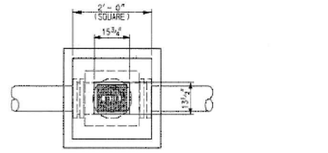
2. DIMENSIONS ARE CONTROLLED BY DIAMETER OF BRANCH MAIN.

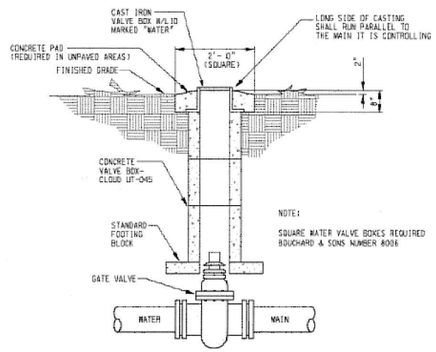
3. THRUST BLOCKING SHALL BE PLANT MIX CONCRETE. SAC CRETE OR BAGGED CONCRETE MIX SHALL NOT BE ALLOWED.



TEES, CROSSES AND PLUGS

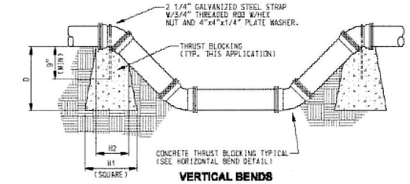
CONCRETE THRUST BLOCKING (2 OF 2)
N.T.S.



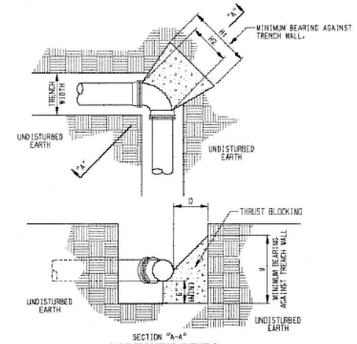


NOTE:
SQUARE WATER VALVE BOXES REQUIRED BOUCHARD & SONS NUMBER 8006

CONCRETE VALVE BOX SETTING DETAIL
N.T.S.



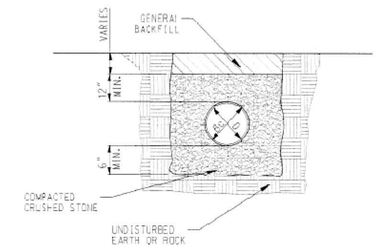
VERTICAL BENDS



HORIZONTAL BENDS

CONCRETE THRUST BLOCKING (1 OF 2)
N.T.S.

BACKFILL IN PAVED AREAS SHALL BE CRUSHED STONE. SEE SPECIFICATIONS.



NOTES:

1. DETAILS ARE BOTH APPLICABLE TO BOTH EARTH AND ROCK TRENCHES.
2. COMPACTED CRUSHED STONE SHALL BE SIZE 57 AS GIVEN IN SECTION 903 OF THE T.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

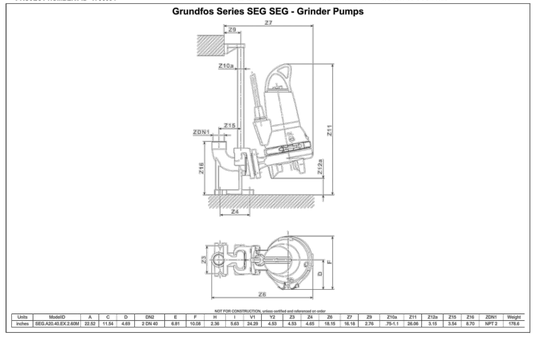
STANDARD TRENCH DETAIL ST-1
N.T.S.

GRUNDFOS

SUBMITTAL

PROJECT NUMBER / ID 1786034 | UNIT TAG 001 | SEG.A20.40.EX.2.60M

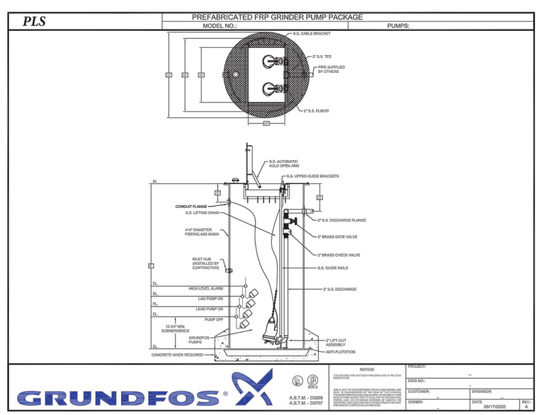
Grundfos Series SEG SEG - Grinder Pumps



Units	Model/D	A	C	D	DN2	E	F	H	I	V1	Y2	Z3	Z4	Z6	Z7	Z9	Z10a	Z11	Z12a	Z15	Z16	Z20/1	Weight
Inches	SEG.A20.40.EX.2.60M	22.52	11.04	4.65	2 DN 40	6.61	10.08	2.36	5.63	24.28	4.55	4.55	4.65	16.10	16.16	2.76	26.1.1	26.06	3.18	3.54	8.70	MPT 2	175.8

NOT FOR CONSTRUCTION, unless verified and referenced on order

GRUNDFOS



GRUNDFOS

SUBMITTAL

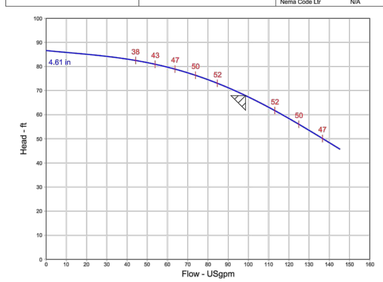
Grundfos Series SEG SEG - Grinder Pumps

PROJECT NUMBER / ID 1786034	UNIT TAG 001	QUANTITY 2
	SERVICE	
REPRESENTATIVE	SUBMITTED BY	DATE
ENGINEER	APPROVED BY	DATE
CONTRACTOR	ORDER #	DATE

SEG.A20.40.EX.2.60M
3490 rpm

Part Number 98280864

Conditions of Service		Pump Data		Motor Data	
Flow	98.59 USgpm	Impeller Diameter	4.61 in	Motor HP	4 HP
Head	67.93 ft	Cooling Jacket	NO	BHP	3.2 HP
Liquid	Cold Water	Max Solid Size	N/A	Enclosure	Explosion Proof
Temperature	68.00 deg F	Efficiency	52.91 %	Voltage	208-230 V
NPSHr	0.00 ft	Suction	N/A	Phase	3 Phase
Viscosity	1.00 cP	Discharge	2 in.	Cycle	60
Specific Gravity	1.000 SG			Full Load Amps	
				Locked Rotor Amps	89.5
				Nema Code Ltr	N/A



GRUNDFOS

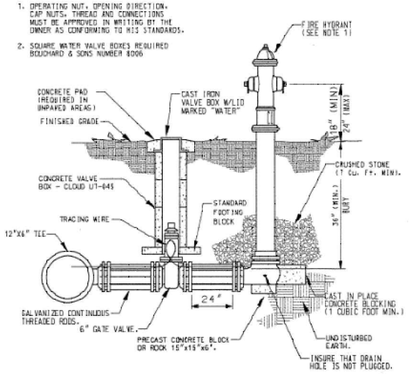
NOTE:

COORDINATE WITH WASCON FOR GRUNDFOS GRINDER PUMP ASSEMBLY

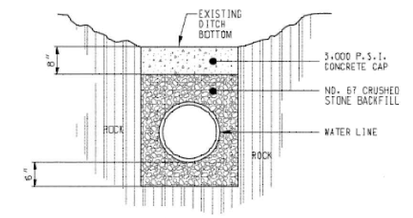
JOSH CRAVINS:
PHONE- (800) 952-4236
EMAIL- JOSHC@WASCONINC.COM

NOTE:

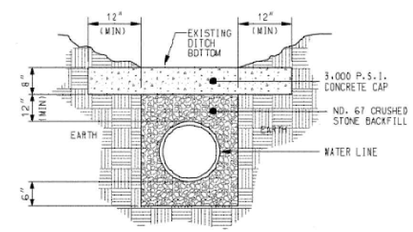
1. OPERATING NUT, OPENING DIRECTION, CAP NUTS, THREAD AND CONNECTIONS MUST BE APPROVED IN WRITING BY THE OWNER AS CONFORMING TO MIS STANDARDS.
2. SQUARE WATER VALVE BOXES REQUIRED BOUCHARD & SONS NUMBER 8006



FIRE HYDRANT WITH VALVE DETAIL
N.T.S.

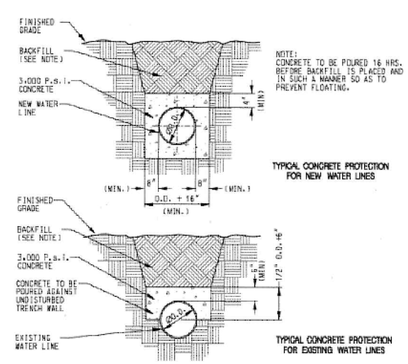


ROCK EXCAVATION



EARTH EXCAVATION

CONCRETE CAP DETAIL
N.T.S.

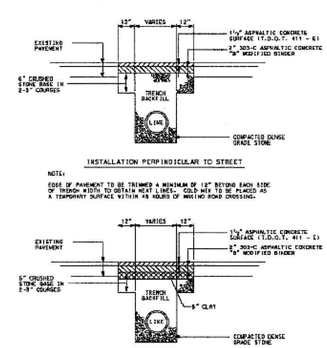


NOTE:
CONCRETE TO BE POURED 16 HRS. BEFORE BACKFILL IS PLACED AND IN SUCH A MANNER SO AS TO PREVENT FLOATING.

TYPICAL CONCRETE PROTECTION FOR NEW WATER LINES

TYPICAL CONCRETE PROTECTION FOR EXISTING WATER LINES

CONCRETE PROTECTION FOR WATER LINES
N.T.S.



PAVEMENT REPLACEMENT DETAIL (BITUMINOUS BASE WITH SURFACE)
N.T.S.

RaganSmith

Nashville - Murfreesboro - Chattanooga
ragansmith.com

JOSHUA WILLIAM HUNTER
REGISTERED ENGINEER
AGRICULTURE
No. 118698
STATE OF TENNESSEE
02/08/2023

PRIMROSE SCHOOL
FOR
CASCO

1788 ROCK SPRINGS ROAD, TOWN OF SMYRNA, RUTHERFORD COUNTY, TENNESSEE

Scale: NO SCALE

Date: SEPTEMBER 19, 2022

Approved By: J. HUNTER

Revisions:

6 02/08/2023 PER CITY COMMENTS
5 12/13/2022 PER TDEC COMMENTS
4 11/10/2022 POST BID ADD.1 CODE RESP./FO REVISIONS
3 10/06/2022 BID SET
2 10/05/2022 PER CITY COMMENTS
1 09/27/2022 PER CITY COMMENTS

Drawing Title:

UTILITY DETAILS

Drawing No.

C5.2

Project No.

21-0286

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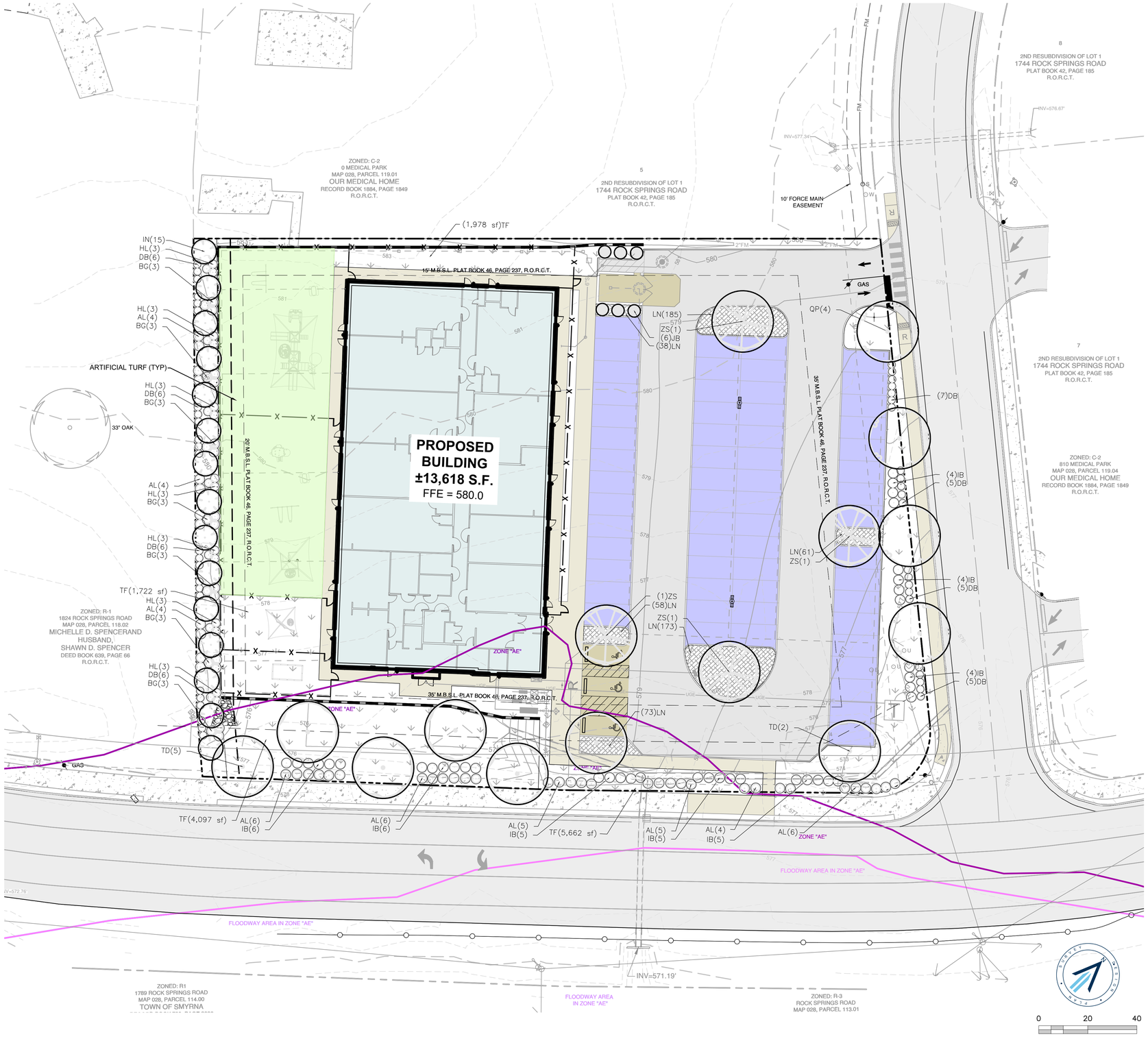


LANDSCAPE SITE DATA

PROPERTY INFORMATION:

STREET ADDRESS:	1788 ROCK SPRINGS ROAD SMYRNA, TN 37167
SITE ACREAGE:	±1.72 AC (±74,923 SF)
TAX MAP/PARCEL:	28/119.00
ZONING CLASSIFICATION:	C-2

TOTAL VEHICULAR USE AREA: (± 22,732 SF)

LANDSCAPE AREA REQUIRED:	± 2,273 SF (10%)
LANDSCAPE AREA PROVIDED:	± 6,950 SF (31%)
TREES REQUIRED:	5 TREES (1 TREE PER 250 SF OF REQ. LANDSCAPED AREA)
TREES PROVIDED:	6 TREES

STREETSCAPE REQUIREMENT:

MEDICAL PARK (±199 LF - 30' DRIVE = 169 LF)

REQUIRED:	4 TREES (1 PER 40' O.C.) 34 SHRUBS (1 PER 5' O.C.)
PROVIDED:	4 TREES 34 SHRUBS

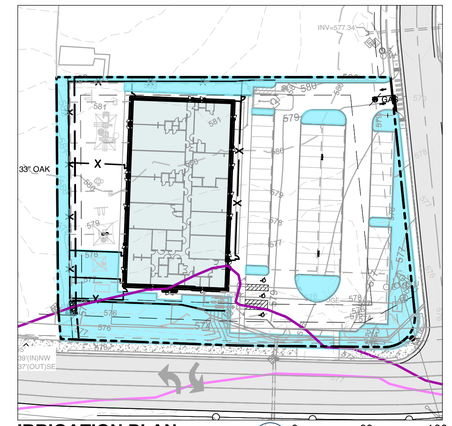
ROCK SPRINGS ROAD (± 271 LF)

REQUIRED:	7 TREES (1 PER 40' O.C.) 55 SHRUBS (1 PER 5' O.C.)
PROVIDED:	7 TREES 59 SHRUBS

BUFFER YARD REQUIREMENT:

SOUTH WESTERN BOUNDARY (± 218 LF) - TYPE C WITH FENCE

REQUIRED:	15 TREES (1 PER 15' O.C) 73 SHRUBS (1 PER 3' O.C.)
PROVIDED:	15 TREES 78 SHRUBS



IRRIGATION PLAN
SCALE: 1"=60'

RaganSmith

Nashville - Murfreesboro - Chattanooga
ragansmith.com

MILTON H. HAMILTON
REGISTERED
AGRICULTURE
COMMERCE
TENNESSEE NO. 1100
LANDSCAPE ARCHITECT
02/08/2023

PRIMROSE SCHOOL
FOR
CASCO
TOWN OF SMYRNA, RUTHERFORD COUNTY, TENNESSEE

Scale: 1"=20'

Date: SEPTEMBER 19, 2022

Approved By: MHH

Revisions:

1 09/27/2022 PER CITY COMMENTS

Drawing Title:

LANDSCAPE PLAN

Drawing No.

L1.0

Project No.

21-0286

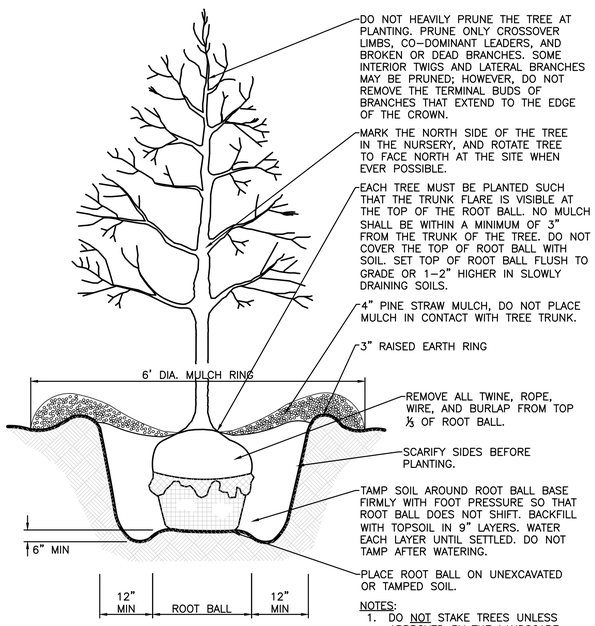
811 Know what's below. Call before you dig.

G:\2-0286-CIVIL ENGINEERING\2-PLAN SHEETS\06-LANDSCAPE.DWG
PLOTTED BY DAVID VORHAM ON 2/8/2023 03:39 PM LAST UPDATED BY PNEFFAMER ON 2/8/2023 11:38 AM

PLANT SCHEDULE

CANOPY TREES	QTY	BOTANICAL / COMMON NAME	TYPE	SIZE	HEIGHT	SPACING		REMARKS
QP	4	QUERCUS PHELLOS / WILLOW OAK	DECIDUOUS	3" CAL.	12–14' HT	AS SHOWN		B&B, 6' CLEAR TRUNK, STRONG CENTRAL LEADER
TD	7	TAXODIUM DISTICHUM / BALD CYPRESS	DECIDUOUS	3" CAL.	12–14' HT	AS SHOWN		B&B, 6' CLEAR TRUNK, STRONG CENTRAL LEADER
ZS	4	ZELKOVA SERRATA / ZELKOVA	DECIDUOUS	3" CAL.	12–14' HT	AS SHOWN		B&B, 6' CLEAR TRUNK, STRONG CENTRAL LEADER
EVERGREEN TREES	QTY	BOTANICAL / COMMON NAME	TYPE	SIZE	HEIGHT	SPACING		REMARKS
IN	15	ILEX X 'NELLIE R STEVENS' / NELLIE STEVENS HOLLY	EVERGREEN	--	6–8' HT	AS SHOWN		B&B, FULL TO BASE
JB	6	JUNIPERUS CHINENSIS 'BLUE POINT' / BLUE POINT JUNIPER	EVERGREEN	--	6–8' HT.	AS SHOWN		B&B, FULL TO BASE
SHRUBS	QTY	BOTANICAL / COMMON NAME	TYPE	HEIGHT	SPREAD	SPACING		REMARKS
AL	44	ABELIA X GRANDIFLORA 'LITTLE RICHARD' / LITTLE RICHARD ABELIA	EVERGREEN	24" HT	18"	60" O.C.		FULL CONTAINER, 24" HT AT TIME OF INSTALLATION
BG	21	BUXUS X 'GREEN GEM' / GREEN GEM BOXWOOD	EVERGREEN	24" HT	30"	30"O.C.		FULL CONTAINER, 24" HT AT TIME OF INSTALLATION
DB	46	DAPHNE TRANSATLANTICA 'BLAFRA' / ETERNAL FRAGRANCE DAPHNE	EVERGREEN	24" HT	18"	60" O.C.		FULL CONTAINER, 24" HT AT TIME OF INSTALLATION
HL	21	HYDRANGEA PANICULATA 'LIMELIGHT' TM / LIMELIGHT HYDRANGEA	DECIDUOUS	24" HT	24"	36"O.C.		FULL CONTAINER, 24" HT AT TIME OF INSTALLATION
IB	39	ILEX CORNUTA 'BURFORDII NANA' / DWARF BURFORD HOLLY	EVERGREEN	30" HT.	30"	36"O.C.		FULL CONTAINER, 24" HT AT TIME OF INSTALLATION
GROUND COVERS	QTY	BOTANICAL / COMMON NAME	TYPE	SIZE/CONT.	SPREAD		SPACING	
TF	13,525 SF	ALL PRO TRANSITION TALL FESCUE SEED BLEND / TALL FESCUE SEED BLEND	SEED					6–8 LBS PER 1000 SF, 50 LB BAGS
LN	703	LYSIMACHIA NUMMULARIA / CREEPING JENNY	GROUNDCOVER	4" POT	18" O.C.		18" o.c.	

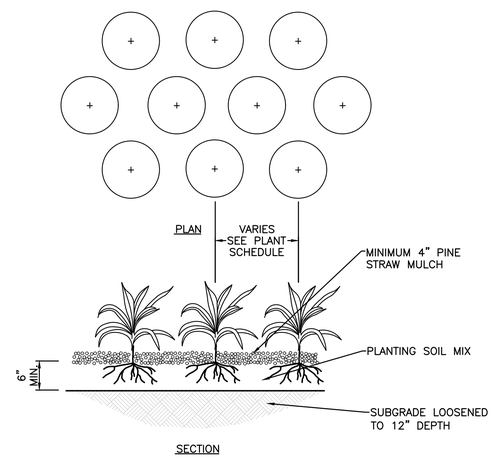
NOTE: ALL DISTURBED AREAS NOT OTHERWISE PLANTED ARE TO BE SEEDED PER SEEDING NOTES ON THIS SHEET.



NOTES:
1. DO NOT STAKE TREES UNLESS APPROVED BY THE LANDSCAPE ARCHITECT. IF STAKED, REMOVE AFTER ONE GROWING SEASON.
2. DO NOT WRAP TREE TRUNKS UNLESS APPROVED BY THE LANDSCAPE ARCHITECT. REMOVE WRAP AFTER PLANTING.
3. NON-BIODEGRADABLE BURLAP TO BE REMOVED OR ROLLED UNDER ROOT BALL AFTER PLANT IS PLACED IN HOLE.

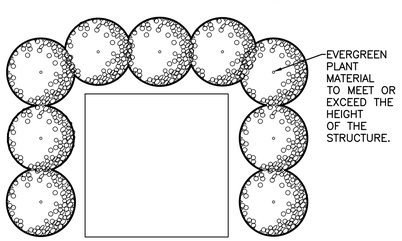
TREE PLANTING

NOT TO SCALE



GROUNDCOVER PLANTING

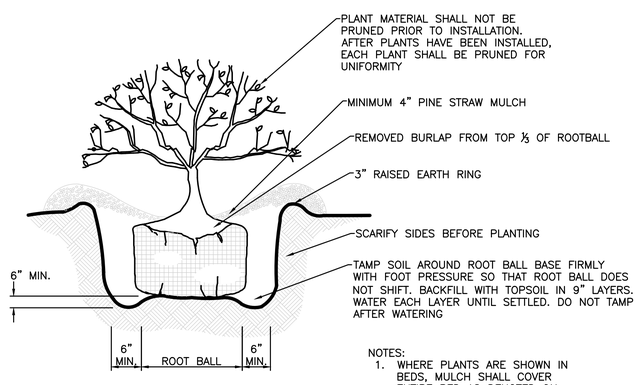
NOT TO SCALE



DOOR ACCESS

TYPICAL SCREENING FOR ABOVE GROUND UTILITIES

ALL SERVICE AREAS, MECHANICAL EQUIPMENT, TRASH CONTAINERS, AND FIELD SET ABOVE-GROUND UTILITY BOXES MUST BE SCREENED FROM THE PUBLIC R.O.W. ON THREE SIDES (LEAVING DOOR ACCESS FREE FROM PLANTINGS) WITH REQUIRED EVERGREEN PLANT MATERIAL. SCREENING MATERIAL MUST MEET OR EXCEED THE HEIGHT OF THE STRUCTURE THAT IS TO BE SCREENED. PRAGUE VIBURNUM OR APPROVED EQUAL SHOULD BE UTILIZED TO MEET THE SCREENING REQUIREMENT.



NOTES:
1. WHERE PLANTS ARE SHOWN IN BEDS, MULCH SHALL COVER ENTIRE BED AS DENOTED ON THE PLANS.
2. CONTAINER GROWN PLANT MATERIAL MAY BE SUBSTITUTED FOR BURLAP MATERIAL

SHRUB PLANTING

NOT TO SCALE

PLANTING NOTES:

1. ANY SERIES OF TREES TO BE PLACED IN A PARTICULAR ARRANGEMENT WILL BE FIELD CHECKED FOR ACCURACY. ANY PLANTS MISARRANGED WILL BE RELOCATED.
2. SOIL USED IN BACKFILLING PLANTING PITS SHALL BE TOPSOIL AND MIXED WITH 25% PEAT BY VOLUME. EXCEPT FOR ERICACEOUS PLANTS, VERY ACID OR SOUR SOIL (SOIL HAVING A pH less than 6) SHALL BE MIXED WITH SUFFICIENT LIME TO PRODUCE A SLIGHTLY ACID REACTION (A pH of 6.0 to 6.5). ADD 10–10–10 COMMERCIAL FERTILIZER AT THE RATE OF 2 POUNDS PER CUBIC YARD. MIX BOTH FERTILIZER AND PEAT THOROUGHLY BY HAND OR ROTARY TILLER.
3. SOIL USED IN BACKFILLING ERICACEOUS PLANTS SHALL BE TOPSOIL MIXED WITH 50% PEAT BY VOLUME. ADD 5–10–5 COMMERCIAL FERTILIZER AT THE RATE OF 5 POUNDS PER CUBIC YARD. MIX BOTH FERTILIZER AND PEAT THOROUGHLY BY HAND OR ROTARY TILLER.
4. UPON SECURING PLANT MATERIAL AND BEFORE INSTALLATION, THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE FOR A PRE-INSTALLATION INSPECTION TO VERIFY ALL PLANT MATERIAL MEETS SPECIFICATION. MATCH TREES OF SAME SPECIES IN GROWTH CHARACTER AND UNIFORMITY.
5. APPLY HERBICIDE (TREFLAN OR EQUIVALENT) TO ALL PLANT BEDS PRIOR TO PLANTING FOR NOXIOUS WEED CONTROL AT A RATE OF 2 POUNDS PER 1,000 SQUARE FEET.
6. CONTRACTOR SHALL SUBMIT A 10 OUNCE SAMPLE OF THE TOPSOIL PROPOSED TO A TESTING LABORATORY FOR ANALYSIS. SUBMIT TEST RESULTS WITH RECOMMENDATIONS FOR SUITABILITY TO THE OWNER'S REPRESENTATIVE FOR APPROVAL.
7. PLANTS SHALL BE ORIENTED FOR BEST APPEARANCE AND VERTICAL.ALL NON-BIODEGRADABLE ROOT CONTAINERS SHALL BE REMOVED.
8. SELECTIVELY TRIM TREE BRANCHES BY 25%, MAINTAINING NATURAL SHAPE. PRUNE ALL DEAD AND BROKEN BRANCHES IN TREES AND SHRUBS. REMOVE TAGS, TWINE OR OTHER NON-BIODEGRADABLE MATERIAL.
9. SCARIFY SUBSOIL IN PLANTING BEDS TO A DEPTH OF 3 INCHES. ALL PLANTING BEDS SHALL RECEIVE A MINIMUM OF 6 INCHES OF TOPSOIL.
10. CONTRACTOR SHALL PROVIDE SMOOTH, NEATLY TRENCHED (3 INCH DEEP) BED EDGES.
11. ALL PLANTING BEDS TO HAVE A MINIMUM 4 INCH DEEP PINE BARK MULCH, PINE STRAW MULCH OR OTHER MULCH AS SPECIFIED.
12. DIMENSIONS FOR TRUNK CALIPER, HEIGHTS, AND SPREAD SPECIFIED ON THE MATERIAL SCHEDULE ARE A GENERAL GUIDE FOR THE MINIMUM REQUIRED SIZE OF EACH PLANT. QUALITY AND SIZE OF PLANTS, SPREAD OF ROOTS AND SIZE OF BALLS SHALL BE IN ACCORDANCE WITH A.N.S.I. Z60.1 'AMERICAN STANDARD FOR NURSERY STOCK' (CURRENT EDITION) AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC.
13. TREES OF THE SAME SPECIES SHALL HAVE THE FOLLOWING CHARACTERISTICS: MATCHED BY BRANCHING HEIGHT, CALIPER, HEIGHT OF TREE, SPREAD OF BRANCHES AND BRANCHING STRUCTURE, AND OVERALL CANOPY SHAPE.
14. THE QUANTITIES INDICATED ON THE MATERIAL SCHEDULE ARE PROVIDED FOR THE BENEFIT OF THE CONTRACTOR, BUT SHOULD NOT BE ASSUMED TO ALWAYS BE CORRECT. IN THE EVENT OF A DISCREPANCY, THE PLANTING PLAN (PLANT SYMBOLS) WILL TAKE PRECEDENCE OVER THE MATERIAL SCHEDULE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS/HER OWN QUANTITY CALCULATIONS AND THE LIABILITY PERTAINING TO THOSE QUANTITIES AND ANY RELATED CONTRACT DOCUMENTS AND/OR PRICE QUOTATIONS.
15. CONTRACTOR TO WARRANTY ALL MATERIAL FOR ONE YEAR AFTER DATE OF FINAL ACCEPTANCE.

IRRIGATION NOTES:

1. ALL PROPOSED PLANTED AREAS ARE TO BE IRRIGATED UTILIZING FULL COVERAGE DESIGN.
2. SUBMIT PROPOSED IRRIGATION PLAN TO THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE FOR GENERAL REVIEW AND ACCEPTANCE.
3. PROPOSED IRRIGATION SYSTEM SHOULD UTILIZE ANY RECLAIMED/REUSED/GRAY WATER PUBLIC SYSTEMS IF ACCESSIBLE.
4. SHOULD RECLAIMED/REUSED/GRAY WATER NOT BE AVAILABLE, BELOW GRADE CISTERNS OR ON-SITE RETENTION PONDS SHOULD BE CONSIDERED FOR AN IRRIGATION WATER SOURCE. USE OF PUBLIC POTABLE WATER SOURCE SHOULD BE A LAST CASE RESORT AND DESIGNED AS A TEMPORARY IRRIGATION SYSTEM UTILIZED TO ESTABLISHED PROPOSED PLANT MATERIAL THROUGH ITS FIRST TWO YEARS OF GROWTH.
5. PROPOSED IRRIGATION DESIGN SHOULD UTILIZE WATER EFFICIENT DESIGN TECHNIQUES SUCH AS THE USE OF DRIP IRRIGATION, MOISTURE SENSORS AND RAIN SENSORS TO MAXIMIZE WATER EFFICIENCY.
6. IRRIGATION CONTRACTOR IS RESPONSIBLE FOR INSTALLING AN IRRIGATION SYSTEM THAT FUNCTIONS PROPERLY PER THE INTENT OF THE DESIGN. SHOULD THE IRRIGATION CONTRACTOR SEE A FLAW IN THE PROPOSED DESIGN AND/OR FINDS A PROBLEM IN THE FIELD THAT WILL NEGATIVELY AFFECT THE PERFORMANCE OF THE PROPOSED IRRIGATION SYSTEM, THE SAID CONTRACTOR IS RESPONSIBLE FOR INFORMING THE LANDSCAPE ARCHITECT/OWNER'S REPRESENTATIVE PRIOR TO INSTALLING OR ORDERING MATERIAL FOR THE PROPOSED IRRIGATION SYSTEM.
7. IRRIGATION PLANS TO BE SUBMITTED PRIOR TO ISSUANCE OF PERMITS.

SEEDING NOTES:

1. SEED ALL DISTURBED AREAS WITH TURF-TYPE TALL FESCUE. THE SEED SHALL BE A BLEND OF 3–5 VARIETIES (ADDRESSING BOTH COLD HARDINESS AND DROUGHT TOLERANCE) FROM THE TOP 10% SELECTIONS IN THE NATIONAL TURFGRASS EVALUATION PROGRAM (N.T.E.P) TALL FESCUE TRIALS, MOST RECENT EVALUATION YEAR (WWW.NTEP.ORG). THE SEED SHALL BE CROP AND WEED FREE. SEED AT THE RATE OF 5 POUNDS PER 1,000 S.F. ALL SEED TO BE 98% PURE WITH 85% GERMINATION AND CONFORM TO ALL STATE REQUIREMENTS FOR GRASS SEED. THE FERTILIZER TO BE 6–12–12 COMMERCIAL TYPE WITH 50% OF ITS ELEMENTS DERIVED FROM ORGANIC SOURCES.
2. PLACE STRAW MULCH ON SEEDED AREAS. STRAW TO BE OATS OR WHEAT STRAW, FREE FROM WEEDS, FOREIGN MATTER DETRIMENTAL TO PLANT LIFE, AND DRY. HAY OR CHOPPED CORNSTALKS ARE NOT ACCEPTABLE.
3. THE CONTRACTOR SHALL VERIFY THAT THE PREPARED SOIL BASE IS READY TO RECEIVE WORK. CULTIVATE THE TOPSOIL TO A DEPTH OF 4 INCHES WITH A MECHANICAL TILLER AND SUBSEQUENTLY RAKE UNTIL SMOOTH. REMOVE FOREIGN MATERIALS COLLECTED DURING CULTIVATION AND RAKING OPERATIONS.
4. APPLY FERTILIZER ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. LIMESTONE MAY BE APPLIED WITH THE FERTILIZER. APPLY FERTILIZER AFTER SMOOTH RAKING AND PRIOR TO ROLLER COMPACTION AND MIX THOROUGHLY IN THE UPPER 2 INCHES OF TOPSOIL.
5. APPLY SEED EVENLY IN TWO INTERSECTING DIRECTIONS AND RAKE IN LIGHTLY. WATER TOPSOIL LIGHTLY PRIOR TO APPLYING SEED. DO NOT SEED AREA IN EXCESS OF THAT WHICH CAN BE MULCHED ON THE SAME DAY.
6. ROLL SEEDED AREA WITH ROLLER NOT EXCEEDING 112 POUNDS.
7. IMMEDIATELY FOLLOWING SEEDING AND COMPACTING, APPLY STRAW MULCH AT THE RATE OF ONE AND ONE HALF BALES PER 1,000 SQUARE FEET. IMMEDIATELY AFTER MULCHING, APPLY WATER WITH A FINE SPRAY AND SATURATE THE GROUND TO A DEPTH OF 4 INCHES.
8. CONTRACTOR IS RESPONSIBLE FOR WATERING SEEDED AREAS TO PREVENT GRASS AND SOIL FROM DRYING OUT UNTIL THE INSTALLATION IS INSPECTED AND ACCEPTED BY THE OWNER'S REPRESENTATIVE.
9. CONTRACTOR IS RESPONSIBLE FOR RESEEDING BARE SPOTS FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE OF INSTALLATION.

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MILTON H. HAMILTON REGISTERED LANDSCAPE ARCHITECT TENNESSEE NO. 1100 02/08/2023

PRIMROSE SCHOOL
FOR
CASCO

TOWN OF SMYRNA, RUTHERFORD COUNTY, TENNESSEE

Scale:	NTS
Date:	SEPTEMBER 19, 2022
Approved By:	MHH

Revisions:

1 09/27/2022 PER CITY COMMENTS

Drawing Title:

LANDSCAPE NOTES AND DETAILS

Drawing No.

L2.0

Project No.

21-0286

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