DATE: March 20, 2024

TO: ALL BIDDERS OF RECORD

PROJECT NAME: A New Building for: Dalton Police Department
For The City of Dalton, GA

PROJECT NUMBER: 23-021

FROM: KRH Architects
855 Abutment Road
Suite 4
Dalton, GA 30721

PRIME BIDDERS ACKNOWLEDGE THE RECEIPT OF THIS ADDENDUM BY INSERTING THE NUMBER AND DATE IN THE APPROPRIATE POSITION ON THE PROPOSAL FORM. FAILURE TO DO SO MAY SUBJECT THE BIDDER TO DISQUALIFICATION. THIS ADDENDUM IS A PART OF THE CONTRACT DOCUMENTS. IT MODIFIES THEM AS FOLLOWS:

Item No. 1 **Prebid Sign In Sheet**

Please see the attached Sign-in Sheet from the Prebid Meeting.

Item No. 2 **Drawings**

Replace these sheets in their entirety.

A1.8, A4.1, A4.2, A5.1, S3.1, P3.1, E5.0

Item No. 3 **Section 12365**

Add Section 12365 – Laboratory Worksurfaces.

Note: see “Answers to Contractor's Questions - Addendum #1” for countertop material locations.

Item No. 4 **Approved Requests for Substitutions**

The products and manufacturers listed below shall be considered acceptable substitutions provided they meet all requirements listed per contract documents. No exceptions, limitations, or restrictions will be accepted.

Section 12304 – General Casework (Sirius Millwork, Architectural Surfaces)
Section 08330 – Rolling Service Doors (Wayne Dalton Commercial Doors)
Section 07411 – Metal Roof Panels and soffit panels. (DMI - Dimensional Metals Inc)

Item No. 5 **Answers to Contractor's Questions**

Please see the attached Answers to Contractor's Questions.

Item No. 6 **Soils Report**

Please see the attached soils report.

Item No. 7 **Safe**

The contractor to relocate one 5,400 lbs safe from the existing evidence room to room 110 of the new building.

Item No. 8 **E3.0**

Change Ceiling Plan Key Note to read:

PROVIDE BRANCH CIRCUIT AND RECESSED JUNCTION BOXES FOR SURGICAL TYPE, CEILING HUNG LIGHT FIXTURES. CONTRACTOR TO PURCHASE AND INSTALL, COORDINATE WITH CITY ON DESIRED FIXTURE, MOUNTING LOCATION, AND CONTROL REQUIREMENTS. PROVIDE WALL MOUNTED SWITCH AS DIRECTED. OWNER TO SELECT, PROVIDE $3,500 ALLOWANCE.

END OF ADDENDUM

KRH INCORPORATED ARCHITECTS

3/19/2024

THE CITY OF DALTON "THE CARPET CAPITAL OF THE WORLD"

PRE-PROPOSAL MEETING

A NEW BUILDING FOR DALTON POLICE DEPARTMENT

NAME	REPRESENTATIVE/COMPANY	EMAIL ADDRESS
Jarrad Trotter	Roof Technology Partners	Jarrad@RoofTechnologyPartners.com
Cody Winn	Reeves Young	cwinn@reevesyoung.com
Brennon Smith	J Brennon Construction	bsmith@jbrennon.com
ALEX PSZCZOLA	SIERRA CONSTRUCTION	ALEX@SIERRACON.COM
Kat Spratt	Benning Construction	KSpratt@benningcc.com
CASEY SMITH	ADMAN ELECTRIC	CSMITH@ADMANELECTRIC.COM
KURT TEASLEY	TYSON CONSTRUCTION	Kurt@tysoncon.com
DOUG DRIEMEYER	RW SMITH COMPANY	DOUGD@RWSCO.COM
Zach Travis	Ward Humphrey	Ztravis@ward-humphrey.com
Ken Barnett	Barnett's Painting LLC	kenbarnettspainting@hotmail.com
JUSTIN PATRICK	NABCO Electric	jpatrick@nabcoelectric.com

3/19/2024

NAME	REPRESENTATIVE/COMPANY	EMAIL ADDRESS
NATHAN RAMIN	LEE COMPANY	NATHAN.RAMIN@LEECOMPANY.COM
RICHARD MURRAY	DIVERSIFIED CONST. OF GA	bids@dcofgeorgia.com
REID LEWIS	INTEGRATED PROPERTIES	RLEWIS@INTEGRATEDBUILDS.COM
CLINT WOODALL	MOMON CONSTRUCTION	clintw@momonconstruction.com
BLAKE KING	CARPETCAPITALFIREPRO	blake@ccfpinc.com
Rodney Lock	Lock's Dozing. Inc.	Rlock@locksdozing

GENERAL DEMOLITION NOTES:

*COORDINATE ALL DEMOLITION WITH OWNER AND NEW PLANS. SEE SPECIFICATIONS, MECHANICAL, AND ELECTRICAL DRAWINGS FOR ADDITIONAL DEMOLITION NOTES.

*REMOVE ANY EXISTING CONSTRUCTION REQUIRED TO PERFORM NEW WORK.

*EXISTING AREAS TO REMAIN THAT ARE DISTURBED BECAUSE OF WORK PERFORMED UNDER THIS CONTRACT ARE TO BE REPAIRED/RESTORED TO A CONDITION EQUAL TO ORIGINAL OR AS DIRECTED BY OWNER.

*ALL EXISTING EQUIPMENT AND MATERIALS TO BE REMOVED SHALL BE DISPOSED OF AS DIRECTED BY OWNER.

*WHEN EQUIPMENT IS DEMOLISHED, ALL ASSOCIATED COMPONENTS SHALL BE REMOVED.

*CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL EQUIPMENT/ COMPONENTS INDICATED TO ACCEPT NEW EQUIPMENT.

*CUT OFF FLUSH WITH WALL AND CAP OVER ALL PENETRATIONS NO LONGER TO BE UTILIZED IN WALLS.

*CONTRACTOR SHALL VISIT THE SITE AND INCLUDE IN THEIR BID ANY DEMOLITION REQUIRED FOR CONSTRUCTION.

*CONTRACTOR SHALL MAINTAIN A SECURE SITE THROUGHOUT DEMOLITION. PROVIDE LOCKABLE GATES/CHAINS/ETC. TO DETER PUBLIC ACCESS WHEN CONTRACTOR IS NOT ON SITE.

GENERAL DEMOLITION NOTES (CONTINUED):

*CONTRACTOR SHALL PROVIDE MEASURES TO DETER UNAUTHORIZED ACCESS TO DEMOLISHED MATERIALS IN DUMPSTERS. MEASURES MAY INCLUDE FENCING, GATES, ETC. AND/OR FREQUENT OR DAILY DUMPSTER PULLS.

*WHEN EXISTING FLOORING IS DEMOLISHED CONTRACTOR SHALL COMPLETELY REMOVE RESIDUAL FLOORING ADHESIVES/GROUTS/SEALANTS FROM ALL SPACES DOWN TO CONCRETE SLAB. LEAVE SLAB SURFACES SMOOTH, CLEAN AND FREE OF DEBRIS IN PREPARATION FOR NEW CONSTRUCTION.

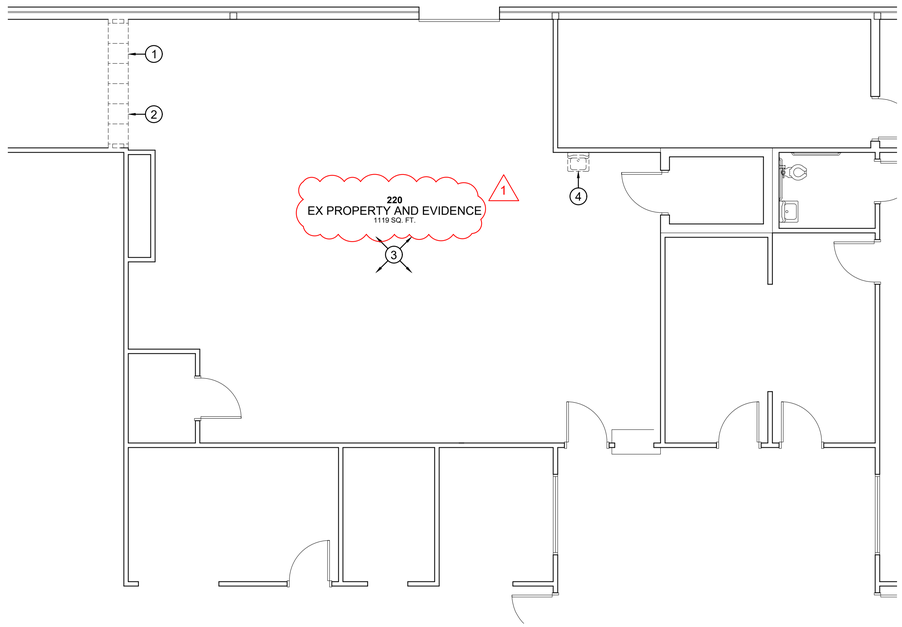
*COMPLETELY REMOVE WALLS AS INDICATED ON PLAN. LEAVE ALL SURFACES SMOOTH, CLEAN AND FREE OF DEBRIS IN PREPARATION FOR NEW CONSTRUCTION.

KEYED DEMOLITION NOTES:

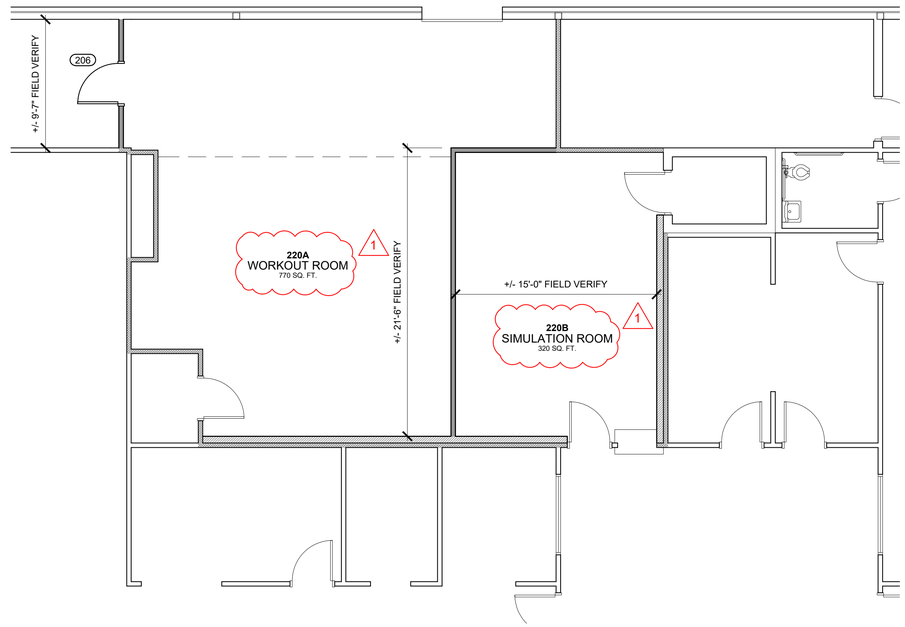
1. CAREFULLY REMOVE EXISTING EVIDENCE PASSTHROUGH LOCKERS, FIXTURES, AND ACCESSORIES AND COORDINATE WITH OWNER REGARDING INTENDED REUSE OR DISPOSAL OF THESE ITEMS. LEAVE ALL SURFACES SMOOTH, CLEAN AND FREE OF DEBRIS IN PREPARATION FOR NEW CONSTRUCTION.
2. CAREFULLY REMOVE EXISTING ELECTRICAL SERVICE DISCONNECT, WIRING, CONNECTIONS, ETC. SEE ELECTRICAL FOR FURTHER NOTES. COORDINATE WITH OWNER REGARDING INTENDED REUSE OR DISPOSAL OF THESE ITEMS.
3. REMOVE EXISTING LIGHT FIXTURES IN THIS SPACE IN PREPARATION FOR INSTALLATION OF NEW LIGHT FIXTURES.
4. COMPLETELY REMOVE EXISTING PLUMBING FIXTURES AND ALL ASSOCIATED CONNECTIONS, ACCESSORIES, PARTITIONS, ETC. LEAVE ALL SURFACES SMOOTH, CLEAN AND FREE OF DEBRIS IN PREPARATION FOR NEW CONSTRUCTION.

PLAN LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- EXISTING CONSTRUCTION TO BE DEMOLISHED
- NEW METAL STUD WALL WITH SOUND ATTENUATING BATT INSULATION AND 5/8" GYPSUM BOARD. WALL TO EXTEND TO EXISTING CEILING
- NEW 6" METAL STUD WALL WITH SOUND ATTENUATING BATT INSULATION AND 5/8" GYPSUM BOARD. WALL TO EXTEND TO EXISTING CEILING
- EXISTING WALL WITH ADDED BLOWN-IN INSULATION

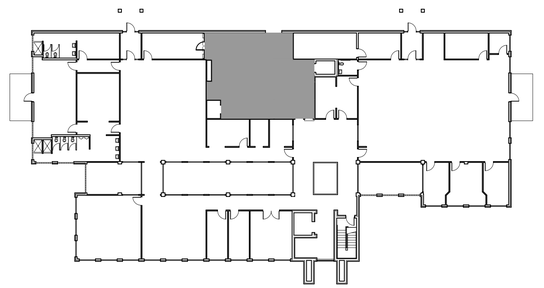


1 DEMOLITION PLAN
SCALE: 3/16" = 1'-0"



2 NEW PLAN
SCALE: 3/16" = 1'-0"

KEY PLAN



FOR CONSTRUCTION

PROJECT NUMBER
23-021

DATE
12/01/23

REVISIONS

NO.	DATE
ADD1	03/19/24

FACILITY CODE
000-0000

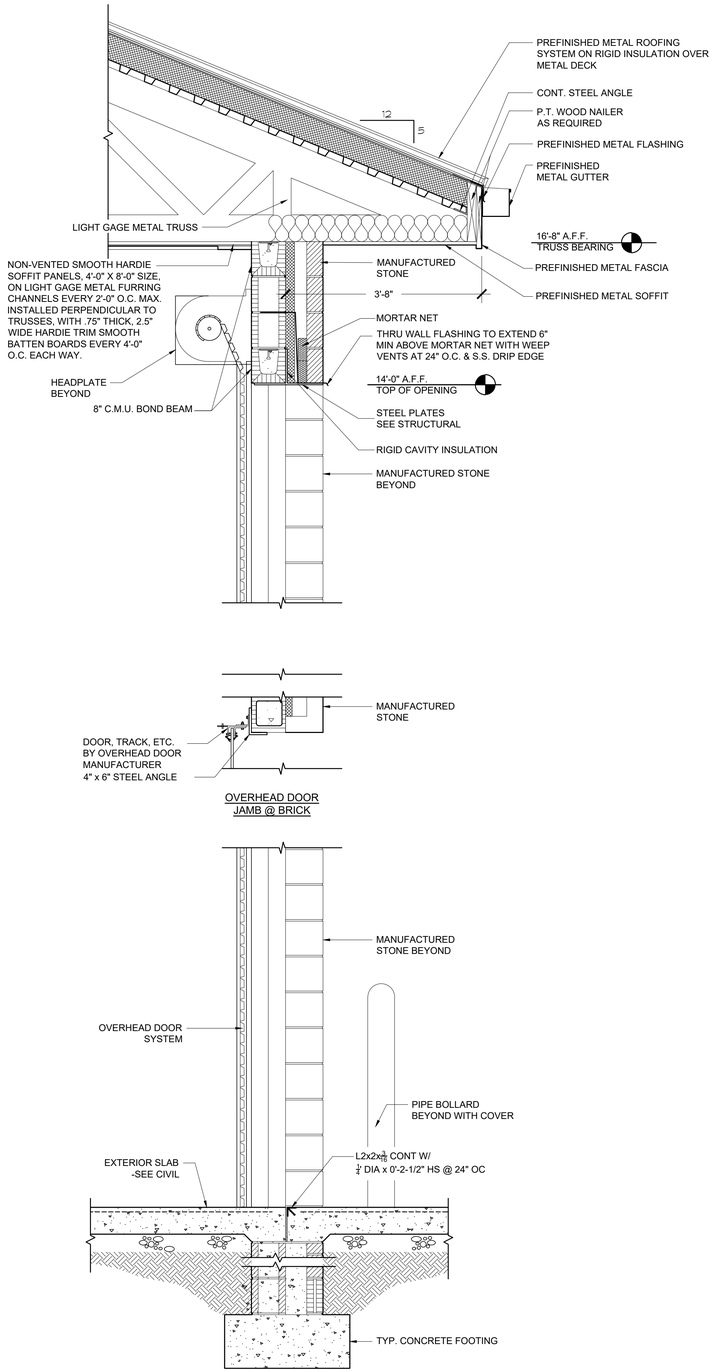
KRH INCORPORATED ARCHITECTS
855 ABUTMENT ROAD
SUITE FOUR
DALTON, GA 30721
TEL. 706.529.5895

A NEW BUILDING FOR:
DALTON POLICE DEPARTMENT
WHITFIELD COUNTY
DALTON, GA 30720

STATE OF GEORGIA
KENNETH R. HARLESS
CERTIFICATE NO. RA026662
REGISTERED ARCHITECT

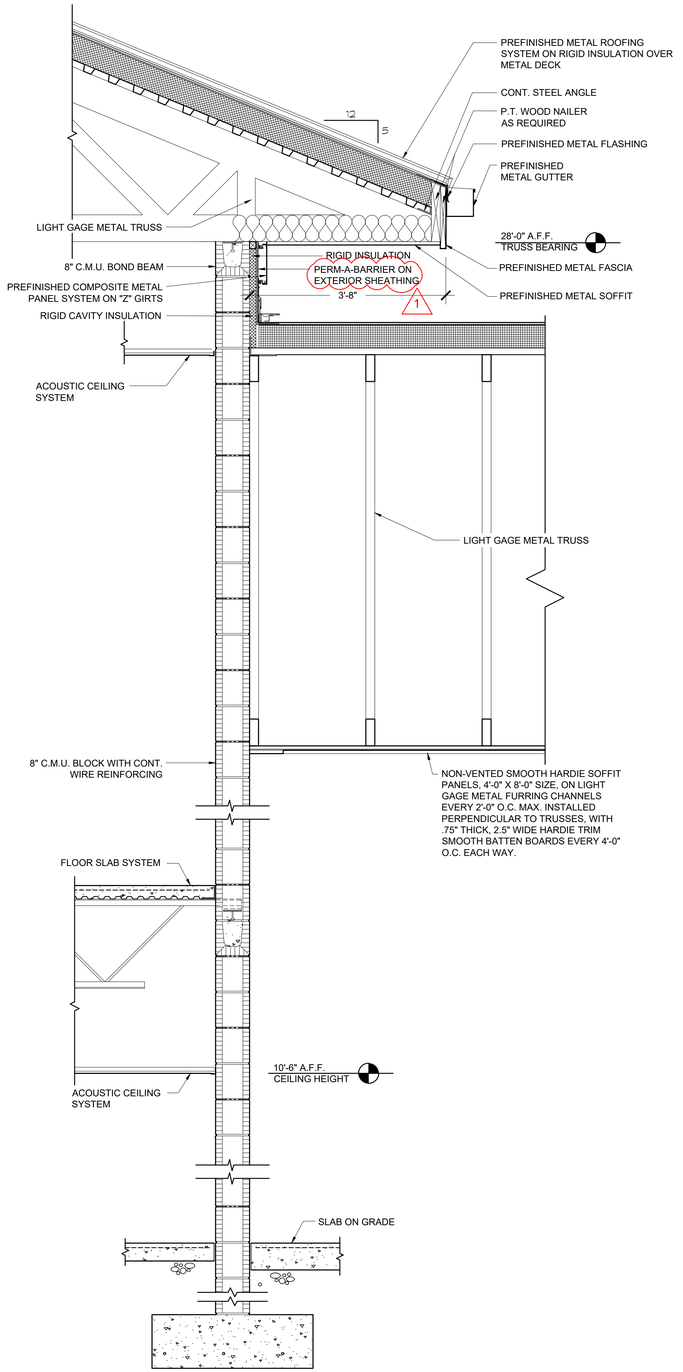
SHEET INDEX
EXISTING FACILITY DEMO AND NEW PLANS

SHEET INDEX
A1.8



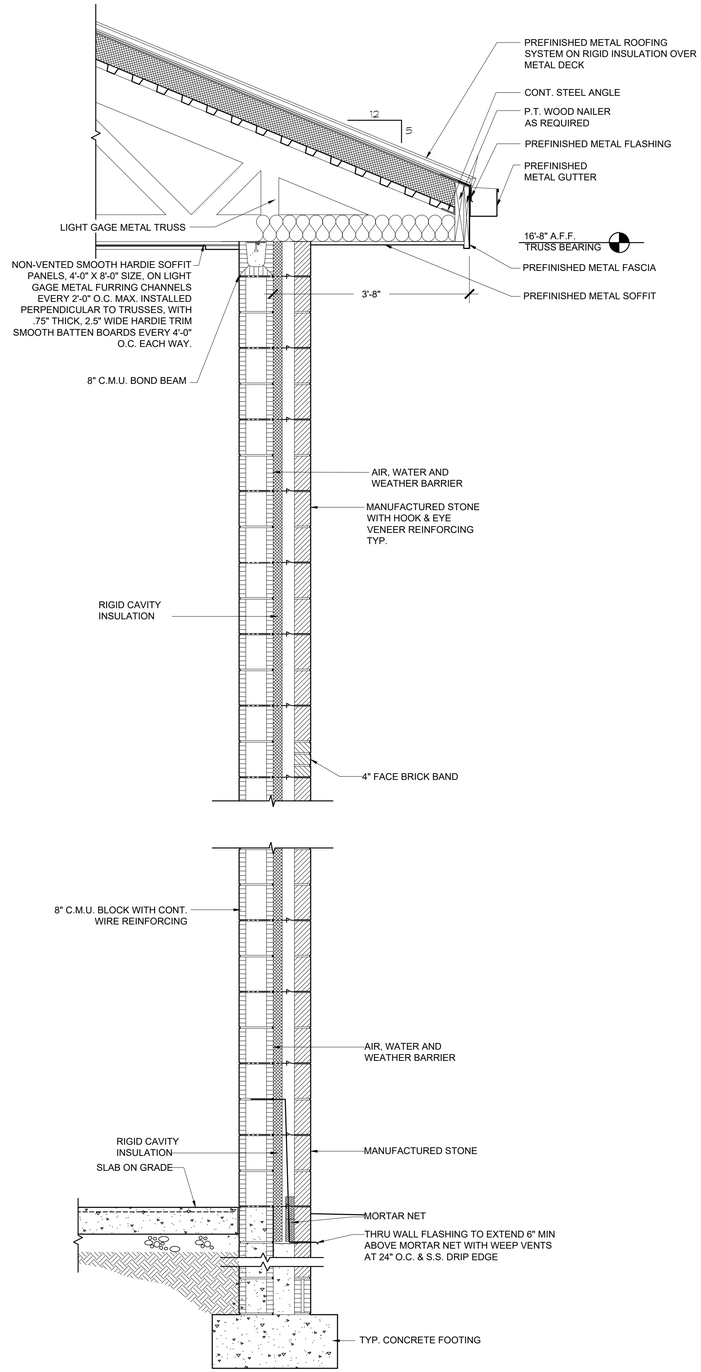
1 WALL SECTION

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



2 WALL SECTION

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



3 WALL SECTION

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

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A NEW BUILDING FOR:
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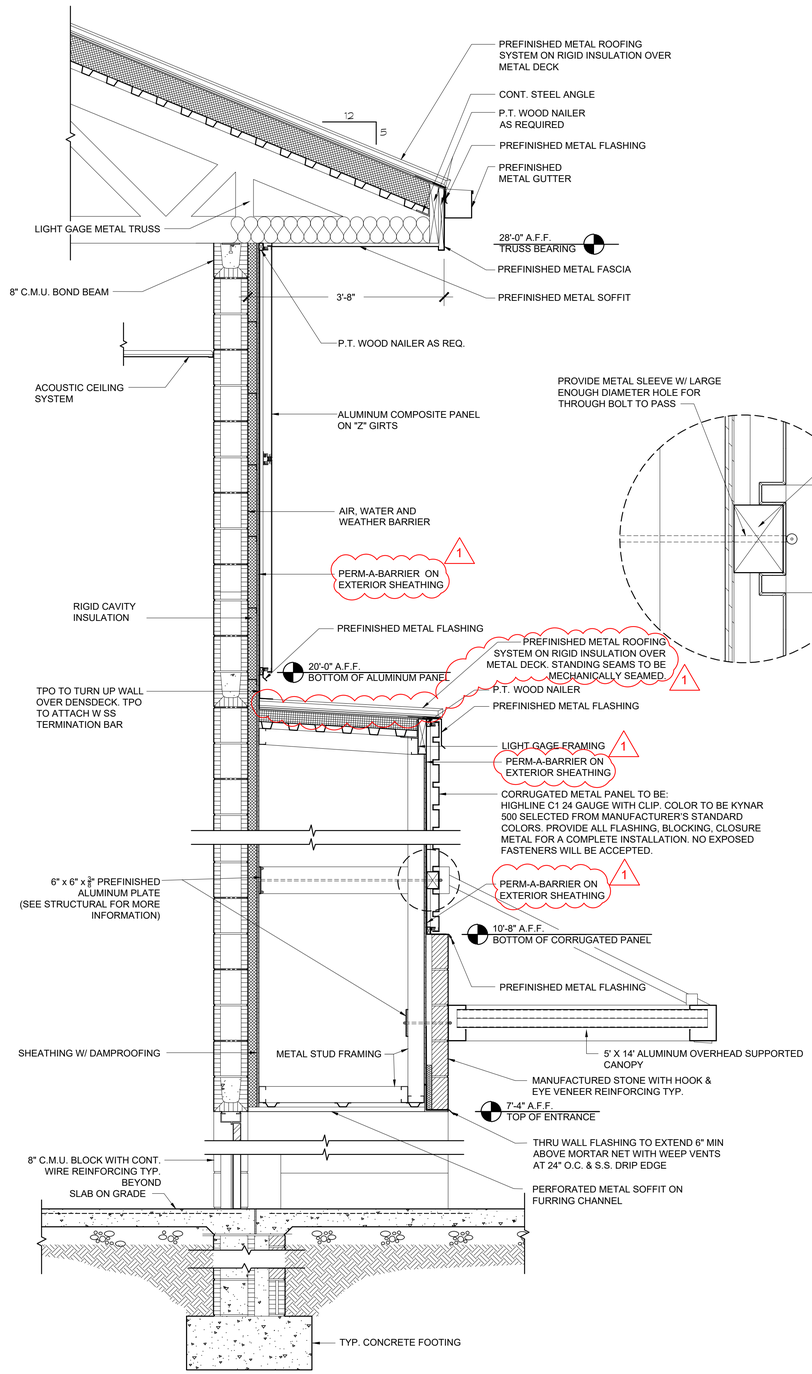
WHITFIELD COUNTY
DALTON, GA 30720

STATE OF GEORGIA
KENNETH R. HARLESS
CERTIFICATE NO. RA015554
REGISTERED ARCHITECT

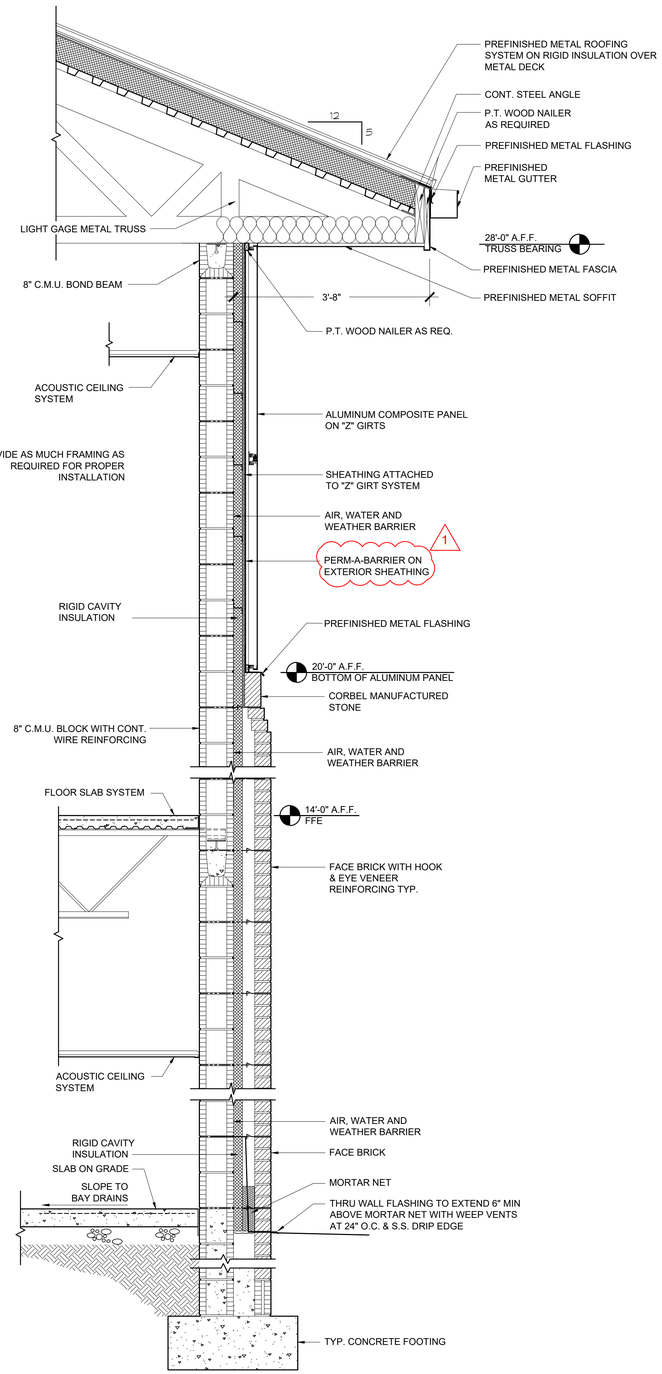
SHEET INDEX
WALL SECTIONS

SHEET INDEX
A4.1



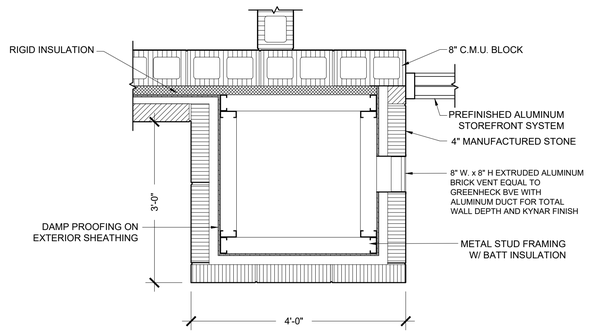
1 WALL SECTION

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



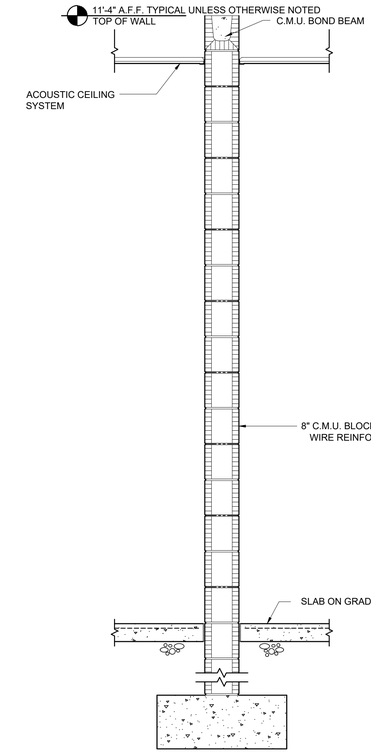
2 WALL SECTION

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



4 PLAN DETAIL

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



3 WALL SECTION

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

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STATE OF GEORGIA
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CERTIFICATE NO. RA#####
REGISTERED ARCHITECT

SHEET INDEX
WALL SECTIONS AND PLAN DETAIL

SHEET INDEX
A4.2

SCHEDULE OF FINISHES

ROOM	NO.	FLOOR	BASE	WALLS	CEILING	CEILING HEIGHT	REMARKS
FIRE RISER ROOM	101	SC	RB	CMU	-	-	
P&E OFFICE STORAGE	102	LVT	RB	CMU	ACT	10'-6"	
ELECTRICAL ROOM	103	SC	RB	CMU	ACT	10'-6"	
STAIR CASE	104	LVT	RB	CMU	ACT	10'-6"	NOTE1
VESTIBULE	105	LVT	RB	CMU	ACT	10'-6"	
CRIME LAB	106	LVT	RB	CMU	ACT	10'-6"	
PHOTO ROOM	107	LVT	RB	CMU	ACT	10'-6"	
RESTROOM	108	EF	EF	CMU	ACT	10'-6"	NOTE3
RESTROOM	109	EF	EF	CMU	ACT	10'-6"	NOTE3
WORK SPACE	110	LVT	RB	CMU	ACT	10'-6"	
STORAGE/GEAR ISSUE	111	LVT	RB	CMU	ACT	10'-6"	
MECHANICAL/DATA	113	SC	RB	CMU	ACT	10'-6"	
EVIDENCE DROP-OFF	114	LVT	RB	CMU	ACT	10'-6"	
VESTIBULE	115	LVT	RB	CMU	ACT	10'-6"	
VEHICLE BAY	116	SC	RB	CMU	SSB	16'-8"	
EVIDENCE ROOM	112	LVT	RB	CMU	ACT	10'-6"	
EVIDENCE STORAGE	201	LVT	RB	CMU	ACT	13'-0"	
MECHANICAL ROOM	202	SC	RB	CMU	ACT	-	
DRUG STORAGE	203	LVT	RB	CMU	ACT	13'-0"	
FIREARM STORAGE	204	LVT	RB	CMU	ACT	13'-0"	
ELEVATOR	-	LVT	-	-	-	-	NOTE2
WORKOUT ROOM	220A	RF	RB	GB	-	-	
SIMULATION ROOM	220B	LVT	RB	GB	ACT	9'-4"	

FINISH SCHEDULE LEGEND:

SC - SEALED CONCRETE
EF- EPOXY FLOORING
LVT- LUXURY VINYL TILE
RB - RUBBER BASE
ACT - ACOUSTIC CEILING TILE SYSTEM
SSB - SMOOTH SOFFIT BOARD
CMU - CONCRETE MASONRY UNITS (PAINTED)
RF - RESILIENT ATHLETIC FLOORING
GB - GYPSUM WALL BOARD

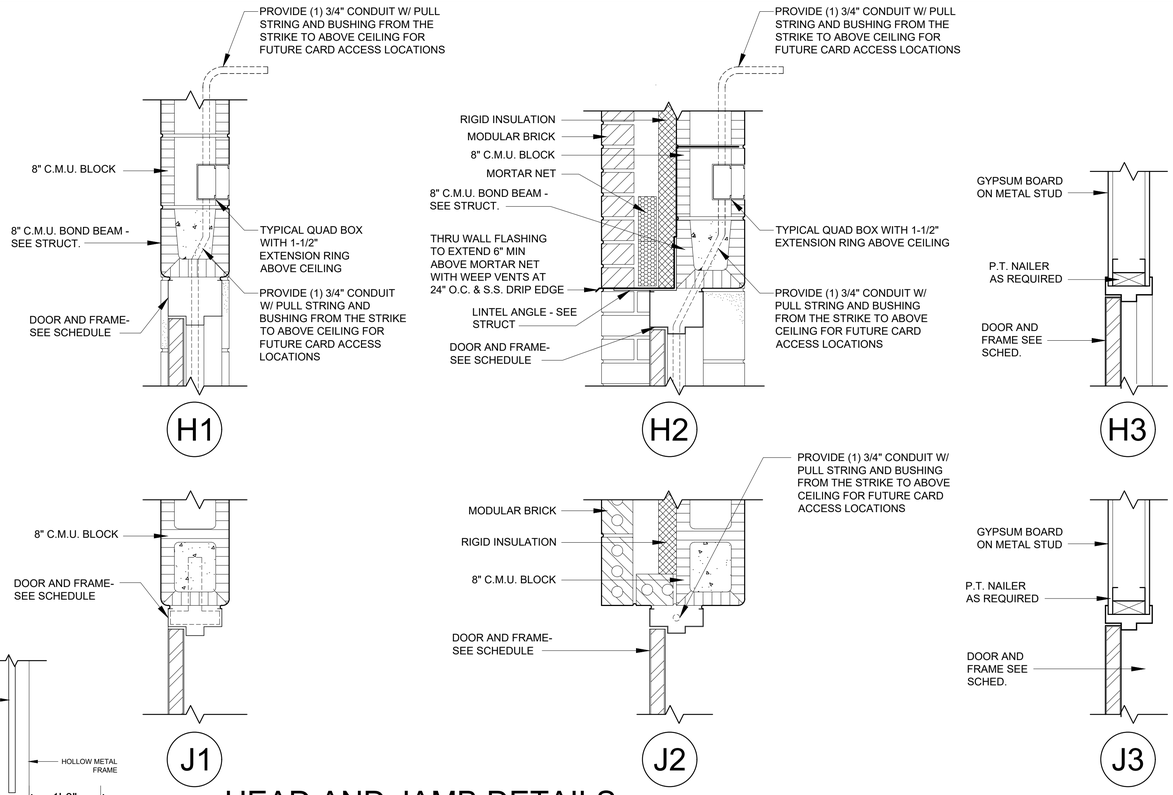
NOTE 1: LVT ON LANDINGS, RUBBER ON STAIR RISERS AND TREADS
NOTE 2: SEE SPECIFICATIONS FOR FURTHER INFORMATION
NOTE 3: EXTEND EPOXY FLOORING 6" UP WALL

SCHEDULE OF DOORS AND FRAMES

MARK	DOORS			FRAMES			MISCELLANEOUS		MARK
	TYPE	SIZE		TYPE	DETAILS		HDWE. SET No.	REMARKS	
		WIDTH	HGT.		HEAD	JAMB			
101	1	3'-0"	7'-0"	F1	H2	J2	-	NOTE 1	101
102	1	3'-0"	7'-0"	F1	H1	J1	-	-	102
103	1	3'-0"	7'-0"	F1	H2	J2	-	NOTE 1	103
104	1	3'-0"	7'-0"	F1	H1	J1	1 HR.	NOTE 1	104
105	1	3'-0"	7'-0"	F1	H2	J2	-	NOTE 1	105
106	2	3'-0"	7'-0"	F3	H2	J2	-	NOTE 1	106
107	1	3'-0"	7'-0"	F1	H1	J1	-	-	107
108	1	3'-0"	7'-0"	F1	H1	J1	-	NOTE 1	108
109	1	3'-6"	7'-0"	F2	H1	J1	-	NOTE 1,3	109
110	1	3'-0"	7'-0"	F1	H1	J1	-	NOTE 1	110
111	1	3'-0"	7'-0"	F1	H1	J1	-	NOTE 1	111
112	1	3'-0"	7'-0"	F1	H1	J1	-	NOTE 1	112
113	1	3'-0"	7'-0"	F1	H1	J1	-	NOTE 1	113
114	1	3'-0"	7'-0"	F1	H2	J2	-	NOTE 1	114
115	1	3'-6"	7'-0"	F1	H1	J1	2 HR.	NOTE 1	115
116	1	3'-0"	7'-0"	F1	H2	J2	-	NOTE 1	116
117	3	14'-0"	14'-0"	-	1/A4.1	1/A4.1	-	-	117
201	1	3'-0"	7'-0"	F1	H1	J1	1 HR.	NOTE 1	201
202	1	3'-0"	7'-0"	F1	H1	J1	-	NOTE 1	202
203	1	3'-0"	7'-0"	F1	H1	J1	-	NOTE 1	203
204	1	3'-0"	7'-0"	F1	H1	J1	-	NOTE 1	204
205	1	3'-6"	7'-0"	F1	H1	J1	2 HR.	NOTE 1&2	205
206	1	3'-6"	7'-0"	F1	H3	J3	-	-	206

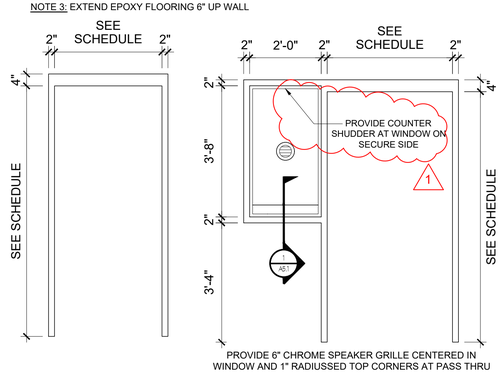
DOOR SCHEDULE NOTES:

1. PROVIDE OPENING WITH 3/4" CONDUIT W/ PULL STRINGS AND BUSHINGS TO EXTEND FROM STRIKE BOX LOCATION TO ABOVE CEILING FOR FUTURE CARD ACCESS.
2. DOOR SHALL SWING 180°.
3. PROVIDE COUNTER SHUDDER AT WINDOW



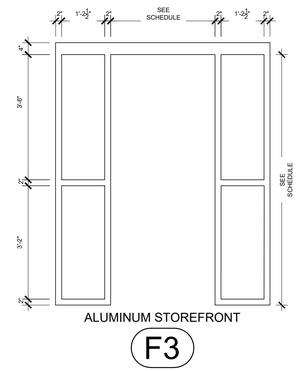
HEAD AND JAMB DETAILS

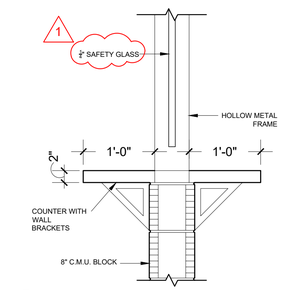
SCALE: 1-1/2" = 1'-0"



DOOR FRAME ELEVATION

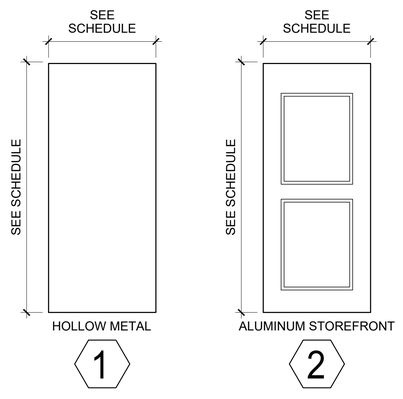
SCALE: 1/2" = 1'-0"





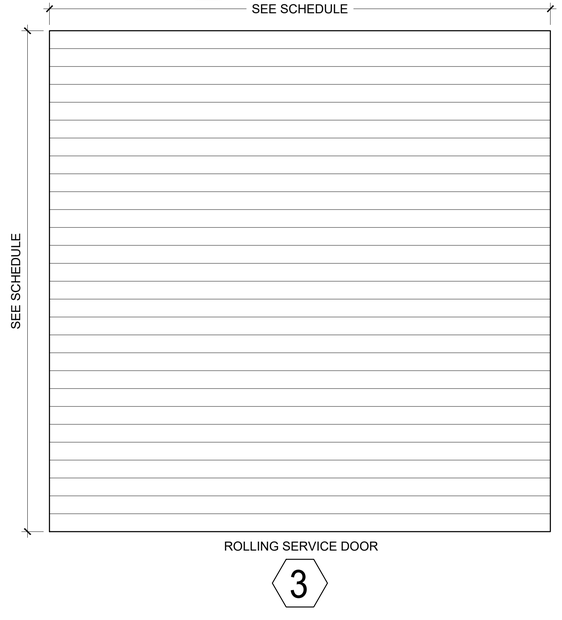
1 F2 FRAME DETAIL

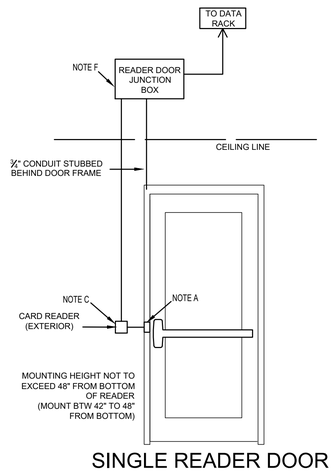
SCALE: 1" = 1'-0"



DOOR TYPE ELEVATIONS

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





SINGLE READER DOOR

DIAGRAM B

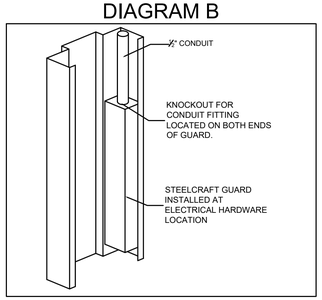
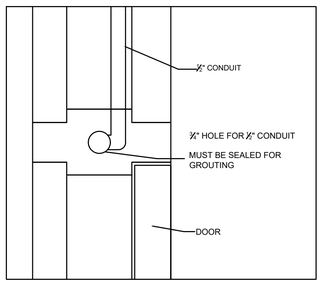


DIAGRAM C



DOOR ACCESS DETAILS

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

DOOR ACCES NOTES:

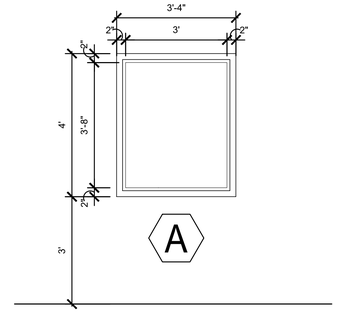
A - DOOR FRAME PREP FOR ACCESS DOOR CONTACT 4" OF UNFILLED SPACE IN DOOR FRAME.

B - RECESSED SINGLE GANG BOX WITH ¾" CONDUIT STUBBED ABOVE CEILING LINE ON SECURE SIDE OF DOOR.

C - 4X4 J-BOX ON INTERIOR/SECURE SIDE OF DOOR.

GENERAL NOTES:

- ALL CONDUIT NEEDS TO BE CONCEILED IN MASONTRY WALLS AND DOOR FRAMES.
- ALL CONDUIT NEEDS TO BE ON THE SECURE SIDE OF THE DOOR.
- INSTALL PULLSTRING IN ALL CONDUITS.



CRL MODEL N11W12P WITH LEVEL 3 BULLET RESISTANCE

(PROVIDE COUNTER SHUDDER AT WINDOW ON SECURE SIDE)

WINDOW FRAME ELEVATIONS

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

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STATE OF GEORGIA
KENNETH R. HARLESS
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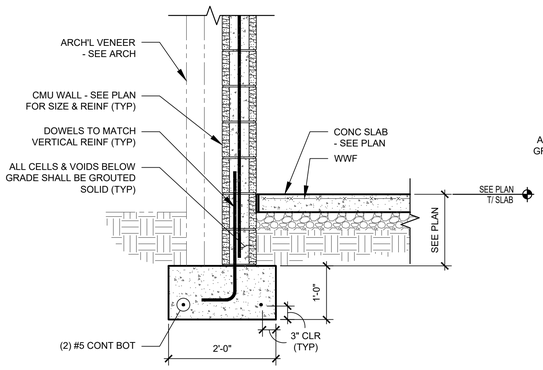
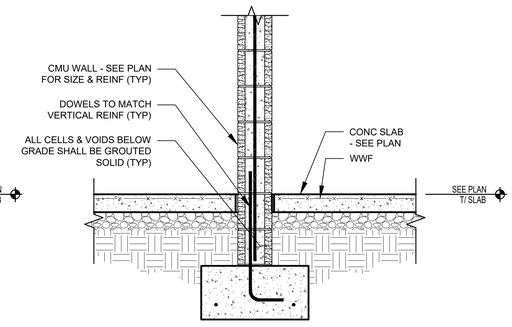
SHEET INDEX
FINISH AND DOOR SCHEDULES

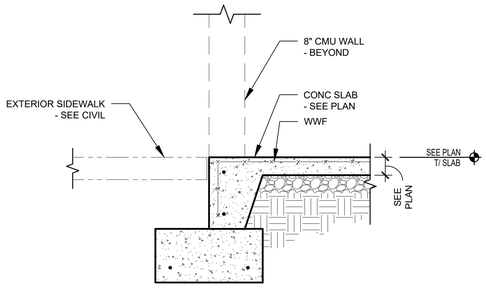
SHEET INDEX
A5.1



1 S3.1 SECTION
SCALE: 3/4" = 1'-0"



NOTE: SEE 1/S3.1 FOR FTG
INFO NOT SHOWN



NOTE: SEE 1/S3.1 FOR FTG
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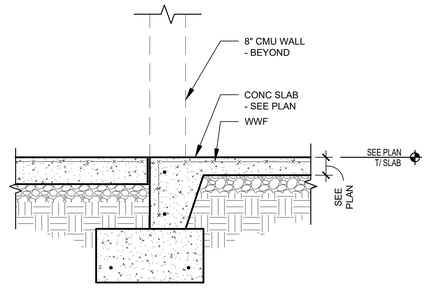

NOTE: SEE 1/S3.1 FOR FTG
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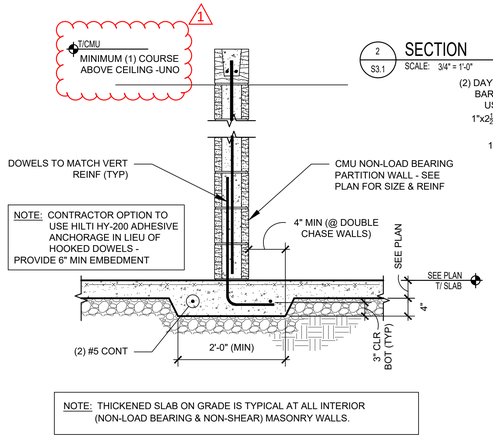
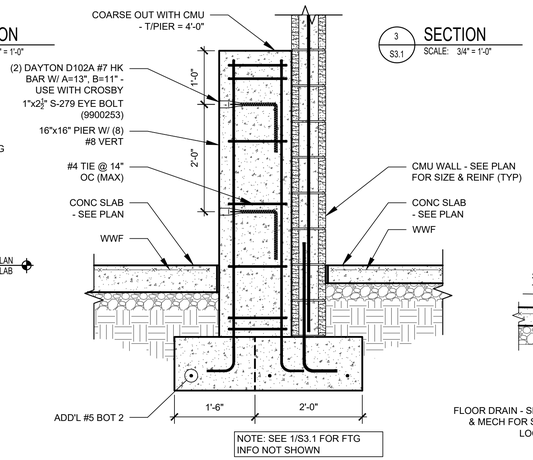
2 S3.1 SECTION
SCALE: 3/4" = 1'-0"



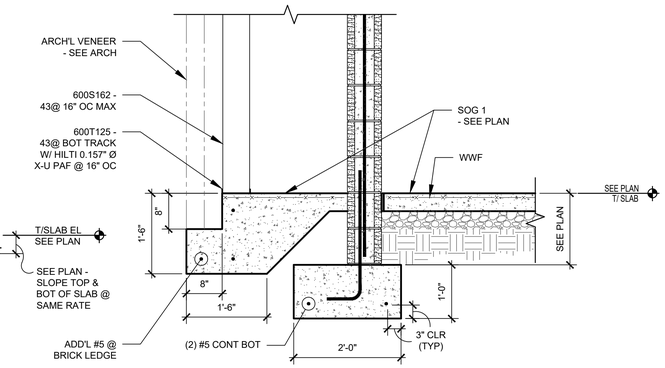
NOTE: THICKENED SLAB ON GRADE IS TYPICAL AT ALL INTERIOR
(NON-LOAD BEARING & NON-SHEAR) MASONRY WALLS.

3 S3.1 SECTION
SCALE: 3/4" = 1'-0"



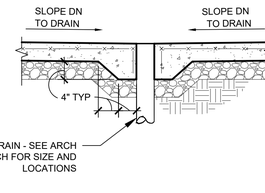
NOTE: SEE 1/S3.1 FOR FTG
INFO NOT SHOWN

4 S3.1 SECTION
SCALE: 3/4" = 1'-0"



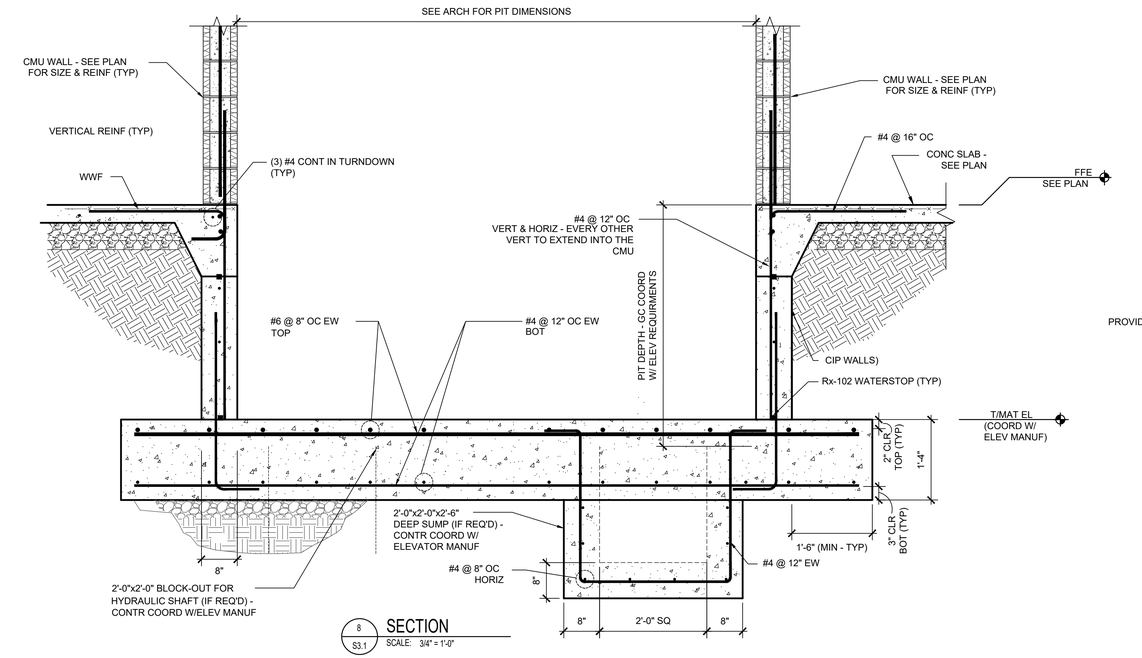
5 S3.1 SECTION
SCALE: 3/4" = 1'-0"

6 S3.1 SECTION
SCALE: 3/4" = 1'-0"



A S3.1 SLAB DRAIN DETAIL
SCALE: 3/4" = 1'-0"

7 S3.1 SECTION
SCALE: 3/4" = 1'-0"



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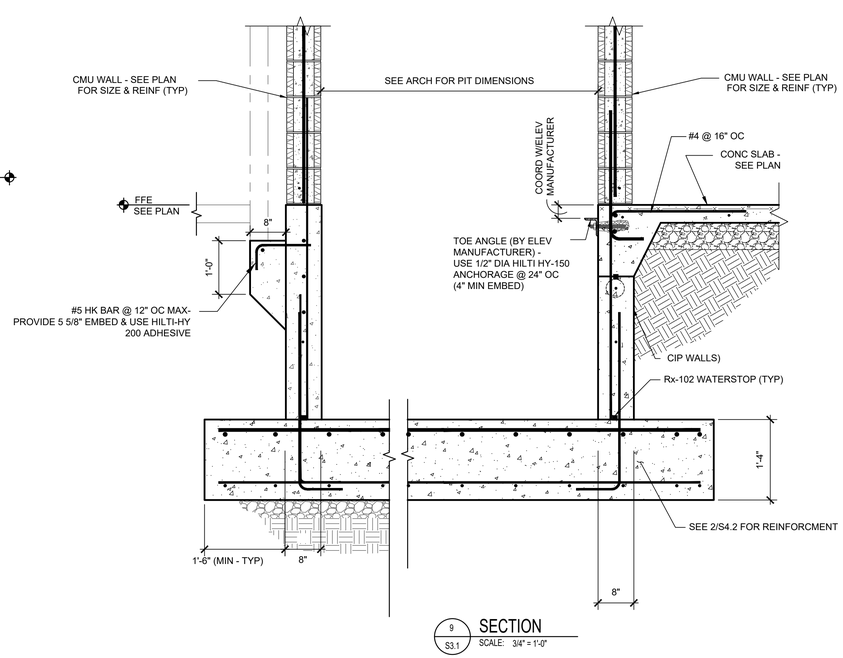


9 S3.1 SECTION
SCALE: 3/4" = 1'-0"

PROJECT NUMBER
23-021

DATE
12/1/2023

REVISIONS

NO.	DATE
ADD1	03/20/24

FACILITY CODE
000-0000

KRH ARCHITECTS
INCORPORATED
855 ABUTMENT ROAD
SUITE FOUR
DALTON, GA 30721
TEL. 706.529.5895

A NEW BUILDING FOR:
DALTON POLICE DEPARTMENT
WHITFIELD COUNTY
DALTON, GA 30720

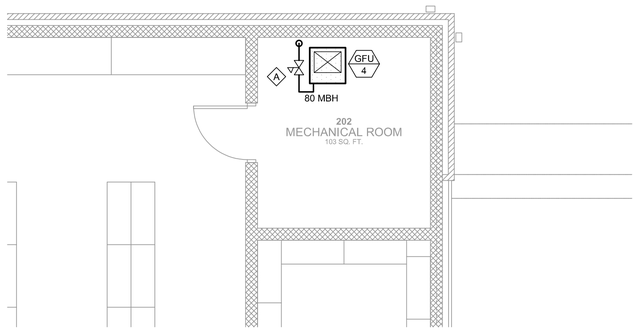
GEORGIA REGISTERED No. PEC000054 STRUCTURAL ENGINEER WILLIAM JOHN PELTIER
12/1/2023

SHEET INDEX

SECTIONS &
DETAILS

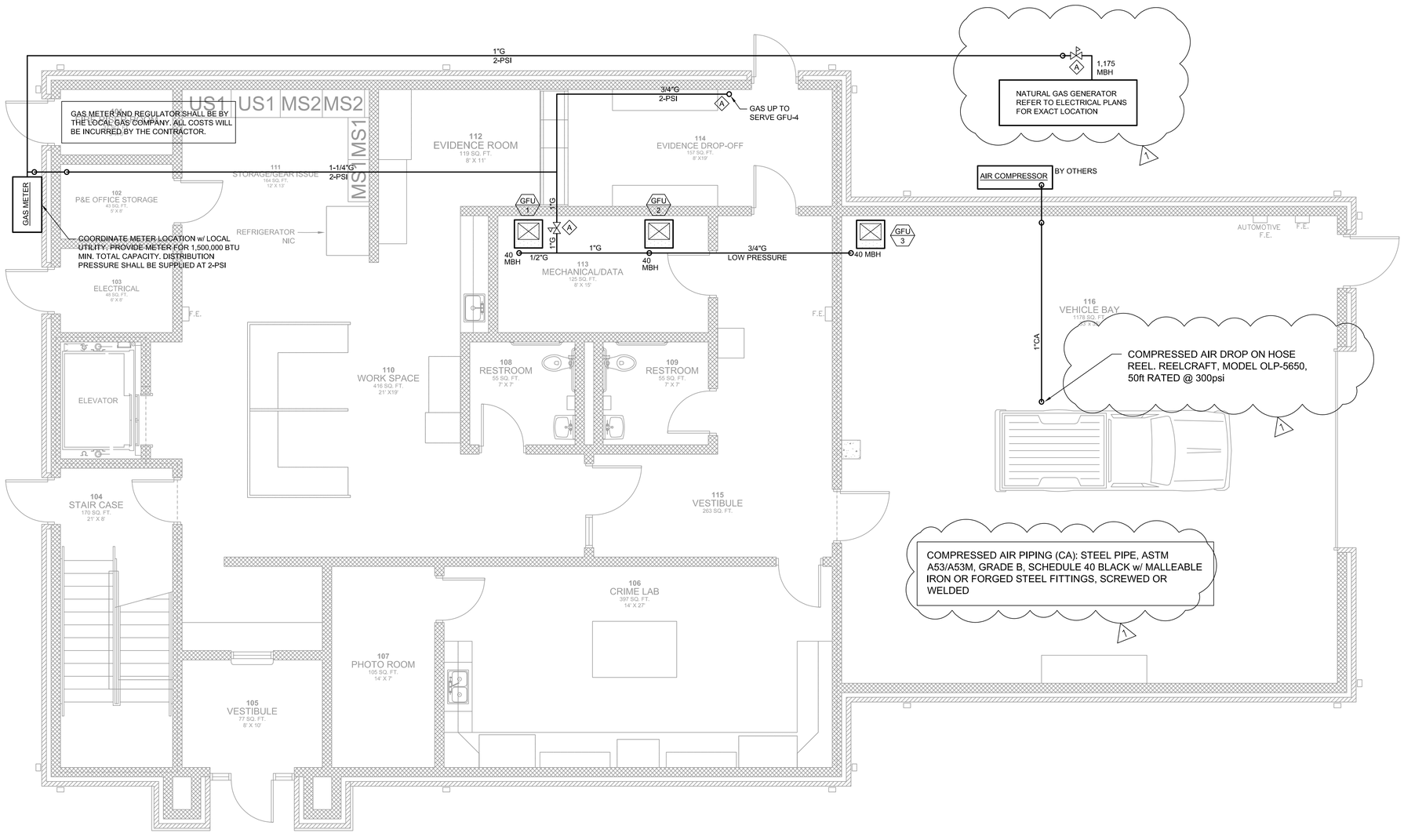
SHEET INDEX

S3.1



LEVEL 2 - NATURAL GAS PIPING PLAN

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



LEVEL 1 - NATURAL GAS & COMPRESSED AIR PLAN

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

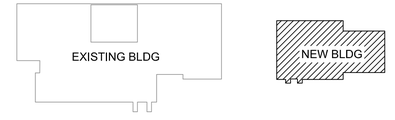
KEY NOTES

A. PROVIDE APPLIANCE REGULATOR RATED FOR CFH NOTED ON EQUIPMENT

GENERAL CONSTRUCTION NOTES

1. GAS METER TO BE COORDINATED w/ LOCAL UTILITY. ALL INSTALLATION SHALL BE PER PLANS UNLESS CONFLICTING w/ LOCAL UTILITY. LOCAL UTILITY REQUIREMENTS SHALL SUPERCEDE.
2. ALL GAS PIPING SHALL BE ROUTED CONCEALED EXCEPT IN STORAGE ROOM & MECHANICAL ROOMS.

KEY PLAN



FOR CONSTRUCTION

PROJECT NUMBER
23-021

DATE
12/05/23

REVISIONS

NO.	DATE
Addendum #1	03/20/24

FACILITY CODE
000-0000

KRH ARCHITECTS INCORPORATED
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A NEW BUILDING FOR:
DALTON POLICE DEPARTMENT
WHITFIELD COUNTY
DALTON, GA 30720

GEORGIA REGISTERED PROFESSIONAL ENGINEER
J. Kyle Cox
5 Dec 2023
J. KYLE COX

SHEET NAME

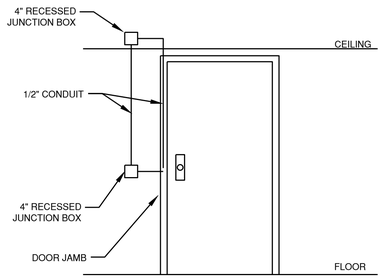
NEW FACILITY NATURAL GAS & COMPRESSED AIR PIPING PLANS

SHEET INDEX

P3.1

LOW VOLTAGE GENERAL NOTES:

A. ELECTRICAL CONTRACTOR TO CONTRACT WITH LICENSED LOW VOLTAGE CONTRACTOR TO PROVIDE ALL LOW VOLTAGE CABLING, RACEWAY, JUNCTION BOXES, AND DATA PLATES. PROVIDE ALL TERMINATIONS AND CABLE LABELING.
B. EACH DATA DROP SHOWN SHALL CONSIST OF (2) CAT6A CABLES AND DUAL PORT DATA PLATE. ROUTE CABLES TO IT ROOM.
C. EACH CAMERA AND WIRE ACCESS POINT (WAP) ARE TO HAVE (1) CAT6A DATA CABLE INSTALLED AND ROUTED BACK TO THE IT ROOM.
D. ALL LOW VOLTAGE CABLING ABOVE CEILING SHALL BE ROUTED ALONG CORRIDORS ON J-HOOKS. ELECTRICAL CONTRACTOR TO PROVIDE J-HOOKS AND INSTALL PER CITY DIRECTION. ACROSS OPEN CEILINGS, CONTRACTOR IS TO PROVIDE 4" PANDUIT TYPE CABLE TRAY HANGING FROM STRUCTURE.
E. ELECTRICAL CONTRACTOR TO PROVIDE 12-PAIR FIBER BETWEEN BUILDINGS AND TERMINATE EACH FIBER. SEE NOTE 6 FOR CONDUIT INFORMATION AND TERMINATION POINTS.
F. EACH KEY PAD LOCATION SHALL HAVE (2) CAT6A DATA CABLES INSTALLED, TERMINATED, AND ROUTED TO IT ROOM.
G. ALL CAT6A AND FIBER CABLES ARE TO BE TESTED AND CERTIFIED BY LOW VOLTAGE CONTRACTOR.
H. ALL CAT6A CABLE IS TO BE TERMINATED AT PATCH PANEL AND LABELED ON BOTH ENDS OF THE CABLE. PROVIDE TYPED-WRITTEN NUMBER AT EACH DATA PORT IDENTIFYING THE CABLE NUMBER WITH ADHESIVE LABEL.
I. SEE SHEET E7.0 FOR TABLES LISTING EQUIPMENT PROVIDED AND INSTALLED BY EC, EQUIPMENT PROVIDED BY DALTON AND INSTALLED BY EC, AND DALTON PROVIDED AND INSTALLED EQUIPMENT.



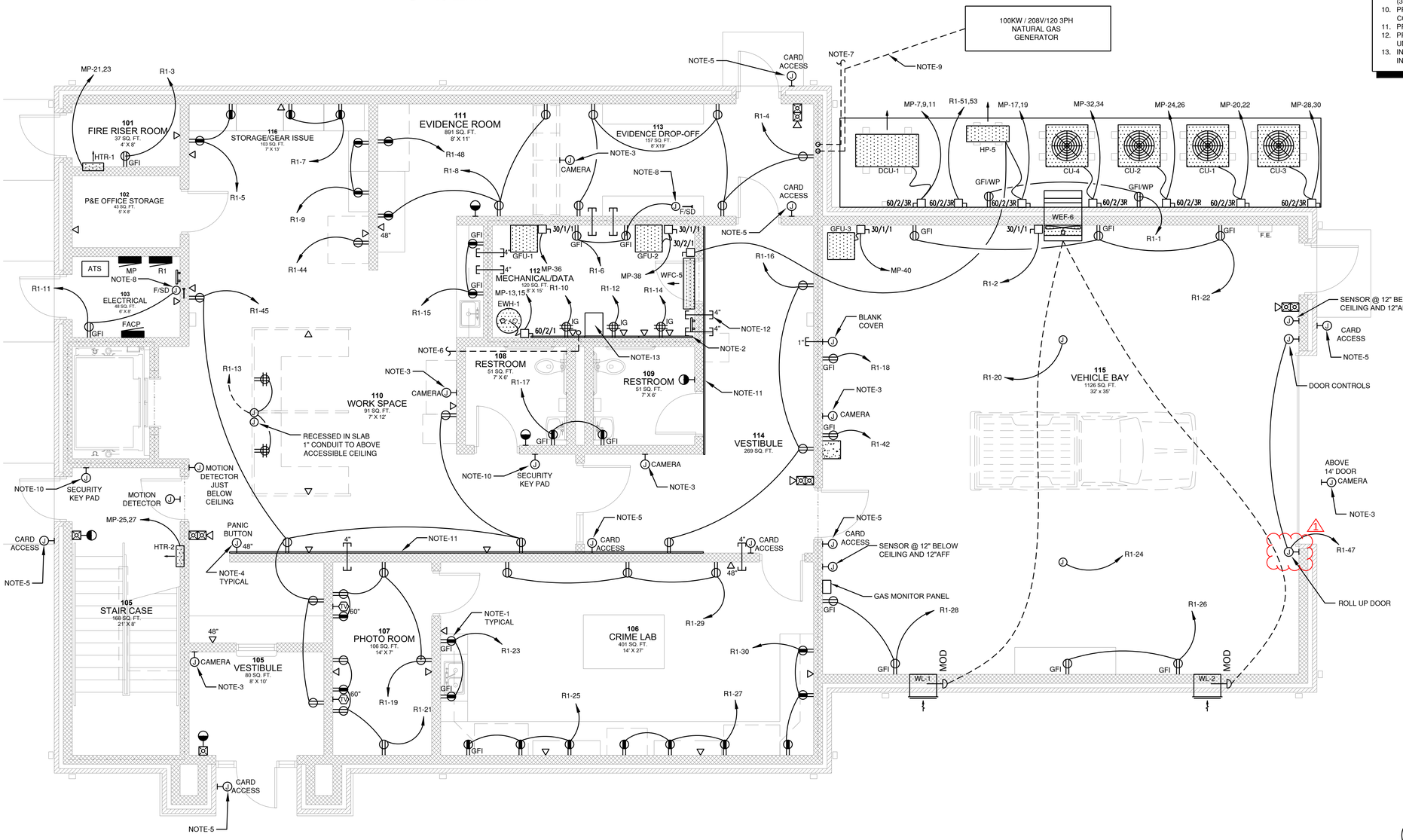
3 CARD ACCESS AT DOORS
SCALE: NTS

FLOOR PLAN GENERAL NOTES:

A. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL MECHANICAL AND PLUMBING EQUIPMENT ELECTRICAL REQUIREMENTS WITH THOSE CONTRACTORS ON EQUIPMENT PURCHASED AS IT MAY DIFFER FROM THESE PLANS. PROVIDE MANUFACTURE'S RECOMMENDED FEEDER, OVERCURRENT PROTECTION, AND DISCONNECT FOR EQUIPMENT PURCHASED WITH NO ADDITIONAL COST TO THE OWNER.
B. ALL 15A/20A RECEPTACLES IN KITCHENS, FOOD PREP AREAS, RESTROOMS, OR ON EXTERIOR SHALL BE GFCI TYPE. GFCI RECEPTACLES SHALL BE INSTALLED IN ACCORDANCE WITH NEC ARTICLE 210.8 AND BE READILY ACCESSIBLE. FOR EQUIPMENT THAT WOULD HAVE TO BE MOVED TO RESET THE RECEPTACLE PER THE NEC DEFINITION, A GFCI BREAKER SHALL BE UTILIZED IN LIEU OF A RECEPTACLE.
C. COORDINATE WITH OWNER/ARCHITECT ON DEVICE/PLATE COLOR THROUGHOUT SUITE PRIOR TO PURCHASE OR INSTALLATION. CONFIRM ALL MOUNTING HEIGHTS AND LOCATIONS.
D. NOTE RECEPTACLES WITH ISOLATED GROUND (IG). PROVIDE ISOLATED GROUND RECEPTACLE AND ADDITIONAL INSULATED GREEN GROUND CONDUCTOR WITH YELLOW STRIPE BACK TO DISTRIBUTION PANEL GROUND BAR.
E. PROVIDE FIRE CAULKING AROUND ANY THROUGH WALL PENETRATION OF FIRE RATED WALLS.

FLOOR PLAN KEY NOTES:

1. EACH RECEPTACLE SHOWN AT COUNTER HEIGHT SHALL BE 44" ABOVE FINISHED FLOOR.
2. PROVIDE (3) 4' X 8' X 3/4" FIRE RESISTANT PLYWOOD BACKBOARD PAINTED GRAY FOR TELEPHONE SYSTEM. CONNECT #6 AWG, INSULATED, STRANDED, COPPER GROUND WIRE FROM TELEPHONE SYSTEM TO GROUND BUS AT MAIN PANEL. ROUTE (2) - 2" PVC CONDUITS BELOW GRADE TO ADJACENT BUILDING. PROVIDE PULL STRING, AND CAP BOTH ENDS. COORDINATE WITH SERVICE PROVIDER AND OWNER ON EXACT REQUIREMENTS.
3. PROVIDE RECESSED 4" JUNCTION BOX IN WALL JUST BELOW FINISHED CEILING AND 3/4" CONDUIT STUBBED TO ABOVE ACCESSIBLE CEILING FOR CAMERA BY OTHERS. COORDINATE WITH OWNER ON LOCATION AND MOUNTING HEIGHT. EC TO INSTALL CAMERA.
4. PROVIDE 4" RECESSED JUNCTION BOX AND 3/4" CONDUIT STUBBED TO ABOVE CEILING FOR PANIC BUTTON MY OTHERS. COORDINATE WITH OWNER ON LOCATION AND MOUNTING HEIGHT. EC TO INSTALL BUTTON.
5. PROVIDE 4" RECESSED JUNCTION BOX FOR CARD ACCESS FOR DOOR, STUB 1/2" CONDUIT TO BE ACCESSIBLE CEILING. PROVIDE ALL NECESSARY CONNECTIONS FOR MAG LOCK. SEE DETAIL 3 THIS SHEET FOR REQUIREMENTS.
6. PROVIDE 2" CONDUIT FROM MECH/IT ROOM 112 OUT OF BUILDING BELOW GRADE TO ADJACENT BUILDING. CONDUIT WILL BE ROUTED ABOVE CEILING TO THE EXISTING CORRIDOR J-HOOK LOCATION. COORDINATE WITH OWNER ON CONDUIT ROUTING AND TERMINATION. PROVIDE 12-PAIR FIBER OPTIC CABLE FROM IT ROOM TO IT ROOM IN ADJACENT BUILDING. ALL CONDUIT BENDS SHALL BE WIDE SWEEP TYPE FOR FIBER CABLING.
7. PROVIDE 1-1/2" CONDUIT FROM BUILDING BELOW GRADE TO PERIMETER FENCE. STUB UP AT FENCE, CAP BOTH ENDS, AND PROVIDE PULL STRING.
8. PROVIDE CONNECTION FROM FIRE ALARM SYSTEM TO FIRE/SMOKE DAMPER. PROVIDE 120V FROM NEAREST RECEPTACLE AS REQUIRED.
9. PROVIDE 1" CONDUIT BELOW GRADE TO GENERATOR FROM IT ROOM ALONG WITH (3) CAT6 CABLES FOR COMMUNICATION.
10. PROVIDE 4" RECESSED JUNCTION BOX FOR SECURITY KEY PAD, STUB 3/4" CONDUIT TO BE ACCESSIBLE CEILING. PROVIDE ALL NECESSARY CONNECTIONS.
11. PROVIDE J-HOOKS 6" ABOVE FINISHED CEILING ALONG WALL EVERY 24".
12. PROVIDE 4" SLEEVES THROUGH WALL FOR LOW VOLTAGE CABLING TYPICAL UNLESS NOTED OTHERWISE. SLEEVE TO BE LOCATED ABOVE FINISHED CEILING.
13. INSTALL KENDALL HOWARD ENCLOSED 6U V-RACK. PROVIDE PATCH PANEL AND INSTALL VERTICALLY IN THE RACK. RACK IS BY OWNER.



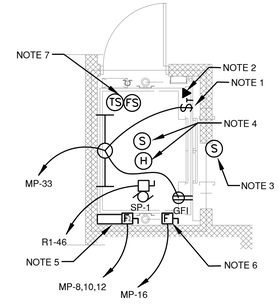
1 ELECTRICAL FIRST FLOOR - FLOOR PLAN
SCALE: 1/4" = 1'-0"

ELEVATOR GENERAL NOTES:

A. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL ELEVATOR SYSTEM REQUIREMENTS AND TO WIRE ACCORDINGLY. VERIFY LOCATIONS OF ALL EQUIPMENT, VERIFY OVERCURRENT PROTECTION, WIRING, AND DISCONNECT REQUIREMENTS, AND PROVIDE AS REQUIRED.
B. LIGHT LEVELS AT THE PIT FLOOR SHALL BE 10 FOOT CANDLES. LIGHT LEVELS AT THE MACHINE EQUIPMENT SPACE SHALL BE 19 FOOT CANDLES. CONTRACTOR TO LOCATE LIGHTING ACCORDINGLY AND PROVIDE ADDITIONAL FIXTURES AS REQUIRED TO MEET THESE REQUIREMENTS.
C. NOTE THE ELEVATOR DOES NOT UTILIZE A MACHINE ROOM.

ELEVATOR KEY NOTES:

1. LOCATE LIGHT SWITCH 42" ABOVE THE SEAL PLATE ADJACENT TO THE LADDER AND ACCESS DOOR.
2. PROVIDE TELEPHONE CABLE FROM TTB IN 3/4"C. UP HOISTWAY TO TERMINATION POINT FOR THE ELEVATOR, AS REQUIRED.
3. PROVIDE WIRING FROM A NORMALLY CLOSED SET OF CONTACTS FROM ALL HEAT DETECTORS ADJACENT TO ELEVATOR DOORS, THE SMOKE DETECTOR OUTSIDE THE ELEVATOR DOORS, AND THE SMOKE DETECTOR AT THE TOP OF THE ELEVATOR SHAFT, TO A POINT IN THE ELEVATOR CONTROLLER AS DESIGNATED BY THE ELEVATOR MANUFACTURER.
4. LOCATE SMOKE DETECTOR, HEAT DETECTOR, AND FLOW SWITCH AT TOP ELEVATOR SHAFT.
5. PROVIDE LOCKABLE DISCONNECT SWITCH WITH CURRENT-LIMITING RK-1 FUSES, SIZED PER THE MANUFACTURER'S RECOMMENDATIONS, FOR THE ELEVATOR MOTE. PROVIDE FLEXIBLE CONNECTION TO THE CONTROLLER MOTOR TERMINALS. PROVIDE WIRING SIZED FOR THE DISCONNECT SWITCH FUSE AMP RATING. COORDINATE LOCATION OF DISCONNECT SWITCH WITH ELEVATOR CONTRACTOR. REFER TO EQUIPMENT WIRING SCHEDULE FOR FURTHER INFORMATION.
6. PROVIDE LOCKABLE 30A/1P/15AF DISCONNECT SWITCH FOR POWER TO ELEVATOR CAB LIGHT, RECEPTACLES, AND VENTILATION. COORDINATE LOCATION OF DISCONNECT SWITCH WITH ELEVATOR CONTROLLER.
7. VERIFY EXACT LOCATION AND REQUIRED QUANTITIES OF TAMPER AND/OR FLOW SWITCH.



2 ELEVATOR PLAN
SCALE: 1/4" = 1'-0"

FOR CONSTRUCTION

PROJECT NUMBER
23-021

DATE
12/01/23

REVISIONS

NO.	DATE
Add1	03/20/24

FACILITY CODE
000-0000

GEORGIA REGISTERED No. 38150 PROFESSIONAL ENGINEER ANDREW N. LUKOFF

855 ABUTMENT ROAD
SUITE FOUR
DALTON, GA 30721
TEL. 706.529.5895

A NEW BUILDING FOR:
DALTON POLICE DEPARTMENT
WHITFIELD COUNTY
DALTON, GA 30720

SHEET INDEX
ELECTRICAL FIRST FLOOR - FLOOR PLAN

SHEET INDEX
E5.0

SECTION 12365 - LABORATORY WORKSURFACES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Epoxy resin worksurfaces and accessories.
2. Setting materials.

1.2 REFERENCES

A. ASTM International (ASTM):
1. D570 - Standard Test Method for Water Absorption of Plastics.
2. D635 - Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plasticsin a Horizontal Position.
3. D648 - Standard Test Method for Deflection Temperature of Plastics Under Flexural Oad in edgewise Position.
4. D695 - Standard Test Method for Compressive Properties of Rigid Plastics.
5. D696 - Standard Test Method for Coefficient of Linear Thermal Expansion of Plastics Between 30^0 C and 30^0 C With a Vitreous Silica Dilatometer.
6. D785 - Standard Test Method for Rockwell Hardness of Plastics and Electrical Insulating Materials.
7. D790 - Standard Test Method for Flexural Properties of Unreinforced and Reinforced Plasticsand Electrical Insulating Materials.
8. D792 - Standard Test Method for Density and Specific Gravity (Relative Density) of Plastics by Displacement.
9. D3801 - Standard Test Method for Measuring the Comparative Burning Characteristics ofSolid Plastics in a Vertical Position.
10. E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

1.3 SUBMITTALS

A. Submittals for Review:
1. Shop Drawings:
a. Submit plan, section, elevation and perspective drawings necessary to describe and convey layout, profiles, and product components, including edge conditions, joints, fitting and fixture locations, anchorage, accessories, and finish colors.
b. Verify actual measurements/openings by field measurements before fabrication; show recorded measurements on Shop Drawings.
c. Coordinate field measurements and fabrication schedule with construction progress to avoid construction delays.
2. Product Data: Manufacturer's data sheets on each product to be used, including:
a. Preparation instructions and recommendations.
b. Storage and handling requirements and recommendations.
c. Installation methods.
3. Samples:
a. Selection samples: For each finish product specified, submit complete set of color chips representing manufacturer's full range of standard colors.
b. Verification samples: For each finish product specified, submit samples representing actual product color; supplied product color and gloss may vary slightly from suppliedsamples.

B. Quality Control Submittals:
1. Test Reports: Certified test reports or recognized evaluation reports showing compliancewith specified performance characteristics and physical properties.

C. Closeout Submittals:
1. Maintenance Data:
a. Provide maintenance, cleaning, and life cycle information.
b. Include recommended cleaning materials and procedures, and list of materialsdetrimental to epoxy resin.

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications:
1. Primary products furnished by single manufacturer with minimum 10 years documented experience in work of this Section.
2. Products manufactured in ISO 9001 certified facility.

B. Installer Qualifications: Minimum 5 years documented experience in work of thisSection.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Delivery:
1. Use pallets larger than sheets during transportation.
2. Package materials to prevent damage during shipping and handling.

B. Storage:
1. Store products in enclosed area protected from ultraviolet.
2. Store products in manufacturer's unopened packaging until ready for installation.
3. Store panels using protective dividers to avoid damage tosurfaces.
4. For horizontal storage, store sheets on pallets of equal or greater size than sheets withprotective layer between pallet and sheet and on top of uppermost sheet.
5. Do not store sheets or fabricated panels vertically.

C. Handling:
1. If protective film is provided, do not remove until panel has been installed.
2. Handle sheets to prevent damage.
3. Remove stickers immediately after installation.

1.6 PROJECT CONDITIONS

A. Do not install products under environmental conditions outside manufacturer's limits.

B. Avoid direct exposure of products to sunlight.

C. Do not use worksurfaces as bench, ladder, or seating.

PART 2 PRODUCTS

2.1 MATERIALS

A. Solid Epoxy Resin:

1. Sheets cast from modified epoxy resin and non-asbestos inert fillers; compounded mixture cured and thermoset specifically from formulation to provide exceptional physical and chemical resistance required in medium to heavy duty laboratory environments.

2. Color: Black Onyx.

3. Basis of Design – ChemTops by Onepointe Solutions.

2.2 FABRICATION

A. Fabricated tops and accessories in accordance with manufacturer's recommendations, approved Shop Drawings, and SEFA 3.

B. Epoxy Resin Worksurfaces:
   1. Thickness:
      a. 1 inch (25 mm)
      b. Check each sheet at factory for required thickness.
      c. Maximum variation in thickness: plus or minus 1/16 inch (1.6 mm) from corner to corner.
   2. Warpage:
      a. Inspect tops for warpage prior to fabrication by placing on true flat surface.
      b. Maximum allowable warpage: 1/16 inch (1.5 mm) in 36 inch (900 mm) span or 3/16 inch (4.5 mm) in 96 inch (2400 mm) span.
   3. Fabrication:
      a. Shop fabricate in longest practical lengths.
      b. Bond joints with highly chemical resistant cement with properties and color similar to base material.
      c. Provide 1/8 inch (3 mm) drip groove at underside of exposed edges, set back 1/2 inch (13 mm) from face.
      d. Finish exposed edges.
   4. Fabricate tops flat with 1/4 inch raised marine edge at epoxy sink locations.
   5. Edge treatment: Standard 1/8 inch chamfered edge.
   6. Corner treatment: exposed corners shall be eased slightly for safety.
   7. Back and end splashes:
      a. Supplied loose for field installation.
      b. Same material and thickness as worksurfaces.
      c. 4 inches high.
      d. Top-mounted end splash where worksurfaces abut adjacent construction at and locations indicated on Drawings.
   8. Joints: Maximum 1/8 inch , bonded with epoxy grout.
   9. Make joints between two benches level.
   10. Locate joints away from sinks and over or near supports.
   11. Sink cutouts: Routed for undermount sink and drainboards.
   12. Allowable tolerances:
      a. Square: Plus or minus 1/64 inch (0.4 mm) for each 12 inches (300 mm) of length.
      b. Location of cutouts and drilled openings: Coordinate with required openings.
      c. Size of cutouts and drilled openings: Plus or minus 1/8 inch.

C. Epoxy Resin Sinks:
   1. See Plumbing fixture schedule. Coordinate opening.

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation until cabinets have been installed.

B. Confirm that surfaces to receive tops are plumb and level, with maximum deflection of 1/4 inch (6 mm) in 20 feet (6 m).

3.2 PREPARATION

A. Clean surfaces just prior to installation.

B. Prepare surfaces using methods recommended by manufacturer.

3.3 INSTALLATION

A. Install in accordance with manufacturer's instructions and approved Shop Drawings.

B. Install tops plumb and level.

C. Scribe to adjacent surfaces in accordance with manufacturer's recommendations.

D. Fasten tops to supporting construction with adhesives appropriate for use with adjoining construction and as recommended by manufacturer.

E. Form field joints using manufacturer's recommended adhesive. Form joints to be inconspicuous and nonporous.

3.4 PROTECTION

A. Protect installed products until completion of Project.

B. Touch up, repair, or replace damaged products.

END OF SECTION

A New Building for Dalton Police Department

Answers to Contractor's Questions - Addendum #1

1. Is the General Contractor responsible for the Low Voltage of the project? Such as: Access Control, Data, Security Cameras. **Answer: The Low Voltage requirements are indicated on the Electrical Drawings.**

2. Is there going to be a Drawing that comes out for the labels on the Demolition in the Existing. On page A1.8. **Answer: Yes. Please see sheet A1.8 in addendum No.1. Room labels have been added.**

3. The finish schedule on drawing A8.1 shows Workout Room 220A is to receive resilient athletic flooring and rubber base and the Simulation Room 220B is to receive LVT and rubber base. I have not been able to locate these rooms on the Second Floor Plan. Please advise. **Answer: These spaces are in the existing building. Please see sheet A1.8 in addendum No.1. Room labels have been added.**

4. Drawing P3.1 shows a compressed air line running overhead in the vehicle bay. What is the spec for the air piping? **Answer: Compressed Air Piping (CA): Steel Pipe: ASTM A53/A53M, Grade B, Schedule 40 Black with malleable iron or forged steel fittings, screwed or welded.**

5. What is the model number for the hose reel in the vehicle bay? All Reelcraft hose reels are Model OLP. Can you please provide the specific model number? **Answer: Reelcraft OLP-5650 – 3/8" x 50 ft.**
6. The specs are calling out a 20-year NDL Warranty for the small amount of TPO roofing (around 43 SF). The Warranty minimum will be more than the roof cost, so I am not sure they would want that. Can you find out if they really want that Warranty? **Answer: This area has been changed to a mechanically seamed, standing seam roof.**

7. That Metal Panel is Specifically need for this project? **Answer: Yes. Please see note 3 on A2.1 and Section 07410 – Composite Metal Panels.**

8. On the specification pdf, it states that Otis is the approved installer, however one of my elevator subs ask if they can bid this with their own elevator brand or as an independent? **Answer: Yes. Please see section 00030 for substitution requests.** Follow-up Question: In addition to question one: Can the hoistway dimension be stretched a couple inches to fit the car we are quoting; drawings attached. **Answer: The hoistway dimensions can be adjusted to meet the requirements of any approved manufacturer.**

9. On A5.1, on the Room Finish Schedule, it lists a workout room and a simulation room, but it isn't shown on the floor plan; please advise? **Answer: These spaces are in the existing building. Please see sheet A1.8 in addendum No.1. Room labels have been added.**

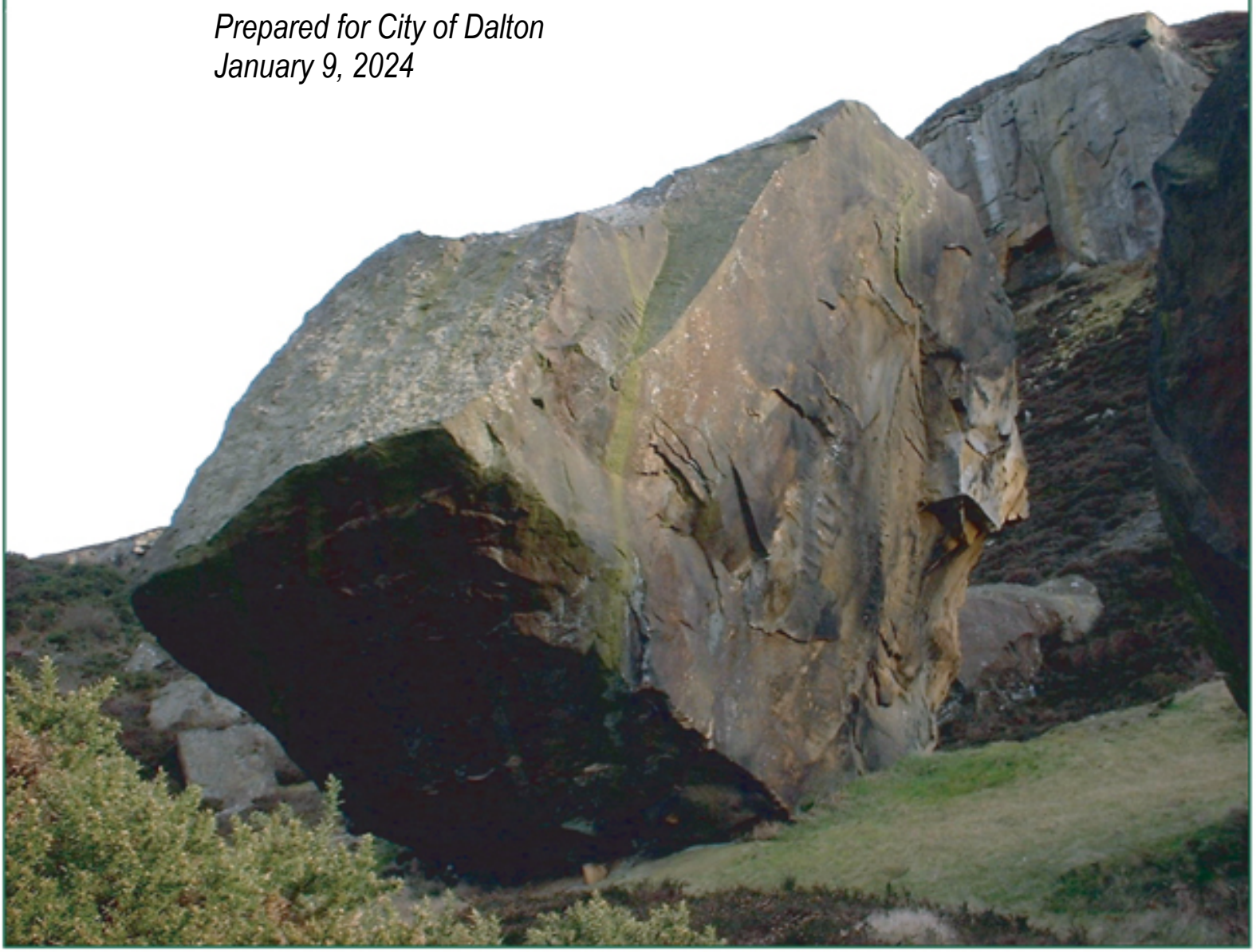
10. Is the countertop material Corian/solid surface? Could not find where it specified. **Answer: See Section 12304 2.8 H and SECTION 12365 - LABORATORY WORKSURFACES. All countertops located in the Crime Lab (Room 106) and the Vehicle Bay (Room 116) Shall receive Laboratory Worksurfaces (Section 12365). All other countertops to be solid surfaces (Section 12304 2.8 H).**

GEO HYDRO ENGINEERS

Report of Subsurface Exploration and Geotechnical Engineering Evaluation

New Dalton Police Department Building
301 Jones Street
Dalton, Georgia
Geo-Hydro Project Number 232838.20

Prepared for City of Dalton
January 9, 2024



Mr. Andrew Parker, P.E.
City of Dalton
300 West Waugh Street
Dalton, Georgia 30722

January 9, 2024

Report of Subsurface Exploration
and Geotechnical Engineering Evaluation
New Dalton Police Department Building
301 Jones Street
Dalton, Georgia
Geo-Hydro Project Number 232838.20

Dear Mr. Parker:

Geo-Hydro Engineers, Inc. has completed the authorized subsurface exploration for the above referenced project. The scope of services for this project was outlined in our proposal number 231838.P0 dated November 30, 2023.

PROJECT INFORMATION

The Dalton Police Department is located at 301 Jones Street in Dalton, Georgia. Figure 1 in the Appendix shows the approximate site location.

The planned construction consists of a new one-story police department building to be located directly north of the existing Dalton Police Department building. We expect the building to be a masonry structure with a concrete slab-on-grade floor. The site plan provided to us also shows a new retaining wall west of the new building with a maximum height of 5 feet. At the time of this report, we have not been provided structural loading information for the project. Based on our experience with similar projects, we have assumed that column loads will not exceed 50 kips with wall loads no greater than 3 kips per lineal foot.

The project area is a grassed lot directly north of the existing police department building. The annotated aerial photograph below shows current site conditions. The ground surface within the construction area slopes down from west to east with about 10 feet of vertical relief across the project area. We expect site grading to involve about 5 feet of mass excavation and structural fill placement.

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GEO HYDRO ENGINEERS

EXPLORATORY PROCEDURES

The subsurface exploration consisted of six soil test borings performed at the approximate locations shown on Figure 2 included in the Appendix. The test borings were located in the field by Geo-Hydro using a handheld GPS unit with preloaded coordinates and by measuring angles and distances from existing site features. The ground surface elevations shown on the test boring records were interpolated from the *Preliminary Site Plan* (sheet C1) dated October 26, 2023, prepared by KRH Incorporated Architects. The elevation data is not certified as correct by this engineer and users of the data do so at their own risk. In general, the boring locations and elevations should be considered approximate.

Standard penetration testing, as provided for in ASTM D1586, was performed at select intervals in the machine-drilled soil test borings. Soil samples obtained from the drilling operation were examined and classified in general accordance with ASTM D2488 (Visual-Manual Procedure for Description of Soils). Soil classifications include the use of the Unified Soil Classification System described in ASTM D2487 (Classification of Soils for Engineering Purposes). The soil classifications also include our evaluation of the geologic origin of the soils. Evaluations of geologic origin are based on our experience and interpretation and may be subject to some degree of variation.

Descriptions of the soils encountered, groundwater conditions, standard penetration resistances, and other pertinent information are provided in the test boring records included in the Appendix.

REGIONAL GEOLOGY

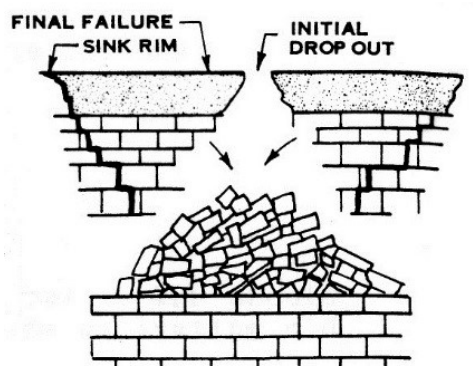
The project site is located in the Appalachian Valley and Ridge Province of Georgia. Based on review of geologic maps, it appears that the site is underlain by a geologic unit known as the Chickamauga Group. This formation includes sedimentary rocks such as sandstone and limestone.

The soils which form from the weathering of the parent rock are termed residual soils. Residual soils derived from limestone or shale are frequently clayey and may be highly plastic. Residual soils typically contain fragments of insoluble rock such as chert.

Solution activity within limestone and dolomite units occurs in the Valley and Ridge Province, particularly along joints, faults, and the bedding planes of the rock. Solution activity in areas where limestone and dolomite units are present directly under the overburden soils often results in the development of an extremely irregular rock surface that frequently has deep slots. The transition from soil to hard rock is generally rather abrupt, with the soils encountered immediately above the rock frequently having a much lower consistency than near the ground surface.

Solution activity can result in the formation of caverns within the limestone or dolomite, and the development of sinkholes and cavities within the overburden soils. Even in areas where deeper limestone or dolomite formations are overlain by shale or sandstones, a rock cavity collapse can occur within the

upper rock unit. The adjacent figure[1] illustrates a rock cavity collapse and the subsequent propagation of a void upward through the overburden soils to the surface.



Depending upon the stage of development of sinkholes, evidence of ground subsidence may be readily observable at the ground surface, or essentially no indication of impending sinkhole development may be present at the ground surface. The size and frequency of subsurface voids is highly variable and depends on several factors related to geology, climate, and man-induced conditions. The stability of subsurface voids is related not only to the structural characteristics of the subsurface void; but also to proposed site grading, the magnitude of structural loads, significant changes in groundwater levels, drought, and any number of other factors. No obvious signs of sinkhole formation were observed during our work on site.

Stream valleys and areas adjacent to rivers and streams may contain alluvial (water-deposited) soils, depending on ground surface topography, stream flow characteristics, and other factors. By nature, alluvial soils can be highly variable depending upon the energy regime at the time of deposition. Coarse materials such as sand or gravel are deposited in higher energy environments, while fine grained materials such as silt and clay are deposited in low energy environments. Alluvial soils may also contain significant organic materials, and are frequently encountered in a loose, saturated condition. In many cases, fine-grained alluvial soils will be highly compressible and have relatively low shear strength.

Overall geologic conditions at the project site have been modified by previous construction activities.

SOIL TEST BORING SUMMARY

Starting at the ground surface, all borings initially encountered about 3 to 6 inches of topsoil. Detailed measurements necessary for quantity estimation were not performed for this exploration. For planning purposes, we recommend assuming a surface material thickness of at least 8 inches to account for shallow root zones.

Below the topsoil, all borings encountered fill materials extending to depths of about 3 to 6 feet. The fill was classified as clayey sand and sandy clay. Standard penetration test resistances recorded in the fill ranged from 4 to 15 blows per foot.

Beneath fill materials, all borings encountered residual soils typical of the Valley and Ridge Region. The residual soils were classified as clayey silt, sandy clay, clayey sand, or silty clay with varying amounts of rock fragments. Standard penetration test resistances recorded in the residual soils ranged from 7 to 42 blows per foot.

[1] *Correction and Protection in Limestone Terrane*, George F. Sowers, Proceedings of the First Multidisciplinary Conference on Sinkholes, Orlando, Florida, 1984.

Groundwater was not encountered in the test borings at the time of drilling. It is important to note that stabilized groundwater levels are typically higher than those measured at the time of drilling. It should also be noted that groundwater levels will fluctuate depending on yearly and seasonal rainfall variations and other factors and may rise in the future.

For more detailed descriptions of subsurface soil conditions, please refer to the test boring records included in the Appendix.

Summary of Subsurface Conditions

Boring	Ground Surface Elevation	Bottom of Fill Material		Groundwater*		Top of PWR		Auger Refusal		Boring Termination	
		Depth (feet)	Elev.	Depth (feet)	Elev.	Depth (feet)	Elev.	Depth (feet)	Elev.	Depth (feet)	Elev.
D-1	777	3	774	NE	---	NE	---	NE	---	20	757
D-2	774	3	771	NE	---	NE	---	NE	---	20	754
D-3	778	3	775	NE	---	NE	---	NE	---	20	758
D-4	775	6	769	NE	---	NE	---	NE	---	20	755
D-5	779	6	773	NE	---	NE	---	NE	---	20	759
D-6	774	3	771	NE	---	NE	---	NE	---	20	754

All Depths and Elevations in this Summary Table are Approximate
NE: Not Encountered
PWR: Partially Weathered Rock
Elev.: Elevation
*Groundwater level measured at time of drilling

EVALUATIONS AND RECOMMENDATIONS

The following evaluations and recommendations are based on the information available on the proposed construction, the data obtained from the test borings, and our experience with soils and subsurface conditions similar to those encountered at this site. Because of the test borings represent a very small statistical sampling of subsurface conditions, it is possible that conditions different from those indicated by the test borings could be encountered during supplemental exploration and during construction.

Geotechnical Considerations

The following geotechnical characteristics of the site should be considered for planning and design:

- Neither partially weathered rock nor materials causing auger refusal were encountered in the test borings. The test borings indicate generally favorable excavation conditions. Residual soils and fill materials within the depths explored should be readily removable using conventional soil excavation equipment such as loaders and backhoes. It is important to note that the depth to rock or partially weathered rock may vary drastically over relatively short distances. It would not be unusual to encounter partially weathered rock, rock lenses, rock pinnacles, or boulders between or around the test borings.

- Based on the results of the soil test borings, residual soils and fill materials should be reusable as structural fill. Routine adjustments of moisture content will be required. It should be noted that fill materials are inherently variable, and some fill materials on site may not be suitable for reuse as structural fill.

- All borings encountered fill materials extending to depths ranging from about 3 to 6 feet. Based on the standard penetration resistances recorded in the fill, variable compactive effort was used at the time of fill placement. Variations within the fill should be expected, and poor-quality or loose fill may be encountered during construction. Proofrolling of subgrades and foundation bearing surface evaluations will be of particular importance on to help identify poor-quality or unstable fill. Any loose, unstable, or debris-laden fill material encountered during grading should be excavated and replaced with well-compacted structural fill.

- At the time of drilling, groundwater was not encountered in the test borings. Based on the results of the borings, we do not expect groundwater to be a major hindrance to design or construction. It is important to note that the groundwater levels recorded in the borings were measured at the time of drilling. Stabilized groundwater levels are typically higher than those measured at the time of drilling. Regardless of groundwater conditions, the contractor should be prepared to manage runoff during wet weather conditions, and subsurface drainage will be necessary behind all below-grade structures including foundation walls.

- Based on the results of the soil test borings, column loads not exceeding 50 kips, and wall loads no greater than 3 kips per lineal foot, and contingent upon proper site preparation and thorough evaluation of the foundation excavations, it is our opinion that the proposed building can be supported using

conventional shallow foundations and concrete slab-on-grade floors. Thorough evaluation of foundation excavations will be necessary to identify soft or loose soils within foundation excavations. Soft or weak soils within foundation excavations should be excavated and replaced with well-compacted, GDOT compliant graded aggregate base (GAB).

- For design purposes, we recommend an allowable bearing pressure of 3,000 psf. The footings should have a minimum width of 24 inches to prevent general bearing capacity failure, and should bear at least 18 inches below the prevailing ground surface to avoid potential problems due to frost heave.

- It is our opinion that the test borings performed for the project were not extended to a depth sufficient to characterize the upper 100 feet of the soil subsurface for the purposes of determining the seismic *Site Class* in accordance with the 2018 International Building Code (Chapter 20, ASCE 7-16). We recommend using a default *Site Class* of *D* as suggested in the code. The mapped and design spectral response accelerations are as follows: S_S=0.520, S_1=0.122, S_{DS}=0.480, S_{D1}=0.192.

The following sections provide recommendations regarding these issues and other geotechnical aspects of the project.

Existing Fill Materials

All borings encountered fill materials extending to depths ranging from about 3 to 6 feet. Variations within the fill should be expected, and poor-quality or loose fill material may be encountered during construction. There are several important facts that should be considered regarding existing fill materials and the limitations of subsurface exploration.

- The quality of existing fill materials can be highly variable, and test borings are often not able to detect all of the zones or layers of poor-quality fill materials.

- Layers of poor-quality fill materials that are less than about 2½ to 5 feet thick may often remain undetected by soil test borings due to the discrete-interval sampling method used in this exploration.

- The interface between existing fill materials and the original ground surface may include a layer of organic material that was not properly stripped off during the original grading. Depending on its relationship to the foundation and floor slab bearing surfaces, an organic layer might adversely affect support of footings and floor slabs. If such organic layers are encountered during construction, it may be necessary to "chase out" the organic layer by excavating the layer along with overlying soils.

- Subsurface exploration is simply not capable of disclosing all conditions that may require remediation.

General Site Preparation

Topsoil, roots, trees, hardscapes, mulch, and other deleterious materials should be removed from the proposed construction area. All existing underground utilities should be excavated and removed unless they are to be incorporated into the new construction. Additionally, site clearing, grubbing, and stripping should be performed only during dry weather conditions. Operation of heavy equipment on the site during wet conditions could result in excessive rutting and mixing of topsoil and debris with underlying soils. All excavations resulting from demolition of underground structures or from rerouting of underground utilities should be backfilled in accordance with the *Structural Fill* section of this report.

We recommend that areas to receive structural fill be proofrolled prior to placement of structural fill. Areas of proposed excavation should be proofrolled after rough finished subgrade is achieved. Proofrolling should be performed with multiple passes in at least two directions using a fully loaded tandem axle dump truck weighing at least 18 tons. Proofrolling should be avoided within 10 feet of the existing building and any hardscapes and utilities to remain. If low consistency soils are encountered that cannot be adequately densified in place, such soils should be removed and replaced with well compacted fill material placed in accordance with the *Structural Fill* section of this report. Proofrolling should be observed by Geo-Hydro to determine if remedial measures are necessary.

For budgeting purposes, we suggest considering that approximately 20 percent of the aggregate building and pavement footprints will require undercutting and recompaction or replacement extending to a depth of about 2 feet below current grades (fill areas) or below target subgrade elevation (cut areas). *The suggested stabilization approach is intended only as a tool to estimate a cost associated with ground stabilization. The need for, extent of, location, and optimal method of ground stabilization should be determined by Geo-Hydro at the time of construction based on actual site conditions. The extent and cost of ground stabilization may exceed the suggested budgetary estimate.*

During site preparation, burn pits or trash pits may be encountered. All too frequently such buried material occurs in isolated areas which are not detected by the soil test borings. Any buried debris or trash found during the construction operation should be thoroughly excavated and removed from the site.

Groundwater

At the time of drilling, groundwater was not encountered in any of the borings. Based on our understanding of the planned construction, we do not expect groundwater to be a major hindrance for design or construction.

Although groundwater is not expected to be a concern for site preparation and building construction, we must point out that groundwater levels vary and may rise in the future. Regardless of the groundwater conditions encountered in the borings, waterproofing and subsurface drainage is required for all retaining walls and building walls below grade.

Excavation Characteristics

Neither partially weathered rock nor materials causing auger refusal were encountered in the test borings. Based on the results of the borings, residual soils encountered within the depths explored should be readily removable with conventional earth moving equipment such as loaders and backhoes.

It is important to note that the depth to rock or partially weathered rock can vary quite drastically over relatively short distances. It would not be unusual for rock or partially weathered rock to occur at higher elevations between or around some of the soil test borings.

For construction bidding and field verification purposes it is common to provide a verifiable definition of rock in the project specifications. The following are typical definitions of mass rock and trench rock:

- Mass Rock: Material that cannot be excavated with a single-tooth ripper drawn by a crawler tractor having a minimum draw bar pull rated at 56,000 pounds (Caterpillar D-8K or equivalent), and occupying an original volume of at least one cubic yard.

- Trench Rock: Material occupying an original volume of at least one-half cubic yard which cannot be excavated with a hydraulic excavator having a minimum flywheel power rating of 123 kW (165 hp); such as a Caterpillar 322C L, John Deere 230C LC, or a Komatsu PC220LC-7; equipped with a short tip radius bucket not wider than 42 inches.

The foregoing definitions are based on large equipment typically utilized for mass grading. Subsequent excavations for building foundations, retaining walls, and underground utilities are often performed with smaller equipment such as rubber-tired backhoe/loaders or even mini-excavators. Contractors will often request additional payment for mobilizing larger equipment than that which was anticipated during preparation of their construction bid. The amount of additional compensation, if any, and the minimum equipment size necessary to qualify for any additional compensation should be defined before the start of construction.

Reuse of Excavated Materials

Based on the results of the test borings and our observations, residual soils and fill materials appear to be suitable for reuse as structural fill. However, it is possible that some fill materials will not be suitable for reuse. Geo-Hydro should observe the excavation of materials to evaluate their suitability for reuse. Routine adjustment of moisture content will be necessary to allow proper placement and compaction of excavated soils.

It is important to establish as part of the construction contract whether soils having elevated moisture content will be considered suitable for reuse. We often find this issue to be a point of contention and a source of delays and change orders. From a technical standpoint, soils with moisture contents wet of optimum as determined by the standard Proctor test (ASTM D698) can be reused provided that the moisture is properly adjusted to within the workable range. From a practical standpoint, wet soils can be very difficult to dry in small or congested sites and such difficulties should be considered during planning and

budgeting. A clear understanding by the general contractor and grading subcontractor regarding the reuse of excavated soils will be important to avoid delays and unexpected cost overruns.

Structural Fill

Materials selected for use as structural fill should be free of organic debris, waste construction debris, and other deleterious materials. The material should not contain rocks having a diameter over 4 inches. It is our opinion that the following soils represented by their USCS group symbols will typically be suitable for use as structural fill and are usually found in abundance in the Valley and Ridge Province: (SM), (ML), and (CL). The following soil types are typically suitable but are not abundant in the Valley and Ridge Province: (SW), (SP), (SC), (SP-SM), and (SP-SC). The following soil types are considered unsuitable: (OL), (OH), and (Pt).

Highly plastic silt or clay, (MH) or (CH) soils, should be used with extreme caution. Such soils will require protection against desiccation or inundation during the construction process. Soils which have a liquid limit greater than 60 and a plasticity index greater than 35 will require blending with less plastic materials to result in lower Atterberg limits.

Laboratory Proctor compaction tests and classification tests should be performed on representative samples obtained from the proposed borrow material to provide data necessary to determine acceptability and for quality control. The moisture content of suitable borrow soils should generally be no more than 3 percentage points below or above optimum at the time of compaction. Tighter moisture limits may be necessary with certain soils.

Suitable fill material should be placed in thin lifts. Lift thickness depends on the type of compaction equipment, but a maximum loose-lift thickness of 8 inches is generally recommended. The soil should be compacted by a self-propelled sheepsfoot roller. Within small excavations such as in utility trenches, around manholes, above foundations, or behind retaining walls, we recommend the use of "wacker packers" or "Rammax" compactors to achieve the specified compaction. Loose lift thicknesses of 4 to 6 inches are recommended in small area fills.

We recommend that structural fill be compacted to at least 95 percent of the standard Proctor maximum dry density (ASTM D698). The upper 12 inches of floor slab subgrade soils should be compacted to at least 98 percent of the standard Proctor maximum dry density. Additionally, the maximum dry density of structural fill should be no less than 90 pcf. Following Georgia DOT guidelines, the upper 12 inches of pavement subgrade soils should be compacted to at least 100 percent of the standard Proctor maximum dry density. Geo-Hydro should perform density tests during fill placement.

Earth Slopes

Temporary construction slopes should be designed in strict compliance with OSHA regulations. The exploratory borings indicate that within the likely excavation depths for this project, soil types B and C as defined in 29 CFR 1926 Subpart P will be encountered. Temporary construction slopes in residual soils above the groundwater level and no taller than 20 feet should be no steeper than 1H:1V. Temporary

construction slopes in any fill materials, or in any soil type below the groundwater level, should be no steeper than 1.5H:1V.

Temporary construction slopes should be closely observed on a daily basis by the contractor's "competent person" for signs of mass movement: tension cracks near the crest, bulging at the toe of the slope, etc. The responsibility for excavation safety and stability of construction slopes should lie solely with the contractor.

We recommend that extreme caution be observed in trench excavations. Several cases of loss of life due to trench collapses in Georgia point out the lack of attention given to excavation safety on some projects. We recommend that applicable local and federal regulations regarding temporary slopes and shoring and bracing of trench excavations be closely followed.

Formal analysis of slope stability was beyond the scope of work for this project. Based on our experience, permanent cut or fill slopes should be no steeper than 2H:1V to maintain long term stability and to provide ease of maintenance. The crest or toe of cut or fill slopes should be no closer than 10 feet to any foundation. The crest or toe should be no closer than 5 feet to the edge of any pavements. Erosion protection of slopes during construction and during establishment of vegetation should be considered an essential part of construction.

Earth Pressure (Cast-in-Place Structures)

Three earth pressure conditions are generally considered for retaining wall design: "at rest", "active", and "passive" stress conditions. Retaining walls which are rigidly restrained at the top and will be essentially unable to rotate under the action of earth pressure (such loading dock walls) should be designed for "at rest" conditions. Retaining walls which can move outward at the top as much as 0.5 percent of the wall height (such as free-standing walls) should be designed for "active" conditions. For the evaluation of the resistance of soil to lateral loads the "passive" earth pressure must be calculated. It should be noted that full development of passive pressure requires deflections toward the soil mass on the order of 1.0 percent to 4.0 percent of total wall height.

Earth pressure may be evaluated using the following equation:

$$p_h = K\,(D_w Z + q_s) + W_w(Z-d)$$

where: p_h = horizontal earth pressure at any depth below the ground surface (Z).
W_w = unit weight of water
Z = depth to any point below the ground surface
d = depth to groundwater surface
D_w = wet unit weight of the soil backfill (depending on borrow sources). The wet unit weight of most residual soils may be expected to range from approximately 115 to 125 pcf. Below the groundwater level, D_w must be the buoyant weight.
q_s = uniform surcharge load (add equivalent uniform surcharge to account for construction equipment loads)
K = earth pressure coefficient as follows:

Earth Pressure Condition	Coefficient
At Rest (K_o)	0.53
Active (K_a)	0.33
Passive (K_p)	2.8

The groundwater term, $W_w(Z-d)$, should be used if no drainage system is incorporated behind retaining walls. If a drainage system is included which will not allow the development of any water pressure behind the wall, then the groundwater term may be omitted. The development of excessive water pressure is a common cause of retaining wall failures. Drainage systems should be carefully designed to ensure that long term permanent drainage is accomplished.

The above design recommendations are based on the following assumptions:

- Horizontal backfill
- 95 percent standard Proctor compactive effort on backfill (ASTM D698)
- No safety factor is included

For convenience, equivalent fluid densities are frequently used for the calculation of lateral earth pressures. For "at rest" stress conditions, an equivalent fluid density of 66 pcf may be used. For the "active" state of stress an equivalent fluid density of 45 pcf may be used. These equivalent fluid densities are based on the assumptions that drainage behind the retaining wall will allow *no* development of hydrostatic pressure; that native sandy silts or silty sands will be used as backfill; that the backfill soils will be compacted to 95 percent of standard Proctor maximum dry density; that backfill will be horizontal; and that no surcharge loads will be applied.

For analysis of sliding resistance of the base of a cast-in-place concrete retaining wall, the coefficient of friction may be taken as 0.35 for the soils at the project site. This is an ultimate value, and an adequate factor of safety should be used in design. The force which resists base sliding is calculated by multiplying the normal force on the base by the coefficient of friction. Full development of the frictional force could require deflection of the base of roughly 0.1 to 0.3 inches.

Foundation Design

After general site preparation and site grading have been completed in accordance with the recommendations of this report, it is our opinion that the proposed single-story building can be supported using conventional shallow foundations. Provided that column loads do not exceed 50 kips, and wall loads are no greater than 3 kips per lineal foot, we recommend that footings be designed using an allowable bearing pressure of 3,000 psf.

In addition, we recommend a minimum width of 24 inches for column footings and 18 inches for continuous wall footings to prevent general bearing capacity failure. Footings should bear at a minimum depth of 18 inches below the prevailing exterior ground surface elevation to avoid potential problems due to frost heave.

The recommended allowable bearing pressure is based on an estimated maximum total foundation settlement no greater than approximately 1 inch, with anticipated differential settlement between adjacent columns not exceeding about ½ inch. If the architect or structural engineer determines that the estimated total or differential settlement cannot be accommodated by the proposed structure, please contact us.

Because of natural variation, it is possible that some of the soils at the project site may have an allowable bearing pressure less than the recommended design value. Likewise, existing fill materials can be highly variable, and may have an allowable bearing pressure less than the recommended design value. Therefore, foundation bearing surface evaluations will be critical to aid in the identification and remediation of these situations.

Foundation bearing surface evaluations should be performed in all footing excavations prior to placement of reinforcing steel. Geo-Hydro should perform these evaluations to confirm that the design allowable soil bearing pressure is available. Foundation bearing surface evaluations should be performed using a combination of visual observation, hand augering, and portable dynamic cone penetrometer testing (ASTM STP-399).

Remedial measures should be based on actual field conditions. However, in most cases we expect the use of the stone replacement technique to be the primary remedial measure. Stone replacement involves the removal of soft or loose soils, followed by replacement with well-compacted graded aggregate base (GAB) meeting Georgia DOT specifications for gradation. Stone replacement is generally performed to depths ranging from a few inches to as much as 2 times the footing width, depending on the actual conditions. For budgetary purposes, we suggest considering that as much as 20 percent of the foundation excavations will require overexcavation and stone replacement extending to a depth of 3 feet below bearing elevation. The actual quantity of stone replacement will be different and may exceed the provided estimate.

Seismic Design

It is our opinion that the test borings performed were not extended to a depth sufficient to characterize the upper 100 feet of the soil subsurface for the purposes of determining the *Site Class* in accordance with the 2018 International Building Code (Chapter 20, ASCE 7-16). We recommend using a default *Site Class* of *D* as suggested in the code. The mapped and design spectral response accelerations are as follows: S_S=0.520, S_1=0.122, S_{DS}=0.480, S_{D1}=0.192.

Based on the information obtained from the soil test borings, it is our opinion that the potential for liquefaction of the residual soils at the site due to earthquake activity is relatively low.

Floor Slab Subgrade Preparation

The soil subgrade in the area of concrete slab-on-grade support is often disturbed during foundation excavation, plumbing installation, and superstructure construction. We recommend that the floor slab subgrade be evaluated by Geo-Hydro immediately prior to beginning floor slab construction. If low consistency soils are encountered that cannot be adequately densified in place, such soils should be removed

and replaced with well-compacted fill material placed in accordance with the *Structural Fill* section of this report or with well-compacted graded aggregate base (GAB).

Assuming that the top 12 inches of floor slab subgrade soils are compacted to at least 98 percent of the standard Proctor maximum dry density, we recommend that a modulus of subgrade reaction of 120 pci be used for design. This value is suitable only for light floor loads (no greater than 150 psf) and transient loads, and should not be used for designing thickened slab sections or foundations supporting permanent or semi-permanent loads such as those from equipment and storage racks. For design of floor areas supporting permanent or semi-permanent loads from floor storage, storage racks, etc., we recommend using a modulus of subgrade reaction of 70 pci for design purposes.

Moisture Control for Concrete Slabs

To prevent water vapor transmission from adversely affecting the concrete slab-on-grade floor and to provide a stable surface for floor support, we recommend that slab-on-grade floors be underlain by a minimum of 4 inches of #57 stone. The stone must be covered by a vapor retarder. We suggest polyethylene sheeting at least 10 mils thick as a minimum vapor retarder.

Flexible Pavement Design

Based on our experience with similar projects, assuming standard pavement design parameters, and contingent upon proper pavement subgrade preparation, we recommend the following pavement sections:

Entrance/Exit Driveways, Main Drive Lanes, and Truck Traffic Areas

Material	Thickness (inches)
Asphaltic Concrete 9.5mm Superpave Type II	2
Asphaltic Concrete 19mm Superpave	2
Graded Aggregate Base (GAB) (Base Course)	8
Subgrade compacted to at least 100% standard Proctor maximum dry density (ASTM D698)	12

Automobile Parking Stalls

Material	Thickness (inches)
Asphaltic Concrete 9.5mm Superpave Type II	2
Graded Aggregate Base (GAB) (Base Course)	6
Subgrade compacted to at least 100% standard Proctor maximum dry density (ASTM D698)	12

A concrete thickness of 7 inches is recommended for the approach and collection zone in front of any dumpster, in loading/unloading zones, and in any designated truck turn-around areas. Please refer to the *Concrete Pavement* section of this report for concrete pavement recommendations.

The top 12 inches of pavement subgrade soils should be compacted to at least 100 percent of the standard Proctor maximum dry density (ASTM D698). Scarification and moisture adjustment will likely be required

to achieve the recommended subgrade compaction level. Allowances for pavement subgrade preparation should be considered for budgeting and scheduling.

GAB must be compacted to at least 98 percent of the modified Proctor maximum dry density (ASTM D1557).

All pavement construction should be performed in general accordance with Georgia DOT specifications. Proper subgrade compaction, adherence to Georgia DOT specifications, and compliance with project plans and specifications, will be critical to the performance of the constructed pavement.

Concrete Pavement

A rigid Portland cement concrete pavement may be considered. Although usually more costly, a Portland cement concrete pavement is typically more durable and requires less maintenance throughout the life cycle of the facility. Concrete thicknesses of 5 inches in automobile parking areas and 6 inches in driveways and truck traffic areas are recommended. A concrete thickness of 7 inches is recommended for the approach and collection zone in front of any dumpster, in loading/unloading zones, and in any designated truck turn-around areas. A 600-psi flexural strength concrete mix (approximately 4,500 psi compressive strength) with 4 to 6 percent air entrainment should be used. The concrete pavement should be underlain by no less than 5 inches of compacted graded aggregate base (GAB). GAB should be compacted to at least 98 percent of the modified Proctor maximum dry density (ASTM D1557). The top 12 inches of soil subgrade should be compacted to at least 100 percent of the standard Proctor maximum dry density (ASTM D698).

The concrete pavement may be designed as a "plain concrete pavement" with no reinforcing steel or reinforcing steel may be used at joints. Construction joints and other design details should be in accordance with guidelines provided by the Portland Cement Association and the American Concrete Institute.

In general, all pavement construction should be in accordance with Georgia DOT specifications. Proper subgrade compaction, adherence to Georgia DOT specifications, and compliance with project plans and specifications will be critical to the performance of the constructed pavement.

Pavement Design Limitations

The pavement sections discussed above are based on our experience with similar facilities. After traffic information has been developed, we recommend that you allow us to review the traffic data and revise our recommendations as necessary.

Pavement Materials Testing

To aid in verifying that the pavement system is installed in general accordance with the design considerations, the following materials testing services are recommended:

- Density testing of subgrade materials.

- Proofrolling of pavement subgrade materials immediately prior to placement of graded aggregate base (GAB). This proofrolling should be performed the same day GAB is installed.

- Density testing of GAB and verification of GAB thickness. In-place density should be verified using the sand cone (ASTM D1556) or Nuclear Density Gauge method (ASTM D6938).

- Coring of the pavement to verify thickness and density (asphalt pavement only).

- Preparation and testing of beams and cylinders for flexural and compressive strength testing (Portland cement concrete only). The total number of test specimens required will depend on the number of concrete placement events necessary to construct the pavement.

* * * * * * *

We appreciate the opportunity to serve as your geotechnical consultant for this project and are prepared to provide any additional services you may require. If you have any questions concerning this report or any of our services, please call us.

Sincerely,

GEO-HYDRO ENGINEERS, INC.

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GEORGIA REGISTERED No. 021308 PROFESSIONAL ENGINEER LUIS E. BABLER

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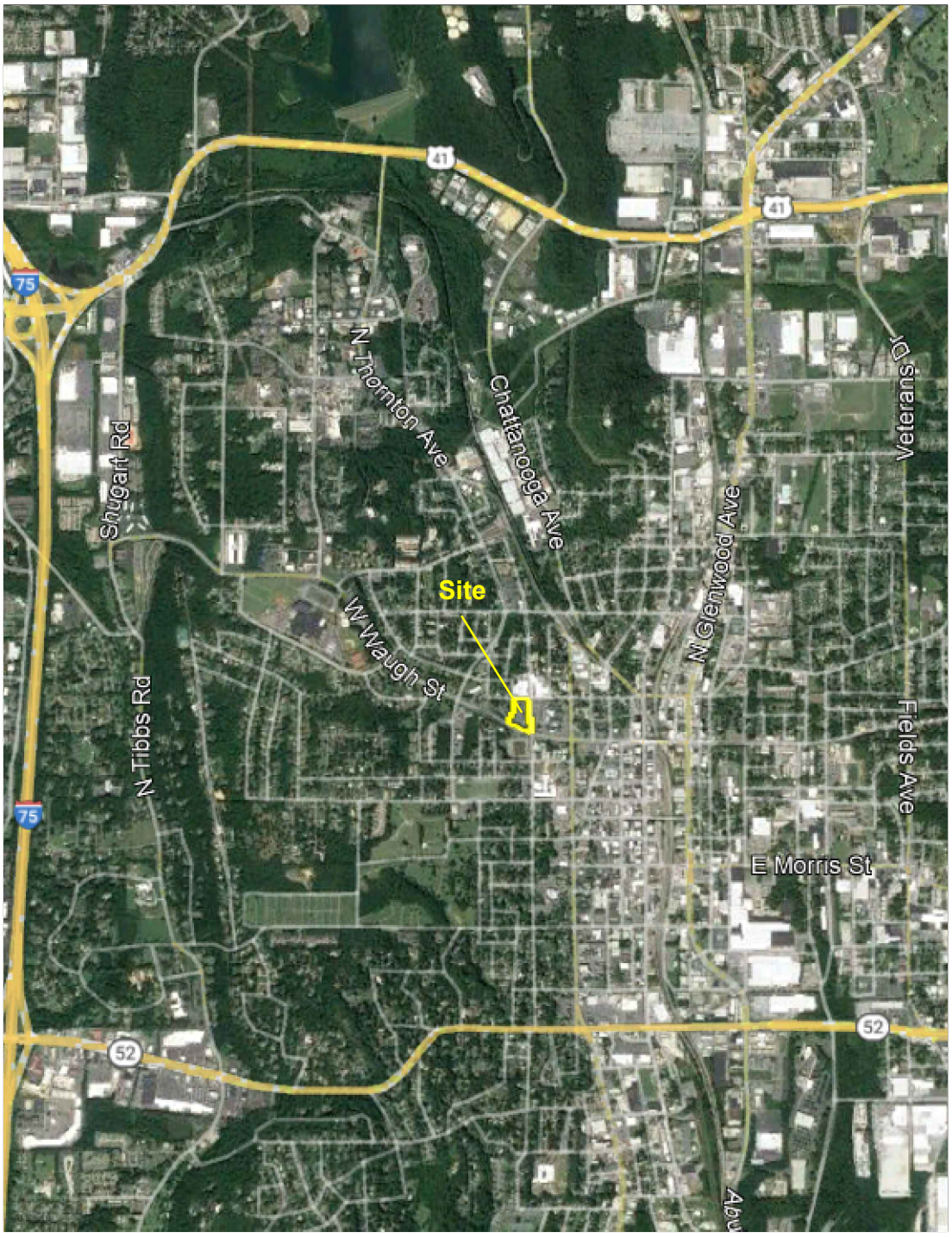
GEO HYDRO ENGINEERS

APPENDIX

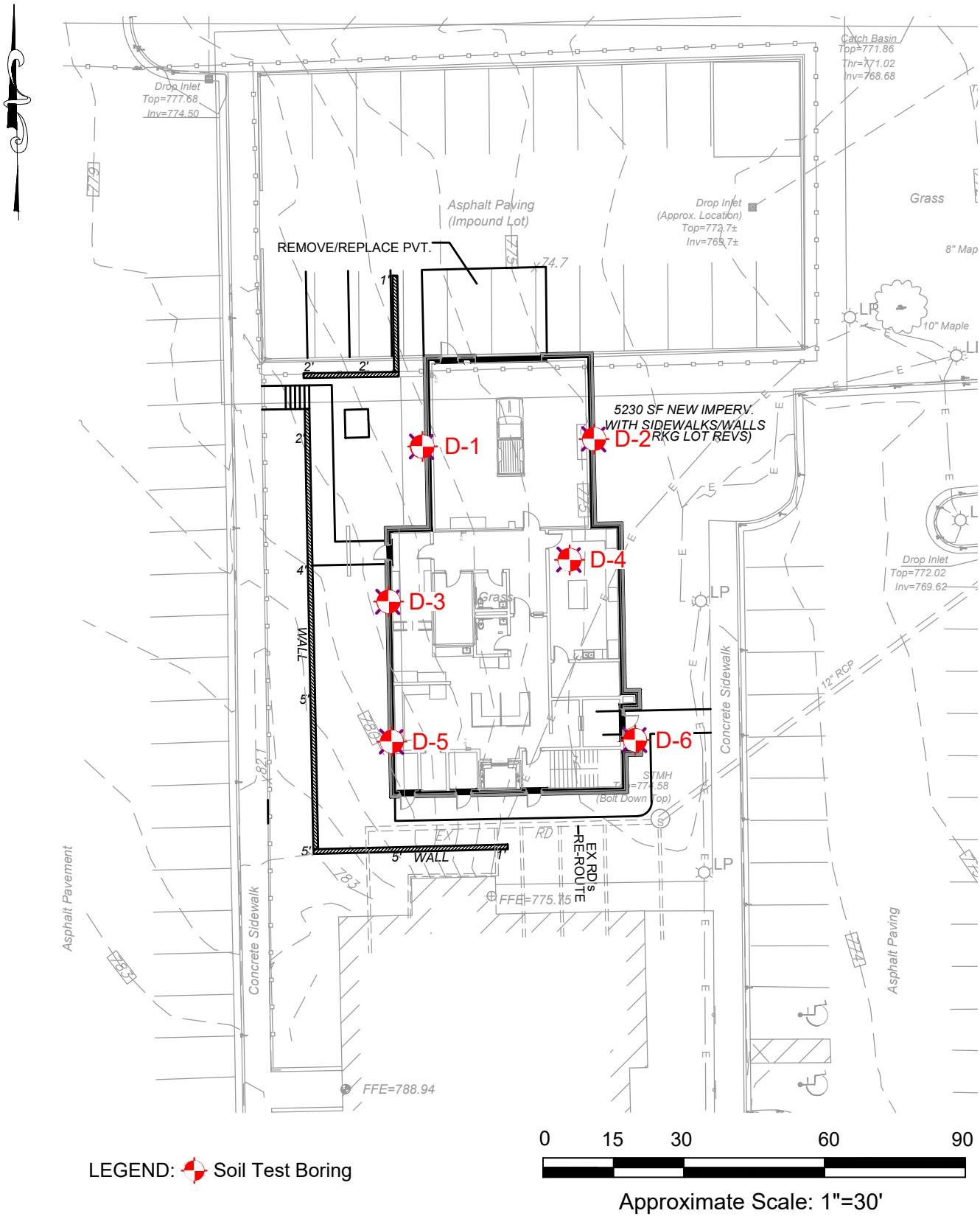


0 0.25 0.5 1 1.5

Approximate Scale, Miles

Figure 1: Site Location Plan

New Dalton Police Department Building
301 Jones Street
Dalton, Georgia
Geo-Hydro Project Number 232838.20



LEGEND: Soil Test Boring

Approximate Scale: 1"=30'

Figure 2: Boring Location Plan

New Dalton Police Department Building
301 Jones Street
Dalton, Georgia
Geo-Hydro Project Number 232838.20

Symbols and Nomenclature

Symbols

▌	Thin-walled tube (TWT) sample recovered
▯	Thin-walled tube (TWT) sample not recovered
●	Standard penetration resistance (ASTM D1586)
50/2”	Number of blows (50) to drive the split-spoon a number of inches (2)
65%	Percentage of rock core recovered
RQD	Rock quality designation - % of recovered core sample which is 4 or more inches long
GW	Groundwater
	Water level at least 24 hours after drilling
	Water level one hour or less after drilling
ALLUV	Alluvium
TOP	Topsoil
PM	Pavement Materials
CONC	Concrete
FILL	Fill Material
RES	Residual Soil
PWR	Partially Weathered Rock
SPT	Standard Penetration Testing

Penetration Resistance Results	Number of Blows, N	Approximate Relative Density
Sands	0-4	very loose
	5-10	loose
	11-20	firm
	21-30	very firm
	31-50	dense
	Over 50	very dense

	Number of Blows, N	Approximate Consistency
Silts and	0-1	very soft
Clays	2-4	soft
	5-8	firm
	9-15	stiff
	16-30	very stiff
	31-50	hard
	Over 50	very hard

Drilling Procedures

Soil sampling and standard penetration testing performed in accordance with ASTM D 1586. The standard penetration resistance is the number of blows of a 140-pound hammer falling 30 inches to drive a 2-inch O.D., 1.4-inch I.D. split-spoon sampler one foot. Rock coring is performed in accordance with ASTM D 2113. Thin-walled tube sampling is performed in accordance with ASTM D 1587.

GEO HYDRO ENGINEERS

D-1

Test Boring Record

GEO HYDRO ENGINEERS

Project: **New Dalton Police Department**		Project No: **232838.20**
Location: **Dalton, Georgia**		Date: **12/12/23**
Method: **HSA- ASTM D1586**	GWT at Drilling: **Not Encountered**	G.S. Elev: **777**
Driller: **GCD (Auto-Hammer)**	GWT at 24 hrs: **N/A: Boring Backfilled**	Logged By: **BGS**

Elev. (Ft)	Depth (Ft)	GWT	Symbol	Description	N
777	0			Topsoil (Approximately 3 inches)	
				Loose brown clayey fine sand (SC) (FILL)	7
775					
				Loose tan-brown clayey fine sand (SC) (RESIDUUM)	8
	5				
				Very stiff red-brown and tan fine sandy clay (CL)	15
770					
	10				20
765				Very firm to dense red and tan clayey fine to medium sand (SC)	
	15				34
760					
	20			Boring Terminated at 20 feet	30
755					
	25				

Standard Penetration Test (Blows/Foot)

0 10 20 30 40 50 60 70 80 90 100

Remarks:

TEST BORING RECORD LOGS.GPJ GEO HYDRO.GDT 1/4/24

D-2

Test Boring Record

GEO HYDRO ENGINEERS

Project: **New Dalton Police Department**		Project No: **232838.20**
Location: **Dalton, Georgia**		Date: **12/12/23**
Method: **HSA- ASTM D1586**	GWT at Drilling: **Not Encountered**	G.S. Elev: **774**
Driller: **GCD (Auto-Hammer)**	GWT at 24 hrs: **N/A: Boring Backfilled**	Logged By: **BGS**

Elev. (Ft)	Depth (Ft)	GWT	Symbol	Description	N
				Topsoil (Approximately 4 inches)	
				Firm dark brown fine sandy clay (CL) (FILL)	7
770				Stiff to very stiff tan to red fine sandy clay (CL) (RESIDUUM)	
	5				14
					16
765					
	10				19
760					
	15				11
755					
	20			Boring Terminated at 20 feet	15
750					
	25				

Standard Penetration Test (Blows/Foot)

0 10 20 30 40 50 60 70 80 90 100

Remarks:

TEST BORING RECORD LOGS.GPJ GEO HYDRO.GDT 1/4/24

D-3

Test Boring Record

GEO HYDRO ENGINEERS

Project: **New Dalton Police Department**		Project No: **232838.20**
Location: **Dalton, Georgia**		Date: **12/12/23**
Method: **HSA- ASTM D1586**	GWT at Drilling: **Not Encountered**	G.S. Elev: **778**
Driller: **GCD (Auto-Hammer)**	GWT at 24 hrs: **N/A: Boring Backfilled**	Logged By: **BGS**

Elev. (Ft)	Depth (Ft)	Description	N
	0	Topsoil (Approximately 3 inches)	
		Firm dark brown clayey fine to medium sand (SC) (FILL)	6
775			
		Stiff tan-brown fine sandy clay (CL) (RESIDUUM)	11
	5		
		Firm to very firm red-brown and tan clayey fine to medium sand (SC)	18
770			
	10		22
		Very firm to dense red and tan clayey fine to medium sand (SC)	
765			
	15		34
760			
	20	Boring Terminated at 20 feet	30
755			
	25		

Standard Penetration Test (Blows/Foot)

0 10 20 30 40 50 60 70 80 90 100

Remarks:

TEST BORING RECORD LOGS.GPJ GEO HYDRO.GDT 1/4/24

D-4

Test Boring Record

GEO HYDRO ENGINEERS

Project: **New Dalton Police Department**		Project No: **232838.20**
Location: **Dalton, Georgia**		Date: **12/12/23**
Method: **HSA- ASTM D1586**	GWT at Drilling: **Not Encountered**	G.S. Elev: **775**
Driller: **GCD (Auto-Hammer)**	GWT at 24 hrs: **N/A: Boring Backfilled**	Logged By: **BGS**

Elev. (Ft)	Depth (Ft)	GWT	Symbol	Description	N
				Topsoil (Approximately 3 inches)	
				Firm to stiff dark brown fine sandy clay (CL) (FILL)	7
770	5				15
				Stiff red-brown and tan silty clay (CL) (RESIDUUM)	15
				Stiff to very stiff red and tan clayey silt (ML)	
765	10				17
760	15				13
755	20			Boring Terminated at 20 feet	17
750	25				

Standard Penetration Test (Blows/Foot)

0 10 20 30 40 50 60 70 80 90 100

Remarks:

TEST BORING RECORD LOGS.GPJ GEO HYDRO.GDT 1/4/24

D-5

Test Boring Record

GEO HYDRO ENGINEERS

Project: **New Dalton Police Department**		Project No: **232838.20**
Location: **Dalton, Georgia**		Date: **12/12/23**
Method: **HSA- ASTM D1586**	GWT at Drilling: **Not Encountered**	G.S. Elev: **779**
Driller: **GCD (Auto-Hammer)**	GWT at 24 hrs: **N/A: Boring Backfilled**	Logged By: **BGS**

Elev. (Ft)	Depth (Ft)	GWT	Symbol	Description	N
	0			Topsoil (Approximately 3 inches)	
				Firm dark brown fine to medium sandy clay (CL) (FILL)	7
775					
	5				5
				Firm red-brown and tan clayey fine sand (SC) (RESIDUUM)	13
770					
	10				17
				Dense red and orange clayey fine to coarse sand (SC) with rock fragments	
765					
	15				42
760					
	20			Boring Terminated at 20 feet	31
755					
	25				

Standard Penetration Test (Blows/Foot)

0 10 20 30 40 50 60 70 80 90 100

Remarks:

TEST BORING RECORD LOGS.GPJ GEO HYDRO.GDT 1/4/24

D-6

Test Boring Record

GEO HYDRO ENGINEERS

Project: **New Dalton Police Department**		Project No: **232838.20**
Location: **Dalton, Georgia**		Date: **12/12/23**
Method: **HSA- ASTM D1586**	GWT at Drilling: **Not Encountered**	G.S. Elev: **774**
Driller: **GCD (Auto-Hammer)**	GWT at 24 hrs: **N/A: Boring Backfilled**	Logged By: **BGS**

Elev. (Ft)	Depth (Ft)	GWT	Symbol	Description	N
				Topsoil (Approximately 6 inches)	
				Soft dark brown silty clay (CL) (FILL)	4
770	5			Firm to stiff tan-brown and red silty clay (CL) (RESIDUUM)	7
					11
765	10			Stiff to very stiff red-brown and tan silty clay (CL)	21
760	15				14
755	20			Boring Terminated at 20 feet	17
750	25				

Standard Penetration Test (Blows/Foot)

0 10 20 30 40 50 60 70 80 90 100

Remarks:

TEST BORING RECORD LOGS.GPJ GEO HYDRO.GDT 1/4/24