ADDENDUM NO. 2

(FINAL ADDENDUM)

Corporate FBO Terminal Building and Parking Lot Rehabilitation

Located at 2178 Flightline Ave, Macon, GA 31216

Thursday, December 5, 2024

Architect of Record: Passero Associates, LLC
355 S. Legacy Trail, Suite B-102
St. Augustine, FL 32092
(904) 224-7082

Christopher Nardone, AIA
cnardone@passero.com

PASSERO
architecture engineering

Passero Associates Project No. 20202946.010A

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The following items are clarifications, corrections, or additions to the contract documents. **THIS ADDENDUM TAKES PRECEDENCE OVER THE ORIGINAL PARTS OF THE CONTRACT DOCUMENTS.**

All the parts of the contract documents, not specifically modified by this or other addenda, remain in full force and effect.

Bidders shall thoroughly familiarize themselves with the contents of this Addendum before submitting bid proposals. **IT SHALL BE THE BIDDER'S RESPONSIBILITY TO INFORM THE SUBCONTRACTORS, SUPPLIERS, MANUFACTURERS AND OTHER PARTIES PARTICIPATING IN THE WORK OF APPLICABLE REQUIREMENTS IN THIS ADDENDUM.**

Bidders shall acknowledge receipt of this addendum, identified by number and date, on the Addenda Receipt form included in the Proposal Section of the Contract Documents and submitted as part of their Proposal. Failure to acknowledge receipt of Addendum may be grounds for rejection of the bid proposal.

Items amended to the Contract Documents are as follows:

BID SCHEDULE REVISIONS

NOTE: The following schedule revisions supersede any and all other mentions pertaining to this information provided in the Bid Documents.

1. The deadline for Submission of Bids has been moved to **Thursday, December 19, 2024 at 12:00 pm EST**. The Bid Opening will occur at 2:00 pm EST.
2. The Notice of Award will be presented in January - February 2025.
3. The Notice to Proceed will be presented in March – April 2025, no later than April 18, 2025.

EVALUATION OF BIDS:

Bids may be held by the Owner for purposes of review and evaluation by the Owner for a period not to exceed **120 calendar days** from the stated date for receipt of bids. The Owner will tabulate all bids and verify proper extension of unit costs. **The Bidder shall honor their bid for the duration of this period of review and evaluation.** The bid guaranty will be held by the Owner until this period of review has expired or a contract has been formally executed.

BID FORMS

1. **REPLACE** BID FORMS PD-4 – PD 6 with ADDENDUM NO. 2 BID FORMS PD-4 – PD 6
2. **REPLACE** BID FORMS BUILDING BASE BID – CORPORATE FBO TERMINAL BUILDING PD-7 – PD 8 with ADDENDUM NO. 2 BID FORMS BUILDING BASE BID – CORPORATE FBO TERMINAL BUILDING PD-7 – PD 8
3. **REPLACE** BID FORM BID SUMMARY PD-9 with ADDENDUM NO. 2 BID FORM BID SUMMARY PD-9

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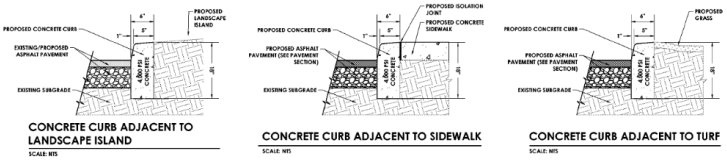
4. **REPLACE** technical specification SECTION 01 23 00 – ALTERNATES with ADDENDUM NO. 2 SECTION 01 23 00 – ALTERNATES
5. **REPLACE** technical specification SECTION 01 30 00- ADMINISTRATIVE REQUIREMENTS with ADDENDUM NO. 2 SECTION 01 30 00- ADMINISTRATIVE REQUIREMENTS. Note the addition of section 3.08 "Real-time and Timelapse Footage of Construction Progress."
6. **ADD** GEOTECHNICAL ENGINEERING REPORT.
7. **ADD** SITE AND UTILITY SURVEY.
8. **ADD** TOPOGRAPHIC SURVEY.

BIDDERS QUESTIONS AND ANSWERS

Q1: On Sheet A-604, the general notes call for Marshall Best Locks, however the hardware sets call for Schlage. Please advise as to which locks should be used.
A1: Refer to ADDENDUM 1.1 SHEET A-604 for door hardware.

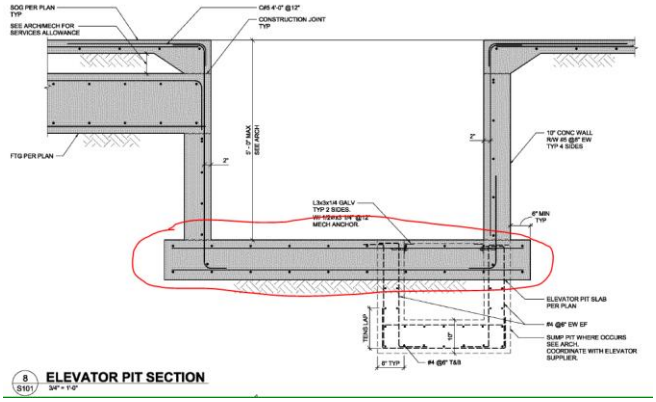
Q2: Any chance the architect has access to a 3D model of the structural and misc. steel?
A2: We provide our model after the contractor/fabricator is selected. Note that models are not perfect and should be used for information only. Any assumption of geometric accuracy in the model is at your own risk.

Q3: Please confirm If the header curbs below is what is intent to price and not curb and gutters (not curb and gutters details on the drawings).



A3: Correct. Price header curbs. Curb and gutters do not need to be priced out.

Q4: Please provide the reinforcement specifications for the 12" elevator pad?



A4: On sheet S101, detail 8, the reinforcement specification should read, "12" Elevator Pit Slab R/W #6@12 T&B."

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Q5: Will we be responsible for any type of security systems in our bid? Items such as cameras, CCTV, Access Control systems, at the moment the only low voltage item shown is the fire alarm systems.
A5: The listed items fall under the category of "owner provided" and will be outside the scope of this contract. Please note that you shall provide one ¾" metal conduit with pull string from IT closet to each access point of entry with exterior swing door(s) (1st and 2nd floors). Conduit to be flush with ceiling and terminate above access point. Do not bring conduit down wall.

Q6: Will a AOR system be needed since this is a two-story building? If this is needed, please provide a spec on the AOR system.
A6: AORs are not required per Georgia Building Code (IBC 2018 with Georgia Amendments) Chapter 10 Section 1009.3.3 Area of Refuge Exception No. 2: Areas of refuge are not required at stairways in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.

Q7: In Addendum 1.1 the door hardware is changed however note 7 states "Marshall Best keying systems" if this is what is to be used, what type of core will be need? LFIC, SFIC, 6pin standard core and will they be compatible?
A7: Refer to ADDENDUM 1.1 SHEET A-604 for door hardware.

Q8: S305 detail 3 option A shows the concrete directly on top of the CLT panel is this detail correct?
A8: Yes, the concrete slab is over the corridor – the CLT will act as formwork in this location and allow us to avoid shoring the slab.

Q9: Can we price NanaWall for the bi-folding door system?
A9: Per contract document ITB-9, all substitution requests will be reviewed and considered by the architect on an "as-equal" basis after the contract is awarded and in accordance with section 01 25 00 – SUBSTITUTION PROCEDURES and section 01 60 00 – PRODUCT REQUIREMENTS.

Q10: Can we price curtain wall and Storefront with YKK?
A10: Per contract document ITB-9, all substitution requests will be reviewed and considered by the architect on an "as-equal" basis after the contract is awarded and in accordance with section 01 25 00 – SUBSTITUTION PROCEDURES and section 01 60 00 – PRODUCT REQUIREMENTS.

Q11: On the Curtain wall spec page 3 under basis of design it calls out Wind-Borne-Debris resistance but the system called out is just standard curtain wall and also the glass called out is non-impact. The storefront system is not called out for this either. Please advise.
A11: Macon is not in a "wind-borne debris region" and hence this requirement is not necessary.

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Q12: With the curtain wall leaning out we will have to use laminated IG units for safety. Just want you to be aware of that.
A12: Noted. Under Technical Specification Section 08 80 00 Glazing, 2.03 Insulated Glass Units, note C.3 should read "Outboard Lite: Laminated, 1/4 inch thick, minimum." And note C.4 should read, "Inboard Lite: Laminated, 1/4 inch thick, minimum."

Q13: Can you guys please provide a specification on the illuminated glass handrails? Also, electrical specifications say to refer to drawings for specifications but there aren't any on the drawings.
A13: Refer to Technical Specification Section 05 73 15 Frameless Glazed Metal Railings. Refer to Addendum 1.1, Section "DRAWINGS – MEP" note 5.

Q14: Sheet E-201 1st Floor Plan Detail...Please label the tape lighting at rear of guitar.
A14: These lights shall be fixture "NSB" and controlled as described in MEP Addendum 1.1 item 2.b.

Q15: With the scaling not included we are not to scale the drawings. The angle is an unknown, and we are limited to 15 degrees .... we'll need to know the angle. And further, (1) the specs call for 1600 system 2 SSG, which is generally not allowed in sloped outward systems without PE, Glass, AND sealant supplier approval; (2) The curtain wall not only slopes outward but also angled itself on the jambs. In SSG this is even more trouble for both the sealant and may require a custom connection in the corners.

Would you consider using 1600 system 1 (fully captured)?
A15: Yes, note that the basis of design shall be changed to 1600 system 1 (fully captured) in Technical Specification Section 08 44 13 Glazed Aluminum Curtain Walls.

Q16: The landscaping maintenance notes seem they need to be by the owner please see below and advise:

MAINTENANCE NOTES

1. ALL PLANTINGS SHALL BE CONTINUALLY MAINTAINED IN AN ATTRACTIVE AND HEALTHY CONDITION. MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO, WATERING, TILLING, FERTILIZING AND SPRAYING, MOWING, WEEDING, REMOVAL OF LITTER AND DEAD PLANT MATERIAL, AND NECESSARY PRUNING AND TRIMMING.
2. REQUIRED PLANTS THAT BECOME DISEASED OR DIE SHALL BE REPLACED NOT LATER THAN THREE (3) MONTHS FOLLOWING THE LOSS OF THE PLANT.
3. TREE PROPERTY OWNER IS RESPONSIBLE FOR THE MAINTENANCE OF ALL REQUIRED LANDSCAPING IN A HEALTHY, THRIVING CONDITION.
4. TREES SHALL BE PRUNED ONLY AS NECESSARY TO PROMOTE HEALTHY GROWTH OR TO AVOID POWER LINES. TREES SHALL NOT BE SEVERELY PRUNED OR "HATRACKED" IN ORDER TO PERMANENTLY MAINTAIN GROWTH AT A REDUCED HEIGHT. PRUNING SHALL COMPLY WITH CURRENT NATIONAL ARBORISTS SOCIETY STANDARDS.

A16: Note 2 pertains to the contractor within the warranty period. All other landscape maintenance notes pertain to the Owner after construction is completed.

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Q17: Is there a copy of the soils report available?
A17: See attached reports.

Q18: Do you guys have the Geotech report for the Airport expansion. The drawings say to reference it for under slab gravel and vapor barrier, but I don't see it in the bid docs.
Q18: See attached reports.

Q19: In reference to Addendum 1.1, Attachment 1, Bidders Qualifications Form, Credit available for this contract; Does this question refer to line the dollar amount of an available line of credit?
A19: Yes, this question refers to the line dollar amount of an available line of credit. The vendor needs to just verify the of line credit demonstrating he can complete the project if awarded the bid.

Q20: Please clarify the required staffing on this project. Superintendent and Quality Control Manager? Or is a Qualified Superintendent Onsite Only Required?
A20: Per Technical Specification Section 400 – HOT MIX ASPHALTIC CONCRETE CONSTRUCTION, a Level 2 QCT shall be designated as a Quality Control Manager and shall be present at the plant, or within immediate contact by phone or radio. Please refer to Section 400.3.06.b.2 for full QCT requirements.

Per Contract Document Section 10 DEFINITION OF TERMS and Section 50 CONTROL OF WORK a superintendent is to be present on-site, supervising and directing the construction.

Q21: Is the awarded GC responsible for all permits and impact fees?
A21: Yes, the awarded GC is responsible for all permits and impact fees.

Q22: Will the Owner allow for Equipment and Material substitutions for materials and equipment that meets the specifications and allows for less Lead Time and cost beneficial to the Owner? i.e Lighting, Electrical Gear?
A22: Per contract document ITB-9, all substitution requests will be reviewed and considered by the architect on an "as-equal" basis after the contract is awarded and in accordance with section 01 25 00 – SUBSTITUTION PROCEDURES and section 01 60 00 – PRODUCT REQUIREMENTS.

Q23: Will the Architect Please provide a GEO report if completed.
A23: See attached reports.

Q24: Regarding Structural round Timber on this project, are you specifying laminated SRT columns or Natural?
A24: Where tree columns are specified, we are looking for natural, barkless tree columns.

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Q25: Is Mule-Hide's PVC roof system an acceptable alternative?
A25: Per contract document ITB-9, all substitution requests will be reviewed and considered by the architect on an "as-equal" basis after the contract is awarded and in accordance with section 01 25 00 – SUBSTITUTION PROCEDURES and section 01 60 00 – PRODUCT REQUIREMENTS.

Q26:Is Johns Manville PVC KEE an acceptable substitute roofing system?
A26: Per contract document ITB-9, all substitution requests will be reviewed and considered by the architect on an "as-equal" basis after the contract is awarded and in accordance with section 01 25 00 – SUBSTITUTION PROCEDURES and section 01 60 00 – PRODUCT REQUIREMENTS.

OTHER ITEMS

1. The deadline for Submission of Bids has been moved to **Thursday, December 19, 2024 at 12:00 pm EST**. The Bid Opening will occur at 2:00 pm EST.

2. Bid Documents must be obtained via Macon-Bibb County's website at www.maconbibb.us/procurement, at Georgia's Department Of Administrative Services at https://doas.ga.gov/state-purchasing/georgia-procurement-registry-local-governments/gpr-overview and www.passero.com/bids. It is the bidders responsibility to check the website for addenda prior to submitting their bid.

END OF ADDENDUM NO. 2

SITE BASE BID - PARKING LOT REHABILITATION					
SPEC REFERENCE	**DESCRIPTION**	**QUANTITY/ UNIT**		**UNIT PRICE**	**TOTAL**
C102-5.1a	Temporary Construction Exit	1	EA		
C102-5.1b	Silt Fence	290	LF		
C102-5.1c	Silt Barrier (Filter Sock)	90	LF		
C102-5.1d	Temporary Inlet Protection	15	EA		
C102-5.1e	Mulching	3,200	SF		
C-103-8.1	Project Survey, Stakeout, and Record Drawing	1	LS		
C-105-6.1	Mobilization	1	LS		
C-107-3.1	Traffic Control Measures	1	LS		
D-751-5.1	Remove Top of Existing Drop Inlet Structure & Replace with Concrete Cover and Seal	1	EA		
F-162-5.1	Relocated Security Fence	85	LF		
G-310-1	Graded Aggregate Base (GAB) Course (Depth Varies)	430	CY		
G-400-1	Hot Mixed Asphalt Surface Course	620	TONS		
G-412-1	Asphalt Prime Coat	210	GAL		
G-413-1	Asphalt Tack Coat	350	GAL		
G-430-1	Concrete Paved Walkway, Pads, & Sidewalks	380	SY		
G-432-1	Asphalt Milling (2 Inch Depth)	3,500	SY		
G-652-1	Permanent Pavement Marking (White)	2,410	SF		
G-652-2	Permanent Pavement Marking (Yellow)	280	SF		
G-652-3	Permanent Pavement Marking (Blue)	240	SF		
G-700-1	Sodding	4,440	SY		
G-702-1	Trees (Crepe Myrtle)	20	EA		
G-702-2	Trees (Hardwoods)	30	EA		
G-702-3	Landscaping (Small flowering plants)	3,200	SF		
G-708-1	Topsoil (Final Placement), 4-Inch	500	CY		
L-110-5.1	Concrete Encased Duct Bank, 4-Way: 2-2 Inch PVC & 2-4 Inch PVC	40	LF		
L-115-5.1	Raise Top(s) of Existing Electrical Manhole Cover(s)	3	EA		
MWA-101-5.1	Remove Section of Existing 8 Inch Clay Sanitary Sewer Line	60	LF		
MWA-101-5.2	8 Inch PVC Sanitary Sewer Line installed in 12 Inch Steel Casing	60	LF		
MWA-101-5.3	Sanitary Sewer Doghouse Manhole	2	EA		
MWA-101-5.4	6 Inch PVC Sanitary Sewer Line w/ Hardware & Fittings	180	LF		
MWA-101-5.5	4 Inch PVC Sanitary Sewer Line w/ Hardware & Fittings	140	LF		
MWA-101-5.6	Relocate Existing Fire Hydrant Top	1	EA		

MWA-101-5.7	Fire Hydrant Fittings, Valve, and Hardware	1	EA		
MWA-101-5.8	6 Inch DIP Water Line	20	LF		
MWA-101-5.9	6 Inch PVC Water Line w/ Hardware & Fittings	90	LF		
MWA-101-5.10	2 Inch PVC Water Line w/ Hardware & Fittings	120	LF		
MWA-101-5.11	1/2 Inch PVC Water Line w/ Hardware & Fittings	260	LF		
02-41-00	Demolition of Existing Hangar Office Lean-To (Partial Concrete Foundation to Remain for Re-use)	1	LS		
P-101-5.1	Full Depth Concrete Demolition	10	SY		
P-101-5.3	Remove Existing 8 Inch Iron Storm Pipe	50	LF		
P-101-5.3	Remove Existing 8 Inch Clay Storm Pipe	30	LF		
P-101-5.3	Remove Existing Storm Structure	1	EA		
P-101-5.3	Remove Existing Telecom Duct Banks / Conduits	150	LF		
P-101-5.3	Remove Existing Chain Link Fence Section	13	LF		
P-101-5.1	Full Depth Asphalt Demolition	2,310	SY		
P-101-5.2	Asphalt Clean & Prep	4,100	SY		
P-151-4.1	Topsoil (On-Site Stripping), 4-Inch	310	CY		
P-152-4.1	Unsuitable Excavation	500	CY		
P-152-4.2	Engineered Backfill	500	CY		
P-610-6.1	Concrete Curb	2,730	LF		
P-629-8.1	Asphalt Sand Slurry Surface Treatment	4,100	SY		
Plans	2 Inch HDPE Gas Line w/ Hardware & Fittings	170	LF		
Plans	Dumpster Enclosure Grease Trap	1	EA		
Plans	6 Foot Tall Decorative Security Fence (Ameristar Echelon II (Classic) or Approved Equal)	120	LF		
Plans	6 Foot Tall x 14 Foot Wide Industrial Ornamental Security Roll Gate (Ameristar Passport II (Classic) or Approved Equal)	1	EA		
Plans	Full Height Single Turnstile (Hayward Turnstiles HT431 Standard Passage or Approved Equal)	1	EA		
Plans	Concrete Wheel Stop	6	EA		
Plans	30 Foot Tall Flag Pole	1	EA		
Plans	25 Foot Tall Flag Pole	2	EA		
Plans	Concrete Bench (Wausau Tile ZB.GL.06 Concrete VI Bench, or Approved Equal)	3	EA		
Plans	Concrete Trash Receptacle with Aluminum Top (Wausau Tile TF1031 Colonial or Approved Equal)	2	EA		
Plans	Stainless Steel Smoker's Post (Wausau tile MF4013 or Approved Equal)	2	EA		
Plans	Black 5-Loop Bicycle Rack (Wausau Tile MF9009 or Approved Equal)	1	EA		
Plans	CMU Wall Dumpster Enclosure, including Can Wash	1	LS		

Plans	CMU Screen Wall Mechanical Yard	1	LS		
Plans	4 Inch Deep River Rock Bed over Weed Barrier Fabric	13	CY		

SITE BASE BID TOTAL (PARKING LOT REHABILITATION)

BUILDING BASE BID - CORPORATE FBO TERMINAL BUILDING					
REF (NOT LIMITED TO)	**DESCRIPTION**	**QUANTITY/ UNIT**		**UNIT PRICE**	**TOTAL**
01 30 00 3.08	Real-time and Timelapse Cameras		LS		
313116	Termite Control		LS		
STRUCT. DOCS	Foundation and Slab on Grade		LS		
061523	CLT Superstructure		LS		
070000 A520-521 & A530	Roof Systems		LS		
086300 A521	Architectural Structural Skylight		LS		
A310	Exterior Framed walls		LS		
A606-607	Storefront Windows		LS		
081113	Hollow Metal doors		LS		
084313	Storefront Doors		LS		
084413	Curtain Walls		LS		
092400	Stucco System		LS		
099113	Exterior Painting		LS		
101419	Exterior Signage		LS		
057315	Guardrail Railing System with LED Lighting		LS		
	Alternate No. 1 **(NOT TO BE INCLUDED IN LUMP SUM BID)**: Exterior Aluminum Frameless Glass Guardrail with no integrated LED Lighting - Refer to Section 01 23 00 ALTERNATES.		LS		–
	Alternate No. 2 **(NOT TO BE INCLUDED IN LUMP SUM BID)**: 2507 "Super Duplex" Stainless Steel Guardrail and Cable Posts with 2507 Stainless Steel Swageless CableQuick Lock Assemblies, no lighting component - Refer to Section 01 23 00 ALTERNATES.		LS		–
077600 A510	Porcelain Paver Pedestal System (Balcony)		LS		
	Natural Stone Travertine Coping (Balcony)		LS		
G005	Interior Walls		LS		
	CMU Walls		LS		
081433 A603-604	Wood Doors and Trim		LS		
A500	Casework - Cabinets		LS		
064100	Casework - Countertops		LS		
	Add No. 1 **(NOT TO BE INCLUDED IN LUMP SUM BID)**: Custom Vinyl Mural of large format printed wall graphic by others - Refer to Section 01 23 00 ALTERNATES.		LS		–

	Add No. 2 **(NOT TO BE INCLUDED IN LUMP SUM BID)**: Speakers in the color black, mounted as high as possible on each Porte-Cochere column typ. And (2) recessed into ceiling at South Entrance - DMX module to connect to audio system to sync with RGBW LED High Pixel Lights for Pulsing (conduit from IT closet) - Refer to Section 01 23 00 ALTERNATES.		LS		-
A324	Wood Stairs and Rotunda Guardrail		LS		
055100 A320-333	Metal Stairs		LS		
090000 A600-A602	Finishes		LS		
	Walls		LS		
092400	Flooring (Tile)		LS		
096500	Flooring (Resilient)		LS		
	Alternate No. 3 **(NOT TO BE INCLUDED IN LUMP SUM BID)**: Provide 6" high vinyl resilient base trim in lieu of rooms on the Finish Schedule to receive 6" wood base trim, excluding areas to receive wainscot - Refer to Section 01 23 00 ALTERNATES.		LS		-
096813	Flooring (Carpet)		LS		
096700	Flooring (Fluid-applied))		LS		
064200	Wainscot Trim		LS		
099123	Interior Painting		LS		
101400	Interior Signage		LS		
102800,102819	Plumbing Fixtures		LS		
95670 A130A-140B	Ceiling Systems		LS		
142100	Elevator		LS		
260000 ELEC. DOCS	Electrical Systems: Power and Data/Communications		LS		
260000 ELEC. DOCS	Electrical Systems: Lighting		LS		
	Alternate No. 4 **(NOT TO BE INCLUDED IN LUMP SUM BID)**: Omit horizontal strip lighting on Angled Glazing System and Glulam Columns - Refer to Section 01 23 00 ALTERNATES.		LS		-
280000	Alarm System		LS		
104400	Fire Suppression System		LS		
230000 MECH. DOCS	HVAC Systems		LS		
220000 PLUMB. DOCS	Plumbing Systems		LS		
	Allowance	1	LS	$250,000.00	$250,000.00
BASE BID TOTAL (BUILDING)					

BID SUMMARY

DESCRIPTION	QUANTITY/ UNIT	TOTAL (IN NUMBERS)
Total – Base Bid Parking Lot Rehabilitation	LS	
Total – Base Bid Corporate FBO Terminal Building	LS	
Grand Total – Base Bid Parking Lot Rehabilitation + Corporate FBO Terminal Building	LS	

_____

(Base Bid Parking Lot Rehabilitation Total in words, Lump Sum)

_____

(Base Bid Parking Lot Rehabilitation Total in numbers, Lump Sum)

_____

(Base Bid Corporate FBO Terminal Building Total in words, Lump Sum)

_____

(Base Bid Corporate FBO Terminal Building Total in numbers, Lump Sum)

_____

(Base Bid Parking Lot Rehabilitation + Corporate FBO Terminal Building Grand Total in words, Lump Sum)

_____

(Base Bid Parking Lot Rehabilitation + Corporate FBO Terminal Building Grand Total in numbers, Lump Sum)

SECTION 01 23 00 - ALTERNATES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Description of Adds and Alternates.

1.02 ACCEPTANCE OF ADDS AND ALTERNATES

A. Adds and Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted Adds and Alternates will be identified in the Contract Agreement.

B. Coordinate related work and modify surrounding work to integrate the Work of each Add or Alternate.

1.03 SCHEDULE OF ADDS AND ALTERNATES

A. Add No. 1 - Custom Mural:
   1. Base Bid Item: Provide specified wall finish for Second Floor Rotunda walls and Corridor 216; no custom vinyl mural to be provided.
   2. Add Item: Provide custom vinyl mural of large format printed wall graphic by others (Basis of Design: Magic Murals, https://www.magicmurals.com) to be professionally installed on Second Floor Rotunda walls and Corridor 216 from top of wainscot to bottom of ceiling. Images and design layout provided by Architect. Design to be approved by Owner.

B. Add No. 2 - Speakers at Porte-Cochere and South Entrance:
   1. Base Bid Item: Provide specified finish at Porte-Cochere columns and South Entrance; no speakers to be provided.
   2. Add Item: Provide speakers in the color black mounted as high as possible on each Porte-Cochere column typ., and (2) recessed into ceiling at South Entrance - DMX module to connect to audio system to sync with RGBW LED High Pixel Lights for Pulsing (conduit from IT closet).

C. Alternate No. 1 - Balcony Railing:
   1. Base Bid Item: Provide Exterior Aluminum Frameless Glass Balustrade on Balcony with Mounted Spigot Bases with Recessed, Integrated LED Lights.
   2. Alternate Item: Provide Exterior Aluminum Frameless Glass Balustrade on Balcony (no recessed, integrated LED lighting in mounted spigot bases).

D. Alternate No. 2 - Balcony Railing
   1. Base Bid Item: Provide Exterior Aluminum Frameless Glass Balustrade on Balcony with Mounted Spigot Bases with Recessed, Integrated LED Lights.
   2. Alternate Item: Provide 2507 "Super Duplex" Stainless Steel guardrail and cable posts with 2507 Stainless Steel Swageless CableQuick® Lock Assemblies for the balcony railing system (no lighting component).

E. Alternate No. 3 - Vinyl Resilient Base Trim:
   1. Base Bid Item: Provide 6" high wood base trim in all rooms per the Finish Schedule, excluding areas to receive wainscot.
   2. Alternate Item: Provide 6" high vinyl resilient base trim in lieu of rooms on the Finish Schedule to receive 6" wood base trim, excluding areas to receive wainscot.

F. Alternate No. 4 - Lighting on Angled Glazing System:
   1. Base Bid Item: Provide horizontal strip lighting within weatherproof aluminum casing on Angled Glazing System and Glulam Sloped Column. Refer to the Bid Form to provide cost for this installation as a separate line item.

2. Alternate Item: Omit horizontal strip lighting on Angled Glazing System and Glulam Columns.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 30 00 - ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General administrative requirements.
B. Electronic document submittal service.
C. Preconstruction meeting.
D. Site mobilization meeting.
E. Progress meetings.
F. Construction progress schedule.
G. Contractor's daily reports.
H. Progress photographs.
I. Coordination drawings.
J. Submittals for review, information, and project closeout.
K. Number of copies of submittals.
L. Requests for Information (RFI) procedures.
M. Submittal procedures.

1.02 RELATED REQUIREMENTS

A. Section 01 60 00 - Product Requirements: General product requirements.
B. Section 01 70 00 - Execution and Closeout Requirements: Additional coordination requirements.
C. Section 01 78 00 - Closeout Submittals: Project record documents; operation and maintenance data; warranties and bonds.

1.03 REFERENCE STANDARDS

A. AIA G716 - Request for Information; 2004.
B. AIA G810 - Transmittal Letter; 2001.

1.04 GENERAL ADMINISTRATIVE REQUIREMENTS

A. Comply with requirements of Section 01 70 00 - Execution and Closeout Requirements for coordination of execution of administrative tasks with timing of construction activities.
B. Make the following types of submittals to Architect:
    1. Requests for Information (RFI).
    2. Requests for substitution.
    3. Shop drawings, product data, and samples.
    4. Test and inspection reports.
    5. Design data.
    6. Manufacturer's instructions and field reports.
    7. Applications for payment and change order requests.
    8. Progress schedules.
    9. Coordination drawings.
    10. Correction Punch List and Final Correction Punch List for Substantial Completion.
    11. Closeout submittals.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 ELECTRONIC DOCUMENT SUBMITTAL SERVICE

A. All documents transmitted for purposes of administration of the contract are to be in electronic (PDF, MS Word, or MS Excel) format, as appropriate to the document, and transmitted via an Internet-based submittal service that receives, logs and stores documents, provides electronic stamping and signatures, and notifies addressees via email.
   1. Besides submittals for review, information, and closeout, this procedure applies to Requests for Information (RFIs), progress documentation, contract modification documents (e.g. supplementary instructions, change proposals, change orders), applications for payment, field reports and meeting minutes, Contractor's correction punchlist, and any other document any participant wishes to make part of the project record.
   2. Contractor and Architect are required to use this service.
   3. It is Contractor's responsibility to submit documents in allowable format.
   4. Subcontractors, suppliers, and Architect's consultants will be permitted to use the service at no extra charge.
   5. Users of the service need an email address, internet access, and PDF review software that includes ability to mark up and apply electronic stamps (such as Adobe Acrobat, www.adobe.com, or Bluebeam PDF Revu, www.bluebeam.com), unless such software capability is provided by the service provider.
   6. Paper document transmittals will not be reviewed; emailed electronic documents will not be reviewed.
   7. All other specified submittal and document transmission procedures apply, except that electronic document requirements do not apply to samples or color selection charts.

B. Submittal Service: The selected service is:
   1. Newforma Info Exchange, provided by Architect.

C. Project Closeout: Architect will determine when to terminate the service for the project and is responsible for obtaining archive copies of files for Owner.

3.02 PRECONSTRUCTION MEETING

A. Architect will schedule a meeting after Notice of Award for both the Preconstruction Meeting and Site Mobilization Meeting to be at the same time.

B. Attendance Required:
   1. Owner.
   2. Architect.
   3. Contractor.
   4. Engineer.

C. Agenda:
   1. Execution of Owner-Contractor Agreement.
   2. Submission of executed bonds and insurance certificates.
   3. Distribution of Contract Documents.
   4. Submission of list of subcontractors, list of products, schedule of values, and progress schedule.
   5. Submission of initial Submittal schedule.

6. Designation of personnel representing the parties to Contract and Architect/Engineer.
7. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
8. Scheduling.

D. Architect will record minutes and distribute copies within two days after meeting to participants with copies to Architect, Engineer, Owner, participants, and those affected by decisions made.

3.03 SITE MOBILIZATION MEETING

A. Schedule meeting at the Project site prior to Contractor occupancy.
B. Attendance Required:
   1. Contractor.
   2. Owner.
   3. Architect.
   4. Contractor's superintendent.
   5. Major subcontractors.
   6. Engineer.
C. Agenda:
   1. Use of premises by Owner and Contractor.
   2. Owner's requirements.
   3. Construction facilities and controls provided by Owner.
   4. Construction facilities and controls provided by Contractor.
   5. Survey and building layout.
   6. Security and housekeeping procedures.
   7. Schedules.
   8. Application for payment procedures.
   9. Procedures for testing.
   10. Procedures for maintaining record documents.
   11. Requirements for start-up of equipment.
   12. Inspection and acceptance of equipment put into service during construction period.
D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Engineer, Owner, participants, and those affected by decisions made.

3.04 PROGRESS MEETINGS

A. Schedule and administer meetings throughout progress of the work at maximum as-required intervals.
B. Architect will make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.
C. Attendance Required:
   1. Contractor.
   2. Owner.
   3. Architect.
   4. Special consultants.
   5. Contractor's superintendent.
   6. Major subcontractors.
   7. Engineer.

D. Agenda:
   1. Review minutes of previous meetings.
   2. Review of work progress.
   3. Field observations, problems, and decisions.
   4. Identification of problems that impede, or will impede, planned progress.
   5. Review of submittals schedule and status of submittals.
   6. Review of RFIs log and status of responses.
   7. Review of off-site fabrication and delivery schedules.
   8. Maintenance of progress schedule.
   9. Corrective measures to regain projected schedules.
   10. Planned progress during succeeding work period.
   11. Coordination of projected progress.
   12. Maintenance of quality and work standards.
   13. Effect of proposed changes on progress schedule and coordination.
   14. Other business relating to work.

E. Architect will record minutes and distribute copies within two days after meeting to participants, with copies to Architect, Engineer, Owner, participants, and those affected by decisions made.

3.05 CONSTRUCTION PROGRESS SCHEDULE

A. Within 10 days after date established in Notice to Proceed, submit preliminary schedule defining planned operations for the first 60 days of work, with a general outline for remainder of work.

B. If preliminary schedule requires revision after review, submit revised schedule within 10 days.

C. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
   1. Include written certification that major contractors have reviewed and accepted proposed schedule.

D. Within 10 days after joint review, submit complete schedule.

E. Submit updated schedule with each Application for Payment.

3.06 DAILY CONSTRUCTION REPORTS

A. Include only factual information. Do not include personal remarks or opinions regarding operations and/or personnel.

B. In addition to transmitting electronically a copy to Owner and Architect, submit two printed copies at weekly intervals.

C. Prepare a daily construction report recording the following information concerning events at Project site and project progress:
   1. Date.
   2. High and low temperatures, and general weather conditions.
   3. List of subcontractors at Project site.
   4. Material deliveries.
   5. Safety, environmental, or industrial relations incidents.
   6. Meetings and significant decisions.
   7. Stoppages, delays, shortages, and losses. Include comparison between scheduled work activities (in Contractor's most recently updated and published schedule) and actual activities. Explain differences, if any. Note days or periods when no work was in progress and explain the reasons why.
   8. Meter readings and similar recordings.

9. Emergency procedures.
10. Directives and requests of Authority(s) Having Jurisdiction (AHJ).
11. Change Orders received and implemented.
12. Testing and/or inspections performed.
13. List of verbal instruction given by Owner and/or Architect.
14. Signature of Contractor's authorized representative.

3.07 PROGRESS PHOTOGRAPHS

A. Submit photographs with each application for payment, taken not more than 3 days prior to submission of application for payment.
B. Photography Type: Digital; electronic files.
C. Provide photographs of site and construction throughout progress of work produced by an experienced photographer, acceptable to Architect.
D. In addition to periodic, recurring views, take photographs of each of the following events:
   1. Completion of site clearing.
   2. Excavations in progress.
   3. Foundations in progress and upon completion.
   4. Structural framing in progress and upon completion.
   5. Enclosure of building, upon completion.
E. Views:
   1. Provide aerial photographs from four cardinal views at each specified time, until date of Substantial Completion.
   2. Provide non-aerial photographs from four cardinal views at each specified time, until date of Substantial Completion.
   3. Consult with Architect for instructions on views required.
   4. Provide factual presentation.
   5. Provide correct exposure and focus, high resolution and sharpness, maximum depth of field, and minimum distortion.
F. Digital Photographs: 24 bit color, minimum resolution of 1024 by 768, in JPG format; provide files unaltered by photo editing software.
   1. Delivery Medium: Via email.
   2. File Naming: Include project identification, date and time of view, and view identification.
   3. PDF File: Assemble all photos into printable pages in PDF format, with 2 to 3 photos per page, each photo labeled with file name; one PDF file per submittal.
   4. Hard Copy: Printed hardcopy (grayscale) of PDF file and point of view sketch.

3.08 REAL-TIME AND TIMELAPSE FOOTAGE OF CONSTRUCTION PROGRESS

A. Duration to be from Notice to Proceed to Final Completion.
B. Two (2) external cameras to be placed; one (1) to be mounted as high as possible on abandoned weather tower adjacent to USPS Post Office Building, and one (1) to be located at top of door pocket roof at WWII Hangar West.
C. External Cameras Requirements:
   1. Stationary solar-powered with battery backup for camera at abandoned weather tower.
   2. Powered from WWII Hangar West for camera at WWII Hangar West door pocket roof.
   3. WiFi-enabled streaming service.
   4. Camera cloud system (OxBlue).
   5. Must have the ability to connect to a WiFi network for upload.

6. Timelapse can be added. (Overall, video and timelapse)
    a. Basis-of-Design Manufacturer: OxBlue Construction Cameras | Construction Camera Services for Real-Time Project Visibility, https://www.oxblue.com/
        1) Camera
            (a) Resolution: 8-megapixel (3264 x 2448)
            (b) Pan: 360-degrees
            (c) Tilt: 180-degrees
            (d) 30x optical zoom
            (e) Progress scan CMOS 1/3" image sensor
            (f) Lens: 4.4-132 mm, F1.4-4.6, autofocus, auto-iris
            (g) 256 preset positions
        2) Video
            (a) Live HD video streaming
            (b) Current weather detection
            (c) Aspect ratio of video 16:9 (widescreen)
            (d) Stream profile: H.264
            (e) 1920 x 1080 recordi
            (f) 1080p streaming resolution
            (g) Dynamically sized viewing window
        3) Data Connectivity and Storage
            (a) Cellular data services provided by the System Vendor
            (b) Onboard Memory: Up to 4 Week Video Storage. Resolution can be adjusted but will impact storage time.
            (c) Remote Storage: Archive a still image approximately every 10 minutes.
        4) Operating Environment and Controls
            (a) -30 to 122 degrees Fahrenheit
            (b) 120 / 240 VAC units come standard with blower and defroster; 12 VDC units come standard with blower.
        5) Video Controls
            (a) Snapshot function
            (b) 8 button directional input
            (c) Home button
        6) Software
            (a) Responsive software interface for use on computer, tablet and mobile screens
            (b) Display Owner or Project logo on desktop software interface
            (c) Dashboard display of all cameras
            (d) Camera search capability
            (e) Visual calendar showing actual photos from each day of the project
            (f) Access to each individual photo archived
            (g) Ability to schedule the automated delivery of images and timelapses to users via email
            (h) Display weather data with each image
            (i) Ability to compare images from two cameras or two specific times simultaneously
            (j) Ability to overlay and compare images from different times
            (k) Interactive map showing project location
            (l) Provide iPhone/iPad app and Android app

7) Hosting and Website Integration
   (a) Provide links to thumbnails of most recent
   (b) Provide API access for use in software and website integration
8) Data Security and Infrastructure
   (a) Multiple access options shall be available, including publicly available links, username authentication, IP restrictions, and HTTPS communication protocols
   (b) Actual access method used shall be specified by the Owner
   (c) Data shall be stored on redundant servers owned and managed by the System Vendor
   (d) Optional time-delay feature for timelapse videos and images on website

b. Substititions: See Section 01 60 00 - Product Requirements.

D. All equipment used to provide timelapse and video footage to be the property of the Contractor.

E. All visual imagery, images, video, and timelapse footage shall be the property of the Owner.

3.09 COORDINATION DRAWINGS

A. Review drawings prior to submission to Architect.

B. Coordination Drawings, General: Prepare coordination drawings according to requirements in individual Sections, and additionally where installation is not completely indicated on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.

1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:
   a. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
      1) Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.
      2) Show location and size of access doors required for access to concealed dampers, valves, and other controls.
      3) Indicate dimensions shown on Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternative sketches to Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.

C. Coordination Drawing Organization: Organize coordination drawings as follows:

1. Mechanical Rooms: Provide coordination drawings for mechanical rooms showing plans and elevations of mechanical, plumbing, fire-protection, fire-alarm, and electrical equipment.
2. Structural Penetrations: Indicate penetrations and openings required for all disciplines.
3. Slab Edge and Embedded Items: Indicate slab edge locations and sizes and locations of embedded items for metal fabrications, sleeves, anchor bolts, bearing plates, angles, door floor closers, slab depressions for floor finishes, curbs and

housekeeping pads, and similar items.

4. Mechanical and Plumbing Work: Show the following:
   a. Sizes and bottom elevations of ductwork, piping, and conduit runs, including insulation, bracing, flanges, and support systems.
   b. Dimensions of major components, such as dampers, valves, diffusers, access doors, cleanouts and electrical distribution equipment.
5. Electrical Work: Show the following:
   a. Runs of vertical and horizontal conduit 1-1/4 inches in diameter and larger.
   b. Light fixture, exit light, emergency battery pack, smoke detector, and other fire-alarm locations.
   c. Panel board, switch board, switchgear, transformer, busway, generator, and motor-control center locations.
   d. Location of pull boxes and junction boxes, dimensioned from column center lines.
6. Fire-Protection System: Show the following:
   a. Locations of standpipes, mains piping, branch lines, pipe drops, and sprinkler heads.
7. Review: Architect will review coordination drawings to confirm that in general the Work is being coordinated, but not for the details of the coordination, which are Contractor's responsibility. If Architect determines that coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, Architect will so inform Contractor, who shall make suitable modifications and resubmit.

D. Coordination Digital Data Files: Prepare coordination digital data files according to the following requirements:
   1. File Submittal Format: Submit or post coordination drawing files using PDF format.
   2. Architect will furnish Contractor one set of digital data files of Drawings for use in preparing coordination digital data files.
      a. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to Drawings.

3.10 REQUESTS FOR INFORMATION (RFI)

A. Definition: A request seeking one of the following:
   1. An interpretation, amplification, or clarification of some requirement of Contract Documents arising from inability to determine from them the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of work is described differently at more than one place in Contract Documents.
   2. A resolution to an issue which has arisen due to field conditions and affects design intent.

B. Whenever possible, request clarifications at the next appropriate project progress meeting, with response entered into meeting minutes, rendering unnecessary the issuance of a formal RFI.

C. Preparation: Prepare an RFI immediately upon discovery of a need for interpretation of Contract Documents. Failure to submit a RFI in a timely manner is not a legitimate cause for claiming additional costs or delays in execution of the work.
   1. Prepare a separate RFI for each specific item.
      a. Review, coordinate, and comment on requests originating with subcontractors and/or materials suppliers.

b. Do not forward requests which solely require internal coordination between subcontractors.

2. Prepare in a format and with content acceptable to Owner.
   a. Use AIA G716 - Request for Information .
3. Prepare using software provided by the Electronic Document Submittal Service.
4. Combine RFI and its attachments into a single electronic file. PDF format is preferred.

D. Reason for the RFI: Prior to initiation of an RFI, carefully study all Contract Documents to confirm that information sufficient for their interpretation is definitely not included.
   1. Unacceptable Uses for RFIs: Do not use RFIs to request the following::
      a. Approval of submittals (use procedures specified elsewhere in this section).
      b. Approval of substitutions (see Sections 01 25 00 - Substitution Procedures and 01 60 00 - Product Requirements)
      c. Changes that entail change in Contract Time and Contract Sum (comply with provisions of the Conditions of the Contract).
   2. Improper RFIs: Requests not prepared in compliance with requirements of this section, and/or missing key information required to render an actionable response. They will be returned without a response.
   3. Frivolous RFIs: Requests regarding information that is clearly indicated on, or reasonably inferable from, Contract Documents, with no additional input required to clarify the question. They will be returned without a response, with an explanatory notation.
      a. The Owner reserves the right to assess the Contractor for the costs (on time-and-materials basis) incurred by the Architect, and any of its consultants, due to processing of such RFIs.

E. Content: Include identifiers necessary for tracking the status of each RFI, and information necessary to provide an actionable response.
   1. Official Project name and number, and any additional required identifiers established in Contract Documents.
   2. Discrete and consecutive RFI number, and descriptive subject/title.
   3. Reference to particular Contract Document(s) requiring additional information/interpretation. Identify pertinent drawing and detail number and/or specification section number, title, and paragraph(s).
   4. Annotations: Field dimensions and/or description of conditions which have engendered the request.
   5. Contractor's suggested resolution: A written and/or a graphic solution, to scale, is required in cases where clarification of coordination issues is involved, for example; routing, clearances, and/or specific locations of work shown diagrammatically in Contract Documents. If applicable, state the likely impact of the suggested resolution on Contract Time or the Contract Sum.

F. Attachments: Include sketches, coordination drawings, descriptions, photos, submittals, and other information necessary to substantiate the reason for the request.

G. Review Time: Architect will respond and return RFIs to Contractor within seven calendar days of receipt. For the purpose of establishing the start of the mandated response period, RFIs received after 12:00 noon will be considered as having been received on the following regular working day.
   1. Response period may be shortened or lengthened for specific items, subject to mutual agreement, and recorded in a timely manner in progress meeting minutes.

H. Responses: Content of answered RFIs will not constitute in any manner a directive or authorization to perform extra work or delay the project. If in Contractor's belief it is likely to lead to a change to Contract Sum or Contract Time, promptly issue a notice to this effect, and follow up with an appropriate Change Order request to Owner.
   1. Response may include a request for additional information, in which case the original RFI will be deemed as having been answered, and an amended one is to be issued forthwith. Identify the amended RFI with an R suffix to the original number.
   2. Do not extend applicability of a response to specific item to encompass other similar conditions, unless specifically so noted in the response.
   3. Notify Architect within seven calendar days if an additional or corrected response is required by submitting an amended version of the original RFI, identified as specified above.

3.11 SUBMITTAL SCHEDULE

A. Submit to Architect for review a schedule for submittals in tabular format.
   1. Coordinate with Contractor's construction schedule and schedule of values.
   2. Format schedule to allow tracking of status of submittals throughout duration of construction.
   3. Arrange information to include scheduled date for initial submittal, specification number and title, submittal category (for review or for information), description of item of work covered, and role and name of subcontractor.
   4. Account for time required for preparation, review, manufacturing, fabrication and delivery when establishing submittal delivery and review deadline dates.

3.12 SUBMITTALS FOR REVIEW

A. When the following are specified in individual sections, submit them for review:
   1. Product data.
   2. Shop drawings.
   3. Samples for selection.
   4. Samples for verification.
B. Submit to Architect for review for the limited purpose of checking for compliance with information given and the design concept expressed in Contract Documents.
C. Samples will be reviewed for aesthetic, color, or finish selection.
D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 78 00 - Closeout Submittals.

3.13 SUBMITTALS FOR INFORMATION

A. When the following are specified in individual sections, submit them for information:
   1. Design data.
   2. Certificates.
   3. Test reports.
   4. Inspection reports.
   5. Manufacturer's instructions.
   6. Manufacturer's field reports.
   7. Other types indicated.
B. Submit for Architect's knowledge as contract administrator or for Owner.

3.14 SUBMITTALS FOR PROJECT CLOSEOUT

A. Submit Correction Punch List for Substantial Completion.
B. Submit Final Correction Punch List for Substantial Completion.

C. When the following are specified in individual sections, submit them at project closeout in compliance with requirements of Section 01 78 00 - Closeout Submittals:
   1. Project record documents.
   2. Operation and maintenance data.
   3. Warranties.
   4. Bonds.
   5. Other types as indicated.
D. Final Property Survey.
E. Submit for Owner's benefit during and after project completion.

3.15 NUMBER OF COPIES OF SUBMITTALS

A. Electronic Documents: Submit one electronic copy in PDF format; an electronically-marked up file will be returned. Create PDFs at native size and right-side up; illegible files will be rejected.
B. Samples: Submit the number specified in individual specification sections; one of which will be retained by Architect.
   1. After review, produce duplicates.
   2. Retained samples will not be returned to Contractor unless specifically so stated.

3.16 SUBMITTAL PROCEDURES

A. General Requirements:
   1. Submit separate packages of submittals for review and submittals for information, when included in the same specification section.
   2. Sequentially identify each item. For revised submittals use original number and a sequential numerical suffix.
   3. Identify: Project; Contractor; subcontractor or supplier; pertinent drawing and detail number; and specification section number and article/paragraph, as appropriate on each copy.
   4. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the work and Contract Documents. Architect will not review submittals unless certifed by Design-Builder.
   5. Schedule submittals to expedite the Project, and coordinate submission of related items.
      a. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.
   6. Identify variations from Contract Documents and product or system limitations that may be detrimental to successful performance of the completed work.
   7. When revised for resubmission, identify all changes made since previous submission.
   8. Distribute reviewed submittals. Instruct parties to promptly report inability to comply with requirements.
   9. Incomplete submittals will not be reviewed, unless they are partial submittals for distinct portion(s) of the work, and have received prior approval for their use.
   10. Submittals not requested will be recognized, and will be returned "Not Reviewed",
B. Product Data Procedures:
   1. Submit only information required by individual specification sections.
   2. Collect required information into a single submittal.
   3. Submit concurrently with related shop drawing submittal.
   4. Do not submit (Material) Safety Data Sheets for materials or products.

C. Shop Drawing Procedures:
   1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting Contract Documents and coordinating related work.
   2. Do not reproduce Contract Documents to create shop drawings.
   3. Generic, non-project-specific information submitted as shop drawings do not meet the requirements for shop drawings.
D. Samples Procedures:
   1. Transmit related items together as single package.
   2. Identify each item to allow review for applicability in relation to shop drawings showing installation locations.

3.17 SUBMITTAL REVIEW

A. Submittals for Review: Architect will review each submittal, and approve, or take other appropriate action.
B. Submittals for Information: Architect will acknowledge receipt and review. See below for actions to be taken.
C. Architect's actions will be reflected by marking each returned submittal using virtual stamp on electronic submittals.
   1. Notations may be made directly on submitted items and/or listed on appended Submittal Review cover sheet.
D. Architect's and consultants' actions on items submitted for review:
   1. Authorizing purchasing, fabrication, delivery, and installation:
      a. "Exceptions as Noted", or language with same legal meaning.
      b. "No Exceptions", or language with same legal meaning.
   2. Not Authorizing fabrication, delivery, and installation:
      a. "Revise and Resubmit".
         1) Resubmit revised item, with review notations acknowledged and incorporated.
         2) Non-responsive resubmittals may be rejected.
      b. "Rejected".
         1) Submit item complying with requirements of Contract Documents.
E. Architect's and consultants' actions on items submitted for information:
   1. Items for which no action was taken:
      a. "Received" - to notify the Contractor that the submittal has been received for record only.
   2. Items for which action was taken:
      a. "Reviewed" - no further action is required from Contractor.

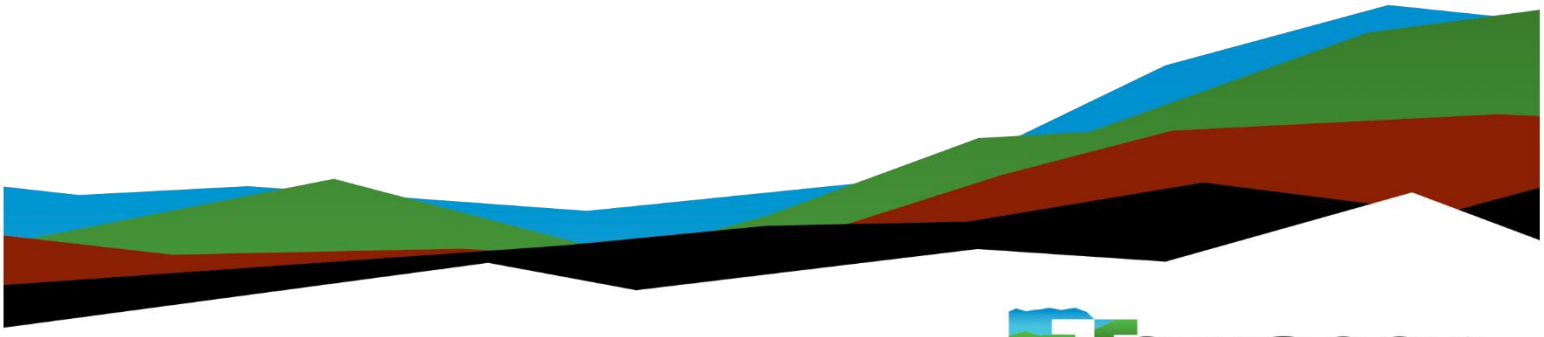
END OF SECTION

Geotechnical Engineering Report

New Corporate GA Terminal
Macon, Georgia
April 18, 2023
Terracon Project No. HN225215

Prepared for:
Passero Associates
St. Augustine, Florida

Prepared by:
Terracon Consultants, Inc.
Macon, Georgia



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April 18, 2023

Passero Associates
4730 Casa Cola Way, Suite 200
St. Augustine, Florida 32095

Attn: Mr. Stan Price
E: sprice@passero.com

Re: Geotechnical Engineering Report
New Corporate GA Terminal
Middle GA Regional Airport
Macon, Georgia
Terracon Project No. HN225215

Dear Mr. Price:

We have completed the Geotechnical Engineering services for the above referenced project. This study was performed in general accordance with Terracon Proposal No. PHN225215 dated September 10, 2022. This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning earthwork and the design and construction of foundations and floor slabs for the proposed project.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further service, please contact us.

Sincerely,
Terracon Consultants, Inc.

Brad Thigpen, P.E.
Project Engineer

Thomas E. Driver, P.E.
Regional Manager

REPORT TOPICS

Note: This report was originally delivered in a web-based format. **Orange Bold** text in the report indicates a referenced section heading. The PDF version also includes hyperlinks which direct the reader to that section and clicking on the ***GeoReport*** logo will bring you back to this page. For more interactive features, please view your project online at client.terracon.com.

ATTACHMENTS

Note: Refer to each individual Attachment for a listing of contents.

REPORT SUMMARY

Topic [1]	Overview Statement [2]
Project Description	The project will consist of a proposed new terminal building in the area of the existing Avionics and FBO buildings.
Geotechnical Characterization	The borings typically encountered topsoil or asphalt pavement underlain by fill soils and Coastal Plain soils to the depths explored. The soils typically included silty sands (SM), lean clays (CL), and clayey sands (SC). Fill soils were encountered in borings B-2 and B-8 and extended to depths of 3 feet and 8 feet below exiting ground surface, respectfully. Groundwater was not encountered at the time of boring.
Earthwork	Proofroll the structure pads after site stripping and before placing structural fill. Replace any loose and unstable areas with engineered fill.
Shallow Foundations	Shallow foundations will be acceptable for structural support. Allowable bearing pressure = 2,500 psf Expected maximum settlements: 1-inch total, 1/2-inch differential (may vary depending on final load information). Undercut and remove any loose soils in foundation and floor slab areas to a point 10 feet outside of the edge of the foundation.
General Comments	This section contains important information about the limitations of this geotechnical engineering report.

1. If the reader is reviewing this report as a pdf, the topics above can be used to access the appropriate section of the report by simply clicking on the topic itself.
2. This summary is for convenience only. It should be used in conjunction with the entire report for design purposes.

Geotechnical Engineering Report

New Corporate GA Terminal
Middle GA Regional Airport
Macon, Georgia

Terracon Project No. HN225215
April 18, 2023

INTRODUCTION

This report presents the results of our subsurface exploration and geotechnical engineering services performed for the proposed new terminal building to be located at the Middle GA Regional Airport in Macon, Georgia. The purpose of these services is to provide information and geotechnical engineering recommendations relative to:

- Subsurface soil conditions
- Groundwater conditions
- Site preparation and earthwork
- Excavation considerations
- Foundation design and construction
- Floor slab and Pavement design and construction
- Seismic site classification per IBC
- Dewatering considerations

The geotechnical engineering Scope of Services for this project included the advancement of 8 soil test borings to depths of 10 to 30 feet below existing site grades.

Maps showing the site and boring locations are shown in the **Site Location** and **Exploration Plan** sections, respectively. The boring logs are presented in the **Exploration Results** section of this report.

SITE CONDITIONS

The following description of site conditions is derived from our site visit in association with the field exploration and our review of readily available geologic and topographic maps as well as provided documents and plans.

Item	Description
Parcel Information	The project is located at Middle GA Regional Airport in Macon, Georgia. Approximate Coordinates: 32.7017, -83.6479. See **Site Location.**
Existing Improvements	The property currently has an existing Avionics building and FBO building, as well as asphalt paved areas.
Current Ground Cover	Grass and asphalt pavement.
Existing Topography	The site is relatively flat and level.

PROJECT DESCRIPTION

Our initial understanding of the project was provided in our proposal and was discussed during project planning. Our current understanding of the project conditions is as follows:

Item	Description
Information Provided	Our understanding of the project is based upon email correspondence with Stan Price. A boring location plan was provided.
Project Description	The project will consist of a proposed new terminal building in the area of the existing Avionics and FBO buildings.
Proposed Structures	We assume that the building will be a CMU or Steel structure.
Finished Floor Elevation	The FFE for the building is not available at this time.
Maximum Loads (Assumed)	Maximum Column Loads: 75 kips Maximum Approximate Wall Loads: 5 klf Loads for the building have not been provided at this time.
Grading/Slopes	Based upon the provided information, we anticipate cuts and fills on the order of 5 feet or less will be needed to establish finished grades.

GEOTECHNICAL CHARACTERIZATION

Site Geology

The site is located in the Coastal Plain Physiographic Province of Georgia. Soils in the Coastal Plain are the result of the deposition of sediments in a former marine environment. Coastal Plain sedimentary deposits make up about 60 percent of Georgia's surface area, and consist of a southwardly thickening wedge of sediments, which are bordered on the north by the parent rocks of the Piedmont Physiographic Province. The border between these provinces is known as the

"Fall-Line." The Coastal Plain sediments range in age from the Cretaceous to the recent, with the oldest exposed along the "Fall-Line" and the youngest along the coast. Typically, the surface soils consist of complexly interbedded sands, silts, and clays of various mixtures. Sandstones, shales, and limestones comprise the characteristic lithology of the Coastal Plain. These formations are usually found at depths greater than fifty feet but can also be found at or near the ground surface. They are not known to occur near the surface in the site area. Topography in this region of the Coastal Plain is generally flat to gently rolling.

Typical Subsurface Profile

The borings drilled at the site generally encountered topsoil or asphalt pavement underlain by fill soils and Piedmont residual soils. Fill soils were encountered in two of the borings and generally extended to depths of approximately 3 feet to 8 feet below existing ground surface.

Based on the results of the borings, subsurface conditions on the project site can be generalized as follows:

Description	Approximate Depth to Bottom of Stratum	Material Encountered	Consistency/Density
Stratum 1	3 to 6 inches	Topsoil or Asphalt Pavement	
Stratum 2	3 to 8 feet	Fill (B-2 and B-8) – Lean Clay (CL) Coastal Plain – Lean Clay (CL); Clayey Sand (SC)	Soft to Very Stiff
Stratum 3	Boring Termination	Coastal Plain – Silty Sand (SM), Clayey Sand (SC); Lean Clay (CL)	Medium Stiff to Very Stiff; Medium Dense to Dense

The fill soils in borings B-2 and B-8 were relatively loose to a depth of 5 feet below existing ground surface.

Specific conditions encountered at each boring location are indicated on the individual boring logs. Stratification boundaries on the boring logs represent the approximate location of changes in soil types; in situ, the transition between materials may be gradual. Details for each of the borings are presented on the boring logs included in the attachments.

Groundwater

The boreholes were observed while drilling and after completion for the presence and level of groundwater. Groundwater was not encountered at the time of boring.

Groundwater level fluctuations occur due to seasonal variations in the amount of rainfall, runoff and other factors not evident at the time the borings were performed. In addition, perched water can develop over low permeability soil or rock strata. Therefore, groundwater levels during construction or at other times in the life of the structure may be higher or lower than the levels indicated on the boring logs. The possibility of groundwater level fluctuations should be considered when developing the design and construction plans for the project.

GEOTECHNICAL OVERVIEW

All borings penetrated topsoil or asphalt pavement underlain by fill soils or Coastal Plain soils extending to the maximum depths explored.

Fill soils were encountered in borings B-2 and B-8 and extended to a depth of approximately 3 feet to 8 feet below existing ground surface. The fill soils consisted of lean clays (CL). The Standard Penetration Test (SPT) values in these soils ranged from 3 blows per foot (bpf) to 6 bpf. The sols in the upper 5 feet of these borings were relatively loose. The loose fill soils in these areas, as well as any other areas of soft or loose fill encountered, should be removed or reworked prior to fill placement or structural support. It is anticipated that some undercutting will be required.

Coastal Plain soils were encountered in all borings below the fill soils or beginning at existing ground surface and consisted of silty sand (SM), lean clays (CL) and clayey sand (SC). The Standard Penetration Test (SPT) values in these soils range from 5 blows per foot (bpf) to 50 bpf.

Support of floor slabs and pavements on or above existing fill materials is discussed in this report. However, even with the recommended construction procedures, there is inherent risk for the owner that compressible fill or unsuitable material, within or buried by the fill, will not be discovered. This risk of unforeseen conditions cannot be eliminated without completely removing the existing fill but can be reduced by following the recommendations contained in this report. To take advantage of the cost benefit of not removing the entire amount of undocumented fill, the owner must be willing to accept the risk associated with building over the undocumented fills following the recommended reworking of the material. Should this be the case, development can be supported on a shallow foundation system.

The **Shallow Foundations** section addresses support of the structures bearing on existing fill, residual soils, or engineered fill. The **Floor Slabs** section addresses slab-on-grade support of the building.

The site appears suitable for the proposed construction based upon geotechnical conditions encountered in the borings and our current understanding of the proposed development.

The **Pavements** section addresses the design of pavement systems.

Geotechnical engineering recommendations for foundation systems and other earth connected phases of the project are outlined below. The recommendations contained in this report are based upon the results of data presented herein, engineering analyses, and our current understanding of the proposed project.

The **General Comments** section provides an understanding of the report limitations.

EARTHWORK

Earthwork is anticipated to include pavement removal, excavations, and fill placement. The following sections provide recommendations for use in preparation of specifications. Recommendations include quality criteria necessary, to appropriately prepare the site. Graded aggregate base below the asphalt may be used in the fill if separated from the asphalt.

Earthwork on the project should be observed and evaluated by Terracon. The evaluation of earthwork should include observation and testing of engineered fill, subgrade preparation, foundation bearing soils, and other geotechnical conditions exposed during the construction of the project.

Site Preparation

We anticipate construction will be initiated by stripping topsoil, asphalt pavement, and loose, soft or otherwise unsuitable material. Stripped materials consisting of vegetation and organic materials should be wasted off site or used to vegetate landscaped areas or exposed slopes after completion of grading operations. Stripping depths between our boring locations and across the site could vary; as such we recommend actual stripping depths be evaluated by Terracon during construction to aid in preventing removal of excess material.

After stripping and removal of unsuitable materials, proofrolling should be performed with heavy rubber tire construction equipment such as a loaded scraper or fully loaded tandem-axle dump truck. A Terracon geotechnical engineer or his representative should observe proofrolling to aid in locating unstable subgrade materials and/or buried debris. Proofrolling should be performed after a suitable period of dry weather to avoid degrading an otherwise acceptable subgrade and to reduce the amount of undercutting / remedial work required. Unstable materials identified should be stabilized as directed by the engineer based on conditions observed during construction. Undercut and replacement and densification in-place are typical remediation methods. **It is anticipated that some of the loose materials encountered in the upper 5 feet of the foundation areas in borings B-2 and B-8 will need to be undercut and replaced.** It is strongly recommended that earthwork be performed during the dryer months of the year to help reduce the amount of reworking and undercutting that will be required.

Existing Fill

Borings B-2 and B-8 encountered relatively loose soils in the upper 3 to 5 feet below existing round surface.

Support of footings, floor slabs, and pavements, on or above existing fill soils, is discussed in this report. However, even with the recommended construction procedures, there is inherent risk for the owner that compressible fill or unsuitable material, within or buried by the fill, will not be discovered. This risk of unforeseen conditions cannot be eliminated without completely removing the existing fill but can be reduced by following the recommendations contained in this report.

If the owner elects to construct pavements on the existing fill, the following protocol should be followed. Once the planned subgrade elevation has been reached the entire pavement area should be proofrolled. Areas of soft or otherwise unstable material should be undercut and replaced with either new structural fill or suitable, existing on site materials.

Fill Material Types

Fill required to achieve design grade should be classified as structural fill and general fill. Structural fill is material used below, or within 10 feet of structures, pavements or slopes. General fill is material used to achieve grade outside of these areas. Soils used for structural and general fill should meet the following material property requirements:

Soil Type [1,3,4]	USCS Classification	Acceptable Parameters (for Structural Fill)
Fine Grain	CL and ML LL < 45 / PI < 25 More than 25% retained on No. 200 sieve	All Locations and Elevations
Granular	SP, SM, SC, and SW	All Locations and Elevations
On-Site Soils [2]	SC, SM, CL	All Locations and Elevations

1. Structural and general fill should consist of materials relatively free of organic matter, debris, and particles larger than about 4 inches. Frozen material should not be used, and fill should not be placed on a frozen subgrade. A sample of each material type should be submitted to the Geotechnical Engineer for evaluation prior to use on this site.
2. A large portion of the existing fill is expected to be suitable for reuse as new fill provided it is free of organics, debris, and unsuitable materials. Terracon should field evaluate existing fill materials for use.
3. All fill material used for grading activities should have a maximum dry density of at least 90 pounds per cubic foot (pcf) as determined by the standard Proctor test (ASTM D 698).
4. Any materials proposed as fill from off-site sources should be tested for compliance with these criteria before being hauled to the site.

Fill Compaction Requirements

Structural and general fill should meet the following compaction requirements.

Item	Structural Fill	General Fill
Maximum Lift Thickness	■ 8 inches or less in loose thickness when heavy, self-propelled compaction equipment is used ■ 4 to 6 inches in loose thickness when hand-guided equipment (i.e. jumping jack or plate compactor) is used	Same as Structural fill
Minimum Compaction Requirements [1,2]	■ 98% of max. dry density below foundations and within 1 foot of finished pavement subgrade ■ 95% of max. dry density above foundations, below floor slabs, and more than 1 foot below finished pavement subgrade	92% of max.
Moisture Content Range [1,2,3]	-3% to +3% of optimum	As required to achieve min. compaction requirements

1. Maximum density and optimum water content as determined by the standard Proctor test (ASTM D 698).
2. Fill should be tested for compaction and moisture content during placement. Should the results of the in-place density tests indicate that the specified moisture or compaction requirements have not been met, the area represented by the test should be reworked and retested as required until the specified moisture and compaction requirements are achieved.
3. Moisture levels should be maintained low enough to allow for satisfactory compaction to be achieved without pumping when proofrolled.

Grading and Drainage

Adequate positive drainage should be provided during construction and maintained throughout the life of the development to prevent an increase in moisture content of the foundation, pavement and backfill materials. Surface water drainage should be controlled to prevent undermining of fill slopes and structures during and after construction.

It is recommended that all exposed earth slopes be seeded to provide protection against erosion as soon as possible after completion. Seeded slopes should be protected until the vegetation is established. Sprinkler systems should not be installed behind or in front of walls or near slopes.

Earthwork Construction Considerations

Upon completion of filling and grading, care should be taken to maintain the subgrade water content prior to construction of floor slabs. Construction traffic over the completed subgrades should be avoided. The site should also be graded to prevent ponding of surface water on the prepared subgrades or in excavations. Water collecting over or adjacent to construction areas should be removed. If the subgrade freezes, desiccates, saturates, or is disturbed, the affected

material should be removed, or the materials should be scarified, moisture conditioned, and recompacted prior to floor slab construction.

Surface water should not be allowed to pond on the site and soak into the soil during construction. Construction staging should provide drainage of surface water and precipitation away from the building and pavement areas. Any water that collects over or adjacent to construction areas should be promptly removed, along with any softened or disturbed soils. Surface water control in the form of sloping surfaces, drainage ditches and trenches, and sump pits and pumps will be important to avoid ponding and associated delays due to precipitation and seepage.

Groundwater was not encountered at the time of boring. Based on our understanding of the proposed development, we do not expect groundwater to significantly affect construction. If groundwater is encountered during construction, some form of temporary or permanent dewatering may be required. Conventional dewatering methods, such as pumping from sumps, should likely be adequate for temporary removal of any groundwater encountered during excavation at the site. Well points would likely be required for significant groundwater flow, or where excavations penetrate groundwater.

All excavations should be sloped or braced as required by Occupational Safety and Health Administration (OSHA) regulations to provide stability and safe working conditions. Temporary excavations will probably be required during grading operations. The grading contractor, by his contract, is usually responsible for designing and constructing stable, temporary excavations and should shore, slope or bench the sides of the excavations as required to maintain stability of both the excavation sides and bottom. All excavations should comply with applicable local, state and federal safety regulations, including the current OSHA Excavation and Trench Safety Standards.

Construction site safety is the sole responsibility of the contractor who controls the means, methods, and sequencing of construction operations. Under no circumstances shall the information provided herein be interpreted to mean Terracon is assuming responsibility for construction site safety, or the contractor's activities; such responsibility shall neither be implied nor inferred.

Construction Observation and Testing

The earthwork operations should be observed by the Geotechnical Engineer or his representative. Monitoring should include documentation of adequate removal of vegetation and topsoil, proofrolling, and mitigation of unstable areas delineated by the proofroll. Each lift of compacted fill should be tested, evaluated, and reworked, as necessary, until approved by the Geotechnical Engineer or his representative prior to placement of additional lifts. Any areas that do not meet the compaction specifications should be reworked to achieve compliance.

In areas of foundation excavations, the bearing subgrade should be evaluated by the Geotechnical Engineer or his representative. If unanticipated conditions are encountered, the Geotechnical Engineer should prescribe mitigation options.

SHALLOW FOUNDATIONS

If the site has been prepared in accordance with the requirements noted in the **Earthwork** section, the proposed structure can be supported by a shallow, spread footing foundation system bearing on Piedmont residual soils or structural fill extending to Coastal Plain soils. Design recommendations for shallow foundations for the proposed structure are presented in the following paragraphs. Final recommendation will be made after loads for the structures have been analyzed.

Shallow foundations may be supported on existing fill soils provided the site has been prepared in accordance with the requirements noted in the **Earthwork** section. However, even with the recommended construction procedures, there is inherent risk for the owner that compressible fill or unsuitable material, within or buried by the fill, will not be discovered. This risk of unforeseen conditions cannot be eliminated without completely removing the existing fill but can be reduced by following the recommendations contained in this report. Design recommendations for shallow foundations for the proposed structures are presented in the following paragraphs.

Design Parameters – Compressive Loads

Item	Description
Maximum Net Allowable Bearing pressure [1, 2]	2,500 psf for conventional shallow foundations.
Required Bearing Stratum [3]	Coastal Plain soils or suitable structural fill.
Minimum Foundation Dimensions	Columns: 24 inches Continuous: 16 inches
Ultimate Coefficient of Sliding Friction [4]	0.35
Minimum Embedment below Finished Grade [5]	Exterior footings: 18 inches Interior footings: 12 inches
Estimated Total Settlement from Structural Loads [2]	1-inch total for conventional shallow foundations
Estimated Differential Settlement [2, 6]	About 1/2 -inch differential

Item	Description
1.	The maximum net allowable bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at the footing base elevation. Values assume that exterior grades are no steeper than 5% within 10 feet of structure.
2.	Values provided are for maximum loads noted in **Project Description**.
3.	Unsuitable or soft soils should be over-excavated and replaced per the recommendations presented in **Earthwork**.
4.	Can be used to compute sliding resistance where foundations are placed on suitable soil/materials. Should be neglected for foundations subject to net uplift conditions.
5.	Embedment necessary to minimize the effects of frost and/or seasonal water content variations. For sloping ground, maintain depth below the lowest adjacent exterior grade within 5 horizontal feet of the structure.
6.	Differential settlements are as measured over a span of 40 feet.

The allowable foundation bearing pressures apply to dead loads plus design live load conditions. The weight of the foundation concrete below grade may be neglected in dead load computations. Interior footings should bear a minimum of 12 inches below finished grade. Finished grade is the lowest adjacent grade for perimeter footings and floor level for interior footings.

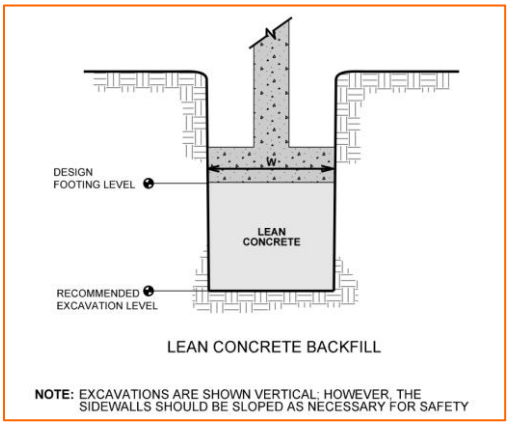
Footings, foundations, and masonry walls should be reinforced as necessary to reduce the potential for distress caused by differential foundation movement. The use of joints at openings or other discontinuities in masonry walls is recommended.

Foundation excavations should be observed by the geotechnical engineer. If the soil conditions encountered differ from those presented in this report, supplemental recommendations will be required.

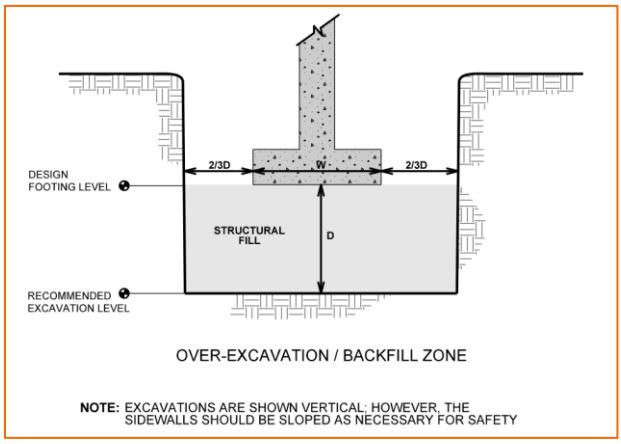
Foundation Construction Considerations

As noted in the **Earthwork** section, soils exposed in footing excavations should be evaluated by the Geotechnical Engineer or his representative. The base of all foundation excavations should be free of water and loose soil, prior to placing concrete. Concrete should be placed soon after excavating to reduce bearing soil disturbance. Should the soils at the bearing level become excessively dry, disturbed or saturated, or frozen, the affected soil should be removed prior to placing concrete. Place a lean concrete mud-mat over the bearing soils if the excavations must remain open over night or for an extended period of time. It is recommended that the geotechnical engineer be retained to observe and test the soil foundation bearing materials.

If unsuitable bearing soils are encountered at the base of the planned footing excavation, the excavation should be extended deeper to suitable soils, and the footings could bear directly on these soils at the lower level or on lean concrete backfill placed in the excavations. This is illustrated on the sketch below.



Over-excavation for structural fill placement below footings should extend laterally beyond all edges of the footings at least 8 inches per foot of overexcavation depth below footing base elevation. The overexcavation should then be backfilled up to the footing base elevation with well-graded granular material placed in lifts of 8 inches or less in loose thickness and compacted to at least 95 percent of the material's maximum standard Proctor dry density (ASTM D-698). The overexcavation and backfill procedure is described in the figure below.



SEISMIC CONSIDERATIONS

Seismic Site Classification

The seismic design requirements for buildings and other structures are based on Seismic Design Category. Site Classification is a required component in determining the Seismic Design Category for a structure. The Site Classification is based on the upper 100 feet of the site subsurface profile defined by a weighted average value of either shear wave velocity, standard penetration resistance, or undrained shear strength in accordance with Section 20.4 of ASCE 7-16 and the

International Building Code (IBC) 2018. For this project we used standard penetration resistance to generate site classification.

Code Used	Site Classification
2018 International Building Code (IBC) [1]	D[2]

1. In general accordance with the 2018 International Building Code.
2. The 2018 International Building *Code (IBC) requires a site soil* profile determination extending a depth of 100 feet for seismic site classification. The current scope requested does not include the required 100-foot soil profile determination. The borings for the building extended to a maximum depth of approximately 20 feet and this seismic site class definition considers that medium dense to dense clayey sand continues below the maximum depth of the subsurface exploration. Additional exploration to deeper depths could be performed to confirm the conditions below the current depth of exploration. Alternatively, a geophysical exploration could be utilized in order to attempt to justify a higher seismic site class.

FLOOR SLABS

Depending upon the finished floor elevation, unsuitable, weak, loose soils may be encountered at the floor slab subgrade level. If encountered, these soils should be replaced with structural fill so the floor slab is supported on at least 2 feet of compacted suitable soils. Proofrolling, as stated above, should serve to identify those areas where undercutting and replacement is needed.

Design parameters for floor slabs assume the requirements for **Earthwork** have been followed. Specific attention should be given to positive drainage away from the structure and positive drainage of the aggregate base beneath the floor slab.

Floor Slab Design Parameters

Item	Description
Interior floor system	Slab-on-grade concrete.
Floor Slab Support [1]	Minimum 12 inches of approved on-site or imported soils placed and compacted in accordance with the **Earthwork** section of this report.[2,3]
Subbase [3]	4-inch compacted layer of free draining, granular subbase material

1. Floor slabs should be structurally independent of building footings or walls to reduce the possibility of floor slab cracking caused by differential movements between the slab and foundation.
2. We recommend subgrades be maintained at the proper moisture condition until floor slabs are constructed. If the subgrade should become desiccated prior to construction, the affected material should be removed or the materials scarified, moistened, and recompacted. Upon completion of grading operations in the building areas, care should be taken to maintain the recommended subgrade moisture content and density prior to construction of the building floor slabs.
3. The floor slab design should include a capillary break, comprised of free-draining, compacted, granular material, at least 4 inches thick.

A subgrade prepared and tested as recommended in this report should provide adequate support for lightly loaded floor slabs.

The use of a vapor retarder should be considered beneath concrete slabs on grade that will be covered with wood, tile, carpet, or other moisture sensitive or impervious coverings, or when the slab will support equipment sensitive to moisture. When conditions warrant the use of a vapor retarder, the slab designer should refer to ACI 302 and/or ACI 360 for procedures and cautions regarding the use and placement of a vapor retarder/barrier.

Saw-cut control joints should be placed in the slab to help control the location and extent of cracking. For additional recommendations refer to the ACI Design Manual. Joints or cracks should be sealed with a water-proof, non-extruding compressible compound.

Where floor slabs are tied to perimeter walls or turn-down slabs to meet structural or other construction objectives, our experience indicates differential movement between the walls and slabs will likely be observed in adjacent slab expansion joints or floor slab cracks beyond the length of the structural dowels. The Structural Engineer should account for potential differential settlement through use of sufficient control joints, appropriate reinforcing or other means.

Floor Slab Construction Considerations

On most project sites, the site grading is generally accomplished early in the construction phase. However, as construction proceeds, the subgrade may be disturbed due to utility excavations, construction traffic, desiccation, rainfall, etc. As a result, the floor slab subgrade may not be suitable for placement of base rock and concrete and corrective action may be required.

We recommend the area underlying the floor slab be rough graded and then thoroughly proofrolled with a loaded tandem axle dump truck prior to final grading and placement of base rock. Attention should be paid to high traffic areas that were rutted and disturbed earlier and to areas where backfilled trenches are located. Areas where unsuitable conditions are located should be repaired by removing and replacing the affected material with properly compacted fill. All floor slab subgrade areas should be moisture conditioned and properly compacted to the recommendations in this report immediately prior to placement of the base rock and concrete.

Finished subgrade, within and for at least 10 feet beyond the floor slab, should be protected from traffic, rutting, or other disturbance and maintained in a relatively moist condition until floor slabs are constructed. If the subgrade should become damaged or desiccated prior to construction of floor slabs, the affected material should be removed, and structural fill should be added to replace the resulting excavation. Final conditioning of the finished subgrade should be performed immediately prior to placement of the floor slab support course.

The Geotechnical Engineer should observe the condition of the floor slab subgrades immediately prior to placement of the floor slab support course, reinforcing steel, and concrete. Attention should

be paid to high traffic areas that were rutted and disturbed earlier, and to areas where backfilled trenches are located.

PAVEMENTS

Subgrade Preparation

On this site, the site grading will be accomplished relatively early in the construction phase. Fills are placed and compacted in a uniform manner. However, as construction proceeds, excavations are made into these areas, rainfall and surface water saturates some areas, heavy traffic from concrete trucks and other delivery vehicles disturbs the subgrade and many surface irregularities are filled in with loose soils to improve trafficability temporarily. As a result, the pavement subgrades, initially prepared early in the project, should be carefully evaluated as the time for pavement construction approaches.

We recommend the moisture content and density of the top 12 inches of the subgrade be evaluated and the pavement subgrades be proofrolled within two days prior to commencement of actual paving operations. Areas not in compliance with the required ranges of moisture or density should be moisture conditioned and recompacted. Particular attention should be paid to high traffic areas that were rutted and disturbed earlier and to areas where backfilled trenches are located. Areas where unsuitable conditions are located should be repaired by removing and replacing the materials with properly compacted fills. If a significant precipitation event occurs after the evaluation or if the surface becomes disturbed, the subgrade should be reviewed by qualified personnel immediately prior to paving. The subgrade should be in its finished form at the time of the final review.

After proofrolling and repairing subgrade deficiencies, the entire subgrade should be scarified and developed as recommended in the **Earthwork** section of this report to provide a uniform subgrade for pavement construction. Areas that appear severely desiccated following site stripping may require further undercutting and moisture conditioning.

Pavement Design Considerations

Traffic patterns and anticipated loading conditions were not available at the time that this report was prepared. However, we anticipate that traffic loads will be produced primarily by automobile traffic and occasional delivery and trash removal trucks. The thickness of pavements subjected to heavy truck traffic should be determined using expected traffic volumes, vehicle types, and vehicle loads and should be in accordance with local, city or county ordinances.

Pavement thickness can be determined using AASHTO, Asphalt Institute and/or other methods if specific wheel loads, axle configurations, frequencies, and desired pavement life are provided. Terracon can provide thickness recommendations for pavements subjected to loads other than personal vehicle and occasional delivery and trash removal truck traffic if this information is provided.

Pavement performance is affected by its surroundings. In addition to providing preventive maintenance, the civil engineer should consider the following recommendations in the design and layout of pavements:

- Final grade adjacent to parking lots and drives should slope down from pavement edges at a minimum 2%;
- The subgrade and the pavement surface should have a minimum ¼ inch per foot slope to promote proper surface drainage;
- Install pavement drainage surrounding areas anticipated for frequent wetting (e.g., garden centers, wash racks);
- Install joint sealant and seal cracks immediately;
- Seal all landscaped areas in, or adjacent to pavements to reduce moisture migration to subgrade soils;
- Place compacted, low permeability backfill against the exterior side of curb and gutter; and,
- Place curb, gutter and/or sidewalk directly on low permeability subgrade soils rather than on unbound granular base course materials.

Estimates of Minimum Pavement Thickness

As a minimum, we recommend the following typical pavement sections be considered.

Asphalt (AC) Pavement			
Material	**Light Duty[1] Thickness (inches)**	**Heavy Duty[2] Thickness (inches)**	**GDOT**
Subgrade	Upper 12 inches of existing soil or engineered fill	Upper 12 inches of existing soil or engineered fill	98% of Standard Proctor MMD, -2 to +3% OMC
Aggregate Base	6	8	GAB, Section 815 and 310
Asphalt Binder Course	-	1¾	SP19 - Section 400, 424, 824 and 828
Asphalt Surface Course	2	1¼	SP9.5 - Section 400, 424, 824 and 828

1. Automobiles only.
2. Combined automobiles and trucks

The graded aggregate base should be compacted to a minimum of 98 percent of the material's modified Proctor (ASTM D-1557, Method C) maximum dry density. Where base course thickness exceeds 6 inches, the material should be placed and compacted in two or more lifts of equal thickness.

The listed pavement component thicknesses should be used as a guide for pavement systems at the site for the traffic classifications stated herein. These recommendations assume a 20-year pavement design life. If pavement frequencies or loads will be different than that specified GEC should be contacted and allowed to review these pavement sections.

Asphalt concrete aggregates and base course materials should conform to the Georgia Department of Transportation (GDOT) "Standard Specifications for Construction of Transportation System".

Portland Cement Concrete (PCC) Pavement			
Material	**Light Duty[1] Thickness (inches)**	**Heavy Duty[2] Thickness (inches)**	**Reference**
Subgrade	Upper 12 inches of existing soil or engineered fill	Upper 12 inches of existing soil or engineered fill	GDOT: 98% of Standard Proctor MMD, -3 to +3% OMC
Aggregate Base	4	4	GDOT: GAB, Section 815 and 310
PCC	5	6 ½	ACI

1. Automobiles only.
2. Combined automobiles and trucks.

We recommend a Portland cement concrete (PCC) pavement be utilized in entrance and exit sections, dumpster pads, loading dock areas, or other areas where extensive wheel maneuvering are expected. The dumpster pad should be large enough to support the wheels of the truck which will bear the load of the dumpster.

Although not required for structural support, the base course layer is recommended to help reduce potentials for slab curl, shrinkage cracking, and subgrade "pumping" through joints. Proper joint spacing will also be required to prevent excessive slab curling and shrinkage cracking. All joints should be sealed to prevent entry of foreign material and dowelled where necessary for load transfer.

Portland cement concrete should be designed with proper air-entrainment and have a minimum compressive strength of 4,000 psi after 28 days of laboratory curing. Adequate reinforcement and number of longitudinal and transverse control joints should be placed in the rigid pavement in accordance with ACI requirements. The joints should be sealed as soon as possible (in accordance with sealant manufacturer's instructions and ACI requirements) to minimize infiltration of water into the soil.

Pavement Drainage

Pavements should be sloped to provide rapid drainage of surface water. Water allowed to pond on or adjacent to the pavements could saturate the subgrade and contribute to premature pavement deterioration. In addition, the pavement subgrade should be graded to provide positive drainage within the granular base section.

We recommend drainage be included at the bottom of the GAB layer at the storm structures to aid in removing water that may enter this layer. Drainage could consist of small diameter weep holes excavated around the perimeter of the storm structures. The weep holes should be excavated at the elevation of the GAB and soil interface. The excavation should be covered with No. 57 stone which is encompassed in Mirafi 140 NL or approved equivalent which will aid in reducing fines from entering the storm system.

Pavement Maintenance

The pavement sections provided in this report represent minimum recommended thicknesses and, as such, periodic maintenance should be anticipated. Therefore, preventive maintenance should be planned and provided for through an on-going pavement management program. Preventive maintenance activities are intended to slow the rate of pavement deterioration, and to preserve the pavement investment. Preventive maintenance consists of both localized maintenance (e.g., crack and joint sealing and patching) and global maintenance (e.g., surface sealing). Preventive maintenance is usually the first priority when implementing a planned pavement maintenance program and provides the highest return on investment for pavements. Prior to implementing any maintenance, additional engineering observation is recommended to determine the type and extent of preventive maintenance. Even with periodic maintenance, some movements and related cracking may still occur, and repairs may be required.

GENERAL COMMENTS

Our analysis and opinions are based upon our understanding of the project, the geotechnical conditions in the area, and the data obtained from our site exploration. Natural variations will occur between exploration point locations or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. Terracon should be retained as the Geotechnical Engineer, where noted in this report, to provide observation and testing services during pertinent construction phases. If variations appear, we can provide further evaluation and supplemental recommendations. If variations are noted in the absence of our observation and testing services on-site, we should be immediately notified so that we can provide evaluation and supplemental recommendations.

Our Scope of Services does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of

pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

Our services and any correspondence or collaboration through this system are intended for the sole benefit and exclusive use of our client for specific application to the project discussed and are accomplished in accordance with generally accepted geotechnical engineering practices with no third-party beneficiaries intended. Any third-party access to services or correspondence is solely for information purposes to support the services provided by Terracon to our client. Reliance upon the services and any work product is limited to our client and is not intended for third parties. Any use or reliance of the provided information by third parties is done solely at their own risk. No warranties, either express or implied, are intended or made.

Site characteristics as provided are for design purposes and not to estimate excavation cost. Any use of our report in that regard is done at the sole risk of the excavating cost estimator as there may be variations on the site that are not apparent in the data that could significantly impact excavation cost. Any parties charged with estimating excavation costs should seek their own site characterization for specific purposes to obtain the specific level of detail necessary for costing. Site safety, and cost estimating including, excavation support, and dewatering requirements/design are the responsibility of others. If changes in the nature, design, or location of the project are planned, our conclusions and recommendations shall not be considered valid unless we review the changes and either substantiate or modify our conclusions in writing.

ATTACHMENTS

EXPLORATION AND TESTING PROCEDURES

Field Exploration

Number of Borings	Boring Depth (feet)
2	10 (or auger refusal)
6	20 (or auger refusal)

Boring Layout and Elevations: Passero provided the boring layout for the site as shown on the provided site plan. Coordinates were obtained with a handheld GPS unit. If elevations and a more precise boring layout are desired, we recommend borings be surveyed following completion of fieldwork.

Subsurface Exploration Procedures: We advanced the borings a truck-mounted drill rig using continuous flight hollow stem. Four samples were obtained in the upper 10 feet of each boring and at intervals of 5 feet thereafter. In the split-barrel sampling procedure, a standard 2-inch outer diameter split-barrel sampling spoon was driven into the ground by a 140-pound automatic hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the last 12 inches of a normal 18-inch penetration is recorded as the Standard Penetration Test (SPT) resistance value. The SPT resistance values, also referred to as N-values, are indicated on the boring logs at the test depths. We observed and recorded groundwater levels during drilling and sampling. For safety purposes, all borings were backfilled with auger cuttings after their completion.

The sampling depths, penetration distances, and other sampling information was recorded on the field boring logs. The samples were placed in appropriate containers and taken to our soil laboratory for testing and classification by a Geotechnical Engineer. Our exploration team prepared field boring logs as part of the drilling operations. These field logs included visual classifications of the materials encountered during drilling and our interpretation of the subsurface conditions between samples. Final boring logs were prepared from the field logs. The final boring logs represent the Geotechnical Engineer's interpretation of the field logs and include modifications based on observations and tests of the samples in our laboratory.

SITE LOCATION AND EXPLORATION PLANS

Contents:

Site Location Plan
Exploration Plan

Note: All attachments are one page unless noted above

SITE LOCATION

New Corporate GA Terminal ■ Macon, Georgia
April 18, 2023 ■ Terracon Project No. HN225215

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

EXPLORATION PLAN

New Corporate GA Terminal ■ Macon, Georgia
April 18, 2023 ■ Terracon Project No. HN225215

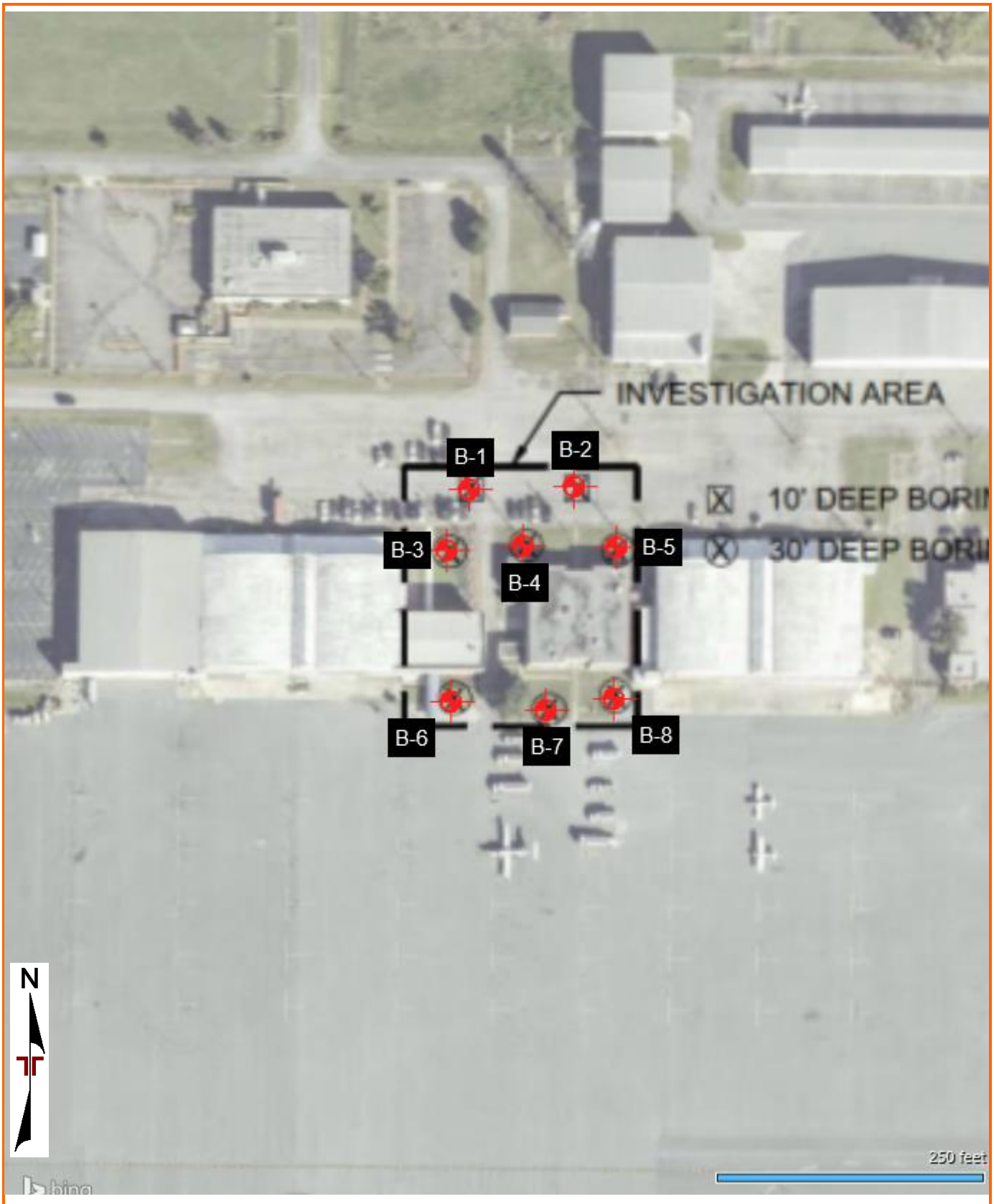


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

EXPLORATION PLAN

New Corporate GA Terminal ■ Macon, Georgia

April 18, 2023 ■ Terracon Project No. HN225215

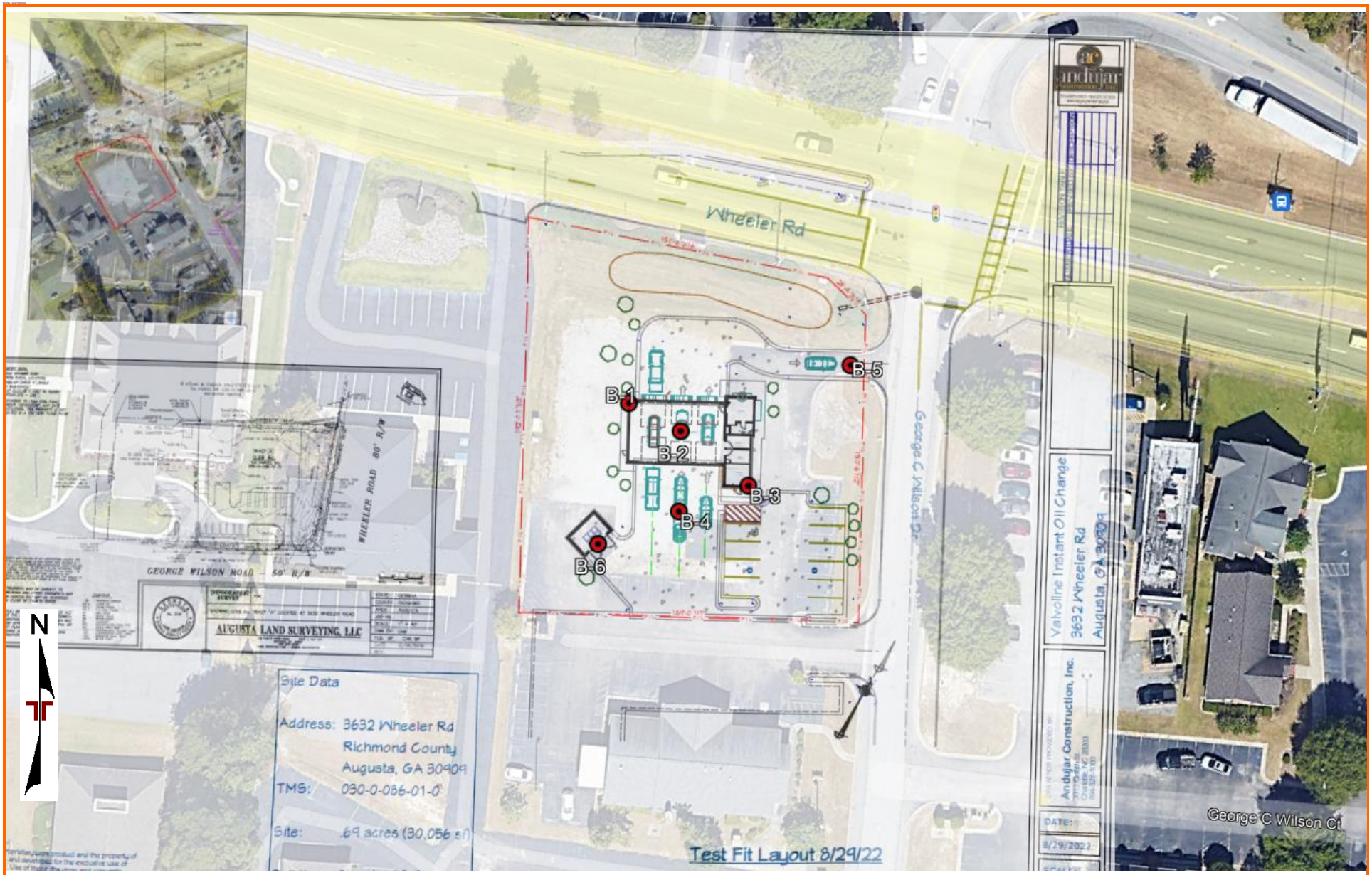


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

EXPLORATION RESULTS

Contents:

Boring Logs (B-1 through B-8)

Note: All attachments are one page unless noted above.

New Corporate GA Terminal
1000 Terminal Drive | Macon, GA
Terracon Project No. HN225215

Terracon
514 Hillcrest Indust. Blvd
Macon, GA

Boring Log No. B-1

Location: See Exploration Plan

Latitude: 32.7020° Longitude: -83.6481°

Graphic Log	Depth (Ft.)		Water Level Observations	Sample Type	Field Test Results
	0.5	**ASPHALT**, Approx 6" of asphalt			
		COASTAL PLAIN - LEAN CLAY (CL), red, stiff			3-4-6 N=10
					5-6-6 N=12
	5				4-6-7 N=13
					5-6-8 N=14
	10.0				
	10	***Boring Terminated at 10 Feet***			

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Not encountered

Drill Rig
CME 550X

Hammer Type
Automatic

Driller
C. SHUBERT

Notes
Elevation Reference: Elevations not obtained

Advancement Method
HSA 2.25"

Abandonment Method
Boring backfilled with auger cuttings upon completion.

Boring Started
03-03-2023

Boring Completed
03-03-2023

New Corporate GA Terminal
1000 Terminal Drive | Macon, GA
Terracon Project No. HN225215

Terracon
514 Hillcrest Indust. Blvd
Macon, GA

Boring Log No. B-2

Location: See Exploration Plan

Latitude: 32.7020° Longitude: -83.6478°

Graphic Log	Depth (Ft.)		Water Level Observations	Sample Type	Field Test Results
	0.3	**ASPHALT**, Approx 3" of asphalt			
		FILL - LEAN CLAY (CL), red, medium stiff			1-2-2 N=4
	3.0				
		COASTAL PLAIN - LEAN CLAY (CL), red, stiff			2-3-3 N=6
	5				6-7-8 N=15
					8-10-11 N=21
	10.0				
	10	***Boring Terminated at 10 Feet***			

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Not encountered

Drill Rig
CME 550X

Hammer Type
Automatic

Driller
C. SHUBERT

Notes
Elevation Reference: Elevations not obtained

Advancement Method
HSA 2.25"

Abandonment Method
Boring backfilled with auger cuttings upon completion.

Boring Started
03-03-2023

Boring Completed
03-03-2023

New Corporate GA Terminal
1000 Terminal Drive | Macon, GA
Terracon Project No. HN225215

Terracon
514 Hillcrest Indust. Blvd
Macon, GA

Boring Log No. B-3

Location: See Exploration Plan

Latitude: 32.7019° Longitude: -83.6482°

Depth (Ft.)	Description	Water Level Observations	Sample Type	Field Test Results
0.3	**TOPSOIL**, Approx 4" of topsoil			
	COASTAL PLAIN - CLAYEY SAND (SC), black, Hand auger for upper 5'			
3.0	**LEAN CLAY (CL)**, red, very stiff			3-6-10 N=16
				4-5-10 N=15
12.0	**CLAYEY SAND (SM)**, with quartz fragments, red white, very dense			15-23-27 N=50
16.0	**SILTY SAND (SM)**, white yellow, medium dense			6-8-8 N=16
22.0	**CLAYEY SAND (SC)**, white pink red, medium dense			9-14-15 N=29
26.0	**CLAYEY SAND (SC)**, with quartz fragments, purple white, medium dense			9-10-7 N=17
30.0	***Boring Terminated at 30 Feet***			

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Not encountered

Drill Rig
CME 550X

Hammer Type
Automatic

Driller
C. SHUBERT

Notes
Elevation Reference: Elevations not obtained

Advancement Method
HSA 2.25"

Abandonment Method
Boring backfilled with auger cuttings upon completion.

Boring Started
03-03-2023

Boring Completed
03-03-2023

New Corporate GA Terminal
1000 Terminal Drive | Macon, GA
Terracon Project No. HN225215

Terracon
514 Hillcrest Indust. Blvd
Macon, GA

Boring Log No. B-4

Location: See Exploration Plan

Latitude: 32.7019° Longitude: -83.6479°

Depth (Ft.)	Description	Sample Type	Field Test Results
0.3	**TOPSOIL**, Approx 4" of topsoil		
	COASTAL PLAIN - LEAN CLAY (CL), black red, very stiff, Hand auger for upper 5'		
			8-8-9 N=17
			10-10-9 N=19
12.0	**CLAYEY SAND (SC)**, with rock fragments, red, medium dense		
			8-9-10 N=19
			8-10-13 N=23
22.0	**CLAYEY SAND (SC)**, pink orange, medium dense		
			8-9-9 N=18
			9-10-12 N=22
30.0	***Boring Terminated at 30 Feet***		

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Not encountered

Notes
Elevation Reference: Elevations not obtained

Advancement Method
HSA 2.25"

Abandonment Method
Boring backfilled with auger cuttings upon completion.

Drill Rig
CME 550X

Hammer Type
Automatic

Driller
C. SHUBERT

Boring Started
03-03-2023

Boring Completed
03-03-2023

New Corporate GA Terminal
1000 Terminal Drive | Macon, GA
Terracon Project No. HN225215

Terracon
514 Hillcrest Indust. Blvd
Macon, GA

Boring Log No. B-5

Location: See Exploration Plan

Latitude: 32.7019° Longitude: -83.6476°

Depth (Ft.)	Description	Field Test Results
0.5	**TOPSOIL**, Approx 6" of topsoil	
	COASTAL PLAIN - LEAN CLAY (CL), red, stiff, Hand auger for upper 2.5'	3-4-4 N=8
6.0	**LEAN CLAY (CL)**, red brown, stiff	4-6-7 N=13
		6-8-8 N=16
12.0	**CLAYEY SAND (SC)**, with rock fragments, orange white, medium dense	6-10-11 N=21
		6-6-7 N=13
22.0	**SILTY SAND (SM)**, white, medium dense	5-6-9 N=15
		4-8-9 N=17
30.0	***Boring Terminated at 30 Feet***	

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Not encountered

Drill Rig
CME 550X

Hammer Type
Automatic

Driller
C. SHUBERT

Notes
Elevation Reference: Elevations not obtained

Advancement Method
HSA 2.25"

Abandonment Method
Boring backfilled with auger cuttings upon completion.

Boring Started
03-03-2023

Boring Completed
03-03-2023

New Corporate GA Terminal
1000 Terminal Drive | Macon, GA
Terracon Project No. HN225215

Terracon
514 Hillcrest Indust. Blvd
Macon, GA

Boring Log No. B-6

Location: See Exploration Plan

Latitude: 32.7015° Longitude: -83.6481°

Depth (Ft.)	Description	Field Test Results
0.5	**ASPHALT**, Approx 6" of asphalt	
	COASTAL PLAIN - LEAN CLAY (CL), red, medium stiff to very stiff	4-4-3 N=7
		8-5-3 N=8
		4-6-10 N=16
8.0		
	CLAYEY SAND (SC), red, medium dense	7-9-10 N=19
12.0		
	SILTY SAND (SM), red grey, medium dense	5-8-12 N=20
16.0		
	CLAYEY SAND (SC), orange red, medium dense	10-10-9 N=19
22.0		
	SILTY SAND (SM), yellow, medium dense	6-6-9 N=15
26.0		
	CLAYEY SAND (SC), yellow, medium dense	7-7-7 N=14
30.0		
	Boring Terminated at 30 Feet	

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Not encountered

Notes
Elevation Reference: Elevations not obtained

Advancement Method
HSA 2.25"

Abandonment Method
Boring backfilled with auger cuttings upon completion.

Drill Rig
CME 550X

Hammer Type
Automatic

Driller
C. SHUBERT

Boring Started
03-03-2023

Boring Completed
03-03-2023

New Corporate GA Terminal
1000 Terminal Drive | Macon, GA
Terracon Project No. HN225215

Terracon
514 Hillcrest Indust. Blvd
Macon, GA

Boring Log No. B-7

Location: See Exploration Plan

Latitude: 32.7015° Longitude: -83.6479°

Depth (Ft.)	Description	Water Level Observations	Sample Type	Field Test Results
0.3	**TOPSOIL**, Approx. 4" of topsoil			
	COASTAL PLAIN - LEAN CLAY (CL), red to black, medium stiff to very stiff			6-8-10 N=18
				2-2-3 N=5
				3-4-5 N=9
				4-4-6 N=10
12.0	**CLAYEY SAND (SC)**, red to tan, medium dense			10-10-9 N=19
16.0	**LEAN CLAY (CL)**, gray to red, stiff			3-3-5 N=8
22.0	**SILTY SAND (SM)**, with quartz, red to tan, medium dense			5-7-8 N=15
26.0	**SILTY SAND (SM)**, white, medium dense			8-8-11 N=19
30.0	***Boring Terminated at 30 Feet***			

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Not encountered

Notes
Elevation Reference: Elevations not obtained

Advancement Method
HSA 2.25"

Abandonment Method
Boring backfilled with auger cuttings upon completion.

Drill Rig
CME 550X

Hammer Type
Automatic

Driller
C. SHUBERT

Boring Started
03-03-2023

Boring Completed
03-03-2023

New Corporate GA Terminal
1000 Terminal Drive | Macon, GA
Terracon Project No. HN225215

514 Hillcrest Indust. Blvd
Macon, GA

Boring Log No. B-8

Location: See Exploration Plan

Latitude: 32.7015° Longitude: -83.6476°

Depth (Ft.)	Graphic Log	Material Description	Water Level Observations	Sample Type	Field Test Results
0.3		**ASPHALT**, Approx 3" of asphalt			
		FILL - LEAN CLAY (CL), black red, soft to medium stiff			1-1-2 N=3
					2-3-3 N=6
					1-3-2 N=5
8.0					
		COASTAL PLAIN - LEAN CLAY (CL), red, medium stiff			2-2-4 N=6
12.0					
		CLAYEY SAND (SC), red orange, medium dense			4-5-5 N=10
					5-7-10 N=17
22.0					
		SILTY SAND (SM), with rock fragments, white, medium dense			4-5-5 N=10
					5-6-8 N=14
30.0					
		Boring Terminated at 30 Feet			

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Not encountered

Drill Rig
CME 550X

Hammer Type
Automatic

Driller
C. SHUBERT

Notes
Elevation Reference: Elevations not obtained

Advancement Method
HSA 2.25"

Abandonment Method
Boring backfilled with auger cuttings upon completion.

Boring Started
03-03-2023

Boring Completed
03-03-2023

SUPPORTING INFORMATION

Contents:

Note: All attachments are one page unless noted above.

GENERAL NOTES

SAMPLING	WATER LEVEL	FIELD TESTS
Standard Penetration Test	Water Initially Encountered Water Level After a Specified Period of Time Water Level After a Specified Period of Time Cave In Encountered Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.	N Standard Penetration Test Resistance (Blows/Ft.) (HP) Hand Penetrometer (T) Torvane (DCP) Dynamic Cone Penetrometer UC Unconfined Compressive Strength (PID) Photo-Ionization Detector (OVA) Organic Vapor Analyzer

DESCRIPTIVE SOIL CLASSIFICATION

Soil classification as noted on the soil boring logs is based Unified Soil Classification System. Where sufficient laboratory data exist to classify the soils consistent with ASTM D2487 "Classification of Soils for Engineering Purposes" this procedure is used. ASTM D2488 "Description and Identification of Soils (Visual-Manual Procedure)" is also used to classify the soils, particularly where insufficient laboratory data exist to classify the soils in accordance with ASTM D2487. In addition to USCS classification, coarse grained soils are classified on the basis of their in-place relative density, and fine-grained soils are classified on the basis of their consistency. See "Strength Terms" table below for details. The ASTM standards noted above are for reference to methodology in general. In some cases, variations to methods are applied as a result of local practice or professional judgment.

LOCATION AND ELEVATION NOTES

Exploration point locations as shown on the Exploration Plan and as noted on the soil boring logs in the form of Latitude and Longitude are approximate. See Exploration and Testing Procedures in the report for the methods used to locate the exploration points for this project. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

STRENGTH TERMS

RELATIVE DENSITY OF COARSE-GRAINED SOILS (More than 50% retained on No. 200 sieve.) Density determined by Standard Penetration Resistance		CONSISTENCY OF FINE-GRAINED SOILS (50% or more passing the No. 200 sieve.) Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance		
Descriptive Term (Density)	Standard Penetration or N-Value Blows/Ft.	Descriptive Term (Consistency)	Unconfined Compressive Strength Qu, (tsf)	Standard Penetration or N-Value Blows/Ft.
Very Loose	0 - 3	Very Soft	less than 0.25	0 - 1
Loose	4 - 9	Soft	0.25 to 0.50	2 - 4
Medium Dense	10 - 29	Medium Stiff	0.50 to 1.00	4 - 8
Dense	30 - 50	Stiff	1.00 to 2.00	8 - 15
Very Dense	> 50	Very Stiff	2.00 to 4.00	15 - 30
		Hard	> 4.00	> 30

RELEVANCE OF SOIL BORING LOG

The soil boring logs contained within this document are intended for application to the project as described in this document. Use of these soil boring logs for any other purpose may not be appropriate.

UNIFIED SOIL CLASSIFICATION SYSTEM

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests [A]					Soil Classification	
					Group Symbol	Group Name [B]
Coarse-Grained Soils: More than 50% retained on No. 200 sieve	**Gravels:** More than 50% of coarse fraction retained on No. 4 sieve	**Clean Gravels:** Less than 5% fines [C]	$Cu \geq 4$ and $1 \leq Cc \leq 3$ [E]		GW	Well-graded gravel [F]
			$Cu < 4$ and/or [$Cc<1$ or $Cc>3.0$] [E]		GP	Poorly graded gravel [F]
		Gravels with Fines: More than 12% fines [C]	Fines classify as ML or MH		GM	Silty gravel [F, G, H]
			Fines classify as CL or CH		GC	Clayey gravel [F, G, H]
	Sands: 50% or more of coarse fraction passes No. 4 sieve	**Clean Sands:** Less than 5% fines [D]	$Cu \geq 6$ and $1 \leq Cc \leq 3$ [E]		SW	Well-graded sand [I]
			$Cu < 6$ and/or [$Cc<1$ or $Cc>3.0$] [E]		SP	Poorly graded sand [I]
		Sands with Fines: More than 12% fines [D]	Fines classify as ML or MH		SM	Silty sand [G, H, I]
			Fines classify as CL or CH		SC	Clayey sand [G, H, I]
Fine-Grained Soils: 50% or more passes the No. 200 sieve	**Silts and Clays:** Liquid limit less than 50	**Inorganic:**	PI > 7 and plots on or above "A" line [J]		CL	Lean clay [K, L, M]
			PI < 4 or plots below "A" line [J]		ML	Silt [K, L, M]
		Organic:	Liquid limit - oven dried	< 0.75	OL	Organic clay [K, L, M, N]
			Liquid limit - not dried			Organic silt [K, L, M, O]
	Silts and Clays: Liquid limit 50 or more	**Inorganic:**	PI plots on or above "A" line		CH	Fat clay [K, L, M]
			PI plots below "A" line		MH	Elastic Silt [K, L, M]
		Organic:	Liquid limit - oven dried	< 0.75	OH	Organic clay [K, L, M, P]
			Liquid limit - not dried			Organic silt [K, L, M, Q]
Highly organic soils:	Primarily organic matter, dark in color, and organic odor				PT	Peat

[A] Based on the material passing the 3-inch (75-mm) sieve.

[B] If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

[C] Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

[D] Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay.

[E] $Cu = D_{60}/D_{10}$ $\quad Cc = \dfrac{(D_{30})^2}{D_{10} \times D_{60}}$

[F] If soil contains ≥ 15% sand, add "with sand" to group name.

[G] If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

[H] If fines are organic, add "with organic fines" to group name.

[I] If soil contains ≥ 15% gravel, add "with gravel" to group name.

[J] If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

[K] If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

[L] If soil contains ≥ 30% plus No. 200 predominantly sand, add "sandy" to group name.

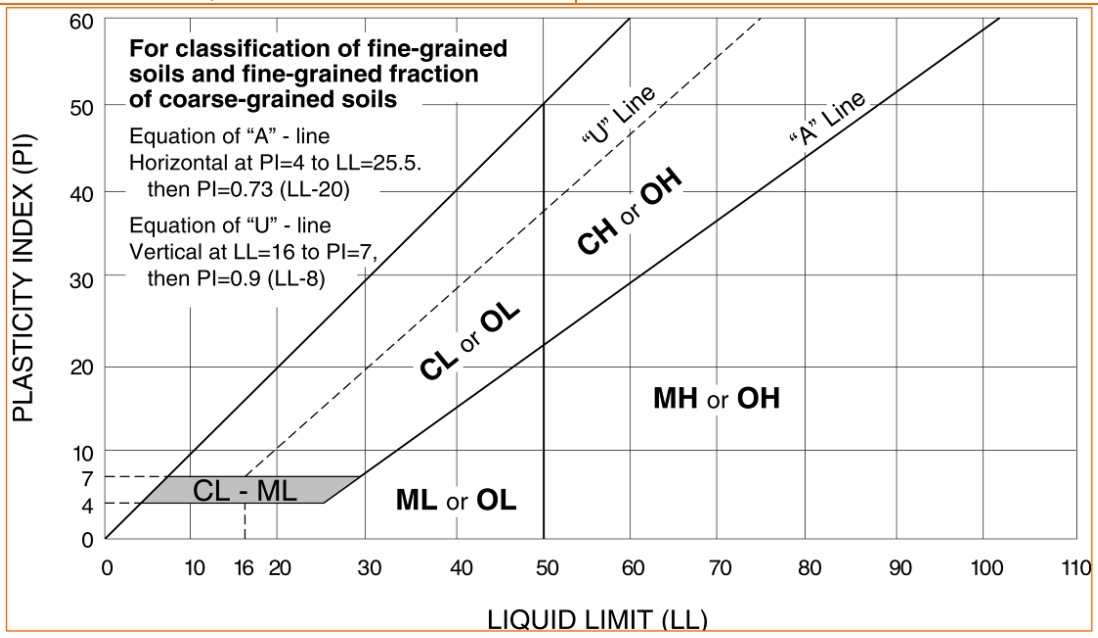
[M] If soil contains ≥ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.

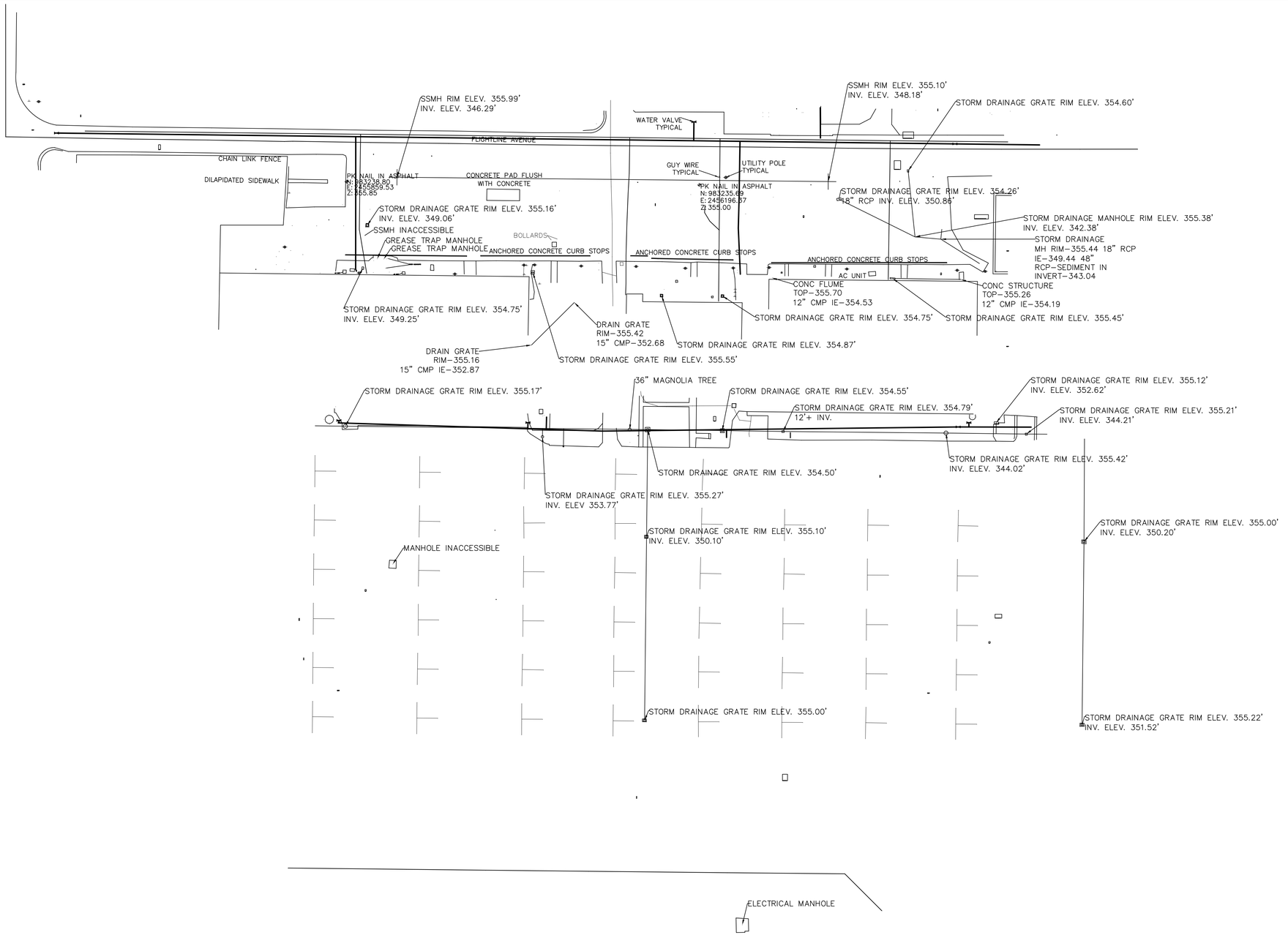
[N] PI ≥ 4 and plots on or above "A" line.

[O] PI < 4 or plots below "A" line.

[P] PI plots on or above "A" line.

[Q] PI plots below "A" line.





DATE	REVISION BY	DESCRIPTION

GEORGIA REGISTERED No. 3160 LAND SURVEYOR ANDREW C. TOMBERLIN

ANDREW C. TOMBERLIN

0 50' 100'

SCALE H: 1"= 50'
SCALE V: NA

VERIFY SCALE:
THESE PRINTS MAY BE REDUCED. LINE BELOW MEASURES ONE INCH ON ORIGINAL DRAWING.
MODIFY SCALE ACCORDINGLY!

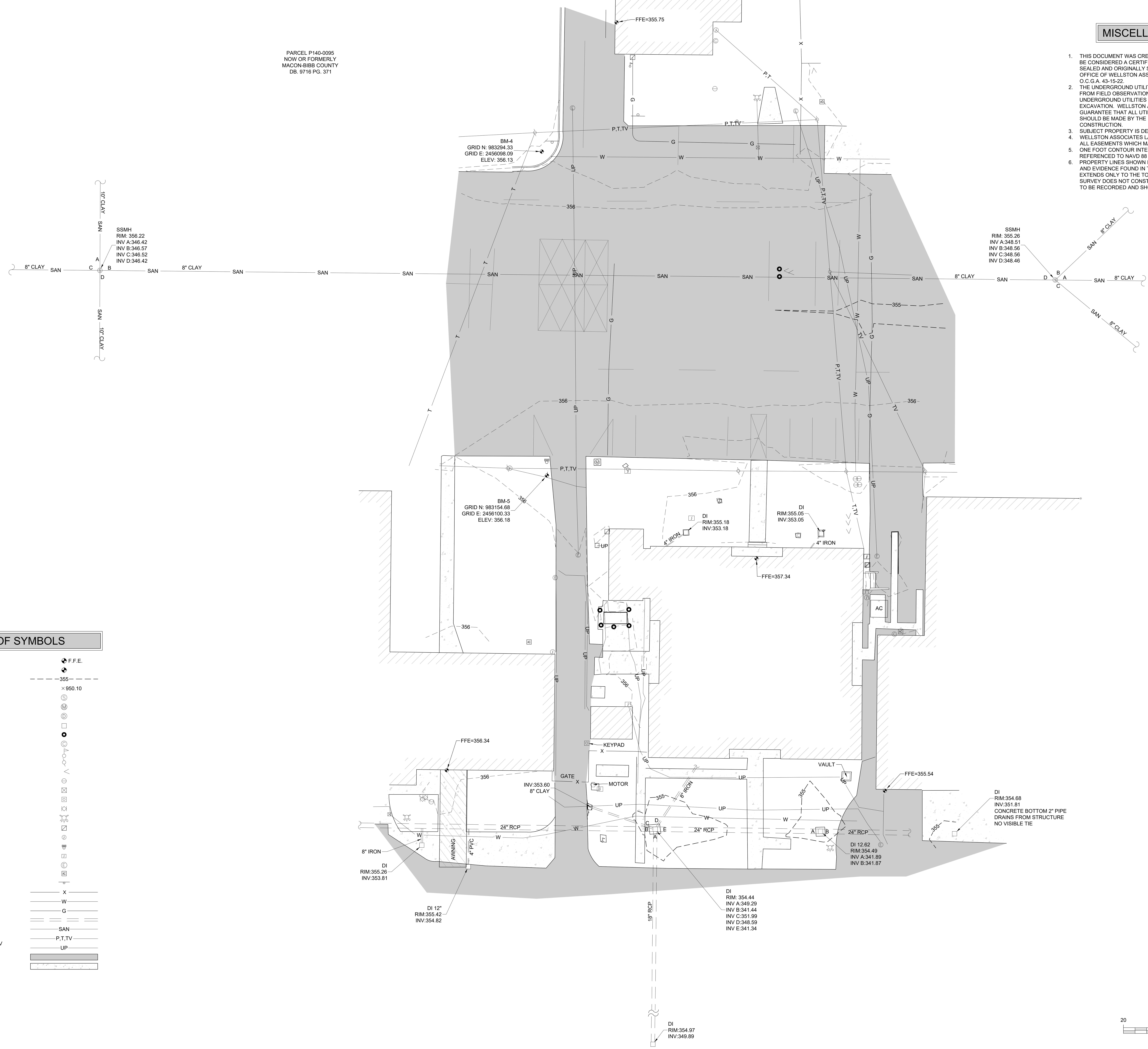
HOFSTADTER & ASSOCIATES INC
CIVIL/ENVIRONMENTAL/TRANSPORTATION CONSULTING ENGINEERS/SURVEYORS
WWW.HOFSTADTER.COM

MCN AIRPORT

MIDDLE GEORGIA REGIONAL AIRPORT
MACON-BIBB COUNTY, GEORGIA

PROJECT NUMBER:
DRAWN BY: JKT
CHECKED BY: ACT
DATE: 7/19/2024

SHEET NUMBER 1



MISCELLANEOUS NOTES

1. THIS DOCUMENT WAS CREATED ELECTRONICALLY. THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT UNLESS IT HAS BEEN PROPERLY SEALED AND ORIGINALLY SIGNED BY A REGISTERED LAND SURVEYOR AT THE OFFICE OF WELLSTON ASSOCIATES LAND SURVEYORS, LLC AUTHORITY O.C.G.A. 43-15-22.
2. THE UNDERGROUND UTILITIES SHOWN ON THIS DRAWING WERE COMPILED FROM FIELD OBSERVATIONS, UTILITY COMPANY RECORDS AND UNDERGROUND UTILITIES MARKED BY OTHERS WITHOUT BENEFIT OF EXCAVATION. WELLSTON ASSOCIATES LAND SURVEYORS, LLC DOES NOT GUARANTEE THAT ALL UTILITIES ARE SHOWN. VERIFICATION OF UTILITIES SHOULD BE MADE BY THE INDIVIDUAL UTILITY COMPANY PRIOR TO ANY CONSTRUCTION.
3. SUBJECT PROPERTY IS DESIGNATED AS PARCEL P140-0095.
4. WELLSTON ASSOCIATES LAND SURVEYORS, LLC DOES NOT GUARANTEE THAT ALL EASEMENTS WHICH MAY AFFECT THE SUBJECT TRACT ARE SHOWN.
5. ONE FOOT CONTOUR INTERVAL SHOWN. ELEVATIONS SHOWN ARE REFERENCED TO NAVD 88 DATUM.
6. PROPERTY LINES SHOWN HEREON WERE TAKEN FROM MATTERS OF RECORD AND EVIDENCE FOUND IN THE FIELD. THE SURVEYOR'S CERTIFICATION EXTENDS ONLY TO THE TOPOGRAPHIC ASPECTS AND THE TOPOGRAPHIC SURVEY DOES NOT CONSTITUTE A BOUNDARY SURVEY. THIS SURVEY IS NOT TO BE RECORDED AND SHOULD NOT BE USED TO CONVEY PROPERTY.

LEGEND OF SYMBOLS

FINISHED FLOOR ELEVATION	F.F.E.
BENCHMARK	
CONTOUR LINE	355
SPOT ELEVATION	×950.10
SANITARY SEWER MANHOLE	
MANHOLE	
STORM DRAIN MANHOLE	
DROP INLET	
BOLLARD	
CLEAN OUT	
FLAG POLE	
UTILITY POLE	
GUY WIRE	
WATER METER	
WATER VALVE	
MONITORING WELL	
IRRIGATION CONTROL VALVE	
FIRE HYDRANT	
GAS METER	
ELECTRIC METER	
MAIL BOX	
ELECTRIC CONTROL PANEL	
ELECTRIC MANHOLE	
AC UNIT	
SIGN	
FENCE	X
WATER LINE	W
GAS LINE	G
STORM SEWER LINE	
SANITARY SEWER LINE	SAN
OVERHEAD POWER, TELEPHONE AND CATV	P,T,TV
UNDERGROUND POWER	UP
ASPHALT	
CONCRETE	

20 0 20 40 60

GRAPHIC SCALE IN FEET

Revisions

No.	Date	Description
1	3/11/24	TOPO ADDED SOUTH OF BUILDING

WELLSTON ASSOCIATES
LAND SURVEYORS, LLC
524 S. HOUSTON LAKE ROAD, SUITE F100
WARNER ROBINS, GEORGIA 31088
OFFICE (478) 971-3382
WWW.WELLSTONASSOC.COM

TOPOGRAPHIC SURVEY
LANDS OF
MACON-BIBB COUNTY
AIRPORT

4TH LAND DISTRICT
GEORGIA

LAND LOT 230
MACON-BIBB COUNTY

Project No.:	1383-001
Drawing No.:	TPS1A
Drawn By:	B.J.H.
Checked By:	S.H.J.
R.L.S. No.:	3171

GEORGIA REGISTERED No. 3171 LAND SURVEYOR SPENCER H. JOHNSON

Date:	3/11/24
Scale:	1"=20'

Sheet No.: