

SECTION 009113 – ADDENDUM TWO

PART 1 - ADDENDA

1.1 PROJECT INFORMATION

Project Name: 22045 Amite County Elementary School Parking
Lot & Site Development

- A. Owner: Amite County School District, 533 Maggie Street, Liberty, MS 39645A
- B. Architect: Bailey Architecture Education, P.A., 201 Park Court, Suite B, Ridgeland, MS 39157
- C. Architect Project Number: 22045
- D. Date of Addendum Two: 23 February 2023

1.2 NOTICE TO BIDDERS

- A. This Addendum is issued to all registered plan holders pursuant to the Instructions to Bidders and Conditions of the Contract. This Addendum serves to clarify, revise, and supersede information in the Project Manual, Drawings, and previously issued Addenda. Portions of the Addendum affecting the Contract Documents will be incorporated into the Contract by enumeration of the Addendum in the Owner/Contractor Agreement.
- B. The Bidder shall acknowledge receipt of this Addendum in the appropriate space on the Bid Form.
- C. The date for receipt of bids is **UNCHANGED** by this Addendum at same time and location.

1.3 GENERAL

- A. Attached are the annotated Pre-Bid Meeting Minutes and Meeting Attendees dated 02 February 2023.
- B. Attached is a Geotechnical Report by Burns Cooley Dennis, Inc. dated February 15, 2023.

1.4 GENERAL RESPONSES TO REQUESTS FOR INFORMATION

- A. QUESTION: I see there is a specification for aluminum pipe and rail tubing. I wasn't sure if this pertained to the canopies, or if there are some other type of railings incorporated in the project.

ANSWER: Section 055212 Pipe and Tube Railing shall be deleted in its entirety and replaced with Section 05500 Metal Fabrication. This will be for bollards around the guardhouse and dumpster enclosures.



- B. QUESTION: 2.1 – A states that the product is Model PC-86SL but identifies it as a Duraluminum Booth. I have attached brochures on both products. The Model for the Duraluminum would be DA9672.
- ANSWER: Replace “Duraluminum” with “Durasteel” in the specification.
- C. QUESTION: 2.3 A calls for the standard FRP exterior finish. 1. Calls for brick finish from the windows down. Are you wanting the factory applied thin set brick or faux brick polyurethane product.
- ANSWER: Apply thin set brick.
- D. QUESTION: 2.4 A. 1. Calls for vinyl composition tile flooring. We can supply this but I would recommend our aluminum tread plate floor. It is more durable and helps provide stability when moving the booth.
- ANSWER: Change VCT to aluminum tread plate floor.
- E. QUESTION: 2.5 A. The bottom section of the doors will have aluminum panel. Also need to know how many doors and where they are located.
- ANSWER: 1 door, located on the entry side of the building, see attachment.
- F. QUESTION: 2.6 A. Calls for sliding windows, without a drawing we did not know how many, where you want them and how many fixed windows.
- ANSWER: 1 sliding window, located on the opposite side of the door, see attachment.
- G. QUESTION: 2.8 Electrical – we can quote this but will need to see a configuration drawing to see where they go.
- ANSWER: See attachment.
- H. QUESTION: 2.9 Exterior Roof – Are you wanting our standard flat roof with self-contained gutters or our standing seam hip roof?
- ANSWER: Standing Seam Hip Roof.
- I. QUESTION: Section 323113 Chain Link Fences and Gates, Pg 2 Part 2-Products, 2.1 Chain Link Fence Fabric, Line 2A. The mesh size mentioned is 1-3/4". Upon your approval, we would recommend changing this to a 2" mesh.
- ANSWER: We take no issues with 2" mesh size.
- J. QUESTION: Pg4 Part 3 - Execution, 3.3 Chain-Link Fence Installation, Line-Item E. The line post space is 8' o.c. Upon your approval, we would recommend this to be changed to 10' o.c.
- ANSWER: We take no issues with the 10' spacing for posts.
- K. QUESTION: Sheet C-503 Fence Details, Top Left fence detail, Line Bay, shows Bottom Rail; Top Right fence detail shows Bottom Rail; Center Right shows Tension Wire, is this an option or which one is required.

ANSWER: Most schools we have worked with prefer the bottom rail. I would suggest that the bottom rail be required.

- L. QUESTION: Sheet C-301 Geometric Layout- Overview. The Right Bottom Corner it appears the fencing comes to a stop and is open in that corner, is this correct? Or should the fencing continue into the corner and go back to continue the other fence line?

ANSWER: See revised fencing layout published in addendum. It clarifies this question. There is to be no gap in fencing.

- M. QUESTION: Will a foundation plan be provided for the guard shack and canopy footings?

ANSWER: Yes, see civil.

- N. QUESTION: Please reference sheet C-001 note 17. Would it be acceptable to seed disturbed areas other than those called to be sodded on Sheet C-601?

ANSWER: Sod everywhere that is disturbed. See attached Sheet C-601.

- O. QUESTION: Sheet C-401, regarding the sewer, we see where the sewer lines are to be “dig and replace” and the drawings note a material type and diameter. What are we to do with existing manholes? Use them and tie the new lines into them or remove and replace them? If new manholes are required, please clarify materials, size, depth, coatings, ring and covers, etc.

ANSWER: Contractor to use existing manholes and grout around new pipes after installation.

- P. QUESTION: Please clarify what bedding and backfill requirements there are for the “dig and replace” sewer lines.

ANSWER: Contractor to use bedding requirements as per details on Sheet C-505 and spec 333000 – *Sanitary Sewerage*.

- Q. QUESTION: Please clarify if all utilities (drainage, water, sewer, etc.) are all to be direct bury or cased when crossing roadways.

ANSWER: Water and Sewer are to be cased but drainage is not to be cased. Casing should be as per spec 330524.16 – Steel Casing – Open Cut. Within this spec 2-03 Casing Spacers and End Seals **ARE REQUIRED**.

- R. QUESTION: Please clarify what bedding and backfill requirements there are for the water lines.

ANSWER: Contractor to use bedding requirements as per details on Sheet C-506 and spec 331000 – *Municipal Water Distribution*. Select bedding and backfill will only be required under pavements (street and parking areas) as per *Street Repair of Open Cut* on Sheet C-506.

- S. QUESTION: What are we to do with all of the existing lights that are on canopies that are to be demolished and replaced? Take down and reinstall the same light fixtures, run new wire and conduit, etc.?

ANSWER: Lighting fixtures on existing canopy to be removed will not be reinstalled on new canopies.

- T. QUESTION: Would the architect / owner allow all striping of roadways to be done with paint and not require thermoplastic for the legends. Thermoplastic is very expensive and requires specialized equipment and most installers want a hefty fee for mobilization.

ANSWER: Leave thermoplastic.

- U. QUESTION: From our current calculations, we believe that all bids will come in well above the \$2M budget (Bids will be \$3-4M). Please think about having a base bid along with additive alternates.

ANSWER: See this addendum for new bid form and alternates. If project goes beyond the \$2m budget, project budget will be increased.

- V. QUESTION: From our current calculations, we believe that all bids will come in well above the \$2M budget (Bids will be \$3-4M). Please think about having a base bid along with additive alternates.

ANSWER: See this addendum for new bid form and alternates. If project goes beyond the \$2m budget, project budget will be increased.

- W. QUESTION: From our current calculations, we believe that all bids will come in well above the \$2M budget (Bids will be \$3-4M). Please think about having a base bid along with additive alternates.

ANSWER: See this addendum for new bid form and alternates. If project goes beyond the \$2m budget, project budget will be increased.

- X. QUESTION: From our current calculations, we believe that all bids will come in well above the \$2M budget (Bids will be \$3-4M). Please think about having a base bid along with additive alternates.

ANSWER: See this addendum for new bid form and alternates. If project goes beyond the \$2m budget, project budget will be increased.

- Y. QUESTION: What is the Depth of Existing Asphalt to be Demo'd? Any Base? If so @ what depth is to be removed?

ANSWER: Only known information dealing with depth of existing is shown on the borings within the geotechnical report. As far as depth to be removed of base, will be dependent on which typical section is chosen by contractor from geotechnical report and the amount to remove and be able to achieve elevation of subgrade for chosen typical section.

- Z. QUESTION: What is the Depth of Existing Sidewalk, Other Concrete Slabs to be removed? Any base under them, if so at what depth?

ANSWER: Only known information dealing with depth of existing is shown on the borings within the geotechnical report.

- AA. QUESTION: What is the depth of stone to be removed?

ANSWER: Only known information dealing with depth of existing is shown on the borings within the geotechnical report.

BB. QUESTION: Sewer to use detail 12 on C-502 or Gravity Detail on C-505?

ANSWER: Sewer to be installed per sewer details on C-505.

CC. QUESTION: Pipe Installation under road to use detail 9 on C-502 or open trench Detail on C-505.

ANSWER: Storm drainage pipe to be installed as per details on C-502.

DD. QUESTION: Clarify Bedding Requirements for Drainage Pipe. Plan Sheet C-502, Detail 12 Shows 4" Bedding Plus Haunching and Initial Backfill above pipe to be Rock, C-505 shows 4" Bedding plus 1/2 Dia Plus 3" Haunching to be Rock, Spec 330533.36, Section 3-04 B states 6" Bedding and Native Backfill, which seems more cost-efficient being majority of the pipe is being laid in grassed areas.

ANSWER: Bedding for storm drainage (non-plastic) piping under pavement should follow Detail 9 on C-502. Bedding for storm drainage (plastic) pipe under pavement should follow Detail 12 on C-502. All other drainage piping (under grassed areas) should follow Spec 330533.26, Section 3-04 B as referenced.

EE. QUESTION: Is there a bedding requirement under FES or Concrete Inlets, At what depth if any?

ANSWER: Bedding requirements of concrete inlets to be as per storm drainage specification. FES to be installed on compacted subgrade with toe walls as detailed on C-504 for both upstream and downstream sections.

FF. QUESTION: No Geotech Provided. Provide Undercut Details as made mention on C-502.

ANSWER: Architect is providing under this addendum.

GG. QUESTION: Notes on C-502 show 98% Proctor, is this standard or modified?

ANSWER: Standard Proctor.

HH. Note 14, Sheet C-602 states a Construction Entrance & Exit is required. Can you provide Requirements for this? Also, a location at which is desired by engineer and can be utilized on all 3 Phases.

ANSWER: MDEQ's Guidelines normally suggest a 50' long x 20' wide stone construction entrance. Without knowing contractor's staging plan for site, I would imagine there may be a construction entrance for each phase as the location of trucks entering/exiting the site changes. Contractor just needs to ensure that no dirt/silt will be tracked onto road in front of school and leave the site.

II. QUESTION: Sheet C-602, Section AA shows a double row of 20" Wattles, where is this to be used.

ANSWER: This section represents small overlap section around drop inlets to keep silt going through gap in wattles.

JJ. QUESTION: Sheet C-602 also shows 12" wattles but all notation on C-601 calls for 20" Wattles.

ANSWER: All wattles to be 20" wattles.

KK. QUESTION: The 24" RCP on Sheet C-202 (48LF) is not shown all the way to outlet. On Sheet C-201 is scales to 96LF.

ANSWER: The scaled dimension of 96 LF is correct instead of the 48 LF that is shown in the annotation.

1.5 REVISIONS TO DIVISION 00 – PROCUREMENT REQUIREMENTS AND CONTRACTING REQUIREMENTS

- A. Section 004113 BID FORM (Re-Issued). Delete this form in its entirety and replace with the attached. Completion date shall be: Substantial Completion Phase 1 and 2 shall be **August 7, 2023**, remaining substantial completion is now **October 2, 2023**. Added alternates 1 and 2. Construction Contingency amount is changed to Fifty Thousand Dollars (\$50,000.00).
- B. Document A101-2017 STANDARD FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR, 3.4.1 and 4.5 Liquidated damages shall be reduced from \$500.00 to \$250.00. Substantial Completion Phase 1 and 2 shall be **August 7, 2023**, remaining substantial completion is now **October 2, 2023**. Added alternates 1 and 2. Construction Contingency to be changed to Fifty Thousand (\$50,000.00). (Not re-issued).

1.6 REVISIONS TO DIVISION 01 – GENERAL REQUIREMENTS

- A. Section 012300 ALTERNATES (New). Added Addendums. See Attached.

1.7 REVISIONS TO TECHNICAL SPECIFICATIONS

- A. Section 055212 Pipe and Tube Railing shall be deleted in its entirety and replaced with Section 055000 Metal Fabrication. See attached.
- B. Section 10530 Aluminum Walkway Covers (New) See attached.

1.8 REVISIONS TO DRAWINGS

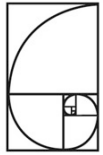
- A. Sheet AS101 – ARCHITECTURAL SITE PLAN, NO. 2 GUARDHOUSE – NEW CONSTRUCTION. (Not Reissued). Change slab dimensions to read 12'-4" x 8'-8".
- B. Sheet C-101 – CIVIL DEMOLITION PLAN. Added sidewalk demolition and revised fence removal. See attached.
- C. Sheet C-201 – GRADING & DRAINAGE PLAN -- OVERVIEW. Added notes and revised contours throughout. See attached.
- D. Sheet C-202 – GRADING & DRAINAGE PLAN – NORTH LOT. Added notes, Inlet #1A, and modified pipe lengths and inverts as needed. Also added spot elevations and revised contours throughout. See attached.
- E. Sheet C-203 – GRADING & DRAINAGE PLAN – EAST LOT. Added notes, spot elevations, and revised contours throughout. See attached.

- F. Sheet C-204 – GRADING & DRAINAGE PLAN – WEST DRIVE. Added notes, spot elevations, and revised contours throughout. See attached.
- G. Sheet C-301 – GEOMETIC LAYOUT -- OVERVIEW. Separated fencing into alternates and added sidewalk to new playground area. See attached.
- H. Sheet C-302 – GEOMETIC LAYOUT – NORTH LOT. Added notes, stair detail, fence gate, sidewalk to new playground area. See attached.
- I. Sheet C-303 – GEOMETRIC LAYOUT – EAST LOT. Added note regarding concrete at guardhouse. See attached.
- J. Sheet C-304 – GEOMETIC LAYOUT – WEST DRIVE. Added concrete ditch along South end of site. See attached.
- K. Sheet C-502 – CONSTRUCTION DETAILS. Modified asphalt details per Geotech report. See attached.
- L. Sheet C-601 – EROSION CONTROL PLAN. Added erosion blanket notes and removed references to solid sodding. See attached.

1.9 ATTACHMENTS

- A. Annotated Pre-Bid Meeting Minutes and Meeting Attendees dated 02 February 2023.
- B. Geotechnical Report by Burns Cooley Dennis, Inc. dated February 15, 2023.
- C. This Addendum includes the following attached Sheets:
 - 1. Specification 004113 Bid Form dated 24 February 2023.
 - 2. Specification 012300 Alternates dated 24 February 2023.
 - 3. Specification 055000 Metal Fabrications dated 24 February 2023.
 - 4. Specification 105300 Aluminum Walkway Covers dated 24 February 2023.
 - 5. Sheet C-101 – Civil Demolition Plan dated 24 February 2023.
 - 6. Sheet C-201 – Grading & Drainage Plan – Overview dated 24 February 2023.
 - 7. Sheet C-202 – Grading & Drainage Plan – North Lot dated 24 February 2023.
 - 8. Sheet C-202 – Grading & Drainage Plan – North Lot dated 24 February 2023.
 - 9. Sheet C-204 – Grading & Drainage Plan – West Drive dated 24 February 2023.
 - 10. Sheet C-301 – Geometric Layout – Overview dated 24 February 2023.
 - 11. Sheet C-302 – Geometric Layout – North Lot dated 24 February 2023.
 - 12. Sheet C-303 – Geometric Layout – East Lot dated 24 February 2023.
 - 13. Sheet C-304 – Geometric Layout – West Drive dated 24 February 2023.
 - 14. Sheet C-502 – Construction Details dated 24 February 2023.
 - 15. Sheet C-601 – Erosion Control Plan dated 24 February 2023.

END OF ADDENDUM TWO



MEETING AGENDA

project 22045 Amite COUNTY Elementary School Parking Lot & Site Development | Liberty, MS
regarding Pre-Bid Meeting

mtg. date 02 February 2023, 10:00 AM

location Superintendent's Conference Room | 533 Maggie Street | Liberty, MS 39645

OPENING

1. Greetings and introductions
 - a. Owner – Amite County School District | Mr. Don Cuevas,, Liberty, MS
 - b. Architect – Bailey Architecture Education, PA | Gary Bailey | Ridgeland, MS
 - c. Consultants
 - i. Civil – WGK, Inc. | Brandon McKay | Clinton, MS
 - ii. Electrical – The Power Source | Chris Green | Jackson, MS
2. Project description
 - a. General
 - i. Project address:
 - Elementary School – 5457 Greensburg Road | Liberty, MS 39645
 - ii. Client contact – Amite County School District | Mr. Don Cuevas, Superintendent or Lyndsey Latham, Chief Financial Officer | Liberty, MS
 - b. Architect contact – Bailey Architecture Education, PA | Gary Bailey or Luigia Hodge | Ridgeland, MS
 - c. Summary
 - i. The scope of work for the Amite County School District is paving, sidewalks, canopies and drainage upgrades at the Elementary School.

SCHEDULE

3. Project schedule
 - a. 02.08.23 – Addendum no. 1
 - b. 02.13.23, 2:00 PM – Addendum no. 2, if needed.
 - c. 02.16.23, 2:00 PM – Bid opening
 - d. 02.27.23 – Notice to Award

- e. 03.01.23– Notice to Proceed
- f. 08.01.23 – Final Completion
- 4. Bid Information
 - a. Day time – 02.16.23, 2:00 PM
 - b. Location – Amite County School District | 533 Maggie Street | Liberty, MS 39645

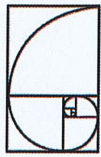
DETAILS

- 5. Supplementary Conditions
 - a. Re: specification section 000730
- 6. Liquidated damages
 - a. The Contractor and the Contractor's surety, if any, shall be liable for and shall pay the Owner the sums hereinafter stipulated as liquidated damages for each calendar day of the delay after the Contract Time - Five Hundred Dollars (\$500.00)
- 7. Allowances
 - a. General Building Contingency allowance – Allow \$20,000

SUMMARY

- 8. Contractor / subcontractor Q&A
- 9. Miscellaneous
 - a. It is noted that questions will be received and answered on an unofficial basis
 - b. Binding answers to questions must be included in an official written addendum and the Contractor or Subcontractor is encouraged to provide written communications to the Architect for proper response
 - c. Address e-mailed written correspondence to biddinginfo@dalepartners.com
 - d. No questions will be accepted after 12:00 PM on Friday, February 10, 2023 in order to allow the Architect adequate time to prepare any necessary addenda.

End



MEETING ATTENDEES

project 22045 Amite COUNTY Elementary School Parking Lot & Site Development | Liberty, MS
regarding Pre-Bid Meeting

mtg. date 02 February 2023, 10:00 AM
location Superintendent's Conference Room | 325 Cleveland Street | Forest, MS 39074

Initial	Name	Business	Phone	Email
<i>D</i>	Mr. Don Cuevas	ACSD	(601) 657-4361	doncuevas@amite.k12.ms.us
	Lyndsey Latham	ACSD	(601) 657-4361	ltlatham@amite.k12.ms.us
	Gary Bailey	BAE	(601) 951-1820	gbailey@baileyarch.com
	Luigia Hodge	BAE	(601) 613-9413	luigiahodge@dalepartners.com
	Brandon McKay	WGK, Inc.	(601) 925-4444	bmckay@wgkengineers.com
	Chris Green	The Power Source	(601) 605-4820	cgreen@thepowrsource.us

	<i>Brent Gardi</i>	<i>Hpc Enterprises</i>	<i>601-597-1953</i>	<i>bkgard@hpc-llc.com</i>
	<i>Jerome Smith</i>	<i>Valley Construction</i>	<i>601-754-0288</i>	<i>Jerome@valleycontr.com</i>
	<i>Mark Carter</i>	<i>Wilmar Construction</i>	<i>601-431-0516</i>	<i>mcarterjr@wilmarconst.com</i>
	<i>Austin Newell</i>	<i>WGK, Inc.</i>	<i>601-925-4444</i>	<i>anewell@wgkengineers.com</i>
	<i>Kristen Lewis</i>	<i>BAE</i>	<i>601-718-2462</i>	<i>kristenlewis@dalepartners.com</i>

BURNS COOLEY DENNIS, INC.

GEOTECHNICAL AND MATERIALS ENGINEERING CONSULTANTS

Corporate Office
551 Sunnybrook Road
Ridgeland, MS 39157
Phone: (601) 856-9911
Fax: (601) 853-2077

Mailing Address
Post Office Box 12828
Jackson, MS 39236
www.bcdgeo.com

Materials Laboratory
278 Commerce Park Drive
Ridgeland, MS 39157
Phone: (601) 856-2332
Fax: (601) 856-3552

February 15, 2023

WGK, Inc.
Post Office Box 318
Clinton, Mississippi 39060

Project No. 230032

Attention: Mr. Brandon McKay, P.E.

**Geotechnical/Pavement Exploration
Amite County Elementary School Paving & Drainage Improvements
Liberty, Mississippi**

Gentlemen:

This report is submitted to document the findings of our field exploration, laboratory test results, and pavement recommendations for the above referenced project. These services were requested by Mr. Brandon McKay of WGK, Inc. and authorized by the Amite County School District (P.O. 75888). This exploration was performed in accordance with Burns Cooley Dennis, Inc. (BCD) Proposal No. 230001C-031 dated January 11, 2023.

General

We understand plans are being made to improve and construct pavements at the Amite County Elementary School campus in Liberty, Mississippi. Improvement plans include constructing two new parking lots, reconstructing and realigning the drive, and reconstructing the cafeteria and south parking lots. An aerial photograph of the site is presented in Figure 1 of this report.

The specific purposes of this geotechnical/pavement exploration were:

- 1) to determine the thickness of the existing pavement structures within the existing drives and parking areas;
- 2) to evaluate pertinent physical properties of the subgrade soils encountered by means of visual examination and routine laboratory tests performed on selected representative samples obtained from the exploratory borings; and
- 3) after analysis of the field and laboratory test data, to provide recommendations for pavement reconstruction and earthwork and pavement construction for new pavements.

Field Exploration

Pavement Coring. The field exploration included coring the existing pavement structures at ten test locations. Six-inch diameter cores were obtained at selected locations to determine the in-place pavement layer thickness. The thickness of the pavement structure at each test location was determined by measuring the pavement core or the sidewall of the corehole. The existing pavement structures were found to consist of an asphalt surface treatment (chip seal), asphalt pavement, and concrete pavement. The asphalt surface treatment thickness was found to range from approximately 0.5 to 1.5 in. The asphalt pavement thickness within front drive/bus route was found to range between 3.0 and 3.5 in. The thickness of the existing concrete pavement was found to be about 2.8 in. thick. The pavement layer was found to be directly supported by sand-clay-gravel base material at six of the test locations. The thickness of the clay gravel base was determined by dry augering and measuring the side of the borehole. The thickness of the existing pavement structure layers at each test location is presented in Table 1 and in the “Comments” section of the graphical boring logs. The approximate test locations are shown in Figure 1.

**TABLE 1
EXISTING PAVEMENT STRUCTURE THICKNESS
AMITE COUNTY ELEMENTARY
LIBERTY, MISSISSIPPI**

Test Location ¹	Asphalt Surface Treatment	Asphalt	Concrete	Clay Gravel Base
	Thickness (in.)			
B-1	1.0	---	---	12.0
B-2	1.5	---	---	24.0
B-4	0.5	---	---	12.0
B-10	---	3.0	---	---
B-11	---	3.0	---	---
B-12	---	3.0	---	6.0
B-13	---	3.0	---	3.0
B-14	---	3.5	---	---
B-15	---	---	2.8	12.0
B-16	1.0 ²	---	---	

1. See Figure 1 for approximate test locations.
2. Asphalt surface treatment was severely deteriorated.

Borings. Subgrade soil conditions within the existing drives and parking areas and with the proposed new parking and realignment areas were explored at sixteen locations. Borings were made using a tractor-mounted 4-in. short-flight auger. All borings were advanced to a depth of 5 ft below the existing pavement structure or ground surface. All soils encountered during auger drilling were examined and classified in the field with respect to composition, consistency, and relative density by a geotechnical engineering technician. Representative disturbed samples of the subgrade soils encountered were taken directly from the auger cuttings at approximately 1 to 2 ft intervals of depth, placed in plastic jars, and sealed to prevent moisture loss and to provide material for visual examination and testing in the laboratory. The approximate depths at which the auger cutting samples were taken are illustrated as I-shaped symbols under the "Samples" column of the graphic boring logs. After completion of drilling and sampling, the boreholes were filled with soil cuttings and capped with Quikrete and/or asphalt patch.

All soils were classified in general accordance with the Unified Soil Classification System (USCS) using ASTM D 2487. A legend is shown in Figure 2 which presents a summary of the USCS and also symbols and terminology which are typically utilized on graphical soil boring logs. Graphical logs of the borings indicating the types of materials and stratification encountered at the individual boring locations are included in Figures 3 through 18.

Observations were made continuously during auger drilling to detect any groundwater seepage emerging in the open boreholes. Notes pertaining to observed groundwater conditions are indicated in the lower right corner of the graphical boring logs.

Laboratory Testing

An evaluation of the strengths, classifications, and expansive properties of the subgrade soils encountered in the borings was considered to be of primary importance to this exploration. All of the soil samples were visually examined in the laboratory by a geotechnical engineer and routine tests were performed on selected representative samples from the borings to verify field classifications and to assist in evaluating the strengths, expansive properties, and classifications of the soils encountered. The types of laboratory tests performed are described below.

The classifications and volume change properties of the subgrade soils encountered in the borings were evaluated by means of visual examination and twelve sets of Atterberg liquid and plastic limit tests. In accordance with the USCS, fine-grained soils are classified as either clays or silts of either low or high plasticity based on the results of liquid and plastic limit tests. The numerical difference between the liquid limit and plastic limit is defined as the plasticity index (PI). The magnitudes of the liquid limit and plasticity index and the proximity of the water content to the plastic limit are indicators of the potential for a fine-grained soil to shrink or swell upon changes in moisture content.

To aid in classifying the fine-grained materials, ten tests were performed to determine the percent fines passing the No. 200 sieve. The percentage of minus No. 200 material is tabulated in the far-right column of the graphic logs.

Water content tests were performed on all forty-eight samples to corroborate field and laboratory estimates of consistency and density and to extend the usefulness of the plasticity data.

Subgrade Conditions

A description of general subgrade soil conditions revealed by the borings made for this exploration is included in the following paragraphs. The graphical logs shown in Figures 3 through 18 should be referenced for specific soil conditions encountered at each individual boring location. **The subgrade soils encountered include clayey sands (SC), silty sands (SM), silts (ML), and silty and sandy clays (CL).**

The clayey sands (SC) and silty sands (SM) encountered in this exploration were generally found to be medium dense to dense with respect to relative density. The sands (SC and SM) are considered to be nonexpansive and can provide adequate pavement subgrade support if these soils are near optimum moisture content, have adequate compaction, and demonstrate stability.

The silts (ML) encountered in this exploration were generally found to be medium dense with respect to relative density. The silts (ML) are considered to be nonexpansive. The silts (ML) can provide adequate pavement subgrade support if these soils have adequate compaction and demonstrate stability. **The ML soils are susceptible to pumping when subjected to repeated passes of rubber-tired equipment and moisture conditions that are above optimum.**

The silty and sandy clay (CL) soils were found to range from medium stiff to stiff with respect to consistency. **The CL soils classified as medium stiff are considered to be weak.** The CL soils classified as stiff are considered to have moderate strength and can provide good subgrade support. The silty and sandy clays (CL) are considered to be nonexpansive. The silty and sandy clays (CL) are considered to have low shrink/swell potential and can provide adequate pavement subgrade support if these soils have adequate compaction and demonstrate stability. **The CL soils are susceptible to pumping when subjected to repeated passes of rubber-tired equipment and moisture conditions that are above optimum.**

Free water was not encountered in any of the borings during auger drilling. In our opinion, groundwater conditions within the existing and proposed pavement areas will primarily be influenced by rainfall and surface drainage. The subgrade soils can become saturated and weak during periods of prolonged and heavy rainfall. **Subgrade soils exposed if pavements are removed may be wet of optimum and can become unstable when disturbed by construction traffic.**

Discussion and Recommendations

General. From a geotechnical standpoint, the primary factors relevant to the reconstruction of existing pavements and design and construction of the new asphalt pavements are the strength and expansive properties of the subgrade soils. **The predominant near surface subgrade soil types encountered within the existing and proposed new pavement areas are SC, SM and CL soils. The majority of the near surface soils were found to have moderate strength at the current moisture conditions but could become unstable under construction traffic if moisture contents increase.**

Based on our understanding of the project, findings from our geotechnical exploration, and our experience on similar projects, it is our opinion that the recommendations presented in Table 2 and in the paragraphs that follow be considered in order to reconstruct the existing pavement and construct new pavements on the campus of Amite County Elementary School.

TABLE 2
SUMMARY OF PAVEMENT RECOMMENDATIONS
AMITE COUNTY ELEMENTARY
LIBERTY, MISSISSIPPI

Pavement Area	Option 1	Option 2
Existing Entrance Drive/Bus Loop	<ul style="list-style-type: none"> • 8.0 in. FDR with cement • 3.0 in. Asphalt Base (BB-1, Type 6) • 1.5 in. Asphalt Surface (SC-1, Type 8) 	<ul style="list-style-type: none"> • Remove existing pavement • Scarify and compact granular base/subgrade soil • 5 in. Asphalt Base (BB-1, Type 6) placed in two layers • 2 in. Asphalt Surface (SC-1, Type 8)
Existing South and West Drive	<ul style="list-style-type: none"> • 8.0 in. FDR with cement • 3.0 in. Asphalt Base (BB-1, Type 6) • 1.5 in. Asphalt Surface (SC-1, Type 8) 	<ul style="list-style-type: none"> • Remove existing pavement • Scarify and compact granular base/subgrade soil • 5 in. Asphalt Base (BB-1, Type 6) placed in two layers • 2 in. Asphalt Surface (SC-1, Type 8)
New North Drive	<ul style="list-style-type: none"> • 8.0 in. cement treatment of existing materials • 3.0 in. Asphalt Base (BB-1, Type 6) • 1.5 in. Asphalt Surface (SC-1, Type 8) 	<ul style="list-style-type: none"> • Scarify and compact granular base/subgrade soil • 5 in. Asphalt Base (BB-1, Type 6) placed in two layers • 2 in. Asphalt Surface (SC-1, Type 8)
New Asphalt Parking	<ul style="list-style-type: none"> • 8.0 in. cement treatment of existing materials • 4.0 in. Asphalt Surface (SC-1, Type 8) placed in two layers 	<ul style="list-style-type: none"> • Scarify and compact granular base/subgrade soil • 4 in. Asphalt Base (BB-1, Type 6) • 2 in. Asphalt Surface (SC-1, Type 8)
Existing and New Concrete Parking	<ul style="list-style-type: none"> • Remove existing pavement • Scarify and compact granular base/subgrade soil • 5 in. PCC cast directly on prepared subgrade 	N/A
New Concrete Drives (Heavy Duty) and Dumpster Pad	<ul style="list-style-type: none"> • Scarify and compact granular base/subgrade soil • 6 in. crushed stone base • 7 in. PCC (Heavy Duty) • 8 in. PCC (Dumpster Pad) 	N/A

Reconstruction Area Recommendations

Full Depth Reclamation (FDR). Based on the findings of this exploration, BCD recommends utilizing FDR stabilization techniques to reconstruct the existing asphalt pavements. BCD recommends that the existing pavement structure (asphalt, granular base layer, and/or subgrade soils) be reclaimed and chemically stabilized with portland cement to a depth of at least 8 in. The cement treatment should be performed utilizing 5 percent portland cement by dry weight of material. A minimum of two passes with the pulverization equipment should be made to produce a homogenous base material. Additional passes of the pulverization equipment may be required to produce a uniform mixture that will pass a 1.5 in. sieve.

The existing drives should be reconstructed generally according to Section S-632 -Roadbed Reclamation of the 2004 Edition of the Office of State Aid Road Construction specifications with the following exceptions:

1. The reclaimed, stabilized mixture should be compacted to not less than 98 percent of standard Proctor density.
2. Cement treatment should not be performed when the latest information available from the National Weather Service forecasts that temperatures will fall below 40° F within the next 3 days after placement in the project area.
3. The cement treatment should extend not less than 1 ft beyond the proposed asphalt pavement edge.

After the existing pavement structure has been reclaimed and stabilized with portland cement, new asphalt pavement could be placed after a minimum 3-day cure time. The asphalt pavement should be placed directly on the primed cement treated reclaimed base layer.

It is our understanding that the drives will be surfaced with asphalt pavement. The asphalt pavement should be placed directly on the cement treated reclaimed base layer (FDR). For pavements subjected to **light passenger vehicles only, the asphalt pavement section should consist of at least 4 in. of asphalt surface (SC-1, Type 8) placed in two approximately equal layers. For pavements subjected to busses and occasional heavy truck traffic, the asphalt pavement section should consist of at least 3 in of asphalt base (BB-1, Type 6) and 1.5 in. of asphalt surface (SC-1, Type 8).** The asphalt base and surface courses should conform to all applicable specifications for BB-1, Type 6 and SC-1, Type 8, respectively, presented in the 1990 Edition of MDOT specifications.

New Construction Recommendations

Site Preparation and Earthwork Construction. The existing asphalt or concrete pavement should be completely removed as the initial step of site preparation within pavement reconstruction areas. As the initial step of site preparation within the proposed new pavement areas, stripping should be performed to a sufficient depth to remove organic-laden surficial soils, vegetation, debris, brush, and roots. Next, excavation should be performed to remove any weak soils encountered during stripping. The actual vertical and lateral extent of excavation required to remove weak soils or improve these soils must be determined in the field during earthwork construction.

After stripping, excavation to remove weak soils, and excavation to achieve planned subgrade elevations, the surface of the exposed soils should be scarified to a minimum depth of 12 in. and compacted to not less than **98** percent of standard Proctor maximum dry density (ASTM D 698) with stability present. In addition, the exposed soils should be proofrolled with a loaded dump truck to demonstrate stability. Stability is defined as the absence of significant pumping or yielding of soils during compaction and proofrolling. If stability is not evident in some areas, either additional excavation, or treatment of the in-situ soils with an admixture, or a combination of these approaches, might be required to achieve stable conditions.

Subgrade soils can become saturated and unstable to shallow depths during periods of excessive rainfall. It may be necessary to remove these materials, depending on their strength and stability exhibited at the time of construction. It would be preferable to perform construction during the relatively dry season of the year. If the in-place soils at the time earthwork construction begins are wet and unstable or become wet and unstable during construction, additional excavation will be required to expose firm, stable soils that are capable of supporting compaction of fill materials with stability. If stability is not evident in some areas, either additional excavation, construction of a bridging layer, treatment of the in-situ soils with an admixture, or a combination of these approaches, might be required to achieve stable conditions. The lateral and vertical extent of excavation required to remove weak soils must be determined in the field during earthwork construction. **Burns Cooley Dennis, Inc. should be contacted if subgrade soils are unstable and require special earthwork construction techniques to produce a stable subgrade foundation.**

The on-site soils exposed after stripping, excavation to remove weak soils, and excavation to achieve planned subgrade elevations are susceptible to pumping when wet. The construction techniques, types of equipment utilized and site drainage provided during construction will have an effect on the performance of the soils throughout the project. The routing of heavy, rubber-tired equipment should be controlled to minimize, as much as possible, traffic in the construction areas. All traffic should be discouraged during periods of inclement weather. **It should be noted that soils which initially demonstrate adequate stability can become unstable if they are disturbed by construction traffic.** If pumping is initiated in the subgrade soils as a construction expedient, the pumping can be counteracted by treating these materials with cement. It is estimated that about 3 to 5 percent portland cement by dry weight of soil could be required.

We recommend that any required backfilling and filling be performed immediately after stripping, excavation, scarification, compaction, and proofrolling of in-situ soils. Imported fill materials should consist of select nonorganic and debris-free clayey sands (SC) with a PI in the range of 7 to 15 and a liquid limit less than 35, or slightly clayey silty sands (SM) with a minimum PI of 3. The fill and backfill soils should be compacted from lifts not exceeding 9 in. in loose thickness to not less than **98** percent of standard Proctor maximum dry density at moisture contents within 3 percentage points of the optimum water content. Stability must be evident during compaction of each lift before any subsequent lifts of fill material are added. Finished site grades should be sloped to promote quick runoff of storm water and provide positive drainage away from buildings, parking lots, and sidewalks.

Laboratory classification tests, including Atterberg limit determinations and grain-size analyses, should be performed on the imported fill materials initially and routinely during earthwork operations to check for compliance with the recommendations provided herein. Field moisture/density tests should be performed in each compacted lift of fill to assist in evaluating whether the recommended moisture contents and dry densities are being achieved. As a guide, the minimum density testing program is recommended to consist of one test per lift per 2,500 sq ft of surface area in pavement areas.

Asphalt Pavement Recommendations. In areas to be paved, there is often some delay between completion of earthwork operations and placement of the pavement structure materials, possibly resulting in deterioration of subgrade conditions. Thus, we recommend that the density and stability of the subgrade soils be confirmed or reestablished immediately prior to construction of new pavement.

For parking lots and drives subjected to **light automobile and pickup truck traffic only**, the new asphalt pavement could consist of at least 8 in. of cement treatment of existing materials (5 percent by dry weight) and at least 4 in. of asphalt surface (SC-1, Type 8) placed in two approximately equal layers. For pavements subjected to **light passenger vehicles with busses and/or occasional heavy truck traffic**, the new asphalt pavement could consist of at least 8 in. of cement treatment of existing materials (5 percent by dry weight), 3 in. of asphalt base (BB-1, Type 6) and 1.5 in. of surface (SC-1, Type 8). The asphalt base materials should conform to all applicable specifications for BB-1, Type 6 presented in the 1990 Edition of the MDOT specifications. The asphalt surface course should conform to all applicable specifications for SC-1, Type 8 presented in the 1990 Edition of MDOT specifications. The asphalt base and surface layers should be compacted to at least 92 percent of maximum specific gravity.

As an alternative to cement treatment of the existing materials, the new asphalt section for **light automobile and pickup truck traffic only** could consist of at least 4 in. of asphalt base (BB-1, Type 6) and 2 in. of surface (SC-1, Type 8) placed directly on prepared granular material or subgrade soils. For pavements subjected to **light passenger vehicles with busses and/or occasional heavy truck traffic**, the alternative asphalt pavement section could consist of at least 5 in. of asphalt base (BB-1, Type 6) placed in two approximately equal layers and 2 in. of surface (SC-1, Type 8) placed directly on prepared granular material or subgrade soils.

Concrete Pavement Recommendations. For rigid pavement, it is our opinion that 5 in. of PCC cast directly upon the prepared subgrade soils or existing granular materials would be appropriate for automobile and pickup truck traffic. For heavy truck traffic, 7-in. thick PCC pavement directly underlain and separated from the prepared subgrade soils by a granular subbase would likely be required. We recommend the use of 8-in. thick PCC pavement directly underlain and separated from the prepared subgrade soils by a granular subbase immediately in front of any garbage dumpsters to provide support for the wheels of a garbage truck during loading. The subbase is part of the pavement structure and is also intended to prevent subgrade soils from pumping up through joints between concrete pavement slabs. The pavement surface should be sufficiently elevated to allow drainage of the granular subbase. We recommend that the granular subbase materials consist of No. 610 crushed limestone or existing limestone surfacing. The portion of the crushed stone passing the No. 40 sieve should have a liquid limit not greater than 25 and a plasticity index not greater than 5. The crushed stone should be compacted to not less than 100 percent of standard Proctor maximum dry density (ASTM D 698) at moisture contents within 2 percentage points of the optimum water content. Portland cement concrete pavement slabs should be constructed in accordance with the latest ACI, ASTM and PCA standards, including thickened exterior edges and corners, and load transfer devices. Pavement slabs should generally be square and have a maximum joint spacing of 10 ft for 5-in. thick and 15 ft for 7-in. and 8-in. thick pavements. The pavement joints should be properly sealed and maintained. The minimum compressive strength of the concrete mixture should be 4,000 psi. The surface of the pavement should be crowned and sloped to promote quick runoff of storm water.

Report Limitations

The analyses, conclusions, and recommendations discussed in this report are based on conditions that existed at the time of our field exploration (February 2023) and further on the assumption that the exploratory borings are representative of pavement and subgrade conditions within the existing drives and parking lots and in the vicinity of the proposed new pavement areas. It should be noted that actual subsurface conditions between and beyond the borings might differ from those encountered at the boring locations. The nature and extent of variations in the vicinity of or between the borings may not become evident until earth-related construction is performed. **If subgrade conditions are encountered during construction that vary from those discussed in this report, Burns Cooley Dennis, Inc. should be notified immediately in order that we may evaluate the effects, if any, on earthwork construction and pavement design and construction.**

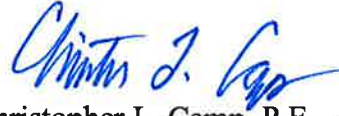
Burns Cooley Dennis, Inc. should be retained for a general review of final design drawings and specifications. It is advised that we be retained to observe construction for the project in order to help confirm that our recommendations are valid or to modify them accordingly. **Burns Cooley Dennis, Inc. cannot assume responsibility or liability for the adequacy of recommendations if we do not observe construction.**

This report has been prepared for the exclusive use of WGK, Inc. for specific application to the geotechnical-related aspects of pavement design and construction for the Amite County Elementary School pavement improvement project in Liberty, Mississippi. **The only warranty made by us in connection with the services provided is that BCD has used that degree of care and skill ordinarily exercised under similar conditions by reputable members of our profession practicing in the same or similar locality. No other warranty, expressed or implied, is made or intended.**

We appreciate the opportunity to be of service. If you should have any questions concerning this report, please do not hesitate to call us.

Very Truly Yours,

BURNS COOLEY DENNIS, INC.



Christopher L. Camp, P.E.



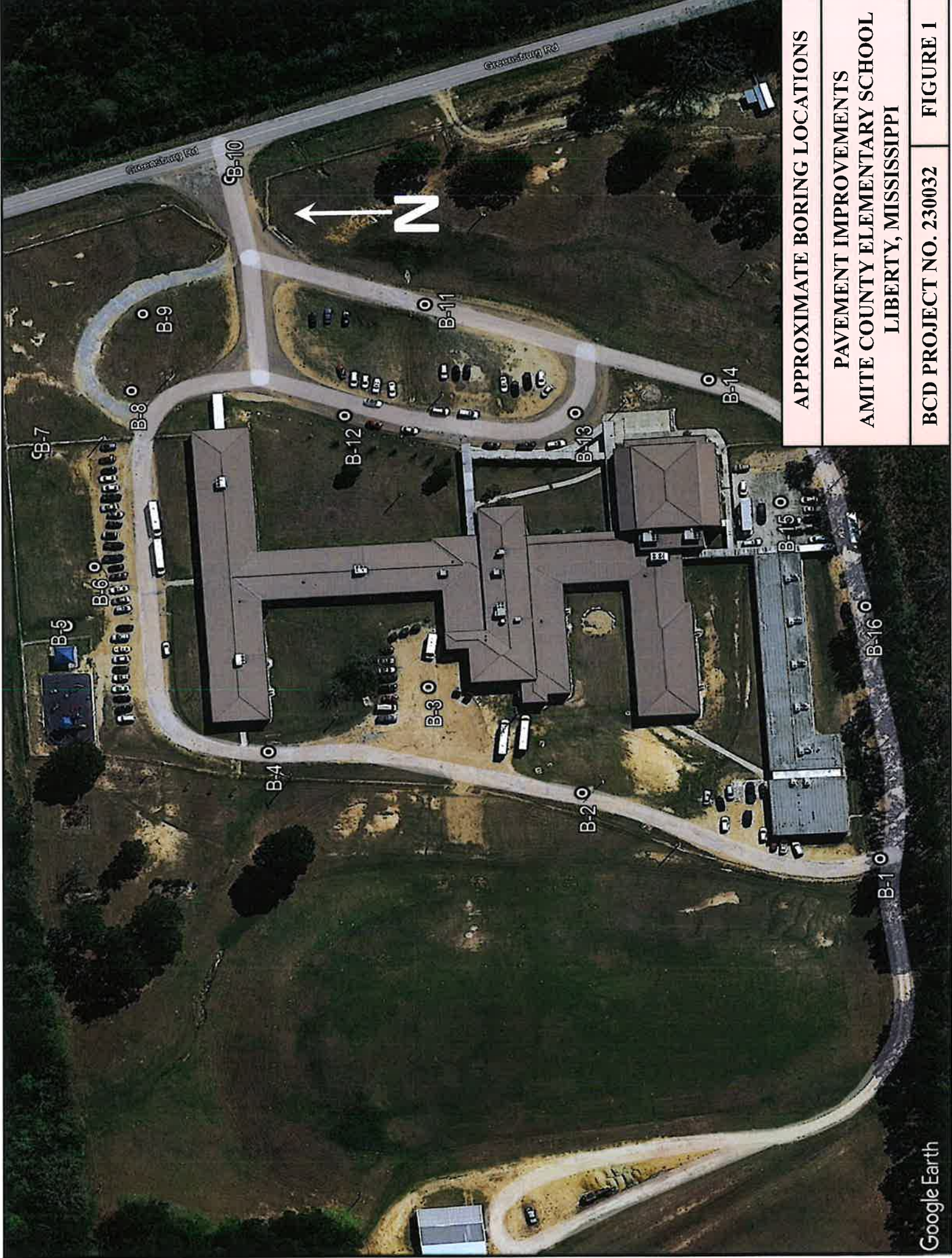
Kevin L. Williams, P.E.



R. C. Ahlrich, Ph. D., P.E.



FIGURES



APPROXIMATE BORING LOCATIONS
PAVEMENT IMPROVEMENTS
AMITE COUNTY ELEMENTARY SCHOOL
LIBERTY, MISSISSIPPI

BCD PROJECT NO. 230032

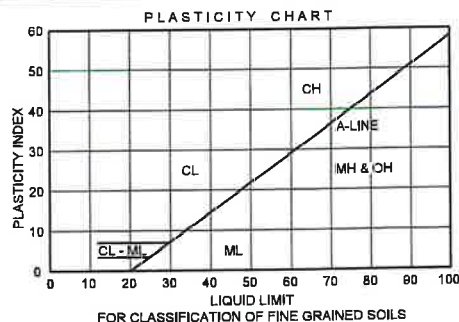
FIGURE 1

UNIFIED SOIL CLASSIFICATION SYSTEM

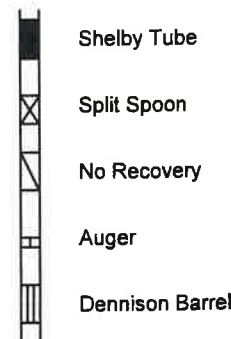
MAJOR DIVISIONS			SYMBOL & LETTER	DESCRIPTION
COARSE-GRAINED SOILS	GRAVELS More than half of coarse fraction larger than No.4 sieve size	Clean Gravels (Little or no fines)	GW	WELL GRADED GRAVEL, GRAVEL-SAND MIXTURE
		Gravels with fines (Appreciable amount of fines)	GP	POORLY GRADED GRAVEL, GRAVEL-SAND MIXTURE
		Gravels with fines (Appreciable amount of fines)	GM	SILTY GRAVEL, GRAVEL-SAND-SILT MIXTURE
		Gravels with fines (Appreciable amount of fines)	GC	CLAYEY GRAVEL, GRAVEL-SAND-CLAY MIXTURE
	SANDS More than half of coarse fraction smaller than No.4 sieve size	Clean Sands (Little or no fines)	SW	WELL GRADED SAND, GRAVELLY SAND
		Clean Sands (Little or no fines)	SP	POORLY GRADED SAND, GRAVELLY SAND
		Sands with fines (Appreciable amount of fines)	SM	SILTY SAND, SAND-SILT MIXTURE
		Sands with fines (Appreciable amount of fines)	SP-SM	SLIGHTLY SILTY SAND
		Sands with fines (Appreciable amount of fines)	SC	CLAYEY SAND, SAND-CLAY MIXTURE
		Sands with fines (Appreciable amount of fines)	ML	SILT WITH LITTLE OR NO PLASTICITY
FINE-GRAINED SOILS	SILTS AND CLAYS Liquid limit less than 50	SILTS AND CLAYS	ML	CLAYEY SILT, SILT WITH SLIGHT TO MEDIUM PLASTICITY
		SILTS AND CLAYS	ML	SANDY SILT
		SILTS AND CLAYS	CL	SILTY CLAY, LOW TO MEDIUM PLASTICITY
		SILTS AND CLAYS	CL	SANDY CLAY, LOW TO MEDIUM PLASTICITY (30% TO 50% SAND)
	SILTS AND CLAYS Liquid limit greater than 50	SILTS AND CLAYS	MH	SILT, FINE SANDY OR SILTY SOIL WITH HIGH PLASTICITY
		SILTS AND CLAYS	CH	CLAY, HIGH PLASTICITY
		SILTS AND CLAYS	OH	ORGANIC CLAY OF MEDIUM TO HIGH PLASTICITY
		SILTS AND CLAYS	PT	PEAT, HUMUS, SWAMP SOIL
HIGHLY ORGANIC SOILS			LS	LIMESTONE
SEDEMENTARY ROCK TYPES:			MARL	MARL

TERMS CHARACTERIZING SOIL STRUCTURE

- Slickensided** - Clays with polished and striated planes created as a result of volume changes related to shrinking, swelling and/or changes in overburden pressure.
- Fissured** - Clays with a blocky or jointed structure generally created by seasonal shrinking and swelling.
- Laminated** - Composed of thin alternating layers of varying color and texture.
- Calcareous** - Containing appreciable quantities of calcium carbonate.
- Parting** - Paper thin (less than 1/8 inch).
- Seam** - 1/8 inch to 3 inch thickness.
- Layer** - Greater than 3 inches in thickness.



SAMPLE TYPES (Shown in Sample Column)



DENSITY AND CONSISTENCY

COARSE-GRAINED SOILS		FINE-GRAINED SOILS		
DENSITY	PENETRATION RESISTANCE, N Blows per Foot	CONSISTENCY	COHESION Kips/Sq. Ft	PENETRATION RESISTANCE, N Blows per Foot
Very loose	0 - 4	Very Soft	<0.25	0 - 1
Loose	5 - 10	Soft	0.25 - 0.50	2 - 4
Medium Dense	11 - 30	Medium Stiff	0.50 - 1.00	5 - 8
Dense	31 - 50	Stiff	1.00 - 2.00	9 - 15
Very Dense	>50	Very Stiff	2.00 - 4.00	16 - 30
		Hard	>4.00	>30

PARTICLE SIZE IDENTIFICATION		RELATIVE COMPOSITION	
Cobbles	- Greater than 3 inches	Slightly	5 - 15%
Gravel	- Coarse - 3/4 inch to 3 inches	With	16 - 29%
	- Fine - 4.76 mm to 3/4 inch	Sandy	30 - 50%
Sand	- Coarse - 2 mm to 4.76 mm	(or gravelly)	
	- Medium - 0.42 mm to 2 mm		
	- Fine - 0.074 mm to 0.42 mm		
Silt & Clay	- Less than 0.074 mm		

CLASSIFICATION, SYMBOLS AND TERMS USED ON GRAPHICAL BORING LOGS

LOG OF BORING NO. B-1
AMITE COUNTY ELEMENTARY SCHOOL
LIBERTY, MISSISSIPPI

TYPE: 4" Short-flight auger

LOCATION: See Figure 1

DEPTH, ft	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	AASHTO	BLOWS PER FT	POCKET PENETROMETER	WATER CONTENT	ATTERBERG LIMITS			VOLUME CHANGE %	DRY DENSITY, PCF	CBR (EST.)	% PASSING NO. 200 SIEVE
								LL	PL	PI				
			SURFACE EL: ±ft											
0			Medium dense red clayey sand (SC) with trace of gravel				11							
1			Medium dense red clayey sand (SC)											
2														
3				A-6			13	31	15	16		10		
4														
5							12							
5			Boring was completed at 5'											
6														
7														
8														
9														
10														
BORING DEPTH: 5 ft			COMMENTS: 1" Asphalt surface treatment			GROUNDWATER DATA: No free water encountered during auger drilling.								
DATE: 02/03/23														

235032

FIGURE 3

LOG OF BORING NO. B-2
AMITE COUNTY ELEMENTARY SCHOOL
LIBERTY, MISSISSIPPI

TYPE: 4" Short-flight auger

LOCATION: See Figure 1

DEPTH, ft	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	AASHTO	BLOWS PER FT	POCKET PENETROMETER	WATER CONTENT	ATTERBERG LIMITS			VOLUME CHANGE %	DRY DENSITY, PCF	CBR (EST.)	% PASSING NO. 200 SIEVE
								LL	PL	PI				
			SURFACE EL: ±ft											
1			Dense red clayey sand (SC) with gravel				12							
2			Stiff tan silty clay (CL), slightly sandy	A-6			18					6		
3														
4			Medium dense red clayey sand (SC)	A-6			16	28	15	13		10		
5			Boring was completed at 5'											
6														
7														
8														
9														
10														
BORING DEPTH: 5 ft			COMMENTS: 1.5" Asphalt surface treatment			GROUNDWATER DATA: No free water encountered during auger drilling.								
DATE: 02/03/23														

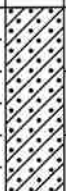


230032

FIGURE 4

LOG OF BORING NO. B-3
AMITE COUNTY ELEMENTARY SCHOOL
LIBERTY, MISSISSIPPI

TYPE: 4" Short-flight auger

LOCATION: See Figure 1

DEPTH, ft	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	AASHTO	BLOWS PER FT	POCKET PENETROMETER	WATER CONTENT	ATTEBERG LIMITS			VOLUME CHANGE %	DRY DENSITY, PCF	CBR (EST.)	% PASSING NO. 200 SIEVE
								LL	PL	PI				
			SURFACE EL: ±ft											
1			Medium dense red clayey sand (SC)				12						40.1	
2			Medium dense gray sandy silt (ML)	A-4			15	18	15	3		10		
3														
4			Medium stiff tan silty clay (CL)	A-6			24					6		
5			Boring was completed at 5'											
6														
7														
8														
9														
10														

BORING DEPTH: 5 ft

COMMENTS:

GROUNDWATER DATA:
 No free water encountered during auger drilling.

DATE: 02/03/23

230032

FIGURE 5

LOG OF BORING NO. B-4
AMITE COUNTY ELEMENTARY SCHOOL
LIBERTY, MISSISSIPPI

TYPE: 4" Short-flight auger

LOCATION: See Figure 1

DEPTH, ft	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	AASHTO	BLOWS PER FT	POCKET PENETROMETER	WATER CONTENT	ATTERBERG LIMITS			VOLUME CHANGE %	DRY DENSITY, PCF	CBR (EST.)	% PASSING NO. 200 SIEVE
								LL	PL	PI				
			SURFACE EL: ±ft											
0			Dense red clayey sand (SC) with gravel				9							
1			Stiff light gray sandy clay (CL)											
2														
3				A-6			14	26	14	12		7		
4			Medium dense gray sandy silt (ML)											
5				A-4			13					8	53.9	
5			Boring was completed at 5'											
6														
7														
8														
9														
10														

BORING DEPTH: 5 ft

COMMENTS:
0.5" Asphalt surface treatment

GROUNDWATER DATA:
No free water encountered during auger drilling.

DATE: 02/03/23



230032

FIGURE 6

LOG OF BORING NO. B-5
AMITE COUNTY ELEMENTARY SCHOOL
LIBERTY, MISSISSIPPI

TYPE: 4" Short-flight auger

LOCATION: See Figure 1

DEPTH, ft	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	AASHTO	BLOWS PER FT	POCKET PENETROMETER	WATER CONTENT	ATTERBERG LIMITS			VOLUME CHANGE %	DRY DENSITY, PCF	CBR (EST.)	% PASSING NO. 200 SIEVE
								LL	PL	PI				
			SURFACE EL: ±ft											
0 - 1			Medium dense tan clayey sand (SC)				14						15	
1 - 5			Medium stiff tan and light gray silty clay (CL)	A-4			23	28	18	10			8	
5 - 10			Boring was completed at 5'				27							
BORING DEPTH: 5 ft				COMMENTS:				GROUNDWATER DATA: No free water encountered during auger drilling.						
DATE: 02/03/23														







230032

FIGURE 7

LOG OF BORING NO. B-6
AMITE COUNTY ELEMENTARY SCHOOL
LIBERTY, MISSISSIPPI

TYPE: 4" Short-flight auger

LOCATION: See Figure 1

DEPTH, ft	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	AASHTO	BLOWS PER FT	POCKET PENETROMETER	WATER CONTENT	ATTERBERG LIMITS			VOLUME CHANGE %	DRY DENSITY, PCF	CBR (EST.)	% PASSING NO. 200 SIEVE
								LL	PL	PI				
			SURFACE EL: ±ft											
0 - 1			Dense tan clayey sand (SC) with gravel				12							
1 - 2			Stiff tan silty clay (CL)											
2 - 3							17							
3 - 4														
4 - 5			- damp and soft below 4'											
5				A-4			26	27	19	8		8		
5 - 10			Boring was completed at 5'											

BORING DEPTH: 5 ft

COMMENTS:

GROUNDWATER DATA:
 No free water encountered during auger drilling.

DATE: 02/03/23

230032

FIGURE 8

LOG OF BORING NO. B-7
AMITE COUNTY ELEMENTARY SCHOOL
LIBERTY, MISSISSIPPI

TYPE: 4" Short-flight auger

LOCATION: See Figure 1

DEPTH, ft	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	AASHTO	BLOWS PER FT	POCKET PENETROMETER	WATER CONTENT	ATTERBERG LIMITS			VOLUME CHANGE %	DRY DENSITY, PCF	CBR (EST.)	% PASSING NO. 200 SIEVE
								LL	PL	PI				
			SURFACE EL: ±ft											
1			Medium dense tan silty clay (CL)				17					6		
2			Dense tan clayey sand (SC)				16					15	30.3	
3														
4			- red below 4'											
5							15							
5			Boring was completed at 5'											
6														
7														
8														
9														
10														

BORING DEPTH: 5 ft

COMMENTS:

GROUNDWATER DATA:

No free water encountered during auger drilling.

DATE: 02/03/23

230032

FIGURE 9

LOG OF BORING NO. B-8
AMITE COUNTY ELEMENTARY SCHOOL
LIBERTY, MISSISSIPPI

TYPE: 4" Short-flight auger

LOCATION: See Figure 1

DEPTH, ft	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	AASHTO	BLOWS PER FT	POCKET PENETROMETER	WATER CONTENT	ATTERBERG LIMITS			VOLUME CHANGE %	DRY DENSITY, PCF	CBR (EST.)	% PASSING NO. 200 SIEVE
								LL	PL	PI				
			SURFACE EL: ±ft											
1			Dense tan silty sand (SM)	A-4			11					20	36.8	
2														
3							15							
4			Medium dense tan and red clayey sand (SC)	A-4			14					15		
5			Boring was completed at 5'											
6														
7														
8														
9														
10														
BORING DEPTH: 5 ft			COMMENTS:			GROUNDWATER DATA: No free water encountered during auger drilling.								
DATE: 02/03/23														

230032

FIGURE 10

LOG OF BORING NO. B-9
AMITE COUNTY ELEMENTARY SCHOOL
LIBERTY, MISSISSIPPI

TYPE: 4" Short-flight auger

LOCATION: See Figure 1

DEPTH, ft	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	AASHTO	BLOWS PER FT	POCKET PENETROMETER	WATER CONTENT	ATTERBERG LIMITS			VOLUME CHANGE %	DRY DENSITY, PCF	CBR (EST.)	% PASSING NO. 200 SIEVE
								LL	PL	PI				
			SURFACE EL: ±ft											
1			Dense tan silty sand (SM), slightly clayey	A-4			16					20	37.7	
2														
3							19							
4			Medium dense red clayey sand (SC)	A-4			14					15		
5			Boring was completed at 5'											
6														
7														
8														
9														
10														
BORING DEPTH: 5 ft			COMMENTS:			GROUNDWATER DATA: No free water encountered during auger drilling.								
DATE: 02/03/23														

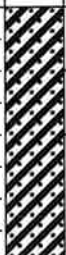

230032

FIGURE 11

LOG OF BORING NO. B-10
AMITE COUNTY ELEMENTARY SCHOOL
LIBERTY, MISSISSIPPI

TYPE: 4" Short-flight auger

LOCATION: See Figure 1

DEPTH, ft	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	AASHTO	BLOWS PER FT	POCKET PENETROMETER	WATER CONTENT	ATTERBERG LIMITS			VOLUME CHANGE %	DRY DENSITY, PCF	CBR (EST.)	% PASSING NO. 200 SIEVE
								LL	PL	PI				
			SURFACE EL: ±ft											
1			Stiff red sandy clay (CL)				14					6	50.7	
2			Medium dense red clayey sand (SC)	A-4			11	22	14	8		15		
3														
4							10							
5			Boring was completed at 5'											
6														
7														
8														
9														
10														
BORING DEPTH: 5 ft			COMMENTS: 3" Asphalt pavement			GROUNDWATER DATA: No free water encountered during auger drilling.								
DATE: 02/04/23														


230032

FIGURE 12

LOG OF BORING NO. B-11
AMITE COUNTY ELEMENTARY SCHOOL
LIBERTY, MISSISSIPPI

TYPE: 4" Short-flight auger

LOCATION: See Figure 1

DEPTH, ft	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	AASHTO	BLOWS PER FT	POCKET PENETROMETER	WATER CONTENT	ATTERBERG LIMITS			VOLUME CHANGE %	DRY DENSITY, PCF	CBR (EST.)	% PASSING NO. 200 SIEVE	
								LL	PL	PI					
			SURFACE EL: ±ft												
1			Stiff red and tan sandy clay (CL)	A-6			13	25	13	12			7		
2															
3								16							
4				- medium stiff, very sandy below 4'											
5								19							
5			Boring was completed at 5'												
6															
7															
8															
9															
10															
BORING DEPTH: 5 ft			COMMENTS: 3" Asphalt pavement			GROUNDWATER DATA: No free water encountered during auger drilling.									
DATE: 02/03/23															

230032

FIGURE 13

LOG OF BORING NO. B-12
AMITE COUNTY ELEMENTARY SCHOOL
LIBERTY, MISSISSIPPI

TYPE: 4" Short-flight auger

LOCATION: See Figure 1

DEPTH, ft	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	AASHTO	BLOWS PER FT	POCKET PENETROMETER	WATER CONTENT	ATTERBERG LIMITS			VOLUME CHANGE %	DRY DENSITY, PCF	CBR (EST.)	% PASSING NO. 200 SIEVE
								LL	PL	PI				
			SURFACE EL: ±ft											
1			Dense red clayey sand (SC)	A-2-4			11					15	30.2	
2			Stiff tan sandy clay (CL)	A-4			14					6		
3														
4			- medium stiff, damp, with trace of organics below 4'				17							
5			Boring was completed at 5'											
6														
7														
8														
9														
10														

BORING DEPTH: 5 ft

COMMENTS:
 3" Asphalt pavement
 6" Clay gravel base

GROUNDWATER DATA:
 No free water encountered during auger drilling.

DATE: 02/04/23

230032

FIGURE 14

LOG OF BORING NO. B-13
AMITE COUNTY ELEMENTARY SCHOOL
LIBERTY, MISSISSIPPI

TYPE: 4" Short-flight auger

LOCATION: See Figure 1

DEPTH, ft	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	AASHTO	BLOWS PER FT	POCKET PENETROMETER	WATER CONTENT	ATTERBERG LIMITS			VOLUME CHANGE %	DRY DENSITY, PCF	CBR (EST.)	% PASSING NO. 200 SIEVE
								LL	PL	PI				
			SURFACE EL: ±ft											
1			Stiff red sandy clay (CL)	A-6			12	26	13	13		6		
2			Dense red silty sand (SM)											
3			- slightly clayey to 4'				10							
4				A-2-4			8					20	21.6	
5			Boring was completed at 5'											
6														
7														
8														
9														
10														

BORING DEPTH: 5 ft

COMMENTS:
 3" Asphalt pavement
 3" Clay gravel base

GROUNDWATER DATA:
 No free water encountered during auger drilling.

DATE: 02/04/23

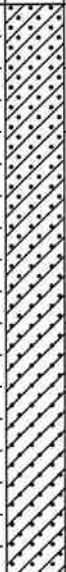

230032

FIGURE 15

LOG OF BORING NO. B-14
AMITE COUNTY ELEMENTARY SCHOOL
LIBERTY, MISSISSIPPI

TYPE: 4" Short-flight auger

LOCATION: See Figure 1

DEPTH, ft	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	AASHTO	BLOWS PER FT	POCKET PENETROMETER	WATER CONTENT	ATTERBERG LIMITS			VOLUME CHANGE %	DRY DENSITY, PCF	CBR (EST.)	% PASSING NO. 200 SIEVE
								LL	PL	PI				
			SURFACE EL: ±ft											
1			Medium dense tan clayey sand (SC) with trace of gravel	A-6			12	23	12	11			7	
2														
3							14							
4														
5			Medium dense gray sandy clay (CL)	A-4			16						7	62.1
			Boring was completed at 5'											
6														
7														
8														
9														
10														

BORING DEPTH: 5 ft

COMMENTS:
3.5" Asphalt pavement

GROUNDWATER DATA:
No free water encountered during auger drilling.

DATE: 02/03/23

230032

FIGURE 16

LOG OF BORING NO. B-15
AMITE COUNTY ELEMENTARY SCHOOL
LIBERTY, MISSISSIPPI

TYPE: 4" Short-flight auger

LOCATION: See Figure 1

DEPTH, ft	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	AASHTO	BLOWS PER FT	POCKET PENETROMETER	WATER CONTENT	ATTERBERG LIMITS			VOLUME CHANGE %	DRY DENSITY, PCF	CBR (EST.)	% PASSING NO. 200 SIEVE
								LL	PL	PI				
			SURFACE EL: ±ft											
1			Dense red clayey sand (SC) with gravel				13							
2			Dense red clayey sand (SC)											
3				A-2-4			12	22	12	10		15		
4														
5							13							
5			Boring was completed at 5'											
6														
7														
8														
9														
10														

BORING DEPTH: 5 ft

COMMENTS:
2.8" Concrete pavement

GROUNDWATER DATA:
No free water encountered during auger drilling.

DATE: 02/04/23







230032

FIGURE 17

LOG OF BORING NO. B-16
AMITE COUNTY ELEMENTARY SCHOOL
LIBERTY, MISSISSIPPI

TYPE: 4" Short-flight auger

LOCATION: See Figure 1

DEPTH, ft	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	AASHTO	BLOWS PER FT	POCKET PENETROMETER	WATER CONTENT	ATTERBERG LIMITS			VOLUME CHANGE %	DRY DENSITY, PCF	CBR (EST.)	% PASSING NO. 200 SIEVE	
								LL	PL	PI					
			SURFACE EL: ±ft												
0			Very stiff sandy clay (CL)	A-6			12	28	13	15			7		
1			Medium dense red clayey sand (SC)												
2															
3								11						15	37.0
4															
5			Boring was completed at 5'				10								
6															
7															
8															
9															
10															

BORING DEPTH: 5 ft

COMMENTS:
1" Deteriorated asphalt surface treatment

GROUNDWATER DATA:
No free water encountered during auger drilling.

DATE: 02/03/23

230032

DOCUMENT 004113 - BID FORM - STIPULATED SUM (SINGLE-PRIME CONTRACT)

1.1 BID INFORMATION

- A. Bidder: _____.
- B. Project Name: 22045 Amite County Elementary School Parking Lot & Site Development.
- C. Project Location:
- D. Owner: Amite County School District, 533 Maggie Street, Liberty, MS 39645.
- E. Architect: Bailey Architecture Education, P.A., 201 Park Court, Suite B, Ridgeland, MS 39157.
- F. Architect Project Number: 22045.

1.2 CERTIFICATIONS AND BASE BID

- A. Base Bid, Single-Prime (All Trades) Contract: The undersigned Bidder, having carefully examined the Procurement and Contracting Requirements, Conditions of the Contract, Drawings, Specifications, and all subsequent Addenda, as prepared by Bailey Architecture Education and Architect's consultants, having visited the site, and being familiar with all conditions and requirements of the Work, hereby agrees to furnish all material, labor, equipment and services, including all scheduled allowances, necessary to complete the construction of the above-named project, according to the requirements of the Procurement and Contracting Documents, for the stipulated sum of:

1. _____ Dollars
 (\$_____).

1.3 ALLOWANCES. Include the allowances below in the base bid. Refer to section 012100-ALLOWANCES.

- A. Allowance No. 01: Lump Sum Contingency Allowance. Fifty Thousand Dollars (\$50,000.00)

1.4 ALTERNATES. Refer to Section 012300 – ALTERNATES for description of Alternates.

- A. Additive Alternate No. 1: Chain Link Fencing as shown on Sheet C-301 Geometric Layout – Overview dated Addendum No. 2, 2/24/23.

_____ Dollars
 (\$_____). **Davis Bacon Wages are not required in this Alternate.**

- B. Additive Alternate No. 2: Chain Link Fencing as shown on Sheet C-301 Geometric Layout – Overview dated Addendum No. 2, 2/24/23.

_____ Dollars

(\$ _____).

1.5 BID GUARANTEE

- A. The undersigned Bidder agrees to execute a contract for this Work in the above amount and to furnish surety as specified within 10 . days after a written Notice of Award, if offered within 90 days after receipt of bids, and on failure to do so agrees to forfeit to Owner the attached cash, cashier's check, certified check, U.S. money order, or bid bond, as liquidated damages for such failure, in the following amount constituting five percent (5%) of the Base Bid amount above:

1. _____ Dollars

(\$ _____).

- B. In the event Owner does not offer Notice of Award within the time limits stated above, Owner will return to the undersigned the cash, cashier's check, certified check, U.S. money order, or bid bond.

1.6 SUBCONTRACTORS AND SUPPLIERS

- A. The following companies shall execute subcontracts for the portions of the Work indicated:

- 1. Concrete Work: _____.
- 2. Masonry Work: _____.
- 3. Roofing Work: _____.
- 4. Plumbing Work: _____.
- 5. HVAC Work: _____.
- 6. Electrical Work: _____.

1.7 TIME OF COMPLETION

- A. The undersigned Bidder proposes and agrees hereby to commence the Work of the Contract Documents on a date specified in a written Notice to Proceed to be issued by Architect. Phase 1 and 2 Substantial Completion shall be August 7, 2023, and Remaining work shall be substantially complete October 2, 2023.

1.8 ACKNOWLEDGMENT OF ADDENDA

- A. The undersigned Bidder acknowledges receipt of and use of the following Addenda in the preparation of this Bid:

- 1. Addendum No. 1, dated _____.
- 2. Addendum No. 2, dated _____.
- 3. Addendum No. 3, dated _____.

4. Addendum No. 4, dated _____.

1.9 BID SUPPLEMENTS

A. The following supplements are a part of this Bid Form and are attached hereto.

1. Bid Form Supplement - Bid Bond Form (AIA Document A310-2010).

1.10 CONTRACTOR'S LICENSE

A. The undersigned further states that it is a duly licensed contractor, for the type of work proposed, in Mississippi, and that all fees, permits, etc., pursuant to submitting this proposal have been paid in full.

1.11 SUBMISSION OF BID

A. Respectfully submitted this ____ day of _____, 2023.

B. Submitted By: _____ (Name of bidding firm or corporation).

C. Authorized Signature: _____ (Handwritten signature).

D. Signed By: _____ (Type or print name).

E. Title: _____ (Owner/Partner/President/Vice President).

F. Witnessed By: _____ (Handwritten signature).

G. Attest: _____ (Handwritten signature).

H. By: _____ (Type or print name).

I. Title: _____ (Corporate Secretary or Assistant Secretary).

J. Street Address: _____.

K. City, State, Zip: _____.

L. Email: _____.

M. Phone: _____.

N. License No.: _____.

O. Federal ID No.: _____ (Affix Corporate Seal Here).

END OF DOCUMENT 004113

SECTION 012300 - ALTERNATES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for alternates.

1.2 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if the Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
 - 2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternates into the Work. No other adjustments are made to the Contract Sum.

1.3 PROCEDURES

- A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
 - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Execute accepted alternates under the same conditions as other work of the Contract.
- C. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A. Additive Alternate No. 01 : Chain Link Fencing as shown on Sheet C-301 Geometric Layout – Overview dated Addendum No. 2, 2/24/23.
- B. Alternate No. 02: Chain Link Fencing as shown on Sheet C-301 Geometric Layout – Overview dated Addendum No. 2, 2/24/23.

END OF SECTION 012300

SECTION 055000 - METAL FABRICATIONS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS: Applicable portions of the Agreement, Conditions of the Contract (General, Supplementary, and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract shall apply to the work in this Section. The general requirements for this work are located in Division 1 of the Specifications.

1.02 DESCRIPTION

- a. Provide all miscellaneous metal work where indicated on the drawings and specified herein. Provide supplementary accessories and parts as necessary to complete items included under this section, such as bent plates, sleeves, clips, spacers, hangers, anchors, bolts, fasteners, etc. Provide any metal work not specifically listed as being furnished under another section of the specifications.
- b. Work Specified Elsewhere
1. Structural Steel (Section 05100).
 2. Reinforcing steel and concrete accessories (Section 03300).
 3. Masonry reinforcing and ties (Section 04200).
 4. Plumbing, heating and ventilating and electrical items (Divisions 15 and 16).
 5. Sheet metal flashings (Section 07602).
 6. Door hardware (Section 08700).
 7. Finish painting (Section 09900).

1.03 APPLICABLE STANDARDS: The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only. Refer Section 01090.

- a. THE ALUMINUM ASSOCIATION, INCORPORATED (AA)
- | | |
|-----------|--|
| AA DAF-45 | Designation System for Aluminum Finishes |
|-----------|--|
- b. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)
- | | |
|----------|---|
| AISC 303 | Code of Standard Practice for Steel Buildings and Bridges |
| AISC 341 | Seismic Provisions for Structural Steel Buildings |
| AISC 350 | Load and Resistance Factor Design (LRFD) Specification for Structural Steel Buildings |
| AISC 360 | Specification for Structural Steel Buildings |

- c. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
- ANSI A14.3 Standard for Fixed Ladders and Safety Requirements
- ANSI A117.1 Accessible and Usable Buildings and Facilities
- d. AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)
- ASME A17.1 Safety Code for Elevators and Escalators
- ASME B18.2.1 Square and Hex Bolts and Screws Inch Series
- ASME B18.2.2 Square and Hex Nuts (Inch Series)
- ASME B18.6.2 Slotted Head Cap Screws, Square Headset Screws, and Slotted Headless Set Screws
- ASME B18.6.3 Machine Screws and Machine Screw Nuts
- ASME B18.21.1 Lock Washers (Inch Series)
- ASME B18.22.1 Plain Washers
- ASME B18.52.1 Square and Hex Bolts and Screws Inch Series.
- e. AMERICAN SOCIETY OF SANITARY ENGINEERING (ASSE)
- ASSE A10.3 Powder-Actuated Fastening Systems
- f. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
- ASTM A36/A36M Structural Steel
- ASTM A47/A47M Ferritic Malleable Iron Castings
- ASTM A48/A48M Gray Iron Castings
- ASTM A53/A53M Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless
- ASTM A123/123M Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
- ASTM A153/A153M Zinc Coating (Hot-Dip) on Iron and Steel Hardware
- ASTM A307 Carbon Steel Bolts and Studs, 60,000 psi Tensile Strength
- ASTM A475 Zinc-Coated Steel Wire Strand
- ASTM A500 Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes

ASTM A501	Hot-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes
ASTM A653/A653M	Sheet Steel, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
ASTM A780	Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings
ASTM A786/A786M	Rolled Steel Floor Plates
ASTM A1011/A1011M	Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability
ASTM B26/B26M	Aluminum-Alloy Sand Castings
ASTM B108	Aluminum-Alloy Permanent Mold Castings
ASTM B209	Aluminum and Aluminum-Alloy Sheet and Plate
ASTM B221	Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes
ASTM B429	Aluminum-Alloy Extruded Structural Pipe and Tube
ASTM D635	Rate of Burning and/or Extent and Time of Burning of Self-Supporting Plastics in a Horizontal Position
ASTM D1187	Asphalt-Base Emulsions for Use as Protective Coatings for Metal
g.	AMERICAN WELDING SOCIETY, INC. (AWS)
AWS D1.1/D1.1M	Structural Welding Code: Steel
AWS D1.2/D1.2M.	Structural Welding Code: Aluminum
AWS D1.3	Structural Welding Code: Sheet Steel
h.	CODE OF FEDERAL REGULATIONS (CFR)
28 CFR PART 36	Americans with Disabilities Act
29 CFR 1910.27	Fixed Ladders
i.	FEDERAL SPECIFICATIONS (FS)
FS FF-S-325	Shield, Expansion, Nail Expansion; and Nail, Drive Screw (Devices, Anchoring, Masonry)
FS TT-P-664	Primer Coating, Alkyd, Corrosion-Inhibiting, Lead and Chromate Free, VOC-Compliant

- j. INTERNATIONAL CODE COUNCIL, INC. (ICC)
ICC IBC International Building Code
- k. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
NFPA 101 Code for Safety to Life from Fire in Buildings and Structures

1.04 SUBMITTALS: All shop drawings shall be prepared under the direct supervision of a licensed Mississippi Engineer experienced in the design of the types of work required by this Section. All shop drawings shall bear the seal of the supervising licensed Engineer. Shop drawings shall indicate profiles, sizes, materials, dimensions, complete connection details, attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, with plans, elevations, and details, as applicable. All welds shall be sized and lengths shown to develop full load continuity through the joints. Engineer, fabricate, and install all metal fabrications to properly support and to withstand the structural loads required without exceeding the allowable design working stress of the materials. Submit structural calculations used for the design of the metal fabrications, sealed by the supervising Engineer. Comply with AISC 303, AISC 341, AISC 350, AISC 360, AWS D1.1, and ICC IBC. Prepare shop drawings for all fabricated items and submit to the Architect for review. Obtain written comments prior to any fabrication of these items. Submit manufacturer's brochures or drawings of standard manufactured items for the Architect's review.

1.05 FIELD MEASUREMENTS: Obtain field measurements of adjoining work as required to locate and fit the work of this section.

PART 2 - PRODUCTS

2.01 MATERIALS

- a. Quality requirements shall be as follows, unless indicated otherwise on the drawings or within the item description. Refer to item description for any additional materials and requirements.
 - 1. Structural Steel Shapes, Plates and Bars: ASTM A36, Structural Steel.
 - 2. Structural Steel Tubing: ASTM A500 or ASTM A501.
 - 3. Castings: Shall be of best quality soft gray iron, true to pattern, smooth, and entirely free from blow-holes, coldshots, or other defects impairing strength, durability or appearance, and conform to ASTM A48, Class 40.
 - 4. Steel Pipe: Shall conform to ASTM A-53, Type E or S, Grade B, complete with malleable iron fittings (ASTM A47) as required.
 - 5. Aluminum Alloy Products: Conform to ASTM B209 for sheet plate, ASTM B221 for extrusions and ASTM B26/B26M or ASTM B108 for castings, as applicable. Provide aluminum extrusions at least 1/8-inch thick and aluminum plate or sheet at least 0.050-inch thick.
 - 6. Aluminum Pipe: ASTM B429, Alloy 6063-T832 standard weight.
 - 7. Sheet Steel: Unless indicated otherwise, shall be open-hearth, full pickled, cold rolled, annealed, patent leveled, and bonderized furniture steel, entirely free from scale, waves and other defects.

8. Anchors Bolts: ASTM A307. Where exposed, shall be of the same material, color, and finish as the metal to which applied. Anchor bolts shall be of reviewed design and manufacturer.
9. Expansion Anchors: FS FF-S-325, of group II, type 4, class 1. Provide embedment required by manufacturer. Expansion anchors shall be galvanized and of reviewed design and manufacturer.
10. Lag Screws and Bolts: ASME B18.52.1, type and grade best suited for the purpose.
11. Toggle Bolts: ASME B18.52.1.
12. Bolts, Nuts, Studs and Rivets: ASME B18.2.2 and ASTM A307. Shall be of reviewed design and manufacturer.
13. Powder Driven Fasteners: Follow safety provisions of ASSE A10.3. Shall be of reviewed design and manufacturer.
14. Screws: ASME B18.52.1, ASME B18.6.2, AND ASME B18.6.3. Shall be of reviewed design and manufacturer.
15. Washers: Provide plain washers to conform to ASME B18.22.1. Provide beveled washers for American Standard beams and channels, square or rectangular, tapered in thickness, and smooth. Provide lock washers to conform to ASME B18.21.1.
16. Paint Primer on Steel (Except Galvanized): Equivalent to Pittsburg Industrial Inhibitive White Primer (7-852).
17. Galvanizing Touch-Up Coating: Field Touch-Up Material for galvanized surfaces that have been cut, burned during welding or otherwise damaged shall be with galvanizing repair method and paint conforming to ASTM A780 or by the application of stick or thick paste material specifically designed for repair of galvanizing, as reviewed by the Architect. Clean areas to be repaired and remove the slag from the welds. Heat surfaces to which stick or paste material is applied with a torch to a temperature sufficient to melt the metallics in stick or paste; spread the molten material uniformly over surfaces to be coated and wipe the excess material off.
18. Dissimilar Materials: Where dissimilar metals are in contact, protect surfaces with a coat conforming to FS TT-P-664 to prevent galvanic or corrosive action, and where aluminum is in contact with concrete, mortar, masonry, wood, or absorptive materials subject to wetting, protect the surfaces with ASTM D1187, asphalt-base emulsion.
19. Galvanizing: Hot-dip galvanized items specified to be galvanized in accordance with ASTM A123, ASTM A153, or ASTM A653 (G90), as applicable. Galvanized items shall be zinc-coated after fabrication, where practicable. Galvanized fasteners, washers, and parts or devices necessary for proper installation of galvanized items shall be used.

20. Structural Performance of Handrails and Railing Systems: Engineer, fabricate, and install handrails and railing systems to withstand the following structural loads without exceeding the allowable design working stress of the materials for handrails, railing systems, anchors, and connections. Apply each load to produce the maximum stress in each of the respective components comprising handrails and railing systems.
- a) Top Rail of Guardrail Systems: Capable of withstanding the following loads applied as indicated:
 - 1) Concentrated load of 250 lbf applied at any point and in any direction.
 - 2) Uniform load of 50 lbf per linear ft. applied horizontally and concurrently with uniform load of 100 lbf per linear ft. applied vertically downward.
 - 3) Concentrated load need not be assumed to act concurrently with uniform loads.
 - b) Handrails Not Serving as Top Rails: Capable of withstanding the following loads applied as indicated:
 - 1) Concentrated load of 200 lbf applied at any point and in any direction.
 - 2) Uniform load of 50 lbf per linear ft. applied in any direction.
 - 3) Concentrated and uniform loads need not be assumed to act concurrently.
 - c) Infill Area of Guardrail Systems: Capable of withstanding a horizontal concentrated load of 200 lbf applied to one sq. ft. at any point in the system including panels, intermediate rails, balusters, or other elements composing the infill area. Above load need not be assumed to act concurrently with loads on top rails of railing systems in determining stress on guard.
21. Aluminum Finishes: Unless otherwise specified, mill aluminum items shall have AA-M12 mill finish with AA-M42 fine matte non-directional textured mechanical finish. Anodized coatings shall be in accordance with DAF-45. Architectural Class I Clear Anodic Coating (AA-M12C22A41), Architectural Class II Clear Anodic Coating (AA-M12C22A31), or Architectural Class I Color Anodic (AA-M12C22A42/44), as applicable. Items to be anodized shall receive a polished satin finish pretreatment and a clear lacquer over-coating.
- b. Metal Materials
- 1. Anchors
 - a) Anchors for frames and other miscellaneous iron members shown anchored into concrete or masonry, shall be strap steel, bent to shape, or deformed bent steel bars welded to backs of members extended with bent end for building-in as conditions require, and of sizes and spacing as noted. Where size and spacing are not noted, straps anchors shall not be less than 1-1/2 inch by 1/4 inch for concrete and 1-1/2 inch by 1/8 inch for masonry. Masonry anchors shall be properly spaced to fit the jointing of the adjacent brick or masonry block work. Unless otherwise noted on the drawings, anchors shall be spaced 2'-0" or less on centers.

- b) Where anchors and plates or clips are to be built-in for attachment of later work, bolts shall be placed in the plates or clips and welded to back with threaded ends extended as required.
 - c) For attaching work to masonry or concrete, where anchors or inserts cannot be built-in, provide reviewed type of cinch anchors and machine bolts or screws. Holes shall be accurately drilled.
2. Handrail System and Railings: Design, fabrication, and installation shall be in accordance with the drawings, 28 CFR PART 36, ANSI A117.1, the requirement of ICC IBC and "Structural Performance of Handrails and Railing Systems"..
- a) Unless indicated otherwise on the drawings, handrails at stairs, platform edges, and elsewhere shown, shall be fabricated from 1-1/4" I.D. standard pipe conforming to ASTM A53, and shall be made up in flush welded construction. Field joints in rails shall be tight fit, sleeved construction, hairline, secure with set screws on bottom of rail. Exterior steel railings shall be galvanized in accordance with ASTM A653 (G90) after fabrication. Interior steel railings may be fabricated from ungalvanized steel and delivered to the construction site with shop applied prime coat.
 - b) Provide fittings and brackets for all rails attached to the walls. Wall connections shall be secured with cinch anchors and bolts, or with tapped machine screws into plate anchors welded to studs.
 - c) Unless detailed otherwise, provide pipe sleeves for railings (posts) set in concrete. Sleeves shall be cut from extra strength pipe. Railings connecting to concrete shall have stanchions set in pipe sleeves 6" long and shall be leaded in place. Provide metal floor flanges where stanchions occur at finished floors and where indicated on the drawings. Where posts are set in drilled concrete holes, provide epoxy grout around post for full depth of holes.
 - d) Railings shall be constructed as indicated on the drawings. Railings shall be fabricated from steel pipe, tubes, or solid bars. Distance between pickets or between pickets and posts shall meet the requirements of the applicable building code. Railings shall be shop assembled by coping the members together and welding solid. Welds shall be ground or filed smooth, level, and neatly filleted. Stanchions shall be erected plumb, accurately aligned and rigid. Horizontal or sloping member railings shall be parallel to each other and accurately aligned.
 - e) Rails shall be securely and firmly attached to walls and floors as shown on the drawings, at proper height, and level or to stair slope.
 - f) Unless noted or detailed otherwise on the drawings, handrail brackets shall be of galvanized malleable iron (Julius Blum #382, or equivalent). Spacing of handrail brackets shall be 42" o.c. maximum and 8" from each end of handrail.
3. Shelf Angles and Loose Lintels
- a) Shelf angles and supports for exterior walls shall be furnished and installed as shown.

- b) All shelf angles shall be punched for bolts, spaced as noted on the drawings or, if not noted, provide holes at 2'-0" on center maximum and 8 inches from end of shelf angle. Furnish and install all bolts and anchors as required.
- c) Loose lintels of section indicated shall be furnished where shown on the drawings and as required over openings in masonry walls and partitions for installation under Section 04200, including lintels required where ducts penetrate masonry. All lintels shall have minimum 6" bearing at each end.
- d) Provide steel angle sill supports and grouting for elevator hoistway entrance sills and frames.

4. Anchorage Items

- a) Provide inserts for bolting angle brackets and hangers shall be malleable iron, integral loop back with provisions for non-slip vertical adjustment in aligning shelf angles, etc., complete with special headed bolts of sizes and lengths shown with hexagonal nuts. Soffit hangers shall be made from stainless steel and shall be slotted or threaded as required. Types of inserts for bolting shelf angles are specified in Section 03300 or 05100.
- b) Provide and accurately locate all inserts and anchors requiring welding to structural steel.
- c) Provide and accurately locate all anchors to be cast into concrete work.

5. Access Panels

- a) Provide access panels (doors) to serve items of mechanical and electrical work, which occur above ceilings, which would otherwise not be accessible, and which require routine maintenance, adjustment, resetting, cleaning and/or removal of filters. The exact location of the access panels shall be determined on the job site after the mechanical and electrical items concerned are in place. Exact sizes of access panel shall be as required for a person to properly service the particular item, and in no case less than 14 inches by 14 inches in size. Access panels, which have been installed and are too small in size to properly serve item, shall be replaced with larger panels of proper size. Access panels, which are of a proper size, but are too remotely located to service the item shall be removed and relocated to a proper location. Items requiring access panels include, but are not limited to, the following:

- 1) Valves
- 2) Flow indicators
- 3) Dampers
- 4) Air splitters
- 5) Temperature control components
- 6) Fusible link assemblies
- 7) Air duct smoke detectors
- 8) Electrical power and communication junction boxes
- 9) Air filters requiring periodic replacement
- 10) VAV terminal units
- 11) Air door units
- 12) Fan-coil filter units
- 13) Water hammer arrestors

- 14) Trap primer valves
 - 15) Cleanouts
 - 16) EMCS devices
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- b) Provide access panels (doors) to serve items above ceilings or inside partitions or partition chases.
 - c) Access panels will not be required in ceilings of exposed ceiling grid with lay-in acoustical panels.
 - d) Access panels (doors) shall be the flush panel type for masonry, drywall, tile and plaster, as applicable, provide a 100 percent clear opening, concealed hinges on door panel to open 165 degrees without impacting the wall or ceiling, and operation shall be by screwdriver inserted into flush lock with case-hardened steel cam or key operated cylinder lock. Cylinder locks shall be used in all general public areas and fire rated access door locations.
 - e) Unless noted otherwise on the drawings, frame and door panel shall be 14 gage steel furnished in manufacturer's standard primer of baked-on electro-static powder. Where stainless steel access panels noted, frame and door panels shall be of 16 gage stainless steel with satin finish. Fire-rated access doors for walls and ceiling shall be constructed in accordance with and labeled by the Underwriters' Laboratory, Inc. 1-1/2 hour "B" label.
 - f) Unless indicated otherwise, access panels shall be Styles M, MS, DW and K or fire-rated access doors, as applicable, and as manufactured by Milcor Incorporated, or equivalent.
6. Miscellaneous Plates and Shapes
- a) Miscellaneous plates and shapes for items that do not form a part of the structural steel framework, such as lintels, sill angles, steel thresholds, miscellaneous mountings, and frames, shall be provided to complete the work. Unless indicated otherwise, miscellaneous plates and shapes shall be of ASTM A36 steel.
 - b) All exterior steel shall be factory hot-dip galvanized and interior steel shall be shop primed for painting. Exterior and interior finish painting shall be in accordance with Section 09900.
7. Pipe Bollards (PB): Provide 6" galvanized standard steel pipe as specified in ASTM A53. Pipe shall be centered and properly anchored (using steel straps or bars welded to bottom end of pipe) into 18" round X 4'-6" deep concrete footing and extending into footing 4'-0". Pipe shall be filled solid with 3000 psi concrete (concrete shall be slightly domed shaped at top of pipe, with base of dome even with top of pipe). Top of footing shall be approximately 6" below finish grade. Unless indicated otherwise, top of pipe shall be approximately 30" above finish grade. Exposed portions of pipe and concrete fill shall be painted. Refer drawings for locations of pipe bollards.

PART 3 - EXECUTION

3.01 WORKMANSHIP

- a. Quality
1. All finished members shall be free from twists, bends or open joints. Work shall conform to all requirements of the ICC IBC and applicable requirements of the AISC S303.
 2. Members shall be true to length so that assembling may be done without fillers. There shall be no projecting edges or corners where members are assembled. All coping, blocking and mitering shall be done with care. Sharp edges caused by shearing or other tooling shall be eased where exposed.
 3. All work shall be done by skilled workmen.
- b. Bolting and Fastening: All details and connections shall be close fitting and carefully made. Provide all lugs, clips, connections, rivets, bolts, etc., necessary to complete fabrication and erection. Unless otherwise indicated on drawings, bolts remaining in the finished (exposed) work shall have countersunk heads and nuts shall be hexagonal. Bolts shall be of proper length to permit full thread in the nut but shall not project more than 1/4" beyond the face of the nut. Screws shall be countersunk.
- c. Electric Welding: Welding on steel, both shop and field, shall be done by the electric shielded arc method and in accordance with AWS D1.1. Welds shall be solid and homogeneously a part of the metals joined and free from pits or incorporated slag or scale. Surfaces of welds shall be smooth and regular and shall be of full area indicated or required to develop the required strength of the joints. Where exposed, welds shall be ground smooth and flush with the parent metal.
- d. Provision for Work by Other Trades: Provide holes of types and size in metal items as required for the attachment or mounting of work or other trades.

3.02 PAINT PRIMING

- a. All miscellaneous iron shall be given one (1) coat of priming paint with the exception that those members embedded in concrete or having galvanized finish shall have no shop paint unless otherwise specified. All surfaces not in contact, but inaccessible after assembly, shall have one (1) additional coat of priming paint before assembling.
- b. After erection, the shop coat must be in suitable condition to receive the general painter's field coats. Touch-up in the field all paint film and galvanizing scuffed or otherwise damaged in shipment and erection. Field touch-up primed material same as shop coat primer. Field touch-up galvanized surfaces in accordance with the coating manufacturer's printed instructions.

3.03 SETTING AND ERECTION

- a. Other trades will set and build in items of miscellaneous iron which are to be built into masonry or concrete, such as loose lintels, seat angles, frames, curbs, sleeve inserts, brackets, lugs and anchors.
- b. All such items shall be fabricated and delivered complete with bolts, anchors, and clips, ready to set. Consult with the trades concerned and make delivery to the points designated to expedite the installation in correct locations. Furnish setting drawings where required.

- c. Where lugs are shown or specified for building into adjoining masonry, the parts having lugs shall be erected in place before the masonry is built. Elsewhere, the work shall be brought to the building in as large pieces as practicable and attached to anchors or inserts during the erection.
- d. Connections made to sleeve inserts except items indicated to be removable, shall have the member extended into the sleeve, wedged tight with metal wedges and the surrounding space poured full of lead or packed with lead wool and sealed to finish flush with adjoining surface.

END OF SECTION 055000

- c. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
- ANSI A14.3 Standard for Fixed Ladders and Safety Requirements
- ANSI A117.1 Accessible and Usable Buildings and Facilities
- d. AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)
- ASME A17.1 Safety Code for Elevators and Escalators
- ASME B18.2.1 Square and Hex Bolts and Screws Inch Series
- ASME B18.2.2 Square and Hex Nuts (Inch Series)
- ASME B18.6.2 Slotted Head Cap Screws, Square Headset Screws, and Slotted Headless Set Screws
- ASME B18.6.3 Machine Screws and Machine Screw Nuts
- ASME B18.21.1 Lock Washers (Inch Series)
- ASME B18.22.1 Plain Washers
- ASME B18.52.1 Square and Hex Bolts and Screws Inch Series.
- e. AMERICAN SOCIETY OF SANITARY ENGINEERING (ASSE)
- ASSE A10.3 Powder-Actuated Fastening Systems
- f. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
- ASTM A36/A36M Structural Steel
- ASTM A47/A47M Ferritic Malleable Iron Castings
- ASTM A48/A48M Gray Iron Castings
- ASTM A53/A53M Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless
- ASTM A123/123M Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
- ASTM A153/A153M Zinc Coating (Hot-Dip) on Iron and Steel Hardware
- ASTM A307 Carbon Steel Bolts and Studs, 60,000 psi Tensile Strength
- ASTM A475 Zinc-Coated Steel Wire Strand
- ASTM A500 Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes

ASTM A501	Hot-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes
ASTM A653/A653M	Sheet Steel, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
ASTM A780	Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings
ASTM A786/A786M	Rolled Steel Floor Plates
ASTM A1011/A1011M	Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability
ASTM B26/B26M	Aluminum-Alloy Sand Castings
ASTM B108	Aluminum-Alloy Permanent Mold Castings
ASTM B209	Aluminum and Aluminum-Alloy Sheet and Plate
ASTM B221	Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes
ASTM B429	Aluminum-Alloy Extruded Structural Pipe and Tube
ASTM D635	Rate of Burning and/or Extent and Time of Burning of Self-Supporting Plastics in a Horizontal Position
ASTM D1187	Asphalt-Base Emulsions for Use as Protective Coatings for Metal
g.	AMERICAN WELDING SOCIETY, INC. (AWS)
AWS D1.1/D1.1M	Structural Welding Code: Steel
AWS D1.2/D1.2M.	Structural Welding Code: Aluminum
AWS D1.3	Structural Welding Code: Sheet Steel
h.	CODE OF FEDERAL REGULATIONS (CFR)
28 CFR PART 36	Americans with Disabilities Act
29 CFR 1910.27	Fixed Ladders
i.	FEDERAL SPECIFICATIONS (FS)
FS FF-S-325	Shield, Expansion, Nail Expansion; and Nail, Drive Screw (Devices, Anchoring, Masonry)
FS TT-P-664	Primer Coating, Alkyd, Corrosion-Inhibiting, Lead and Chromate Free, VOC-Compliant

- j. INTERNATIONAL CODE COUNCIL, INC. (ICC)
ICC IBC International Building Code
- k. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
NFPA 101 Code for Safety to Life from Fire in Buildings and Structures

1.04 SUBMITTALS: All shop drawings shall be prepared under the direct supervision of a licensed Mississippi Engineer experienced in the design of the types of work required by this Section. All shop drawings shall bear the seal of the supervising licensed Engineer. Shop drawings shall indicate profiles, sizes, materials, dimensions, complete connection details, attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, with plans, elevations, and details, as applicable. All welds shall be sized and lengths shown to develop full load continuity through the joints. Engineer, fabricate, and install all metal fabrications to properly support and to withstand the structural loads required without exceeding the allowable design working stress of the materials. Submit structural calculations used for the design of the metal fabrications, sealed by the supervising Engineer. Comply with AISC 303, AISC 341, AISC 350, AISC 360, AWS D1.1, and ICC IBC. Prepare shop drawings for all fabricated items and submit to the Architect for review. Obtain written comments prior to any fabrication of these items. Submit manufacturer's brochures or drawings of standard manufactured items for the Architect's review.

1.05 FIELD MEASUREMENTS: Obtain field measurements of adjoining work as required to locate and fit the work of this section.

PART 2 - PRODUCTS

2.01 MATERIALS

- a. Quality requirements shall be as follows, unless indicated otherwise on the drawings or within the item description. Refer to item description for any additional materials and requirements.
 - 1. Structural Steel Shapes, Plates and Bars: ASTM A36, Structural Steel.
 - 2. Structural Steel Tubing: ASTM A500 or ASTM A501.
 - 3. Castings: Shall be of best quality soft gray iron, true to pattern, smooth, and entirely free from blow-holes, coldshots, or other defects impairing strength, durability or appearance, and conform to ASTM A48, Class 40.
 - 4. Steel Pipe: Shall conform to ASTM A-53, Type E or S, Grade B, complete with malleable iron fittings (ASTM A47) as required.
 - 5. Aluminum Alloy Products: Conform to ASTM B209 for sheet plate, ASTM B221 for extrusions and ASTM B26/B26M or ASTM B108 for castings, as applicable. Provide aluminum extrusions at least 1/8-inch thick and aluminum plate or sheet at least 0.050-inch thick.
 - 6. Aluminum Pipe: ASTM B429, Alloy 6063-T832 standard weight.
 - 7. Sheet Steel: Unless indicated otherwise, shall be open-hearth, full pickled, cold rolled, annealed, patent leveled, and bonderized furniture steel, entirely free from scale, waves and other defects.

8. Anchors Bolts: ASTM A307. Where exposed, shall be of the same material, color, and finish as the metal to which applied. Anchor bolts shall be of reviewed design and manufacturer.
9. Expansion Anchors: FS FF-S-325, of group II, type 4, class 1. Provide embedment required by manufacturer. Expansion anchors shall be galvanized and of reviewed design and manufacturer.
10. Lag Screws and Bolts: ASME B18.52.1, type and grade best suited for the purpose.
11. Toggle Bolts: ASME B18.52.1.
12. Bolts, Nuts, Studs and Rivets: ASME B18.2.2 and ASTM A307. Shall be of reviewed design and manufacturer.
13. Powder Driven Fasteners: Follow safety provisions of ASSE A10.3. Shall be of reviewed design and manufacturer.
14. Screws: ASME B18.52.1, ASME B18.6.2, AND ASME B18.6.3. Shall be of reviewed design and manufacturer.
15. Washers: Provide plain washers to conform to ASME B18.22.1. Provide beveled washers for American Standard beams and channels, square or rectangular, tapered in thickness, and smooth. Provide lock washers to conform to ASME B18.21.1.
16. Paint Primer on Steel (Except Galvanized): Equivalent to Pittsburg Industrial Inhibitive White Primer (7-852).
17. Galvanizing Touch-Up Coating: Field Touch-Up Material for galvanized surfaces that have been cut, burned during welding or otherwise damaged shall be with galvanizing repair method and paint conforming to ASTM A780 or by the application of stick or thick paste material specifically designed for repair of galvanizing, as reviewed by the Architect. Clean areas to be repaired and remove the slag from the welds. Heat surfaces to which stick or paste material is applied with a torch to a temperature sufficient to melt the metallics in stick or paste; spread the molten material uniformly over surfaces to be coated and wipe the excess material off.
18. Dissimilar Materials: Where dissimilar metals are in contact, protect surfaces with a coat conforming to FS TT-P-664 to prevent galvanic or corrosive action, and where aluminum is in contact with concrete, mortar, masonry, wood, or absorptive materials subject to wetting, protect the surfaces with ASTM D1187, asphalt-base emulsion.
19. Galvanizing: Hot-dip galvanized items specified to be galvanized in accordance with ASTM A123, ASTM A153, or ASTM A653 (G90), as applicable. Galvanized items shall be zinc-coated after fabrication, where practicable. Galvanized fasteners, washers, and parts or devices necessary for proper installation of galvanized items shall be used.

20. Structural Performance of Handrails and Railing Systems: Engineer, fabricate, and install handrails and railing systems to withstand the following structural loads without exceeding the allowable design working stress of the materials for handrails, railing systems, anchors, and connections. Apply each load to produce the maximum stress in each of the respective components comprising handrails and railing systems.
- a) Top Rail of Guardrail Systems: Capable of withstanding the following loads applied as indicated:
 - 1) Concentrated load of 250 lbf applied at any point and in any direction.
 - 2) Uniform load of 50 lbf per linear ft. applied horizontally and concurrently with uniform load of 100 lbf per linear ft. applied vertically downward.
 - 3) Concentrated load need not be assumed to act concurrently with uniform loads.
 - b) Handrails Not Serving as Top Rails: Capable of withstanding the following loads applied as indicated:
 - 1) Concentrated load of 200 lbf applied at any point and in any direction.
 - 2) Uniform load of 50 lbf per linear ft. applied in any direction.
 - 3) Concentrated and uniform loads need not be assumed to act concurrently.
 - c) Infill Area of Guardrail Systems: Capable of withstanding a horizontal concentrated load of 200 lbf applied to one sq. ft. at any point in the system including panels, intermediate rails, balusters, or other elements composing the infill area. Above load need not be assumed to act concurrently with loads on top rails of railing systems in determining stress on guard.
21. Aluminum Finishes: Unless otherwise specified, mill aluminum items shall have AA-M12 mill finish with AA-M42 fine matte non-directional textured mechanical finish. Anodized coatings shall be in accordance with DAF-45. Architectural Class I Clear Anodic Coating (AA-M12C22A41), Architectural Class II Clear Anodic Coating (AA-M12C22A31), or Architectural Class I Color Anodic (AA-M12C22A42/44), as applicable. Items to be anodized shall receive a polished satin finish pretreatment and a clear lacquer over-coating.
- b. Metal Materials
- 1. Anchors
 - a) Anchors for frames and other miscellaneous iron members shown anchored into concrete or masonry, shall be strap steel, bent to shape, or deformed bent steel bars welded to backs of members extended with bent end for building-in as conditions require, and of sizes and spacing as noted. Where size and spacing are not noted, straps anchors shall not be less than 1-1/2 inch by 1/4 inch for concrete and 1-1/2 inch by 1/8 inch for masonry. Masonry anchors shall be properly spaced to fit the jointing of the adjacent brick or masonry block work. Unless otherwise noted on the drawings, anchors shall be spaced 2'-0" or less on centers.

- b) Where anchors and plates or clips are to be built-in for attachment of later work, bolts shall be placed in the plates or clips and welded to back with threaded ends extended as required.
 - c) For attaching work to masonry or concrete, where anchors or inserts cannot be built-in, provide reviewed type of cinch anchors and machine bolts or screws. Holes shall be accurately drilled.
2. Handrail System and Railings: Design, fabrication, and installation shall be in accordance with the drawings, 28 CFR PART 36, ANSI A117.1, the requirement of ICC IBC and "Structural Performance of Handrails and Railing Systems"..
- a) Unless indicated otherwise on the drawings, handrails at stairs, platform edges, and elsewhere shown, shall be fabricated from 1-1/4" I.D. standard pipe conforming to ASTM A53, and shall be made up in flush welded construction. Field joints in rails shall be tight fit, sleeved construction, hairline, secure with set screws on bottom of rail. Exterior steel railings shall be galvanized in accordance with ASTM A653 (G90) after fabrication. Interior steel railings may be fabricated from ungalvanized steel and delivered to the construction site with shop applied prime coat.
 - b) Provide fittings and brackets for all rails attached to the walls. Wall connections shall be secured with cinch anchors and bolts, or with tapped machine screws into plate anchors welded to studs.
 - c) Unless detailed otherwise, provide pipe sleeves for railings (posts) set in concrete. Sleeves shall be cut from extra strength pipe. Railings connecting to concrete shall have stanchions set in pipe sleeves 6" long and shall be leaded in place. Provide metal floor flanges where stanchions occur at finished floors and where indicated on the drawings. Where posts are set in drilled concrete holes, provide epoxy grout around post for full depth of holes.
 - d) Railings shall be constructed as indicated on the drawings. Railings shall be fabricated from steel pipe, tubes, or solid bars. Distance between pickets or between pickets and posts shall meet the requirements of the applicable building code. Railings shall be shop assembled by coping the members together and welding solid. Welds shall be ground or filed smooth, level, and neatly filleted. Stanchions shall be erected plumb, accurately aligned and rigid. Horizontal or sloping member railings shall be parallel to each other and accurately aligned.
 - e) Rails shall be securely and firmly attached to walls and floors as shown on the drawings, at proper height, and level or to stair slope.
 - f) Unless noted or detailed otherwise on the drawings, handrail brackets shall be of galvanized malleable iron (Julius Blum #382, or equivalent). Spacing of handrail brackets shall be 42" o.c. maximum and 8" from each end of handrail.
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- c) Loose lintels of section indicated shall be furnished where shown on the drawings and as required over openings in masonry walls and partitions for installation under Section 04200, including lintels required where ducts penetrate masonry. All lintels shall have minimum 6" bearing at each end.
- d) Provide steel angle sill supports and grouting for elevator hoistway entrance sills and frames.

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- a) Provide inserts for bolting angle brackets and hangers shall be malleable iron, integral loop back with provisions for non-slip vertical adjustment in aligning shelf angles, etc., complete with special headed bolts of sizes and lengths shown with hexagonal nuts. Soffit hangers shall be made from stainless steel and shall be slotted or threaded as required. Types of inserts for bolting shelf angles are specified in Section 03300 or 05100.
- b) Provide and accurately locate all inserts and anchors requiring welding to structural steel.
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- b) Provide access panels (doors) to serve items above ceilings or inside partitions or partition chases.
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 - d) Access panels (doors) shall be the flush panel type for masonry, drywall, tile and plaster, as applicable, provide a 100 percent clear opening, concealed hinges on door panel to open 165 degrees without impacting the wall or ceiling, and operation shall be by screwdriver inserted into flush lock with case-hardened steel cam or key operated cylinder lock. Cylinder locks shall be used in all general public areas and fire rated access door locations.
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 - f) Unless indicated otherwise, access panels shall be Styles M, MS, DW and K or fire-rated access doors, as applicable, and as manufactured by Milcor Incorporated, or equivalent.
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- a) Miscellaneous plates and shapes for items that do not form a part of the structural steel framework, such as lintels, sill angles, steel thresholds, miscellaneous mountings, and frames, shall be provided to complete the work. Unless indicated otherwise, miscellaneous plates and shapes shall be of ASTM A36 steel.
 - b) All exterior steel shall be factory hot-dip galvanized and interior steel shall be shop primed for painting. Exterior and interior finish painting shall be in accordance with Section 09900.
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 2. Members shall be true to length so that assembling may be done without fillers. There shall be no projecting edges or corners where members are assembled. All coping, blocking and mitering shall be done with care. Sharp edges caused by shearing or other tooling shall be eased where exposed.
 3. All work shall be done by skilled workmen.
- b. Bolting and Fastening: All details and connections shall be close fitting and carefully made. Provide all lugs, clips, connections, rivets, bolts, etc., necessary to complete fabrication and erection. Unless otherwise indicated on drawings, bolts remaining in the finished (exposed) work shall have countersunk heads and nuts shall be hexagonal. Bolts shall be of proper length to permit full thread in the nut but shall not project more than 1/4" beyond the face of the nut. Screws shall be countersunk.
- c. Electric Welding: Welding on steel, both shop and field, shall be done by the electric shielded arc method and in accordance with AWS D1.1. Welds shall be solid and homogeneously a part of the metals joined and free from pits or incorporated slag or scale. Surfaces of welds shall be smooth and regular and shall be of full area indicated or required to develop the required strength of the joints. Where exposed, welds shall be ground smooth and flush with the parent metal.
- d. Provision for Work by Other Trades: Provide holes of types and size in metal items as required for the attachment or mounting of work or other trades.

3.02 PAINT PRIMING

- a. All miscellaneous iron shall be given one (1) coat of priming paint with the exception that those members embedded in concrete or having galvanized finish shall have no shop paint unless otherwise specified. All surfaces not in contact, but inaccessible after assembly, shall have one (1) additional coat of priming paint before assembling.
- b. After erection, the shop coat must be in suitable condition to receive the general painter's field coats. Touch-up in the field all paint film and galvanizing scuffed or otherwise damaged in shipment and erection. Field touch-up primed material same as shop coat primer. Field touch-up galvanized surfaces in accordance with the coating manufacturer's printed instructions.

3.03 SETTING AND ERECTION

- a. Other trades will set and build in items of miscellaneous iron which are to be built into masonry or concrete, such as loose lintels, seat angles, frames, curbs, sleeve inserts, brackets, lugs and anchors.
- b. All such items shall be fabricated and delivered complete with bolts, anchors, and clips, ready to set. Consult with the trades concerned and make delivery to the points designated to expedite the installation in correct locations. Furnish setting drawings where required.

- c. Where lugs are shown or specified for building into adjoining masonry, the parts having lugs shall be erected in place before the masonry is built. Elsewhere, the work shall be brought to the building in as large pieces as practicable and attached to anchors or inserts during the erection.
- d. Connections made to sleeve inserts except items indicated to be removable, shall have the member extended into the sleeve, wedged tight with metal wedges and the surrounding space poured full of lead or packed with lead wool and sealed to finish flush with adjoining surface.

END OF SECTION 055000

SECTION 10530 - ALUMINUM WALKWAY COVERS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS: Applicable portions of the Agreement, Conditions of the Contract (General, Supplementary, and other Conditions), Drawings, Specifications, Addenda issued prior to the execution of the Contract, other documents listed in the Agreement and Modifications issued after the execution of the Contract shall apply to the work in this Section. The general requirements for this work are located in Division 1 of the Specifications.

1.02 DESCRIPTION: Provide aluminum walkway covers and their foundations as shown on the drawings and as specified herein. Aluminum walkway cover manufacturer to provide special shapes and any aluminum reinforcement (internally in the framing) required to meet the performance requirements specified. The aluminum walkway cover manufacturer is responsible for meeting design requirements and must submit structural calculations and drawings, signed and sealed by a professional engineer registered in Mississippi proving that the walkway covers and their foundations meet the wind pressure requirements. Any fasteners or welded connections used in the construction of the walkway covers to comply with the wind pressure design requirements. The aluminum walkway covers shall resist the positive and negative wind pressures as required by the ICC IBC (refer structural drawings for wind pressure requirements). The reinforced concrete foundations and the concrete slab walkway below the walkway covers shall as required to properly support the walkway covers and meet the design requirements. The aluminum walkway covers to be designed and installed in a manner so as to not conflict in any way with adjacent existing canopies or walkways.

1.03 APPLICABLE STANDARDS: The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only. Refer Section 01090.

- a. THE ALUMINUM ASSOCIATION, INCORPORATED (AA)
 - AA DAF-45 Designation System for Aluminum Finishes
- b. AMERICAN ARCHITECTURAL MANUFACTURERS ASSOCIATION (AAMA)
 - AAMA 611 Voluntary Specification for Anodized Architectural Aluminum
- c. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
 - ANSI A117.1 Accessible and Usable Buildings and Facilities
- d. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
 - ASTM B221 Standard Specification for Aluminum and Aluminum Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes
 - ASTM D1187 Asphalt-Base Emulsions for Use as Protective Coatings for Metal
- e. INTERNATIONAL CODE COUNCIL, INC. (ICC)
 - ICC IBC International Building Code

1.04 QUALITY ASSURANCE

- a. Standards: Comply with the requirements and recommendations in applicable specifications and standards by AAMA and AA.
- b. Aluminum walkway covers, including accessories, shall be equivalent to aluminum walkway covers as manufactured by E. L. Burns or American Walkway Covers, LLC, if meeting these specifications requirements. The applicator of the aluminum walkway covers must be acceptable to the walkway cover manufacturer and the Architect.
- c. The applicator of the aluminum walkway covers must have been trained to install the aluminum walkways cover system by the manufacturer of the walkway cover system to be used. The manufacturer's trained applicator shall directly supervise all the walkway cover work at the job site. Further, the applicator shall have successfully installed the manufacturer's aluminum walkway cover system on projects of similar size and scope during the last five (5) years.
- d. Structural Performance: Design, engineer, fabricate, and install the extruded aluminum walkway cover systems work, including framing members, metal accessories, fasteners, and footings, to withstand the effects of the positive and negative wind pressures acting on the aluminum walkway covers as per the requirements of the ICC IBC (refer paragraph 1.02). Size of members shall not be less than that indicated on the drawings.
 1. Deflection of framing members, which are perpendicular to the plane of the wall, shall not exceed $L/175$ of its clear span or 3/4-inch, whichever value is less.
- e. Thermal movements: The aluminum walkway cover systems, including framing members, metal accessories, fasteners, and other components incorporated into the walkway cover system, shall be capable of withstanding expansion and contraction of components caused by an ambient air temperature range from minus 30 deg. F to 180 deg. F without buckling, excess stress on the framing members, anchors and fasteners or reduction in performance.

1.05 SUBMITTALS: Submit the following to the Architect for review.

- a. Manufacturer's Data: Submit manufacturer's specifications, recommendations and standard details for aluminum walkway covers including fabrication, finishing, accessories and other components of the work.
- b. Shop Drawings: Submit shop drawings concerning the fabrication and installation of aluminum walkway covers and associated components of the work. These shop drawings shall be prepared by the aluminum walkway cover manufacturer and under the supervision of a registered Mississippi Engineer, who shall also seal and sign the shop drawings. Include walkway cover elevations at 1/2-inch scale, and complete half-size details of all conditions. Show anchors, joint system, expansion provisions, sealant joint locations, and other related components that may or may not be included in the manufacturer's standard data. Show dimensional relationships to any existing canopies and walkways.
- c. Samples: Submit samples of aluminum finishes.
- d. Manufacturer's Certification: Manufacturer must certify in writing that the aluminum walkway covers were installed in full accordance with the contract drawing requirements, the

specifications, the Architect's reviewed shop drawings, the manufacturer's written installation instructions, and the manufacturer's recommendations.

- e. Structural Calculations: Submit structural calculations prepared by a registered Mississippi Engineer proving that the aluminum walkway cover systems and all their components, including framing members, metal accessories, fasteners, and foundations meet all the specified structural performance requirements. Also, submit structural calculations prepared by a registered Mississippi Engineering proving that the aluminum walkway covers, their components, including framing members, metal accessories, and fasteners, meet all the specified structural performance requirements. Refer paragraph 1.02.

PART 2 - PRODUCTS

2.01 MATERIALS AND ACCESSORIES

- a. Aluminum Columns, Beams, and Tubing: 6063 alloy heat treated to a T-6 temper, and with not less than the strength and durability properties specified in ASTM B221 for 6063-T6.
- b. Deck Fasteners: 18-8 stainless steel screws, sealed with neoprene "O" ring washers beneath stainless steel screw heads. Aluminum, non-magnetic stainless steel or other non-corrosive metal fasteners guaranteed by the manufacturer to be compatible with all components of the system. Do not use exposed fasteners except where unavoidable for the assembly of units. For exposed fasteners (if any), provide Phillips flat-head screws with finish matching the item fastened.
- c. Wet beams shall be open-top tubular extrusions: top edges thickened for strength and designed to receive deck members in a self-flashing manner. Extruded structural rain cap ties to be installed in the top of all wet beams.
- d. Deck shall be extruded self-flashing sections interlocking into a composite unit with sufficient camber to offset dead load deflection and cause positive drainage. Welded plates shall be used at closures at deck ends.
- e. Fascia shall be manufacturer's standard shape. Minimum size as indicated on the drawings.
- f. Aluminum column ends embedded in concrete shall be protected with coating to prevent electrolytic reaction with concrete.
- g. Mineral Thickness: As required by design. Minimum thicknesses to be as follows:
 - 1. Beams: 0.125 inch on vertical faces and 0.190 on horizontal faces.
 - 2. Columns: 0.150 inch.
 - 3. Deck: 0.060 inch
 - 4. Flashing: 0.032 inch.
- h. Steel Reinforcement for Footings: As per Section 03200.
- i. Inserts: For required anchorage into concrete or masonry work, furnish inserts of aluminum or stainless steel.

- j. Expansion Anchor Devices: Lead-shield or toothed-steel, drilled-in, expansion bolt anchors.
- k. Bituminous Coatings: Cold-applied asphalt mastic complying with ASTM D1187, compound for 30-mil thickness per coat.
- l. Sealants: Provide sealants in the fabrication, assembly and installation of the work, which are recommended and guaranteed by the manufacturer to remain permanently elastic, non-shrinking, non-migrating and weatherproof for the life of the aluminum walkway covers. Sealants shall be clear or same color as aluminum finish.

2.02 SYSTEM DESCRIPTION: Aluminum walkway covers shall be an all-welded system complete with internal drainage in flat walkway cover configurations as indicated on the Drawings. Non-welded items are not acceptable. Roll form deck is not acceptable. Expansion joints shall be included to accommodate temperature changes of 210 deg. F.

2.03 FABRICATION

a. General

- 1. Sizes and Profiles: Minimum sizes are indicated on the drawings.
 - 2. Coordination of Fabrication: Coordinate fabrication schedule with construction progress as directed by Contractor and avoid delays of the work. Where necessary, proceed with fabrication without field measurements, and coordinate installation tolerances to ensure proper installation.
 - 3. Prefabrication: Supporting bents and columns to be factory prefabricated, where possible. Complete the fabrication, assembly, and finishing before shipment to the project site, to the greatest extent possible. Disassemble only to the extent necessary for shipment and installation.
 - 4. Complete the cutting, fitting, forming, drilling, and grinding of all metal work prior to cleaning, finishing, treatment, and application of coatings. Remove arises from cut edges and ease edges and corners to a radius of approximately 1/64 inch.
 - 5. Weld by methods recommended by the manufacturer and AWS to avoid discoloration at welds. Grind exposed welds smooth and restore mechanical finish.
 - 6. Conceal fasteners, wherever possible, except as otherwise shown. All concealed fastener heads shall be sealed with sealant.
 - 7. Maintain continuity of line and accurate relation of plates and angles. Provide secure attachment and support at mechanical joints, with hairline fit of contacting member.
 - 8. Reinforce the work as necessary for performance requirements and for support to the structure. Separate dissimilar metals with bituminous paint or preformed separators which will prevent corrosion. Separate metal surfaces at moving joints with non-metallic separators to prevent "freeze-up" of joints.
- b. Drainage: Water shall drain internally from deck to beams to columns, for discharge out rain diverters at ground level as indicated on the drawings.

- c. Bent Construction: Beams and columns shall be heli-arc welded into rigid one-piece units in the manufacturer's plant. When the sizes of bents do not permit shipment or anodizing as welded units, mechanical joints shall be employed. Mechanical joints shall be of stainless-steel bolts with a minimum of four bolts per fastening. Bolts and nuts shall be installed in a concealed manner utilizing 1/2 inch thick by 1-1/2-inch aluminum bolt bars welded to members.
- d. Field welding is not permitted.
- e. Roof Deck: Extruded, self-flashing deck sections shall interlock into composite unit, spanning double-bays for superior loading.
- f. Welded dams shall be fabricated into the roof deck pans at all deck terminations.

2.04 ALUMINUM FINISHES

- a. General: After fabrication of aluminum components, prepare the aluminum surfaces for finishing in accordance with the aluminum producer's recommendations and standards of the finisher or processor. Process all components of each assembly simultaneously to attain complete uniformity of color. All anodized finishes shall be as listed in AA DAF-45, unless indicated otherwise. All anodized finishes shall comply with AAMA.
- b. Finish: Architectural Class II Clear Anodic Coating (AA-M12C22A31), 0.010mm min. thickness, complying with AAMA607.1 or AAMA 611.

PART 3 - EXECUTION

3.01 INSTALLATION

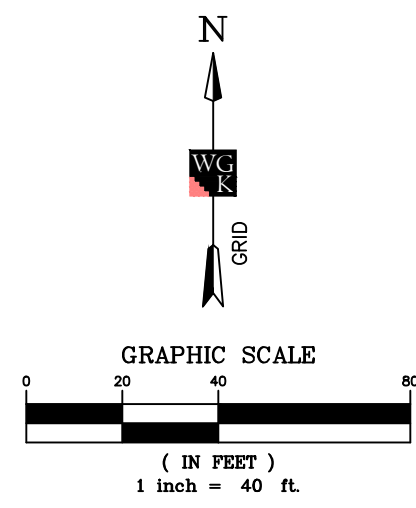
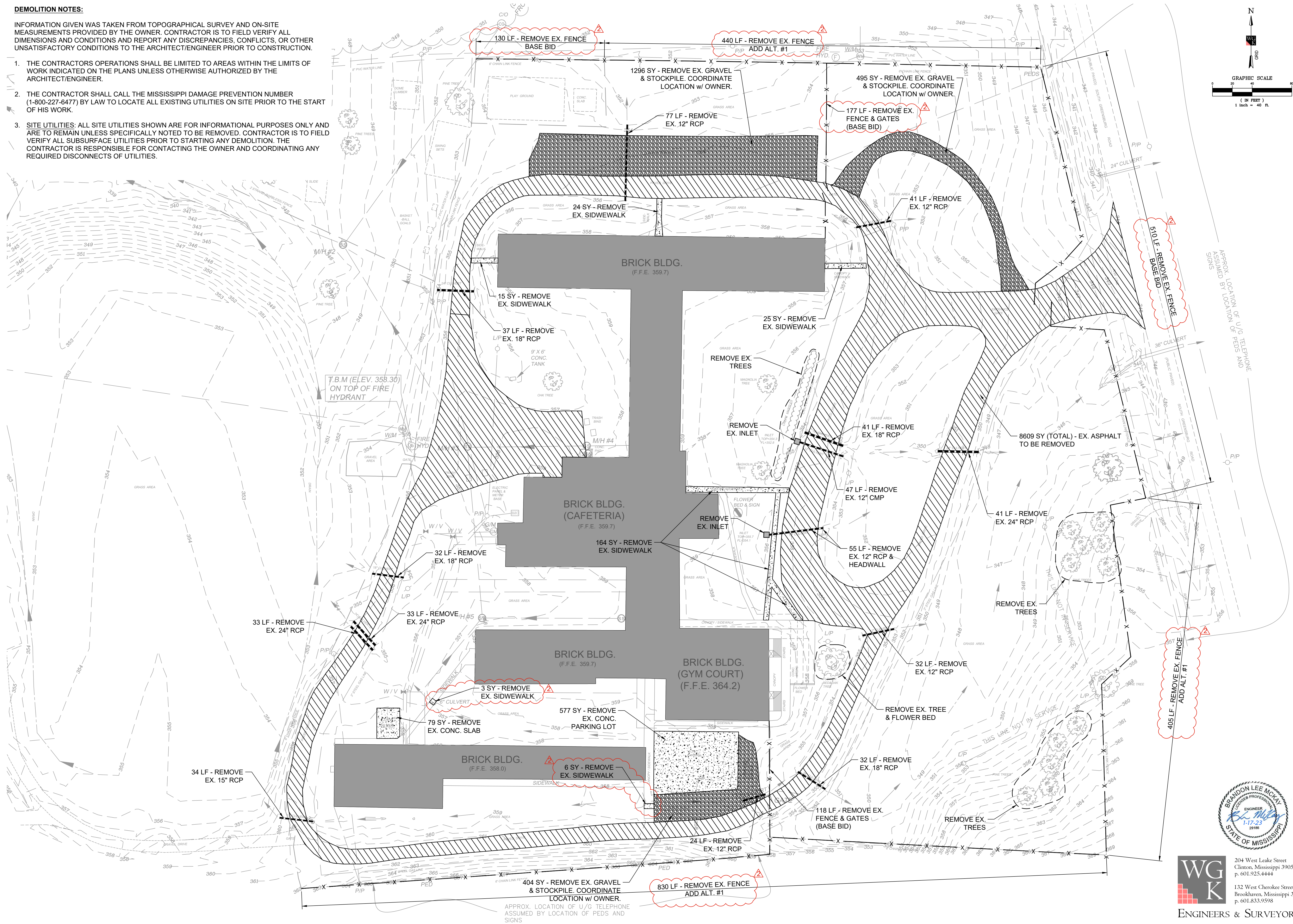
- a. Comply with approved shop drawings and manufacturer's specifications and recommendations for the installation of aluminum walkway covers.
- b. Set units plumb, level and true to line, without warp or rack of frames. Anchor securely in place. Separate aluminum and other corrodible metal surfaces from sources of corrosion or electrolytic action at points of contact with other materials.
- c. Clean aluminum surfaces promptly after installation, exercising care to avoid damage of the protective coating (if any). Remove excess sealant compounds, dirt and other substances.
- d. Advise Contractor of precautions required through the remainder of the construction period, to ensure that the aluminum walkway covers will be without damage or deterioration (other than normal weathering) at the time of acceptance.

END OF SECTION 10530

DEMOLITION NOTES:

INFORMATION GIVEN WAS TAKEN FROM TOPOGRAPHICAL SURVEY AND ON-SITE MEASUREMENTS PROVIDED BY THE OWNER. CONTRACTOR IS TO FIELD VERIFY ALL DIMENSIONS AND CONDITIONS AND REPORT ANY DISCREPANCIES, CONFLICTS, OR OTHER UNSATISFACTORY CONDITIONS TO THE ARCHITECT/ENGINEER PRIOR TO CONSTRUCTION.

1. THE CONTRACTORS OPERATIONS SHALL BE LIMITED TO AREAS WITHIN THE LIMITS OF WORK INDICATED ON THE PLANS UNLESS OTHERWISE AUTHORIZED BY THE ARCHITECT/ENGINEER.
2. THE CONTRACTOR SHALL CALL THE MISSISSIPPI DAMAGE PREVENTION NUMBER (1-800-227-6477) BY LAW TO LOCATE ALL EXISTING UTILITIES ON SITE PRIOR TO THE START OF HIS WORK.
3. SITE UTILITIES: ALL SITE UTILITIES SHOWN ARE FOR INFORMATIONAL PURPOSES ONLY AND ARE TO REMAIN UNLESS SPECIFICALLY NOTED TO BE REMOVED. CONTRACTOR IS TO FIELD VERIFY ALL SUBSURFACE UTILITIES PRIOR TO STARTING ANY DEMOLITION. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE OWNER AND COORDINATING ANY REQUIRED DISCONNECTS OF UTILITIES.



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JOB No.	22045
DATE	17 January 2023

REVISIONS	No.	Revision	Date
	2	Addendum No. 2	2/24/23

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**Amite County Elementary School
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 Liberty, Mississippi



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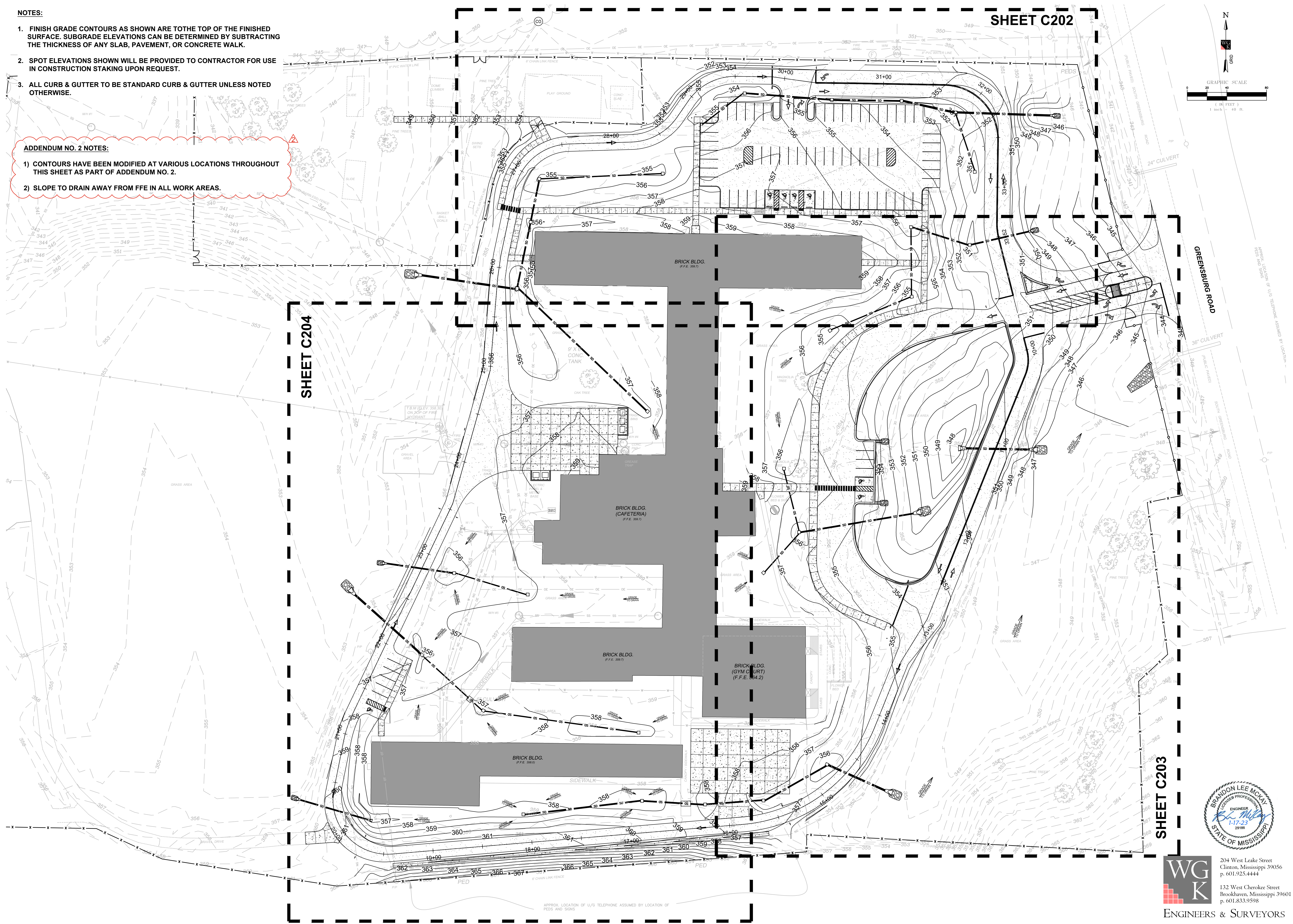
SET/SHT
C-101
 CIVIL DEMOLITION PLAN

NOTES:

1. FINISH GRADE CONTOURS AS SHOWN ARE TO THE TOP OF THE FINISHED SURFACE. SUBGRADE ELEVATIONS CAN BE DETERMINED BY SUBTRACTING THE THICKNESS OF ANY SLAB, PAVEMENT, OR CONCRETE WALK.
2. SPOT ELEVATIONS SHOWN WILL BE PROVIDED TO CONTRACTOR FOR USE IN CONSTRUCTION STAKING UPON REQUEST.
3. ALL CURB & GUTTER TO BE STANDARD CURB & GUTTER UNLESS NOTED OTHERWISE.

ADDENDUM NO. 2 NOTES:

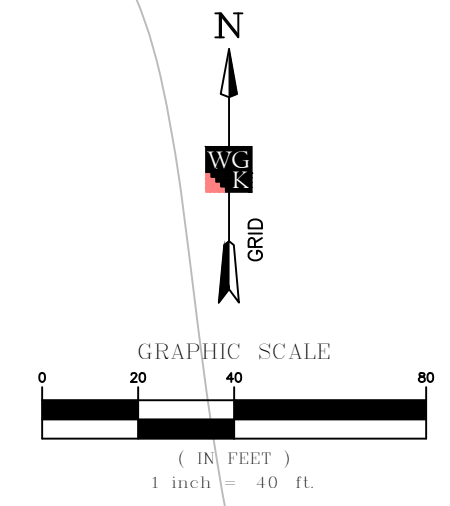
- 1) CONTOURS HAVE BEEN MODIFIED AT VARIOUS LOCATIONS THROUGHOUT THIS SHEET AS PART OF ADDENDUM NO. 2.
- 2) SLOPE TO DRAIN AWAY FROM FFE IN ALL WORK AREAS.



SHEET C202

SHEET C204

SHEET C203



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	2	Addendum No. 2	2/24/23

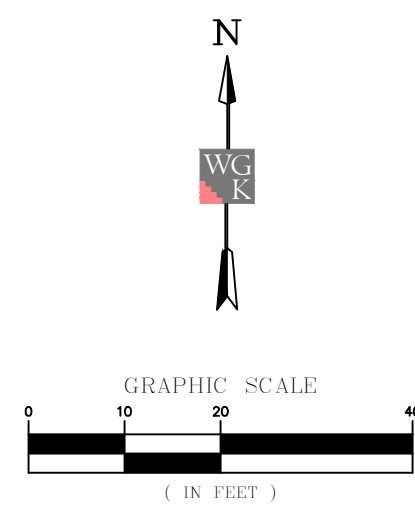
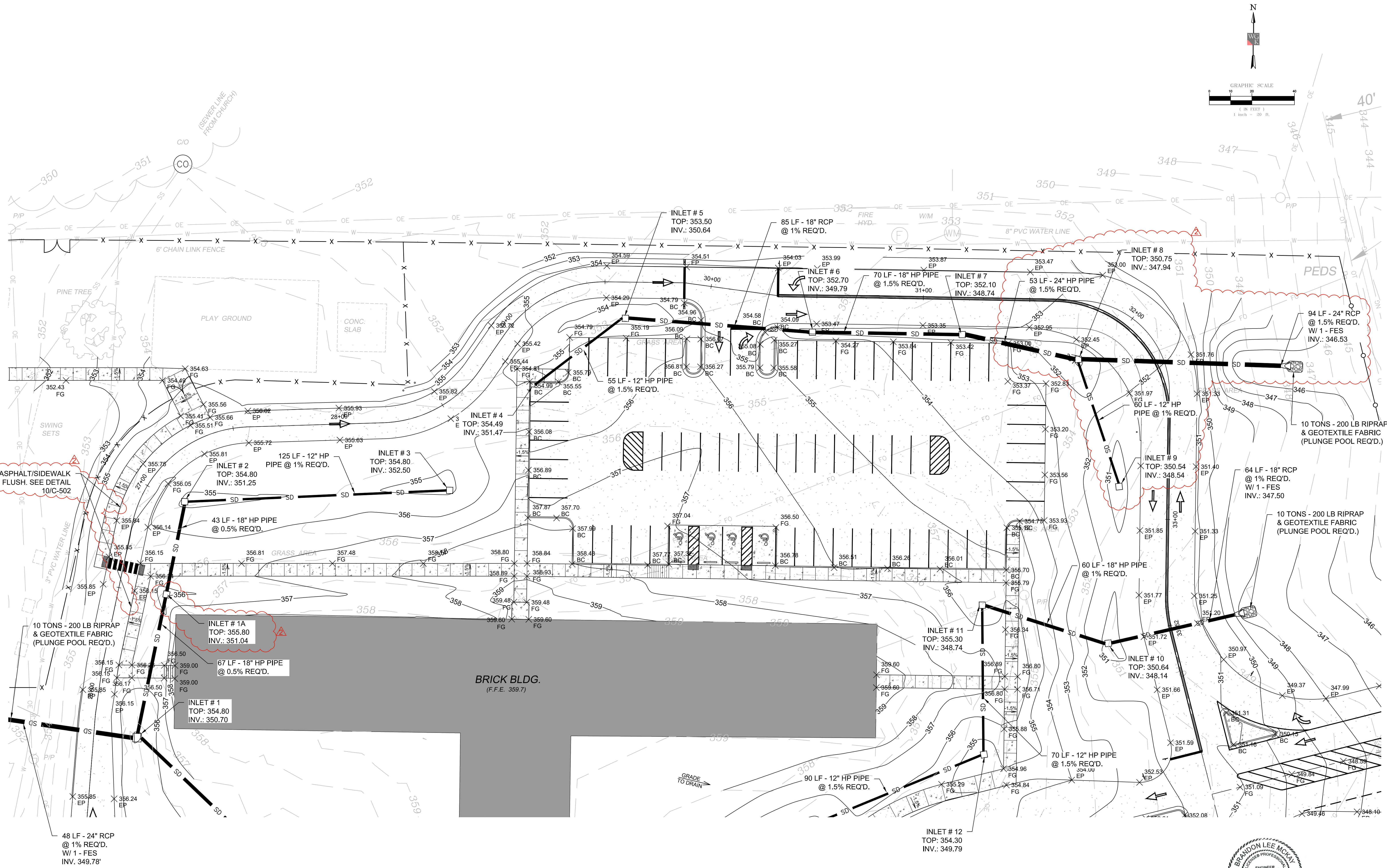
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SET/SHT
C-201
 GRADING & DRAINAGE
 PLAN - OVERVIEW

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- NOTES:**
1. FINISH GRADE CONTOURS AS SHOWN ARE TO THE TOP OF THE FINISHED SURFACE. SUBGRADE ELEVATIONS CAN BE DETERMINED BY SUBTRACTING THE THICKNESS OF ANY SLAB, PAVEMENT, OR CONCRETE WALK.
 2. SPOT ELEVATIONS SHOWN WILL BE PROVIDED TO CONTRACTOR FOR USE IN CONSTRUCTION STAKING.
 3. ALL CURB & GUTTER TO BE STANDARD CURB & GUTTER UNLESS NOTED OTHERWISE.

- ADDENDUM NO. 2 NOTES:**
- 1) SPOT ELEVATIONS HAVE BEEN ADDED TO THIS SHEET. ADDITIONAL POINTS NOT SHOWN MAY BE PROVIDED TO THE CONTRACTOR UPON REQUEST.
 - 2) CONTOURS HAVE BEEN MODIFIED AT VARIOUS LOCATIONS THROUGHOUT THIS SHEET AS PART OF ADDENDUM NO. 2.
 - 3) ASPHALT TO BE 6" BELOW BACK OF CURB (BC) SPOT ELEVATIONS AT ALL HEADER CURBS, EXCEPT AT H/C RAMP TRANSITIONS.

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	2	Addendum No. 2	2/24/23

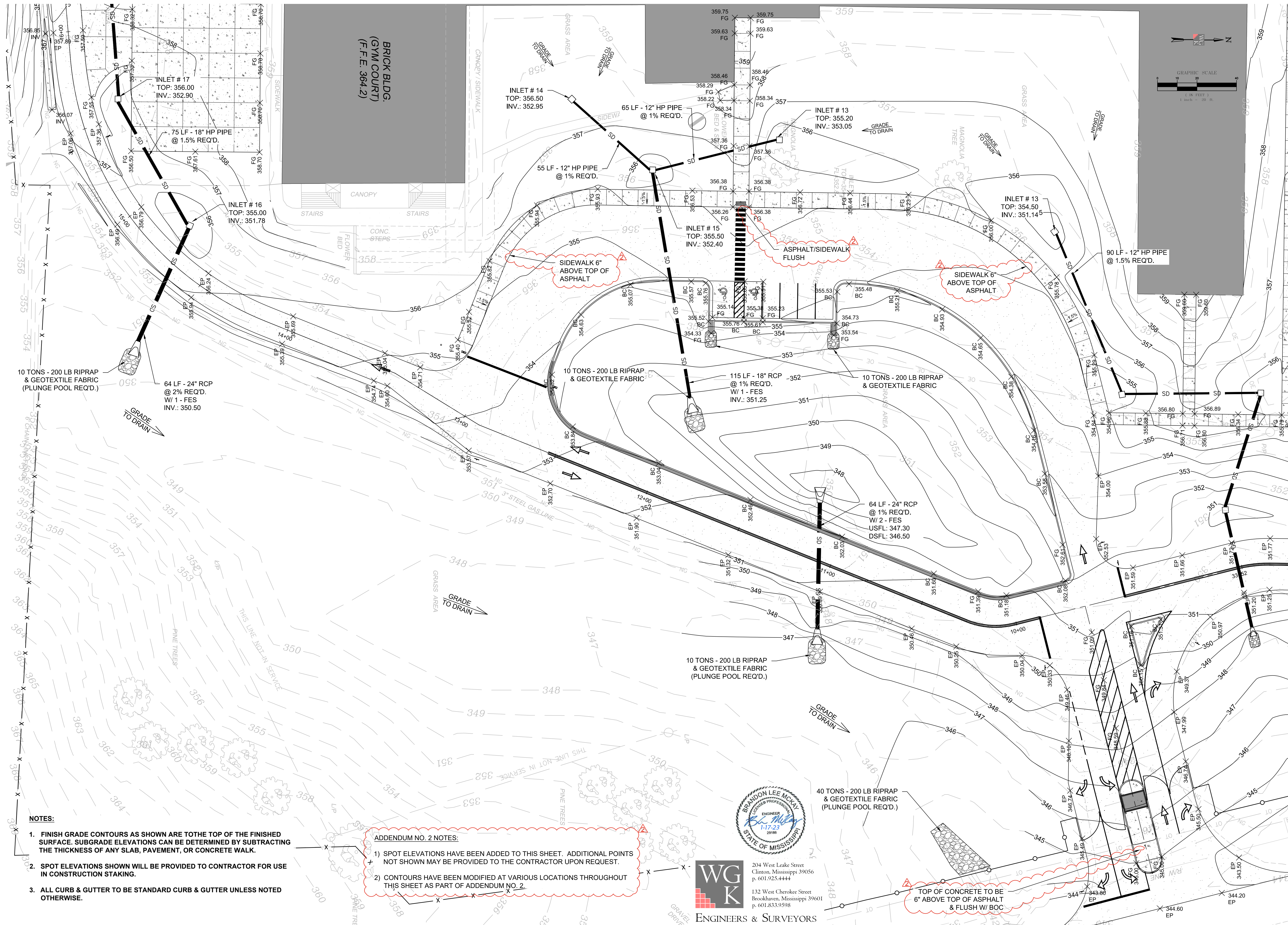
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C-202
 GRADING & DRAINAGE
 PLAN - NORTH LOT

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- NOTES:**
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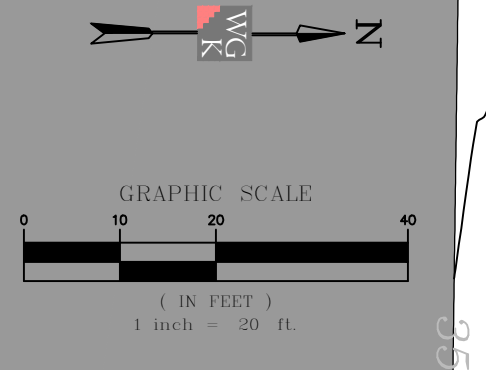
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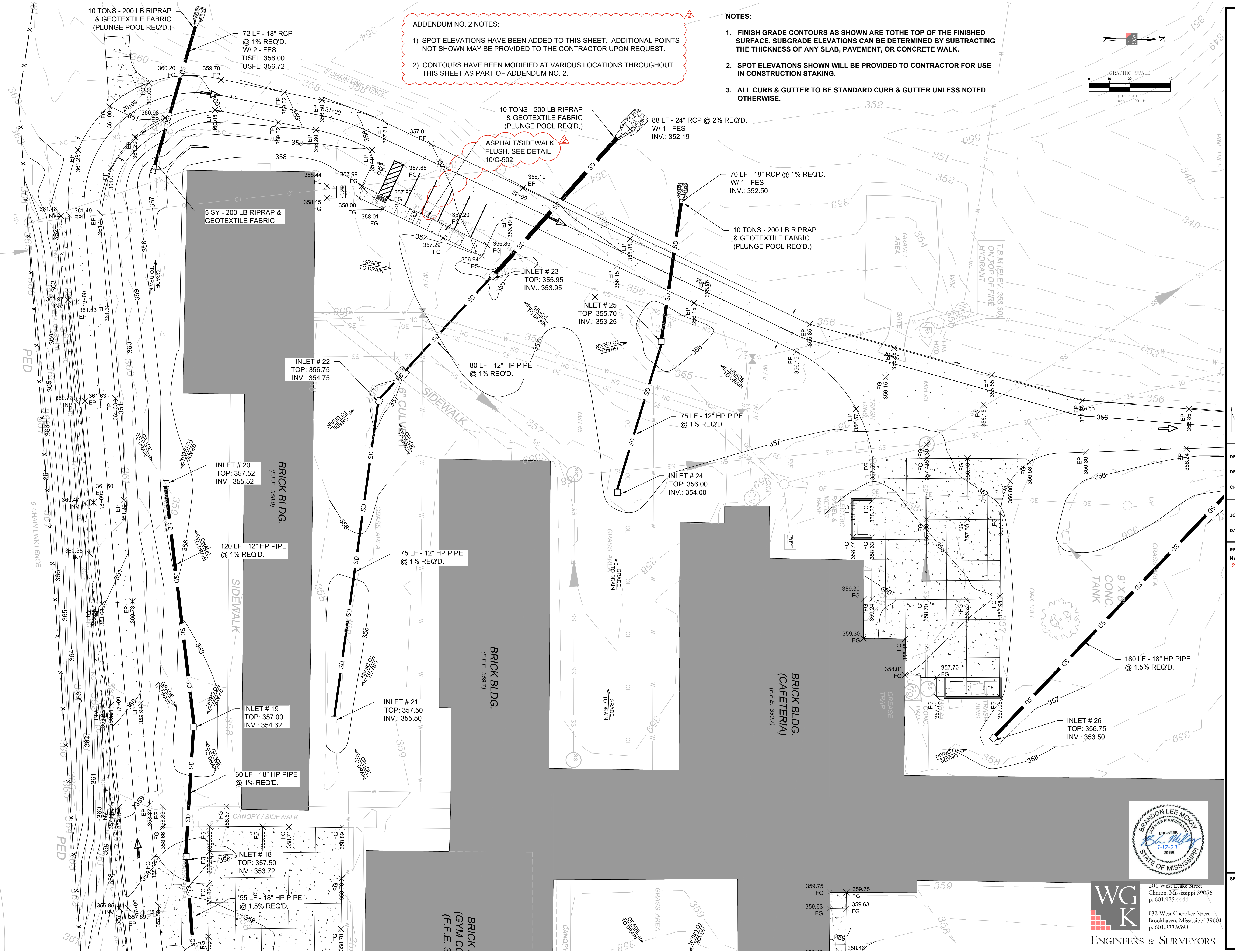


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REVISIONS	No.	Revision	Date
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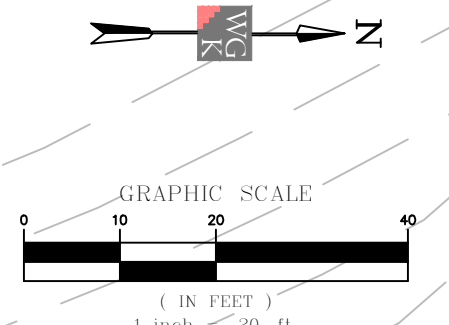
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Parking Lot & Site Development
Liberty, Mississippi

APPROX. LOCATION OF U/G TELEPHONE ASSUMED BY LOCATION OF PEDS AND SIGNS



ADDENDUM NO. 2 NOTES:
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C-204
GRADING & DRAINAGE
PLAN - WEST DRIVE

NOTES:

1. CONCRETE JOINT LAYOUT ARE SUGGESTED JOINT LOCATIONS.
 CONTRACTOR RESPONSIBLE FOR SUBMITTING OFFICIAL JOINT LAYOUT, LUG
 ANCHOR LOCATIONS, TIED JOINT LOCATIONS, ETC. FOR REVIEW AND
 APPROVAL BY ENGINEER.

TOTAL STRIPING QUANTITIES

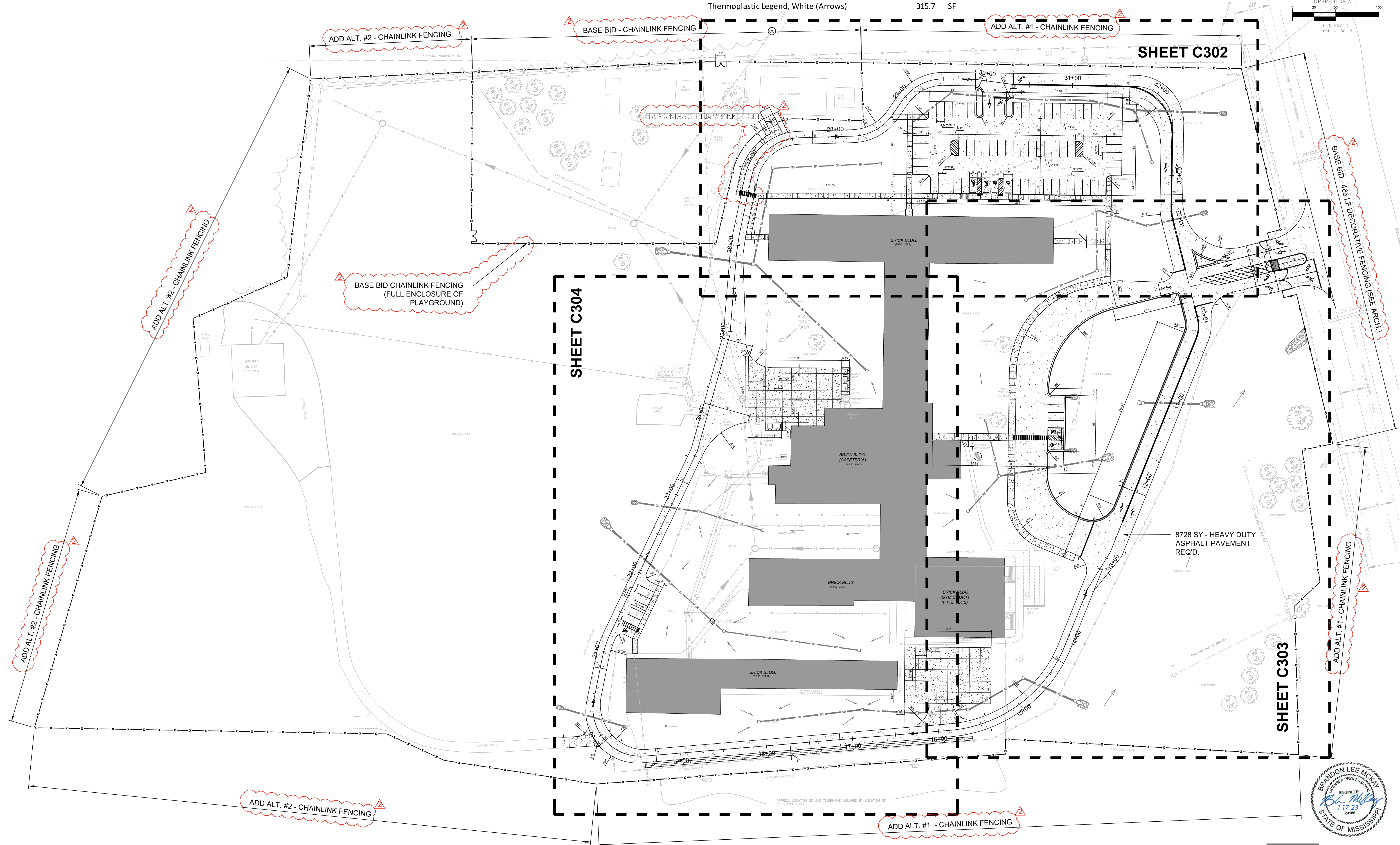
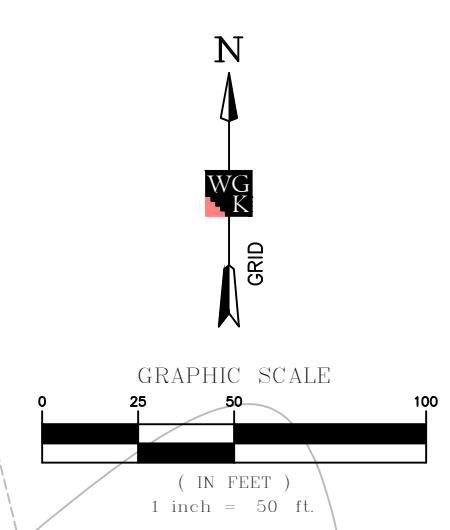
Item	QTY	UNIT
4" White, Paint	1792	LF
4" Blue-ADA, Paint	412	LF
4" Double Yellow, Paint	647	LF
Thermoplastic Legend, Blue-ADA Handicap Symbol	7	EA
Thermoplastic Legend, White (6" Eq. Lengths)	277	LF
Thermoplastic Legend, White (Arrows)	315.7	SF

INDIVIDUAL ARROW QUANTITIES

Legend/Smbol	Area (SF)
Turn Arrow	16.4
Thru Arrow	12.3

6" CHAINLINK FENCING QUANTITIES

BASE BID	= 1265 LF
ADD ALT. #1	= 1675 LF
ADD ALT. #2	= 1780 LF



SHEET C304

SHEET C302

SHEET C303



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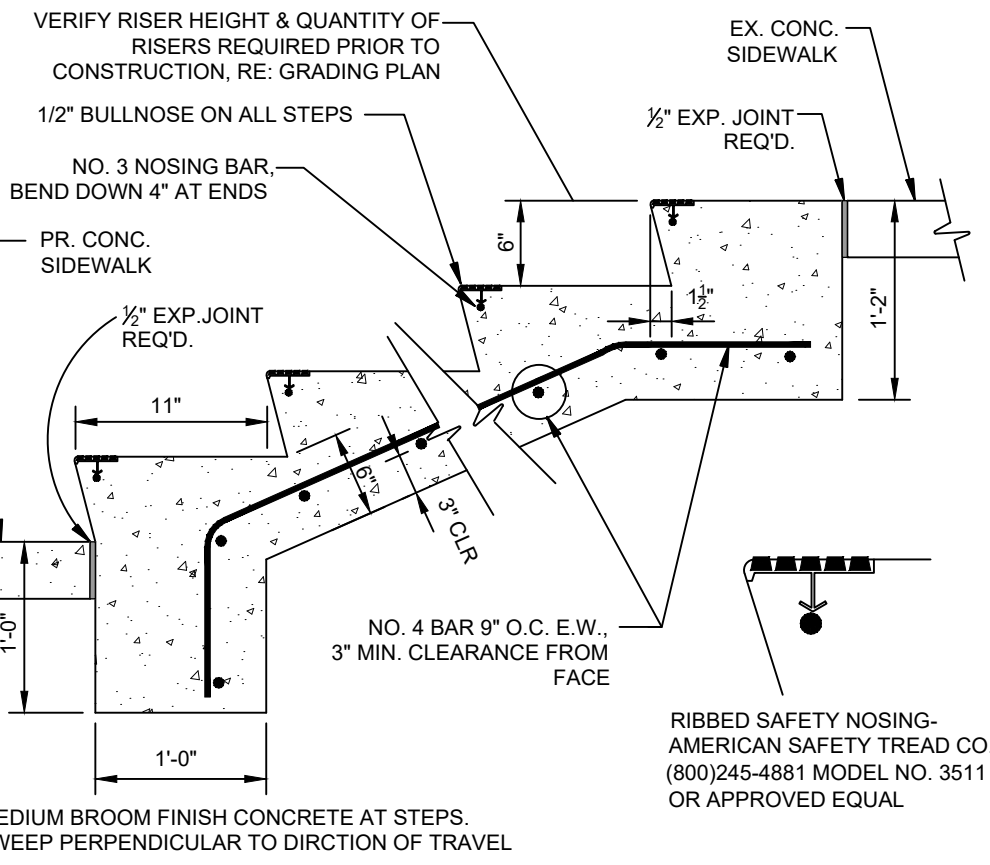
SET/SHIT

C-301
 GEOMETRIC LAYOUT - OVERVIEW

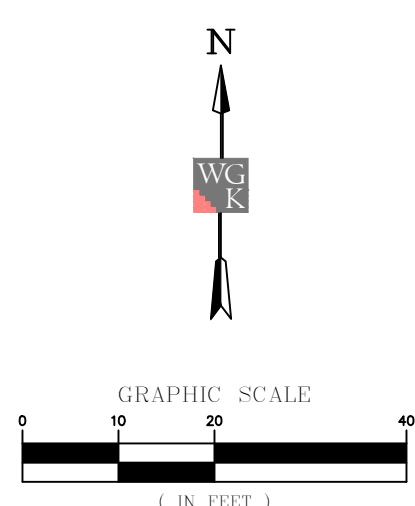
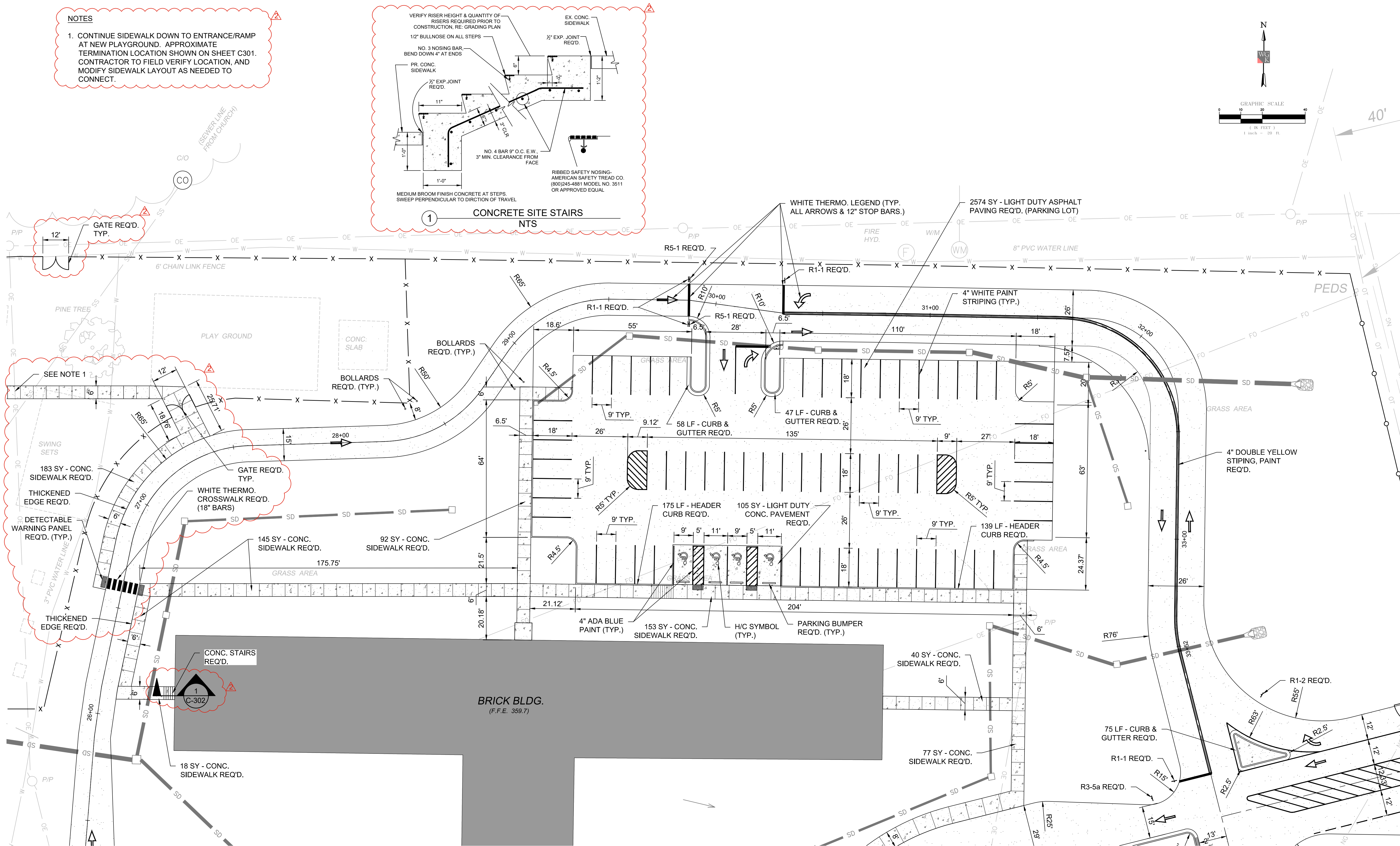
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NOTES

1. CONTINUE SIDEWALK DOWN TO ENTRANCE/RAMP AT NEW PLAYGROUND. APPROXIMATE TERMINATION LOCATION SHOWN ON SHEET C301. CONTRACTOR TO FIELD VERIFY LOCATION, AND MODIFY SIDEWALK LAYOUT AS NEEDED TO CONNECT.



1 CONCRETE SITE STAIRS NTS



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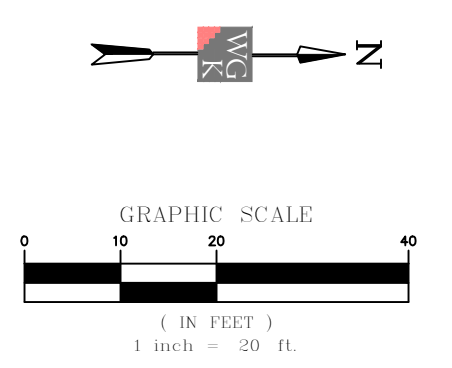
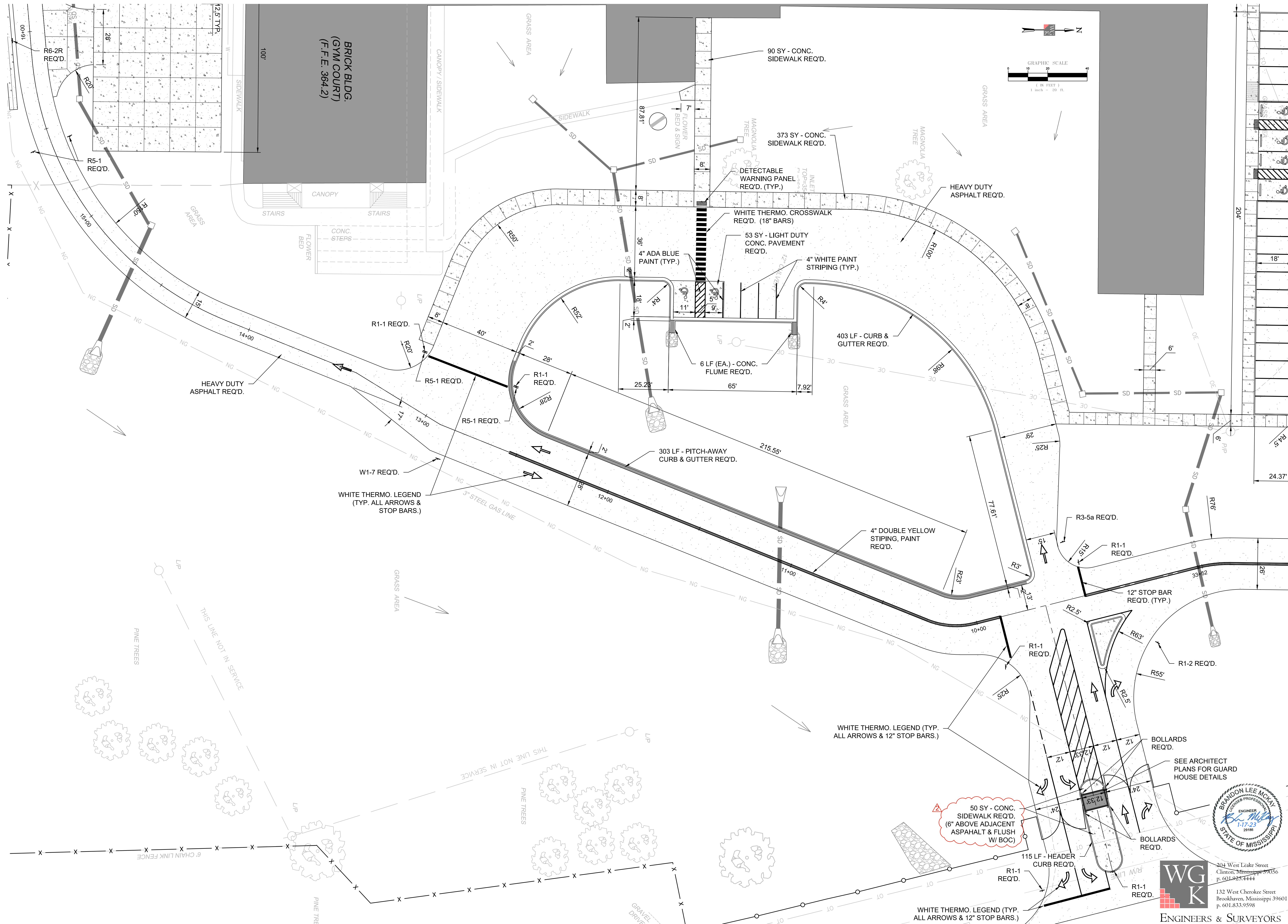
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SET/SHT
C-302
 GEOMETRIC LAYOUT - NORTH LOT



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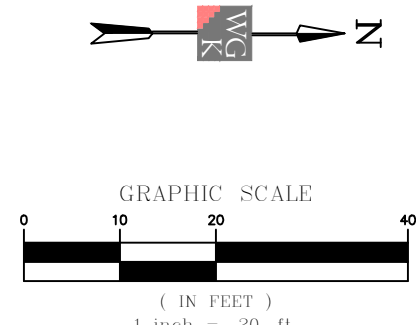
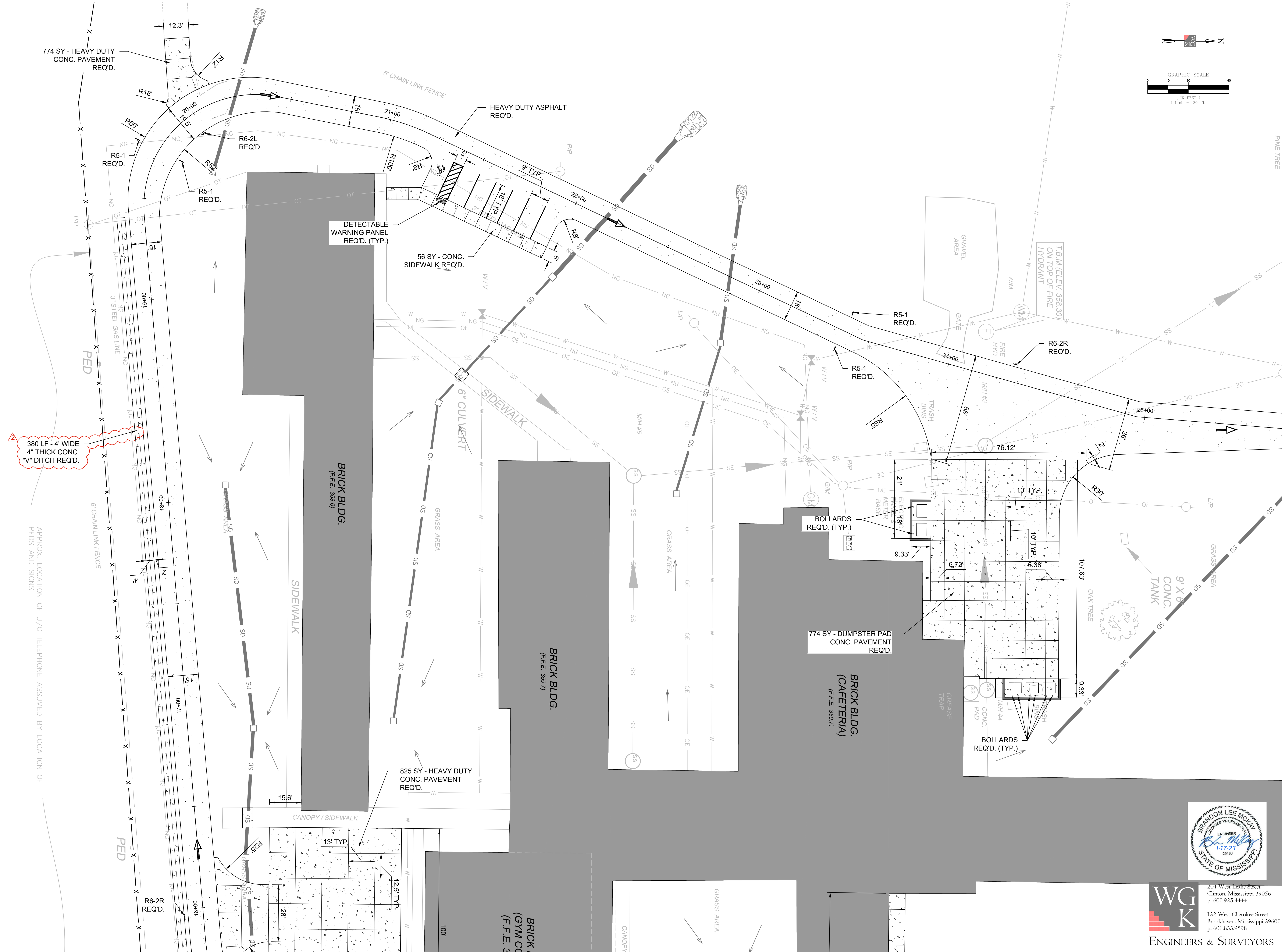
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SET/SHT
C-303
 GEOMETRIC LAYOUT - EAST LOT

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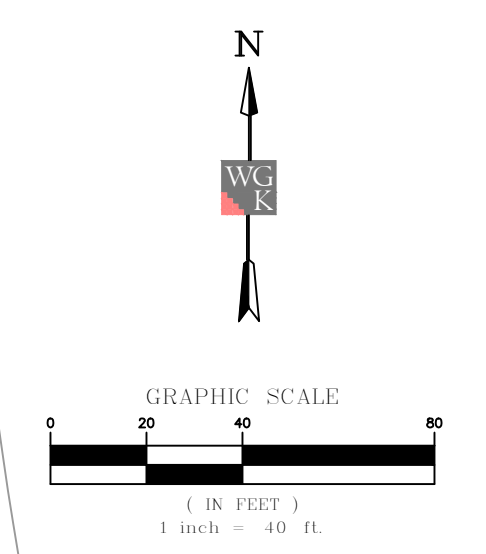
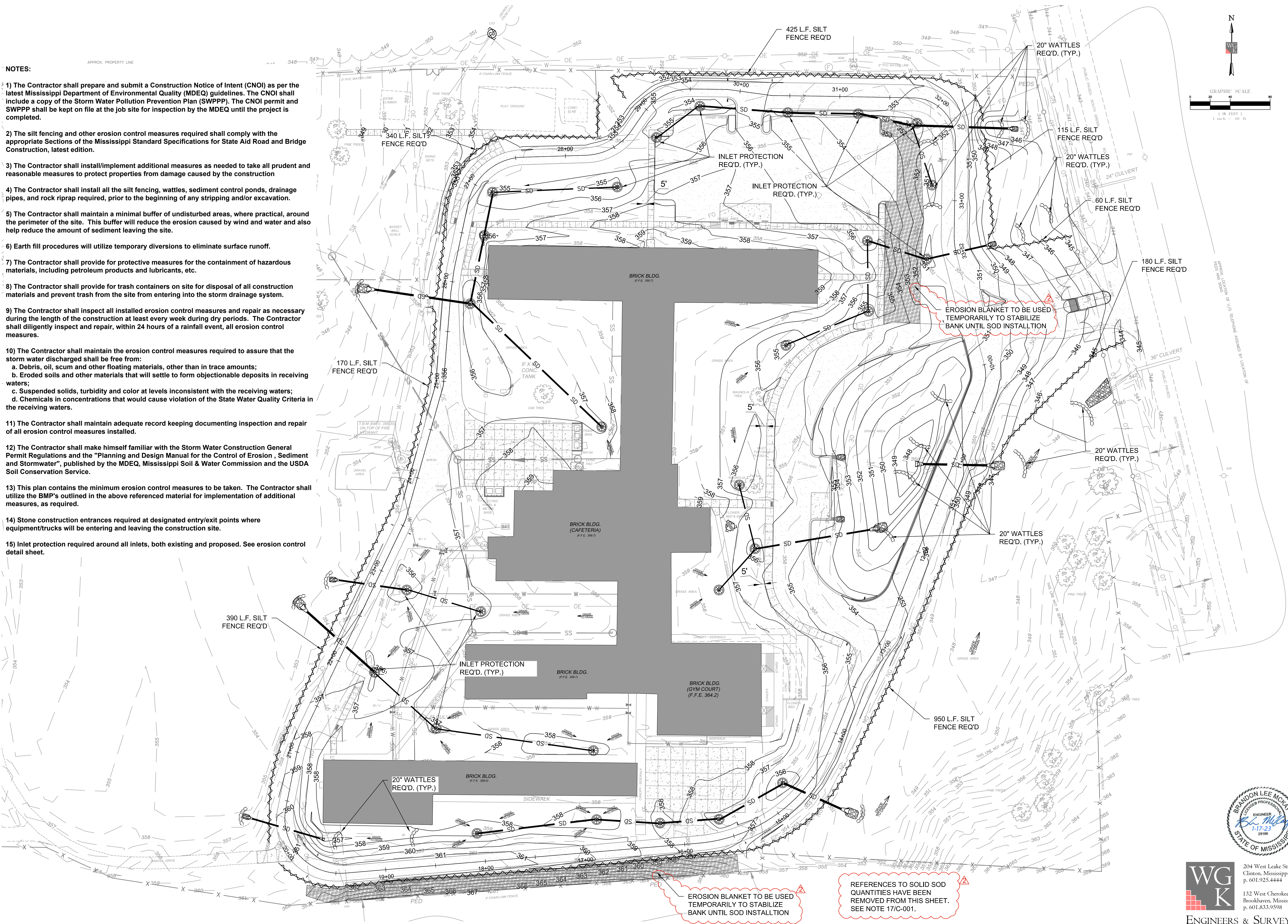


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SET/SH/T
C-304
GEOMETRIC LAYOUT - WEST DRIVE

NOTES:

- 1) The Contractor shall prepare and submit a Construction Notice of Intent (CNOI) as per the latest Mississippi Department of Environmental Quality (MDEQ) guidelines. The CNOI shall include a copy of the Storm Water Pollution Prevention Plan (SWPPP). The CNOI permit and SWPPP shall be kept on file at the job site for inspection by the MDEQ until the project is completed.
- 2) The silt fencing and other erosion control measures required shall comply with the appropriate Sections of the Mississippi Standard Specifications for State Aid Road and Bridge Construction, latest edition.
- 3) The Contractor shall install/implement additional measures as needed to take all prudent and reasonable measures to protect properties from damage caused by the construction.
- 4) The Contractor shall install all the silt fencing, wattles, sediment control ponds, drainage pipes, and rock riprap required, prior to the beginning of any stripping and/or excavation.
- 5) The Contractor shall maintain a minimal buffer of undisturbed areas, where practical, around the perimeter of the site. This buffer will reduce the erosion caused by wind and water and also help reduce the amount of sediment leaving the site.
- 6) Earth fill procedures will utilize temporary diversions to eliminate surface runoff.
- 7) The Contractor shall provide for protective measures for the containment of hazardous materials, including petroleum products and lubricants, etc.
- 8) The Contractor shall provide for trash containers on site for disposal of all construction materials and prevent trash from the site from entering into the storm drainage system.
- 9) The Contractor shall inspect all installed erosion control measures and repair as necessary during the length of the construction at least every week during dry periods. The Contractor shall diligently inspect and repair, within 24 hours of a rainfall event, all erosion control measures.
- 10) The Contractor shall maintain the erosion control measures required to assure that the storm water discharged shall be free from:
 - a. Debris, oil, scum and other floating materials, other than in trace amounts;
 - b. Eroded soils and other materials that will settle to form objectionable deposits in receiving waters;
 - c. Suspended solids, turbidity and color at levels inconsistent with the receiving waters;
 - d. Chemicals in concentrations that would cause violation of the State Water Quality Criteria in the receiving waters.
- 11) The Contractor shall maintain adequate record keeping documenting inspection and repair of all erosion control measures installed.
- 12) The Contractor shall make himself familiar with the Storm Water Construction General Permit Regulations and the "Planning and Design Manual for the Control of Erosion, Sediment and Stormwater", published by the MDEQ, Mississippi Soil & Water Commission and the USDA Soil Conservation Service.
- 13) This plan contains the minimum erosion control measures to be taken. The Contractor shall utilize the BMP's outlined in the above referenced material for implementation of additional measures, as required.
- 14) Stone construction entrances required at designated entry/exit points where equipment/trucks will be entering and leaving the construction site.
- 15) Inlet protection required around all inlets, both existing and proposed. See erosion control detail sheet.



EROSION BLANKET TO BE USED TEMPORARILY TO STABILIZE BANK UNTIL SOD INSTALLTION

EROSION BLANKET TO BE USED TEMPORARILY TO STABILIZE BANK UNTIL SOD INSTALLTION

REFERENCES TO SOLID SOD QUANTITIES HAVE BEEN REMOVED FROM THIS SHEET. SEE NOTE 17/C-001.

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