

**SUBMIT BID TO:**  
**PROCUREMENT SERVICES**  
**UNIVERSITY OF FLORIDA**  
**971 ELMORE DRIVE**  
**PO BOX 115250**  
**GAINESVILLE, FL 32611**

Phone: (352) 392-1331 - FAX: (352) 392-8837

Web Address: <https://procurement.ufl.edu/>



# INVITATION TO BID

**Construction**

## Acknowledgment Form

Page 1 of 51 pages		BID WILL BE OPENED: <b>October 20, 2022 at 3:00 PM</b> local time and may not be withdrawn within 45 days after such date and time. Non-Mandatory Pre-bid: <b>September 22, 2022 at 9:30 AM</b> local time.		BID NO.: ITB23KO-109	
DATE: 9/9/2022		PROCUREMENT AGENT: KO		BID TITLE: Residential Pool	
VENDOR NAME					
VENDOR MAILING ADDRESS		REASON FOR NOT SUBMITTING BID			
CITY - STATE - ZIP CODE		<b>POSTING OF BID TABULATIONS</b>  Bid tabulations with intended award(s) will be posted electronically for review by interested parties at <a href="https://procurement.ufl.edu/">https://procurement.ufl.edu/</a> and will remain posted for a period of 72 hours excluding Saturdays, Sundays, or state holidays. Failure to file a protest in accordance with Board of Governors (BOG) Regulation 18.002 or failure to post the bond or other security as required in the BOG regulations 18.002 and 18.003(3), shall constitute a waiver of protest proceedings.			
AREA CODE	TELEPHONE NO.				
	FAX NO.				
	WEB ADDRESS				
	EMAIL ADDRESS				

*I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm or person submitting a bid for the same materials, supplies, or equipment and is in all respects fair and without collusion or fraud. I agree to abide by all conditions of this bid and certify that I am authorized to sign this bid for the vendor and that the vendor is in compliance with all the requirements of the Invitation to Bid, including but not limited to, certification requirements. In submitting a bid on behalf of the Board of Trustees, hereinafter known as the University, the vendor offers and agrees that if the bid is accepted the vendor will convey, sell, assign, or transfer to the University all rights, title and interest in and to all causes of action it may now or hereafter acquire under the Anti-trust laws of the United States and the University for price fixing relating to the particular commodities or services purchased or acquired by the University. At the University's discretion, such assignment shall be made and become effective at the time the purchasing agency tenders final payment to the vendor.*

\_\_\_\_\_  
 AUTHORIZED SIGNATURE (MANUAL)

\_\_\_\_\_  
 NAME AND TITLE (TYPED)

### GENERAL CONDITIONS

**SEALED BIDS:** All bid sheets and this form must be executed and submitted in a sealed envelope. (DO NOT INCLUDE MORE THAN ONE BID PER ENVELOPE.) The face of the envelope shall contain, in addition to the above address, the date, and time of the bid opening and the bid number. Bids not submitted on the attached bid form shall be rejected. All bids are subject to the conditions specified herein. Those which do not comply with these conditions are subject to rejection.

1. **EXECUTION OF BID:** Bid must contain an original manual signature of authorized representative in the space provided above. Bid must be typed or printed in ink. Use of erasable ink is not permitted. All corrections to prices made by vendor must be initialed.

2. **NO BID:** If not submitting a bid, respond by returning only this vendor acknowledgment form, marking it "NO BID", and explain the reason in the space provided above. Failure to respond to a procurement solicitation without giving justifiable reason for such failure, nonconformance to contract conditions, or other pertinent factors deemed reasonable and valid shall be cause for removal of the supplier's name from the bid mailing list. NOTE: To qualify as a respondent, vendor must submit a "NO BID", and it must be received no later than the stated bid opening date and hour.

3. **BID OPENING:** Shall be public, on the date, location and the time specified on the bid form. It is the vendor's responsibility to assure that the bid is delivered at the proper time and place of the bid opening. Bids which for any reason are not so delivered will not be considered. A bid may not be altered after opening of the bids. NOTE: Bid tabulations will be posted electronically at <https://procurement.ufl.edu/>. Bid tabulations will not be provided by telephone.

4. **PRICES, TERMS AND PAYMENT:** Firm prices shall be bid and will include all packing, handling, shipping charges, and delivery to the destination shown herein.

(a) **TAXES:** The University does not pay Federal Excise and Sales taxes on direct purchases of tangible personal property or services. The Florida Tax Exempt Number is 11-06-024056-57C. This exemption does not apply to purchases of tangible personal property or services made by vendors who use the tangible personal property or services in the performance of contracts for the improvement of University-owned real property as defined in Chapter 192, F.S.

(b) **DISCOUNTS:** Vendors are encouraged to reflect trade discounts in the unit prices quoted; however, vendors may offer a discount for prompt payment. Prompt payment discounts will not be considered in the bid award. However, every effort will be made to take the discount within the time offered.

(c) **MISTAKES:** Vendors are expected to examine the specifications, delivery schedule, bid prices, extensions, and all instructions pertaining to supplies and services. Failure to do so will be at vendor's risk. In case of a mistake in extensions the unit price will govern.

(d) **INVOICING AND PAYMENT:** Payment will be made by the University of Florida after the items awarded to a vendor have been received, inspected, and found to comply with award specifications, free of damage or defect and properly invoiced. All invoices shall bear the purchase order number. Payment for partial shipments shall not be made unless specified. An original invoice shall be submitted. Failure to follow these instructions may result in delay in processing invoices for payment. Payment shall be made in accordance with Section 215.422 (1) (2) F.S. VENDOR OMBUDSMAN: The University's vendor ombudsman, whose duties include acting as an advocate for vendors may be experiencing problems in obtaining payment from the University, may be contacted at 352-392-1241.

(e) **ANNUAL APPROPRIATIONS:** The University's performance and obligation to pay under any contract awarded is contingent upon an annual appropriation by the Legislature.

(f) **CONDITION AND PACKAGING:** It is understood and agreed that any item offered or shipped as a result of this bid shall be a new, current standard production model available at the time of this bid. All containers shall be suitable for storage or shipment, and all prices shall include standard commercial packaging.

(g) **SAFETY STANDARDS:** Unless otherwise stipulated in the bid, all manufactured items and fabricated assemblies shall comply with applicable requirements of Occupational Safety and Health Act and any standards hereunder.

5. **CONFLICT OF INTEREST:** The award hereunder is subject to the provisions of Chapter 112, F.S. All vendors must disclose with their bid the name of any officer, director, or agent who is also an employee of the University of Florida. Further, all vendors must disclose the name of any University employee who owns, directly or indirectly, an interest of five percent (5%) or more in the vendor's firm or any of its branches.

6. **AWARDS:** As the best interest of the University may require, the right is reserved to make award(s) by individual item, group of items, all or none or a combination thereof; to reject any and all bids or waive any minor irregularity or technicality in bids received. When it is determined there is no competition to the lowest responsible vendor, evaluation of other bids are not required. Vendors are cautioned to make no assumptions unless their bid has been evaluated as being responsive.

**7. INTERPRETATIONS/DISPUTES:** Any questions concerning conditions or specifications shall be directed in writing to Procurement Services. Inquiries must reference the date of bid opening and bid number. No interpretations shall be considered binding unless provided in writing by the University in response to requests in full compliance with this provision.

**8. NOTICE OF BID PROTEST BONDING REQUIREMENT:** Any person or entity who files an action protesting a decision or an intended decision pertaining to a competitive solicitation shall at the time of filing the formal protest, post with the University a bond payable to the University in an amount equal to: 10% of the estimated value of the protestor's bid or proposal; 10% of the estimated expenditure during the contract term; \$10,000.00; or whichever is less. The bond shall be conditioned upon the payment of all costs which may be adjudged against the person or entity filing the protest action. In lieu of a bond, the University may accept a cashier's check, bank official check or money order in the amount of the bond. **FAILURE OF THE PROTESTING PERSON OR ENTITY TO FILE THE REQUIRED BOND, CASHIER'S CHECK, BANK OFFICIAL CHECK OR MONEY ORDER AT THE TIME OF THE FILING THE FORMAL PROTEST SHALL RESULT IN DENIAL OF THE PROTEST.**

**9. GOVERNMENTAL RESTRICTIONS:** In the event any governmental restrictions may be imposed which would necessitate alteration of the material, quality, workmanship or performance of the items offered in this bid prior to their delivery, it shall be the responsibility of the successful vendor to notify the purchaser at once, indicating in writing the specific regulation which requires an alteration. The University reserves the right to accept any such alteration, including any price adjustments occasioned thereby, or to cancel the contract at no expense to the University.

**10. LEGAL REQUIREMENTS:** Applicable provision of all Federal, State, county and local laws, and of all ordinances, rules and regulations shall govern development, submittal and evaluation of all bids received in response hereto and shall govern any and all claims and disputes which may arise between person(s) submitting a bid response hereto and the University, by and through its officers, employees and authorized representatives, or any other person, natural or otherwise; and lack of knowledge by any vendor shall not constitute a cognizable defense against the legal effect thereof.

**11. LOBBYING:** Vendor is prohibited from using funds provided under any contract or purchase order for the purpose of lobbying the Legislature or any official, officer, commission, board, authority, council, committee, or department of the executive branch or the judicial branch of state government.

**12. ADVERTISING:** In submitting a bid, the vendor agrees not to use the results therefrom as a part of any commercial advertising. Vendor may not use the names, logos, or trademarks of the University, its employees, or affiliates without the prior written consent of the University.

**13. ASSIGNMENT:** Any contract or purchase order issued pursuant to this Invitation to Bid and the monies which may become due hereunder are not assignable except with the prior written approval of the purchaser.

**14. LIABILITY:** The vendor agrees to indemnify and save the University of Florida, the State of Florida and the Florida Board of Governors, their officers, agents, and employees harmless from any and all judgments, orders, awards, costs and expenses, including attorney's fees, and also all claims on account of damages to property, including loss of use thereof, or bodily injury (including death) which may be hereafter sustained by the vendor, its employees, its subcontractors, or the University of Florida, the State of Florida and the Florida Board of Governors, their officers, agents, or employees, or third persons, arising out of or in connection with any contract awarded and which are the result of the vendor's breach of contract or of the negligent acts of the vendor, its officers, agents, and employees. This clause does not apply to contracts between government agencies.

**15. FACILITIES:** The University reserves the right to inspect the vendor's facilities at any time with prior notice.

**16. ADDITIONAL QUANTITIES:** For a period not exceeding ninety (90) days from the date of acceptance of any offer by the University of Florida, the right is reserved to acquire additional quantities up to but not exceeding those shown on bid or the bid level at the prices bid in this invitation. If additional quantities are not acceptable, the bid sheets must be noted "BID IS FOR SPECIFIED QUANTITY ONLY".

**17. SERVICE AND WARRANTY:** Unless otherwise specified, the vendor shall define any warranty service and replacements that will be provided during and subsequent to this contract. Vendors must explain on an attached sheet to what extent warranty and service facilities are provided.

**18. SAMPLES:** Samples of items, when called for, must be furnished free of expense, on or before bid opening time and date, and if not destroyed, may upon request, be returned at the vendor's expense. Each individual sample must be labeled with vendor's name, manufacturer's brand name and number, bid number and item reference. Request for return of samples shall be accompanied by instructions which include shipping authorization and name of carrier and must be received with the bid. If instructions are not received within this time, the commodities shall be disposed of by the University.

**19. INSPECTION, ACCEPTANCE AND TITLE:** Inspection and acceptance will be at destination unless otherwise provided. Title and risk of loss or damage of all items shall be the responsibility of the contract supplier until accepted by the University, unless loss or damage results from negligence by the University. The contract supplier shall be responsible for filing, processing and collecting all damage claims. However, to assist him in the expeditious handling of damage claims, the University will:

- (a) Record any evidence of visible damage on all copies of the delivering carrier's Bill of Lading.

- (b) Report damage (Visible or Concealed) to the carrier and contract supplier confirming such reports in writing within 15 days of delivery, requesting that the carrier inspect the damaged merchandise.
- (c) Retain the item and its shipping container, including inner packing material until inspection is performed by the carrier, and disposition given by the contract supplier.
- (d) Provide the contract supplier with a copy of the carrier's Bill of Lading and damage inspection report.

**20. PATENTS, COPYRIGHTS, TRADEMARKS, ROYALTIES** and other Intellectual Property: The vendor, without exception, shall indemnify and save harmless the University and its employees from liability of any nature or kind, including cost and expenses for or on account of any copyrighted, patented, or unpatented invention, process, or article manufactured or used in the performance of the contract, including its use by the University of Florida. If the vendor uses any design, device, or materials covered by letters, patent or copyright, it is mutually agreed and understood without exception that the bid prices shall include all royalties or costs arising from the use of such design, device, or materials in any way involved in the work.

**21. CONFLICT BETWEEN DOCUMENTS:** If any terms and conditions contained within the documents that are a part of this ITB or resulting contract are in conflict with any other terms and conditions contained therein, then the various documents comprising this ITB or resulting contract, as applicable, shall govern in the following order of precedence: change order, purchase order, addenda, special conditions, general conditions, specifications, departmental description of work, and bid.

**22. MANUFACTURERS' NAMES AND APPROVED EQUIVALENTS:** Any manufacturer's names, trade names, brand names, information and/or catalog numbers listed in a specification are for information and not intended to limit competition. If bids are based on equivalent products, indicate on the bid form the manufacturer's name and number. Vendor shall submit with the bid, cuts, sketches, and descriptive literature, and/or complete specifications. Reference to literature submitted with a previous bid will not satisfy this provision. The vendor shall also explain in detail the reasons why the proposed equivalent will meet the specifications and not be considered an exception thereto. The University of Florida reserves the right to determine acceptance of item(s) as an approved equivalent. Bids which do not comply with these requirements are subject to rejection. Bids lacking any written indication of intent to quote an alternate brand will be received and considered in complete compliance with the specifications as listed on the bid form.

**23. NONCONFORMANCE TO CONTRACT CONDITIONS:** Items may be tested and/or inspected for compliance with specifications by any appropriate testing facilities. Should the items fail, the University may require the vendor to reimburse the University for costs incurred by the University in connection with the examination or testing. The data derived from any tests for compliance with specifications are public records and open to examination thereto in accordance with Chapter 119, F.S. Items delivered not conforming to specifications may be rejected and returned at vendor's expense. These items and items not delivered as per delivery data in bid and/or purchase order may result in vendor being found in default in which event any and all reprocurement costs may be charged against the defaulting vendor. Any violation of these conditions may also result in the vendor's name being removed from the University of Florida's vendor file.

**24. PUBLIC RECORDS:** Any material submitted in response to this Invitation to Bid will become a public document pursuant to Section 119.07 F.S. This includes material which the responding vendor might consider to be confidential or a trade secret. Any claim of confidentiality is waived upon submission, effective after opening pursuant to Section 119.07 F.S.

**25. DELIVERY:** Unless actual date of delivery is specified (or if specified delivery cannot be met), show number of days required to make delivery after receipt of purchase order in space provided. Delivery time may become a basis for making an award (see Special Conditions). Delivery shall be within the normal working hours of the University of Florida, Monday through Friday, unless otherwise specified.

**26. PUBLIC PRINTING - PREFERENCE GIVEN PRINTING WITHIN THE STATE:** The University of Florida shall give preference to vendors located within the state when awarding contracts to have materials printed, whenever such printing can be done at no greater expense than, and at a level of quality comparable to, that obtainable from a vendor located outside of the state.

- (a) **CONTRACTS NOT TO BE SUBLET:** In accordance with Class B Printing Laws and Regulations "Printing shall be awarded only to printing firms. No contract shall be awarded to any broker, agent, or independent contractor offering printing manufactured by other firms or persons."
- (b) **DISQUALIFICATION OF VENDOR:** Reasonable grounds for believing that a vendor is involved in more than one bid for the same work will be cause for rejection of all bids in which such vendors are believed to be involved. Any or all bids will be rejected if there is reason to believe that collusion exists between vendors. Bids in which the prices obviously are unbalanced will be subject to rejection.
- (c) **TRADE CUSTOMS:** Current trade customs of the printing industry are recognized unless accepted by Special Conditions or Specifications herein.
- (d) **COMMUNICATIONS:** It is expected that all materials and proofs will be picked up and delivered by the printer or his representative, unless otherwise specified. Upon request, materials will be forwarded by registered mail.
- (e) **RETURN OF MATERIAL:** All copy, photos, artwork, and other materials supplied by the University of Florida must be handled carefully and returned in good condition upon completion of the job. Such return is a condition of the contract and payment will not be made until return is affected.

**27. E-VERIFY COMPLIANCE.** Agency is obligated to comply with the provisions of Section 448.095, Fla. Stat., "Employment Eligibility." Compliance with Section 448.095, Fla. Stat., includes, but is not limited to, utilization of the E-Verify System to verify the work authorization status of all newly hired employees. Vendor affirms and represents that it is registered with the E-Verify system and is using same, and will continue to use same as required by Section 448.095, Fla. Statute.

## END OF SECTION

NOTE: ANY AND ALL SPECIAL CONDITIONS AND SPECIFICATIONS ATTACHED HERETO WHICH VARY FROM THE GENERAL CONDITIONS SHALL HAVE PRECEDENCE.

**Bid Number: ITB23KO-109**

**Title: Residential Pool**



**AUTHORIZED REPRESENTATIVE****UF PROCUREMENT SERVICES:**

Karen Olitsky  
 971 Elmore Drive / PO Box 115250  
 Gainesville, FL 32611-5250  
 (352) 294-1163  
[kolitsk@ufl.edu](mailto:kolitsk@ufl.edu)

**NON-TECHNICAL SPECIFICATIONS TABLE OF CONTENTS**

- I. Bidding Conditions
  - 00020 Invitation to Bid
  - 00100 Instruction to Bidders
  - 00310 Bid Form
  - 00430 List of Subcontractors
- II. General Terms and Conditions  
<https://facilities.ufl.edu/wp-content/uploads/forms/contracts/GTC.pdf>
- III. Division 0 Non-Technical Specifications  
<https://facilities.ufl.edu/wp-content/uploads/forms/contracts/Div0NonTechSpecs.pdf>
- IV. Division 1 Non-Technical Specifications  
[https://facilities.ufl.edu/wp-content/uploads/forms/contracts/Div1\\_NonTech\\_Specs\\_SEPT\\_2020.pdf](https://facilities.ufl.edu/wp-content/uploads/forms/contracts/Div1_NonTech_Specs_SEPT_2020.pdf)
- V. UF Design and Construction Standards  
<https://facilities.ufl.edu/projects/forms-standards/design-construction-standards/>
- VI. Standards, Policies, Regulations, Forms, Guides, Inspection & Closeout and References  
<https://facilities.ufl.edu/projects/forms-standards/>
  - a. **Other Forms**
    - Dig Permits: <https://www.facilitieservices.ufl.edu/departments/utilities/dig-permits/>
    - Building Codes Enforcement Inspections: <https://www.ehs.ufl.edu/departments/facility-support-services/building-codes-enforcement/inspections/>
    - Fire Plan Review and Inspection: <https://www.ehs.ufl.edu/departments/facility-support-services/fire-safety/>

**TECHNICAL SPECIFICATIONS TABLE OF CONTENTS**

- I. Attachment A - Conformed Documents
- II. Attachment B – Geotechnical Report

## **00020 - INVITATION TO BID**

The Invitation to Bid shall be in accordance with the University of Florida, Procurement Services "Invitation to Bid Acknowledgement Form" with all relevant information provided therein.

END OF SECTION

## **00100 - INSTRUCTIONS TO BIDDERS**

### **1.1 RELATED SECTIONS**

- A. Documents affecting the work of this Section include, but are not necessarily limited to, the General Terms & Conditions and other Sections in Divisions 0 and 1 of these Specifications.

### **1.2 THE WORK**

PROJECT TITLE: Residential Pool

### **1.3 SECURING DOCUMENTS**

Copies of the Bid Documents may be obtained from: <https://procurement.ufl.edu/vendors/schedule-of-bids/>

### **1.4 BID RESPONSE**

To be considered responsive and responsible, make bids in accordance with the following:

- A. Make bids upon the forms provided, properly signed and with all items completed. Do not change the wording of the bid form and do not otherwise alter or add words to the bid form. Unauthorized conditions, limitations, or provisions attached to the bid may be cause for rejection of the bid.
- B. Include with bid a completed and signed Invitation to Bid Construction AcknowledgmentForm.
- C. Include qualification and references as described below in 1.6 Proof of Competency and Qualification of Bidders.
- D. Include list of subcontractors as described below in 1.7 Subcontracts.
- E. Include completed Section 00310 - Bid Form.
- F. **Bids must be submitted no later than October 20, 2022 at 3:00 PM, local time.** No bids received after the time fixed for receiving them will be considered. Late bids will be returned to the bidder unopened.
- G. Address bids to Karen Olitsky, Procurement Agent III, and deliver to:

University of Florida  
Procurement Services  
971 Elmore Drive / PO Box 115250  
Gainesville, FL 32611-5250

Submit bid in a sealed envelope that includes the bid number, contractor name and date and

time of the bid opening on the outside of the envelope. Submit one (1) original bid and one (1) electronic copy on flash drive or CD/DVD. It is the sole responsibility of the bidder to see that bids are received on time. Faxed and/or emailed bids will not be accepted.

## **1.5 WITHDRAWAL OF BIDS**

- A. A bidder may withdraw their bid, either personally or by written request, at any time prior to the scheduled time for opening bids.
- B. No bidder may withdraw their bid for a period of forty-five calendar days after the date set for opening thereof, and bids shall be subject to acceptance by the Owner during this period.

## **1.6 PROOF OF COMPETENCY AND QUALIFICATION OF BIDDERS**

- A. A bidder is required to furnish evidence, satisfactory to the Owner, that the bidder and the bidder's proposed subcontractors have sufficient means and experience in the types of work required to assure completion of the Contract in a satisfactory manner.
- B. A contract will be awarded only to a responsible, properly licensed, bidder, qualified by appropriate experience, with the ability, schedule capacity, skill and financial resources to perform the work specified.
- C. Bidder must submit, with their bid, the following documentation:
  - 1. Evidence that bidder is licensed as a Certified General Contractor or Certified Pool Contractor by the Florida Department of Business & Professional Regulation to perform the work specified and in good standing at the time of the receipt of bids. If bidder is licensed as a Certified General Contractor, their subcontractor must be licensed as a Certified Pool Contractor.
  - 2. List and briefly describe three (3) project references of similar size and/or complexity which have been satisfactorily completed over the last five (5) years, including scope of work, location, start and completion dates of contracts, names of contracts, and names, addresses and verified contact information of owners.
  - 3. List of subcontractors as described below in 1.7 SUBCONTRACTS.
  - 4. References:
    - a. Trade References
    - b. Bank References
    - c. Surety
      - Name of bonding company
      - Name and address of agent
      - Proof that surety and/or its agent is licensed to conduct business in the State of Florida and has a Best Rating of "A" and a financial size of "Class X" or better.
      - Letter from Surety or its agent licensed to do business in Florida verifying the bidder's capability to provide performance and payment bonds for this project.

- Letter stating whether or not, within the past five (5) years, a contract or any portion of the Work connected to a contract was completed by the Owner or the applicant's Surety. If so, attach an explanation providing the name and location of the project, the name and address of the owner's representative and all pertinent details of the matter.

## **1.7 SUBCONTRACTS**

If the Bidder intends to subcontract any of the Work:

- A. Each bidder shall furnish with its bid a list of all subcontractors for subcontracted scopes/packages of work.
- B. This list shall identify, for each subcontracted package, the company name, contact name, address, phone and email of the proposed subcontractor and the approximate value of the subcontract.
- C. Each subcontractor must present evidence of being qualified in and licensed for the applicable trade. Such proof of subcontractor licensure shall be provided by the successful bidder after award, but prior to commencement of Work.

## **1.8 PERFORMANCE AND PAYMENT BONDS**

See General Terms & Conditions, Article 20.

## **1.9 BID DEPOSIT**

Not required.

## **1.10 AWARD OR REJECTION OF BIDS**

The Contract, if awarded, will be awarded to the responsible and responsive bidder who has proposed the lowest Total Base Bid, subject to the owner's right to reject any or all bids and to waive informality and irregularity in the bids and in the bidding. Acceptance or rejection of any bid will be at the owner's sole discretion.

## **1.11 NON-MANDATORY PRE-BID CONFERENCE:**

A Non-mandatory Pre-bid Conference will be held prior to the scheduled bid opening for the purpose of considering questions posed by bidders and is open to interested bidders, prospective subcontractors, and any other interested parties. The conference will be held **September 22, 2022 at 9:30 AM, local time at the Dasburg House, 450 Village Drive, Gainesville, FL. THIS WILL BE THE ONLY OPPORTUNITY FOR CONTRACTORS TO VISIT THE SITE.**

## **1.12 EXECUTION OF AGREEMENT**

- A. A Purchase Order (PO) will be issued for purposes of fiscal encumbrance and payment. The PO itself serves as the form of contract.
- B. Upon notice of Bid Award, the bidder to whom the Contract is awarded shall deliver to UF those Certificates of Insurance and Payment & Performance Bonds required by the Contract Documents.

- C. Bonds and Certificates of Insurance shall be approved by UF before the successful bidder may proceed with the Work.

### **1.13 INTERPRETATION OF CONTRACT DOCUMENTS PRIOR TO BIDDING**

- A. If any person contemplating submitting a bid for construction of the Work is in doubt as to the true meaning of any part of the Contract Documents, or finds discrepancies in or omissions from any part of the Contract Documents, they may submit a written request for interpretation thereof no later than **September 30, 2022 at 5:00 PM**, local time, to Karen Olitsky, Procurement Agent III at [kolitsk@ufl.edu](mailto:kolitsk@ufl.edu). The person submitting the request shall be responsible for its prompt delivery.
- B. Interpretations or corrections of proposed Contract Documents will be made only by Addendum and will be available on the Procurement Services "Schedule of Bids" webpage <https://procurement.ufl.edu/vendors/schedule-of-bids/>. The Owner will not be responsible for any other explanations or interpretations of the proposed Contract Documents.

### **1.14 TIME OF COMPLETION:**

- A. Successful Bidder hereby agrees that Work required by this Contract shall be commenced within ten (10) calendar days after issuance date of written Notice to Proceed; that all insurance and permits will be obtained; that all documents and notices will be filed; that all requirements as specified will be met; and that Work shall be prosecuted regularly, diligently and uninterruptedly.
- B. Project specific schedule requirements as described below:
  1. Permitting, Mobilization and Product/Materials Sample Submittals = Weeks 1 thru 3
  2. Demo and Site Work = Weeks 4 thru 6
  3. Pool Shell Structure, Foundation for Screen Enclosure, Bonding of All Metal Parts, Electrical Rough-In, Gutter Installation, Main Drains and Associated Piping = Weeks 7 thru 9
  4. Slab Reinforcement and Deck Drains, Bonding of All Metal Equipment and Parts, Lighting, Including Potting Compound, Electrical Deck Box, Suction and Return Piping, Equipotential Bonding Grid = Weeks 10 thru 12
  5. Installation of All Equipment, Electrical Receptacles and Finished Electric Hook-Ups, Completed Piping and Valve System, Heater Installation = Weeks 13 thru 15
  6. Pavers & Pool Tile = Weeks 16 thru 17
  7. Plaster Installation = Weeks 18 thru 19
  8. Screen Enclosure Install All Metal Parts Including Screen Enclosure Bonded = Weeks 20 thru 22
  9. Site Restoration, Demobilization, Owner Training & Substantial Completion = Weeks 23 thru 24
  10. Final Completion = Weeks 25 thru 26

END OF SECTION



**00310 - BID FORMS****BID PROPOSAL**

FROM:

(Name of Bidder)

TO:

UNIVERSITY OF FLORIDA  
 PROCUREMENT SERVICES  
 971 Elmore Drive  
 P.O. Box 115250  
 Gainesville, Florida 32611-5250

The undersigned, hereinafter called "Bidder", having reviewed the Contract Documents for the Project entitled **ITB23KO-109 Residential Pool** and having visited and thoroughly inspected the site of the proposed Project and familiarized himself/herself with all conditions affecting and governing the construction of said Project, hereby proposes to furnish all labor, materials, equipment and other items, facilities and services for the proper execution and completion of the Project, in strict compliance with the Contract Documents, Addenda, and all other Documents relating thereto on file in Procurement Services, and, if awarded the Contract, to complete the said Work within the time limits called for in the Documents and as stated herein, for the sums as enumerated on this and the following pages:

	Description	Unit	Cost
1	Mobilization	LS	\$
2	Demolition & Site Work	LS	\$
3	Pool Construction (Including pump, electrical, lights, and plumbing)	LS	\$
3	LED Bubblers & Deck Jets (Including associated electrical & plumbing)	LS	\$
4	Pool Heater (Including associated electrical & plumbing)	LS	\$
5	Pavers	LS	\$
6	Gutter & Drainage System	LS	\$
7	Screen Enclosure	LS	\$
8	Site Restoration	LS	\$
<b>Total Base Bid Cost</b>			<b>\$</b>

**ADDENDA:**

Receipt of the following Addenda to the Construction Documents is acknowledged:

ADDENDUM # \_\_\_\_\_ Dated \_\_\_\_\_

ADDENDUM # \_\_\_\_\_ Dated \_\_\_\_\_

**COMPLETION DATE:**

All Work covered by the Bidding Documents and the foregoing Base Bid shall be completed and ready for Owner's occupancy as specified in the contract documents.

**SIGNATURE:**

I hereby certify that for all statements and amounts herein made on behalf of

\_\_\_\_\_  
(Name of Bidder)

a (Corporation) (Partnership) (Individual) organized and existing under the laws of the State of Florida, I have carefully prepared this Bid Proposal from Contract Documents described hereinbefore, I have examined Contract Documents and local conditions affecting execution of Work before submitting this Bid Proposal, I have full authority to make the statements and commitment herein and submit this Bid Proposal in (its) (their) behalf, and all statements are true and correct.

Signed and sealed this \_\_\_\_\_ day of \_\_\_\_\_, 2022.

\_\_\_\_\_  
(Signature of Bidder)

\_\_\_\_\_  
(Print Name)

\_\_\_\_\_  
(Title)

**WITNESS:**

\_\_\_\_\_  
(Signature of Witness)

\_\_\_\_\_  
(Print Name)

Address: \_\_\_\_\_

\_\_\_\_\_  
(City)

\_\_\_\_\_  
(State)

\_\_\_\_\_  
(Zip Code)

END OF SECTION

ATTACHMENT A

DASBURG HOUSE  
GAINESVILLE, FLORIDA

GRADING, LAYOUT, & HARDSCAPE  
CONFORMED DOCUMENTS

AUGUST 10, 2022

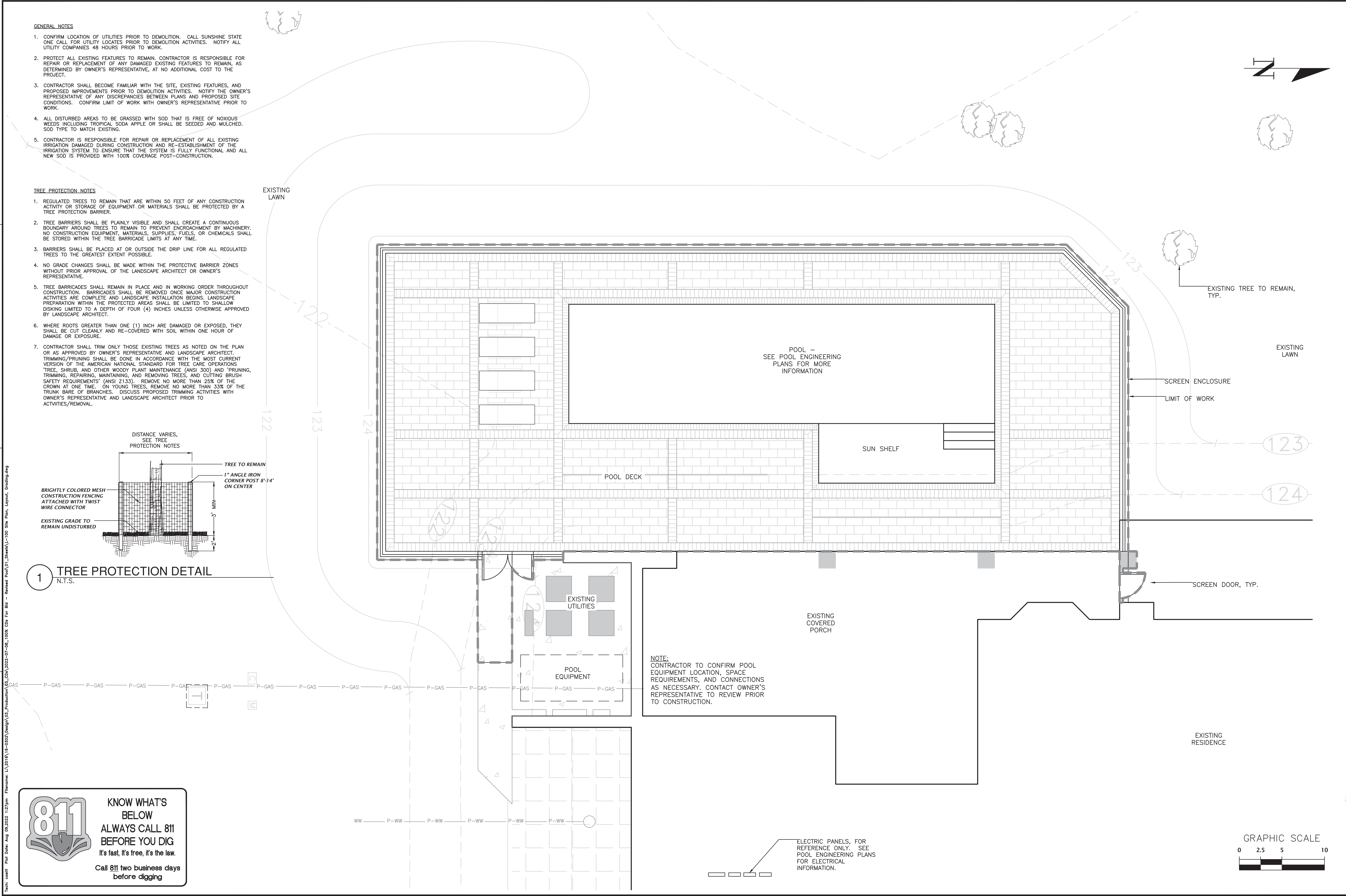
Prepared by:



11801 Research Drive  
Alachua, FL 32615  
352.331.1976 tel  
Certificate of Authorization No. LA0001683

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L-102	GRADING PLAN
L-103	LAYOUT PLAN
L-201	HARDSCAPE & CONCEPTUAL POOL ENCLOSURE PLAN
L-202	PAVING PLAN
L-203	HARDSCAPE DETAILS & FINISH SCHEDULE
L-204	HARDSCAPE SPECIFICATIONS
POOL ENGINEERING PLANS	
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SHEET 2	GENERAL DETAILS & NOTES
SHEET 3	POOL SITE PLAN
SHEET 4	LAYOUT & PLUMBING PLANS
SHEET 5	CROSS SECTIONS
SHEET 6	SECTIONS & DETAILS
SHEET 7	EQUIPMENT DETAILS
SHEET 8	SPECIFICATIONS



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CONSTRUCTION/BID REVISIONS

SUBMITTALS  
2022/02/07/08 100% CONSTRUCTION DOCUMENTS FOR BID  
2022/08/10 CONFORMED DOCUMENTS

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PROJECT: DASBURG HOUSE  
SHEET TITLE: SITE PLAN

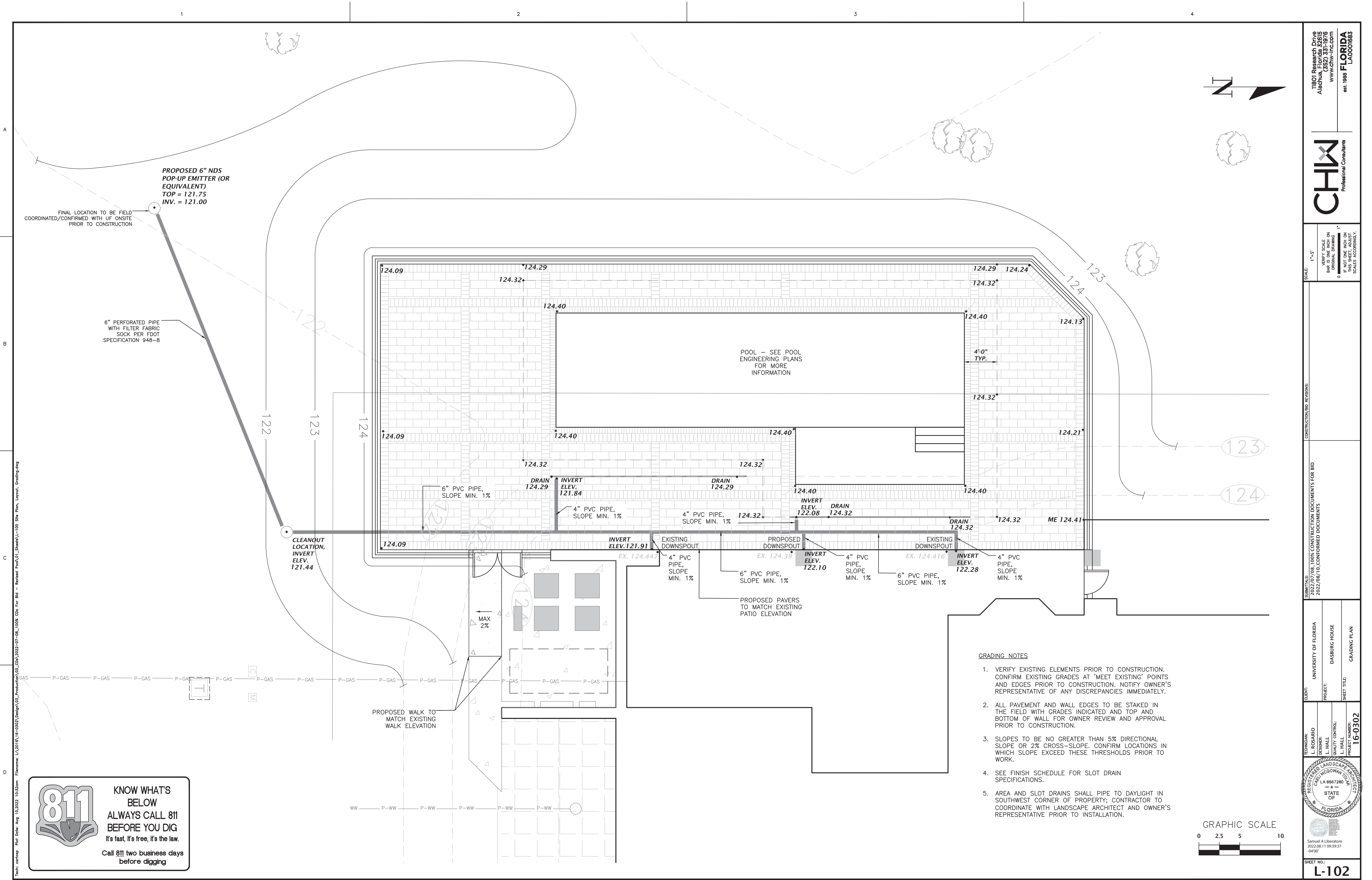
DESIGNER: L. ROSARIO  
REVISOR: L. HALL  
QUALITY CONTROL: L. HALL  
PROJECT NUMBER: 16-0302

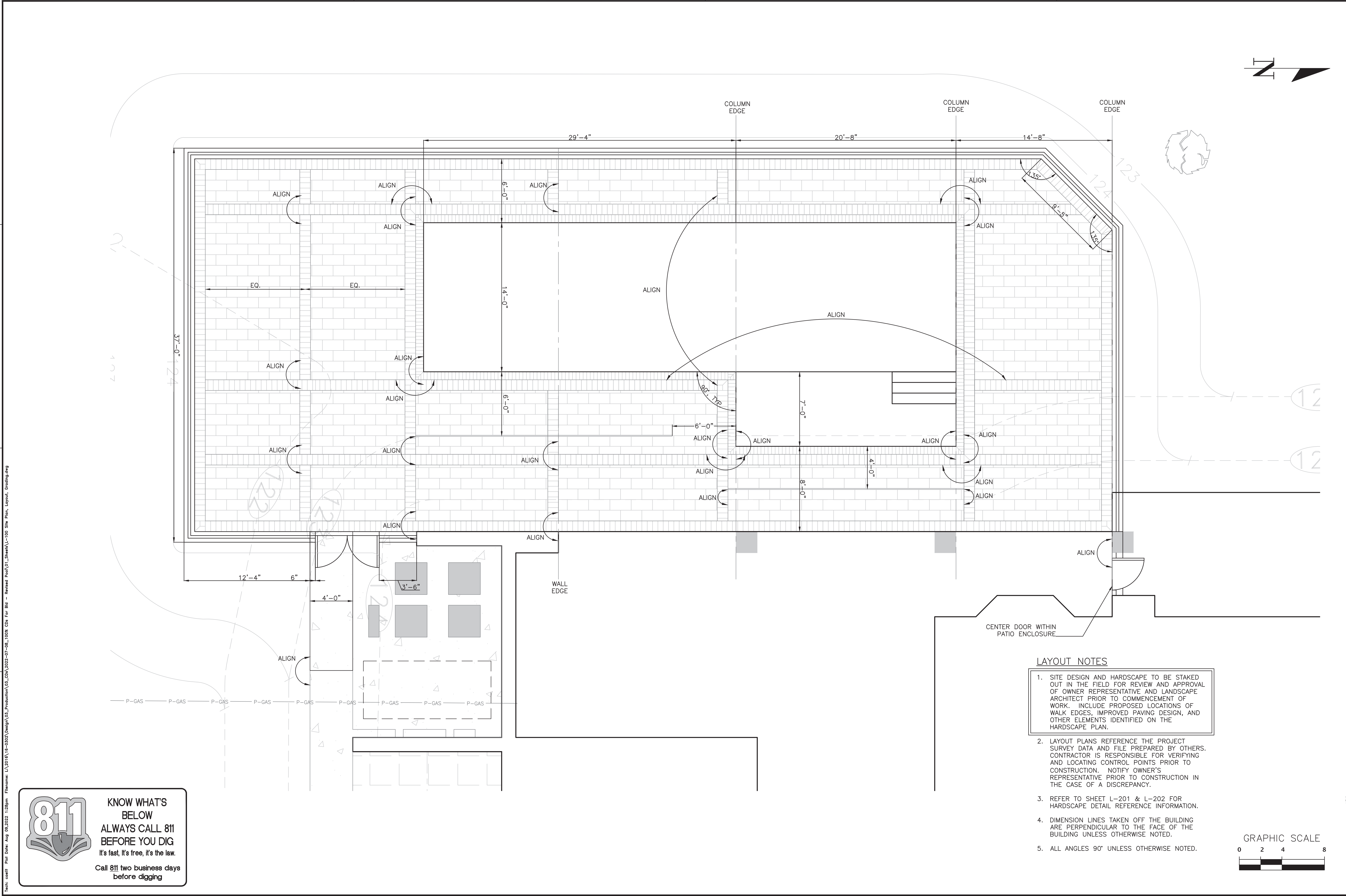


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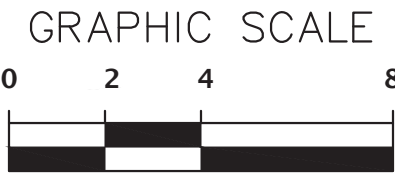
SHEET NO.: **L-101**







- LAYOUT NOTES**
1. SITE DESIGN AND HARDSCAPE TO BE STAKED OUT IN THE FIELD FOR REVIEW AND APPROVAL OF OWNER REPRESENTATIVE AND LANDSCAPE ARCHITECT PRIOR TO COMMENCEMENT OF WORK. INCLUDE PROPOSED LOCATIONS OF WALK EDGES, IMPROVED PAVING DESIGN, AND OTHER ELEMENTS IDENTIFIED ON THE HARDSCAPE PLAN.
  2. LAYOUT PLANS REFERENCE THE PROJECT SURVEY DATA AND FILE PREPARED BY OTHERS. CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND LOCATING CONTROL POINTS PRIOR TO CONSTRUCTION. NOTIFY OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION IN THE CASE OF A DISCREPANCY.
  3. REFER TO SHEET L-201 & L-202 FOR HARDSCAPE DETAIL REFERENCE INFORMATION.
  4. DIMENSION LINES TAKEN OFF THE BUILDING ARE PERPENDICULAR TO THE FACE OF THE BUILDING UNLESS OTHERWISE NOTED.
  5. ALL ANGLES 90° UNLESS OTHERWISE NOTED.

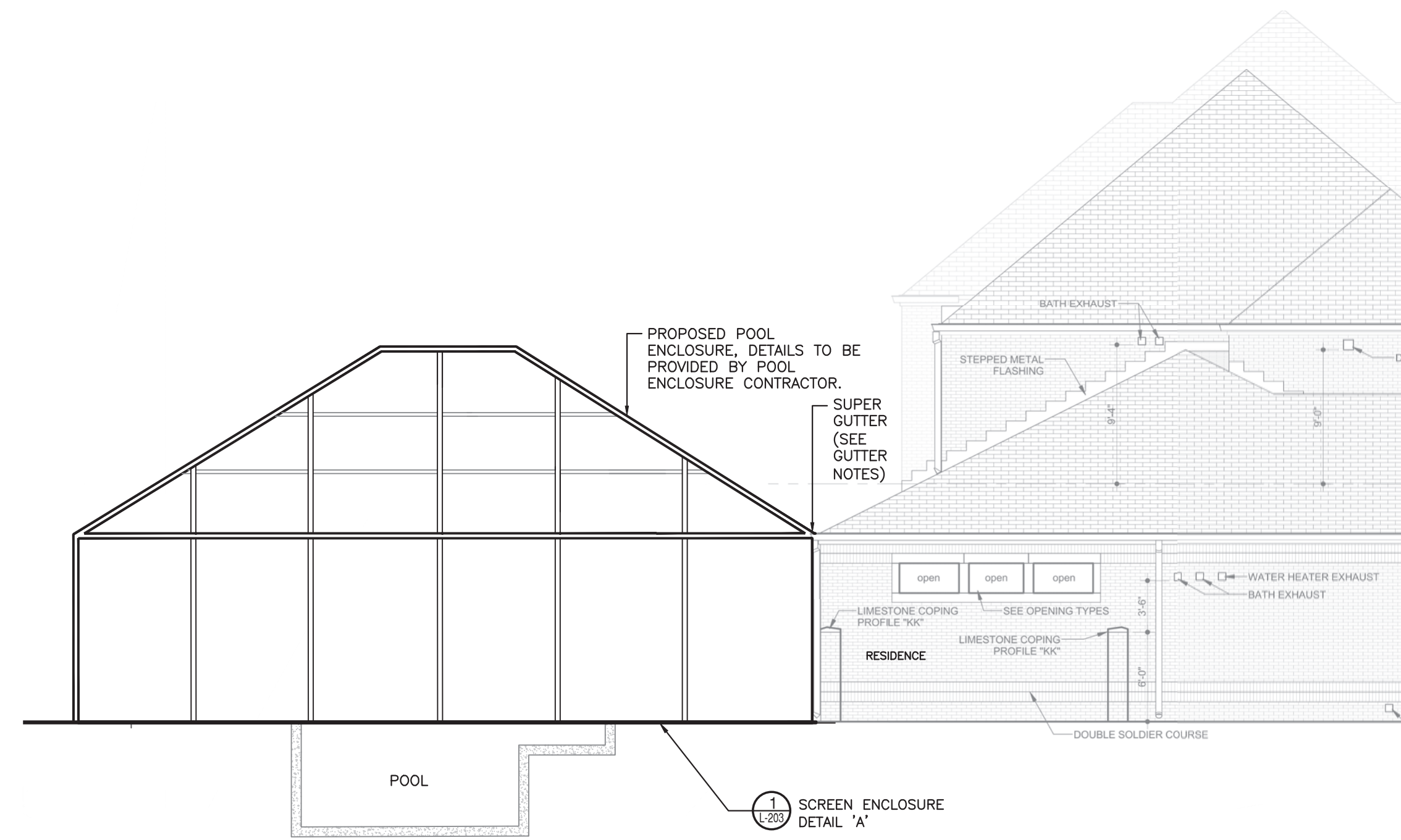


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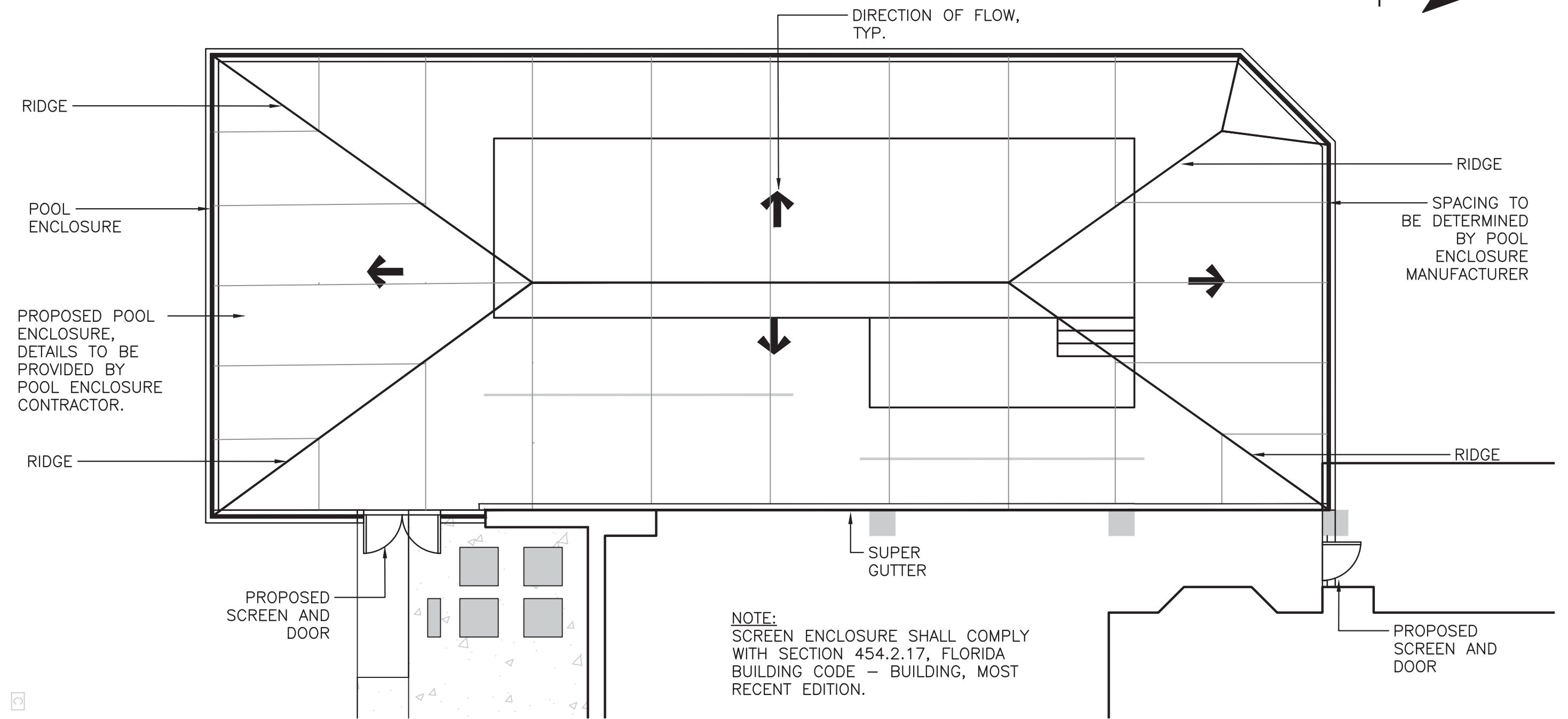
KNOW WHAT'S  
BELOW  
ALWAYS CALL 811  
BEFORE YOU DIG  
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Call 811 two business days  
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SUBMITTAL: 2022/07/08 100% CONSTRUCTION DOCUMENTS FOR BID 2022/08/10 CONFORMED DOCUMENTS		CONSTRUCTION/BID REVISIONS	
CLIENT: UNIVERSITY OF FLORIDA	PROJECT: DASBURG HOUSE	DESIGNER: L. ROSARIO	PROJECT NUMBER: 16-0302
REGISTERED LANDSCAPE ARCHITECT CAROLINGOWAN STATE OF FLORIDA A 9667280	QUALITY CONTROL: L. HALL	SHEET TITLE LAYOUT PLAN	
Caret Title: [Signature]		SHEET NO.: <b>L-103</b>	

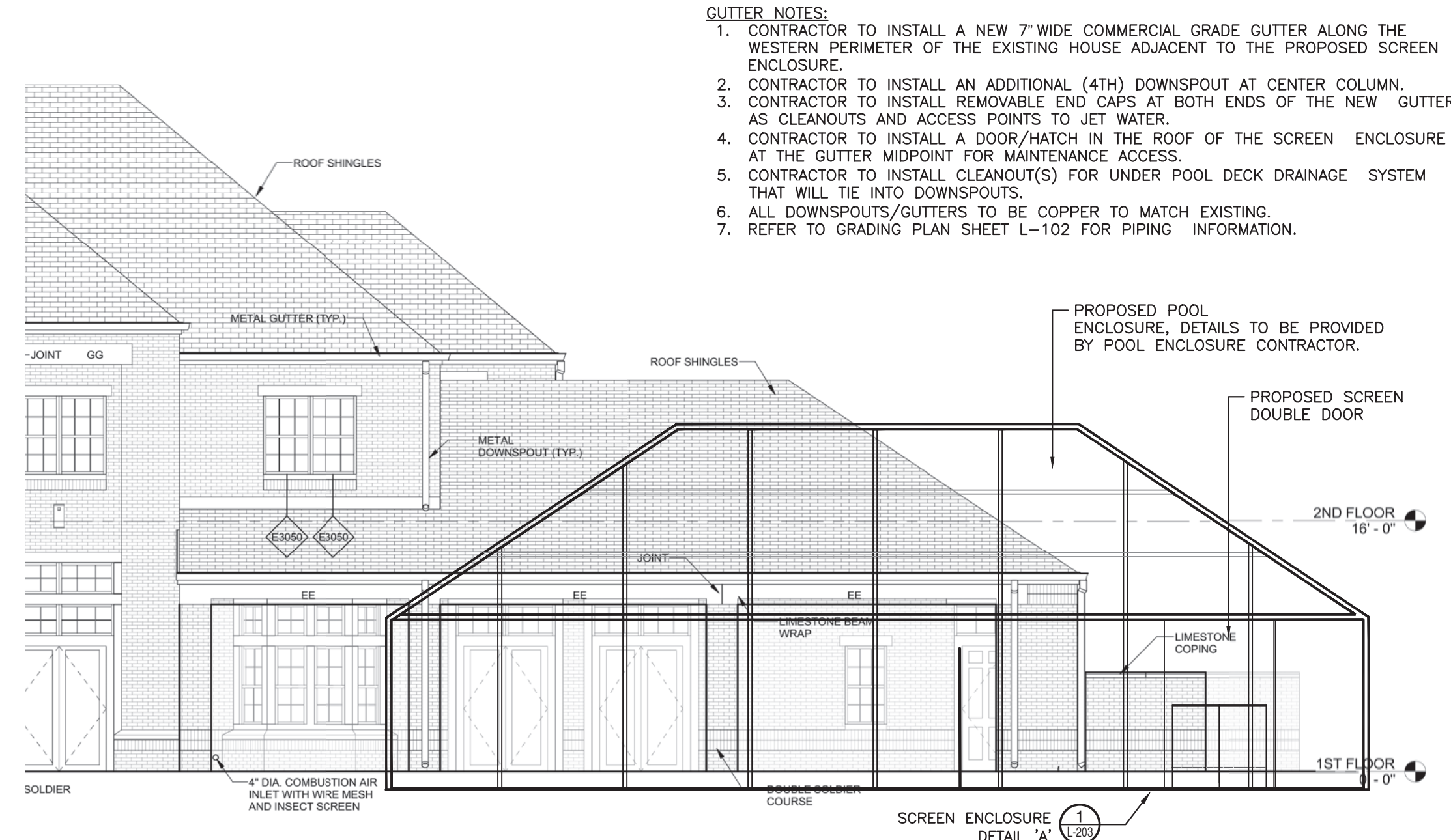




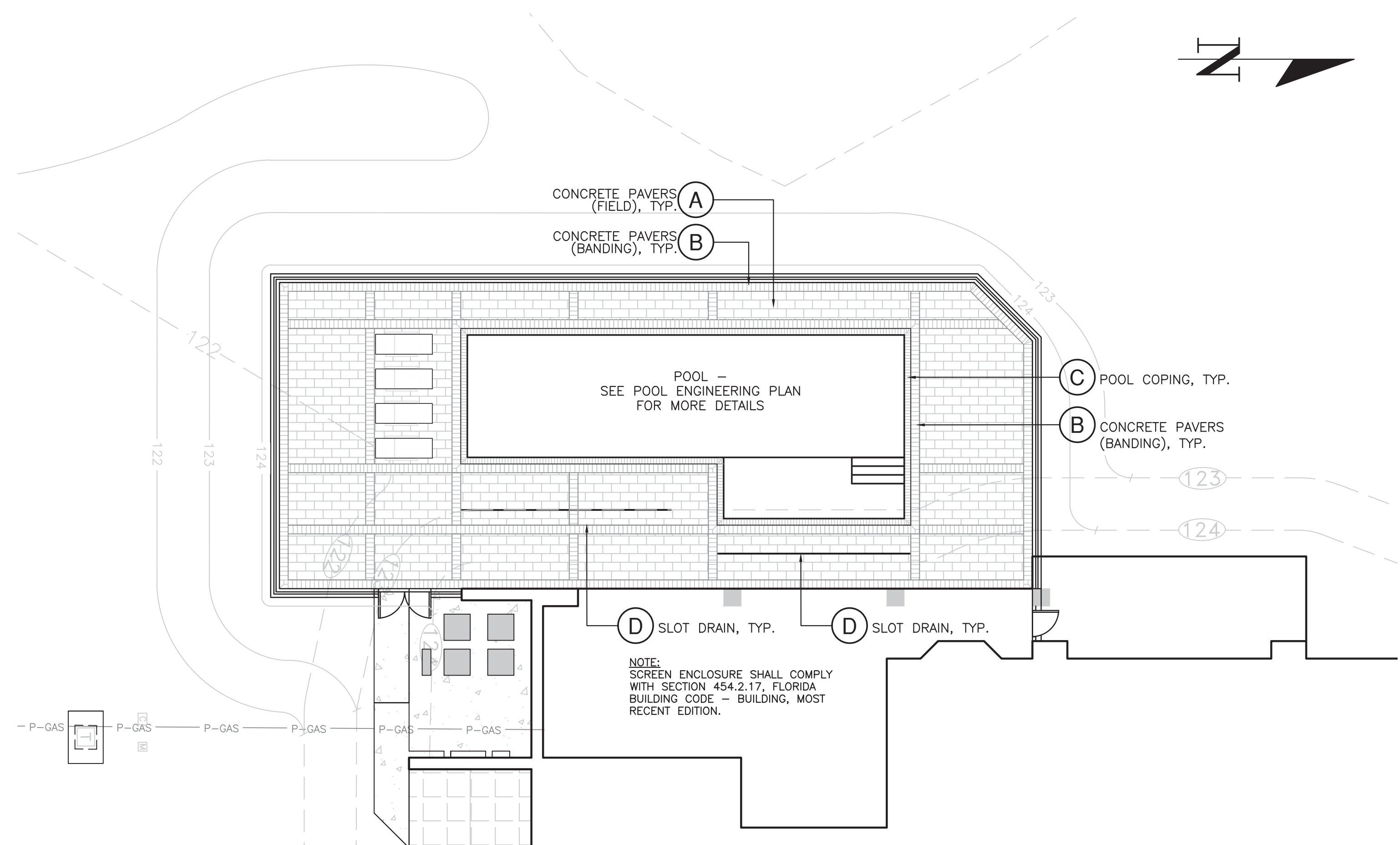
1 CONCEPTUAL POOL ENCLOSURE PLAN - LOOKING NORTH  
SCALE: 1/8" = 1'-0"



2 CONCEPTUAL POOL ENCLOSURE PLAN  
SCALE: 1/8" = 1'-0"



3 CONCEPTUAL POOL ENCLOSURE PLAN - LOOKING NORTH  
SCALE: 1/8" = 1'-0"



4 PAVING PLAN  
SCALE: 1" = 10'-0"



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CONSTRUCTION/BID REVISIONS

STATUS  
2022/02/08 100% CONSTRUCTION DOCUMENTS FOR BID  
2022/08/10 CONFORMED DOCUMENTS

CLIENT: UNIVERSITY OF FLORIDA  
PROJECT: DASBURG HOUSE  
SHEET TITLE: PAVING & CONCEPTUAL POOL ENCLOSURE PLAN

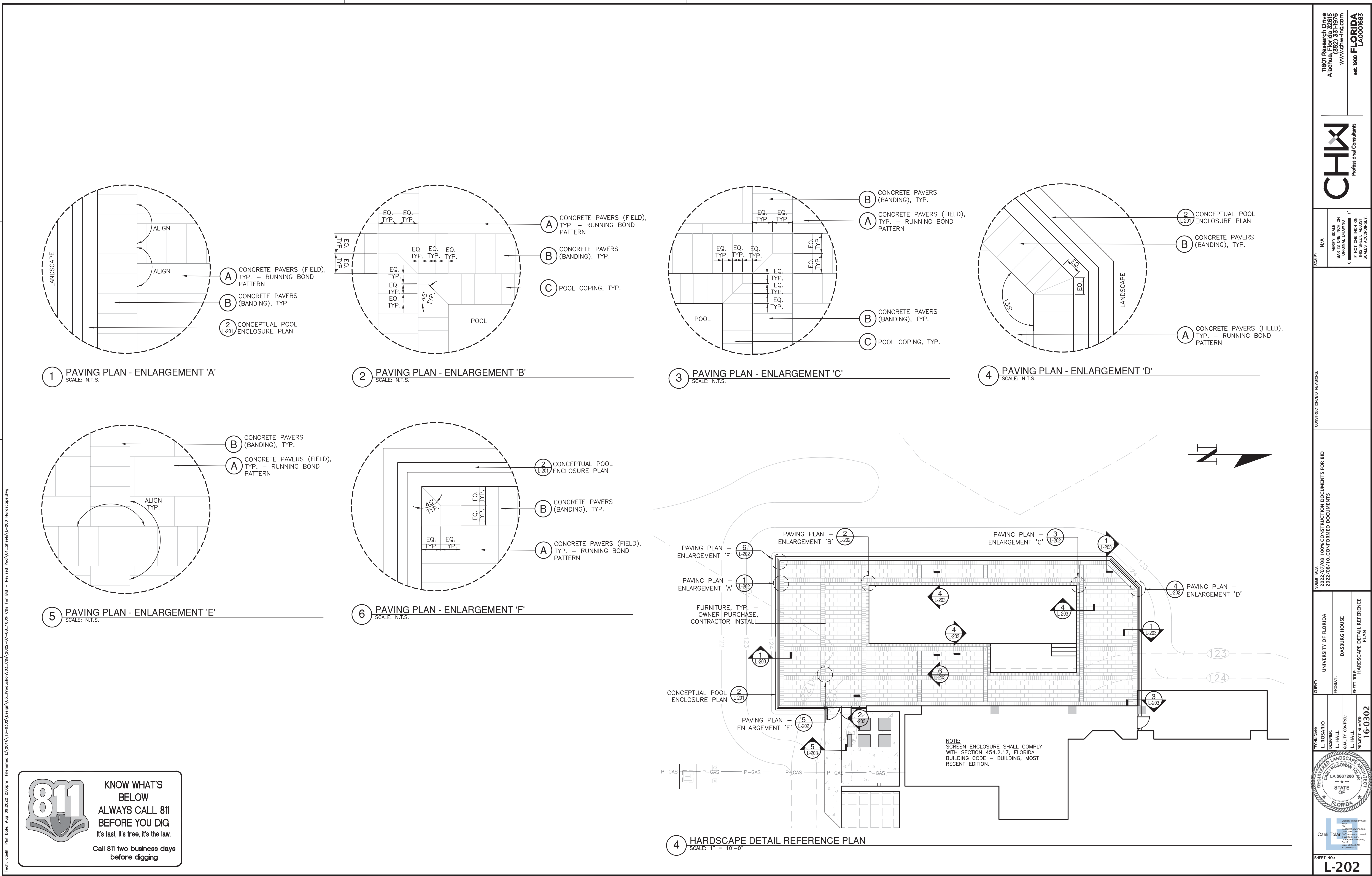
DESIGNER: L. ROSARIO  
REVISOR: L. HALL  
QUALITY CONTROL: L. HALL  
PROJECT NUMBER: 16-0302



Can't Total  
L-201

SHEET NO: L-201





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CONSTRUCTION/BB/REVISIONS

STATUS: 2022/02/08 100% CONSTRUCTION DOCUMENTS FOR BID  
2022/08/10 CONFORMED DOCUMENTS

CLIENT: UNIVERSITY OF FLORIDA

DESIGNER: L. ROSARIO

PROJECT: DASBURG HOUSE

PROJECT NUMBER: 16-0302

SHEET NO.: L-202

REGISTERED LANDSCAPE ARCHITECT  
STATE OF FLORIDA  
LA 9667280  
Caiti Tolson







1

2

3

4

SECTION 321413.13 – INTERLOCKING CONCRETE UNIT PAVING ON AGGREGATE BASE

PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes

1. Work consists of furnishing and installing an Interlocking Concrete Pavement System in accordance with these specifications and in general conformance with the lines, grades, design, and dimensions shown on the plans.

2. Installation work includes:

a. Verifying subgrade elevations and slopes generally conform to the lines, grades and site conditions depicted in the construction documents;

b. Furnishing and installing geotextile (where required), base course, bedding course, edge restraint, concrete pavers and joint filling sand as shown on the construction drawings.

1.2 SUBMITTALS

A. Contractor shall submit to the owner for approval a minimum of four full-size samples of each concrete paver type/size/thickness/color/finish specified. The samples shall represent the range of shape, texture, and color permitted for the respective type. Colors shall be approved by Owner. Prior to delivery of the associated material to the site, the Contractor shall submit the following product-specific documentation for approval:

1. Aggregates:

a. Sieve analysis per ASTM C136 for subbase, base, bedding and joint aggregate materials

b. Minimum 3 lb. sample of each material for independent testing.

2. Concrete Pavers:

a. Test results from an independent testing laboratory for compliance with ASTM C936.

b. Manufacturer's catalog product data.

c. Safety Data Sheets (SDS).

1.3 QUALITY ASSURANCE

A. Contractor Qualifications:

1. Contractor shall submit a list of five (5) previously constructed projects of similar size and magnitude prior to the bid date to be qualified. Contact names, telephone numbers, and date of completion shall be listed for each project.

2. The Contractor's site foreman shall hold a Certified Concrete Paver Installer Designation from the Interlocking Concrete Pavement Institute (ICPI). The site foreman shall be onsite for the entire installation.

3. Contractor shall conform to all local, state/provincial licensing and bonding requirements.

B. Mockups: Build mockups to verify selections made under submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.

1. Install a 10 ft x 10 ft paver area following the installation practices described in Article 3.2 to 3.4. This area shall be used to verify joint sizes; lines; laying pattern(s); stitching details (for mechanical installation); color(s); and, texture of the job.

2. To provide a proper representation of color blend, blending during installation of sample mock-up will be pulled from a minimum of 3 cubes.

3. This area shall be the standard by which the work will be judged.

4. Subject to approval by the Owner, the mock-up may be retained as part of the finished work. If mock-up is not retained, remove and dispose of mock-up at the completion of the project.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Contractor shall coordinate delivery and paving schedule to minimize interference with normal use of buildings adjacent to paving.

B. Contractor shall check all materials upon delivery to assure that the proper materials have been received and are in good condition before signing off on the manufacturer's packing slip.

C. Contractor shall protect all materials from damage or contamination due to job site conditions and in accordance with manufacturer's recommendations. Damaged or contaminated materials shall not be incorporated into the work.

D. Concrete pavers shall be delivered to the site in steel banded, plastic banded, or plastic wrapped cubes capable of transfer by forklift or clamp lift. Unload and store concrete pavers at the job site in such a manner that no damage occurs to the product.

E. Contractor shall handle and transport aggregates to avoid segregation, contamination, and degradation and keep different materials sufficiently separated as to prevent mixing. The material shall not be dumped or stored one material on top of another unless it is part of the installation process. Materials shall be covered to prevent removal by wind.

F. Geotextile shall be delivered, stored and handled in accordance with ASTM D4873.

1.5 ENVIRONMENTAL CONDITIONS

A. Pavers shall not be installed during heavy rain, freezing conditions or snowfall.

B. Base course shall not be installed on frozen soil subgrade.

C. Pavers, bedding course sand, and joint filling sand shall not be installed on frozen aggregates.

1.6 MAINTENANCE MATERIALS

A. Provide [specify quantity] square feet additional paver material for use by Owner for maintenance and repair.

B. Store extra paver materials in Owner-designated location.

PART 2 – PRODUCTS

2.1 INTERLOCKING CONCRETE PAVERS

A. Interlocking Concrete Pavers Basis-of-Design:

1. Paver Name: Moduline

a. Thickness: Refer to Finish Schedule

b. Color: Refer to Finish Schedule

c. Finish: Standard

d. Supplier: Coastal an Oldcastle Company  
Tampa, FL 33614

e. Contact Person: James Bellamy (615) 714-1456

f. Substitutions: No substitutions permitted.

B. Pavers shall meet the minimum material and physical properties set forth in ASTM C 936:

1. Measured length or width of test specimens shall not differ by more than +/- 0.063 in., while measured thickness shall not differ by more than +/- 0.125 in.

2. Average compressive strength of not less than 8,000 psi (55 MPa) with no individual unit under 7,200 psi (50 MPa) when tested in accordance with ASTM C140.

3. Average absorption of 5% or less with no unit greater than 7% when tested in accordance with ASTM C140.

4. Efflorescence shall not be a cause for rejection.

5. Pigment in Concrete Pavers shall conform to ASTM C979.

2.2 BEDDING SAND

A. Bedding sand shall be clean, non-plastic sand, free from deleterious or foreign matter, and manufactured from crushed rock.

B. Screenings or stone dust shall not be utilized.

C. Verify gradation conforms to ASTM C33 requirements for concrete sand (listed in Table 1) as tested in accordance with ASTM C136.

2.3 JOINT FILLING SAND

A. Joint sand aggregate shall be clean, non-plastic sand, free from deleterious or foreign matter, and manufactured from crushed rock.

B. Screenings or stone dust shall not be utilized.

C. Verify gradation conforms to ASTM C144 requirements for concrete sand (listed in Table 2) as tested in accordance with ASTM C136.

2.4 BASE AGGREGATE

A. Base aggregate shall be clean, non-plastic, free from deleterious or foreign matter, recycled concrete, and manufactured from crushed rock.

B. Verify gradation conforms to ASTM D2940 as presented in Table 3.

PART 3 – EXECUTION

A. Prior to commencement of any work, the Contractor shall conduct a pre-construction meeting with the Owner, Designer, and affected sub-trades. The pre-construction meeting should establish contractor responsibilities and at a minimum verify:

1. The location of the mock-up, and whether it will be part of the final construction or need to be removed.

2. The site layout is in general conformance with the construction documents.

3. The subgrade lines and elevations are in general conformance with the construction documents. The subgrade elevations shall be within +/- 0.1 ft of the specified grades.

4. Subgrade soil conditions and grades meet the requirements in the construction documents.

5. The details of the site's erosion and sediment control plan.

B. Proof-roll prepared subgrade according to requirements in Section 31 20 00 Earth Moving to identify soft pockets and areas of excess yielding. Proceed with subbase installation only after deficient subgrades have been corrected.

C. Contractor shall verify compaction of the subgrade is in general conformance with the construction documents prior to placing subbase materials.

D. Once the Contractor has confirmed the subgrade conditions are in general conformance with the requirements in the construction documents, the Contractor shall begin installing the base course material. By initiating installation of the base course, the Contractor acknowledges acceptance of the subgrade.

3.2 INSTALLATION OF BASE COURSE

A. Install the base course at the thickness, compaction, surface tolerances, and elevations outlined in the construction documents.

1. The aggregate should be spread and compacted in uniform layers not exceeding 6-inch loose thickness.

2. Compact base course to 98% Standard Proctor Density in accordance with ASTM D698.

3. Density testing shall be conducted to verify conformance.

4. Surface tolerance should be plus or minus 3/8 inch (10 mm) over a 10-foot. (3 m) straight edge laid in any direction.

5. Base course compaction must be achieved near curbs, grade beams, concrete collars around utility structures, lights standards, tree wells, building edges and other protrusions as applicable to the project. In areas not accessible to large compaction equipment, compact to specified density with mechanical tampers (jumping jacks).

6. The upper surface of the base shall be sufficiently well graded and compacted to prevent infiltration of the bedding sand into the base both during construction and throughout its service life. Segregated areas of the granular base shall be blended by the application of crushed fines that have been watered and compacted into the surface.

B. Before commencing the placing of the bedding course, the base shall be inspected by the Owner or the Consultant.

3.3 INSTALLATION OF EDGE RESTRAINTS

A. Adequate edge restraint shall be provided along the perimeter of all paving as specified. The face of the edge restraint, where it abuts pavers, shall be vertical.

B. All concrete edge restraints shall be constructed to dimensions and grades in general conformance with the construction documents and shall be supported on a compacted base not less than 6 inches thick. Concrete curbs shall meet local requirements or the requirements of Section 32 16 13 – Curbs and Gutters whichever is more restrictive. All concrete shall be in accordance with ASTM C94 requirements.

3.4 INSTALLATION OF BEDDING COURSE, PAVERS, AND JOINT FILLING MATERIAL

A. Spread the bedding course evenly over the base course and screed to a nominal 1-inch (25 mm) thickness. The Contractor shall screed the bedding course using either an approved mechanical spreader (e.g.: an asphalt paver) or by the use of screed rails and boards. The screeded sand should not be disturbed. Place sufficient sand to stay ahead of the laid pavers. Do not use the bedding sand to fill depressions in the base course surface.

B. Ensure that concrete pavers are free of foreign material before installation. Concrete pavers shall be inspected for color distribution and all chipped, damaged or discolored concrete pavers shall be replaced. Initiation of concrete paver placement shall be deemed to represent acceptance of the pavers.

C. Lay the concrete pavers in the pattern(s) as shown on the drawings. Maintain straight pattern lines.

D. Paving units shall be installed from a minimum of 3 bundles by hand, and 6 bundles during mechanical installation, simultaneously to ensure color blending.

E. Joints between the individual concrete pavers, and between concrete pavers and the edge restraints, buildings, collars, or other protrusions/edging, on average shall be between 1 /16 inch and 3 /16 inch (2 mm to 5 mm) wide.

F. Joint (bond) lines shall not deviate more than ±1/2 in. (±15 mm) over 50 ft. (15 m) from string lines.

G. Fill gaps at the edges of the paved area with cut pavers or edge units. Do not install cut pavers smaller than one-third of a whole paver along edges subject to vehicular traffic – trim two pavers to fit.

H. Cut all pavers using a masonry saw. Upon completion of cutting, the area must be swept clean of all debris to facilitate inspection and to ensure the concrete pavers are not damaged during compaction.

I. Using a low amplitude plate compactor capable of at least 5,000 lbs. (22 kN) compaction at a frequency of 75 Hz –100 Hz, compact the concrete pavers into the bedding course.

J. The pavers shall be compacted to achieve consolidation of the bedding sand and brought to level and profile by not less than three passes. Initial compaction should proceed as closely as possible following the installation of the paving units and prior to the acceptance of any traffic or application of joint filling sand.

K. Any units that are structurally damaged during compaction shall be immediately removed and replaced.

L. Sweep dry joint filling sand into the joints and vibrate until they are full. This will require two or three passes with the compactor. Do not compact within 3 feet (1 m) of the unrestrained edges of the paving units.

M. All work to within 3 feet (1 m) of the laying face must be left fully compacted with sand-filled joints at the end of each day.

N. Sweep off excess sand when the job is complete.

O. The final surface elevations shall not deviate more than 3/8 inch (10 mm) under a 10-foot (3 m) long straightedge.

P. The surface elevation of pavers shall be 1/8 to 1/4 inch (3 to 6 mm) above adjacent drainage inlets, concrete collars or channels.

3.5 AS-BUILT CONSTRUCTION TOLERANCES

A. Final inspection shall be conducted to verify conformance to the drawings after removal of excess joint sand. All pavements shall be finished to lines and levels to ensure positive drainage at all drainage outlets and channels.

B. The final surface elevations shall not deviate more than +/- 3/8 inch (10 mm) under a 10-foot long straight edge.

C. Lippage: No greater than 1/8 in. (3 mm) difference in height between adjacent pavers.

Table 1

Gradation Requirements for Bedding Sand

Sieve Size	Percent Passing
3/8 inch (9.5 mm)	100
No. 4 (4.75 mm)	95 to 100
No. 8 (2.36 mm)	85 to 100
No. 16 (1.18 mm)	50 to 85
No. 30 (0.600 mm)	25 to 60
No. 50 (0.300 mm)	5 to 30
No. 100 (0.150 mm)	0 to 10
No. 200 (0.075 mm)	0 to 1

Table 2

Gradation Requirements for Joint Filling Sand

Sieve Size	Percent Passing
No. 4 (4.75 mm)	100
No. 8 (2.36 mm)	95 to 100
No. 16 (1.18 mm)	70 to 100
No. 30 (0.600 mm)	40 to 100
No. 50 (0.300 mm)	10 to 35
No. 100 (0.150 mm)	2 to 15
No. 200 (0.075 mm)	0 to 5

Table 3

Gradation Requirements for Base Course Material

Sieve Size	Percent Passing
2 in (50 mm)	100
1 ½ in (37.5 mm)	95 to 100
3/4 in (19 mm)	70 to 92
3/8 in (9.5 mm)	50 to 70
No. 4 (4.75 mm)	35 to 55
No. 30 (0.600 mm)	12 to 25
No. 200 (0.075 mm)	0 to 8

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CONSTRUCTION AND REVISIONS

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SUBMITTALS

2022/07/08 100% CONSTRUCTION DOCUMENTS FOR BID

2022/08/10 CONFORMED DOCUMENTS

CLIENT:

UNIVERSITY OF FLORIDA

DESIGNER:

L. ROSARIO

RESPONSE:

L. HALL

QUALITY CONTROL:

L. HALL

PROJECT:

DASBURG HOUSE

SHEET TITLE:

HARDSCAPE SPECIFICATIONS

PROJECT NUMBER:

16-0302

REGISTERED LANDSCAPE ARCHITECT  
OF  
FLORIDA  
A 9667280

Carol Tolson  
Landscape Architecture  
10000 E. US Highway 1  
Suite 100  
Orlando, FL 32837  
(407) 241-1111  
www.caroltolson.com

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END OF SECTION 32 14 13.13

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# SWIMMING POOL

GAINSVILLE, FL. 32603

# ALACHUA COUNTY



### Vicinity Map



## Location Map

## DRAWING INDEX

SHEET 1 - COVER SHEET

SHEET 2 - GENERAL DETAILS &amp; NOTES

SHEET 3 - POOL SITE PLAN

## SHEET 4 - LAYOUT & PLUMBING PLANS

## SHEET 5 - CROSS SECTIONS

SHEET 6 - SECTIONS & DETAILS

## SHEET 7 - EQUIPMENT DETAILS

## SHEET 8 - SPECIFICATIONS

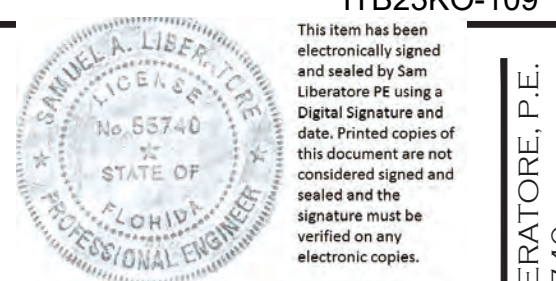
For: DASBURG RESIDENCE

DASBURG RESIDENCE  
4450 VILLAGE DR.  
GAINESVILLE, FL. 32603  
SWIMMING POOL  
COVER SHEET

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08-09-2022		

SHEET 1 OF 8





Samuel A Liberatore  
2022.08.11 09:39:37

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G.B. COLLINS ENGINEERING P.A.  
CERTIFICATE OF AUTHORIZATION 27934

AQUATIC ENGINEERING CONSULTANTS  
32707 US HWY 19N  
PALM HARBOR, FLORIDA 34684  
gb\_collins@verizon.net  
(727)-442-8443  
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For: DASBURG RESIDENCE

DASBURG RESIDENCE  
450 VILLAGE DR.  
GAINSVILLE, FL. 32603  
SWIMMING POOL

GENERAL DETAILS & NOTES

REV.	DESCRIPTION	DATE
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WBB		SAL
DATE		SCALE
08-09-2022		
SHEET 2 OF 8		

## POOL INFORMATION

Area: 845 Square Feet  
Perimeter: 142'-0" Linear Feet  
Capacity: 26,906 Gallons  
Bubbler: (2) @ 30GPM/each: 60 GPM  
Deck Jets: (5) @ 10GPM/each: 50 GPM

MAXIMUM FLOW VELOCITIES (GPM)			
PIPE DIAMETER	<sup>1</sup> GRAVITY	<sup>2</sup> SUCTION	<sup>3</sup> PRESSURE
1.5	17	33	55
2.0	29	59	98
2.5	44	90	147
3.0	66	132	220
4.0	117	235	392
6.0	264	529	881
8.0	470	940	1,567

<sup>1</sup> GRAVITY, MAXIMUM FLOW, IN GPM, AT 3.0 FPS  
<sup>2</sup> SUCTION, MAXIMUM FLOW, IN GPM, AT 6.0 FPS  
<sup>3</sup> PRESSURE, MAXIMUM FLOW, IN GPM, AT 10.0 FPS

## ELECTRICAL REQUIREMENTS:

- WIRING AND BONDING AND ALL ELECTRICAL TO COMPLY WITH CHAPTER 42, FLORIDA BUILDING CODE, SEVENTH EDITION (2020), APSP/ICC 2017 AND NEC 2017.
  - NO OUTLET OR OVERHEAD POWER WITHIN 10' IF WITHIN 15' PROTECT BY GFI, TRANSFORMER MIN. 10' FROM POOL, 8" ABOVE WATER, J BOX 4' FROM POOL, BRASS TO J BOX OR TRANSFORMER WHICH EVER IS FIRST EXCEPT WHERE PVC IS APPROVED.
- SB2836, 6-20-07
- FOR BONDING AND GROUNDING SYSTEMS FOR SWIMMING POOLS, THE USE OF AN UNDERGROUND BONDING CONDUCTOR MADE OF #8 AWG. BARE SOLID COPPER WIRE BURIED TO A MINIMUM DEPTH OF 4 INCHES TO 6 INCHES BELOW SUBGRADE, AND 18 TO 24 INCHES FROM INSIDE WALL OF A SWIMMING POOL OR SPA, IS DEEMED A PERMISSIBLE ALTERNATIVE OR EQUIVALENT TO COMPLIANCE WITH s. 680.26(c) OF THE 2017 NATIONAL ELECTRICAL CODE.

CHILD SAFETY FENCE/ BARRIER NOTES

STANDARD SCREEN ENCLOSURES WHICH MEET THE REQUIREMENTS OF SECTION R4501.17 MAY BE UTILIZED AS PART, OR ALL, OF THE "BARRIER" AND SHALL BE CONSIDERED A "NONDWELLING" WALL. REMOVABLE CHILD BARRIERS SHALL HAVE ONE END OF THE BARRIER NONREMOVABLE WITHOUT THE AID OF TOOLS. THE BARRIER MUST BE A MINIMUM OF 48" HIGH.

THE BARRIER MUST BE PLACED AROUND THE PERIMETER OF THE POOL AND MUST BE SEPARATE FROM ANY FENCE, WALL, OR OTHER ENCLOSURE SURROUNDING THE YARD UNLESS THE FENCE, WALL, OR OTHER ENCLOSURE OR PORTION THEREOF IS SITUATED ON THE PERIMETER OF THE POOL, IS BEING USED AS PART OF THE BARRIER, AND MEETS THE BARRIER REQUIREMENTS OF THIS SECTION.

REMOVABLE CHILD BARRIERS MUST BE PLACED SUFFICIENTLY AWAY FROM THE WATER'S EDGE TO PREVENT A YOUNG CHILD OR MEDICALLY FRAIL ELDERLY PERSON WHO MAY MANAGE TO PENETRATE THE BARRIER FROM IMMEDIATELY FALLING INTO THE WATER. SUFFICIENTLY AWAY FROM THE WATER'S EDGE SHALL MEAN NO LESS THAN 20 INCHES (508 MM) FROM THE BARRIER TO THE WATER'S EDGE. DWELLING OR NONDWELLING WALLS INCLUDING SCREEN ENCLOSURES, WHEN USED AS PART OR ALL OF THE "BARRIER" AND MEETING THE OTHER BARRIER REQUIREMENTS, MAY BE AS CLOSE TO THE WATER'S EDGE AS PERMITTED BY THIS CODE. BOTTOM OF MESH SHALL NOT BE MORE THAN 1" ABOVE DECK OR GRADE ON INSTALLED SURFACE.

A WALL OF A DWELLING MAY SERVE AS PART OF THE BARRIER IF IT DOES NOT CONTAIN ANY DOOR OR WINDOW THAT OPENS TO PROVIDE DIRECT ACCESS FROM THE HOME TO THE SWIMMING POOL.

THE POOL, DECK AND EQUIPMENT SHOWN ARE DESIGNED TO MEET THE REQUIREMENTS OF THE FOLLOWING APPLICABLE CODES:
FLORIDA BUILDING CODE 2020, SEVENTH EDITION
FLORIDA PLUMBING CODE, 2020
NATIONAL ELECTRIC CODE (NEC) 2017
<b>ALL EQUIPMENT IS SPECIFIED ON THE BASIS OF DESIGN. SUBSTITUTION FOR ANY EQUIPMENT NEEDS TO BE APPROVED BY THE DESIGN ENGINEER AND OWNER. THE OWNER IS NOT RESPONSIBLE FOR FEE AJUSTMENTS FOR BIDS THAT HAVE BEEN SUBMITTED BASED ON CONTRACTORS EQUIPMENT THAT IS NOT SPECIFIED ON THE PLANS AND NOT APPROVED BY THE DESIGN ENGINEER.</b>

## GENERAL DESIGN REQUIREMENTS

- DESIGN, CONSTRUCTION AND WORKMANSHIP SHALL BE IN CONFORMITY WITH THE REQUIREMENTS OF APSP/ICC 3, APSP/ICC 4, APSP/ICC 5, AND APSP/ICC 6 AND APSP/ICC 7 BASED ON THE POOL TYPE.
- SEE NSPI FOR DIVING WATER ENVELOPES.
- SLIDES SHALL MEET THE MANUFACTURE'S INSTALLATION REQUIREMENTS.
- ALL POOLS WHETHER PUBLIC OR PRIVATE SHALL BE PROVIDED WITH A LADDER OR STEPS IN THE SHALLOW END WHERE THE WATER DEPTH EXCEEDS 24 INCHES (610 MM). IN PRIVATE POOLS WHERE WATER DEPTH EXCEEDS 5 FEET (1524 MM) THERE SHALL BE LADDERS, STAIRS OR UNDERWATER BENCHES/ SWIM-OUTS IN THE DEEP END. WHERE MANUFACTURED DIVING EQUIPMENT IS TO BE USED, BENCHES OR SWIM-OUTS SHALL BE RECESSED OR LOCATED IN A CORNER.
- CIRCULATION SYSTEMS, COMPONENTS AND EQUIPMENT SHALL COMPLY WITH NSF 50.
- THE MAXIMUM TURNOVER RATE IS 12 HOURS.
- FILTERS SHALL HAVE AN AIR RELEASE AND PRESSURE GAGE.
- PUMPS 3 HP AND LESS SHALL MEET ANSI/UL1081 CORROSION RESISTANT WITH STRAINER AND MEET THE REQUIRED FLOW.
- SURFACE SKIMMERS SHALL MEET NSF 50 AND THERE SHALL BE ONE FOR EVERY 800 SQUARE FEET OF SURFACE AREA.
- APPROVED MANUFACUTRED INLET FITTINGS FOR THE RETURN OF RECIRCULATED POOL WATER SHALL BE PROVIDED ON THE BASIS OF AT LEAST ONE PER 300 SQUARE FEET (28 m2) OF SURFACE AREA. SUCH INLET FITTINGS SHALL BE DESIGNED AND CONSTRUCTED TO INSURE AN ADEQUATE SEAL TO THE POOL STRUCTURE AND SHALL INCORPORATE A CONVENIENT MEANS OF SEALING FOR PRESSURE TESTING OF THE POOL CIRCULATION PIPING. WHEN MORE THAN ONE INLET IS REQUIRED, THE SHORTEST DISTANCE BETWEEN ANY TWO REQUIRED INLETS SHALL BE AT LEAST 10 FEET (3048 MM).
- HEATER SHALL MEET ANSI-Z21.56 OR UL 1261 OR UL 559.
- DISINFECTANT EQUIPMENT SHALL COMPLY WITH NSF 50.
- PRESSURE TEST PIPING AT 35 PSI FOR 15 MINUTES OR MEET LOCAL CODE IF GREATER.
- RESIDENTIAL SWIMMING BARRIER REQUIREMENTS TO MEET SECTIONS 454.2.17
- WASTE DISPOSAL TO COMPLY WITH SECTION 454.2.10

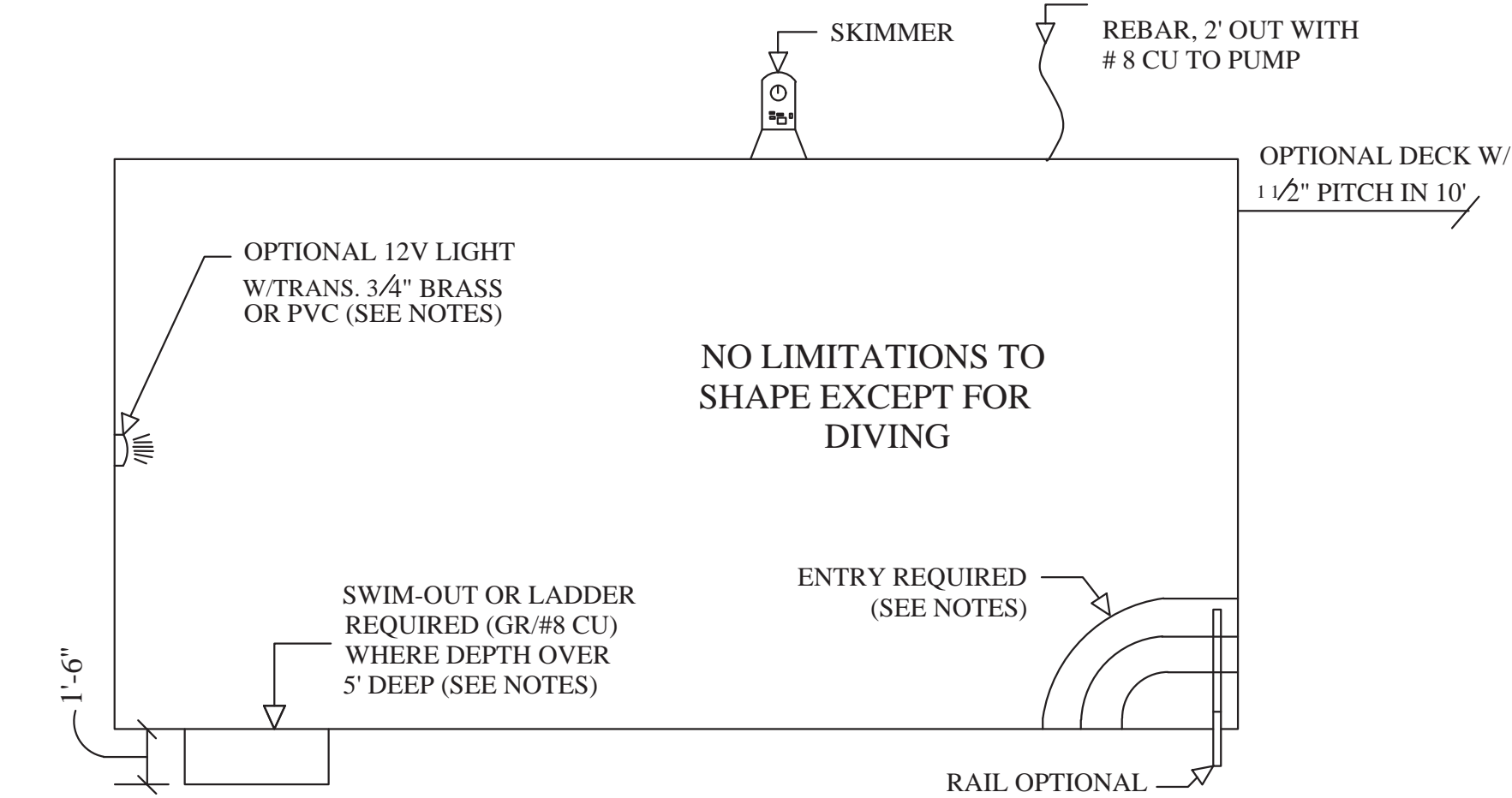
IT HAS BEEN CERTIFIED THAT THESE DESIGN REQUIREMENTS ARE IN COMPLIANCE WITH THE FLORIDA BUILDING CODE R4501, 7TH EDITON 454.2-2020, ANSI/APSP/ICC 3, ANSI/APSP/ICC 4, ANSI/APSP/ICC 5, AND ANSI/APSP/ICC 6 AND ANSI/APSP/ICC 7,ANSI/APSP/ICC 14, ANSI/APSP/ICC 15.

## FLORIDA BUILDING CODE R4501.6 7TH EDITION (2020)- RESIDENTIAL

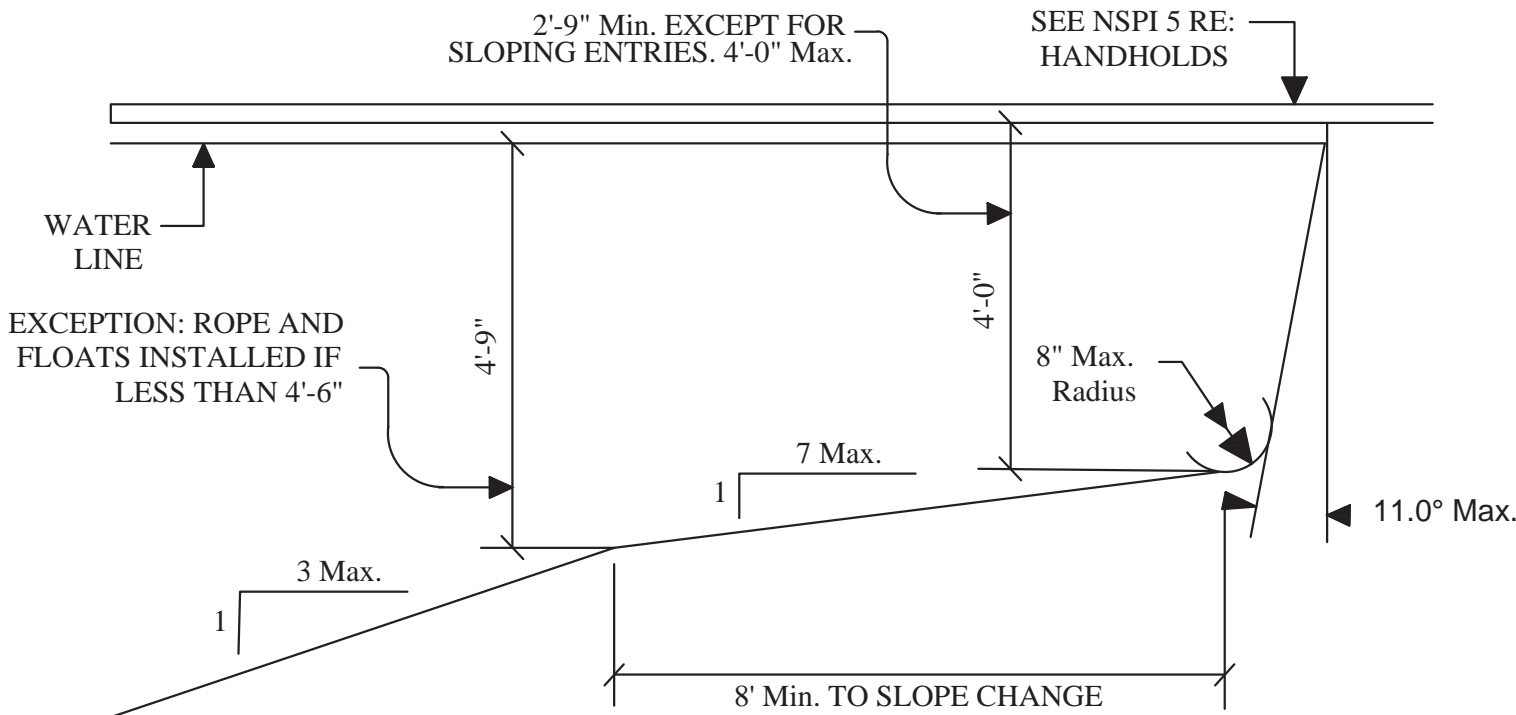
THE POOL CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL DETAIL DESIGN REQUIREMENTS FOR EACH INDIVIDUAL POOL IN ACCORDANCE WITH THE FLORIDA BUILDING CODE, AND ALL CONSTRUCTION SHALL MEET ALL APPLICABLE CODES INCLUDING PLUMBING, ELECTRICAL AND GAS. PIPING SHALL BE SCH. 40 PVC, NSFpw, MAX. PRESSURE VELOCITY 10 FPS, SUCTION 6 FPS. THE POOL PLAN SHALL SHOW THE DESIGN PLUMBING AS PER THE SAMPLE WITH THE INFORMATION REQUIRED SHOWN. MAIN DRAIN PLUMBING SHALL BE TWO DRAINS SEPARATED BY 3' WITH APPROVED ANSI/ASME A112.19.8.2009 COVERS. AS AN ALTERNATE THE APPROVED DRAINS MAY BE PLACED ON DIFFERENT PLANES. THE TWO DRAINS SHALL HAVE A COMMON SUCTION LINE. SUCTION GRATES MAY BE USED IF APPROVED AT A MAXIMUM OF 1 1/2 FPS AND THE SUCTION PIPING IS RECESSED FROM THE GRATE THE DISTANCE EQUAL TO THE SUCTION PIPE SIZE. SKIMMERS DO NOT REQUIRE PROTECTION AND MUST BE DESIGNED FOR A MINIMUM 25 gpm. THE FOLLOWING SHALL BE LABELED WITH LABEL MARKER TAPE AT THE FILTER LOCATION: PIPES, VALVES, PUMP(S) OFF SWITCH.

## SPECIAL SPA REQUIREMENTS:

- MAXIMUM WATER DEPTH 4', MAXIMUM SEAT DEPTH 28", MAX.
- FLOOR SLOPE 1:12
- STEPS: MIN. TREAD 10" X 12", 7" MIN. RISER, 12" MAX. RISER EXCEPT THE BOTTOM STEP MAY BE 14" IF IT IS THE SEAT. INTERMEDIATE TREADS AND RISERS TO BE UNIFORM. IF THE SPA IS OPERATED INTERMITTENTLY IT SHALL HAVE A ONE HOUR TURNOVER, IF CONTINUOUS A SIX HOUR TURNOVER.
- MAXIMUM TEMPERATURE 104 DEGREES.
- MEET ANSI/NSPI ARTICLE XVII, SAFETY INSTRUCTION/SAFETY SIGNS.
- PRESSURE TEST PIPING AT 35 PSI FOR 15 MINUTES OR MEET LOCAL CODE IF GREATER.



## GENERAL POOL PLAN N.T.S.

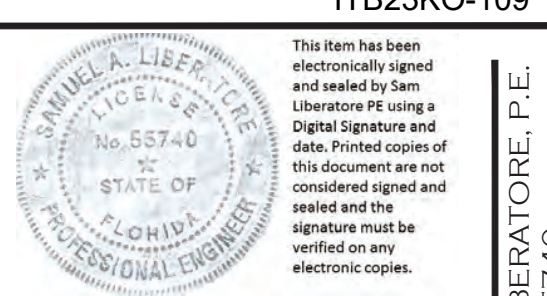


## GENERAL POOL SECTION DETAIL N.T.S.









Samuel A Liberatore  
2022.08.11 09:39:37  
-04'00'

G.B. COLLINS ENGINEERING P.A.  
CERTIFICATE OF AUTHORIZATION 27934  
AQUATIC ENGINEERING CONSULTANTS  
32707 US HWY 19N  
PALM HARBOR, FLORIDA 34684  
gb\_collins@verizon.net  
(727)-442-8443  
COPYRIGHT PROTECTED #VA 2-282-112

For: DASBURG RESIDENCE  
DASBURG RESIDENCE  
450 VILLAGE DR.  
GAINSVILLE, FL. 32603  
SWIMMING POOL  
LAYOUT & PLUMBING PLANS

REV.	DESCRIPTION	DATE
DRAWN		CHECKED
WBB		SAL
DATE		SCALE
08-09-2022		
SHEET 4 OF 8		

POOL INFORMATION

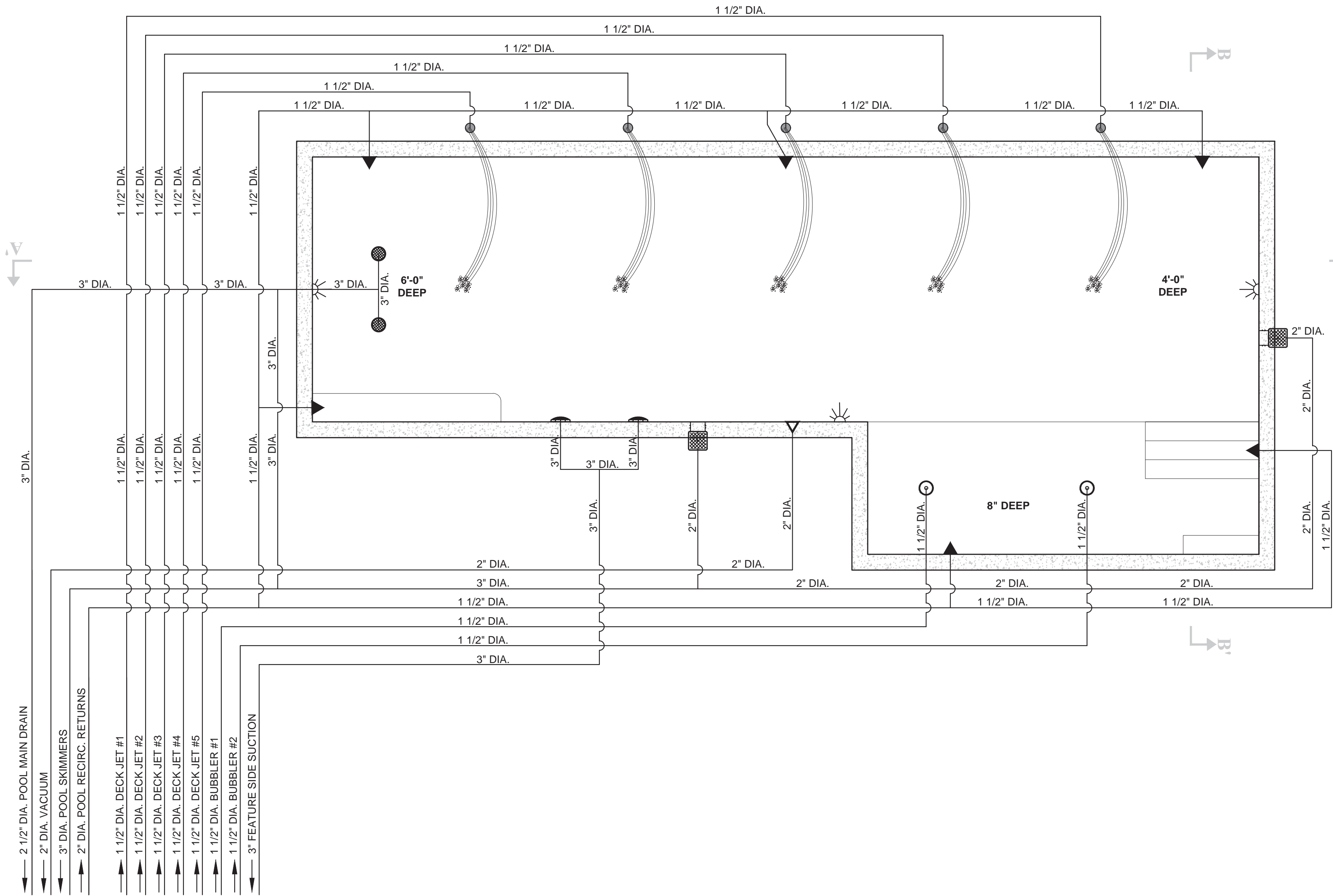
Area: 845 Square Feet  
Perimeter: 142'-0" Linear Feet  
Capacity: 26,906 Gallons  
Bubbler: (2) @ 30GPM/each: 60 GPM  
Deck Jets: (5) @ 10GPM/each: 50 GPM

MAXIMUM FLOW VELOCITIES (GPM)			
PIPE DIAMETER	<sup>1</sup> GRAVITY	<sup>2</sup> SUCTION	<sup>3</sup> PRESSURE
1.5	17	33	55
2.0	29	59	98
2.5	44	90	147
3.0	66	132	220
4.0	117	235	392
6.0	264	529	881
8.0	470	940	1,567

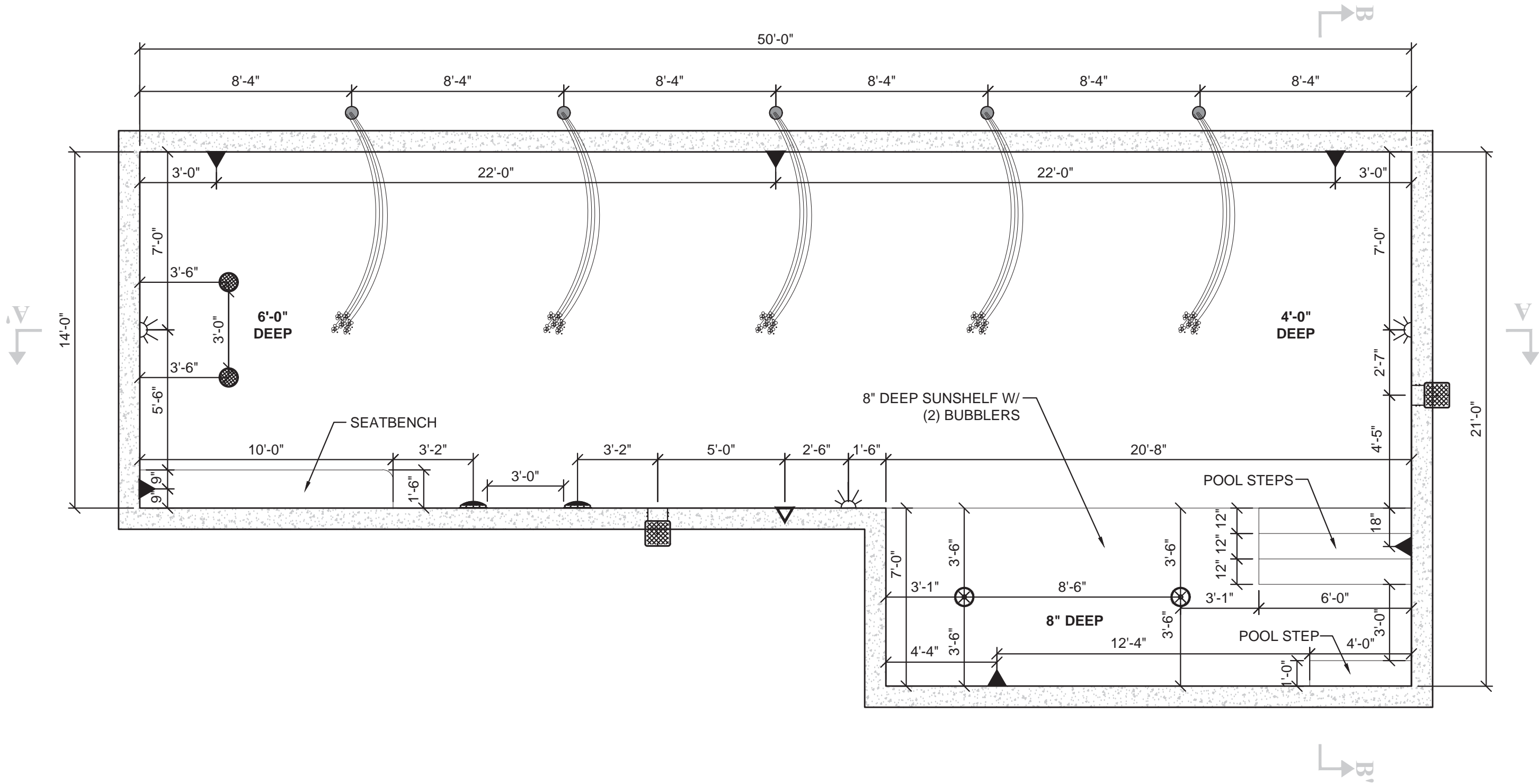
<sup>1</sup> GRAVITY, MAXIMUM FLOW, IN GPM, AT 3.0 FPS  
<sup>2</sup> SUCTION, MAXIMUM FLOW, IN GPM, AT 6.0 FPS  
<sup>3</sup> PRESSURE, MAXIMUM FLOW, IN GPM, AT 10.0 FPS

LEGEND

	(3) LIGHTS + (2) FOR BUBBLERS
	(2) 8" DIA. MAIN DRAINS VGB COMPLIANT
	(2) FEATURE SIDE SUCTION
	(6) RETURN FITTINGS
	(1) VACUUM FITTING
	(2) SKIMMERS
	(2) LED BUBBLERS
	(5) DECK JETS



POOL & SPA PLUMBING PLAN  
SCALE: 1/4"=1'-0"



POOL LAYOUT PLAN  
SCALE: 1/4"=1'-0"

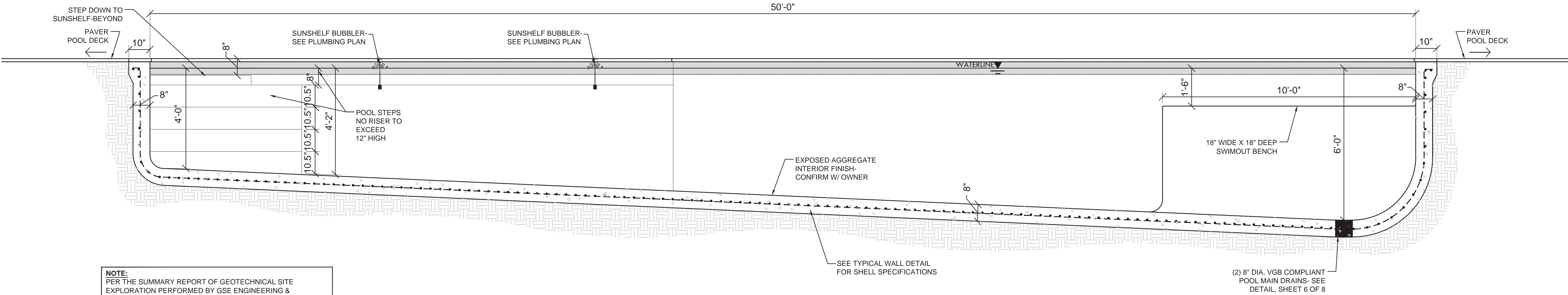
HYDRAULIC DESIGN MEETS FBC 2020,  
7TH EDITION

FITTING LOCATIONS AND PIPE ROUTING  
ARE SHOWN IN SCHEMATIC FORM TO  
ILLUSTRATE DESIGN AND INTENT.  
INFORMATION NOT SPECIFIED OR  
DETAILED IS ABLE TO BE ADJUSTED BY  
THE POOL CONTRACTOR TO FACILITATE  
INSTALLATION OR ADJUST TO FIELD  
CONDITIONS

NOTES:

1. PLUMBING SHOWN IS A SCHEMATIC ONLY.
2. IF PLUMBING RUN CAN NOT BE ACHIEVED DUE TO  
STRUCTURAL AMENITIES, ENGINEER NEEDS TO BE  
NOTIFIED IMMEDIATELY.

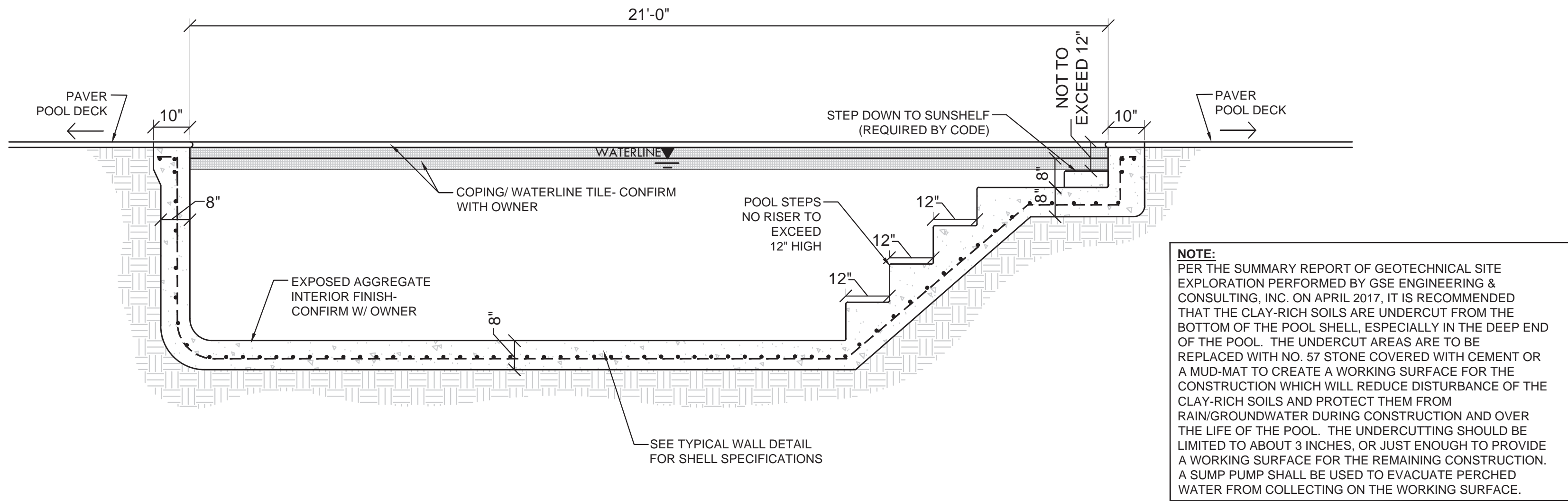




## POOL CROSS SECTION A-A'

SECTION

SCALE: N.T.S.



## POOL CROSS SECTION B-B'

SECTION

SCALE: N.T.S.

### NOTES:

COMPACTED SOIL VERIFIED AT 95% MINIMUM DENSITY (USING THE MODIFIED OPTIMUM PROCTOR TEST)

IF SETTLING OR WEATHERING OCCURS THAT WOULD CAUSE STANDING WATER, THE ORIGINAL SLOPES SHALL BE RESTORED OR CORRECTIVE DRAINS INSTALLED.

STRUCTURAL SUBJECT TO SUITABLE SOIL CONDITIONS. THE AREA OF THE POOL CONSTRUCTION SHALL BE PROBED AT THE TIME OF CONSTRUCTION TO CHECK FOR THE PRESENCE OF ORGANIC CONTENT WITHIN THE EXISTING SOILS. ANY ORGANIC MATERIAL ENCOUNTED WILL NEED TO BE OVER-EXCAVATED AND REPLACED PER THE GEOTECHNICAL RECOMMENDATIONS. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING PROPER DEWATERING MEASURES DURING CONSTRUCTION. HYDROSTATIC RELIEF VALVES NEED TO BE PROPERLY INSTALLED.



Samuel A Liberatore  
2022.08.11 09:39:37  
-04'00'

G.B. COLLINS ENGINEERING P.A.  
CERTIFICATE OF AUTHORIZATION 27934

AQUATIC ENGINEERING CONSULTANTS  
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COPYRIGHT PROTECTED #VA 2-282-112

For: DASBURG RESIDENCE

DASBURG RESIDENCE  
450 VILLAGE DR.  
GAINSVILLE, FL. 32603  
SWIMMING POOL

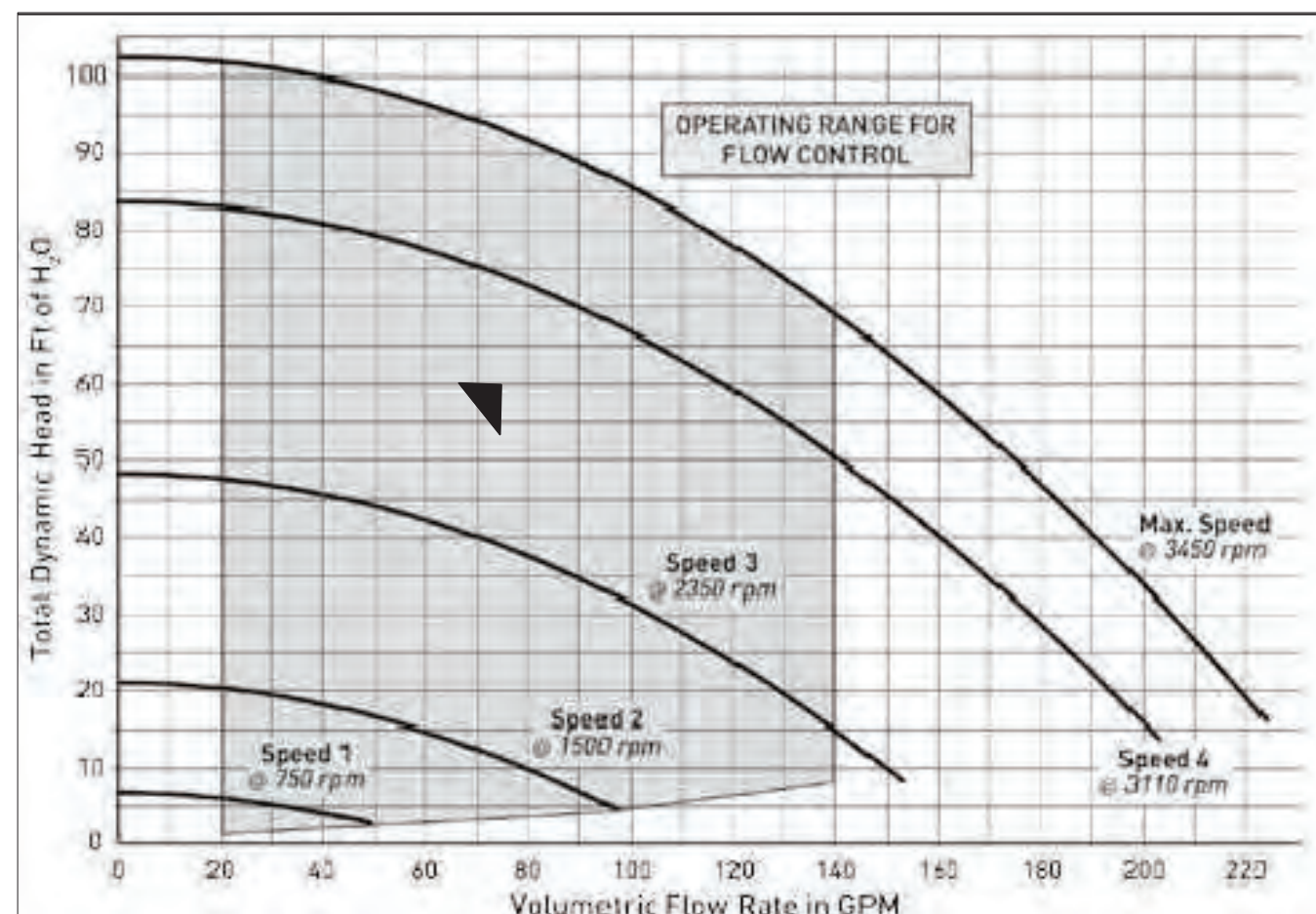
CROSS SECTIONS

REV.	DESCRIPTION	DATE
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WBB	SAL	
DATE	SCALE	
08-09-2022		
		SHEET 5 OF 8





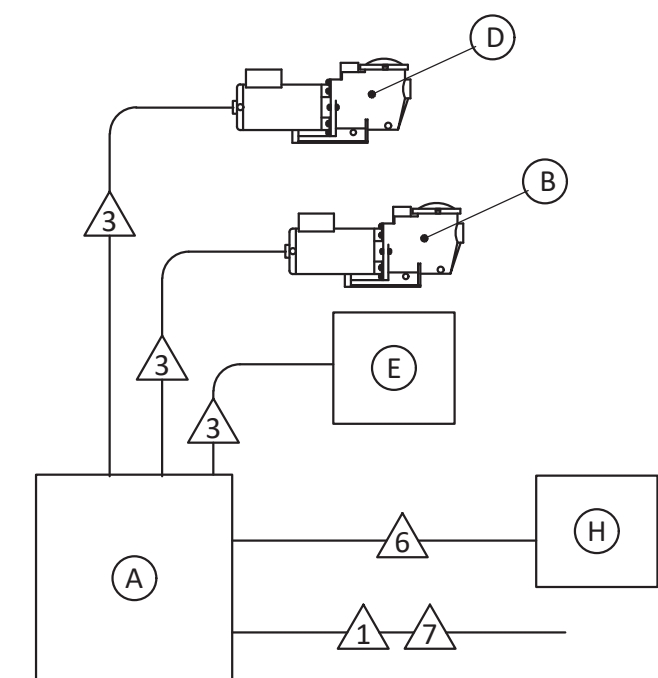




### **PENTAIR INTELLIFLO VSF** **3HP VARIABLE SPEED PUMP CURVE** **POOL RECIRC. PUMP**

**NOTE:**  
ALL METAL LOCATED WITHIN 5 FEET OF POOL  
WATER SHALL BE BONDED.

**NOTE:**  
JUNCTION BOXES TO BE LOCATED ALONG  
THE EDGE OF DECK AND 12" ABOVE COPING.



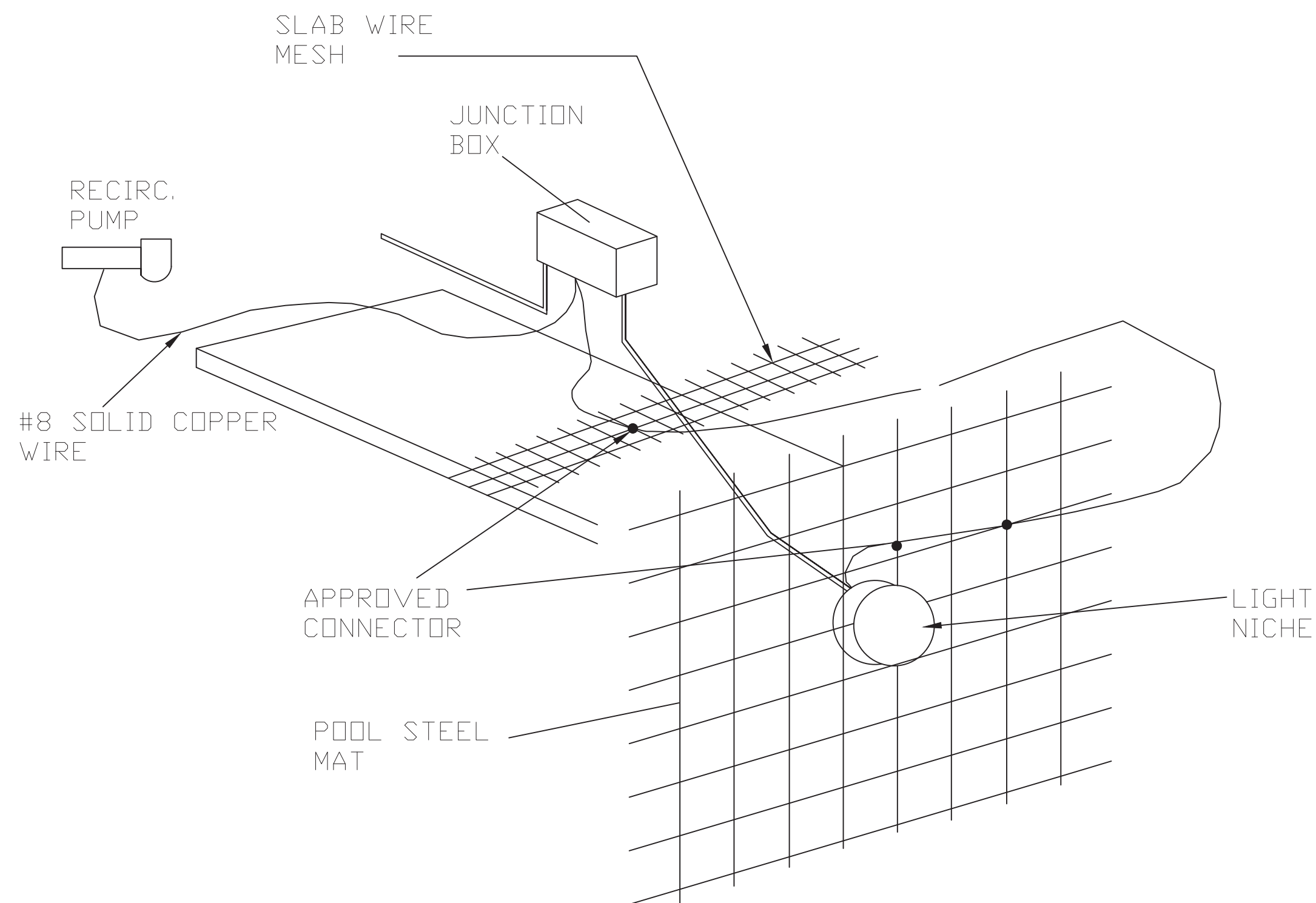
**NOTE:**  
POOL CONTRACTOR TO VERIFY EXISTING HOUSE PANEL IS SIZED APPROPRIATELY TO HANDLE PROPOSED POOL EQUIPMENT LOADS.  
CONTRACTOR TO VERIFY CAPACITY OF EXISTING ELECTRICAL PANELS AND COORDINATE WITH UF FACILITY SERVICES PRIOR TO WORK. CONTRACTOR TO COMPLETE LOAD STUDY PANEL DATE SPREADSHEET CONSISTENT WITH LOAD STUDY GUIDELINES AND COORDINATE WITH UF FACILITIES SERVICES. SEE LANDSCAPE ARCHITECTURE PLANS FOR EXISTING PANEL LOCATIONS.

PANEL SCHEDULE:				
1 PHASE, 3 WIRE, 120/240 VAC, INSULATED/BONDABLE SPLIT NEUTRAL				
CIRCUIT	POLE	TRIP	LOAD	AMPS
1	2	20A	RECIRC. PUMP	16.0
2	2	20A	FEATURE PUMP	16.0
3	2	20A	GFCI	1.5
4	2	20A	(3) TOTAL POOL LIGHTS	15.0
5	2	20A	AQUACAL 166R HEAT PUMP	42.1
TOTAL MAXIMUM LOAD				90.6

MARK	DESCRIPTION	VOLTAGE	MANUFACTURER & MODEL NO.
(A)	MAIN LUG BREAKER PANEL (4 CIRCUIT) 125 AMP	120/240V	EATON, BR24L125RSEP
(B)	RECIRCULATION PUMP	230V	PENTAIR, 3 HP VARIABLE SPEED PUMP
(C)	GFCI	115V	PASS & SEYMOUR
(D)	FEATURE PUMP	230V	PENTAIR, 3 HP VARIABLE SPEED PUMP
(E)	POOL HEAT PUMP	230V	AQUACAL 166R HEAT PUMP

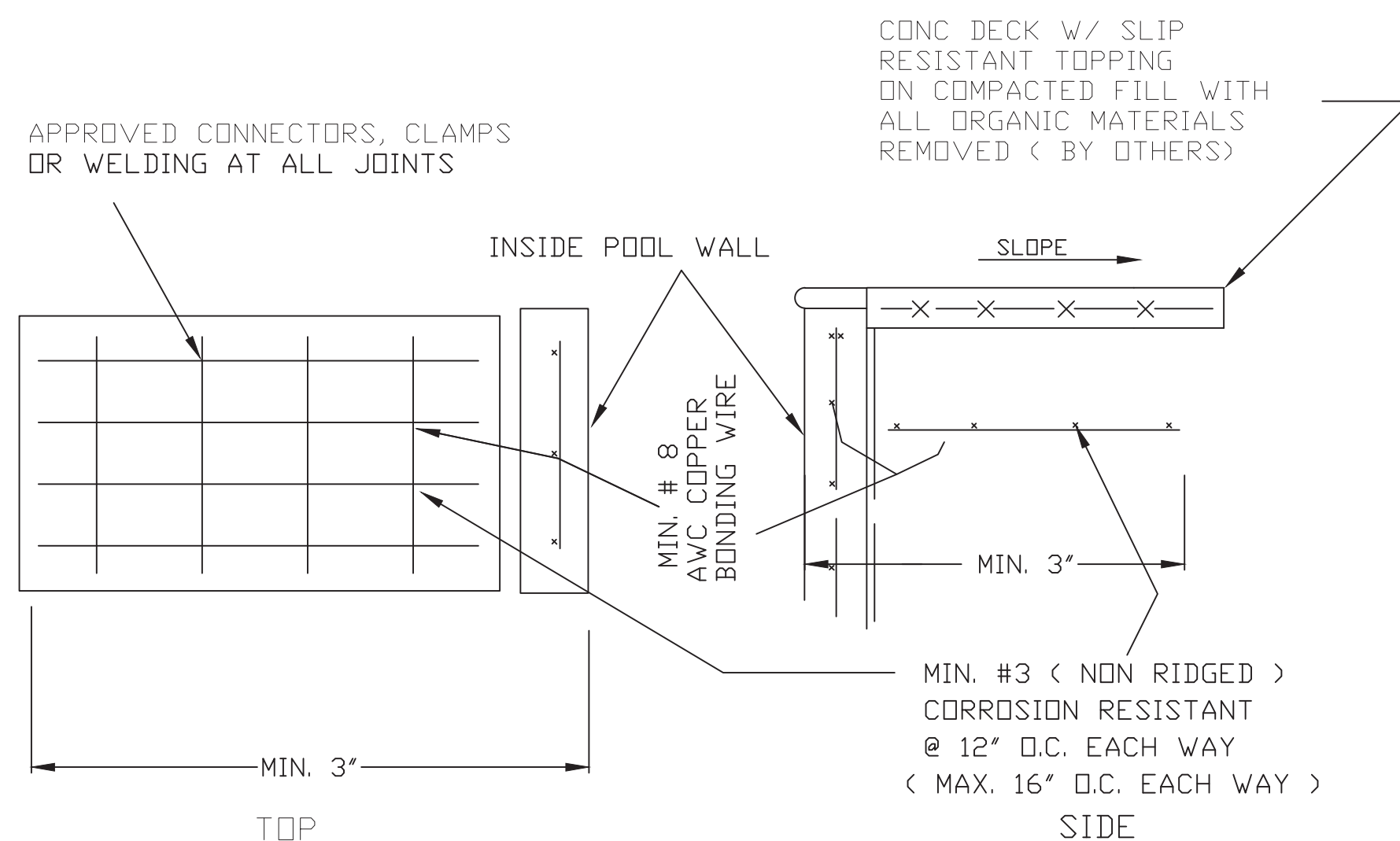
**ALL EQUIPMENT IS SPECIFIED ON THE BASIS OF DESIGN. SUBSTITUTION FOR ANY EQUIPMENT NEEDS TO BE APPROVED BY THE DESIGN ENGINEER AND OWNER. THE OWNER IS NOT RESPONSIBLE FOR FEE ADJUSTMENTS FOR BIDS THAT HAVE BEEN SUBMITTED BASED ON CONTRACTORS EQUIPMENT THAT IS NOT SPECIFIED ON THE PLANS AND NOT APPROVED BY THE DESIGN ENGINEER.**

**NOTE:**  
VERIFY POOL EQUIPMENT  
LOCATION & ELEVATION OF PUMP.  
MAY NEED TO BE RELOCATED FOR  
HYDRAULIC PURPOSES.



## Bonding Detail 1

SCALE: N.T.S.

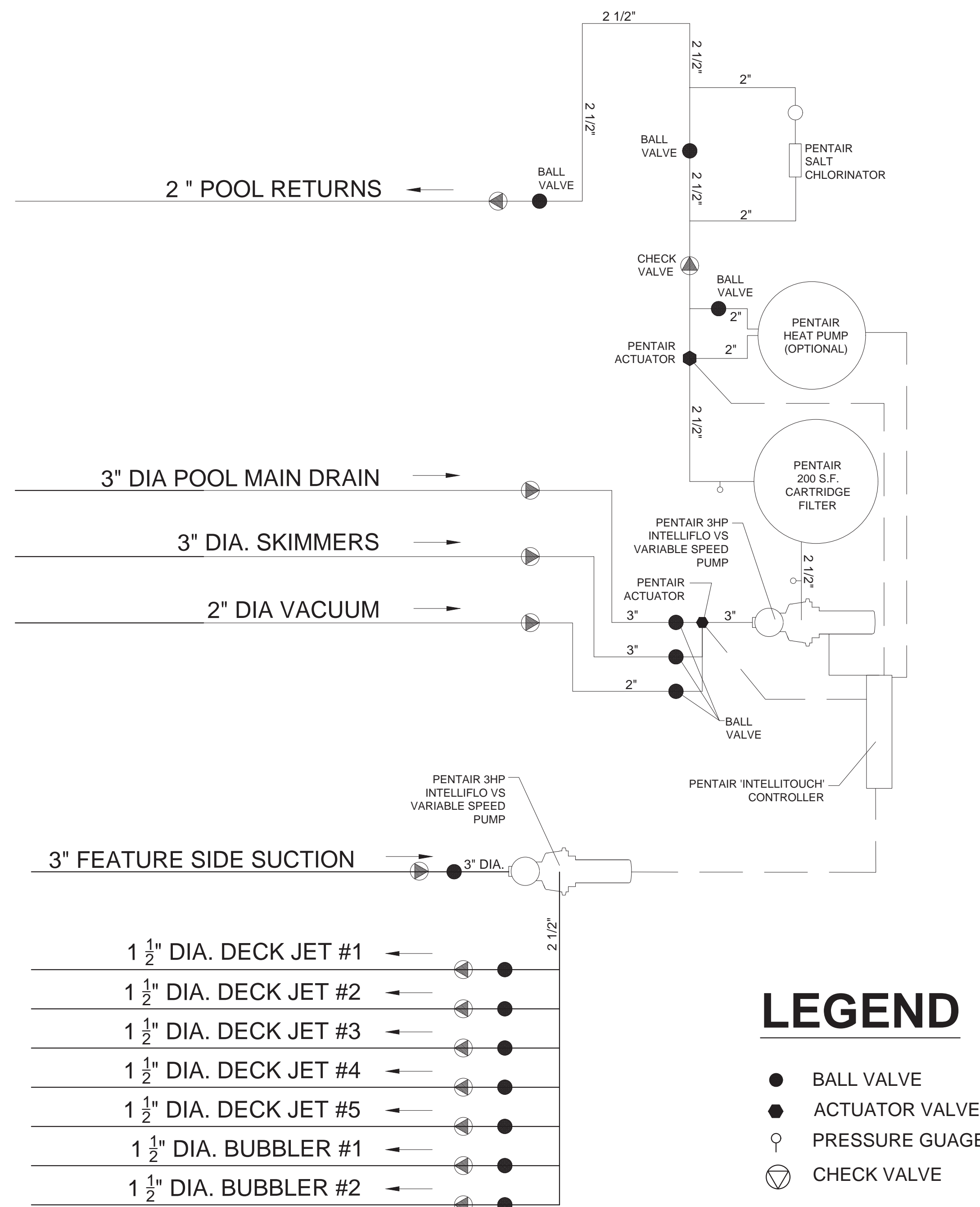


## Bonding Detail 2

SCALE: N.T.S.

DECK BONDING GRID MUST COMPLY WITH N.E.C. CODE (ARTICLE 680.26 (C))

Note: All pool bonding and electrical to comply with Chapter 27 of the FBC, 2020 7th Edition, and NEC 2017, Section 680.26

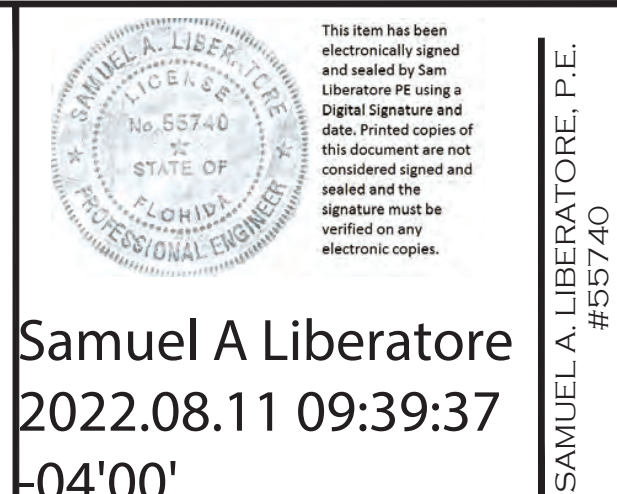


## LEGEND

- BALL VALVE
- ⬡ ACTUATOR VALVE
- PRESSURE GAUGE
- ⬡ CHECK VALVE

ELECTRICAL NOTES:

1. All pool pumps and breakers to be GFCI protected.
2. Feeders to be wired with failure proof interlock with the recirculation pump.
3. Electrical Contractor shall verify sizes, phases, Voltages, and all electrical specifications.
4. Wiring methods shall be done per NEC 680.14(b) Corrosive Environment.
5. All Electrical Equipment shall comply & installed according to NEC 680.4, 110.3(b).



G.B. COLLINS ENGINEERING P.A.  
CERTIFICATE OF AUTHORIZATION 27934

For: DASBURG RESIDENCE

DASBURG RESIDENCE  
450 VILLAGE DR.  
GAINSVILLE, FL. 32603  
SWIMMING POOL  
EQUIPMENT DETAILS

REV.	DESCRIPTION	DATE
DRAWN		CHECKED
WBB		SAL
DATE		SCALE
08-09-2022		
		SHEET <u>7</u> OF <u>8</u>







# ATTACHMENT B



## **SUMMARY REPORT OF A GEOTECHNICAL SITE EXPLORATION**

**DASBURG RESIDENCE  
SWIMMING POOL ADDITION  
UNIVERSITY OF FLORIDA  
GAINESVILLE, FLORIDA**

**GSE PROJECT No. 12010B**

Prepared For:

**UF PLANNING DESIGN AND CONSTRUCTION**

**APRIL 2017**

Certificate of Authorization No. 27430



**Engineering & Consulting, Inc.**

April 12, 2017

Mr. David Wood  
 UF Planning Design and Construction  
 P.O. Box 115050  
 Gainesville, Florida 32611-5050

Subject: Summary Report of a Geotechnical Site Exploration  
**Dasburg Residence Swimming Pool Addition**  
 University of Florida  
 Gainesville, Florida  
 GSE Project No. 12010B

Dear Mr. Wood:

GSE Engineering & Consulting, Inc. (GSE) is pleased to submit this geotechnical site exploration report for the above referenced project.

Presented herein are the findings and conclusions of our exploration, including the geotechnical parameters and recommendations for the proposed swimming pool addition.

We appreciate this opportunity to have assisted you on this project. If you have any questions or comments concerning this report, please contact us.

Sincerely,

**GSE Engineering & Consulting, Inc.**

A handwritten signature in blue ink that reads "Jason E. Gowland". The signature is fluid and cursive, with the first name "Jason" being more prominent.

Kenneth L. Hill, P.E.  
 Principal Engineer  
 Florida Registration Number 40146

Jason E. Gowland, P.E.  
 Senior Engineer  
 Florida Registration Number 66467

KLH/JEG:ldj  
 Z:\Projects\12010B Dasburg Residence Swimming Pool Addition\12010B.doc

Distribution: Addressee (1, electronic)  
 File (1)

**GSE Engineering & Consulting, Inc.**  
 5590 SW 64<sup>th</sup> Street, Suite B  
 Gainesville, Florida 32608  
 352-377-3233 Phone ♦ 352-377-0335 Fax  
 www.gseengineering.com  
 Certificate of Authorization No. 27430

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Figure

1. Project Site Location Map
2. Site Plan

## 1.0 INTRODUCTION

### 1.1 General

GSE has completed this geotechnical exploration for the proposed swimming pool addition at the Dasburg residence at the University of Florida in Gainesville, Florida. GSE previously performed and exploration at the residence and issued our *Summary Report of a Geotechnical Site Exploration* (GSE Project No. 12010A) dated March 18, 2016. Please refer to this report for additional information. Since that report was issued, the location of the swimming pool has changed. This report includes an exploration and recommendations for the revised pool location. Our exploration was performed in accordance with GSE Proposal No. 2016-321 dated November 1, 2016. Our services were authorized by you on November 7, 2016 and Purchase Order No. 7501-17005471 dated November 29, 2016.

### 1.2 Project Description

We understand you propose to construct a swimming pool at the Dasburg residence located on the UF campus in Gainesville, Florida (Figure 1). GSE previously performed a geotechnical site exploration for the Dasburg home and issued our *Summary Report of a Geotechnical Site Exploration* dated January 24, 2014. Additionally, GSE performed a geotechnical exploration for the proposed swimming pool in March 2016 (GSE Project No. 12010A). The swimming pool location and layout has changed from what was considered in our previous report. Please refer to these reports for additional background information.

You provided GSE with a site plan showing the locations and depths of the proposed swimming pool. We understand that this plan is not final and the location may change. Mr. Jason E. Gowland, P.E. visited the site on November 16, 2016 to observe the boring locations staked by you. The swimming pool will be located in the back yard west of the home oriented in a north-south direction. The site is relatively flat, with grassed areas where the pool will be located.

The provided plans indicate the swimming pool will be approximately 16 feet wide and 50 feet long. The north end will be 4 feet deep and the south end will be 8 feet deep. The swimming pool will be surrounded by a concrete deck with decorative tile and have a screened aluminum frame enclosure around the perimeter.

A recent aerial photograph of the site was also obtained. The provided site plan and aerial photograph were used in preparation of this exploration and report.

### 1.3 Purpose

The purpose of this geotechnical exploration was to determine the general subsurface conditions, evaluate these conditions with respect to the proposed construction, and prepare geotechnical recommendations to assist in the design of the swimming pool addition.

## **2.0 FIELD AND LABORATORY TESTS**

### **2.1 General Description**

The procedures used for field sampling and testing are in general accordance with industry standards of care and established geotechnical engineering practices for this geographic region. Our exploration consisted of performing four (4) Standard Penetration Test (SPT) borings to a depth of 20 feet below land surface (bls) in the area of the planned swimming pool addition. The soil borings were performed at the approximate locations as shown on Figure 2.

You marked the boring locations prior to our mobilization. The soil boring locations are indicated on the attached Figure 2. The locations should be considered approximate. The soil borings were performed on November 16, 2016.

### **2.2 Standard Penetration Test Borings**

The soil borings were performed with a drill rig employing flight auger drilling techniques and Standard Penetration Testing (SPT) in accordance with ASTM D-1586. The SPTs were performed continuously to ten feet and at five-foot intervals thereafter. Soil samples were obtained at the depths where the SPTs were performed. The soil samples were classified in the field, placed in sealed containers, and returned to our laboratory for further evaluation.

After drilling to the sampling depth, the standard two-inch O.D. split-barrel sampler was seated by driving it six inches into the undisturbed soil. Then the sampler was driven an additional 12 inches by blows of a 140-pound hammer falling 30 inches. The number of blows required to produce the next 12 inches of penetration were recorded as the penetration resistance (N-value). These values and the complete SPT boring logs are provided in Section 5.1.

Upon completion of the sampling, the boreholes were abandoned in accordance with Water Management District regulations.

### **2.3 Soil Laboratory Tests**

The soil samples recovered from the soil borings were returned to our laboratory, and examined to confirm the field descriptions. Representative samples were then selected for laboratory testing. The laboratory tests consisted of four (4) percent fines passing the No. 200-sieve determinations with natural moisture contents and three (3) Atterberg Limits tests. These tests were performed in order to aid in classifying the soils and to further evaluate their engineering properties. The laboratory tests are provided in Section 5.2.

### 3.0 FINDINGS

#### 3.1 Surface Conditions

Mr. Jason E. Gowland, P.E. visited the site on February 18, 2016 and again on November 16, 2016 to observe the site conditions. The swimming pool will be located in the back yard west of the home. The site is relatively flat, with grassed areas where the pool will be located.

The topography at the site is relatively flat to very gently sloping down from the northeast towards the southwest. Regional topography is gently to moderately sloping. The Gainesville East USGS Topographic Map indicates the ground surface elevations in the area of the site range from 115 to 125 feet<sup>1</sup> NGVD.

#### 3.2 Subsurface Conditions

The locations of the SPT borings are provided on Figure 2. Complete logs for the borings are provided in Section 5.1. Descriptions for the soils encountered are accompanied by the Unified Soil Classification System symbol (SM, SP-SM, etc.) and are based on visual examination of the recovered soil samples and the laboratory tests performed. Stratification boundaries between the soil types should be considered approximate, as the actual transition between soil types may be gradual.

The SPT borings indicate that soil conditions across at the site are relatively consistent. The borings generally encountered 4.5 to 6.5 feet of poorly graded sand and sand with silt (SP, SP-SM) overlying interbedded layers of clayey to very clayey sand (SC) and sandy clay to clay (CL, CH) to the maximum boring termination depth of 20 feet bls. Boring B-3 encountered elastic silt (MH) from approximately 7 to 8.5 feet bls. With the exception of the elastic silt, the soils were similar to the soils encountered at the previous proposed pool location.

The near surface sandy soils within a depth of 5 to 7 feet bls were generally in a very loose to medium dense condition with N-values ranging from 4 to 20 blows per foot. The underlying clay-rich soils and elastic silt encountered to the explored depth of 20 feet bls were generally in a medium dense condition with N-values ranging from 11 to 17 blows per foot or very stiff to hard condition with N-values ranging from 16 to 36 blows per foot.

The groundwater table was encountered at 18.6 feet bls when encountered during our exploration.

#### 3.3 Review of Published Data

The Soil Conservation Service (SCS) Soil Survey for Alachua County<sup>2</sup> maps one soil series at the site in the area of the pool and retaining wall. The following soil description is from the Soil Survey.

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<sup>1</sup> United States Geological Survey. Gainesville East Quadrangle, 1966.

<sup>2</sup> Soil Survey of Alachua County, Florida. Soil Conservation Service, U.S. Department of Agriculture.



**Millhopper-Urban land complex, 0 to 5 percent slopes** – This complex consists of moderately well drained, nearly level to gently sloping Millhopper soils and Urban land. The areas are irregular in shape and range from about 15 to 250 acres. This complex is within most urbanized areas of the county.

About 50 to 85 percent of each delineation is open areas of Millhopper soils. These open areas are vacant lots or are used for gardens, lawns, parks, or playgrounds. They are either too small or so intermingled with areas of Urban land that it is impractical to map them separately. About 20 to 30 percent of the soils in these open areas have been modified by cutting, grading, and spreading of soil material during urban related construction and development.

About 15 to 50 percent of each delineation is Urban land. Urban land consists of areas covered with buildings, streets, parking lots, sidewalks, and other structures. The Urban land of this map unit is generally developed on Millhopper sand or fine sand.

Typically, the surface layer of Millhopper soils is dark grayish brown sand about 9 inches thick. The subsurface layer is yellowish brown to pale brown sand about 49 inches thick. The subsoil extends to a depth of 80 inches or more. The upper 6 inches is yellowish brown, mottled loamy sand, and the lower 16 inches is gray, mottled sandy clay loam.

The Millhopper soils have a water table that is 40 to 60 inches below the surface for 1 to 4 months and is at a depth of 60 to 72 inches or 2 to 4 months during most years. The available water capacity is low in the surface and subsurface layers and low to medium in the subsoil. Permeability is rapid in the surface and subsurface layers, and it is slow to moderate in the subsoil. Natural fertility is low. Organic matter content is low to moderately low.

The soils encountered by the soil borings are generally consistent with the soil survey mappings.

### 3.4 Laboratory Soil Analysis

Selected soil samples recovered from the soil borings were analyzed for natural moisture content, the percent fines passing the No. 200 sieve, and Atterberg Limits. Selected soil samples were collected from depths ranging from 7 to 10 feet bls. These tests were performed to confirm visual soil classification and evaluate their engineering properties. The complete laboratory report is provided in Section 5.2.

The laboratory tests indicate the tested soils consist of elastic silt, clay with sand, and clay (MH, CL/CH, CH).

The tested elastic silt (MH) contains approximately 67 percent soil fines passing the No. 200 sieve with a natural moisture content of about 33 percent. The clay with sand (CL/CH) and clay contains approximately 73 to 89 percent soil fines passing the No. 200 sieve with natural moisture contents of about 28 to 37 percent.

The Atterberg Limits tests indicate the tested elastic silt to clay with sand (MH, CL/CH) has Liquid Limit (LL) values of 42 to 67, Plastic Limit (PL) values of 24 to 30, and Plasticity Index (PI) values of 18 to 37. This corresponds to material with low ( $LL < 50$ ,  $PI < 25$ ) to high potential ( $LL > 60$  and  $PI > 35$ ) for expansive behavior<sup>3</sup>.

<sup>3</sup> U.S. Department of the Army USA, 1983, Foundations in Expansive Soils, TM 5-818-7, p. 4-1.

## **4.0 EVALUATION AND RECOMMENDATIONS**

### **4.1 General**

The soil conditions at the site are relatively consistent, generally encountering 4.5 to 6.5 feet of very loose to medium dense poorly graded sand and sand with silt (SP, SP-SM) overlying interbedded layers of medium dense clayey to very clayey sand (SC) and very stiff to hard sandy clay, elastic silt, and clay (MH, CL, CH) to the maximum boring termination depth of 20 feet bls.

In this section of the report, we present our recommendations for the design of the swimming pool addition.

The following recommendations are made based upon our understanding of the proposed construction, a review of the attached soil borings and laboratory test data, our discussions with the Contractor performing the work, conversations with the selected sub-contractor installing the pool, and experience with similar projects and subsurface conditions. If plans or the location of proposed construction changes from those discussed previously, we request the opportunity to review and possibly amend our recommendations with respect to those changes.

### **4.2 Groundwater**

The groundwater table was encountered at a depth of approximately 18.6 feet bls when encountered at the time of our exploration. We anticipate water to perch on top of the clay-rich soils after periods of heavy and seasonal rainfall. The perched seasonal high groundwater levels are estimated to be at depths of 4 to 6 feet bls and are indicated on the individual boring logs.

### **4.3 Site Considerations**

Expansive clay-rich soils were encountered at various depths and thicknesses within the proposed pool location. In addition, a perched seasonal high groundwater table is anticipated at the site. The foundation for the pool and pool shell should account for the anticipated site and soil conditions. As a result of the potentially expansive clays encountered, and independent of the options below, GSE recommends that the pool shell and surrounding deck be stiffened to better resist differential movement associated with expansive clay-rich soils. At the time of this report, we understand that Monrad R. Thue, P.E. of GSE will be designing the pool deck/stiffened slab-on-grade. It is also our understanding that the stiffened pool shell will be designed to move independently of the pool deck/stiffened slab-on-grade. This will help mitigate damages associated with differential movement of either system. GSE recommends that two options be considered for the design and construction of the pool.

#### ***Option 1***

GSE understands that the pool shell will be stiffened to better resist differential movement associated with expansive clay-rich soils. In order to help maintain a relatively consistent moisture content in the clay-rich soils encountered across the site at varying depths and thicknesses, Option 1 consists of selectively undercutting the bottom of the pool shell where clay-rich soils are encountered, likely in the deep end of the pool, and replacing with a No. 57 stone covered with cement or a mud-mat to create a working surface for the construction which will reduce disturbance of the clay-rich soils and protect them from rain/ground water during construction and over the life of the pool.

The undercutting should be limited to about 3 inches, or just enough to provide a working surface for the remaining construction. During construction, GSE recommends a sump pump be used to evacuate perched water from collecting on the working surface.

### ***Option 2***

Design a stiffened pool shell that structurally ties into a deep foundation to resist differential movement associated with expansive clay-rich soils. This option would not require over-excavation of the clay-rich soils; however, in order to reduce the potential for differential movement of the pool shell, GSE recommends that the entire pool be supported by the deep foundation system.

We recommend the deep foundation system consist of helical piles. Helical piles are recommended because they can resist both downward and upward forces. GSE recommends a minimum embedment depth of 17 feet to get below the active zone of the expansive clays at the site. Below this depth, we believe the piles will remain below the water table where there will be little risk for shrink/swell movements to occur.

We estimate an 8"/10" diameter double helix will have an ultimate uplift capacity on the order of 8 kips and a 12"/14" diameter double helix will have an ultimate uplift capacity of 18 kips. The helical piles will have higher vertical capacities, but the uplift capacities will be the controlling factor in the helical pile design.

Considering swell pressures on the order of 1,000 psf which will be resisted by the weight of the pool shell, weight of the water in the pool, and the uplift capacity of the helical piles, GSE anticipates that the 12"/14" diameter helix will be required. Considering that the maximum swell pressure will only be exerted on the pool shell during the wet season when the clay-rich soils above the deeper water table are saturated from the perched water table, a factor of safety of less than 2 may be used for design. We recommend you consider a pile spacing of 5 feet center to center. This pile spacing is based upon estimated uplift resistances, which will be the controlling factor in the pile design.

We also recommend that a load test be conducted to confirm the uplift capacity, as higher capacities may be achieved. GSE recommends that one load test be performed in the deep end of the pool and one in the shallow end of the pool. The selected contractor should also provide shaft and torque requirements to achieve the required uplift capacities.

### ***Pool Deck Recommendations***

GSE recommends that the pool deck be designed as a stiffened slab-on-grade. We wish to point out that the stiffened slab-on-grade will not eliminate differential foundation movement resulting from volume changes of expansive soils. However, the stiffer slab should help to "bridge" over the subgrade soils and reduce the amount of bending and resulting angular distortion that causes cracking damage compared to conventionally reinforced concrete slabs. This should help reduce shrinkage cracking and cracks in the concrete propagating up through the decorative tile.

#### **4.3.1 Lateral Earth Pressures**

The pool shell must be designed to resist the lateral loads of the soils and hydrostatic pressures if applicable that will be exerted on it. The following soil parameters should be used to design the pool shell.

Table 1. Soil Parameters Lateral Earth Pressure Design (B-1)							
Depth Range (ft)	Angle of Internal Friction $\phi$	Moist Unit Weight $\gamma_d$ (pcf) <sup>1</sup>	Saturated Unit Weight $\gamma'$ (pcf) <sup>2,3</sup>	Cohesion $c$ (ksf)	Coefficient of Active Earth Pressure $K_a$	Coefficient of Passive Earth Pressure $K_p$	Coefficient of At-Rest Earth Pressure $K_o$
0 – 6.5	30°	105	125	0	0.33	3.00	0.5
6.5 – 8.5	34°	115	130	0	0.28	3.54	0.44
8.5 – 12	0°	120	127	2	1	1	1
12 – 20	34°	115	130	0	0.28	3.54	0.44

Table 2. Soil Parameters for Lateral Earth Pressure Design (B-2)							
Depth Range (ft)	Angle of Internal Friction $\phi$	Moist Unit Weight $\gamma_d$ (pcf) <sup>1</sup>	Saturated Unit Weight $\gamma'$ (pcf) <sup>2,3</sup>	Cohesion $c$ (ksf)	Coefficient of Active Earth Pressure $K_a$	Coefficient of Passive Earth Pressure $K_p$	Coefficient of At-Rest Earth Pressure $K_o$
0 – 8.5	30°	105	125	0	0.36	2.77	0.53
8.5 – 20	34°	115	130	0	0.28	3.54	0.44

Table 3. Soil Parameters for Lateral Earth Pressure Design (B-3 & B-4)							
Depth Range (ft)	Angle of Internal Friction $\phi$	Moist Unit Weight $\gamma_d$ (pcf) <sup>1</sup>	Saturated Unit Weight $\gamma'$ (pcf) <sup>2,3</sup>	Cohesion $c$ (ksf)	Coefficient of Active Earth Pressure $K_a$	Coefficient of Passive Earth Pressure $K_p$	Coefficient of At-Rest Earth Pressure $K_o$
0 – 7	32°	110	125	0	0.31	3.25	0.47
7 – 12	0°	115	122	2	1	1	1
8.5 – 20	34°	115	130	0	0.28	3.54	0.44

Notes:

1. Natural condition, above the water table.
2. Saturated condition, below the water table.
3. Submerged or buoyant unit weight=Saturated unit weight – Unit weight of water

## 4.4 Site Preparation

The soils at this site should be suitable for supporting the proposed construction using normal, good practice site preparation procedures. The following recommendations are our general guidelines for site preparation.

### 4.4.1 Stripping

Strip the construction limits and 10 feet beyond the perimeter of all grass, roots, topsoil and other deleterious materials. You should expect to strip to depths of 6 to 12 or more inches. Deeper stripping may be necessary if major root systems are present and went undetected as part of this investigation and in areas of former on-site vegetation.

### 4.4.2 Dewatering

Temporary dewatering may be necessary at this site especially if construction should proceed during the wet season when a perched water table may occur on top of the clayey to very clayey sand. If necessary, dewatering can likely be accomplished with sumps placed near the construction area, or underdrains connected to a vacuum pump.

The site should always be graded to promote runoff and limit the amount of ponding. Localized ponding of storm water is expected without proper grading during construction, and could render previously acceptable surfaces unacceptable.

#### **4.4.3 Compaction**

If option 1 is chosen, backfill in over-excavated areas should consist of No. 57 stone and cement or a mud-mat. Care should be taken during over-excavation to reduce disturbance of the underlying clay-rich soils. Once the over-excavation is complete, the exposed clay-rich soils should be covered and sealed as quickly as possible so that they do not dry out or become saturated or disturbed. GSE recommends that the over-excavation be observed by the Geotechnical Engineer or his representative and the soils be visually inspected to be firm or un-yielding prior to covering.

If you will be raising grade with fill material to support the deck, this fill should consist of clean sand. Clean native sand or imported sand fill should be compacted to 95 percent of the Modified Proctor maximum dry density (ASTM D 1557). Vibratory roller equipment should not be used within approximately 100 feet of existing structures. Lighter “walk-behind” compaction equipment may be used to achieve the degree of compaction.

Perform compaction testing in areas of fill/backfill. Perform a compaction test for each 1,000 square feet of area per foot of fill or native material, or a minimum of two tests, whichever is greater.

As stated above, we anticipate the pool shell will be excavated into the clay-rich soils. The clay-rich soil over-excavations should be performed in a manner that reduces disturbance to the underlying supporting soils. Foundations excavated into clayey soils should be visually observed and probed by the geotechnical engineer to confirm their condition is suitable for backfill. Clayey sand soils (with fines content in excess of 15 percent) that are removed and replaced or appreciably disturbed need to be re-compacted to 98 percent of the Standard Proctor (ASTM D 698) maximum dry density.

#### **4.5 Fill Suitability**

The upper layer of sandy soils (with exception of topsoil) excavated from the site (SP, SP-SM) is considered suitable for use as structural fill, assuming it has less than 5 percent organic material and is free of roots and other deleterious debris.

Some of the underlying deeper clayey sand (SC) encountered is considered suitable for use as structural fill, but may be a less desirable source of fill, as these soils are moisture sensitive and can be difficult to compact unless they are worked at close to optimum moisture. These soils may be difficult to work during prolonged wet periods as they may require extended time to “dry back” to a “workable” moisture content. If clay-rich soils are utilized, we recommend that they contain less than 30 percent fines (Passing the No. 200 sieve) with a Plasticity Index less than 15 and Liquid Limit less than 45. Soils with 15 percent or greater fines content should be compacted to 98 percent of the Standard Proctor maximum dry density (ASTM D698). Mixing of soils with higher fines content with those with less fines content may increase their overall workability.

Very clayey sand (SC) and sandy clay to clay with sand (CH) soils having more than 30 percent soil fines are not considered suitable structural fill materials.

## **5.0 FIELD DATA**

**5.1 Standard Penetration Boring Logs**

**BORING NUMBER B-1**

GSE Engineering & Consulting, Inc.  
5590 SW 64th Street, Suite B  
Gainesville, Florida 32608  
Telephone: (352) 377-3233  
Fax: (352) 377-0335

**CLIENT** UF Planning Design and Construction

**PROJECT NAME** Dasburg Residence Swimming Pool Addition

**PROJECT NUMBER** 12010B

**PROJECT LOCATION** Village Drive, Alachua County, Florida

**DATE STARTED** 11/16/16 **COMPLETED** 11/16/16

**GROUND ELEVATION** \_\_\_\_\_ **HOLE SIZE** \_\_\_\_\_

**DRILLING CONTRACTOR** Whitaker Drilling, Inc.

**GROUND WATER LEVELS:**

**DRILLING METHOD** Mud Rotary

▼ **AT TIME OF DRILLING** NE

**LOGGED BY** WDI **CHECKED BY** JEG

▼ **ESTIMATED SEASONAL HIGH** 6.0 feet

**NOTES**

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	CONTACT DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX	PERCENT PASS NO. 200 SIEVE	MOISTURE CONTENT, %	▲ SPT N VALUE ▲
0		(SP-SM) Brown SAND with silt									20 40 60 80
		(SP) Loose pale brown SAND	1								
				SPT 1	4-5-5 (10)						
				SPT 2	4-3-3 (6)						
5				SPT 3	2-4-4 (8)						
	▽		6.5	SPT 4	5-8-9 (17)						
		(SC) Medium dense brown, orange, and gray clayey SAND	7.5	SPT 5	7-8-8 (16)						
		(SC) Medium dense gray and orange very clayey SAND	8.5	SPT 6	6-7-10 (17)				89	37	
10		(CH) Very stiff gray and orange CLAY									
			12								
		(SC) Medium dense gray and orange very clayey SAND with trace limestone		SPT 7	4-7-7 (14)						
15			16								
		(SC) Medium dense orange and gray very clayey SAND		SPT 8	6-6-8 (14)						
20		Bottom of borehole at 20.0 feet.	20								

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**BORING NUMBER B-2**

GSE Engineering & Consulting, Inc.  
5590 SW 64th Street, Suite B  
Gainesville, Florida 32608  
Telephone: (352) 377-3233  
Fax: (352) 377-0335

**CLIENT** UF Planning Design and Construction

**PROJECT NAME** Dasburg Residence Swimming Pool Addition

**PROJECT NUMBER** 12010B

**PROJECT LOCATION** Village Drive, Alachua County, Florida

**DATE STARTED** 11/16/16 **COMPLETED** 11/16/16

**GROUND ELEVATION** \_\_\_\_\_ **HOLE SIZE** \_\_\_\_\_

**DRILLING CONTRACTOR** Whitaker Drilling, Inc.

**GROUND WATER LEVELS:**

**DRILLING METHOD** Mud Rotary

▼ **AT TIME OF DRILLING** NE

**LOGGED BY** WDI **CHECKED BY** JEG

▼ **ESTIMATED SEASONAL HIGH** 5.5 feet

**NOTES**

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	CONTACT DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX	PERCENT PASS NO. 200 SIEVE	MOISTURE CONTENT, %	▲ SPT N VALUE ▲
0		(SP-SM) Brown SAND with silt									20 40 60 80
		(SP) Very loose to loose pale brown SAND	1	SPT 1	3-4-4 (8)						
				SPT 2	4-4-3 (7)						
5				SPT 3	2-2-2 (4)						
			6	SPT 4	2-3-2 (5)						
		(SC) Loose brown, gray, and orange clayey SAND		SPT 5	3-3-4 (7)						
			8.5	SPT 6	5-8-9 (17)						
10		(SC) Medium dense brown, gray, and orange very clayey SAND									
			12	SPT 7	3-9-8 (17)						
15		(SC) Medium dense gray with trace orange very clayey SAND									
			17	SPT 8	3-4-7 (11)						
20		Bottom of borehole at 20.0 feet.	20								

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**BORING NUMBER B-3**

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Telephone: (352) 377-3233  
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**CLIENT** UF Planning Design and Construction

**PROJECT NAME** Dasburg Residence Swimming Pool Addition

**PROJECT NUMBER** 12010B

**PROJECT LOCATION** Village Drive, Alachua County, Florida

**DATE STARTED** 11/16/16 **COMPLETED** 11/16/16

**GROUND ELEVATION** \_\_\_\_\_ **HOLE SIZE** \_\_\_\_\_

**DRILLING CONTRACTOR** Whitaker Drilling, Inc.

**GROUND WATER LEVELS:**

**DRILLING METHOD** Mud Rotary

▼ **AT TIME OF DRILLING** NE

**LOGGED BY** WDI **CHECKED BY** JEG

▽ **ESTIMATED SEASONAL HIGH** 4.5 feet

**NOTES**

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	CONTACT DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX	PERCENT PASS NO. 200 SIEVE	MOISTURE CONTENT, %	▲ SPT N VALUE ▲
0		(SP-SM) Brown SAND with silt									20 40 60 80
		(SP) Loose to medium dense pale brown SAND	1	SPT 1	5-8-10 (18)						
				SPT 2	8-7-9 (16)						
5		(SC) Medium dense brown, gray, and orange clayey SAND	5	SPT 3	3-4-5 (9)						
		(MH) Very stiff gray and orange elastic SILT	7	SPT 4	5-6-7 (13)						
		(CH) Hard green, gray, and orange CLAY with sand	8.5	SPT 5	7-7-9 (16)	54	30	24	67	33	
10				SPT 6	12-14-22 (36)	67	30	37	74	33	
		(SC) Medium dense pale gray clayey SAND	12								
15				SPT 7	5-8-8 (16)						
		(SC) Medium dense orange and gray very clayey SAND	17								
20				SPT 8	5-6-6 (12)						
		Bottom of borehole at 20.0 feet.	20								

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**BORING NUMBER B-4**

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Telephone: (352) 377-3233  
Fax: (352) 377-0335

**CLIENT** UF Planning Design and Construction

**PROJECT NAME** Dasburg Residence Swimming Pool Addition

**PROJECT NUMBER** 12010B

**PROJECT LOCATION** Village Drive, Alachua County, Florida

**DATE STARTED** 11/16/16 **COMPLETED** 11/16/16

**GROUND ELEVATION** \_\_\_\_\_ **HOLE SIZE** \_\_\_\_\_

**DRILLING CONTRACTOR** Whitaker Drilling, Inc.

**GROUND WATER LEVELS:**

**DRILLING METHOD** Mud Rotary

▼ **AT TIME OF DRILLING** 18.6 feet

**LOGGED BY** WDI **CHECKED BY** JEG

▽ **ESTIMATED SEASONAL HIGH** 4.0 feet

**NOTES**

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	CONTACT DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX	PERCENT PASS NO. 200 SIEVE	MOISTURE CONTENT, %	▲ SPT N VALUE ▲
0		(SP-SM) Brown SAND with silt									20 40 60 80
		(SP) Loose to medium dense pale brown SAND	1	SPT 1	4-6-5 (11)						
				SPT 2	4-4-4 (8)						
5		(SC) Loose orange and brown clayey SAND	4.5	SPT 3	6-4-4 (8)						
		(SC) Medium dense pale gray and orange very clayey SAND	6	SPT 4	6-10-10 (20)						
		(CH) Very stiff to hard gray and orange CLAY with sand	7	SPT 5	10-14-12 (26)	42	24	18	73	28	
10				SPT 6	14-16-18 (34)						
		(SC) Medium dense gray and orange very clayey SAND	12								
15				SPT 7	4-6-5 (11)						
		(SC) Medium dense brown, orange, and gray very clayey SAND	16								
20				SPT 8	4-4-8 (12)						
		Bottom of borehole at 20.0 feet.	20								

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## **5.2 Laboratory Results**



Engineering & Consulting, Inc.

## SUMMARY REPORT OF LABORATORY TEST RESULTS

Project Number: 12010B

Project Name: Dasburg House Pool Addition

Boring Number	Depth (ft)	Soil Description	Natural Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index	Percent Passing No. 200 Sieve	Unified Soil Classification
B-1	8.5-10	Gray and Orange CLAY	37				89	CH
B-4	7-8.5	Gray and Orange CLAY with Sand	28	42	24	18	73	CL
B-3	7-8.5	Gray and Orange Elastic SILT	33	54	30	24	67	MH
B-3	8.5-10	Green, Gray, and Orange CLAY with Sand	33	67	30	37	74	CH

### **5.3 Key to Soil Classification**

## KEY TO SOIL CLASSIFICATION CHART

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests				SYMBOLS		GROUP NAME	
				GRAPHIC	LETTER		
COARSE-GRAINED SOILS More than 50% retained on No. 200 sieve	Gravels More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels	$Cu \geq 4$ and $1 \leq Cc \leq 3$		<b>GW</b>	Well graded GRAVEL	
		Less than 5% fines	$Cu < 4$ and/or $1 > Cc > 3$		<b>GP</b>	Poorly graded GRAVEL	
		Gravels with fines	Fines classify as ML or MH		<b>GM</b>	Silty GRAVEL	
		More than 12% fines	Fines classify as CL or CH		<b>GC</b>	Clayey GRAVEL	
	Sands 50% or more of coarse fraction passes No. 4 sieve	Clean Sands	$Cu \geq 6$ and $1 \leq Cc \leq 3$		<b>SW</b>	Well graded SAND	
		Less than 5% fines	$Cu < 6$ and/or $1 > Cc > 3$		<b>SP</b>	Poorly graded SAND	
		Sand with fines	Fines classify as ML or MH		<b>SP-SM</b>	SAND with silt	
		$5\% \leq \text{fines} < 12\%$	Fines classify as CL or CH		<b>SP-SC</b>	SAND with clay	
		Sand with fines	Fines classify as ML or MH		<b>SM</b>	Silty SAND	
		$12\% \leq \text{fines} < 30\%$	Fines classify as CL or CH		<b>SC</b>	Clayey SAND	
		Sand with fines	Fines classify as ML or MH		<b>SM</b>	Very silty SAND	
		30% fines or more	Fines classify as CL or CH		<b>SC</b>	Very clayey SAND	
	FINE-GRAINED SOILS 50% or more passes the No. 200 sieve	Clays	inorganic	$50\% \leq \text{fines} < 70\%$		<b>CL/CH</b>	Sandy CLAY
				$70\% \leq \text{fines} < 85\%$		<b>CL/CH</b>	CLAY with sand
$\text{fines} \geq 85\%$					<b>CL/CH</b>	CLAY	
Silts and Clays Liquid Limit less than 50		inorganic	$PI > 7$ and plots on/above "A" line		<b>CL</b>	Lean CLAY	
			$PI < 4$ or plots below "A" line		<b>ML</b>	SILT	
		organic	Liquid Limit - oven dried < 0.75		<b>OL</b>	Organic clay	
			Liquid Limit - not dried		<b>OL</b>	Organic silt	
Silts and Clays Liquid Limit 50 or more		inorganic	$PI$ plots on or above "A" line		<b>CH</b>	Fat CLAY	
			$PI$ plots below "A" line		<b>MH</b>	Elastic SILT	
			organic	Liquid Limit - oven dried < 0.75		<b>OH</b>	Organic clay
	Liquid Limit - not dried				<b>OH</b>	Organic silt	
HIGHLY ORGANIC SOILS Primarily organic matter, dark in color, and organic odor				<b>PT</b>	PEAT		

### CORRELATION OF PENETRATION RESISTANCE WITH RELATIVE DENSITY AND CONSISTENCY

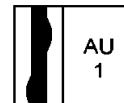
No. OF BLOWS, N	RELATIVE DENSITY		No. OF BLOWS, N	CONSISTENCY
0 - 4	Very Loose		0 - 2	Very Soft
5 - 10	Loose		3 - 4	Soft
SANDS: 11 - 30	Medium dense	SILTS &	5 - 8	Firm
31 - 50	Dense	CLAYS:	9 - 15	Stiff
OVER 50	Very Dense		16 - 30	Very Stiff
			31 - 50	Hard
			OVER 50	Very Hard

No. OF BLOWS, N	RELATIVE DENSITY
0 - 8	Very Soft
9 - 18	Soft
LIMESTONE: 19 - 32	Moderately Hard
33 - 50	Hard
OVER 50	Very Hard

### SAMPLE GRAPHIC TYPE LEGEND



Location  
of SPT  
Sample



Location  
of Auger  
Sample

### PARTICLE SIZE IDENTIFICATION

BOULDERS:	Greater than 300 mm
COBBLES:	75 mm to 300 mm
GRAVEL:	Coarse - 19.0 mm to 75 mm
	Fine - 4.75 mm to 19.0 mm
SANDS:	Coarse - 2.00 mm to 4.75 mm
	Medium - 0.425 mm to 2.00 mm
	Fine - 0.075 mm to 0.425 mm
SILTS & CLAYS:	Less than 0.075 mm

### LABORATORY TEST LEGEND

LL	=	Liquid Limit, %
PL	=	Plastic Limit, %
PI	=	Plasticity Index, %
% PASS - 200	=	Percent Passing the No. 200 Sieve
MC	=	Moisture Content, %
ORG	=	Organic Content, %
$k_h$	=	Horizontal Hydraulic Conductivity, ft/day

## **6.0 LIMITATIONS**

### **6.1 Warranty**

This report has been prepared for our client for his exclusive use, in accordance with generally accepted soil and foundation engineering practices, and makes no other warranty either expressed or implied as to the professional advice provided in the report.

### **6.2 Standard Penetration Test Borings**

The determination of soil type and conditions was performed from the ground surface to the maximum depth of the borings, only. Any changes in subsurface conditions that occur between or below the borings would not have been detected or reflected in this report.

Soil classifications that were made in the field are based upon identifiable textural changes, color changes, changes in composition or changes in resistance to penetration in the intervals from which the samples were collected. Abrupt changes in soil type, as reflected in boring logs and/or cross sections may not actually occur, but instead, be transitional.

Depth to the water table is based upon observations made during the performance of the SPT borings. This depth is an estimate and does not reflect the annual variations that would be expected in this area due to fluctuations in rainfall and rates of evapotranspiration.

### **6.3 Site Figures**

The measurements used for the preparation of the figures in this report were made with a fiberglass tape and by estimating distances from existing structures and site features. Figures in this report were not prepared by a licensed land surveyor and should not be interpreted as such.

### **6.4 Unanticipated Soil Conditions**

The analysis and recommendations submitted in this report are based upon the data obtained from soil borings performed at the locations indicated on the Boring Location Plan. This report does not reflect any variations that may occur between these borings.

The nature and extent of variations between borings may not become known until excavation begins. If variations appear, we may have to re-evaluate our recommendations after performing on-site observations and noting the characteristics of any variations.

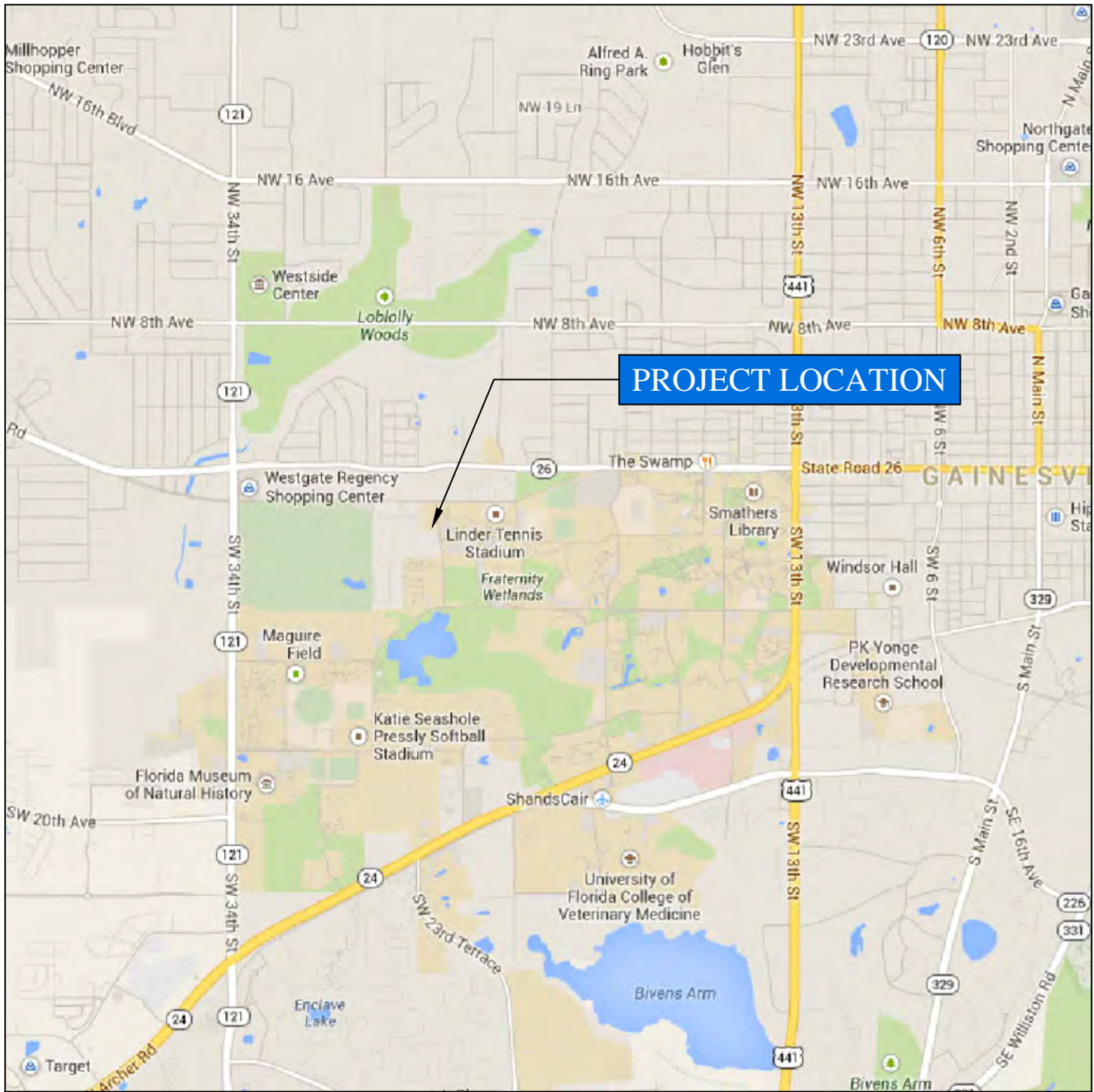
### **6.5 Misinterpretation of Soil Engineering Report**

GSE Engineering & Consulting, Inc. is responsible for the conclusions and opinions contained within this report based upon the data relating only to the specific project and location discussed herein. If others make the conclusions or recommendations based upon the data presented, those conclusions or recommendations are not the responsibility of GSE.



*Summary Report of a Geotechnical Site Exploration*  
***Dasburg Residence Swimming Pool Addition***  
***University of Florida***  
*Gainesville, Florida*  
*GSE Project No. 12010B*

## FIGURES



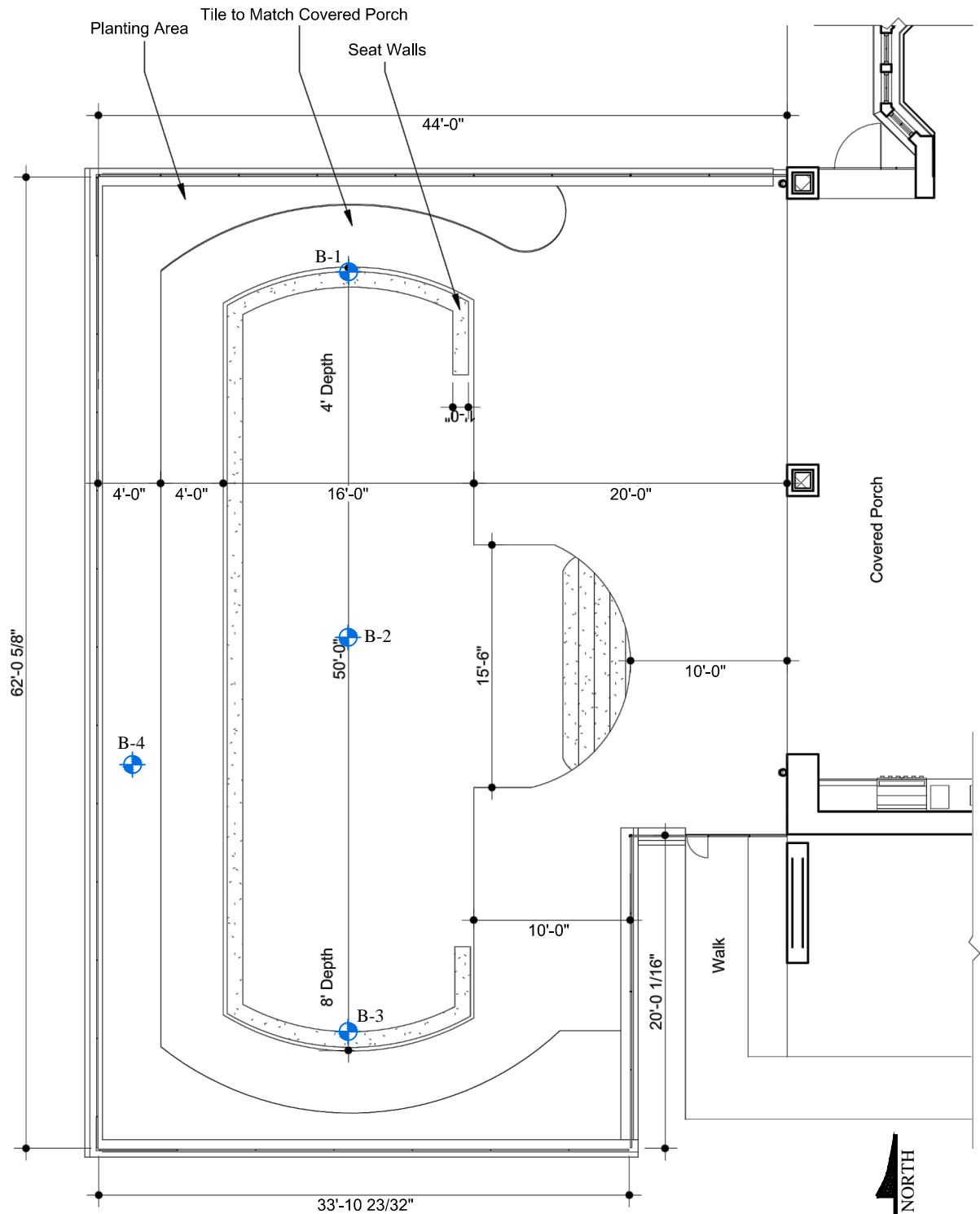
DASBURG RESIDENCE  
SWIMMING POOL ADDITION  
VILLAGE DRIVE, ALACHUA COUNTY, FL  
GSE PROJECT NO. 12010B

PROJECT SITE LOCATION MAP

DESIGNED BY: JEG  
CHECKED BY: KLH  
DRAWN BY: JMG



FIGURE  
1



LEGEND :



SPT BORING



SCALE: 1" = 10' APPROX.

DASBURG RESIDENCE  
SWIMMING POOL ADDITION  
VILLAGE DRIVE, ALACHUA COUNTY, FL  
GSE PROJECT NO. 12010B

## SITE PLAN SHOWING APPROXIMATE LOCATIONS OF FIELD TESTS

DESIGNED BY : JEG  
CHECKED BY : KLH  
DRAWN BY : JMG



FIGURE

2