

PROJECT MANUAL

HANDLEY PARK PUBLIC WORKS BUILDING
FOR THE TOWN OF TYRONE

Project Number: PW-2022-14



Prepared By: Town of Tyrone

November 18, 2024

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ADVERTISEMENT FOR BIDS

Owner: Town of Tyrone

Project Name: Handley Park Public Works Building

Project Number: PW-2022-14

Project Location: Town of Tyrone – Handley Park, 100 Handley Rd, Tyrone, GA 30290

Description of Project/Services: Grading, drainage, sewer, water, and utilities, gravel road and parking, concrete building slab, prefab metal structure, fencing, electrical, plumbing, and erosion control with all related accessories as shown on the plans and called for in the Contract Documents and Technical Specifications.

Bid/Submittal Due Date: January 6, 2025

Service Cost Range: \$450,000 – \$550,000

PROJECT DOCUMENTS MAY BE OBTAINED FROM: <https://www.tyronega.gov/bid-items>

- Contractor/Firm will be required to provide Performance and Labor and Material Payment Bonds, each in the amount of 100% of the contract price.
- Contractor is required to submit a bid bond at the amount listed in the contract documents.
- All public notices, addendum and other documents shall be posted at <https://www.tyronega.gov/bid-items>
- Licensure: To be considered for selection, persons or firms must be properly licensed in accordance with the requirements of the Official Code of Georgia Annotated, as amended, at the time of proposal submission.
- All communication shall be in writing with the Project Manager listed below. The preferred method of communication is email.

Project Coordinator/Manager: Scott Langford, PE Title: Public Works Director & Town Engineer

Address: Street: 950 Senoia Road

City: Tyrone

State: Georgia

ZIP: 30290

EMAIL: scott.langford@tyronega.gov

Phone: 770-487-4038

Pre-submittal Conference: None

Submittal Due Date: January 6, 2025 Time: 10:00 AM

Location: Tyrone Town Hall

Submittal Delivery Address:

Hand Delivery: Tyrone Town Hall

Attn: Scott Langford, PE

950 Senoia Road

Tyrone, GA 30290

Mail Services: Town of Tyrone

Attn: Scott Langford, PE

950 Senoia Road

Tyrone, GA 30290

Approved By: 

(Town Manager)

Date: 11/19/2024

INFORMATION FOR BIDDERS

ALL BIDS must be made on the required BID form. All blank spaces for BID prices must be filled in, in ink or typewritten, and the BID form must be fully completed when submitted. Only one copy of the BID form is required. In case of discrepancy between unit prices and extended prices, unit prices shall prevail. The Engineer will correct any such errors and/or any errors in the summation of the extended prices. The Total Base Bid Amount shall be the sum of the Unit prices, the corrected extended prices, and any pre-printed required allowances.

The OWNER may waive any informalities or minor defects or reject any and all BIDS. Any BID may be withdrawn prior to the above scheduled time for the opening of BIDS or authorized postponement thereof. Any BID received after the time and date specified shall not be considered. No BIDDER may withdraw a BID within 60 days after the actual date of the opening thereof. Should there be reasons why the Contract cannot be awarded within the specified period, the time may be extended by mutual written agreement between the OWNER and the BIDDER.

BIDDERS must satisfy themselves of the accuracy of the estimated quantities in the BID Schedule by examination of the site and a review of the drawings and specifications including ADDENDA. After BIDS have been submitted, the BIDDER shall not assert that there was a misunderstanding concerning the quantities of WORK or of the nature of the WORK to be done.

The OWNER shall provide to BIDDERS prior to BIDDING, all information which is pertinent to, and delineates and describes, the land owned and rights-of-way acquired or to be acquired. All work shall be performed within the land owned and/or rights-of-way of the Town of Tyrone.

The CONTRACT DOCUMENTS contain the provisions required for the construction of the PROJECT. Information obtained from an officer, agent, or employee of the OWNER or any person shall not affect the risks or obligations assumed by the CONTRACTOR or relieve the Contractor from fulfilling any of the conditions of the Contract.

Each BID must be accompanied by a BID Bond payable to the OWNER for five percent of the total amount of the BID. As soon as the BID prices have been compared, the OWNER will return the BONDS of all except the three lowest responsible BIDDERS. When the Agreement is executed the bonds of the two remaining unsuccessful BIDDERS will be returned. The BID BOND of the successful BIDDER will be retained until the payment BOND and performance BOND have been executed and approved, after which it will be returned. A certified check for five percent of the total amount of the BID may be used in lieu of a BID BOND.

A Performance BOND and a Payment BOND each in the amount of 100 percent of the CONTRACT PRICE, with a corporate surety approved by the OWNER, will be required for the faithful performance of the Contract.

Attorney-in-fact who sign BID BONDS or Payment BONDS and Performance BONDS must file with each BOND a certified and effective dated copy of their power of attorney.

Qualifications:

Bidder may be required to submit at least 3 references of similar work completed in the last two years.

The party to whom the contract is awarded will be required to execute the Agreement and obtain the Performance BOND and Payment BOND within ten (10) calendar days from the date when NOTICE OF AWARD is delivered to the BIDDER. The NOTICE OF AWARD shall be accompanied by the necessary Agreement and BOND forms. In case of failure of the BIDDER to execute the Agreement, the OWNER may consider the BIDDER in default, in which case the BID BOND accompanying the proposal shall become the property of the OWNER.

The OWNER within ten (10) days of receipt of acceptable Performance BOND, Payment BOND and Agreement signed by the party to whom the Agreement was awarded shall sign the Agreement and return to such party an executed duplicate of the Agreement. Should the OWNER not execute the Agreement within such period, the BIDDER may by WRITTEN NOTICE withdraw the signed Agreement. Such notice of withdrawal shall be effective upon receipt of the notice by the OWNER.

The NOTICE TO PROCEED shall be issued within ten (10) days of the execution of the Agreement by the OWNER. Should there be reasons why the NOTICE TO PROCEED cannot be issued within such period, the time may be extended by mutual written agreement between the OWNER AND CONTRACTOR. If the NOTICE TO PROCEED has not been issued within the ten (10) day period or within the period mutually agreed upon, the CONTRACTOR may terminate the Agreement without further liability on the part of either party.

The OWNER may make such investigations as deemed necessary to determine the ability of the BIDDER to perform the WORK, and the BIDDER shall furnish to the OWNER all such information and data for this purpose as the OWNER may request. The General Contractor shall have a minimum of 5 years of experience with projects of similar type and scope of work. The OWNER reserves the right to reject any BID if the evidence submitted by, or investigation of such, BIDDER fails to satisfy the OWNER that such BIDDER is properly qualified to carry out the obligations of the Agreement and to complete the WORK contemplated therein.

A conditional, qualified or obviously unbalanced BID will not be accepted.

Award of the Contract will be made to the lowest responsive and responsible BIDDER on the basis of the lowest actual bid amount for the Contract, which is defined as the base bid less any deductions for "allowed" deductive alternates, plus any additions for "allowed" additive alternates listed in the Bid Schedule. The Owner reserves the right to delete or modify portions of the work in order to meet constraints caused by budget limitations

All applicable laws, ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the Contract throughout.

Each BIDDER is responsible for inspecting the site and for reading and being thoroughly familiar with the CONTRACT DOCUMENTS prior to bid. The failure or omission of any BIDDER to do any of the foregoing shall in no way relieve any BIDDER from any obligation in respect to its BID.

Further, the BIDDER agrees to abide by the requirements under Executive Order No. 11246, as amended, including specifically the provisions of the equal opportunity clause set forth in the SUPPLEMENTAL GENERAL CONDITIONS.

The low BIDDER shall supply the names and addresses of major material SUPPLIERS and SUBCONTRACTORS when required to do so by the OWNER.

The ENGINEER on this project is:

Jennifer Olivo, P.E.
Keck and Wood, Inc.
3090 Premiere Parkway
Suite 200
Duluth, GA 30097
jolivo@keckwood.com
678-417-4057

The OWNER / PROJECT MANAGER on this project is:

Scott A. Langford, P.E.
Public Works Director and Town Engineer
Town of Tyrone
950 Senoia Road
Tyrone, GA 30290
slangford@tyrone.org
770-487-4038

BID

Proposal of _____; hereinafter called "BIDDER", organized and existing under the laws of the State of _____, doing business as _____ (Insert "a corporation", "a partnership", or "an individual" as applicable). To the Town of Tyrone, hereinafter called "OWNER".

In compliance with the Advertisement for Bids, BIDDER hereby proposes to perform all WORK for the construction of

HANDLEY PARK PUBLIC WORKS BUILDING
FOR THE TOWN OF TYRONE, GEORGIA PW-2022-14

in strict accordance with the CONTRACT DOCUMENTS, within the time set forth therein, and at the prices stated below.

By submission of this BID, each BIDDER certifies, and in the case of a joint BID each party thereto certifies as to its own organization, that this BID has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this BID with any other BIDDER or with any competitor.

BIDDER hereby agrees to commence WORK under this contract on or before a date to be specified in the NOTICE TO PROCEED and to fully complete the PROJECT within **One Hundred Eighty (180)** consecutive calendar days hereafter. BIDDER further agrees to pay as liquidated damages the sum of **\$250.00** for each consecutive day thereafter as provided in Section 15 of the General Conditions.

BIDDER acknowledges receipt of the following ADDENDUM:

BIDDER agrees to perform all the work described in the CONTRACT DOCUMENTS for the following unit prices or lump sum including all applicable taxes and fees:

BID SCHEDULE

No.	Item	Estimate Quantity	Unit	Unit Price	Total Price
1.	Erosion Control	1	LS		\$
2.	Grading, complete	1	LS		\$
3.	Building and Concrete Slab, complete	1	LS		\$
4.	Compacted Aggregate Base Driveway, 8 IN	2700	SY		\$
5.	Vinyl Coated Chain Link Fence, 4 FT	250	LF		\$
6.	Vinyl Coated Chain Link Fence, 8 FT	980	LF		\$
7.	Sliding Chain Link Gate	1	EA		\$
8.	Pedestrian Chain Link Gate	2	EA		\$
9.	Drainage Pedestal Top Inlet	3	EA		\$
10.	Headwall	2	EA		\$
11.	15 Inch, RCP	270	LF		\$
12.	Riprap, Type 3, 18 In, complete	50	SY		\$
13.	2" PEX A Water Line	580	LF		\$
14.	2.5" x 2" Tee	1	EA		\$
15.	2" Compression Curb Stop	1	EA		\$
16.	2.5" Coupling	1	EA		\$
17.	2" PEX Tee	2	EA		\$
18.	2" x 1" Reducer	3	EA		\$
19.	Woodford Sanitary Yard Hydrant – Model S4H	2	EA		\$
20.	Electrical Service Point, complete	1	EA		\$
21.	Special Allowance	1	LS	\$ 10,000.00	\$ 10,000.00

Total of Base Bid Amount (including Special Allowance) - \$ _____

BID ALTERNATE SCHEDULE

No.	Item	Estimate Quantity	Unit	Unit Price	Total Price
A1	1-1/2 IN Sch 80 Force Main	360	LF		\$
A2	6" PVC Gravity Sewer	25	LF		\$

A3	4" Sewer Lateral from Bldg	25	LF		\$
A4	Sanitary Sewer Manhole	2	EA		\$
A5	Private Sewer Lift Station	1	EA		\$
A6	Bathroom (1 toilet & 1 sink) in building (Design Build)	1	EA		\$
A7	20' Remote Access Cantilever Gate, complete	1	LS		\$

Total of Bid Alternates - \$ _____

TOTAL CONTRACTED AMOUNT: \$ _____
 (Base Bid, Allowances, and Alternates)

Notes:

1. The Owner reserves the right to modify project scope, as necessary to meet project budget limitations, based on prices bid.
2. Include with the Bid, a copy of current Business License (Occupational Tax Certificate) and proof of applicable licensing issued by Georgia Secretary of State.

Respectfully Submitted:

Signature

Company's Legal Name

Printed Name

Address

Title

City, State, Zip Code

License No.

Date

SEAL - (if BID is by a corporation)

BID BOND

KNOW ALL PERSONS BY THESE PRESENTS: that we, the undersigned as Principal, and as Surety, are hereby held and firmly bound unto Town of Tyrone, Georgia as OWNER in the penal sum of 5% for the payment of which, well and truly to be made, we hereby jointly severally bind ourselves, successors and assigns.

Signed, this day of _____, 20____. The condition of the above obligation is such that whereas the Principal has submitted to Town of Tyrone, Georgia a certain BID, attached hereto and hereby made a part hereof to enter into a contract in writing, for:

HANDLEY PARK PUBLIC WORKS BUILDING

for the TOWN OF TYRONE, GEORGIA - PROJECT NUMBER: PW-2022-14

NOW, THEREFORE,

- A. If said BID shall be rejected, or

- B. If said BID shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said BID) and shall furnish a BOND for faithful performance of said contract, and for the payment of all persons performing labor furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said BID, then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way impaired or affected by any extensions of the time within which the OWNER may accept such BID; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

Principal L . S .

Surety

By: _____
(Address) (Surety)

(Address) (Address)

(Address)

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended), be authorized to transact business, and have a registered agent in the state where project is located.

AGREEMENT

THIS AGREEMENT, made this day of _____, 20__ by and between the Town of Tyrone, Georgia, hereinafter called "Owner" and _____ doing business as (an individual), or (a partnership), or (a corporation) hereinafter called "Contractor".

WITNESSETH: That for and in consideration of the payments and agreements herein aftermentioned:

1. The CONTRACTOR will commence and complete the construction of:

HANDLEY PARK PUBLIC WORKS BUILDING

FOR THE TOWN OF TYRONE, GEORGIA.

PW-2022-14

2. The CONTRACTOR will furnish all of the materials, supplies, tools, equipment, labor, and other services necessary for the construction and completion of the PROJECT described herein.
3. The CONTRACTOR will commence the work required by the CONTRACT DOCUMENTS within **10** calendar days after the date of the NOTICE TO PROCEED and will work continuously to complete the same within **180** calendar days.
4. The CONTRACTOR agrees to perform all of the WORK described in the CONTRACT DOCUMENTS and comply with the terms therein for the sum of \$ _____ or as shown in the bid schedule.

5. The terms "Contract Documents" MEANS and includes the following:

- (A) Advertisement for BIDS
- (B) Information for BIDDERS
- (C) BID
- (D) BID BOND
- (E) Agreement
- (F) General Conditions
- (G) SUPPLEMENTAL GENERAL CONDITIONS & SPECIAL CONDITIONS
- (H) Payment BOND
- (I) Performance BOND
- (J) NOTICE OF AWARD
- (K) NOTICE TO PROCEED
- (L) CHANGE ORDER
- (M) SPECIFICATIONS prepared or issued by the Town of Tyrone, date 11/18/2024
- (N) ADDENDA:

No. _____, dated _____.

_____, dated _____.

_____, dated _____.

6. The OWNER will pay to the CONTRACTOR in the manner and at such times as set forth in the General Conditions such amount as required by the CONTRACT DOCUMENTS.

7. This Agreement shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.
8. Any dispute which may arise under this agreement shall be resolved under the laws of the State of Georgia and venue shall be proper in Fayette County, Georgia.

IN WITNESS WHEREOF, the parties hereto have executed or caused to be executed by their duly authorized official, this Agreement in Quadruplicate (four) copies shall be deemed an original on the date first above written.

OWNER:
_____ TOWN OF TYRONE, GEORGIA _____

BY: _____

NAME: _____ Eric Dial _____
(Please Print)

TITLE: _____ Mayor _____

(SEAL)
ATTEST:

Name: _____

(Please Print)

Title: _____

CONTRACTOR:

BY: _____

NAME: _____
(Please Print)

Address: _____

Employer Identification

Number: _____ - _____

(SEAL)
ATTEST:

Name: _____

(Please Print)

PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called PRINCIPAL, and

(Name of Surety)

(Address of Surety)

hereinafter called SURETY, are held and firmly bond unto

TOWN OF TYRONE, GEORGIA
(Name of Owner)

950 SENOIA ROAD, TYRONE, GA 30292
(Address of Owner)

hereinafter called OWNER, in total aggregate penal sum of

_____ Dollars (\$_____)

in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally, firmly by these presents.

THIS CONDITION OF THIS OBLIGATION is such that whereas, the PRINCIPAL entered into a certain contract with the OWNER, dated the __ day of _____, 20__ a copy of which is hereto attached and made a part hereof for the construction of:

HANDLEY PARK PUBLIC WORKS BUILDING

FOR THE TOWN OF TYRONE, GEORGIA

PROJECT NUMBER: PW-2022-14

NOW, THEREFORE, if the PRINCIPAL shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the OWNER, with or without notice to the SURETY and during the one year guaranty period and if the PRINCIPAL shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the OWNER from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said SURETY, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to WORK to be performed thereunder or the SPECIFICATIONS accompanying same shall in any way affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that it is expressly agreed that the BOND shall be deemed amended automatically and immediately, without formal and separate amendments hereto, upon amendment to the contract not increasing the contract price more than 20 percent so as to bind the PRINCIPAL and the SURETY to the full and faithful performance of the CONTRACT as so amended. The term "Amendment", wherever used in this BOND, and whether referring to this BOND, or the Contract shall include any alteration, addition, extension, or the modification of any character whatsoever.

IN WITNESS WHEREOF, this instrument is executed in four counterparts, each one of which shall be deemed an original, this the _____ day of _____, 20__.

ATTEST:

(Principal) Secretary (SEAL)

(Witness as to Principal)

(Address)

Principal

By: _____

(Address)

(Surety)

ATTEST:

(Witness to Surety)

(Attorney-in-Fact)

(Address)

(Address)

NOTE: Date of BOND must not be prior to date of Contract so the Town will date the bonds. If CONTRACTOR is partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended), be authorized to transact business in the state, and have a registered agent in the state where project is located.

Surety companies must present financial statements for the prior three (3) years as proof of financial responsibility. The Owner reserves the right to review said financial statements and reject any surety not deemed financially able to assume the responsibility of this Contract.

Such bond shall not be deemed accepted until approved by Owner's Attorney.

Do not date bonds. The Town will date the bonds with the contract and other documents.

PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called PRINICIPAL,
and

(Name of Surety)

(Address of Surety)

hereinafter called SURETY, are held and firmly bound unto

TOWN OF TYRONE GEORGIA
(Name of Owner)

950 SENOIA ROAD, TYRONE, GA 30292
(Address of Owner)

hereinafter called OWNER, and unto all persons, firms, and corporations who or which may furnish labor, or who furnish materials to perform as described under the contract and to their successors and assigns in the total aggregate penal sum of:

_____ Dollars (\$_____)

in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these present.

THIS CONDITION OF THIS OBLIGATION is such that whereas, the PRINCIPAL entered into a certain contract with the OWNER, dated the _____ day of _____, 20____ a copy of which is hereto attached and made a part hereof for the construction of:

HANDLEY PARK PUBLIC WORKS BUILDING
PROJECT NIMBER: PW-2022-14

NOW, THEREFORE, if the PRINCIPAL shall promptly make payment to all persons, firms, and corporations furnishing materials for or performing labor in the prosecution of the WORK provided for in such contract, and any authorized extensions or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such WORK, and for all labor cost incurred in such WORK including that by a SUBCONTRACTOR, and to any mechanic or materialman lienholder whether it acquires its lien by operation of State or Federal law; then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED, that beneficiaries or claimants hereunder shall be limited to the SUBCONTRACTORS, and persons, firms, and corporations having a direct contract with the PRINCIPAL or its SUBCONTRACTORS.

PROVIDED, FURTHER, that the said SURETY, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to WORK to be performed thereunder or the SPECIFICATIONS accompanying same shall in any way affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no suit or action shall be commenced hereunder by any claimant: (a) Unless claimant, other than one having a direct contract with the PRINCIPAL, shall have given written notice to any two of the following: The PRINCIPAL, the OWNER, or the SURETY above named within ninety (90) days after such claimant did or performed the last of the work or labor, if furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the PRINCIPAL, OWNER, or SURETY, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer. (b) After the expiration on one (1) year following the date of which PRINCIPAL ceased work on said CONTRACT, is being understood, however, that if any limitation embodied in the BOND is prohibited by any law controlling the construction hereof, such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

PROVIDED, FURTHER, that it is expressly agreed that this BOND shall be deemed amended automatically and immediately, without formal and separate amendments hereto, upon amendment to the Contract not increasing the contract price more than 20 percent, so as to bind the PRINCIPAL and the SURETY to the full and faithful performance of the Contract as so amended. The term "Amendment", wherever used in this SURETY BOND and whether referring to this BOND, the contract shall include any alteration, addition, extension or modification of any character whatsoever.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in four counterparts, each one of which shall be deemed an original, this the ____ day of _____, 20 ____.

ATTEST:

Principal

(Principal) Secretary

(SEAL)

By _____ (s)

(Witness as to Principal)

(Address)

(Address)

(Surety)

ATTEST:

(Witness to Surety)

By _____
(Attorney-in-Fact)

(Address)

(Address)

NOTE: Date of BOND must not be prior to date of Contract so the Town will date the bonds. If CONTRACTOR is partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended), be authorized to transact business in the state, and have a registered agent in the state where project is located.

Surety companies must present financial statements for the prior three (3) years as proof of financial responsibility. The Owner reserves the right to review said financial statements and reject any surety not deemed financially able to assume the responsibility of this Contract.

Such bond shall not be deemed accepted until approved by Owner's Attorney.

Do not date bonds. The Town will date the bonds with the contract and other documents.

GENERAL CONDITIONS

- | | |
|---|--|
| 1. Definitions | 15. Time for Completion and |
| 2. Additional Instructions and
Detail Drawings | Liquidated Damages |
| 3. Schedules, Reports, and
Records | 16. Correction of Work |
| 4. Drawings and Specifications | 17. Subsurface Conditions |
| 5. Shop Drawings | 18. Suspension of Work.,
Termination, and Delay |
| 6. Materials, Services, and
Facilities | 19. Payments to Contractor |
| 7. Inspection and Testing | 20. Acceptance of Final
Payment as Release |
| 8. substitutions | 21. Insurance |
| 9. Patents | 22. Contract Security |
| 10. Surveys, Permits,
Regulations | 23. Assignments |
| 11. Protection of Work,
Property, Persons | 24. Indemnification |
| 12. Supervision by Contractor | 25. Separate Contracts |
| 13. Changes in Work | 26. Subcontracting |
| 14. Changes in Contract Price | 27. Engineer's Authority |
| | 28. Land and Rights-of-Way |
| | 29. Guaranty |
| | 30. Arbitration |

1. DEFINITIONS

- 1.1 Wherever used in the CONTRACT DOCUMENTS, the following terms shall have the meanings indicated and shall be applicable to both the singular and plural thereof:
- 1.2 ADDENDA - Written or graphic instruments issued prior to the execution of the Agreement which modify or interpret the CONTRACT DOCUMENTS, DRAWINGS and SPECIFICATIONS, by additions, deletions, clarifications, or corrections.
- 1.3 BID - The offer or proposal of the BIDDER submitted on the prescribed form setting forth the prices for the WORK to be performed.
- 1.4 BIDDER - Any person, firm, or corporation submitting a BID For the WORK.
- 1.5 BONDS -- Bid, Performance, and Payment Bonds and other instruments of surety, furnished by the CONTRACTOR and the CONTRACTOR'S surety in accordance with the CONTRACT DOCUMENTS.

- 1.6 CHANGE ORDER A written order to the CONTRACTOR authorizing an addition, deletion, or revision in WORK within the general scope of the CONTRACT DOCUMENTS, or authorizing an adjustment in the CONTRACT PRICE or CONTRACT TIME.
- 1.7 CONTRACT DOCUMENTS - The contract, including Advertisement for BIDS, Information for BIDDERS, BID, BID BOND, Agreement, Payment BOND, Performance BOND, NOTICE OF AWARD, NOTICE TO PROCEED, CHANGE ORDER, DRAWINGS, SPECIFICATIONS, AND ADDENDA.
- 1.8 CONTRACT PRICE - The total monies payable to the CONTRACTOR under the terms and conditions of the CONTRACT DOCUMENTS.
- 1.9 CONTRACT TIME - The number of calendar days stated in the CONTRACT DOCUMENTS for the completion of the WORK.
- 1.10 CONTRACTOR - The person, firm, or corporation with whom the OWNER has executed the Agreement.
- 1.11 DRAWINGS The parts of the CONTRACT DOCUMENTS which show the characteristics and scope of the WORK to be performed and which have been prepared or approved by the ENGINEER.
- 1.12 ENGINEER - The person, firm, or corporation named as such in the CONTRACT DOCUMENTS.
- 1.13 FIELD ORDER - A written order effecting a change in the WORK not involving an adjustment in the CONTRACT PRICE or an extension of the CONTRACT TIME, issued by the ENGINEER to the CONTRACTOR during construction.
- 1.14 NOTICE OF AWARD - The written notice of the acceptance of the BID from the OWNER to be the successful BIDDER.
- 1.15 NOTICE TO PROCEED Written communication issued by the OWNER to the CONTRACTOR authorizing him/her to proceed with the WORK and establishing the date for commencement of the WORK.
- 1.16 OWNER A public or quasi-public body or authority, corporation, association, partnership, or an individual for whom the WORK is to be performed.

- 1.17 PROJECT - The undertaking to be performed as provided in the CONTRACT DOCUMENTS.
- 1.18 RESIDENT PROJECT REPRESENTATIVE - The authorized representative of the OWNER who is assigned to the PROJECT site or any part thereof.
- 1.19 SHOP DRAWINGS All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the CONTRACTOR, a SUBCONTRACTOR, manufacturer, SUPPLIER or distributor, which illustrate how specific portions of the WORK shall be fabricated or installed.
- 1.20 SPECIFICATIONS - A part of the CONTRACT DOCUMENTS consisting of written descriptions of a technical nature of materials, equipment, construction systems, standards and workmanship.
- 1.21 SUBCONTRACTOR An individual, firm or corporation having a direct contract with CONTRACTOR or with any other SUBCONTRACTOR for the performance of a part of the WORK at the site.
- 1.22 SUBSTANTIAL COMPLETION - That date certified by the ENGINEER when the construction of the PROJECT or a specified part thereof is sufficiently completed, in accordance with the CONTRACT DOCUMENTS, so that the PROJECT or specified part can be utilized for the purposes for which it is intended.
- 1.23 SUPPLEMENTAL GENERAL CONDITIONS - Modifications to General Conditions.
- 1.24 SUPPLIER - Any person or organization who supplies materials or equipment for the WORK, including that fabricated to a special design, but who does not perform labor at the site.
- 1.25 WORK - All labor necessary to produce the construction required by the CONTRACT DOCUMENTS, and all materials and equipment incorporated or to be incorporated in the PROJECT.
- 1.26 WRITTEN NOTICE Any notice to any party of the Agreement relative to any part of this Agreement in writing and considered delivered and the service thereof completed, when posted by certified or registered mail to the said party at their last given address, or delivered in person to said party or their authorized representative on the WORK.

2. ADDITIONAL INSTRUCTIONS AND DETAIL DRAWINGS
 - 2.1 The CONTRACTOR may be furnished additional instructions and detail drawings, by the ENGINEER, as necessary to carry out the WORK required by the CONTRACT DOCUMENTS.
 - 2.2 The additional drawings and instructions thus supplied will. become a part of the CONTRACT DOCUMENTS. The CONTRACTOR shall carry out the WORK in accordance with the additional detail drawings and instructions.
3. SCHEDULES, REPORTS AND RECORDS
 - 3.1 The CONTRACTOR shall submit to the OWNER such schedule of quantities and costs, progress schedules, payrolls, reports, estimates, records and other data where applicable as are required by the CONTRACT DOCUMENTS for the WORK to be performed.
 - 3.2 Prior to the first partial payment estimate the CONTRACTOR shall submit construction progress schedules showing the order in which the CONTRACTOR proposes to carry on the WORK, including dates at which the various parts of the WORK will be started, estimated date of completion of each part and, as applicable:
 - 3.2.1 The dates at which special detail drawings will be required; and
 - 3.2.2 Respective dates for submission of SHOP DRAWINGS, the beginning of manufacture, the testing and the installation of materials, supplies and equipment.
 - 3.3 The CONTRACTOR shall also submit a schedule of payments that the CONTRACTOR anticipates will be earned during the course of the WORK.
4. DRAWINGS AND SPECIFICATIONS
 - 4.1 The intent of the DRAWINGS and SPECIFICATIONS is that the CONTRACTOR shall furnish labor, materials, tools, equipment, and transportation necessary for the proper execution of the WORK in accordance with the CONTRACT DOCUMENTS and all incidental WORK necessary to complete the PROJECT in an acceptable manner, ready for use, occupancy or operation by the OWNER.
 - 4.2 In case of conflict between the DRAWINGS and SPECIFICATIONS, the SPECIFICATIONS shall govern. Figure dimensions on DRAWINGS shall govern over general DRAWINGS.

4.3 Any discrepancies found between the DRAWINGS and SPECIFICATIONS and site conditions or any inconsistencies or ambiguities in the DRAWINGS or SPECIFICATIONS shall be immediately reported to the ENGINEER, in writing, who shall promptly correct such inconsistencies or ambiguities in writing. WORK done by the CONTRACTOR after discovery of such discrepancies, inconsistencies or ambiguities shall be done at the CONTRACTOR'S risk.

5. SHOP DRAWINGS

5.1 The CONTRACTOR shall provide SHOP DRAWINGS as may be necessary for the prosecution of the WORK as required by the CONTRACT DOCUMENTS. The ENGINEER shall promptly review all SHOP DRAWINGS. The ENGINEER'S approval of any SHOP DRAWINGS shall not release the CONTRACTOR from responsibility for deviations from the CONTRACT DOCUMENTS. The approval of any SHOP DRAWINGS which substantially deviates from the requirement of the CONTRACT DOCUMENTS shall be evidenced by a CHANGE ORDER.

5.2 When submitted for the ENGINEER'S review, SHOP DRAWINGS shall bear the CONTRACTOR'S certification that he has reviewed, checked and approved the SHOP DRAWINGS and that they are in conformance with the requirements of the CONTRACT DOCUMENTS.

5.3 Portions of the WORK requiring a SHOP DRAWING or sample submission. shall not begin until the SHOP DRAWING or submission has been approved by the ENGINEER. A copy of each approved SHOP DRAWING and each approved sample shall be kept in good order by the CONTRACTOR at the site and shall be available to the ENGINEER.

6. MATERIALS, SERVICES AND FACILITIES

6.1 It is understood that, except as otherwise specifically stated in the CONTRACT DOCUMENTS, the CONTRACTOR shall provide and pay for all materials, labor, tools, equipment, water, light, power, transportation, supervision, temporary construction of any nature, and all other services and facilities of any nature whatsoever necessary to execute, complete, and deliver the WORK within the specified time.

6.2 Materials supplied by the CONTRACTOR and equipment shall be so stored as to insure the preservation of their quality and fitness for the WORK. Stored materials and equipment to be incorporated in the WORK

shall be located so as to facilitate prompt inspection.

- 6.3 Manufactured articles, materials, and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned as directed by the manufacturer.
- 6.4 Materials, supplies, and equipment shall be in accordance with samples submitted by the CONTRACTOR and approved by the ENGINEER.
- 6.5 Materials, supplies, or equipment to be incorporated into the WORK shall not be purchased by the CONTRACTOR or the SUBCONTRACTOR subject to a chattel mortgage or under a conditional sale contract or other agreement by which any interest is retained by the seller.

7. INSPECTION AND TESTING

- 7.1 All materials and equipment used in the construction of the PROJECT shall be subject to adequate inspection and testing in accordance with generally accepted standards, as required and defined in the CONTRACT DOCUMENTS.
- 7.2 The OWNER shall provide all inspection and testing services not required by the CONTRACT DOCUMENTS.
- 7.3 The CONTRACTOR shall provide at the CONTRACTOR'S expense the testing and inspection services required by the CONTRACT DOCUMENTS.
- 7.4 If the CONTRACT DOCUMENTS, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any WORK to specifically be inspected, tested, or approved by someone other than the CONTRACTOR, the CONTRACTOR will give the ENGINEER timely notice of readiness. The CONTRACTOR will then furnish the ENGINEER the required certificates of inspection, testing or approval.
- 7.5 Inspections, tests, or approvals by the ENGINEER or others shall not relieve the CONTRACTOR from the obligations to perform the WORK in accordance with the requirements of the CONTRACT DOCUMENTS.
- 7.6 The ENGINEER and the ENGINEER'S representatives will at all times have access to the WORK. In addition, authorized representatives and agents of any participating Federal or State agency shall be permitted to inspect all work, materials, payrolls,

records or personnel, invoices of materials, and other relevant data and records. The CONTRACTOR will provide proper facilities for such access and observation of the WORK and also for any inspection or testing thereof.

- 7.7 If any WORK is covered contrary to the written instructions of the ENGINEER it must, if requested by the ENGINEER, be uncovered for the ENGINEER'S observation and replaced at the CONTRACTOR'S expense.
- 7.8 If the ENGINEER considers it necessary or advisable that covered WORK be inspected or tested by others, the CONTRACTOR, at the ENGINEER'S request, will uncover, expose or otherwise make available for observation, inspection or testing as the ENGINEER may require, that portion of the WORK in question, furnishing all necessary labor, materials, tools, and equipment. If it is found that such WORK is defective, the CONTRACTOR will bear all the expenses of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, if, however, such WORK is not found to be defective, the CONTRACTOR will be allowed an increase in the CONTRACT PRICE or an extension of the CONTRACT TIME, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction and an appropriate CHANGE ORDER shall be issued.

8. SUBSTITUTIONS

- 8.1 Whenever a material, article, or piece of equipment is identified on the DRAWINGS or SPECIFICATIONS by reference to brand name or catalogue numbers, it shall be understood that this is referenced for the purpose of defining the performance or other salient requirements and that other products of equal capacities, quality and function shall be considered. The CONTRACTOR may recommend the substitution of a material, article, or piece of equipment of equal substance and function for those referred to in the CONTRACT DOCUMENTS by reference to brand name or catalogue number, and if, in the opinion of the ENGINEER, such material, article, or piece of equipment is of equal substance and function to that specified, the ENGINEER may approve its substitution and use by the CONTRACTOR. Any cost differential shall be deductible from the CONTRACT PRICE and the CONTRACT DOCUMENTS shall be appropriately modified by CHANGE ORDER. The CONTRACTOR warrants that if substitutes are approved, no major changes in the function or general

design of the PROJECT will result. Incidental changes or extra component parts required to accommodate the substitute will be made by the CONTRACTOR without a change in the CONTRACT PRICE or CONTRACT TIME.

The ENGINEER and/or OWNER reserves the right to reject any proposed substitution based upon quality or price comparison with specified equipment. The ENGINEER and/or OWNER may also reject any proposed substitution based on previous, unsatisfactory experience with equipment or materials from proposed manufacturer. In the case of such a rejection, the CONTRACTOR shall provide the specified equipment or another approved substitution, at no additional cost to the CONTRACT. CONTRACTOR shall not assume that the terms "or equal" constitutes an automatic approval of a proposed substitution.

9. PATENTS

9.1 The CONTRACTOR shall pay all applicable royalties and license fees, and shall defend all suits or claims for infringement of any patent rights and save the OWNER harmless from loss on account thereof, except that the OWNER shall be responsible for any such loss when a particular process, design, or product of a particular manufacturer or manufacturers is specified, however, if the CONTRACTOR has reason to believe that the design, process or product specified is an infringement of a patent, the CONTRACTOR shall be responsible for such loss unless the CONTRACTOR promptly gives such information to the ENGINEER.

10. SURVEYS, PERMITS, REGULATIONS

10.1 The OWNER shall furnish all boundary surveys and establish all base lines for locating the principal component parts of the WORK together with a suitable number of bench marks adjacent to the WORK as shown in the CONTRACT DOCUMENTS. From the information provided by the OWNER, unless otherwise specified in the CONTRACT DOCUMENTS, the CONTRACTOR shall develop and make all detail surveys needed for construction such as slope stakes, batter boards, stakes for pipe locations and other working points, lines, elevations and cut sheets.

10.2 The CONTRACTOR shall carefully preserve bench marks, reference points and stakes and, in case of willful or careless destruction, shall be charged with the resulting expense and shall be responsible for any

mistake that may be caused by their unnecessary loss or disturbance.

10.3 Permits and licenses of a temporary nature necessary for the prosecution of the WORK shall be secured and paid for by the CONTRACTOR unless otherwise stated in the SUPPLEMENTAL GENERAL CONDITIONS. Permits, licenses and easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by the OWNER, unless otherwise specified. The CONTRACTOR shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the WORK as drawn and specified. If the CONTRACTOR observes that the CONTRACT DOCUMENTS are at variance therewith, the CONTRACTOR shall promptly notify the ENGINEER in writing, and any necessary changes shall be adjusted as provided in Section 13, CHANGES IN THE WORK.

11. PROTECTION OF WORK, PROPERTY, AND PERSONS

11.1 The CONTRACTOR will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the WORK. The CONTRACTOR will take all necessary precautions for the safety of, will provide the necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to all employees on the WORK and other persons who may be affected thereby, all the WORK and all materials or equipment to be incorporated therein, whether in storage on or off the site, and other property at the site or adjacent thereto, including trees, shrubs, lawn?, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

11.2 The CONTRACTOR will comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction. The CONTRACTOR will erect and maintain, as required by the conditions and progress of the WORK, all necessary safeguards for safety and protection. The CONTRACTOR will notify OWNERS of adjacent utilities when prosecution of the WORK may affect them. The CONTRACTOR will remedy all damage, injury or loss to any property caused, directly or indirectly, in whole or part, by the CONTRACTOR, any SUBCONTRACTOR or anyone directly or indirectly employed. by any of them or anyone of whose acts any of them be liable, except damage or loss attributable to the fault of the CONTRACT DOCUMENTS or to the acts or omissions

of the OWNER, of the ENGINEER or anyone employed by either of them or anyone for whose acts either of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of the CONTRACTOR.

- 11.3 In emergencies affecting the safety of persons or the WORK or property at the site or adjacent thereto, the CONTRACTOR, without special instructions or authorization from the ENGINEER Or OWNER, shall act to prevent threatened damage, injury or loss. The CONTRACTOR will give the ENGINEER prompt WRITTEN NOTICE of any significant changes in the WORK or deviations from the CONTRACT DOCUMENTS caused thereby, and a CHANGE ORDER shall thereupon be issued covering the changes and deviations involved.

12. SUPERVISION BY CONTRACTOR

- 12.1 The CONTRACTOR will supervise and direct the WORK. He will be solely responsible for the means, methods, techniques, sequences and procedures of construction. The CONTRACTOR will employ and maintain on the WORK a qualified supervisor or superintendent who shall have been designated in writing by the CONTRACTOR as the CONTRACTOR'S representative at the site. The supervisor shall have full authority to act on behalf of the CONTRACTOR and all communications given to the supervisor shall be as binding as if given to the CONTRACTOR. The supervisor shall be present on the site at all times as required to perform adequate supervision and coordination of the WORK.

13. CHANGES IN THE WORK

- 13.1 The OWNER may at any time, as the need arises, order changes within the scope of the WORK without invalidating the Agreement. If such changes increase or decrease the amount due under the CONTRACT DOCUMENTS, or in the time required for performance of the WORK, an equitable adjustment shall be authorized by CHANGE ORDER.
- 13.2 The ENGINEER, also, may at any time, by issuing a FIELD ORDER, make changes in the details of the WORK. The CONTRACTOR shall proceed with the performance of any changes in the WORK so ordered by the ENGINEER unless the CONTRACTOR believes that such FIELD ORDER entitles the CONTRACTOR to a change in CONTRACT PRICE or TIME, or both, in which event the CONTRACTOR shall give the ENGINEER WRITTEN NOTICE thereof within seven (7) days

after the receipt of the ordered change. Thereafter the CONTRACTOR shall document the basis for the change in CONTRACT PRICE OR TIME within thirty (30) days. The CONTRACTOR shall not execute such changes pending the receipt of an executed CHANGE ORDER for further instruction from the OWNER.

14. CHANGES IN CONTRACT PRICE

14.1 The CONTRACT PRICE may be changed only by a CHANGE ORDER. The value of any WORK covered by a CHANGE ORDER or of any claim for increase or decrease in the CONTRACT PRICE shall be determined by one or more of the following methods in the order of precedence listed below:

- a. Unit prices previously approved.
- b. An agreed lump sum.

15. TIME FOR COMPLETION AND LIQUIDATED DAMAGES

15.1 The date of beginning and the time for completion of the WORK are essential conditions of the CONTRACT DOCUMENTS and the WORK embraced shall be commenced on a date specified in the NOTICE TO PROCEED.

15.2 The CONTRACTOR will proceed with the WORK at such rate of progress to insure full completion within the CONTRACT TIME. It is expressly understood and agreed, by and between the CONTRACTOR and the OWNER, that the CONTRACT TIME for the completion of the WORK described herein is a reasonable time, taking into consideration the average climatic and economic conditions and other factors prevailing in the locality of the WORK.

15.3 If the CONTRACTOR shall fail to complete the WORK within the CONTRACT TIME, or extension of time granted by the OWNER, then the CONTRACTOR will pay to the OWNER the amount for liquidated damages as specified in the BID for each calendar day that the CONTRACTOR shall be in default after the time stipulated in the CONTRACT DOCUMENTS. In addition to Liquidated Damages, the CONTRACTOR shall reimburse the ENGINEER for additional inspection and engineering services required due to overrun of the contract time, or the overrun of approved extension of contract time. This will be paid at 2.5 times the direct expense to the ENGINEER and will be withheld from the CONTRACTOR'S monthly pay request. The OWNER will pay the ENGINEER directly from the withheld amount.

15.4 The CONTRACTOR shall not be charged with liquidated

damages or any excess cost or any payment to the ENGINEER when the delay in completion of the WORK is due to the following and the CONTRACTOR has promptly given WRITTEN NOTICE of such delay to the OWNER or ENGINEER.

- 15.4.1 To any preference, priority or allocation order duly issued by the OWNER.
- 15.4.2 To unforeseeable causes beyond the control and without the fault or negligence of the CONTRACTOR, including but not restricted to, acts of God or of the public enemy, acts of the OWNER, acts of another CONTRACTOR in the performance of a contract with the OWNER, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and abnormal and unforeseeable weather; and
- 15.4.3 To any delays of SUBCONTRACTORS occasioned by any of the causes specified in paragraphs 15.4.1 and 15.4.2 of this article.

16. CORRECTION OF WORK

- 16.1 The CONTRACTOR shall promptly remove from the premises all WORK rejected by the ENGINEER for failure to comply with the CONTRACT DOCUMENTS, whether incorporated in the construction or not, and the CONTRACTOR shall promptly replace and re-execute the WORK in accordance with the CONTRACT DOCUMENTS and without expense to the OWNER and shall bear the expense of making good all WORK of other CONTRACTORS destroyed or damaged by such removal or replacement.
- 16.2 All removal and replacement WORK shall be done at the CONTRACTOR'S expense. If the CONTRACTOR does not take action to remove such rejected WORK within ten (10) days after receipt of WRITTEN NOTICE, the OWNER may remove such WORK and store the materials at the expense of the CONTRACTOR.

17. SUBSURFACE CONDITIONS

- 17.1 The CONTRACTOR shall promptly, and before such conditions are disturbed, except in the event of an emergency, notify the OWNER by WRITTEN NOTICE of:
 - 17.1.1 Subsurface or latent physical conditions at the site differing materially from those indicated in the CONTRACT DOCUMENTS; or

- 17.1.2 Unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in WORK of the character provided for in the CONTRACT DOCUMENTS.
- 17.2 The OWNER shall promptly investigate the conditions, and if it is found that such conditions do so materially differ and cause an increase or decrease in the cost of, or in the time required for, performance of the WORK, an equitable adjustment shall be made and the CONTRACT DOCUMENTS shall be modified by a CHANGE ORDER. Any claim of the CONTRACTOR for adjustment hereunder shall not be allowed unless the required WRITTEN NOTICE has been given; provided that the OWNER may, if the OWNER determines the facts so justify, consider and adjust any such claims asserted before the date of final payment.
18. SUSPENSION OF WORK, TERMINATION, AND DELAY
- 18.1 The OWNER may suspend the WORK or any portion thereof for a period of not more than ninety days or such further time as agreed upon by the CONTRACTOR, by WRITTEN NOTICE to the CONTRACTOR and the ENGINEER which shall fix the date on which WORK shall be resumed. The CONTRACTOR will resume that WORK on the date so fixed. The CONTRACTOR will be allowed an increase in the CONTRACT PRICE or an extension of the CONTRACT TIME, or both, directly attributable to any suspension.
- 18.2 If the CONTRACTOR is adjudged as bankrupt or insolvent, or makes a general assignment for the benefit of its creditors, or if a trustee or receiver is appointed for the CONTRACTOR or for any of its property, or if CONTRACTOR files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or applicable laws, or repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment, or repeatedly fails to make prompt payments to SUBCONTRACTORS or for labor, materials or equipment or disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction of the WORK or disregards the authority of the ENGINEER, or otherwise violates any provision of the CONTRACT DOCUMENTS, then the OWNER may, without prejudice to any other right or remedy and after giving the CONTRACTOR and its surety a minimum of ten (10) days from delivery of a WRITTEN NOTICE, terminate the services of the CONTRACTOR and take possession of the PROJECT and of all materials, equipment, tools, construction equipment

and machinery thereon owned by the CONTRACTOR, and finish the WORK by whatever method the OWNER may deem expedient. In such case the CONTRACTOR shall not be entitled to receive any further payment until the WORK is finished. If the unpaid balance of the CONTRACT PRICE exceeds the direct and indirect costs of completing the PROJECT, including compensation for additional professional services, such excess SHALL BE PAID TO THE CONTRACTOR. If such costs exceed such unpaid balance, the CONTRACTOR will pay the difference to the OWNER. Such costs incurred by the OWNER will be determined by the ENGINEER and incorporated in a CHANGE ORDER.

- 18.3 Where the CONTRACTOR'S services have been so terminated by the OWNER, said termination shall not affect any right of the OWNER against the CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of monies by the OWNER due the CONTRACTOR will not release the CONTRACTOR from compliance with the CONTRACT DOCUMENTS.
- 18.4 After ten (10) days from delivery of a WRITTEN NOTICE to the CONTRACTOR and the ENGINEER, the OWNER may without cause and without prejudice to any other right or remedy, elect to abandon the PROJECT and terminate the contract. In such case the CONTRACTOR shall be paid for all WORK executed and any expense sustained plus reasonable profit.
- 18.5 If, through no act or fault of the CONTRACTOR, the WORK is suspended for a period of more than ninety (90) days by the OWNER or under an order of court or other public authority, or the ENGINEER fails to act on any request for payment within thirty (30) days after it is submitted, or the OWNER fails to pay the CONTRACTOR substantially the sum approved by the ENGINEER or awarded by arbitrators within thirty (30) days of its approval and presentation, then the CONTRACTOR may, after ten (10) days from delivery of a WRITTEN NOTICE to the OWNER and the ENGINEER terminate the contract and recover from the OWNER payment for all WORK executed and all expenses sustained. In addition, and in lieu of terminating the contract, if the ENGINEER has failed to act on a request for payment or if the OWNER has failed to make any payment as aforesaid, the CONTRACTOR may upon ten (10) days WRITTEN NOTICE to the OWNER and the ENGINEER stop the WORK until paid all amounts then due, in which event and upon resumption of the WORK CHANGE ORDERS shall be issued for adjusting the CONTRACT PRICE or extending the CONTRACT TIME or

both to compensate for the costs and delays attributable to the stoppage of the WORK.

18.6 If the performance of all or any portion of the WORK is suspended, delayed, or interrupted as a result of a failure of the OWNER or ENGINEER to act within the time specified in the CONTRACT DOCUMENTS, or if no time is specified, within a reasonable time, an adjustment in the CONTRACT PRICE or an extension of the CONTRACT TIME, or both, shall be made by CHANGE ORDER to compensate the CONTRACTOR for the costs and delays necessarily caused by the failure of the OWNER or ENGINEER.

19. PAYMENT TO CONTRACTOR

19.1 At least ten (10) days before each progress payment falls due (but not more often than once a month), the CONTRACTOR will submit to the ENGINEER a partial payment estimate filled out and signed by the CONTRACTOR covering the WORK performed during the period covered by the partial payment estimate and supported by such data as the ENGINEER may reasonably require. If payment is requested on the basis of materials and equipment not incorporated in the WORK but delivered and suitably stored at or near the site, the partial payment estimate shall also be accompanied by such supporting data, satisfactory to the OWNER, as will establish the OWNER'S title to the material and equipment and protect the OWNER'S interest therein, including applicable insurance. The ENGINEER will, within ten (10) days after receipt of each partial payment estimate, either indicate in writing approval of payment, and present the partial payment estimate to the OWNER, or return the partial payment estimate to the CONTRACTOR indicating in writing the reasons for refusing to approve payment. In the latter case, the CONTRACTOR may make the necessary corrections and re-submit the partial payment estimate. The OWNER will, within ten (10) days of presentation of an approved partial payment estimate, pay the CONTRACTOR a progress payment on the basis of the approved partial payment estimate less the retainage. The retainage shall be an amount equal to 10% of said estimate until 50% of the WORK has been completed. At 50% completion, no additional retainage will be withheld, such that total retainage will be gradually reduced from 10% at 50% completion to 5% at 100% completion. At 50% completion or any time thereafter when the progress of the WORK is not satisfactory, additional amounts may be retained but in no event shall the total retainage be more than

10% of the value of the WORK completed. The retainage amount withheld in the Contractor's Application for Payments shall be invested by the Owner at the current market rate for the duration of the Project. If the Project is completed within the time limits specified and at the Contract Price specified, subject to any authorized modification thereto, the interest earned on the retainage shall be paid to the Contractor. Any expenses charged by the financial institution for the retainage investment account will be deducted from the interest earned on the account. Payment of the interest to the Contractor shall be made with the final payment, after the Engineer certifies that the Work, including incomplete minor items remaining after substantial completion, has been completed. If the Contractor does not satisfy the time and/or price conditions, the Owner will retain the interest earned on retainage. When the WORK has been substantially completed except for WORK which cannot be completed because of weather conditions, lack of materials or other reasons 'which in the judgment of the OWNER are valid reasons for non-completion, the OWNER may make additional payments, retaining at all times an amount sufficient to cover the estimated cost of the WORK still to be completed.

- 19.2 The request for payment may also include an allowance for the cost of such major materials and equipment which are suitably stored either at or near the site.
- 19.3 Prior to SUBSTANTIAL COMPLETION, the OWNER, with the approval of the ENGINEER and with the concurrence of the CONTRACTOR, may use any completed or substantially completed portions of the WORK. Such use shall not constitute an acceptance of such portions of the WORK.
- 19.4 The OWNER shall have the right to enter the premises for the purpose of doing WORK not covered by the CONTRACT DOCUMENTS. This provision shall not be construed as relieving the CONTRACTOR of the sole responsibility for the care and protection of the WORK, or the restoration of any damaged WORK except such as may be caused by agents or employees of the OWNER.
- 19.5 Upon completion and acceptance of the WORK, the ENGINEER shall issue a certificate attached to the final payment request that the WORK has been accepted under the conditions of the CONTRACT DOCUMENTS. The entire balance found to be due the CONTRACTOR, including the retained percentages, but except such sums as may be lawfully retained by the OWNER, shall be

paid to the CONTRACTOR within thirty (30) days of completion and acceptance of the WORK.

19.6 The CONTRACTOR will indemnify and save the OWNER or the OWNER'S agents harmless from all claims growing out of the lawful demand of SUBCONTRACTORS, laborers, workmen, mechanics, materialmen, and furnishers of machinery and parts thereof, equipment, tools, and all supplies, incurred in the furtherance of the performance of the WORK. The CONTRACTOR shall, at the OWNER'S request, furnish satisfactory evidence that all obligations of the nature designated above have been paid, discharged, or waived. If the CONTRACTOR fails to do so the OWNER may, after having notified the CONTRACTOR, either pay unpaid bills or withhold from the CONTRACTOR'S unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the CONTRACTOR shall be resumed in accordance with the terms of the CONTRACT DOCUMENTS, but in no event shall the provisions of this sentence be construed to impose any obligations upon the OWNER to either the CONTRACTOR, the CONTRACTOR'S Surety, or any third party. In paying any unpaid bills of the CONTRACTOR, any payment so made by the OWNER shall be considered as a payment made under the CONTRACT DOCUMENTS by the OWNER to the CONTRACTOR and the OWNER shall not be liable to the CONTRACTOR for any such payments made in good faith.

19.7 If the OWNER fails to make payment thirty (30) days after approval by the ENGINEER, in addition to other remedies available to the CONTRACTOR, there shall be added to each such payment interest at the maximum legal rate commencing on the first day after said payment is due and continuing until the payment is received by the CONTRACTOR.

20. ACCEPTANCE OF FINAL PAYMENT AS RELEASE

20.1 The acceptance by the CONTRACTOR of final payment shall be and shall operate as a release to the OWNER of all claims and all liability to the CONTRACTOR other than claims in stated amounts as may be specifically excepted by the CONTRACTOR for all things done or furnished in connection with this WORK and for every act and neglect of the OWNER and others relating to or arising out of this WORK. Any payment, however, final or otherwise, shall not release the CONTRACTOR or its sureties from any obligations under the CONTRACT

DOCUMENTS or the Performance and Payment BONDS.

21. INSURANCE

- 21.1 The CONTRACTOR shall purchase and maintain such insurance as will protect it from claims set forth below which may arise out of, or result from, the CONTRACTOR'S execution of the WORK, whether such execution be by the CONTRACTOR, any SUBCONTRACTOR, or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:
- 21.1.1 Claims under workmen's compensation, disability benefit and other similar employee benefit acts;
- 21.1.2 Claims for damages because of bodily injury, occupational sickness or disease, or death of employees;
- 21.1.3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than employees;
- 21.1.4 Claims for damages insured by usual personal injury liability coverage which are sustained (1) by any person as a result of an offense directly or indirectly related to the employment of such person by the CONTRACTOR, or (2) by any other person; and
- 21.1.5 Claims for damages because of injury to or destruction of tangible property, including loss of use resulting therefrom.
- 21.2 Certificates of Insurance acceptable to the OWNER shall be filed with the OWNER prior to commencement of the WORK. These Certificates shall contain a provision that coverages afforded under the policies will not be canceled unless at least fifteen (15) days prior WRITTEN NOTICE has been given to the OWNER.
- 21.3 The CONTRACTOR shall procure and maintain, at the CONTRACTOR'S own expense, during the CONTRACT TIME, liability insurance as hereinafter specified:
- 21.3.1 CONTRACTOR'S General Public Liability and Property Damage Insurance including vehicle coverage issued to the CONTRACTOR and protecting the CONTRACTOR from all claims for personal injury, including death, and all claims for destruction of or damage to property, arising out of or in connection with any operations

under the CONTRACT DOCUMENTS, whether such operations be by the CONTRACTOR or by any SUBCONTRACTOR employed by the CONTRACTOR or anyone directly or indirectly employed by the CONTRACTOR or by a SUBCONTRACTOR employed by the CONTRACTOR. Insurance shall be written with a limit of liability of not less than \$1,000,000 for all damages arising out of bodily injury, including death, at any time resulting therefrom, sustained by any one person in any one accident; and a limit of liability of not less than \$1,000,000 aggregate for any such damages sustained by two or more persons in any one accident. Insurance shall be written with a limit of liability of not less than \$500,000 for all property damage sustained by any one person in any one accident; and a limit of liability of not less than \$500,000 aggregate for any such damage sustained by two or more persons in any one accident.

21. 3. 2 The CONTRACTOR shall acquire and maintain, Fire and Extended Coverage insurance upon the PROJECT to the full insurable value thereof for the benefit of the OWNER, the CONTRACTOR, and SUBCONTRACTORS as their interest may appear. This provision shall in no way release the CONTRACTOR or CONTRACTOR'S surety from obligations under the CONTRACT DOCUMENTS to fully complete the PROJECT.
21. 4 The CONTRACTOR shall procure and maintain, at the CONTRACTOR'S own expense, during the CONTRACT TIME, in accordance with the provisions of the laws of the state in which the WORK is performed, Workmen's Compensation Insurance, including occupational disease provisions, for all of the CONTRACTOR'S employees at the site of the PROJECT and in case any WORK is sublet, the CONTRACTOR shall require such SUBCONTRACTOR similarly to provide Workmen's Compensation Insurance, including occupational disease provisions for all of the latter's employees unless such employees are covered by the protection afforded by the CONTRACTOR. In case any class of employees engaged in hazardous WORK under this contract at the site of the PROJECT is not protected under Workmen's Compensation statute, the CONTRACTOR shall provide, and shall cause each SUBCONTRACTOR to provide, adequate and suitable insurance for the protection of its employees not otherwise protected.
21. 5 The CONTRACTOR shall secure, "All Risk" type Builder's Risk Insurance for WORK to be performed. Unless specifically authorized by the OWNER, the amount of such insurance shall not be less than the CONTRACT PRICE totaled in the BID. The policy shall cover not

less than the losses due to fire, explosion, hail, lightning, vandalism, malicious mischief, wind, collapse, riot, aircraft, and smoke during the CONTRACT TIME, and until the WORK is accepted by the OWNER. The policy shall name as the insured the CONTRACTOR, and the OWNER.

22. CONTRACT SECURITY

22.1 The CONTRACTOR shall within ten (10) days after the receipt of the NOTICE OF AWARD furnish the OWNER with a Performance BOND and a Payment BOND in penal sums equal to the amount of the CONTRACT PRICE, conditioned upon the performance by the CONTRACTOR of all undertakings, covenants, terms, conditions and agreements of the CONTRACT DOCUMENTS, and upon the prompt payment by the CONTRACTOR to all persons supplying labor and materials in the prosecution of the WORK provided by the CONTRACT DOCUMENTS. Such BONDS shall be executed by the CONTRACTOR and a corporate bonding company licensed to transact such business in the state in which the WORK is to be performed and named on the current list of "Surety Companies Acceptable on Federal Bonds" as published in the Treasury Department Circular Number 570. The expense of these BONDS shall be borne by the CONTRACTOR. If at any time a surety on any such BOND is declared a bankrupt or loses its right to do business in the state in which the WORK is to be performed or is removed from the list of Surety Companies accepted on Federal Bonds, CONTRACTOR shall within ten (10) days after notice from the OWNER to do so, substitute an acceptable BOND (or BONDS) in such form and sum and signed by such other surety or sureties as may be satisfactory to the OWNER. The premiums on such BOND shall be paid by the CONTRACTOR. No further payment shall be deemed due nor shall be made until the new surety or sureties shall have furnished an acceptable BOND to the OWNER.

23. ASSIGNMENTS

23.1 Neither the CONTRACTOR nor the OWNER shall sell, transfer, assign, or otherwise dispose of the Contract or any portion thereof, or of any right, title or interest therein, or any obligations thereunder, without written consent of the other party.

24. INDEMNIFICATION

24.1 The CONTRACTOR will indemnify and hold harmless the OWNER and the ENGINEER and their agents and employees

from an against all claims, damages, losses and expenses including attorney's fees arising out of or resulting from the performance of the WORK, provided that any such claims, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property including the loss of use resulting therefrom; and is caused in whole or in part by any negligent or willful act or omission of the CONTRACTOR, and SUBCONTRACTOR, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable.

24.2 In any and all claims against the OWNER or the ENGINEER, or any of their agents or employees, by any employee of the CONTRACTOR, any SUBCONTRACTOR, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the CONTRACTOR or any SUBCONTRACTOR under Workmen's Compensation acts, disability benefit acts or other employee benefits acts.

24.3 The obligation of the CONTRACTOR under this paragraph shall not extend to the liability of the ENGINEER, its agents or employees arising out of the preparation or approval of maps, DRAWINGS, opinions, reports, surveys, CHANGE ORDERS, designs or SPECIFICATIONS.

25. SEPARATE CONTRACTS

25.1 The OWNER reserves the right to let other contracts in connection with this PROJECT. The CONTRACTOR shall afford other CONTRACTORS reasonable opportunity for the introduction and storage of their materials and the execution of their WORK, and shall properly connect and coordinate the WORK with theirs.

If the proper execution or results of any part of the CONTRACTOR'S WORK depends upon the WORK of any other CONTRACTOR, the CONTRACTOR shall inspect and promptly report to the ENGINEER any defects in such WORK that render it unsuitable for such proper execution and results.

25.2 The OWNER may perform additional WORK related to the PROJECT or the OWNER may let other contracts containing provisions similar to these. The CONTRACTOR will afford the other CONTRACTOR'S who are parties to such

Contracts (or the OWNER, if the OWNER is performing the additional WORK) reasonable opportunity for the introduction and storage of materials and equipment and the execution of WORK, and shall properly connect and coordinate the WORK with the s.

- 25.3 If the performance of additional WORK by other CONTRACTOR'S or the OWNER is not noted in the CONTRACT DOCUMENTS prior to the execution of the CONTRACT, written notice thereof shall be given to the CONTRACTOR prior to starting any such additional WORK. If the CONTRACTOR believes that the performance of such additional WORK by the OWNER or others involves it in additional expense or entitles it to an extension of the CONTRACT TIME, the CONTRACTOR may make a claim thereof as provided in Sections 14 and 15.

26. SUBCONTRACTING

- 26.1 The CONTRACTOR may utilize the services of specialty SUBCONTRACTS on those parts of the WORK which, under normal contracting practices, are performed by specialty SUBCONTRACTORS.
- 26.2 The CONTRACTOR shall not award WORK to SUBCONTRACTOR(s), in excess of fifty (50%) percent of the CONTRACT PRICE, without prior written approval of the OWNER.
- 26.3 The CONTRACTOR shall be fully responsible to the OWNER for the acts and omissions of its SUBCONTRACTORS, and of persons either directly or indirectly employed by them, as the CONTRACTOR is for the acts and omissions of persons directly employed by it.
- 26.4 The CONTRACTOR shall cause appropriate provisions to be inserted in all subcontracts relative to the WORK to bind SUBCONTRACTORS to the CONTRACTOR by the terms of the CONTRACT DOCUMENTS insofar as applicable to the WORK of SUBCONTRACTORS and give the CONTRACTOR the same power as regards terminating any subcontract that the OWNER may exercise over the CONTRACTOR under any provision of the CONTRACT DOCUMENTS.
- 26.5 Nothing contained in this CONTRACT shall create any contractual relation between any SUBCONTRACTOR and the OWNER.

27. ENGINEER'S AUTHORITY

- 27.1 The ENGINEER shall act as the OWNER'S representative

during the construction period, shall decide questions which may arise as to quality and acceptability of materials furnished and WORK performed, and shall interpret the intent of the CONTRACT DOCUMENTS in a fair and unbiased manner. The ENGINEER will make visits to the site and determine if the WORK is proceeding in accordance with the CONTRACT DOCUMENTS.

- 27.2 The CONTRACTOR will be held strictly to the intent of the CONTRACT DOCUMENTS in regard to the quality of materials, workmanship, and execution of the WORK. Inspections may be at the factory or fabrication plant of the source of material supply.
- 27.3 The ENGINEER will not be responsible for the construction means, controls, techniques, sequences, procedures, or construction safety.
- 27.4 The ENGINEER shall promptly make decisions relative to interpretation of the CONTRACT DOCUMENTS.
28. LAND AND RIGHTS-OF-WAY
- 28.1 Prior to issuance of NOTICE TO PROCEED, the OWNER shall obtain all land and rights-of-way necessary for carrying out and for the completion of the WORK to be performed pursuant to the CONTRACT DOCUMENTS, unless otherwise mutually agreed.
- 28.2 The OWNER shall provide to the CONTRACTOR information which delineates and describes the lands owned and rights-of way acquired.
- 28.3 The CONTRACTOR shall provide at its own expense and without liability to the OWNER any additional land and access thereto that the CONTRACTOR may desire for temporary construction facilities, or for storage of materials.
29. GUARANTEE
- 29.1 The CONTRACTOR shall guarantee all materials supplied by the CONTRACTOR and equipment furnished and WORK performed for a period of one (1) year from the date of SUBSTANTIAL COMPLETION. The CONTRACTOR warrants and guarantees for a period of one (1) year from the date of SUBSTANTIAL COMPLETION of the system that the completed system is free from all defects due to faulty materials supplied by the CONTRACTOR or workmanship and the CONTRACTOR shall promptly make such corrections as may be necessary by reason of such defects including

the repairs of the damage of other parts of the system resulting from such defects.

The OWNER will give notice of observed defects with reasonable promptness. In the event that the CONTRACTOR should fail to make such repairs, adjustments, or other WORK that may be made necessary by such defects, the OWNER may do so and charge the CONTRACTOR the cost thereby incurred. The Performance BOND shall remain in full force and effect through the guarantee period.

30. ARBITRATION BY MUTUAL AGREEMENT

30.1 All claims, disputes, and other matters in question arising out of, or relating to, the CONTRACT DOCUMENTS or the breach thereof, except for claims which have been waived by making an acceptance of final payment as provided by Section 20, may be decided by arbitration if the parties mutually agree. Any agreement to arbitrate shall be specifically enforceable under the prevailing arbitration law. The award rendered by the arbitrators shall be final, and judgment may be entered upon in any court having jurisdiction thereof.

30.2 Notice of the request for arbitration shall be filed in writing with the other party to the CONTRACT DOCUMENTS and a copy shall be filed with the ENGINEER. Request for arbitration shall in no event be made on any claim, dispute, or other matter in question which would be barred by the applicable statute of limitations.

30.3 The CONTRACTOR will carry on the WORK and maintain the progress schedule during any arbitration proceedings, unless otherwise mutually agreed in writing.

SUPPLEMENTAL GENERAL CONDITIONS

1. CONTRACT CHANGES.

All changes which affect the cost of the construction of the project must be authorized by means of a Contract Change Order. The Contract Change Order will include extra work, work for which quantities have been altered from those shown in the bidding schedule, as well as decreases or increases in the quantities of installed units which are different than those shown in the Bidding Schedule because of final measurements. All changes should be recorded on a contract change order as they occur so they may be included in the partial payment estimate. All contract change orders must be approved by the ENGINEER and OWNER.

2. EQUAL OPPORTUNITY CLAUSE
 - A. The contractor will not discriminate against any employee or applicant for employment because of race, color, creed, sex, age, marital status, or national origin. The CONTRACTOR will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, creed, sex, age, marital status or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The CONTRACTOR agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this equal opportunity clause.
 - B. The CONTRACTOR will, in all solicitations or advertisements for employees placed by or on behalf of the CONTRACTOR, state that all qualified applicants will receive consideration for employment without regard to race, color, creed, sex, age, marital status, or national origin.

3. PROTECTION OF LIVES AND PROPERTY
 - A. In order to protect the lives and health of its employees under the Contract, the CONTRACTOR shall comply with all pertinent provisions of the "Manual of Accident Prevention in Construction" issued by the Associated General Contractors of America, Inc., and shall maintain an accurate record of all cases of death, occupational disease, and injury requiring medical attention or causing loss of time from work, arising out of and in the course of employment or work under the Contract.
 - B. The CONTRACTOR alone shall be responsible for the safety, security, efficiency, and adequacy of the construction site

and for its plant, appliances, and methods, and for any damage which may result from their failure or their improper construction, maintenance, or operation.

4. No official of the OWNER who is authorized in such capacity and on behalf of the OWNER to negotiate, make, accept, or approve, or to take part in negotiating, making, accepting, or approving any architectural, engineering, inspecting, construction or material supply contract or any subcontract in connection with the construction of the project, shall become directly or indirectly interested personally in this contract or in any part thereof. No officer, employee, architect, attorney, engineer, or inspector of or for the OWNER who is authorized in such capacity and on behalf of the OWNER who is in any legislative, executive, supervisory, or other similar functions in connection with the construction of the project, shall become directly or indirectly interested personally in this contract, or in any part thereof, any material supply contract, subcontract, insurance contract, or any other contract pertaining to the project.
5. The ENGINEER may withhold or, on account of subsequently discovered evidence, nullify the whole or part of any approved partial payment estimate to such extent as may be necessary to protect the OWNER from loss on account of:
 - A. Defective work not remedied.
 - B. Claims filed or reasonable evidence indicating probable filing of claims.
 - C. Failure of CONTRACTOR to make payments properly to subcontractors or for material or labor.
 - D. A reasonable doubt that the WORK can be completed for the balance then unpaid.
 - E. Damage to another contractor.
 - F. Performance of work in violation of the terms of the CONTRACT DOCUMENTS.
6. Where work on unit price items are substantially complete but lack clean-up and/or corrections ordered by the ENGINEER, amounts shall be deducted from unit prices in partial payment estimates to amply cover such clean-up and corrections.
7. When the above grounds in (5) and (6) are cured, payment shall be made for amounts withheld because of them.

**CERTIFICATE OF OWNER'S ATTORNEY
HANDLEY PARK PUBLIC WORKS BUILDING
PW-2022-14**

I, the undersigned, Dennis Davenport the duly authorized and acting legal representative of the Town of Tyrone, Georgia, do hereby Certify as follows:

I have examined the attached Contract (s), Performance and Payment Bonds, and Surety Bond and the manner of execution thereof, and I am of the opinion that each of the aforesaid agreements has been duly executed by the proper parties thereto acting through their duly authorized representatives for the Town; that said representatives have full power and authority to execute said agreements on behalf of the respective parties named thereon; and that the foregoing agreements constitute valid and legally binding obligations upon the parties executing the same in accordance with terms, conditions and provisions thereof.

Signature

Date

SPECIAL CONDITIONS

1. DESCRIPTION OF WORK

The work included in this Contract shall include all labor and materials necessary for grading, drainage, sewer, water, and utilities, gravel road and parking, concrete building slab, prefab metal structure, fencing, electrical, plumbing, and erosion control, with associated work, complete.

It is the intent of these Plans and Specifications that the Contractor shall perform all incidental items of Work and furnish all items of incidental material, and equipment required to construct the completed Project even though such items are not covered in detail in the Contract Documents.

Due to the nature of the project and the potential for unforeseen conditions, it is anticipated that some additional work may be required. An allowance for additional work is to be included in the Base Bid and in any the Additive Alternate Bid, to be used to cover Change Orders resulting from such additional work. These allowances apply only to additional work not shown on the Drawings or required by the Specifications. Should such additional work become evident during the conduct of the work, a cost to correct such work shall be established and if the Owner agrees to incorporate the Work in this Contract, a Change Order will be issued. The amount of the Change Order will be deducted from the appropriate allowance. At the end of the job, if any allowance remains unused, a Change Order will be issued decreasing the Contract amount by the amount of the unused allowance.

Upon Substantial Completion of the project, and before the project has been finalized, the A&E will certify that the project was completed in accordance with the approved stormwater management plan and the contractor shall provide "as-built" plans for all stormwater management facilities and/or practices in the project area.

2. COORDINATION OF WORK

The individual Contractor is responsible for the proper coordination of the Work. The OWNER and the ENGINEER will assist in coordinating the Work schedules, but will not be responsible for proper cooperation and coordination of any Work. Any additional work, expense or delay due to lack of coordination will be the sole responsibility of the Contractor.

3. SPECIAL NOTICE

Bidders are required to inform themselves fully of all laws, ordinances, and conditions relating to the work.

Bidders are required to visit the site and inform themselves as to all conditions, and failure to do so will in no way relieve the successful bidder or bidders from the necessity of furnishing any materials or performing any work that may be required to complete the work in accordance with the true intent and meaning of the Plans and Specifications without additional cost to the OWNER.

4. SUBSURFACE CONDITIONS

It is not represented that the Plans show all underground structures, and whenever necessary the Contractor shall make all explorations and excavations for such purposes, at his own expense. Any subsurface information furnished is for the general information of the bidders and is not guaranteed. Unforeseen conditions shall not constitute a claim for increased compensation under the terms of the Contract, nor constitute a basis for cancellation thereof.

5. SCHEDULING

Scheduling and sequencing of the work shall be done such that continuous, concerted effort is made towards completion of the work. Extended pauses or delays in the work schedule, other than those beyond the control of the Contractor, will not be permitted.

6. COORDINATION WITH UTILITIES

Existing utilities and services shall be protected and maintained by all necessary measures in working condition.

7. LINES AND GRADES

The ENGINEER will furnish sufficient benchmarks and dimensions to enable the Contractor to layout the necessary construction lines from the information shown on the Plans. The Contractor shall be responsible for the preservation of all points and elevations furnished and shall bear the expense of setting same if, through negligence or carelessness on his part, they are destroyed. The Contractor shall satisfy himself as to the accuracy of all elevations and points furnished and shall not take advantage of any errors that may have been made.

All lines and grades shall be subject to checking by the ENGINEER, but this checking shall in no way relieve the Contractor from his responsibility for their correctness. The Contractor shall provide such stakes, material, etc., and such field men, and assistance as the ENGINEER may be require to establish bench marks and checking and measuring the work.

8. WARNING AND SIGNALS

The Contractor shall be responsible for all signals to the public while the work is in progress, and shall keep amber lights during the entire night at such points as may be necessary; and he shall provide watchmen, signboards, digital message boards, fences, etc., and shall take any precautions that may be necessary to protect life and property.

9. CONSTRUCTION EQUIPMENT

The Contractor shall provide all necessary equipment in good repair for the expedient construction of the work. Any equipment not adapted for the work, or in such repair as to be dangerous to the work or workers shall not be used.

10. TRAFFIC CONTROL

The Contractor shall develop traffic control plans and programs as necessary to provide, erect, and maintain, all necessary barricades, suitable and sufficient lights, danger signals, signs, pilot vehicles, flagmen and other control devices, and take all necessary precautions for the protection of the work and the safety of the public. A minimum of one lane shall remain open to traffic at all times. Contractor shall comply with the Manual for Uniform Traffic Control Devices, latest addition.

11. SANITARY PROVISIONS

The Contractor shall provide and maintain in a neat and sanitary condition such accommodations for the use of his employees as necessary to comply with the Regulations of the State Board of Health and all local ordinances. No nuisances will be permitted.

12. SPECIAL INSPECTION

Representatives of the OWNER and the ENGINEER shall have access to the work whenever it is in preparation or progress, and the Contractor will provide proper facilities for such access and inspection.

13. PLANS AND SPECIFICATIONS

The ENGINEER shall furnish to the Contractor, free of charge, three (3) copies of the Plans and Specifications. If additional copies are desired by the Contractor, they will be furnished at his expense. The Contractor shall keep one copy of the Plans and Specifications on the site of the work in good order, available to the ENGINEER and to their representatives. All Plans, Specifications, and copies thereof furnished by the ENGINEER are their property. They are not to be used on other work, and with the exception of the signed Contract Set are to be returned to them on request, at the completion of the work.

14. ENVIRONMENTAL PROTECTION

During construction the Contractor shall provide silt barriers, and/or other preventive measures as may be required by governing laws or ordinances to prevent siltation and soil erosion. All such work shall be done without additional cost to the OWNER.

The Contractor will restore all disturbed areas to their present or better condition upon completion of construction.

15. NOTICE TO PROPERTY OWNERS

Contractor shall provide written notice of work schedule to property owners adjacent to immediate work area. Notice shall include approximate work dates, directions regarding on-street parking, sprinkler system operation, trimming of tree limbs, misc. encroachments, etc. Contractor shall submit sample notice to the Engineer for approval.

16. EQUIPMENT STAGING AREAS

Equipment staging/storage areas shall be approved by the Engineer.

17. SPECIALTY SIGNAGE - OMITTED

18. ADJUSTMENTS TO EXISTING UTILITIES WITHIN PAVEMENT

Only items listed on the Bid Schedule will be measured for payment.

19. DEBRIS REMOVAL AND CLEAN UP

Contractor shall remove all debris from work area, as necessary to properly complete the work. Debris shall be

disposed of, at a legal offsite location selected by the Contractor, at no additional cost.

Debris and waste materials generated by the work shall be disposed of by the Contractor at a suitable off-site location.

21. TIME OF WORK

No work shall be done between 7:00 p.m. and 8:00 a.m., nor on Saturdays, Sundays or legal holidays, without the written permission of the Owner. However, maintenance or emergency work during these hours may be done without prior permission.

Overtime Notice: If the Contractor for his convenience and at his own expense should desire to carry on his own work at night or outside regular hours, he shall submit written notice to the Engineer and he shall allow ample time for satisfactory arrangements to be made for inspecting the work in progress. The Engineer will be the sole judge of whether on-site inspection is required. The Contractor will pay the Engineer an amount equal to 3.0 times the direct salary cost of the resident inspector for such work, said amount to be deducted from the payments to the Contractor by the Owner.

22. GDOT Specifications – Notice to All Bidders
Contractor to Utilize Georgia Department of Transportation (GDOT) Specifications for Construction, latest edition, (where applicable) for all technical specifications not referenced in these contract documents. Contractor shall meet requirements outlined in GDOT Sampling, Testing, and Inspection Guide for all testing. Contractor shall use suppliers on the appropriate GDOT Qualified Products List, where applicable.

23. REQUIREMENTS FOR THE GEORGIA SECURITY AND IMMIGRATION COMPLIANCE ACT OF 2006

See the following pages.

(To be executed by successful Bidder, after Notice of Award)

STATE OF GEORGIA

FAYETTE COUNTY

GEORGIA SECURITY AND IMMIGRATION COMPLIANCE ACT OF 2006

WITNESSETH:

1. Pursuant to the Georgia Security and Immigration Compliance Act of 2006, the Contractor understands and agrees that compliance with the requirements of O.C.G.A. § 13-10-91 and Georgia Department of Labor Rule 300-10-1-.02. are conditions of this Agreement. The Contractor further agrees that such compliance shall be attested by the Georgia Department of Labor through execution of the contractor affidavit. The Contractor's fully executed affidavit is attached hereto as Exhibit "A" and is incorporated into this Agreement by reference herein.

2. The Contractor understands and agrees that, in the event the Contractor employs or contracts with any subcontractor or subcontractors in connection with this Agreement, the Contractor shall:

- A. Secure from each such subcontractor and sub-subcontractor an attestation of the subcontractor's compliance with O.C.G.A. § 13-10-91 and Georgia Department of Labor Rule 300-10-1.02 by causing each such subcontractor to execute the subcontractor affidavit required by Georgia Department of Labor Rule 300-10-1-.08, which is attached hereto as Exhibit "B", and sub-subcontractor, hereto as Exhibit "C", or a substantially similar

subcontractor affidavit. The Contractor further understands and agrees that the Contractor shall require the executed subcontractor affidavit to become part of the agreement between the Contractor and each such subcontractor. The Contractor agrees to maintain records of each subcontractor attestation required hereunder for inspection by the Department at any time.

CONTRACTOR AFFIDAVIT UNDER O.C.G.A. 13-10-91(b) (1)

By executing this affidavit, the undersigned contractor verifies its compliance with O.C.G.A. 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services on behalf of the Town of Tyrone, Georgia has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. 13-10-91. Furthermore, the undersigned contractor will continue to use the federal work authorization program throughout the contract period and the undersigned contractor will contract for the physical performance of services in satisfaction of such contract only with subcontractors who present an affidavit to the contractor with the information required by O.C.G.A. 13-10-91(b). Contractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

Federal Work Authorization User Identification Number

Date of Authorization

Name of Contractor

Name of Project

Name of Public Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on _____, 20__ in (city) _____ (state) _____.

Signature

Printed Name and Title of Authorized Officer of Agent

SUBSCRIBED AND SWORN BEFORE ME

ON THIS THE ___ Day of _____, 20__.

NOTARY PUBLIC

My Commission Expires: _____

O.C.G.A. 50-36-1 (e)(2) Affidavit

By executing this affidavit under oath, as an applicant for a(n) Contract, as referenced in O.C.G.A. 50-36-1, from Town of Tyrone, Georgia, the undersigned applicant verifies one of the following with respect to my application for a public benefit:

- 1)___ I am a United States citizen.
- 2)___ I am a legal permanent resident of the United States.
- 3)___ I am a qualified alien or non-immigrant under the Federal Immigration and Nationality Act with an alien number issued by the Department of Homeland Security or other federal immigration agency.

My alien number issued by the Department of Homeland Security or other federal immigration agency is: _____

The undersigned applicant also hereby verifies that he or she is 18 years of age or older and has provided at least one secure and verifiable document, as required by O.C.G.A. 50-36-1 (e)(1), with this affidavit.

The secure and verifiable document provided with this affidavit can best be classified as:

(Driver's License, Passport, etc. - Attach copy)

In the making the above representation under oath, I understand that any person who knowingly and willfully makes a false, fictitious, or fraudulent statement or representation in an affidavit shall be guilty of a violation of O.C.G.A 16-10-2-, and face criminal penalties as allowed by such criminal statute.

Executed in _____(city) _____(state).

Signature of Applicant

Printed Name of Applicant

SUBSCRIBED AND SWORN
BEFORE ME ON THIS THE
____ DAY OF _____, 20____

NOTARY PUBLIC
My Commission Expires:

EXHIBIT 'B'

SUBCONTRACTOR AFFIDAVIT UNDER O.C.G.A. 13-10-91(b)(3)

By executing this affidavit, the undersigned subcontractor verifies its compliance with O.C.G.A. 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services under a contract with _____ on behalf of Town of Tyrone, Georgia has registered with is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. 13-10-91. Furthermore, the undersigned subcontractor will continue to use the federal work authorization program throughout the contract period and the undersigned subcontractor with the information required by O.C.G.A. 13-10-91(b). Additionally, the undersigned subcontractor will forward notice of the receipt of an affidavit from a sub-subcontractor to the contractor within five business days of receipt. If the undersigned subcontractor receives notice of receipt of an affidavit from any sub-subcontractor that has contracted with a sub-subcontractor to forward, within five business days of receipt, a copy of such notice to the contractor. Subcontractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

Federal Work Authorization User Identification Number

Date of Authorization

Name of Subcontractor

Name of Project

Name of Public Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on _____, 20__ in (city) _____ (state) _____.

Signature

Printed Name and Title of Authorized Officer of Agent

SUBSCRIBED AND SWORN BEFORE ME

ON THIS THE__ DAY OF _____, 21__

NOTARY PUBLIC

My Commission Expires: _____

EXHIBIT 'C'

SUB-SUBCONTRACTOR AFFIDAVIT UNDER O.C.G.A. 13-10-91(b)(4)

By executing this affidavit, the undersigned sub-subcontractor verifies its compliance with O.C.G.A. 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services under a contract with *(name of subcontractor or sub-subcontractor with whom such sub-subcontractor has privity of contract)* and *(name of contractor)* on behalf of Town of Tyrone, Georgia has registered with is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. 13-10-91. Furthermore, the undersigned subcontractor will continue to use the federal work authorization program throughout the contract period and the undersigned subcontractor with the information required by O.C.G.A. 13-10-91(b). The undersigned sub-subcontractor shall submit, at the time of such contract, this affidavit to *(name of subcontractor of sub-subcontractor with whom such sub-subcontractor has privity of contract)* Additionally, the undersigned sub-subcontractor will forward notice of the receipt of an affidavit from a sub-subcontractor to *(name of subcontractor of sub-sub-subcontractor with whom such sub-subcontractor has privity of contract)*. Subcontractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

Federal Work Authorization User Identification Number

Date of Authorization

Name of Sub-subcontractor

Name of Project

Name of Public Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on __, ____, 201__ in (city) _____ (state) _____.

Signature

Printed Name and Title of Authorized Officer of Agent

SUBSCRIBED AND SWORN BEFORE ME

ON THIS THE ___ DAY OF ----- 210

NOTARY PUBLIC

My Commission Expires: _____

Appendix A – Geotech Report

Ms. Jenni Olivo, PE
Keck & Wood
3090 Premiere Parkway Suite 200
Duluth, Georgia 30097

May 9, 2024

Report of Subsurface Exploration and
Geotechnical Engineering Evaluation
New Maintenance Building
Handley Park
Tyrone, Georgia
Geo-Hydro Proposal Number 232528.20 Revision 1

Dear Ms. Olivo:

Geo-Hydro Engineers, Inc. has completed the authorized subsurface exploration for the above referenced project. The scope of services for this project was outlined in proposal number 232528.P0 dated September 29, 2023. We have included additional recommendations based on our e-mail correspondence with you.

Project Information

The project is site located within Handley Park at 100 Handley Road in Tyrone, Georgia. Figure 1 in the Appendix shows the approximate site location.

The project will include an access drive, a parking area, and a new pre-engineered metal building. We understand the pre-engineered building will be used for storage and vehicle maintenance. At the time of this report, no structural loading information has been provided to us. Based on our experience with similar projects, we expect maximum column loads to be about 50 kips. We have assumed that wall loads will be no greater than 4 kips per lineal foot. The site is currently a combination of landscaped areas and an informal access road. We have assumed that site grading will be minimal and primarily consist of minor grading necessary to direct surface runoff to the site stormwater management system. The aerial photo below shows the current site conditions and the general location of the site improvements.



Exploratory Procedures

The subsurface exploration consisted of six machine-drilled soil test borings performed at the approximate locations shown on Figure 2 included in the Appendix. The test borings were located in the field using a handheld GPS unit with preloaded coordinates. In general, the locations of the borings should be considered approximate.

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

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

Regional Geology

The project site is located in the Southern Piedmont Geologic Province of Georgia. Soils in this area have been formed by the in-place weathering of the underlying crystalline rock, which accounts for their classification as “residual” soils. Residual soils near the ground surface, which have experienced advanced weathering, frequently consist of red brown clayey silt (ML) or silty clay (CL). The thickness of this surficial clayey zone may range up to roughly 6 feet. For various reasons such as erosion or local variation of mineralization, the upper clayey zone is not always present.

With increased depth, the soil becomes less weathered, coarser grained, and the structural character of the underlying parent rock becomes more evident. These residual soils are typically classified as sandy micaceous silt (ML) or silty micaceous sand (SM). With a further increase in depth, the soils eventually become quite hard and take on an increasing resemblance to the underlying parent rock. When these materials have a standard penetration resistance of 100 blows per foot or greater, they are referred to as partially weathered rock. The transition from soil to partially weathered rock is usually a gradual one, and may occur at a wide range of depths. Lenses or layers of partially weathered rock are not unusual in the soil profile.

Partially weathered rock represents the zone of transition between the soil and the indurated metamorphic rocks from which the soils are derived. The subsurface profile is, in fact, a history of the weathering process which the crystalline rock has undergone. The degree of weathering is most advanced at the ground surface, where fine grained soil may be present. And the weathering process is in its early stages immediately above the surface of relatively sound rock, where partially weathered rock may be found.

The thickness of the zone of partially weathered rock and the depth to the rock surface have both been found to vary considerably over relatively short distances. The depth to the rock surface may frequently

range from the ground surface to 80 feet or more. The thickness of partially weathered rock, which overlies the rock surface, may vary from only a few inches to as much as 40 feet or more.

Soil Test Boring Summary

Starting at the ground surface, borings T-3, T-4, and T-5 encountered approximately 3 to 4 inches of topsoil. Boring T-6 initially encountered approximately 8 inches of gravel. No measurable surface materials were recorded in borings T-1 and T-2. Detailed measurements necessary for quantity estimation were beyond the scope of this exploration. For planning purposes, we suggest using a thickness of 8 inches for surface materials across the site.

Beneath the topsoil, borings T-4 and T-5 encountered fill materials classified as clayey sand extending to depths of about 3 and 6 feet, respectively. Standard penetration test resistances recorded in the fill ranged from 8 to 9 blows per foot.

Beneath the surface materials, fill materials, or starting at the ground surface all borings encountered residual soils typical of the Piedmont region. The residual soils were classified as clayey sand and silty sand with varying mica content. Standard penetration test resistances recorded in the residual soils ranged from 4 to 13 blows per foot.

At the time of drilling, groundwater was not encountered in the soil test borings. It should be noted that groundwater levels will fluctuate depending on yearly and seasonal rainfall variations, and may rise in the future.

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

Test Boring Summary

Boring	Bottom of Fill (feet)	Top of PWR (feet)	Depth to Auger Refusal (feet)	Depth to Groundwater* (feet)	Boring Termination Depth (feet)
T-1	NE	NE	NE	NE	15
T-2	NE	NE	NE	NE	15
T-3	NE	NE	NE	NE	20
T-4	3	NE	NE	NE	15
T-5	6	NE	NE	NE	15
T-6	NE	NE	NE	NE	15

All Depths in this Summary Table are Approximate

NE: Not Encountered

PWR: Partially Weathered Rock

*Groundwater Level Measured at the Time of Drilling

Evaluations and Recommendations

The following evaluations and recommendations are based on the information available on the proposed construction, the data obtained from the test borings, and our experience with soils and subsurface conditions similar to those encountered at this site. Because the test borings represent a statistically small sampling of subsurface conditions, it is possible that conditions may be encountered during supplemental exploration or during construction that are substantially different from those indicated by the test borings. In these instances, adjustments to the design and construction may be necessary.

Geotechnical Considerations

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

- Borings T-4 and T-5 encountered fill materials classified as clayey sand extending to depths of about 3 and 6 feet, respectively. Variations within the fill should be expected, and poor-quality or loose fill may be encountered during construction. Proofrolling of subgrades and evaluation of foundation bearing surfaces will be of particular importance on to help identify poor-quality or unstable fill. Any loose unstable material encountered during grading should be excavated and replaced with well-compacted structural fill if it cannot be adequately densified in place. Any debris-laden fill material should be excavated and replaced.
- Neither partially weathered rock nor materials causing auger refusal were encountered in the soil test borings. Based on the results of the test borings, fill and residual soils within the depths explored should be readily removable with conventional earth moving equipment. However, it is important to note that in the Piedmont the depth to partially weathered rock and rock can vary drastically over relatively short distances.
- At the time of drilling, groundwater was not encountered in the soil test borings. It should be noted that groundwater levels will fluctuate depending on yearly and seasonal rainfall variations, and may rise in the future. Based on our understanding of the project, we do not anticipate groundwater to be a major hindrance to design or construction. Regardless of groundwater conditions, the contractor should be prepared to manage surface runoff during rain events, and subsurface drainage will be required behind all below-grade exterior structures including foundation walls.
- It is our opinion that the test borings performed were not extended to a depth sufficient to characterize the upper 100 feet of the subsurface profile for the purposes of determining the seismic *Site Class* in accordance with the 2018 International Building Code (Chapter 20, ASCE 7-16). We recommend using a default *Site Class* of *D* as suggested in the code. The mapped and design spectral response accelerations are as follows: $S_S=0.164$, $S_1=0.082$, $S_{D5}=0.175$, $S_{D1}=0.131$.
- At the time of this report, we have not been provided structural loading information for the project. Assuming that column loads will not exceed 50 kips and wall loads will be no greater than 4 kips per lineal foot, and contingent upon proper site preparation and thorough evaluation of the foundation

excavations, it is our opinion that the proposed building can be supported using conventional shallow foundations and concrete slab-on-grade floors.

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

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

Existing Fill Materials

Borings T-4 and T-5 encountered fill materials classified as clayey sand extending to depths of about 3 and 6 feet, respectively. Variations within the fill should be expected, and poor-quality or loose fill material may be encountered during construction.

There are several important facts that should be considered regarding existing fill materials and the limitations of subsurface exploration.

- The quality of existing fill materials can be highly variable, and test borings are often not able to detect all of the zones or layers of poor-quality fill materials.
- Layers of poor-quality fill materials that are less than about 2½ to 5 feet thick may often remain undetected by soil test borings due to the discrete-interval sampling method used in this exploration.
- The interface between existing fill materials and the original ground surface may include a layer of organic material that was not properly stripped off during the original grading. Depending on its relationship to the pavement subgrade, an organic layer might adversely affect support of pavements and hardscapes. If such organic layers are encountered during construction, it may be necessary to “chase out” the organic layer by excavating the layer along with overlying soils.
- Subsurface exploration is simply not capable of disclosing all conditions that may require remediation.

General Site Preparation

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

We recommend that areas to receive structural fill be proofrolled prior to placement of structural fill. Areas of proposed excavation should be proofrolled after rough finished subgrade is achieved. Proofrolling

should be performed with multiple passes in at least two directions using a fully loaded tandem axle dump truck weighing at least 18 tons. Proofrolling should be avoided within 10 feet of existing structures and any hardscapes and utilities to remain. If low consistency soils are encountered that cannot be adequately densified in place, such soils should be removed and replaced with well compacted fill material placed in accordance with the *Structural Fill* section of this report. Proofrolling should be observed by Geo-Hydro to determine if remedial measures are necessary.

For budgeting purposes, we suggest considering that approximately 20 percent of the aggregate pavement footprints will require undercutting and recompaction or replacement extending to a depth of about 1½ feet below current grades (fill areas) or below target subgrade elevation (cut areas). *The suggested stabilization approach is intended only as a tool to estimate a cost associated with ground stabilization. The need for, extent of, location, and optimal method of ground stabilization should be determined by Geo-Hydro at the time of construction based on actual site conditions. The extent and cost of ground stabilization may exceed the suggested budgetary estimate.*

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

Groundwater

At the time of drilling, groundwater was not encountered in the soil test borings. It should be noted that groundwater levels will fluctuate depending on yearly and seasonal rainfall variations and other factors and may rise in the future. Based on our understanding of the project, we do not expect groundwater to be a major hindrance to design or construction.

Regardless of groundwater conditions, the contractor should be prepared to manage runoff during wet weather conditions and subsurface drainage will be necessary behind all below-grade structures including foundation walls.

We recommend that the construction documents include a minimum *performance* specification for dewatering. The specification should require specific results from dewatering rather than dictate a dewatering method. Exhibit “A” as follows provides a minimum guide specification that may be used to develop a dewatering performance specification suitable for this project. In our opinion, Exhibit “A” represents the minimum specification for a project of this scope.

EXHIBIT "A"

Minimum Guide Specification for Dewatering

NOTE: The following specifications are for use as a guide for development of actual specifications. The guide is not intended for direct use as a construction specification without modifications to reflect specific project conditions.

Control of groundwater shall be accomplished in a manner that will preserve the strength of the foundation soils, will not cause instability of the excavation slopes, and will not result in damage to existing structures. Where necessary for these purposes, the water level shall be lowered in advance of excavation, utilizing trenches, sumps, wells, well points or similar methods. The water level, as measured in piezometers, shall be maintained a minimum of 3 feet below the prevailing excavation level. Open pumping from sumps and ditches, if it results in boils, loss of soil fines, softening of the ground or instability of slopes, will not be permitted. Wells and well points shall be installed with suitable screens and filters so that continuous pumping of soil fines does not occur. The discharge shall be arranged to facilitate collection of samples by the Engineer.

Adapted from Construction Dewatering - A Guide to Theory and Practice, John Wiley and Sons.

Excavation Characteristics

Neither partially weathered rock nor materials causing auger refusal were encountered in the soil test borings. Based on the results of the test borings, fill and residual soils within the depths explored should be readily removable with conventional earth moving equipment. It is important to note that the depth to rock or partially weathered rock may vary drastically over relatively short distances and it would not be unusual for rock or partially weathered rock to occur at higher elevations between or around some of the soil test borings.

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

- Mass Rock: Material that cannot be excavated with a single-tooth ripper drawn by a crawler tractor having a minimum draw bar pull rated at 56,000 pounds (Caterpillar D-8K or equivalent), and occupying an original volume of at least one cubic yard.
- Trench Rock: Material occupying an original volume of at least one-half cubic yard which cannot be excavated with a hydraulic excavator having a minimum flywheel power rating of 123 kW (165 hp); such as a Caterpillar 322C L, John Deere 230C LC, or a Komatsu PC220LC-7; equipped with a short tip radius bucket not wider than 42 inches.

Reuse of Excavated Materials

Based on the results of test borings and our observations, excavated residual soils and fill materials will be suitable for reuse as structural fill after routine moisture content adjustment. Geo-Hydro should observe the excavation of existing fill materials to evaluate their suitability for reuse.

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

Groundwater

At the time of drilling, groundwater was not encountered in the soil test borings. It should be noted that groundwater levels will fluctuate depending on yearly and seasonal rainfall variations, and may rise in the future. Based on our understanding of the project, we do not anticipate groundwater to be a major hindrance to design or construction. Regardless of groundwater conditions, the contractor should be prepared to manage surface runoff during rain events, and subsurface drainage will be required behind all below-grade exterior structures including foundation walls.

Regardless of groundwater conditions, the contractor should be prepared to manage runoff during wet weather conditions and subsurface drainage will be necessary behind all below-grade structures including foundation walls.

Structural Fill

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

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

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

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

Earth Slopes

Temporary construction slopes should be designed in strict compliance with OSHA regulations. The exploratory borings indicate that most soils at the site are Types B and C as defined in 29 CFR 1926 Subpart P. This dictates that temporary construction slopes in residual soils (Type B) for excavation depths of 20 feet or less above the groundwater level should be no steeper than 1H:1V. Temporary excavation slopes in fill materials, or in any soil type extending below the groundwater level, must be no steeper than 1.5H:1V. Temporary construction slopes should be closely observed on a daily basis by the contractor's "competent person" for signs of mass movement: tension cracks near the crest, bulging at the toe of the slope, etc. The responsibility for excavation safety and stability of construction slopes should lie solely with the contractor.

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

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

Earth Pressure (Cast-In-Place Structures)

Three earth pressure conditions are generally considered for retaining wall design: "at rest", "active", and "passive" stress conditions. Retaining walls which are rigidly restrained at the top and will be essentially unable to rotate under the action of earth pressure (such as basement or foundation walls) should be

designed for "at rest" conditions. Retaining walls which can move outward at the top as much as 0.5 percent of the wall height (such as free-standing walls) should be designed for "active" conditions. For the evaluation of the resistance of soil to lateral loads the "passive" earth pressure must be calculated. It should be noted that full development of passive pressure requires deflections toward the soil mass on the order of 1.0 percent to 4.0 percent of total wall height.

Earth pressure may be evaluated using the following equation:

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

where: p_h = horizontal earth pressure at any depth below the ground surface (Z).

W_w = unit weight of water

Z = depth to any point below the ground surface

d = depth to groundwater surface

D_w = wet unit weight of the soil backfill (depending on borrow sources). The wet unit weight of most residual soils may be expected to range from approximately 115 to 125 pcf.

Below the groundwater level, D_w must be the buoyant weight.

q_s = uniform surcharge load (add equivalent uniform surcharge to account for construction equipment loads)

K = earth pressure coefficient as follows:

<u>Earth Pressure Condition</u>	<u>Coefficient</u>
At Rest (K_o)	0.53
Active (K_a)	0.36
Passive (K_p)	2.8

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

The above design recommendations are based on the following assumptions:

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

For convenience, equivalent fluid densities are frequently used for the calculation of lateral earth pressures. For "at rest" stress conditions, an equivalent fluid density of 66 pcf may be used. For the "active" state of stress an equivalent fluid density of 45 pcf may be used. These equivalent fluid densities are based on the assumptions that drainage behind the retaining wall will allow *no* development of hydrostatic pressure; that native clayey silts or silty clays will be used as backfill; that the backfill soils will be compacted to

95 percent of standard Proctor maximum dry density; that backfill will be horizontal; and that no surcharge loads will be applied.

For analysis of sliding resistance of the base of a retaining wall, the coefficient of friction may be taken as 0.4 for the soils at the project site. This is an ultimate value, and an adequate factor of safety should be used in design. The force which resists base sliding is calculated by multiplying the normal force on the base by the coefficient of friction. Full development of the frictional force could require deflection of the base of roughly 0.1 to 0.3 inches.

Foundation Design

After general site preparation and site grading have been completed in accordance with the recommendations of this report, it is our opinion that the proposed building can be supported using conventional shallow foundations. We recommend that footings be designed for an allowable bearing pressure of 3,000 psf. The allowable bearing pressure is based on column loads no greater than 50 kips and wall loads not exceeding 4 kips per lineal foot. If actual foundation loads exceed these assumed limits, please allow us to review, and if necessary, revise the recommendation presented in this report.

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

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

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

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

Remedial measures should be based on actual field conditions. However, in most cases we expect the use of the stone replacement technique to be the primary remedial measure. Stone replacement involves the removal of soft or loose soils, and replacement with well-compacted graded aggregate base (GAB) meeting Georgia Department of Transportation specifications for gradation. Stone replacement is generally

performed to depths ranging from a few inches to as much as 2 times the footing width, depending on the actual conditions. For initial budgetary purposes, we suggest considering that as much as 35 percent of the foundation excavations will require overexcavation and stone replacement extending to a depth of 3 feet below bearing elevation. The actual quantity of stone replacement will be different and may exceed the provided estimate.

Seismic Design

It is our opinion that the test borings performed were not extended to a depth sufficient to characterize the upper 100 feet of the soil subsurface for the purposes of determining the seismic *Site Class* in accordance with the 2018 International Building Code (Chapter 20, ASCE 7-16). We recommend using a default *Site Class* of *D* as suggested in the code. The mapped and design spectral response accelerations are as follows: $S_S=0.164$, $S_1=0.082$, $S_{DS}=0.175$, $S_{D1}=0.131$.

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

Floor Slab Subgrade Preparation

Slab-on-grade support is often disturbed during foundation excavation, plumbing installation, and superstructure construction. We recommend that the floor slab subgrade be evaluated by Geo-Hydro immediately prior to beginning floor slab construction. If low consistency soils are encountered that cannot be adequately densified in place, such soils should be removed and replaced with well-compacted fill material placed in accordance with the *Structural Fill* section of this report or with well-compacted graded aggregate base (GAB).

Assuming that the top 12 inches of floor slab subgrade soils are compacted to at least 98 percent of the standard Proctor maximum dry density, we recommend that a modulus of subgrade reaction of 120 pci be used for design for transient loading conditions such as vehicular or forklift traffic only. This value is not appropriate for designing thickened slab sections or foundations supporting permanent or semi-permanent loads such as those from equipment and storage racks. For such loading conditions, we recommend using a modulus of subgrade reaction of 70 pci for design purposes.

Moisture Control for Concrete Slabs

To prevent the capillary rise of groundwater from adversely affecting the concrete slab-on-grade floor system, we recommend that slab-on-grade floors be underlain by a minimum 4-inch thickness of open-graded stone. Use of #57 crushed stone meeting Georgia DOT specifications for gradation is suggested.

Any floor slab areas subject to vehicular traffic or heavy wheel load traffic such as forklifts should be underlain by at least 5 inches of GDOT compliant graded aggregate base (GAB). GAB must be compacted to at least 100 percent of the modified proctor maximum dry density (ASTM D1557).

Both #57 stone and GAB must be covered by a vapor retarder. We suggest polyethylene sheeting at least 10 mils thick as a minimum vapor retarder.

Flexible Pavement Design

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

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

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

Automobile Parking Stalls

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

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

The top 12 inches of pavement subgrade soils should be compacted to at least 100 percent of the standard Proctor maximum dry density (ASTM D698). Scarification and moisture adjustment will likely be required to achieve the recommended subgrade compaction level. Allowances for pavement subgrade preparation should be considered for budgeting and scheduling.

GAB must be compacted to at least 100 percent of the modified Proctor maximum dry density (ASTM D1557).

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

Concrete Pavement

A rigid Portland cement concrete pavement may be considered. Although usually more costly, a Portland cement concrete pavement is typically more durable and requires less maintenance throughout the life cycle of the facility. Concrete thicknesses of 5 inches in automobile parking areas and 6 inches in driveways and truck traffic areas are recommended. A concrete thickness of 7 inches is recommended for the approach

and collection zone in front any dumpster, in loading/unloading zones, and in any designated truck turn-around areas. A 600-psi flexural strength concrete mix (approximately 4,500 psi compressive strength) with 4 to 6 percent air entrainment should be used. The concrete pavement should be underlain by no less than 5 inches of compacted graded aggregate base (GAB). GAB should be compacted to at least 100 percent of the modified Proctor maximum dry density (ASTM D1557). The top 12 inches of soil subgrade should be compacted to at least 100 percent of the standard Proctor maximum dry density (ASTM D698).

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

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

Pavement Design Limitations

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

Pavement Materials Testing

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

- Density testing of subgrade materials.
- Proofrolling of pavement subgrade materials immediately prior to placement of graded aggregate base (GAB). This proofrolling should be performed the same day GAB is installed.
- Density testing of GAB and verification of GAB thickness. In-place density should be verified using the sand cone (ASTM D1556) or Nuclear Density Gauge method (ASTM D6938).
- Coring of the pavement to verify thickness and density (asphalt pavement only).
- Preparation and testing of beams and cylinders for flexural and compressive strength testing (Portland cement concrete only). The total number of test specimens required will depend on the number of concrete placement events necessary to construct the pavement.

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

Sincerely,

GEO-HYDRO ENGINEERS, INC.



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KDJ/AMP/232528.20R1 - New Maintenance Building - Handley Park - Report