Indian River County Purchasing Division purchasing@ircgov.com



ADDENDUM NO. 3

Issue Date: December 2, 2021

Project Name: Landfill Household Hazardous Waste and Recycling Transfer

Facility

Bid Number: 2022011

Bid Opening Date: December 17, 2021 [UPDATED] at 2:00 p.m.

This addendum is being released to answer questions received, extend the due date for bids and modify the bid documents. The information and documents contained in this addendum are hereby incorporated in the invitation to bid. This addendum must be acknowledged where indicated on the bid form, or the bid will be declared non-responsive.

Modification

REPLACE Sheets S-200, S-300, S-301, S-400 with Revised Sheets (A set of revised structural sheets with callouts indicating the change, and a set of full structural plans are provided)

REPLACE Section 00310 Bid Form – Addendum 2 with **Section 00310 Bid Form – Addendum 3** Bids not submitted on the Addendum 3 bid form will be disqualified. No previous version of the form should be submitted.

Questions and Answers

- 1. Can you please clarify if an alternate source of base rock can be used in lieu of lime rock?

 The contractor may utilize any clean material that meets all the specifications of the Florida

 Department of Transportation for the equivalent base group. (i.e. 10" limerock base may be substituted with any material from FDOT Base Group 9)
- Which line item do we include in the construction of the gravel roads?
 Revised quantities for Bid Item No. 16 and Bid Item No. 18 are inclusive of the gravel road.
- Which line item do we include the flumes?Revised quantities for Bid Item No. 21 and Bid Item 22 are inclusive of the flumes.
- 4. Do we use our standard deflections for building of L/150 for purlins, L/180 for mainframes, L/90 for girts and H/60 for main frame sides way (with a H/100 at the masonry wall areas)?
 No. Gravity and wind deflections shall meet Florida Building Code requirements. Lateral frame deflection shall be limited to H/240 due to a 50-year wind (Vasd= 124 MPH). All wind deflections shall be based on a serviceability wind speed of 124 MPH.

- 5. It appears there is a translucent wall shown on the west elevation of A202. Is this wall at line A and also is this our standard wall light panels?
 See item 17.
- 6. Is exposed fastener roof panel finish plain unpainted galvalume, siliconized polyester paint system, or kynar paint system?
 Unpainted galvalume.
- 7. Sheet S-400 detail 6 shows the top of wall at line C getting a heavy angle attached to the wall and then our roof screwing off to it. We cannot do it this way, the roof cannot take this load, we will need to supply masonry support beams at top of the wall that goes from column to column that is designed for L/240 for the wall to attach too. Please advise.

 Refer to revised detail 6/S-400.
- 8. Sheet S-201 shows at line B a detail7/S-400; line D a detail 8/s-400, and at line E a detail 9/S-400 but when you go to S-400 there is no detail 7, 8, or 9.

 Refer to revised sheet S-400.
- **9.** Sheet A103 shows line A going from 1 to 5; sheet S200 and S201 shows line A only going from 1 to 3. Please advise.

Refer to revised sheets S-200 and S-201.

10. Sheet A102 shows the ridge of the building getting a continuous ridge vent. Will these be required to be operable or are they fixed? Also, metal building ridge vents will allow water in on a blowing rain, on how they are designed. Do they really want them? Also, the ridge vents come in 10' sections and need to be a minimum of a few feet from the end for the trims to work. So, we would need to only supply 140' of ridge vents.

A continuous vented ridge is preferred. See Trident detail T99.

11. Sheet A101 and A201 shows exhaust fans on line 5 from D to J in 4 bays. Sheet M102 still has the squares drawn in, but it does not list what type or if they are really supposed to be there. Please advise.

Exhaust fans on line 5 were deleted from scope by the Mechanical Engineer. Bidders may disregard these fans as shown on A101 and A201.

- **12.** Sheet S-201 shows portal frames for bracing on lines 1 and 5 in the enclosed main building from D to J. It does not show where we can put portal frames or x-bracing at lines A, B, or 8. We will need at least one bay on each wall line. Please advise.
 - Lateral bracing is not necessary at gridlines A, B, and 8 if the diaphragm is trussed. PEMB contractor may provide a portal frame at their discretion so long as architectural clearances are met.
- 13. Are all our base plates at the same elevations or are some different from others?

 Yes, all base plate elevations are the same. Refer to revised sheets S-200 and S-300.

- **14.** Is grout going under any of our base plates? **Grout is not required.**
- **15.** Sheet S-201 shows a 3 portal frames on line 1 and 3 on line 5. We only need 1 for a 6-bay building. I would think we would want to keep just the one between lines E and F and get rid of the other 2. Especially since they will interfere with the roll up door openings on the right sides on line 5 between lines F and G and also between I and J. The problem you will run into on the one between E and F, is the fans on each side of the building will probably need to move down below the portal frame or not put one in that bay. To move down, the top of the fan needs to be over 3' below eave height to clear the portal frames.

Bidding shall be based on the number of portal frames shown. Lateral frame deflection is based on H/240 and serviceability wind speed of 124 MPH.

- 16. Is there any insulation in the door or walls of the building?

 PEMB insulation is limited to R-30 over HVAC areas. No other roof or wall insulation is required.
- 17. Per drawings, building eave height is 28' according to the plans. There are (2) roll up doors that measure 16'w x 27'h. Either the building eave needs to be 30' to keep that sized door, or the door height needs to be no higher than 25' if we stay with 28' eave height. Please advise. The correct eave height of the Single-Stream Tipping & Storage building is 32'-0", as shown on the PEMB drawings. There are no conflicts with the specified height of coiling doors OH3 and OH4.
- 18. Plans show the portal frame in the same bay as one of the 16' x 27' roll up doors. This will not work unless the door height is lowered enough to fit both the portal frame and the roll up door. Normally, the door must be at least 2' lower the building eave height, so there is room for the drum to fit. It may be better to go with a 3' since this is a big door. Since we have a roll up door in the same bay as a portal frame, there needs to be at least 3' separation from the frame and roll up door. With a 28' eave height, the tallest roll up door we can probably get away with is 23'. Please advise.

The correct eave height of the Single-Stream Tipping & Storage building is 32'-0", as shown on the PEMB drawings. There are no conflicts with the specified height of coiling doors OH3 and OH4.

- **19.** On the floor plan, page A101, at the Covered Drop-Off Area, the measurements don't match the foundation plan, page S-200. The foundation plan doesn't look finished either at that area. **Refer to Sheet S-200 Revision 1.**
- **20.** Are the roof panels classic screw down panels or standing seam roof panels? Roof panels are screw down PBR panels.
- **21.** If classic screw down panels, it is not recommended for roof slopes under 1:12. Please advise. **Roof panels are screw down PBR panels.**
- **22.** Are the color of the roof panels Galvalume or color? **Roof panels are galvalume.**

23. Any insulation for the roof or walls?

PEMB insulation is limited to R-30 over HVAC areas. No other roof or wall insulation is required.

24. Metal buildings are very standardized and have certain limitations. This means that we may not be able to design the hip roof where the two lower open building are adjacent to each other. Can we provide other solutions without the hip roofs?

Regarding hip roof over HHW area, it is acceptable to submit alternate roof designs. However, to prevent excessive intrusion by wind-driven rain, roof edge heights in this area may not exceed the clearances shown on the drawings.

25. Will the building have any fire sprinklers?
See fire sprinkler drawings FP100 thru FP103.

- 26. Can you provide specification or manufacturer for the ridge vent?
 Ridge vent shall be PEMB supplier's standard vented ridge. See Trident detail T99.
- 27. What is the weight of the 16' ceiling fans?

 Large fans shown are based on Big-Ass fans Basic Six model, 16'-0" diameter. Weight is 204 lbs. each.
- 28. What are the dimensions of the wall exhaust fans?

 Dimensions of wall exhaust fans should be obtained directly from the specified fan supplier.
- 29. Are permits being applied for or being reviewed by the Building department?

 Yes, the permits have been applied for and approvals will be provided to the selected contractor. Contractor will be responsible for obtaining the permit by providing license and insurance information as generally required for building permits.
- **30.** Please confirm there is no insulation required on the Pre-Engineered metal building's roof or walls.

See item 36.

31. Please clarify the specs on the gutter and downspouts. **Refer to Trident PEMB drawings.**

- **32.** Louver Schedule "Cook model SG-10/ SG-24" is not a recognized louver. Please advise. **The Cook louvers have been discontinued. Greenheck EVH501-D louvers are acceptable.**
- **33.** Is the Bond fee to include Base Bid + Contingency? **Yes.**
- **34.** Door 110, 111, 112, 113...are P.E.M.B. Doors. Do the door companies quote these? Or are they being provided?

Door 110, 111, 112, 113: These frames will not be provided by the PEMB vendor. Bidders may bid their normal standard for these doors, using 16 ga. Doors.

Addendum 3 Barton

Bidders may quote their stock hardware for the doors. 18 ga. HM doors are acceptable for the interior.

- **35.** Hardware Schedule shows No Vendor. Should the door companies quote #1 or #2 Grade Locks? Can we quote PHG Hardware? **See above.**
- **36.** Can HM Drywall Frames Be Knock Down? Masonry Frames Knock Dock or Welded? P.E.M.B. Frames Knock Down or Welded if we provide them? **All drywall frames may be knock-down. Masonry and PEMB frames shall be welded.**
- **37.** Call all Hollow Metal Doors be 18ga? If not, which ones need to be 16ga? See item 47.
- **38.** The plans are calling out for explosion proof disconnects for storage room H2. We need the classification of the room. Class 1 Div. 2?

All drywall frames may be knock-down. Masonry and PEMB frames shall be welded.

^{**}END OF ADDENDUM 3**

SECTION 00310 BID FORM – Addendum 3

IRC Household Hazardous Waste & Recycling Facility

Bid 2022011

THIS BID IS SUBMITTED TO: Indian River County Purchasing Division 1800 27th Street

Vero Beach, FL 32960

- The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an
 agreement with Owner in the form included in the Contract Documents to perform and
 furnish all work as specified or indicated in the Contract Documents for the Contract Price
 and within the Contract Time indicated in the Contract Documents and in accordance with
 the other terms and conditions of the Contract Documents.
- Bidder accepts all of the terms and conditions of the Advertisement for Bids and Instructions to Bidders. This Bid will remain subject to acceptance for ninety (90) days after the day of Bid opening. Bidder will sign and submit the Agreement with the insurance and other documents required by the Owner within fifteen (15) days after the date of Owner's Notice of Award.
- 3. In submitting this Bid, Bidder represents, as more fully set forth in the Agreement, that:

(a)

. ,	Addenda (receipt of all which is hereby ackn	nowledged):	
	Date		Number
		-	
		- -	
		_	

Bidder has examined copies of all the Bidding Documents and of the following

- (b) Bidder has familiarized itself with the nature and extent of the Contract Documents, the work, locality, and all local conditions and laws and regulations that in any manner may affect cost, progress, performance or finishing of the work.
- (a) Bidder acknowledges and agrees that it is bidding on construction of improvements at the Indian River County Landfill. Please refer to the specifications and construction drawings labeled: IRC Household Hazardous Waste & Recycling Facility.
- (b) Bidders are notified that the estimates of the quantities of the various items of Work and materials as set forth in the Bid Proposal (Schedule of Bid Items) are approximate only and are given solely to be used as a uniform basis for the comparison of Bids. The quantities actually required to complete the Project and Work may be less or more than so estimated, and, if so, no action for damages or for loss of profits shall accrue to the CONTRACTOR by reasonthereof.
- (c) This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm, or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit

a false or sham Bid; Bidder has not solicited or induced any person, firm or corporation to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over Owner.

- 4. Bidder will complete and include with the bid the Bid Proposal (Schedule of Bid Items) attached to this Bid Form. The quantities shown on the Bid Proposal Schedule of Bid Items) are approximate quantities. The actual quantities may vary.
- 5. The following documents are attached to and made a part of this Bid:
 - (a) Bid Form (Section 00310);
 - (b) Schedule of Subcontractors (Section 00431);
 - (c) Certification Regarding Prohibition Against Contracting with Scrutinized Companies (Section 00432)
 - (d) Disclosure of Relationships (Section 00452);
 - (e) Sworn Statement Under the Florida Trench Safety Act (Section 00454);
 - (f) General Information Required of Bidders (Section 00456);
 - (g) A current certificate of insurance evidencing coverages and limits in the amounts required by the Contract Documents.

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SCHEDULE A

SCHEDULE OF BID ITEMS – ADDENDUM 3

BID NUMBER 2022011

PROJECT IDENTIFICATION: IRC Household Hazardous Waste &

Recycling Facility

THIS BID IS SUBMITTED TO: INDIAN

INDIAN RIVER COUNTY PURCHASING DIVISION

1800 27th STREET

VERO BEACH, FLORIDA 32960

BY:

Company Name

Bid Item No.	Item of Work	Unit of Measure	Unit Price	Quantity	Bid Item Total
SITE WOR	К				
1	REGULAR EXCAVATION	CY	\$	1200	\$
2	CLEARING AND GRUBBING	AC	\$	9	\$
3	UTILITY PIPE, REMOVE & DISPOSE, 8-19.9"	LF	\$	750	\$
4	UTILITY PIPE- HIGH DENSITY POLYETHYLENE, FURNISH & INSTALL, WATER/SEWER, 2"	LF	\$	150	\$
5	UTILITY PIPE- DUCTILE IRON/CAST IRON, FURNISH & INSTALL, WATER/SEWER, 6"	LF	\$	85	\$
6	UTILITY FIXTURE, VALVE/METER BOX, FURNISH & INSTALL, 2"	Each	\$	2	\$
7	UTILITY FIXTURE- BACKFLOW ASSEMBLY, FURNISH & INSTALL, 2" (R.P.Z.)	Each	\$	1	\$
8	UTILITY FIXTURE- BACKFLOW ASSEMBLY, FURNISH & INSTALL, 6" (D.D.C.V.)	Each	\$	1	\$
9	UTILITY FIXTURE, VALVE ASSEMBLY, FURNISH AND INSTALL, 6"	Each	\$	2	\$
10	UTILITY FIXTURE, PLUG VALVE, FURNISH AND INSTALL 6"	Each	\$	1	\$

Bid Item No.	Item of Work	Unit of Measure	Unit Price	Quantity	Bid Item Total
11	UTILITY PIPE- DUCTILE IRON/CAST IRON, FURNISH & INSTALL, WATER/SEWER, 6"	LF	\$	130	\$
12	INLETS, DT BOT, TYPE C, <10'	Each	\$	8	\$
13	INLETS, CURB, TYPE 9, <10'	Each	\$	2	\$
14	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 18" SD	LF	\$	800	\$
15	UTILITY FIXTURE- TAPPING SADDLE/SLEEVE, FURNISH & INSTALL, 2"	Each	\$	2	\$
16	TYPE B STABILIZATION	SY	\$	8100 12100	\$
17	6" LIMEROCK BASE	SY	\$	1600	\$
18	10" LIMEROCK BASE	SY	\$	6500 10500	\$
19	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	TN	\$	1026	\$
20	CONCRETE SIDEWALK AND DRIVEWAYS, 4" THICK	SY	\$	290	\$
21	CONCRETE SIDEWALK AND DRIVEWAYS, 6" THICK	SY	\$	425 410	\$
<u>21.1</u>	CONCRETE HEAVY DUTY PAVEMENT, 7" THICK	<u>SY</u>	\$	<u>220</u>	\$
22	CONCRETE CURB, TYPE D	SY	\$	73	\$
23	SINGLE POST SIGN, F&I GROUND MOUNT, UP TO 12 SF	Each	\$	15	\$
24	PROFILED THERMOPLASTIC, STANDARD- CONCRETE SURFACES, WHITE, SOLID,6"	GM	\$	0.15	\$
25	PROFILED THERMOPLASTIC, STANDARD- ASPHALT SURFACES, YELLOW, SOLID, 6"	GM	\$	0.5	\$
26	THERMOPLASTIC, STANDARD, WHITE, SOLID, 12" FOR CROSSWALK AND ROUNDABOUT	LF	\$	215	\$
27	THERMOPLASTIC, STANDARD, WHITE, SOLID, 18" FOR DIAGONALS AND CHEVRONS	LF	\$	200	\$
28	THERMOPLASTIC, STANDARD, YELLOW, SOLID, 18" FOR DIAGONAL OR CHEVRON	LF	\$	150	\$
29	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24" FOR STOP LINE	LF	\$	200	\$
30	THERMOPLASTIC, STANDARD, WHITE, ARROW	Each	\$	5	\$

Bid Item No.	Item of Work	Unit of Measure	Unit Price	Quantity	Bid Item Total
31	THERMOPLASTIC, STANDARD, WHITE, MESSAGE OR SYMBOL	Each	\$	6	\$
32	RELOCATE TREES AND PALMS, PALM, >=14' OF CLEAR TRUNK	Each	\$	7	\$
33	RELOCATE TREES AND PALMS, PALM, <14' OF CLEAR TRUNK	Each	\$	9	\$
34	PERFORMANCE TURF, SOD	SY	\$	7750	\$
35	INSTALL NEW PLANTINGS	LS	\$	1	\$
36	LANDSCAPE IRRIGATION SYSTEM	LS	\$	1	\$
37	FURNISH & INSTALL RAINWATER CISTERN	LS	\$	1	\$
BUILDING		_	_		
38	EXCAVATION AND BACKFILL	LS	\$	1	\$
39	STRUCTURAL CONCRETE, IN PLACE, SPREAD FOOTING, INCLUDES FORMS, REBAR, CONCRETE, PLACING AND FINISHING	LS	\$	1	\$
40	STRUCTURAL CONCRETE, IN PLACE, RETAINING WALL INCLUDES FORMS, REBAR, CONCRETE, PLACING AND FINISHING	LS	\$	1	\$
41	STRUCTURAL CONCRETE, IN PLACE, SLAB ON GRADE, 8" THICK, INCLUDES CONCRETE, PLACING AND BROOM FINISH, NOT INCLUDING FORMS AND REINFORCING	SF	\$	35000	\$
42	REINFORCING STEEL, IN PLACE, SLAB ON GRADE, #3 TO #7, A615, GRADE 60, INCL LABOR ACCESSORIES, EXCL MATERIAL FOR ACCESSORIES	TON	\$	50	\$
43	C.I.P. CONCRETE FORMS, SLAB ON GRADE, DEPRESSED, EDGE, WOOD, UP TO 12" HIGH, 4 USE, INCLUDES ERECTING, BRACING, STRIPPING AND CLEANING - CONCRETE FORMING	LF	\$	1000	\$
44	MISC. CONCRETE (ONLY AS NOT INCLUDED ABOVE)	LS	\$	1	\$
45	MASONRY	LS	\$	1	\$

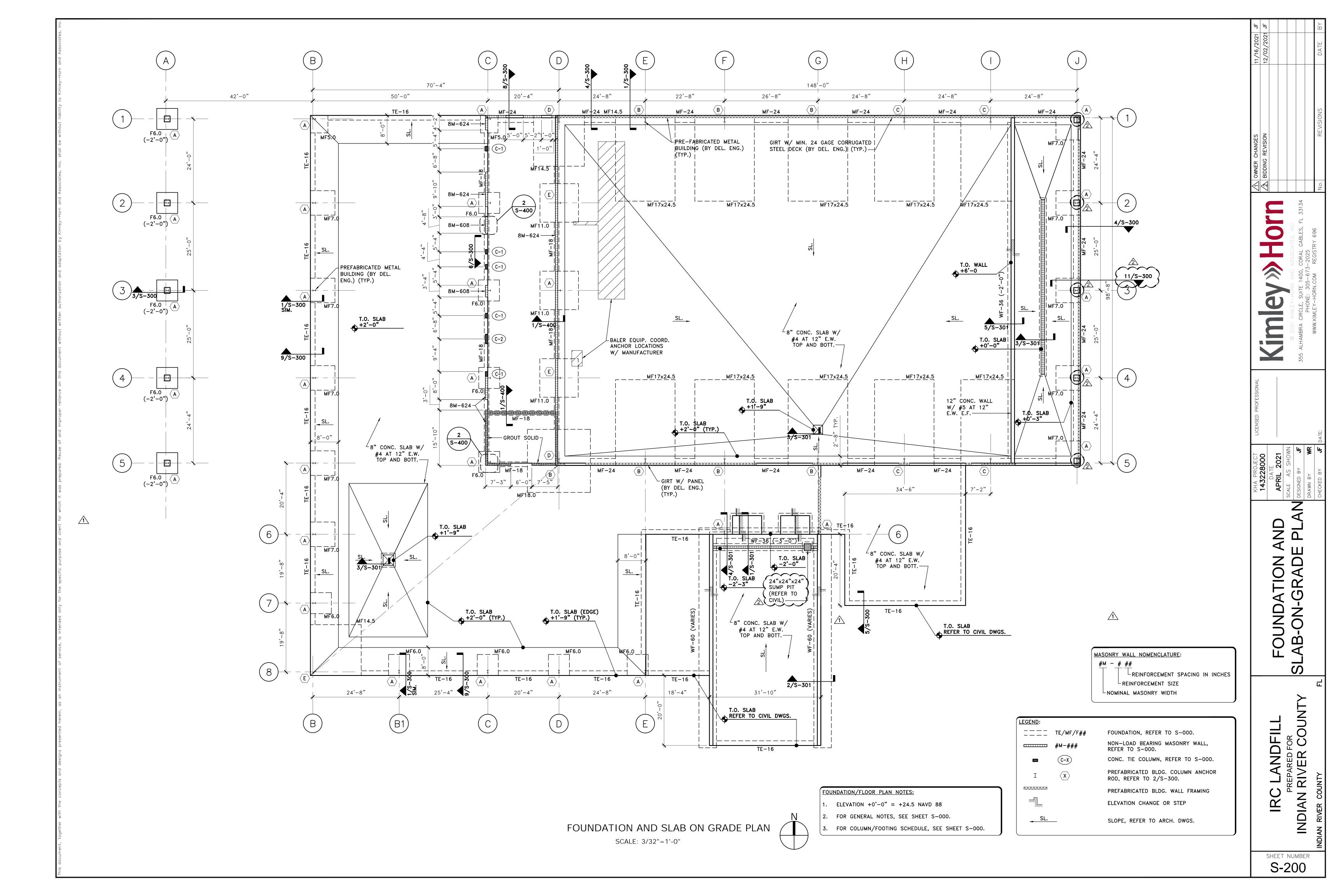
Bid Item No.	Item of Work	Unit of Measure	Unit Price	Quantity	Bid Item Total
46	PRE-ENGINEERED METAL BUILDING (PEMB)	LS	\$	1	\$
47	STEEL (OTHER THAN PEMB)	LS	\$	1	\$
48	OVERHEAD DOORS	LS	\$	1	\$
49	METAL STUDS AND DRY WALL	LS	\$	1	\$
50	CARPENTRY	LS	\$	1	\$
51	MILLWORK	LS	\$	1	\$
52	PAINTING AND INTERIOR FINISHES	LS	\$	1	\$
53	PLUMBING	LS	\$	1	\$
54	ELECTRICAL	LS	\$	1	\$
55	MECHANICAL	LS	\$	1	\$
56	FIRE PROTECTION	LS	\$	1	\$
57	FURNISH & INSTALL OVERHEAD FANS	EA.	\$	7	\$
MISCELLA	NEOUS				
58	BONDS AND INSURANCE	LS	\$	1	\$
59	MOBILIZATION	LS	\$	1	\$
60	GENERAL CONDITIONS	LS	\$	1	\$
61	MAINTENANCE OF TRAFFIC	LS	\$	1	\$
			Subtotal (Bas	se Bid): \$	
	10	0% Contingency Allo	wance (10% of Ba	se Bid): \$	
	Total Base Bio	d with Contingency ((Base Bid + Contin	gency): \$	

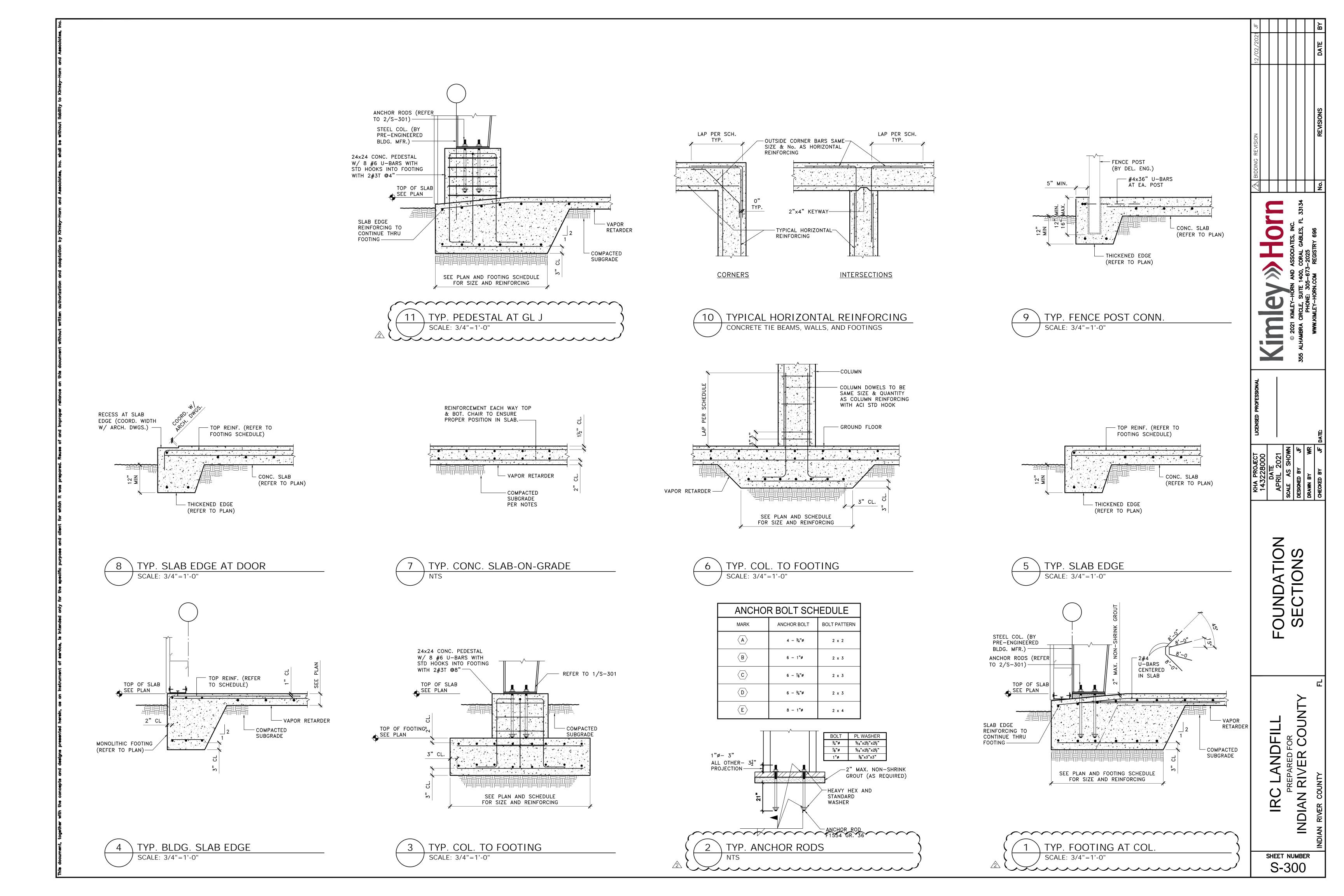
	Additive Alternate Bid Ite	ems* Modi	fied Addendun	n 2	
ALT-1	INSTALL OWNER-PROVIDED VERTICAL BALER	LS	\$	1	\$
ALT-2	INSTALL OWNER-PROVIDED HORIZONTAL BALER	LS	\$	1	\$
ALT-3	INSTALL OWNER-PROVIDED HARD MOUNTED GENERATOR	LS	\$	1	\$
ALT-4	INSTALL OWNER-PROVIDED PALLETIZER	LS	\$	1	\$
ALT-5	INSTALL OWNER-PROVIDED STYROFOAM MACHINE	LS	\$	1	\$
			Subtota	l (Add/Alt): \$	
	Grand Total	(Base Bid	+ Contingency	+ Add/Alt): \$	

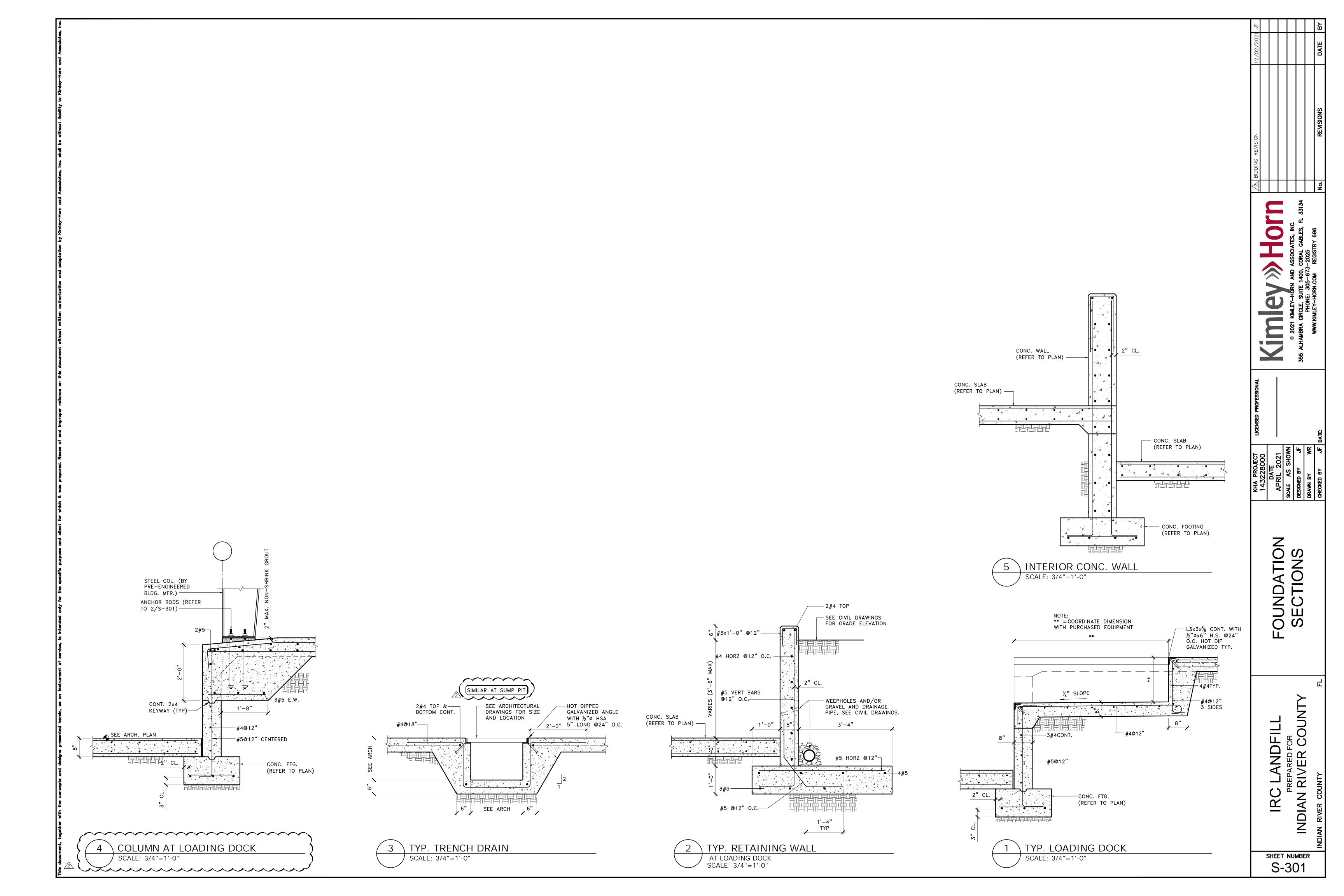
The undersigned hereby certifies that they have read and understand the contents of this solicitation and agrees to furnish at the prices shown any or all of the items above, subject to all instructions, conditions, specifications and attachments hereto. Failure to have read all the provisions of this solicitation shall not be cause to: 1) alter any resulting contract; or 2) request additional compensation.

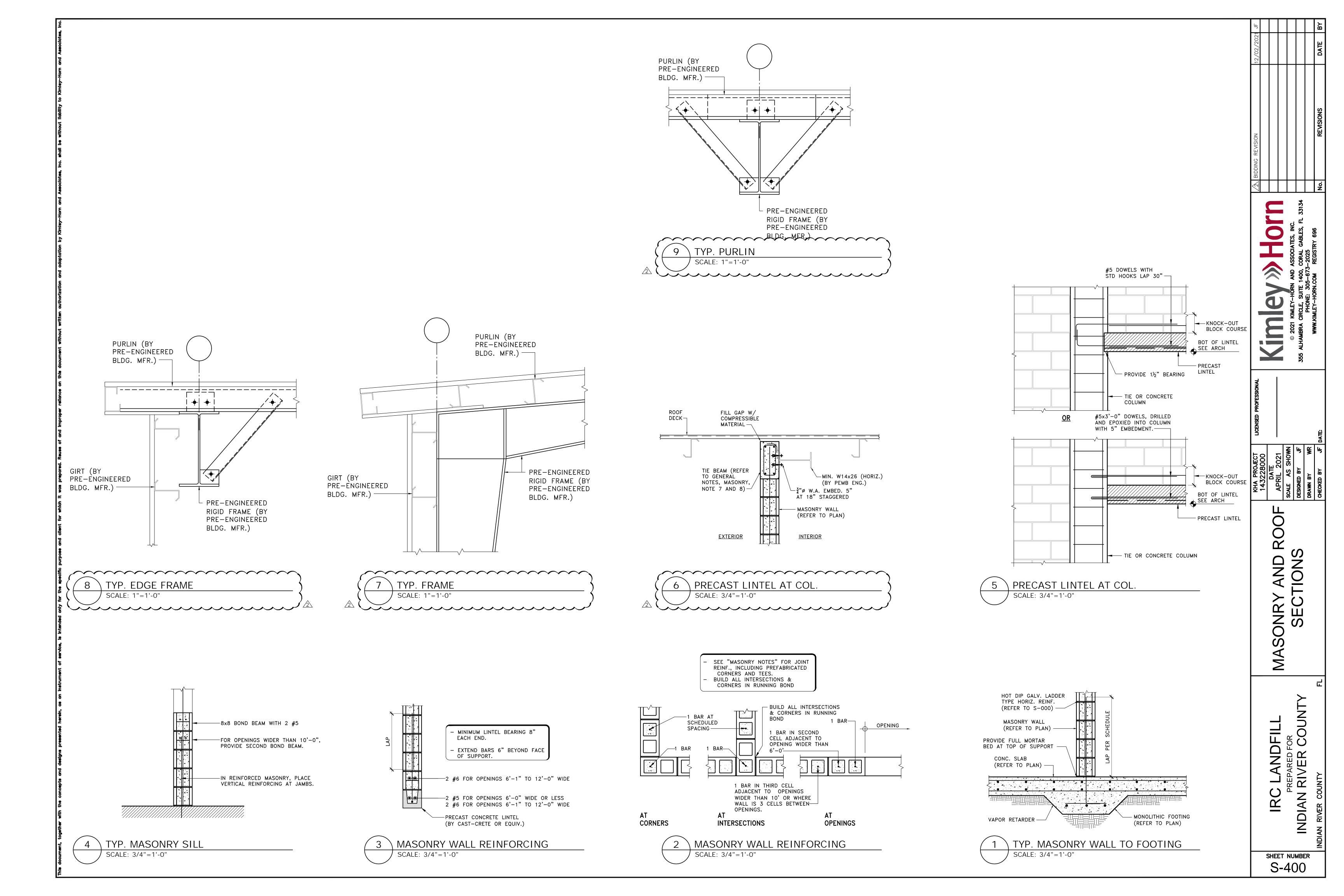
SUBMITTED on, 2	
Name of Firm	Address
Authorized Signature	City, State, Zip Code
Title	
Date Signed	(Corporate Seal)
E-mail:	Business Tax Receipt No
FEIN Number:	State Contractor License No.

All bid prices are inclusive of excavation, disposal, bedding material, backfill, trench restoration, temporary and/or permanent asphalt, temporary markings, testing, surveying, material, labor, overhead, and profit unless otherwise noted. Drainage Structures include frame and grate and removal of existing structures and associated pipes. Pay items which have alternative construction details for use at the engineer's discretion shall be paid solely based upon the actual quantities required and the contractor shall be responsible to furnish reasonable proof such as receipts, disposal tickets, manifests, etc. as backup for pay applications. Tree planting includes bracing and/or guying (refer to plans for tree size). Any work on the Construction Plans not listed as a pay item above shall be considered incidental to the project work and the cost of such included in the appropriate pay items. Payment for this project will be based upon completion of the entire project as a unit price contract, in accordance with the Project Manual.









GENERAL NOTES:

- 1. The Governing Code for this project is the Florida Buiding Code, Seventh Edition (2020). This 1. Comply with ACI 301 and 318. Code prescribes which Edition of each referenced standard applies to this project
- 2. To the best of our knowledge, the Structural drawings and specifications comply with the applicable requirements of the Governing Building Code.
- 3. Construction is to comply with the requirements of the Governing Building Code and all other applicable Federal. State, and local Codes, Standards, Regulations and Laws.
- 4. The Structural documents are to be used in conjunction with the Architectural documents. Use these notes in conjunction with the project specifications. If a conflict exist, notify the Architect.
- 5. Details labeled "Typical" apply to all situations that are the same or similar to those specifically referenced, whether or not they are keyed in at each location. Questions regarding the applicability of typical details shall be resolved by the Architect.
- 6. Openings shown on Structural drawings are only pictorial. See the Architectural and M.E.P. drawings for the size and location of openings in the structure.
- 7. Contractors who discover discrepancies, omissions or variations in the contract documents during bidding shall immediately notify the Architect. The Architect will resolve the condition and issue a written clarification.
- 8. The General Contractor shall coordinate all contract documents with field conditions and dimensions and project shop drawings prior to construction. Do not scale drawings; use only printed dimensions. Report any discrepancies in writing to the Architect prior to proceeding with work. Do not change size or location of Structural members without written instructions from the Structural Engineer of record.
- 9. The contractor shall protect adjacent property, his own work and the public from harm. The contractor is solely responsible for construction means and methods, and jobsite safety including all OSHA requirements.
- 10. The Structure is designed to be structurally sound when completed. Prior to completion, the Contractor is responsible for stability and temporary bracing, including, but not limited to, masonry walls. Wherever the Contractor is unsure of these requirements, the Contractor shall retain a Florida Licensed Engineer to design and inspect the temporary bracing and stability of the Structure.

11. <u>DESIGN SUPERIMPOSED LOADS</u>

Occupancy	LIVE	LOAD	LIVE	LOA	D RE	DEAD	LOAD
Roof Floor Floor (Point Load)	100	PSF PSF Ibs.	over	12 20"x		_	PSF PSF AREA

12. <u>DESIGN WIND LOADS</u>:

MPH

13. FLOOD DESIGN:

Flood Design Class

Elevation of Proposed Lowest Floor 24'-6" NAVD 88

14. RAIN DESIGN:

Rain Load 0 PSF Rain Intensity 4.5 in/hr

EXCAVATION, BACKFILL AND DEWATERING:

- 1. The Contractor is solely responsible for all excavation procedures including lagging, shoring, and protection of adjacent property, structures, streets and utilities in accordance with the requirements of the local Building Department and OSHA regulations. Do not excavate within one foot of the angle of repose of any soil bearing foundation unless the foundation is properly protected against settlement.
- 2. Do not backfill against walls until 7 days after the walls are braced by the Structure or are temporarily braced. Do not backfill cantilevered retaining walls until concrete is 14 days old. Do not backfill until after completion and inspection of any waterproofing.
- 3. The Contractor is responsible for the disposal of all accumulated water in a manner that does not inconvenience or damage the work.

SHALLOW FOUNDATIONS:

- 1. Foundation design, soil preparation and compaction are based on geotechnical investigation, data and recommendations in report #21-109 by Andersen Andre Consulting Engineers, Inc., dated March 23, 2021.
- 2. Footing sizes and reinforcing are based on an allowable soil bearing capacity of 2,500 psf. All footings shall bear on compacted fill, natural soil or rock prepared per the geotechnical report.
- 3. Subgrade preparation shall be field controlled and tested by a licensed soils Engineer in accordance with the geotechnical report. At completion, that Engineer shall prepare and submit to the owner, Architect, contractor and Structural Engineer a signed and sealed letter indicating that the recommendations of the geotechnical report have been followed.
- 4. Center all footings under their respective columns or walls, u.o.n

SLABS ON GRADE:

- 1. Refer to geotechnical report for subgrade preparation more than 12" below bottom of
- 2. Above subgrade, use fill containing not more than 10% passing #200 sieve and maximum 1 inch diameter. Compact to 95% of maximum dry density as determined by modified proctor ASTM D-1557. Each layer of fill shall not exceed 6" loose thickness. Compact prior to placement of the next layer.
- 3. Fill placement and compaction shall be monitored and accepted by the testing agency. Take a min. of one field density test (ASTM D-1556 or D-2922) for each 2,500 square feet of each layer. The testing agency shall randomly select test
- 4. For interior slabs place 10 mil polyethylene sheeting between soil and bottom of slab. Do not use any sheeting below exterior concrete slabs.
- 5. In sidewalks and walkways, locate isolation joints at 20 ft. o.c. maximum score and tool between isolation joints in equal bays of 5 ft. or less.
- 6. See the Architectural drawings for slab on grade depressions and other requirements.

REINFORCED CONCRETE:

- 2. Provide Structural Concrete with a minimum ultimate Compressive Design Strength of **4,000** psi in 28 days (max. w/cm=0.45).
- 3. Use normal weight concrete for all Structural Members. u.o.n.
- 4. Provide ASTM A-615 Grade 60 reinforcing steel. Weldable Rebar shall be ASTM-706, Grade 60 per AWS D.1. Reinforcing shall be accurately placed, rigidly supported and firmly tied in place, with appropriate bar supports and spacers. Lap bottom steel over supports and top steel at midspan (u.o.n.). Hook discontinuous ends of all top bars and all bars in walls, u.o.n. Provide cover over reinforcing as follows:

Element	bottom	top	sides
Footings	 3"	<u>top</u> 2"	 3"
Slabs on Grade	2"	1"	2"
Slabs Above Grade	3/4"	3/4"	1"
Slabs Exposed to Weather	1 1/2"	1 1/2"	1 1/2"
Walls Retaining Fill	_	_	2"
Walls Above Grade	_	_	1"

- 5. Tension Development Length and Lap Splice Lengths shall be per schedule.
- 6. Where specified, provide plain, cold-drawn electrically-welded wire reinforcement conforming to ASTM A-185. Supply in flat sheets only. Lap splice two cross wire
- In addition to specified reinforcing, provide 1 tons of reinforcing bars to be detailed, fabricated, delivered to site and placed as directed by the Architect/Engineer to account for unforeseeable conditions.
- Utilities shall not penetrate beams or columns but may pass through slabs and walls individually, u.o.n. For openings 24" long or less, cut reinforcing and replace alongside opening with splice bars of equivalent area with 48 bar dia. lap. Prepare and submit shop drawings for openings longer than 24". For rectangular openings 12" long or longer, add 1#5 x 6' mid depth diagonal at all 4 corners.
- 9. Where reinforcing steel congestion permits, conduit and pipes up to 1" diameter may be embedded in concrete per ACI 318, section 6.3. Space at 3 diameters o.c. Place between outer layers of reinforcing if conduits are significantly congested, additional reinforcing perpendicular to piping may be required. Requests to embed larger pipes shall be accompanied by a detailed description and be submitted to the Architect for
- 10. Provide construction joints in accordance with ACI 318, section 6.4. Provide keyways and adequate dowels. Submit drawings showing location of construction joints and direction of pour for review.
- 11. Provide 3/4" chamfer for all exposed corners.
- 12. Provide reinforcing steel placer with a set of Structural Drawings for field reference. Inspect reinforcing steel placing from Structural Drawings.

MIN. LAP SPLICE LENGTH SCHEDULE									
BAR TYPE	BAR SIZE								
BAKTYPE	#3	#4	#5	#6	#7	#8	#9	#10	#11
48 BAR DIAMETER	18"	24"	30"	36"	42"	48"	54"	61"	68"
FOOTINGS	16"	16"	19"	23"	33"	37"	42"	47"	53"
COLUMNS	_	1	19"	23"	33"	39"	49"	60"	72"
WALLS	16"	16"	19"	23"	33"	39"	49"	60"	_
SLABS	16"	19"	28"	37"	60"	74"	ı	1	_
BEAMS (TOP)	_	1	25"	29"	43"	51"	63"	78"	93"
BEAMS (MID. & BOTT.)	_	1	19"	23"	33"	39"	49"	60"	72"
STIRRUPS	16"	16"	19"	23"	1	ı	1		_
MASONRY FILLED CELLS (f'm=2500)	_	_	24"	44"	60"	-	-	-	_

CONCRETE MASONRY:

- 1. Construct masonry in accordance ACI 530/ASCE 5, "Building Code Requirements for Masonry Structures"; and ACI 530.1/ASCE 6, "Specifications for Masonry Structures".
- 2. The structure is supported by NON-LOAD bearing walls, u.o.n. Erect masonry prior to casting concrete columns.

Use 50% solid, nominal 8"x8"x16", concrete masonry units conforming to ASTM C90. block net area compressive strength shall be 3,750 psi. Lay up units in running bond. Sawcut units which are not in multiples of 8". Units shall be at least 8" long. Bond corners by lapping ends 8" in successive vertical courses. Design of walls is based on a f'm of 2,500 psi.

- 3. Use type S mortar in accordance with ASTM C270 except use type M mortar below grade. Head and bed joints shall be 3/8" for the thickness of the face shell. Webs are to be fully mortared in all courses of piers, columns and pilasters; in the starting course; and where an adjacent cell is to be grouted. Remove mortar protrusions extending 1/2" or more into cells to be grouted.
- 4. Use standard W1.7 horizontal ladder type joint reinforcing in every other course. Joint reinforcing and anchors in exterior walls shall conform to ASTM A153 Class B2, with a coating thickness of 1.50 oz/sf; conform to ASTM A 641 in interior walls. Overlap discontinuous ends 6". Use prefabricated corners and tees. Extend joint reinforcing a minimum of 4" into tie columns.
- 5. Use fine grout conforming to ASTM C476, with a minimum compressive strength of 2,500 psi in 28 days. Aggregate to conform to ASTM C404 for fine grout, with slump of 8" to 10". Grout all masonry containing reinforcing, All cells of 4 hour rated walls, and where indicated on the drawings. Allow mortar to cure 24 hours prior to grouting. Provide cleanout openings at the base of cells containing reinforcing steel to clean the cell and to tie the vertical bar to the dowel. In high—lift grouting, Use 4'-0" (max.) lifts, with 1/2 hour to 1 hour between lifts. Vibrate each lift and reconsolidate the previous lift.
- 6. Use ASTM A-615 grade 60 reinforcing steel. Reinforce walls where indicated on the drawinas and at all intersections, each side of openings and at the ends of walls. Use bar spacers at 10 ft. o.c. where grout pour height exceeds 10 ft.
- 7. At bond/tie beam corners and intersections, place 1 $\#5 \times 5'-0$ " T & B corner bar, with 30" legs each way, at the exterior face.
- 8. Beams not scheduled are min. 8" x 12" tie beams with 2 #5 bars top and bottom and #3 ties spaced at 48" o.c. typical and 4 ties at 12" o.c. at ends and intersections, u.o.n. Columns not scheduled are min. 8" x 12" tie columns with 4 #5 vertical bars and #2 ties at 12" o.c. use 30" lap splices. Hook all bars at discontinuous ends.
- 9. Reinforced masonry wall construction shall be inspected by an Engineer or Architect in accordance with ACI 530.1/ASCE 6.
- 10. Where anchor bolts, wedge anchors or anchors set in epoxy are set in a masonry wall, fill cells with grout for bolted course, one course above and two courses below.
- 11. Provide lintels or headers with min. 8" bearing over all masonry openings.
- 12. Use pressure-treated wood for wood in contact with masonry.

STRUCTURAL STEEL:

- 1. Fabricate and erect structural steel in conformance AISC "Specification for the design, fabrication and erection of structural steel for buildings", with commentary, and all OSHA requirements.
- 2. Structural steel shapes shall be fabricated from the following materials:
- Rolled W and WT shapes: ASTM A992, grade 50.
- Rolled M, S, C and MC shapes and Angles: ASTM A36, Fy=36 ksi. Plates and bars: ASTM A36, Fy=36 ksi.
- d. Cold-formed hollow structural sections (HSS): 1. Round sections: ASTM A500, grade C, Fy=46 ksi.
- 2. Square and rectangular sections: ASTM A500, grade B, Fy=46 ksi.
- e. Steel pipe: ASTM A53, type E or S, grade B, Fy=35 ksi.
- 3. All shop and field welding shall conform to the AWS D1.1 structural welding code by the American Welding Society. Use E70 series welding electrodes, u.o.n. where necessary, remove galvanizing or primer prior to welding. Use E80 Series for Weldable Rebar
- 4. A325 and A490 bolts shall comply with "Specification for structural joints using ASTM A325 or A490 bolts", including commentary.
- a. Typical bolts used in structural connections for this project are 5/8" diameter and 3/4" diameter A325N.
- b. Tighten bearing—type bolts (A-325N, A-325X, A-490N, and A-490X) to the snug tight condition as follows:
- 1. Bolts shall be placed in all holes, with washers positioned as required and
- nuts threaded to complete the assembly. 2. Compacting the joint to the snug—tight condition shall progress systematically
- from the most rigid part of the joint 3. The snua-tightened condition is the tightness that is attained with a few
- impacts of an impact wrench or the full effort of an ironworker using an ordinary spud wrench. 4. More than one cycle through the bolt pattern may be required to achieve the
- snug-tightened joint
- c. Provide hardened washers conforming to ASTM F436 and place under the part being turned.
- d. Do not reuse or retighten bolts which have been fully tightened. Use only non-galvanized nuts and bolts that are clean, rust-free, and well lubricated. Bolts and nuts shall be wax dipped by the bolt supplier or lubricated with Johnson's stick wax 140. Cleaning and lubrication of ASTM F1852 twist-off-type tension-control bolts is not permitted.
- e. Where slotted holes are used to accommodate thermal movement, notify the Architect if bolt is expected to hit the end of slot, based on temperature at time of installation.
- f. Store fastener components in sealed containers until ready for use. Reseal open containers to prevent contamination by moisture or other deleterious substances. Store closed containers from dirt and moisture in a protective shelter. Take from protective storage only as many fastener components as are anticipated to be installed during the work shift. Fastener components that are not incorporated into the work shall be returned to protective storage at the end of the work shift. Fasteners from open containers and fasteners that accumulate rust or dirt shall not be used and shall be immediately and permanently removed from the project site.
- 5. Use A-307 bolts for all erection bolts and bolts less than 3/4" diameter, u.o.n. Anchor rods shall be ASTM F1554 grade 55 with supplementary requirement S1, threaded with nuts and washers each end.
- 6. Cut. drill, or punch holes perpendicular to metal surfaces. Ream holes that must be enlarged to admit bolts as permitted by architect. Do not enlarge unfair holes by burning or using drift pins.
- 7. See Architectural and Mechanical drawings for miscellaneous steel not shown on the Structural drawings.
- 8. Refer to the Architectural drawings for painting and fireproofing of structural steel. Provide a minimum of one shop coat of paint for exposed structural steel U.N.O. Steel exposed to the atmosphere or elements shall receive a second shop coat of paint or be field painted in addition to the initial shop coat with lead, graphite or asphalt paint or other approved coating compatible with the shop coat. Do not paint steel surfaces in contact with fireproofing or embedded in concrete. Steel elements that are hot-dipped galvanized do not require shop and field painting.

COLD FORM STEEL FRAMING:

integrity of the building.

- 1. All field cutting of studs nust be done by sawing or shearing. Torch cutting of cold-formed members is unacceptable.
- 2. No notching or coping of study is allowed, unless stated within this drawing package.

wall is erected. Failure to install bracing at this time may compromise the structural

- 3. Ends of studs must seat firmly in runner track, which have full bearing on structure. 4. Framing fabricator is to ensure punch out alignment when assembling lateral bracing and field cutting studs to length. Lateral bracing must be installed at the time the
- 5. Temporary bracing shall be provided and remain in place until work is completely stabilized.
- 6. Framing shall be galvanized G60 and conform to ASTM A653 with a minimum yield of 33 ksi for studs 20-18 gage; 50 ksi for 16-12 gage.

CHEMICAL ADHESIVE FOR ANCHORING REINFORCING BARS, THREADED BARS AND ANCHOR BOLTS:

- 1. Use an epoxy, acrylic or polyester resin adhesive system such as the Hilti Hit HY200, ITW Ramset/Red Head Epcon A7 or C6 injection system, Powers Rawl Power-Fast System, Simpson Strong—Tie AT or ET, Allied Fastener Allied Gold A—1000, or accepted equivalent. Follow manufacturer's specifications for use and installation.
- 2. Confirm the absence of reinforcing steel by drilling a 1/4" diameter pilot hole for each anchor. Do not cut reinforcing steel without approval of the Structural Engineer.
- 3. Refer to manufacturer's installation instructions for appropriate drill size. Thoroughly clean hole including removal of dust prior to filling with epoxy.
- 4. Provide anchor embedment, spacing and edge distance as shown on the drawings.
- 5. Threaded rods are A-36 galvanized steel, u.o.n.

SHOP DRAWINGS AND OTHER SUBMITTALS:

- 1. Submit specific components, such as columns, footings, etc., in a single package. Submit similar floors together.
- 2. On first submittal, clearly flag and cloud all differences from the contract documents. On resubmittals, flag and cloud all changes and additions to previous submittal; only clouded items will be reviewed.
- 3. Submittals for special structural, load-carrying items that are required by codes or standards to resist forces must be prepared by, or under the direct supervision of, a delegated engineer as follows:

COMPONENT	DRAWINGS/ MATERIAL SHEETS	PRODUCT APPROVALS	SIGNED & SEALED DRAWINGS	SIGNED & SEALED CALCULATIONS
REINFORCEMENT	X			
MASONRY	х			
PRECAST LINTELS	x	Х		
CONCRETE MIXES	х			
CONCRETE ACCESSORIES	x			
EPOXY, EXPANSION, OR SCREW ANCHORS	Х			
RAILINGS			×	X
DOORS/WINDOWS/LOUVERS		Х	Х	Х
PREFABRICATED BUILDING			х	Х

- 4. A delegated Engineer is defined as a Florida licensed Engineer who specializes in and undertakes the design of structural components or structural systems included in a specific submittal prepared for this project and is an employee or officer of, or consultant to, the contractor or fabricator responsible for the submittal. The delegated Engineer shall sign, seal and date the submittal, including calculations and drawings.
- The trade contractor is responsible for confirming and correlating dimensions at the job sites, for tolerances, clearances, quantities, fabrication processes and techniques of construction, coordination of the work with other trades and full compliance with the contract documents.
- 6. The general contractor/construction manager shall review and approve submittals and shall sign and date each drawing prior to submitting to the Architect. This approval is to confirm that the submittal is complete, complies with the submittal requirements and is coordinated with field dimensions, other trades, erection sequencing and constructibility.
- The structural Engineer reviews submittals to confirm that the submittal is in general conformance with the design concept presented in the contract documents. Quantities and dimensions are not checked. Notations on submittals do not authorize changes to the contract sum. Checking of the submittal by the Structural Engineer shall not relieve the contractor of responsibility for deviations from the contract documents and from errors or omissions in the submittal.
- 8. In addition to the above, the structural Engineer's review of delegated Engineer submittals is limited to verifying that the specified structural submittal has been furnished, signed and sealed by the delegated Engineer and that the delegated Engineer has understood the design intent and used the specified structural criteria. No detailed check of calculations will be made. The delegated Enginner is solely responsible for their design, including but not limited to the accuracy of their calculations and compliance with the applicable codes and standards.
- 9. CAD files of Structural Drawings may be used as an aid in preparing shop drawings only upon the contractor signing an agreement.

FOOTING SCHEDULE DEINICODCING

	SIZE WxLxD	REINFORCING				
MARK		воттом		ТОР		REMARKS
		L.W.	S.W.	L.W.	S.W.	
TE-16	16"xCONT.x16"	2#5		#5	#4 AT 12"	THICKENED EDGE
MF-18	18"xCONT.x24"	2#5				MONOLITHIC FOOTING
MF-24	24"xCONT.x24"	3#5	#5 AT 6"	3#5	#4 AT 12"	MONOLITHIC FOOTING
WF-36	36"xCONT.x12"	4#5	#5 AT 12"			
WF-60	*	*	*	*	*	*REFER TO 2/S-302
F6.0	6'-0"x6'-0"x12"	6#5	6#5	6#5	6#5	
MF5.0	5'-0"x5'-0"x24"	5#5	5#5	5#5	5#5	MONOLITHIC FOOTING
MF6.0	6'-0"x6'-0"x24"	6#5	6#5	6#5	6#5	MONOLITHIC FOOTING
MF7.0	7'-0"x7'-0"x24"	7#5	7#5	7#5	7#5	MONOLITHIC FOOTING
MF11.0	11'-0"x11'-0"x24"	11#5	11#5	11#5	11#5	MONOLITHIC FOOTING
MF14.5	14'-6"x14'-6"x24"	15#5	15#5	15#5	15#5	MONOLITHIC FOOTING
MF18.0	18'-0"x18'-0"x24"	18#5	18#5	18#5	18#5	MONOLITHIC FOOTING
MF24.5	24'-6"x24'-6"x24"	25#5	25#5	25#5	25#5	MONOLITHIC FOOTING
MF17x24.5	17'-0"x24'-6"x24"	17#5	25#5	17#5	25#5	MONOLITHIC FOOTING

TIE COLUMN SCHEDULE

	MARK	SIZE "B X D"		REINFORCI	REMARKS	
			DOWELS	VERTICAL	TIES	
	C-1	8"X16"	3#6	6#6	#3 AT 8" *	* + (1) HAIRPIN
	(C-2)	8"X32"	5#6	10#6	#3 AT 8" *	* + (3) HAIRPIN

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