# **ORANGE COUNTY UTILITIES PORTER TRANSFER STATION** SITE IMPROVEMENTS **CONSTRUCTION DRAWINGS** CIP NO. 4410-038-1061-6310 **SEQ NO. 91566**



# **GOVERNING OFFICIALS:**

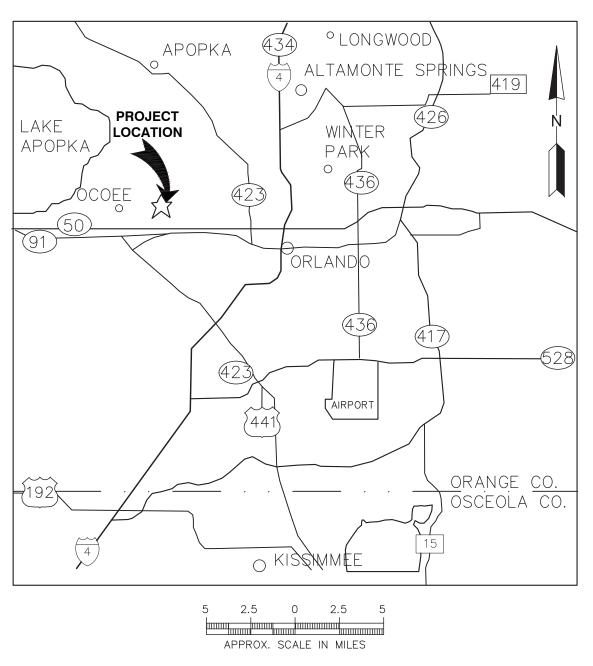
**JAMES W. BECKER** 

TERESA JACOBS	- ORANGE COUNTY MAYOR
BETSY VANDERLEY	- COMMISSIONER, DISTRICT 1
BRYAN NELSON	- COMMISSIONER, DISTRICT 2
PETE CLARKE	- COMMISSIONER, DISTRICT 3
JENNIFER THOMPSON	- COMMISSIONER, DISTRICT 4
EMILY BONILLA	- COMMISSIONER, DISTRICT 5
VICTORIA P. SIPLIN	- COMMISSIONER, DISTRICT 6
AJIT LALCHANDANI	- COUNTY ADMINISTRATOR
RAY HANSON	- DIRECTOR ORANGE COUNTY UTIL

- MANAGER SOLID WASTE DIVISION

# **ORLANDO, FLORIDA**

# **MARCH 2018**



LITY DEPARTMENT

LOCATION MAP PORTER TRANSFER STATION **1326 GOOD HOMES ROAD ORLANDO, FL 32818** 



STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS, INC. 5850 SOUTH SEMORAN BLVD. ORLANDO, FLORIDA 32822 PH. (407) 204-3231 FAX. (813) 623-6757 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00004892 WWW.SCSENGINEERS.COM

CENOS No. 73005 STATE OF

SCS PROJECT NO. 09216054.01

# INDEX OF DRAWINGS

DRA	WING NO.		DRAWING TITL	.E
	1	COVER SHEET		
	2	GENERAL NOTE	ES	
	3	OVERALL SITE	PLAN AERIAL	
	4	EXISTING CON	DITIONS	
	5	<b>DEMOLITION AI</b>	ND EROSION CONTROL PLA	N
	6	PROPOSED SIT	E PLAN	
	7	NEW HHWF ANI	D SCALE SITE PLAN	
	8	SANITARY SEW	ER PLAN AND PROFILE	
	9	WATER PLAN A	ND PROFILE	
	10	NEW HHW AND	SCALE SECTIONS	
	11	SCALE FOUND	ATION DETAILS	
	12	RAMP SECTION	IS AND GENERAL DETAILS	
	13	DETAILS - 1		
	14	DETAILS - 2		
	15	DETAILS - 3		
	16	DETAILS - 4		
	17		<b>IARKING</b>	
	18	COMMUNICATI	ONS PLAN	
	S1	STRUCTURAL G	ENERAL NOTES-1	
	S2	STRUCTURAL G	ENERAL NOTES-2	
	S3	STRUCTURAL G	ENERAL NOTES-3	
	S4	STRUCTURAL G	ENERAL NOTES-4	
	S5	CITIZEN DROP	OFF/NEW HHW FOUNDATIO	N, SLAB AND ROOF PLANS
	S6	SCALE HOUSE	AND CANOPY FRAMING PLA	NS
	S7	<b>RETAINING WA</b>	LL REINFORCEMENT	
	S8	<b>RETAINING WA</b>	LL SECTIONS & DETAILS	
	S9	STRUCTURAL D	DETAILS	
	S10	HHW SECTIONS	S AND DETAILS	
	S11	SCALE HOUSE	ELEVATIONS AND SECTION	S
	S12	HHW ROLL-UP I		
	S13		CANOPY ELEVATION AND D	
	E1		(MBOL LIST & GENERAL NO	TES
LICENSE	E2		D SCALE SITE PLAN	David Beben Digitally signed by David Beben PE
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DAVID M. BEBEN, P.E. LICENSE NO. 73005

- <u>GENERAL NOTES</u>
- 1. ALL ELEVATIONS ARE REFERRED TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NVAD 88) UTILIZING ORANGE COUNTY BENCH MARK #L1057014 AND L1057018.
- 2. LOCATIONS, ELEVATIONS, AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE DRAWINGS BUT DO NOT PURPORT TO BE ABSOLUTELY CORRECT. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY AND AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES AFFECTING HIS WORK.
- 3. THE CONTRACTOR SHALL REPLACE ANY MONUMENT, FENCE, ETC. WITH THE SAME TYPE OF MATERIAL THAT WAS REMOVED DURING CONSTRUCTION, COST TO BE INCIDENTAL TO OTHER CONSTRUCTION, AND NO EXTRA COMPENSATION SHALL BE ALLOWED.
- 4. TOPOGRAPHIC SURVEY WAS PERFORMED BY:

APEX ENGINEERING, INC. PO BOX 568891 ORLANDO, FLORIDA 32856-8891 PHONE: (407) 306-0904 PHONE: (407) 277-5492

- 5. THE CONTRACTOR SHALL CONTACT THE ENGINEER'S OFFICE IMMEDIATELY UPON FINDING ANY CONFLICTS DURING CONSTRUCTION ON ANY IMPROVEMENTS SHOWN ON THE DRAWINGS.
- 6. EROSION CONTROL AND SEDIMENTATION CONTROL DEVICES SHALL BE IN PLACE PRIOR TO BEGINNING ANY WORK. THEY SHALL BE INSTALLED TO THE LIMITS SHOWN IN THE DRAWINGS, AS REQUIRED IN THE SPECIFICATIONS, IN ACCORDANCE WITH ALL REGULATORY AGENCY SPECIFICATIONS AND REQUIREMENTS (SEE EROSION CONTROL NOTES.)
- 7. THE CONTRACTOR SHALL, BY REPAIR OR REPLACEMENT, RETURN TO EQUAL OR BETTER CONDITION ALL PAVEMENT, LANDSCAPING, PONDS, ROADS, UTILITIES, AND OTHER ITEMS DAMAGED BY HIS WORK.
- 8. DURING CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL, PROTECTION, AND REPLACEMENT OF ITEMS ON PRIVATE PROPERTY AND PUBLIC RIGHTS OF WAY SUCH AS FENCES, SOD, SHRUBS, TREES, SURVEYING MARKERS, ETC.
- 9. THE SITE IS A FORMER LANDFILL AND UNDER ROUTINE GROUNDWATER MONITORING AUTHORIZED BY THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP).
- 10. ALL CONSTRUCTION SHALL CONFORM TO ORANGE COUNTY STANDARDS AND SPECIFICATIONS AND TO THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, MOST RECENT EDITIONS.
- 11. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER DISPOSAL OF ALL CONSTRUCTION AND DEMOLITION DEBRIS AND ANY SOLID WASTE MATERIAL THAT IS EXCAVATED FROM THE SITE ACCORDING TO THE CONTRACT DOCUMENTS.
- 12. A DEWATERING PERMIT MAY BE REQUIRED BY THE FDEP AND THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT (SJRWMD) PRIOR TO ANY PUMPING, ETC. AND SHALL BE OBTAINED BY THE CONTRACTOR. CONTRACTOR IS RESPONSIBLE FOR THE DESIGN, INSTALLATION, PERMIT, TESTING AND OPERATION OF AN ADEQUATE DEWATERING SYSTEM TO DEWATER EXCAVATIONS FOR CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION PERMITS AND LABORATORY ANALYSIS REQUIRED TO MEET THE PERMIT CONDITIONS.
- 13. ALL PRIVATE AND PUBLIC PROPERTY AFFECTED BY THIS WORK SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THE CONDITION EXISTING PLANS. COSTS TO BE INCIDENTAL TO OTHER CONSTRUCTION AND NO EXTRA COMPENSATION TO BE ALLOWED.
- 14. INSTALLATION OF ALL STORM SEWERS, INLETS, MANHOLES, AND APPURTENANCES SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE SECTIONS OF ORANGE COUNTY STANDARD SPECIFICATIONS, OR AS INDICATED ON THE DRAWINGS.
- 15. THE LIMITS OF CONSTRUCTION SHOWN ON THE DRAWINGS SHALL BE STRICTLY OBSERVED BY THE CONTRACTOR. ALL INGRESS, EGRESS AND TRAFFIC PATTERNS ON THE SITE SHALL BE WITHIN THE LIMITS OF CONSTRUCTION OR ON HAUL ROADS SHOWN ON THE DRAWINGS. ALL CONSTRUCTION AREAS SHALL BE CLEARLY POSTED.
- 16. ALL REINFORCED CONCRETE PIPE (RCP) SHALL BE MINIMUM CLASS III.
- 17. IN AREAS REQUIRING FILL MATERIAL, THE CONTRACTOR WILL STRIP OR OTHERWISE REMOVE ALL VEGETATION SUCH AS BRUSH, HEAVY SODS, HEAVY GROWTH OF GRASS, DECAYED VEGETABLE MATTER, RUBBISH AND ANY OTHER DELETERIOUS MATERIAL BEFORE EMBANKMENT IS STARTED. IMMEDIATELY PRIOR TO THE PLACING OF FILL MATERIALS. THE ENTIRE AREA UPON WHICH FILL IS TO BE PLACED, SHALL BE SCARIFIED. A POLYMER SHALL BE APPLIED TO AREAS OF EMBANKMENT IF LEFT UNSTABILIZED FOR MORE THAN 24 HOURS.
- 18. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD AND OWNER FIVE WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION.
- 19. CONTRACTOR SHALL SUBMIT A DETAILED WORK PLAN FOR REVIEW WITHIN 15 DAYS OF AWARD OF CONTRACT WHICH WILL INCLUDE THE PROPOSED CONSTRUCTION SEQUENCE.
- 20. CONTRACTOR CANNOT AFFECT OPERATION OR TRAFFIC OF EXISTING TRANSFER STATION.
- 21. THIS IS A FACILITY DEVELOPED OVER A FORMER LANDFILL. TAKE ALL APPROPRIATE PRECAUTIONS WHEN DISTURBING EXISTING WASTE AND FOLLOW ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
- 22. EXCAVATED WASTE MATERIAL SHALL BE PROPERLY DISPOSED OF PER THE CONTRACT DOCUMENTS AT THE END OF EACH DAY. EXCAVATION SHALL BE BACK FILLED WITH CLEAN FILL IN ACCORDANCE WITH THE SPECIFICATIONS. EXCAVATED WASTE SHALL NOT BE MIXED WITH CONSTRUCTION DEBRIS.
- 23. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF RECORD AND OWNER OF ANY DISCHARGES OR RELEASED OF IDENTIFIED CONTAMINATION FROM EXCAVATED WASTE MATERIAL.
- 24. EXCEPT IN THE EVENT OF AN EMERGENCY, NO WORK SHALL BE CONDUCTED BETWEEN THE HOURS OF 6 PM AND 7 AM MONDAY THROUGH SATURDAY. IF THE PROPERTY AND EFFICIENT PROSECUTION OF THE WORK REQUIRES OPERATIONS DURING THE NIGHT, WRITTEN PERMISSION OF THE OWNER SHALL BE OBTAINED BEFORE STARTING SUCH ITEMS OF THE WORK.
- 25. ALL AREAS DISTURBED SHALL RECEIVE SODDING UNLESS ANOTHER TREATMENT IS SPECIFIED.
- 26. IF WASTE IS EXPOSED DURING THE CLEARING AND GRUBBING OPERATION, THE WASTE SHALL BE COVERED WITH 12" OF CLEAN FILL THE SAME DAY.
- 27. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING WASH BINS AND/OR OTHER TYPES OF CONTAINMENT FOR CONCRETE WASHOUT ACTIVITIES.
- EROSION CONTROL

IT IS THE CONTRACTOR'S RESPONSIBILITY TO IMPLEMENT THE EROSION AND TURBIDITY CONTROLS AS SHOWN ON THE EROSION AND TURBIDITY CONTROL PLAN. IT IS ALSO THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THESE CONTROLS ARE PROPERLY INSTALLED, MAINTAINED AND FUNCTIONING PROPERLY AT THE END OF EACH WORKING DAY TO PREVENT TURBID OR POLLUTED WATER FROM LEAVING THE PROJECT SITE. THE CONTRACTOR WILL ADJUST THE EROSION AND TURBIDITY CONTROLS SHOWN ON THE EROSION AND TURBIDITY CONTROL PLAN AND ADD ADDITIONAL CONTROL MEASURES, AS REQUIRED, TO ENSURE THE SITE MEETS ALL FEDERAL, STATE AND LOCAL EROSION AND TURBIDITY CONTROL REQUIREMENTS. THE FOLLOWING BEST MANAGEMENT PRACTICES WILL BE IMPLEMENTED BY THE CONTRACTOR AS REQUIRED BY THE EROSION AND TURBIDITY CONTROL PLAN AND AS REQUIRED BY THE REGULATORY AGENCIES.

- 1. EROSION CONTROL MEASURES SHALL BE CONSTRUCTED AS A FIRST STEP BEFORE ANY LAND-DISTURBING TAKES PLACE TO MEET THE EROSION AND TURBIDITY REQUIREMENTS IMPOSED ON THE PROJECT.
- 2. ALL SEDIMENT CONTROL MEASURES ARE TO BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION AND BE CONSTRUCTED PRIOR TO ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL ON BALANCE OF SITE. PERIMETER SEDIMENT BARRIERS SHALL BE CONSTRUCTED TO PREVENT SEDIMENT OR TRASH FROM FLOWING OR FLOATING ON TO ADJACENT PROPERTIES.
- 3. DURING CONSTRUCTION OF THE PROJECT. SOIL STOCK PILES SHALL BE STABILIZED OR PROTECTED WITH

- PROVIDED.
- PAVED ROADS.

- CONSTRUCTION.
- SITE.
- CONDITIONS.

- BE ALLOWED.

## GEOTECHNICAL RECOMMENDATIONS GENERAL:

## FARTHWORK SITE PREPARATION:

## ROADWAYS:

- PIPELINES:

SEDIMENT TRAPPING MEASURES. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY PROTECTIONS AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.

4. AFTER 0.50 INCHES OR GREATER OF RAINFALL SEDIMENT CONTROL STRUCTURES WILL BE INSPECTED FOR INTEGRITY. ANY DAMAGED DEVICES SHALL BE REPAIRED IMMEDIATELY.

5. CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.

6. WHENEVER WATER SEEPS FROM A SLOPE FACE ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE

7. SEDIMENT WILL BE PREVENTED FROM ENTERING ANY STORM DRAIN SYSTEM. NO FILTER FABRIC SHALL BE USED ON STORM DRAINS OR PAVED ROADS. ONLY DROP BAG INLET PROTECTION WILL BE PERMITTED ON

8. BEFORE TEMPORARY OR NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS ARE MADE OPERATIONAL ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.

9. STOCKPILING MATERIAL: NO EXCAVATED MATERIAL SHALL BE STOCKPILED IN SUCH A MANNER AS TO DIRECT RUNOFF DIRECTLY OFF THE PROJECT SITE INTO ANY ADJACENT WATER BODY OR STORM WATER COLLECTION FACILITY. STOCKPILED WASTE SHALL NOT BE STOCKPILED OVERNIGHT.

10. THE CONTRACTOR WILL BE RESPONSIBLE FOR PREPARING A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IN ACCORDANCE WITH EPA'S NPDES REGULATIONS. THE CONTRACTOR WILL BE RESPONSIBLE FOR SUBMITTING A NOTICE ON INTENT (NOI) TO DEP FORTY-EIGHT (48) HOURS PRIOR TO COMMENCING

11. THE EROSION CONTROL MEASURES SHOWN ON THESE DRAWINGS ARE THE MINIMUM. THE CONTRACTOR SHALL PROVIDE ADDITIONAL MEASURES, AS NECESSARY, TO PREVENT TURBID DISCHARGE FROM LEAVING THE

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING, MONITORING AND MODIFYING THE SWPPP FOR CONSTRUCTION ACTIVITIES INCLUDING SWPPP REQUIRED INSPECTIONS TO MEET CHANGING PROJECT SITE

13. WHEN ALL DISTURBED SOILS HAVE BEEN STABILIZED AND TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES HAVE BEEN REMOVED, THIS CONSTITUTES THE ELIMINATION OF STORMWATER DISCHARGES ASSOCIATED WITH THE CONSTRUCTION ACTIVITIES. AT THIS TIME THE CONTRACTOR SHALL COMPLETE AND FILE A NOTICE OF TERMINATION (NOT).

14. MAINTENANCE: ALL FEATURES OF THE PROJECT DESIGNED AND CONSTRUCTED TO PREVENT EROSION AND SEDIMENT SHALL BE MAINTAINED DURING THE LIFE OF THE CONSTRUCTION SO AS TO FUNCTION AS THEY WERE ORIGINALLY DESIGNED AND CONSTRUCTED.

15. THE CONTRACTOR SHALL STAGE THE WORK SUCH THAT THE STORMWATER FLOW IS ALWAYS MAINTAINED AND NO FLOODING IS ALLOWED DURING CONSTRUCTION. DEWATERING, TEMPORARY DRAINAGE STRUCTURES. BY-PASS PUMPING AND/OR ANY OTHER MEANS AND METHODS REQUIRED FOR CONSTRUCTION IN THE PROJECT AREA SHALL BE INCLUDED IN THE COST OF MOBILIZATION. NO ADDITIONAL COMPENSATION SHALL

1. CONTRACTOR SHALL REFER TO "GEOTECHNICAL EXPLORATION PORTER TRANSFER STATION IMPROVEMENTS REPORT" DATED, 8/31/2017 PREPARED BY BLUE MARLIN ENGINEERING.

2. THE CONTRACTOR SHALL REFER TO TECHNICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.

3. THE CONTRACTOR SHALL PROVIDE SUBMITTALS FOR THE GEOTECHNICAL COMPONENTS FOR REVIEW AND APPROVAL BY THE ENGINEER. REFER TO SPECIFICATIONS FOR SUBMITTAL DETAILS.

4. IT IS EVIDENT FROM SITE OBSERVATIONS AND THE RESULTS OF THE FIELD EXPLORATION THAT FILL SOILS CONTAINING BURIED DEBRIS AND WASTE ARE PRESENT ON THE SITE.

5. THE PRESENCE OF DEBRIS AND OTHER HARD MATERIALS SHOULD BE ANTICIPATED TO BE ENCOUNTERED IN ALL EXCAVATIONS AT VARIOUS DEPTHS WITHIN THE SUBSURFACE PROFILE. THE CONTRACTOR SHALL ANTICIPATE THE NEED FOR SPECIALIZED EQUIPMENT AND/OR HANDLING TECHNIQUES TO FACILITATE EXCAVATIONS, DEWATERING, AND PENETRATION.

1. AFTER STRIPPING AND GRUBBING AND PRIOR TO ADDING FILL, PROOFROLL THE SUBGRADE WITH A HEAVY VIBRATORY ROLLER WITH A MINIMUM STATIC DRUM WEIGHT OF 10 TONS FOR AT LEAST 10 OVERLAPPING PASSES IN EACH OF TWO PERPENDICULAR DIRECTIONS AT WALKING SPEED IN THE PRESENCE OF THE ENGINEER OR AS DIRECTED BY THE ENGINEER. ADDITIONAL PASSES WILL BE REQUIRED IF CONTINUED SETTLEMENT IS OBSERVED. ADJUST THE MOISTURE CONTENT OF THE SUBGRADE SOILS AS NEEDED TO FACILITATE COMPACTION.

2. COMPACTION OF SUBGRADE SOILS BELOW THE PROPOSED ROADWAYS, RAMPS, AND OTHER STRUCTURAL AREAS SHOULD EXTEND A MINIMUM HORIZONTAL MARGIN OF 5 FEET BEYOND THE EDGE OF THE PAVEMENT AND STRUCTURAL AREAS. COMPACTION OF THE SUBGRADE SOILS SHOULD BE VERIFIED TO A DEPTH OF ONE FOOT AND MEET OR EXCEED THE MINIMUM COMPACTION CRITERIA.

3. ANY LOW AREAS RESULTING FROM THE STRIPPING, GRUBBING AND PROOFROLLING OPERATIONS SHALL BE FILLED TO FINISHED GRADE WITH COMPACTED STRUCTURAL FILL PER THE TECHNICAL SPECIFICATIONS.

1. FOR THE PROPOSED ROADWAYS AREAS, A SINGLE LAYER OF HIGH-STRENGTH GEOGRID REINFORCEMENT (TRI-AXIAL GEOGRID) SHALL BE INSTALLED BETWEEN THE COMPACTED SUBGRADE AND THE STABILIZED SUBGRADE. NOTE OTHER GEOGRID TYPES SHALL BE USED UNDER CONCRETE FOUNDATIONS AND BUILDING FOOTINGS. THE GEOGRID SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS AND SECTION 02070.

1. WHERE THE PIPE ALIGNMENT PASSES OVER FILL WITH DEBRIS, HEAVY COMPACTION SHALL TAKE PLACE AT THE PIPE INVERT ELEVATION AS WITH ROADWAYS AND RAMPS. HIGH-STRENGTH GEOTEXTILE SHOULD BE PLACED WITHIN THE TRENCH BELOW THE BEDDING, UP THE TRENCH SIDEWALL, AND ANCHORED A MINIMUM OF 3 FEET ON EITHER SIDE OF THE TRENCH AT A DEPTH OF ABOUT 1 FOOT.

## MAINTENANCE OF TRAFFIC

1. EXISTING TRAFFIC CONTROL SIGNS SHALL BE MAINTAINED OPERATIONAL AT ALL TIMES.

- WORKING DAYS IN ADVANCE.
- WARNING SIGNS, AND MARKINGS FOR HAZARDS AND THE CONTROL OF TRAFFIC, IN REASONABLE CONSTITUTES IN ANY WAY A HAZARD TO THE PUBLIC.

4. EXISTING TRANSFER STATION MUST REMAIN OPERATIONAL DURING CONSTRUCTION OF NEW FACILITY. A TRAFFIC CONTROL PLAN MUST BE APPROVED BY THE OWNER PRIOR TO COMMENCING CONSTRUCTION. GENERAL SIGNAGE AND STRIPING NOTES

- CONTROL DEVICES.
- ROAD AND BRIDGE CONSTRUCTION.
- 3. DIMENSIONS ARE TO THE CENTERLINE OF MARKINGS.
- F.D.O.T. ROADWAY AND TRAFFIC DESIGN STANDARDS, INDEX NO. 17346.
- 5. ALL SIGN FACES SHALL BE ENGINEERING GRADE REFLECTIVE SHEETING.
- 6. SIGN SHALL BE CONSTRUCTED OF 0.080" THICK ALUMINUM.
- SEQUENCE OF CONSTRUCTION:
- 2. INSTALL SEDIMENT CONTROL BARRIER IN AREAS DEDICATED FOR STOCKPILES OF EXCAVATED MATERIAL TO BE SAVED IN ACCORDANCE WITH THIS PLAN.
- THIS MATERIAL. COMPLETE DEMOLITION.
- 4. CONSTRUCT NEW CITIZEN'S UNLOADING AREA, HOUSEHOLD HAZARDOUS WASTE (HHW) FACILITY AND ASSOCIATED IMPROVEMENTS AND SOUTHERN BYPASS ROAD.
- 5. INSTALL APPROPRIATE TRAFFIC CONTROLS AND M.O.T. INSTALL NEW SCALE AND SCALEHOUSE.
- AND SCALEHOUSE ARE OPERATIONAL AND CONSTRUCT ROADWAY IN FORMER SCALES LOCATION.
- 7. RESURFACE VEGETATION AREAS UPON COMPLETION OF CONSTRUCTION ACTIVITIES PER THE DRAWINGS AND WITHIN 72 HOURS OF FINAL GRADING.

UTILITY NOTES:

- 1. THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE UTILITY COMPANY FORTY-FIGHT (48) HOURS IN UTILITIES A MINIMUM OF 48 HRS. PRIOR TO EXCAVATION.
- PROTECTION OF ALL UTILITIES TO REMAIN IN PLACE.
- 3. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY IF OTHER UTILITIES (NOT SHOWN IN THE PLANS) REQUIRED.
- MAY EXIST, ABOVE OR BELOW GROUND. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ALL UTILITIES TO REMAIN IN PLACE.
- STANDARDS.

DESIGNATION LETTER INDICATES SECTION, NUMBER INDICATES

# SECTION AND DETAIL DESIGNATION

2. ACCESS FOR LOCAL TRAFFIC WITH DESTINATIONS WITHIN THE PROJECT LIMITS SHALL BE MAINTAINED. IF DURING CONSTRUCTION ACCESS FOR LOCAL TRAFFIC IS CHANGED, THEN THE CONTRACTOR SHALL NOTIFY THE OWNER A MINIMUM OF THREE (3) WORKING DAYS IN ADVANCE. IF DURING CONSTRUCTION ROAD CLOSURES ARE REQUIRED, THEN THE CONTRACTOR SHALL NOTIFY THE OWNER A MINIMUM OF FIVE (5)

3. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL FURNISH, ERECT AND MAINTAIN ALL BARRICADES, CONFORMITY WITH THE U.S. DEPARTMENT OF TRANSPORTATION MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, OR AS DIRECTED BY THE OWNER, SUCH AS TO EFFECTIVELY PREVENT ACCIDENTS IN ALL PLACES WHERE THE WORK CAUSES OBSTRUCTION TO THE NORMAL TRAFFIC OR

1. ALL SIGNS AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC

2. ALL PAVEMENT STRIPING AND MARKINGS SHALL BE THERMOPLASTIC, MANUFACTURED AND INSTALLED IN ACCORDANCE WITH SECTION 711 OF THE LATEST EDITION OF THE F.D.O.T. STANDARD SPECIFICATIONS FOR

4. BLUE PAVEMENT MARKINGS SHALL BE TINTED TO MATCH SHADE 15180 OF FEDERAL STANDARDS 595a. SEE

1. ALL BMPs TO BE INSTALLED BEFORE ANY LAND DISTURBING ACTIVITIES OR DEMOLITION ARE PERFORMED.

3. INSTALL APPROPRIATE TRAFFIC CONTROLS AND M.O.T. EXCAVATE AND STOCKPILE EXISTING MATERIAL TO BE SAVED. HAUL EXCESS MATERIAL AND WASTE THROUGH THE EXISTING SCALE AND UNLOAD ON THE PORTER TRANSFER STATION FLOOR. THE CONTRACTOR WILL NOT BE CHARGED A DISPOSAL FEE BY THE OWNER FOR

6. DURING THE FACILITY'S NON-OPERATIONAL HOURS, DEMOLISH THE EXISTING SCALE ONCE THE NEW SCALE

TECHNICAL SPECIFICATIONS. SLOPED AREAS 6(H) TO 1(V) OR GREATER SHALL BE REVEGETATED WITH SOD

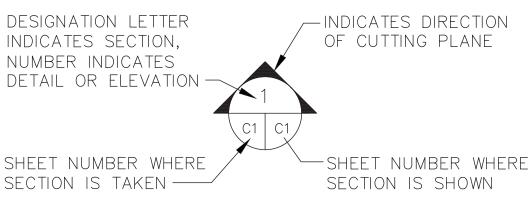
ADVANCE OF ANY EXCAVATION INVOLVING ITS UTILITIES SO THAT A COMPANY REPRESENTATIVE CAN BE PRESENT. THE LOCATION OF THE UTILITIES SHOWN IN THE DRAWINGS ARE APPROXIMATE. THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION. THE CONTRACTOR SHALL ALSO CONTACT THE "SUNSHINE STATE ONE CALL SYSTEM" FOR UNDERGROUND LOCATION OF EXISTING

2. EXISTING UTILITIES AND FACILITIES SHOWN ON THE DRAWINGS WERE LOCATED FROM THE OWNER'S RECORDS OF UNDERGROUND FACILITIES. GUARANTEE IS NOT MADE THAT ALL EXISTING FACILITIES ARE SHOWN NOR THAT THOSE FACILITIES SHOWN ARE ENTIRELY ACCURATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR

EXIST WITHIN THE AREA OF CONSTRUCTION. SHOULD THERE BE OTHER UTILITIES. THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE UTILITY OWNERS TO RESOLVE UTILITY CONFLICTS AND UTILITY ADJUSTMENT, AS

4. UTILITIES ARE TO BE ADJUSTED OR RELOCATED BY THE UTILITY COMPANIES UNLESS OTHERWISE NOTED. 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL UTILITIES THAT

6. ALL WORK SHALL BE IN ACCORDANCE WITH ORANGE COUNTY UTILITIES, WATER AND WASTEWATER UTILITY





This item has been electronically signed and sealed by David M. Beben, PE on March 20, 2018 using a SHA-1 authentication code. Printed copies of this document are not considered

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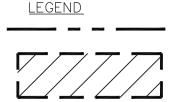
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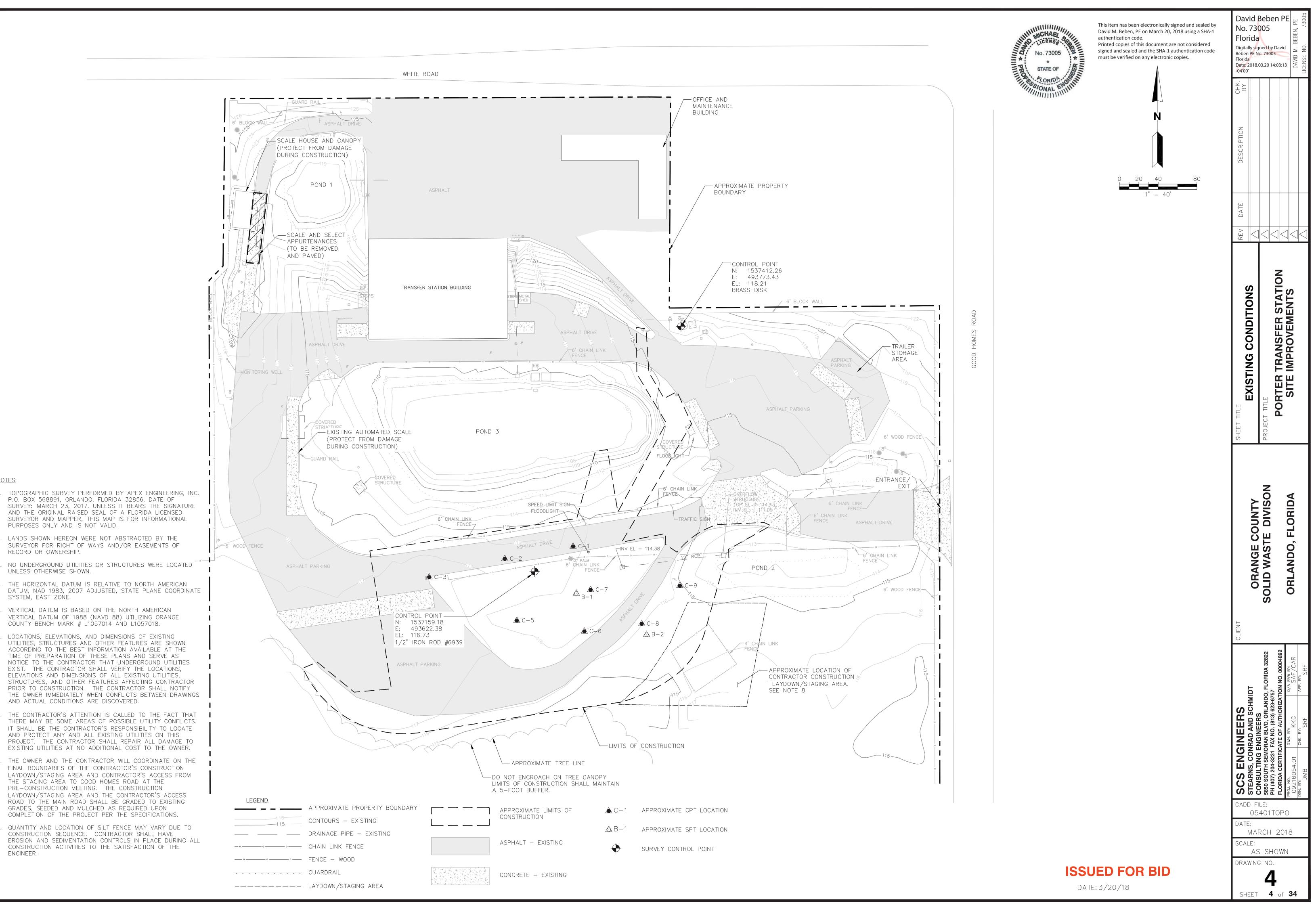
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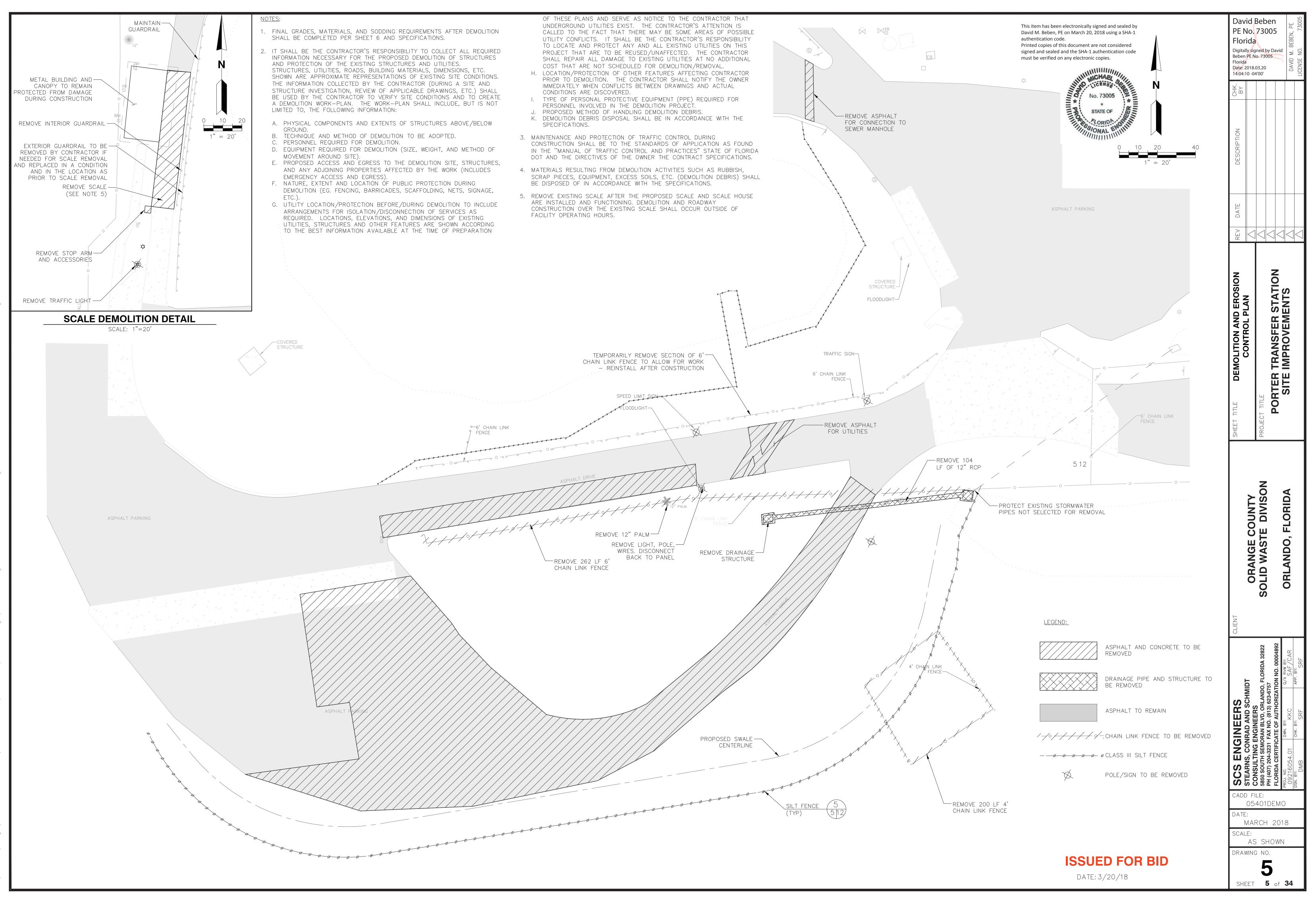
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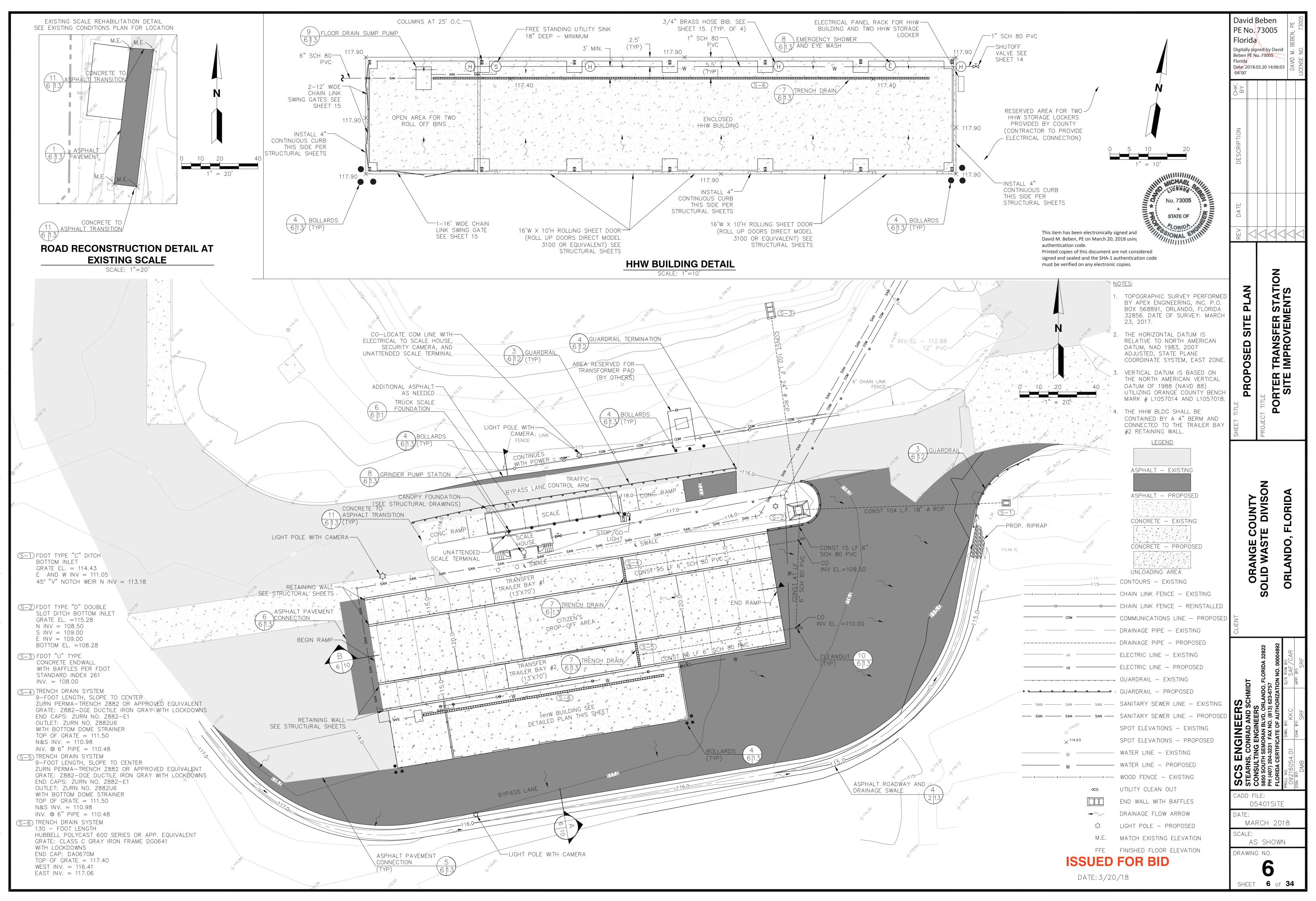


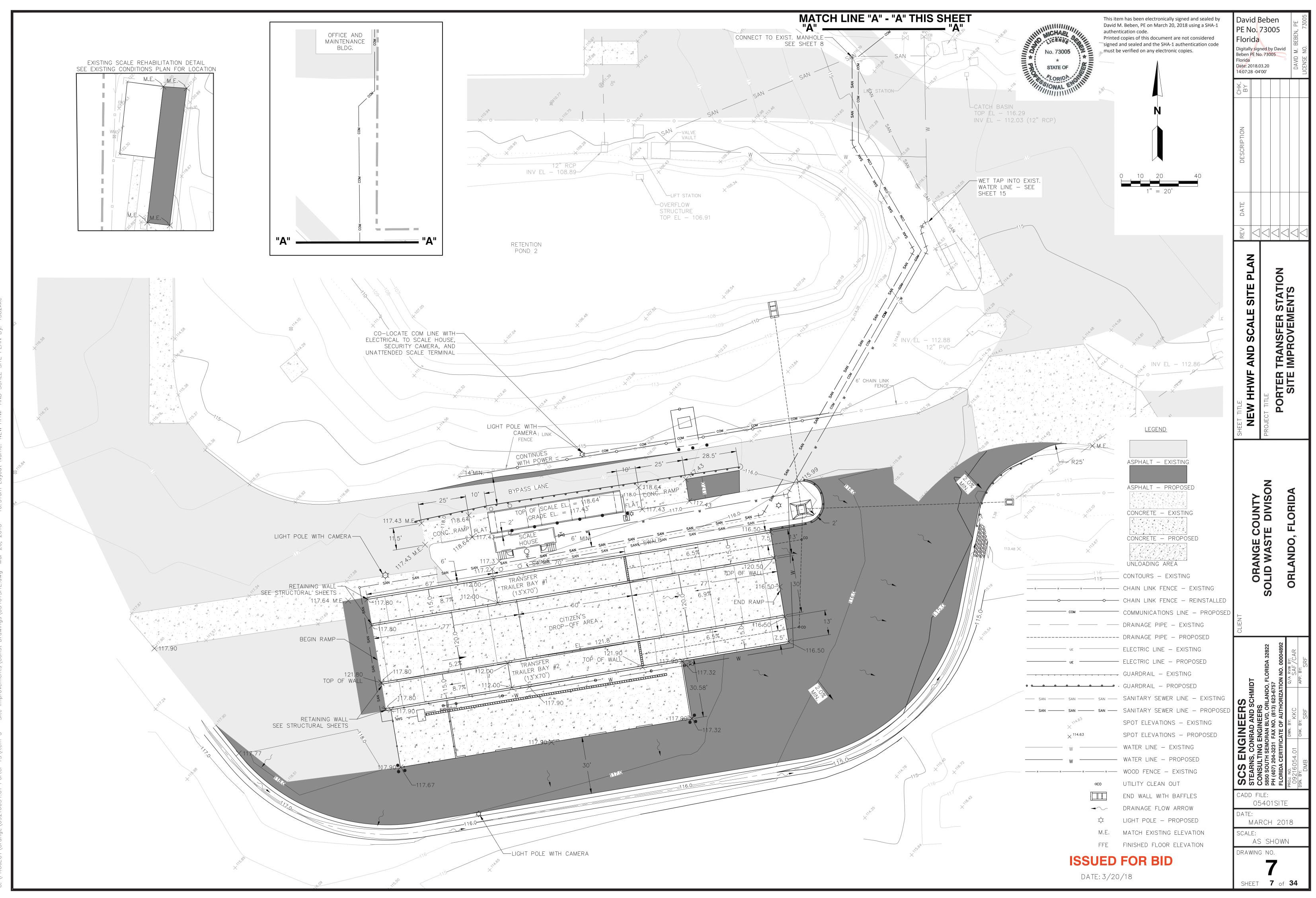


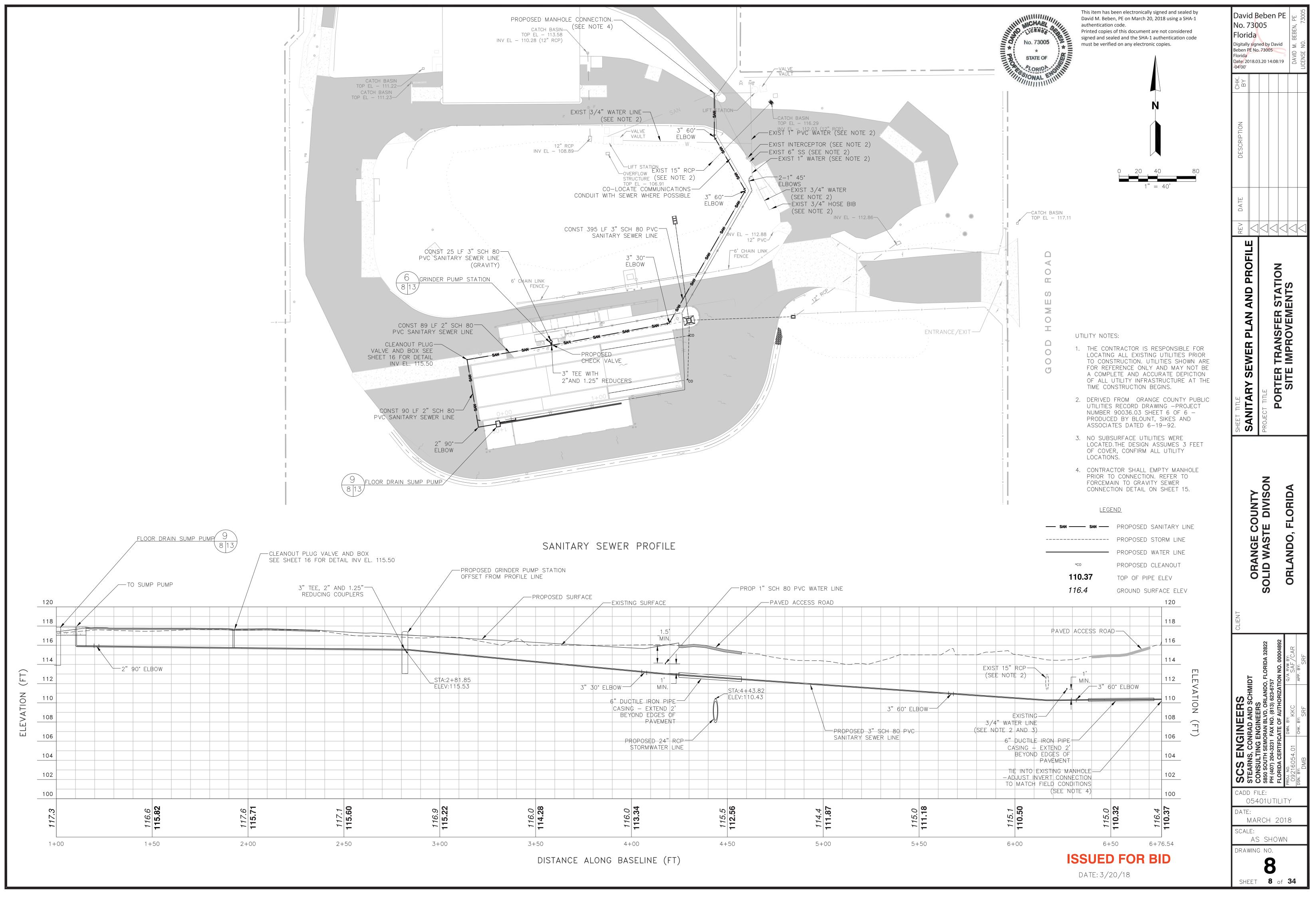




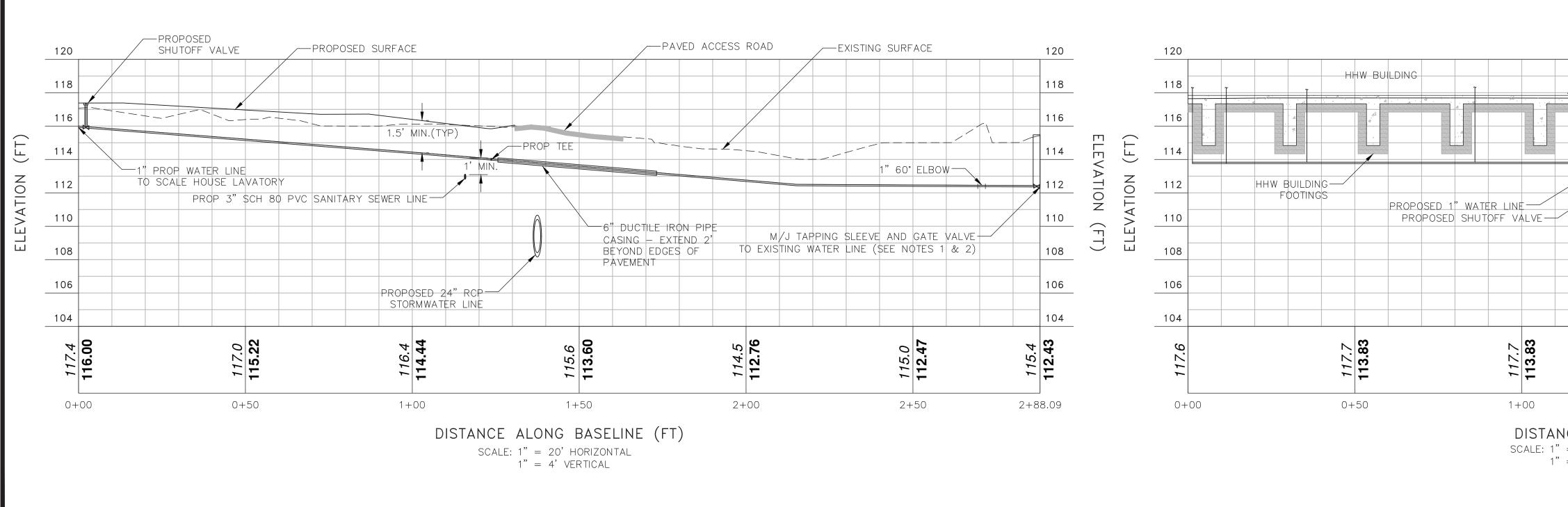


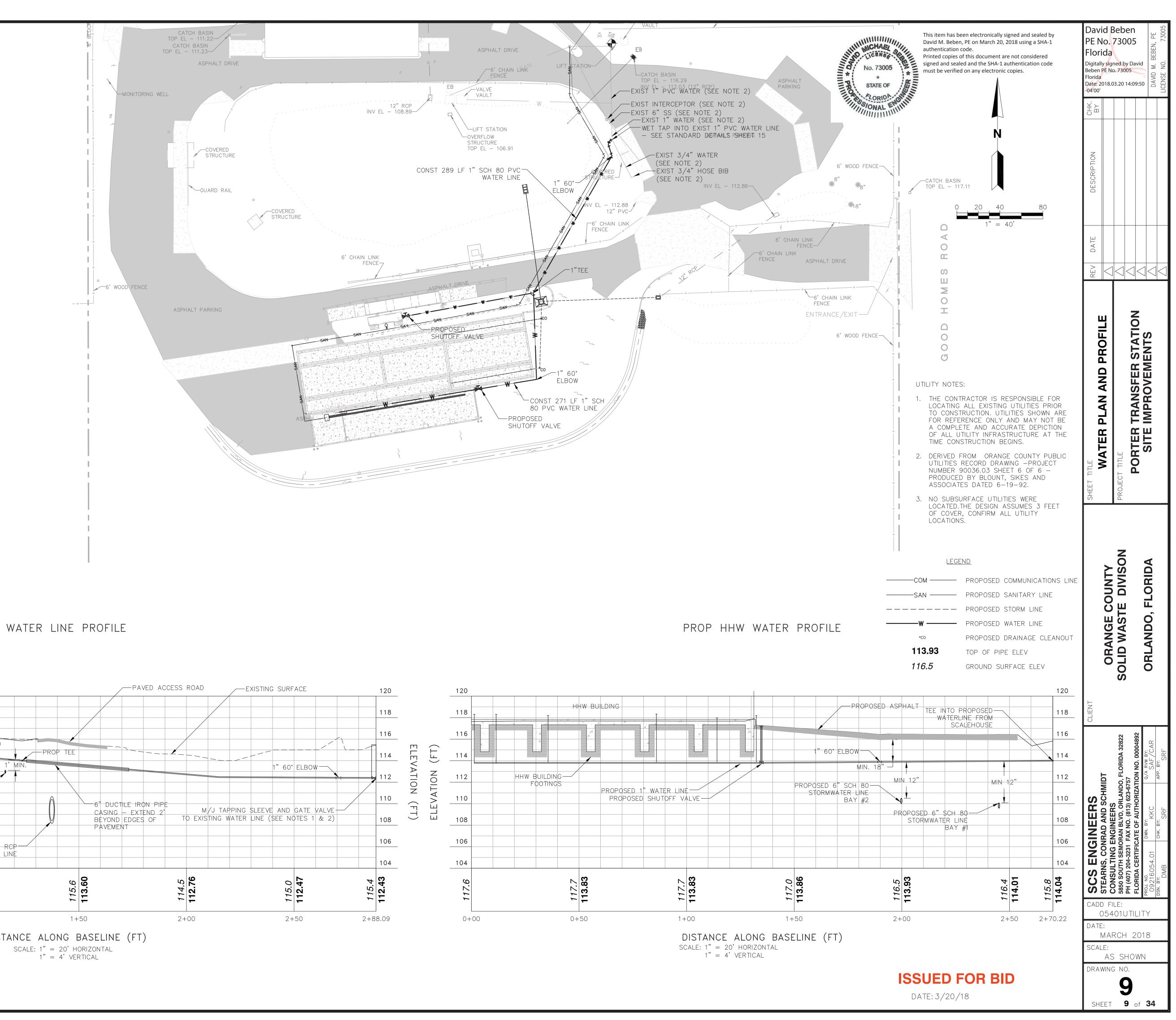


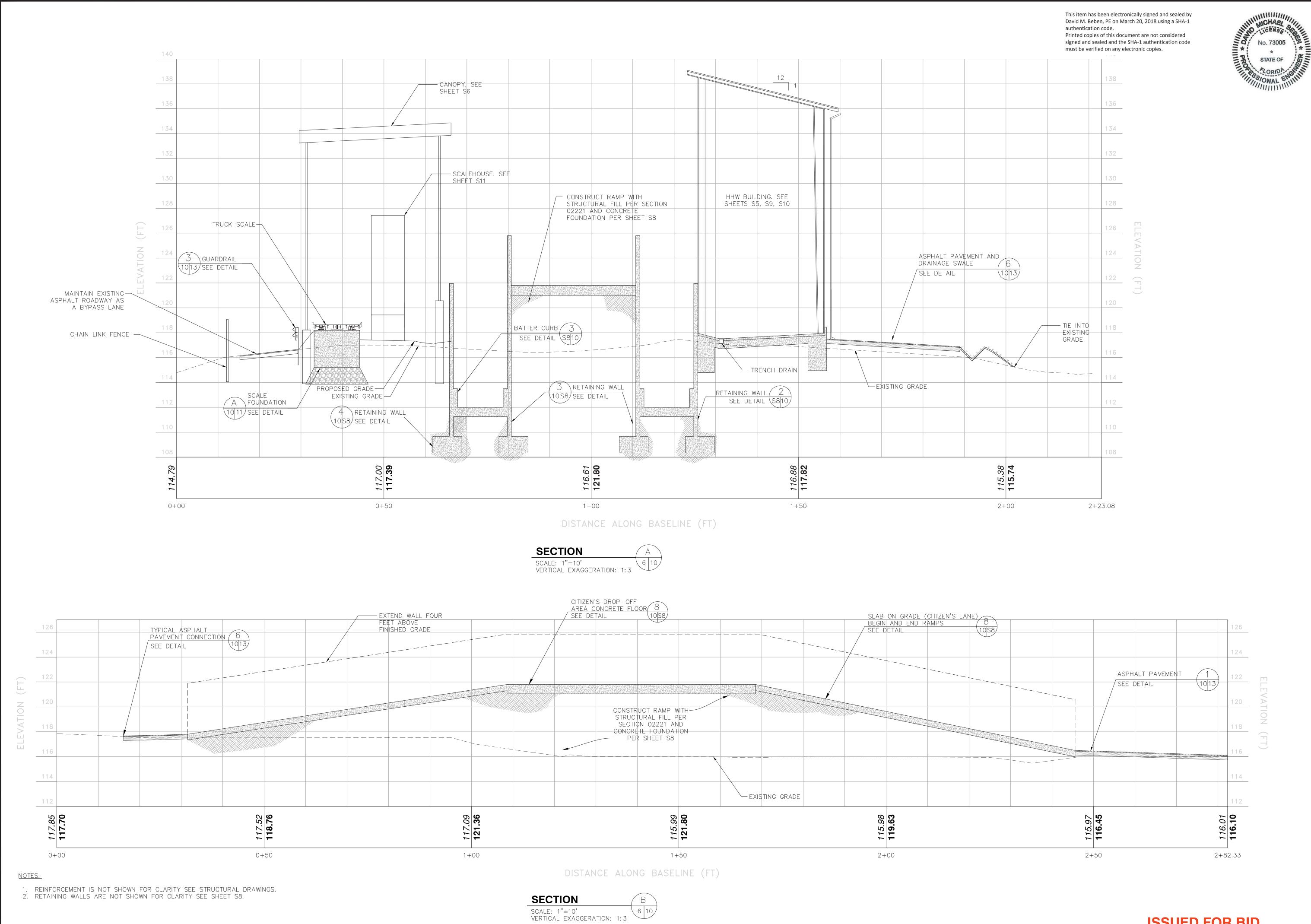










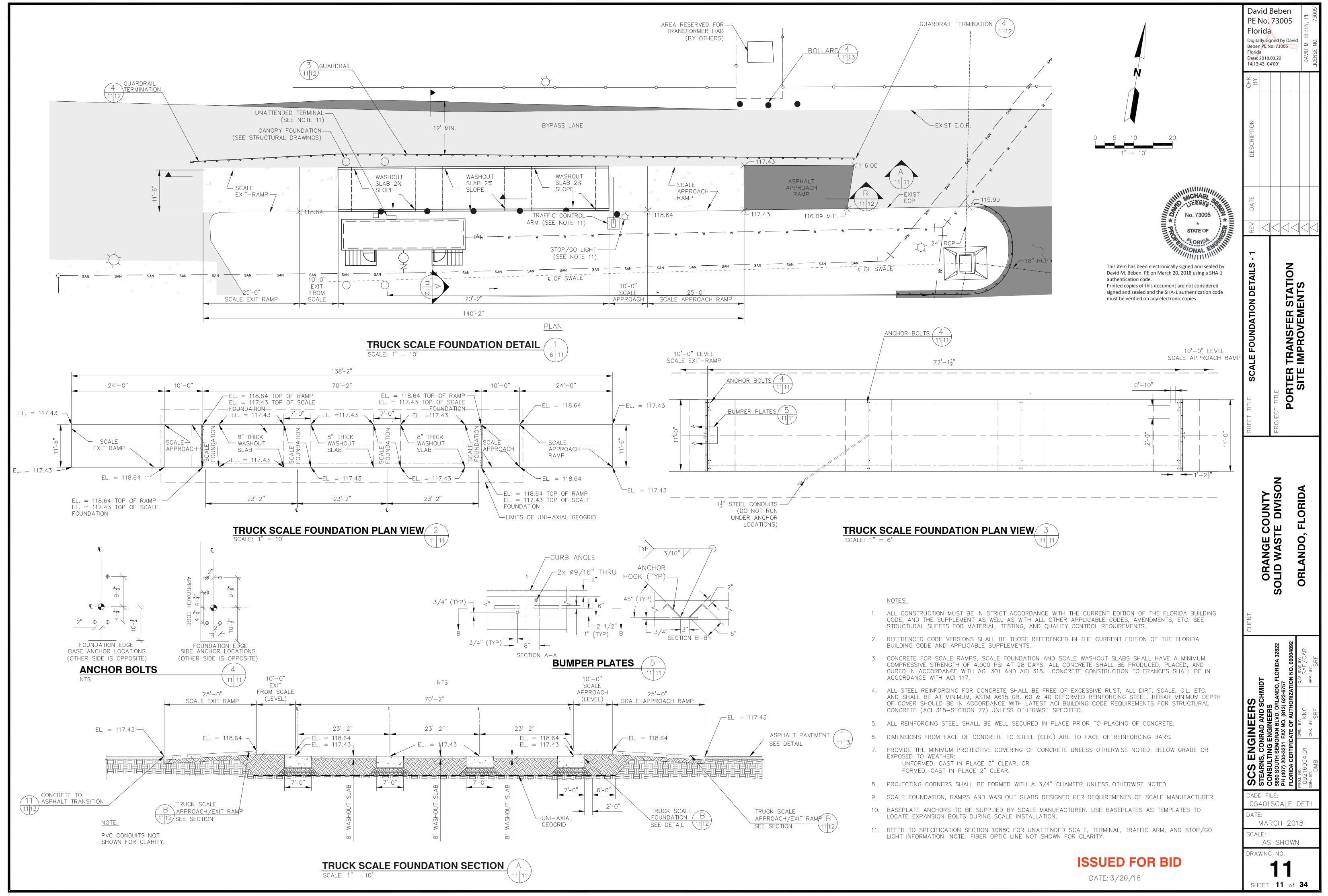


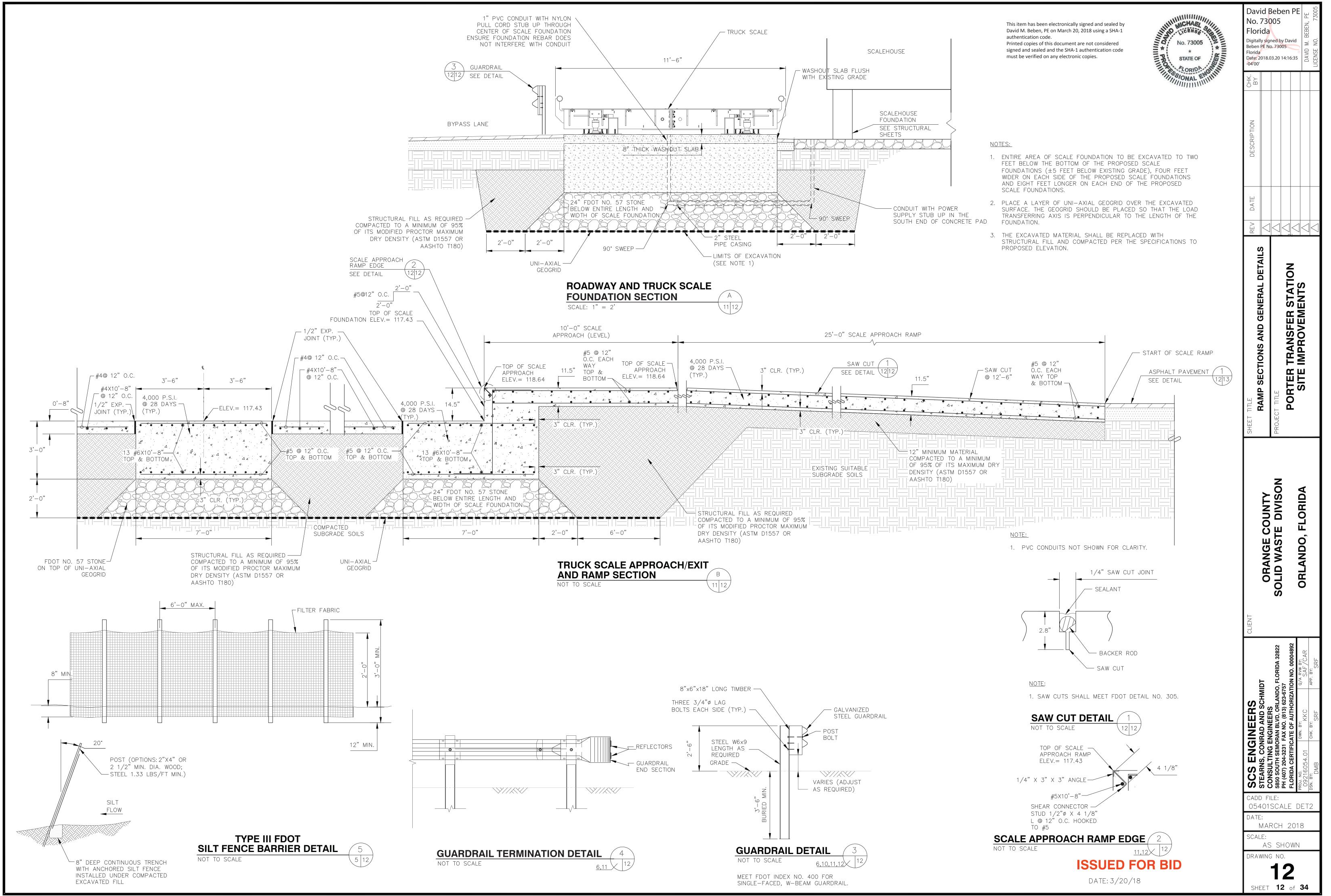
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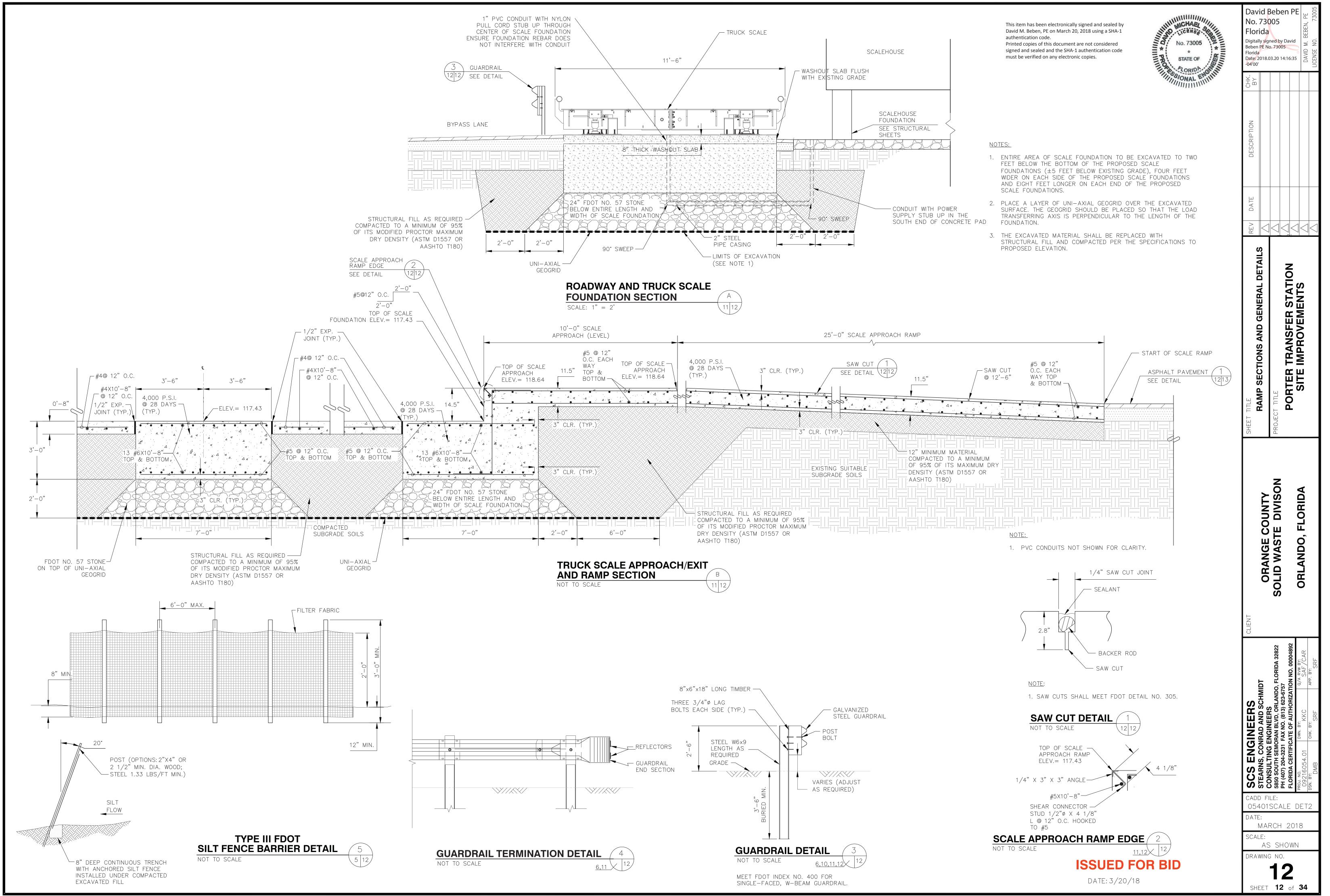
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	SOLID WASTE DIVISON			OKLANDO, FLOKIDA	
CHMIDT	CONSULTING ENGINE 5850 SOUTH SEMORAN BLV		PRO-1 NO DWN BY	09216054.01 KKC	DSN. BY: CHK. BY: APP. BY: SRF SRF
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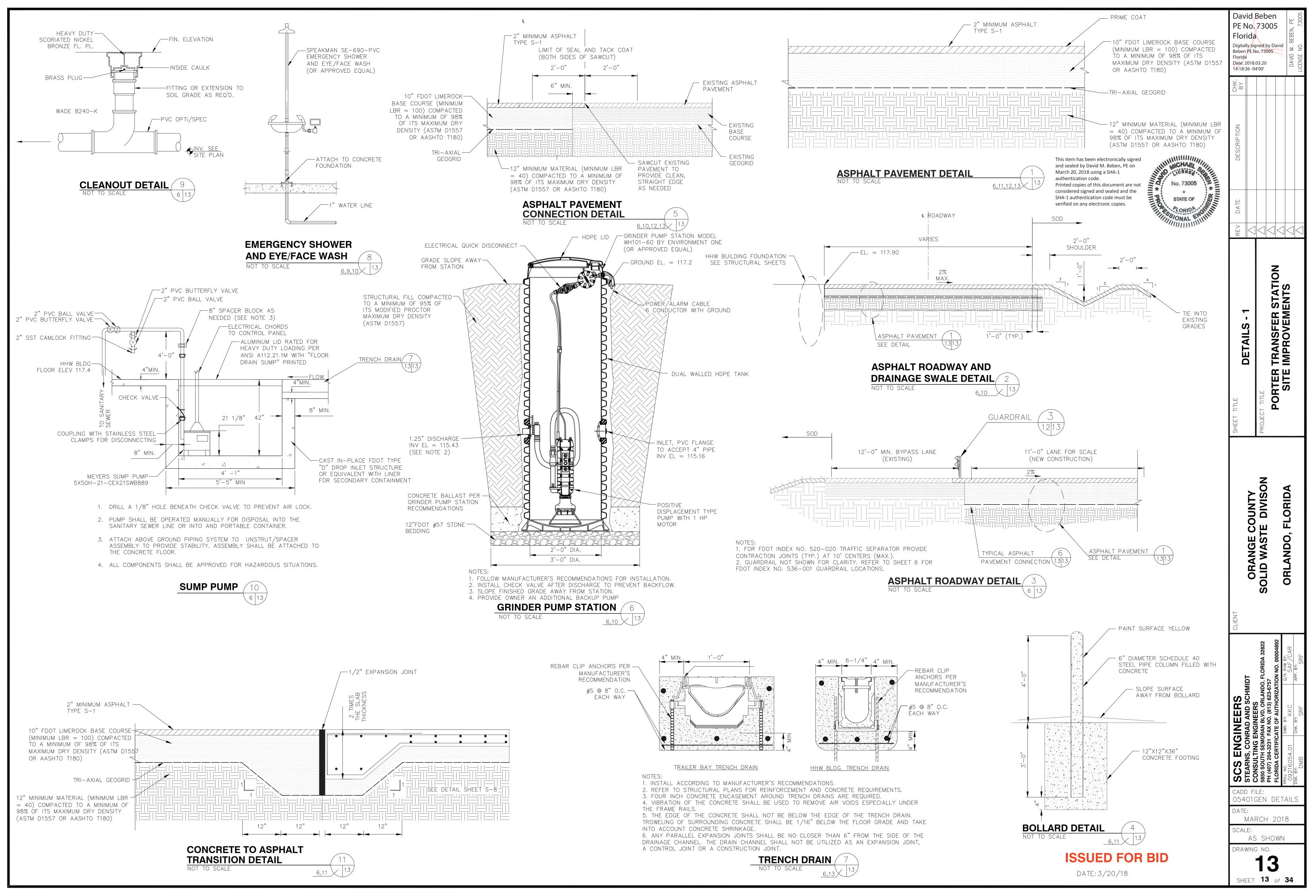
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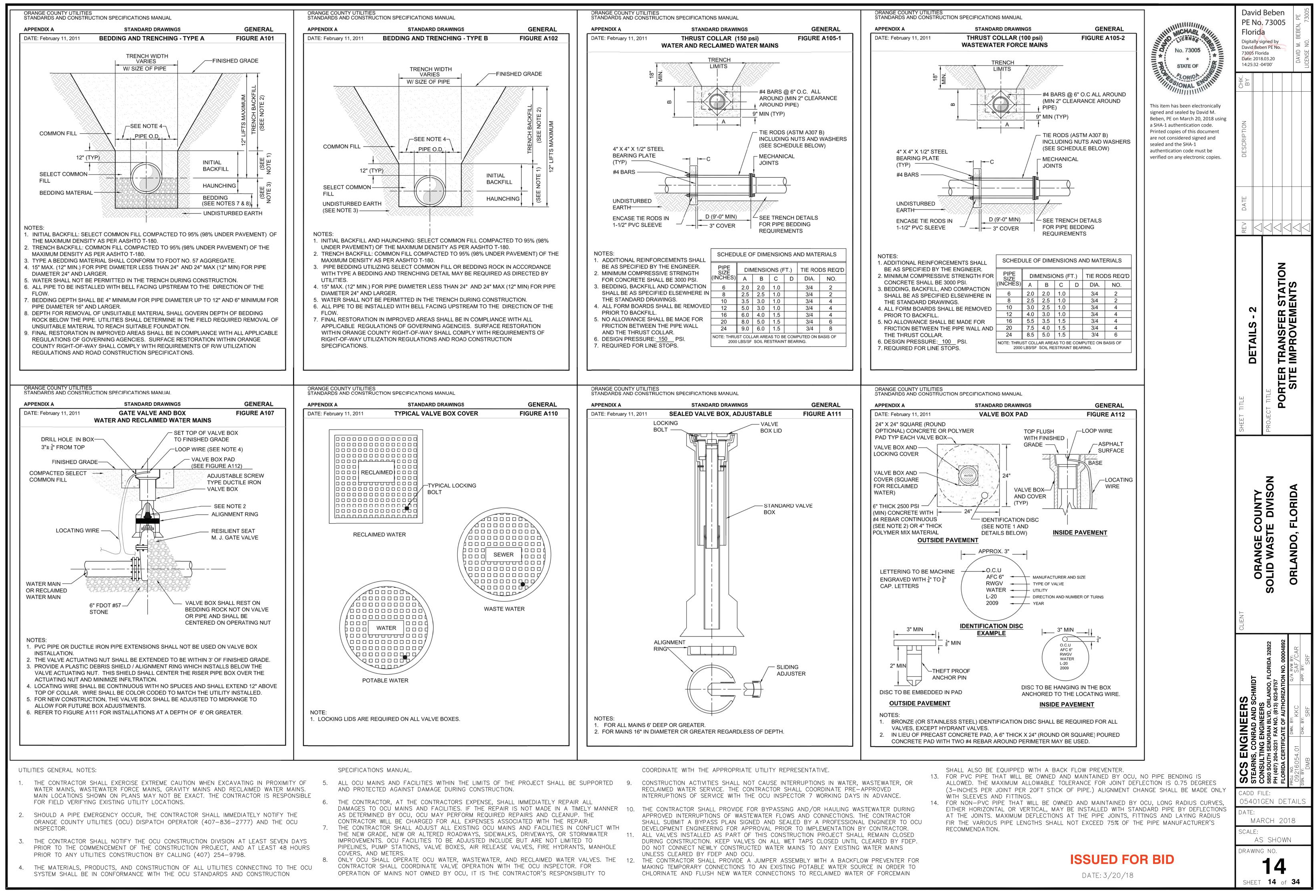
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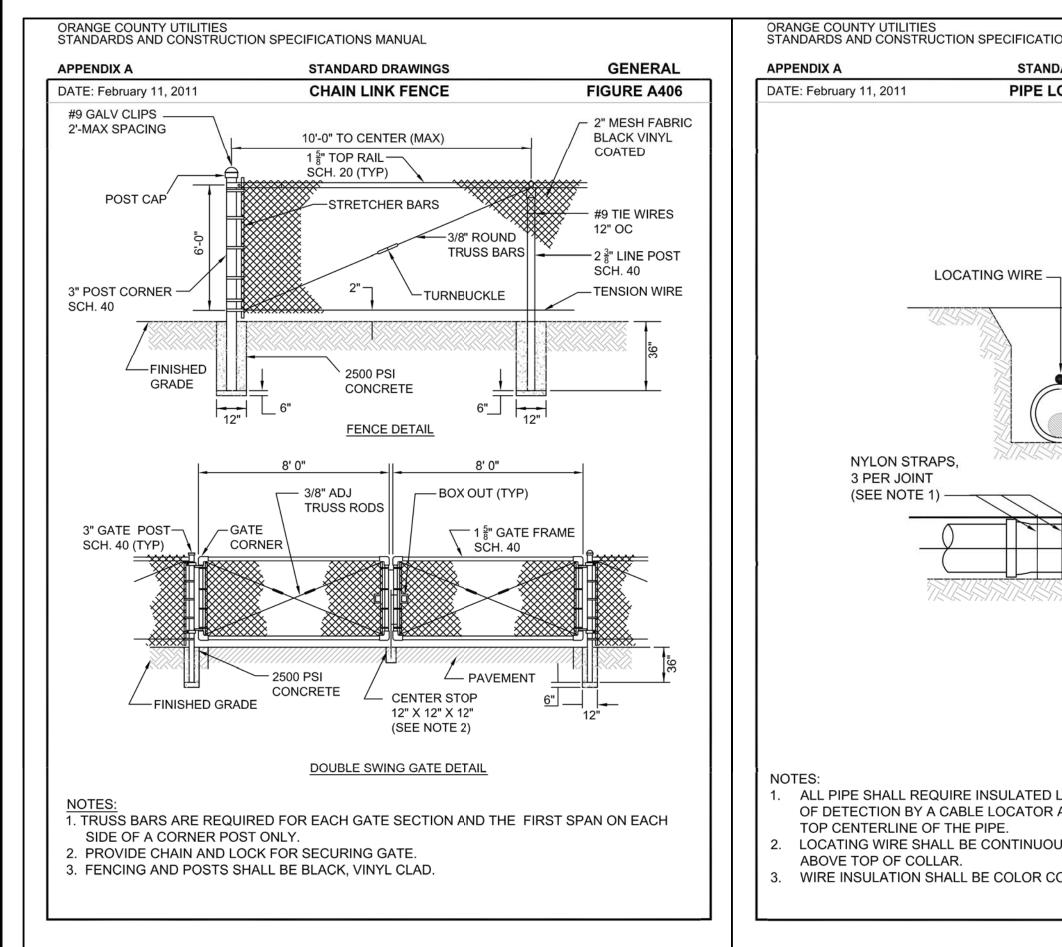


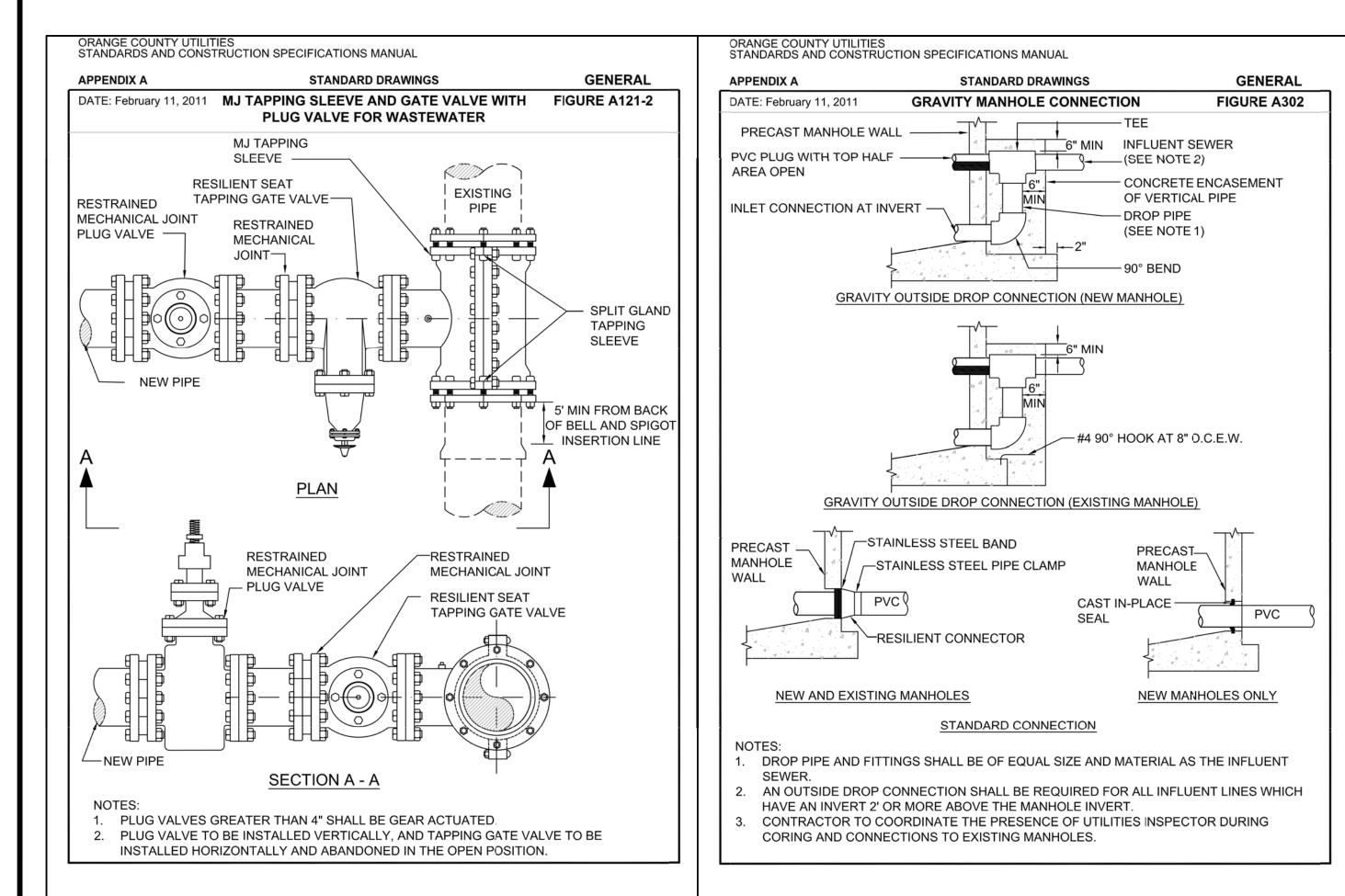




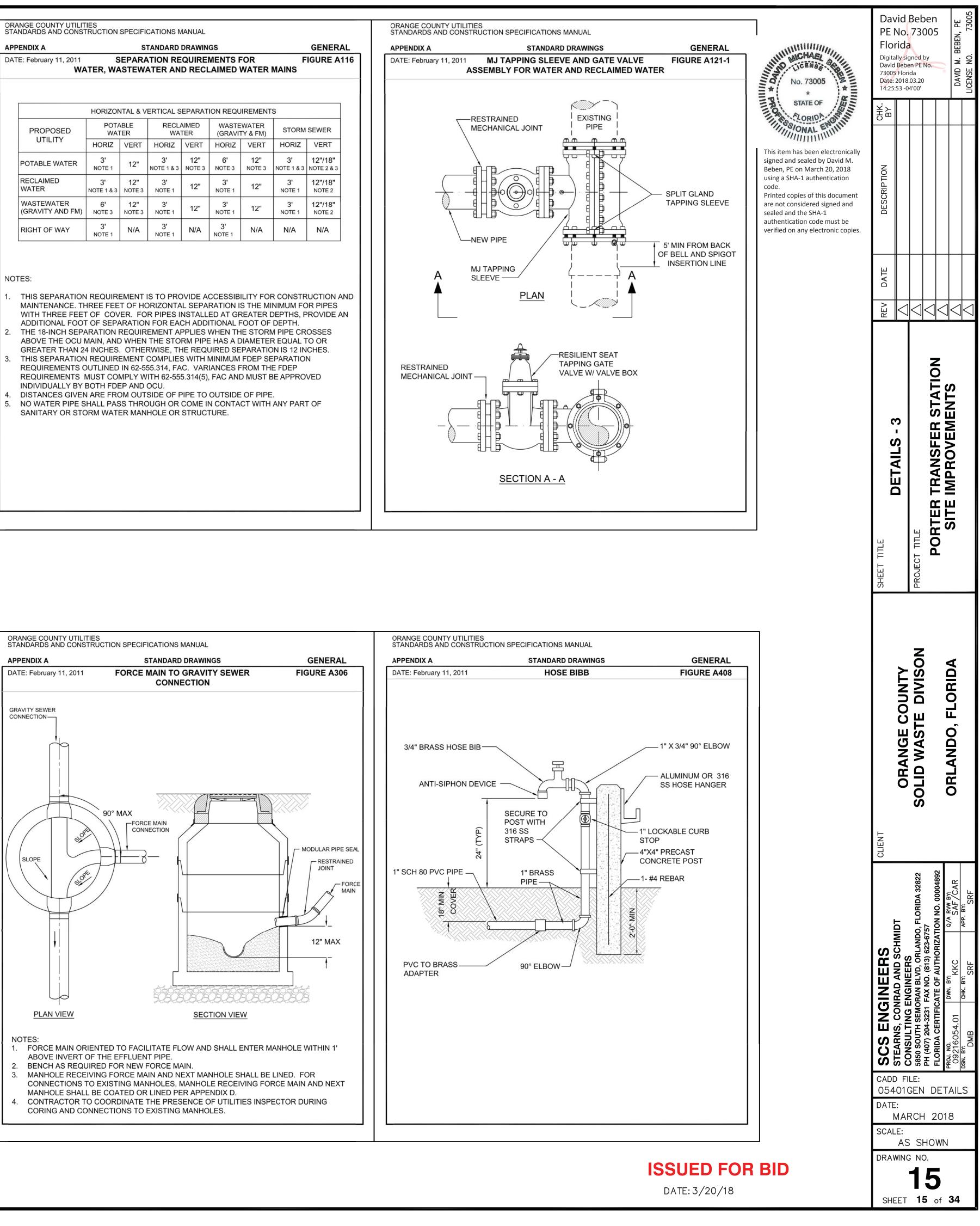


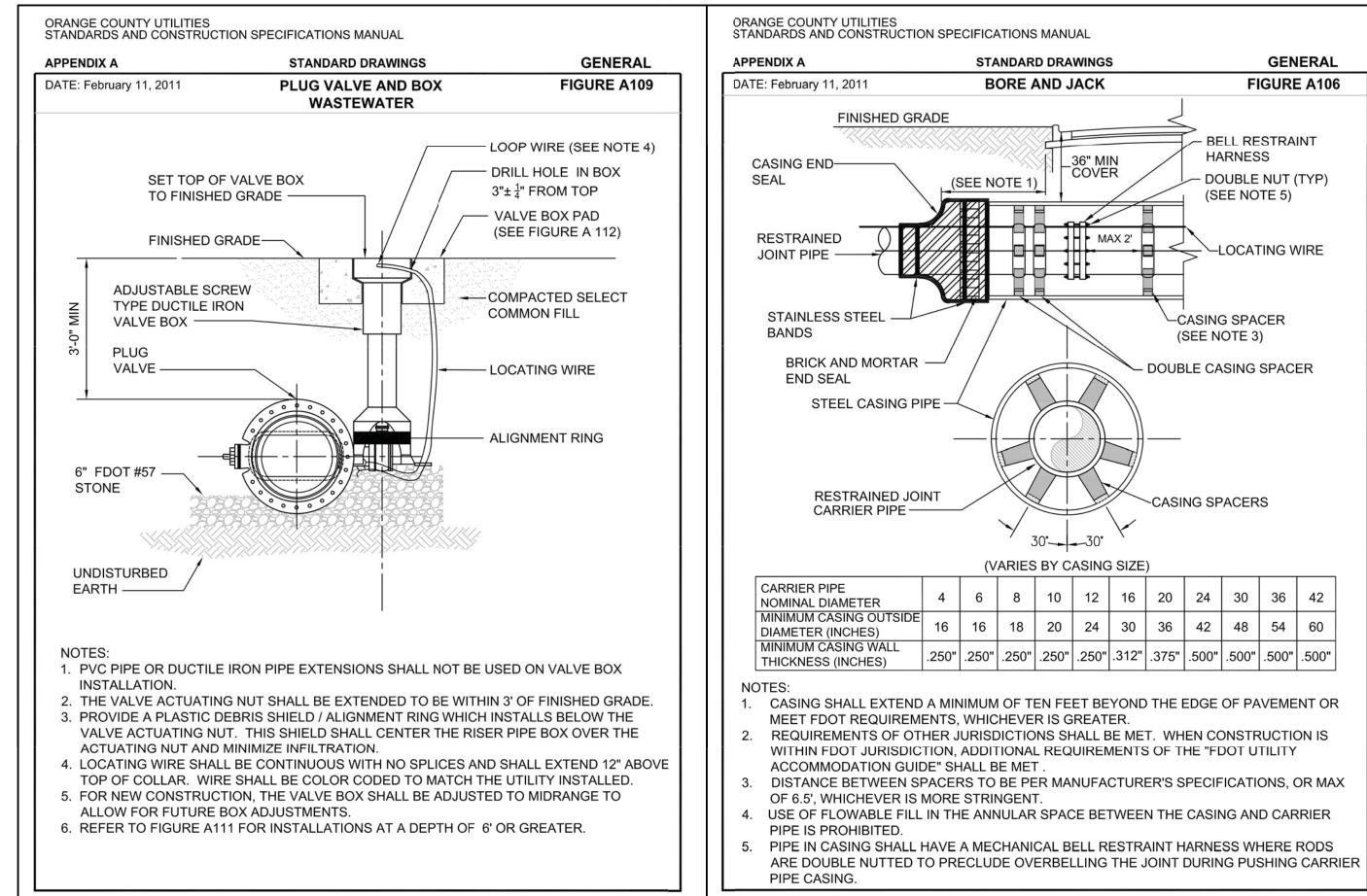






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IDARD DRAWINGS	GENERAL FIGURE A114	APPENDIX A DATE: February 11, 2011 WA		EPARA	TANDARD	QUIRE	MENTS			GENERA	DAT
			HORIZON	NTAL & V	ERTICAL S	SEPARAT	ION REQU	JIREMENT	S		
		PROPOSED UTILITY	POT/ WA	TER	WA		(GRAVI	WATER TY & FM)	STORM		
		POTABLE WATER	HORIZ 3' NOTE 1	VERT	HORIZ 3' NOTE 1 & 3	VERT 12" NOTE 3	HORIZ 6' NOTE 3	VERT 12" NOTE 3	HORIZ 3' NOTE 1 & 3	VERT 12"/18"	
FINISHED G	RADE	RECLAIMED WATER	3' NOTE 1 & 3	12" NOTE 3	3' NOTE 1	12"	3' NOTE 1	12"	3' NOTE 1	12"/18" NOTE 2	
		WASTEWATER (GRAVITY AND FM)	6' NOTE 3	12" NOTE 3	3' NOTE 1	12"	3' NOTE 1	12"	3' NOTE 1	12"/18" NOTE 2	
WATER,		RIGHT OF WAY	3' NOTE 1	N/A	3' NOTE 1	N/A	3' NOTE 1	N/A	N/A	N/A	
		<ol> <li>NOTES:</li> <li>THIS SEPARATION MAINTENANCE. TH WITH THREE FEET ADDITIONAL FOOT</li> <li>THE 18-INCH SEPA ABOVE THE OCU I GREATER THAN 2</li> <li>THIS SEPARATION REQUIREMENTS OF REQUIREMENTS OF INDIVIDUALLY BY</li> <li>DISTANCES GIVEN</li> <li>NO WATER PIPE S SANITARY OR STORE</li> </ol>	IREE FEE OF COV OF SEPA ARATION MAIN, AND MAIN, AND MAIN, AND I REQUIR DUTLINED MUST CO BOTH FDE I ARE FRO HALL PAS	T OF HO (ER. FO ARATION REQUIR D WHEN O WHEN EMENT IN 62-55 MPLY W EP AND DM OUT SS THRO	DRIZONTA R PIPES I N FOR EA EMENT A THE STO RWISE, TH COMPLIE 55.314, FA TTH 62-55 OCU. SIDE OF F DUGH OR	AL SEPA INSTALL CH ADD PPLIES ORM PIPE HE REQU S WITH I AC. VAR 5.314(5) PIPE TO COME II	RATION I ED AT GF ITIONAL I WHEN TH E HAS A E JIRED SE MINIMUM IANCES F , FAC ANI OUTSIDE N CONTA	S THE MI REATER I FOOT OF IE STORM DIAMETER PARATIC FDEP SE FROM TH D MUST E	NIMUM FC DEPTHS, F DEPTH. M PIPE CR R EQUAL T ON IS 12 IN EPARATION E FDEP BE APPRO	OR PIPES PROVIDE AI OSSES TO OR CHES. N	F
LOCATING WIRE (10 GAUGE AND SHALL BE WRAPPED W OUS INSIDE VALVE BOXES AN CODED FOR THE TYPE OF PIF	ITH NYLON STRAPS TO										







This item has been electronically signed and sealed by David M. Beben, PE on March 20, 2018 using a SHA-1 authentication code.

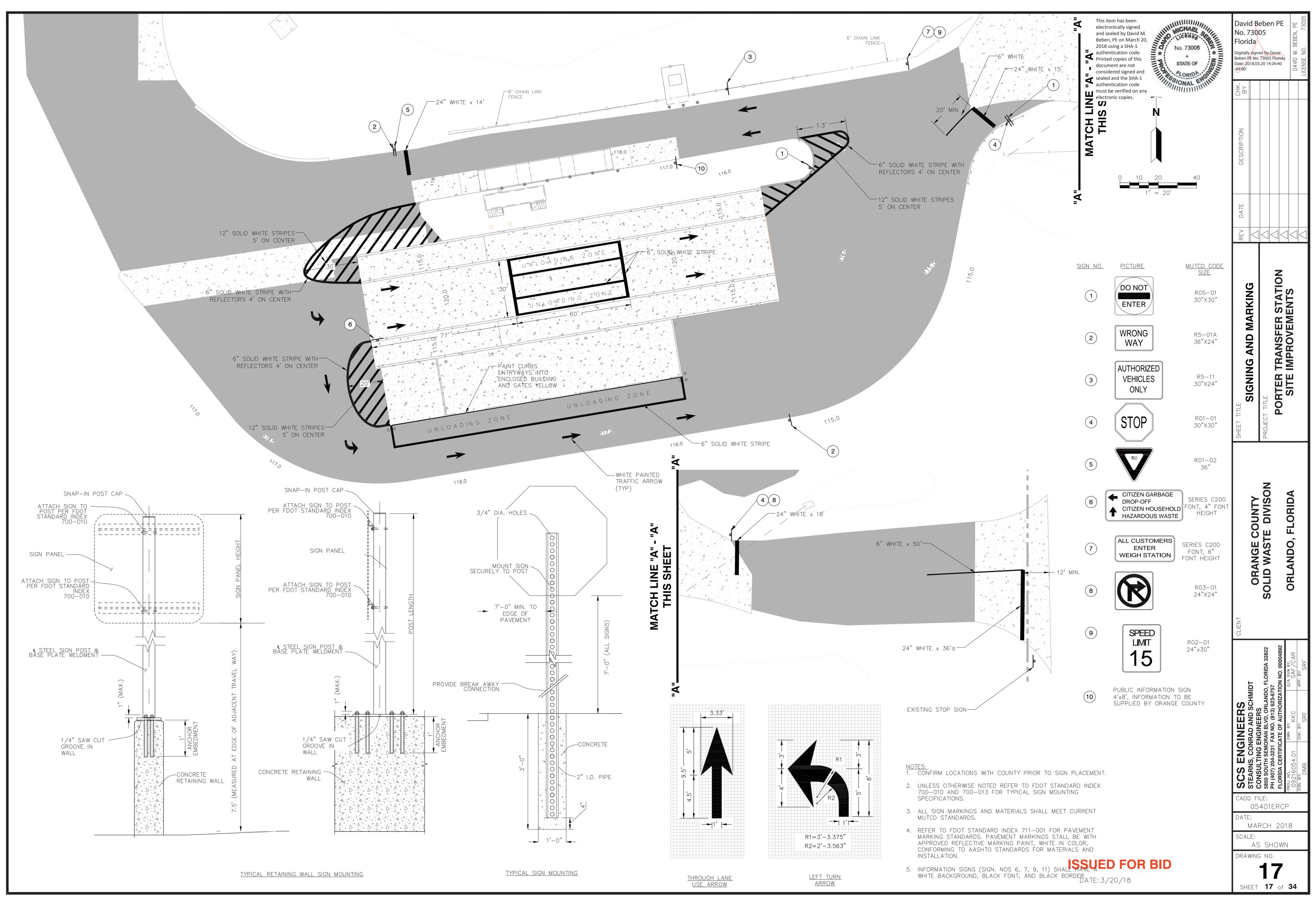
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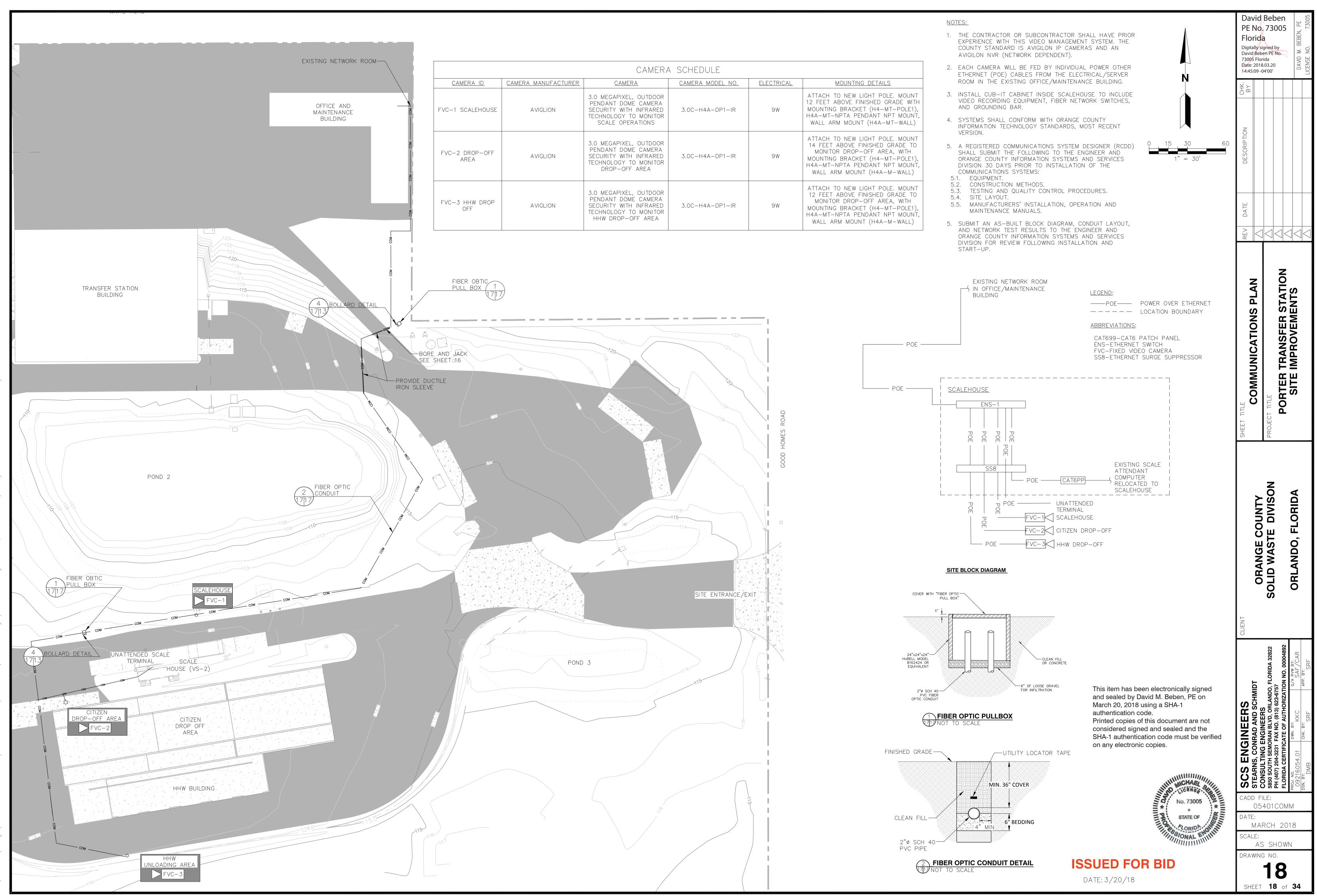
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ERS	STEARNS, CONRAD AND SCHMIDT CONSTITTING ENGINEERS	5850 SOUTH SEMORAN BLVD, ORLANDO, FLORIDA 32822	PH (407) 204-3231 FAX NO. (813) 623-6757		6054.01 UNI BIKKC	DMB CHK. BY: SRF
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SHEET **16** of **34** 





		CAMERA	A SCHEDULE		
CAMERA ID	CAMERA MANUFACTURER	<u>CAMERA</u>	CAMERA MODEL NO.	ELECTRICAL	MOUNTING DETAILS
FVC-1 SCALEHOUSE	AVIGLION	3.0 MEGAPIXEL, OUTDOOR PENDANT DOME CAMERA SECURITY WITH INFRARED TECHNOLOGY TO MONITOR SCALE OPERATIONS	3.0C-H4A-DP1-IR	9W	ATTACH TO NEW LIGHT POLE. MOU 12 FEET ABOVE FINISHED GRADE W MOUNTING BRACKET (H4-MT-POLE H4A-MT-NPTA PENDANT NPT MOU WALL ARM MOUNT (H4A-MT-WAL
FVC-2 DROP-OFF AREA	AVIGLION	3.0 MEGAPIXEL, OUTDOOR PENDANT DOME CAMERA SECURITY WITH INFRARED TECHNOLOGY TO MONITOR DROP-OFF AREA	3.0C-H4A-DP1-IR	9W	ATTACH TO NEW LIGHT POLE. MOU 14 FEET ABOVE FINISHED GRADE MONITOR DROP-OFF AREA, WITH MOUNTING BRACKET (H4-MT-POLE H4A-MT-NPTA PENDANT NPT MOU WALL ARM MOUNT (H4A-M-WALL
FVC-3 HHW DROP OFF	AVIGLION	3.0 MEGAPIXEL, OUTDOOR PENDANT DOME CAMERA SECURITY WITH INFRARED TECHNOLOGY TO MONITOR HHW DROP-OFF AREA	3.0C-H4A-DP1-IR	9W	ATTACH TO NEW LIGHT POLE. MOU 12 FEET ABOVE FINISHED GRADE MONITOR DROP-OFF AREA, WITH MOUNTING BRACKET (H4-MT-POLE H4A-MT-NPTA PENDANT NPT MOU WALL ARM MOUNT (H4A-M-WALL

## STRUCTURAL GENERAL NOTES:

## GENERAL

- A. PERFORM CONSTRUCTION AND WORKMANSHIP IN COMPLIANCE WITH CONTRACT DOCUMENTS AND THE FLORIDA BUILDING CODE 2014. THIS CODE PRESCRIBES WITH EDITION OF EACH REFERENCED STANDARD APPLIES TO THIS PROJECT.
- B. CONTRACT DOCUMENTS INCLUDE, BUT ARE NOT LIMITED TO THE STRUCTURAL DOCUMENTS (DRAWINGS AND SPECIFICATIONS), BUT DO NOT INCLUDE SHOP DRAWINGS, VENDOR DRAWINGS, OR MATERIAL PREPARED AND SUBMITTED BY THE CONTRACTOR.
- C. STRUCTURAL DRAWINGS, AS PART OF CONTRACT DOCUMENTS, INDICATE SUFFICIENT INFORMATION TO CONVEY DESIGN INTENT. IF ERRORS, INCONSISTENCIES OR OMISSIONS ARE DISCOVERED PROMPTLY NOTIFY STRUCTURAL ENGINEER BEFORE PROCEEDING WITH WORK.
- D. NO PORTION OF STRUCTURAL RELATED WORK, INCLUDING SHOP DRAWING DEVELOPMENT, SHALL BE PERFORMED WITHOUT CONSIDERING REQUIREMENTS OF CONTRACT DOCUMENTS IN THEIR ENTIRETY. FOR EXAMPLE, REFER TO ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR SIZE AND LOCATION OF OPENINGS, PENETRATIONS AND EMBEDMENT FOR DUCTS, PIPING, VENTS, CONDUITS AND OTHER ITEMS INCORPORATED IN STRUCTURAL WORK.
- E. OBSERVATION VISITS TO SITE BY FIELD REPRESENTATIVES OF ENGINEER OF RECORD DO NOT INCLUDE INSPECTIONS OF CONSTRUCTION MEANS AND METHODS. OBSERVATIONS PERFORMED BY ENGINEER OF RECORD DURING CONSTRUCTION ARE NOT CONTINUOUS AND DETAILED INSPECTION SERVICES WHICH ARE PERFORMED BY OTHERS. OBSERVATIONS PERFORMED BY ENGINEER OF RECORD ARE PERFORMED SOLELY FOR THE PURPOSE OF DETERMINING IF CONTRACTOR UNDERSTANDS DESIGN INTENT CONVEYED IN DESIGN DOCUMENTS. OBSERVATIONS DO NOT GUARANTEE CONTRACTOR'S PERFORMANCE AND ARE NOT TO BE CONSTRUED AS SUPERVISION OF CONSTRUCTION.
- F. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ALL CONTRACT DOCUMENTS AND LATEST ADDENDA AND TO SUBMIT SUCH DOCUMENTS TO ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS PRIOR TO THE SUBMITTAL OF SHOP DRAWINGS, FABRICATION OF ANY STRUCTURAL MEMBER, AND ERECTION IN THE FIELD.
- G. THE CONTRACTOR SHALL COMPARE THE ARCHITECTURAL AND STRUCTURAL DRAWINGS AND REPORT ANY DISCREPANCY BETWEEN EACH SET OF DRAWINGS AND WITHIN EACH SET OF DRAWINGS TO THE ARCHITECT AND ENGINEER PRIOR TO THE FABRICATION AND INSTALLATION OF A ANY STRUCTURAL MEMBERS.
- H. ALL STRUCTURAL ELEMENTS OF THE PROJECT HAVE BEEN DESIGNED BY THE STRUCTURAL ENGINEER TO RESIST THE REQUIRED CODE VERTICAL AND LATERAL FORCES THAT COULD OCCUR IN THE FINAL COMPLETED STRUCTURE ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL REQUIRED BRACING DURING CONSTRUCTION TO MAINTAIN THE STABILITY AND SAFETY OF ALL ELEMENTS DURING CONSTRUCTION PROCESS UNTIL LATERAL-LOAD RESISTING OR STABILITY-PROVIDING SYSTEM IS COMPLETELY INSTALLED AND THE STRUCTURE IS COMPLETELY TIED TOGETHER.
- I. WHERE CONFLICT EXISTS AMONG THE VARIOUS PARTS OF THE STRUCTURAL CONTRACT DOCUMENTS, STRUCTURAL DRAWINGS, GENERAL NOTES, AND SPECIFICATIONS, THE STRICTEST REQUIREMENTS, AS INDICATED BY THE ENGINEER, SHALL GOVERN.
- J. DETAILS LABELED "TYPICAL DETAILS" ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. THE APPLICABILITY OF THE DETAIL TO ITS LOCATION ON THE PLANS CAN BE DETERMINED BY THE TITLE OF THE DETAIL. SUCH DETAILS SHALL APPLY WEATHER OR NOT THEY ARE KEYED IN AT EACH LOCATION. DECISIONS REGARDING APPLICABILITY OF TYPICAL DETAILS SHALL BE DETERMINED BY THE ENGINEER.
- K. CONTRACTOR HAS SOLE RESPONSIBILITY FOR MEANS, METHODS, SAFETY, TECHNIQUES, SEQUENCES, PROCEDURES OF CONSTRUCTION AND TO COMPLY WITH OSHA REGULATIONS.
- L. THE FLORIDA STATE BOARD OF PROFESSIONAL ENGINEERS HAS ISSUED STATEMENTS ON RESPONSIBILITIES OF PROFESSIONAL ENGINEERS, PURSUANT TO RULE 21H-19.00(3). CERTAIN COMPONENTS OF THE STRUCTURE REQUIRE THE WORK OF A SPECIALTY ENGINEER FOR THE DESIGN OF THOSE COMPONENTS. ALL PROCEDURES STATED IN THE STATEMENTS SHALL APPLY TO THIS PROJECT.

## DESIGN LOADS

### A. LIVE LOADS

VI
2
2

B. DEAD LOADS:

1. UNIFORMLY DISTRIBUTED DEAD LOADS (SUPERIMPOSED) ROOF 15 PSF

C. WIND LOADS:

1. WIND LOADS SHALL BE BASED ON THE REQUIREMENTS OF THE FLORIDA BUILDING CODE 2014. a) ULTIMATE WIND SPEED (Vult) = 144 MPH NOMINAL WIND SPEED (Vasd) = 112 MPH b) RISK CATEGORY II c) WIND EXPOSURE C d) INTERNAL PRESSURE COEFFICIENT +/- 0.18. e) WIND PRESSURES FOR C+C - SEE CHARTS

## FOUNDATIONS

A. FOUNDATION DESIGN IS BASED ON THE ENGINEERING EVALUATION AND RECOMMENDATIONS CONTAINED IN THE GEOTECHNICAL EXPLORATION REPORT FOR THE PORTER TRANSFER STATION IMPROVEMENTS BY BLUE MARLIN ENGINEERING LLC. DATED AUGUST 31ST, 2017, BME PROJECT NO. 17-109. THE CONTRACTOR SHALL FAMILIARIZE ITSELF WITH SAID REPORT AND PERFORM FOUNDATION WORK COMPLYING WITH REPORT. FOUNDATION HAVE BEEN DESIGNED FOR A SAFE ALLOWABLE BEARING PRESSURE OF 2000 PSF.

B. THE CONTRACTOR SHALL COORDINATE WITH A THIRD PARTY GEOTECHNICAL ENGINEER UNDER CONTRACT WITH THE OWNER. THE ENGINEER SHALL PERFORM TESTS, INSPECTIONS OF WORK REQUIRED, AND SUBMIT REPORTS TO THE OWNER DESCRIBING HIS INVESTIGATIONS, INCLUDING ANY NON-CONFORMING WORK.

C. PLACE FOOTINGS AND BUILDING SLAB ON GRADES ON COMPACTED FILL OR UNDISTURBED NATURAL GRADE AS INDICATED ON GEOTECHNICAL REPORT.

D. FOUNDATION EXCAVATIONS ARE TO BE OBSERVED BY AND ACCEPTABLE TO A GEOTECHNICAL ENGINEER OR HIS/HER REPRESENTATIVE PRIOR TO PLACEMENT OF FILL, REINFORCING STEEL OR CONCRETE.

ALL ORGANIC AND/OR OTHER UNSUITABLE MATERIALS SHALL BE REMOVED FROM SUBGRADE AND BACKFILL AREAS AND BACKFILLED WITH ACCEPTABLE GRANULAR FILL AND COMPACTED AS INDICATED ON SOIL REPORT.

F. SIDES OF FOUNDATIONS SHALL BE FORMED UNLESS CONDITIONS PERMIT EARTH FORMING. FOUNDATIONS POURED AGAINST THE EARTH **REQUIRE THE FOLLOWING PRECAUTIONS: SLOPE SIDES OF EXCAVATIONS** AS APPROVED BY GEOTECHNICAL ENGINEER AND CLEAN UP MUD BEFORE AND DURING CONCRETE PLACEMENT.

### SLAB ON GRADE CONSTRUCTION

- 1. SPECIFICATION: UNLESS NOTED OTHERWISE, SLAB ON GRADE CONSTRUCTION SHALL FOLLOW THE RECOMMENDATIONS OF "THE GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION ACI 302.1R-04".
- 2. SUBGRADE PREPARATION: AREAS CONTAINING SLAB ON GRADE CONSTRUCTION SHALL BE STRIPPED TO SUFFICIENT DEPTH TO REMOVED ALL VEGETATION, TOP SOIL, ORGANIC AND OTHER UNSUITABLE MATERIALS.
- 3. REINFORCING STEEL: REQUIREMENTS.

  - STEEL.
- 4. SEE DETAILS ON THE DRAWINGS FOR REQUIREMENTS OF CONSTRUCTION JOINTS, CONTROL JOINTS AND POUR SIZE AND SEQUENCE OF SLAB ON GRADE CONSTRUCTION.
- 5. OPENINGS ON SLAB ON GRADE: UNLESS DETAILED OTHERWISE ON OR GREATER AND 1-#5 X 3'-0" DIAGONAL CORNERS BARS. SUCH REINFORCEMENT SHALL BE PROVIDED WHETHER OPENING IS SHOWN ON DRAWINGS OR NOT.

/E LOADS: 20 PSF 250 PSF

A. SEE THE DRAWINGS FOR TYPICAL SLAB REINFORCEMENT

B. LAP CONTINUOUS SLAB ON GRADE REINFORCING STEEL 30 BAR DIAMETERS AT SPLICES BUT NOT LESS THAN 12". C. ALL REINFORCING STEEL FOR SLABS ON GRADE SHALL BE CHAIRED WITH SLAB BOLTERS DESIGNED FOR SUPPORT ON SOIL TO PROVIDED SPECIFIED COVER TO REINFORCING

THE DRAWINGS, PROVIDE 1-#5XOPENING WIDTH +3'-0" AROUND ALL PENETRATION THROUGH SLAB ON GRADE ON GRADE 10" WIDE REINFORCING STEEL

- A. ALL REINFORCING SHALL BE BILLET STOCK ASTM A615, GRADE 60. BARS SHALL SECURELY TIE IN PLACE WITH #16 DOUBLE-ANNEALED IRON WIRE, BARS SHALL BE SUPPORTED ON ACCEPTABLE CHAIRS. REINFORCING STEEL SHALL BE DETAILED IN ACCORDANCE WITH THE ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING OF REINFORCED CONCRETE STRUCTURES." CONTRACTOR SHALL COORDINATE REINFORCING STEEL PLACEMENT DETAILS AND PROVIDE TEMPLATES FOR PLACING STEEL IN CONGESTED AREAS AS NECESSARY. SHOP DRAWINGS (INCLUDING PLACING PLANS AND ELEVATIONS) SHALL BE SUBMITTED TO, AND REVIEWED BY, THE ARCHITECTS/ENGINEER BEFORE STARTING FABRICATION.
- WELDED WIRE FABRIC SHALL BE ELECTRICALLY WELDED AND CONFORM TO ASTM A185 (FLAT SHEET), YIELD STRENGTH 65,000 PSI. AN 8" MINIMUM LAP SHALL BE PROVIDE FOR SIDE AND END LAP. WELDED WIRE FABRIC SHALL SUPPORTED IN APPROVED CHAIRS. REFER TO NOTE #6 UNDER SLAB ON GRADE CONSTRUCTION FOR FIBROUS REINFORCING OPTION.
- C. NO REINFORCING BARS SHALL BE SPLICED BY WELDING. AT THE CONTRACTOR'S OPTION, MECHANICAL BUTT SPLICING USING AN EXOTHERMIC WELDING PROCESS AND HIGH STRENGTH SLEEVES OR MECHANICAL CONNECTION SPLICING MAY BE USED, PROVIDED THAT THE MECHANICAL SPLICES SHALL BE ICBO APPROVED TO ACHIEVE A MINIMUM TENSILE STRENGTH OF 125 PERCENT OF THE SPECIFIED YIELD STRENGTH OF THE BAR. THE MINIMUM TENSILE STRENGTH REQUIREMENT SHALL BE INCREASED TO 160 PERCENT FOR MECHANICAL SPLICES AT THE INTERFACE OF DIAPHRAGMS AND THE LATERAL SYSTEM, AND FOR MECHANICAL SPLICES WITHIN ELEMENTS OF THE LATERAL SYSTEM. SPLICES DEVICES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. REINFORCING BARS SHALL BE LAP SPLICED FOR TENSION UNLESS NOTED OTHERWISE ON THE DRAWINGS. #14 AND #18 BARS SHALL NOT BE LAP SPLICED.
- D. WELDING OR TACK WELDING OF REINFORCING BARS TO OTHER BARS OR TOE PLATES, ANGLES ETC, IS PROHIBITED, EXCEPT WHERE SPECIFICALLY APPROVED BY THE ENGINEER. WHERE WELDING IS APPROVED, IT SHALL BE DONE BY AWS CERTIFIED WELDERS USING E9018 OR APPROVED ELECTRODES. WELDING PROCEDURES SHALL CONFORM TO THE REQUIREMENTS OF AWS D1.4.
- E. MINIMUM CAST-IN-PLACE CONCRETE COVER OVER REINFORCING STEEL, UNLESS NOTED OTHERWISE, SHALL BE AS FOLLOWS:
- 1. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3 INCHES.
- 2. CONCRETE EXPOSED TO EARTH OR WEATHER: 1 1/2 INCHES FOR #5 BAR OR SMALLER
- 2 INCHES FOR #6 BAR OR LARGER
- 3. OTHER CONCRETE: WALLS - INTERIOR FACE: #14 AND #18 BARS - 1 1/2 INCHES #11 BARS AND SMALLER - 3/4 INCH

SLABS AND JOISTS: #11 BARS AND SMALLER - 3/4 INCH

BEAMS AND COLUMNS - TIES, STIRRUPS, SPIRALS: INTERIOR FRAMES - 1 1/2 INCHES EXTERIOR FRAMES - 2 INCHES

F. PROVIDE CONTINUOUS REINFORCEMENT WHEREVER POSSIBLE. SPLICE ONLY AS SHOWN OR APPROVED. STAGGER SPLICES WHERE POSSIBLE. USE TENSION SPLICE CLASS "B" UNLESS NOTED OTHERWISE. DOWELS SHALL MATCH SIZE AND SPACING OF THE SPECIFIED REINFORCEMENT AND SHALL BE LAPPED WITH TENSION SPLICES. UNLESS NOTED OTHERWISE LAP LENGTHS EXPRESSED IN NUMBER OF BAR DIAMETERS SHALL BE AS FOLLOWS:

BAR	NORMAL WEIGHT CONCRETE, F'c (psi)							
SIZE	CLASS	3,000	4,000	5,000	6,000			
#6 OR SMALLER	A	44 DIAM.	38 DIAM.	34 DIAM.	31 DIAM.			
	В	57 DIAM.	49 DIAM.	44 DIAM.	40 DIAM.			
#7 OR LARGER	A	55 DIAM.	47 DIAM.	42 DIAM.	39 DIAM.			
	В	71 DIAM.	62 DIAM.	55 DIAM.	50 DIAM.			

LAP SPLICE LENGTH NOTES:

- 1. TABLE IS BASED ON a) CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED NOT LESS THAN ONE BAR DIAMETER (BD), CLEAR COVER NOT LESS THAN ONE DB, AND STIRRUPS OR TIES THROUGHOUT THE LAP SPLICE LENGTH NOT LESS THAN THE CODE MINIMUM, OR b) CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED NOT LESS THAN 2 DB AND CLEAR COVER NOT LESS THAN ONE DB. FOR ALL OTHER CASES, MULTIPLY TENSION LAP BY 1.5.
- 2. FOR TENSION REINFORCEMENT WITH MORE THAN 12" OF CONCRETE BELOW, OR FOR VERTICAL REINFORCEMENT, MULTIPLY THE LAP SPLICE LENGTH INDICATED IN THE TABLE BY 1.3. HOWEVER, THE LAP SPLICE LENGTH SHALL NOT BE LESS THAN 12".

3. FOR TENSION REINFORCEMENT IN LIGHTWEIGHT CONCRETE, MULTIPLY LAP SPLICED LENGTH BY 1.3

## CONCRETE

- WITHIN THE STRUCTURE.

- (USING AIR STORAGE)
- OTHERWISE ON THE DRAWINGS:

 SLAB ON GRADI 2. FOOTINGS 3. CAST IN PLACE

- WITH THE PUMPING PROCESS.
- BELOW.
- RESERVE.
- WITH THE ABOVE.

A. MIXING, BATCHING, TRANSPORTING, PLACING, AND CURING OF ALL CONCRETE, AND SELECTION OF CONCRETE MATERIALS, SHALL CONFORM TO ACI 301, "SPECIFICATION FOR STRUCTURAL CONCRETE FOR BUILDINGS," EXCEPT AS NOTED BELOW. PROPORTIONS OF AGGREGATE TO CEMENTITIOUS PASTE SHALL BE SUCH AS TO PRODUCE A DENSE, WORKABLE MIX THAT CAN BE PLACED WITHOUT SEGREGATION OR EXCESS FREE SURFACE WATER

B. MIX DESIGNS LISTED BELOW SHALL BE SUBMITTED TO THE ENGINEER OF RECORD AND APPROVED PRIOR TO USE. SELECTION OF CONCRETE MIX PROPORTIONS SHALL BE IN ACCORDANCE WITH ACI 301. MIX PROPORTIONS SHALL MEET OR EXCEED THE REQUIREMENTS LISTED BELOW FOR THE LOCATIONS NOTED. THE MORE STRINGENT OF THE REQUIREMENTS LISTED SHALL GOVERN. CONCRETE MIX DESIGN SHALL INCLUDE A WRITTEN DESCRIPTION INDICATING WHERE EACH PARTICULAR MIX IS TO BE PLACED

C. MAXIMUM SIZE AGGREGATE SHALL BE AS LISTED BELOW. MAXIMUM FLY ASH AS A PERCENTAGE OF TOTAL WEIGHT OF CEMENTITIOUS MATERIAL SHALL BE 20 PERCENT. FLY ASH SHALL BE CLASS F, MEETING ASTM C618 REQUIREMENTS. WATER/CEMENT RATIO SHALL BE BASED ON TOTAL CEMENTITIOUS MATERIALS, INCLUDING FLY ASH AND OTHER POZZOLANIC MATERIALS. FLY ASH SHALL NOT BE USED IN CONCRETE EXPOSED TO VIEW.

D. THE USE OF SUPER PLASTICIZERS AND WATER REDUCERS IS ALLOWED, BUT NOT REQUIRED. ALL ADMIXTURES SHALL BE CHLORIDE FREE UNLESS OTHERWISE APPROVED BY THE ENGINEER.

E. ALL CONCRETE SHALL BE PROPORTIONED FOR A MAXIMUM ALLOWABLE UNIT SHRINKAGE OF 0.03% MEASURED AT 28 DAYS AFTER CURING IN LIME WATER AS DETERMINED BY ASTM C157

F. ALL CONCRETE SHALL HAVE A SLUMP OF 4" PLUS OR MINUS 1". SLUMP SHALL CONFORM TO ACI 301. SLUMP SHALL BE MEASURED AT THE DISCHARGE OF THE TRUCK. IF CONCRETE IF PUMPED, SLUMP SHALL BE MEASURED AT THE DISCHARGED END OF THE PUMP LINE. SLUMP SHALL BE +/- 1 INCHES OF THE SPECIFIED SLUMP.

G. ALL CONCRETE SHALL BE NORMAL WEIGHT AND CONFORM TO THE REQUIREMENTS AS SPECIFIED IN THE TABLE BELOW UNLESS NOTED

	B DAY COMP. STRENGTH (PSI)	AGGREGATE SIZE	MAX. W/C RATIO	
ΡE	4000	3/4"	0.50	
	4000	3/4"	0.50	
E WALLS	5 5500	3/4"	0.48	

H. CONCRETE MIX DESIGNS MUST BE SUBMITTED 15 DAYS PRIOR TO THE START OF THE WORK FOR ENGINEER'S AND OWNER'S TESTING LABORATORY APPROVAL PRIOR TO PLACEMENT OF CONCRETE IN THE PLANT OR FIELD. ANY ADJUSTMENTS IN APPROVED MIX DESIGNS INCLUDING CHANGES IN ADMIXTURES MUST BE SUBMITTED IN WRITING TO THE ENGINEER AND OWNER'S TESTING LABORATORY FOR APPROVAL PRIOR TO USE IN THE FIELD.

I. CONCRETE DESIGNED TO BE PUMPED SHALL BE AS NOTED ON THE MIX DESIGNS AND SHALL HAVE MIX PROPORTIONS COMPATIBLE

J. SAMPLING AND TESTING OF CONCRETE SHALL BE PERFORMANCED BY INDEPENDENT TESTING AGENCY UNDER CONTRACT WITH THE COUNTY. SAMPLES AND TESTS SHALL BE IN ACCORDANCE WITH ACI 301. ADDITIONAL SAMPLES MAY BE REQUIRED TO OBTAIN CONCRETE STRENGTHS AT ALTERNATE INTERVALS THAN SHOWN

PROVIDE 4 CONCRETE CYLINDERS. TEST 1 CYLINDERS AT 7 DAYS, TEST 2 CYLINDERS AT 28 DAYS, AND HOLD I CYLINDER IN

K. NO CALCIUM CHLORIDE OR ADMIXTURE CONTAINING CALCIUM CHLORIDE SHALL BE USED IN ANY CONCRETE WITHOUT STRUCTURAL ENGINEER PRIOR REVIEW AND APPROVAL.

L. THE MAXIMUM TIME ALLOWED FROM THE TIME THE MIXING WATER IS ADDEDUNTIL IT IS DEPOSITED IN ITS FINAL POSITION SHALL NOT EXCEED ONE AND ONE HALF (1-1/2) HOURS. WHEN AIR TEMPERATURE IS BETWEEN 85 AND 90 DEG F, REDUCE MIXING AND DELIVERY TIME FROM 1-1/2 HOURS TO 75 MINUTES. WHEN AIR TEMPERATURE IS ABOVE 90 DEG F, REDUCE MIXING AND DELIVERY TIME TO 60 MINUTES. IF FOR ANY REASON THERE IS A LONGER DELAY THAN THAT STATED ABOVE, THE CONCRETE SHALL BE DISCARDED WITH NO EXCEPTIONS. IT SHALL BE THE RESPONSIBILITY OF THE TESTING LAB TO NOTIFY THE OWNER'S REPRESENTATIVE AND THE CONTRACTOR OF ANY NONCOMPLIANCE



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	CLIENT	ORANGE COUNTY	SOLID WASTE DIVISON			UKLANDO, FLORIDA	
	SCS ENGINEERS	STEARNS, CONRAD AND SCHMIDT	4041 PARK OAKS BLVD, SUITE 100, TAMPA, FL 33610	PH (813) 621-0080 FAX NO. (813) 623-6757		SZF	: CHK. BY: APP. BY: KAR KAR KAR
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SHEET **18** of **34** 

## STRUCTURAL STEEL

A. MATERIALS

- 1. ALL HOT ROLLED STEEL PLATES, SHAPES, SHEET PILING, AND BARS SHALL BE STEEL CONFORMING TO ASTM SPECIFICATION A6/A6M-04a.
- 2. CLEARLY MARK THE GRADE OF THE STEEL ON EACH PIECE, WITH A DISTINGUISHING MARK VISIBLE FROM FLOOR SURFACE, FOR THE PURPOSE OF FIELD INSPECTION OF PROPER GRADE OF STEEL. UNLESS NOTED OTHERWISE ON THE DRAWINGS STRUCTURAL STEEL SHALL BE AS FOLLOWS:
- A. ALL WIDE FLANGE BEAMS SHALL CONFORM TO ASTM A992. ASTM A572 GRADE 50 IS ACCEPTABLE AS A SUBSTITUTE FOR A992.
- B. EDGE ANGLES AND BENT PLATES: ALL EDGE ANGLES AND BENT PLATES SHALL CONFORM TO ASTM A36
- C. ANGLES HANGERS AND BRACES (KICKERS): ALL HANGERS AND BRACES (KICKERS) SHALL CONFORM TO ASTM A36
- D. WIDE FLANGE COLUMNS SHALL CONFORM TO ASTM A992. ASTM A572 GRADE 50 IS ACCEPTABLE SUBSTITUTE FOR A992. E. PIPE COLUMN SHALL CONFORM TO ASTM A53 (TYPES E OR S),
- GRADE B OR ASTM A501 F. ALL SQUARE AND RECTANGULAR HSS SECTIONS SHALL CONFORM TO ASTM A500, GRADE B.
- G. ALL BASE PLATE SHALL CONFORM TO ASTM A36.
- H. ALL CONNECTION MATERIAL, EXCEPT AS NOTED HERE OR ON THE DRAWINGS, INCLUDING BEARING PLATES, GUSSET PLATES, STIFFENER PLATES, FILLER PLATES, ETC. SHALL BE A36 STEEL UNLESS A HIGHER GRADE OF STEEL IS REQUIRED BY STRENGTH AND PROVIDED THE RESULTING SIZE ARE COMPATIBLE WITH THE CONNECTED MEMBERS
- I. ANY OTHER STEEL NOT INDICATED OTHERWISE SHALL CONFORM TO ASTM A36.
- **B. FABRICATION**
- 1. FABRICATE AND ASSEMBLE STEEL STRUCTURAL ASSEMBLIES IN SHOP TO GREATEST EXTENT POSSIBLE.
- 2. DIMENSIONAL TOLERANCES OF FABRICATED STRUCTURAL STEEL SHALL CONFORM TO SECTION 6.4 OF THE AISC CODE OF STANDARD PRACTICE UNLESS NOTED OTHERWISE. 3. CAMBER
- A. CAMBER OF STEEL STRUCTURAL MEMBERS IS INDICATED ON THE DRAWINGS.
- B. WHERE POSSIBLE, CAMBER ON BEAMS SHALL BE APPLIED BY THE COLD BEND PROCESS.
- C. THE LOCAL APPLICATION OF HEAT MAY BE USED TO INTRODUCED OR CORRECT CAMBER, CURVATURE, OR STRAIGHTNESS PROVIDED THE TEMPERATURE OF THE HEATED AREA AS MEASURED BY THE TEMPERATURE CRAYONS OR OTHER APPROVED MEANS, DOES NOT EXCEED 1200 F.
- D. WHERE INDICATED ON THE DRAWINGS IN A CAMBER DIAGRAM, CANTILEVER OR DOUBLED CANTILEVER BEAMS SHALL BE CAMBERED FOR THE MAIN SPAN AND CANTILEVER END SEPARATELY, EITHER BY STAGED COLD BENDING PROCESS OR BY THE APPLICATION OF HEAT.
- E. CAMBER INDICATED ON DRAWINGS ARE INTENDED TO BE FINAL CAMBERS AT THE TIME OF ERECTION. THE FABRICATOR SHALL ACCOUNT FOR CAMBER LOSE IN THE INITIAL CAMBER OPERATION. F. SPECIFIED CAMBER FOR BEAMS AT THE TIME OF ERECTION SHALL
- BE WITHIN A TOLERANCE OF MINUS ZERO TO PLUS ONE-EIGHTH INCH FOR EACH TEN FEET OF MEMBER LENGTH.
- 4. SPLICING OF STRUCTURAL STEEL MEMBERS IN THE SHOP OR THE FIELD IS PROHIBITED WITHOUT PRIOR APPROVAL OF THE ENGINEER. ANY MEMBER HAVING A SPLICE NOT SHOWN AND DETAILED ON APPROVED SHOP DRAWINGS WILL BE REJECTED.
- 5. COMPRESSION JOINTS WHICH DEPEND ON CONTACT BEARING AS PART OF SPLICE CAPACITY SHALL HAVE THE BEARING SURFACES OF THE BEARING SURFACES OF INDIVIDUAL FABRICATED PIECES PREPARED IN A COMMON PLANE BY MILLING, SAWING OR OTHER SUITABLE MEANS.
- 6. THE FABRICATOR SHALL BE RESPONSIBLE FOR ALL ERRORS OF DETAILING ON THE SHOP DRAWINGS, ERRORS IN FABRICATION, AND FOR THE CORRECT FITTING OF STRUCTURAL MEMBERS.

C. ERECTION

- 1. ERECTION TOLERANCES OF ANCHORS BOLTS, EMBEDDED ITEMS, AND ALL STRUCTURAL STEEL UNLESS SPECIFIED OTHERWISE ON THE DRAWINGS SHALL CONFORM TO AISC CODE OF STANDARD PRACTICE.
- 2. THE DESIGN OF ALL TEMPORARY SHORING AND BRACING NOT SHOWN ON THE DRAWING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. TEMPORARY SHORING AND BRACING IS TO BE DESIGNED BY A FLORIDA PROFESSIONAL ENGINEER.
- 3. FIELD CUTTING OF STRUCTURAL STEEL OR ANY FIELD MODIFICATIONS TO STRUCTURAL STEEL SHALL NOT BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF ENGINEER FOR EACH SPECIFIC CASE.
- 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF ALL ERECTION PROCEDURES AND SEQUENCES ESPECIALLY WITH RESPECT TO TEMPERATURE DIFFERENTIALS AND ERECTION TOLERANCES.

D. GALVANIZING

- NOT.
- E. WELDING
- THE ENGINEER.
- F. STRUCTURAL BOLTS
- 2. MINIMUM BOLT DIAMETER SHALL BE 3/4 INCHES 3. UNLESS NOTED OTHERWISE IN THE DRAWINGS OR IN THESE GENERAL NOTES ALL BOLTED CONNECTION SHALL BE BEARING TYPE CONNECTIONS USING STANDARD HOLES WITH THREAD INCLUDED IN THE PLANES.
- 6. ALL BOLTS SHALL BE NEW AND SHALL NOT BE REUSED.
- G. SHEAR CONNECTORS (HEADED STUDS)

## H. CONCRETE ANCHORS

- 2. ALL SHEAR CONCRETE ANCHORS SHALL COMPLY WITH THE

1. HOT DIP GALVANIZING AFTER FABRICATION ALL STRUCTURAL STEEL ITEMS AND THEIR CONNECTIONS PERMANENTLY EXPOSED TO THE OUTSIDE, WHETHER SPECIFIED ON THE DRAWING OR

2. GALVANIZE ALL NUTS, BOLTS AND WASHERS USED IN THE CONNECTION OF SUCH STEEL. FIELD WELDED CONNECTIONS SHALL HAVE WELDS PROTECTED WITH "Z.R.C. COLD GALVANIZING COMPOUND" AS MANUFACTURED BY Z.R.C. PRODUCT COMPANY.

1. STRUCTURAL STEEL SHOP DRAWINGS SHALL SHOW ALL WELDING WITH AWS A2.4 SYMBOLS. ALL WELDING SHALL BE DONE BY AWS CERTIFIED WELDERS AND IN ACCORDANCE WITH AWS D1.1 WELDS SHOWN IN THE DRAWINGS ARE THE MINIMUM SIZES. INCREASE WELD SIZE TO AWS MINIMUM SIZES, BASED ON PLATE THICKNESS. THE MINIMUM WELD SIZE SHALL BE 3/16 INCH. FIELD WELDING SYMBOLS HAVE NOT NECESSARILY BEEN INDICATED ON THE DRAWINGS. WHERE SHOWN, PROPER FIELD WELDING PER AWS D1.1 SHALL BE USED. WHERE NO FIELD WELDING SYMBOLS ARE SHOWN, IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE USE OF SHOP AND FIELD WELDS.

2. ALL PARTIAL PENETRATION GROOVE WELD SIZES SHOWN ON THE DRAWING REFER TO EFFECTIVE THROAT THICKNESS. ALL WELDS SHALL BE MADE USING LOW HYDROGEN ELECTRODES WITH MINIMUM TENSILE STRENGTH PER AWD D1.1 (MINIMUM 70 KSI). LOW HYDROGEN SMALL ELECTRODES SHALL BE USED WITHIN FOUR HOURS OF OPENING THEIR HERMETICALLY SEALED CONTAINERS, OR SHALL BE REDRIED PER AWS D1.1, SECTION 4.5. ELECTRODES SHALL BE REDRIED NO MORE THAN ONE TIME, AND ELECTRODES THAT HAVE BEEN WET SHALL NOT BE USED. 3. ALL COMPLETE-PENETRATION WELDS SHALL BE ULTRASONICALLY TESTED UPON COMPLETION OF THE CONNECTION, EXCEPT PLATE LESS THAN OR EQUAL TO 1/4 INCH THICK SHALL BE MAGNETIC PARTICLE TESTED. REDUCTION IN TESTING MAY BE MADE IN ACCORDANCE WITH THE BUILDING CODE WITH APPROVAL OF

1. ALL BOLTS IN STRUCTURAL CONNECTIONS SHALL CONFORM TO ASTM A325 TYPE 1, HIGH STRENGTH BOLTS FOR STRUCTURAL STEEL JOINTS UNLESS NOTED OTHERWISE ON THE DRAWINGS.

4. HIGH STRENGTH BEARING BOLTS SHALL BE TIGHTENED USING AN IMPACT WRENCH TO A SNUG TIGHT CONDITION. THE SNUG TIGHT CONDITION IS DEFINED AS THE TIGHTNESS ATTAINED WITH A FEW IMPACT OF AN IMPACT WRENCH OR THE FULL EFFORT OF A MAN USING AN ORDINARY SPUD WRENCH. 5. ALL BOLTS SHALL BE WELL LUBRICATED AT THE TIME OF INSTALLATION. DRY, RUSTY BOLTS WILL NOT BE ALLOWED.

1. ALL SHEAR CONNECTOR STUDS SHALL BE 3/4" INCH IN DIAMETER UNLESS NOTED OTHERWISE. ACCEPTABLE TYPES SHALL BE TRU-WELD (ICBO #3741) OR "NELSON" (ICBO #2614). SHEAR CONNECTOR STUDS SHALL BE AUTOMATICALLY END WELDED IN SHOP OR FIELD WITH EQUIPMENT RECOMMENDED BY MANUFACTURER OF STUDS. STEEL STUD MATERIAL, WELDING AND INSPECTION SHALL BE IN ACCORDANCE WITH AWS D1.1. 2. ALL SHEAR CONNECTORS STUDS SHALL COMPLY WITH THE PROVISIONS OF SECTION 1912 OF THE FLORIDA BUILDING CODE.

1. EXPANSION BOLTS SHALL BE "HILTI KWIK BOLT II" OR APPROVED EQUAL. HOLES SHALL BE DRILLED AND ANCHORS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER RECOMMENDATION'S. THE MINIMUM ANCHOR EMBEDMENT DEPTH SHALL BE 4.5 BOLT DIAMETERS UNLESS OTHERWISE NOTED. NO REINFORCEMENT SHALL BE CUT TO INSTALL ANCHORS. DEFECTIVE HOLES SHALL BE GROUTED WITH EPOXY ADHESIVE. 2. EPOXY ANCHORS AND REINFORCING STEEL SHALL BE PROVIDED WHERE NOTED ON DRAWINGS TO PROVIDE ANCHORAGE TO EXISTING HARDENED CONCRETE OR MASONRY. EPOXY SHALL BE HILTI HY150/HY20 EPOXY ADHESIVE OR APPROVE EQUAL ANCHORS SHALL BE ASTM A36 THREADED ROD UNLESS NOTED OTHERWISE. HOLES SHALL BE DRILLED AND ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE MINIMUM EMBEDMENT DEPTH SHALL BE 10 BOLTS DIAMETERS FOR ANCHORS AND 14 BOLTS DIAMETERS FOR REINFORCING UNLESS NOTED OTHERWISE ON DRAWINGS. HOLES FOR REINFORCING AND ANCHORS SHALL BE DRILLED WITH ROTARY IMPACT HAMMER OR EQUIVALENT METHOD TO PRODUCE A HOLE WITH A ROUGH INSIDE SURFACE NO REINFORCEMENT SHALL BE CUT TO INSTALL ANCHORS. EPOXY ADHESIVE SHALL BE MIXED, APPLIED AND CURED IN STRICT ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. ALL PLACEMENT AND CURING SHALL BE CONDUCTED WITH CONCRETE AND AIR TEMPERATURE ABOVE 50 DEGREES. APPLY EPOXY ONLY TO DRY, CLEAN CONCRETE. PROVIDE POSITIVE PROTECTION SO DOWELS ARE NOT DISTURBED DURING THE CURING PERIOD. FOR INSTALLATION IN MASONRY, REFER TO MANUFACTURERS FOR ADDITIONAL REQUIREMENT'S.

PROVISIONS OF SECTION 1912 OF THE FLORIDA BUILDING CODE.

- F. ANCHORS BOLTS
- 1. ANCHOR RODS SHALL BE ASTM F1554 GRADE 36 WITH CLASS 1A TREADS UNLESS NOTED OTHERWISE ON DRAWINGS. FURNISH HARDENED PLATE WASHERS, LOCK WASHERS AND MATCHING HEAVY HEX NUTS FOR SECURING THE BASE PLATE TO THE ANCHOR RODS.
- 2. ALL NUTS USED WITH ANCHOR BOLTS SHALL BE HEX HEAD CONFORMING TO ASTM A563
- 3. WASHERS FOR ALL BASE PLATES SHALL BE 1/4" THICK PLATES EXTENDING MINIMUM 1" FROM EDGE OF BASE PLATE HOLES ON EACH SIDE WITH HOLES 5/16" LARGER THAN THE NOMINAL BOLT DIAMETER. WASHERS SHALL COMFORT TO A36 STEEL
- 4. ALL ANCHOR BOLTS SET IN CONCRETE SHALL UTILIZE 1/8" THICK STEEL TEMPLATES SAME SIZE THAT BASE PLATE. TEMPLATES SHALL BE DETAILED ON THE SHOP DRAWINGS.
- 5. ANCHOR RODS INSTALLATION SHALL BE COORDINATED WITH REINFORCING AND FORMWORK. AFTER BASE INSTALLATION, ANCHOR RODS NUTS SHALL BE INSTALLED TO A SNUG TIGHT CONDITION. NO HEATING OR BENDING OF THE ANCHOR RODS IS PERMITTED. HOLES IN THE BASE MATERIAL SHALL NOT BE ENLARGED.

## J. NON SHRINK GROUT FOR BASE PLATES AND BEARING PLATES

- 1. GROUT FOR BASE PLATES AND BEARING PLATES SHALL BE NON METALLIC, SHRINKAGE RESISTANCE, PREMIXED, NON CORROSIVE, NON STAINING PRODUCT CONTAINING PORTLAND CEMENT, SILICA SANDS, SHRINKAGE COMPENSATING AGENTS, AND FLUIDITY IMPROVING COMPOUND.
- 2. TWENTY EIGHT DAY COMPRESSIVE STRENGTH AS DETERMINED BY GROUT TUBE TESTS SHALL BE 6,000 PSI (MIN.)
- 3. GROUT SHALL BE PLACED IN A FLUID FLOWABLE STATE UNDER BASE PLATES THAT HAVE A FORM BUILT AROUND FOR GROUT CONFINEMENT. GROUT SHOULD BE CURED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- 4. MINIMUM THICKNESS OF GROUT UNDER ALL BASE PLATES AND BEARING PLATES SHALL BE 1", UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS.

## K. BASE PLATES

- 1. UNLESS NOTED OTHERWISE ON THE DRAWINGS BASE PLATES AND BEARING PLATES SHALL BE WELDED ALL AROUND TO THE COLUMN WITH MINIMUM FILLET WELD AS SPECIFIED IN AISC.
- 2. GROUT BASE PLATES 3 DAYS BEFORE CONCRETE POUR OF FIRST ELEVATED SLAB.

## L. CONNECTIONS

- 1. TYPICAL CONNECTION DETAILS ARE INDICATED ON THE DRAWINGS
- 2. MINIMUM CONNECTION SHALL BE A TWO BOLT CONNECTION USING 3/4 INCH DIAMETER A325 BOLTS IN SINGLE SHEAR.
- 3. ALL HIGH-STRENGTH BOLTS SHALL BE INSTALLED, TIGHTENED AND INSPECTED IN ACCORDANCE WITH THE AISC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS. THE CRITERIA FOR SNUG-TIGHT CONNECTIONS SHALL APPLY TO ALL CONNECTIONS UNLESS NOTED OTHERWISE AS SLIP CRITICAL. SLIP CRITICAL CONNECTIONS SHALL USE LOAD INDICATOR WASHERS OR TENSION CONTROLLED BOLTS. ALL BOLTS SHALL BE STANDARD BOLTS UNLESS NOTED OTHERWISE.
- 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE SELECTION OF OPTIONAL DETAILS SHOWN ON THE DRAWINGS.
- 5. WHEN CONDITIONS VARY FROM THOSE SHOWN IN THE "TYPICAL DETAILS" OR WHEN THE CONTRACTOR WANTS TO USE ALTERNATE DETAILS; SUBMIT SIGNED AND SEALED CALCULATIONS FOR ENGINEER'S APPROVAL.

### COLD FORMED METAL FRAMING

A. DESIGN OF COLD FORMED METAL FRAMING SHALL CONFORM TO THE LATEST EDITION OF "SPECIFICATION FOR THE DESIGN OF COLD-FORMED STRUCTURAL STEEL MEMBERS (AISI).

B. MATERIALS: STUDS, RUNNERS AND ANGLES SHALL MEET THE REQUIREMENTS OF ASTM C955 WITH MINIMUM YIELD STRENGTH AS FOLLOWS:

16, 14, AND 12 GAGE ST 22, 20, AND 28 GAGE ST RUNNERS

C. GALVANIZED FINISH SHALL COMPLY WITH ASTM A653/A653M WITH A G90 COATING. ALL WELDS SHALL BE TOUCHED UP WITH A ZINC-RICH PROTECTIVE PAINT FOR CORROSION RESISTANCE.

D. THE FABRICATOR SHALL FURNISH A STRUCTURAL SUBMITTAL BEARING THE SEAL AND SIGNATURE OF A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF FLORIDA. THIS SUBMITTAL SHALL BE CHECKED BY THE CONTRACTOR FOR COMPLETENESS AND CONTENT PRIOR TO SUBMITTAL TO THE STRUCTURAL ENGINEER OF RECORD FOR REVIEW. THE SUBMITTAL SHALL INCLUDE COMPONENT DETAILS AND SYSTEM LAYOUT DRAWINGS, IT SHALL IDENTIFY THE PROJECT LIST LOADING AND OTHER CRITERIA. THE DRAWINGS SHALL IDENTIFY AND LOCATE COMPONENTS AND SHALL SPECIFY MEMBER SIZES, BRACING, ANCHORAGE CONNECTIONS & ALL OTHER NECESSARY FABRICATION AND ERECTION INFORMATION. THE SUBMITTAL SHALL INCLUDE CALCULATIONS VERIFYING ITS ADEQUACY TO RESIST THE LOADS INDICATED ON THE CONSTRUCTION DOCUMENTS. FABRICATION SHALL NOT COMMENCE UNTIL THIS REVIEW IS COMPLETED.

### ROOF METAL DECK

- PUBLISHED BY STEEL DECK INSTITUTE (SDI)
- SHALL BE PER FBC 1917.4.1.
- STRENGTH SHALL BE 33,000 PSI.
- MANUFACTURER'S INSTRUCTIONS. E. ATTACHMENT:
  - MEMBERS.
  - COLD FORMED STEEL TRUSSES.

  - FASHION.
- PERMITTED.
- SPAN BETWEEN STEEL FRAMING.

UDS		50	KSI
UDS		33	KSI
	33 KSI		

A. THE DESIGN, FABRICATION AND ERECTION OF ALL METAL DECK SHALL CONFORM TO THE STEEL DECK INSTITUTE DESIGN MANUAL FOR COMPOSITE DECKS, FORM DECK, AND ROOF DECK AS

B. ALL ROOF DECK EXCEPT WHERE SHOWN ON PLAN SHALL BE VENTED 1 1/2" DEEP 20 GAGE WIDE RIB, MIN. PROPERTIES:  $SP = 0.227 \text{ IN}^3$ ,  $SN = 0.238 IN^3$ ,  $Ip=0.205 IN^4 GALVANIZED G90$ . DECK SLOTS

C. STEEL DECK SHALL BE MANUFACTURED FROM STEEL CONFORMING TO ASTM DESIGNATION A611 GRADES C, D OR E OR FROM A653-94 STRUCTURAL QUALITY GRADE 33 OR HIGHER. THE MINIMUM YIELD

D. ROOF METAL DECK SHALL BE GALVANIZED WITH A PROTECTIVE ZINC COATING CONFORMING WITH ASTM ASTM A924/A924M-04a, UNLESS NOTED OTHERWISE. TOUCH UP GALVANIZED SURFACES WITH GALVANIZED REPAIR PAINT APPLIED IN ACCORDANCE TO

1. ROOF DECK UNITS SHALL BE WELDED TO EACH STRUCTURAL SUPPORT MEMBER WITH 5/8" DIAMETER PUDDLE WELDS AT ALL RIBS (36/7 FASTENER LAYOUT). WELD SHALL PENETRATE ALL LAYERS OF DECK MATERIAL AT END LAPS AND SIDE JOINTS AND SHALL BE COMPLETELY FUSED TO THE SUPPORTING

2. SIDE LAPS OF ADJACENT UNITS SHALL BE FASTENED BY WELDING (ON 18 GAUGE OR HEAVIER), SHEET METAL SCREWS (#10'S OR LARGER) SO SPACING BETWEEN FASTENERS AND BETWEEN FIRST FASTENER AND SUPPORT DOES NOT EXCEED 12" ON CENTER. #10 TEK SCREWS FOR

3. AT ALL ROOF OPENINGS AND PERIMETER ROOF EDGE CONDITIONS, ROOF DECK UNITS SHALL BE WELDED TO EDGE STEEL USING 5/8" PUDDLE WELDS AT 6" O.C.. #10 TEK SCREWS FOR COLD FORMED STEEL TRUSSES.

4. END LAPS OF SHEETS SHALL BE A MINIMUM OF 2" AND SHALL OCCUR OVER SUPPORT. ROOF SHALL BE ERECTED BEGINNING AT THE LOW SIDE TO INSURE THE END LAPS ARE SHINGLE

PROVIDE A MINIMUM END BEARING OF 1 1/2" FOR ALL DECK SUPPORTS. ALIGN FLUTES AND BUTT DECK AT SUPPORT.

G. METAL DECK SPAN SHALL NOT EXCEED THE MAXIMUM CENTER TO CENTER SPANS AS REQUIRED BY SDI CRITERIA, WHERE POSSIBLE, ALL METAL DECK SHALL EXTEND OVER THREE OR MORE SUPPORTS. TWO SPAN DECK SHALL BE USED ONLY WHERE DECK LAYOUT DOES NOT PERMIT THE USED OF THREE SPANS. SINGLE SPAN DECK IS NOT

H. NO LOADS SHALL BE PERMITTED TO BE SUSPENDED FROM ANY STEEL ROOF DECKING. ALL HANGERS FOR CEILING, DUCTWORK, PIPING, ALL ELECTRICAL DEVICES SUCH AS BUT NOT LIMITED TO LIGHTS SHALL BE SUSPENDED DIRECTLY FROM STRUCTURAL STEEL FRAMING. PROVIDE & DESIGN UNISTRUT OR APPROVED EQUAL TO



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SHEET **19** of **34** 

DEFFERED SUBMITTAL (WHEN ITEMS ARE REQUIRED BY PROJECT SCOPE):

A. STEEL STAIRS - REFER TO NOTE K OF STRUCTURAL STEEL NOTES.

B. COLD FORMED STEEL FRAMING - REFER TO NOTE D OF COLD FORMED STEEL FRAMING NOTES.

C. HANDRAILS SHALL BE DESIGNED BY FABRICATOR'S SPECIALTY ENGINEER. SHOP DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED FOR REVIEW AND MUST BE SIGNED, DATED AND SEALED BY A STRUCTURAL ENGINEER REGISTERED IN FLORIDA.

D. ALUMINUM AWNINGS, WALKWAY CANOPIES AND THEIR FOUNDATIONS SHALL BE DESIGNED BY THE ALUMINUM CANOPY MANUFACTURER SPECIALTY ENGINEER. SHOP DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED FOR REVIEW AND MUST BE SIGNED, DATED AND SEALED BY AND ENGINEER REGISTERED IN FLORIDA.

E. PROVIDE ENGINEERING SUBMITTAL SIGNED, DATED AND SEALED FOR ALL MECHANICAL, ELECTRICAL, AND PLUMBING SUPPORT OR ATTACHMENTS NOT INCLUDED WITHIN THE CONSTRUCTION DOCUMENTS THAT REQUIRE ANYTHING OTHER THAN STANDARD MANUFACTURER'S STANDARD HARDWARE OR ARE EXPOSED TO WIND LOADS. EXAMPLES OF ITEMS BUT NOT LIMITED TO ARE KITCHEN HOOD EXHAUST FAN, ROOF EXHAUST FAN, AND GRAVITY VENTS.

## SHOP DRAWINGS

A. THE GENERAL CONTRACTOR SHALL SUBMIT FOR ENGINEER REVIEW SHOP DRAWINGS FOR THE FOLLOWING ITEMS: STRUCTURAL STEEL (\*\*) REINFORCING STEEL ROOF METAL DECK CONCRETE MIX DESIGN COLD FORMED METAL FRAMING (\*) STEEL STAIRS (\*) SLAB ON GRADE CONTROL JOINTS PLAN

ITEMS MARKED (\*) SHALL HAVE SHOP DRAWINGS SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA.

ITEMS MARKED (\*\*) THE SHOP DRAWINGS FOR ALL STEEL CONNECTIONS AS INDICATED IN THE CONSTRUCTION DOCUMENTS SHALL BE PREPARED UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL ENGINEER, REGISTERED IN THE STATE THAT THE PROJECT IS LOCATED, EMPLOYED BY THE FABRICATOR. THE SHOP DRAWINGS SHALL SHOW COMPLETE DETAILS OF THE ASSEMBLED JOINT WITH ALL BOLTS AND WELDS REQUIRED. WHERE THE CONNECTIONS ARE DETAILED IN THE CONSTRUCTION DOCUMENTS BY THE ENGINEER OF RECORD OR WHERE PRE-DESIGNED CONNECTIONS ARE TAKEN DIRECTLY FROM TABLES IN THE AISC MANUAL, CALCULATIONS NEED NOT BE SUBMITTED PROVIDED THE JOB DESIGN CONNECTIONS PRECISELY MATCH THOSE ASSUMED IN THE TABLE, ALL STEEL SHOP DRAWINGS AND THE DESIGN CALCULATIONS FOR THE CONNECTIONS THAT ARE NOT DESIGNED BY THE ENGINEER OF RECORD SHALL BE SIGNED AND SEALED BY THE FABRICATOR'S REGISTERED PROFESSIONAL ENGINEER. SHOP DRAWINGS SUBMITTED THAT ARE NOT IN COMPLIANCE WITH THE ABOVE REQUIREMENTS WILL NOT BE APPROVED.



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# Kharl Rodriguez Pqyx8lgkcl6, c=US, st=Floric I=Maitland, o=Kharl A. Rodr P.E., cn=Kharl Rodriguez Date: 2018.03.19 20:23:57

Digitally signed by Kharl Rodriguez DN:

serialNumber=36rhx83kxpbrr8c6n pqyx8lgkcl6, c=US, st=Florida, I=Maitland, o=Kharl A. Rodriguez, Date: 2018.03.19 20:23:57 -04'00'

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ATE DESCRIPTION CHK. BY				KHARL A. RODRIGUEZ, PE	LICENSE NO. 60239
REV DATE					
	SIRUCIURAL GENERAL NUIES	PROJECT TITLE	DODTED TDANCEED STATION	DITE IMPROVEMENTS	
CLIENT	ORANGE COUNTY	SOLID WASTE DIVISON		ORLANDO, FLORIDA	
D		A, FL 33610	7		app. by: KAR
SCS ENGINE	CONSTITUTING FUGINFERS	4041 PARK OAKS BLVD, SL		6054.01	DSN. BY: CHK. BY: KAR KAR
CADD DATE		LE:	PH (813) 621-0080 FAX NO.	09216054.01	KAR CHK. BY
SCS ENGINE		LE: RCH	O D D D D D D D D D D D D D D D D D D D	09216054.01	KAR CHK. BY:

## STRUCTURAL ABBREVIATIONS

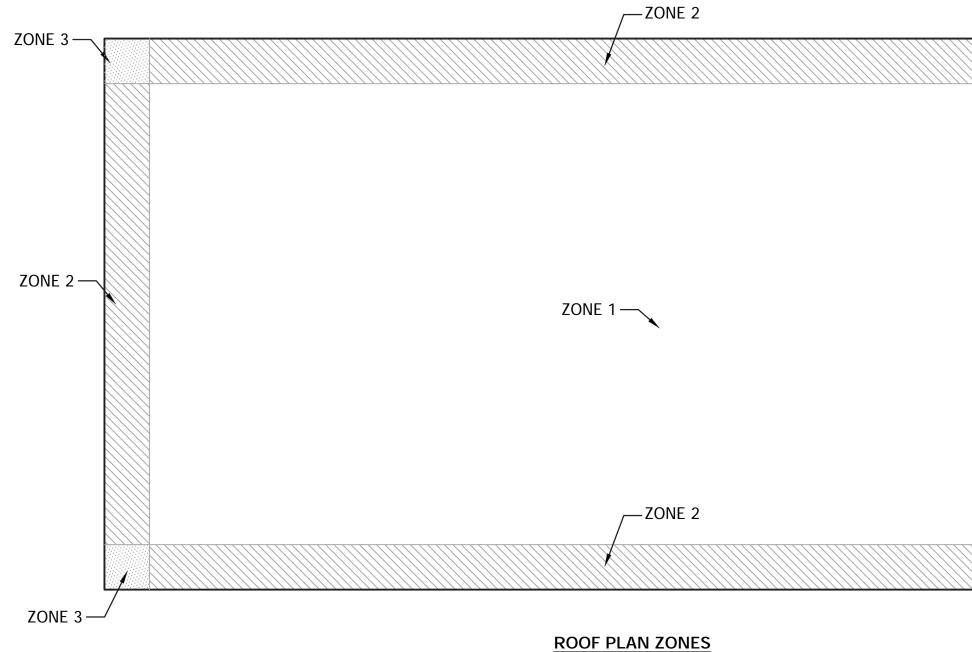
ABBREV. ABBREVIATION ADD. ADDITIVE ADD'L ADDITIONAL ALT. ALTERNATE/ALTERNATIVE ALUM. ALUMINUM A.C.I. AMERICAN CONCRETE INSTITUTE A.I.S.C. AMERICAN INSTITUTE OF STEEL CONSTRUCTION A.I.S.I. AMERICAN IRON AND STEEL INSTITUTE A.S.T.M. AMERICAN SOCIETY OF TESTING MATERIALS A.W.S. AMERICAN WELDING SOCIETY A.B. ANCHOR BOLTS ARCH. ARCHITECTURE/ARCHITECTURAL ASPH. ASPHALT B.P. BASE PLATE BM. BEAM BRG. BEARING B.M. BENCH MARK BIT. BITUMINOUS, BITUMASTIC BLK. BLOCK BOTTOM OF BLDG. BUILDING B.U. BUILT-UP BTWN BETWEEN BOT CIP BOTTOM CAST IN PLACE C.I. C.S. CAST-IRON CAST-STEEL CTR CENTER CLR. CLEAR/CLEARANCE COL. COLUMN CONC. CONCRETE C.B. CONCRETE BEAM CONCRETE COLUMN С.М. CONCRETE MASONRY CMU CONCRETE MASONRY UNIT COORD. COORDINATE CONT. CONTINUOUS CONN. CONNECTION CONST. CONSTRUCTION C.J. CONSTRUCTION/CONTRACTION JOINT C.F. CUBIC FEET (FOOT) C.Y. CUBIC YARD DBA DEPT DEFORMED BAR ANCHOR DEPARTMENT DIM. DIST. DIMENSION DISTANCE DN. DOWN DR. DRAIN DWG. DRAWING DIAG DIAGONAL DTL EA. E.E. DETAIL EACH EACH END E.F. EACH FACE EACH SIDE E.S. E.W. EACH WAY ELEC. ELECTRIC/ELECTRICAL EL.,ELEV. ELEVATION, ELEVATOR ENGR. EQ. SP. EXIST. ENGINEER EQUAL SPACED EXISTING EXP. EXPANSION EXT. EXTERIOR F.S. FAR SIDE FT. FEET/FOOT FDN. FOUNDATION FIN. FINISH FIN. GR. FINISH GRADE F.F. FINISHED FLOOR FLR. F.D. FTG. FLOOR FLOOR DRAIN FOOTING F.P. FULL PENETRATION WELD GA. GAGE/GAUGE GALV. G.C. GALVANIZED GENERAL CONTRACTOR GEN. G.S. G.L. GENERAL GALVANIZED STEEL GRID LINE HORZ. HORIZONTAL HSA HEADED STUD ANCHOR HT. HEIGHT H.S.B. HIGH STRENGTH BOLT INCH IN. I.D. INT INSIDE DIAMETER INTERIOR INV. INVERT I.F. INSIDE FACE JOINT JST. JOIST KWY. KEYWAY LDG. LANDING LGTH. LENGTH

B/

CC

JT.

_I. WI.	LIGHT WEIGHT
_G.	LONG
_LH	LONG LEG HORIZONTAL
_LV	LONG LEG VERTICAL
MID.	MIDDLE
MFR.	MANUFACTURE/MANUFACTURER
Ч.В.	MASONRY BEAM, MACHINE BOLT
M.O.	MASONRY OPENING
MATL.	MATERIAL
MAX.	MAXIMUM
MECH.	
MIN	MINIMUM
	MISCELLANEOUS
MPH.	MILES PER HOUR
MTL.	MELS FER HOOK
N.S.	
v.s. v.i.c.	
N.T.S.	
NO., #	NUMBER
D.C.	ON CENTER
OPNG.	OPENING
D.F.	OUTSIDE FACE
D.D.	
PEN	PENETRATION
PCF	
PAR.	PARALLEL
P.J.F.	
PLY.	PLYWOOD
PLF.	
P.S.F.	•
P.S.I.	POUNDS PER SQUARE INCH
	PRECAST CONCRETE
PREFAB.	PREFABRICATED
	PRESSURE TREATED
	REFERENCE
	REINFORCING
	REINFORCED CONCRETE PIPE
	REQUIRED
	RETAINING WALL
	ROOF DRAIN
	SCHEDULE SPACE/SPACES
	SPECIFICATIONS
5Q.	
	STAINLESS STEEL
	STANDARD
STL.	
	SYMMETRICAL
	STRUCTURAL
SPCG	
SIM	
	STIFFENER
FEMP.	TEMPERATURE
TENS.	TENSION
THK.	THICK
THD.	THREAD/THREADED
Г.В.	TIE BEAM
FOL.	TOLERANCE
Г&В	TOP AND BOTTOM
Γ/	TOP OF
•	TURN DOWN SLAB
TYP.	
	TUBE STEEL
	UNLESS NOTED OTHERWISE
	VERTICAL
	VOLUME
	WALL FOOTING
	WALL FOOTING EXTENSION
	WATERPROOF
	WELDED STUD
	WELDED WIRE FABRIC
	WEEP HOLE
	WEIGHT, STRUCTURAL TEE SECTION
	WIDE FLANGE SECTION
N/	WITH
•	WITHOUT
ND.	WOOD
<i>N</i> .P.	WORKING POINT
<b>@</b>	AT
#	POUNDS
<	KIP (1,000 LBS)
	PLUS OR MINUS
N	WIDE FLANGE
2	CHANNEL
	ANGLE
- TS	TUBE STEEL
ΝT	TEE SECTION
CL	CENTER LINE
ЪГ	PLATE
$\sim$	DIAMETER
§.	AND
Sp	SECTION MODULUS
ip	MOMENT OF INERTIA
r	



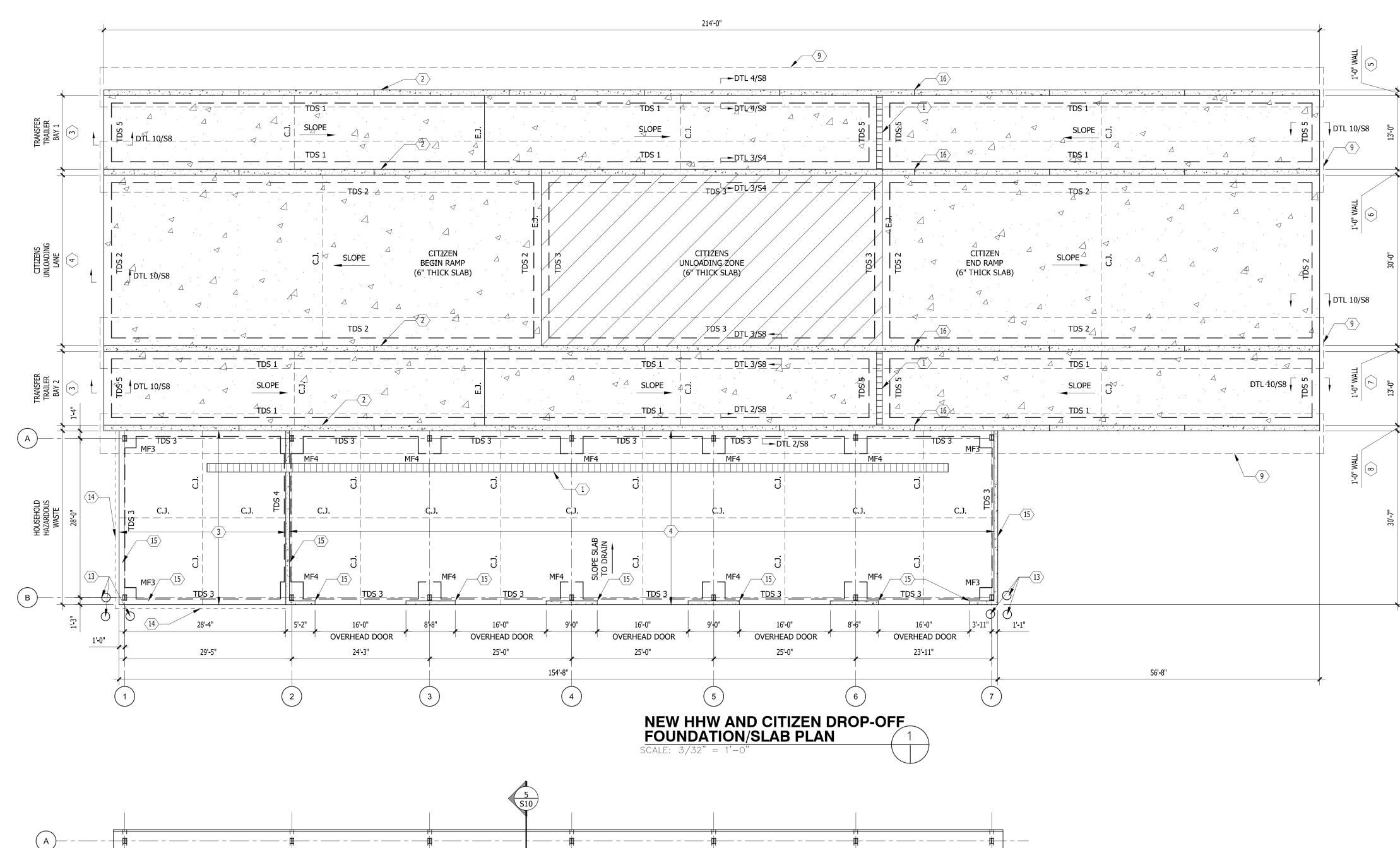
ZONE 2 ZONE 2 ZONE 2 ZONE 2 ZONE 3 ZONE 3 ZONE 3 ZONE 3 ZONE 3 ZONE 3 ZONE 3 ZONE 3 ZONE 3 ZONE 3	RAL GENERAL NOTES ER TRANSFER STATION FE IMPROVEMENTS
COMPONENTS AND CLADDING       2 (ft)     Vult (mpb)     A (SE)     ZONE 1     ZONE 2 (psf)     ZONE 4 (psf)     ZONE 5 (psf)	SHEET TITLE <b>STRUCTURAI</b> PROJECT TITLE <b>PORTER</b> SITE
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	CLIENT ORANGE COUNTY SOLID WASTE DIVISON ORLANDO, FLORIDA
5:0°       140       >500       10.0       15.2       23.3       23.3       25.3       35.2         Values shown above are gross value allowable stress design (ASD) pressures.	DRAWING NO.

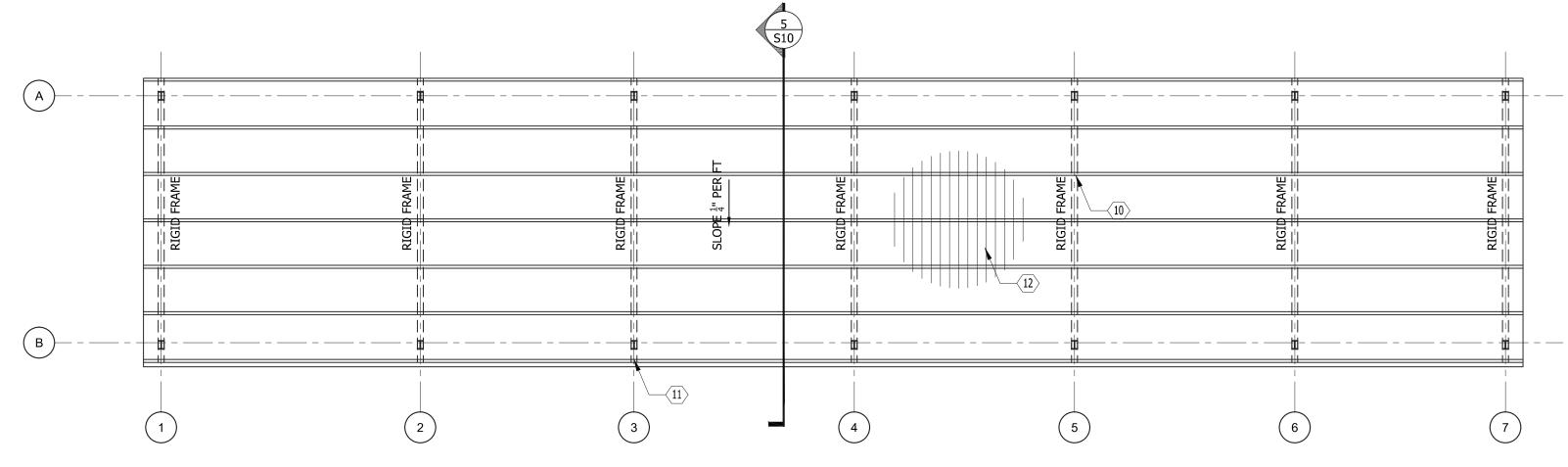


FL CERTICATE OF AUTHORIZATION #29116 235 S. MAITLAND AVE SUITE 108-A MAITLAND FL 32751

# 1330ED FUR DIDDING

SHEET **21** of **34** 





NEW HHW ROOF FRAMING PLAN SCALE: 3/32" = 1'-0"

FOUNDATION AND REINFORCING SCHEDU						
MARK	SIZE (L x W x D)	BTM REINF.	TOP REINF.	REMARKS		
TDS1	CONT. x 2'-0" x 16"	(3) #5 CONT.	(1) #5 CONT.			
TDS2	CONT. x 2'-0" x 16"	(3) #5 CONT.	(1) #5 CONT.			
TDS3	CONT. x 1'-0" x 16"	(2) #5 CONT.	(1) #5 CONT.			
TDS4	CONT. x 1'-4" x 12"	(3) #5 CONT.				
MF3	3'-0" x 3'-0" x 36"	(3) - #5	(3) - #5	EACH WAY		
MF4	4'-0" x 4'-0" x 36"	(4) - #5	(4) - #5	EACH WAY		



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I=Maitland, o=Kharl A. Rodriguez, P.E., cn=Kharl Rodriguez Date: 2018.03.19 20:24:53 -04'00'

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**FL CERTICATE OF AUTHORIZATION #29** 235 S. MAITLAND AVE SUITE 108-A MAITLAND FL 32751 PH:407-227-7416 WWW.PREMIER-STRUCTURAL.COM

FOUNDATION AND REINFORCING SCHEDULE								
MARK	SIZE (L x W x D)	BTM REINF.	TOP REINF.	REMARKS				
TDS1	CONT. x24"x16"	(3) #5 CONT.	(1) #5 CONT.					
TDS2	CONT. x12"x12"MIN	(2) #5 CONT.	(1) #5 CONT.					
TDS3	CONT. x12"x12"MIN	(2) #5 CONT.	(1) #5 CONT.					
TDS4	CONT. x 12" x 12"	(2) - #5		CENTERED ON CURB				
TDS5	CONT. x12"x16"	(2) #5 CONT.	(1) #5 CONT.					
MF3	3'-0" x 3'-0" x 36"MIN	(3) - #5		EACH WAY				
MF4	4'-0" x 4'-0" x 36"MIN	(4) - #5		EACH WAY				

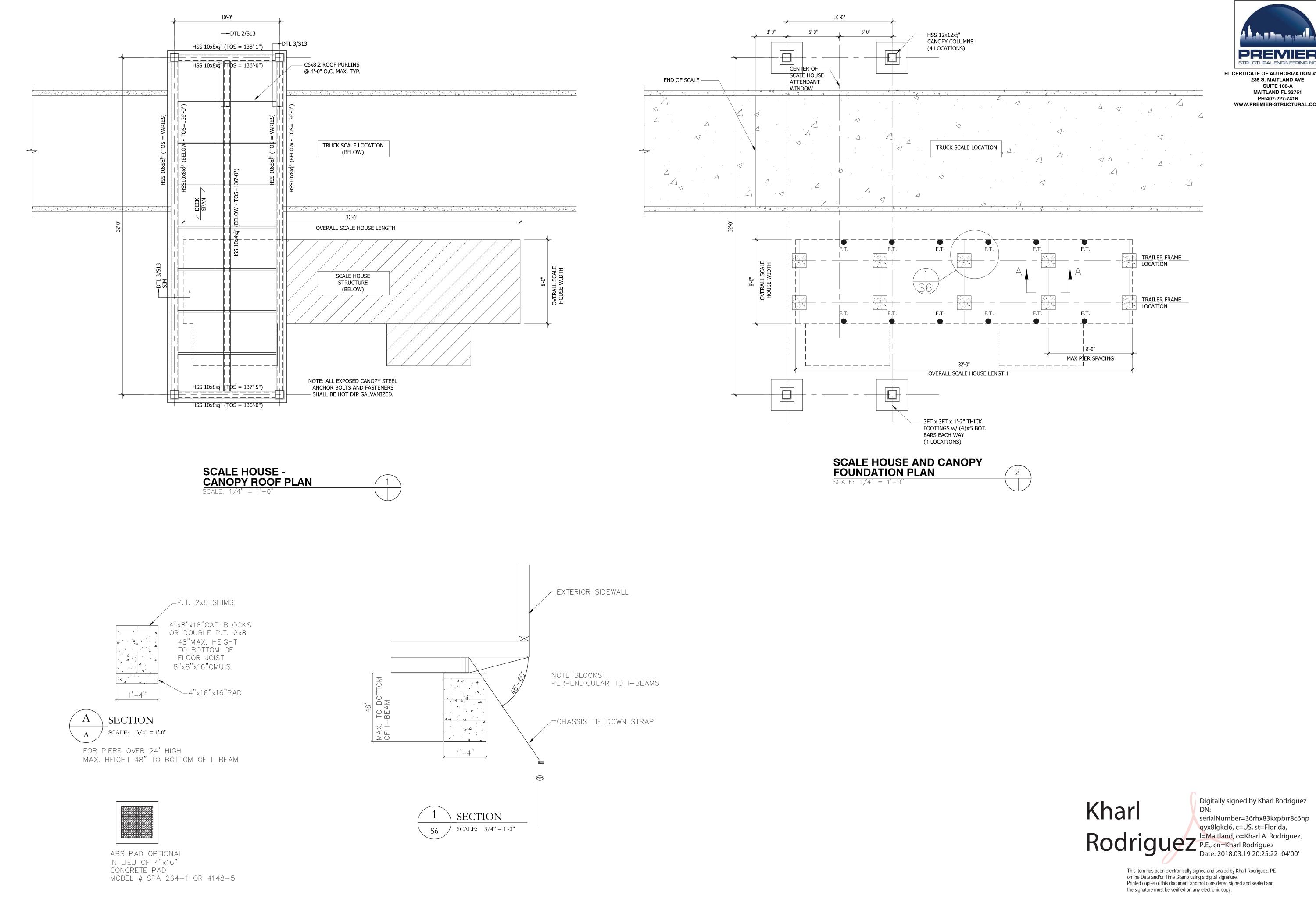
CITIZEN DROP-OFF AND HHW BLDG. PLAN NOTES

- INDICATES EXTENTS OF CITIZEN UNLOADING ZONE. REFERENCE PROPOSED SITE PLAN FOR OCATION, LAYOUT, ELEVATION AND DIMENSIONS.
- PROVIDE 1'-6" HIGH BATTER CURB THROUGHOUT THE LENGTH OF TRANSFER TRAILER BAYS 1 AND 2 (BOTH SIDES OF EACH BAY). REFERENCE RETAINING WALL DETAILS FOR BATTER CURB REINFORCEMENT. BATTER CURBS ARE NOT SHOWN ON PLAN (FOR CLARITY
- 3 SLAB SLOPES ARE SHOWN POINTING TOWARDS DIRECTION OF LOWER ELEVATION. REFERENCE <sup>J</sup> SHEET 7 FOR SLOPE PERCENTAGES AND SPOT ELEVATIONS.
- TDS" INDICATES TURN DOWN SLAB EDGE. REFERNCE DETAILS FOR SLAB EDGE DIMENSIONS AND REINFORCEMENT.
- 5 UNLESS NOTED OTHERWISE THE TOP OF ALL SHALLOW FOUNDATIONS SHALL BE -2'-0" BELOW ADJACENT GRADE ELEVATION.
- 6 PROVIDE GEOGRID PER SECTION 2070 BELOW ALL RETAINING WALL AND BUILDING SPREAD <sup>J</sup> FOOTINGS. CONTRACTOR SHALL OVER EXCAVATE BOTTOM OF SPREAD FOOTINGS IN ORDER TO INSTALL GEOGRID AND FDOT #57 STONE AS PER THE GEOTECHINCAL ENGINEER'S RECOMMENDATION REFERENCE PROJECT GOETECHNICAL REPORT FOR ADDITIONAL GEOGRID REQUIREMENTS INCLUDING BUT NOT LIMITED TO GEOGRID EXTENSIONS BEYOND SPREAD FOOTING AREAS AND MINIMUM LAP GEOGRID REQUIREMENTS.
- REFERENCE PROJECT GEOTECHNICAL REPORT FOR PROJECT SUBGRADE PREPARATION REQUIREMENT BENEATH CONCRETE PAVEMENTS AND BUILDING SLABS ON GRADE.
- 8 PROVIDE MODEL 3100 COMMERCIAL TYPE CHAIN OPERATED OVERHEAD DOORS BY ROLL UP DOORS J DIRECT OR EQUIVALENT MANUFACTURER. PROVIDE SPEED BUMP AT OVER DOOR LOCATIONS PER DETAIL 1 ON SHEET S9.
- 9 PROVIDE WATERSTOP RX BY CETCO OR EQUIVALENT PRODUCT FOR HHW SECONDARY POURS I.E. BETWEEN SLAB TO CURBS AND SLAB TO SPEED BUMPS.
- KEY NOTES  $\langle 1 \rangle$  provide New Trench drains reference sheet 6 for
- LOCATION AND TYPE.  $\bigcirc$  2 1'-0" Cast in place concrete retaining walls ref: sheets 7 and s8 for top of wall elevations.
- $\langle 3 \rangle$  PROVIDE 8" THICK SLAB REINFORCED w/ #5 BARS @ 12" O.C. TOP AND BOTTOM EACH WAY. PROVIDE TURNED DOWN SLAB EDGE AT PERIMETERS.
- TOP OF SLAB ELEVATION = 117.90 A PROVIDE 8" THICK SLAB REINFORCED W/ #5 BARS @ 12"O.C. TOP AND BOTTOM EACH WAY. TOP OF SLAB ELEVATION = 117.90
- $\langle 5 \rangle$  RETAINING WALL "A" REF: DETAIL 4 ON SHEET S8.
- $\langle 6 \rangle$  RETAINING WALL "B" REF: DETAIL 3 ON SHEET S8.
- $\langle 7 \rangle$  RETAINING WALL "B" REF: DETAIL 3 ON SHEET S8.
- $\langle 8 \rangle$  RETAINING WALL "C" REF: DETAIL 2 ON SHEET S8.
- $\langle 9 \rangle$  RETAINING WALL FOOTING BELOW. REFERENCE DETAILS ON SHEET S8 FOR SIZE AND REINFORCEMENT.
- $\langle 10 \rangle$  roof purlins by pre-engineered metal building manufacturer.
- $\overline{1}$  provide gutter along roof edge and downspouts at each
- COLUMN LOCATION.  $\langle 12 \rangle$  provide standing seam metal roof panels by pre-engineered metal BUILDING MANUFACTURER.
- $\langle 13 \rangle$  provide 6" dia. Concrete filled pipe Bollards as shown. See typ. PIPE BOLLARD DETAIL 4 ON SHEET 13.
- $\langle 14 
  angle$  provide chain link fence W/ 10FT swing gates. Reference sheets 6 AND 16.
- $\langle 15 \rangle$  provide 8" wide x 6" tall containment curb per details 2 and 3
- ON SHEET S9.  $\langle 16 \rangle$  PROVIDE CONSTRUCTION/CONTRACT JOINTS PER DETAILS ON SHEET S9.
  - **ISSUED FOR BIDDIN**

16	EV DATE DESCRIPTION CHK. BY			XHARL A. RODRIGUEZ, PE	▲ LICENSE NO. 60239
	FOUNDATION, SLAB AND ROOF PLANS	PROJECT TITLE			
nns. G	CLIENT ORANGE COUNTY	SOLID WASTE DIVISON		ORLANDO, FLORIDA	
	SCS ENGINEERS STEARNS, CONRAD AND SCHMIDT	H (813) 621-0080 FAX NO. (813) 623-6757	FLOHIDA CENTIFICATE OF AUTHORIZATION NO. 00004892 PROJ. NO. DWN. BY: 0/A RVW BY:	5054.01 SZF	KAR KAR KAR KAR KAR
73	DATE:	S SHO	2018 WN	3	

SHEET **22** of **34** 

EDULE					
IARKS					





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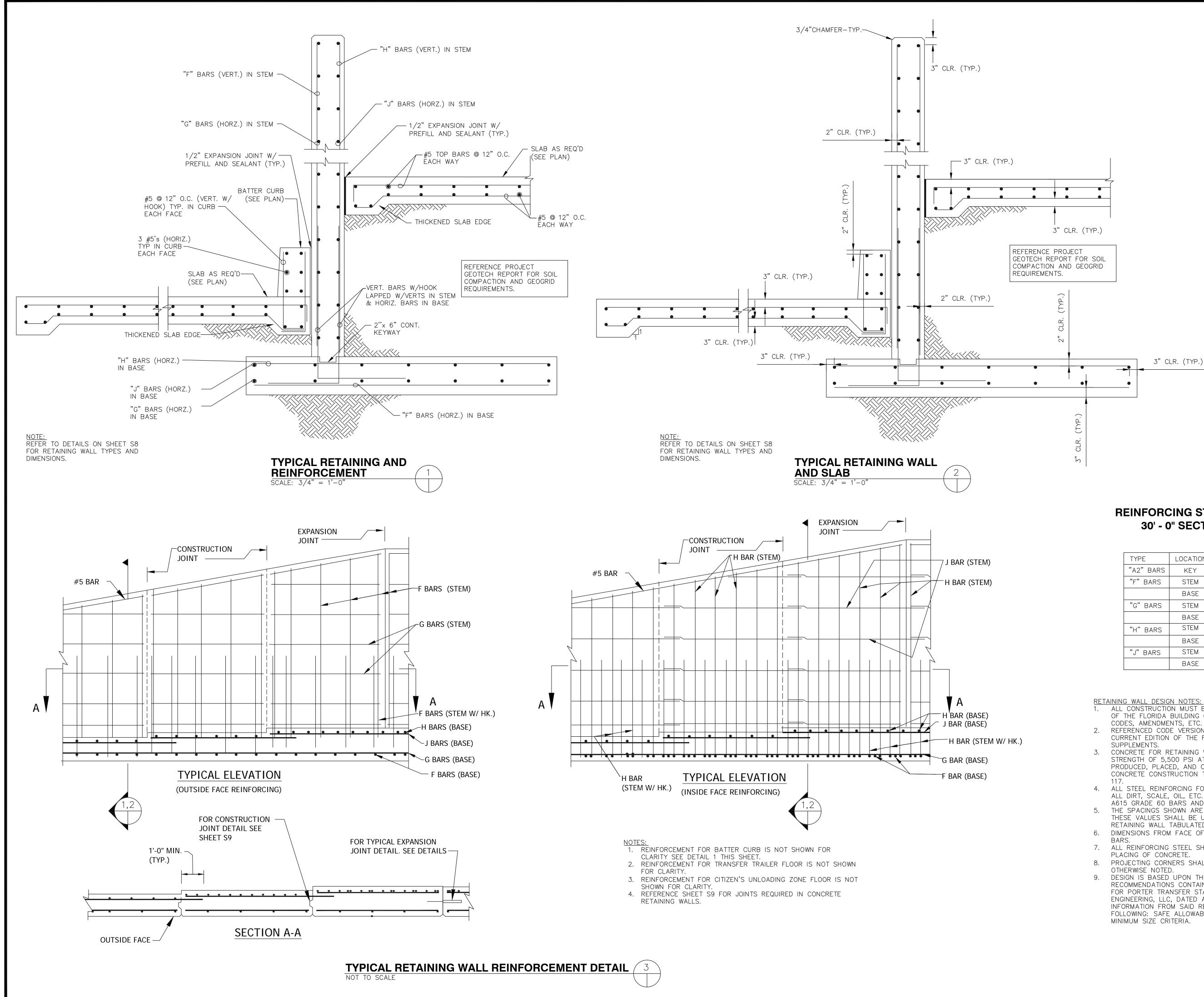
SHEET TITLE SCALE HOUSE AND CANOPY REV DATE DESCRIPTION CHK.						LICENSE NO. 60239
SHEET TITE SCALE	ORANGE COUNTY FRAMIN	SOLID WASTE DIVISON				
SCS ENGINEERS			PH (813) 621-0080 FAX NO. (813) 623-6757		6054.01 SZF	dsn. by: chk. by: App. by: KAR KAR KAR
CAD DAT	E:	LE: RCH	4 0	201	8	

SHEET **23** of **34** 

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**REINFORCING STEEL SCHEDULE FOR TYPICAL 30' - 0" SECTION OF RETAINING WALL** 

		RETAINING	WALL TYPE (	(SEE PLAN)
TYPE	LOCATION	TYPE "A"	TYPE "B"	TYPE "C"
"A2" BARS	KEY	N/A	N/A	N/A
"F" BARS	STEM	#5's @12"	#5's @12"	#5's @12"
	BASE	#5's @12"	#6's @12"	#5's @12"
"G" BARS	STEM	#5's @14"	#5's @14"	#5's @14"
	BASE	#5's @14"	#5's @14"	#5's @14"
"H" BARS	STEM	#5's @12"	#8's @12"	#7's @12"
	BASE	#5's @12"	#6's @12"	#5's @12"
"J" BARS	STEM	#5's @14"	#5's @14"	#5's @14"
	BASE	#5's @14"	#5's @14"	#5's @14"

RETAINING WALL DESIGN NOTES

- ALL CONSTRUCTION MUST BE IN STRICT ACCORDANCE WITH THE 2014 EDITION OF THE FLORIDA BUILDING CODE AS WELL AS WITH ALL OTHER APPLICABLE CODES, AMENDMENTS, ETC.
- 2. REFERENCED CODE VERSIONS SHALL BE THOSE REFERENCED IN THE CURRENT EDITION OF THE FLORIDA BUILDING CODE AND APPLICABLE
- 3. CONCRETE FOR RETAINING WALL SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5,500 PSI AT 28 DAYS. ALL CONCRETE SHALL BE PRODUCED, PLACED, AND CURED IN ACCORDANCE WITH ACI 301 AND ACI 318. CONCRETE CONSTRUCTION TOLERANCES SHALL BE IN ACCORDANCE WITH ACI
- 4. ALL STEEL REINFORCING FOR CONCRETE SHALL BE FREE OF EXCESSIVE RUST, ALL DIRT, SCALE, OIL, ETC. AND SHALL BE IN CONFORMANCE WITH ASTM A615 GRADE 60 BARS AND SHALL BE DETAILED PER ACI 315.
- 5. THE SPACINGS SHOWN ARE THE MAXIMUM VALUES ALLOWED BY DESIGN. THESE VALUES SHALL BE USED FOR THE ENTIRE LENGTH OF THE RETAINING WALL TABULATED AT EQUAL SPACINGS.
- 6. DIMENSIONS FROM FACE OF CONCRETE TO STEEL (CLR.) ARE TO FACE OF
- 7. ALL REINFORCING STEEL SHALL BE WELL SECURED IN PLACE PRIOR TO
- 8. PROJECTING CORNERS SHALL BE FORMED WITH A 3/4" CHAMFER UNLESS
- DESIGN IS BASED UPON THE ENGINEERING EVALUATION AND RECOMMENDATIONS CONTAINED IN THE GEOTECHNICAL EXPLORATION REPORT FOR PORTER TRANSFER STATION IMPROVEMENTS BY BLUE MARLIN ENGINEERING, LLC, DATED AUGUST 31, 2017, BME PROJECT NO. 17-109. INFORMATION FROM SAID REPORT CONTAINED, BUT WAS NOT LIMITED TO THE FOLLOWING: SAFE ALLOWABLE SOIL BEARING PRESSURE OF 2,000 PSF AND MINIMUM SIZE CRITERIA.

REINFORCEMENT ORTER TRANSFER STATION SITE IMPROVEMENTS WALL RETAINING Ω OUNTY DIVISON LORIDA ANGE CO WASTE ш 0 ORLAND OR∕ SOLID S S S ≓ ⋒ म SU NO. ш ENGINE VS, CONRAD LTING ENGIN K OAKS BLVD, S 521-0080 FAX N STI STI CADD FILE: DATE:

MARCH 2018

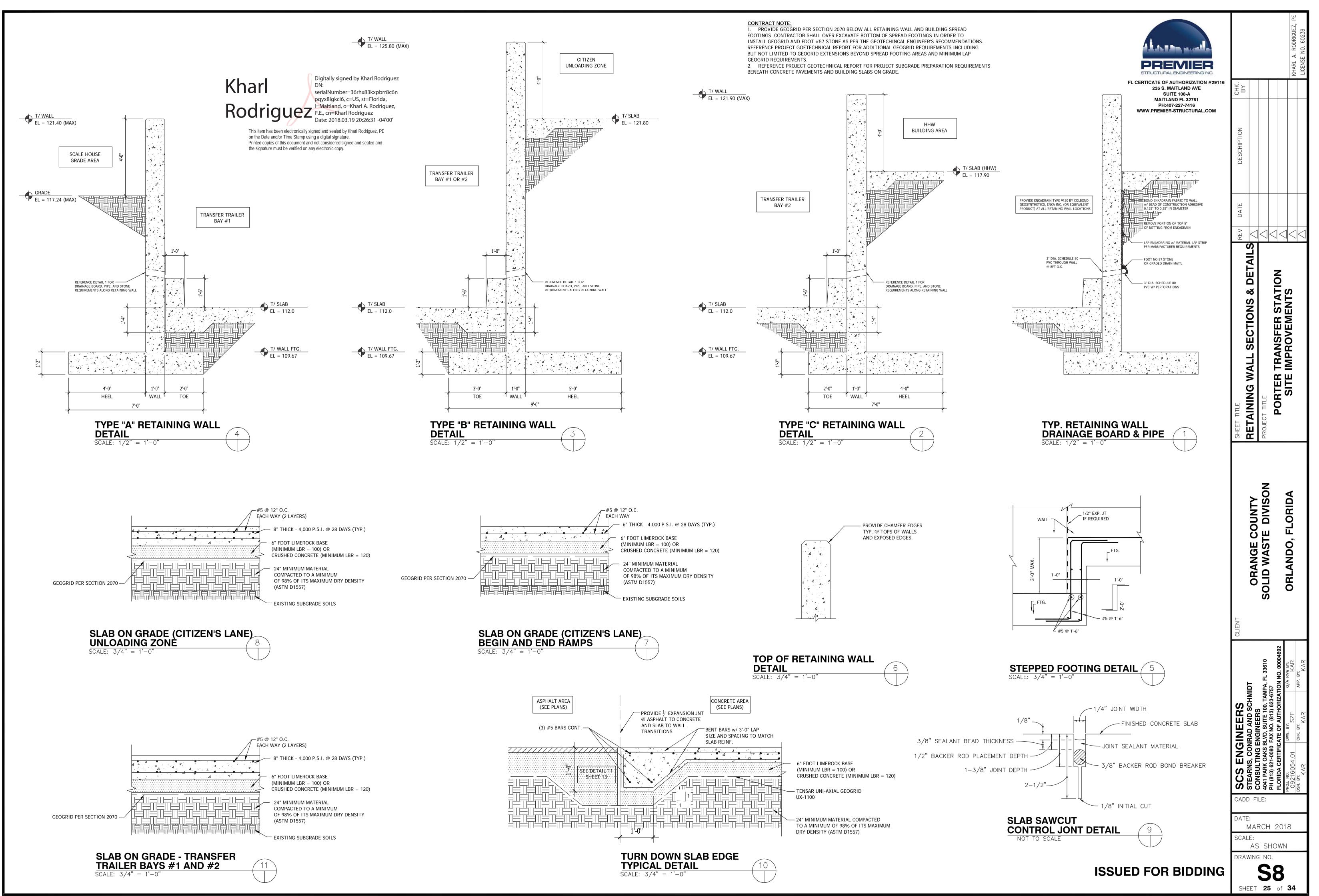
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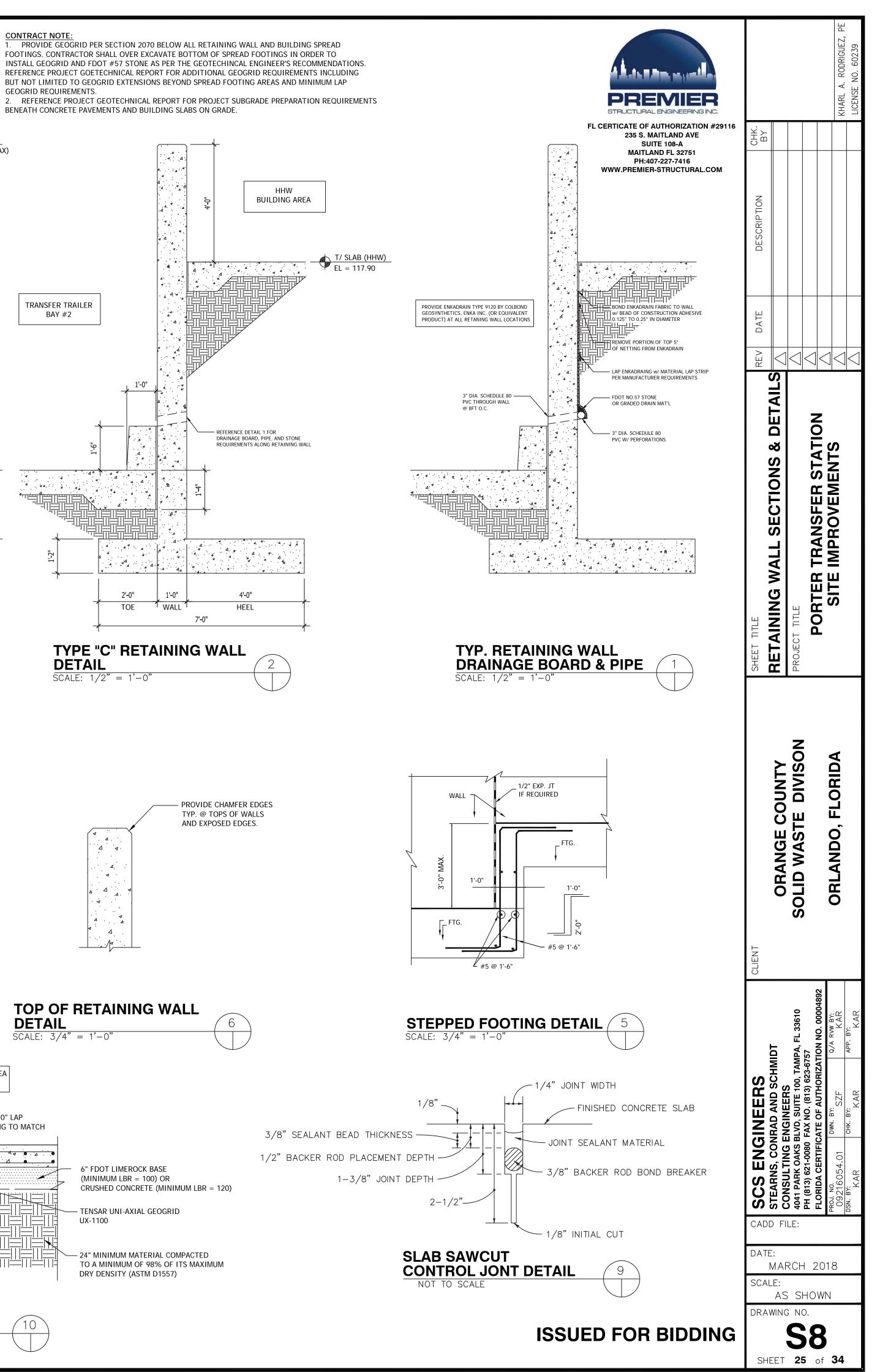
**S7** 

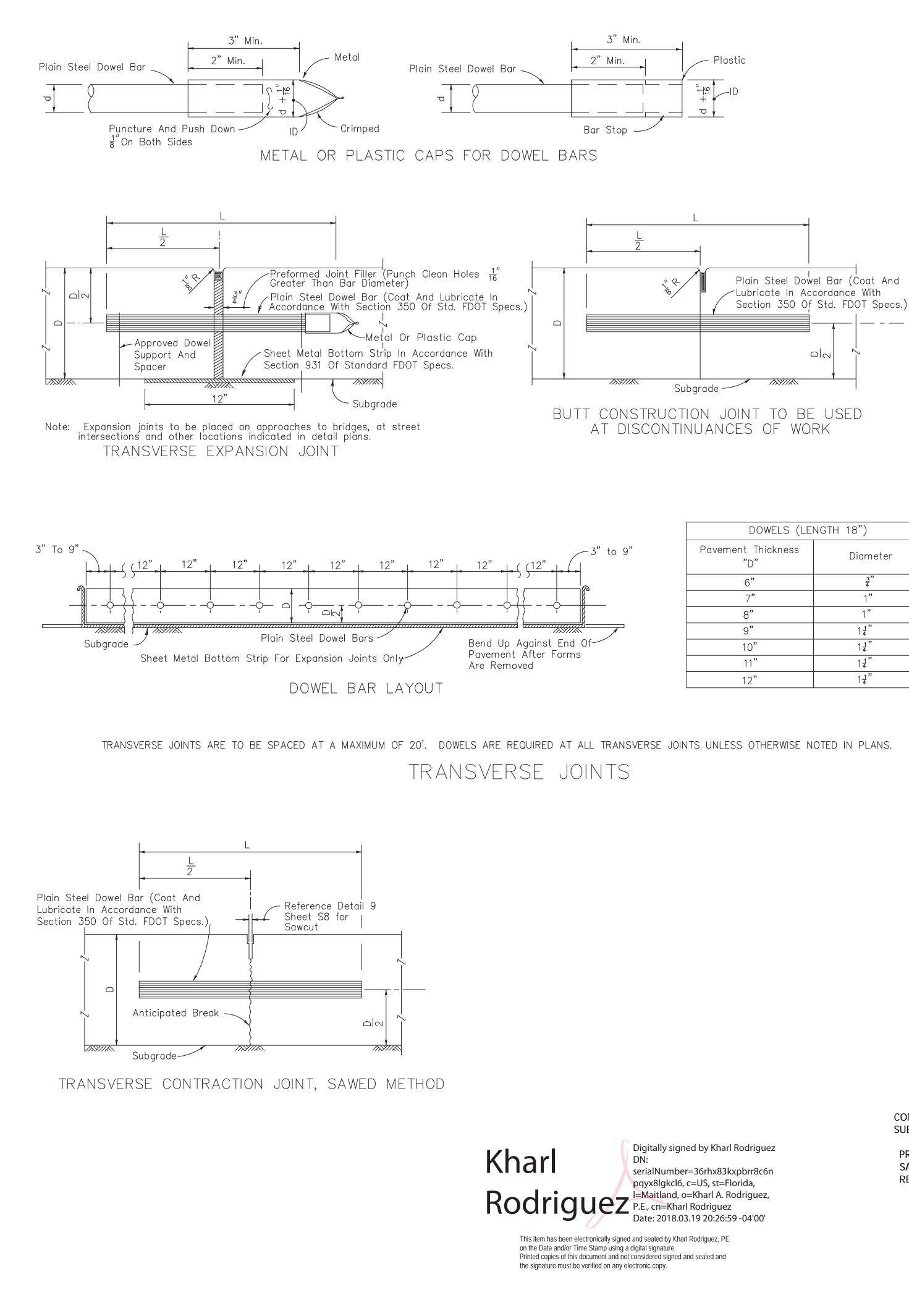
SHEET X of 34

SCALE:

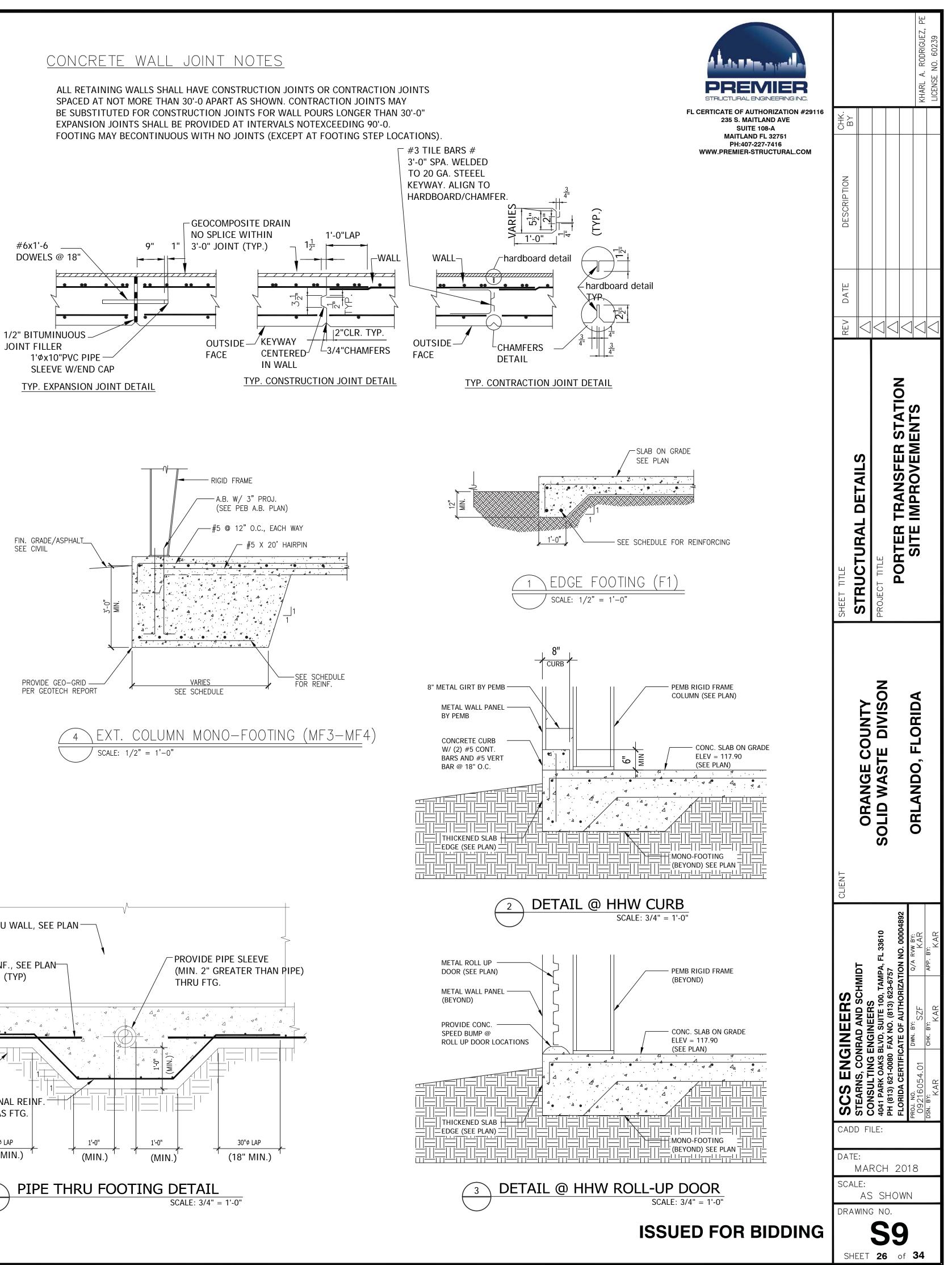
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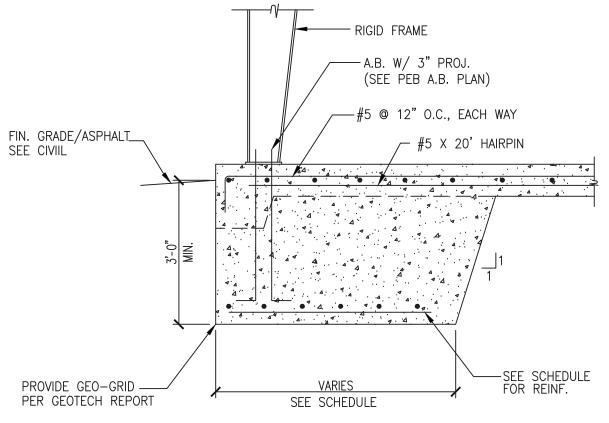


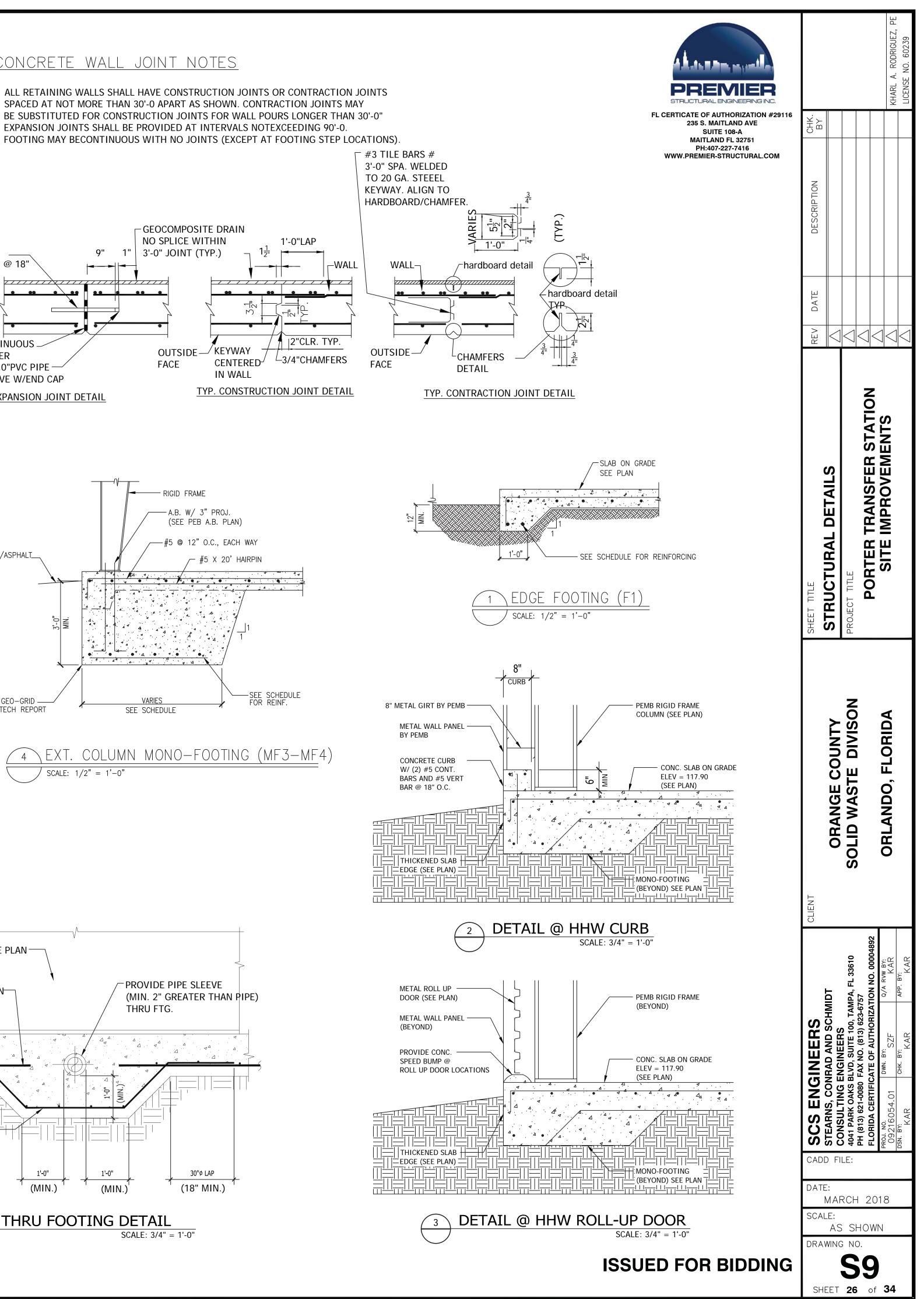


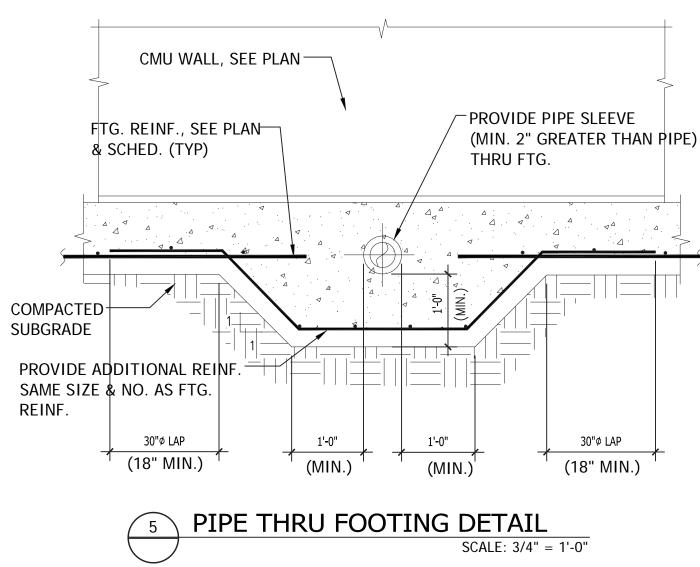




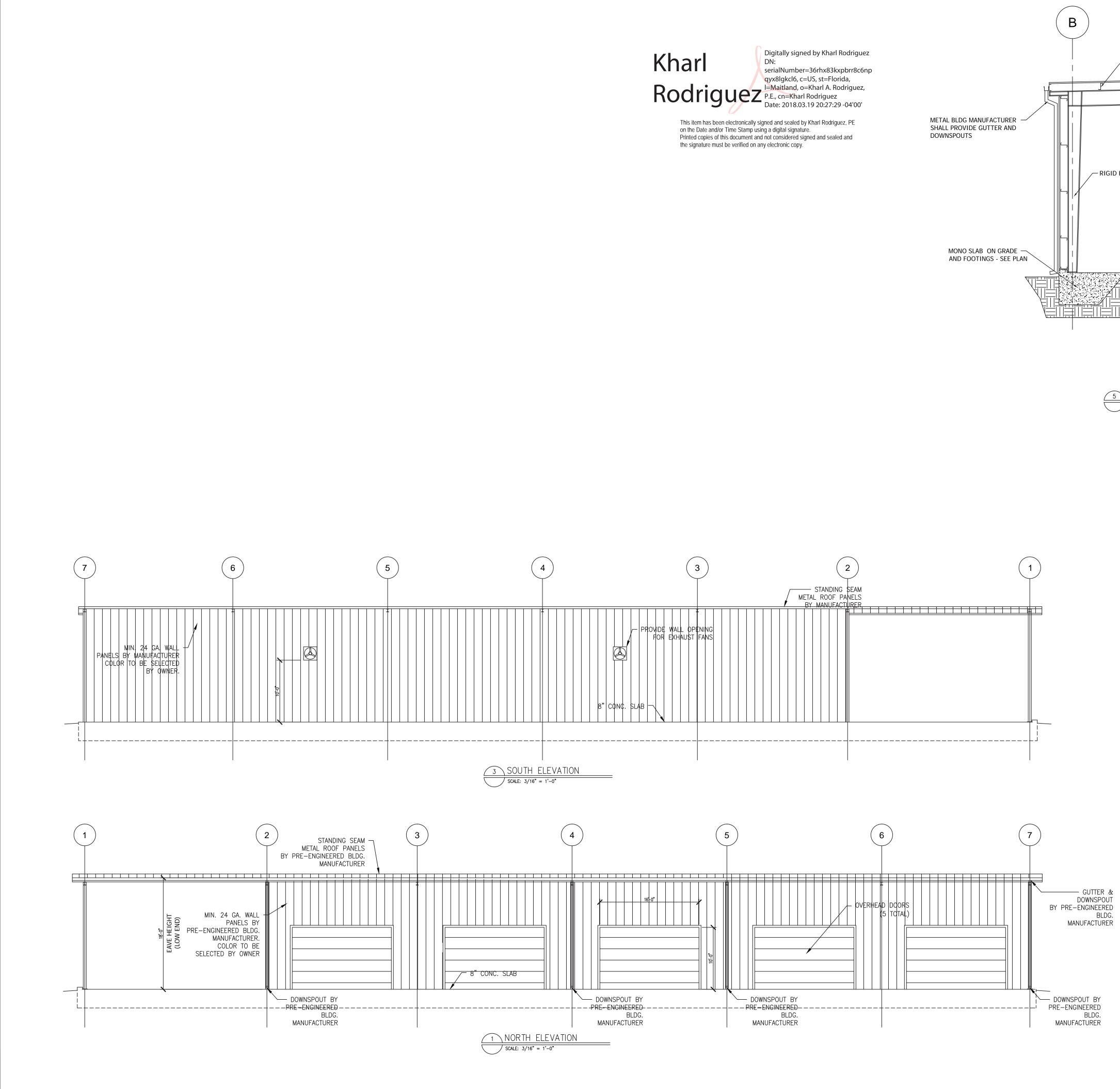


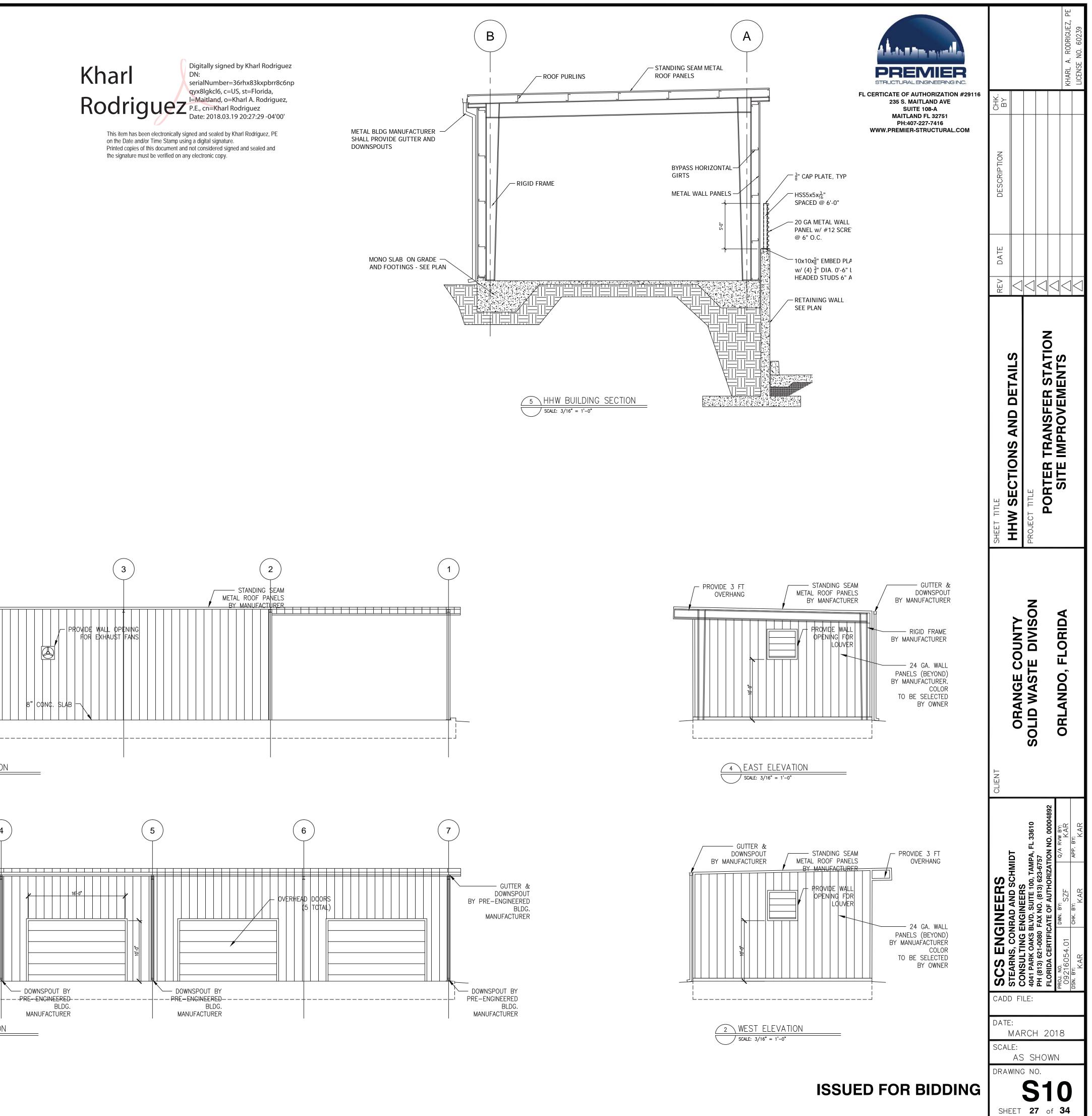


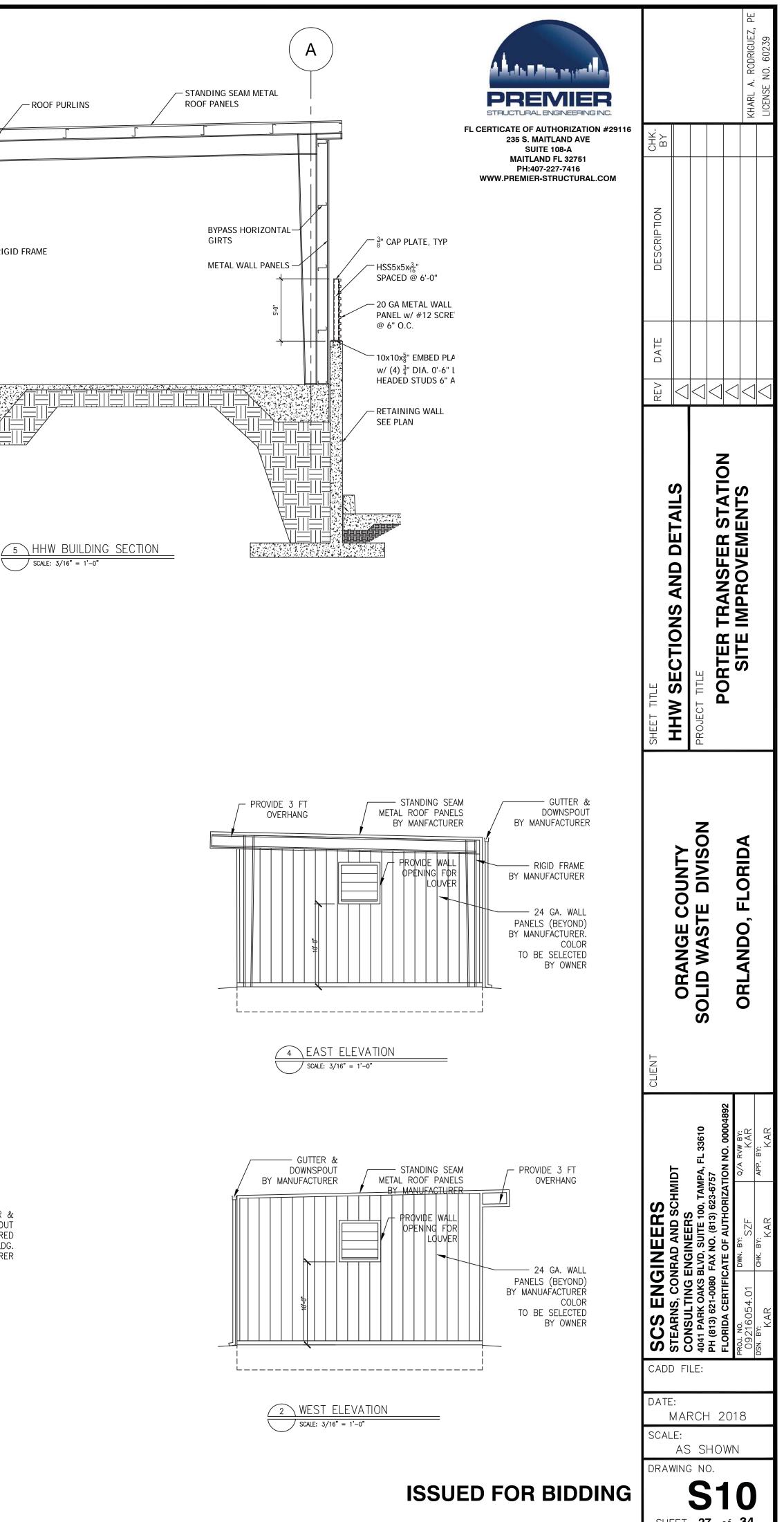


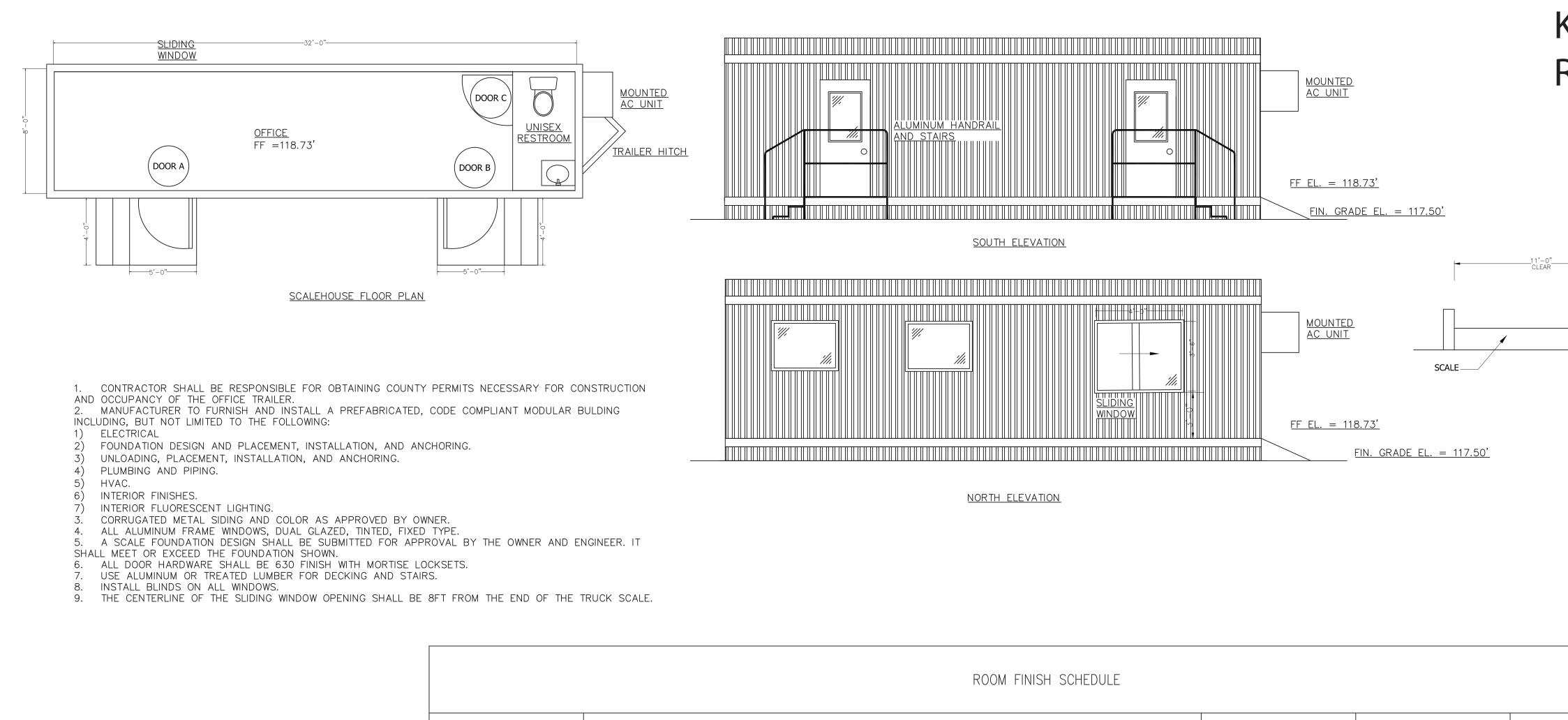


DOWELS (LE	NGTH 18")
Pavement Thickness "D"	Diameter
6"	<u>3</u> "
7"	1"
8"	1"
9"	1 <sup>1</sup> / <sub>4</sub> "
10"	14"
11"	114"
12"	117"









	OFF	ICE	PAINTED GYPSI	JM WALLBOARD
	REST	ROOM	PAINTED GYPSI	JM WALLBOARD
				SIZ
DOORS		WIE	HEIC	
OFF	FICE	3'-	-0"	7'–

3'-0"

3'-0"

NORTH

DESCRIPTION

OFFICE

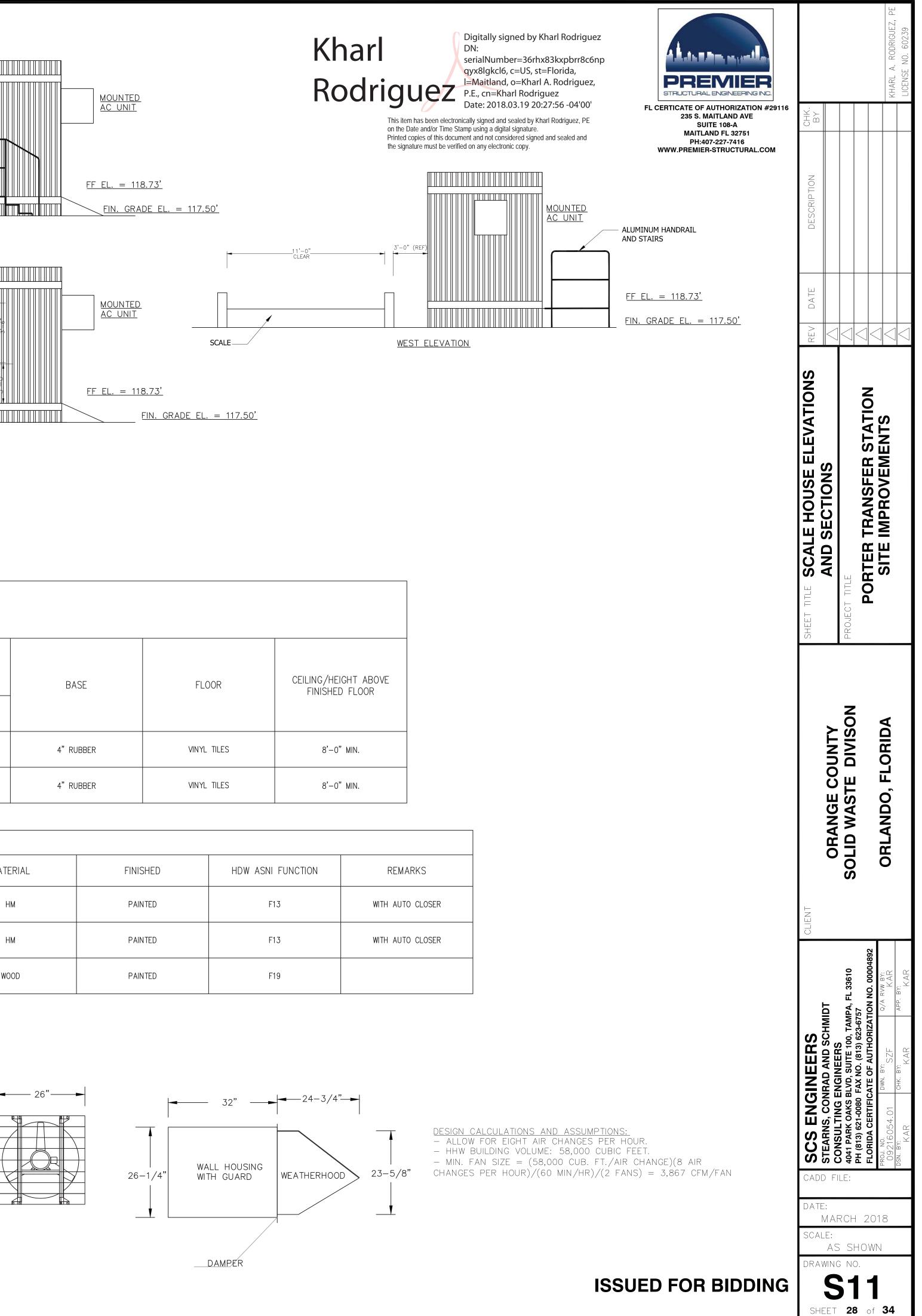
RESTROOM

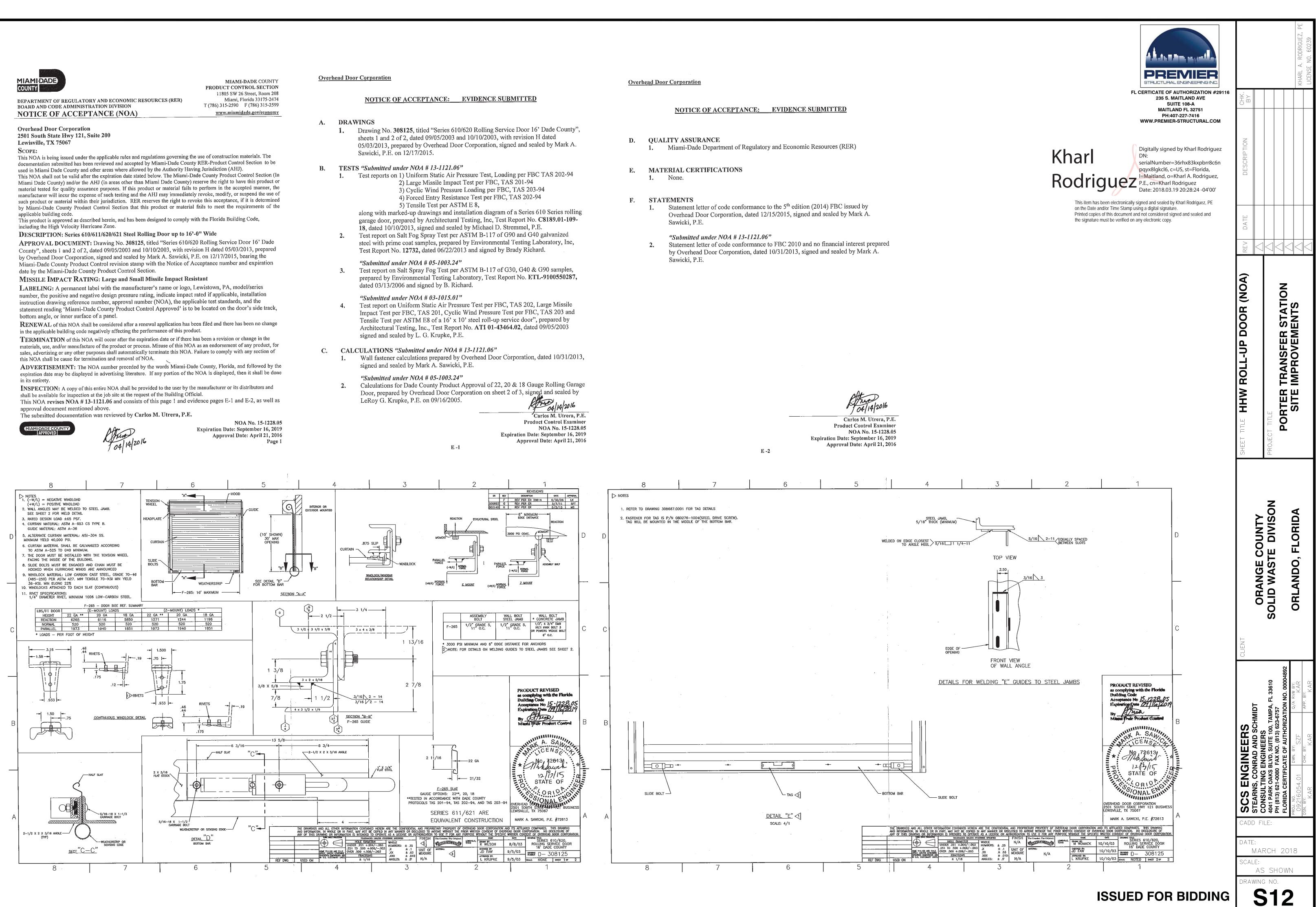
	FAN PERFORMANCE DATA											
MARK NO.	LOCATION	TYPE	CFM	S.P. DROP IN. WC	STATIC EFF.		MOTOR		MOTOR		UNIT ILLUSTRATED	REMARKS
						HP	VOLTS	PH				
EF-1 THRU EF-2	NORTH WALL OF HHW BLDG.	SIDE-WALL PROPELLER	3,869 CFM	0.30	,	1/2	UNK.	1	GREENHECK SCE-20-320-A51	DIRECT DRIVE, WALL HOUSING WITH INLET GUARD, BACKDRAFT DAMPER, 45° WEATHERHOOD		

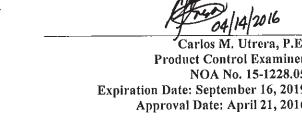
GREENHECK SCE-20-320-A51 FAN DETAIL OR APPROVED EQUAL

WA	LLS	BASE	FLOOR	CEILING/H FINISH		
SOUTH	EAST	WEST				
PAINTED GYPSUM WALLBOARD	PAINTED GYPSUM WALLBOARD	PAINTED GYPSUM WALLBOARD	4"RUBBER	VINYL TILES	8'-(	
PAINTED GYPSUM WALLBOARD	PAINTED GYPSUM WALLBOARD	PAINTED GYPSUM WALLBOARD	4"RUBBER	VINYL TILES	8'-(	

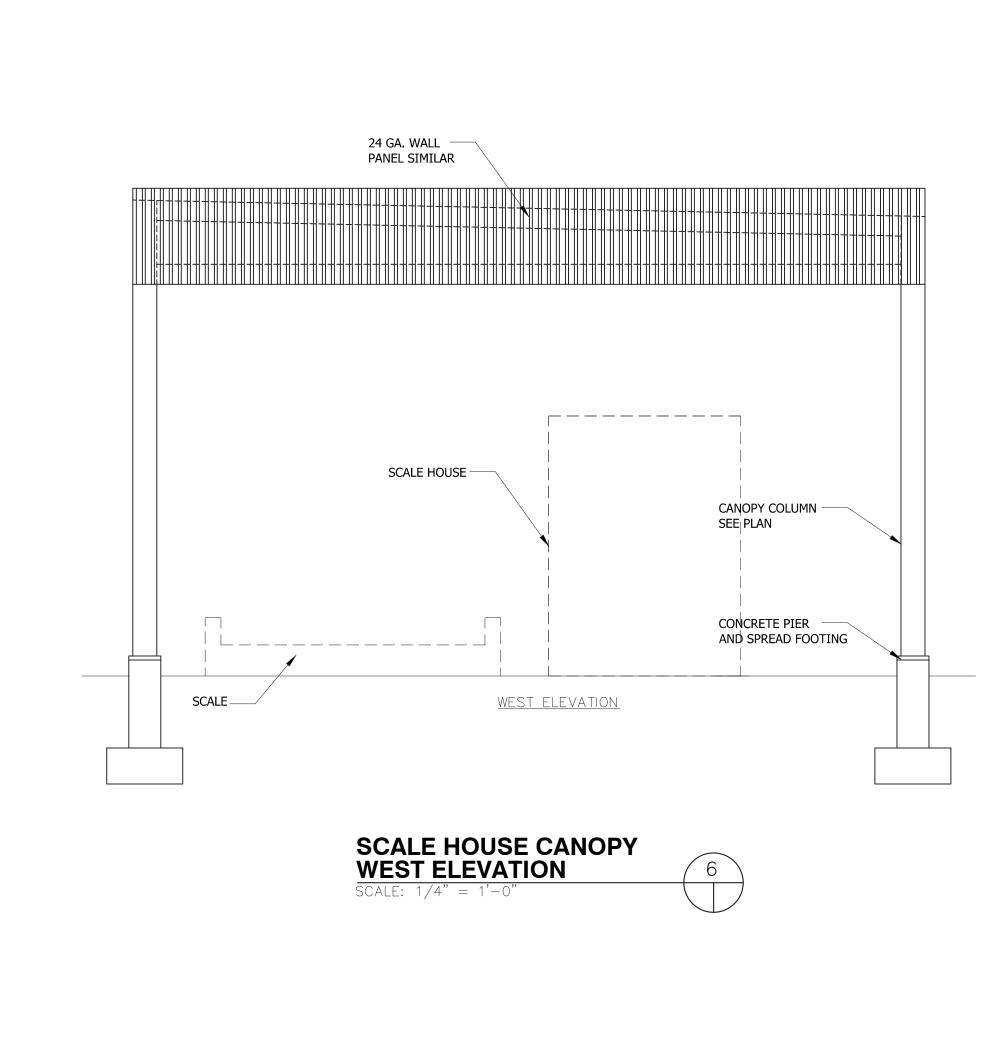
		DOOR SCHEDULE				
SIZE		TYPE	MATERIAL	FINISHED	HDW ASNI FUNCTION	
HEIGHT	THICKNESS					
7'-0"	1 3/4"	HG	НМ	PAINTED	F13	
7'-0"	1-3/4"	F	НМ	PAINTED	F13	
7'-0"	1-3/4"	F	WOOD	PAINTED	F19	







SHEET 29 of 34

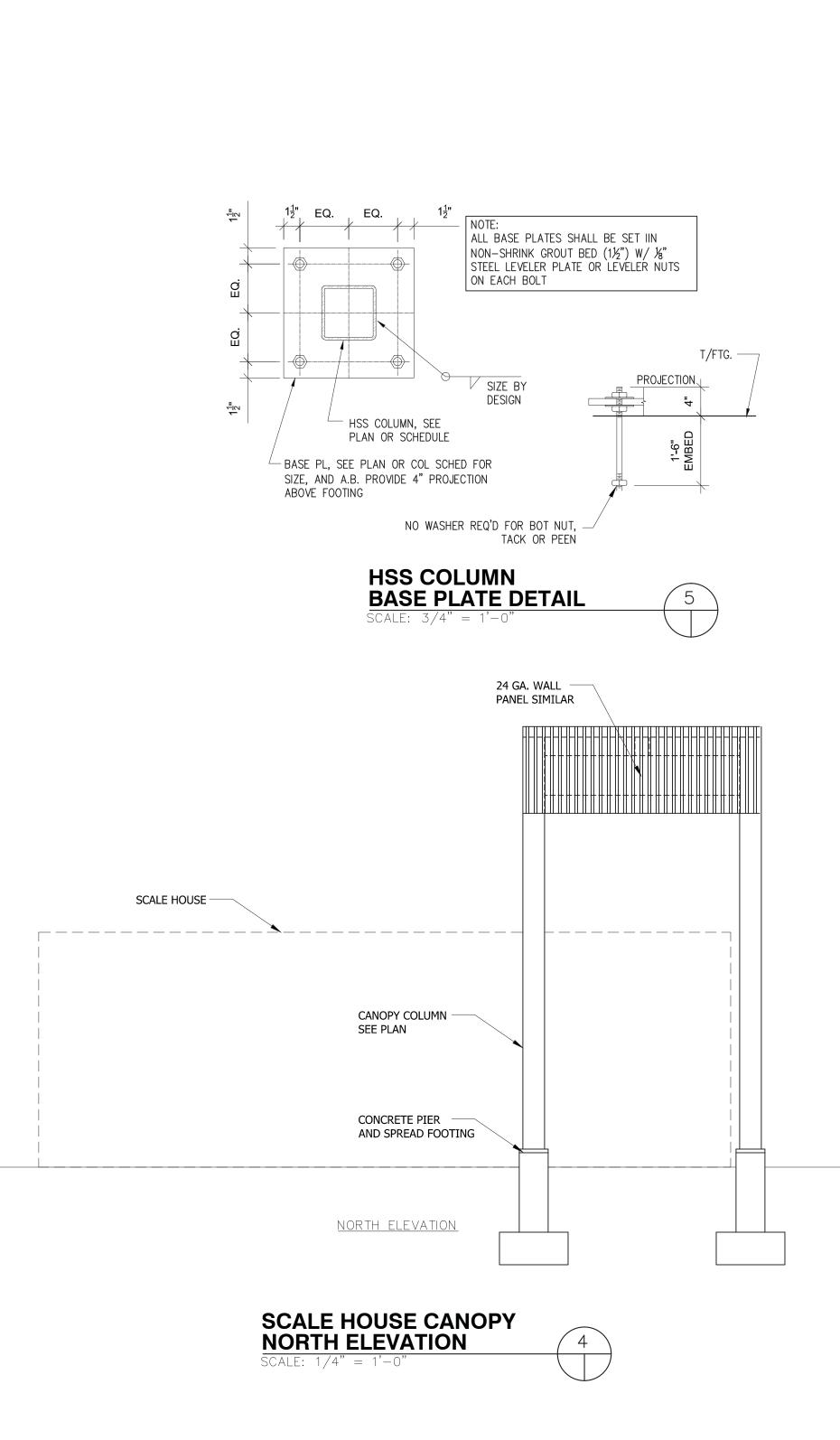




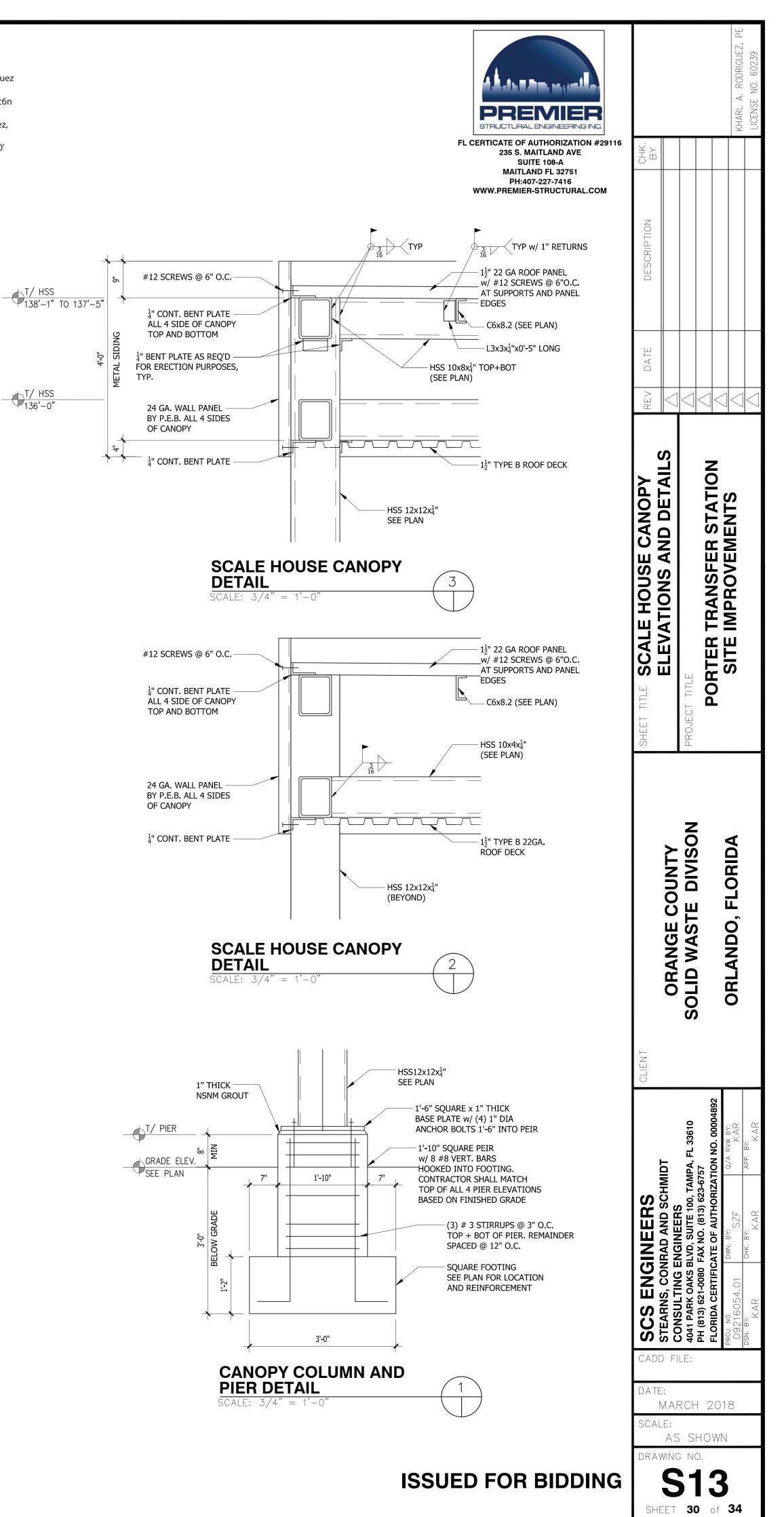


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T/ HSS 136'-0"



	LIGHTING FIXTURE SCHEDULE											
FIXTURE	FIXTURE FIXTURE DESCRIPTION		AMPS		MANUFACTURER	VOLTS	REMARKS					
TYPE			TYPE	NAME	CATALOG #	VOLIS	REMARKS					
A	LED AREA LIGHT, DIE CAST ALUMINUM HOUSING, TYPE 4 DISTRIBUTION, CONSTANT LIGHT OUTPUT DRIVER, FLAT TEMPERED GLASS LENS, GRAY FINISH 37 FOOT OVERALL DIRECT BURIED PRE-CAST CONCRETE POLE, RATED FOR 180MPH AT 5 EPA, GRAY COLOR, WITH SINGLE FIXTURE POLE TOP MOUNTING BRACKET	_		(OR EQUAL) PRE–CAST SPECIALTIES (OR EQUAL)	RVM190W112LED4K-LE4-UNIV-CLO-GY3 POLE – TYPE I-0 37 FT MOUNTING BRACKET – SB-19	240	MOUNTING HEIGHT 30' AFG VERIFY FIXTURE AND POLE COLOR WITH OWNER.					
В	4' STANDARD INDUSTRIAL LED FIXTURE, DIE FORMED CODE-GAUGE STEEL WITH WHITE ENAMEL FINISH, 12" WIDE REFLECTOR, NON-DIMMING DRIVER		52W LED 4000K	H.E.WILLIAMS (OR EQUAL)	80-4-L63/840-DRV-120	120	MOUNTING HEIGHT APPROX. 16' AFF.					

## ELECTRICAL GENERAL NOTES

- 1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH FLORIDA BUILDING CODE 6th EDITION (2017 FBC), THE 2014 NATIONAL ELECTRICAL CODE (NEC), ALL APPLICABLE LOCAL, COUNTY, AND STATE CODES AND STANDARDS, ALL REQUIREMENTS OF THE SERVICING ELECTRIC UTILITY AND THE AMERICANS WITH DISABILITIES ACT (ADA).
- 2. COORDINATE WITH OTHER TRADES FOR EXACT LOCATIONS OF ALL MOTORS AND OTHER EQUIPMENT TO BE INSTALLED AND/OR WIRED UNDER THIS DIVISION BUT FURNISHED UNDER ANOTHER DIVISION OF THE SPECIFICATIONS.
- 3. ALL BRANCH CIRCUITS FOR 120 VOLT, 20 AMP CIRCUITS EXCEEDING EIGHTY FEET IN LENGTH SHALL BE INCREASED IN SIZE AS REQUIRED TO ALLOW FOR VOLTAGE DROP LOSSES.
- 4. PACK ALL SLEEVES FOR CONDUITS PASSING THROUGH FIRE RATED WALLS AND FLOOR SLABS WITH FIRE RESISTANT MATERIALS. ALL PENETRATIONS SHALL BE UL RATED.
- 5. ALL EMPTY CONDUITS (EC) SHALL BE PROVIDED WITH NYLON PULL WIRES.
- 6. TYPE AC CABLE AND ELECTRICAL NON-METALLIC TUBING SHALL NOT BE PERMITTED. TYPE MC CABLE IS PERMITTED AS LONG AS IT IS ACCEPTABLE TO THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ).
- 7. COORDINATE THE REQUIRED SIZE OF ALL CIRCUIT BREAKERS FEEDING EQUIPMENT (I.E. MOTORS, HVAC, KITCHEN EQUIPMENT, SPECIAL PURPOSE OUTLETS, OWNER FURNISHED EQUIPMENT, ETC.) WITH APPROVED EQUIPMENT SHOP DRAWINGS AND OWNER REPRESENTATIVES PRIOR TO ORDERING PANELBOARDS. BREAKERS SHALL BE SIZED PER THE NEC, THE EQUIPMENT NAME PLATE AND MANUFACTURER'S RECOMMENDATIONS.
- 8. THE POWER COMPANY SHALL BE CONTACTED WITHIN 10 DAYS OF THE AWARD OF THE CONTRACT BY THE CONTRACTOR TO VERIFY THE ACTUAL AVAILABLE SHORT CIRCUIT FAULT CURRENT (SCC) AT THE TRANSFORMER SECONDARY BUSHINGS. THE CONTRACTOR SHALL PROVIDE ELECTRICAL DISTRIBUTION AND UTILIZATION EQUIPMENT AND PANELBOARDS WHICH HAVE AIC/WITHSTAND RATINGS GREATER THAN THE AVAILABLE SCC.
- 9. ALL CONDUITS IN OR UNDER SLAB OR UNDERGROUND SHALL BE PVC SCHEDULE 40 UNLESS OTHERWISE NOTED.
- 10. ALL CONDUITS ABOVE SLAB, WHETHER EXPOSED OR CONCEALED, SHALL BE EMT, IMC, OR RIGID GALVANIZED STEEL.
- 11. FLEXIBLE METAL RACEWAYS SHALL NOT EXCEED 6' IN LENGTH.
- 12. "LIQUID-TIGHT" TYPE FLEXIBLE WEATHERPROOF RACEWAYS SHALL HAVE A METALLIC INTERIOR AND NOT EXCEED 6' IN LENGTH.
- 13. ALL BOXES, PLASTER RINGS, EXTENSION RINGS, AND BOX COVERS SHALL BE METAL.
- 14. ALL CONDUITS SHALL BE PARALLEL AND PERPENDICULAR TO STRUCTURAL MEMBERS.
- 15. ALL BENDS SHALL BE MADE IN CONDUIT USING PROPER EQUIPMENT AND MEET NATIONAL ELECTRICAL CODE (NEC) REQUIREMENTS.
- 16. ALL WIRE, INCLUDING BUT NOT LIMITED TO FEEDERS AND BRANCH CIRCUIT WIRING, SHALL BE COPPER - #12 AWG THWN MINIMUM EXCEPT FOR LOW-VOLTAGE WIRING FOR COMMUNICATIONS SYSTEMS, WHICH MAY BE SMALLER.
- 17. ALL BREAKERS SHALL BE "FULL SIZE". NO TANDEM, PIGGY BACK, TWIN, OR HALF SIZE BREAKERS WILL BE ACCEPTED.
- 18. ALL DEVICES SHALL BE COMMERCIAL OR SPECIFICATION GRADE.
- 19. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY POWER AND TEMPORARY LIGHTING DURING CONSTRUCTION, TEMPORARY POWER SHALL PROVIDE ADEQUATE POWER FOR NORMAL CONSTRUCTION USE. TEMPORARY LIGHTING SHALL PROVIDE ADEQUATE LIGHT SO THAT THE INDIVIDUAL TRADES WORK CAN BE COMPLETED.
- 20. ALL ELECTRICAL EQUIPMENT SHALL BE UL LISTED.
- 21. A GREEN INSULATED COPPER GROUND CONDUCTOR SHALL BE INSTALLED IN ALL RACEWAYS.
- 22. GROUNDING SYSTEM SHALL BE IN ACCORDANCE WITH NEC ARTICLE 250 AND APPLICABLE REQUIREMENTS OF IEEE STANDARDS 142 AND 241.
- 23. TEST RESISTANCE TO GROUND (EARTHING CONNECTION) WITH RESISTANCE TESTER SUBSEQUENT TO FINAL INSTALLATION. WHERE TEST INDICATES RESISTANCE TO GROUND IS OVER 5 OHMS, TAKE APPROPRIATE ACTION TO REDUCE RESISTANCE TO 5 OHMS OR LESS BY DRIVING ADDITIONAL PROPERLY SPACED GROUND RODS AND TREATING SOIL IN PROXIMITY OF GROUND RODS WITH COMMON SALT, COPPER SULFATE OR MAGNESIUM SULFATE. RETEST TO DEMONSTRATE COMPLIANCE.
- 24. CONDUCTORS ARE SIZED FOR VOLTAGE DROP PER N.E.C. ARTICLES 210.19(A) NOTE 4, 215.2(A)(1)NOTE 2 AND THE 2017 F.B.C. ENERGY CONSERVATION CODE C405.6.3. ELECTRICAL CONTRACTOR SHALL PERFORM VOLTAGE DROP CALCULATIONS IN ACCORDANCE WITH N.E.C. ARTICLES 210.19(A)(1)NOTE 4, 215.2(A)NOTE 2 AND THE 2017 F.B.C. ENERGY CONSERVATION CODE C405.6.3 ON ANY CIRCUITS THAT ARE INSTALLED THAT DIFFER FROM THE DESIGN SHOWN IN THESE PLANS. FEEDER CONDUCTORS AND BRANCH CIRCUIT CONDUCTORS SHALL EACH BE SIZED FOR A MAXIMUM VOLTAGE DROP OF 3% AND A COMBINED MAXIMUM VOLTAGE DROP OF 5% TOTAL.
- 25. THE CONTRACTOR SHALL PROVIDE A COMPLETE ELECTRICAL SHOP DRAWING SUBMITTAL TO THE ENGINEER FOR REVIEW AND APPROVAL. THE ELECTRICAL SUBMITTAL SHALL INCLUDE ALL ELECTRICAL PANELS, MDP'S, BREAKERS, DISCONNECTS, DEVICES, RECEPTACLES, CONDUIT, RACEWAYS, LIGHT FIXTURES, POLES, SWITCHES, OCCUPANCY SENSORS, PULL BOXES, WIRING, ETC. CONTRACTOR SHALL NOT ORDER ANY ELECTRICAL EQUIPMENT UNTIL THIS SUBMITTAL IS REVIEWED AND ACCEPTED BY THE ENGINEER OF RECORD. CONTRACTOR SHALL SUBMIT THE SHOP DRAWINGS AS ONE COMPLETE SUBMITTAL AND SHALL NOT PIECE-MEAL THE SUBMITTAL SPREAD OUT OVER THE COURSE OF DAYS AND WEEKS. FAILURE TO SUBMIT A COMPLETE ELECTRICAL SHOP DRAWING SUBMITTAL SHALL RESULT IN AN IMMEDIATE REJECTION OF THE SHOP DRAWING SUBMITTAL.

	ELECTRICAL SYMBOL LIST				BOBES JR. PE . 39410
	(SOME SYMBOLS MAY NOT BE USED ON THIS PROJECT.)				augusto e. B License no.
	RECESSED LIGHT FIXTURE		CHK. BY		
0	CEILING MOUNTED LIGHT FIXTURE		5 <sup>m</sup>		
Сı Сı	WALL MOUNTED LIGHT FIXTURE				
₩	CEILING MOUNTED EXIT LIGHT. ARROW INDICATES DIRECTION/ ARROW ON FIXTURE, SHADED AREA INDICATES FACE OF FIXTU	AL JRE.	NOIT		
	WALL OR END MOUNTED EXIT LIGHT EMERGENCY FIXTURE		DESCRIP TION		
<b>⊜</b> ∙ \$₀	PHOTOCELL SINGLE POLE SWITCH, SUBSCRIPT LETTER INDICATES FIXTURE	CONTROLLED.			
	(3 = 3  WAY, 4 = 4  WAY, K = KEY OPERATED) MOUNTED 4 20A, 2 POLE, 125V GROUNDED DUPLEX RECEPTACLE.	8" AFF			
€	18" AFF UNLESS OTHERWISE NOTED. $G = GROUND$ FAULT IN 20A, 2 POLE, 125V GROUNDED QUAD RECEPTACLE.	TERRUPTER	ATE		
<b>—</b>	20A, 2 POLE, 125V GROUNDED DUPLEX RECEPTACLE. MOUNTED ABOVE COUNTERTOP UNLESS OTHERWISE NOTED.				
$\bigcirc$	240V RECEPTACLE.		REV		
•	TELEPHONE WALL OUTLET 18" AFF UNLESS OTHERWISE NOTE EC TO ACCESSIBLE CEILING SPACE.	D. PROVIDE 1"	L C	n l	
◄	TELEPHONE AND DATA DUPLEX WALL OUTLET 18" AFF UNLES NOTED. PROVIDE 1" EC TO ACCESSIBLE CEILING SPACE.	S OTHERWISE			NO
4	DATA DUPLEX WALL OUTLET 18" AFF UNLESS OTHERWISE NO 1" EC TO ACCESSIBLE CEILING SPACE.	TED. PROVIDE			STATI
↔ 0	TELEVISION OUTLET WITH 1" EC TO TTB. 18" AFF UNLESS O	THERWISE NOTED.			N N N N N N N N N N N N N N N N N N N
0 U	WALL MOUNTED JUNCTION BOX				TRANSFER (IMPROVEME
C •	CONNECTION TO EQUIPMENT PUSHBUTTON			ע צ	PRO
\$ <sub>M</sub>	MOTOR HORSEPOWER RATED TOGGLE SWITCH BY DIVISION 15				Ë₹
<b>D'</b> 2P/60A/NF	NONFUSED DISCONNECT SWITCH. NUMBERS INDICATE SWITCH	ł SIZE.			RTER SITE
Ē'	FUSED DISCONNECT SWITCH. FUSES SIZED AS SHOWN ON DEMOTOR	RAWINGS.			PORT
	PANELBOARD			PROJECT TITLE	₽
FASCP	FIRE ALARM/SECURITY CONTROL PANEL		SHEET	PRO,	
	INTERCOM SECURITY DOOR CONTACT				
	TELEPHONE TERMINAL BOARD (TTB)				
Ŕ	FIRE ALARM STROBE LIGHT, MOUNTED 80" AFF			Z	
E ▶E	FIRE ALARM MANUAL PULL STATION, MOUNTED 48" AFF FIRE ALARM HORN WITH STROBE LIGHT, MOUNTED 80" AFF			COUNTY TE DIVISON	
FS	SPRINKLER FLOW SWITCH				OR
TS	SPRINKLER TAMPER SWITCH				E
B	KEY LOCK BOX HEAT DETECTOR			ORANGE ( LID WASTI	
98	DUCT SMOKE DETECTOR SMOKE DETECTOR				AN A
R	AHU FIRE ALARM SHUTDOWN RELAY			OR/ SOLID	ORLANDO, FLORIDA
	DOOR ALARM, MAGNETIC SWITCH WINDOW ALARM, MAGNETIC SWITCH			SC	-
AFF	ABOVE FINISH FLOOR		Ļ		
FF AHU	FINISH FLOOR AIR HANDLING UNIT		CLIENT		
EC	EMPTY CONDUIT				
EF EWC	EXHAUST FAN ELECTRIC WATER COOLER			32751	MBY: ABJr ABJr
EWH G	ELECTRIC WATER HEATER GROUND FAULT INTERRUPTER			<b>EERS</b> D, FL 32 R: 5131	q/a Rvw BY: WMC APP. BY: ABJr
CU WP	CONDENSING UNIT WEATHERPROOF (NEMA-3R)			ENGIN MAITLAN 8.0882 NG.COM NUMBEF	
	xy			E DRIVE, E DRIVE, 1407.62 008008ESE TATE P.E.	MMC MIC
				: 비 그 비 노 :~	DWN. BY:
				< <b>₩</b>	
		Digitally signed by Augusto			PROJ. NO. 09216054.01 DSN. BY: WMC
		E Bobes DN: c=US, o=IdenTrust			PROJ. NO 0921( )SN. BY: M
	0 E. BOBES	ACES Business Representative, ou=Bobes Associates Consulting	CADI	) FILE:	
	BO STATE OF STONAL ESTIMATION	Associates Consulting Engineers, cn=Augusto E Bobes,	DATE		
	This item has been effectively interview of the start grant and a stated by Augusto E. Bobes Jr. P. on the date shown on the time start grant and a digital signature. Printed copies of this document are unconsident signature.			MARCH	2018

Date: 2018.03.20 16:08:19 -04'00' **ISSUED FOR BIDDING** 

DATE: 03/19/18

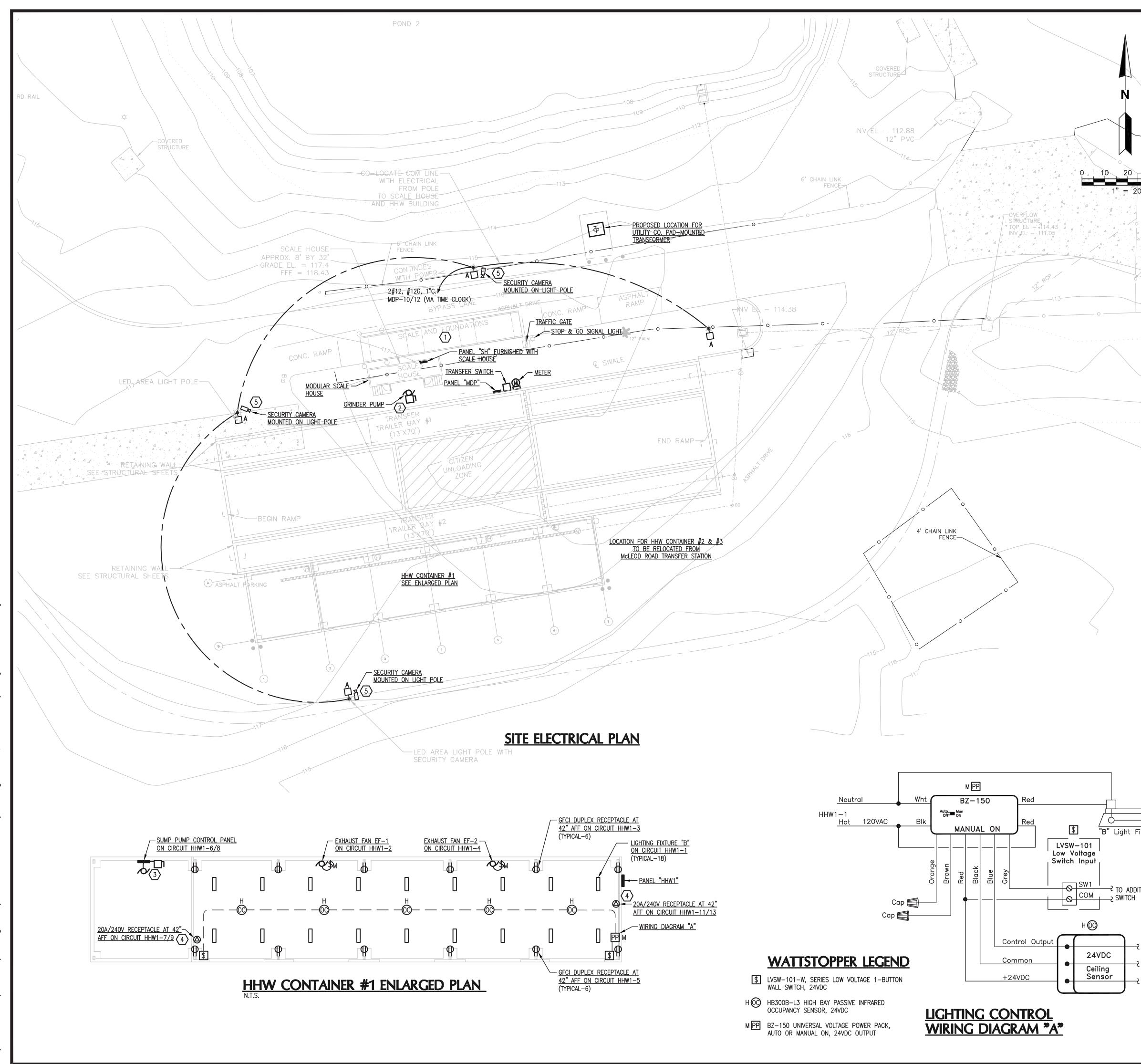
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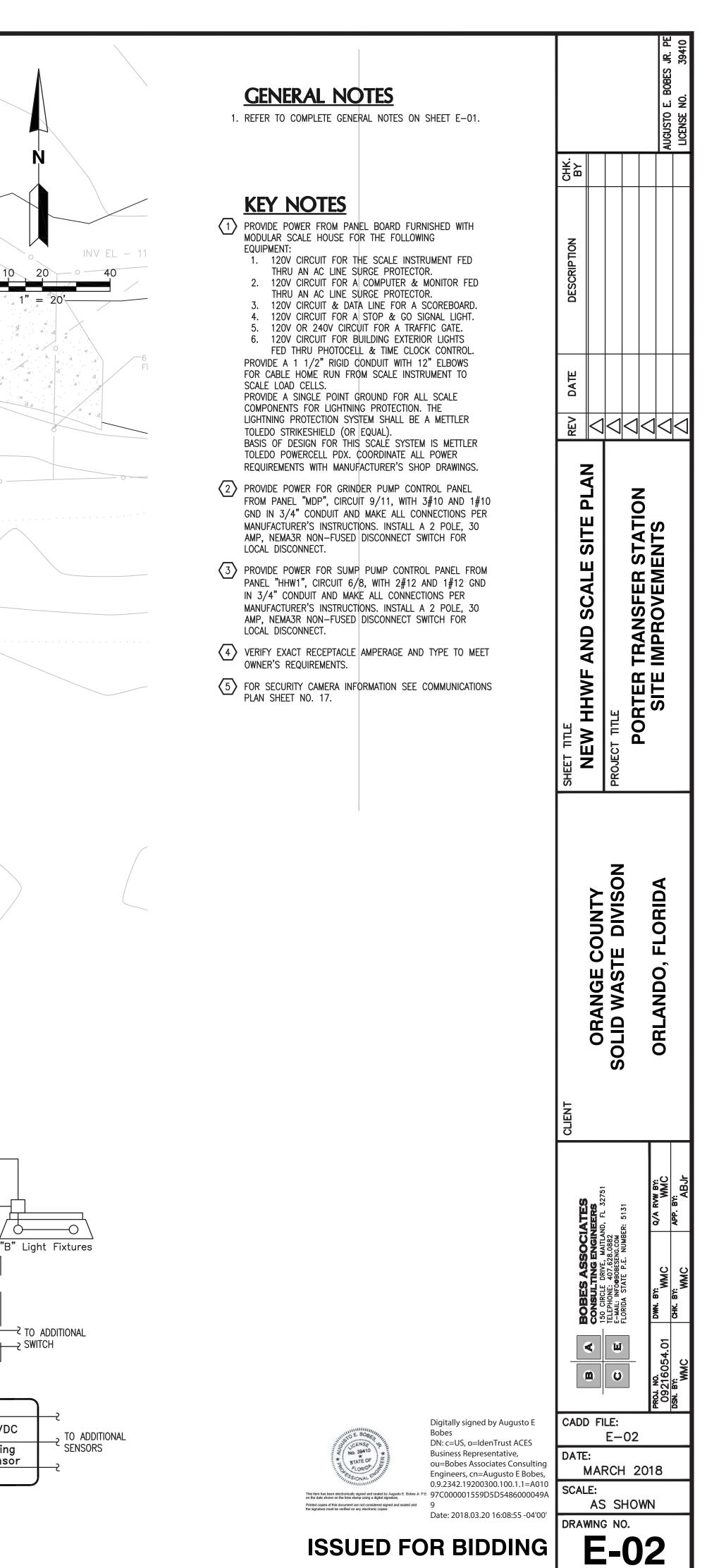
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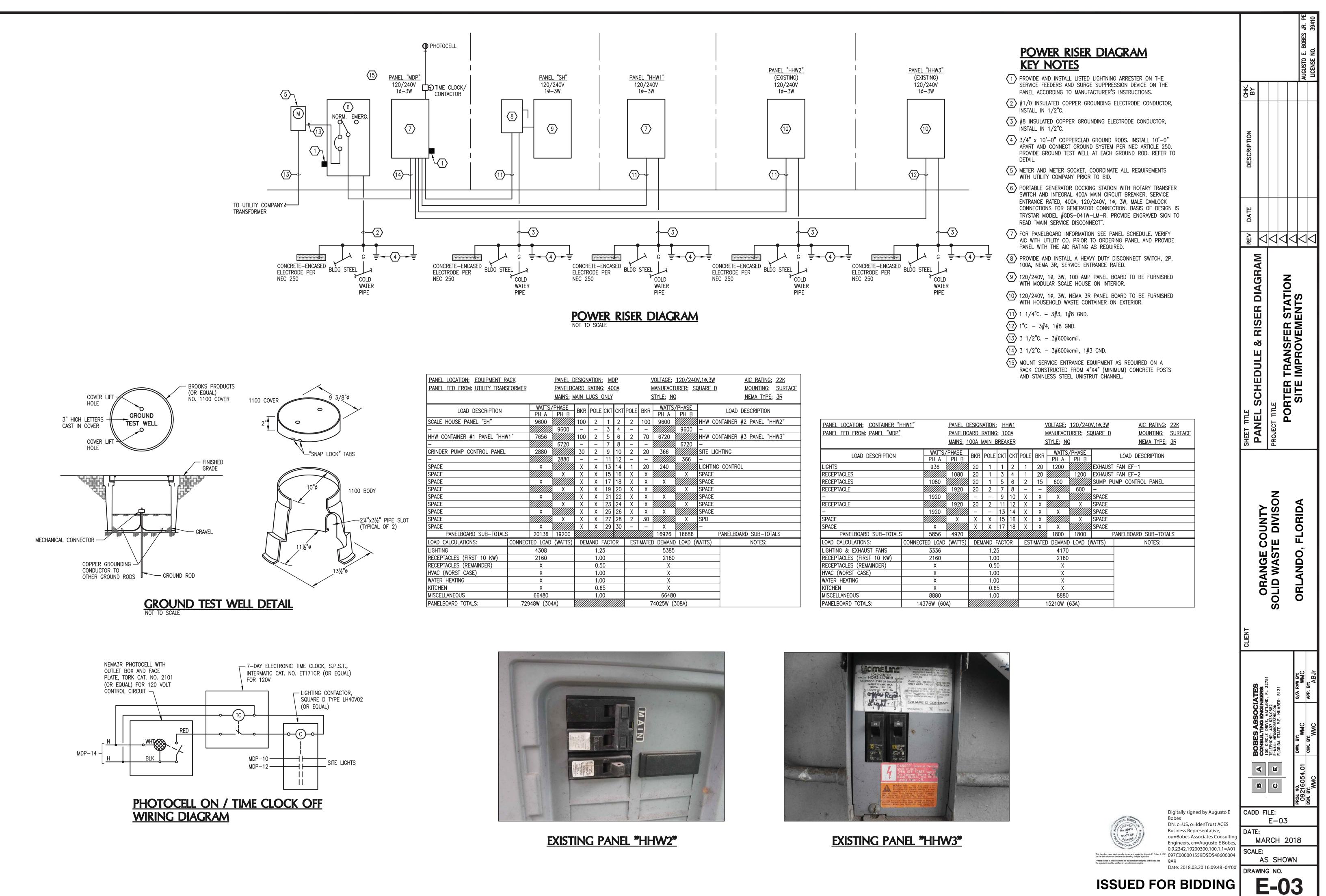
SHEET 32 of 34

DRAWING NO.





SHEET 33 of 34



PANEL LOCATION: EQUIPMENT R	PANEL D	DESIGN	ATION:	MD	<u>)P</u>	<u>VOLTAGE: 120/240V,1ø,3W</u>					AIC RATING: 22K			
PANEL FED FROM: UTILITY TRANS	PANELBO	PANELBOARD RATING: 400A MANUFACTURER: SQUAR					QUARE I	D MOUNTING: SURFACE						
		MAINS: N	MAIN LUGS ONLY STYLE: NQ					NEMA TYPE: 3R						
			1	1				_						
LOAD DESCRIPTION	PH /	TS/PHASE A   PH B	BKR	POLE	СКТ	СКТ	POLE	BKR	PH A	/PHASE PH B		LOAD	DESCRIPTI	ON
SCALE HOUSE PANEL "SH"	9600		100	2	1	2	2	100			ннж с	ONTAINER	#2 PANEL	"HHW2"
-		9600	-	-	3	4	-	-		9600	-			
HHW CONTAINER #1 PANEL "HHW	/1" 765	6 <b>////////</b> ////////////////////////////	100	2	5	6	2	70	6720		HHW C	ONTAINER	#3 PANEL	"HHW3"
-		6720	-	-	7	8	-	-		6720	-			
GRINDER PUMP CONTROL PANEL	2880		30	2	9	10	2	20	366		SITE LI	GHTING		
_		2880		_	11	12	_	_		366	-			
SPACE	<u> </u>		X	Х	13	14	1	20	240			IG CONTR	OL	
SPACE		<u>Х</u>	X	X	15	16	Х	Х		X	SPACE			
SPACE	<u> </u>		X	Х	17	18	Х	Х	X		SPACE			
SPACE		<u> Х</u>	X	Х	19	20	Х	Х		X	SPACE			
SPACE	X		X	Х	21	22	Х	Х	X		SPACE			
SPACE		<u>X</u> X	X	Х	23	24	Х	Х		X	SPACE			
SPACE	X		X	Х	25	26	Х	Х	X		SPACE			
SPACE		X	X	Х	27	28	2	30		X	SPD			
SPACE	X		X	X	29	30	_	_	X		-			
PANELBOARD SUB-TOTALS				<u>/////////////////////////////////////</u>	//////			<u>/////////////////////////////////////</u>	16926	16686		PANELBO	DARD SUB-	
LOAD CALCULATIONS:	CONNECTED LO	AD (WATTS)	DEN	IAND F	FACTO	DR	EST	IMATE	) DEMAND	) LOAD (\	VATTS)		NOTES	<u>}:</u>
LIGHTING	4308	-		1.2			5385							
RECEPTACLES (FIRST 10 KW)	216	)		1.0	-				2160					
RECEPTACLES (REMAINDER) X				0.5					Х					
HVAC (WORST CASE)				1.0					Х					
WATER HEATING	Х Х			1.0			X							
KITCHEN				0.6			X							
MISCELLANEOUS	6648			1.0	0				66480					
PANELBOARD TOTALS:	72948W (	304A)						7	4025W (	308A)				

PANEL LOCATION: CONTAINER "	HW
PANEL FED FROM: PANEL "MDP"	
LOAD DESCRIPTION	
LIGHTS	
RECEPTACLES	
RECEPTACLES	
RECEPTACLE	
_	
RECEPTACLE	
-	
SPACE	
SPACE	
PANELBOARD SUB-TOTALS	;
LOAD CALCULATIONS:	CO
LIGHTING & EXHAUST FANS	
RECEPTACLES (FIRST 10 KW)	
RECEPTACLES (REMAINDER)	
HVAC (WORST CASE)	
WATER HEATING	
KITCHEN	
MISCELLANEOUS	
PANELBOARD TOTALS:	

SHEET 34 of 34

DATE: 03/19/18