#### **APPENDICES**

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## PROJECT DESIGN SEGMENT 20410 NORTHSIDE BAY ADDITION SAMPLE SCHEDULE OF VALUES

#### **GENERAL NOTES:**

- 1. THE CONTRACTOR SHALL CREATE AND SUBMIT A SCHEDULE OF VALUES WITH THEIR BID. THE PROJECT REPRESENTATIVE SHALL REVIEW AND APPROVE THE SCHEDULE OF VALUES, BASED UPON THE REASONABLE APPORTIONMENT OF COSTS TO THE VARIOUS ELEMENTS OF THE WORK IN PLACE.
- 2. THE SCHEDULE OF VALUES SHALL BE THE JEA'S MEANS OF ADMINISTERING PAYMENT FOR WORK IN PLACE UNDER THIS CONTRACT. EACH INVOICE FROM THE CONTRACTOR SHALL CONTAIN THE INFORMATION SHOWN IN THE FORTHCOMING TABLE TO INDICATE WORK COMPLETED AND PAYBLE DURING EACH MONTHLY BILLING PERIOD, AS WELL AS INDICATING PAST AND REMAINING WORK. INVOICES SUBMITTED WITHOUT AN ACCEPTED, COMPLETED SCHEDULE OF VALUES SHALL BE RETURNED UNPAID.
- 3. THE ITEMS LISTED IN THIS SCHEDULE OF VALUES ARE SAMPLE ITEMS ONLY; THEY ARE NOT INTENDED TO BE COMPLETE AND ARE PROVIDED ONLY TO INDICATE THE LEVEL OF DETAIL REQUIRED. THE CONTRACTOR SHALL FORMULATE A DETAILED LIST OF ITEMS THAT ARE SPECIFIC TO THE WORK OF THIS CONTRACT.
- 4. AN ELECTRONIC COPY OF THIS DOCUMENT IS AVAILABLE VIA ELECTRONIC MAIL BY COPYING THE "FILE" ADDRESS LISTED BELOW INTO AN ELECTRONIC MAIL, AND SENDING THE ELECTRONIC MAIL REQUEST TO THE PROJECT ENGINEER. THE PROJECT ENGINEER'S ADDRESS IS LISTED IN SECTION VII OF THIS SPECIFICATION.

FILE: NP17 - APPENDIX I - SAMPLE SCHEDULE OF VALUES.DOCX

**DATE**: 8/1/2017

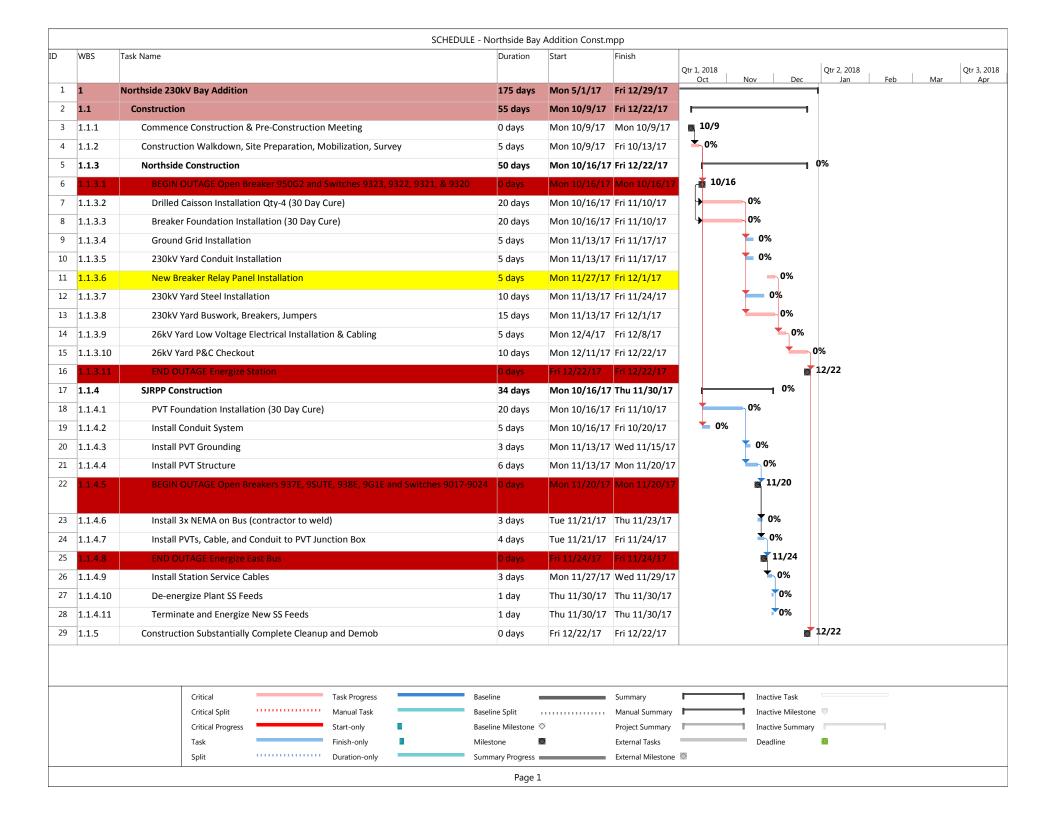
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### SAMPLE SCHEDULE OF VALUES NORTHSIDE BAY ADDITION

ITEM	SCH	IEDULE	PERCENT	COMPLETE	AMC	OUNT EARNED TO I	DATE
DESCRIPTION	LABOR	MATERIAL	LABOR	MATERIAL	LABOR	MATERIAL	TOTAL
MOBILIZATION / ADMINISTRATION							
1.1. PROJECT ADMINISTRATION							
1.2. SURVEY/ESTABLISH BASELINES							
1.3. AS-BUILTS							
2. CIVIL SITE WORK							
2.1. SOIL EROSION CONTROL							
2.2. GRADING & DRAINAGE							
2.2.1. GRADING							
2.2.2. YARD STABILIZATION/							
GEOTEXTILES							
2.3. FOUNDATIONS							
2.3.1. DS1							
2.3.2. BR1							
2.4. TESTING							
2.4.1. SOILS							
2.4.2. CONCRETE							
2.5. HERBICIDE							
2.6. ROCKING							
3. CONTROL BUILDING							
3.1. MISCELLANEOUS							
4. RACEWAY							
4.1. CONDUIT							
4.1.1. 1 IN. CONDUIT							
4.1.2. 1.5 IN. CONDUIT							
4.1.3. 3 IN. CONDUIT							
5. GROUNDING							
5.1. 7#5 COPPERWELD STRUCTURE,							
EQUIPMENT TAPS							
5.2. CADWELD CONNECTIONS							
6. SUBSTATION							

### SAMPLE SCHEDULE OF VALUES NORTHSIDE BAY ADDITION

ITEM	SCH	IEDULE	PERCENT	COMPLETE	OMPLETE AMOUNT EARNED TO			
DESCRIPTION	LABOR	MATERIAL	LABOR	MATERIAL	LABOR	MATERIAL	TOTAL	
6.1. GENERAL								
6.1.1. RECEIVING / OFF-LOADING								
SUBSTATION PACKAGE								
6.1.2. TRANSPORTATION OF MISC.								
MATERIAL								
6.2. STRUCTURE ERECTION								
6.2.1. A-FRAME STRUCTURE								
ERECTION								
6.3. 230 KV EQUIPMENT INSTALLATION								
6.3.1. 230 KV INSULATORS,								
BUSWORK, CONNECTORS								
6.3.2. 230 KV LA'S								
6.3.3. 230 KV BREAKER								
6.3.4. 230 KV CABLE JUMPERS								
6.4. YARD LIGHTING								
6.4.1. A-FRAME LIGHTS								
6.4.2. CABLING								
6.5. POWER AND CONTROL CABLE								
6.5.1. 21#10 TYPE BS								
6.5.2. 8#10 TYPE BS								
6.5.3. 4#10 TYPE BS								
6.5.4. #2 TYPE C								
6.5.5. #6 TYPE C								
6.5.6. 3#10 TYPE C								
6.5.7. TERMINATE AC CABLE								
6.5.8. TERMINATE DC CABLE								
7. ELECTRICAL TESTING								
7.1. INFRARED TEMPERATURE								
SURVEY								
8. MISCELLANEOUS OTHER (SPECIFY)								





## PROJECT DESIGN SEGMENT 20410 NORTHSIDE BAY ADDITION BILL OF NON-STOCK ELECTRICAL MATERIALS

#### **GENERAL NOTES:**

- 1. THE PURPOSE OF THE NON-STOCK MATERIAL LIST IS TO IDENTIFY LONG LEAD TIME OR OTHERWISE UNIQUE OR IMPORTANT MATERIAL THAT IS TYPICALLY A NON-STOCK ITEM FOR JEA, OR IS NOT USUALLY STOCKED IN SUFFICIENT QUANTITY. THE MATERIAL MAY BE PROVIDED BY JEA TO THE CONTRACTOR, OR MAY BE REQUIRED TO BE PROCURED BY THE CONTRACTOR. ALL MATERIAL SHALL BE PROVIDED BY THE CONTRACTOR UNLESS NOTED AS BEING PROCURED BY "OWNER".
- 2. THE CONTRACTOR SHALL DETERMINE THE SCOPE OF SUPPLY BASED ON ENGINEERING DRAWINGS AND THE CONTRACT DOCUMENTS. THE MATERIAL REPRESENTED IN THE DOCUMENTS IS PROVIDED AS AN ENGINEERING ESTIMATE TO ASSIST WITH BIDDING AND PRELIMINARY PROJECT PLANNING. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ALL QUANTITIES.
- 3. ALL MATERIALS PROCURED OR RECEIVED BY THE CONTRACTOR SHALL REMAIN IN THE CARE, CUSTODY, AND CONTROL OF THE CONTRACTOR UNTIL FINAL ACCEPTANCE. CONTRACTOR WILL BE RESPONSIBLE FOR ANY LOSS OR DAMAGE TO SAID MATERIAL.
- 4. ALL OTHER MATERIAL REQUIRED FOR A COMPLETE INSTALLATION THAT MAY BE REASONABLY INFERRED FORM THESE DRAWINGS AND SPECIFICATIONS, BUT NOT SPECIFICALLY LISTED, SHALL BE SUPPLIED BY THE CONTRACTOR IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS, BEST INDUSTRY PRACTICES, AND PREVAILING CUSTOM. LITERAL ADHERENCE SHALL NOT RELIEVE THE CONTRACTOR OF THE ULTIMATE RESPONSIBILITY FOR ACCOMPLISHING THE INTENT OF THE PROJECT. THESE ITEMS INCLUDE, BUT ARE NOT LIMITED TO ALL SOIL, REBAR, CONCRETE, AGGREGATE, GEOTEXTILES, PIPE, CONTAINMENT LINER, FENCING, LANDSCAPING, CONDUIT, CONDUIT FITTINGS AND HARDWARE, GROUNDING CONDUCTOR AND CONNECTORS, CLAMPS, UNISTRUT, FASTENERS, MISCELLANEOUS ELECTRICAL EQUIPMENT, WIREWAY, ELECTRICAL BOXES, RECEPTACLES, SWITCHES, TERMINAL BLOCKS, CONNECTORS, POWER CABLE, FITTINGS, ALL LABELING MATERIALS, ETC.

#### SUBSTATION MATERIAL PACKAGER NOTES:

- 1. THE CONTRACTOR WILL BE RESPONSIBLE FOR RECEIVING, UNLOADING, AND INSTALLING THE MATERIALS FROM THE OWNER'S SUBSTATION PACKAGER IN THE MANNER INDICATED IN THESE SPECIFICATIONS AND DRAWINGS.
- 2. THE CONTRACTOR SHALL REQUEST DELIVERY OF THESE ITEMS VIA THE PROJECT REPRESENTATIVE. THE AVAILABILITY OF THESE ITEMS IS CLOSELY LINKED TO THE PROJECT SCHEDULE AS LISTED IN THESE SPECIFICATIONS AND DRAWINGS.
- 3. THE COLUMN LISTED AS "ITEM ID #" CORRESPONDS TO THE ITEM CIRCLES SHOWN ON THE SUBSTATION PACKAGER DRAWINGS. WHERE DISCREPANCIES EXIST; THE CONTRACTOR SHOULD NOTIFY THE PROJECT ENGINEER IN WRITING FOR CLARIFICATION AND / OR CORRECTION.

**DATE:** 8/1/2017

**PAGE**: 1 OF 2

FILE: NP17 - APPENDIX III - BILL OF NON-STOCK MATERIALS.DOCX

### BILL OF NON-STOCK ELECTRICAL MATERIAL NORTHSIDE BAY ADDITION

ITEM #	QTY	DESCRIPTION	MANUFACTURER	PART#	COMMENTS	PROCUREMENT BY
1.	LOT	CONDUIT & DUCTBANK MATERIALS			SEE CONDUIT SCHEDULE	CONTRACTOR
2.	LOT	LOW VOLTAGE AC BREAKERS			SEE DWG NP172LV1	CONTRACTOR
3.	LOT	600V POWER CABLE			SEE CABLE SCHEDULE	CONTRACTOR
4.	2	20A TOGGLE SWITCH (A-FRAME LIGHTS)			SEE GENERAL NOTE 4	CONTRACTOR
5.	LOT	MISC. MATERIALS TO COMPLETE PROJECT			SEE GENERAL NOTE 4	CONTRACTOR
6.	1	CADWELD MOLD, TYPE TA, 19#8 CW MAIN TO 7#5 CW TAP	CADWELD	TAC9G9E		CONTRACTOR
7.	1	CADWELD MOLD, TYPE TA, 4/0 AWG CU MAIN TO 7#5 CW TAP	CADWELD	TAC2Q9E		CONTRACTOR
8.	LOT	CADWELD SYSTEM WELD METALS, IGNITION, CLAMPS, BRUSHES, RASPS AND OTHER MATERIAL AS REQUIRED	CADWELD	VARIOUS		CONTRACTOR



## PROJECT DESIGN SEGMENT 20410 NORTHSIDE BAY ADDITION MATERIALS FURNISHED BY OWNER

#### **GENERAL NOTES:**

- 1. THE CONTRACTOR SHALL NOT BE RESPONSIBLE FOR TRANSPORTING HIGH-VOLTAGE CIRCUIT BREAKERS TO THE SUBSTATION SITE. THE CONTRACTOR'S RESPONSIBILITY IN REGARDS TO SITE ACCESS, FOUNDATIONS, AND ASSEMBLY OF THE LARGE EQUIPMENT IS OUTLINED IN SECTION IX OF THESE SPECIFICATIONS.
- 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ORDERING THE JEA STOCK MATERIAL THROUGH THE JEA PROJECT REPRESENTATIVE AT LEAST TWO (2) WEEKS IN ADVANCE OF NEED, RECEIVING AND LOADING THE MATERIAL AT AN ARBITRARY JEA LOCATION WITHIN DUVAL COUNTY, FLORIDA, AS WELL AS TRANSPORTING THE MATERIAL TO THE SUBSTATION SITE, OFFLOADING, AND INSTALLING THE MATERIAL AT THE JOBSITE.
- 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRANSPORTING AND OFFLOADING THE 125VDC STATION BATTERIES, BATTERY CHARGERS, AND ACCESSORIES AT THE SUBSTATION SITE FROM AN ARBITRARY JEA LOCATION WITHIN DUVAL COUNTY, FLORIDA. THE CONTRACTOR SHALL MOVE THE BATTERY BANK CELLS, RACKS, AND EQUIPMENT TO THE BATTERY BANK ROOM, UPON COMPLETION OF THE BATTERY BANK ROOM, FOR INSTALLATION BY THE MANUFACTURER.
- 4. THE OWNER SHALL FURNISH, TRANSPORT, AND INSTALL THE COMMUNICATIONS AND SECURITY RACKS IN THE CONTROL HOUSE.
- 5. ALL MATERIALS PICKED UP OR RECEIVED BY THE CONTRACTOR SHALL REMAIN IN THE CARE, CUSTODY, AND CONTROL OF THE CONTRACTOR UNTIL FINAL ACCEPTANCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY LOSS OR DAMAGE TO SAID MATERIALS.
- 6. THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING AND INSTALLING MISCELLANEOUS ITEMS NOT LISTED IN THIS MATERIAL LIST, AS WELL AS ADDITIONAL MATERIALS LISTED ON THE DRAWINGS AND IN THE SPECIFICATIONS. THESE ITEMS INCLUDE, BUT ARE NOT LIMITED TO CONDUIT, CONDUIT FITTINGS AND HARDWARE, GROUNDING CONDUCTOR AND CONNECTORS, CLAMPS, UNISTRUT, FASTENERS, MISCELLANEOUS ELECTRICAL EQUIPMENT, WIREWAY, ELECTRICAL BOXES, RECEPTACLES, SWITCHES, TERMINAL BLOCKS, CONNECTORS, POWER CABLE, FITTINGS, ALL LABELING MATERIALS, ETC.

**DATE:** 8/1/2017

FILE: NP17 - APPENDIX IV - MATERIALS FURNISHED BY OWNER.DOCX

**PAGE**: 1 of 2

### MATERIALS FURNISHED BY OWNER NORTHSIDE BAY ADDITION

**PAGE:** 2 of 2

QTY	DESCRIPTION	MANUFACTURER / JEA ITEM #	COMMENTS	DELIVERED TO / PICKUP FROM	RESPONSIBILITY FOR TRANSPORT / OFF-LOAD
1 LOT	LOT OF SUBSTATION ANCHOR BOLTS, BUSWORK, STRUCTURES, AND ASSOCIATED EQUIPMENT	FURNISHED BY SUBSTATION PACKAGER	SEE APPENDIX III	PROVIDED BY SUBSTATION PACKAGER - DELIVERED TO SUBSTATION SITE	TRANSPORTATION BY JEA OFF-LOAD BY CONTRACTOR
1	230KV POWER CIRCUIT BREAKERS			SEE NOTE 1	TRANSPORTATION BY JEA OFF-LOAD BY CONTRACTOR
TBD	FEET, SHIELDED CONTROL CABLE, #10, 4/C 5000 FT. SPOOL TYP.	STORE ROOM STOCK # CAICN016		SEE NOTE 2	CONTRACTOR
TBD	FEET, SHIELDED CONTROL CABLE, #10, 21/C 2500 FT. SPOOL TYP.	STORE ROOM STOCK # CAICN018		SEE NOTE 2	CONTRACTOR
4	LUMINAIRE, LED, 38W REPLACEMENT, COBRAHEAD, 120 VAC, *USE PHOTO- CONTROL STLPC010*	STORE ROOM STOCK # STLLE001		SEE NOTE 2	CONTRACTOR
4	PHOTOCONTROL, LONG LIFE FOR LED FIXTURE, 1280 JOULE MOV, FAIL OFF, GREEN	STORE ROOM STOCK#STLPC010		SEE NOTE 2	CONTRACTOR
1	PULL BOX, 24"W x 36"L x 18"D	STORE ROOM STOCK # BOXSE002		SEE NOTE 2	CONTRACTOR



# PROJECT DESIGN SEGMENT 20410 NORTHSIDE BAY ADDITION CONDUIT SCHEDULE

#### **NOTES:**

- 1. THE CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY CONDUIT MATERIALS, INCLUDING FITTINGS.
- 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL CONDUIT LENGTHS. CONDUIT LENGTHS ARE APPROXIMATE.

#### **CONDUIT LEGEND:**

UV - UV RESISTANT PVC CONDUIT, SCH 40; LFMC AS REQ.

EMT - ELECTRICAL METALLIC TUBING

RMC - RIGID METALLIC (GALVANIZED STEEL) CONDUIT

IMC - INTERMEDIATE METALLIC CONDUIT

LFMC - LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT

WW - SQUARE WIREWAY
AL - ALUMINUM CONDUIT

FILE: NP17 - APPENDIX V - CONDUIT SCHEDULE.DOCX

**DATE:** 8/1/2017

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### CONDUIT SCHEDULE NORTHSIDE BAY ADDITION

CONDUIT #	FROM	TO	SIZE	TYPE	~LENGTH	CABLES IN CONDUIT #	REMARKS					
			IN.		FT.							
	BREAKER 934S											
934SC1	BREAKER 934S	CABLE TRENCH	3	UV	130	934S/C1	CONTROL					
934SC2	BREAKER 934S	CABLE TRENCH	3	UV	130	934S/C2	CONTROL					
934SC3	BREAKER 934S	CABLE TRENCH	3	UV	130	934S/934PR, 934S/SB1	PRIMARY PROTECTION					
934SC4	BREAKER 934S	CABLE TRENCH	3	UV	130	934S/934SC, 934S/SB2	SECONDARY PROTECTION					
934SC5	BREAKER 934S	AC YARD PANEL '9YP-1P'	1.5	UV	210	934S/AC	208VAC POWER					
			BRE	AKER 934G	2							
934G2C1	BREAKER 934G2	CABLE TRENCH	3	UV	200	934G2/934PR	CONTROL					
934G2C2	BREAKER 934G2	CABLE TRENCH	3	UV	200	934G2/934SC	CONTROL					
			YAR	D LIGHTING	G							
YLB4C1	AC YARD PANEL '9YP-1P'	A-FRAME COLUMN (NW)	1.5	UV	135	YLB41/AC						
YLB4C2	A-FRAME COLUMN (NW)	A-FRAME COLUMN (SW)	1	UV	30	YLB42/AC						
YLB4C3	A-FRAME COLUMN (SW)	A-FRAME COLUMN (SE)	1	UV	65	YLB43/AC						
YLB4C4	A-FRAME COLUMN (SE)	A-FRAME COLUMN (NE)	1	UV	30	YLB44/AC						
				END								



## PROJECT DESIGN SEGMENT 20410 ST. JOHNS RIVER POWER PARK (SJRPP) STATION SERVICE MODIFICATION CONDUIT SCHEDULE

#### **NOTES:**

- 1. THE CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY CONDUIT MATERIALS, INCLUDING FITTINGS.
- 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL CONDUIT LENGTHS. CONDUIT LENGTHS ARE APPROXIMATE.

#### **CONDUIT LEGEND:**

UV - UV RESISTANT PVC CONDUIT, SCH 40; LFMC AS REQ.

EMT - ELECTRICAL METALLIC TUBING

RMC - RIGID METALLIC (GALVANIZED STEEL) CONDUIT

IMC - INTERMEDIATE METALLIC CONDUIT

LFMC - LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT

WW - SQUARE WIREWAY
AL - ALUMINUM CONDUIT

FILE: SJ17 - APPENDIX V - CONDUIT SCHEDULE.DOCX

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### CONDUIT SCHEDULE SJRPP STATION SERVICE MODIFICATION

PAGE.: 2 OF 2													
CONDUIT#	FROM	TO	SIZE	TYPE	~LENGTH	CABLES IN CONDUIT #	REMARKS						
			IN.		FT.								
	STATION SERVICE (PRIMARY)												
SSB1C1	230KV PVT "A" PHASE	PVT SECONDARY DISCONNECT 'SS1JB'	2	UV	50	SS1A/AC	230KV PVT "A" PHASE FEED						
SSB1C2	230KV PVT "B" PHASE	PVT SECONDARY DISCONNECT 'SS1JB'	2	UV	10	SS1B/AC	230KV PVT "B" PHASE FEED						
SSB1C3	230KV PVT "C" PHASE	PVT SECONDARY DISCONNECT 'SS1JB'	2	UV	50	SS1C/AC	230KV PVT "C" PHASE FEED						
SSB1MC1	PVT SECONDARY DISCONNECT 'SS1JB'	WALL ENCLOSURE #1 ON CONTROL HOUSE (NORTH WALL) ***FIELD COORDINATE EXACT LOCATION***	4	UV	130	SS1M/AC	NORMAL FEED						
SSB1MC2	PVT SECONDARY DISCONNECT 'SS1JB'	STUB UP AND CAP CONDUIT AT CONTROL HOUSE (NORTH WALL) ***FIELD COORDINATE EXACT LOCATION***	4	UV	130		SPARE						
SSB1MC3	WALL ENCLOSURE #1	CABLE TRAY	4	RMC	20	SS1M/AC	NORMAL FEED						
SSB1MC4	CABLE TRAY	ATS #1	4	RMC	15	SS1M/AC	***USE IF NEEDED***						
			ION SEF	RVICE (SEC	ONDARY)								
SSB2MC1	AC PULL BOX 'AC-1'	XFMR SECONDARY DISCONNECT 'SS2JB'	4	UV	420	SS2M1/AC	EMERGENCY FEED						
SSB2MC2	AC PULL BOX 'AC-1'	XFMR SECONDARY DISCONNECT 'SS2JB'	4	UV	420		SPARE						
SSB2MC3	AC PULL BOX 'AC-1'	***EXTEND TEN (10') FEET BEYOND FENCE LINE***	4	UV	20	SS2M1/AC	EMERGENCY FEED						
SSB2MC4	AC PULL BOX 'AC-1'	***EXTEND TEN (10') FEET BEYOND FENCE LINE***	4	UV	20		SPARE						
SSB2MC5	XFMR SECONDARY DISCONNECT 'SS2JB'	CABLE TRAY	4	RMC	20	SS2M2/AC	EMERGENCY FEED						
SSB2MC6	CABLE TRAY	ATS #2	4	RMC	15	SS2M2/AC	***USE IF NEEDED***						
				END									



# SYSTEM PROTECTION & CONTROL PROJECTS 20413 CABLE SCHEDULE NORTHSIDE BAY ADDITION

#### **CABLE NOTES:**

- TYPE B, BS, F, AND FO CABLE SHALL BE FURNISHED BY THE OWNER, UNLESS OTHERWISE SPECIFIED.
- 2. THE CONTRACTOR SHALL FURNISH ALL OTHER CABLE, AS SPECIFIED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL CABLE LENGTHS. CABLE LENGTHS LISTED ARE APPROXIMATE.

#### **CABLE LEGEND:**

- A THHN INSULATED COPPER CONDUCTOR, RATED 600V
- B CONTROL CABLE
- BS SHIELDED CONTROL CABLE
- C RHW, THHW, OR THWN INSULATED COPPER CONDUCTOR, RATED 600V
- F INSTRUMENT CABLE
- FO FIBER OPTIC CABLE
- S SINGLE CONDUCTOR
- M MULTIPLE CONDUCTOR

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PAGE NO.: 1 OF 2

FILE: NP17 - APPENDIX VI - CABLE SCHEDULE.DOCX

### CABLE SCHEDULE NORTHSIDE BAY ADDITION

	PAGE: 2 OF 2											
CABLE#	FROM	ТО	VOLT	SIZE	#C	S/M	TYPE	LNGTH ckt ft		REMARKS		
	BKR 934S											
934S/C1	BKR934S	230KV LINE 934 PNL	600	10	21	М	BS	1300	934SC1, CT, TRAY	BKR 934S CONTROL		
934S/C2	BKR934S	230KV LINE 934 PNL	600	10	21	М	BS	1300	934SC2, CT, TRAY	BKR 934S CONTROL		
934S/934PR	BKR934S	230KV LINE 934 PNL	600	2x10	4	М	BS	1300	934SC3, CT, TRAY	934 PRIMARY PROTECTION		
934S/934SC	BKR934S	230KV LINE 934 PNL	600	2x10	4	М	BS	1300	934SC4, CT, TRAY	934 SECONDARY PROTECTION		
934S/SB1	BKR934S	230KV LINE 934 PNL	600	2x10	4	М	BS	1300	934SC3, CT, TRAY	230KV SOUTH BUS PRIMARY PROTECTION		
934S/SB2	BKR934S	230KV LINE 934 PNL	600	2x10	4	М	BS	1300	934SC4, CT, TRAY	230KV SOUTH BUS SECONDARY PROTECTION		
934S/AC	BKR934S	AC YARD PANEL '9YP-1P'	600	8	3	S	С	230	934SC5	AC POWER		
				В	KR 9340	32						
934G2/934PR	BKR934G2	230KV LINE 934 PNL	600	2x10	4	М	BS	1300	934G2C1, CT, TRAY	934 PRIMARY PROTECTOIN		
934G2/934SC	BKR934G2	230KV LINE 934 PNL	600	2x10	4	М	BS	1300	934G2C2, CT, TRAY	934 SECONDARY PROTECTION		
				YAR	D LIGHT	ΓING						
YLB41/AC	AC YARD PANEL '9YP-1P'	A-FRAME COLUMN (NW)	600	10	3	S	С	175	YLB4C1			
YLB42/AC	A-FRAME COLUMN (NW)	A-FRAME COLUMN (SW)	600	10	3	S	С	70	YLB4C2			
YLB43/AC	A-FRAME COLUMN (SW)	A-FRAME COLUMN (SE)	600	10	3	S	С	105	YLB4C3			
YLB44/AC	A-FRAME COLUMN (SE)	A-FRAME COLUMN (NE)	600	10	3	S	С	70	YLB4C4			
					END							



## PROJECT DESIGN SEGMENT 20410 ST. JOHNS RIVER POWER PARK (SJRPP) STATION SERVICE MODIFICATION CABLE SCHEDULE

#### **CABLE NOTES:**

- 1. TYPE B, BS, F, FO AND MEDIUM VOLTAGE CABLE SHALL BE FURNISHED BY THE OWNER, UNLESS OTHERWISE SPECIFIED.
- 2. THE CONTRACTOR SHALL FURNISH ALL OTHER CABLE, AS SPECIFIED.
- 3. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL CABLE LENGTHS. CABLE LENGTHS LISTED ARE APPROXIMATE.

#### CABLE LEGEND:

- A THHN INSULATED COPPER CONDUCTOR, RATED 600V
- B CONTROL CABLE
- BS SHIELDED CONTROL CABLE
- C RHW, THHW, OR THWN INSULATED COPPER CONDUCTOR, RATED 600V
- F INSTRUMENT CABLE
- FO FIBER OPTIC CABLE
- S SINGLE CONDUCTOR
- M MULTIPLE CONDUCTOR

FILE: SJ17 - APPENDIX VI - CABLE SCHEDULE.DOCX

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### CABLE SCHEDULE SJRPP STATION SERVICE MODIFICATION

-	TAGE: 2012											
CABLE #	FROM	ТО	VOLT	SIZE	#C	S/M	TYPE	LNGTH	CONDUIT #	REMARKS		
								ckt ft				
	STATION SERVICE (PRIMARY)											
SS1A/AC	230KV PVT "A" PHASE	PVT SECONDARY DISCONNECT 'SS1JB'	600	4/0	1	S	С	50	SSB1C1	230KV PVT "A" PHASE FEED		
SS1B/AC	230KV PVT "B" PHASE	PVT SECONDARY DISCONNECT 'SS1JB'	600	4/0	1	S	С	20	SSB1C2	230KV PVT "B" PHASE FEED		
SS1C/AC	230KV PVT "C" PHASE	PVT SECONDARY DISCONNECT 'SS1JB'	600	4/0	1	S	С	50	SSB1C3	230KV PVT "C" PHASE FEED		
SS1M/AC	PVT SECONDARY DISCONNECT 'SS1JB'	ATS #1	600	4/0	3	S	С	240	SSB1MC1, WE-1, SSB1MC3, TRAY, SSB1MC4	NORMAL FEED		
			S1	TATION S	ERVICE (	SECOND	ARY)					
SS2M1/AC	JEA PADMOUNT XFMR ***OUTSIDE FENCE LINE***	XFMR SECONDARY DISCONNECT 'SS2JB'	600	4/0	3	S	С	600	SSB2MC3, AC-1, SSB2MC1	EMERGENCY FEED		
SS2M2/AC	XFMR SECONDARY DISCONNECT 'SS2JB'	ATS #2	600	4/0	3	S	С	120	SSB2MC5, TRAY, SSB2MC6	EMERGENCY FEED		
	HEATERS											
SS1HTR/AC	PVT SECONDARY DISCONNECT 'SS1JB'	CONTROL BUILDING AC PANEL 'PP-1B333'	600	8	4	М	С	240	SSB1MC1, WE-1, SSB1MC3, TRAY	120VAC POWER (SEE NOTE 7, DWG LV1)		
SS2HTR/AC	XFMR SECONDARY DISCONNECT 'SS2JB'	CONTROL BUILDING AC PANEL 'PP-1B333'	600	8	4	М	С	120	SSB2MC5, TRAY	120VAC POWER (SEE NOTE 7, DWG LV1)		
	END											

#### APPENDIX VII – CIVIL REFERENCES

#### 1.1. CIVIL REFERENCES

- 1.1.1. The latest edition and published addenda of the referenced publications herein effective on the date of Contract Award are a part of this Section and, where referred to by title or by basic designation only, are applicable to the extent indicated by the specific reference:
  - A. American Association of State Highway and Transportation Officials (AASHTO):
    - 1. M 43 Standard Specification for Sizes of Aggregate for Road and Bridge Construction
    - M 145 Standard Specification for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes
    - M 294 Standard Specification for Corrugated Polyethylene Pipe 300 to 1500 mm (12 to 60-in)
       Diameter
    - 4. T 26 Standard Method of Test for Quality of Water to Be Used in Concrete
    - 5. T 99 Moisture-Density Relations of Soils Using a 2.5-kg (5.5-lb) Rammer and a 305-mm (12-in.) Drop
    - 6. T 180 Moisture-Density Relations of Soils Using a 10-lb Rammer and 18-inch Drop
    - 7. T 191 Standard Method of Test for Density of Soil In-Place by the Sand Cone Method
  - B. American Concrete Institute (ACI):
    - 1. 117 Specification for Tolerances for Concrete Construction and Materials
    - 2. 229R Report on Controlled Low-Strength Materials
    - 3. 301 Specifications for Structural Concrete
    - 4. 304R Guide for Measuring, Mixing, Transporting and Placing Concrete
    - 5. 305R Hot Weather Concreting
    - 6. 306R Cold Weather Concreting
    - 7. 309R Guide for Consolidation of Concrete
    - 8. 318 Building Code Requirements for Structural Concrete
    - 9. 336.1 Specification for the Construction of Drilled Piers
    - 10. 347 Guide to Formwork for Concrete
    - 11. 530/530.1 Building Code Requirements and Specification for Masonry Structures
  - C. American Institute of Steel Construction (AISC):
    - 1. 303 Code of Standard Practice for Steel Buildings and Bridges
  - D. American National Standards Institute (ANSI):
    - 1. A 185/A185M Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete
  - E. American Petroleum Institute (API):
    - 1. RP 13B-1 Recommended Practice for Field Testing Water-based Drilling Fluids
  - F. Association of Drilled Shaft Contractors (ADSC) The International Association of Foundation Drilling:
    - 1. "Drilled Shaft Inspector's Manual", 2004.
  - G. ASTM International (ASTM):
    - 1. A 36 Standard Specification for Carbon Structural Steel
    - A 53 Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless

- 3. A 123 Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
- 4. A 153 Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
- 5. A 185 Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete
- A 325 Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength
- 7. A 370 Standard Test Methods and Definitions for Mechanical Testing of Steel Products
- 8. A 392 Standard Specification for Zinc Coated Steel Chain-Link Fence Fabric
- 9. A 497 Standard Specification for Steel Welded Wire Reinforcement, Deformed, for Concrete.
- 10. A 563 Standard Specification for Carbons and Alloy Steel Nuts
- A 615/A615M Standard Specification for Deformed and Plain Carbon Steel Bars for Concrete Reinforcement
- 12. A 653 Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
- A 706 Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement
- 14. A 780 Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings
- A 924/A 924M Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process
- 16. A 992 Standard Specification for Structural Steel Shapes
- 17. B 209 Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate
- 18. B 695 Standard Specification for Coatings of Zinc Mechanically Deposited on Iron and Steel
- 19. C 5 Standard Specification for Quicklime for Structural Purposes
- 20. C 29 Standard Test Method for Bulk Density (Unit Weight) and Voids in Aggregate
- 21. C 31 Standard Practice for Making and Curing Concrete Test Specimens in the Field
- 22. C 33 Standard Specification for Concrete Aggregates
- 23. C 39 Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
- 24. C 40 Standard Test Method for Organic Impurities in Fine Aggregates for Concrete
- 25. C 42 Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
- 26. C 76 Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe
- 27. C 88 Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
- 28. C 90 Standard Specification for Loadbearing Concrete Masonry Units
- 29. C 91 Standard Specification for Masonry Cement
- 30. C 94 / C94M Standard Specification for Ready-Mixed Concrete
- 31. C 109 Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or 50-mm Cube Specimens)
- 32. C 117 Standard Test Method for Materials Finer than 75  $\mu$ m (No. 200) Sieve in Mineral Aggregates by Washing
- 33. C 123 Standard Test Method for Lightweight Particles in Aggregate

- C 127 Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption of Coarse Aggregate
- 35. C 128 Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption of Fine Aggregate
- C 131 Standard Test Method for Resistance to Degradation of Small Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
- 37. C 136 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
- C 138 Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
- 39. C 142 Standard Test Method for Clay Lumps and Friable Particles in Aggregates
- 40. C 143 Standard Test Method for Slump of Hydraulic Cement Concrete
- 41. C 144 Standard Specification for Aggregate for Masonry Mortar
- 42. C 150 Standard Specification for Portland Cement
- 43. C 172 Standard Practice for Sampling Freshly Mixed Concrete
- 44. C 173 Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method
- 45. C 192 Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory
- 46. C 207 Standard Specification for Hydrated Lime for Masonry Purposes
- 47. C 231 Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
- 48. C 260 Standard Specification for Air-Entraining Admixtures for Concrete
- 49. C 270 Standard Specification for Mortar for Unit Masonry
- 50. C 289 Standard Test Method for Potential Alkali-Silica Reactivity of Aggregates (Chemical Method)
- 51. C 309 Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete
- 52. C 403 Standard Test Method for Time of Setting of Concrete Mixtures by Penetration Resistance
- 53. C 404 Standard Specification for Aggregates for Masonry Grout
- C 443 Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastometric Seals
- 55. C 451 Standard Test Method for Early Stiffening of Hydraulic Cement (Paste Method)
- 56. C 470 Standard Specification for Molds for Forming Concrete Test Cylinders Vertically
- 57. C 476 Standard Specification for Grout for Masonry
- 58. C 494/C494M Standard Specification for Chemical Admixtures for Concrete
- 59. C 535 Standard Test Method for Resistance to Degradation of Large Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
- 60. C 566 Standard Test Method for Total Evaporable Moisture Content of Aggregate by Drying
- 61. C 617 Standard Practice for Capping Cylindrical Concrete Specimens
- 62. C 618 Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
- 63. C 890 Standard Practice for Minimum Structural Design Loading for Monolithic or Sectional Precast Concrete Water and Wastewater Structures
- 64. C 913 Standard Specification for Precast Concrete Water and Wastewater Structures

- 65. C 920 Standard Specification for Elastomeric Joint Sealants
- 66. C 937 Standard Specification for Grout Fluidifier for Preplaced-Aggregate Concrete
- C 1017 Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete
- 68. C 1064 Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete
- 69. C 1077 Standard Practice for Laboratories Testing Concrete, and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation
- 70. C 1218 Standard Test Method for Water-Soluble Chloride in Mortar and Concrete
- 71. C 1602 Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
- 72. D 448 Standard Classification for Sizes of Aggregate for Road and Bridge Construction
- 73. D 698 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3))
- 74. D 854 Standard Test Methods for Specific Gravity of Soil Solids by Water Pycnometer
- 75. D 994 Standard Specification for Preformed Expansion Joint Filler for Concrete (Bituminous Type)
- 76. D 1140 Standard Test Methods for Determining the Amount of Material Finer Than 75  $\mu$ m (No. 200 Sieve) in Soils by Washing
- 77. D 1556 Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method
- 78. D 1557 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³))
- 79. D 1751 Standard Specification for Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types)
- 80. D 1752 Standard Specification for Preformed Sponge Rubber Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction
- 81. D 2167 Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method
- 82. D 2487 Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
- 83. D 2488 Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)
- 84. D 2922 Standard Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
- D 2940 Standard Specification Graded Aggregate Material for Bases or Subbases for Highways or Airports
- D 3282 Standard Practice for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes
- 87. D 3740 Standard Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
- 88. D 4318 Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
- 89. D 4355 Standard Test Method for Deterioration of Geotextiles by Exposure to Light, Moisture and Heat in a Xenon Arc Type Apparatus
- 90. D 4533 Standard Test Method for Trapezoid Tearing Strength of Geotextiles
- 91. D 4595 Standard Test Method for Tensile Properties of Geotextiles by the Wide-Width Strip Method
- 92. D 4632 Standard Test Method for Grab Breaking Load and Elongation of Geotextiles

- 93. D 4751 Standard Test Method for Determining Apparent Opening Size of a Geotextile
- D 4832 Standard Test Method for Preparation and Testing of Controlled Low Strength Material (CLSM)
   Test Cylinders
- 95. D 5199 Standard Test Method for Measuring the Nominal Thickness of Geosynthetics
- 96. D 5261 Standard Test Method for Measuring Mass per Unit Area of Geotextiles
- 97. D 6241 Standard Test Method for the Static Puncture Strength of Geotextiles and Geotextile-Related Products Using a 50-mm Probe
- 98. D 6913 Standard Test Methods for Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis
- 99. D 6938 Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)
- 100. D 7949 Standard Test Methods for Thermal Integrity Profiling of Concrete Deep Foundations
- 101. E 4 Standard Practices for Force Verification of Testing Machines
- 102. E 329 Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection
- 103. F 436 Standard Specification for Hardened Steel Washers
- 104. F 626 Standard Specification for Fence Fittings
- 105. F 1083 Standard Specification for Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures
- 106. F 1554 Standard Specification for Anchor Rods, Steel, 36, 55, and 105-ksi Yield Strength
- H. American Society of Civil Engineers (ASCE):
  - 1. 5-11/6-11- Building Code Requirements and Specifications for Masonry Structures.
  - 2. 7-10 Minimum Design Loads for Building and Other Structures
- I. American Welding Society (AWS):
  - 1. D1.1 Structural Welding Code Steel
- J. Concrete Reinforcing Steel Institute (CRSI):
  - 1. MSP-2-01 Manual of Standard Practice
- K. National Ready Mixed Concrete Association:
  - Certification of Ready-Mixed Concrete Production Facilities
- L. The Society for Protective Coatings (SSPC):
  - 1. PA-1 Shop, Field, and Maintenance Painting of Steel
  - 2. SP-6 Commercial Blast Cleaning
- M. U.S. Army Corps of Engineers:
  - 1. CRD-C572 Specifications for Polyvinyl Chloride Waterstops
- N. U.S. Department of Labor, Occupational Safety and Health Administration Standards (OSHA):
  - 1. 29 CFR, Part 1926, Safety and Health Regulations for Construction, Standard Number: 1926.652, Requirements for Protective Systems, Subpart P Excavations
  - 2. 29 CFR, Part 1926, Safety and Health Regulations for Construction, Standard Number: 1926.652, Requirements for Protective Systems, Subpart T Demolition
- O. 2010 Florida Building Code

- P. City of Jacksonville, Florida (COJ)
  - 1. Land Development Procedures Manual
  - 2. City Standard Details, Department of Public Works
  - 3. City Standard Specifications, Department of Public Works
- Q. Florida Department of Environmental Protection:
  - 1. Florida Stormwater Erosion and Sedimentation Control Inspector's Manual
  - 2. State of Florida, Erosion and Sediment Control, Designer and Reviewer Manual
- R. Florida Department of Transportation:
  - 1. FM 5-515 Florida Method of Test for Limerock Bearing Ratio (LBR)
  - 2. Standard Specifications for Road and Bridge Construction
- S. Florida Administrative Code:
  - 1. 62-621 Generic Permits
  - 2. 62-701 Solid Waste Management Facilities
  - 3. 62-710 Used Oil Management
  - 4. 62-711 Waste Tire Rule
  - 5. 62-730 Hazardous Waste
- T. Federal Specifications and Standards (General Service Administration)
  - 1. SS-S-210A, Sealing Compound, Preformed Plastic, for Expansion Joints and Pipe Joints
- U. Geotechnical Report (Appendix VII).
- V. Survey and Subsurface Utility Information (Appendix VIII).
- 1.1.2. Where the codes and standards referenced herein contain recommendations in addition to requirements, consider the recommendations as requirements and follow unless stated otherwise by this Specification.
- 1.1.3. In the event of any conflict between codes, or this Specification and codes, the more stringent requirement applies.