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NO.	DESCRIPTION	NO.	DESCRIPTION	NO.	DESCRIPTION
1	TITLE SHEET	15B	PLAN SHEET KENYON ROAD STA. 1+67.49 TO STA. 7+50	29(4B)	SIGNAL DETAILS NORTHBROOK AVENUE AND MANNING ROAD
1A - 1A(1)	SHEET INDEX	15C	PROFILE SHEET KENYON ROAD STA. 1+67.49 TO STA. 10+00	29(5) - 29(5A)	SIGNAL PLAN STALEY DRIVE
1B	SHEET LAYOUT AND PROJECT LOCATION MAP	15D	PLAN SHEET FOREST GLEN DRIVE STA. 12+00 TO STA. 14+50	29(5B)	SIGNAL DETAILS STALEY DRIVE
1C	SURVEY NOTES AND SUBSURFACE UTILITY NOTES	15E	PROFILE SHEET FOREST GLEN DRIVE STA. 10+00 TO STA. 14+50	30(1)	GENERAL SIGNING AND MARKING NOTES
1D - 1D(1)	RIGHT-OF-WAY DATA	16	PLAN SHEET ROUTE 58 STA. 184+50 TO STA. 191+50	30(2) - 30(15)	SIGNING AND MARKING PLANS
1E-1G	ALIGNMENT DATA	16A	PROFILE SHEET ROUTE 58 STA. 184+50 TO STA. 191+50 ENGLISH OAK DRIVE STA. 10+00 TO STA. 11+75	31(1)	LIGHTING GENERAL NOTES
1H	CONTROL POINTS AND BENCHMARKS	17	PLAN SHEET ROUTE 58 STA. 191+50 TO STA. 198+00	31(2)	LIGHTING DETAILS
1(I)	INTENTIONALLY OMITTED	17A	PROFILE SHEET ROUTE 58 STA. 191+50 TO STA. 198+00	31(2A)	PANEL SCHEDULE
1J	REVISION DATA SHEET	18	PLAN SHEET ROUTE 58 STA. 198+00 TO STA. 205+00	31(2B) - 31(2F)	SPLICE DETAILS
1K - 1K(0)	SEQUENCE OF CONSTRUCTION GENERAL NOTES AND TYPICALS	18A	PROFILE SHEET ROUTE 58 STA. 198+00 TO STA. 205+00 CAMERON CROSSING STA. 8+75 TO STA. 10+00 COVEPOINT DRIVE STA. 10+00 TO STA. 12+26	31(2G)	VOLTAGE DROP CALCULATIONS
1K(1) - 1K(14)	SEQUENCE OF CONSTRUCTION & MAINTENANCE OF TRAFFIC PHASE 1	18B	POND #3 RIGHT-OF-WAY	31(3)	INTENTIONALLY OMITTED
1L(1) - 1L(14)	SEQUENCE OF CONSTRUCTION & MAINTENANCE OF TRAFFIC PHASE 2	19	PLAN SHEET ROUTE 58 STA. 205+00 TO STA. 211+50	31(4) - 31(27)	LIGHTING AND INTERCONNECT PLANS
1M(1) - 1M(14)	SEQUENCE OF CONSTRUCTION & MAINTENANCE OF TRAFFIC PHASE 3	19A	PROFILE SHEET ROUTE 58 STA. 205+00 TO STA. 211+50 FAULK ROAD STA. 7+97.88 TO STA. 10+00	32(1) - 32(3)	INTENTIONALLY OMITTED
1N(1) - 1N(14)	SEQUENCE OF CONSTRUCTION & MAINTENANCE OF TRAFFIC PHASE 4	19B	PARCEL 79 & 91 ACQUISITION	32(4)	DEMOLITION PLAN ROUTE 58 STA. 104+50 TO STA. 111+50
2 - 2(1)	GENERAL NOTES	20	PLAN SHEET ROUTE 58 STA. 211+50 TO STA. 218+50	32(5)	DEMOLITION PLAN ROUTE 58 STA. 111+50 TO STA. 118+25
2A - 2C	TYPICAL SECTIONS	20A	PROFILE SHEET ROUTE 58 STA. 211+50 TO STA. 218+50	32(6)	DEMOLITION PLAN ROUTE 58 STA. 118+25 TO STA. 125+00
2D - 2(I)	INTENTIONALLY OMITTED	21	PLAN SHEET ROUTE 58 STA. 218+50 TO STA. 225+50	32(7)	DEMOLITION PLAN ROUTE 58 STA. 125+00 TO STA. 131+00
2J - 2J(9)	DRAINAGE DESCRIPTIONS	21A	PROFILE SHEET ROUTE 58 STA. 218+50 TO STA. 225+50 LAKEWOOD DRIVE STA. 10+00 TO STA. 12+00	32(8)	DEMOLITION PLAN ROUTE 58 STA. 131+00 TO STA. 138+00
2K	EROSION AND SEDIMENT CONTROL NARRATIVE	21B	LANDSCAPING PLAN AND DETAIL	32(9)	DEMOLITION PLAN ROUTE 58 STA. 138+00 TO STA. 143+00
2K(4)A - 2K(27)A	EROSION AND SEDIMENT CONTROL PLANS EXISTING CONDITIONS	22	PLAN SHEET ROUTE 58 STA. 225+50 TO STA. 232+00	32(10)	DEMOLITION PLAN ROUTE 58 STA. 143+00 TO STA. 150+00
2K(4)B - 2K(27)B	EROSION AND SEDIMENT CONTROL PLANS PROPOSED CONDITIONS	22A	PROFILE SHEET ROUTE 58 STA. 225+50 TO STA. 232+00 BARRETT DRIVE STA. 10+00 TO 13+25	32(10B)	DEMOLITION PLAN MANNING BRIDGE ROAD STA. 12+50 TO STA. 19+00
2L(1) - 2L(4)	SWPPP	22B	LANDSCAPING PLAN AND DETAIL	32(10D)	DEMOLITION PLAN CENTERPOINT DRIVE EAST STA. 12+00 TO STA. 15+00
3	INTENTIONALLY OMITTED	23	PLAN SHEET ROUTE 58 STA. 232+00 TO STA. 239+00	32(11)	DEMOLITION PLAN ROUTE 58 STA. 150+00 TO STA. 157+00
3A	INTENTIONALLY OMITTED	23A	PROFILE SHEET ROUTE 58 STA. 232+00 TO STA. 239+00 GROVE AVENUE STA. 8+50 TO STA. 10+00	32(12)	DEMOLITION PLAN ROUTE 58 STA. 157+00 TO STA. 164+00
4	PLAN SHEET ROUTE 58 STA. 109+00 TO STA. 111+50	23B	PLAN SHEET NORTHBROOK AVENUE STA. 5+50 TO STA. 8+50	32(13)	DEMOLITION PLAN ROUTE 58 STA. 164+00 TO STA. 170+50
4A	PROFILE SHEET ROUTE 58 STA. 109+00 TO STA. 111+50	23C	PROFILE SHEET NORTHBROOK AVENUE STA. 5+50 TO STA. 10+00 MANNING ROAD STA. 10+00 TO STA. 14+01.97	32(14)	DEMOLITION PLAN ROUTE 58 STA. 170+50 TO STA. 177+50
5	PLAN SHEET ROUTE 58 STA. 111+50 TO STA. 118+50	24	PLAN SHEET ROUTE 58 STA. 239+00 TO STA. 246+00	32(15)	DEMOLITION PLAN ROUTE 58 STA. 177+50 TO STA. 184+50
5A	PROFILE SHEET ROUTE 58 STA. 111+50 TO STA. 118+50	24A	PROFILE SHEET ROUTE 58 STA. 239+00 TO STA. 246+00	32(15B)	DEMOLITION PLAN KENYON ROAD STA. 1+67.49 TO STA. 7+50
6	PLAN SHEET ROUTE 58 STA. 118+50 TO STA. 125+00	24B	POND #4 RIGHT-OF-WAY PLAN SHEET	32(15D)	DEMOLITION PLAN FOREST GLEN ROAD STA. 12+00 TO STA. 14+50
6A	PROFILE SHEET ROUTE 58 STA. 118+50 TO STA. 125+00	25	PLAN SHEET ROUTE 58 STA. 246+00 TO STA. 253+00	32(16)	DEMOLITION PLAN ROUTE 58 STA. 184+50 TO STA. 191+50
6B	PLAN SHEET ROUTE 58	25A	PROFILE SHEET ROUTE 58 STA. 246+00 TO STA. 253+00 STALEY DRIVE STA. 10+00 TO STA. 15+00	32(17)	DEMOLITION PLAN ROUTE 58 STA. 191+50 TO STA. 198+00
7	PLAN SHEET ROUTE 58 STA. 125+00 TO STA. 131+00	26	PLAN SHEET ROUTE 58 STA. 253+00 TO STA. 259+00	32(18)	DEMOLITION PLAN ROUTE 58 STA. 198+00 TO STA. 205+00
7A	PROFILE SHEET ROUTE 58 STA. 125+00 TO STA. 131+00	26A	PROFILE SHEET ROUTE 58 STA. 253+00 TO STA. 259+00	32(19)	DEMOLITION PLAN ROUTE 58 STA. 205+00 TO STA. 211+50
8	PLAN SHEET ROUTE 58 STA. 131+00 TO STA. 138+00	27	PLAN SHEET ROUTE 58 STA. 259+00 TO STA. 263+02.46	32(20)	DEMOLITION PLAN ROUTE 58 STA. 211+50 TO STA. 218+50
8A	PROFILE SHEET ROUTE 58 STA. 131+00 TO STA. 138+00	27A	PROFILE SHEET ROUTE 58 STA. 259+00 TO STA. 263+02.46	32(21)	DEMOLITION PLAN ROUTE 58 STA. 218+50 TO STA. 225+50
9	PLAN SHEET ROUTE 58 STA. 138+00 TO STA. 143+00	27B - 27H	ENTRANCE PROFILE SHEET ROUTE 58	32(22)	DEMOLITION PLAN ROUTE 58 STA. 225+50 TO STA. 232+00
9A	PROFILE SHEET ROUTE 58 STA. 138+00 TO STA. 143+00	27I - 27J	ENTRANCE PROFILE SHEET SIDE STREETS	32(23)	DEMOLITION PLAN ROUTE 58 STA. 232+00 TO STA. 239+00
10	PLAN SHEET ROUTE 58 STA. 143+00 TO STA. 150+00	28A	STORMWATER MANAGEMENT FACILITY LOCATION #1	32(23B)	DEMOLITION PLAN NORTHBROOK AVENUE STA. 5+50 TO STA. 8+50
10A	PROFILE SHEET ROUTE 58 STA. 143+00 TO STA. 150+00	28B	STORMWATER MANAGEMENT FACILITY LOCATION #2	32(24)	DEMOLITION PLAN ROUTE 58 STA. 239+00 TO STA. 246+00
10B	PLAN SHEET MANNING BRIDGE ROAD STA. 12+50 TO STA. 17+00	28C	STORMWATER MANAGEMENT FACILITY LOCATION #3	32(25)	DEMOLITION PLAN ROUTE 58 STA. 246+00 TO STA. 253+00
10C	PROFILE SHEET MANNING BRIDGE ROAD STA. 10+00 TO STA. 17+00	28D	STORMWATER MANAGEMENT FACILITY LOCATION #4	32(26)	DEMOLITION PLAN ROUTE 58 STA. 253+00 TO STA. 259+00
10D	PLAN SHEET CENTERPOINT DRIVE EAST STA 12+00 TO STA 15+00	28D(1)	STORMWATER MANAGEMENT FACILITY LOCATION #4 DETAILS	32(27)	DEMOLITION PLAN ROUTE 58 STA. 259+00 TO STA. 263+02.46
10E	PROFILE SHEET CENTERPOINT DRIVE EAST STA 10+00 TO STA 15+00	29	CITY OF SUFFOLK GENERAL TRAFFIC SIGNAL NOTES		
10F	POND #1 RIGHT-OF-WAY	29(1) - 29(1A)	SIGNAL PLAN CENTERPOINT DRIVE		
11	PLAN SHEET ROUTE 58 STA. 150+00 TO STA. 157+00	29(1B)	SIGNAL DETAILS CENTERPOINT DRIVE		
11A	PROFILE SHEET ROUTE 58 STA. 150+00 TO STA. 157+00	29(2) - 29(2A)	SIGNAL PLAN CENTERPOINT DRIVE AND MANNING BRIDGE ROAD		
12	PLAN SHEET ROUTE 58 STA. 157+00 TO STA. 164+00	29(2B)	SIGNAL DETAILS CENTERPOINT DRIVE AND MANNING BRIDGE ROAD		
12A	PROFILE SHEET ROUTE 58 STA. 157+00 TO STA. 164+00 RALEIGH DRIVE STA. 7+86 TO STA. 10+00	29(3) - 29(3A)	SIGNAL PLAN KENYON ROAD AND FOREST GLEN DRIVE		
13	PLAN SHEET ROUTE 58 STA. 164+00 TO STA. 170+50	29(3B)	SIGNAL DETAILS KENYON ROAD AND FOREST GLEN DRIVE		
13A	PROFILE SHEET ROUTE 58 STA. 164+00 TO STA. 170+50 BEECHWOOD DRIVE STA. 10+00 TO STA. 11+52.77 FAIRFIELD AVENUE STA. 8+00 TO STA. 10+00	29(4) - 29(4A)	SIGNAL PLAN NORTHBROOK AVENUE AND MANNING ROAD		
14	PLAN SHEET ROUTE 58 STA. 170+50 TO STA. 177+50				
14A	PROFILE SHEET ROUTE 58 STA. 170+50 TO STA. 177+50 ROBIN LANE STA. 10+00 TO STA. 12+00				
15	PLAN SHEET ROUTE 58 STA. 177+50 TO STA. 184+50				
15A	PROFILE SHEET ROUTE 58 STA. 177+50 TO STA. 184+50				

KHA PROJECT 116071008		10/20/20 EGS	
DATE 7-13-2020	ADDED SHEET 2K - ESC NARRATIVE	10/30/20 EGS	ADDED SHEET 2(C) - GENERAL NOTES
SCALE AS SHOWN	 <p>© 2020 KIMLEY-HORN AND ASSOCIATES, INC. 4525 MAIN STREET, SUITE 1000, VIRGINIA BEACH, VA 23462 PHONE: 757-213-8600 WWW.KIMLEY-HORN.COM</p>		
DESIGNED BY APF			
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<p style="writing-mode: vertical-rl; transform: rotate(180deg); text-align: center;">SHEET INDEX</p>		SHEET NUMBER	
		1A	

HRSD STANDARD CONSTRUCTION NOTES

- CONTACT HAMPTON ROADS SANITATION DISTRICT (HRSD) INTERCEPTOR OPERATIONS HRSD
 1434 AIR RAIL AVENUE
 VIRGINIA BEACH, VA 23465
 OFFICE (DURING BUSINESS HOURS): (757) 460-7072
 EMERGENCY (AFTER HOURS): (757) 284-8118 (DUTY SUPERVISOR)
 (757) 284-8120 (DUTY TECHNICIAN)
- A MINIMUM OF 3 WEEKS PRIOR TO EXCAVATION OF, OR IN THE VICINITY OF, HRSD LINES. MISS UTILITY CALLS DO NOT FULFILL THIS REQUIREMENT.
- UNDER NO CIRCUMSTANCES CAN A FORCE MAIN BE DEACTIVATED FROM THE HRSD INTERCEPTOR SYSTEM WITHOUT THE PRESENCE AND APPROVAL OF A DESIGNATED HRSD INSPECTOR. CONTACT THE INTERCEPTOR SYSTEM MANAGER A MINIMUM OF 3 WEEKS PRIOR TO DISCONNECTION OF DISTRICT FACILITIES IN ORDER TO SCHEDULE THE HRSD INSPECTOR.
- CONTRACTOR SHALL NOTE THAT SIX MONTHS AFTER COMPLETION OF CONSTRUCTION AND/OR FINAL SITE WORK, HRSD SHALL INSPECT THE CONSTRUCTION TO IDENTIFY POOR BACKFILL OR SUBSTANDARD DEACTIVATION. CONTRACTOR SHALL BE EXPECTED TO WARRANT AND REPAIR ANY DISCREPANCIES NOTED. VALVE BOXES AND RISER PIPES TO BE INSTALLED OVER HRSD VALVES SHALL BE IN ACCORDANCE WITH HRSD STANDARD DESIGN GUIDELINES.
- ONLY HRSD PERSONNEL ARE AUTHORIZED TO OPERATE HRSD VALVES.
- CONTRACTOR SHALL MAINTAIN ACCESS TO HRSD FACILITIES THROUGHOUT CONSTRUCTION.
- CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN A MINIMUM HORIZONTAL SEPARATION OF 5 FEET FROM HRSD INFRASTRUCTURE. ANY PROPOSED DEVIATION FROM THE MINIMUM SEPARATION OF 5 FEET WILL REQUIRE REVIEW AND APPROVAL BY HRSD ENGINEERING PRIOR TO CONSTRUCTION.
- IF THE HRSD INFRASTRUCTURE WILL BE EXPOSED DURING CONSTRUCTION, A DETAIL DESCRIBING THE MEANS AND METHODS OF SUPPORTING THE HRSD INFRASTRUCTURE SHALL BE SUBMITTED TO HRSD FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
- ALL CONSTRUCTION METHODS AND MATERIALS FOR HRSD WORK SHALL CONFORM TO HRSD'S STANDARDS FOR DESIGN AND CONSTRUCTION, LATEST EDITION.

HRSD MATERIALS (24" FORCE MAIN PIPING)

- PIPE:**
 - PUSH-ON JOINTS:**
 - AWWA/ANSI C151/A21.51.
 - SPECIAL THICKNESS CLASS 51.
 - FURNISH WHERE THRUST RESTRAINT IS NOT REQUIRED.
 - FURNISH FOR BURIED APPLICATION.
 - MECHANICAL JOINT:**
 - AWWA/ANSI C151/A21.51.
 - SPECIAL THICKNESS CLASS 51.
 - FURNISH WHERE THRUST RESTRAINT IS REQUIRED AND APPROVED RESTRAINT SYSTEM IS NOT USED.
 - FURNISH AT CONNECTION LOCATIONS.
 - FURNISH FOR BURIED APPLICATION.
 - THREADED BELLS SHALL NOT BE USED.
 - JOINT RESTRAINT SHALL BE AS FOLLOWS:**
 - PIPE MANUFACTURER'S PROPRIETARY JOINT RESTRAINT SYSTEMS.
 - RETAINER GLANDS: MINIMUM WORKING PRESSURE OF 250 PSI. MINIMUM SAFETY FACTOR OF 2:1. WEDGE TYPE RETAINER GLANDS AND SHALL BE AS MANUFACTURED BY EBAA, SIGMA, SMITH-BLAIR AND FORD METER BOX, NO OR EQUAL WILL BE ACCEPTED. RETAINER GLANDS SHALL BE FURNISHED WITH A FUSION BONDED EPOXY COATING, STAINLESS STEEL HARDWARE AND SHALL BE SUITABLE FOR BURIED SERVICE.
 - JOINT RESTRAINT FOR EXISTING PUSH-ON JOINT PIPE: RESTRAINT FOR EXISTING BELL JOINTS FOUND ON IRON PIPES SHALL CONSIST OF THE FOLLOWING: THE RESTRAINTS SHALL BE MANUFACTURED OF IRON CONFORMING TO ASTM A536, THE SPLIT RESTRAINT RINGS, INCORPORATING A PLURALITY OF INDIVIDUALLY-ACTUATING GRIPPING SURFACES, SHALL BE USED TO GRIP THE PIPE ON EITHER SIDE OF THE BELL, AND A SUFFICIENT NUMBER OF RODS SHALL BE USED TO CONNECT EACH RESTRAINT TO ONE ANOTHER. THE RESTRAINT DEVICES SHALL BE COATED USING MEGA-BOND OR EQUAL AND FURNISHED WITH STAINLESS STEEL HARDWARE. THE COMBINATION SHALL HAVE A MINIMUM WORKING PRESSURE RATING EQUAL TO OR GREATER THAN THE PIPE. THE SYSTEM SHALL BE SUITABLE FOR BURIED SERVICE. THE RESTRAINT SHALL BE THE SERIES 1100HD, AS MANUFACTURED BY EBAA IRON, INC., SIGMA, SMITH-BLAIR AND FORD METER BOX, NO OR EQUAL WILL BE ACCEPTED.
 - JOINT RESTRAINT FOR EXISTING MECHANICAL JOINT PIPE: RESTRAINT FOR EXISTING MECHANICAL JOINTS FOUND ON IRON PIPES SHALL CONSIST OF THE FOLLOWING: THE RESTRAINT SHALL BE MANUFACTURED OF IRON CONFORMING TO ASTM A536. THE RESTRAINT DEVICES SHALL BE COATED USING MEGA-BOND OR EQUAL AND FURNISHED WITH STAINLESS STEEL HARDWARE. THE SPLIT RESTRAINT RING, INCORPORATING A PLURALITY OF INDIVIDUALLY-ACTUATING GRIPPING SURFACES, SHALL BE USED TO GRIP THE PIPE AND A SUFFICIENT NUMBER OF BOLTS SHALL BE USED TO CONNECT THE RESTRAINT TO THE MECHANICAL JOINT. THE COMBINATION SHALL HAVE A MINIMUM WORKING PRESSURE RATING EQUAL TO OR GREATER THAN THE PIPE. THE RESTRAINT SHALL BE SUITABLE FOR BURIED SERVICE. THE RESTRAINT SHALL BE THE SERIES 1100SD, AS MANUFACTURED BY EBAA IRON, INC., SIGMA, SMITH-BLAIR AND FORD METER BOX, NO OR EQUAL WILL BE ACCEPTED.
- FITTINGS AND FLANGES:**
 - FITTINGS:** AWWA/ANSI C110/A21.10 OR C153/A21.53.
 - REDUCERS SHALL BE ECCENTRIC. MATCH GRADE AT TOP OF PIPE.
 - FLANGES:** DRILLED AND FACED PER ASME B16.1 FOR BOTH 125 AND 250 PSI APPLICATIONS.
 - SLEEVES:** SLEEVES SHALL BE LONG BODY TYPE. USE OF SLEEVES SHALL ONLY BE ALLOWED WHERE INDICATED OR APPROVED.
- NUTS AND BOLTS:**
 - MECHANICALLY GALVANIZED ASTM B695, CLASS 40.
 - HEADS AND DIMENSIONS PER ASME B1.1.
 - THREADED PER ASME B1.1.
 - PROJECT ENDS 1/4 IN TO 1/2 IN BEYOND NUTS.
 - ALL BURIED NUTS AND BOLTS SHALL BE WRAPPED WITH POLYETHYLENE ENCASUREMENT UNLESS OTHERWISE AS SHOWN ON THE PLANS OR SPECIFIED HEREIN.
- GASKETS:**
 - MECHANICAL JOINT: AWWA C111.
 - PUSH-ON JOINT: AWWA C111 AND MANUFACTURER'S STANDARD DESIGN DIMENSIONS AND TOLERANCES.
 - FLANGE: AWWA C111.
 - AT NO TIME SHALL GASKETS BE CUT THAT WILL BE USED IN THE INSTALLATION OF PIPELINE.
- LININGS AND COATINGS:**
 - PROVIDE THE FOLLOWING INTERIOR LININGS:
 - CERAMIC NOVOLAC EPOXY LINING.
 - COMPLETELY COVER THE INTERIOR SURFACE OF PIPE AND FITTINGS.
 - SHOP APPLY IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
 - PRODUCE A PINHOLE FREE LINING COVERING AND PROPERLY ADHERED TO THE INTERIOR SURFACE.
 - THE LINING SHALL BE 40 MILS DFT NOMINAL THICKNESS, 35 MILS DFT MINIMUM.
 - APPLY WITHIN 8 HOURS AFTER SURFACE PREPARATION.
 - APPLY DIRECTLY TO THE CLEANED SUBSTRATE TO ACHIEVE THE SPECIFIED DRY FILM THICKNESS.
 - MULTIPLE PASS APPLICATION IS PERMITTED PROVIDED THE MAXIMUM ALLOWABLE RECOAT TIME IS NOT EXCEEDED.
 - THE LINING SHALL HAVE A 6 MILS DFT NOMINALLY AND 10 MILS DFT MAXIMUM FOR THE GASKET AREA AND SPIGOT AREA END UP TO 6 IN BACK FROM THE END OF THE SPIGOT ON THE OUTSIDE OF THE PIPE.
 - THESE AREAS SHALL BE COATED WITH THE APPROVED MANUFACTURER'S JOINT COMPOUND APPLIED BY BRUSH TO ENSURE PROPER COVERAGE. CARE MUST BE TAKEN SO THAT THE JOINT COMPOUND IS SMOOTH WITHOUT EXCESSIVE BUILD-UP IN THE GASKET SEAT OR ON THE SPIGOT ENDS.
 - COATING OF THE GASKET SEAT AND SPIGOT ENDS SHALL BE PERFORMED AFTER APPLICATION OF THE LINING TO ALL OTHER PIPE OR FITTING SURFACES.
 - THE LINING IN ALL PIPE BARRELS AND FITTINGS SHALL PASS 2,500 VOLT WET SPONGE HOLIDAY OR DISCONTINUITY DETECTION.
 - CONDUCT HOLIDAY DETECTION TESTING OVER 100 PERCENT OF LINED SURFACES.
 - TESTING SHALL BE IN ACCORDANCE WITH ASTM D5162 AND MOST RECENT VERSION OF NACE RP-0188.
 - TESTING SHALL BE CONDUCTED OVER 100% OF ALL LINED SURFACES FOR DUCTILE IRON.
 - ALL HOLIDAYS SHALL BE REPAIRED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTION AND RETESTED TO ENSURE A PINHOLE FREE LINING.
 - FINISHED LINING SHALL BE GENERALLY SMOOTH AND FREE OF RUNS, SAGS AND SHARP PROTUBERANCES.

MAINTENANCE OF PIPELINE OPERATIONS

- MAINTENANCE OF PIPELINE OPERATIONS DURING SEWER FORCE MAIN SHUTDOWNS FOR TIE-INS AND OFFSETS SHALL NOT BE PAID FOR SEPARATELY AND CONSIDERED INCIDENTAL TO THE RESPECTIVE BID ITEM.
- GENERAL CONSTRAINTS:**
 - ALL SHUTDOWN OPERATIONS SHALL BE APPROVED BY THE OWNER. ALL SHUTDOWN OPERATIONS SHALL BE COORDINATED WITH AND SCHEDULED AT TIMES SUITABLE TO THE OWNER.
 - HRSD/CITY OPERATIONS FIELD SUPPORT IS LIMITED TO MONDAYS, TUESDAYS, WEDNESDAYS, AND THURSDAYS (EXCLUDING HRSD OBSERVED HOLIDAYS) ONLY.
 - FLOW DIVERSIONS AND PUMP STATION SHUTDOWNS WILL BE BETWEEN THE HOURS OF 10 PM AND 4 AM UNLESS OTHERWISE NOTED OR APPROVED.
 - BYPASS PUMPING SYSTEMS OR TEMPORARY EMERGENCY GENERATORS REQUIRED FOR WORK ON FORCE MAINS, GRAVITY MAINS, PUMP STATIONS, OR PRESSURE REDUCING STATIONS TO BE TESTED AND ALARMED AS FOLLOWS:
 - PUMPS AND GENERATORS TO BE SUCCESSFULLY TESTED FOR 24 HOURS CONTINUOUSLY.
 - ALARMS TO BE INSTALLED TO INSURE ADEQUATE RESPONSE TIME FOR OPERATIONAL ISSUES.
 - CONTRACTOR TO BE THE FIRST RESPONDER TO ALARMS THROUGHOUT THE BYPASS / SHUTDOWN EVENT.
 - CONTRACTOR RESPONSIBLE FOR FUEL AND REQUIRED MAINTENANCE AND DOCUMENTATION
 - HRSD/CITY DOES NOT GUARANTEE COMPLETE SYSTEM VALVE CLOSURES. THE CONTRACTOR'S PLAN OF OPERATION SHALL ACCOUNT FOR THIS SITUATION IN THE DEVELOPED PLAN.
 - SHOP DRAWING SUBMITTALS FOR ALL PIPE AND APPURTENANCE MATERIALS REQUIRED FOR THE TIE-IN WORK SHALL BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO SCHEDULING OF THE TIE-IN.
 - SHUTDOWNS SHALL NOT BEGIN UNTIL ALL REQUIRED MATERIALS ARE ON-HAND AND READY FOR INSTALLATION AND A WRITTEN PLAN OF OPERATION HAS BEEN SUBMITTED AND APPROVED BY THE OWNER.
 - AT A TIME APPROVED BY THE OWNER, THE SHUTDOWN PERIOD WILL COMMENCE AND THE CONTRACTOR SHALL PROCEED WITH THE WORK CONTINUOUSLY, START TO FINISH, UNLESS OTHERWISE NOTED. UNTIL THE WORK IS COMPLETED AND THE SYSTEM IS TESTED AND READY FOR OPERATION. IF THE CONTRACTOR COMPLETES ALL REQUIRED WORK BEFORE THE SPECIFIED SHUTDOWN PERIOD HAS ENDED, THE OWNER MAY IMMEDIATELY PLACE THE EXISTING SYSTEM BACK IN SERVICE.
 - IF PROBLEMS OCCUR, CONTRACTOR ALONG WITH APPROPRIATE STAFF AND EQUIPMENT TO REMAIN ON SITE TO BE AN EXTENSION OF HRSD/CITY OPERATIONAL RESPONSE UNTIL ALL OPERATIONAL ISSUES HAVE BEEN RESOLVED TO THE SATISFACTION OF HRSD/CITY.
 - LABOR CREWS INVOLVED WITH A TIE-IN MUST BE SWITCHED OUT AFTER A MAXIMUM OF 12-HOUR SHIFTS.
 - CONSIDERATION SHALL BE GIVEN TO EXTREME WEATHER CONDITIONS AS TO WHETHER OR NOT REDUCTIONS IN CREW SHIFT TIME PERIODS WILL BE REQUIRED AT OWNER'S DISCRETION
 - THE OWNER RESERVES THE RIGHT TO CANCEL SCHEDULED SHUTDOWNS IF CONDITIONS WARRANT.

GENERAL WORK SEQUENCING

- NOTIFICATION AND MEETINGS:
 - THE CONTRACTOR TO SUBMIT A TENTATIVE SCHEDULE TO THE ENGINEER AT LEAST 30 CALENDAR DAYS PRIOR TO ANY WORK ON OR WORK AFFECTING ACTIVE HRSD OR CITY FORCE MAINS, PUMP STATIONS, AND GRAVITY SEWER MAINS FOR OWNER TO EVALUATE RESOURCES AND PREPARE TO SUPPORT THE CONTRACTOR'S WORK EFFORTS.
 - THE CONTRACTOR SHALL PROVIDE WRITTEN NOTICE IN THE FORM OF CONTRACTOR'S PLAN OF OPERATION AND TIE-IN CHECKLIST TO THE OWNER AND ENGINEER 10 BUSINESS DAYS PRIOR TO HIS ANTICIPATED TIE-IN DATE.
 - THE CONTRACTOR SHALL DEVELOP AND SUBMIT INTERIM VALVE GUIDES AND INTERIM RECORD DRAWINGS TO THE ENGINEER FOR REVIEW A MINIMUM OF 5 BUSINESS DAYS IN ADVANCE OF THE SCHEDULED TIE-IN, SHUTDOWN, OR STARTUP. NO TIE-INS OR SHUTDOWNS OF AN ACTIVE HRSD/CITY SYSTEM WILL BE ALLOWED UNTIL THE REFERENCED INTERIM VALVE GUIDES AND INTERIM RECORD DRAWING ARE SUBMITTED AND APPROVED.
 - REVIEW OF TIE-IN CHECKLIST
 - REVIEW OF SITE CONDITIONS TO INCLUDE RODDING OF AIR VENTS, OPERATION OF VALVES, ACCESS TO ALL APPURTENANCES, ETC.
 - REVIEW OF WEATHER FORECAST/WEATHER IMPACTS TO INCLUDE FREEZING TEMPERATURES FOR PUMP & HAUL OPERATIONS.
 - REVIEW CONTACT INFORMATION
 - THE CONTRACTOR IS REQUIRED TO SCHEDULE A MEETING ON SITE ON THE MORNING OF A PLANNED NIGHTTIME TIE-IN OR ONE BUSINESS DAY PRIOR TO A DAYTIME ALLOWABLE TIE-IN AND SHALL NOTIFY THE OWNER, ENGINEER, AND THE CITY OF SUFFOLK DEPARTMENT OF PUBLIC UTILITIES. AT THE TIME OF THE MEETING, THE CONTRACTOR SHALL HAVE ALL MATERIALS AND EQUIPMENT NECESSARY FOR THE TIE-IN ON SITE, OPERABLE AND ASSEMBLED FOR INSPECTION BY THE OWNER AND ENGINEER. THE FOLLOWING WILL BE DISCUSSED AT THIS MEETING:
 - REVIEW OF SITE CONDITIONS
 - REVIEW WEATHER FORECASTS / WEATHER IMPACTS
 - REVIEW WORK AND CONTINGENCY PLANS
 - REVIEW CONTACT INFORMATION
 - REVIEW OF EMERGENCY EQUIPMENT
 - THE OWNER RESERVES THE RIGHT TO POSTPONE THE SCHEDULED TIE-IN IF:
 - THE SITE OR CONTRACTOR IS NOT PREPARED AS REQUIRED IN THE PLAN NOTES AND AS AGREED UPON AT THE PRE-TIE-IN MEETING.
 - THE OWNER OR THE CITY OF SUFFOLK DEPARTMENT OF PUBLIC UTILITIES HAS AN EMERGENCY IN ANOTHER PART OF THEIR SYSTEM.
 - A RAIN EVENT HAS OCCURRED IN THE THREE (3) CALENDAR DAYS BEFORE THE SCHEDULED TIE-IN DATE OR IS FORECASTED IN THE 24 TO 48 HOURS AFTER THE SCHEDULED TIE-IN DATE IN A PORTION OF THE SEWER SYSTEM WITH HISTORICAL PROBLEMS WITH INFLOW AND/OR INFILTRATION.
- COORDINATION:
 - THE CONTRACTOR SHALL COORDINATE ALL ACTIVITIES WITH THE OWNER, ENGINEER, AND THE CITY OF VIRGINIA SUFFOLK OF PUBLIC UTILITIES FOR ACCEPTABLE DATES FOR CONNECTION TO FORCE MAINS AND ANY PIPE REMOVAL AND/OR ABANDONMENT.
 - CONTRACTOR'S COORDINATION SHALL INCLUDE PHONE CALLS, MEETINGS AND DISCUSSIONS WITH THE OWNER, ENGINEER, AND THE CITY OF SUFFOLK DEPARTMENT OF PUBLIC UTILITIES.
 - CONTACT WITH THESE ENTITIES SHALL BE INITIATED SIMULTANEOUSLY WITH THE WRITTEN NOTICE OF THE SCHEDULED TIE-IN TO THE OWNER AND ENGINEER.
 - TEXT MESSAGING SHALL NOT BE AN ACCEPTABLE FORM OF COMMUNICATION FOR COORDINATION OR ANY OTHER PURPOSES RELATED TO THE PROJECT.
 - THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER FOR PREPARATION AND SUBMISSION OF A REQUEST FOR VALVE OPERATION TO OWNER AS FOLLOWS:
 - FIVE (5) BUSINESS DAY NOTIFICATION TO OWNER FOR MORE THAN 2 REQUIRED VALVE OPERATIONS.
 - TWO (2) BUSINESS DAY NOTIFICATION TO OWNER FOR 1-2 REQUIRED VALVE OPERATIONS.
 - IF THE SHUTDOWN REQUIRES THE OPERATION OF NEWLY INSTALLED VALVES, A TEMPORARY VALVE GUIDE MUST ACCOMPANY THE REQUEST.

MAINTENANCE OF PIPELINE OPERATIONS CONTINUED

GENERAL WORK SEQUENCING CONTINUED

- PLAN OF OPERATION: AT A MINIMUM THE CONTRACTOR'S PLAN OF OPERATION SHALL INCLUDE THE FOLLOWING:
 - SCHEDULE:
 - STARTING DATE.
 - SEQUENTIAL LISTING OF SPECIFIC TASKS REQUIRED TO COMPLETE THE TIE-IN.
 - ANTICIPATED DURATION FOR EACH TASK OF THE TIE-IN OPERATION.
 - METHOD OF DEWATERING THE EXISTING FORCE MAIN INCLUDING WHERE THE SEWAGE IS TO BE DISPOSED, AND PROVIDE QUANTITY OF WASTEWATER ANTICIPATED IN DEWATERING.
 - METHOD OF HANDLING CONSTANT FLOW IF VALVES OR LINE STOPS DO NOT CLOSE COMPLETELY. HRSD CANNOT GUARANTEE THAT FULL STOPPAGE OF FLOW WILL BE ACHIEVED.
 - LIST OF PUMP STATIONS THAT MUST BE MAINTAINED.
 - NUMBER OF PUMPER TRUCKS, TO INCLUDE CAPACITY OF EACH TRUCK, TO BE SUPPLIED TO HANDLE FLOW AT THE EXISTING STATIONS AND THE PIPE DEWATERING OPERATIONS.
 - CONTINGENCY PLAN FOR HANDLING FLOW AT THE EXISTING PUMP STATION IF THE SHUTDOWN HOURS EXCEED THE ANTICIPATED TIME FRAME.
 - CONTINGENCY PLAN FOR MEETING A DEADLINE FOR FULL TRAFFIC TO BE RESTORED IF A LOCALITY ROADWAY IS TAKEN OUT OF SERVICE OR THE CAPACITY REDUCED DURING THE TIE-IN AND THE COMPLETION SCHEDULE CANNOT BE MET.
 - MOBILE PHONE CONTACTS (LOCAL PHONE NUMBER) FOR CONTRACTOR PERSONNEL, HRSD KEY PERSONNEL, LOCALITY OPERATIONS PERSONNEL, AND OTHER IDENTIFIED KEY STAKEHOLDERS.
 - LIST OF EQUIPMENT AND NUMBER OF CREWS TO VERIFY ADEQUACY OF CONTRACTOR'S ABILITY TO WORK BOTH ENDS OF THE TIE-IN SIMULTANEOUSLY AND CONTINUOUSLY UNTIL CONNECTIONS ARE COMPLETE.
 - STONE AND OTHER BACKFILL MATERIALS TO BE ON-SITE IF RAIN IS FORECAST AND TO BE USED IF A HEAVY RAIN EVENT OCCURS DURING THE TIE-IN BACKFILL AND COMPACTION STAGE.
 - CONFIRMATION OF AVAILABILITY AND SCHEDULING OF ASPHALT PLACEMENT AND PROPER CURE TIME FOR TIE-INS UNDER EXISTING PAVEMENT TO RESTORE TRAFFIC MOVEMENT.
- CONNECTION WORK:
 - SHUTDOWNS SHALL OCCUR BETWEEN THE HOURS OF 10 PM TO 4 AM TUESDAY THROUGH THURSDAY OR AS DIRECTED BY THE OWNER OR THE CITY OF SUFFOLK DEPARTMENT OF PUBLIC UTILITIES AT THE TIME OF SHUTDOWN.
 - THE OPERATION OF ALL EXISTING HRSD-OWNED MAINLINE VALVES, AIR VENTS, AND PUMP STATIONS WILL BE PERFORMED ONLY BY HRSD FORCES.
 - THE OPERATION OF ALL EXISTING JURISDICTION-OWNED MAINLINE VALVES, AIR VENTS, AND PUMP STATIONS WILL BE PERFORMED ONLY BY JURISDICTIONAL FORCES.
 - THE OPERATION OF ALL EXISTING PRIVATELY-OWNED MAINLINE VALVES, AIR VENTS, AND PUMP STATIONS WILL BE PERFORMED ONLY BY FORCES OF THE PRIVATE UTILITY.
 - A DECISION POINT WILL BE ESTABLISHED BY HRSD AND THE ENGINEER FOR THE CONTRACTOR TO CUT THE ACTIVE FORCE MAIN. THIS DECISION DURING THE TIE-IN WILL BE BASED UPON THE CONTRACTOR'S PROGRESS LEADING UP TO THE CUTTING INTO THE ACTIVE FORCE MAIN. INADEQUATE PROGRESS BY THE CONTRACTOR LEADING UP TO THIS CRITICAL DECISION POINT MAY LEAD TO A POSTPONEMENT OF THE TIE-IN COMPLETION, BACKFILLING THE EXCAVATION, PLACING TEMPORARY PAVEMENT, AND RESCHEDULING THE REMAINDER OF THE TIE-IN WORK.
 - UNLESS OTHERWISE NOTED HEREIN, THE CONTRACTOR SHALL WORK CONTINUOUSLY ONCE THE FORCE MAIN HAS BEEN CUT UNTIL THE CONNECTION WORK IS COMPLETE, OPERATING PRESSURE RESTORED, VISUAL TEST FOR LEAKS IS COMPLETE, AND THE TRENCH IS BACKFILLED TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.
 - THE CONTRACTOR SHALL PROVIDE A CREW WITH EQUIPMENT FOR EACH CONNECTION POINT SO THAT MULTIPLE CONNECTIONS CAN BE COMPLETED SIMULTANEOUSLY.
 - THE CONTRACTOR IS RESPONSIBLE FOR CONVEYING SEWAGE FROM ALL AFFECTED PUMP STATIONS TO PREVENT OVERFLOW THROUGHOUT THE ENTIRE DURATION OF EACH SHUTDOWN. THE FACT THAT A FACILITY SERVED BY ONE OF THESE STATIONS IS CLOSED AT NIGHT IS NOT A GUARANTEE OF ZERO SEWAGE FLOW.
 - THE AMOUNT OF SEWAGE WITHIN THE FORCE MAIN ANTICIPATED TO BE HANDLED BY THE CONTRACTOR DURING THE SHUTDOWN, AT THE TIE-IN AREAS, IS ESTIMATED FOR EACH SERVICE TRANSFER. THIS DATA IS GIVEN FOR INFORMATION ONLY, IS DERIVED FROM RECORD DRAWINGS (NOT VERIFIED IN THE FIELD) AND NO GUARANTEES ARE GIVEN TO THE CONTRACTOR REGARDING VOLUME OF REMAINING SEWAGE.
 - ONCE THE DEWATERING OF THE FORCE MAIN HAS BEGUN, ALL DEWATERING EFFORTS IN THE TIE-IN TRENCHES MUST BE DIRECTED TO AN APPROVED COLLECTION FACILITY (E.G. VACUUM TRUCK OR EXISTING SANITARY SEWER COLLECTION SYSTEM). THIS SHALL CONTINUE FOR THE ENTIRE REMAINING DURATION OF THE TIE-IN. THE CONTRACTOR IS TO BE AWARE THAT DISCHARGING SEWAGE FROM THE TIE-IN EXCAVATION INTO AN UNAPPROVED COLLECTION FACILITY (E.G. CREEK, STORM DRAINAGE, OR DRAINAGE DITCH) IS UNLAWFUL AND WILL NOT BE PERMITTED. CONTRACTOR TO PROVIDE TO OWNER'S REPRESENTATIVE, TICKETS OR OTHER DOCUMENTATION FOR EACH TRUCK / TANKER CYCLE OF FILL / DUMP USED FOR PUMP & HAUL OPERATIONS DURING TIE-IN OR SHUTDOWN.
 - THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE SCREENING DURING ANY BYPASS PUMPING OR PUMP & HAUL OPERATIONS IN ORDER TO MINIMIZE DEBRIS.
 - THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE SUPPORT AND RESTRAINT, AGAINST SYSTEM PRESSURE OF THE EXPOSED PIPING PRIOR TO AND DURING STARTUP AND FINAL BACKFILL.
 - THE CONTRACTOR SHALL FOLLOW THE PROCEDURES HEREIN FOR ANY JOINTS OF THE NEW FORCE MAIN AND FITTINGS THAT HAVE NOT BEEN PREVIOUSLY HYDROSTATICALLY PRESSURE TESTED:
 - HRSD REESTABLISHES SERVICES IN THE LINE.
 - ONE HALF HOUR WILL ELAPSE, AFTER AIR VENTING IS COMPLETE BY HRSD/CITY.
 - JOINTS WILL BE VISUALLY INSPECTED FOR SIGNS OF LEAKAGE BY OWNER OR OWNER'S REPRESENTATIVE.
 - ANY LEAKAGE NOTED SHALL BE CORRECTED TO THE SATISFACTION OF THE OWNER OR THE OWNER'S REPRESENTATIVE.
 - AFTER SATISFACTORY VISUAL TESTING OF EXPOSED JOINTS BY THE OWNER'S REPRESENTATIVE AND ANY CORRECTIVE ACTION, THE CONTRACTOR SHALL WRAP THE PIPE AND/OR FITTING AS REQUIRED AND IMMEDIATELY PROCEED TO BACKFILL THE PIPE AND RESTORE TO GRADE CONDITIONS OR FOR REESTABLISHMENT OF TRAFFIC IF IN A ROADWAY. SOIL BACKFILL COMPACTION TESTS MAY BE SPECIFIED BY THE OWNER OR OWNER'S REPRESENTATIVE FOR WORK WITHIN ROADWAY TRAVEL LANES.
 - IF SPECIFIED, UTILITY WARNING TAPE SHALL BE INSTALLED ABOVE THE CONNECTION IN ACCORDANCE WITH THE BID DOCUMENTS.
 - ANY JOINTS NOT INSPECTED BY THE OWNER OR THE OWNER'S REPRESENTATIVE, WILL NOT BE APPROVED AND SHALL BE EXCAVATED FOR INSPECTION.
 - THE CONTRACTOR SHALL ASSIST THE OWNER DURING THE REESTABLISHMENT OF FLOWS AS FOLLOWS:
 - PROVIDE RISER PIPE, FITTINGS, SEWAGE CONTAINMENT DRUMS FOR EACH CONTROL AIR VENT LOCATIONS, AND TEMPORARY VALVE AT THE AIR RELEASE POINT TO VENT AIR.
 - PROVIDE MEANS OF ELECTRONIC COMMUNICATION TO COORDINATE THIS OPERATION.

IMPACTED FACILITIES / FLOW ESTIMATES

THE FOLLOWING PUMP STATIONS MAY BE IMPACTED DURING THE SHUTDOWN OF THE FORCE MAINS IN THE PROJECT LIMITS

PUMP STATION NUMBER	ESTIMATED MINIMUM DRY WEATHER FLOWS (GPM)
62	25
33	15
107	60
66	20
23	30
129	10

PUMP STATION NUMBER	ESTIMATED MINIMUM DRY WEATHER FLOWS (GPM)
17	50
24	25
126	10
72	25
71	5
161	5

PUMP STATION NUMBER	ESTIMATED MINIMUM DRY WEATHER FLOWS (GPM)
77	5
44	5
35	10

10/30/20 EGS	NO.	DATE	BY



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GENERAL NOTES

ROUTE 58 IMPROVEMENTS PREPARED FOR CITY OF SUFFOLK SHEET NUMBER 2(1)

DESIGNED BY: APF
 DRAWN BY: LEL
 CHECKED BY: VER