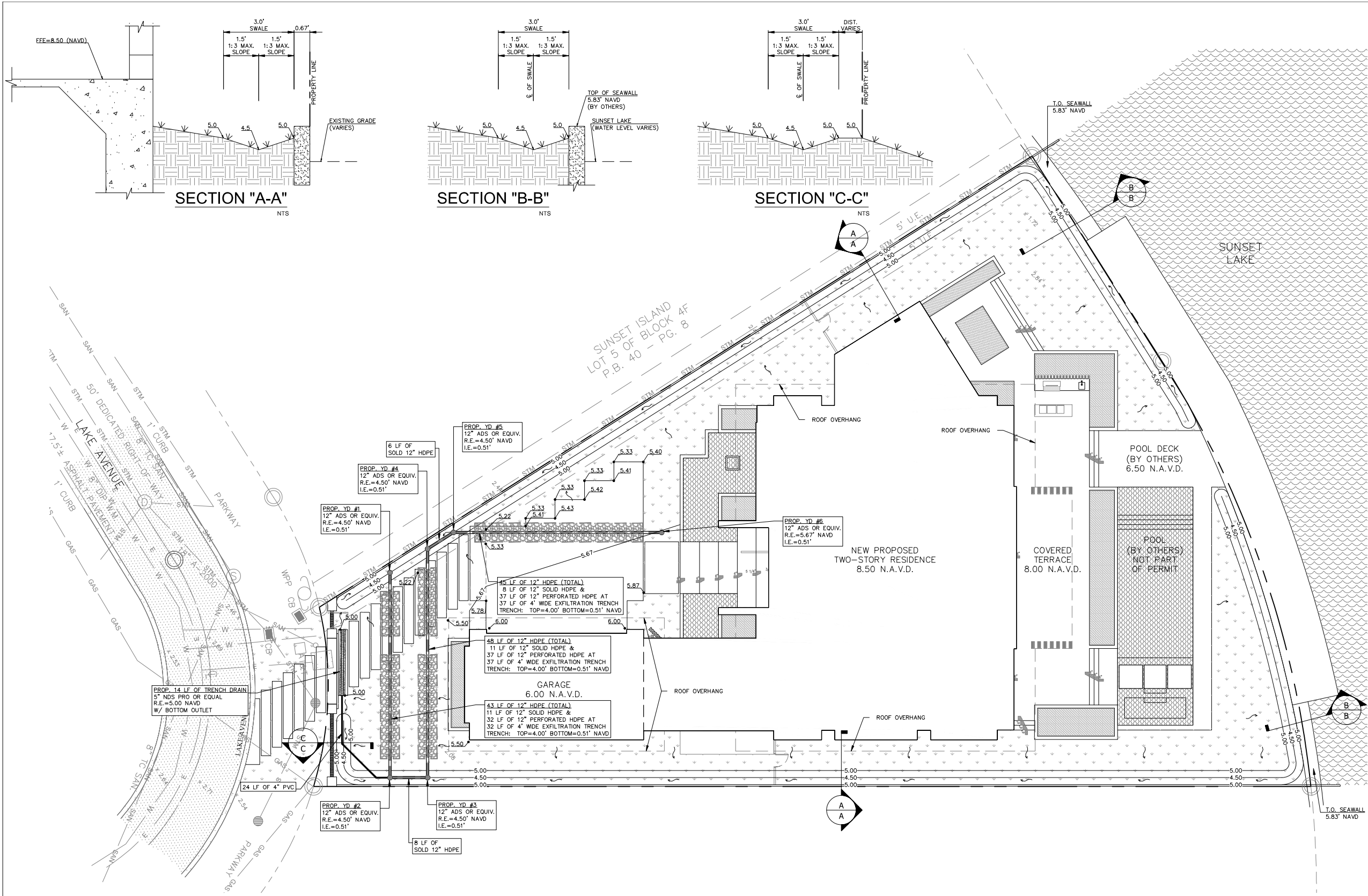


1. APPLICABLE CODES				12" INCHES VERTICAL CLEARANCE. THE NEW PIPE SHALL BE CONSTRUCTED OF DIP, AND THE CROSSING SHALL BE ARRANGED TO MEET THE REQUIREMENTS ABOVE.				MAINS. TAPE WILL BE 3" WIDE AND COLOR CODED. LOCATE WIRE WILL SHALL BE NO.14 STRAND AND COLOR CODED.				8.3.1. VALVES SHALL BE INSTALLED WITH ADJUSTABLE CAST IRON VALVE BOXES WITH THE WORD "SEWER" CAST IN THE COVER.				10.4.4. DENSITY TESTS ON THE STABILIZED SUBGRADE SHALL BE SUPPLIED TO THE ENGINEER OF RECORD AND APPROVED BEFORE ANY LIMEROCK BASE IS CONSTRUCTED.			
1.1. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE STANDARD AND SPECIFICATIONS OF THE CITY OF MIAMI BEACH AND ALL OTHER LOCAL, STATE AND NATIONAL CODES WHERE APPLICABLE EXCEPT WITHIN DEPARTMENT OF TRANSPORTATION (D.O.T.) R/W WHEREIN FLORIDA DEPARTMENT OF TRANSPORTATION (F.D.O.T.) GOVERNS.				6.1.5. A MINIMUM 10-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN ANY TYPE OF SEWER AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE.				6.4.10. R.P.M.'S TO BE INSTALLED, PRIOR TO C/O, AT CENTER OF NEAREST DRIVE AISLE ADJACENT TO ALL HYDRANTS (BLUE) AND GATE VALVES (WHITE). FOR HYDRANTS AT CORNERS (2) TWO R.P.M.'S SHALL BE INSTALLED, ONE AT EACH ROADWAY.				9. STORM DRAINAGE				10.4.5. DENSITY TESTS AND AS-BUILTS ON THE FINISHED LIMEROCK BASE SHALL BE SUPPLIED TO THE ENGINEER OF RECORD, AND APPROVED BEFORE ANY ASPHALT PAVEMENT IS CONSTRUCTED.			
1.2. ALL CONSTRUCTION SHALL BE DONE IN A SAFE MANNER AND IN STRICT COMPLIANCE WITH ALL THE REQUIREMENTS OF FEDERAL OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, AND ALL STATE AND LOCAL SAFETY AND HEALTH REGULATIONS.				6.1.6. IN CASES WHERE IT IS NOT POSSIBLE TO MAINTAIN A 10 FOOT HORIZONTAL SEPARATION, THE WATER MAIN MUST BE LAID IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELF LOCATED ON ONE SIDE OF THE SEWER OR FORCE MAIN AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER.				6.5. TESTING:				9.1. GENERAL:				11. PROJECT CLOSEOUT			
1.3. ALL ELEVATIONS SHOWN ON THE CONSTRUCTION DRAWINGS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM 1988, (NAVD) UNLESS OTHERWISE NOTED.				6.1.7. WHERE IT IS NOT POSSIBLE TO MAINTAIN A VERTICAL DISTANCE OF 12" INCHES IN PARALLEL INSTALLATIONS, THE WATER MAIN SHALL BE CONSTRUCTED OF DIP AND THE SANITARY SEWER OR THE FORCE MAIN SHALL BE CONSTRUCTED OF DIP WITH A MINIMUM VERTICAL DISTANCE OF 6 INCHES. THE WATER MAIN SHOULD ALWAYS BE ABOVE THE SEWER. JOINTS ON THE WATER MAIN SHALL BE LOCATED AS FAR APART AS POSSIBLE FROM JOINTS ON THE SEWER OR FORCE MAIN (STAGGERED JOINTS).				6.5.1. BEFORE ANY PHYSICAL CONNECTIONS TO THE EXISTING WATER MAINS ARE MADE, THE COMPLETE WATER SYSTEM SHALL BE PRESSURE TESTED AND DISINFECTED. HYDROSTATIC TESTING OF NEW MAINS SHALL BE PERFORMED AT A MINIMUM STARTING PRESSURE OF 150 PSI FOR TWO HOURS IN ACCORDANCE WITH ANSI/AWWA C600-99 OR LATEST REVISION. THE PRESSURE TEST SHALL NOT VARY MORE THAN 5 PSI DURING THE TEST.				9.2. MATERIALS:				11.1. CLEANING UP:			
1.4. THE CITY OF MIAMI BEACH WATER AND SEWER DEPARTMENT WATER AND SEWER SPECIFICATIONS SHALL DICTATE WHEN IN CONFLICT WITH ANY OF THE FOLLOWING SPECIFICATIONS.				6.1.8. CONTRACTOR SHALL MAINTAIN WATER SERVICE TO ALL EXISTING FACILITIES DURING CONSTRUCTION.				6.5.2. THE PRESSURE TEST SHALL BE WITNESSED BY A REPRESENTATIVE OF THE CITY OF MIAMI BEACH UTILITIES DEPARTMENT AND THE ENGINEER OF RECORD.				9.2.1. DISTANCES AND LENGTHS SHOWN ON PLANS ARE REFERENCED TO THE CENTER OF STRUCTURES.				11.1.1. DURING CONSTRUCTION, THE PROJECT SITE AND ALL ADJACENT AREAS SHALL BE MAINTAINED IN A NEAT AND CLEAN MANNER, AND UPON FINAL CLEAN-UP, THE PROJECT SITE SHALL BE LEFT CLEAR OF ALL SURPLUS MATERIAL OR TRASH. THE PAVED AREAS SHALL BE SWEEP BROOM CLEAN.			
1.5. ALL MATERIALS AND CONSTRUCTION WITHIN THE D.O.T. R/W SHALL CONFORM TO THE D.O.T. "DESIGN STANDARDS" (2015) AND "STANDARD SPECIFICATIONS" (2015).				6.2. MATERIALS:				6.5.3. ALL NEW WATER MAINS SHALL BE PIGGED AND CANON FLUSHED PRIOR TO DISINFECTION.				9.2.2. HIGH-DENSITY POLYETHYLENE (H.D.P.E.) SHALL MEET THE REQUIREMENTS OF ASTM F2619 / F2619M, LATEST REVISION.				11.1.2. THE CONTRACTOR SHALL RESTORE OR REPLACE, WHEN AND AS DIRECTED, ANY PUBLIC OR PRIVATE PROPERTY DAMAGED BY HIS WORK, EQUIPMENT, OR EMPLOYEES, TO A CONDITION AT LEAST EQUAL TO THAT EXISTING IMMEDIATELY PRIOR TO THE BEGINNING OF OPERATIONS. TO THAT END, THE CONTRACTOR SHALL DO, AS REQUIRED, ALL NECESSARY HIGHWAY, DRIVEWAY, WALK AND LANDSCAPING WORK. SUITABLE MATERIALS AND METHODS SHALL BE USED FOR SUCH RESTORATION.			
1.6. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE MAINTENANCE OF TRAFFIC (M.O.T) PLAN PRIOR TO CONSTRUCTION. THE CONSULTANT'S ENGINEER SHALL ENSURE THAT THE M.O.T PLAN FOR THE PROJECT CONFORMS WITH STANDARD INDEX SERIES 600, APPLICABLE INDEX FOR WORK BEING PERFORMED. THE CONTRACTOR SHALL ENSURE THE M.O.T. PLAN IS IMPLEMENTED EXACTLY AS APPROVED.				6.2.1. POLYVINYL CHLORIDE (PVC) PIPE SHALL BE DR 18 ANSI / AWWA C900-97 OR LATEST REVISION.				6.5.4. BEFORE ACCEPTANCE FOR OPERATION, THE WATER SYSTEM SHALL BE DISINFECTED IN ACCORDANCE WITH THE ANSI/AWWA C651-99; 150 PSI MINIMUM STARTING TEST PRESSURE. METER RECONNECTIONS MAY BE MADE TO NEW LINES AFTER TWO CONSECUTIVE DAYS OF BACTERIOLOGICAL SAMPLES HAVE PASSED, AND COPIES OF RESULTS HAVE BEEN RECEIVED BY THE ENGINEER, THE CITY OF MIAMI BEACH, AND HRS.				9.2.3. CORRUGATED ALUMINUM PIPE (C.A.P.) SHALL BE HELICAL TYPE, CONFORMING TO ASTM B209 AND AASHTO M196, AS MANUFACTURED BY KAISER ALUMINUM, INC., OR APPROVED EQUAL. THE CORRUGATION PATTERN AND GAUGE SHALL BE AS FOLLOWS:				11.1.3. WHERE MATERIAL OR DEBRIS HAS WASHED OR FLOWED INTO OR HAS BEEN PLACED IN WATER COURSES, DITCHES, DRAINS, CATCH BASINS, OR ELSEWHERE AS A RESULT OF THE CONTRACTOR'S OPERATIONS, SUCH MATERIAL OR DEBRIS SHALL BE REMOVED AND SATISFACTORILY DISPOSED OF DURING THE PROGRESS OF THE WORK, AND THE AREA KEPT IN A CLEAN AND NEAT CONDITION.			
2. PRECONSTRUCTION RESPONSIBILITIES				6.2.2. ALL PIPE LARGER THAN 12" DIAMETER MUST BE DUCTILE IRON (MIN. CLASS 50), 8" AND 10" DIP (MIN. CLASS 50) 4" AND 6" DIP (MIN. CLASS 52). ALL DUCTILE IRON PIPE SHALL CONFORM TO THE REQUIREMENTS OF ANSI/AWWA C151/A21.51-96 AND CEMENT MORTAR LINED AND SEAL COATED PER ANSI/AWWA C104/A21.4-95.				6.5.5. SAMPLING POINTS SHALL BE PROVIDED AT THE LOCATIONS SHOWN ON THE PLANS, IF NOT SPECIFIED, SAMPLING POINTS SHALL BE PROVIDED AT INTERVALS OF 1200' MAXIMUM FOR LINES GREATER THAN 2000' IN LENGTH.				9.2.4. PIPE COUPLINGS FOR C.A.P. SHALL BE 12" WIDE (MINIMUM) 24" FOR 60" DIAMETER OR LARGER. SPLIT BANDS OF THE SAME ALLOY AS THE PIPE MAY BE ONE GAUGE LIGHTER THAN THE PIPE. POLYURETHANE OR OTHER MANUFACTURER SUPPLIED SEALANT SHALL BE USED WITH THE COUPLINGS.				11.2. ALL PROPERTY MONUMENTS OR PERMANENT REFERENCES, REMOVED OR DESTROYED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE RESTORED BY A STATE OF FLORIDA REGISTERED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.			
2.5. UPON THE RECEIPT OF THE "NOTICE TO PROCEED", THE CONTRACTOR SHALL CONTACT THE ENGINEER OF RECORD AND ARRANGE A PRECONSTRUCTION CONFERENCE TO INCLUDE ALL INVOLVED GOVERNMENTAL AGENCIES, UTILITY OWNERS, THE OWNER AND THE ENGINEER OF RECORD.				6.2.3. FITTINGS SHALL BE DUCTILE IRON MEETING ANSI/AWWA C-153/A21.53-00 SPECIFICATIONS. FITTINGS MUST BE CEMENT LINED AND SEAL COATED PER ANSI/AWWA C104/A21.4-95.				6.5.6. THE ALLOWABLE LEAKAGE SHALL BE LESS THAN THE NUMBER OF GALLONS PER HOUR AS DETERMINED BY THE FORMULA: $L = \frac{P - 0.2}{0.8} \times \frac{D}{L}$ IN WHICH L EQUALS THE ALLOWABLE LEAKAGE IN GALLONS PER HOUR, S EQUALS LENGTH OF PIPE (LINEAR FEET), D EQUALS NOMINAL DIAMETER OF PIPE (INCHES) AND P EQUALS THE SQUARE ROOT OF THE AVE PRESSURE.				9.2.5. FIELD JOINTS IN THE PIPE SHALL BE MADE WITH ALUMINUM SPIRAL RIB PIPE FORMED FROM COILED ALUMINUM SHEETS AND SHALL CONFORM TO ASTM B2-09 AND AASHTO M196, AS APPROVED BY KAISER ALUMINUM, INC., OR APPROVED EQUAL.				11.3. ALL UNPAVED SURFACES DISTURBED AS A RESULT OF CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THAT WHICH EXISTED BEFORE THE CONSTRUCTION.			
2.6. THE CONTRACTOR SHALL OBTAIN A SUNSHINE STATE ONE CALL OF FLORIDA, INC. CERTIFICATION NUMBER AT LEAST 48 HOURS PRIOR TO BEGINNING ANY EXCAVATION, CALL 1-800-432-4770.				6.2.4. VALVES SHALL BE GATE VALVES, IRON BODY, FULLY RESILIENT SEAT BRONZED MOUNTED NON-RISING STEM, RATED AT 200 PSI AND CONFORMING TO ANSI/AWWA C509-94 OR LATEST REVISION, AND SHALL HAVE MECHANICAL JOINTS.				9.2.6. ALL DRAINAGE CATCH BASINS AND STRUCTURES SHALL BE PRECAST CONCRETE AS MANUFACTURED BY U.S. PRECAST CORPORATION, UNLESS OTHERWISE NOTED ON THE PLANS. BLOCK CATCH BASINS WILL BE ALLOWED ONLY WITH APPROVAL OF THE ENGINEER.				12. ENGINEER'S AS-BUILT REQUIREMENTS							
2.7. ALL UTILITY EASEMENTS TO BE SECURED PRIOR TO CONSTRUCTION (IF REQUIRED).				6.2.4.1. GATE VALVES 4" AND LARGER SHALL BE MUELLER A-2380-20, RESILIENT SEATED GATE VALVES SHALL BE AMERICAN 80 LINE OR CLOW F-6100, CONFORMING TO ANSI/AWWA C500-93.				9.3. INSTALLATION:				12.1. AS-BUILTS OF WATER LINES SHALL INCLUDE THE FOLLOWING INFORMATION:							
2.8. LOCATION OF EXISTING FACILITIES AS SHOWN ON CONSTRUCTION DRAWINGS ARE DRAWN FROM AVAILABLE RECORDS. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE FACILITIES SHOWN OR FOR ANY FACILITY NOT SHOWN. THE CONTRACTOR SHALL VERIFY, IF POSSIBLE, THE ELEVATIONS AND LOCATIONS OF EXISTING FACILITIES PRIOR TO CONSTRUCTION. IF AN EXISTING FACILITY IS FOUND TO CONFLICT WITH THE PROPOSED CONSTRUCTION UPON EXCAVATION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF RECORD SO THAT APPROPRIATE MEASURES CAN BE TAKEN TO RESOLVE THE PROBLEM.				6.2.4.2. TAPPING VALVES SHALL BE MUELLER H667 OR APPROVED EQUAL.				9.3.1. PIPE SHALL BE PLACED ON A MINIMUM OF 8" STABLE GRANULAR MATERIAL FREE OF ROCK FORMATION AND OTHER FOREIGN FORMATIONS, AND CONSTRUCTED TO A UNIFORM GRADE AND LINE.				12.1.1. TOP OF PIPE ELEVATIONS EVERY 100 LF.							
2.9. THE CONTRACTOR MUST CALL THE CITY OF MIAMI BEACH AT LEAST 48 HOURS BEFORE ANY EXCAVATION WITHIN THE R/W TO DETERMINE THE LOCATION TO OF THE EXISTING TRAFFIC SIGNAL INTERCONNECT CABLE.				6.2.4.3. GATE VALVES 3" OR LESS SHALL HAVE THE SAME REQUIREMENTS AS LARGER GATE VALVES. THEY SHALL BE 2" RSW VALUE WITH 2" OPERATING NUT.				9.3.2. BACKFILL MATERIAL SHALL BE WELL GRADED GRANULAR MATERIAL, WELL TAMPED TO A HEIGHT OF 12 INCHES ABOVE PIPE AS SHOWN ON THE PLANS. TAMPING TO BE DONE IN LAYERS NOT TO EXCEED 12 INCHES.				12.1.2. LOCATIONS AND ELEVATIONS OF ALL FITTINGS INCLUDING BENDS, TEES, GATE VALVES, DOUBLE DETECTOR CHECK VALVES, FIRE HYDRANTS, ETC.							
3. INSPECTIONS				6.2.5. TAPPING SLEEVES SHALL BE MUELLER H615, CLOW F-2505 OR APPROVED EQUAL.				9.3.3. PROVIDE A MINIMUM PROTECTIVE COVER OF 18 INCHES OVER STORM SEWER AND AVOID UNNECESSARY CROSSING BY HEAVY CONSTRUCTION VEHICLES DURING CONSTRUCTION.				12.1.3. ALL TIE INS TO EXISTING LINES SHALL BE AS-BUILT.							
3.1. THE CONTRACTOR SHALL NOTIFY THE CITY OF MIAMI BEACH, AND ANY OTHER GOVERNMENTAL AGENCIES HAVING JURISDICTION AT LEAST 24 HOURS PRIOR TO BEGINNING CONSTRUCTION AND PRIOR TO THE INSPECTION OF THE FOLLOWING ITEMS, WHERE APPLICABLE:				6.2.6. VALVE BOXES SHALL BE TYLER OR APPROVED EQUAL.				9.3.4. THE CONTRACTOR SHALL NOTIFY THE CITY OF MIAMI BEACH ENGINEERING DIVISION AT LEAST 7 DAYS PRIOR TO THE START OF THE CONSTRUCTION AND INSPECTION.				12.1.4. THE ENDS OF ALL WATER SERVICES AT THE BUILDINGS OR HOMES SHALL BE AS-BUILT OR WHERE THE WATER SERVICE TERMINATES.							
3.1.1. CLEARING AND FILLING				6.2.7. RETAINER GLANDS SHALL BE MEGA-LUG AND CONFORM TO ANSI / AWWA C111/A21.11-00 OR LATEST REVISION. ALL GLANDS SHALL BE MANUFACTURED FROM DUCTILE IRON AS LISTED BY UNDERWRITERS LABORATORIES FOR 250 PSI MINIMUM WATER PRESSURE RATING.				10. PAVING AND SIDEWALKS				12.2. AS-BUILTS OF ALL GRAVITY SANITARY SEWER LINES SHALL INCLUDE THE FOLLOWING INFORMATION:							
3.1.2. STORM DRAINAGE SYSTEM				6.2.8. NO DRESSER COUPLINGS SHALL BE ALLOWED ON DISTRIBUTION SYSTEM.				10.1. GENERAL:				12.2.1. RIMS, INVERTS AND LENGTH OF PIPING BETWEEN STRUCTURES AS WELL AS SLOPES.							
3.1.3. SANITARY SEWER SYSTEM				6.2.9. FIRE HYDRANTS SHALL BE MUELLER CENTURION TRAFFIC TYPE A-423 WITH 5 1/4" INTERNAL VALVE OPENING OR APPROVED EQUAL. MAIN VALVE OPENING TO BE DETERMINED BY THE WATER DEPARTMENT. PUMPER NOZZLE TO BE 18" FROM FINISHED GRADE OR CENTERLINE OF ADJACENT ROADWAY WHICHEVER IS GREATER. ALL HYDRANTS TO BE INSTALLED WITH CONTROL VALVE. RETAINER GLANDS ARE PREFERRED FOR RESTRAINING. FIRE HYDRANT SHALL COMPLY WITH ANSI/AWWA C502-94.				10.1.1. ALL MUCK AND YIELDING MATERIAL WITHIN THE LIMITS OF CONSTRUCTION SHALL BE REMOVED AND REPLACED WITH CLEAN FILL MATERIAL WHICH SHALL BE COMPACTED AND SHAPED TO CONFORM TO THE REQUIRED SECTION. COMPACTED AREAS, AS SHOWN ON THE PLANS AND OR AS DETERMINED BY THE ENGINEER, SHALL BE COMPACTED TO NOT LESS THAN 98% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE, AS DETERMINED BY AASHTO T-180, LATEST REVISION. AREAS TO BE STABILIZED, AS DETERMINED BY THE ENGINEER, SHALL HAVE A MINIMUM LBR-40.				12.2.2. THE STUB ENDS OF ALL SEWER LATERALS SHALL BE LOCATED AND IF THERE ARE ANY CLEANOUTS INSTALLED ON THE SEWER LATERALS THEN THE INVERT ELEVATION OF THESE CLEANOUTS SHALL BE OBTAINED.							
3.1.4. WATER DISTRIBUTION SYSTEM				6.3. SERVICE CONNECTION:				10.1.2. ALL UNDERGROUND UTILITIES SHALL BE COMPLETED PRIOR TO CONSTRUCTION OF LIMEROCK BASE.				12.2.3. THE SIZE OF THE PIPING SHALL BE VERIFIED BY THE SURVEY CREW AT THE TIME OF AS-BUILT.							
3.1.5. SUBGRADE				6.3.1. SERVICE SADDLES SHALL BE STAINLESS STEEL STRAPS, SADDLES SHALL BE DOUBLE STRAP TYPE. ALL SERVICE SADDLES SHALL CONFORM TO ANSI/AWWA C111/A21.11-00 AND ASTM A-588.				10.1.3. ALL EXISTING PAVEMENT, CUT OR DAMAGED BY CONSTRUCTION, SHALL BE PROPERLY RESTORED AT THE CONTRACTOR'S EXPENSE.				12.2.3.1. DRAINAGE WELL STRUCTURE AS-BUILTS SHALL INCLUDE, BUT NOT BE LIMITED TO, TOP OF CASING ELEVATION, TOP AND BOTTOM ELEVATIONS OF THE BAFFLE WALLS, RIM ELEVATIONS AND INVERTS OF PIPING.							
3.1.6. LIMEROCK BASE				6.3.2. SERVICE LINES SHALL BE POLYETHYLENE (3408), 250 PSI RATED, SDR9, PIPE JOINTS SHALL BE OF THE COMPRESSION TYPE TOTALLY CONFINED GRIP SEAL AND COUPLING NUT WITH STAINLESS STEEL INSERTS.				10.1.4. WHERE ANY PROPOSED PAVEMENT IS TO BE CONNECTED TO EXISTING PAVEMENT, THE EXISTING EDGE OF PAVEMENT SHALL BE SAW CUT.				12.3. AS-BUILTS OF ALL DRAINAGE LINES SHALL INCLUDE THE FOLLOWING INFORMATION:							
3.1.7. ASPHALTIC CONCRETE				6.3.3. CORPORATION STOPS SHALL BE MANUFACTURED OF BRASS ALLOY IN ACCORDANCE WITH ASTM B-62 WITH THREADED ENDS, AS MANUFACTURED BY MUELLER H10046 OR APPROVED EQUAL.				10.2. MATERIALS:				12.3.1. RIMS, INVERTS AND LENGTH OF PIPING BETWEEN STRUCTURES AND WEIR ELEVATIONS IF APPLICABLE.							
3.1.8. SIDEWALK				6.3.4. CURB STOPS SHALL BE MUELLER H10203 OR APPROVED EQUAL.				10.2.1. MINIMUM SIDEWALK CONSTRUCTION SHALL BE 4 INCH THICK CONCRETE, MINIMUM 3000psi COMPRESSIVE STRENGTH AT 28 DAYS. SAWCUT CONSTRUCTION JOINTS 5 FOOT O.C. WITHIN 48 HOURS OF PLACING, EXPANSION JOINTS SHALL BE 20 FOOT O.C.				12.3.2. THE SIZE OF THE PIPING SHALL BE VERIFIED BY THE SURVEY CREW AT THE TIME OF AS-BUILT.							
3.1.9. FINAL				6.3.5. METER STOPS SHALL BE LOCKWING TYPE AND SHALL BE OF BRONZE CONSTRUCTION IN ACCORDANCE WITH ASTM B-62. METER STOPS SHALL BE CLOSED BOTTOM DESIGN AND RESILIENT "O" RING SEALED AGAINST EXTERNAL LEAKAGE AT THE TOP. STOPS SHALL BE EQUIPPED WITH A METER COUPLING NUT ON THE OUTLET SIDES, AS MANUFACTURED BY MUELLER OR APPROVED EQUAL.				10.2.2. ASPHALT SURFACES SHALL BE TYPE S-III ASPHALTIC CONCRETE, UNLESS OTHERWISE SPECIFIED ON THE PLANS, TWO (2) SHALL BE A MINIMUM OF 1-1/2" THICK, A AND SHALL BE APPLIED IN (2) 3/4" LIFTS.				12.3.3. ALL CATCH BASIN AND MANHOLE RIM ELEVATIONS SHALL BE SHOWN.							
4. SHOP DRAWINGS				6.4. INSTALLATION:				10.3. INSTALLATION:				12.4. ELEVATIONS AROUND ISLAND AREAS WILL ALSO BE REQUIRED.							
4.1. PRIOR TO THEIR CONSTRUCTION OR INSTALLATION, SHOP DRAWINGS SHALL BE SUBMITTED TO AND APPROVED BY THE ENGINEER OF RECORD AND THE CITY OF MIAMI BEACH, THE FOLLOWING: SANITARY MANHOLES, STORM DRAIN MANHOLES, CATCH BASINS, FIRE HYDRANTS, PIPING, VALVES AND ALL REQUIRED ACCESSORIES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ALL OTHER AGENCY APPROVALS IF REQUIRED.				6.4.1. ALL PVC PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE UNI-BELL PLASTIC PIPE ASSOCIATIONS "GUIDE FOR INSTALLATION OF PVC PRESSURE PIPE FOR MUNICIPAL WATER DISTRIBUTION SYSTEM."				10.3.1. SUBGRADE FOR PAVEMENT AREAS SHALL BE COMPACTED TO A MINIMUM OF 98% OF THE MAXIMUM DENSITY (AASHTO T-99(c)), AND SHALL HAVE A MINIMUM LBR 40.				12.4.1. ROCK ELEVATIONS AT ALL HIGH AND LOW POINTS, AND AT ENOUGH INTERMEDIATE POINTS TO CONFIRM SLOPE CONSISTENCY.							
5. TEMPORARY FACILITIES				6.4.2. ALL DIP SHALL BE INSTALLED IN ACCORDANCE WITH ANSI/AWWA C600-99 OR LATEST REVISION.				10.3.2. BASE COURSE MATERIAL FOR PAVED AREAS SHALL BE AS SHOWN ON PLANS FOR VARIOUS LOCATIONS.				12.4.2. ROCK AS-BUILTS SHALL BE TAKEN AT ALL LOCATIONS WHERE THERE IS A FINISH GRADE ELEVATION SHOWN ON THE DESIGN PLANS.							
5.1. TEMPORARY FACILITIES:				6.4.3. ALL WATER MAINS SHALL BE LAID WITH A MINIMUM 36" COVER FOR PVC AND 30" FOR DIP.				10.3.3. BASE COURSE MATERIAL FOR CURBS AND GUTTERS SHALL BE A MINIMUM THICKNESS OF 6 INCH.				12.4.3. ALL CATCH BASIN AND MANHOLE RIM ELEVATIONS SHALL BE SHOWN.							
5.1.1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE FOR OR SUPPLY TEMPORARY WATER SERVICE, SANITARY FACILITIES AND ELECTRICITY.				6.4.4. NO CONNECTIONS TO EXISTING LINES SHALL BE MADE UNTIL PRESSURE TESTS & BACTERIOLOGICAL TESTS HAVE BEEN PERFORMED AND THE SYSTEM IS ACCEPTABLE TO THE CITY OF MIAMI BEACH AND THE HEALTH DEPARTMENT.				10.3.4. BASE COURSE SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS PER AASHTO T-180 AND SHALL HAVE A MINIMUM LBR OF 100.				12.4.4. ELEVATIONS AROUND ISLAND AREAS WILL ALSO BE REQUIRED.							
5.2. TRAFFIC REGULATION:				6.4.5. PIPE DEFLECTION SHALL NOT EXCEED 75% OF THE MAXIMUM DEFLECTION RECOMMENDED BY THE MANUFACTURER.				10.4. TESTING:				12.4.5. WHERE CONCRETE IS TO BE USED AS A FINISHED PRODUCT FOR THE ROADWAY OR PARKING LOT ROCK AS-BUILTS WILL BE REQUIRED AS INDICATED ABOVE AS WELL AS AS-BUILTS ON THE FINISHED CONCRETE AT LOCATIONS WHERE THERE IS A FINISH GRADE ELEVATION SHOWN ON THE DESIGN PLANS. F AS-BUILTS SHALL BE TAKEN ON ALL PAVED AND UNPAVED SWALES, PRIOR TO PLACEMENT OF ASPHALT OR TOPSOIL/SOD, AT ENOUGH INTERMEDIATE POINTS TO CONFIRM SLOPE CONSISTENCY AND CONFORMANCE TO THE PLAN DETAILS.							
5.2.1. MAINTENANCE OF TRAFFIC IN THE PUBLIC RIGHTS-OF-WAY SHALL BE IN ACCORDANCE WITH MANUAL TRAFFIC CONTROL DEVICES (M.U.T.C.D.).				6.4.6. A CONTINUOUS AND UNIFORM BEDDING SHALL BE PROVIDED. BACKFILL MATERIAL SHALL BE TAMPED IN LAYERS AROUND THE PIPE AS SHOWN ON THE PLANS. STONES FOUND IN THE TRENCH SHALL BE REMOVED FOR A DEPTH OF AT LEAST 6" BELOW THE BOTTOM OF THE PIPE.				10.4.1. THE FINISHED SURFACE OF THE BASE COURSE AND THAT OF THE WEARING SURFACE SHALL NOT VARY MORE THAN 1/4" FROM THE TEMPLATE. ANY IRREGULARITIES EXCEEDING THIS LIMIT SHALL BE CORRECTED.				12.5. RETENTION AREA AS-BUILT ELEVATIONS SHALL BE TAKEN AT THE BOTTOM OF THE RETENTION AREA AND AT THE TOP OF BANK, IF THERE ARE CONTOURS INDICATED ON THE DESIGN PLANS, THEN THEY SHALL BE AS-BUILT AS WELL.							
5.2.2. ALL OPEN TRENCHES AND HOLES ADJACENT TO ROADWAYS OR WALKWAYS SHALL BE PROPERLY MARKED AND BARRICADED TO ASSURE THE SAFETY OF BOTH VEHICLES AND PEDESTRIAN TRAFFIC.				6.4.7. ALL VALVES SHALL BE INSTALLED WITH ADJUSTABLE CAST IRON VALVE BOXES WITH THE WORD "WATER" CAST IN THE COVER. U.S.F. OR APPROVED EQUAL.				10.4.2. DENSITY TESTS SHALL BE TAKEN BY AN INDEPENDENT TESTING LABORATORY CERTIFIED BY THE STATE OF FLORIDA, WHERE DIRECTED BY THE ENGINEER.				12.6. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL PREPARE RECORD DRAWINGS, "AS-BUILTS", ON FULL SIZE, 24" X 36" REPRODUCIBLE MATERIAL, WHERE WATER AND SEWER INFORMATION ARE ON THE SAME PAGE THE WATER LINE SHALL BE AS-BUILT BY STATION AND OFFSET UTILIZING THE SANITARY SEWER SYSTEM AS THE BASE LINE. IF IT IS NOT PRACTICAL TO UTILIZE THE SEWER SYSTEM AS A BASE LINE THEN THE SURVEYOR SHALL CONTACT THE ENGINEER OF RECORD SO THAT A SUBSTITUTE BASELINE MAY BE CHOSEN. ALL RECORD DRAWINGS, "AS-BUILT", INFORMATION SHALL BE PUT ON THE LATEST ENGINEERING DRAWINGS. ONE (1) SET OF REPRODUCIBLE RECORD DRAWINGS, "AS-BUILTS", SHALL BE SUBMITTED ALONG WITH EIGHT (8) SETS OF BLUE OR BLACKLINE DRAWINGS. THESE DRAWINGS SHALL BE SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL LAND SURVEYOR. ADDITIONALLY, AN ELECTRONIC COPY OF THESE RECORD DRAWINGS, "AS-BUILTS", SHALL BE SUBMITTED TO THE ENGINEER OF RECORD IN AUTOCAD, VERSION 2014.							
5.2.3. NO TRENCHES OR HOLES NEAR WALKWAYS, IN ROADWAYS OR THEIR SHOULDERS ARE TO BE LEFT OPEN DURING NIGHTTIME HOURS WITHOUT EXPRESS PERMISSION OF THE CITY OF MIAMI BEACH.				6.4.8. ALL FITTINGS TO BE RESTRAINED WITH MEGALUG OR APPROVED EQUAL.				10.4.3. ALL TESTING COSTS (PAVING) SHALL BE PAID FOR BY THE CONTRACTOR.				12.7. DENSITY TESTS SHALL BE TAKEN BY AN INDEPENDENT TESTING LABORATORY CERTIFIED BY THE STATE OF FLORIDA, WHERE DIRECTED BY THE ENGINEER.							
5.2.4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR FOR ANY NECESSARY CONSTRUCTION, PAVEMENT MARKING AND SIGNAGE OR ANY PEDESTRIAN SIGNALIZATION AND/OR SIGNAL MODIFICATION TO ACCOMMODATE AN ALTERNATE SAFE WALK ROUTE.				6.4.9. LOCATOR TAPE AND WIRE MUST BE INSTALLED 12" ABOVE NEW WATER															
6. WATER DISTRIBUTION SYSTEM				6.1.4. WHERE A NEW PIPE CONFLICTS WITH AN EXISTING PIPE WITH LESS THAN															
6.1. SEPARATION OF WATER AND SEWER MAINS:																			
6.1.1. SANITARY SEWERS, STORM SEWERS, AND FORCE MAINS SHOULD CROSS UNDER WATER MAINS WHENEVER POSSIBLE. SANITARY SEWERS, STORM SEWERS, AND FORCE MAINS CROSSING WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 12" INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE WHENEVER POSSIBLE.																			
6.1.2. WHERE SANITARY SEWERS, STORM SEWERS, OR FORCE MAINS MUST CROSS A WATER MAIN WITH LESS THAN 12" INCHES VERTICAL DISTANCE, BOTH THE SEWER AND THE WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (DIP) AT THE CROSSING. SUFFICIENT LENGTHS OF DIP MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 10 FEET BETWEEN ANY TWO JOINTS. ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING MUST BE MECHANICALLY RESTRAINED. A MINIMUM VERTICAL CLEARANCE OF 6 INCHES MUST BE MAINTAINED AT ALL CROSSINGS.																			
6.1.3. ALL CROSSINGS SHALL BE ARRANGED SO THAT THE SEWER PIPE JOINTS AND THE WATER MAIN PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING (PIPES CENTERED ON THE CROSSING).																			
6.1.4. WHERE A NEW PIPE CONFLICTS WITH AN EXISTING PIPE WITH LESS THAN																			
DCS				9/7/19															
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APPROVED BY				DATE				No.				DATE							
												REVISIONS							



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2135 LAKE AVENUE
MIAMI BEACH, FL



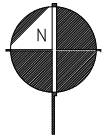
3325 S. UNIVERSITY DRIVE, SUITE 111
DAVIE, FLORIDA 33328
(954)318-0624 (954)358-0190 FAX
CERTIFICATE OF AUTHORIZATION No. 9808

ROBERT J. ROSS, P.E.
FLORIDA P.E. No. 59485
DATE: 9/7/2019

PAVING GRADING AND DRAINAGE PLAN

SCALE: 1"=10'

SHEET No. C-2

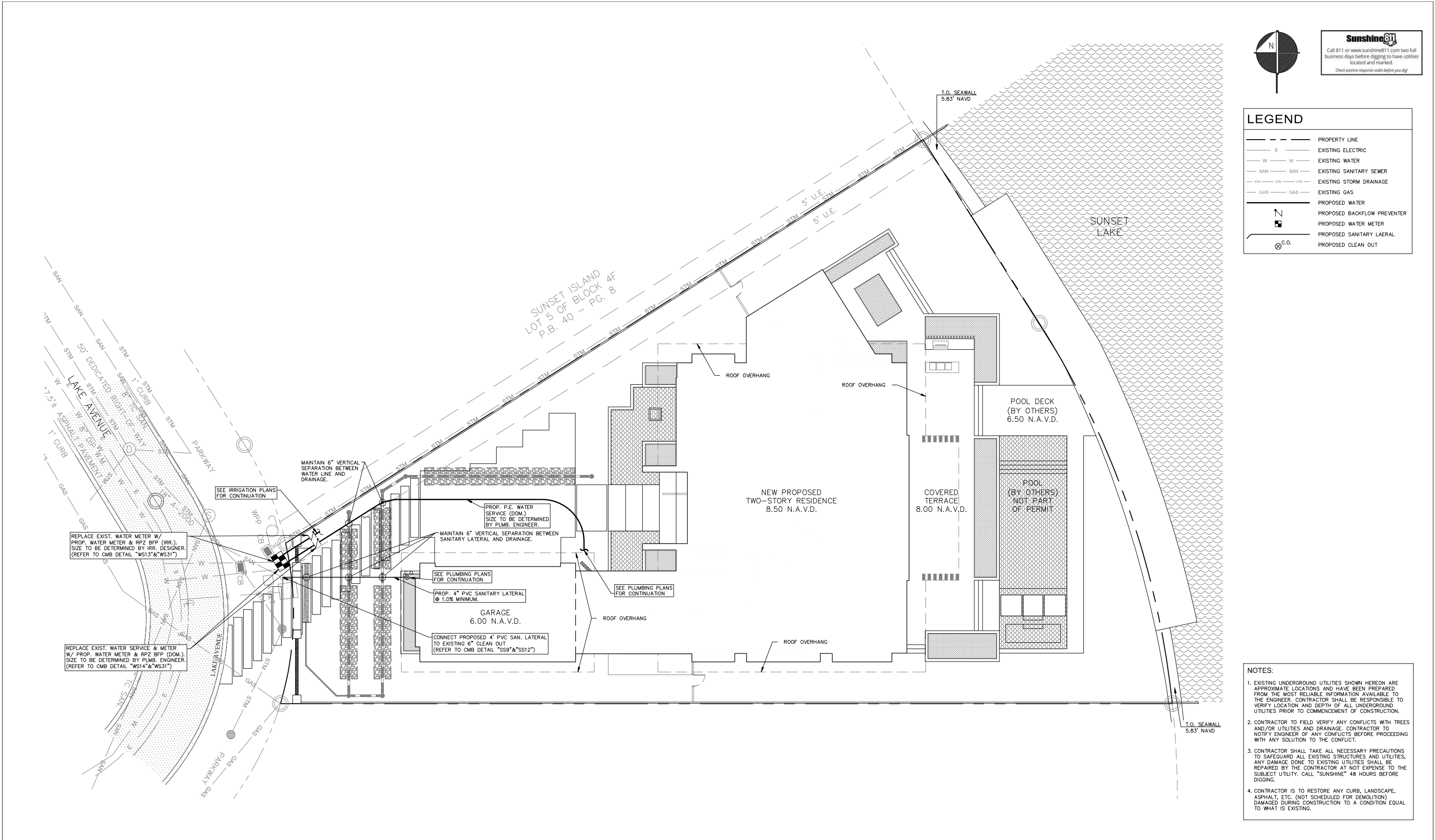


LEGEND

---	PROPERTY LINE
---	EXISTING ELECTRIC
---	EXISTING WATER
---	EXISTING SANITARY SEWER
---	EXISTING STORM DRAINAGE
---	EXISTING GAS
---	EXISTING ASPHALT
---	PROPOSED SOD
---	EXISTING GRADE
---	PROPOSED CONTOUR LINE
---	PROPOSED GRADE
---	MATCH EXISTING GRADE (MEG)
---	FLOW ARROW
---	PROPOSED YARD DRAIN (YD)
---	PROPOSED CLEAN OUT (CO)
---	PROPOSED DRAINAGE PIPE
---	PROPOSED DRAINAGE PIPE W/ INFILTRATION TRENCH

NOTES:

- EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE LOCATIONS AND HAVE BEEN PREPARED FROM THE MOST RELIABLE INFORMATION AVAILABLE TO THE ENGINEER. CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- CONTRACTOR TO FIELD VERIFY ANY CONFLICTS WITH TREES AND/OR UTILITIES AND DRAINAGE. CONTRACTOR TO NOTIFY ENGINEER OF ANY CONFLICTS BEFORE PROCEEDING WITH ANY SOLUTION TO THE CONFLICT.
- CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO SAFEGUARD ALL EXISTING STRUCTURES AND UTILITIES. ANY DAMAGE DONE TO EXISTING UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT NOT EXPENSE TO THE SUBJECT UTILITY. CALL "SUNSHINE" 48 HOURS BEFORE DIGGING.
- CONTRACTOR IS TO RESTORE ANY CURB, LANDSCAPE, ASPHALT, ETC. (NOT SCHEDULED FOR DEMOLITION) DAMAGED DURING CONSTRUCTION TO A CONDITION EQUAL TO WHAT IS EXISTING.
- ALL EXISTING AND PROPOSED ELEVATIONS SHOWN ON THE CONSTRUCTION DOCUMENTS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD).



N

Call 811 or www.sunshine811.com two full business days before digging to have utilities located and marked.
Check positive response codes before you dig!

LEGEND	
	PROPERTY LINE
	EXISTING ELECTRIC
	EXISTING WATER
	EXISTING SANITARY SEWER
	EXISTING STORM DRAINAGE
	EXISTING GAS
	PROPOSED WATER
	PROPOSED BACKFLOW PREVENTER
	PROPOSED WATER METER
	PROPOSED SANITARY LAERAL
	PROPOSED CLEAN OUT

- NOTES:
- EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE LOCATIONS AND HAVE BEEN PREPARED FROM THE MOST RELIABLE INFORMATION AVAILABLE TO THE ENGINEER. CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
 - CONTRACTOR TO FIELD VERIFY ANY CONFLICTS WITH TREES AND/OR UTILITIES AND DRAINAGE. CONTRACTOR TO NOTIFY ENGINEER OF ANY CONFLICTS BEFORE PROCEEDING WITH ANY SOLUTION TO THE CONFLICT.
 - CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO SAFEGUARD ALL EXISTING STRUCTURES AND UTILITIES. ANY DAMAGE DONE TO EXISTING UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT NOT EXPENSE TO THE SUBJECT UTILITY. CALL "SUNSHINE" 48 HOURS BEFORE DIGGING.
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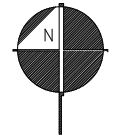
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ROBERT J. ROSS, P.E.
FLORIDA P.E. No. 59485
DATE:9/7/2019

WATER AND SANITARY SEWER PLAN

SCALE: 1"=10'

SHEET No. c-3



Sunshine811
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Check positive response codes before you dig!

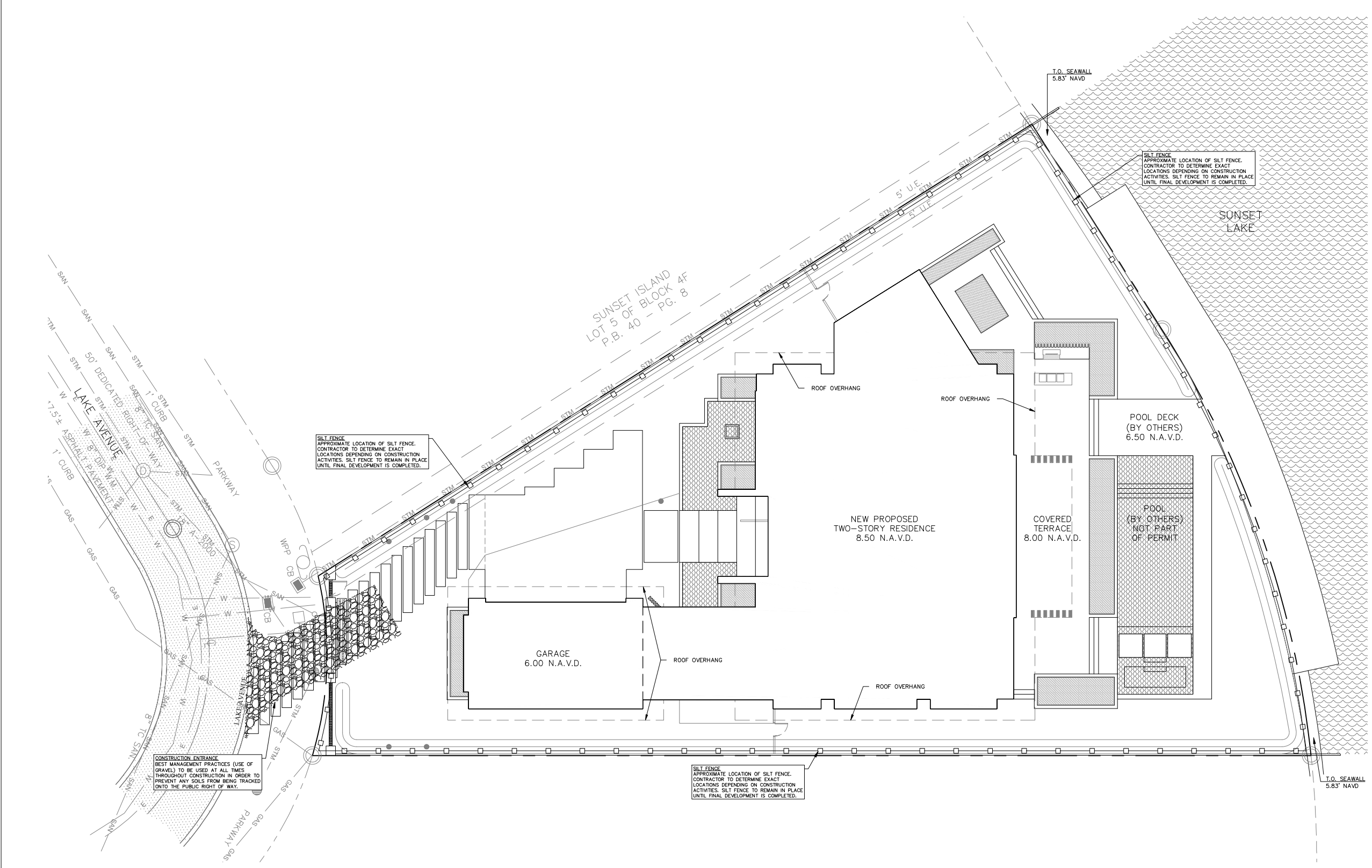
LEGEND

PROPERTY LINE

SILT FENCE

HAY BALE

CONSTRUCTION ENTRANCE (GRAVEL)



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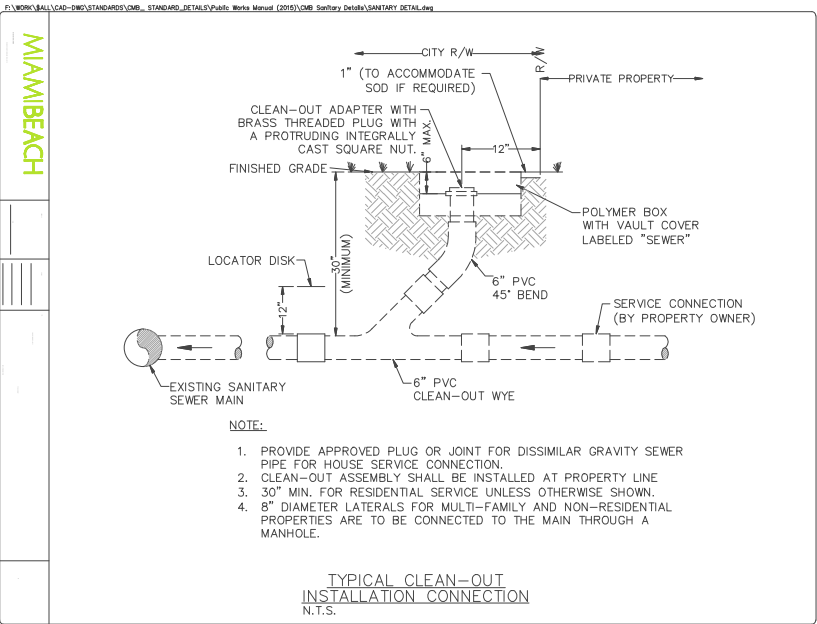
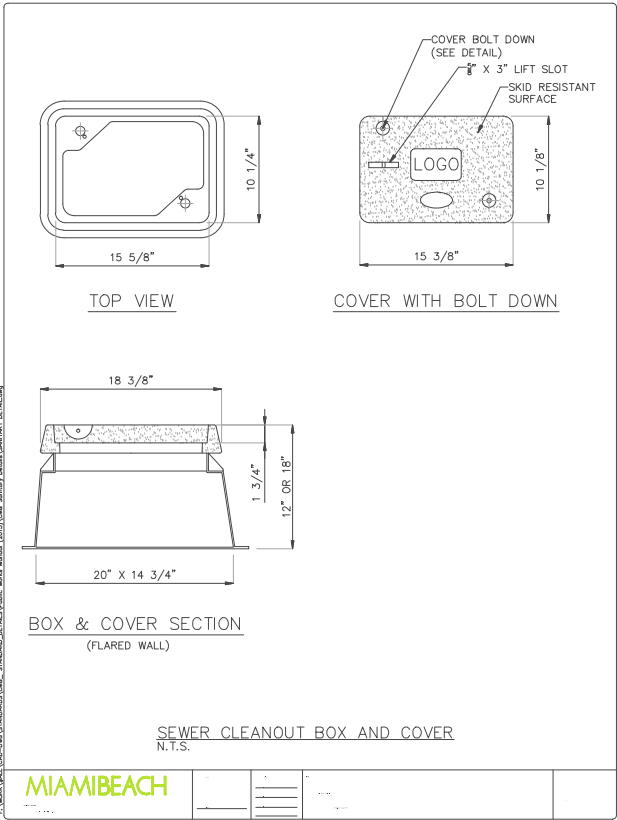
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ROBERT J. ROSS, P.E.
FLORIDA P.E. No. 59485
DATE: 9/7/2019

POLLUTION PREVENTION CONTROL PLAN

SCALE: 1"=10'

SHEET No. c-4



DCS	9/7/19			
DESIGNED BY	DATE			
DCS	9/7/19			
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RR	9/7/19			
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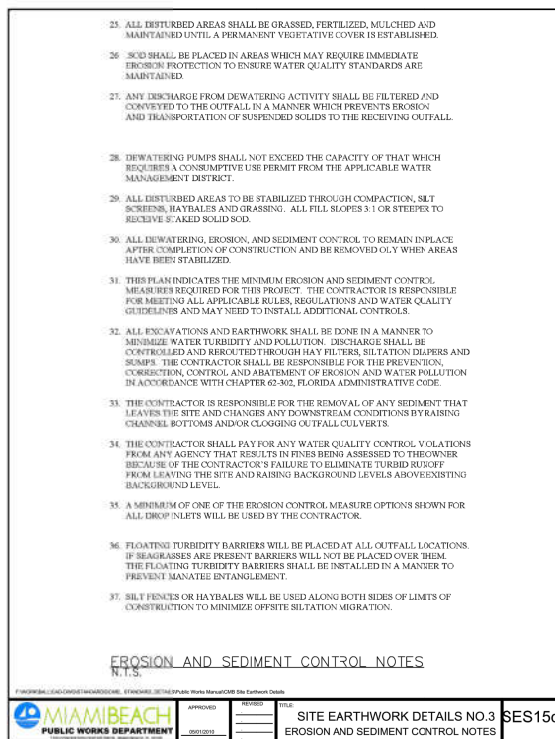
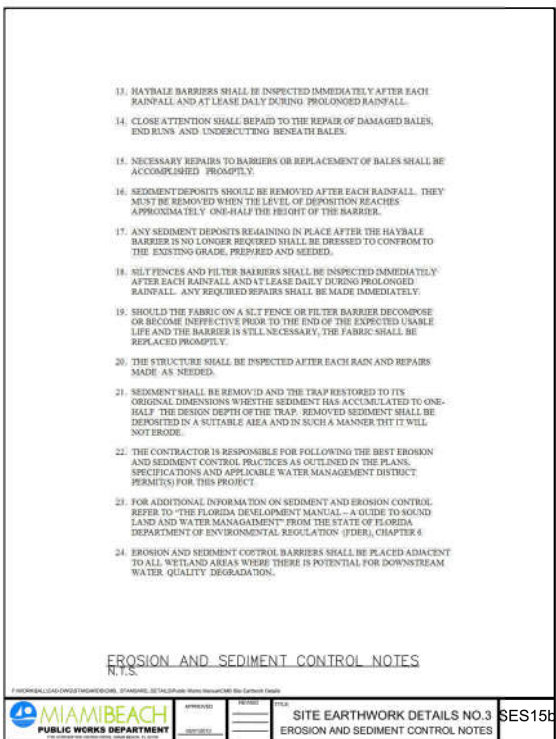
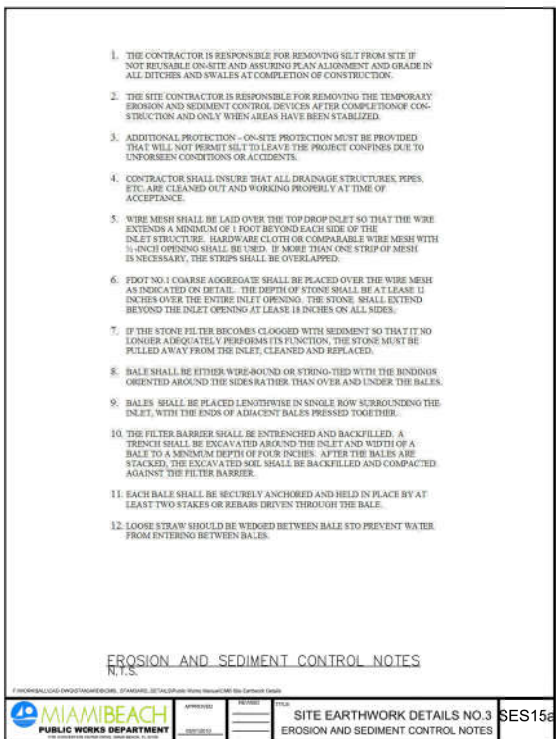
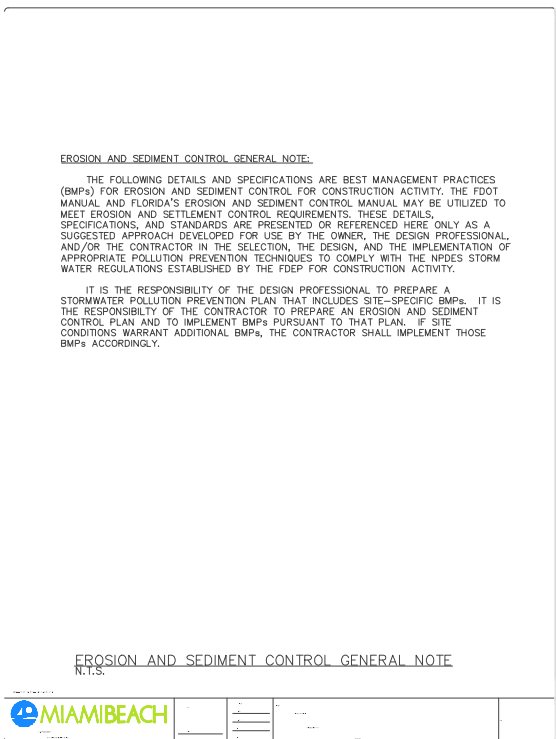
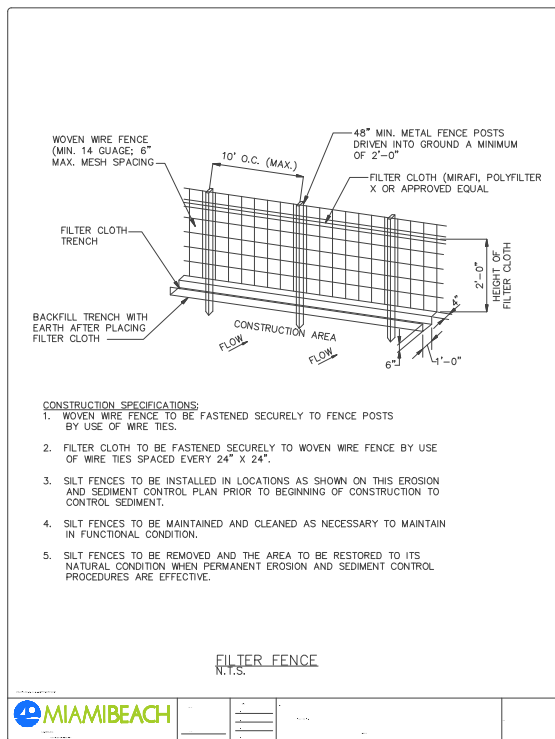
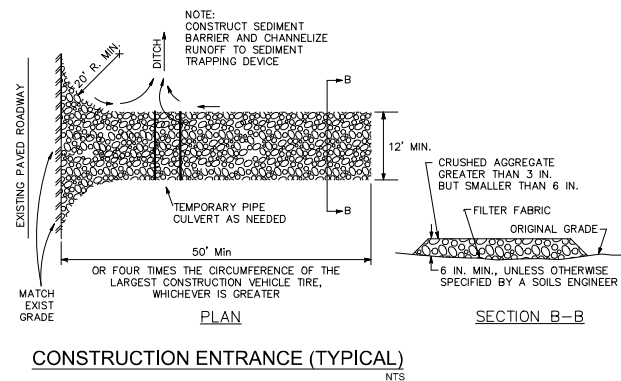
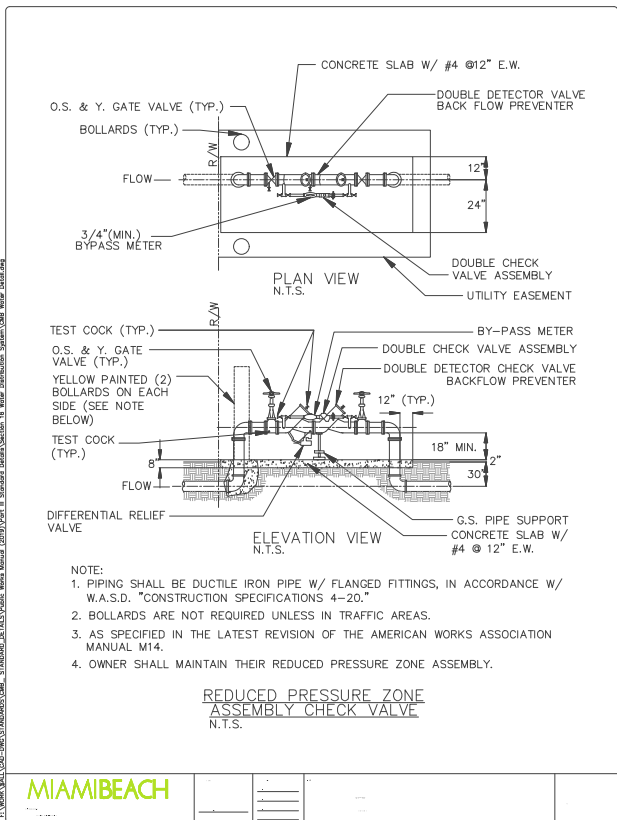
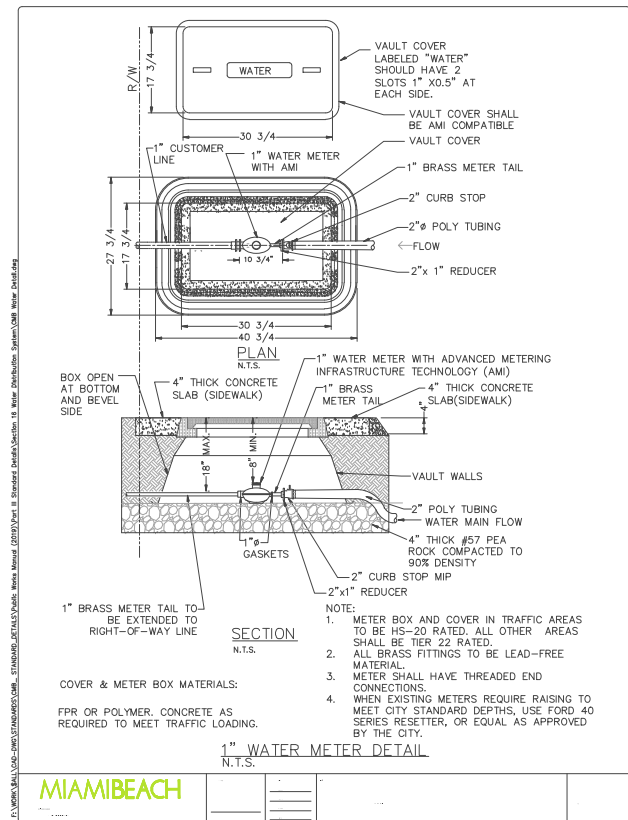
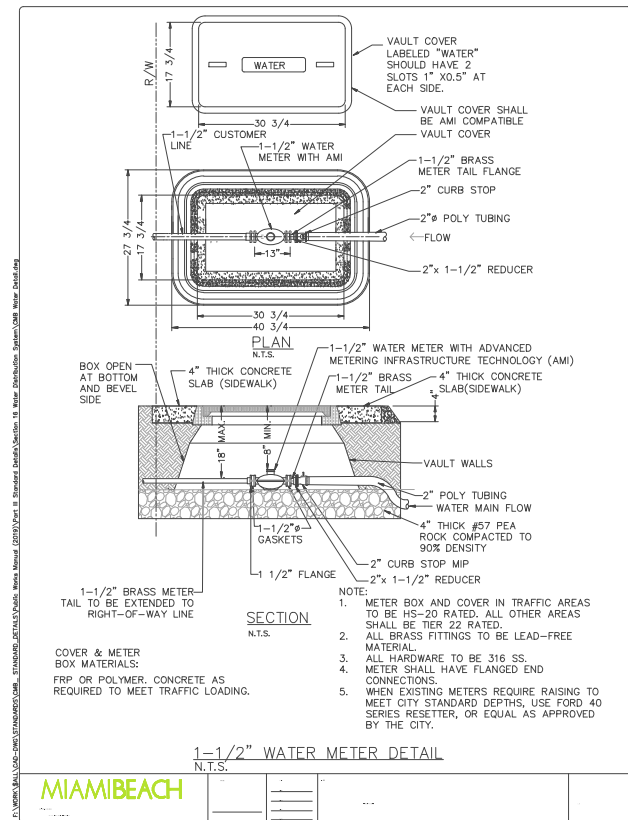
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ROBERT J. ROSS, P.E.
FLORIDA P.E. No. 59485
DATE:9/7/2019

SANITARY SEWER DETAILS

SCALE:

SHEET No. c-5



DCS	9/7/19			
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WATER AND EROSION CONTROL DETAILS

SCALE:		SHEET No. C-6
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