

GENERAL NOTES

CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THE NOTES AND SPECIFICATIONS CONTAINED HEREIN. CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE CONFORMANCE TO THESE REQUIREMENTS BY ALL SUBCONTRACTORS.

- THE FOLLOWING DOCUMENTS ARE INCORPORATED BY REFERENCE AS PART OF THIS SITE PLAN.

- RECORD SURVEY PREPARED BY PINNELL SURVEYING, INC., DATED 02/07/25

PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THAT HE/HS HAS THE LATEST EDITION OF THE DOCUMENTS REFERENCED ABOVE.

- ALL HANDICAPPED PARKING SPACES SHALL BE CONSTRUCTED TO MEET, AT A MINIMUM, THE MORE STRINGENT OF THE REQUIREMENTS OF THE "AMERICANS WITH DISABILITIES ACT" (ADA) CODE (42 U.S.C. § 12101 ET SEQ. AND 42 U.S.C. § 4151 ET SEQ.) OR THE REQUIREMENTS OF THE JURISDICTION WHERE THIS PROJECT IS TO BE CONSTRUCTED.

- PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR ANY APPLICABLE REQUIREMENTS AND STANDARDS OF ALL GOVERNMENTAL ENTITIES HAVING JURISDICTION OVER THIS PROJECT.

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND ALL APPLICABLE REQUIREMENTS AND STANDARDS OF ALL GOVERNMENTAL ENTITIES HAVING JURISDICTION OVER THIS PROJECT.

- THE GEOTECHNICAL REPORT AND RECOMMENDATIONS SET FORTH HEREIN ARE A PART OF THE REQUIRED CONSTRUCTION DOCUMENTS AND, IN CASE OF CONFLICT, SHALL TAKE PRECEDENCE UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING OF ANY SUCH DISCREPANCY BETWEEN THE GEOTECHNICAL REPORTS AND PLANS AND SPECIFICATIONS PRIOR TO PROCEEDING WITH ANY FURTHER WORK.

- THE RECORD SURVEY PREPARED BY PINNELL SURVEYING, INC., DATED 02/07/25, SHALL BE CONSIDERED A PART OF THESE PLANS.

- THESE PLANS ARE BASED ON INFORMATION PROVIDED TO THOMAS ENGINEERING GROUP BY THE OWNER AND OTHERS PRIOR TO THE TIME OF PLAN PREPARATION. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND REPORT TO THOMAS ENGINEERING GROUP IF ACTUAL SITE CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLAN, OR IF THE PROPOSED WORK CONFLICTS WITH ANY OTHER SITE FEATURES.

- ALL DIMENSIONS SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER IN WRITING IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS PRIOR TO THE GIVING OF SUCH NOTIFICATION AND THE ENGINEER'S WRITTEN AUTHORIZATION OF SUCH ADDITIONAL WORK.

- CONTRACTOR SHALL REFER TO THE ARCHITECTURAL/BUILDING PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRY/EXIT POINTS, ELEVATIONS, PRECISE BUILDING DIMENSIONS, EXACT BUILDING UTILITY LOCATIONS.

- PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE THE BUILDING LAYOUT BY CAREFUL REVIEW OF THE SITE PLAN AND LATEST ARCHITECTURAL PLANS (INCLUDING, BUT NOT LIMITED TO, STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND FIRE SUPPRESSION PLAN, WHERE APPLICABLE). CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER, ARCHITECT AND SITE ENGINEER OF ANY DISCREPANCIES.

- DEBRIS SHALL NOT BE BURIED ON THE SUBJECT SITE AND ALL UNSUITABLE EXCAVATED MATERIAL AND DEBRIS (SOLID WASTE) SHALL BE DISPOSED OF IN ACCORDANCE WITH THE REQUIREMENTS OF ALL GOVERNMENTAL AUTHORITIES HAVING JURISDICTION OVER THIS PROJECT.

- THE CONTRACTOR IS RESPONSIBLE FOR ALL SHORING REQUIRED DURING EXCAVATION (TO BE PERFORMED IN ACCORDANCE WITH CURRENT OSHA STANDARDS) AND ANY ADDITIONAL PRECAUTIONS REQUIRED TO ASSURE THE STABILITY OF ADJACENT AND CONTIGUOUS STRUCTURES.

- THE CONTRACTOR IS TO EXERCISE EXTREME CARE WHEN PERFORMING ANY WORK ACTIVITIES ADJACENT TO PAVEMENT, STRUCTURES, ETC. WHICH ARE TO REMAIN. CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING THE APPROPRIATE MEASURES REQUIRED TO ENSURE THE STRUCTURAL STABILITY OF SIDEWALKS AND PAVEMENT, ETC. WHICH ARE TO REMAIN, AND TO PROVIDE A SAFE WORK AREA.

- THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE DONE TO ANY NEW OR EXISTING CONSTRUCTION OR PROPERTY DURING THE COURSE OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AND SHALL REPLACE ALL SIGNAL INTERCONNECTION CABLE, WIRING CONDUITS, AND ANY UNDERGROUND ACCESSORY EQUIPMENT DAMAGED DURING CONSTRUCTION. THE REPAIR OF ANY SUCH NEW OR EXISTING CONSTRUCTION OR PROPERTY SHALL RESTORE SUCH CONSTRUCTION OR PROPERTY TO A CONDITION EQUIVALENT TO OR BETTER THAN THE EXISTING CONDITIONS, AND IN CONFORMANCE WITH APPLICABLE CODES. CONTRACTOR IS RESPONSIBLE TO DOCUMENT ALL EXISTING DAMAGE AND NOTIFY THE OWNER AND THE CONSTRUCTION MANAGER PRIOR TO THE START OF CONSTRUCTION.

- ALL CONCRETE SHALL HAVE THE MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS UNLESS OTHERWISE NOTED ON THE PLANS, DETAILS AND/OR GEOTECHNICAL REPORT.

- THE ENGINEER IS NOT RESPONSIBLE FOR CONSTRUCTION METHODS / MEANS FOR COMPLETION OF THE WORK DEPICED NEITHER ON THESE PLANS, NOR FOR ANY CONFLICTS/SCOPE REVISIONS WHICH RESULT FROM SAME. CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE METHODS/MEANS FOR COMPLETION OF THE WORK PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

- THE ENGINEER OF RECORD IS NOT RESPONSIBLE FOR JOB SITE SAFETY NOR HAS THE ENGINEER OF RECORD BEEN RETAINED FOR SUCH PURPOSES.

- ALL CONTRACTORS MUST CARRY THE SPECIFIED STATUTORY WORKERS' COMPENSATION INSURANCE, EMPLOYER'S LIABILITY INSURANCE AND LIMITS OF COMMERCIAL GENERAL LIABILITY INSURANCE (CGL). ALL CONTRACTORS MUST HAVE THEIR CGL POLICIES ENDORSED TO NAME THOMAS ENGINEERING GROUP, AND ITS SUB-CONSULTANTS AS ADDITIONAL NAMED INSURERS AND TO PROVIDE CONTRACTUAL LIABILITY COVERAGE SUFFICIENT TO INSURE THIS HOLD HARMLESS AND INDEMNIFY OBLIGATIONS ASSUMED BY THE CONTRACTORS. ALL CONTRACTORS MUST FURNISH THOMAS ENGINEERING GROUP WITH CERTIFICATIONS OF INSURANCE AS EVIDENCE OF THE REQUIRED INSURANCE PRIOR TO COMMENCING WORK AND UPON RENEWAL OF EACH POLICY DURING THE ENTIRE PERIOD OF CONSTRUCTION. IN ADDITION, ALL CONTRACTORS WILL, TO THE FULLEST EXTENT PERMITTED BY LAW, INDEMNIFY AND HOLD HARMLESS THOMAS ENGINEERING GROUP AND SUB-CONSULTANTS FROM AND AGAINST ANY DAMAGES, LIABILITIES, OR COSTS, INCLUDING REASONABLE ATTORNEYS' FEES AND DEFENSE COSTS, ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE PROJECT, INCLUDING ALL CLAIMS BY EMPLOYEES OF THE CONTRACTORS.

- THOMAS ENGINEERING GROUP WILL REVIEW AND APPROVE OR TAKE OTHER APPROPRIATE ACTION ON THE CONTRACTOR SUBMITTALS, SUCH AS SHOP DRAWINGS, PRODUCT DATA, SAMPLES, AND OTHER DATA, WHICH THE CONTRACTOR IS REQUIRED TO SUBMIT, BUT ONLY FOR THE LIMITED PURPOSE OF CHECKING FOR CONFORMANCE WITH THE DESIGN INTENT AND THE INFORMATION SHOWN IN THE CONSTRUCTION CONTRACT DOCUMENTS. CONSTRUCTION MEANS AND METHODS, COORDINATION OF THE WORK WITH OTHER TRADES, AND CONSTRUCTION SAFETY PRECAUTIONS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THOMAS ENGINEERING GROUP'S SHOP DRAWING REVIEW WILL BE CONDUCTED WITH REASONABLE PROMPTNESS WHILE ALLOWING SUFFICIENT TIME TO PERMIT ADEQUATE REVIEW. REVIEW OF A SPECIFIC ITEM SHALL NOT INDICATE THAT THOMAS ENGINEERING GROUP HAS REVIEWED THE ENTIRE ASSEMBLY OF WHICH THE ITEM IS A COMPONENT. THOMAS ENGINEERING GROUP WILL NOT BE RESPONSIBLE FOR ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS NOT BROUGHT TO ITS ATTENTION, IN WRITING, BY THE CONTRACTOR. THOMAS ENGINEERING GROUP WILL NOT BE REQUIRED TO REVIEW PARTIAL SUBMISSIONS OR THOSE FOR WHICH SUBMISSIONS OF CORRELATED ITEMS HAVE NOT BEEN RECEIVED.

D. TESTING:

- AFTER CONSTRUCTION OF THE SEWER SYSTEM, THE ENGINEER MAY REQUIRE A VISUAL INFILTRATION AND/OR EXFILTRATION TEST TO BE PERFORMED ON THE ENTIRE SYSTEM OR ANY PART THEREOF.
- AN AIR TEST MAY BE SUBSTITUTED FOR THE WATER EXFILTRATION TEST, UPON APPROVAL OF THE ENGINEER.
- MANHOLE LEAKAGE TEST SHALL NOT EXCEED FOUR GALLONS PER DAY PER UNIT. NO VISIBLE LEAKAGE ALLOWED.
- SEWER PIPE LEAKAGE ALLOWABLE SHALL NOT EXCEED 150 GALLONS PER DAY PER INCH DIAMETER PER 100' IN A TWO HOUR TEST PERIOD FOR ANY SECTION TESTED. NO VISIBLE LEAKAGE SHALL BE ALLOWED AND ALL LINES SHALL BE T.V. INSPECTED.
- SANITARY SEWER SHALL BE TELEVISED AND LAMPED AT DEVELOPER'S EXPENSE PRIOR TO FINAL ACCEPTANCE. OWNER / CONTRACTOR IS RESPONSIBLE FOR CORRECTING ANY DEFICIENCIES PRIOR TO CERTIFICATION TO ANY AGENCY.
- VISUAL INFILTRATION LEAKAGE INTO MANHOLES AND SEWER PIPE SHALL NOT BE PERMITTED.

WATER DISTRIBUTION AND/OR SANITARY SEWER FORCE MAIN SYSTEM

A. GENERAL:

- NO CONNECTIONS TO THE EXISTING LINES SHALL BE MADE UNTIL PRESSURE TESTS, FOR THE WATER AND SEWER FORCE MAINS, AND BACTERIOLOGICAL TESTS HAVE BEEN PERFORMED AND THE SYSTEM IS ACCEPTABLE TO THE CITY OF POMPAÑO BEACH UTILITIES DEPARTMENT AND THE BROWARD COUNTY PUBLIC HEALTH UNIT.
- BEDDING AND INITIAL BACKFILL FOR MAINS SHALL BE SAND WITH NO ROCKS LARGER THAN 1" IN DIAMETER
- USE "DETECTO" TAPE ON ALL PVC MAINS (18" ABOVE), AND USE "NON-DETECTO" TAPE ON ALL D.I.P. MAINS (18" ABOVE).
- A SIX (6) FOOT HORIZONTAL SEPARATION IS REQUIRED BETWEEN WATER MAINS AND OBSTRUCTIONS (I.E. CATCH BASINS, POWER POLES, INCLUDING TREES, & WATER MAINS, ETC.).
- NO VALVES, METERS, FIRE HYDRANTS, CLEANOUTS, MANHOLES OR OTHER UTILITY APPURTENANCES ARE TO BE PLACED IN, OR ADJACENT TO, SIDEWALKS, CURBS, PARKING SPACES OR OTHER SUCH SITE FEATURES SO AS TO PRESENT A HAZARD OR RESTRICT THE MAINTENANCE OR OPERATION OF THE UTILITY INFRASTRUCTURE.

B. MATERIALS:

- DUCTILE IRON PIPE (DIP) SHALL BE CLASS 52 UP TO 12" SIZE & CLASS 51 FOR 14" AND LARGER WITH INTERIOR CEMENT LINING AND BITUMINOUS COATED OUTSIDE. WATER MAIN & EPOXY LINED & COATED FORCE MAIN MANUFACTURED IN ACCORDANCE WITH ANSI/AWWA C151/A21 51-81 OR LATEST REVISION. THE PIPE SHALL WITHSTAND A WORKING PRESSURE OF 350 PSI. THE JOINTS SHALL BE BELL AND SPIGOT PUSH-ON TYPE UNLESS OTHERWISE NOTED ON THE PLANS.
- ALL PVC MAINS SHALL BE SERIES 1120, CLASS 150 (DR 18) COMPURE PIPE CONFORMING TO ANSI/AWWA C900-99 OR LATEST REVISION, AND SHALL HAVE PUSH-ON JOINTS, AND IRON PIPE O.D. (PVC ON-SITE ONLY).
- FITTINGS FOR MAINS 4" AND LARGER SHALL BE DUCTILE IRON MECHANICAL JOINT CONFORMING TO ANSI/AWWA C110/A21 10-93 OR LATEST REVISION, COMPLETE WITH GLANDS, GASKETS, BOLTS AND NUTS. ALL FITTINGS SHALL BE EPOXY LINED AND SEAL COATED WITH THE SAME MATERIALS AS THE PIPE & USE MEGALUG SERIES 1100 RESTRAINED JOINT ADAPTERS.
- VALVES SHALL BE GATE VALVES, IRON BODY, FULLY RESILIENT SEAT BRONZED MOUNTED NON-RISING STEM, RATED AT 200 PSI AND CONFORMING TO AWWA C500-99 OR LATEST REVISION, AND SHALL HAVE MECHANICAL JOINTS.

- GATE VALVES 4" AND LARGER SHALL BE MUELLER A-2360-20, RESILIENT SEATED GATE VALVES SHALL BE AMERICAN 500/2500 LINE OR CLOW F-6100, CONFORMING TO ANSI/AWWA C509-87.
- TAPPING VALVES SHALL BE MUELLER H667 OR APPROVED EQUAL.
- GATE VALVES 3" OR LESS SHALL BE NIBCO T-133 OR T-136 WITH MALLEABLE HAND WHEELS. NO SUBSTITUTIONS ALLOWED.
- TAPPING SLEEVES SHALL BE MUELLER H615 OR APPROVED EQUAL PER CITY OF POMPAÑO BEACH.
- VALVE BOXES SHALL BE TYLER/UNION 461-S OR APPROVED EQUAL PER CITY OF POMPAÑO BEACH.

- RETAINER GLANDS SHALL CONFORM TO ANSI/AWWA C111/A21 11-99 OR LATEST REVISION. ALL GLANDS SHALL BE MANUFACTURED FROM DUCTILE IRON AS LISTED BY UNDERWRITERS LABORATORIES FOR 250 PSI MINIMUM WATER PRESSURE RATING. ALL GLANDS SHALL BE EPOXY LINED AND SEAL COATED WITH PROTECTION EQUIPMENT COMPANY OR APPROVED EQUAL.
- DRESSER COUPLINGS SHALL BE REGULAR BLACK COUPLINGS WITH PLAIN GASKETS FOR GALVANIZED STEEL PIPE. THEY SHALL BE DRESSER STYLE 90. NO SUBSTITUTIONS ALLOWED.
- FIRE HYDRANTS SHALL HAVE A 5" 1/4" MAIN VALVE OPENING. PUMPER NOZZLE TO BE 18" FROM FINISH GRADE. ALL HYDRANTS TO BE INSTALLED WITH ANCHORING TEE AND CONTROL VALVE. FIRE HYDRANT SHALL COMPLY WITH ANSI/AWWA C502-85 (OR LATEST REVISION). HYDRANTS SHALL BE MUELLER CENTURIUM OR AMERICAN DARLING. BLUE REFLECTIVE PAVEMENT MARKER REQUIRED IN CENTER OF NEAREST DRIVING LANE FOR FIRE HYDRANTS.
- PIPE COLOR CODING REQUIREMENT SHALL CONFORM TO 92-355 320/21 (b) (3), F.A.C.

C. SERVICE CONNECTION:

- CORPORATION STOPS SHALL BE MANUFACTURED OF BRASS ALLOY IN ACCORDANCE WITH ASTM B-62 WITH THREADED ENDS, AS MANUFACTURED BY MUELLER OR APPROVED EQUAL.
- CURB STOPS SHALL BE MUELLER OR APPROVED EQUAL.
- METER STOPS SHALL BE 90° LOCK WING TYPE AND SHALL BE OF BRONZE CONSTRUCTION IN ACCORDANCE WITH ASTM B-62. METER STOPS SHALL BE CLOSURE BOTTOM DESIGN AND RESILIENT "O" RING SEALED AGAINST EXTERNAL PRESSURE. METER STOPS SHALL BE EQUIPPED WITH A METER COUPLING NUT ON THE OUTLET SIDES, AS MANUFACTURED BY MUELLER OR APPROVED EQUAL.
- SERVICE PIPING SHALL BE TYPE "K" DRAWN COPPER.

D. INSTALLATION:

- GENERAL:
 - CONNECTION OF ALL NEW SYSTEMS TO EXISTING MAINS SHALL BE DONE BY USING ONE OF THE FOLLOWING METHODS:
 - METHOD A PER BROWARD COUNTY PUBLIC HEALTH UNIT STANDARDS, WHICH INVOLVES A REDUCED SIZE TEMPORARY CONNECTION BETWEEN THE EXISTING MAIN AND THE NEW ONE.
 - METHOD B PER BROWARD COUNTY PUBLIC HEALTH UNIT STANDARDS, WHICH INVOLVES A DIRECT CONNECTION BETWEEN THE NEW AND EXISTING MAINS USING TWO GATE VALVES SEPARATED BY A SLEEVE WITH A VENT PIPE.
 - METHOD C APPROVED BY THE BROWARD COUNTY PUBLIC HEALTH UNIT, WHICH INVOLVES A TAP WITH ONE GATE VALVE REQUIRING DISINTEGRATION OF THE WATER SYSTEM PRIOR TO CONDUCTING THE PRESSURE TEST.
- BEDDING:
 - BEDDING AND INITIAL BACKFILL (12 INCHES ABOVE PIPE) FOR ALL PIPE SHALL BE SAND WITH NO ROCKS LARGER THAN 1" IN DIAMETER. PEAK ROCK OR 3/4" WASHED ROCK WILL BE USED IN WATER OR WHERE UNSUITABLE BEDDING EXISTS AT THE DISCRETION OF THE CITY OF POMPAÑO BEACH. ALL OTHER FILL SHALL NOT HAVE ROCK LARGER THAN 6" IN DIAMETER.
- CONNECTION OF SERVICES TO BUILDINGS:
 - PLUMBING SHALL BE COORDINATED WITH THE CITY'S BUILDING AND ZONING DEPARTMENT, PLUMBING SECTION.

3. PVC PIPE:

- PVC PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE UNI-BELL PLASTIC PIPE ASSOCIATION'S GUIDE FOR INSTALLATION OF PVC PRESSURE PIPE FOR MUNICIPAL WATER DISTRIBUTION SYSTEMS.
- PVC PIPE SHALL BE INSTALLED WITH A MINIMUM OF 36" COVER
- DETECTOR TAPE SHALL BE INSTALLED THE FULL LENGTH OF ALL PVC MAINS APPROXIMATELY 18" ABOVE THE PIPE, COLOR SIDE UP.
- DUCTILE PIPE:
 - D.I.P. SHALL BE INSTALLED IN ACCORDANCE WITH ANSI/AWWA C800-99 OR LATEST REVISION.
 - D.I.P. SHALL BE INSTALLED WITH A MINIMUM OF 30" COVER.
 - "NON-DETECTOR" TAPE SHALL BE INSTALLED THE FULL LENGTH OF ALL D.I.P. MAINS APPROXIMATELY 18" ABOVE THE MAIN COLOR SIDE UP.

5. VALVES:

- ALL VALVES SHALL BE INSTALLED WITH ADJUSTABLE CAST IRON VALVE BOXES WITH THE WORD "WATER" OR "SEWER" CAST IN THE COVER, A BRASS DISH INDICATING SIZE, TYPE, AND OPERATOR INSTRUCTIONS SHALL BE INSTALLED ADJACENT TO VALVE BOX.
- MAIN VALVES SHALL BE LOCATED ON AN EXTENSION OF THE RIGHT-OF-WAY LINE UNLESS DIMENSIONED OTHERWISE.
- MAIN VALVES SHALL BE INSTALLED AWAY FROM PARKING AREAS. IF THIS IS UNAVOIDABLE, PROPER MEASURES SHALL BE TAKEN TO AVOID THE PARKING OF VEHICLES OVER THE VALVES. HYDRANT VALVES SHALL BE INSTALLED AWAY FROM PARKING AREAS. IF POSSIBLE, VALVES LOCATED IN NON-PAVED AREAS OR IN PARKING STALLS REQUIRE A REFLECTIVE PAVEMENT MARKER ON THE CENTER OF THE NEAREST LANE OF ROAD PAVEMENT. WHITE REFLECTORS FOR VALVES, GREEN REFLECTORS FOR METER BOXES, AND FOR FORCE MAIN VALVES. 4" THE DISTANCE FROM THE TOP OF THE VALVE ACTUATOR, NUT TO FINAL GRADE SHALL BE A MINIMUM OF 12 INCHES AND A MAXIMUM OF 18 INCHES.

6. SERVICE:

- COVER OVER SERVICE LINES SHALL BE 18" MINIMUM, 36" MAXIMUM BELOW FINISHED GRADE AND 36" UNDER PAVEMENT.
- SERVICES UP TO 2" SHALL BE TYPE "K" COPPER PER CITY OF POMPAÑO BEACH.
- METER STOPS SHALL HAVE 8" TO 10" COVER AS REQUIRED FOR PROPER METER/BOX INSTALLATION.
- WATER SERVICES UNDER PAVEMENT SHALL BE ENCASED IN A SCHEDULE 80 PVC SLEEVE FOR THE FULL LENGTH OF THE PAVEMENT AND FOR 2' BEYOND THE EDGE. SLEEVE DIAMETER SHALL BE TWICE THE DIAMETER OF THE SERVICE PIPE.
- THE END OF EACH SERVICE CONNECTION SHALL BE MARKED WITH A 2"x4" TREATED STAKE, PAINTED BLUE EXTENDING 18" (MINIMUM) ABOVE GRADE UNLESS INDICATED OTHERWISE.

E. TESTING

- BEFORE ANY PHYSICAL CONNECTIONS TO THE EXISTING WATER MAINS ARE MADE, THE COMPLETE WATER SYSTEM SHALL BE PRESSURE TESTED. TESTED HYDROSTATIC TESTING OF NEW MAINS SHALL BE PERFORMED AT A MINIMUM STARTING PRESSURE OF 150 PSI FOR TWO HOURS IN ACCORDANCE WITH ANSI/AWWA C600-95 OR LATEST REVISION. THE PRESSURE TEST SHALL NOT VARY MORE THAN ±5 P.S.I. DURING THE TEST.
- THE PRESSURE TEST SHALL BE WITNESSED BY A REPRESENTATIVE OF THE CITY OF POMPAÑO BEACH AND THE ENGINEER OF RECORD.
- BEFORE ACCEPTANCE FOR OPERATION, THE WATER SYSTEM SHALL BE DISINFECTED IN ACCORDANCE WITH THE ANSI/AWWA C651-05, 150 PSI MINIMUM STARTING TEST PRESSURE, WITH BACTERIOLOGICAL SAMPLES APPROVED BY THE BROWARD COUNTY PUBLIC HEALTH DEPARTMENT.
- SAMPLING POINTS SHALL BE PROVIDED AT THE LOCATIONS SHOWN ON THE PLANS IF NOT SPECIFIED. SAMPLING POINTS SHALL BE PROVIDED AT INTERVALS OF 1000' MAXIMUM FOR LINES GREATER THAN 1500' IN LENGTH PROVIDE A MINIMUM OF TWO SAMPLING POINTS FOR ALL OTHER TEST SEGMENTS. SAMPLE POINTS MUST BE APPROVED BY BROWARD COUNTY PUBLIC HEALTH DEPARTMENT.
- THE ALLOWABLE LEAKAGE SHALL BE LESS THAN THE NUMBER OF GALLONS PER HOUR AS DETERMINED BY THE FORMULA:
$$L = \frac{SD}{148,000} P^{0.5}$$

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 MINIMUM TEST PRESSURE (POUNDS PER SQUARE INCH).

SEPARATION OF WATER AND SEWER MAINS

A.

- 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 CLEARANCE OF 10 INCHES BETWEEN THE BOTTOM OF THE WATER MAIN AND THE TOP OF THE WASTEWATER MAIN WHENEVER POSSIBLE.
- WHERE SANITARY SEWERS, STORM SEWERS, OR FORCE MAINS MUST CROSS A WATER MAIN WITH LESS THAN 18 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.

ALL CROSSING 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).

WHERE A NEW PIPE CONFLICTS WITH AN EXISTING PIPE WITH LESS THAN 18 INCHES VERTICAL CLEARANCE, THE NEW PIPE SHALL BE CONSTRUCTED OF DIP, AND THE CROSSING SHALL BE ARRANGED TO MEET THE REQUIREMENTS ABOVE.

- A MINIMUM 10-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN ANY TYPE OF SEWER AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE.

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 VERTICAL CLEARANCE OF WATER IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER.

WHERE IT IS NOT POSSIBLE TO MAINTAIN A VERTICAL DISTANCE OF 18 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).

A MINIMUM 6-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN WATER MAINS AND ALL OBSTRUCTIONS INCLUDING TREES.

- ALL DIP SHALL BE CLASS 50 OR HIGHER. ADEQUATE PROTECTIVE MEASURES AGAINST CORROSION SHALL BE USED AS DETERMINED BY THE ENGINEER.

STORM DRAINAGE:

A. GENERAL:

- CATCH BASIN GRATES AND RIM ELEVATIONS AS SHOWN ON PLANS SHALL BE ADJUSTED TO CONFORM TO NEW OR EXISTING GRADES.
- DISTANCES AND LENGTHS SHOWN ON PLANS REFERENCE THE CENTER OF STRUCTURES.
- CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT THE GRADING ADJACENT TO BUILDINGS COMPLY WITH FBC SECTION 1804.3 AND PROVIDE POSITIVE DRAINAGE FLOW TO THE SITE DRAINAGE SYSTEM. CONTRACTOR SHALL INSTRUCT SUB-CONTRACTORS (SITE, LANDSCAPE, ETC.) OF THE SAME. SHALLOW SWALES MAY BE NEEDED IN CERTAIN INSTANCES.

B. MATERIALS:

- ALL HIGH DENSITY POLYETHYLENE PIPE AND FITTINGS SHALL MEET THE REQUIREMENTS OF AASHTO M - 294 LATEST REVISIONS. ALL PIPING TO BE NON-PERFORATED TUBING.
- ALL YARD DRAIN BASINS ARE TO BE HIGH DENSITY POLYETHYLENE PRODUCT AND SHALL MEET ASTM LATEST MINIMUM STANDARDS.
- ALL DRAINAGE CATCH BASINS AND STRUCTURES SHALL BE PRECAST CONCRETE AND SHALL MEET THE REQUIREMENTS OF A.S.T.M. SPECIFICATION C-478 AND 641 UNLESS OTHERWISE NOTED IN THE PLANS. BLOCK CATCH BASINS WITH A MINIMUM OF 12 INCHES VERTICAL CLEARANCE SHALL BE MINIMUM OF 12 INCHES ABOVE FINISHED GRADE AND LINE.

C. INSTALLATION

- 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.
- BACKFILL MATERIAL SHALL BE WELL GRADED GRANULAR MATERIAL, MINIMUM 1/2" THICKNESS AND COMPACTED TO 98% TO A HEIGHT OF 12 INCHES ABOVE PIPE AS SHOWN ON THE PLANS.
- PROVIDE A MINIMUM PROTECTIVE COVER OF 18 INCHES OVER STORM SEWER AND AVOID UNNECESSARY CROSSING BY EXISTING CONSTRUCTION VEHICLES DURING CONSTRUCTION.
- THE CONTRACTOR SHALL NOTIFY CITY OF POMPAÑO BEACH ENGINEERING DEPARTMENT/ FDOT AND THE ENGINEER OF RECORD AT LEAST 7 DAYS PRIOR TO THE START OF THE CONSTRUCTION AND INSPECTION.

PAVING:

A. GENERAL:

- ALL UNDERGROUND UTILITIES SHALL BE COMPLETED PRIOR TO CONSTRUCTION OF LIMEROCK BASE.
- ALL EXISTING PAVEMENT, CUT OR DAMAGED BY CONSTRUCTION SHALL BE PROPERLY RESTORED AT THE CONTRACTOR'S EXPENSE.
- WHERE ANY PROPOSED PAVEMENT IS TO BE CONNECTED TO EXISTING PAVEMENT, THE EXISTING EDGE OF PAVEMENT SHALL BE SAW CUT TO ENSURE A PROPER JOINT.

B. MATERIALS:

- LIMEROCK BASE: (ASPHALT/VEHICULAR PAVERS AREAS) LIME ROCK BASE COURSE MATERIAL FOR PAVED AREAS SHALL BE A MINIMUM 8" THICKNESS AND COMPACTED TO 98% MAXIMUM DRY DENSITY PER AASHTO T-180 (LBR 100). OTHER SUBSTITUTES SHALL BE PER FDOT SPECIFICATIONS AND PROVIDE EQUIVALENT STRUCTURAL NUMBER AS ABOVE (MIN LBR 100). MIAMI LIMEROCK TO HAVE MINIMUM OF 70% CARBONATES AND LIQUID LIMIT 35 PLASTICITY OR ACCEPTABLE FDOT PRODUCT APPROVAL.
- WEARING SURFACE (ASPHALT SURFACE ONLY) INSTALLATION OF THE 1 1/2" ASPHALTIC CONCRETE SURFACE COURSE SHALL CONFORM WITH THE REQUIREMENTS OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR TYPE S-II ASPHALTIC CONCRETE, AND SHALL BE CONSTRUCTED WITH 2 LIFTS OF 3"-II ASPHALTIC CONCRETE WITH TACK COAT BETWEEN LIFTS. (VIRGIN ASPHALT TO BE USED FOR FINAL LIFT.)
- REINFORCED CONCRETE SLABS SHALL BE CONSTRUCTED OF CLASS 10000 CONCRETE WITH A MINIMUM OF 4" REINFORCING SHALL BE REINFORCED WITH A 6" x 6" NO. 8 GAUGE WIRE MESH.

C. INSTALLATION:

- SUB-BASE 12" STABILIZED SUB-BASE COMPACTED TO 98% OF MAX. DRY DENSITY PER AASHTO T-180 (MIN LBR 40).
- BASE COURSE SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
- INSTALLATION OF THE WEARING SURFACE SHALL CONFORM WITH THE REQUIREMENTS OF THE D.O.T. STANDARD SPECIFICATIONS FOR TYPE S-I & S-II ASPHALTIC CONCRETE OR THE LATEST REVISION.

D. TESTING

- 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.
- DENSITY TESTS SHALL BE TAKEN BY AN INDEPENDENT TESTING LABORATORY CERTIFIED BY THE STATE OF FLORIDA, WHERE DIRECTED BY THE ENGINEER.
- ALL TESTING COSTS (PAVING) SHALL BE PAID FOR BY THE CONTRACTOR.
- DENSITY TESTS ON THE STABILIZED SUBGRADE SHALL BE SUPPLIED TO THE ENGINEER OF RECORD AND CITY OF POMPAÑO BEACH, AND APPROVED BEFORE ANY BASE IS CONSTRUCTED.
- DENSITY TESTS AND "AS-BUILTS" ON THE FINISHED BASE SHALL BE SUBMITTED TO CITY OF POMPAÑO BEACH, AND APPROVED BEFORE ANY ASPHALT PAVEMENT IS CONSTRUCTED.

PAVEMENT MARKING & SIGNAGE:

ALL PAVEMENT MARKINGS AND SIGNAGE SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS," LATEST EDITION; AND CITY OF POMPAÑO BEACH ENGINEERING STANDARDS.

POLLUTION PREVENTION:

- THE CONTRACTOR SHALL CONTINUOUSLY ENSURE THAT THE PERIMETER OF THE SITE, INCLUDING CONSTRUCTION ENTRANCES, IS SECURED FROM ALLOWING DEBRIS TO LEAVE THE SITE DUE TO CONSTRUCTION ACTIVITY OR RAINFALL EVENTS. A WEEKLY LOG SHALL BE UPDATED AND KEPT ON-SITE IN ACCORDANCE WITH THE NPDES PERMIT. BY BIDDING DOCUMENTS CONTRACTOR ACKNOWLEDGES HE/HS IS AWARE OF THE NPDES GUIDELINES AND POLICIES, AND POLICY MANAGEMENT PRACTICES AND ASSUMES SOLE RESPONSIBILITY FOR FINES IMPOSED BY GOVERNMENTAL AGENCIES DUE TO VIOLATIONS.

PROJECT RECORD DOCUMENTS:

- DURING THE DAILY PROGRESS OF THE JOB, THE CONTRACTOR SHALL RECORD ON HIS SET OF CONSTRUCTION DRAWINGS THE EXACT LOCATION, LENGTH AND ELEVATION OF ANY FACILITY NOT BUILT EXACTLY ACCORDING TO PLANS.

- UPON COMPLETION OF DRAINAGE IMPROVEMENTS AND BASE CONSTRUCTION (AND BEFORE PLACING ASPHALT PAVEMENT) THE CONTRACTOR SHALL FURNISH THE ENGINEER OF RECORD "AS-BUILT" PLANS FOR THESE IMPROVEMENTS, SHOWING THE LOCATIONS AND APPLICABLE GRADES OF ALL DRAINAGE INSTALLATIONS AND THE FINISHED ROCK GRADING. THE ROCK GRADING SHALL BE SHOWN AT EDGES OF PAVEMENT AT 50 FOOT INTERVALS, INCLUDING LOCATIONS AND ELEVATIONS OF ALL HIGH AND LOW POINTS.

- UPON COMPLETION OF CONSTRUCTION, AND PRIOR TO FINAL PAYMENT, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER OF RECORD ONE COMPLETE SET OF ALL "AS-BUILT" CONTRACT DRAWINGS. THESE DRAWINGS SHALL BE MARKED TO SHOW "AS-BUILT" CONSTRUCTION CHANGES AND DIMENSIONS, LOCATIONS, AND ELEVATIONS OF ALL IMPROVEMENTS IN A FORMAT APPROVED BY CITY OF POMPAÑO BEACH PUBLIC UTILITIES / ENGINEERING DEPARTMENT.

- "AS-BUILT" INFORMATION OF GRAVITY SEWERS MUST CONTAIN LOCATION OF SERVICE LATERALS. STATIONING OF BOTH THE WYE, CLEAN-OUTS, AND THE SERVICE END MUST ALSO BE INCLUDED.

- "AS-BUILT" INFORMATION OF WATER DISTRIBUTION SYSTEMS MUST CONTAIN LOCATIONS OF ALL VALVES, FIRE HYDRANTS, SERVICES AND APPURTENANCES. TOP OF PIPE ELEVATIONS ALONG THE WATER MAIN ARE REQUIRED AT INTERVALS OF 100 FEET (MAXIMUM).

- ALL "AS-BUILT" INFORMATION ON ELEVATIONS SHALL BE CERTIFIED BY A FLORIDA REGISTERED SURVEYOR OR MAPPER.

- "AS-BUILTS" OF WATER LINES SHALL INCLUDE THE FOLLOWING INFORMATION:

1. TOP OF PIPE ELEVATIONS EVERY 100' LF.
2. LOCATIONS AND ELEVATIONS OF ALL FITTINGS INCLUDING BENDS, TEES, GATE VALVES, DOUBLE DETECTOR CHECK VALVES, FIRE HYDRANTS, ETC.

3. ALL THE TIES TO EXISTING LINES SHALL BE "AS-BUILT".
4. THE ENDS OF ALL WATER SERVICES AT THE BUILDINGS OR HOMES SHALL BE "AS-BUILT" OR WHERE THE WATER SERVICE TERMINATES.

- "AS-BUILTS" OF ALL GRAVITY SANITARY SEWER LINES SHALL INCLUDE THE FOLLOWING INFORMATION:

1. RIMS, INVERTS AND LENGTH OF PIPING BETWEEN STRUCTURES AS WELL AS SLOPES.
2. THE SUB 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 NEED TO BE OBTAINED.
3. LIFT STATION "AS-BUILTS" SHALL CONSIST OF:
 - A. TOP OF WET WELL ELEVATION
 - B. INVERT ELEVATION OF THE INCOMING LINE
 - C. BOTTOM OF THE WET WELL
 - D. "AS-BUILTS" OF THE COMPOUND AREA.

- FORCE MAIN "AS-BUILTS" SHALL BE PREPARED THE SAME AS THE WATER LINE "AS-BUILTS".

- "AS-BUILTS" OF ALL DRAINAGE LINES SHALL INCLUDE THE FOLLOWING INFORMATION:

1. RIMS, INVERTS AND LENGTH OF PIPING BETWEEN STRUCTURES AND WEIR ELEVATIONS, IF APPLICABLE.
2. THE SIZE OF THE PIPING SHALL BE VERIFIED BY THE SURVEY CREW AT THE TIME OF "AS-BUILT".
3. 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.
4. ALL ROCK "AS-BUILTS" FOR PARKING LOT AREAS SHALL CONSIST OF THE FOLLOWING:
 - 1. ROCK ELEVATIONS AT ALL HIGH AND LOW POINTS, AND AT ENOUGH INTERMEDIATE POINTS TO CONFIRM SLOPE CONSISTENCY.
 - 2. ROCK "AS-BUILTS" SHALL BE TAKEN AT ALL LOCATIONS WHERE THERE IS A FINISH GRADE ELEVATION SHOWN ON THE DESIGN PLANS.
 - 3. ALL CATCH BASIN AND MANHOLE RIM ELEVATIONS SHALL BE REQUIRED.
 - 4. ELEVATIONS AROUND ISLAND AREAS WILL ALSO BE REQUIRED.
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.
6. "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 DESIGN.

- 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 DRAWING, "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 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 2004.

- CLEANING UP:
 - 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 SWEEPED.
- 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