

# SERENOA ACTIVE ADULT AMENITY CENTER

Prepared For:  
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**CENTRAL FLORIDA**  
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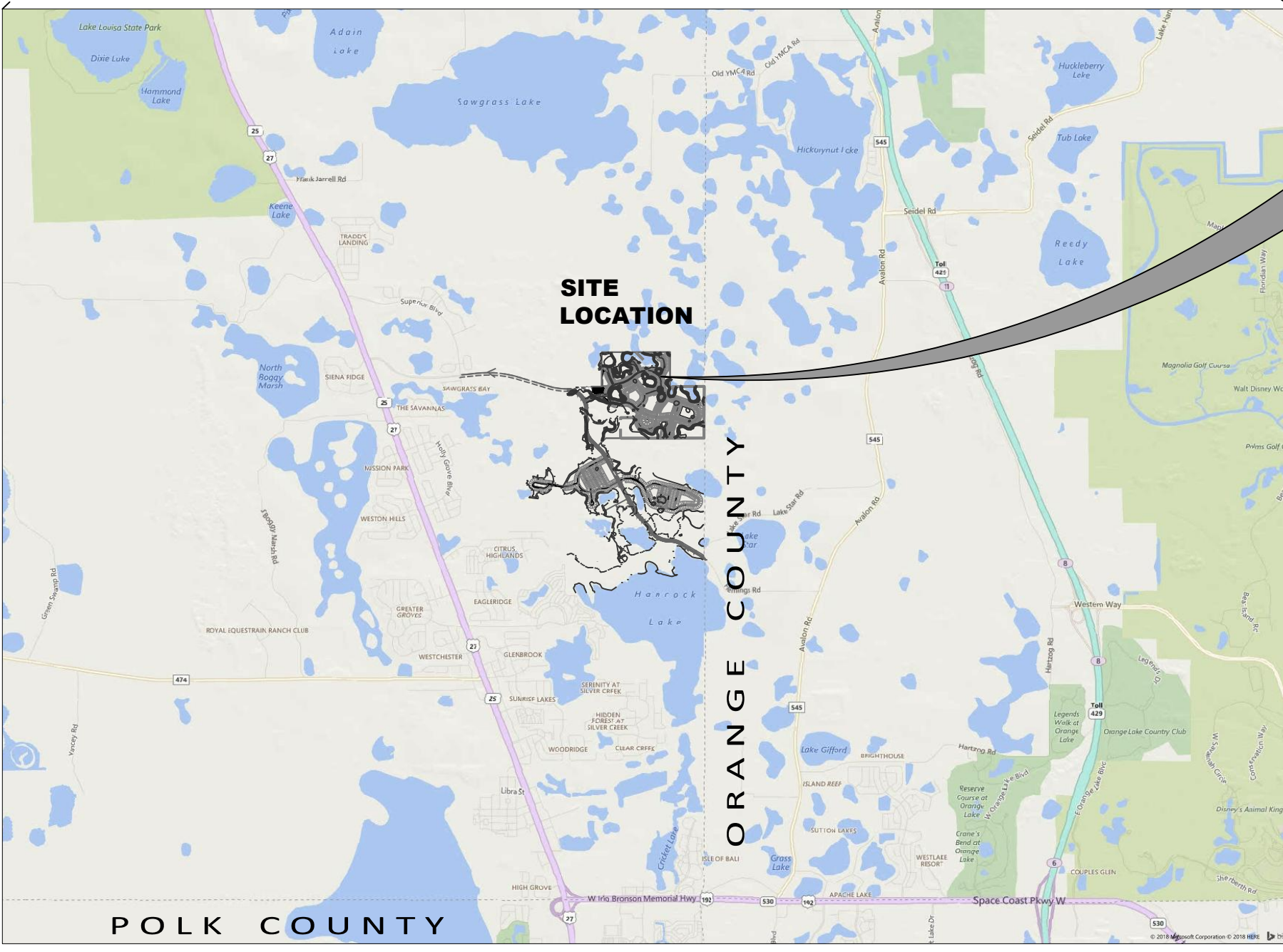
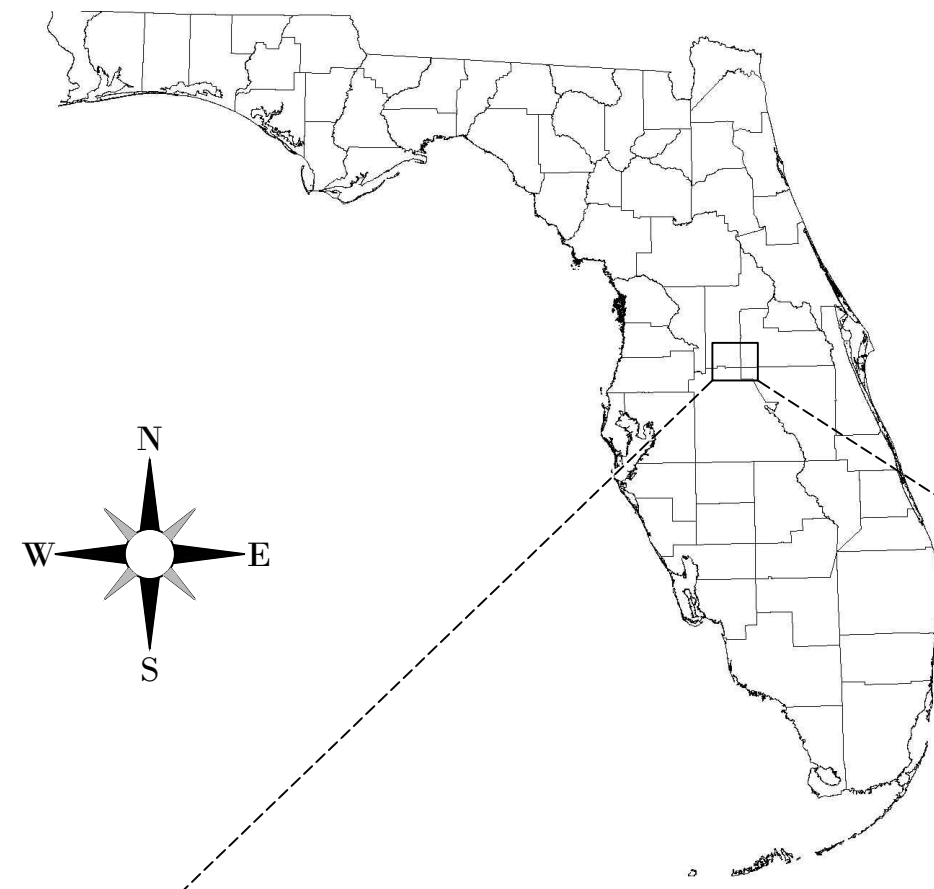
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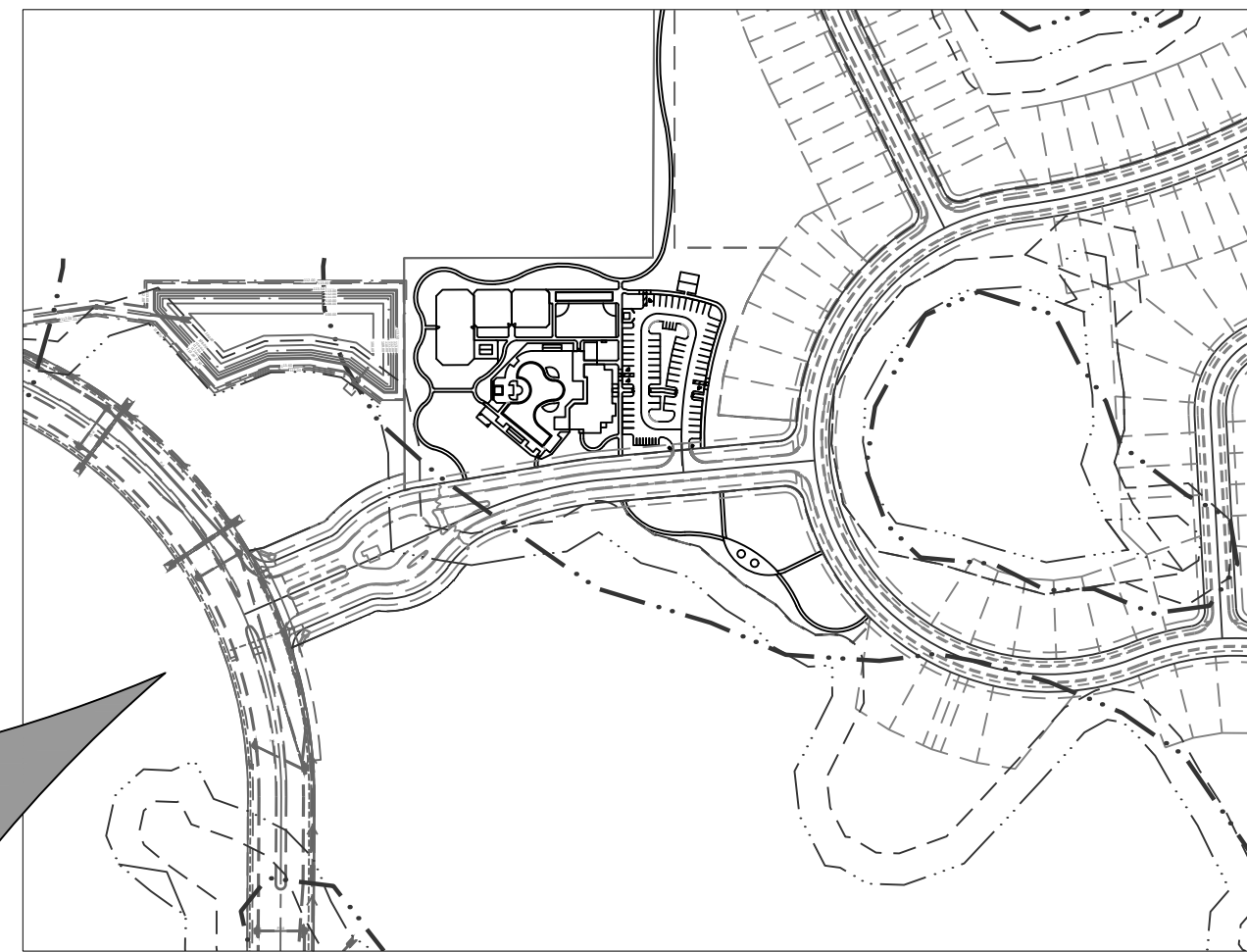
## CONSTRUCTION PLAN

SECTION 24 TOWNSHIP 24 SOUTH, RANGE 26 EAST  
 LAKE COUNTY, FLORIDA

CALL 48 HOURS BEFORE YOU DIG



**LOCATION MAP (NOT TO SCALE)**



**SITE MAP (NOT TO SCALE)**

**OWNER/DEVELOPER:**

DR HORTON - CENTRAL FLORIDA  
 6200 LEE VISTA BLVD., SUITE 400  
 ORLANDO, FLORIDA 32822  
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 DAVID W. FAULKNER, P.E.  
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**CIVIL ENGINEER:**

HEIDT DESIGN, LLC  
 VICTOR E. BARBOSA P.E.  
 5904-A HAMPTON OAKS PARKWAY  
 TAMPA, FLORIDA 33610  
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**SURVEYOR:**

GEOPOINT SURVEYING, INC.  
 JAMES LEVINER, P.S.M.  
 213 HOBBS STREET  
 TAMPA, FLORIDA 33619  
 (813) 248-8888

SITE DETAILS	
ZONING	PUD
ORD #	2016-20
FLUC	URBAN LOW DENSITY
IMP. SURF RATIO (MAX.)	0.60
IMP. SURF RATIO (PROVIDED)	0.17
MAX BLDG. HEIGHT	75 FT.
BUILDING SETBACKS	50 FT.
WETLAND SETBACKS	50 FT.

CONSTRUCTION PLANS	
Sheet Number	Sheet Title
100 - GENERAL	
C-100	COVER SHEET
C-101 - C-103	GENERAL NOTES
C-104	AERIAL SITE PLAN
C-105	SITE PLAN
200 - ROADWAY DETAILS	
C-200	TYPICAL ROADWAY SECTIONS
300 - DRAINAGE	
C-300	MASTER GRADING & DRAINAGE PLAN
C-301 - C-304	GRADING & DRAINAGE PLAN
C-305	STORM STRUCTURE DATA
C-306	DRAINAGE DETAILS
400 - UTILITIES	
C-400	WATER & SEWER PLAN
600 - UTILITY DETAILS	
C-601 - C-602	WATER & SEWER DETAILS
700 - PAVEMENT MARKING & SIDEWALKS	
C-700 - C-701	SIGNING, PAVEMENT MARKINGS & WATER MANAGEMENT PLAN
C-702	SIGNING, PAVEMENT MARKINGS & SIDEWALK PLAN
C-703	SIGNING, PAVEMENT MARKINGS & SIDEWALK NOTES
900 - ENGINEERING ADDENDA	
C-900	CONSTRUCTION SURFACE WATER MANAGEMENT PLAN
C-901	CONSTRUCTIONS SURFACE WATER MANAGEMENT PLAN NOTES
C-902	OVERALL POST-DEVELOPMENT DRAINAGE AREA MAP
C-903	DRAINAGE SUB-BASIN AREA MAP

THE FOLLOWING SUPPLEMENTAL PLAN SHEETS WERE NOT PREPARED UNDER THE RESPONSIBLE CHARGE OF THE ENGINEER OF RECORD

LANDSCAPE PLANS PREPARED BY HEIDT DESIGN

LANDSCAPE PLANS	
Sheet Number	Sheet Title
LANDSCAPE PLANS	
L-200	TREE REMOVAL COVER SHEET
L-201	TREE REMOVAL PLAN
L-400	PERMIT LANDSCAPE PLAN COVER SHEET
L-401	PERMIT LANDSCAPE PLAN
L-470	PERMIT LANDSCAPE PLAN NOTES & DETAILS

DR HORTON  
 CENTRAL FLORIDA

SERENOA ACTIVE ADULT  
 AMENITY CENTER

DATE	DESCRIPTION
03/14/2018	REVIEW SUBMITTAL

DATE	DESCRIPTION
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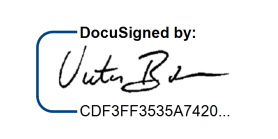
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ELEVATIONS BASED ON: NORTH AMERICAN VERTICAL DATUM 1988 CONVERSION: NAVD 88 TO NGVD 29 = +0.86	
ADDRESS CONTROL NUMBER	
WATER COMMITMENT	
SEWER COMMITMENT	
SJRWM	
WATER DEP	
SEWER DEP	
FOLIO	
PERMIT / FILE NUMBERS	

**FLORIDA PROFESSIONAL ENGINEER**

This item has been electronically signed and sealed by Victor E. Barbosa, P.E. using a Digital Signature.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.



DocuSigned by:  
 Victor E. Barbosa  
 CDF3F3535A7420

**VICTOR E. BARBOSA**  
 DATE: 3/30/2018 1:55 PM EDT  
 REGISTRATION NO. 58548

FILE: COVER  
 PROJECT NO: KLP-AG-1019

**GRADING & DRAINAGE**  
 DESIGN BY: CNW  
 DRAWN BY: CNW

**UTILITIES**  
 DESIGN BY: CNW  
 DRAWN BY: CNW

**COVER SHEET**  
**C-100**

SSM: ---

<p><b>GENERAL EROSION AND TURBIDITY CONTROL NOTES</b></p> <ol style="list-style-type: none"> <li>THE SITE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION AND MAINTENANCE OF ALL EROSION AND TURBIDITY CONTROLS AND THE QUALITY AND QUANTITY OF OFFSITE OR WETLAND DISCHARGES.</li> <li>CONTRACTOR SHALL SECURE AN NPDES GENERIC CONSTRUCTION PERMIT / NOI PRIOR TO START OF WORK AND THE STORMWATER POLLUTION PREVENTION PLAN FOR THE PERMIT SHALL BE MADE AVAILABLE TO LAKE COUNTY FOR INSPECTION DURING CONSTRUCTION. LDR 9.06.09 (D).</li> <li>PRIOR TO CONSTRUCTION, THE SITE SUBCONTRACTOR IS RESPONSIBLE FOR HAVING HIS DEWATERING PLAN AND TURBIDITY CONTROL PLAN APPROVED BY THE APPLICABLE REVIEWING AGENCIES. REFER TO THE PROJECT'S PERMIT APPROVALS AND PERMIT CONDITIONS FOR AGENCIES REQUIRING SUCH REVIEW AND APPROVAL. QUESTIONS CONCERNING APPROPRIATE TECHNIQUES SHOULD BE ADDRESSED TO THOSE AGENCIES AND/OR DISCUSSED WITH THE PROJECT ENGINEER AND OWNER.</li> <li>THE APPROPRIATE TURBIDITY AND EROSION CONTROL METHODOLOGIES SELECTED BY THE SITE SUBCONTRACTOR FOR THIS PROJECT SHOULD BE MADE FOLLOWING ASSESSMENT OF THE PLANS AND PROJECT SITE SPECIFIC FACTORS AND AFTER CONSULTATIONS AS NEEDED WITH THE PROJECT ENGINEER AND APPROPRIATE AGENCIES. THE SITE SUBCONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING ANY AND ALL NECESSARY PERMITS FOR SUCH ACTIVITY; SEVERAL FACTORS TO CONSIDER ARE LISTED BELOW:       <ol style="list-style-type: none"> <li>CLAY CONTENT IN EXCAVATED MATERIALS AND/OR PERMEABILITIES RATES</li> <li>DEPTH OF CUT IN PONDS, TRENCHES, OR UTILITY LINES</li> <li>AMBIENT GROUND WATER LEVELS</li> <li>ACTUAL RAINFALL AMOUNTS AND TIME OF YEAR RELATIVE TO NORMAL RAINY SEASON</li> <li>PROXIMITY TO WETLANDS, WATER BODIES OR OFFSITE PROPERTIES</li> <li>'CLASS' DESIGNATION OF RECEIVING WATER BODIES (I.E., OUTSTANDING FLORIDA WATERS, SHELLFISH HARVESTING AREAS, ETC.)</li> <li>DENSITY, TYPE, AND PROXIMITY OF UPLAND VEGETATION TO BE RETAINED DURING CONSTRUCTION (FOR USE AS POSSIBLE FILTRATION AREAS)</li> <li>FILL HEIGHT RELATIVE TO NATURAL GRADE AND LENGTH AND STEEPNESS OF THE PROPOSED SLOPES</li> <li>EXISTING TOPOGRAPHY AND DIRECTIONS OF SURFACE FLOW</li> <li>TYPE OF EQUIPMENT USED</li> <li>PROJECT TYPE</li> <li>DURATION OF CONSTRUCTION ACTIVITIES</li> <li>SEPARATION DISTANCE OF ONSITE PONDS</li> <li>AMBIENT QUALITY OF SURFACE AND GROUNDWATER</li> <li>TEMPORARY STOCKPILE LOCATIONS AND HEIGHTS</li> </ol> </li> <li>AT THE ONSET OF CONSTRUCTION, THE SITE SUBCONTRACTOR, AS THE PARTY RESPONSIBLE FOR IMPLEMENTATION OF THE EROSION AND SEDIMENT CONTROL PLAN, SHALL ASSESS THE ABOVE DESCRIBED CONDITIONS AND FACTORS WITH RESPECT TO RELATIVE COST EFFECTIVENESS AND SELECT THE APPROPRIATE METHODS OF PROTECTION. A FAIRLY EXTENSIVE LIST OF TECHNIQUES ARE PRESENTED BELOW BUT IT MUST BE STRESSED THAT ANY OR ALL OF THE FOLLOWING MAY BE NECESSARY TO MAINTAIN WATER QUALITY AND QUANTITY STANDARDS. THE CONSTRUCTION SEQUENCING SHOULD BE THOUGHT OUT IN ADVANCE OF INITIATION TO PROVIDE ADEQUATE PROTECTION OF WATER QUALITY.</li> <li>DISCHARGES WHICH EXCEED 29 N.T.U.'S OVER THE BACKGROUND LEVELS ARE IN VIOLATION OF STATE WATER QUALITY STANDARDS. DISCHARGES OF WATER QUANTITIES WHICH AFFECT OFFSITE PROPERTIES OR MAY DAMAGE WETLANDS ARE ALSO PROHIBITED BY REGULATING AGENCIES.</li> <li>THE EROSION AND TURBIDITY CONTROL MEASURES SHOWN HEREON ARE THE MINIMUM REQUIRED FOR AGENCY APPROVAL. ADDITIONAL CONTROL AND MEASURES MAY BE REQUIRED DUE TO THE SITE SUBCONTRACTOR'S CONSTRUCTION SEQUENCE &amp; UNFORESEEN WEATHER CONDITIONS. ANY ADDITIONAL MEASURES DEEMED NECESSARY BY THE SITE SUBCONTRACTOR SHALL BE INCLUDED IN THE LUMP SUM BID WITH NO EXTRA CHARGE FOR MATERIALS AND LABOR ALLOWED.</li> <li>HAY BALES OR SILT SCREENS SHALL BE INSTALLED PRIOR TO LAND CLEARING TO PROTECT WATER QUALITY AND TO IDENTIFY AREAS TO BE PROTECTED FROM CLEARING ACTIVITIES AND MAINTAINED FOR THE DURATION OF THE PROJECT UNTIL ALL SOIL IS STABILIZED.</li> <li>FLOATING TURBIDITY BARRIERS SHALL BE IN PLACE IN FLOWING SYSTEMS OR IN OPEN WATER LAKE EDGES PRIOR TO INITIATION OF EARTHWORK AND MAINTAINED FOR THE DURATION OF THE PROJECT UNTIL ALL SOIL IS STABILIZED.</li> <li>NO CLAY MATERIAL SHALL BE LEFT EXPOSED IN ANY STORMWATER STORAGE FACILITY. IF CLAY OR SANDY-CLAYS ARE ENCOUNTERED DURING STORMWATER STORAGE EXCAVATION, THE SITE SUBCONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY BEFORE PROCEEDING WITH FURTHER EXCAVATION. IF THE ENGINEER OF RECORD HAS DETERMINED THAT SUCH SOILS ARE NON-CONFINING AND MUST BE EXCAVATED TO MEET PERMIT AND DESIGN CONDITIONS, EXCAVATION MAY PROCEED AFTER OBTAINING WRITTEN AUTHORIZATION FROM THE APPROPRIATE GOVERNING AGENCY. IF SAID SOILS ARE LEFT EXPOSED AT THE PERMITTED AND DESIGNED DEPTH, THE SITE SUBCONTRACTOR SHALL OVER-EXCAVATE THE POND'S BOTTOM AND SIDE SLOPES BY A MINIMUM OF TWELVE (12") INCHES AND BACKFILL WITH CLEAN SANDS TO HELP PREVENT SUSPENSION OF FINE PARTICLES IN THE WATER COLUMN.</li> <li>THE INSTALLATION OF TEMPORARY EROSION CONTROL BARRIERS SHALL BE COORDINATED WITH THE CONSTRUCTION OF THE PERMANENT EROSION CONTROL FEATURES TO THE EXTENT NECESSARY TO ASSURE EFFECTIVE AND CONTINUOUS CONTROL OF EROSION AND WATER POLLUTION THROUGHOUT THE LIFE OF THE CONSTRUCTION PHASE.</li> <li>THE TYPE OF EROSION CONTROL BARRIERS USED SHALL BE GOVERNED BY THE NATURE OF THE CONSTRUCTION OPERATION AND SOIL TYPE THAT WILL BE EXPOSED. SILTY AND CLAYEY MATERIAL MAY REQUIRE SOLID SEDIMENT BARRIERS TO PREVENT TURBID WATER DISCHARGE, WHILE SANDY MATERIAL MAY NEED ONLY SILT SCREENS OR HAY BALES TO PREVENT EROSION. FLOATING TURBIDITY CURTAINS SHOULD GENERALLY BE USED IN OPEN WATER SITUATIONS. DIVERSION DITCHES OR SWALES MAY BE REQUIRED TO PREVENT TURBID STORMWATER RUNOFF FROM BEING DISCHARGED TO WETLANDS OR OTHER WATER BODIES. IT MAY BE NECESSARY TO EMPLOY A COMBINATION OF BARRIERS, DITCHES, AND OTHER EROSION/TURBIDITY CONTROL MEASURES IF CONDITIONS WARRANT.</li> <li>WHERE PUMPS ARE TO BE USED TO REMOVE TURBID WATERS FROM CONSTRUCTION AREAS, THE WATER SHALL BE TREATED PRIOR TO DISCHARGE TO THE WETLANDS. TREATMENT METHODS INCLUDE, FOR EXAMPLE, TURBID WATER BEING PUMPED INTO GRASSED SWALES OR APPROPRIATE UPLAND VEGETATED AREAS (OTHER THAN UPLAND PRESERVATION AREAS AND WETLAND BUFFERS), SEDIMENT BASINS, OR CONFINED BY AN APPROPRIATE ENCLOSURE SUCH AS TURBIDITY BARRIERS OR LOW BERMS, AND KEPT CONFINED UNTIL TURBIDITY LEVELS MEET STATE WATER QUALITY STANDARDS.</li> <li>THE PERMITTEE SHALL SCHEDULE HIS OPERATIONS SUCH THAT THE AREA OF UNPROTECTED ERODIBLE EARTH EXPOSED AT ANY ONE TIME IS NOT LARGER THAN THE MINIMUM AREA NECESSARY FOR EFFICIENT CONSTRUCTION OPERATION, AND THE DURATION OF EXPOSED, UNCOMPLETED CONSTRUCTION TO THE ELEMENTS SHALL BE AS SHORT AS PRACTICABLE. CLEARING AND GRUBBING SHALL BE SO SCHEDULED AND PERFORMED SUCH THAT GRADING OPERATIONS CAN FOLLOW IMMEDIATELY THEREAFTER. GRADING OPERATIONS SHALL BE SO SCHEDULED AND PERFORMED THAT PERMANENT EROSION CONTROL FEATURES CAN FOLLOW IMMEDIATELY THEREAFTER IF CONDITIONS ON THE PROJECT PERMIT.</li> <li>WATER DERIVED FROM VARIOUS DEWATERING METHODS SHOULD BE PASSED THROUGH SUFFICIENTLY WIDE AREAS OF EXISTING UPLAND VEGETATION TO FILTER OUT EXCESS TURBIDITY. IF THIS IS NOT SUFFICIENT, THE WATER SHALL BE RETAINED IN PREVIOUSLY CONSTRUCTED PERMANENT STORMWATER PONDS OR ELSE RETAINED IN TEMPORARY SEDIMENTATION BASINS UNTIL THE CLARITY IS SUITABLE TO ALLOW FOR ITS DISCHARGE. PLUGGING THE OUTFALLS FROM COMPLETED STORMWATER PONDS MAY BE NEEDED TO AVOID DISCHARGE. HOWEVER, SUCH SITUATIONS SHOULD BE MONITORED CLOSELY TO PRECLUDE BERM FAILURE IF WATER LEVELS RISE TOO HIGH.</li> <li>WATER CAN BE TRANSPORTED AROUND THE SITE BY THE USE OF INTERNAL SWALES OR BY PUMPS AND PIPES.</li> <li>SHEET FLOW OF NEWLY FLOORED OR SCRAPED AREAS MAY BE CONTROLLED OR CONTAINED BY THE USE OF BRUSH BARRIERS, DIVERSION SWALES, INTERCEPTOR DITCHES OR LOW BERMS. FLOW SHOULD BE DIRECTED TOWARD AREAS WHERE SEDIMENTS CAN SUFFICIENTLY SETTLE OUT.</li> <li>EXPOSED SOILS SHALL BE STABILIZED AS SOON AS POSSIBLE, ESPECIALLY SLOPES LEADING TO WETLANDS. STABILIZATION METHODS INCLUDE SOLID SOD, SEEDING AND MULCHING OR HYDROMULCHING TO PROVIDE A TEMPORARY OR PERMANENT GRASS COVER MULCH BLANKETS, FILTER FABRICS, ETC., CAN BE EMPLOYED TO PROVIDE VEGETATIVE COVER.</li> <li>ENERGY DISSIPATORS (SUCH AS RIP RAP, A GRAVEL BED, HAY BALES, ETC.) SHALL BE INSTALLED AT THE DISCHARGE POINT OF PIPES OR SWALES IF SCOURING IS OBSERVED.</li> <li>ATTEMPT TO INSTALL ROADWAY CURB AND GUTTERS AS SOON AS POSSIBLE TO REDUCE THE SURFACE AREA FOR EROSION TO OCCUR.</li> <li>IMPLEMENT STORM DRAIN INLET PROTECTION (HAY BALES OR GRAVEL) TO LIMIT SEDIMENTATION WITHIN THE STORMWATER SYSTEM. PERFORM INSPECTIONS AND PERIODIC CLEANING OF SEDIMENTS WHICH WASH OUT INTO THE STREETS UNTIL ALL SOIL IS STABILIZED.</li> <li>WATER DISCHARGE VELOCITIES FROM IMPOUNDED AREAS AND TEMPORARY SEDIMENTATION BASINS SHALL BE RESTRICTED TO AVOID SCOURING IN RECEIVING AREAS.</li> <li>IF WATER CLARITY DOES NOT REDUCE TO STATE STANDARDS RAPIDLY ENOUGH IN HOLDING PONDS, IT MAY BE POSSIBLE TO USE CHEMICAL AGENTS SUCH AS ALUM TO FLOCCULATE OR COAGULATE THE SEDIMENT PARTICLES.</li> <li>HAY BALES, SILT SCREENS, OR GRAVEL BEDS CAN BE ADDED AROUND THE PIPE OR SWALE DISCHARGE POINTS TO HELP CLARIFY DISCHARGES. SPREADER SWALES MAY HELP DISSIPATE CLOUDY WATER PRIOR TO CONTACT WITH WETLANDS.</li> <li>ALL FUEL STORAGE AREAS OR OTHER HAZARDOUS STORAGE AREAS SHALL CONFORM TO ACCEPTED STATE OR FEDERAL CRITERIA FOR SUCH CONTAINMENT AREAS.</li> <li>VEHICLE OR EQUIPMENT WASHDOWN AREAS WILL BE SUFFICIENTLY REMOVED FROM WETLANDS OR OFFSITE AREAS.</li> <li>FUGITIVE DUST CONTROLS (PRIMARILY BY USING WATER SPRAY TRUCKS) SHALL BE EMPLOYED AS NEEDED TO CONTROL WINDBORNE EMISSIONS.</li> <li>IF THE ABOVE CONTROLS REMAIN INEFFECTIVE IN PRECLUDING RELEASE OF TURBID WATER, ESPECIALLY DURING POND OR UTILITY LINE DEWATERING, THEN THE CONTRACTOR MAY BE COMPELLED TO USE A VERTICAL DEWATERING SYSTEM SUCH AS WELL POINTS OR SOCK DRAINS TO WITHDRAW GROUNDWATER WHICH MAY ALREADY BE CLEAR ENOUGH TO ALLOW FOR DIRECT DISCHARGE TO WETLANDS.</li> <li>ONGOING INSPECTIONS AND PERIODIC MAINTENANCE BY THE SITE SUBCONTRACTOR SHALL OCCUR THROUGHOUT CONSTRUCTION AS NECESSARY TO INSURE THE ABOVE METHODS ARE WORKING SUITABLY. THIS MAY BE NEEDED DAILY, IF CONDITIONS SO WARRANT. SITE SUBCONTRACTORS ARE ENCOURAGED TO OBTAIN AND THOROUGHLY REVIEW THE FLORIDA DEVELOPMENT MANUAL: A GUIDE TO SOUND LAND AND WATER MANAGEMENT, WHICH WAS DEVELOPED BY THE STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION IN 1988. THIS PROVIDES FAIRLY IN-DEPTH DISCUSSIONS OF RECOMMENDED TECHNIQUES AND ALSO PROVIDES SPECIFIC DESIGN AND TECHNICAL STANDARDS. A COPY OF THIS DOCUMENT IS AVAILABLE FOR REVIEW AT HEIDT DESIGN, LLC.</li> <li>THE CONTRACTOR WILL PERFORM DAILY INSPECTIONS OF ALL ON-SITE WETLANDS WITHIN THE CONSTRUCTION AREA TO ENSURE THAT WATER LEVELS WITHIN THOSE WETLANDS ARE NOT EXCESSIVELY IMPOUNDED PRIOR TO THE TIME WHEN THE PERMITTED CONTROL STRUCTURE OR OUTFALL IS BUILT. WATER LEVELS SIGNIFICANTLY ABOVE NORMAL SHOULD BE CORRECTED AT A FREQUENCY THAT PREVENTS A CHANGE IN THE VEGETATIVE CHARACTER OR HEALTH OF ANY WETLANDS.</li> </ol>	<p><b>SOIL REUSE REQUIREMENTS</b></p> <p>AT LEAST THE FOLLOWING SIX (6) TYPES OF MATERIALS ARE PRESENT ON-SITE THAT REQUIRE PROPER HANDLING/TREATMENT BY THE CONTRACTOR, DURING THE COURSE OF SITE DEVELOPMENT/CONSTRUCTION ACTIVITIES, IN ACCORDANCE WITH THE NOTED REUSE REQUIREMENTS FOR EACH TYPE. ALTHOUGH SOME SOIL MATERIAL QUALITY CONTROL TESTING WILL BE RANDOMLY AND PERIODICALLY PERFORMED BY THE PROJECT GEOTECHNICAL CONSULTANT, AS REQUIRED, WORKING FOR THE OWNER, IT IS THE CONTRACTORS SOLE RESPONSIBILITY TO REUSE ONSITE SOIL MATERIALS AS DESCRIBED AND SPECIFIED BELOW. ALL DISCOVERED OR FUTURE FILLING OR MATERIAL REUSE WORK ONSITE NOT IN ACCORDANCE OR COMPLIANCE WITH THESE NOTES, OR ANY FUTURE ADVERSE IMPACTS OR CONSEQUENCES RESULTING FROM THE CONTRACTORS FAILURE TO PROPERLY REUSE SOIL MATERIALS ONSITE AS SPECIFICALLY DESCRIBED BELOW, WILL BE THE CONTRACTORS SOLE RESPONSIBILITY FOR REMEDY AND REPAIR AT HIS COST. IF THE CONTRACTOR HAS ANY QUESTIONS REGARDING ANY OF THE SOIL MATERIALS ONSITE, THE PROJECT GEOTECHNICAL REPORTS (WHICH HE NEEDS TO OBTAIN FROM THE OWNER OR GEOTECHNICAL CONSULTANT/ENGINEER), OR ANY QUESTIONS ASSOCIATED WITH THE NOTES BELOW, IT IS PRESUMED THAT THE CONTRACTOR WILL SATISFACTORILY RESOLVE SUCH QUESTIONS/CONCERNS PRIOR TO SITE DEMOLITION, CLEARING, GRUBBING, STRIPPING AND EXCAVATION OPERATIONS BEGIN.</p> <p>PLEASE NOTE, LOCAL, STATE AND FEDERAL RULES, LAWS, AND REGULATIONS PROHIBITING SOIL REUSE AS DESCRIBED BELOW SHALL TAKE PRECEDENCE AND SHALL BE FOLLOWED TO THE FULLEST EXTENT.</p> <ol style="list-style-type: none"> <li>ALL SITE DEMOLITION DEBRIS SHALL BE REMOVED FROM THE SITE DEVELOPMENT AND DISPOSED OF PROPERLY IN ACCORDANCE WITH ALL APPLICABLE GOVERNING ENVIRONMENTAL AGENCY REQUIREMENTS.</li> <li>CLEARING AND GRUBBING DEBRIS (SITE CLEARING AND GRUBBING DEBRIS INCLUDES ALL LARGER ORGANIC MATERIALS, SUCH ITEMS AS TREES, STUMPS, LIMBS, BRUSH, VEGETATION, OR SIMILAR; ALL SUCH MATERIALS MUST BE EITHER "BURNED" OR "MULCHED" BY THE CONTRACTOR PRIOR TO REUSE OR DISPOSAL ONSITE.)       <p>IF ACCEPTABLE TO THE GOVERNING ENVIRONMENTAL AGENCY, THEN ALL SUCH "BURNED" OR "MULCHED" SITE CLEARING/GRUBBING DEBRIS, IF APPROVED IN WRITING FIRST BY THE OWNER/GEOTECHNICAL CONSULTANT/ENGINEER, COULD BE:</p> <p>PLACED AS "MULCH" MATERIAL SURFACE DRESSING IN FUTURE LANDSCAPE AREAS, STOCKPILING OF SUCH "MULCHED" MATERIALS (AMOUNTS/LOCATIONS), IF ACCEPTABLE, WILL BE DIRECTED BY THE OWNER/GEOTECHNICAL CONSULTANT/LANDSCAPE ARCHITECT/ENGINEER;</p> <p>IN ALL INSTANCES, THE MINIMUM POND DEPTH (INCLUDING FLOODPLAIN AND WETLAND MITIGATION AREAS) SHALL BE NO LESS THAN REQUIRED BY THE ENGINEER.</p> <p>ALL ORGANIC DEBRIS BURIAL AREAS IN FLOODPLAIN MITIGATION POND AREAS WILL REQUIRE ADEQUATE SOIL COVER OF 18 - 24 INCHES (WITH COMPACTION) BY THE CONTRACTOR, MEANING AT LEAST AN ADEQUATE WEIGHT/THICKNESS OF SOIL MATERIAL OVERTOP THE BURIED ORGANIC DEBRIS, SUCH THAT THERE WILL BE NO FUTURE FLOATING UP OF DEBRIS; AND FOR ALL ORGANIC DEBRIS BURIAL AREAS IN LITTORAL SHELF AREAS, WETLAND MITIGATION POND AREAS, AND PASSIVE RECREATION/PARK AREAS, ADEQUATE SOIL/MULCH MIXING (WITH COMPACTION) WILL BE NECESSARY BY THE CONTRACTOR, SUCH THAT NO SIGNIFICANT FUTURE UNACCEPTABLE SETTLEMENT OF A LITTORAL SHELF AREA, CREATED WETLAND AREA, OR PARK/GRASSED AREA WILL OCCUR.</p> <p>IF ANY OF THESE PROCEDURES ARE CONTEMPLATED BY THE CONTRACTOR, THEN THE CONTRACTOR SHALL NOTIFY THE OWNER/GEOTECHNICAL CONSULTANT/ENGINEER IN WRITING, AT THE START OF CONSTRUCTION, WITH SOME SPECIFIC INFORMATION, INCLUDING THE ESTIMATED QUANTITY AND TYPES OF MATERIALS, TO WHICH FLOODPLAIN MITIGATION PONDS, WETLAND MITIGATION PONDS, OR PASSIVE RECREATION/PARK AREAS THEY PROPOSE TO USE FOR THIS TYPE OF ORGANIC DEBRIS DISPOSAL, AND WHAT APPROXIMATE ELEVATIONS WILL BE THE TOP AND BOTTOM OF THE ORGANIC DEBRIS.</p> </li> <li>MUCK/PEAT ORGANIC MATERIALS (TYPICALLY GENERATED FROM WETLAND OR LOWLAND AREAS, OR SIMILAR AREAS, PERMITTED FOR IMPACT OR DISPLACEMENT, INCLUDING EXCAVATION OF UNSUITABLE ORGANIC MATERIALS AND REFILLING WITH SUITABLE SANDY SOILS TO ACCOMMODATE DEVELOPMENT; INCLUDES SIGNIFICANT ORGANIC PEAT MATERIALS, ORGANIC SANDY MUCK MATERIALS, AND MUCKY OR ORGANIC SAND MATERIALS, DESIGNATED EITHER PT OR A-B, PER THE UNIFIED AND AASHTO SOIL CLASSIFICATION SYSTEMS, RESPECTIVELY; THOSE ORGANIC MATERIALS WHOSE PRESENCE, OR PLACEMENT BY THE CONTRACTOR, IS UNACCEPTABLE BENEATH ANY TYPE OF STRUCTURE, PAVEMENT, ROADWAY, HOUSE, BUILDING, PIPELINE, SLAB, ETC.)       <p>IF ACCEPTABLE TO THE GOVERNING ENVIRONMENTAL AGENCY, THEN ALL SUCH MUCK/PEAT (SIGNIFICANT) ORGANIC MATERIALS, IF APPROVED IN WRITING FIRST BY THE OWNER/GEOTECHNICAL CONSULTANT/ENGINEER, COULD BE:</p> <p>A) PLACED AS "PEAT/MUCK/ORGANIC MATTER" SURFACE LAYER IN NEW OR CREATED WETLAND MITIGATION AREAS, STOCKPILING OF SUCH "SIGNIFICANT ORGANIC" MATERIALS (AMOUNTS/LOCATIONS), IF ACCEPTABLE, WILL BE DIRECTED BY THE OWNER/WETLAND CONSULTANT;</p> <p>B) PLACED IN TEMPORARILY EXCAVATED SELECTED WETLAND MITIGATION PONDS, IN EITHER CASE NOT IN SIDE BANKS AND NOT BELOW THE PERMITTED DESIGN DEPTH OF THE POND, OR SUCH ORGANIC MATERIALS COULD BE BURIED IN TEMPORARILY EXCAVATED PASSIVE RECREATION/PARK AREAS (AT LEAST 30 FEET FROM ANY STRUCTURE) AT APPROVED DEPTHS/LOCATIONS, BUT ALL THESE DISPOSAL AREAS WILL REQUIRE ADEQUATE SOIL MIXING (MIX SOIL WITH THE ORGANIC MATERIALS) AND THEN REFILLING (WITH COMPACTION) TO REQUIRED DESIGN GRADES;</p> <p>C) PLACED ALONG THE BOTTOM OF SELECTED FLOODPLAIN MITIGATION PONDS (NOT IN SIDE BANKS), NOT BELOW THE PERMITTED EXCAVATION DEPTH OF THE POND, BUT WILL REQUIRE ADEQUATE SOIL COVER;</p> <p>D) PLACED ALONG THE BOTTOM OF SELECTED DEEPER STORMWATER PONDS (NOT IN SIDE BANKS), NOT BELOW THE PERMITTED DESIGN DEPTH, BUT WILL REQUIRE ADEQUATE SOIL COVER.</p> <p>ALL ORGANIC DEBRIS BURIAL AREAS IN FLOODPLAIN MITIGATION POND AREAS WILL REQUIRE ADEQUATE SOIL COVER (WITH COMPACTION) BY THE CONTRACTOR, MEANING AT LEAST AN ADEQUATE WEIGHT/THICKNESS OF SOIL MATERIAL OVERTOP THE BURIED ORGANIC DEBRIS, SUCH THAT THERE WILL BE NO FUTURE FLOATING UP OF DEBRIS; AND FOR ALL ORGANIC DEBRIS BURIAL AREAS IN LITTORAL SHELF AREAS, WETLAND MITIGATION POND AREAS, AND PASSIVE RECREATION/PARK AREAS, ADEQUATE SOIL/ORGANICS MIXING (WITH COMPACTION) WILL BE NECESSARY BY THE CONTRACTOR, SUCH THAT NO SIGNIFICANT FUTURE UNACCEPTABLE SETTLEMENT OF A LITTORAL SHELF AREA, CREATED WETLAND AREA, OR PARK/GRASSED AREA WILL OCCUR.</p> <p>IF ANY OF THESE PROCEDURES ARE CONTEMPLATED BY THE CONTRACTOR, THEN THE CONTRACTOR SHALL NOTIFY THE OWNER/GEOTECHNICAL CONSULTANT/ENGINEER IN WRITING, AT THE START OF CONSTRUCTION, WITH SOME SPECIFIC INFORMATION, INCLUDING THE ESTIMATED QUANTITY AND TYPES OF MATERIALS, TO WHICH STORMWATER PONDS, FLOODPLAIN MITIGATION PONDS, WETLAND MITIGATION PONDS, OR PASSIVE RECREATION/PARK/LANDSCAPE BERM AREAS THEY PROPOSE TO USE FOR THIS TYPE OF ORGANIC MATERIAL DISPOSAL, AND WHAT APPROXIMATE ELEVATIONS WILL BE THE TOP AND BOTTOM OF THE ORGANIC MATERIALS.</p> </li> <li>TOPSOILS/SITE STRIPPINGS (TYPICALLY GENERATED FROM UPLAND AREAS, AFTER DEMOLITION/CLEARING/GRUBBING/DISCING OPERATIONS; STRIPPING OF SUPERFICIAL ORGANICS/TOPSOILS BEING A REQUIREMENT OVER AT LEAST ALL STRUCTURE, BUILDING, CONCRETE SLAB AND PAVEMENT AREAS PRIOR TO FILLING TO ACCOMMODATE DEVELOPMENT; INCLUDES TOPSOILS AND ORGANIC LADEN SANDS; THOSE TOPSOILS/ORGANIC SAND MATERIALS WHOSE PRESENCE, OR PLACEMENT BY THE CONTRACTOR, IS UNACCEPTABLE BENEATH ANY TYPE OF STRUCTURE, PAVEMENT, ROADWAY, HOUSE, BUILDING, PIPELINE, SLAB, ETC.)       <p>IF ACCEPTABLE TO THE GOVERNING ENVIRONMENTAL AGENCY, ALL SUCH TOPSOILS/ORGANIC LADEN SAND MATERIALS, IF APPROVED IN WRITING FIRST BY THE OWNER/GEOTECHNICAL CONSULTANT/ENGINEER, COULD BE:</p> </li> </ol>	<p>A) PLACED AS FILL IN NEW (LARGER) LANDSCAPE/GRASS COMMON AREAS OR LANDSCAPE BERM AREAS (WITH COMPACTION), STOCKPILING OF SUCH "TOPSOILS/ORGANIC LADEN SAND MATERIALS" (AMOUNTS/LOCATIONS), IF ACCEPTABLE, WILL BE DIRECTED BY THE OWNER/LANDSCAPE CONSULTANT;</p> <p>B) PLACED IN TEMPORARILY EXCAVATED LITTORAL SHELF AREAS IN SELECTED STORMWATER PONDS, OR IN TEMPORARILY EXCAVATED SELECTED WETLAND MITIGATION PONDS, IN EITHER CASE NOT IN SIDE BANKS AND NOT BELOW THE PERMITTED DESIGN DEPTH OF THE POND, OR SUCH TOPSOILS/ORGANIC LADEN SAND MATERIALS COULD BE BURIED IN TEMPORARILY EXCAVATED PASSIVE RECREATION/PARK AREAS (AT LEAST 30 FEET FROM ANY STRUCTURE) AT APPROVED DEPTHS/LOCATIONS, BUT ALL THESE DISPOSAL AREAS WILL REQUIRE REFILLING (WITH COMPACTION) TO REQUIRED DESIGN GRADES;</p> <p>C) PLACED ALONG THE BOTTOM OF SELECTED FLOODPLAIN MITIGATION PONDS (NOT IN SIDE BANKS), NOT BELOW THE PERMITTED EXCAVATION DEPTH OF THE POND;</p> <p>D) PLACED ALONG THE BOTTOM OF SELECTED DEEPER STORMWATER PONDS (NOT IN SIDE BANKS), NOT BELOW THE PERMITTED DESIGN DEPTH.</p> <p>ALL TOPSOIL/ORGANIC LADEN SAND DISPOSAL AREAS IN LITTORAL SHELF AREAS, WETLAND MITIGATION POND AREAS, PASSIVE RECREATION/PARK AREAS, OR LANDSCAPE/BERM AREAS WILL REQUIRE ADEQUATE COMPACTION BY THE CONTRACTOR, SUCH THAT NO SIGNIFICANT FUTURE UNACCEPTABLE SETTLEMENT OF A LITTORAL SHELF AREA, CREATED WETLAND AREA, PARK/GRASSED AREA, OR LANDSCAPE BERM WILL OCCUR.</p> <p>IF ANY OF THESE PROCEDURES ARE CONTEMPLATED BY THE CONTRACTOR, THEN THE CONTRACTOR SHALL NOTIFY THE OWNER/GEOTECHNICAL CONSULTANT/ENGINEER IN WRITING, AT THE START OF CONSTRUCTION, WITH SOME SPECIFIC INFORMATION, INCLUDING THE ESTIMATED QUANTITY AND TYPES OF MATERIALS, TO WHICH STORMWATER PONDS, FLOODPLAIN MITIGATION PONDS, WETLAND MITIGATION PONDS, PASSIVE RECREATION/PARK AREAS, OR LANDSCAPE BERM AREAS THEY PROPOSE TO USE FOR THIS TYPE OF ORGANIC DEBRIS DISPOSAL, AND WHAT APPROXIMATE ELEVATIONS WILL BE THE TOP AND BOTTOM OF THE ORGANIC DEBRIS.</p> <p>5. NON-STRUCTURAL CLAYEY SAND/CLAY MATERIALS (TYPICALLY GENERATED FROM POND/LAKE EXCAVATIONS OR FROM UTILITY PIPELINE/MANHOLE EXCAVATIONS; SUCH CLAYEY SAND/CLAY MATERIALS, WITH TYPICALLY 40% FINES OR MORE PASSING THE NO. 200 SIEVE, DESIGNATED EITHER SC, CL, CH OR A-4 TO A-7, PER THE UNIFIED AND AASHTO SOIL CLASSIFICATION SYSTEMS, RESPECTIVELY; SUCH CLAYEY SAND/CLAY MATERIALS BEING UNSUITABLE OR UNACCEPTABLE FOR REUSE BY THE CONTRACTOR AS BUILDING PAD FILL, STRUCTURAL FILL, ROADWAY EMBANKMENT FILL, AND PIPELINE OR MANHOLE EXCAVATION BACKFILL.)</p> <p>IF ACCEPTABLE TO THE GOVERNING ENVIRONMENTAL AGENCY, ALL SUCH CLAYEY SAND/CLAY MATERIALS, IF APPROVED IN WRITING FIRST BY THE OWNER/GEOTECHNICAL CONSULTANT/ENGINEER, COULD BE:</p> <p>A) PLACED AS FILL IN NEW (LARGER) LANDSCAPE/GRASS COMMON AREAS OR LANDSCAPE BERM AREAS (WITH COMPACTION), PROVIDE SOME SURFACE DRAINAGE RELIEF, USE WHERE INFILTRATION AND DRAINAGE IS NOT AN IMPORTANT ISSUE, PROVIDE SOME SURFACE SANDY SOILS (MIN. OF 18-INCHES) AS DIRECTED BY THE LANDSCAPE CONSULTANT FOR PLANTING; STOCKPILING OF SUCH "CLAYEY SAND/CLAY MATERIALS" (AMOUNTS/LOCATIONS), IF ACCEPTABLE, WILL BE DIRECTED BY THE OWNER/LANDSCAPE CONSULTANT;</p> <p>B) PLACED IN TEMPORARILY EXCAVATED LITTORAL SHELF AREAS IN SELECTED STORMWATER PONDS, OR IN TEMPORARILY EXCAVATED SELECTED WETLAND MITIGATION PONDS, IN EITHER CASE NOT IN SIDE BANKS AND NOT BELOW THE PERMITTED DESIGN DEPTH OF THE POND, OR SUCH CLAYEY SAND/CLAY MATERIALS COULD BE BURIED IN TEMPORARILY EXCAVATED PASSIVE RECREATION/PARK AREAS (AT LEAST 30 FEET FROM ANY STRUCTURE) AT APPROVED DEPTHS/LOCATIONS, BUT ALL THESE DISPOSAL AREAS WILL REQUIRE REFILLING (WITH COMPACTION) TO REQUIRED DESIGN GRADES, AND THE TOP 2 FEET (MIN.) BEING SAND MATERIALS (NOT CLAYEY MATERIALS) FOR TURBIDITY CONTROL AND PLANTING;</p> <p>C) PLACED ALONG THE BOTTOM OF SELECTED FLOODPLAIN MITIGATION PONDS (NOT IN SIDE BANKS), NOT BELOW THE PERMITTED EXCAVATION DEPTH OF THE POND; HOWEVER, A 12-INCH LAYER (MIN.) OF SAND MATERIAL OVERTOP THE CLAYEY MATERIALS WILL BE NECESSARY FOR TURBIDITY CONTROL.</p> <p>D) PLACED ALONG THE BOTTOM OF SELECTED DEEPER STORMWATER PONDS (NOT IN SIDE BANKS), NOT BELOW THE PERMITTED DESIGN DEPTH, HOWEVER, A 12-INCH LAYER (MIN.) OF SAND MATERIAL OVERTOP THE CLAYEY MATERIALS WILL BE NECESSARY FOR TURBIDITY CONTROL.</p> <p>ALL CLAYEY SAND/CLAY DISPOSAL AREAS IN LITTORAL SHELF AREAS, WETLAND MITIGATION POND AREAS, PASSIVE RECREATION/PARK AREAS, OR LANDSCAPE/BERM AREAS WILL REQUIRE ADEQUATE COMPACTION BY THE CONTRACTOR, SUCH THAT NO SIGNIFICANT FUTURE UNACCEPTABLE SETTLEMENT OF A LITTORAL SHELF AREA, CREATED WETLAND AREA, PARK/GRASSED AREA, OR LANDSCAPE BERM WILL OCCUR.</p> <p>IF ANY OF THESE PROCEDURES ARE CONTEMPLATED BY THE CONTRACTOR, THEN THE CONTRACTOR SHALL NOTIFY THE OWNER/GEOTECHNICAL CONSULTANT/ENGINEER IN WRITING, AT THE START OF CONSTRUCTION, WITH SOME SPECIFIC INFORMATION, INCLUDING THE ESTIMATED QUANTITY AND TYPES OF MATERIALS, TO WHICH STORMWATER PONDS, FLOODPLAIN MITIGATION PONDS, WETLAND MITIGATION PONDS, PASSIVE RECREATION/PARK AREAS, OR LANDSCAPE BERM AREAS THEY PROPOSE TO USE FOR THIS TYPE OF CLAYEY SAND/CLAY DISPOSAL, AND WHAT APPROXIMATE ELEVATIONS WILL BE THE TOP AND BOTTOM OF THE CLAYEY MATERIALS.</p> <p>6.) STRUCTURAL SAND FILL MATERIALS (TYPICALLY GENERATED FROM POND/LAKE EXCAVATIONS, CUT FROM HIGHER ELEVATION AREAS, OR FROM UTILITY PIPELINE/MANHOLE EXCAVATIONS; SUCH SAND MATERIALS, WITH TYPICALLY 35% FINES OR LESS PASSING THE NO. 200 SIEVE, DESIGNATED EITHER SP, SP-SM, SM OR A-2-4, A-2-6 OR A-3, PER THE UNIFIED AND AASHTO SOIL CLASSIFICATION SYSTEMS, RESPECTIVELY; SUCH SAND MATERIALS BEING SUITABLE OR ACCEPTABLE FOR REUSE BY THE CONTRACTOR AS BUILDING PAD FILL, STRUCTURAL FILL, ROADWAY EMBANKMENT FILL, AND PIPELINE OR MANHOLE EXCAVATION BACKFILL.)</p> <p>ALL SUCH SAND MATERIALS SHALL BE REUSED ONSITE BY THE CONTRACTOR, PER THE GEOTECHNICAL REPORTS, AS BUILDING PAD FILL, STRUCTURAL FILL, ROADWAY EMBANKMENT FILL, AND PIPELINE OR MANHOLE EXCAVATION BACKFILL; PLACED BY THE CONTRACTOR IN LOOSE LIFTS NOT EXCEEDING 12-INCHES, COMPACTED TO AT LEAST 95% OR 98% MODIFIED PROCTOR (PER ASTM D-1557 OR AASHTO T-180), WHICHEVER IS APPLICABLE DEPENDING UPON THE FUTURE USE OF THE FILLED AREA (SEE GEOTECHNICAL REPORTS); WITH DENSITY TESTING OF EACH FILL LIFT FOR ACCEPTANCE BY THE GEOTECHNICAL CONSULTANT, UPON CONTRACTOR REQUEST, PRIOR TO THE NEXT FILL LIFT BEING PLACED.</p>	<p>IF ACCEPTABLE TO THE GOVERNING ENVIRONMENTAL AGENCY, ALL SUCH TOPSOILS/ORGANIC LADEN SAND MATERIALS, IF APPROVED IN WRITING FIRST BY THE OWNER/GEOTECHNICAL CONSULTANT/ENGINEER, COULD BE:</p>	<p>IF ACCEPTABLE TO THE GOVERNING ENVIRONMENTAL AGENCY, ALL SUCH TOPSOILS/ORGANIC LADEN SAND MATERIALS, IF APPROVED IN WRITING FIRST BY THE OWNER/GEOTECHNICAL CONSULTANT/ENGINEER, COULD BE:</p>	<p>IF ACCEPTABLE TO THE GOVERNING ENVIRONMENTAL AGENCY, ALL SUCH TOPSOILS/ORGANIC LADEN SAND MATERIALS, IF APPROVED IN WRITING FIRST BY THE OWNER/GEOTECHNICAL CONSULTANT/ENGINEER, COULD BE:</p>
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DATE: 05/12/2018

DESCRIPTION

DR. HORTON

NO.	DATE	DESCRIPTION
1	05/12/2018	REVIEW SUBMITTAL

PROJECT NO: KLP-AG-1019

FILE: GNOTES

DESIGN BY: CNW

DRAWN BY: CNW

**FLORIDA PROFESSIONAL ENGINEER**

This item has been electronically signed and sealed by Victor E. Barbosa, P.E. using a Digital Signature.

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**VICTOR E. BARBOSA**  
 DATE: \_\_\_\_\_  
 REGISTRATION NO. 65848

**C-101**

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<p><b>GENERAL PROJECT DATA</b></p> <p>FOR IDENTIFICATION OF CONTRACTUAL AGREEMENTS, THIS SET OF DRAWINGS IS DATED _____ ANY REVISIONS THEREAFTER WILL BE NOTED AND DATED ON THE AFFECTED DRAWING(S).</p> <p><b>EXISTING UTILITY LOCATION</b></p> <p>THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE VARIOUS UTILITIES AND TO MAKE THE NECESSARY ARRANGEMENTS FOR ANY RELOCATIONS TO THESE UTILITIES WITH THE OWNER OF THE UTILITY. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN CROSSING AN UNDERGROUND UTILITY, WHETHER SHOWN ON THE PLANS OR LOCATED BY THE UTILITY COMPANY. ALL UTILITIES THAT INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE RELOCATED. ANY COST, DELAY OR INCONVENIENCE CAUSED TO THE CONTRACTOR BY THE RELOCATION OF VARIOUS UTILITIES SHALL BE INCIDENTAL TO THE CONTRACT, AND NO EXTRA COMPENSATION WILL BE ALLOWED.</p> <p>A SINGLE POINT UTILITY LOCATION SERVICE HAS BEEN SET UP FOR PARTICIPATING UTILITIES. THE CONTRACTOR IS TO CONTACT THE SUNSHINE STATE ONE CALL CENTER AT LEAST TWO (2) AND NO MORE THAN FIVE (5) WORKING DAYS PRIOR TO THE SPECIFIC CONSTRUCTION ACTIVITY FOR FIELD LOCATION. NOTE THAT NOT ALL UTILITIES PARTICIPATE IN THIS PROGRAM. THE CONTRACTOR SHOULD CONTACT NON-PARTICIPATING UTILITIES SEPARATELY FOR THEIR FIELD LOCATION OF FACILITIES. PER FLORIDA STATUTE 553.851, THE CONTRACTOR OR EXCAVATOR IS REQUIRED TO NOTIFY THE GAS COMPANY TWO (2) WORKING DAYS PRIOR TO STARTING EXCAVATION.</p> <p><b>SOILS/ENVIRONMENTAL/PERMITS</b></p> <p>SOILS INVESTIGATIONS FOR THE SITE WERE PROVIDED BY FAULKNER ENGINEERING SERVICES, INC. THE CONTRACTOR IS TO OBTAIN A COPY OF THAT SOILS REPORT FOR REVIEW PRIOR TO CONSTRUCTION; AND THE CONSTRUCTION IS TO CONFORM TO THE RECOMMENDATIONS IN THAT REPORT.</p> <p><b>ENVIRONMENTAL/CONSERVATION INVESTIGATIONS:</b> BIO-TECH CONSULTING INC. SURVEY INFORMATION PREPARED BY: GEOPPOINT SURVEYING, INC. PERMITS AVAILABLE TO CONTRACTOR: _____</p> <p><b>AS-BUILTS</b></p> <p>AS-BUILTS SHALL BE PROVIDED BY THE CONTRACTOR TO THE ENGINEER TWO WEEKS PRIOR TO FINAL INSPECTION. ALL AS-BUILT DATA SHALL BE PROVIDED BY A FLORIDA LICENSED SURVEYOR, SIGNED, SEALED, AND DATED BY THE RESPONSIBLE PARTY. SEE INDIVIDUAL SECTIONS (SEWER, WATER SYSTEM, ETC.) FOR ADDITIONAL AS-BUILT REQUIREMENTS. UTILITIES, INC. OF FLORIDA REQUIRES ASSET TABLES - NORTHING &amp; EASTING USING STATE PLANE COORDINATES FOR ALL VALVES, FITTINGS, SERVICES, LATERALS, MHS, &amp; PIPE INTERVALS AT 100' PERMITS AND PERMIT REQUIREMENTS</p> <p>THE CONTRACTOR SHALL OBTAIN FROM THE OWNER COPIES OF ALL REGULATORY AND LOCAL AGENCY PERMITS. THE CONTRACTOR SHALL BE EXPECTED TO REVIEW AND ABIDE BY ALL THE REQUIREMENTS AND LIMITATIONS SET FORTH IN THE PERMITS.</p> <p>THE CONTRACTOR SHALL BE FURNISHED A COPY OF THE N.P.D.E.S. NOTICE OF INTENT APPLICATION AND REPORT WHICH WAS FURNISHED TO EPA BY THE OWNER. THE CONTRACTOR SHALL REVIEW THE CONTENTS OF THAT SUBMITTAL INCLUDING CONSTRUCTION COMMENCEMENT AND CESSATION DATES AND ALL OTHER ELEMENTS OF THE SUBMITTAL. HE SHALL EXECUTE AND FILE AN N.O.I. TO EPA AS THE ENTITY RESPONSIBLE FOR OPERATING AND MAINTAINING THE EROSION PROTECTION SYSTEM DURING CONSTRUCTION, NOTING ANY CHANGES AND/OR MODIFICATIONS AND/OR AGREEING TO THE ELEMENTS OF THE ORIGINAL SUBMITTAL. HE SHALL SUBMIT THIS AT LEAST 48 HOURS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL KEEP ON-SITE A COPY OF THE WATER MANAGEMENT DISTRICT AND N.P.D.E.S. PERMITS ISSUED TOGETHER WITH THE INSPECTION REPORTS AND CURRENT PLANS, INCLUDING ANY MODIFICATIONS REQUIRED. HE SHALL ALSO PROVIDE A NOTICE OF TERMINATION TO THE N.P.D.E.S. PERMITTING AUTHORITY AT THE CONCLUSION OF THE PROJECT THAT THE DISCHARGE AND EROSION PROTECTION DEVICE AS SHOWN ON THE PLANS HAVE BEEN IMPLEMENTED AND MAINTAINED THROUGHOUT CONSTRUCTION.</p> <p><b>LAYOUT AND CONTROL</b></p> <p>UNLESS OTHERWISE NOTED ON THE PLANS, THE CONTRACTOR SHALL USE THE GEOMETRY PROVIDED ON THE SURVEY PLAT. BENCHMARK INFORMATION SHALL BE PROVIDED TO THE CONTRACTOR BY THE OWNER OR OWNER'S SURVEYOR. ANY DISCREPANCIES BETWEEN FIELD MEASUREMENTS AND CONSTRUCTION PLAN INFORMATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY. THE SURVEYOR WHO PRODUCED THE PLAT IS GEOPPOINT SURVEYING, INC., PHONE: 813-248-8888</p> <p><b>QUALITY CONTROL TESTING REQUIREMENTS</b></p> <p>ALL TESTING RESULTS SHALL BE PROVIDED TO THE OWNER/OPERATOR, COUNTY, AND THE ENGINEER. TESTING REQUIREMENTS ARE TO BE IN ACCORDANCE WITH THE OWNER/OPERATOR'S SPECIFICATIONS AND REQUIREMENTS. ALL TEST RESULTS SHALL BE PROVIDED (PASSING AND FAILING) ON A REGULAR AND IMMEDIATE BASIS. CONTRACTOR SHALL PROVIDE TESTING SERVICES THROUGH A FLORIDA LICENSED GEOTECHNICAL ENGINEERING FIRM ACCEPTABLE TO THE OWNER AND ENGINEER. NO TESTING TO BE SCHEDULED ON MONDAY OR FRIDAY.</p> <p><b>SHOP DRAWINGS</b></p> <p>SHOP DRAWINGS AND CERTIFICATIONS FOR ALL STORM DRAINAGE, WATER SYSTEM, AND PAVING SYSTEM MATERIALS AND STRUCTURES ARE REQUIRED. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER AND UTILITY FOR APPROVAL PRIOR TO ORDERING THE MATERIALS REQUIRED FOR CONSTRUCTION.</p> <p><b>EARTHWORK</b></p> <p><b>EARTHWORK QUANTITIES</b></p> <p>THE CONTRACTOR SHALL PERFORM HIS OWN INVESTIGATIONS AND CALCULATIONS AS NECESSARY TO ASSURE HIMSELF OF EARTHWORK QUANTITIES. THERE IS NO IMPLICATION THAT EARTHWORK BALANCES AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY IMPORT FILL NEEDED, OR FOR REMOVAL AND DISPOSAL OF EXCESS MATERIALS.</p> <p><b>EROSION CONTROL</b></p> <p>EROSION AND SILTATION CONTROL MEASURES ARE TO BE PROVIDED AND INSTALLED PRIOR TO COMMENCEMENT OF CONSTRUCTION. THESE MEASURES ARE TO BE INSPECTED BY THE CONTRACTOR ON A REGULAR BASIS AND ARE TO BE MAINTAINED OR REPAIRED ON AN IMMEDIATE BASIS, AS REQUIRED. REFER TO ST. JOHNS RIVER WATER MANAGEMENT DISTRICT PERMIT FOR ADDITIONAL REQUIREMENTS FOR EROSION CONTROL AND SURFACE DRAINAGE.</p> <p><b>WETLAND PROTECTION</b></p> <p>THE LIMITS OF THE ON-SITE WETLANDS HAVE BEEN PROVIDED TO THE CONTRACTOR ON THE CONSTRUCTION PLANS OR ON PERMIT MATERIALS. THE WETLANDS AREAS ARE TO BE PROTECTED FROM DISTURBANCE AT ALL TIMES. CONTRACTOR SHALL PROVIDE EROSION, SILTATION, AND DIVERSION MEASURES PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR SHALL OBTAIN A COPY OF EACH PERMIT RELATING TO WETLANDS AND ADHERE TO ALL PROVISIONS AND CONDITIONS THERETO.</p>	<p><b>LIMITS OF DISTURBANCE</b></p> <p>AT NO TIME SHALL THE CONTRACTOR DISTURB SURROUNDING PROPERTIES OR TRAVEL ON SURROUNDING PROPERTIES WITHOUT WRITTEN CONSENT FROM THE PROPERTY OWNER. REPAIR OR RECONSTRUCTION OF DAMAGED AREAS ON SURROUNDING PROPERTIES SHALL BE PERFORMED BY THE CONTRACTOR ON AN IMMEDIATE BASIS. ALL COSTS FOR REPAIRS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND NO EXTRA COMPENSATION SHALL BE PROVIDED.</p> <p><b>TREE REMOVAL</b></p> <p>THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER WHEN ALL WORK IS LAID OUT (SURVEY STAKED), SO THAT A DETERMINATION MAY BE MADE OF SPECIFIC TREES TO BE REMOVED. NO TREES SHOWN ON THE CONSTRUCTION PLANS AS BEING SAVED SHALL BE REMOVED WITHOUT PERMISSION FROM THE OWNER AND ENGINEER.</p> <p><b>CLEARING AND GRUBBING</b></p> <p>THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEARING AND GRUBBING FOR SITE CONSTRUCTION INCLUDING CLEARING FOR PAVING, UTILITIES, DRAINAGE FACILITIES AND BUILDING CONSTRUCTION. SEE PLANS FOR LIMITS OF CLEARING AND GRUBBING. ALL AREAS TO BE CLEARED SHALL BE FIELD STAKED AND REVIEWED BY THE OWNER AND ENGINEER PRIOR TO ANY CONSTRUCTION.</p> <p><b>MATERIAL STORAGE / DEBRIS REMOVAL</b></p> <p>ALL MATERIALS EXCAVATED SHALL REMAIN THE PROPERTY OF THE OWNER AND SHALL BE STOCKPILED AT ON-SITE LOCATIONS AS SPECIFIED BY THE OWNER. MATERIALS SHALL BE STOCKPILED SEPARATELY AS TO USABLE (NON ORGANIC) FILL STOCKPILES AND ORGANIC (MUCK) STOCKPILES IF MUCK IS ENCOUNTERED. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL UNSUITABLE FILL MATERIALS FROM THE SITE. ALL CLAY ENCOUNTERED SHALL BE EXCAVATED OUT AND REPLACED WITH CLEAN GRANULAR FILL MATERIALS.</p> <p><b>FILL MATERIAL</b></p> <p>ALL FILL MATERIALS SHALL NOT CONTAIN MUCK, STUMPS, ROOTS, BRUSH, VEGETATIVE MATTER, RUBBISH OR OTHER MATERIAL THAT WILL NOT COMPACT INTO A SUITABLE AND ENDURING BACKFILL. FILL SHALL BE CLEAN, NON-ORGANIC, GRANULAR MATERIAL WITH NOT MORE THAN 10% PASSING THE NO. 200 SIEVE.</p> <p><b>COMPACTION</b></p> <p>FILL MATERIALS PLACED UNDER ROADWAYS SHALL BE COMPACTED TO AT LEAST 98% OF THE MAXIMUM DENSITY AS SPECIFIED IN AASHTO T-180. ALL OTHER FILL AREAS ARE TO BE COMPACTED TO AT LEAST 95% MAXIMUM DENSITY AS SPECIFIED IN AASHTO T-180. FILL MATERIALS SHALL BE PLACED AND COMPACTED IN A MAXIMUM OF 12" LIFTS. THE CONTRACTOR SHALL PROVIDE THE ENGINEER AND OWNER WITH ALL (PASSING AND FAILING) TESTING RESULTS. RESULTS SHALL BE PROVIDED ON A TIMELY AND REGULAR BASIS PRIOR TO CONTRACTOR'S PAY REQUEST SUBMITTAL FOR THE AFFECTED WORK.</p> <p><b>SANITARY SEWER SYSTEM</b></p> <p><b>OWNER/OPERATOR</b></p> <p>THE ENTITY THAT WILL OPERATE AND MAINTAIN THE SEWER SYSTEM SHOWN ON THESE PLANS IS UTILITIES, INC. OF FLORIDA CORPORATION. THE CONTRACTOR SHALL BE EXPECTED TO MEET ALL THE REQUIREMENTS OF THAT ENTITY.</p> <p><b>MATERIALS</b></p> <p>ALL SANITARY SEWER PIPE SHALL BE PVC SEWER PIPE CONFORMING TO ASTM D3034 SDR-26. INSTALLATION OF PVC SEWER PIPE SHALL CONFORM TO ASTM D2321. SEE ASTM C-12, LATEST EDITION, FOR CONSTRUCTION METHODS, EXCEPT FOR BACKFILLING, WHICH WILL BE AS SHOWN ON THE UTILITY DETAIL SHEET. A HORIZONTAL SEPARATION OF AT LEAST 10' SHALL BE MAINTAINED BETWEEN WATER AND SEWER LINES. WHEN WATER AND SEWER LINES CROSS WITH LESS THAN 18" VERTICAL SEPARATION, OR WHEN THE WATER LINE CROSSES BENEATH THE SEWER LINE AT ANY DEPTH, THE SEWER LINE SHALL BE ENCASED IN CONCRETE OR THE SEWER SHALL BE DUCTILE IRON PIPE FOR A DISTANCE OF 10' EITHER SIDE OF THE CROSSING. DUCTILE IRON SANITARY SEWER GRAVITY PIPE SHALL BE PRESSURE CLASS 350 DUCTILE IRON POLYETHYLENE LINED.</p> <p>ALL SEWER FITTINGS SHALL BE PVC MEETING THE REQUIREMENTS OF ASTM D3034. FITTINGS SHALL BE SUITABLE FOR USE WITH SDR-26 GRAVITY SEWER PIPE. ALL FITTINGS SHALL HAVE ELASTOMERIC SEALING GASKETS.</p> <p>JOINTS FOR GRAVITY SEWER PIPE AND ALL FITTINGS SHALL BE ELASTOMERIC RUBBER SEALS. GASKETS SHALL CONFORM TO ASTM F477.</p> <p>SANITARY SEWER MANHOLES SHALL BE PRECAST CONSTRUCTION. THE MINIMUM SIZE DIAMETER OF MANHOLES SHALL BE 48" FOR SEWER LINES 21" IN DIAMETER OR LESS. PRECAST REINFORCED MANHOLES SHALL BE IN ACCORDANCE WITH ASTM C-478 SPECIFICATIONS, WITH PREFORMED FLEXIBLE JOINT SEALS, RAINWALK, OR APPROVED EQUAL. THE INTERIOR SURFACES OF ALL MANHOLES SHALL BE PROTECTED BY THE APPLICATION OF TWO COATS KOPPERS BITUMASTIC 300 M, OR APPROVED EQUAL, APPLIED AT THE RATE OF 120 SQUARE FEET PER GALLON PER COAT MINIMUM. EXTERIOR SURFACES SHALL RECEIVE TWO COATS KOPPERS BITUMASTIC 300 M, OR APPROVED EQUAL, APPLIED AT THE RATE OF 120 SQUARE FEET PER GALLON PER COAT MINIMUM. FOR INSTALLATIONS &lt;10', USE SDR 26.</p> <p>THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE TO PROVIDE A FLEXIBLE WATERTIGHT SEAL OF THE PIPE TO THE MANHOLE. NO ADHESIVES OR LUBRICANTS SHALL BE EMPLOYED IN THE INSTALLATION OF THE CONNECTOR INTO THE MANHOLE. THE RUBBER FOR CONNECTOR SHALL COMPLY WITH ASTM C443 AND ASTM C923 AND CONSIST OF EPDM AND ELASTOMERS DESIGNED TO BE RESISTANT TO OZONE, WEATHER ELEMENT, CHEMICALS, INCLUDING ACIDS, ALKALIS, ANIMAL AND VEGETABLE FATS, OILS AND PETROLEUM PRODUCTS FROM SPILLS. ALL STAINLESS STEEL ELEMENTS OF THE CONNECTOR SHALL BE TOTALLY NON-MAGNETIC SERIES 316 STAINLESS, EXCLUDING THE WORM SCREW FOR TIGHTENING THE STEEL BAND AROUND THE PIPE WHICH SHALL BE TORQUED BY A BREAKAWAY TORQUE WRENCH AVAILABLE FROM THE PRECAST MANHOLE SUPPLIER, AND SET FOR 60-70 INCH/LBS. THE CONNECTOR SHALL BE INSTALLED IN THE MANHOLE WALL BY ACTIVATING THE EXPANDING MECHANISM IN STRICT ACCORDANCE WITH THE RECOMMENDATION OF THE CONNECTOR MANUFACTURER.</p> <p><b>CONSTRUCTION METHODS</b></p> <p>INSTALLATION OF GRAVITY SANITARY SEWER SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND UTILITIES, INC. OF FLORIDA STANDARDS.</p> <p>IN LAYING OUT THE SANITARY SEWER IN THE FIELD, THE CONTRACTOR SHALL USE THE STREET C/L OR PROPERTY LINE OFFSETS FOR LOCATING THE SANITARY SEWER MANHOLES AND INVERT ELEVATIONS GIVEN ON THE PLAN AND PROFILE SHEET. IN THE EVENT OF ANY MINOR DIFFERENCES IN ACTUAL LENGTHS OF THE SANITARY SEWER LINES BETWEEN MANHOLES FOR THOSE SHOWN ON THE PLANS, THE CONTRACTOR SHALL ADJUST THE MANHOLE INVERTS TO MAINTAIN A MINIMUM GRADE AS SHOWN. UNDER NO CIRCUMSTANCES WILL PIPE GRADES LESS THAN 0.30% FOR 8" PIPE OR 0.28% FOR 10" PIPE BE ACCEPTED.</p> <p>THE CONTRACTOR SHALL STAMP AN "S" IN THE CURB TOP AT EACH SANITARY SERVICE LOCATION. STAMPED "S" SHALL BE HIGHLIGHTED WITH GREEN OIL BASE PAINT. SEE ALSO SEWER DETAIL SHEET FOR SEWER LATERAL MARKING. "SAW" CUTS ARE NOT PERMISSIBLE.</p>	<p><b>DEWATERING</b></p> <p>IN THE EVENT THAT GROUNDWATER IS ENCOUNTERED DURING THE CONSTRUCTION OF THE SANITARY SEWER SYSTEM, DEWATERING SHALL BE CONDUCTED. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN, INSTALLATION, OPERATION, AND SUBSEQUENT REMOVAL OF DEWATERING SYSTEMS AND THEIR SAFETY AND CONFORMITY WITH LOCAL COUNTY, STATE AND FEDERAL CODES AND REGULATIONS.</p> <p>AT ALL TIMES DURING CONSTRUCTION, KEEP EXCAVATIONS FREE FROM STANDING WATER. SUMPS, IF REQUIRED, SHALL BE LOCATED OUTSIDE OF LOAD BEARING AREAS SO THAT BEARING SURFACES WILL NOT BE DISTURBED. WATER PUMPED FROM THE EXCAVATION SHALL BE DISCHARGED TO PREVENT RE-ENTRY INTO THE SOIL STRATA BEING DEWATERED. WATER CONTAINING SILT IN SUSPENSION SHALL NOT BE PUMPED INTO SEWER LINES OR ADJACENT STREAMS. THE METHOD OF DISPOSING OF WATER PUMPED FROM THE EXCAVATION SHALL BE APPROVED BY THE ENGINEER, PRIOR TO ACTUAL DISPOSAL.</p> <p><b>PIPE EMBEDMENT</b></p> <p>SANITARY SEWER PIPE MUST BE BEDDED TRUE TO LINE AND GRADE WITH UNIFORM AND CONTINUOUS LONGITUDINAL SUPPORT FROM A FIRM BASE. BLOCKING MAY NOT BE USED TO BRING THE PIPE TO GRADE. PIPE BED SHALL BE UNDISTURBED EARTH AND, IN THE EVENT OF OVER-EXCAVATION, THE CONTRACTOR SHALL REPLACE OVER EXCAVATION WITH CLEAN GRANULAR BACKFILL, AS NOTED BELOW, AND COMPACTED TO A DENSITY OF 98% OF THE AASHTO T-180 MAXIMUM DENSITY AND SHAPED TO FIT THE PIPE SO AS TO GIVE IT CONTINUOUS AND UNIFORM LONGITUDINAL SUPPORT.</p> <p>AT ALL LOCATIONS WHERE PIPING IS TO BE INSTALLED IN AN AREA WHERE MUCK WAS NOTED IN THE SOILS TESTING OR AT ANY OTHER LOCATIONS WHERE MUCK OR ORGANIC SOILS ARE ENCOUNTERED, THE TRENCH SHALL BE OVER-EXCAVATED TO REMOVE ALL MUCK OR ORGANIC SOILS, GRANULAR BACKFILL OR AS NOTED BELOW, PLACED AND COMPACTED IN THE TRENCH BOTTOM TO THE ELEVATIONS AND LOCATIONS NOTED ON THE PLANS. BACKFILL NEEDED TO BRING TRENCH TO THE PROPER GRADE SHALL BE COMPACTED TO A MINIMUM DENSITY OF 98% OF THE AASHTO T-180 MAXIMUM DENSITY.</p> <p><b>TRENCH OR EXCAVATION BOTTOM STABILIZATION MATERIAL</b></p> <p>A. SAND</p> <p>SAND SHALL BE WELL GRADED, ORGANIC FREE, DURABLE, GRANULAR MATERIAL, AND SHALL PASS A NO. 4 SIEVE. NOT MORE THAN 10% SHALL PASS A NO. 200 SIEVE.</p> <p>B. PIT RUN GRAVEL</p> <p>PIT RUN GRAVEL SHALL BE ORGANIC FREE AND SHALL PASS A 3/4-INCH SIEVE.</p> <p>C. GRANULAR MATERIAL</p> <p>GRANULAR MATERIAL SHALL BE WELL GRADED, ORGANIC AND TOPSOIL FREE, DURABLE AGGREGATE AND SHALL PASS A 3/4-INCH SIEVE. NOT MORE THAN 10% SHALL PASS A NO. 200 SIEVE.</p> <p><b>TESTING</b></p> <p>INFILTRATION TESTING OF THE SANITARY SEWER SYSTEM WILL BE REQUIRED TO BE PERFORMED BY THE CONTRACTOR. INFILTRATION SHALL NOT EXCEED 200 GALLONS PER DAY PER INCH OF DIAMETER PER MILE OF LENGTH. IN THE EVENT THAT GROUNDWATER IS NOT ENCOUNTERED DURING SANITARY SEWER CONSTRUCTION, OR IF THE GROUNDWATER ENCOUNTERED IS NOT 24" ABOVE THE TOP OF PIPE, EXFILTRATION TESTING OF THE SANITARY SEWER WILL BE NECESSARY. THE TESTING WILL BE THE RESPONSIBILITY OF THE CONTRACTOR, BUT WILL BE WITNESSED BY THE ENGINEER AND THE UTILITY REPRESENTATIVES. EXFILTRATION SHALL NOT EXCEED 200 GALLONS PER DAY PER INCH OF DIAMETER PER MILE OF LENGTH, INCLUDING MANHOLES.</p> <p>LINE LAMPING WILL BE REQUIRED TO BE PERFORMED BY THE CONTRACTOR AND WITNESSED BY THE ENGINEER AND OWNER/OPERATOR.</p> <p>THE CONTRACTOR SHALL PROVIDE AT HIS OWN EXPENSE ALL NECESSARY TEST PUMPING EQUIPMENT, WATER, WATER METERS, PRESSURE GAUGES, AND OTHER EQUIPMENT, MATERIAL AND FACILITIES REQUIRED FOR ALL TESTING. CONTRACTOR SHALL CONTACT THE ENGINEER AND OWNER/OPERATOR IN WRITTEN FORM, SEVENTY-TWO (72) HOURS IN ADVANCE OF PROPOSED TESTING. NO TESTING ON MONDAY OR FRIDAY. THE CONTRACTOR SHALL PERFORM SATISFACTORY PRETESTING PRIOR TO NOTIFICATION. UTILITIES INC. OF FLORIDA REQUIRES AIR TEST, VIDEO, &amp; 5% MANDREL TESTING ACCORDING TO SDR OF PIPE.</p> <p><b>AS-BUILT DRAWINGS</b></p> <p>THE CONTRACTOR SHALL PROVIDE VERTICAL AND HORIZONTAL "AS-BUILT" INFORMATION RELATIVE TO ALL CONSTRUCTED UTILITIES AND STRUCTURES. AS-BUILT INFORMATION SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:</p> <ol style="list-style-type: none"> <li>LOCATIONS AND INVERTS OF ALL SANITARY SEWER LINES, MANHOLES, LIFT STATION WETWELLS AND SERVICE LATERALS AND RIM ELEVATION OF ALL MANHOLES.</li> <li>HORIZONTAL AND VERTICAL DATA FOR ANY CONSTRUCTION WHICH DEVIATES FROM THE APPROVED ENGINEERING PLANS.</li> <li>DISTANCES OF SEWER LINE LAID FROM MANHOLE TO MANHOLE WITH DISTANCE TIES TO LATERALS.</li> </ol> <p><b>TRENCH SAFETY</b></p> <p>THE CONTRACTOR SHALL RECOGNIZE AND ABIDE BY ALL OSHA EXCAVATION SAFETY STANDARDS, INCLUDING THE FLORIDA TRENCH SAFETY ACT (90-96, LAWS OF FLORIDA). ANY MATERIAL, CONSTRUCTION METHODS, OR MATERIAL COST TO COMPLY WITH THESE LAWS SHALL BE INCIDENTAL TO THE CONTRACT.</p> <p>MINIMUM COVER OVER ALL PIPES SHALL BE 36" FROM TOP OF PIPE TO FINISHED GRADE. SEE PLAN AND PROFILE SHEETS FOR REQUIRED DEPTH.</p> <p>ALL PLUGS, CAPS, TEES, BENDS, VALVES, ETC., SHALL BE PROVIDED WITH RESTRAINED JOINTS OR THRUST BLOCKS (RESTRAINED JOINTS PREFERRED). THRUST BLOCK CONSTRUCTION DETAILS, REFER TO UTILITY DETAIL SHEET.</p>	<p><b>FORCE MAIN</b></p> <p><b>OWNER/OPERATOR</b></p> <p>THE ENTITY THAT WILL OWN, OPERATE AND MAINTAIN THE FORCE MAIN SHOWN ON THESE PLANS IS UTILITIES INC OF FLORIDA, THE CONTRACTOR SHALL BE EXPECTED TO MEET ALL REQUIREMENTS OF THAT ENTITY.</p> <p><b>MATERIALS</b></p> <p>SANITARY SEWER FORCE MAIN SHALL BE POLYVINYL CHLORIDE PLASTIC PIPE (PVC) AND SHALL CONFORM TO ASTM D2241 PLASTIC PIPE (SD PR &amp; CLASS T), ASTM 1784, TYPE I, 2000 PSI DESIGN STRESS. THE PIPE SHALL BE ANSI/AWWA C900, WITH MARKINGS ON EACH SECTION SHOWING CONFORMANCE WITH THE ABOVE SPECIFICATION. JOINTS SHALL BE ELASTOMERIC RUBBER GASKETED CONFORMING TO ASTM D3139 DR 18 PIPE.</p> <p>FITTINGS FOR FORCE MAIN SHALL BE MECHANICAL JOINT, DUCTILE IRON CONFORMING TO ANSI/AWWA C110/A21.10 350 PSI MINIMUM PRESSURE RATING. FITTINGS SHALL BE POLYETHYLENE LINED (MIN. 30 MILS CONFORMING TO ASTM D-1248). ALL FM FITTINGS SHALL BE PROTECTO 401 CERAMIC LINED.</p> <p>ALL PLUGS, CAPS, TEES, VALVES, BENDS, ETC., SHALL BE RESTRAINED JOINTS PER DETAILS ON UTILITY SHEETS. THREE FOOT MINIMUM COVER OVER FORCE MAIN.</p> <p>STANDARD PLUG VALVES SHALL BE MANUFACTURED BY DEZURIK CORP., PRATT, DRESSER, HOMESTEAD INDUSTRIES, OR APPROVED EQUAL.</p> <p>VALVES SHALL BE FURNISHED WITH A REPLACEABLE CHEVRON PACKING, CAPABLE OF BEING REPACKED WITH THE LINE UNDER PRESSURE.</p> <p>VALVES 4 INCHES IN DIAMETER AND SMALLER SHALL BE WRENCH NUT OPERATED. VALVES LARGER THAN 4 INCHES SHALL BE WORM GEAR OPERATED, EXCEPT WHERE AUTOMATIC OPERATION IS SPECIFIED.</p> <p>AIR RELEASE VALVE DESIGNED FOR SEWAGE SERVICE SHALL BE INSTALLED IN THE TOPS OF PIPES AS INDICATED ON THE DRAWINGS. VALVES SHALL BE DESIGNED TO PERMIT MANUAL RELEASE OF AIR FROM AN EMPTY PIPE DURING FILLING AND SHALL BE CAPABLE OF DISCHARGING ACCUMULATED AIR IN THE LINE WHILE THE LINE IS IN OPERATION AND UNDER PRESSURE. VALVES SHALL BE CAPABLE OF WITHSTANDING OPERATING PRESSURES OF 50 PSI. VALVES SHALL BE VENTED TO THE ATMOSPHERE. THE VALVES SHALL BE VALMATIC, OR APPROVED EQUAL.</p> <p>CHECK VALVES SHALL BE OF THE WEIGHT AND LEVER TYPE, RESILIENT DISK, GRAY IRON, BRONZE TRIM, HORIZONTAL MOUNTED. VALVES SHALL BE MANUFACTURED IN ACCORDANCE WITH AWWA C508 WITH FLANGED CONNECTIONS. VALVES SHALL HAVE A WORKING PRESSURE OF 200 PSI FOR VALVES 2"-12". VALVES SHALL BE DEZURIK, MUELLER, OR APPROVED EQUAL.</p> <p><b>CONSTRUCTION METHODS</b></p> <p>TRENCHING SHALL BE IN ACCORDANCE WITH THE TRENCHING DETAILS PROVIDED ON THE CONSTRUCTION PLANS.</p> <p>COMPACTED BACKFILL FOR ALL PIPE SHALL BE TO 98% MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180 FOR UNDER ROADWAYS. OTHER COMPACTION OF BACKFILL SHALL BE TO THE 95% MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.</p> <p>INSTALLATION OF THE SANITARY SEWER FORCE MAIN SHALL BE IN CONFORMANCE WITH ASTM D2774-72 (LATEST EDITION).</p> <p>MINIMUM COVER OVER ALL PIPES SHALL BE 36" FROM TOP OF PIPE TO FINISHED GRADE. SEE PLAN AND PROFILE SHEETS FOR REQUIRED DEPTH.</p> <p>THE FORCE MAIN SHALL BE INSTALLED AS NOTED ON THE PLANS. WHERE APPLICABLE, A LATERAL SEPARATION OF AT LEAST 10' SHALL BE MAINTAINED BETWEEN WATER AND SEWER LINES. WHEN WATER AND SEWER LINES CROSS WITH LESS THAN AN 18" VERTICAL SEPARATION, THE PVC SEWER LINE SHALL BE ENCASED IN CONCRETE OR DUCTILE IRON PIPE USED IN LIEU OF PVC PIPE FOR A DISTANCE OF 10' EITHER SIDE OF THE CROSSING.</p> <p>ALL PLUGS, CAPS, TEES, BENDS, VALVES, ETC., SHALL BE PROVIDED WITH RESTRAINED JOINTS OR THRUST BLOCKS (RESTRAINED JOINTS PREFERRED) PER UTILITY DETAIL SHEET.</p> <p>GREEN MAGNETIC INDICATOR TAPE SHALL BE BURIED IN THE FORCE MAIN TRENCH 18" DIRECTLY ABOVE THE FORCE MAIN. A CONTINUOUS COPPER DETECTOR WIRE SHALL BE ATTACHED TO THE PIPE AND VALVES AS SHOWN ON THE UTILITY SHEETS USING VINYL TIE STRAPS. NO DUCT TAPE WIRE SHALL BE 10 GA. AND COLOR CODED.</p> <p>CONNECTIONS TO MANHOLE WITH FORCE MAINS SHALL BE MADE BY CORE BORE AND LINK SEAL OR OTHER APPROVED CONNECTION. CONNECTIONS SHALL BE MADE WATERTIGHT AND BE INSTALLED ACCORDING TO THE MANUFACTURERS' RECOMMENDATIONS.</p> <p><b>TESTING</b></p> <p>FORCE MAIN SHALL BE PRESSURE AND LEAKAGE TESTED IN ACCORDANCE WITH AWWA STANDARD M23. FORCE MAIN SYSTEM SHALL BE TESTED FOR TWO (2) HOURS AT 100 PSI. SEVENTY-TWO (72) HOURS WRITTEN ADVANCE NOTIFICATION TO THE ENGINEER AND THE UTILITY COMPANY OF THE TESTING WILL BE REQUIRED. NO TESTING ON MONDAY OR FRIDAY. THE CONTRACTOR SHALL PERFORM SATISFACTORY PRETESTING PRIOR TO NOTIFICATION.</p> <p><b>AS-BUILT DRAWINGS</b></p> <p>THE CONTRACTOR SHALL PROVIDE VERTICAL AND HORIZONTAL "AS-BUILT" INFORMATION RELATIVE TO ALL CONSTRUCTED UTILITIES AND STRUCTURES.</p> <p>AS-BUILT INFORMATION FOR THE FORCE MAIN SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING</p> <ol style="list-style-type: none"> <li>LOCATION OF ALL VALVES, FITTINGS, ETC.</li> <li>LOCATION OF THE FORCE MAIN TIED HORIZONTALLY TO THE BACK OF CURB OR EDGE OF PAVEMENT.</li> <li>CERTIFICATION AS TO THE SYSTEM MEETING THE MINIMUM COVER REQUIREMENTS.</li> <li>HORIZONTAL AND VERTICAL DATA FOR ANY CONSTRUCTION WHICH DEVIATES FROM THE APPROVED ENGINEERING DRAWINGS.</li> </ol>
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SERENOVA ACTIVE ADULT AMENITY CENTER

GENERAL NOTES

DR HORTON

PREPARED FOR:

NO.	DATE	DESCRIPTION
1	05/19/2018	REVIEW SUBMITTAL

PROJECT NO: KLP-AG-1019  
 FILE: GNOTES  
 DESIGN BY: CNW  
 DRAWN BY: CNW

**FLORIDA PROFESSIONAL ENGINEER**

This item has been electronically signed and sealed by Victor E. Barbosa, P.E. using a Digital Signature.

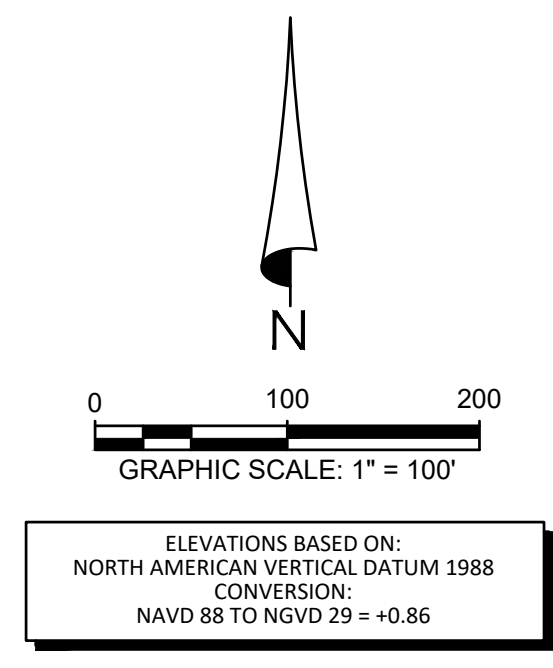
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**VICTOR E. BARBOSA**  
 DATE: \_\_\_\_\_  
 REGISTRATION NO. 68548

**C-102**

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**GENERAL LEGEND**

	PROPERTY LINE
	PHASE LINE
	WETLAND LINE
	WETLAND CONS. AREA SETBACK (WCAS) (50')
	STAKED EROSION CONTROL

**NOTE:**  
THIS EXHIBIT WAS PREPARED FOR ILLUSTRATIVE PURPOSES ONLY. THE LATEST AVAILABLE DIGITAL AERIAL FILES HAVE BEEN USED HOWEVER THIS MAY NOT ACCURATELY DEPICT CURRENT SITE CONDITIONS. ADDITIONAL ENGINEERING, ENVIRONMENTAL REVIEWS, FIELD SURVEYING AND DATA COLLECTION ARE NECESSARY TO CORRECTLY PORTRAY ACTUAL SITE CONDITIONS. THIS EXHIBIT IS SUBJECT TO CHANGE WITHOUT NOTICE BASED ON THE ABOVE.

DATE OF PHOTO: 2017

**LEGAL DESCRIPTION:**

**DESCRIPTION:** A parcel of land lying in Section 13, Township 24 South, Range 26 East, Lake County, Florida, and being more particularly described as follows:

BEGIN at the Southeast corner of the Northwest 1/4 of said Section 13; thence along the East boundary of said Northwest 1/4, N 00°15'40"E, a distance of 788.11 feet; thence N 90°00'00"E, a distance of 123.39 feet; thence S 23°31'53"E, a distance of 32.93 feet; thence Southwesterly, 57.15 feet along the arc of a non-tangent curve to the left having a radius of 57.00 feet and a central angle of 57°26'36" (chord bearing S 49°22'00"W, 54.78 feet); thence N 69°21'18"W, a distance of 13.00 feet; thence Southerly, 48.26 feet along the arc of a non-tangent curve to the left having a radius of 70.00 feet and a central angle of 39°29'55" (chord bearing S 00°53'44"W, 47.31 feet); thence Southeasterly, 71.06 feet along the arc of a compound curve to the left having a radius of 70.00 feet and a central angle of 58°09'52" (chord bearing S 47°56'09"E, 68.05 feet); thence Southeasterly, 103.08 feet along the arc of a reverse curve to the right having a radius of 100.00 feet and a central angle of 59°03'42" (chord bearing S 47°29'14"E, 98.58 feet); thence S 74°54'34"W, a distance of 124.89 feet; thence S 31°21'12"W, a distance of 86.95 feet; thence Southerly, 26.70 feet along the arc of a non-tangent curve to the left having a radius of 39.86 feet and a central angle of 38°22'36" (chord bearing S 19°11'19"W, 26.20 feet); thence S 00°00'00"E, a distance of 429.90 feet; thence S 90°00'00"E, a distance of 165.41 feet; thence S 32°37'59"W, a distance of 49.89 feet; thence S 27°12'57"W, a distance of 49.92 feet; thence S 21°03'45"W, a distance of 62.39 feet; thence S 14°24'04"W, a distance of 62.39 feet; thence S 07°34'12"W, a distance of 62.39 feet; thence S 85°49'02"E, a distance of 125.00 feet; thence S 03°51'41"W, a distance of 4.52 feet; thence Southwesterly, 42.53 feet along the arc of a non-tangent curve to the right having a radius of 30.00 feet and a central angle of 81°13'57" (chord bearing S 44°09'23"W, 39.06 feet); thence S 84°46'22"W, a distance of 284.40 feet; thence Westerly, 51.33 feet along the arc of a tangent curve to the left having a radius of 661.00 feet and a central angle of 04°26'56" (chord bearing S 82°32'54"W, 51.31 feet); thence S 80°19'26"W, a distance of 245.82 feet; thence Westerly, 20.94 feet along the arc of a tangent curve to the left having a radius of 221.00 feet and a central angle of 05°25'41" (chord bearing S 77°36'35"W, 20.93 feet); thence N 00°06'43"W, a distance of 370.22 feet to a point on the South boundary of the aforesaid Northwest 1/4; thence along said South boundary, N 89°53'06"E, a distance of 396.48 feet to the POINT OF BEGINNING.

Containing 5.365 acres, more or less.

**DESCRIPTION:** A parcel of land lying in Section 13, Township 24 South, Range 26 East, Lake County, Florida, and being more particularly described as follows:

COMMENCE at the Southeast corner of the Northwest 1/4 of said Section 13; thence along the East boundary of the Southwest 1/4 of said Section 13, S 00°16'59"W, a distance of 383.52 feet to the POINT OF BEGINNING; thence N 84°46'22"E, a distance of 210.44 feet; thence Southeasterly, 42.53 feet along the arc of a tangent curve to the right having a radius of 30.00 feet and a central angle of 81°13'57" (chord bearing S 54°36'40"E, 39.06 feet); thence Southeasterly, 225.56 feet along the arc of a reverse curve to the left having a radius of 403.00 feet and a central angle of 32°04'05" (chord bearing S 30°01'44"E, 222.62 feet); thence S 43°56'14"W, a distance of 47.16 feet; thence Westerly, 40.02 feet along the arc of a non-tangent curve to the left having a radius of 50.00 feet and a central angle of 45°51'17" (chord bearing N 70°04'05"W, 38.96 feet); thence S 87°00'16"W, a distance of 22.99 feet; thence N 60°07'18"W, a distance of 45.80 feet; thence N 42°42'22"W, a distance of 37.51 feet; thence N 58°18'42"W, a distance of 57.60 feet; thence N 49°52'08"W, a distance of 92.82 feet; thence N 74°33'41"W, a distance of 74.10 feet; thence N 53°45'45"W, a distance of 50.46 feet; thence N 28°22'01"W, a distance of 26.74 feet; thence N 84°46'22"E, a distance of 49.66 feet to the POINT OF BEGINNING.

Containing 1.002 acres, more or less.

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Engineering Business Certificate of Authorization No. 28782  
Landscape Architecture Certificate of Authorization No. LC26000005

**SERENOA ACTIVE ADULT AMENITY CENTER AERIAL SITE PLAN**

DR HORTON

PREPARED FOR:

NO.	DATE	REVISION SUBMITTAL	DESCRIPTION
1	09/14/2018		

PROJECT NO. KLP-AG-1019  
FILE: ASP  
DESIGN BY: CNW  
DRAWN BY: CNW

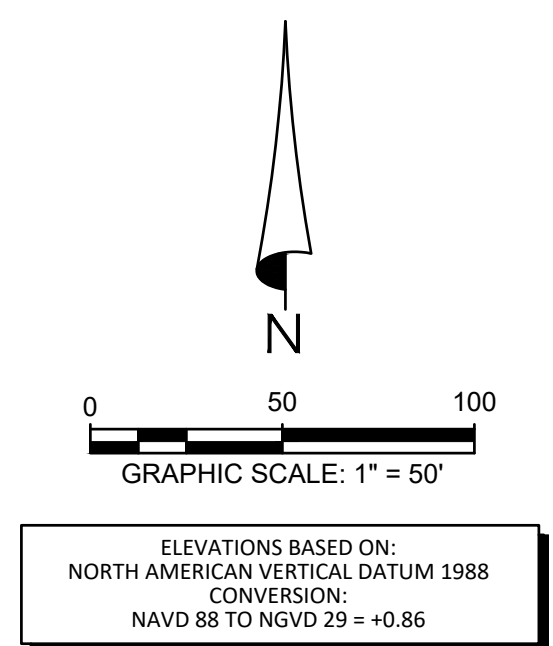
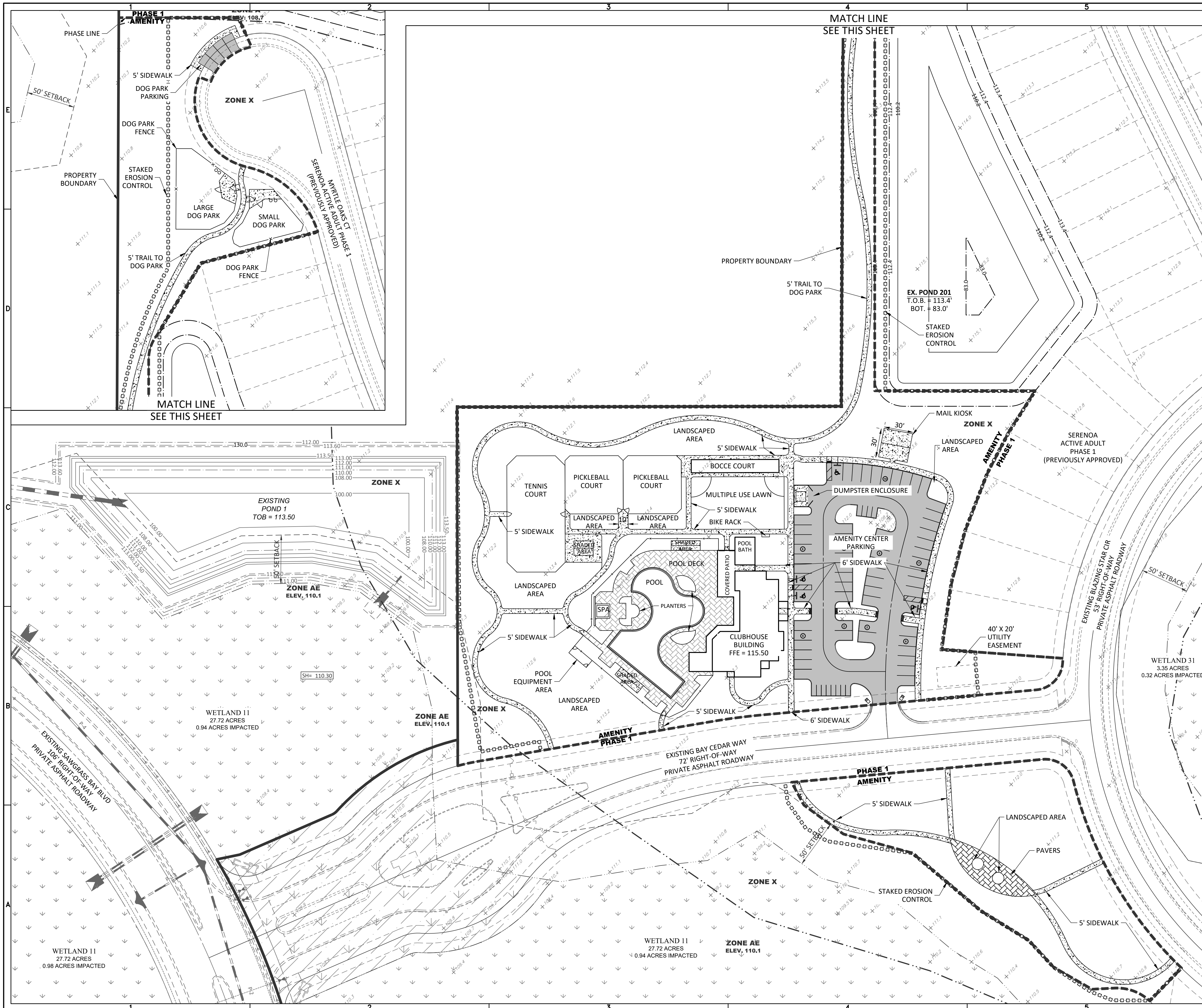
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**C-104**



ELEVATIONS BASED ON NORTH AMERICAN VERTICAL DATUM 1988  
CONVERSION: NAVD 88 TO NGVD 29 = +0.86

- LEGEND**
- WETLAND LINE
  - WETLAND CONS. AREA SETBACK (WCAS) (50')
  - FEMA LINE
  - BOUNDARY LIMITS
  - RIGHT-OF-WAY LINE
  - PHASE LINE

- SITE PLAN GENERAL INFORMATION:**
- OVERALL SITE AREA - 6.37 AC.
  - DISTURBED SITE AREA - 5.88 AC.
  - BLDG. AREA - 5,336 SQ.FT.
  - PARKING SPACES - HANDICAP - 4 SPACES  
TOTAL SPACES - 58 SPACES
  - OPEN SPACE - 4.32 AC.

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Landscape Architecture Certificate of Authorization No. LC26000015  
RAVALON GROVES/ACTIVE ADULT AMENITY/ENGINEERING/SITE DWG-C-105 2018/03/29 1:57 PM CATHERINE WIGGINS

**SERENOA ACTIVE ADULT AMENITY CENTER**  
**SITE PLAN**

DR HORTON

PREPARED FOR:

NO.	DATE	DESCRIPTION
1	05/12/2018	REVIEW SUBMITTAL

PROJECT NO: KLP-AG-1019  
FILE: SITE  
DESIGN BY: CNW  
DRAWN BY: CNW

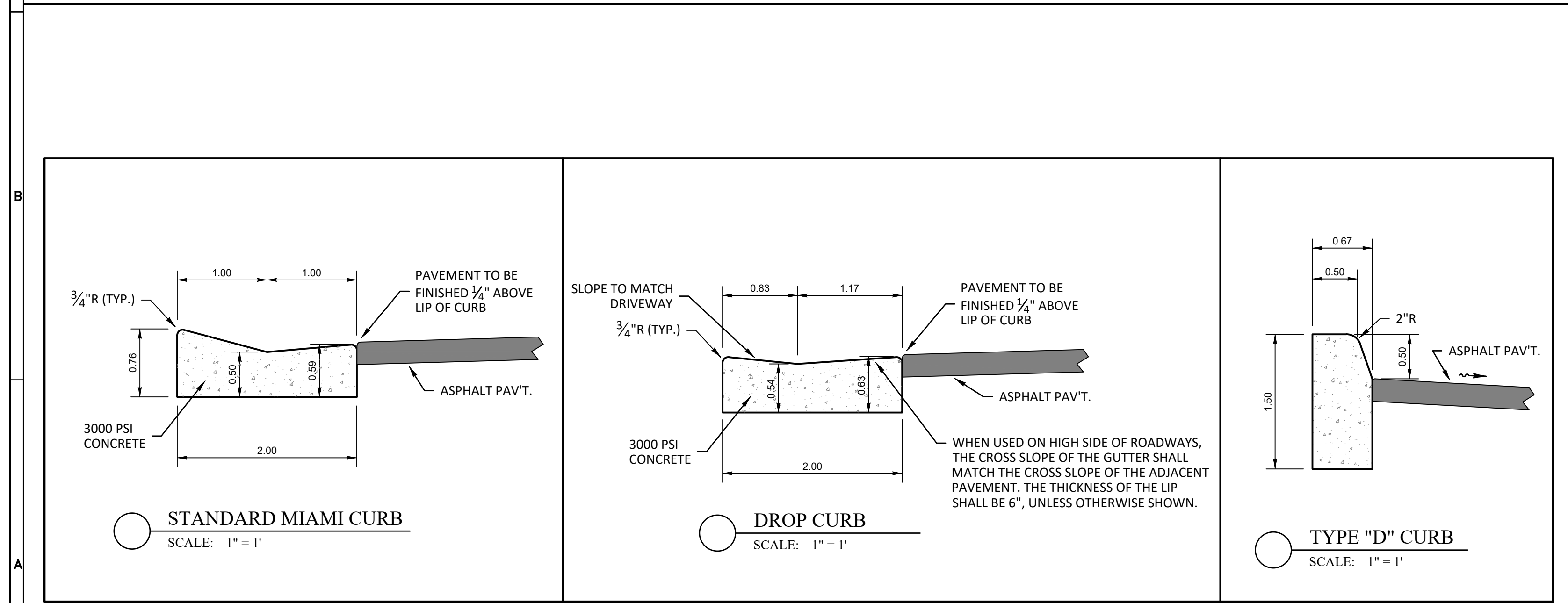
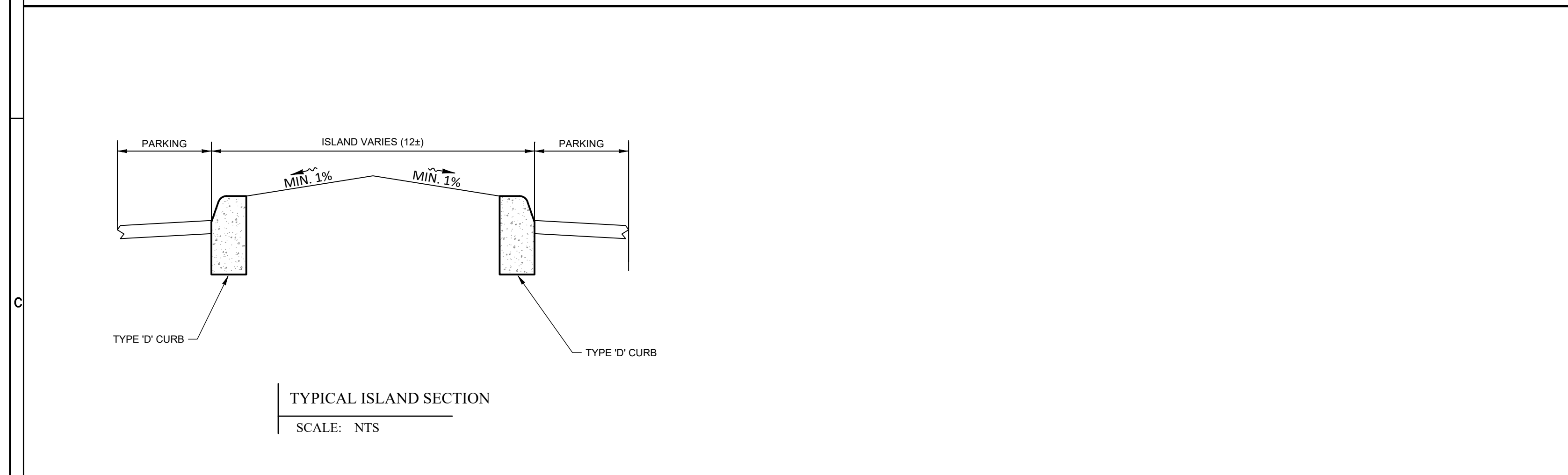
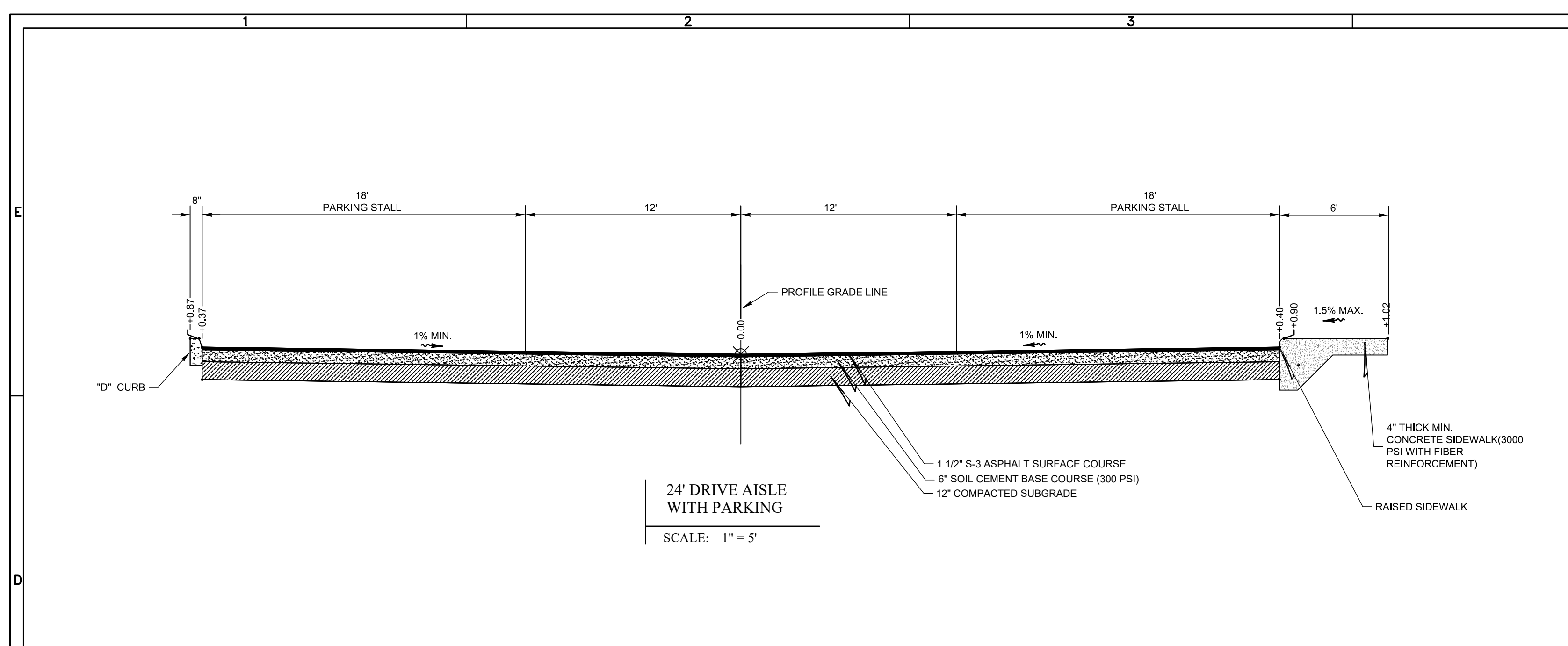
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**C-105**



**PAVEMENT CONSTRUCTION NOTES:**

**1. SUBGRADE**  
THE FOLLOWING ARE MINIMUM STANDARDS FOR THE STABILIZED SUBGRADE:

**WIDTH** - THE SUBGRADE SHALL BE TWO (2) FEET WIDER THAN THE BASE COURSE (ONE (1) FOOT EACH SIDE) AND IN THE CASE OF CURB AND GUTTER SHALL EXTEND SIX (6) INCHES BEHIND THE CURB.

**DEPTH** - THE SUBGRADE SHALL HAVE A MINIMUM DEPTH OF 12-INCHES.

**COMPACTION** - THE SUBGRADE SHALL BE COMPACTED TO 98% DENSITY HAVING A MINIMUM FLORIDA BEARING VALUE (FBV) OF 50 POUNDS PER SQUARE INCH.

**CARE OF SUBGRADE** - TRUCKS WILL BE ALLOWED ON FINISHED SUBGRADE TO DUMP BASE COURSE, BUT CONTRACTOR WILL BE REQUIRED TO LEVEL OUT RUTS. IN THE EVENT THE TRUCKS CAUSE TOO MUCH DAMAGE TO THE SUBGRADE, THE COUNTY MANAGER OR DESIGNEE MAY REQUIRE DUMPING, SPREADING, AND HAULING ON THE BASE COURSE.

**2. SHOULDERS**  
THE FOLLOWING ARE MINIMUM STANDARDS FOR SHOULDERS:

**WIDTH** - SHOULDERS SHALL BE EIGHT FEET WIDE. A REDUCTION IN THE WIDTH REQUIREMENT MAY BE ALLOWED IF APPROVED BY THE COUNTY MANAGER OR DESIGNEE.

**DEPTH** - SHOULDERS SHALL HAVE A MINIMUM DEPTH OF SIX INCHES.

**COMPACTION** - SHOULDERS SHALL BE COMPACTED TO A MINIMUM FLORIDA BEARING VALUE OF 50 POUNDS PER SQUARE INCH.

**GRADING** - SHOULDERS SHALL BE GRADED WITH A MINIMUM CROSS-SLOPE OF 1/2 INCH/FOOT.

**3. BASE COURSE**  
THE FOLLOWING ARE MINIMUM STANDARDS FOR THE BASE COURSE:

**MATERIAL** - OCALA LIMESTONE OR SOIL CEMENT ARE ACCEPTABLE MATERIAL TYPES FOR THE ROAD BASE. OTHER MATERIALS MAY BE USED IF APPROVED BY THE COUNTY MANAGER OR DESIGNEE. SOIL CEMENT MAY NOT BE UTILIZED ON HEAVY DUTY ROADS WITHOUT SPECIFIC APPROVAL BY THE COUNTY MANAGER OR DESIGNEE.

**WIDTH** - ALL BASES SHALL BE ONE (1) FOOT WIDER (SIX (6) INCHES EACH SIDE) THAN THE FINISHED SURFACE.

**DEPTH** - THE BASE SHALL HAVE A MINIMUM DEPTH OF SIX INCHES. HEAVY DUTY ROADS SHALL HAVE A BASE WITH A MINIMUM DEPTH OF EIGHT INCHES PLACED IN TWO LIFTS.

**COMPACTION** - LIMESTONE BASE SHALL BE COMPACTED TO A MINIMUM 98% DENSITY AS DETERMINED BY ASSHTO T-100.

**STRENGTH** - SOIL CEMENT BASE SHALL HAVE A SEVEN DAY DESIGN COMPRESSIVE STRENGTH OF AT LEAST 300 PSI.

**FORMS** - NO FORM BOARDS WILL BE REQUIRED UNLESS, IN THE OPINION OF THE COUNTY MANAGER OR DESIGNEE, THE CONTRACTOR IS NOT TAKING PRECAUTIONS TO OBTAIN THE FULL DEPTH AT THE EDGES.

**GRADING** - THE BASE SHALL BE GRADED AND ROLLED TO CONFORM TO THE GRADE AND CROSS-SLOPE OF THE FINISHED ROADWAY.

**PRIME COAT** - PRIME COAT SHALL BE APPLIED TO ALL BASE COURSES, AND SAND SEALED.

**4. WEARING SURFACE**  
THE FOLLOWING ARE MINIMUM STANDARDS FOR PAVEMENT WEARING SURFACE:

**MATERIAL** - TYPE III ASPHALTIC CONCRETE SHALL BE USED FOR THE ROAD WEARING SURFACE. OTHER ASPHALT TYPES MAY BE USED IF REQUIRED BY THE COUNTY MANAGER OR DESIGNEE.

**DEPTH** - ROADS SHALL HAVE A MINIMUM 1 1/2 -INCH DEPTH OF WEARING SURFACE. THE MINIMUM DEPTH MAY BE INCREASED IF REQUIRED BY THE COUNTY MANAGER OR DESIGNEE.

**HEAVY DUTY ROADS** - HEAVY DUTY SHALL HAVE A WEARING SURFACE CONSISTING OF MINIMUM OF TWO INCHES OF S-1 ASPHALTIC CONCRETE OVERLAPPED WITH A ONE INCH FRICTION COURSE. THE TYPE OF MATERIAL TO BE USED FOR THE FRICTION COURSE SHALL BE DETERMINED BY THE COUNTY MANAGER OR DESIGNEE.

**GRADING** - ROAD SURFACES SHALL BE GRADED WITH A MINIMUM CROSS-SLOPE OF 1/4 INCH/FOOT.

**5. CURB AND GUTTER**  
THE WIDTH OF CURB AND GUTTER SHALL BE A MINIMUM OF TWENTY-FOUR (24) INCHES AND SHALL BE EITHER FLORIDA DEPARTMENT OF TRANSPORTATION TYPE F (STANDARD CURB AND GUTTER) OR MIAMI TYPE, DEPENDING UPON THE FLOW TO BE HANDLED. FOOT TYPE D (SIMPLE VERTICAL CURBING) WILL NOT BE ACCEPTABLE. FDOT TYPE A (MOUNTABLE MEDIAN CURB) MAY BE USED AROUND MEDIAN DIVIDERS ON THE HIGH SIDE OF PAVEMENT. THERE SHALL BE A STABILIZED SUBGRADE BENEATH ALL CURB AND GUTTER.

NO WATER VALVE BOXES, METERS, PORTIONS OF MANHOLES, OR OTHER APPURTENANCES OF ANY KIND RELATING TO ANY UNDERGROUND UTILITIES SHALL BE LOCATED IN ANY PORTION OF A CURB AND GUTTER SECTION.

THE CURB AND GUTTER FLOW LINE GRADES SHALL RUN PARALLEL TO THE ROAD CENTERLINE GRADE. THE MINIMUM ALLOWABLE FLOW LINE GRADE OF CURBS AND GUTTERS SHALL BE 0.30%, EXCEPT IN INTERSECTIONS WHERE FLATTER GRADES SHALL BE ALLOWABLE.

JOINTS SHALL BE SAWED (UNLESS AN ALTERNATE METHOD IS USED) AT INTERVALS OF TEN (10) FEET, EXCEPT WHERE SHORTER INTERVALS ARE REQUIRED FOR CLOSURES, BUT, IN NO CASE, LESS THAN FOUR (4) FEET. JOINTS SHALL BE CUT ON THE SAME DAY THAT THE CURB AND GUTTER IS POURED.

ALL CROSS-STREET VALLEY GUTTERS SHALL BE CONSTRUCTED OF CONCRETE.

**6. DECORATIVE PAVEMENT**  
THE USE OF DECORATIVE PAVEMENT SHALL BE SUBJECT TO THE APPROVAL OF THE COUNTY MANAGER OR DESIGNEE. THE COUNTY SHALL NOT ASSUME THE MAINTENANCE OF DECORATIVE PAVEMENT SECTIONS. MAINTENANCE SHALL BE THE RESPONSIBILITY OF A HOMEOWNERS ASSOCIATION OR OTHER ACCEPTABLE ENTITY.

THE COUNTY SHALL HAVE THE RIGHT TO MODIFY, ALTER, OR REMOVE ALL OR A PORTION OF THE DECORATIVE PAVEMENT AS NECESSARY FOR ROADWAY IMPROVEMENTS OR IMPROVEMENTS FOR TRAFFIC SAFETY.

**BOMANITE PAVEMENT** - BOMANITE PAVEMENTS SHALL MEET THE REQUIREMENTS FOR CONCRETE PAVEMENT IN THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. THE DEVELOPER SHALL SUBMIT TO THE COUNTY, FOR APPROVAL, MANUFACTURER SPECIFICATIONS CONFIRMING ADHERENCE TO THESE REGULATIONS.

**PAVING BRICKS** - THE USE OF PAVING BRICKS SHALL BE SUBJECT TO THE APPROVAL OF THE COUNTY. THE DEVELOPER SHALL SUBMIT TO THE COUNTY, FOR APPROVAL, MANUFACTURER SPECIFICATIONS REGARDING THE STRUCTURAL STRENGTH, SKID RESISTANCE AND SUBGRADE REQUIREMENTS.

**7. TESTING**  
TESTING SHALL BE PROVIDED AS PART OF CONSTRUCTION AND SHALL BE AT NO COST TO THE COUNTY. TESTING SHALL BE PERFORMED BY AN INDEPENDENT ENGINEERING TESTING LABORATORY CERTIFIED IN THE STATE OF FLORIDA.

THE FOLLOWING ARE MINIMUM TESTING REQUIREMENTS:

**SUBGRADE** - TESTING FOR THE SUBGRADE THICKNESS, BEARING VALUE AND DENSITY SHALL BE LOCATED NO MORE THAN FIVE HUNDRED (500) FEET APART AND SHALL BE STAGGERED TO THE LEFT, RIGHT AND ON THE CENTERLINE OF THE ROADWAY. THE COUNTY MAY ALSO REQUIRE ADDITIONAL TEST LOCATIONS AS DIRECTED BY THE COUNTY MANAGER OR DESIGNEE. THERE SHALL BE NO LESS THAN ONE (1) TEST PER ROAD. TESTING SHALL BE IN ACCORDANCE WITH APPLICABLE FDOT, AASHTO, OR ASTM STANDARDS. CERTIFIED TEST RESULTS SHALL BE SUBMITTED TO THE COUNTY FOR APPROVAL PRIOR TO PROCEEDING WITH THE BASE COURSE.

**LIMESTONE BASE** - TESTING FOR THE BASE THICKNESS AND DENSITY SHALL BE LOCATED NO MORE THAN 500-FEET APART AND SHALL BE STAGGERED TO THE LEFT, RIGHT AND ON THE CENTERLINE OF THE ROADWAY. THE COUNTY MAY ALSO REQUIRE ADDITIONAL TEST LOCATIONS AS DIRECTED BY THE COUNTY MANAGER OR DESIGNEE. THERE SHALL BE NO LESS THAN ONE TEST PER ROAD. TESTING SHALL INCLUDE: TEST CORES TAKEN AFTER SEVEN DAYS TO VERIFY THICKNESS AND TESTING TO VERIFY A MINIMUM SEVEN DAY COMPRESSIVE STRENGTH OF 300 PSI. TESTING SHALL BE IN ACCORDANCE WITH APPLICABLE FDOT, AASHTO, OR ASTM STANDARDS. CERTIFIED TEST RESULTS SHALL BE SUBMITTED TO THE COUNTY FOR APPROVAL PRIOR TO PROCEEDING WITH THE WEARING SURFACE.

**SOIL / CEMENT BASE** - TESTING FOR THE BASE THICKNESS AND STRENGTH SHALL BE LOCATED NO MORE THAN 500-FEET APART AND SHALL BE STAGGERED TO THE LEFT, RIGHT AND ON THE CENTERLINE OF THE ROADWAY. THE COUNTY MAY ALSO REQUIRE ADDITIONAL TEST LOCATIONS AS DIRECTED BY THE COUNTY MANAGER OR DESIGNEE. THERE SHALL BE NO LESS THAN ONE TEST PER ROAD. TESTING SHALL INCLUDE: TEST CORES TAKEN AFTER SEVEN DAYS TO VERIFY THICKNESS AND TESTING TO VERIFY A MINIMUM SEVEN DAY COMPRESSIVE STRENGTH OF 300 PSI. TESTING SHALL BE IN ACCORDANCE WITH APPLICABLE FDOT, AASHTO, OR ASTM STANDARDS. CERTIFIED TEST RESULTS SHALL BE SUBMITTED TO THE COUNTY FOR APPROVAL PRIOR TO PROCEEDING WITH THE WEARING SURFACE.

**WEARING SURFACE** - TESTING FOR WEARING SURFACE THICKNESS SHALL BE LOCATED NO MORE THAN 500-FEET APART AND SHALL BE STAGGERED TO THE LEFT, RIGHT AND ON THE CENTERLINE OF THE ROADWAY. THE COUNTY MAY ALSO REQUIRE ADDITIONAL TEST LOCATIONS AS DIRECTED BY THE COUNTY MANAGER OR DESIGNEE. THERE SHALL BE NO LESS THAN ONE TEST PER ROAD. TESTING SHALL INCLUDE: CERTIFIED DESIGN MIX SUBMITTED FOR APPROVAL PRIOR TO PLACING ASPHALT. EXTRACTIONS TAKEN IN FIELD AT LEAST ONE PER DAY AND CORINGS TO VERIFY THICKNESS. TESTING SHALL BE IN ACCORDANCE WITH APPLICABLE FDOT, AASHTO, OR ASTM STANDARDS. CERTIFIED TEST RESULTS SHALL BE SUBMITTED TO THE COUNTY FOR APPROVAL.

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SERENOVA ACTIVE ADULT AMENITY CENTER  
TYPICAL ROADWAY SECTIONS  
DR HORTON

DATE	DESCRIPTION
12/06/2017	CLARIFY STATIONING FOR SECS
3	

PROJECT NO: KLP-AG-1019  
FILE: RS-LAKECO  
DESIGN BY: CNW  
DRAWN BY: CNW

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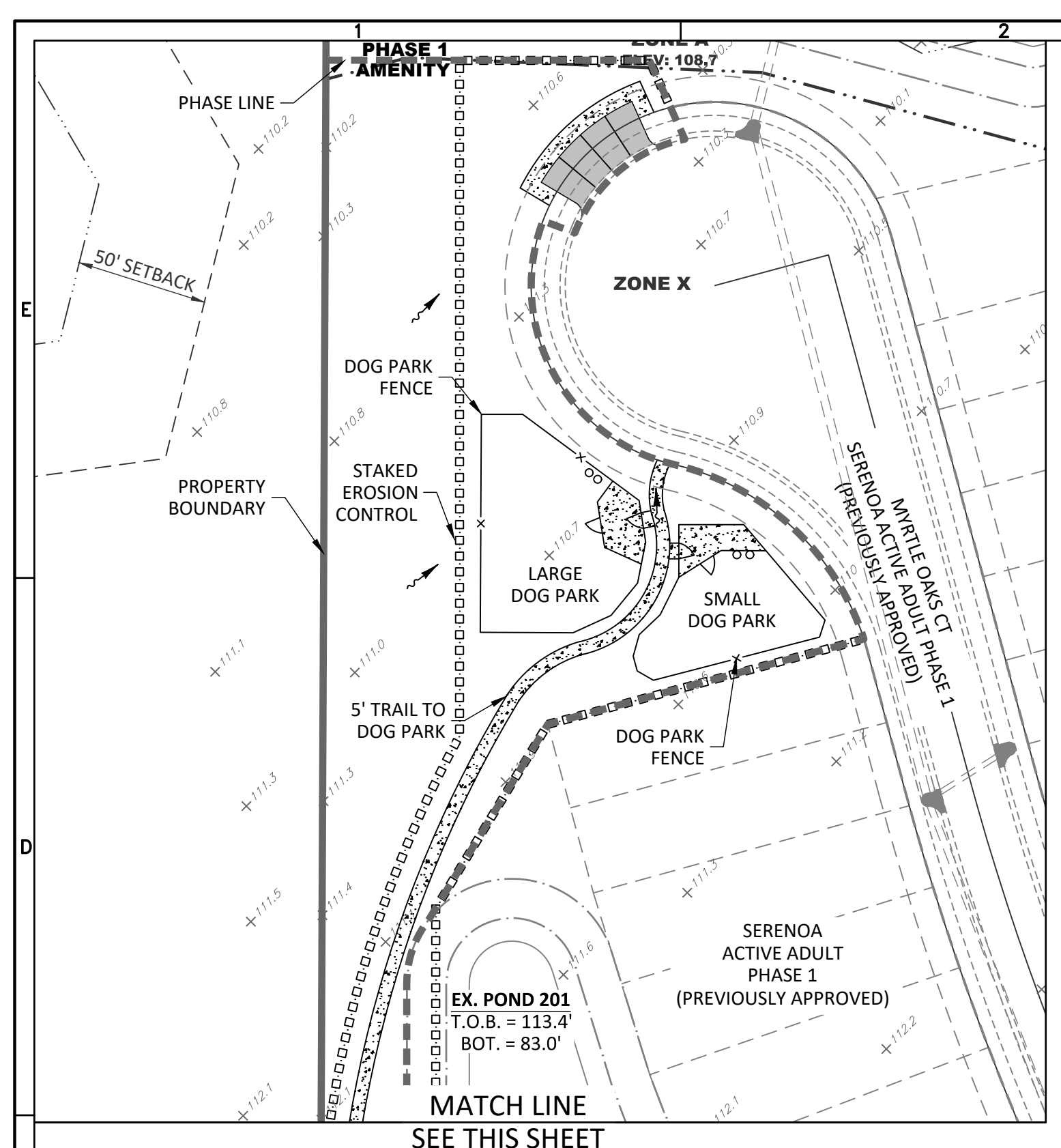
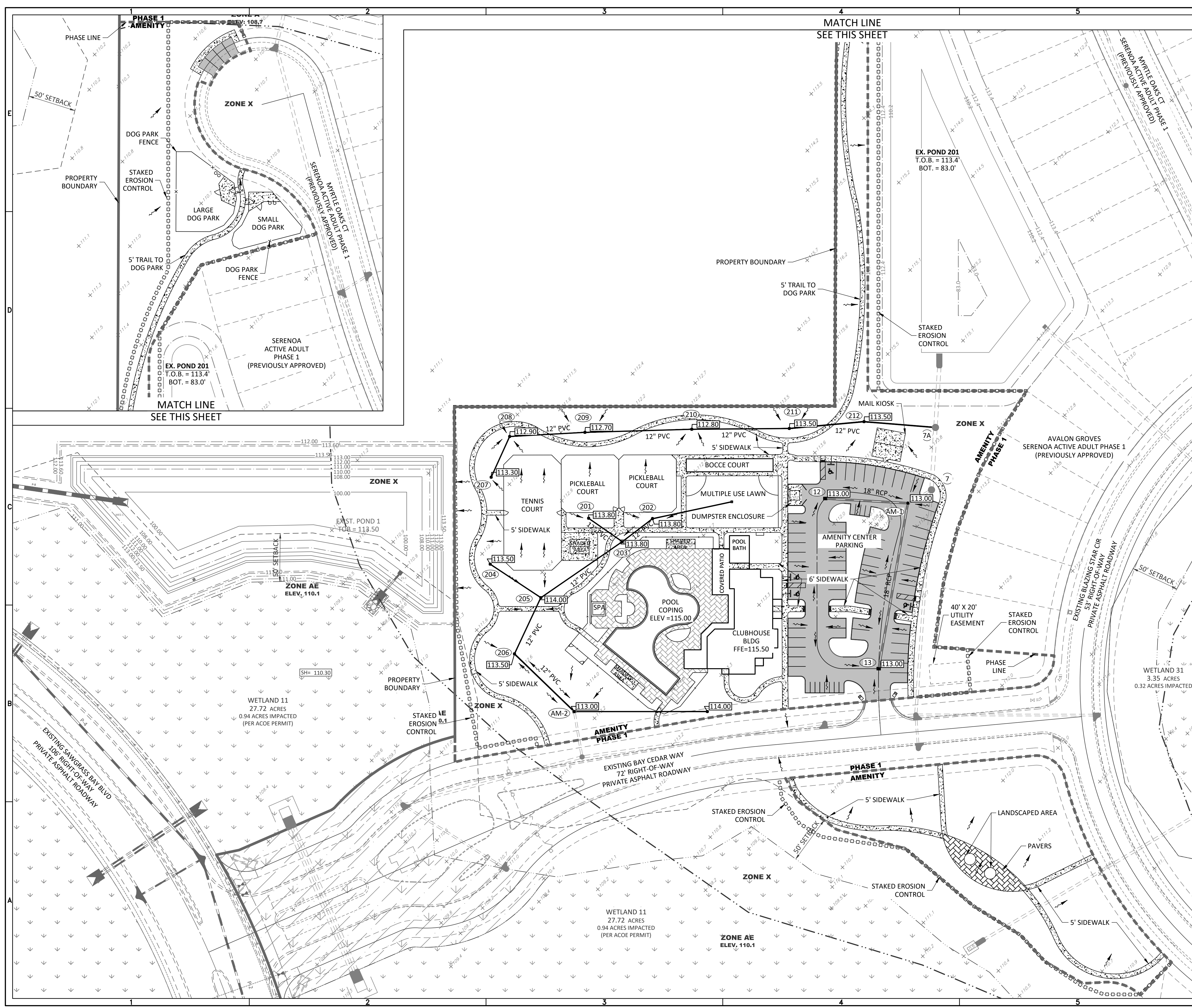
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**C-200**

CONTRACTOR MAY PROPOSE ALTERNATE PAVEMENT DESIGNS. CONTRACTOR SHALL SUBMIT ANY PAVEMENT ALTERNATIVES TO ENGINEER FOR APPROVAL PRIOR TO FINAL SUBGRADE PREPARATIONS.



N

0 50 100

GRAPHIC SCALE: 1" = 50'

ELEVATIONS BASED ON:  
NORTH AMERICAN VERTICAL DATUM 1988  
CONVERSION: NAVD 88 TO NGVD 29 = +0.86

ELEVATIONS BASED ON NORTH AMERICAN VERTICAL DATUM 1988  
CONVERSION: NAVD 88 TO NGVD 29 = +0.86

**LEGEND**

- WETLAND LINE
- WETLAND CONS. AREA SETBACK (WCAS) (50')
- FEMA LINE
- BOUNDARY LIMITS
- RIGHT-OF-WAY LINE
- PHASE LINE

**DRAINAGE LEGEND**

	EXISTING		PROPOSED
10	STORM DRAINAGE STRUCTURE & PIPE	10	STORM DRAINAGE STRUCTURE & PIPE
10	STRUCTURE NO.	CS-F	CONTROL STRUCTURE NO.
15.00	SPOT ELEVATION GROUND	15.00	SPOT ELEVATION PAVEMENT
63.2	TOP OF CURB/SIDEWALK GRADE	63.2	EDGE OF PAVEMENT GRADE
15.00	ROADWAY PROFILE ELEVATION	15.00	CONTOUR
15.00	FINISH FLOOR ELEVATION	FFE=15.00	FINISH FLOOR ELEVATION
	DIRECTION OF SURFACE FLOW		STAKED EROSION CONTROL
	BOTTOM OF POND/TOP OF BANK OF POND		WALL/FENCE (BY OTHERS)

N

SHEET KEY MAP

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**SERENOA ACTIVE ADULT AMENITY CENTER MASTER GRADING & DRAINAGE PLAN**

DR HORTON

NO.	DATE	DESCRIPTION
1	05/19/2018	REVIEW SUBMITTAL

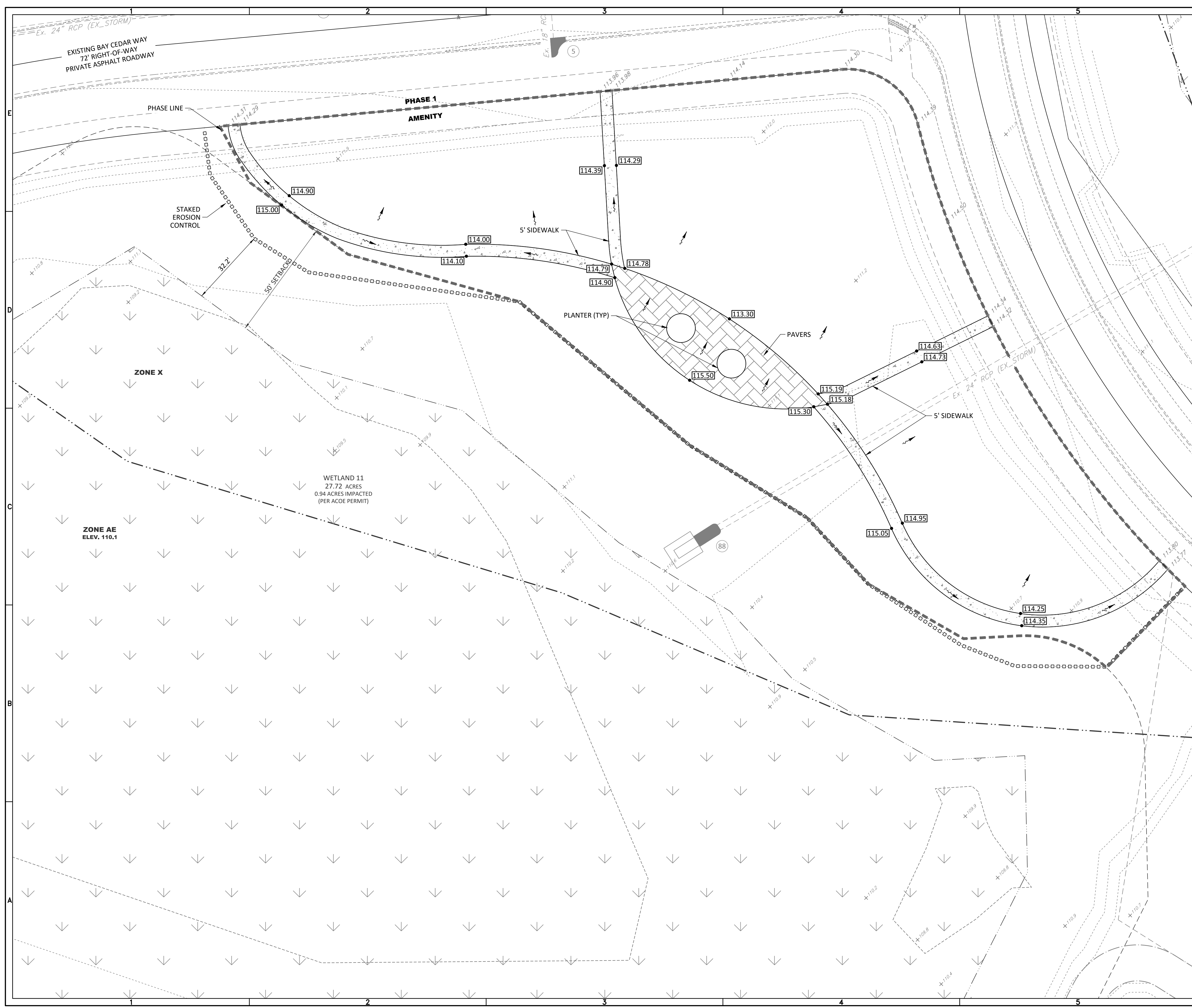
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DESIGN BY: CNW  
DRAWN BY: CNW

**VICTOR E. BARBOSA**  
DATE: \_\_\_\_\_  
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**C-300**

RAVALON GROVES/ACTIVE ADULT AMENITY CENTER MASTER GRADING & DRAINAGE PLAN  
 5904-A HAMPTON OAKS PKWY., TAMPA, FL 33610  
 813-253-5311  
 813-464-7629  
 WWW.HEIDTDESIGN.COM  
 ENGINEERING BUSINESS CERTIFICATE OF AUTHORIZATION NO. 28752  
 LANDSCAPE ARCHITECTURE CERTIFICATE OF AUTHORIZATION NO. LC26000405  
 158 PM CATHERINE WIGGINS





N

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GRAPHIC SCALE: 1" = 20'

ELEVATIONS BASED ON:  
NORTH AMERICAN VERTICAL DATUM 1988  
CONVERSION:  
NAVD 88 TO NGVD 29 = +0.86

ELEVATIONS BASED ON NORTH AMERICAN VERTICAL DATUM 1988  
CONVERSION: NAVD 88 TO NGVD 29 = +0.86

**LEGEND**

- WETLAND LINE
- WETLAND CONS. AREA SETBACK (WCAS) (50')
- FEMA LINE
- BOUNDARY LIMITS
- RIGHT-OF-WAY LINE
- PHASE LINE

**DRAINAGE LEGEND**

EXISTING	PROPOSED	DESCRIPTION
10	10	STORM DRAINAGE STRUCTURE & PIPE
	10	STRUCTURE NO.
	CS-F	CONTROL STRUCTURE NO.
15.00	15.00	SPOT ELEVATION GROUND
15.00	15.00	SPOT ELEVATION PAVEMENT
63.9	63.2	TOP OF CURB/SIDEWALK GRADE
63.2	63.2	EDGE OF PAVEMENT GRADE
15.00	15.00	ROADWAY PROFILE ELEVATION
15.00	15.00	CONTOUR
FFE=15.00	FFE=15.00	FINISH FLOOR ELEVATION
→	→	DIRECTION OF SURFACE FLOW
□	□	STAKED EROSION CONTROL
---	---	BOTTOM OF POND/TOP OF BANK OF POND
---	---	WALL/FENCE (BY OTHERS)

N

W E S

SHEET KEY MAP

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SERENOA ACTIVE ADULT  
AMENITY CENTER

GRADING & DRAINAGE PLAN

DR HORTON

PREPARED FOR:

NO.	DATE	DESCRIPTION
1	07/12/2018	REVIEW SUBMITTAL

PROJECT NO: KLP-AG-1019  
FILE: GD  
DESIGN BY: CNW  
DRAWN BY: CNW

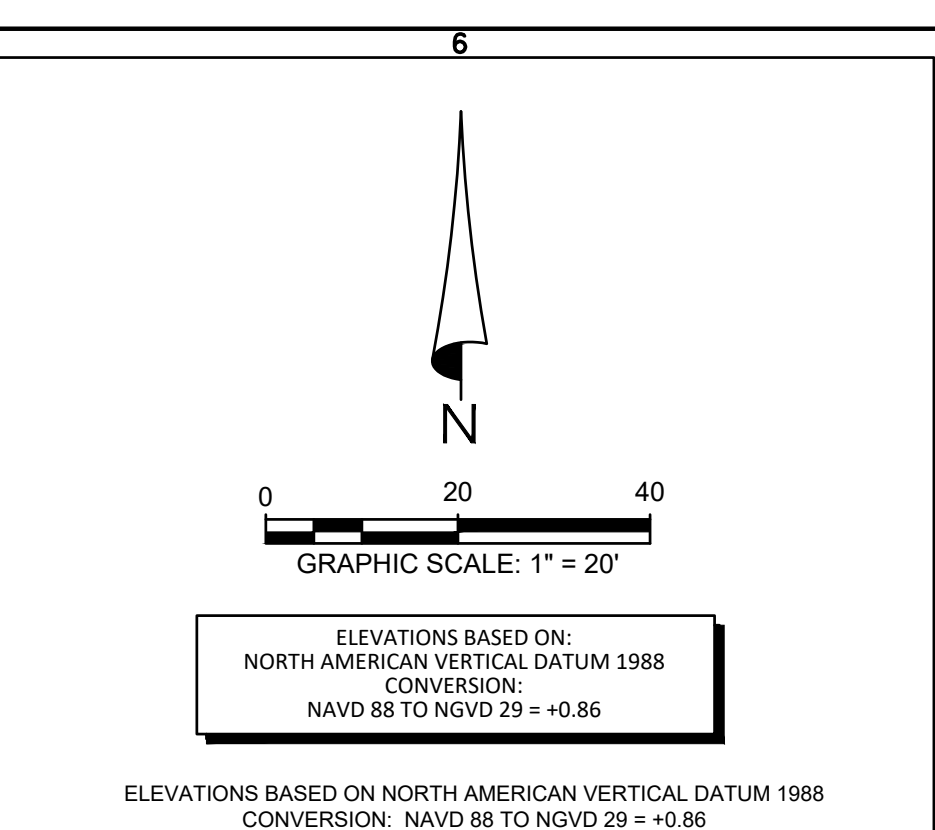
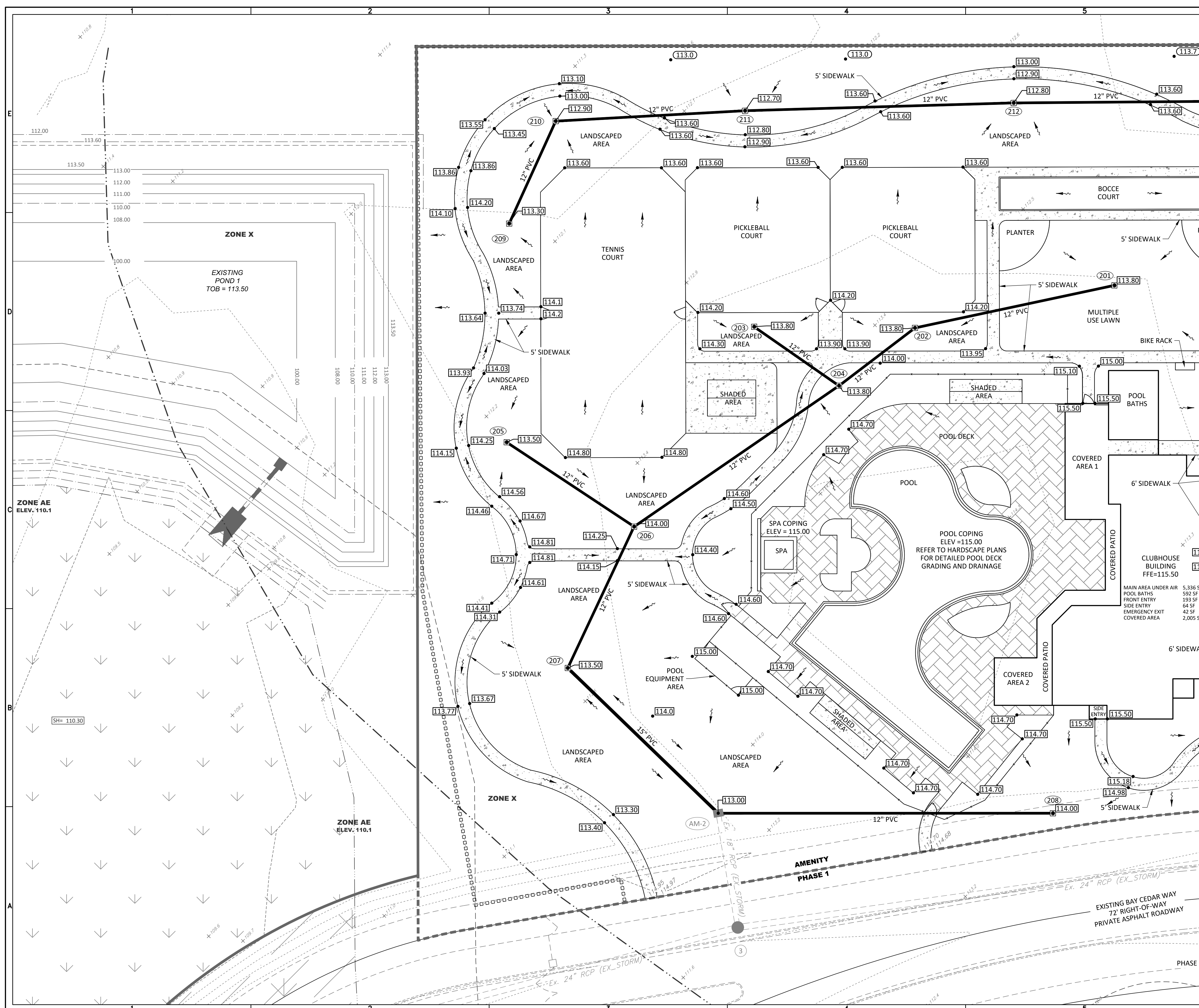
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REGISTRATION NO. 58548

**C-301**



**LEGEND**

- WETLAND LINE
- - - WETLAND CONS. AREA SETBACK (WCAS) (50')
- - - FEMA LINE
- BOUNDARY LIMITS
- RIGHT-OF-WAY LINE
- PHASE LINE

**DRAINAGE LEGEND**

- EXISTING: 10 (Structure No.), 15.00 (Spot Elevation Ground), 15.00 (Spot Elevation Pavement), 63.9 / 63.2 (Top of Curb/Sidewalk Grade / Edge of Pavement Grade), 15.00 (Roadway Profile Elevation), 15.00 (Contour), FFE=15.00 (Finish Floor Elevation), Arrow (Direction of Surface Flow), Stacked Squares (Staked Erosion Control), Dashed Line (Bottom of Pond/Top of Bank of Pond), Arrow with Line (Wall/Fence by Others)
- PROPOSED: 10 (Storm Drainage Structure & Pipe), CS-F (Control Structure No.), 15.00 (Spot Elevation Ground), 15.00 (Spot Elevation Pavement), 63.9 / 63.2 (Top of Curb/Sidewalk Grade / Edge of Pavement Grade), 15.00 (Roadway Profile Elevation), 15.00 (Contour), FFE=15.00 (Finish Floor Elevation), Arrow (Direction of Surface Flow), Stacked Squares (Staked Erosion Control), Dashed Line (Bottom of Pond/Top of Bank of Pond), Arrow with Line (Wall/Fence by Others)

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 R-AVALON GROVES/ACTIVE ADULT AMENITY/ENGINEERING/00-DWG-C-302/2018/03/29 1:58 PM CATHERINE WIGGINS

**SERENOA ACTIVE ADULT AMENITY CENTER**  
**GRADING & DRAINAGE PLAN**

DR HORTON

PREPARED FOR

NO.	DATE	DESCRIPTION
1	03/14/2018	REVIEW SUBMITTAL

PROJECT NO: KLP-AG-1019  
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 DESIGN BY: CNW  
 DRAWN BY: CNW

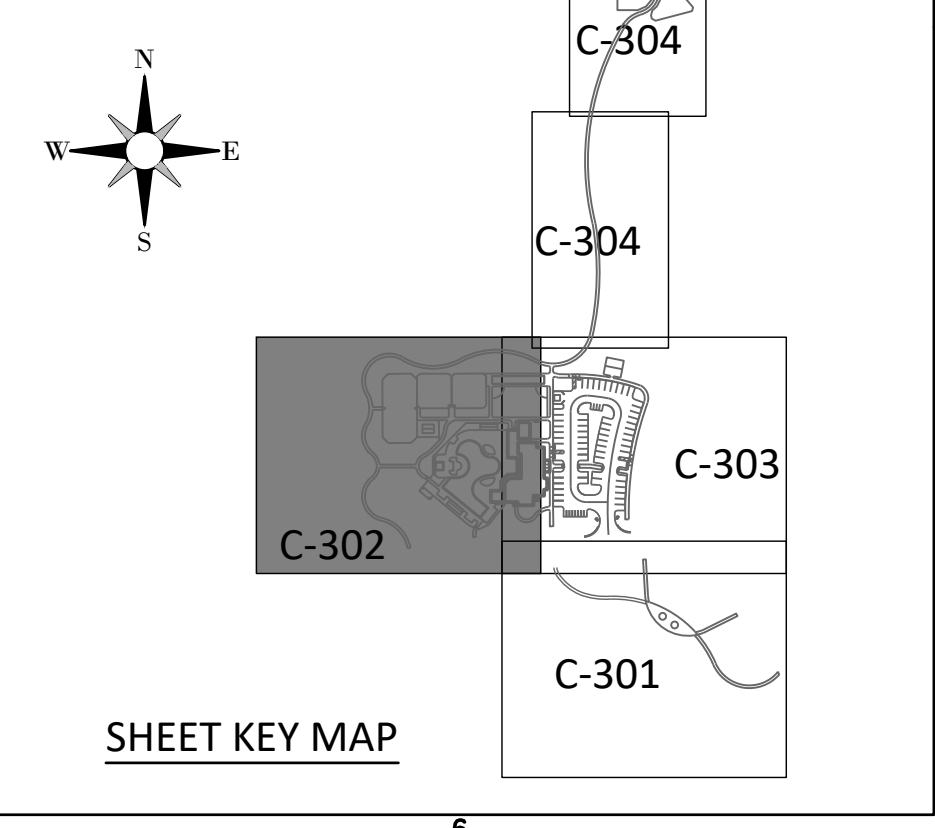
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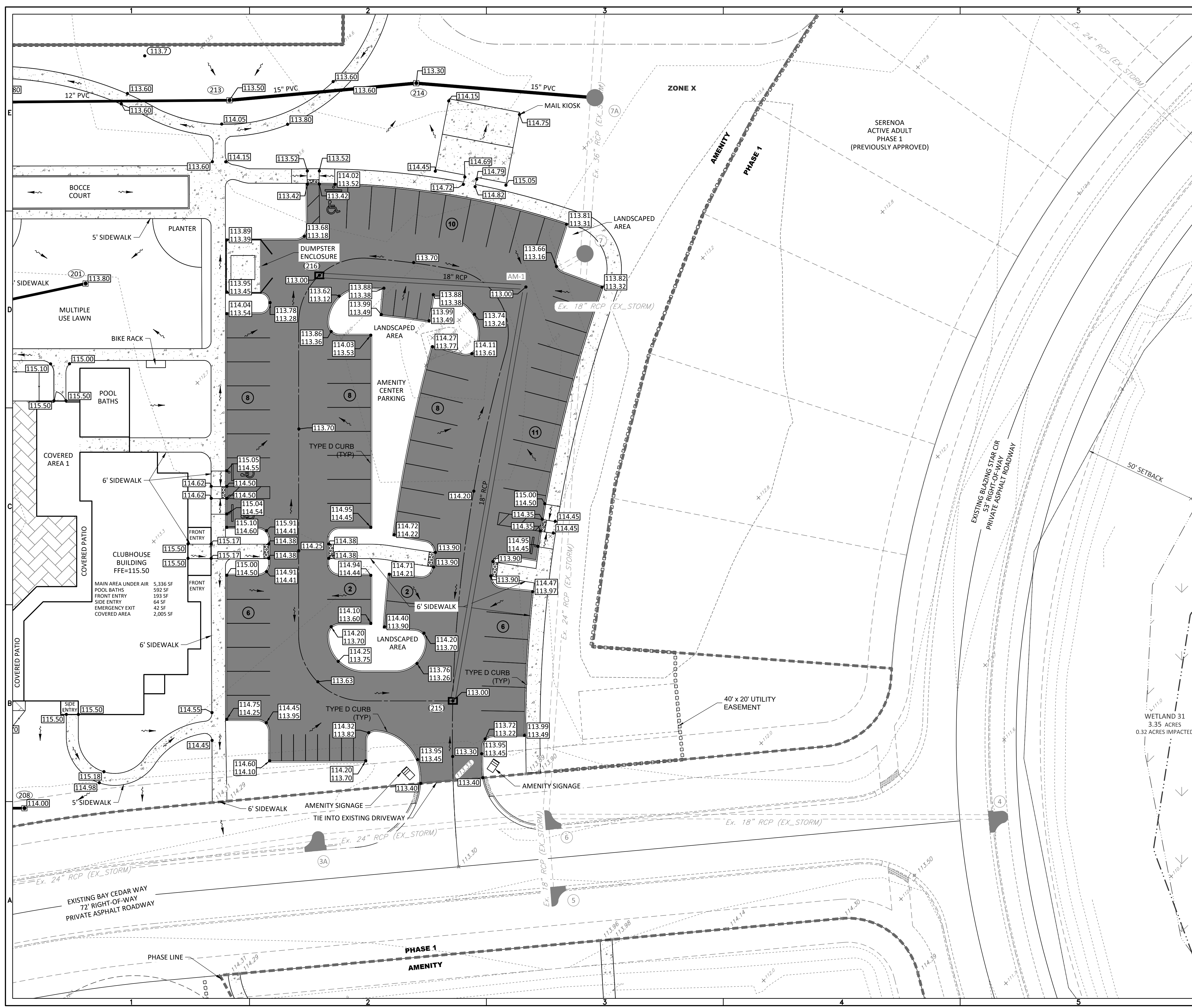
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 REGISTRATION NO. 58548

**C-302**



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0 20 40  
GRAPHIC SCALE: 1" = 20'

ELEVATIONS BASED ON:  
NORTH AMERICAN VERTICAL DATUM 1988  
CONVERSION: NAVD 88 TO NGVD 29 = +0.86

ELEVATIONS BASED ON NORTH AMERICAN VERTICAL DATUM 1988  
CONVERSION: NAVD 88 TO NGVD 29 = +0.86

**LEGEND**

- WETLAND LINE
- - - WETLAND CONS. AREA SETBACK (WCAS) (50')
- - - FEMA LINE
- BOUNDARY LIMITS
- RIGHT-OF-WAY LINE
- PHASE LINE

**DRAINAGE LEGEND**

	<b>EXISTING</b>		<b>PROPOSED</b>	STORM DRAINAGE STRUCTURE & PIPE
				STRUCTURE NO.
				CONTROL STRUCTURE NO.
				SPOT ELEVATION PAVEMENT
				TOP OF CURB/SIDEWALK GRADE
				EDGE OF PAVEMENT GRADE
				ROADWAY PROFILE ELEVATION
				CONTOUR
				FINISH FLOOR ELEVATION
				DIRECTION OF SURFACE FLOW
				STAKED EROSION CONTROL
				BOTTOM OF POND/TOP OF BANK OF POND
				WALL/FENCE (BY OTHERS)

NO.	DATE	DESCRIPTION
1	09/14/2018	REVIEW SUBMITTAL

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C-301

SHEET KEY MAP

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Fax: 813-464-7629  
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SERENOA ACTIVE ADULT  
AMENITY CENTER  
GRADING & DRAINAGE PLAN

DR HORTON

NO.	DATE	DESCRIPTION
1	09/14/2018	REVIEW SUBMITTAL

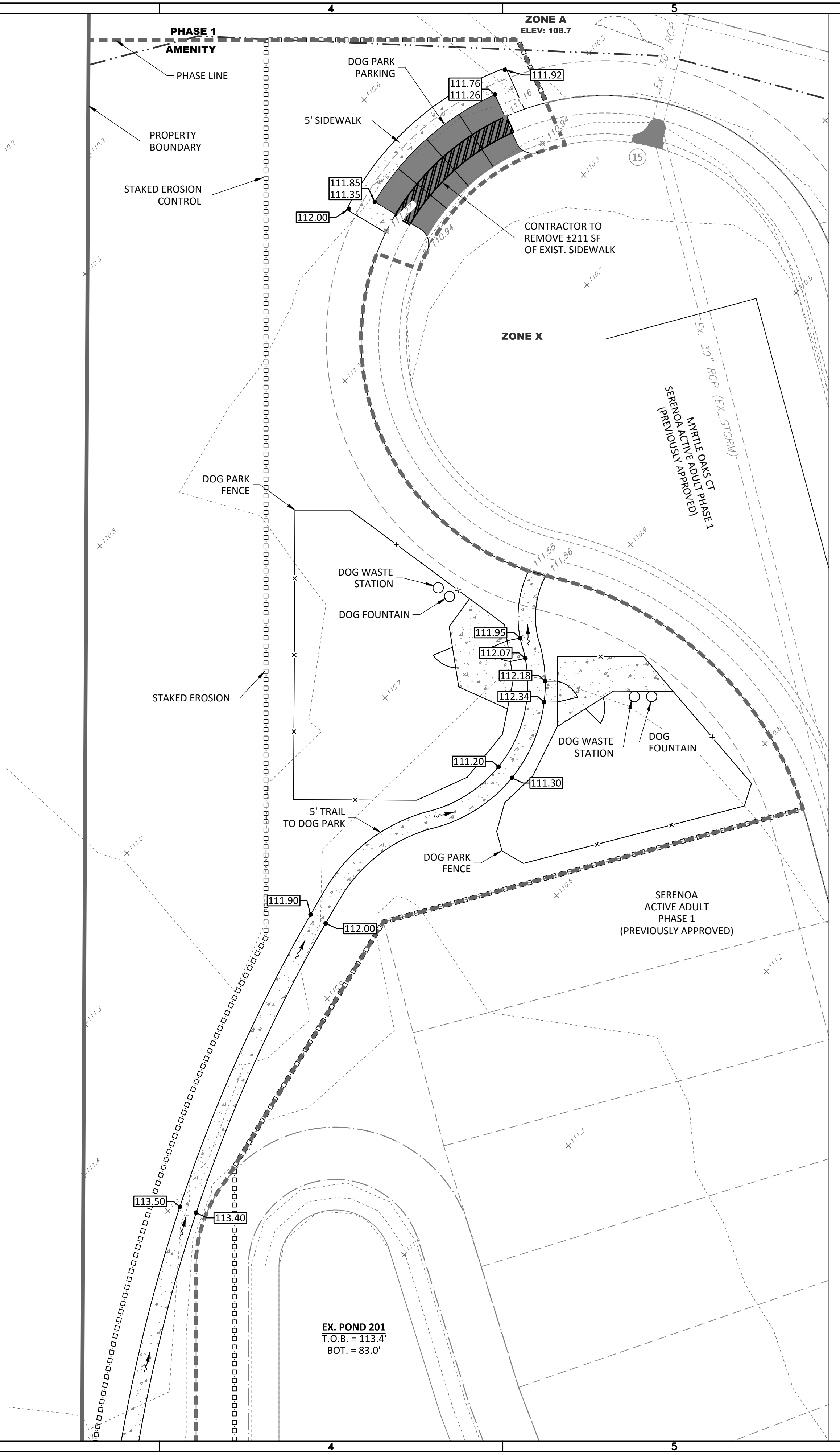
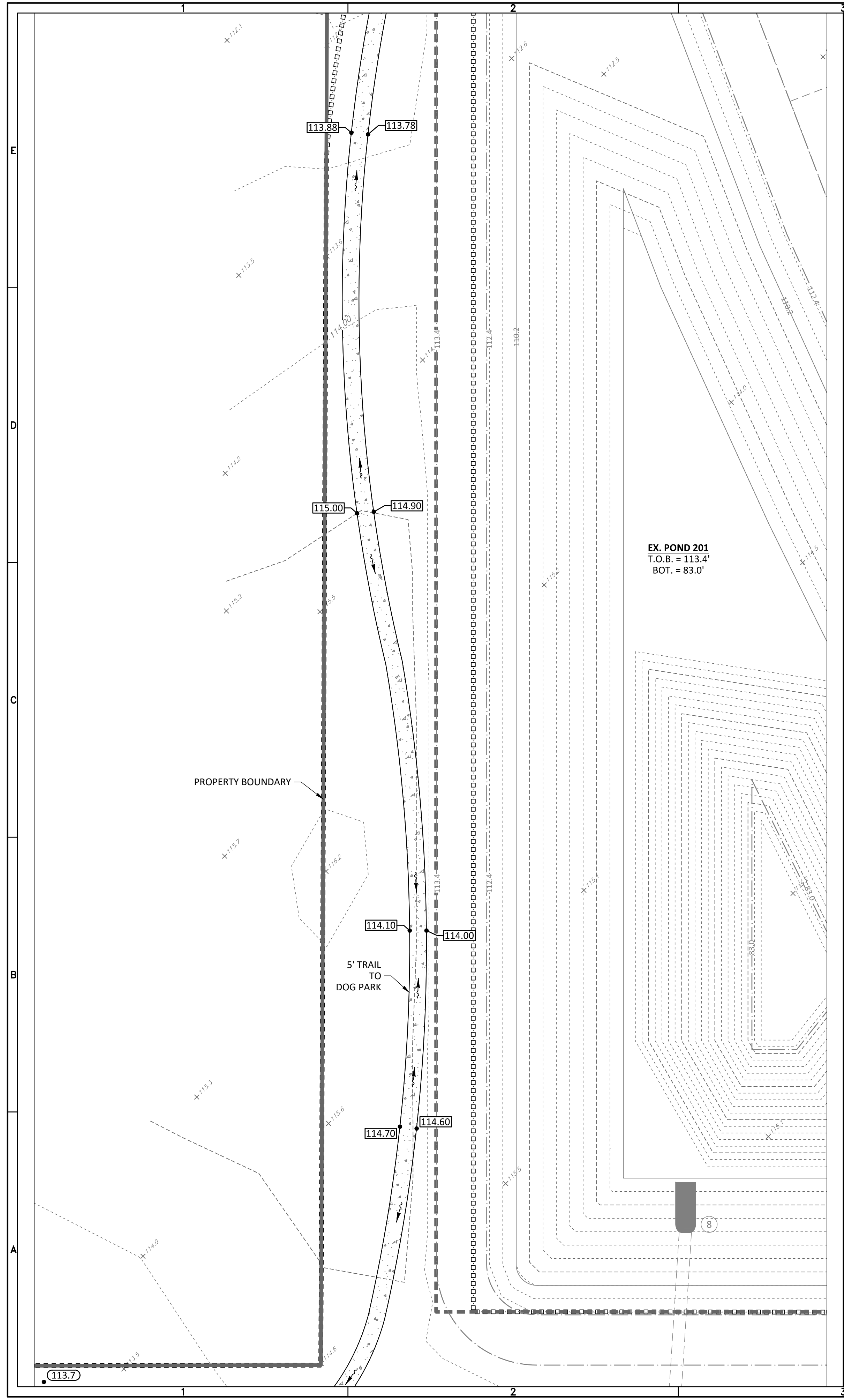
PROJECT NO: KLP-AG-1019  
FILE: GD  
DESIGN BY: CNW  
DRAWN BY: CNW

**VICTOR E. BARBOSA**  
DATE: \_\_\_\_\_  
REGISTRATION NO. 58548

**C-303**

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GRAPHIC SCALE: 1" = 20'  
 ELEVATIONS BASED ON:  
 NORTH AMERICAN VERTICAL DATUM 1988  
 CONVERSION: NAVD 88 TO NGVD 29 = +0.86

**LEGEND**

- WETLAND LINE
- - - WETLAND CONS. AREA SETBACK (WCAS) (50')
- FEMA LINE
- BOUNDARY LIMITS
- RIGHT-OF-WAY LINE
- PHASE LINE

**DRAINAGE LEGEND**

	<b>EXISTING</b>		<b>PROPOSED</b>
			STORM DRAINAGE STRUCTURE & PIPE
			STRUCTURE NO.
			CONTROL STRUCTURE NO.
			SPOT ELEVATION GROUND
			SPOT ELEVATION PAVEMENT
			TOP OF CURB/SIDEWALK GRADE
			EDGE OF PAVEMENT GRADE
			ROADWAY PROFILE ELEVATION
			CONTOUR
			FINISH FLOOR ELEVATION
			DIRECTION OF SURFACE FLOW
			STAKED EROSION CONTROL
			BOTTOM OF POND/TOP OF BANK OF POND
			WALL/FENCE (BY OTHERS)

NO.	DATE	DESCRIPTION
1	09/12/2018	REVIEW SUBMITTAL

**SHEET KEY MAP**

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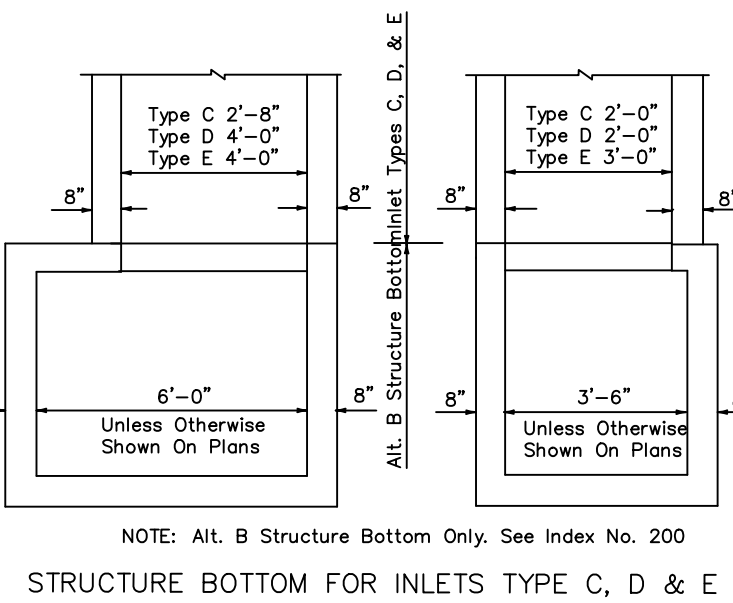
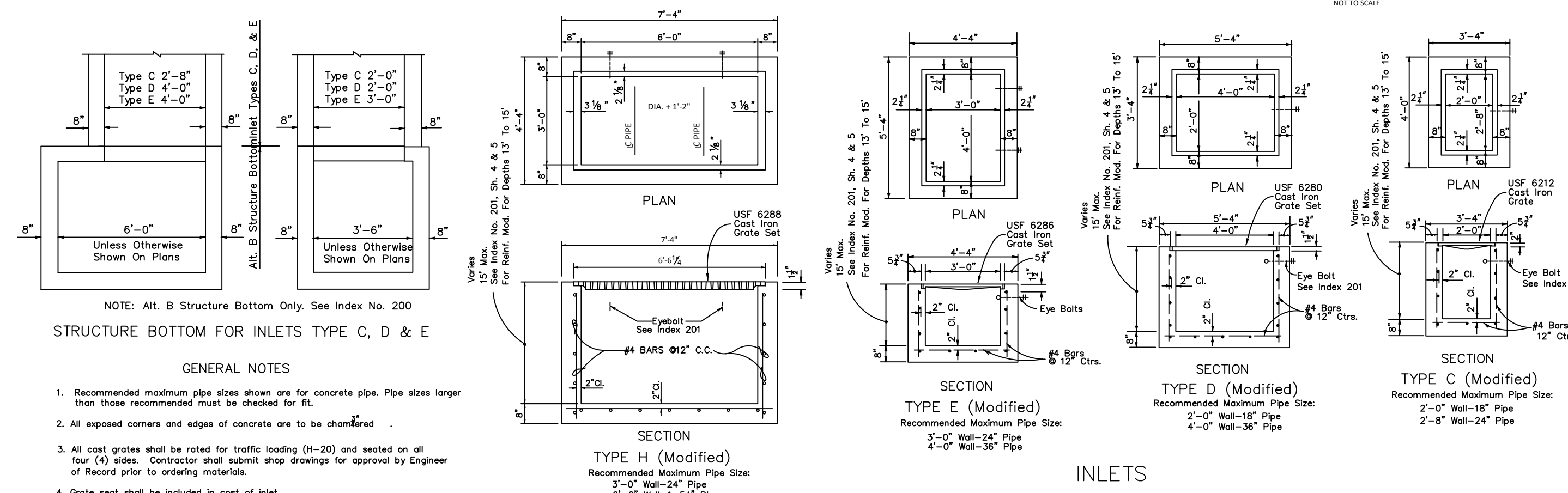
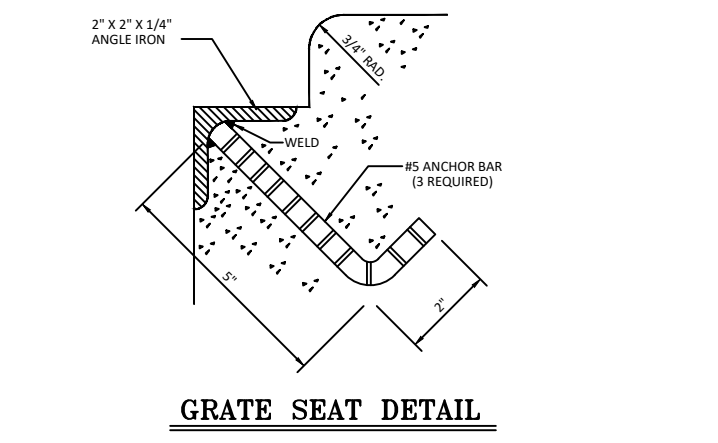
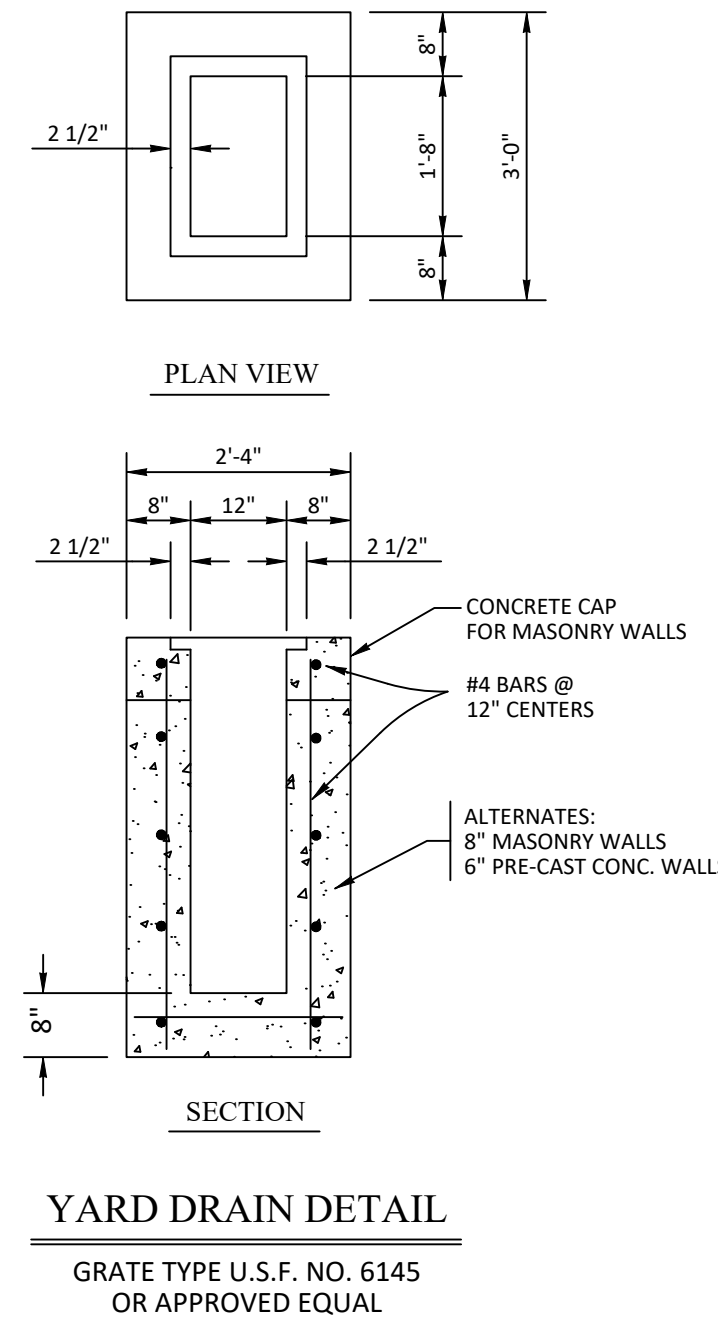
**SERENOA ACTIVE ADULT AMENITY CENTER**  
**GRADING & DRAINAGE PLAN**  
 DR HORTON

NO.	DATE	DESCRIPTION
1	09/12/2018	REVIEW SUBMITTAL

PROJECT NO: KLP-AG-1019  
 FILE: GD  
 DESIGN BY: CNW  
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**C-304**

STRUCTURE TABLE			
STR. NO.	STR. TYPE	TOP ELEV.	COMMENTS
201	YARD DRAIN	113.80	
202	YARD DRAIN	113.80	
203	YARD DRAIN	113.80	
204	YARD DRAIN	113.80	
205	YARD DRAIN	113.50	
206	YARD DRAIN	114.00	
207	YARD DRAIN	113.50	
208	YARD DRAIN	114.00	
209	YARD DRAIN	113.73	
210	YARD DRAIN	112.90	
211	YARD DRAIN	112.70	
212	YARD DRAIN	112.80	
213	YARD DRAIN	113.50	
214	YARD DRAIN	113.30	
215	TYPE C MODIFIED GRATE INLET	113.00	
216	TYPE C MODIFIED GRATE INLET	113.00	

PIPE TABLE							
START STR.	END STR.	PIPE DIMENSION & MATERIAL	LENGTH	SLOPE	START INV.	END INV.	FALL IN FEET
201	202	12" PVC	84	0.24%	111.00	110.80	0.20
202	204	12" PVC	40	0.25%	110.80	110.70	0.10
203	204	12" PVC	43	0.23%	110.80	110.70	0.10
204	206	12" PVC	103	0.29%	110.70	110.40	0.30
205	206	12" PVC	63	0.32%	110.60	110.40	0.20
206	207	12" PVC	65	0.31%	110.40	110.20	0.20
207	Ex. AM-2	15" PVC	87	0.23%	109.95	109.75	0.20
208	Ex. AM-2	12" PVC	139	0.29%	110.40	110.00	0.40
209	210	12" PVC	47	0.21%	111.00	110.90	0.10
210	211	12" PVC	79	0.25%	110.90	110.70	0.20
211	212	12" PVC	111	0.27%	110.70	110.40	0.30
212	213	12" PVC	102	0.20%	110.15	109.95	0.20
213	214	15" PVC	78	0.13%	109.95	109.85	0.10
214	Ex. 7A	15" PVC	75	0.13%	109.85	109.75	0.10
215	Ex. AM-1	18" RCP	175	0.17%	109.10	108.80	0.30
216	Ex. AM-1	18" RCP	86	0.23%	109.00	108.80	0.20



- GENERAL NOTES**
1. Recommended maximum pipe sizes shown are for concrete pipe. Pipe sizes larger than those recommended must be checked for fit.
  2. All exposed corners and edges of concrete are to be chamfered.
  3. All cast grates shall be rated for traffic loading (N-20) and seated on all four (4) sides. Contractor shall submit shop drawings for approval by Engineer of Record prior to ordering materials.
  4. Grate seat shall be included in cost of inlet.

GRATE TOP INLETS  
TYPES C, D, E & H  
DOT INDEX #232 (MODIFIED)

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Landscape Architecture Certificate of Authorization No. LC26000105

PREPARED FOR:  
**DR HORTON**

**SERENO ACTIVE ADULT AMENITY CENTER**  
**STORM STRUCTURE DATA**

DATE	DESCRIPTION
10/12/2018	REVIEW SUBMITTAL

PROJECT NO: KLP-AG-1019  
FILE: GD  
DESIGN BY: CNW  
DRAWN BY: CNW

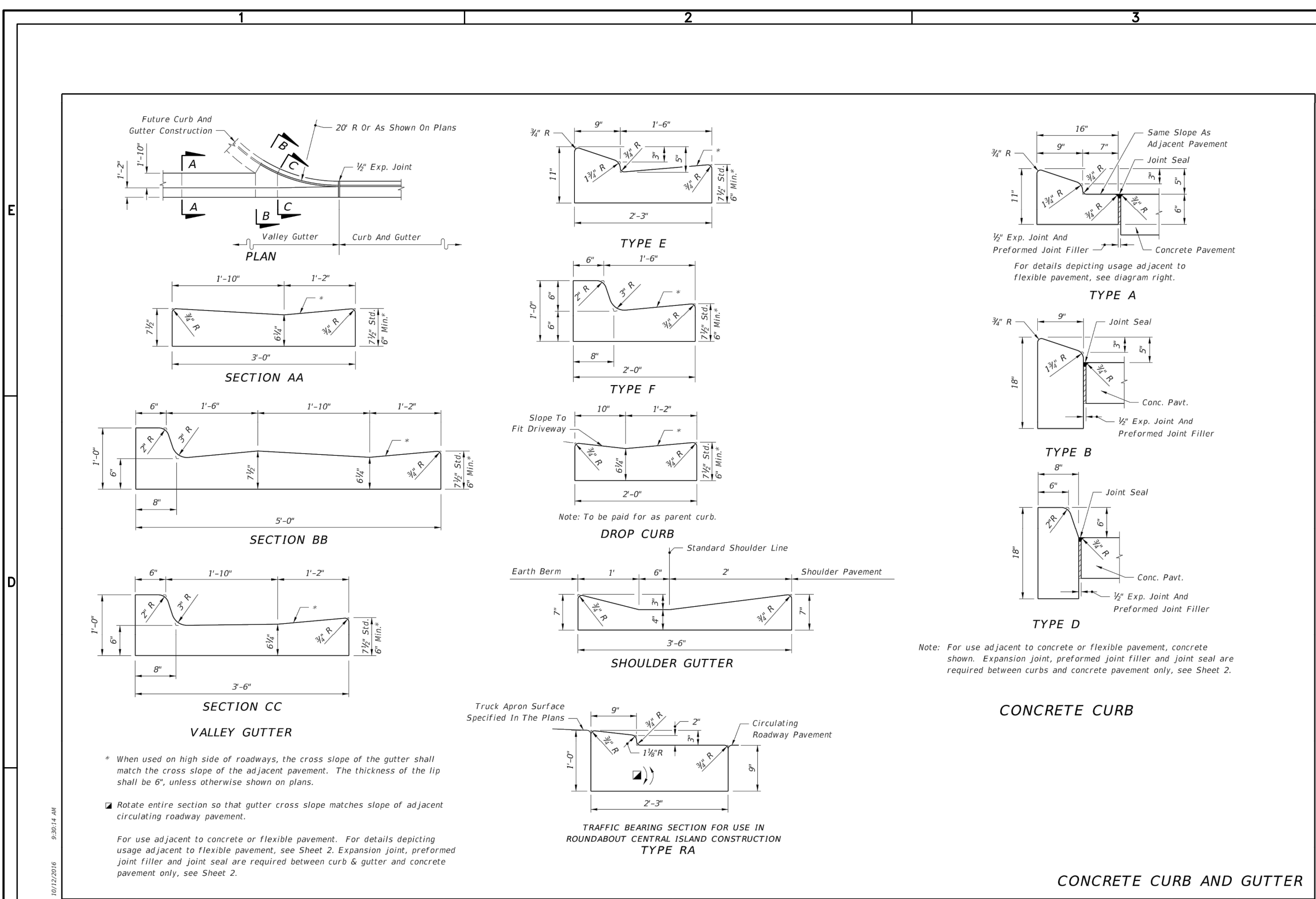
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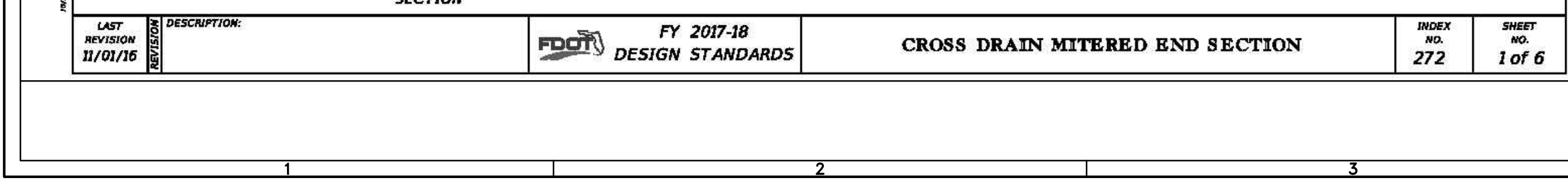
**VICTOR E. BARBOSA**  
DATE: \_\_\_\_\_  
REGISTRATION NO. **58548**

**C-305**

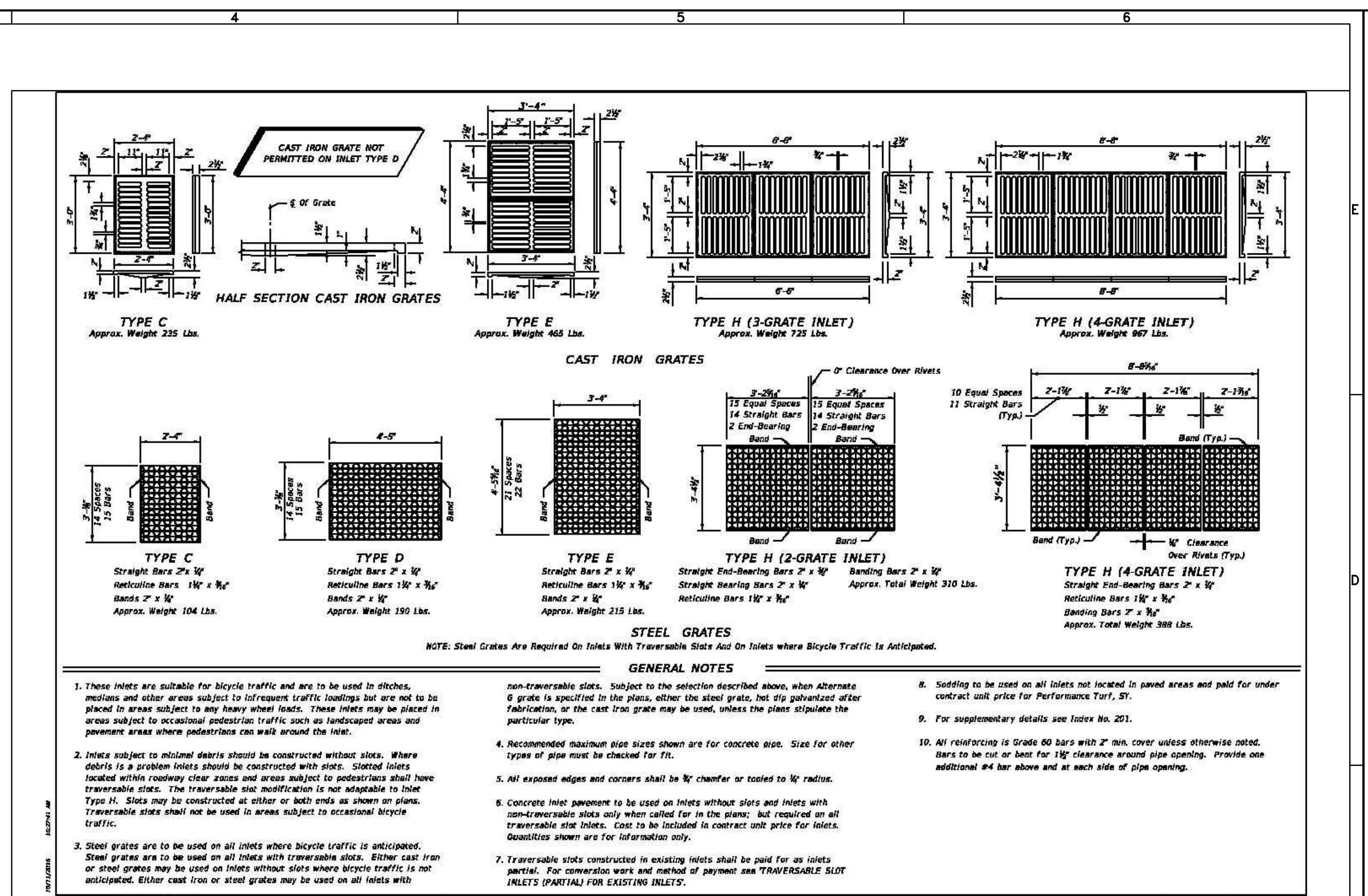


LAST REVISION	DESCRIPTION:	FDOT FY 2017-18 DESIGN STANDARDS	INDEX NO.	SHEET NO.
07/01/00			300	1 of 2

D	X	DIMENSIONS AND QUANTITIES				CONCRETE SLAB (CY) $\Delta$				SODDING (SY)								
		A	B	C	E	Single	Double	Triple	Quad	Single	Double	Triple	Quad					
12"	2'-0"	1.82	2.16	4.10	2.06	1.22	2.39	4.83	7.21	8.79	12.37	1.19	0.58	0.56	0.77	0.58	0.71	0.30



LAST REVISION	DESCRIPTION:	FDOT FY 2017-18 DESIGN STANDARDS	INDEX NO.	SHEET NO.
11/01/16			272	1 of 6



LAST REVISION	DESCRIPTION:	FDOT FY 2017-18 DESIGN STANDARDS	INDEX NO.	SHEET NO.
07/01/00			232	3 of 7

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**SERENO ACTIVE ADULT AMENITY CENTER**

**DRAINAGE DETAILS**

DR HORTON

PREPARED FOR:

PROJECT NO: KLP-AG-1019  
FILE: DD  
DESIGN BY: CNW  
DRAWN BY: CNW

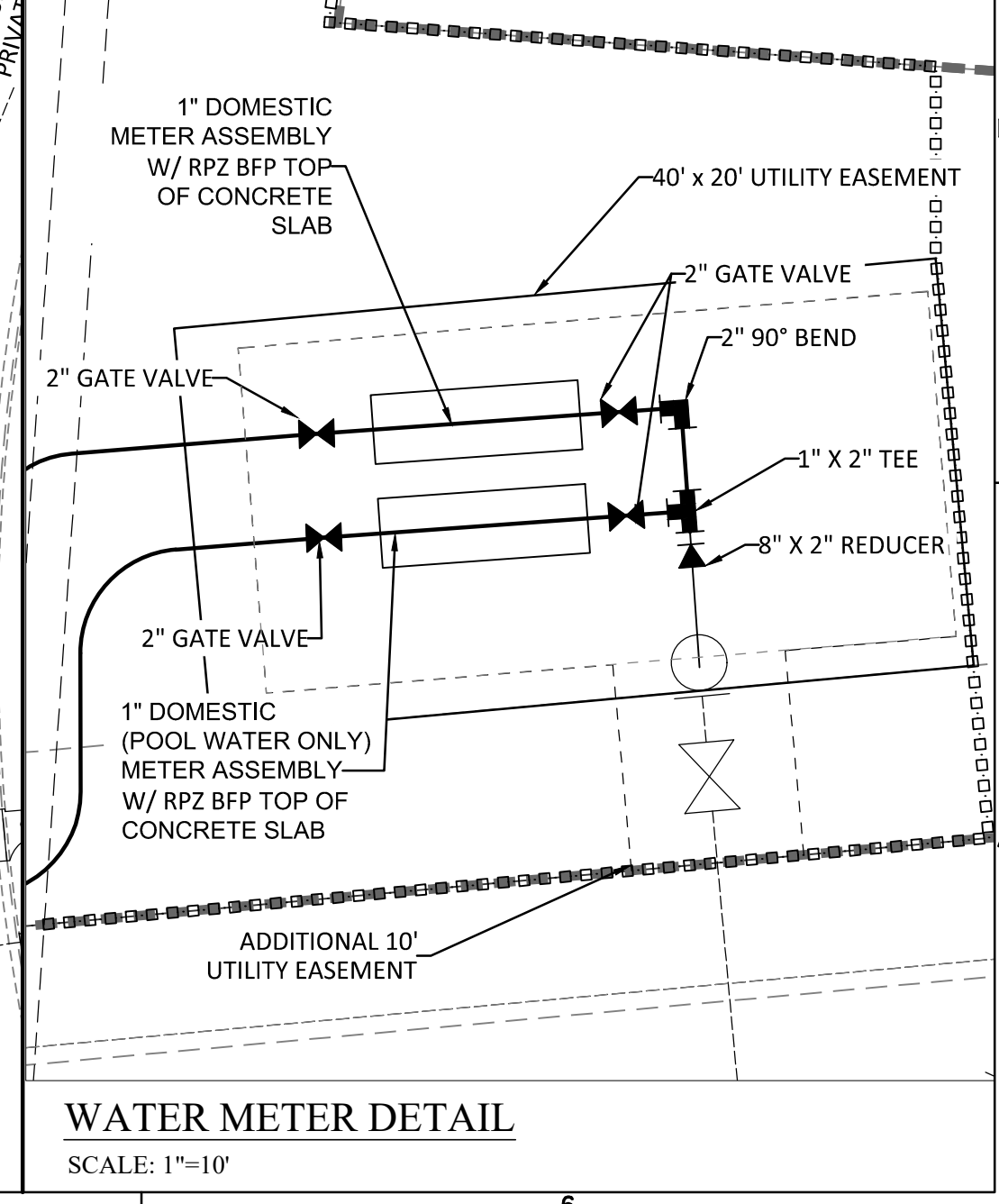
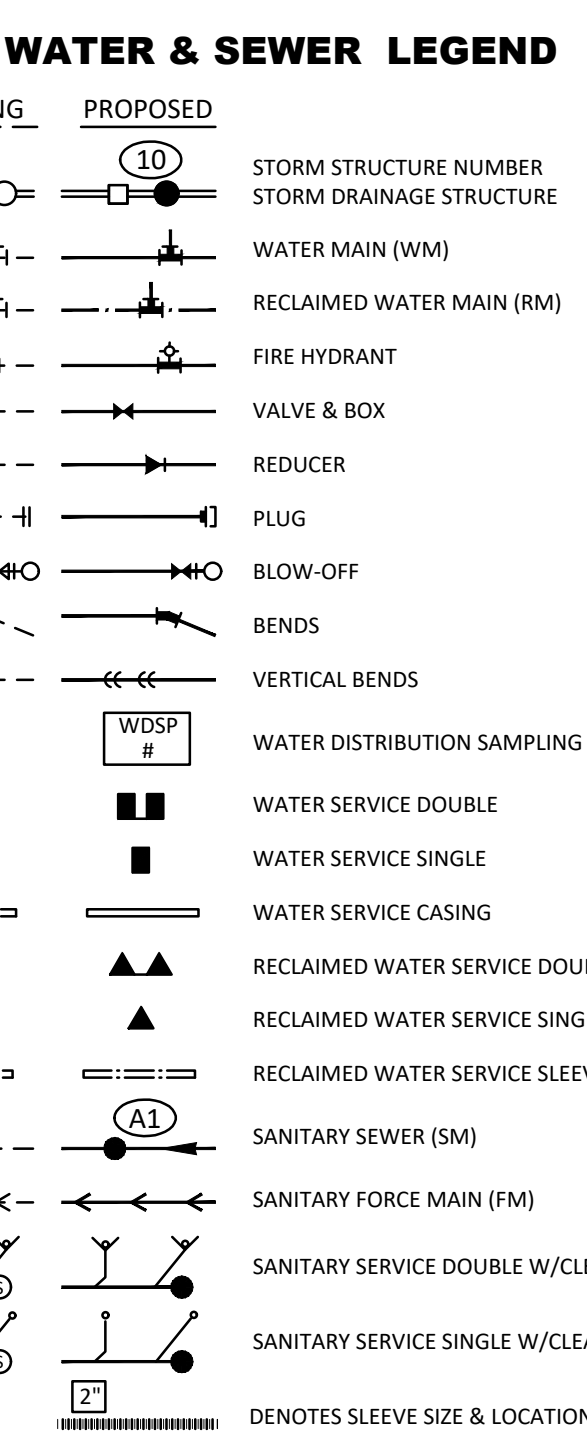
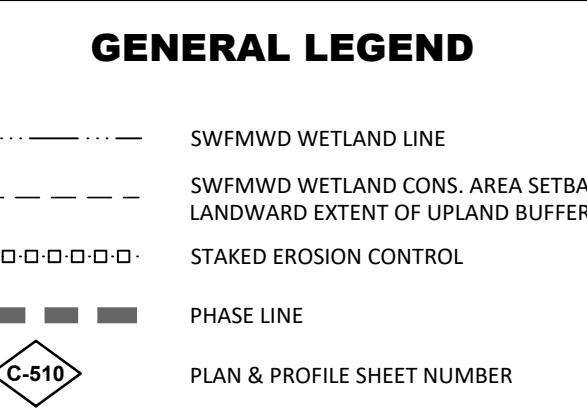
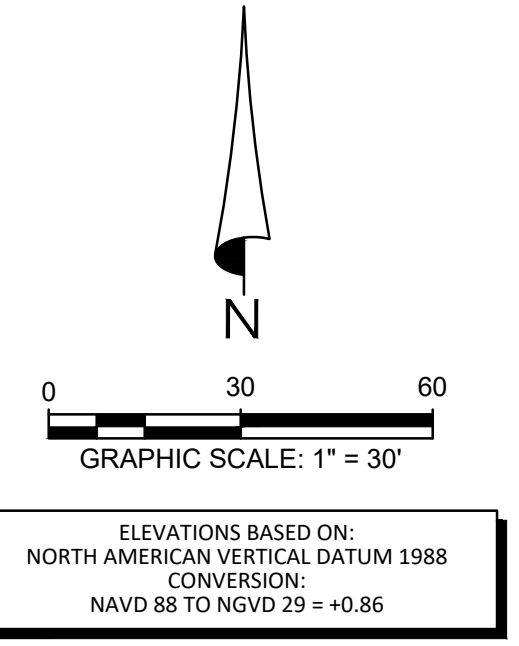
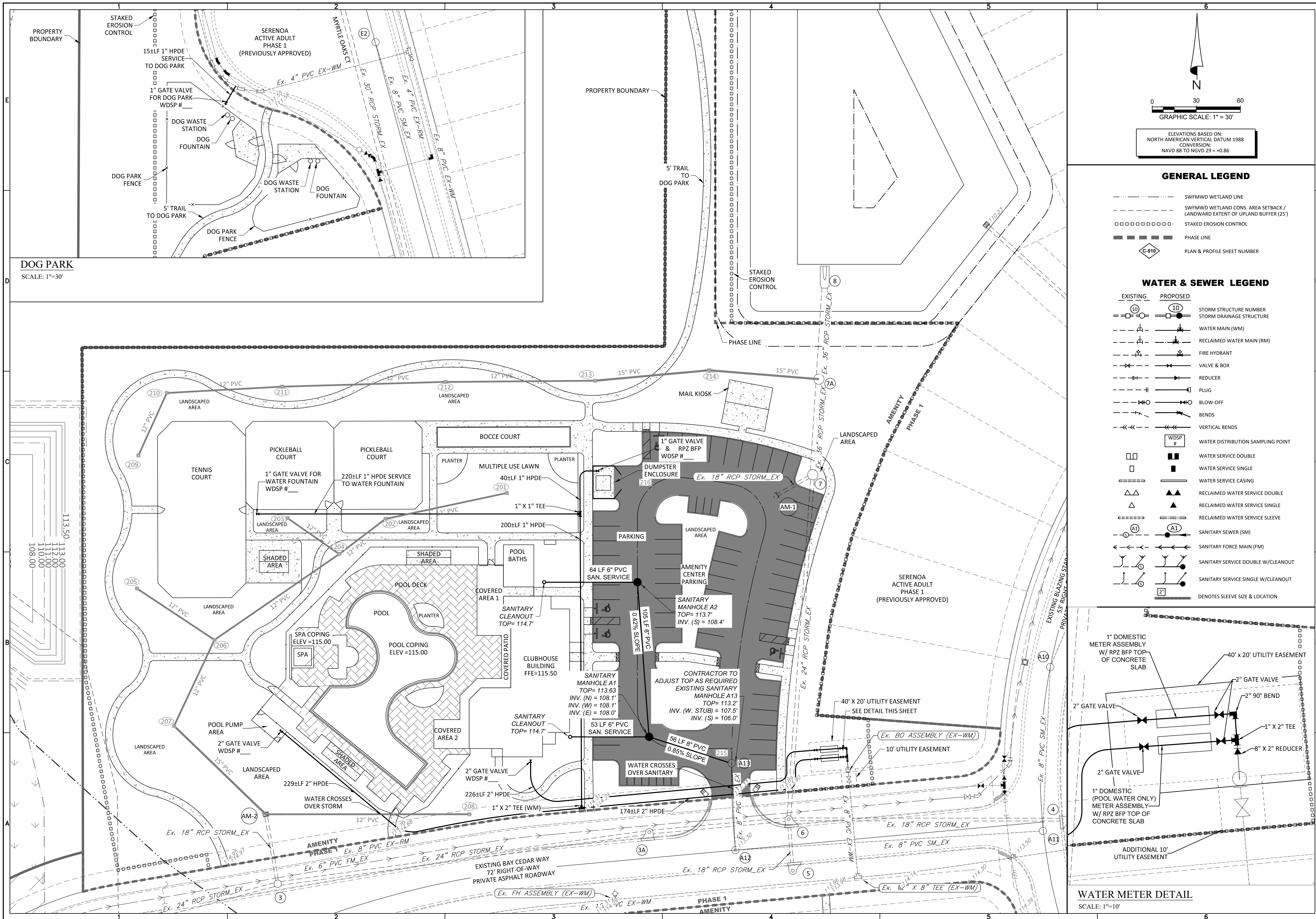
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**C-306**



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**SERENOA ACTIVE ADULT AMENITY CENTER**  
**WATER & SEWER PLAN**

DR HORTON

PREPARED FOR:

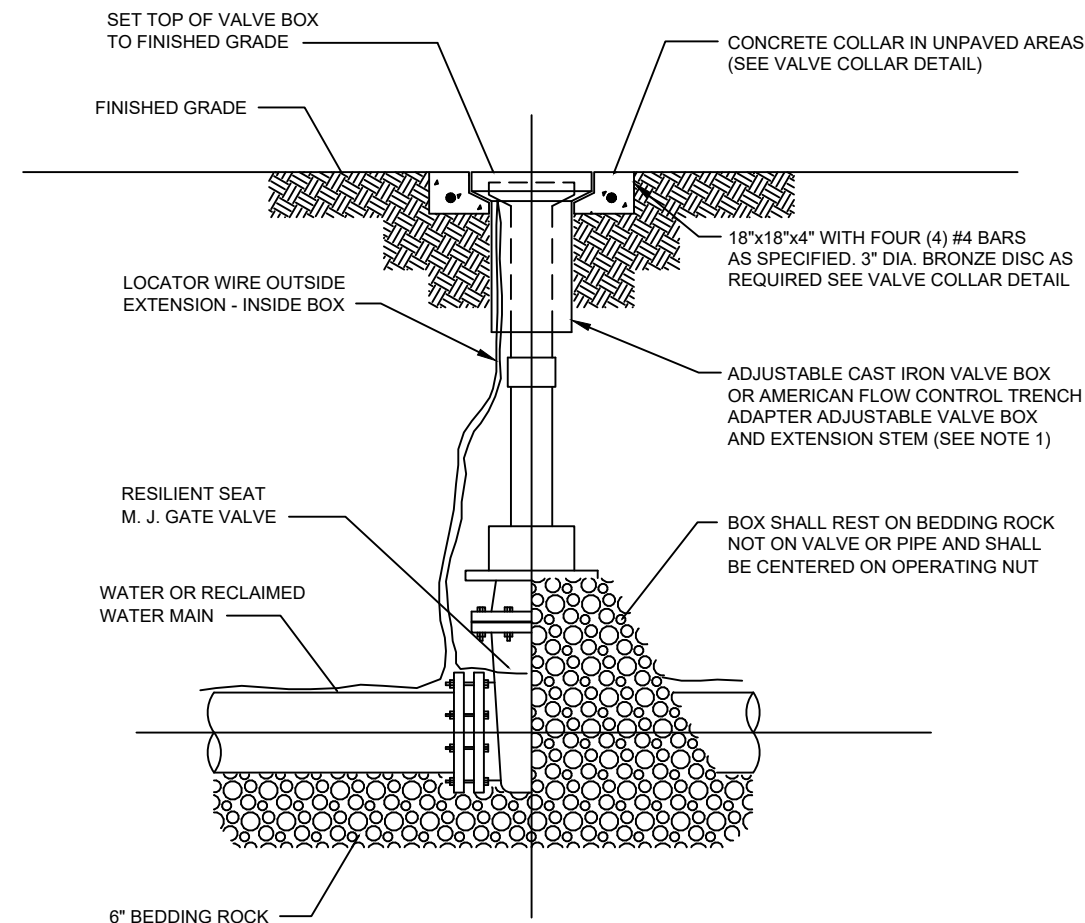
NO.	DATE	DESCRIPTION
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PROJECT NO: KLP-AG-1019  
FILE: WS  
DESIGN BY: CNW  
DRAWN BY: CNW

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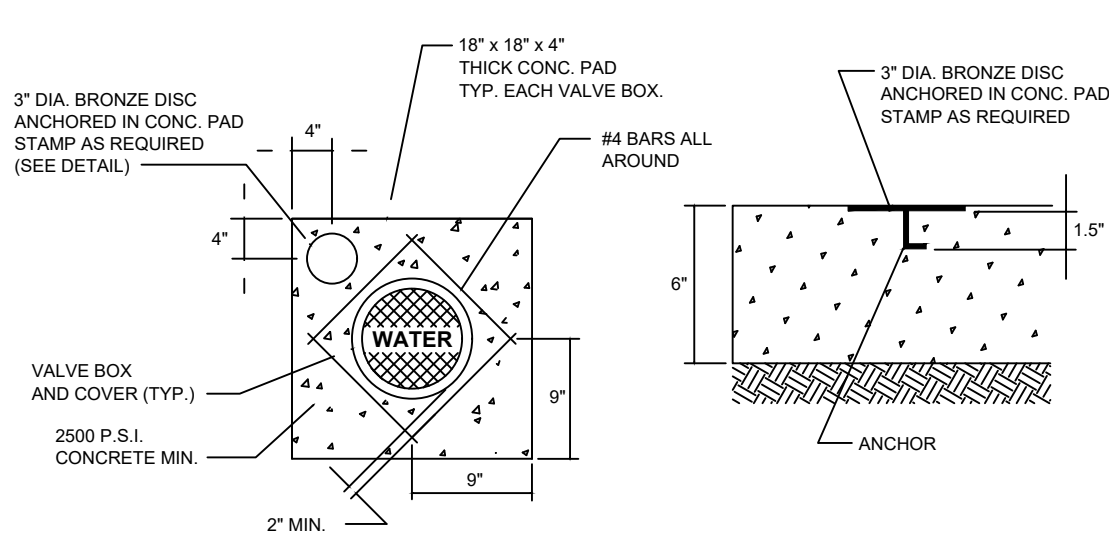


- NOTES
1. PVC EXTENSIONS SHALL NOT BE USED ON VALVE BOX INSTALLATION, EXCEPT FOR THE AMERICAN FLOW CONTROL TRENCH ADAPTER WITH 2" SQUARE NUT WRENCH AND EXTENSION STEM SPACER AND STOP
  2. COVER TO BE MARKED "WATER", "RECLAIMED", "NPV", OR "SEWER" AS APPROPRIATE.
  3. VALVES SHALL NOT BE LOCATED IN STREET CURBS.

**VALVE AND VALVE BOX DETAIL**

N.T.S.

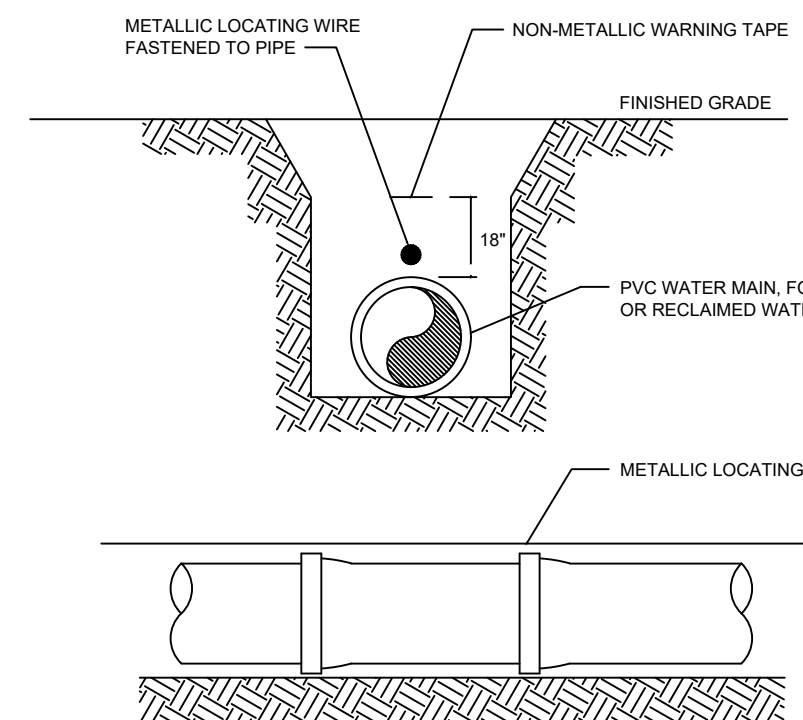
Utilities, Inc.	SCALE: NONE	GENERAL DETAILS	STANDARD DETAIL NUMBER
	DATE: 6-26-02	VALVE AND VALVE BOX DETAIL	<b>G-1</b>
	FILE: VALVEBOX.DWG		



**VALVE COLLAR DETAIL**

N.T.S.

Utilities, Inc.	SCALE: NONE	GENERAL DETAILS	STANDARD DETAIL NUMBER
	DATE: 2-24-04	VALVE COLLAR DETAIL	<b>G-3</b>
	FILE: VCOLLAR.DWG		

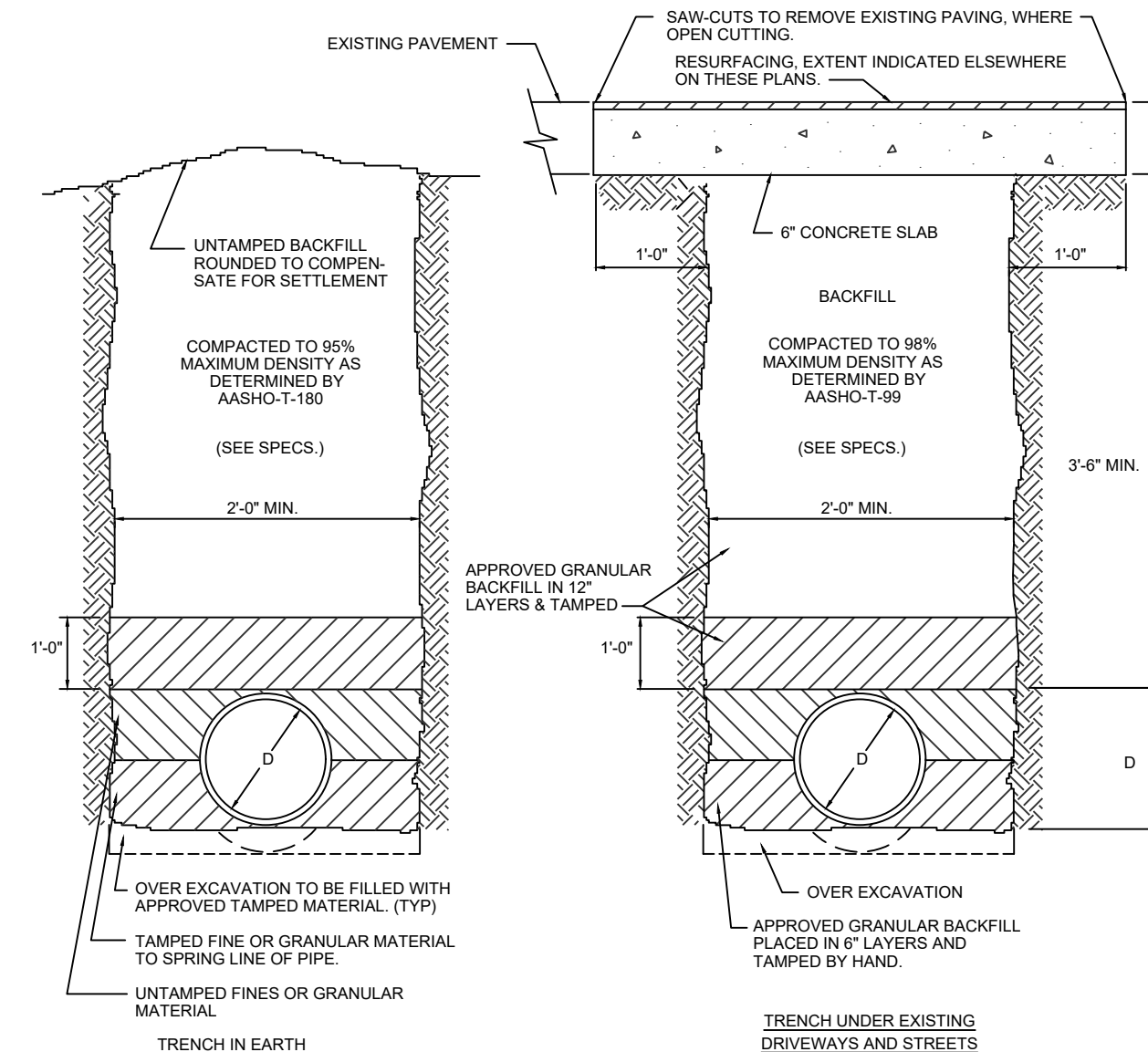


- NOTES
1. ALL NON-METALLIC PIPE SHALL REQUIRE CONTINUOUS INSULATED METALLIC LOCATING WIRE (14 GAUGE COPPER) CAPABLE OF DETECTION BY A CABLE LOCATOR AND SHALL BE BURIED DIRECTLY ABOVE THE CENTERLINE OF THE PIPE.
  2. THE TRACING WIRE SHALL BE CENTERED ON ALL PIPE (INCLUDING SERVICES) AND TIED INTO ALL HYDRANTS, VALVE BOXES AND METER BOXES. TESTING FOR CONTINUITY IS REQUIRED.
  3. USE VINYL TIE-STRAPS AS NECESSARY TO HOLD WIRE DIRECTLY ON THE TOP OF THE PIPE. DUCT TAPE SHALL NOT BE USED.
  4. WIRE CONNECTIONS MUST BE CLAMPED TOGETHER AND SEALED FOR MOISTURE.
  5. ALL WIRE SPlice LOCATIONS SHALL BE SHOWN ON THE AS-BUILT DRAWINGS.
  6. WIRE AND WARNING TAPE SHALL BE COLOR CODED AS FOLLOWS  
WATER: BLUE  
SEWER: GREEN  
RECLAIMED: PURPLE

**PIPE LOCATING WIRE DETAIL**

N.T.S.

Utilities, Inc.	SCALE: NONE	GENERAL DETAILS	STANDARD DETAIL NUMBER
	DATE: 6-3-02	PIPE LOCATING WIRE DETAIL	<b>G-10</b>
	FILE: PIPE-LOC.DWG		



- NOTE
1. TRENCHES SHALL BE AS NARROW AS POSSIBLE TO ALLOW FOR SAFE AND PROPER PIPE INSTALLATION. TRENCH SIDES SHALL BE VERTICAL TO A POINT 1'-0" ABOVE THE TOP OF THE PIPE. ABOVE THIS POINT SLOPED SIDES MAY BE USED IF CONDITIONS PERMIT, BUT SHOULD BE KEPT AS NEARLY VERTICAL AS POSSIBLE.
  2. FOR TRENCH IN CINDER FILLS, GARBAGE DUMPS, SALT MARSHES, MUCK SOILS OR PLACES WHERE HARMFUL CORROSIVE CONDITIONS EXIST, PIPE SHALL BE PROTECTED WITH AT LEAST 10" OF SAND OR LIMESTONE SCREENINGS ON ALL SIDES AND TAMPED BY HAND IN 4" LAYERS. SEE SPECIFICATIONS. NO ADDITIONAL COMPENSATION FOR CORROSION PROTECTION OF A PIPE WILL BE ALLOWED.

**TRENCH DETAILS**

N.T.S.

Utilities, Inc.	SCALE: NONE	GENERAL DETAILS	STANDARD DETAIL NUMBER
	DATE: 7-12-01	TRENCH DETAILS	<b>G-11</b>
	FILE: TRENCH.DWG		

PROPOSED UTILITY	MINIMUM HORIZONTAL AND VERTICAL SEPARATION REQUIREMENTS		RECLAIMED WATER		SANITARY SEWER FORCE MAIN		SANITARY SEWER GRAVITY MAIN		STORM SEWER OR VACUUM TYPE SANITARY MAIN	
	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL
POTABLE WATER	3'	12"	3'	12"	6"	12"	6"	12"	3'	12" BELOW
RECLAIMED WATER	3'	12"	3'	12"	6"	12"	6"	12"	3'	12" BELOW
SANITARY SEWER FORCE MAIN	6'	12"	6'	12"	6"	12"	6"	12"	3'	12" BELOW
SANITARY SEWER GRAVITY MAIN	6"	12"	6"	12"	6"	12"	6"	12"	3'	12" BELOW
FIRE HYDRANTS IN UNPAVED AREAS	6"	12"	6"	12"	6"	12"	6"	12"	3'	12" BELOW

7. NEW OR RELOCATED FIRE HYDRANTS WITH UNDERGROUND DRAINS SHALL BE INSTALLED WITH UNDERGROUND DRAINAGE SYSTEMS. ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS AS DEFINED IN TANKS, DRAIN FIELDS, AND GREASE TRAPS.
8. THE FOLLOWING ARE ACCEPTABLE ALTERNATE CONSTRUCTION METHODS FOR SANITARY SEWER GRAVITY MAINS AND SANITARY SEWER FORCE MAINS. THESE METHODS ARE SUBJECT TO THE APPROVAL OF THE ENGINEER. METHODS NOT LISTED HEREIN SHALL BE APPROVED BY THE ENGINEER.
- A. MINIMUM HORIZONTAL SEPARATION DISTANCE SHALL BE AS FOLLOWS:
1. USE OF PRESSURE RATED PIPE CONFORMING TO AWWA STANDARDS, FOR A GRAVITY OR VACUUM TYPE PIPELINE.
  2. USE OF WELDED JOINTS OR OTHERWISE RESTRAINED.
  3. USE OF WATER TIGHT CASING PIPE OR CONCRETE.
- B. WHERE A WATER MAIN IS BEING LAD WITH LESS THAN 7 FEET HORIZONTAL SEPARATION FROM A SANITARY SEWER GRAVITY MAIN, THE WATER MAIN SHALL BE LAD WITH LESS THAN THE REQUIRED MINIMUM VERTICAL SEPARATION.
9. THE MINIMUM HORIZONTAL SEPARATION BETWEEN POTABLE WATER AND SANITARY SEWER GRAVITY MAINS SHALL BE AS FOLLOWS:
1. AT UTILITY CROSSINGS ONE FULL LENGTH OF WATER MAIN SHALL BE SEPARATED FROM SANITARY SEWER GRAVITY MAINS BY AT LEAST 12" OF SAND OR LIMESTONE SCREENINGS ON ALL SIDES AND TAMPED BY HAND IN 4" LAYERS.
  2. THE SEPARATION OF PIPELINE JOINTS, ALTERNATIVELY, WATER MAIN JOINTS SHALL BE FROM ALL JOINTS IN VACUUM TYPE SANITARY SEWERS.
  3. PUBLIC ACCESS RECLAIMED WATER MAINS, OR UNRESTRICTED SANITARY SEWERS, WASTEWATER FORCE MAINS, AND ALL OTHER TYPES OF RECLAIMED WATER MAINS, SHALL BE CONFINED TO A MANHOLE OR INLET STRUCTURE.
  4. NO PART OF ANY SANITARY MANHOLE OR STORM SEWER SHALL BE LOCATED WITHIN THE SEPARATION DISTANCE OF RECLAIMED WATER.

**MINIMUM HORIZONTAL AND VERTICAL SEPARATION REQUIREMENTS**

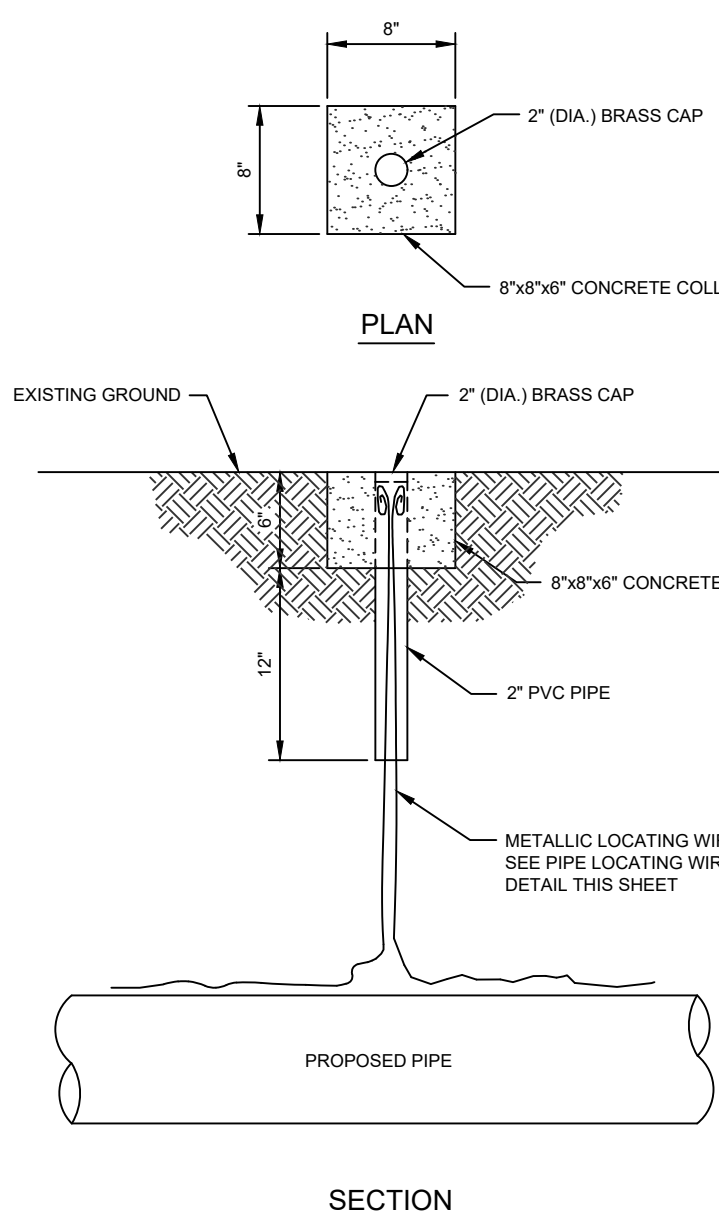
FITTING TYPE	PIPE SIZE - INCHES											
	4	6	8	10	12	14	16	18	20	24		
VERT. UP OR HORIZ.	2	3	4	5	6	6	7	8	9	10		
11-1/4 BEND	5	6	8	10	12	13	15	16	17	20		
22-1/2 BEND	10	13	17	21	24	27	30	33	36	41		
45 BEND	23	32	42	50	58	66	73	80	87	100		
90 BEND	46	64	84	104	124	144	164	184	204	240		
VERTICAL DOWN	6	8	10	12	14	16	18	20	22	25		
11-1/4 BEND	11	16	20	24	28	32	36	40	43	50		
22-1/2 BEND	23	33	42	51	59	67	75	83	91	105		
45 BEND	56	79	102	122	143	163	182	201	219	253		
90 BEND	112	158	204	244	284	324	364	404	444	506		
BRANCH OF TEE	20	41	63	83	103	129	141	159	177	210		
DEAD END	56	79	102	122	143	163	182	201	219	253		
REDUCERS												
SIZE	6X4	8X4	8X6	10X6	10X8	12X8	12X10	14X8	14X8			
RESTR. LENGTH	41	74	43	79	41	106	77	42	133	108		
SIZE	10X6	10X8	14X12	18X8	18X12	18X16	20X12	20X16	24X12	24X16		
RESTR. LENGTH	159	137	79	163	111	41	141	78	194	142		

- NOTES
1. SAND/SILT SOIL (COHESIONLESS SOIL WITH 30% INTERNAL FRICTION ANGLE, PIPE FRICTION/SOIL FRICTION RATIO = 0.6, SOIL DENSITY 90 PCF).
  2. PIPE LAYING CONDITION 3 (NO SELECT BEDDING OR BACKFILL).
  3. 150 PSI DESIGN PRESSURE. FOR 200 PSI DESIGN PRESSURE (FIRE LINES), INCREASE RESTRAINED LENGTH BY 35%.
  4. 3 FOOT MINIMUM COVER ON THE PIPE.
  5. ALL RESTRAINED JOINT LENGTHS IN FEET.

**RESTRAINED JOINT PIPE LENGTHS**  
**C900 PVC PIPE**

N.T.S.

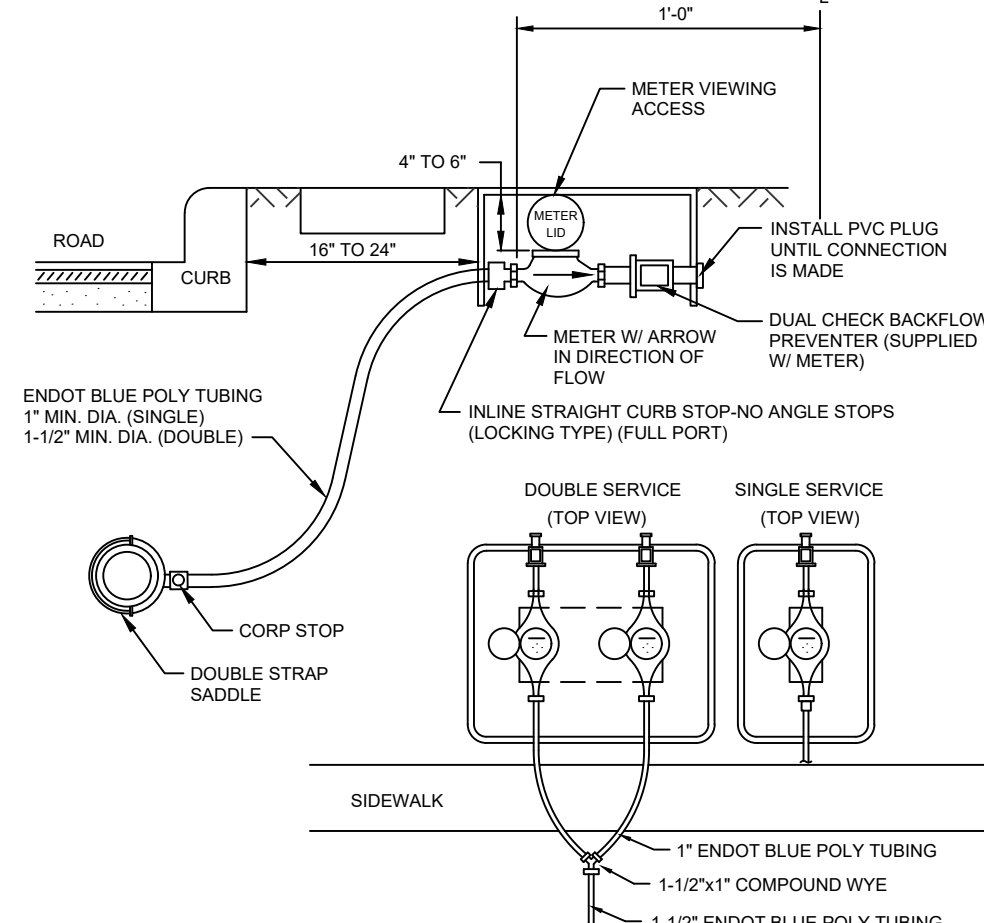
Utilities, Inc.	SCALE: NONE	GENERAL DETAILS	STANDARD DETAIL NUMBER
	DATE: 7-12-01	RESTRAINED JOINT PIPE LENGTHS C900 PVC PIPE	<b>G-18</b>
	FILE: RJL.PVC.DWG		



**TRACER WIRE PORT DETAIL**

N.T.S.

Utilities, Inc.	SCALE: NONE	GENERAL DETAILS	STANDARD DETAIL NUMBER
	DATE: 6-3-02	TRACER WIRE PORT DETAIL	<b>G-23</b>
	FILE: WIREPORT.DWG		



- NOTES
1. ALL FITTINGS SHALL BE BRASS WITH COMPRESSION/PACK JOINT TYPE CONNECTIONS.
  2. NO SERVICE LINE SHALL TERMINATE UNDER A DRIVEWAY OR A SIDEWALK.
  3. EACH SERVICE LINE SHALL TERMINATE AT A CURB STOP(S) WHICH SHALL BE BURIED APPROXIMATELY 3" BELOW FINAL GRADE AND SHALL BE CLEARLY MARKED WITH A 2"x2"x18" STAKE WITH THE TOP PAINTED BLUE AND MARKED WITH THE NUMBER OF THE LOT(S) TO BE SERVED.
  4. ALL WATER SERVICES AND METER BOXES SHALL BE LOCATED AT THE LOT, ON THE RESIDENT'S SIDE OF SIDEWALK.
  5. CURB STOPS AND CURB STOPS SHALL BE BRASS EQUIPPED WITH CONNECTION COMPATIBLE TO CONNECTING SERVICE TYPE AS MANUFACTURED BY MUELLER CO. B25170 WITH A 1" x 3/4" BRASS BUSHING OR APPROVED EQUAL.
  6. DOUBLE SERVICE METER BOXES SHALL BE HEFCO PLASTIC JUMBO W/ CAST IRON LID OR APPROVED EQUAL. (MINIMUM DIMENSIONS: LENGTH x WIDTH = 21.5"x15.5").
  7. WATER METER VALVES AND WATER METER BOXES SHALL BE INSTALLED BY THE CONTRACTOR. WATER METERS SHALL BE INSTALLED BY THE UTILITY.
  8. LONG SERVICES UNDER PAVEMENT TO BE INSTALLED IN 3" PVC SLEEVE, MINIMUM 3' DEEP.
  9. SINGLE SERVICE METER BOXES SHALL BE HEFCO PLASTIC W/ CAST IRON LID OR APPROVED EQUAL. (MINIMUM DIMENSIONS: LENGTH x WIDTH = 21.5"x10").

**WATER SERVICE CONNECTION**

N.T.S.

Utilities, Inc.	SCALE: NONE	WATER DETAILS	STANDARD DETAIL NUMBER
	DATE: 6-3-02	WATER SERVICE CONNECTION	<b>W-4</b>
	FILE: WSERVCE.DWG		



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**SERENOA ACTIVE ADULT  
AMENITY CENTER**

**WATER & SEWER DETAILS**

DR HORTON

PREPARED FOR:

DATE	DESCRIPTION
10/19/2018	REVIEW SUBMITTAL

PROJECT NO: KLP-AG-1019  
FILE: WSD  
DESIGN BY: VEB  
DRAWN BY: CNW

FLORIDA PROFESSIONAL ENGINEER

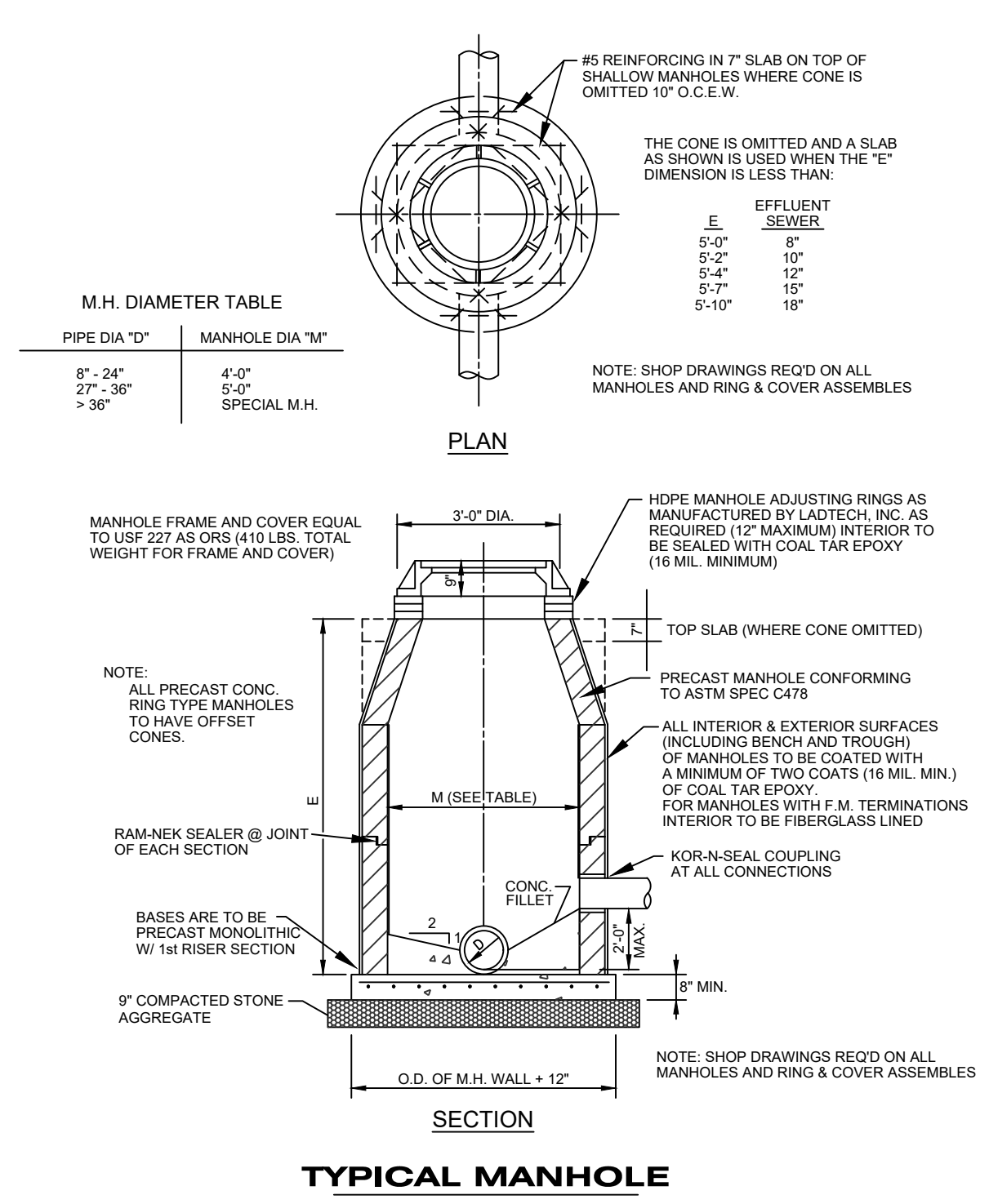
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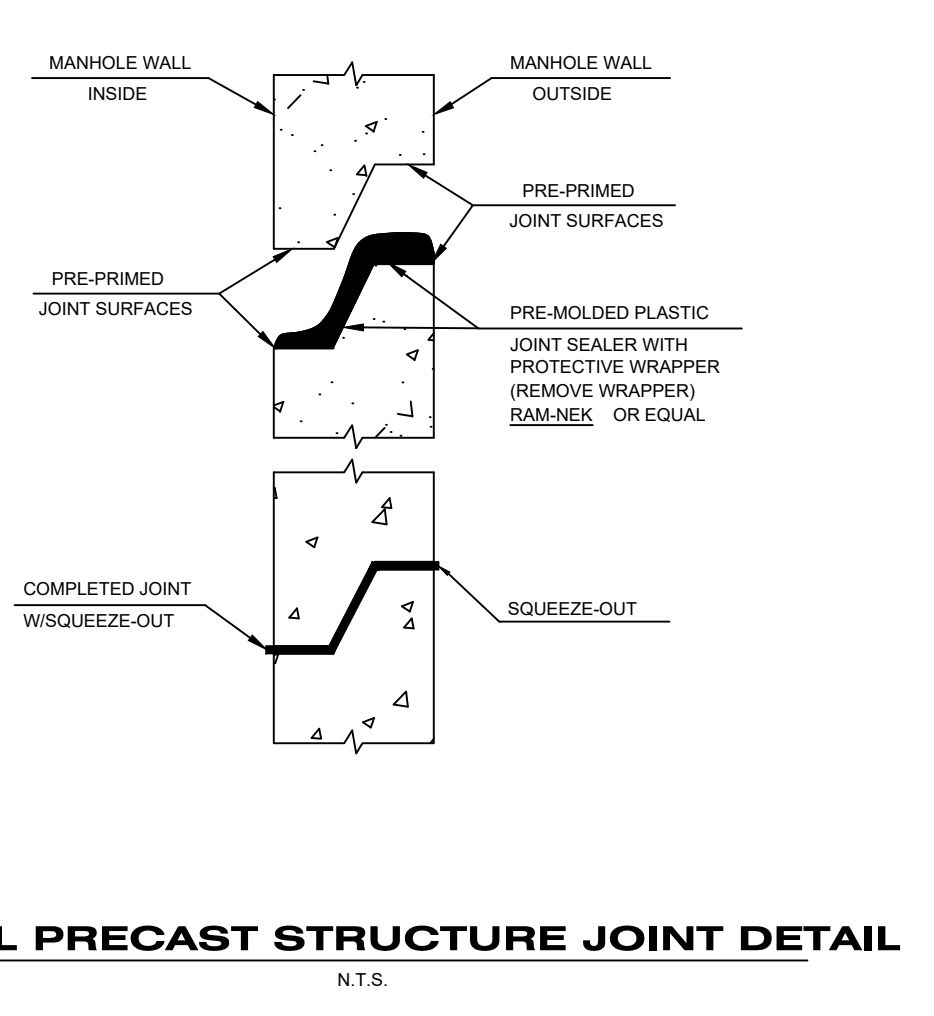
VICTOR E. BARBOSA  
DATE:  
REGISTRATION NO. 58548

**C-601**

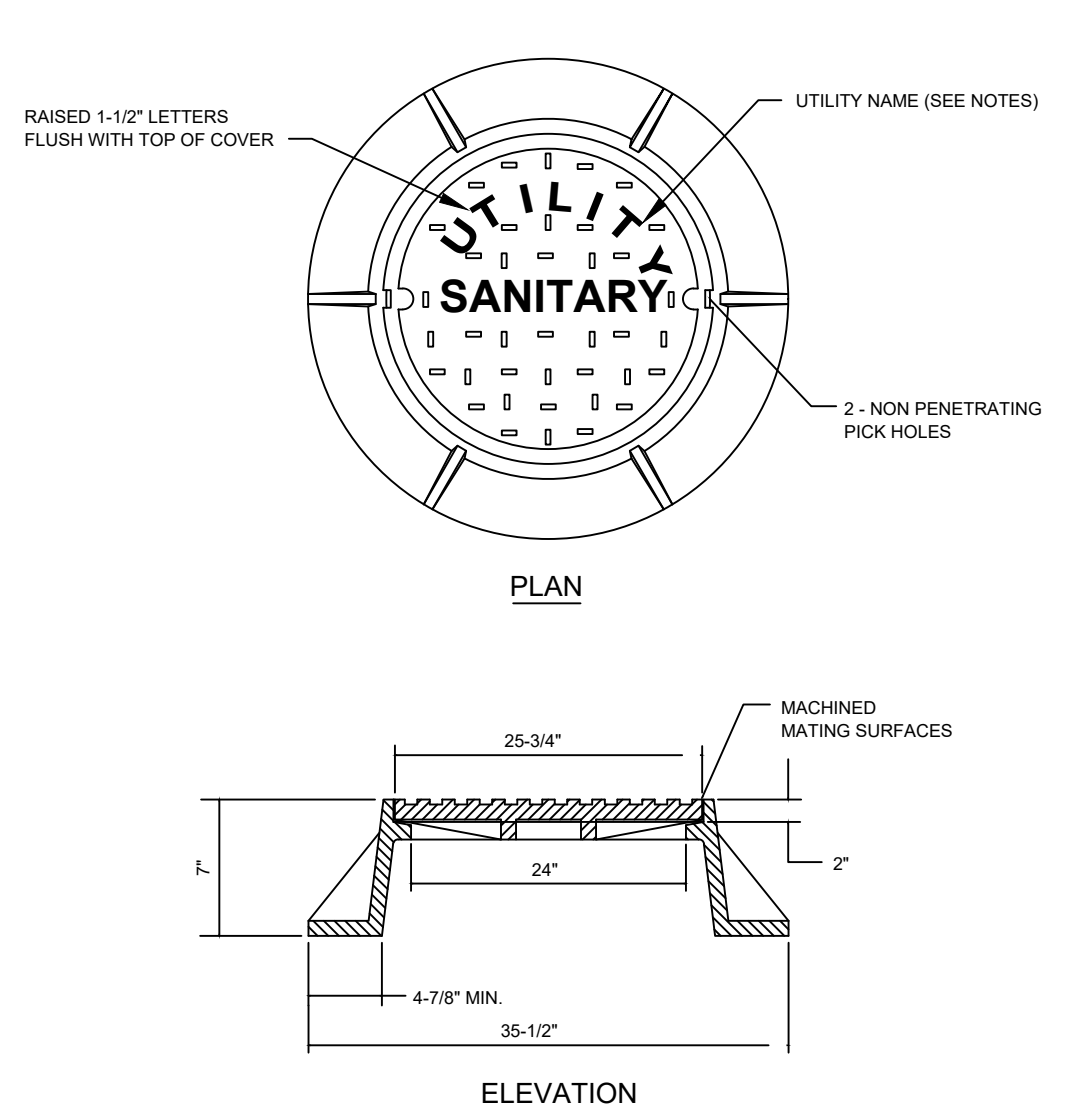




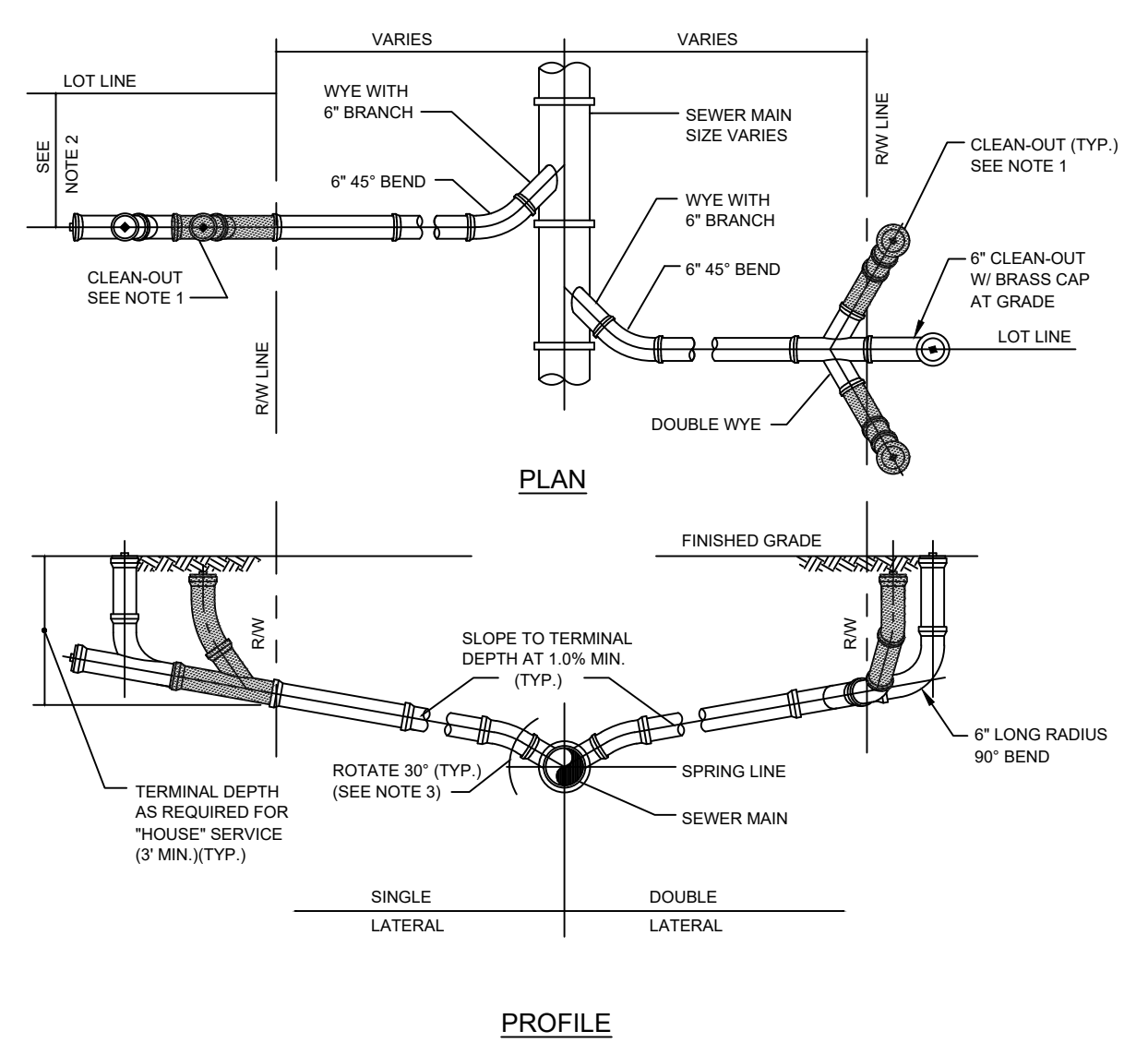
Utilities, Inc.	SCALE: NONE	SANITARY DETAILS	STANDARD DETAIL NUMBER
	DATE: 6-3-02		
	FILE: MANHOLE.DWG		
TYPICAL MANHOLE		<b>S-1</b>	



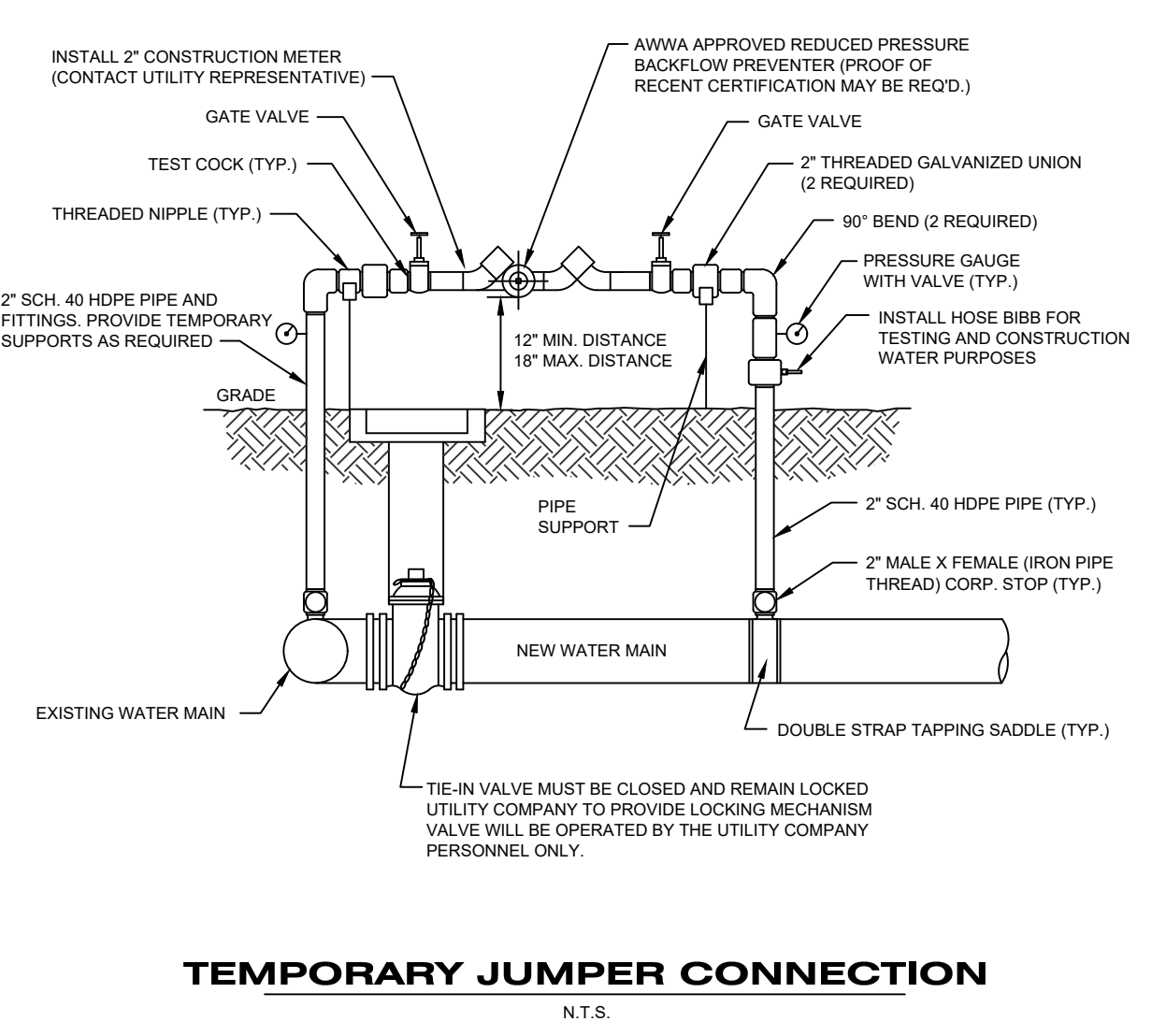
Utilities, Inc.	SCALE: NONE	SANITARY DETAILS	STANDARD DETAIL NUMBER
	DATE: 7-12-01		
	FILE: CONJLDWG		
TYPICAL PRECAST STRUCTURE JOINT DETAIL		<b>S-3</b>	



Utilities, Inc.	SCALE: NONE	SANITARY DETAILS	STANDARD DETAIL NUMBER
	DATE: 6-3-02		
	FILE: MHCOVER.DWG		
STANDARD MANHOLE FRAME AND COVER		<b>S-4</b>	



Utilities, Inc.	SCALE: NONE	SANITARY DETAILS	STANDARD DETAIL NUMBER
	DATE: 6-3-02		
	FILE: SANLAT.DWG		
SANITARY SERVICE LATERAL DETAIL		<b>S-5</b>	



Utilities, Inc.	SCALE: NONE	WATER DETAILS	STANDARD DETAIL NUMBER
	DATE: 6-3-02		
	FILE: JUMPR.DWG		
TEMPORARY JUMPER CONNECTION		<b>W-2</b>	

**TEMPORARY JUMPER NOTES:**

- A TEMPORARY JUMPER CONNECTION IS REQUIRED AT ALL CONNECTIONS BETWEEN EXISTING ACTIVE WATER MAINS AND PROPOSED NEW WATER MAIN IMPROVEMENTS.
- THE DETAIL ABOVE IS TO BE USED FOR FILLING ANY NEW WATER MAIN OF ANY SIZE FROM EXISTING ACTIVE WATER MAINS AND FOR FLUSHING OF NEW MAINS UP TO 8" IN DIAMETER (2.5 FPS MINIMAL VELOCITY) AND FOR FILLING BACTERIOLOGICAL SAMPLES FROM ANY NEW WATER MAIN OF ANY SIZE. THE JUMPER CONNECTION SHALL BE MAINTAINED UNTIL AFTER FILLING, FLUSHING, TESTING, AND DISINFECTION OF THE NEW MAIN HAS BEEN SUCCESSFULLY COMPLETED AND CLEARANCE FOR USE FROM THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) & OTHER PERTINENT AGENCIES HAS BEEN RECEIVED BY UTILITIES, INC. THIS JUMPER CONNECTION SHALL ALSO BE USED TO MAINTAIN A MINIMUM PRESSURE OF 20 PSI IN THE NEW MAINS ALL THE TIME AFTER DISINFECTION AND UNTIL THE FDEP CLEARANCE LETTER IS OBTAINED. ADEQUATE TRUST BLOCKING AND/OR RESTRAINTS SHALL BE PROVIDED TEMPORARILY AS REQUIRED. PIPE AND FITTINGS USED FOR CONNECTING THE NEW PIPE TO THE EXISTING PIPE SHALL BE DISINFECTED PRIOR TO INSTALLATION IN ACCORDANCE WITH AWWA C651, 1992 EDITION. THIS TAPPING SLEEVE AND THE EXTERIOR OF THE MAIN TO BE TAPPED SHALL BE DISINFECTED BY SPRAYING OR SWABBING PER SECTION II OF AWWA C651-92.

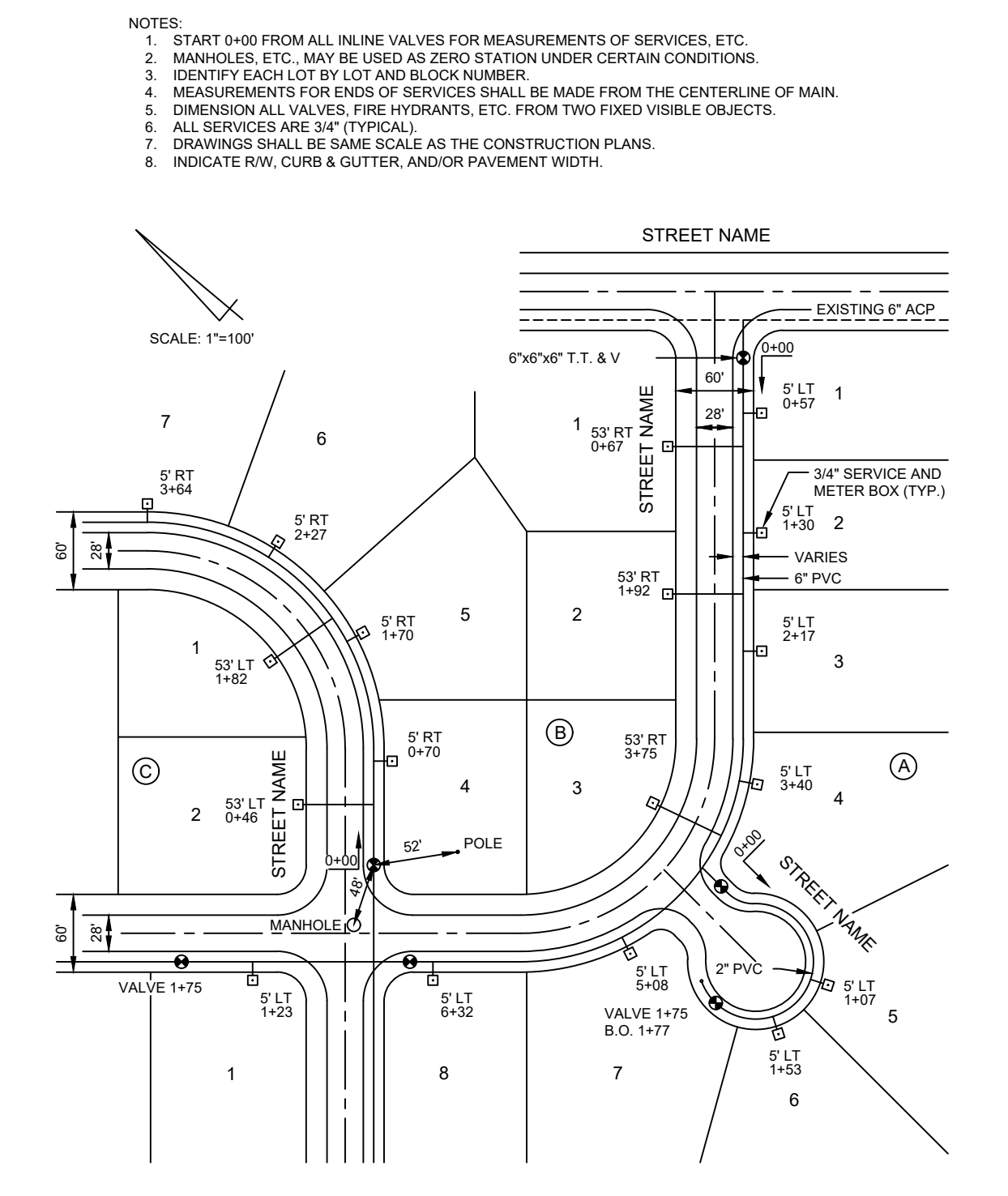
CONTINUED ON PAGE W-3A

Utilities, Inc.	SCALE: NONE	WATER DETAILS	STANDARD DETAIL NUMBER
	DATE: 7-12-01		
	FILE: JUMPNOTES.DWG		
TEMPORARY JUMPER NOTES		<b>W-3</b>	

CONTINUED FROM PAGE W-3

- FLUSHING OF 10" DIAMETER AND LARGER WATER MAINS MAY BE DONE THROUGH THE TIE-IN VALVE UNDER VERY CONTROLLED CONDITIONS. THE FOLLOWING PROCEDURES SHALL BE FOLLOWED:
  - THE TIE-IN VALVES SHALL BE OPERATED AND PRESSURE TESTED IN THE PRESENCE OF THE UTILITY COMPANY AND ENGINEER TO VERIFY WATER TIGHTNESS PRIOR TO TIE-IN. VALVES WHICH ARE NOT WATER TIGHT SHALL BE REPLACED OR A NEW VALVE INSTALLED IMMEDIATELY ADJACENT TO THE LEAKING VALVE.
  - THE TEMPORARY JUMPER CONNECTION SHALL BE CONSTRUCTED AS DETAILED. THE JUMPER CONNECTION SHALL BE USED TO FILL THE NEW WATER MAIN AND FOR PROVIDING WATER FOR BACTERIOLOGICAL SAMPLING OF THE NEW MAIN AS REQUIRED BY THE FDEP PERMIT.
  - FLUSHING SHALL NOT BE ATTEMPTED DURING PEAK DEMAND HOURS OF THE EXISTING WATER MAINS.
  - ALL DOWNSTREAM VALVES IN THE NEW SYSTEM MUST BE OPEN PRIOR TO OPENING THE TIE-IN VALVE.
  - PROVIDE FOR AND MONITOR THE PRESSURE AT THE TIE-IN POINT. THE PRESSURE ON THE EXISTING MAIN MUST NOT DROP BELOW 35 PSI.
  - TIE-IN VALVE SHALL BE OPENED A FEW TURNS ONLY, ENSURING A PRESSURE DROP ACROSS THE VALVE IS ALWAYS GREATER THAN 10 PSI.
  - THE TIE-IN VALVE SHALL BE LOCKED CLOSED BY THE UTILITY COMPANY UNTIL FLUSHING BEGINS.
  - THE TIE-IN VALVE SHALL BE OPENED ONLY FOR FLUSHING OF THE NEW MAIN. THE PROCEDURE SHALL BE DIRECTED BY THE UTILITY COMPANY AND OBSERVED BY THE ENGINEER.
  - AFTER FLUSHING, THE TIE-IN VALVE SHALL BE CLOSED AND LOCKED, THEN VERIFIED BY THE UTILITY.
- EXCEPT AS REQUIRED TO FLUSH LINES OF GREATER THAN 8" IN DIAMETER, THE TIE-IN VALVE SHALL REMAIN CLOSED, LOCKED, AND VERIFIED BY THE UTILITY COMPANY. THE TIE-IN VALVE SHALL REMAIN LOCKED UNTIL THE NEW SYSTEM HAS BEEN CLEARED FOR USE BY FDEP AND ALL OTHER PERTINENT AGENCIES.
- UPON RECEIPT OF CLEARANCE FOR USE FROM FDEP AND ALL OTHER PERTINENT AGENCIES, THE CONTRACTOR SHALL REMOVE THE TEMPORARY JUMPER CONNECTION. THE CORPORATION STOPS ARE TO BE CLOSED AND PLUGGED WITH 2" BRASS PLUGS.
- ALL INSTALLATION AND MAINTENANCE OF THE TEMPORARY JUMPER CONNECTION AND ASSOCIATED BACKFLOW PREVENTION DEVICES, FITTINGS, VALVE, ETC. SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

Utilities, Inc.	SCALE: NONE	WATER DETAILS	STANDARD DETAIL NUMBER
	DATE: 7-12-01		
	FILE: JUMPNOTES.DWG		
TEMPORARY JUMPER NOTES		<b>W-3A</b>	



Utilities, Inc.	SCALE: NONE	APPLICABLE ALL UTILITIES	STANDARD DETAIL NUMBER
	DATE: 7-12-01		
	FILE: ASBULT.DWG		
TYPICAL UTILITY "AS-BUILT"		<b>AB-1</b>	

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**SERENOVA ACTIVE ADULT AMENITY CENTER**  
**WATER & SEWER DETAILS**

DR HORTON

PREPARED FOR:

DATE	DESCRIPTION
10/19/2018	REVIEW SUBMITTAL

PROJECT NO: KLP-AG-1019  
FILE: WSD  
DESIGN BY: CNW  
DRAWN BY: CNW

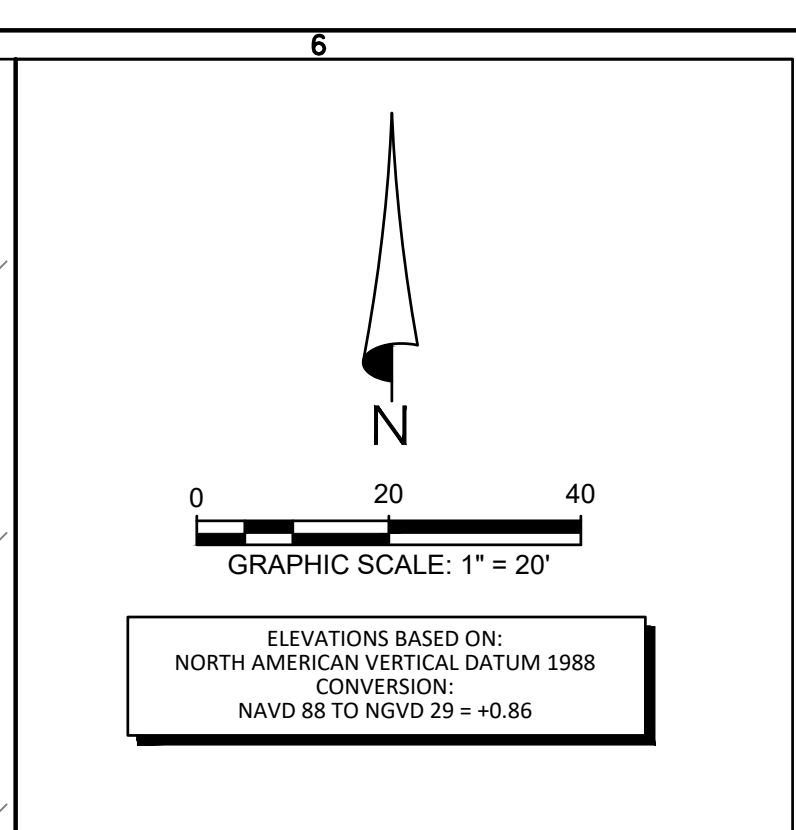
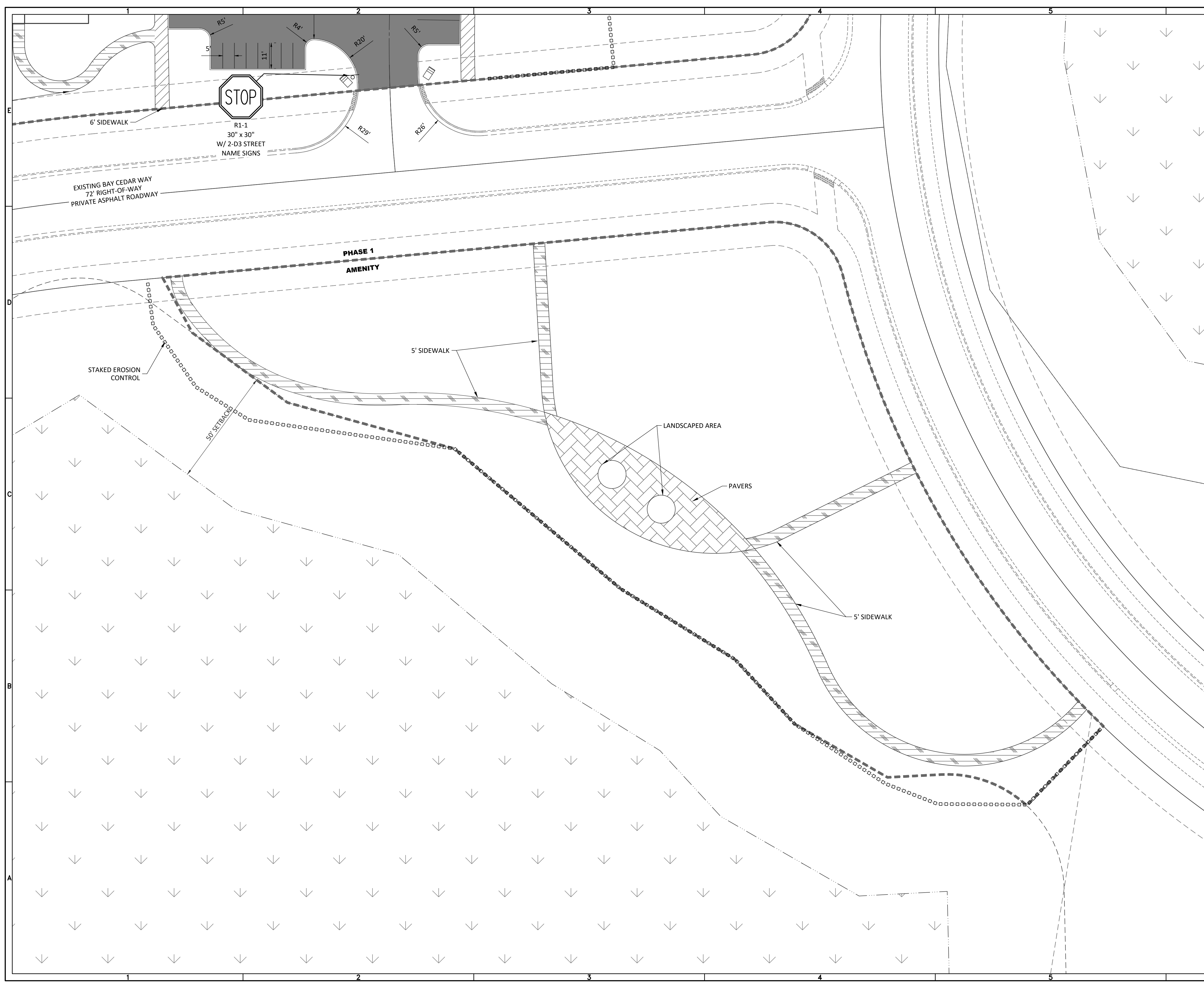
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**VICTOR E. BARBOSA**  
DATE: \_\_\_\_\_  
REGISTRATION NO. 65848

**C-602**



- SIDEWALK LEGEND**
- PROPOSED PAVER AREA
  - PROPOSED CONCRETE
  - PROPOSED 5' WIDE X 4" THICK CONCRETE SIDEWALK
  - PROPOSED 6' WIDE X 4" THICK CONCRETE SIDEWALK
  - PROPOSED ASPHALT
- SIDEWALK NOTES:**
1. SIDEWALK SHALL BE COMPLETED PRIOR TO FINAL INFRASTRUCTURE INSPECTION OR SHALL BE SUBJECT TO COVERAGE UNDER A PERFORMANCE GUARANTEE.
  2. ALL SIDEWALKS SHALL BE 6" THICK WHERE SIDEWALK IS CROSSED BY A DRIVEWAY.
  3. SIDEWALK DETECTABLE WARNING SURFACES SHALL BE ALIGNED IN THE DIRECTION OF PEDESTRIAN TRAVEL.

**SHEET KEY MAP**

A small map showing the project area with a grid. A box labeled 'C-700' highlights the current sheet's location. Other sheets shown include C-701, C-702, and C-703.

NO.	DATE	DESCRIPTION
1	09/19/2018	REVIEW SUBMITTAL

PROJECT NO: KLP-AG-1019  
 FILE: SPMS  
 DESIGN BY: CNW  
 DRAWN BY: CNW

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**C-700**

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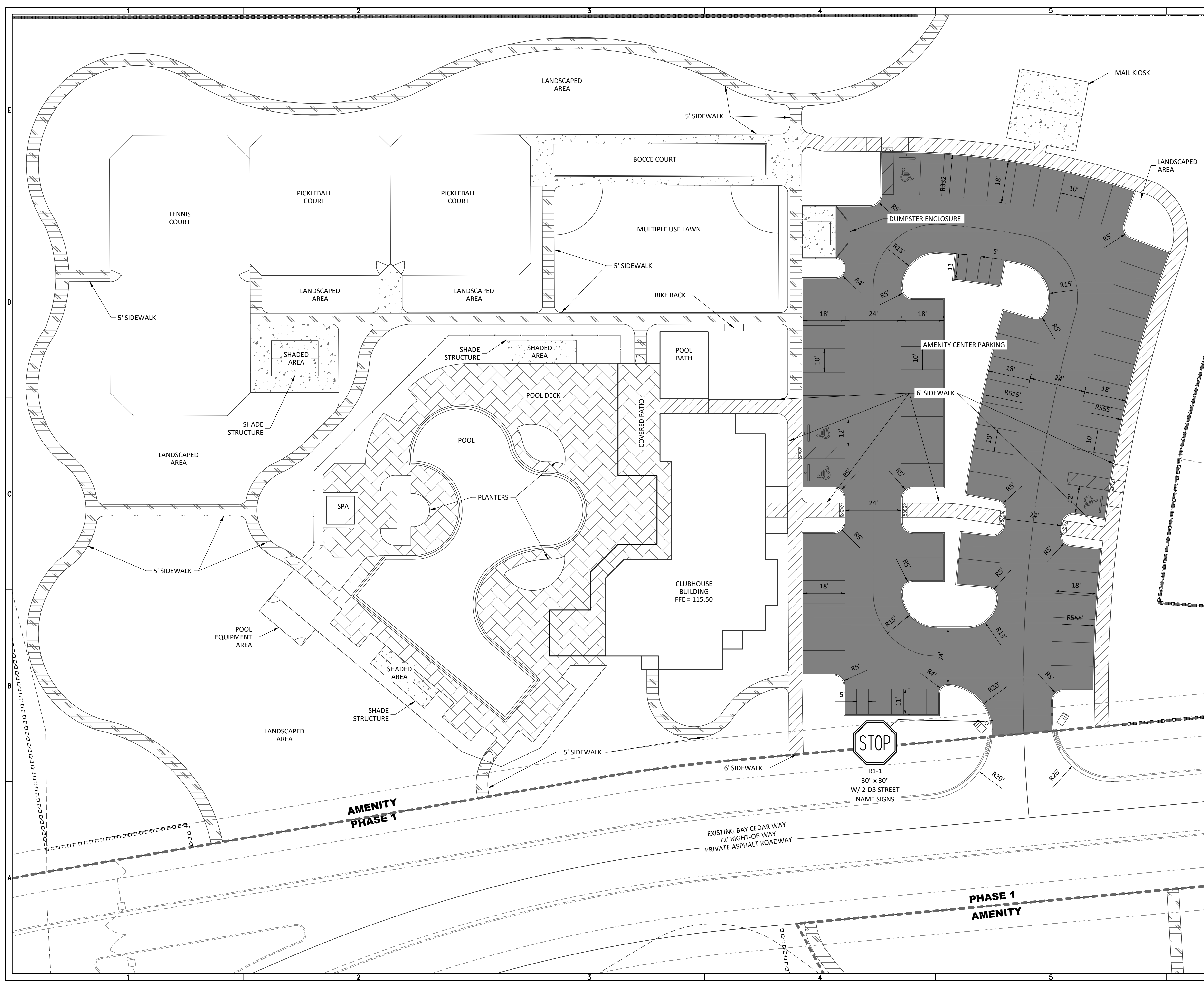
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**SERENO ACTIVE ADULT AMENITY CENTER**  
**SIGNING, PAVEMENT MARKINGS & WATER MANAGEMENT PLAN**

PREPARED FOR: DR HORTON

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N

0 20 40  
GRAPHIC SCALE: 1" = 20'

ELEVATIONS BASED ON:  
NORTH AMERICAN VERTICAL DATUM 1988  
CONVERSION:  
NAVD 88 TO NGVD 29 = +0.86

**SIDEWALK LEGEND**

- PROPOSED PAVER AREA
- PROPOSED CONCRETE
- PROPOSED 5' WIDE X 4" THICK CONCRETE SIDEWALK
- PROPOSED 6' WIDE X 4" THICK CONCRETE SIDEWALK
- PROPOSED ASPHALT

- SIDEWALK NOTES:**
- SIDEWALK SHALL BE COMPLETED PRIOR TO FINAL INFRASTRUCTURE INSPECTION OR SHALL BE SUBJECT TO COVERAGE UNDER A PERFORMANCE GUARANTEE.
  - ALL SIDEWALKS SHALL BE 6" THICK WHERE SIDEWALK IS CROSSED BY A DRIVEWAY.
  - SIDEWALK DETECTABLE WARNING SURFACES SHALL BE ALIGNED IN THE DIRECTION OF PEDESTRIAN TRAVEL.

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**SERENOA ACTIVE ADULT  
AMENITY CENTER  
SIGNING, PAVEMENT MARKINGS &  
WATER MANAGEMENT PLAN**

DR HORTON  
PREPARED FOR:

NO.	DATE	DESCRIPTION
1	03/14/2018	REVIEW SUBMITTAL

PROJECT NO: KLP-AG-1019  
FILE: SPMS  
DESIGN BY: CNW  
DRAWN BY: CNW

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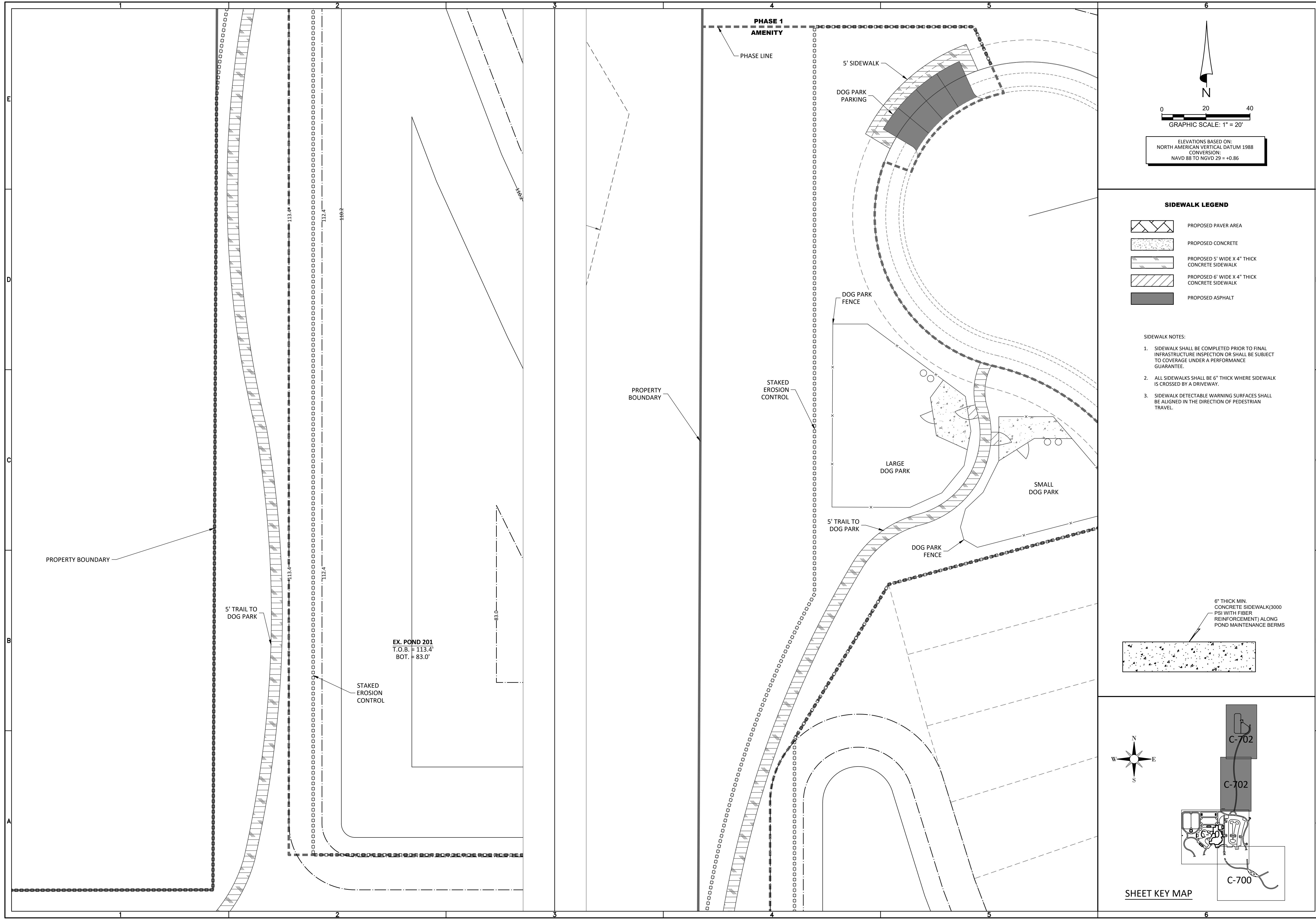
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DATE: \_\_\_\_\_  
REGISTRATION NO. 58548

**C-701**

N  
W E  
S

C-702  
C-702  
C-700

SHEET KEY MAP



N

0 20 40

GRAPHIC SCALE: 1" = 20'

ELEVATIONS BASED ON:  
NORTH AMERICAN VERTICAL DATUM 1988  
CONVERSION:  
NAVD 88 TO NGVD 29 = +0.86

**SIDEWALK LEGEND**

	PROPOSED PAVER AREA
	PROPOSED CONCRETE
	PROPOSED 5' WIDE X 4" THICK CONCRETE SIDEWALK
	PROPOSED 6' WIDE X 4" THICK CONCRETE SIDEWALK
	PROPOSED ASPHALT

- SIDEWALK NOTES:**
- SIDEWALK SHALL BE COMPLETED PRIOR TO FINAL INFRASTRUCTURE INSPECTION OR SHALL BE SUBJECT TO COVERAGE UNDER A PERFORMANCE GUARANTEE.
  - ALL SIDEWALKS SHALL BE 6" THICK WHERE SIDEWALK IS CROSSED BY A DRIVEWAY.
  - SIDEWALK DETECTABLE WARNING SURFACES SHALL BE ALIGNED IN THE DIRECTION OF PEDESTRIAN TRAVEL.

6" THICK MIN. CONCRETE SIDEWALK(3000 PSI WITH FIBER REINFORCEMENT) ALONG POND MAINTENANCE BERMS

N  
E  
S

C-702

C-702

C-700

SHEET KEY MAP

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**SERENOA ACTIVE ADULT AMENITY CENTER**

**SIGNING, PAVEMENT MARKINGS & SIDEWALK PLAN**

DR HORTON

PREPARED FOR:

NO.	DATE	DESCRIPTION
1	05/12/2018	REVIEW SUBMITTAL

PROJECT NO: KLP-AG-1019  
FILE: SPMS  
DESIGN BY: CNW  
DRAWN BY: CNW

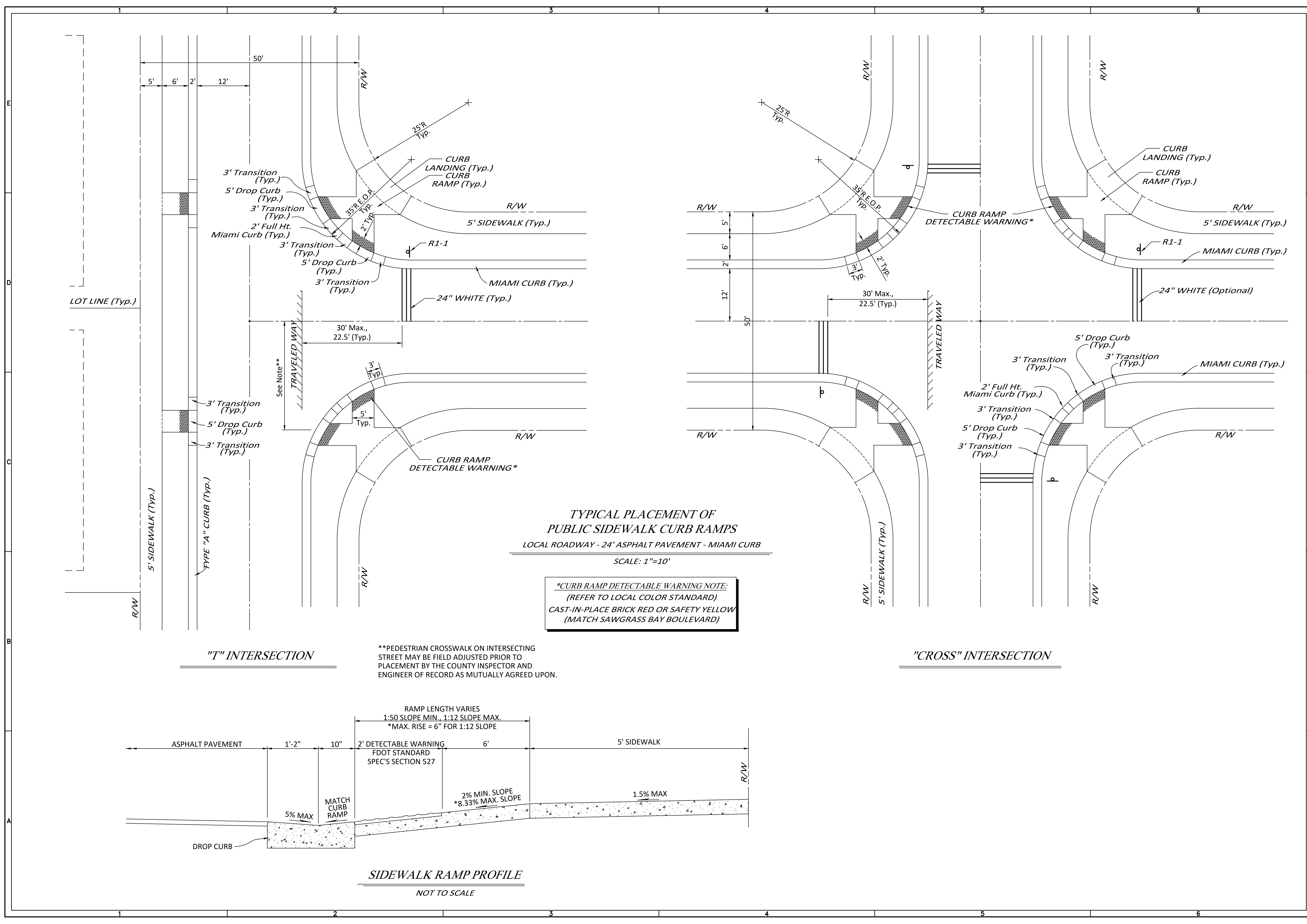
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**C-702**



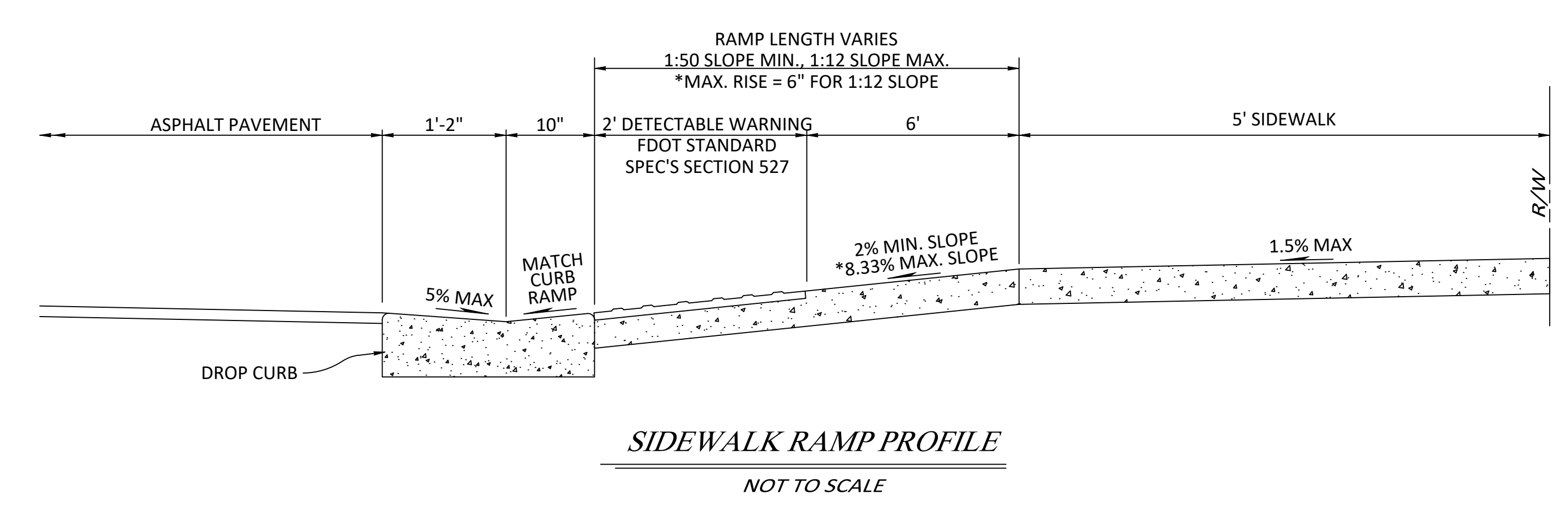
**"T" INTERSECTION**


\*\*PEDESTRIAN CROSSWALK ON INTERSECTING STREET MAY BE FIELD ADJUSTED PRIOR TO PLACEMENT BY THE COUNTY INSPECTOR AND ENGINEER OF RECORD AS MUTUALLY AGREED UPON.

**"CROSS" INTERSECTION**

**TYPICAL PLACEMENT OF PUBLIC SIDEWALK CURB RAMPS**  
 LOCAL ROADWAY - 24" ASPHALT PAVEMENT - MIAMI CURB  
 SCALE: 1"=10'

**\*CURB RAMP DETECTABLE WARNING NOTE:**  
 (REFER TO LOCAL COLOR STANDARD)  
 CAST-IN-PLACE BRICK RED OR SAFETY YELLOW  
 (MATCH SAWGRASS BAY BOULEVARD)





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RAVALON GROVES/ACTIVE ADULT AMENITY/ENGINEERING/SPMS DWG-C-703 2018/03/29 1:59 PM CATHERINE WIGGINS

**SERENOA ACTIVE ADULT AMENITY CENTER**

**SIGNING, PAVEMENT MARKINGS & SIDEWALK NOTES**

DR HORTON

NO.	DATE	DESCRIPTION
1	09/19/2018	REVIEW SUBMITTAL

PROJECT NO: KLP-AG-1019  
 FILE: SPMS  
 DESIGN BY: CNW  
 DRAWN BY: CNW

FLORIDA PROFESSIONAL ENGINEER

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**VICTOR E. BARBOSA**  
 DATE: \_\_\_\_\_  
 REGISTRATION NO. 58548

**C-703**

SPECIFICATIONS FOR DESIGN AND INSTALLATION OF TRAFFIC CONTROL DEVICES ON COUNTY ROADS

1) PURPOSE:

THESE SPECIFICATIONS HAVE BEEN DEVELOPED TO PROVIDE DEVELOPERS WITH A UNIFORM SYSTEM FOR INSTALLATION OF TRAFFIC CONTROL DEVICES ON THE COUNTY ROAD SYSTEM. A UNIFORM SYSTEM PROVIDES FOR REDUCED MAINTENANCE COSTS AND A HIGH STANDARD OF VISIBILITY FOR DRIVERS. ALL REQUIRED TRAFFIC CONTROL DEVICES SHALL BE INSTALLED BY THE DEVELOPER OF THE PROJECT.

2) FLORIDA STATE STATUTE 316.0745:

- 2.1) ANY AND ALL TRAFFIC CONTROL DEVICES INSTALLED ON THE COUNTY ROAD SYSTEM SHALL CONFORM TO FLORIDA STATE STATUTE 316.0745, UNIFORM SIGNALS AND DEVICES.
2.2) THIS STATUTE REQUIRES THAT ALL DEVICES CONFORM TO FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) SPECIFICATIONS. THE FDOT HAS ADOPTED THE FEDERAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AS THE STANDARDS TO BE USED IN THE STATE OF FLORIDA.

3) PAVEMENT MARKINGS:

- 3.1) ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC OR PREFORMED TAPES; RAISED PAVEMENT MARKERS SHALL BE CLASS "B".
3.2) PAVEMENT MARKINGS AND RAISED PAVEMENT MARKERS SHALL BE INSTALLED ON ALL ROADS CLASSIFIED OTHER THAN RESIDENTIAL WITH AN ADT GREATER THAN 500 VEHICLES, OR IF OTHER CONDITIONS EXIST THAT REQUIRE PAVEMENT MARKINGS. (SEE M.U.T.C.D. SECTION 3B-1).

4) TRAFFIC CONTROL SIGNS:

- 4.1) ALL SIGN BLANKS SHALL BE OF A TYPE CURRENTLY CERTIFIED BY THE FDOT FOR USE IN THE STATE OF FLORIDA.
4.2) ALL SIGN FACES SHALL BE HIGH INTENSITY PRISMATIC GRADE AND OF A TYPE CURRENTLY CERTIFIED BY THE FDOT FOR USE IN THE STATE OF FLORIDA.
4.3) ALL SIGNS SHALL BE NO LESS THAN THE STANDARD SIZE AS SPECIFIED BY THE FEDERAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. NO MINIMUM SIZE SIGNING SHALL BE ACCEPTED. LARGER SIGNS SHALL BE USED WHEN REQUIRED BY DESIGN SPEED, ETC.
4.4) STREET NAME SIGNS SHALL BE 9" ON COLLECTOR AND ARTERIAL ROADS. 9" SIGNS SHALL HAVE 6" SERIES B LETTERS. ALL STREET NAME SIGNS ON PRIVATE ROADS SHALL BE STANDARD D3 STREET NAME SIGNS WITH THE COLORS REVERSED. WHITE BACKGROUND WITH GREEN LETTERS AND BORDER. AT INTERSECTIONS WITH COUNTY MAINTAINED ROADS, THE COUNTY MAINTAINED ROAD SHALL BE GREEN BACKGROUND WITH WHITE LETTERS AND BORDER. STREET NAME SIGN BRACKETS FOR 6" SIGNS 30" LONG OR LESS, OR 9" SIGNS 24" LONG OR LESS, SHALL HAVE A 5 INCH BLADE OR CROSS. ALL OTHER STREET NAME SIGNS SHALL BE MOUNTED WITH BRACKETS WITH A 12 INCH BLADE OR 8 INCH CROSS. ALL STREET NAME SIGN BRACKETS SHALL BE SUPPLIED WITH BOLTS. SET SCREWS WILL NOT BE ACCEPTED.
4.5) ON ROADS TO BE MAINTAINED BY LAKE COUNTY, ALL SIGNS OTHER THAN STREET NAMES SHALL BE DATE CODED WITH A YELLOW REFLECTIVE LABEL AFFIXED TO THE BACK OF THE SIGN. IT WILL BE PUNCHED TO SHOW MONTH, DAY AND YEAR OF INSTALLATION (SEE SAMPLE LABEL). ALTERNATE LABEL DESIGNS PROVIDING THE DATE CODE INFORMATION MAY BE USED IF A SAMPLE IS SUBMITTED AND APPROVED BY LAKE COUNTY PRIOR TO INSTALLATION.

SAMPLE LABEL: SIZE 2" X 4"

WARNING

REMOVAL OF, OR DEACING ANY TRAFFIC CONTROL DEVICE IS PUNISHABLE BY FINE AND/OR IMPRISONMENT REPORT DAMAGE BY CALLING (727) 847-2411

INSTALLED

J F M A M J J A S O N D
10'S 20'S 30'S - 1 2 3 4 5 6 7 8 9
01 02 03 04 05 06 07 08 09

- 4.6) ALL POST SYSTEMS, MOUNTING BRACKETS AND HARDWARE SHALL BE OF A TYPE CURRENTLY IN USE BY THE LAKE COUNTY PUBLIC WORKS DEPARTMENT AND CURRENTLY CERTIFIED BY THE FLORIDA DEPARTMENT OF TRANSPORTATION FOR USE IN THE STATE OF FLORIDA. ALTERNATIVE SYSTEMS, ETC., SHALL ONLY BE USED IF APPROVED BY THE COUNTY ENGINEER.

5) CERTIFICATION OF MATERIALS:

- 5.1) ALL TRAFFIC CONTROL DEVICES AND MATERIALS SHALL BE ON THE CURRENT FDOT APPROVED PRODUCTS LIST. PROOF OF CERTIFICATION IS REQUIRED FOR ALL TRAFFIC CONTROL DEVICES.
5.2) A TRAFFIC CONTROL DEVICES SUBMITTAL DATA FORM SHALL BE SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION OF ANY TRAFFIC CONTROL DEVICE. NO TRAFFIC CONTROL DEVICE SHALL BE INSTALLED UNTIL THE CERTIFICATION SUBMITTAL HAS BEEN APPROVED BY THE TRAFFIC OPERATIONS DIVISION. THESE FORMS ARE AVAILABLE FROM THE TRAFFIC OPERATIONS DIVISION. COPIES OF THE APPROVED TRAFFIC CONTROL DEVICES SUBMITTAL DATA FORM SHALL BE SENT TO THE CONTRACTOR AND THE ENGINEERING INSPECTIONS DIVISION.

6) TRAFFIC CONTROL DEVICES PLAN:

- 6.1) A DETAILED SET OF PLANS FOR REQUIRED TRAFFIC CONTROL DEVICES SHALL BE SUBMITTED FOR ALL ROAD CONSTRUCTION, SITE DEVELOPMENT, SUBDIVISION, AND RIGHT-OF-WAY USE PERMITS. THESE PLANS SHALL BE IN CONFORMANCE WITH FDOT DESIGN STANDARDS. ALL PLANS SHALL BE SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF FLORIDA.
6.2) WITH THE SUBMITTAL OF FINAL PLANS TO THE DEVELOPMENT REVIEW DIVISION, TWO ADDITIONAL SETS OF THE TRAFFIC CONTROL PLAN PORTION OF THE ENTIRE PLAN SHALL BE SUBMITTED. THESE TWO SETS WILL BE FORWARDED TO THE TRAFFIC OPERATIONS DIVISION.

7) COST ESTIMATE:

AN ENGINEER'S COST ESTIMATE SHALL BE REQUIRED FOR ALL PROPOSED TRAFFIC CONTROL DEVICES. THE ESTIMATE SHALL BE PROVIDED IN CONJUNCTION WITH THE TRAFFIC CONTROL DEVICES SUBMITTAL DATA FORM (SEE SECTION 5.2).

8) INSPECTION AND ACCEPTANCE:

- 8.1) UPON COMPLETION OF THE INSTALLATION OF THE TRAFFIC CONTROL DEVICES, THE CONTRACTOR SHALL CALL THE ENGINEERING INSPECTIONS DIVISION FOR AN INSPECTION AT LAKE COUNTY ROAD OPERATIONS.
8.2) THE INSPECTION SHALL BE MADE BY THE ENGINEERING INSPECTION DIVISION WITHIN 48 HOURS (TWO WORKING DAYS) OF THE REQUEST.
8.3) AN INSPECTION REPORT SHALL BE MADE BY THE ENGINEERING INSPECTIONS DIVISION. COPIES OF THE REPORT SHALL BE SENT TO THE ENGINEER AND THE DEVELOPER.
8.4) NO ROADWAY SHALL BE OPEN TO THE PUBLIC UNTIL ALL TRAFFIC CONTROL DEVICES HAVE BEEN INSPECTED AND ACCEPTED BY LAKE COUNTY.

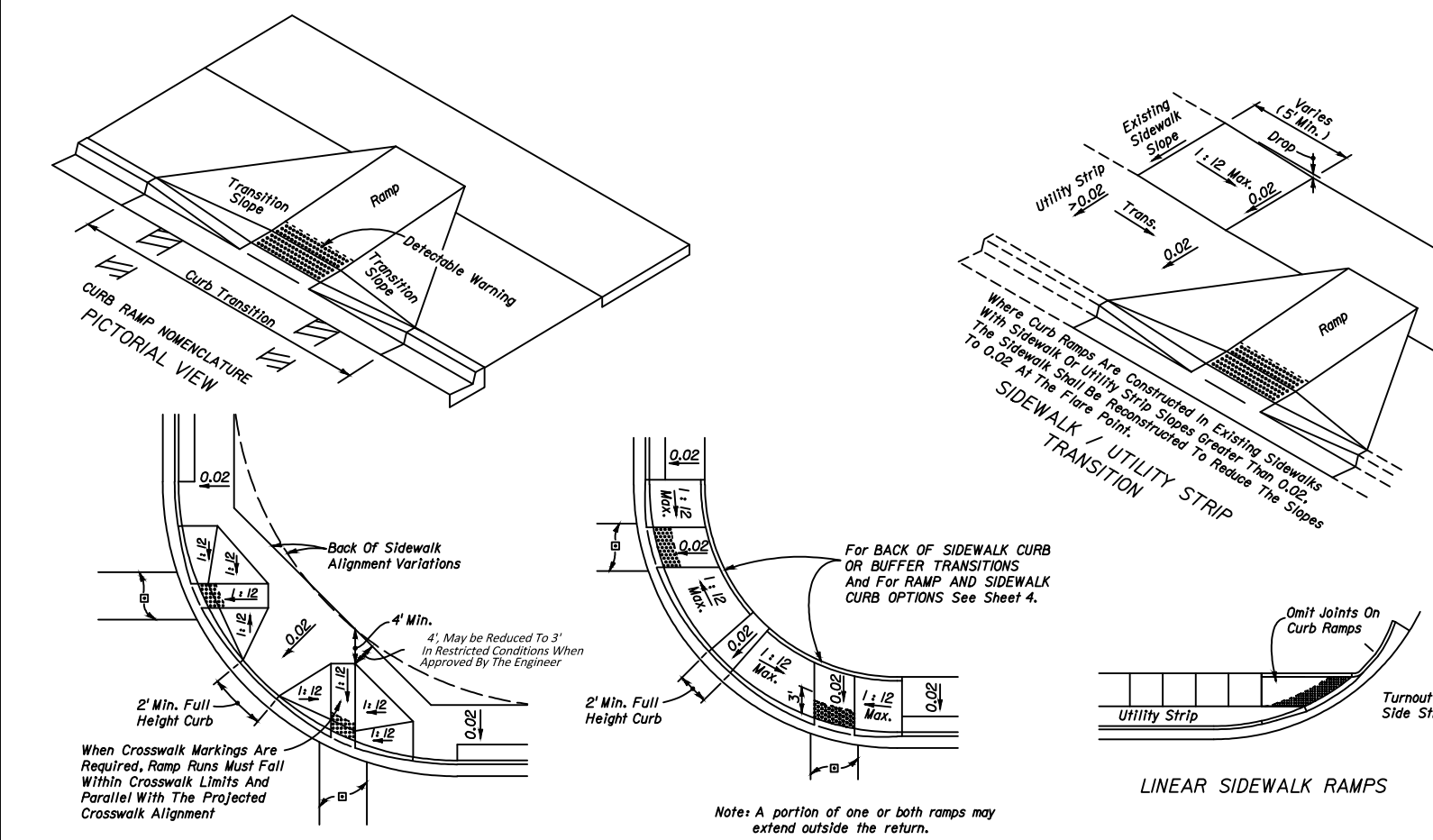
SPECIFICATIONS FOR DESIGN AND INSTALLATION OF TRAFFIC CONTROL DEVICES ON NON-COUNTY ROADS

- 1. ALL TRAFFIC CONTROL DEVICES SHALL BE INSTALLED IN CONFORMANCE WITH THE FEDERAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND FLORIDA DEPARTMENT OF TRANSPORTATION STANDARDS.

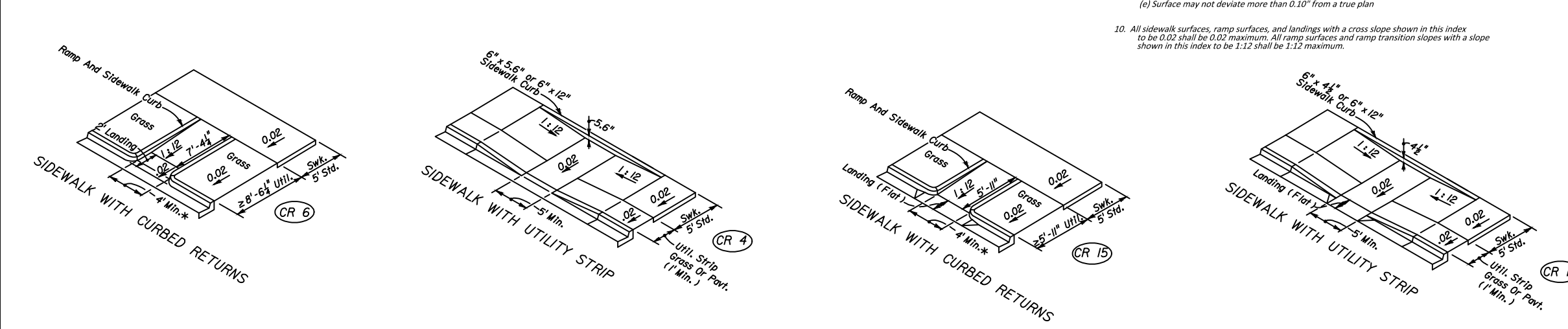
- 2. STREET NAME SIGNS SHALL BE 9" ON ALL ROADS. 9" SIGNS SHALL HAVE 6" SERIES B LETTERS. ALL STREET NAME SIGNS ON PRIVATE STREETS (NON-COUNTY MAINTAINED) SHALL BE STANDARD D3 STREET NAMES WITH THE COLORS REVERSED, WHITE BACKGROUND WITH GREEN LETTERS AND BORDER. AT INTERSECTIONS WITH COUNTY MAINTAINED ROADS, THE COUNTY MAINTAINED ROAD SHALL BE GREEN BACKGROUND WITH WHITE LETTERS.

- 3. CONTRACTOR MUST CONTACT ENGINEER OF RECORD PRIOR TO ORDERING STREET NAME SIGNS. APPROVED STREET NAMES CAN NOT BE DETERMINED UNTIL RECORDING OF THE PLAT.

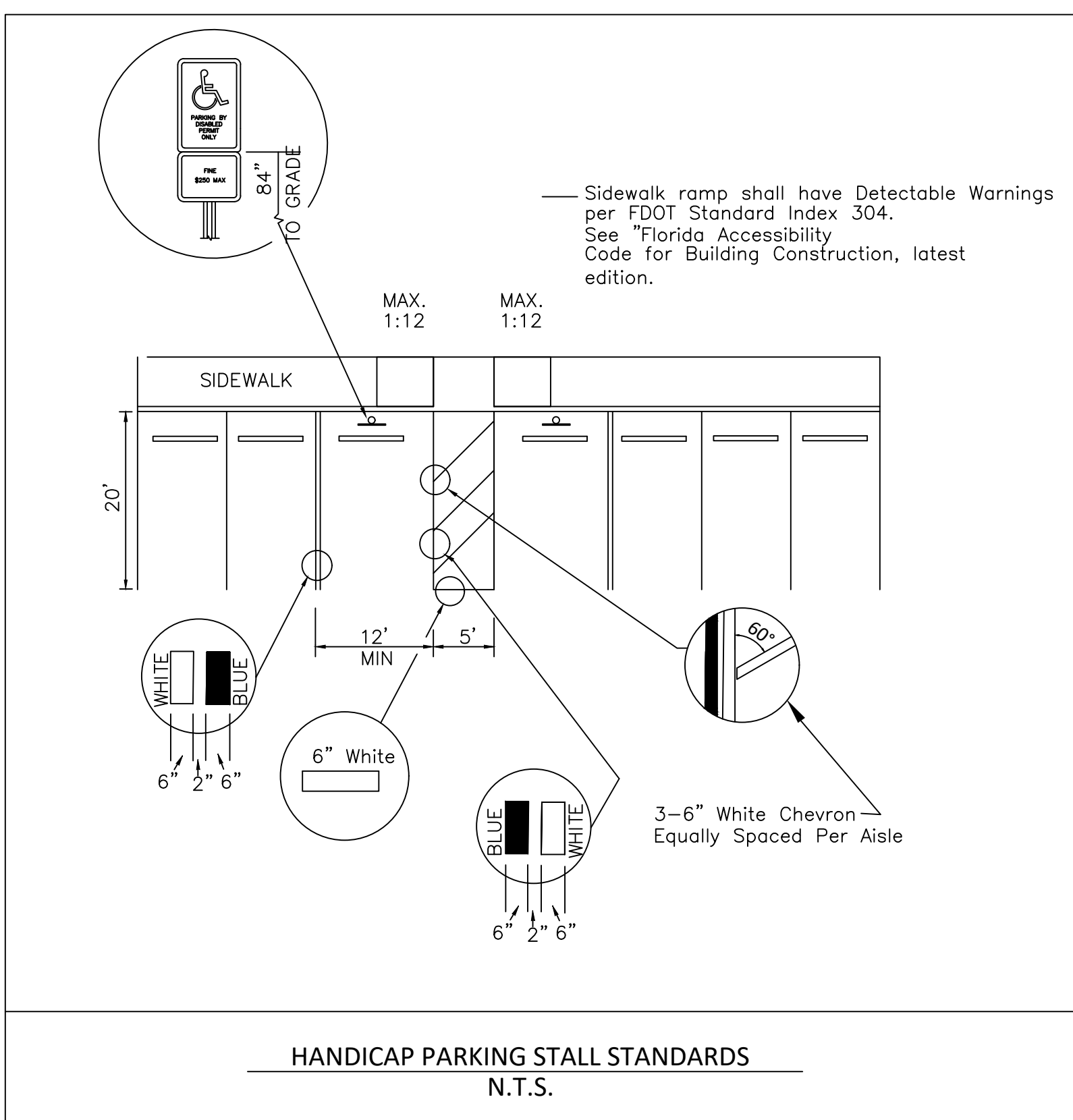
- 4. EXISTING STRIPING AND OTHER PAVEMENT MARKINGS TO BE REMOVED SHALL BE DONE AS NECESSARY BY HYDROBLASTING. GRINDING IS NOT PERMITTED.



TYPICAL PLACEMENT OF PUBLIC SIDEWALK CURB RAMP AT CURBED RETURNS



DIMENSIONAL FEATURES FOR PUBLIC SIDEWALK CURB RAMP WHERE RAMP AND LANDING DEPTH ARE RESTRICTED BY RIGHT OF WAY



HANDICAP PARKING STALL STANDARDS N.T.S.

- GENERAL NOTES
1. Public sidewalk curb ramps shall be constructed in the usable right of way of locations that will provide continuous unobstructed pedestrian circulation paths to pedestrian areas, existing and facilities in the usable right of way and to accessible pedestrian routes on adjacent sites. Curb ramps shall be constructed with sidewalks and those without sidewalks are to have curb ramps constructed at street intersections and at turnoffs that have curb returns. Partial curb returns shall extend to the limit prescribed by notes No. 55 to accommodate curb ramps. Ramps constructed at locations without sidewalks shall have a landing constructed at the top of each ramp, see Sheet 5.
2. The location and orientation of curb ramps shall be as shown in the plans.
3. Curb ramp running slopes of unretained sites shall not be steeper than 1:12 and cross slope shall be 0:02 or flatter. Transition slopes shall not be steeper than 1:12. When altering existing pedestrian facilities where existing site development prohibits the accommodation of a ramp slope of 1:12, a running slope between 1:12 and 1:8 is permitted for a rise of 6" maximum and a running slope of between 1:12 and 1:8 is permitted for a rise of 5" maximum. Where compliance with the requirements for cross slope cannot be fully met, the minimum feasible cross slope shall be provided. Ramps running slope is not required to exceed 8' in length, except at sites where the plans specify a greater length.
4. If a curb ramp is located where pedestrians must walk across the ramp, then the walk shall have transition slopes to the ramp; the maximum slope of the transitions shall be 1:12. Ramps with curb returns may be used at locations where other improvements provide guidance away from that section of curb perpendicular to the sidewalk; improvements for guidance are not required of curb ramps for linear pedestrian traffic.
5. Curb ramp detectable warning surfaces shall extend the full width of the ramp and in the direction of travel of travel. From the back of curb, detectable warning surfaces shall be constructed by resurfacing a truncated dome pattern in accordance with U.S. Department of Justice A.D.A. Standards for Accessible Design, A.D.A. Accessibility Guidelines, Section 4.29.2, (detail shown above left). Transition slopes are not to have detectable warnings.
6. Where a curb ramp is constructed within existing curb, curb and gutter and/or sidewalk, the existing curb and gutter shall be removed to the nearest joint before the curb transitions or to the extent that no remaining section of curb and gutter is less than 5' long. The existing sidewalk shall be removed to the nearest joint before the transition slope or walk area or to the extent that no remaining section of sidewalk is less than 5' long.
7. Alpha-numeric identifications are for reference (plans, permits, etc.).
8. Public sidewalk curb ramps are to be sold for as follows: Ramps, reconstructed sidewalks, walk around sidewalks, sidewalk landings and sidewalk gutters are to be sold for under the contract unit price for Sidewalk Concrete, L-1, Trid-L, SY. Curb transitions and reconstructed curbs are to be sold for under the contract unit price for the panel curb, L-4, Curb Concrete, L-7, L-8, or Curb and Gutter Concrete, L-Types 1, L-1, L-11.
9. Acceptance Criteria for Detectable Warnings: (a) Ramp detectable warning surface shall be complete and uniform in color and texture (b) 90% of the individual truncated domes must comply with the design criteria (c) There must be no more than 4 non-compliant domes in any one square foot of surface (d) No two adjacent domes may be non-compliant (e) Surface area and dome count shall be 0.27% of area.
10. All sidewalk surfaces, ramp surfaces, and landings with a cross slope shown on this plan shall be 0:02 and the 0:02 maximum. All ramp surfaces and ramp transition slopes with a slope shown on this plan shall be 1:12 and the 1:12 maximum.

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SERENO ACTIVE ADULT AMENITY CENTER SIGNING, PAVEMENT MARKINGS & SIDEWALK NOTES DR HORTON PREPARED FOR:

Table with columns: DATE, DESCRIPTION, REVIEW SUBMITTAL, DATE, DESCRIPTION. Includes entry for 05/12/2018.

PROJECT NO: KLP-AG-1019 FILE: SPMS DESIGN BY: CNW DRAWN BY: CNW

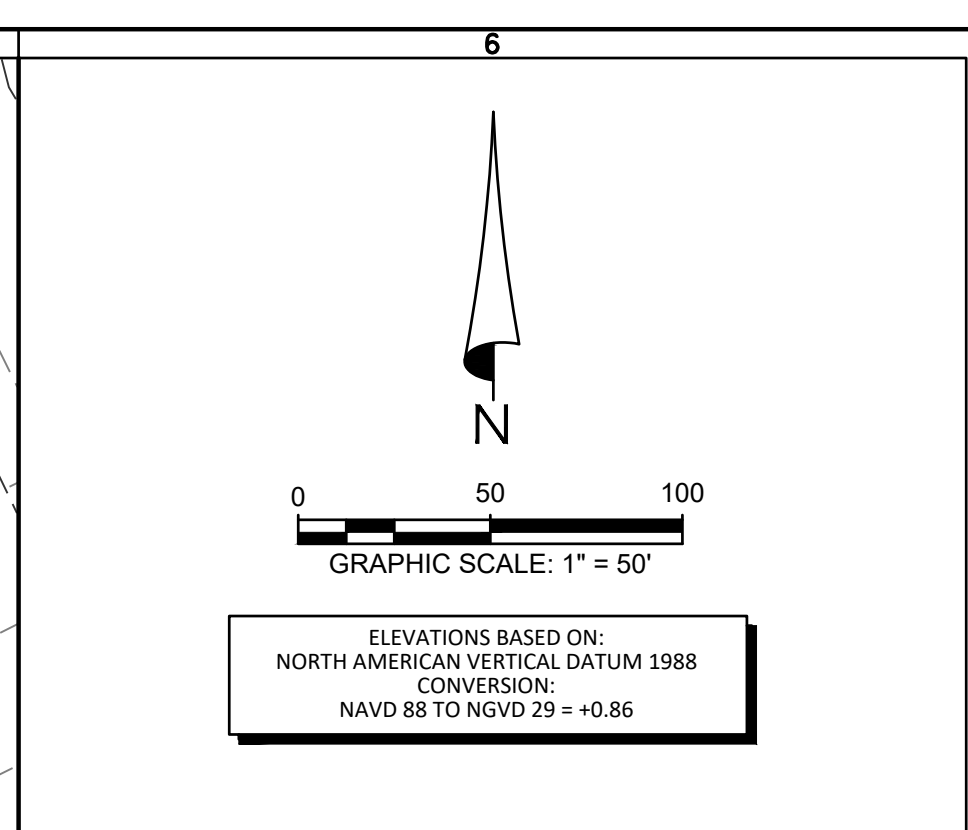
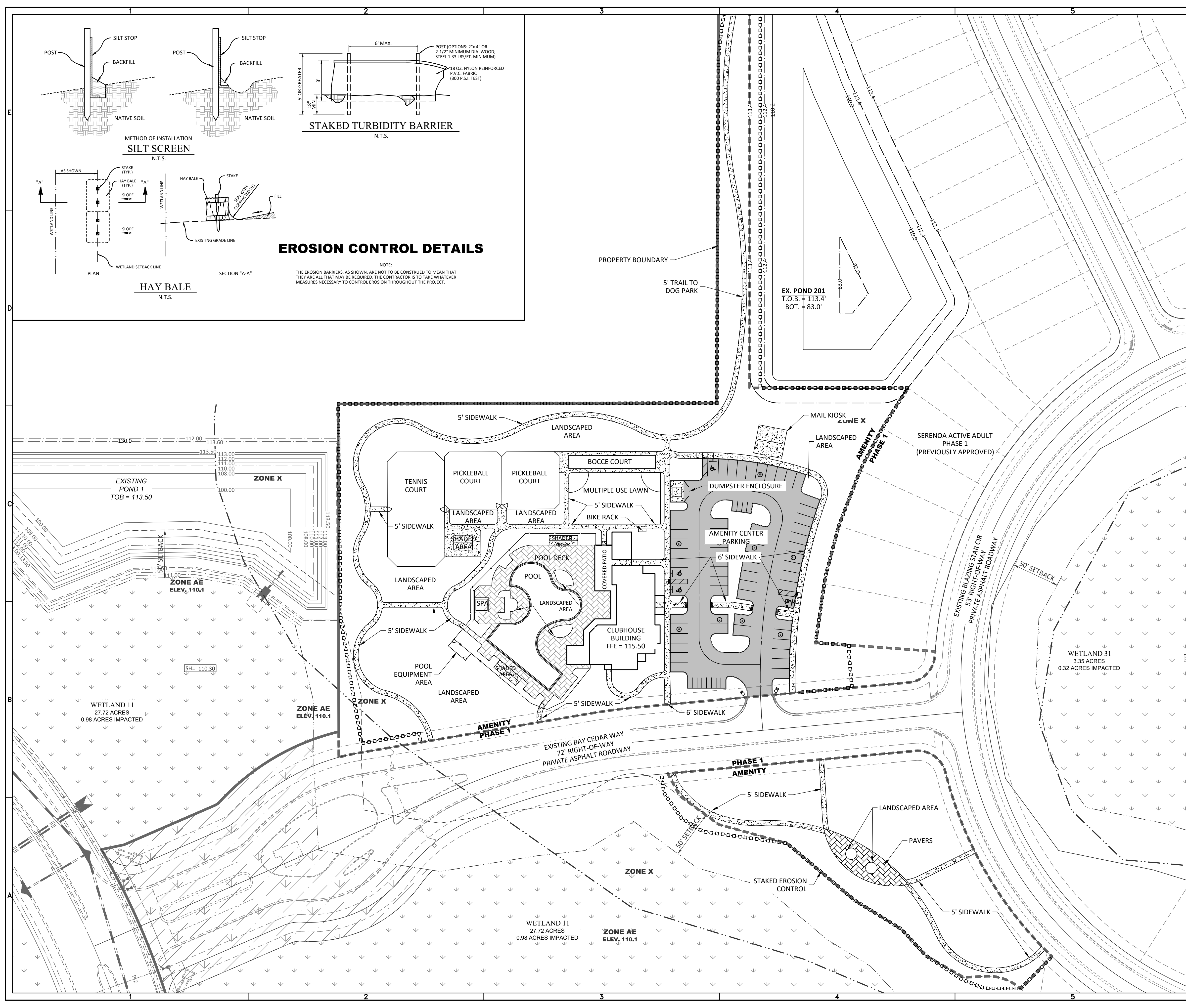
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VICTOR E. BARBOSA DATE: REGISTRATION NO. 65848

C-704



ELEVATIONS BASED ON:  
NORTH AMERICAN VERTICAL DATUM 1988  
CONVERSION:  
NAVD 88 TO NGVD 29 = +0.86

**LEGEND**

- WETLAND LINE
- WETLAND CONS. AREA SETBACK (WCAS) (50')
- FEMA LINE
- BOUNDARY LIMITS
- RIGHT-OF-WAY LINE
- PHASE LINE

NOTE:  
1. PONDS TO BE EXCAVATED PRIOR TO EARTHWORK.  
2. CONTRACTOR TO DIRECT RUNOFF TO PONDS DURING CONSTRUCTION ACTIVITIES.  
3. NOTE DOUBLE ROW SILT FENCE ALONG WETLAND BOUNDARIES.

PROJECT NO: KLP-AG-1019  
FILE: CSWMP  
DESIGN BY: CNW  
DRAWN BY: CNW

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REGISTRATION NO. 58548

**C-900**

NO.	DATE	DESCRIPTION
1	03/24/2018	REVIEW SUBMITTAL

PREPARED FOR: DR. HORTON

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Engineering Business Certificate of Authorization No. 28792  
Landscape Architecture Certificate of Authorization No. LC26000015  
RAVALON GROVES ACTIVE ADULT AMENITY CENTER CSWMP DWG-C-900 2018.03.29 1:59 PM CATHERINE WIGGINS

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**SERENOA ACTIVE ADULT AMENITY CENTER CONSTRUCTION SURFACE WATER MANAGEMENT PLAN**

PREPARED FOR: DR. HORTON

NO.	DATE	DESCRIPTION
1	03/24/2018	REVIEW SUBMITTAL

PROJECT NO: KLP-AG-1019  
FILE: CSWMP  
DESIGN BY: CNW  
DRAWN BY: CNW

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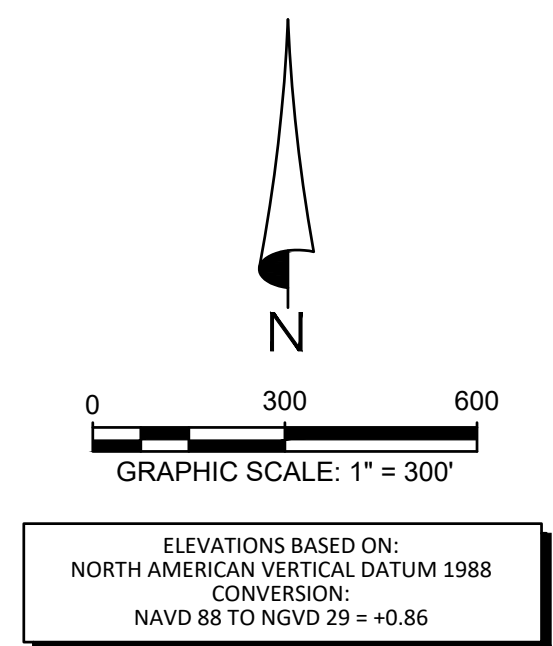
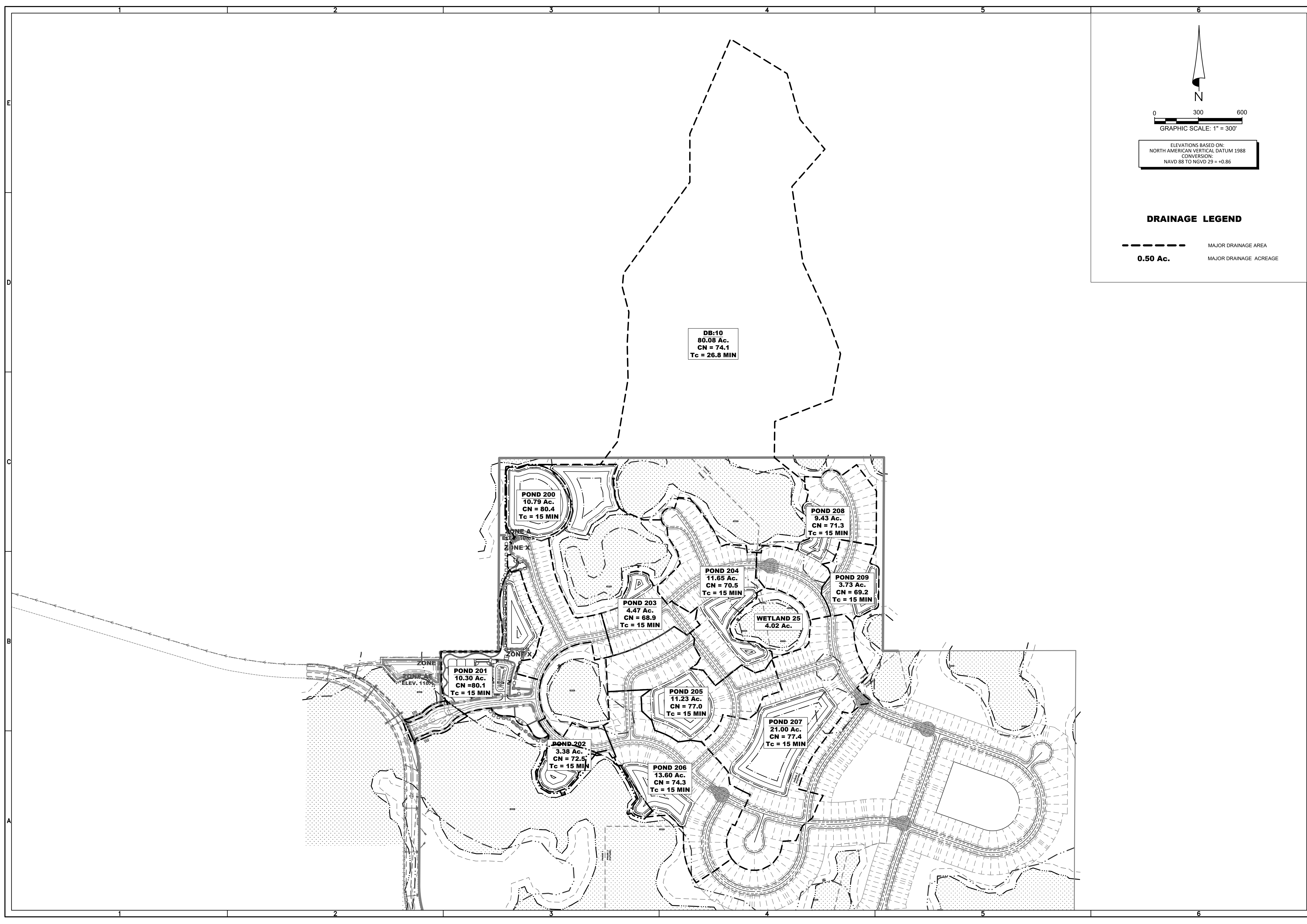
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**DRAINAGE LEGEND**

----- MAJOR DRAINAGE AREA  
0.50 Ac. MAJOR DRAINAGE ACREAGE

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SERENO ACTIVE ADULT  
AMENITY CENTER  
OVERALL POST-DEVELOPMENT DRAINAGE  
AREA MAP

DR HORTON

PREPARED FOR:

NO.	DATE	DESCRIPTION
3	12/06/2017	ADDING DB:9 AND DB:10
1	03/14/2018	REVIEW SUBMITTAL

PROJECT NO: KLP-AG-1019  
FILE: DA-POST  
DESIGN BY: CNW  
DRAWN BY: CNW

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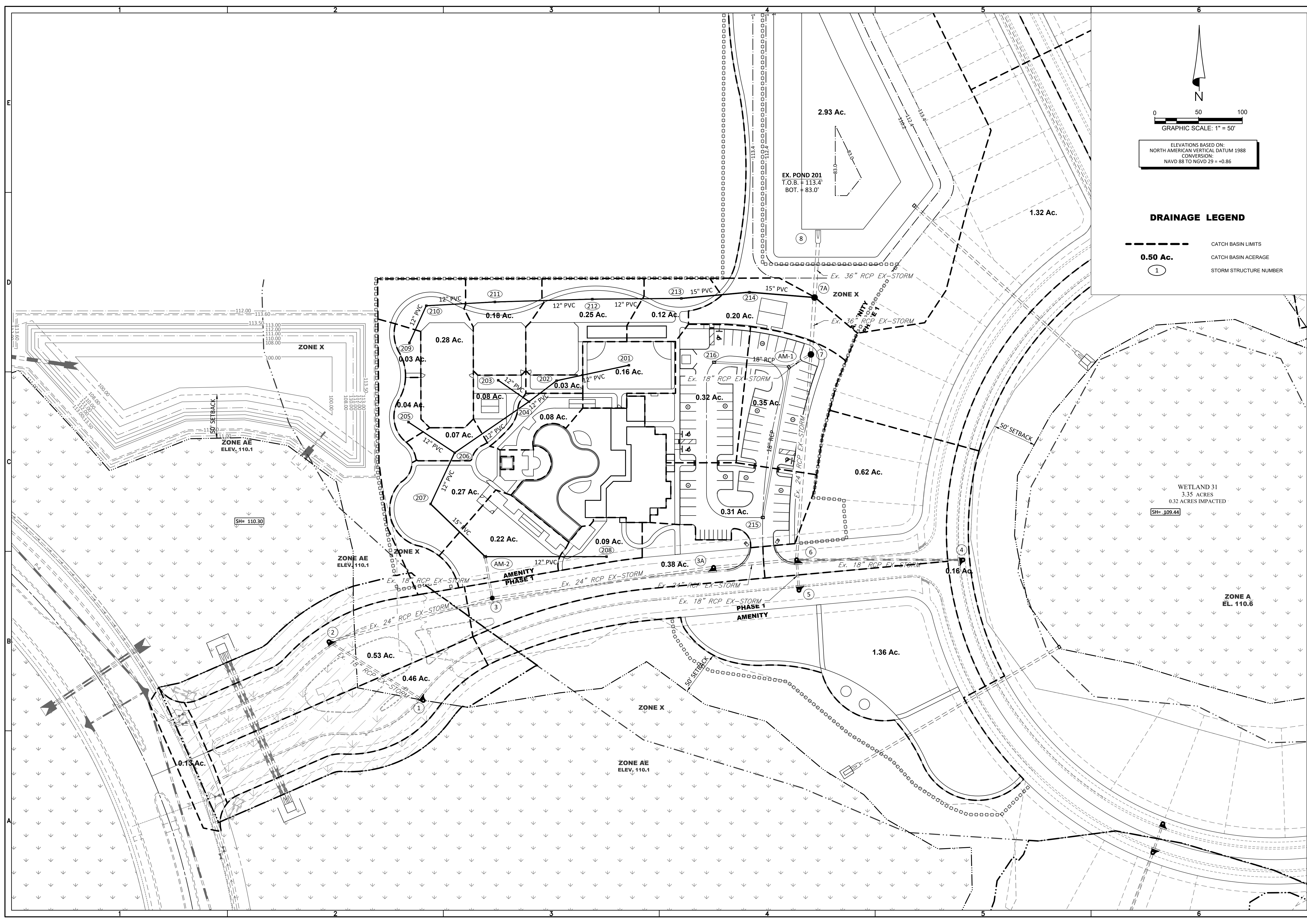
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ELEVATIONS BASED ON:  
 NORTH AMERICAN VERTICAL DATUM 1988  
 CONVERSION:  
 NAVD 88 TO NGVD 29 = +0.86

**DRAINAGE LEGEND**

--- CATCH BASIN LIMITS

① CATCH BASIN ACREAGE

④ STORM STRUCTURE NUMBER

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SERENOA ACTIVE ADULT  
 AMENITY CENTER  
 DRAINAGE SUB-BASIN AREA MAP

PREPARED FOR: DR HORTON

NO.	DATE	DESCRIPTION
3	12/09/2017	ADDING DBS AND DB-10
1	07/17/2018	REVIEW SUBMITTAL

PROJECT NO: KLP-AG-1019  
 FILE: DA-SUB  
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