

ORMOND BEACH YMCA - PARKING LOT EXPANSION

CITY OF ORMOND BEACH - VOLUSIA COUNTY, FL FINAL ENGINEERING PLANS

CIVIL ENGINEER: ZEV COHEN & ASSOC., INC.
300 INTERCHANGE BOULEVARD
ORMOND BEACH, FL., 32174
(386) 677-2482
(386) 677-2505 (FAX)
CONTACT: SAMUEL C. HAMILTON, P.E.
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LANDSCAPE ARCHITECT: ZEV COHEN & ASSOC., INC.
300 INTERCHANGE BOULEVARD
ORMOND BEACH, FL., 32174
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SURVEYOR: SLIGER & ASSOCIATES, INC.
3921 NOVA ROAD
PORT ORANGE, FL 32127
(386) 761-5385
(386) 760-0619 (FAX)
CONTACT: JOE ZAPERT, P.L.S.
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OWNER: TERESA ROGERS
VOLUSIA FLAGLER FAMILY YMCA
761 E. INTERNATIONAL SPEEDWAY BLVD.
DELAND, FL 32724
(386) 738-9622

STATEMENT OF INTENT:

EXPANSION OF EXISTING YMCA PARKING LOT

SITE DATA:

PARCEL NUMBER: 4241-01-07-0080

ADDRESS: 500 STERTHAUS DR.

EXISTING USE: PARK AND RECREATION FACILITY

PARKING REQUIREMENTS:

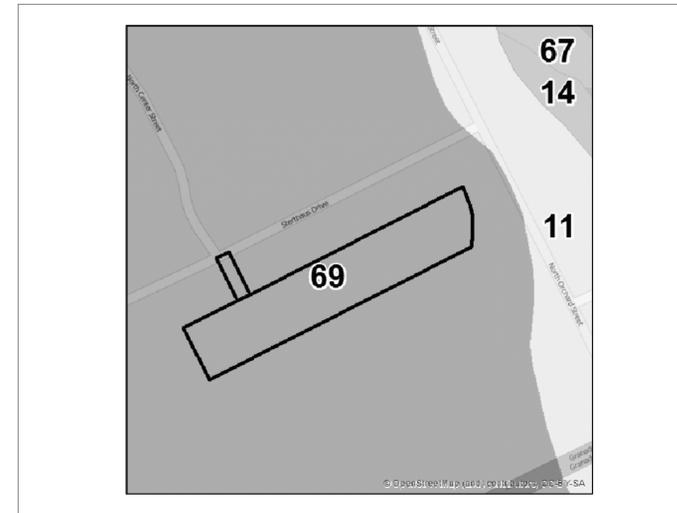
TOTAL NUMBER OF EXISTING PARKING SPACES: 156 SPACES
TOTAL NUMBER OF SPACES TO BE REMOVED: 18 SPACES (INCLUDING PHASE I)
TOTAL NUMBER OF PARKING REQUIRED: 141 SPACES
[1/250 SF (34,750/250) + 2/COURT (2/1)]
TOTAL NUMBER OF PROPOSED PARKING: 36 SPACES (THIS PHASE ONLY)
TOTAL NUMBER OF PARKING PROVIDED: 174 SPACES (ENTIRE SITE)

LAND USE CALCULATIONS:

PRE-DEVELOPMENT CONDITIONS
TOTAL AREA: 38,142 SF (0.88 AC.) 100 %
EXISTING IMPERVIOUS: 5,258 SF (0.12 AC.) 14 %
EXISTING PERVIOUS: 32,884 SF (0.76 AC.) 86 %
POST-DEVELOPMENT CONDITIONS
TOTAL AREA: 38,142 SF (0.88 AC.) 100 %
PROPOSED IMPERVIOUS: 16,245 SF (0.37 AC.) 42 %
PROPOSED POND AREA: 8,507 SF (0.20 AC.) 23 %
PROPOSED PERVIOUS AREA: 13,390 SF (0.31 AC.) 35 %



VICINITY MAP
SCALE: 1" = 2000'



SOILS MAP
SCALE: 1" = 600'
SOIL # 69 TUSCAWILLA FINE SAND

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GENERAL NOTES:

- ALL DISTURBED AREAS SHALL BE SODDED OR SEEDDED AND MULCHED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND VERIFYING ALL ELEVATIONS OF EXISTING UTILITIES SHOWN OR NOT SHOWN PRIOR TO CONSTRUCTION AND FOR NOTIFYING THE VARIOUS UTILITY COMPANIES TO MAKE THE NECESSARY ARRANGEMENTS FOR ANY RELOCATION, DISRUPTION OF SERVICE OR CLARIFICATION OF ACTIVITY REGARDING SAID UTILITY. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN CROSSING ANY UNDERGROUND UTILITY, WHETHER SHOWN ON THESE PLANS OR FIELD LOCATED. UTILITIES WHICH INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE RELOCATED BY THE RESPECTIVE UTILITY DURING RELOCATION OPERATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OF DAMAGES TO EXISTING UTILITIES.
- ALL ROADWAY CONSTRUCTION AND ALL DRAINAGE STRUCTURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION ROADWAY AND TRAFFIC DESIGN STANDARDS.
- THE LENGTH OF ALL DRAINAGE PIPES AND LOCATION OF ALL DRAINAGE STRUCTURES SHALL DETERMINE THE LENGTH OF PIPE.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE AN "AS-BUILT" SURVEY OF THE COMPLETED CONSTRUCTION. THE "AS-BUILT" SURVEY SHALL BE PREPARED IN ACCORDANCE WITH APPROPRIATE GOVERNMENTAL REGULATIONS AND SHALL BE SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL LAND SURVEYOR.
- THE CONTRACTOR SHALL MAINTAIN, AT THE JOB SITE, A RECORD COPY OF ALL CONSTRUCTION DRAWINGS AND SPECIFICATIONS ON WHICH ALL FIELD CHANGES ARE TO BE SHOWN. THESE CHANGES ARE TO BE INCORPORATED IN THE "AS-BUILT" SURVEY FURNISHED TO THE ENGINEER.
- CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL REQUIRED PERMITS. THE CONTRACTOR SHALL MAINTAIN COPIES OF ALL RELEVANT PERMITS AVAILABLE ON THE JOB SITE AT ALL TIMES.
- PRIOR TO COMMENCEMENT OF CONSTRUCTION THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE ELECTRIC, TELEPHONE, GAS AND CABLE TELEVISION COMPANIES TO DETERMINE THE TYPE AND LOCATION OF ALL UNDERGROUND FACILITIES IN THE AREA OF CONSTRUCTION.
- OPERATION AND MAINTENANCE OF THE STORMWATER SYSTEM WILL BE PROVIDED BY THE OWNER OF PROPERTY.
- MAINTENANCE IS TO INCLUDE:
 - A. BI-WEEKLY MOWING OF SIDESLOPES FOR VEGETATION CONTROL.
 - B. QUARTERLY INSPECTION AND/OR CLEANING OF CATCH BASINS TO KEEP FREE OF SAND AND DEBRIS.
- ALL DISTURBED AREAS SHALL HAVE GRASS/VEGETATION ESTABLISHED PRIOR TO THE INSPECTION FOR THE CERTIFICATE OF OCCUPANCY.
- DURING CONSTRUCTION, AN ALL-WEATHER ACCESSIBLE ROADWAY SHALL BE MAINTAINED AT ALL TIMES FOR FIRE APPARATUS.
- DURING CONSTRUCTION, CONTRACTOR SHALL PROVIDE ACCESS TO THE YMCA FACILITY AT ALL TIMES.
- NPDES PERMIT THROUGH FDEP SHALL BE OBTAINED PRIOR TO START OF CONSTRUCTION
- THE VERTICAL DATUM FOR THIS PROJECT REFER TO N.A.V.D. OF 1988.

CITY OF ORMOND BEACH GENERAL NOTES:

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF ORMOND BEACH'S LAND DEVELOPMENT CODE REQUIREMENTS, AND THE STANDARD CONSTRUCTION DETAILS AND CONSTRUCTION SPECIFICATIONS (SCDCS). AN ENGINEERING PERMIT AND TREE REMOVAL PERMIT IS REQUIRED PRIOR TO STARTING CONSTRUCTION.
- NO LAND SHALL BE CLEARED, EXCAVATED OR FILLED AND NO STRUCTURE SHALL BE ERRECTED, REPAIRED OR DEMOLISHED WITHOUT PROPER PERMIT(S) AS REQUIRED BY THE CITY OF ORMOND BEACH.
- NOTIFY THE CITY OF ORMOND BEACH'S ENGINEERING DIVISION AT 676-3269 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
- ANY CONSTRUCTION CHANGES TO APPROVED PLANS SHALL BE SUBMITTED TO THE CITY OF ORMOND BEACH FOR APPROVAL PRIOR TO PERFORMING THE WORK.
- ROAD CONSTRUCTION AND PIPE INSTALLATION COMPACTION AND DENSITY TESTING SHALL CONFORM TO THE CITY OF ORMOND BEACH'S MINIMUM REQUIREMENTS. CERTIFIED COPIES OF TEST REPORTS SHALL BE SUBMITTED TO THE CITY INSPECTOR AND THE CITY'S ENGINEERING DIVISION.
- A PRE-PAVING UTILITY INSPECTION MUST BE REQUESTED AND COMPLETED PRIOR TO THE PAVING OF ALL ROADS, STREETS, AND PARKING AREAS.
- A FINAL INSPECTION, TO BE CONDUCTED BY THE CITY OF ORMOND BEACH, SHALL BE PERFORMED ON ALL CONSTRUCTION. THE DESIGN ENGINEER SHALL NOTIFY THE CITY OF ORMOND BEACH'S ENGINEERING DIVISION 676-3269 WHEN REQUESTING A FINAL INSPECTION.
- THREE COMPLETE SETS OF AS-BUILT DRAWINGS (5 FOR SUBDIVISIONS) ARE REQUIRED TO BE SUBMITTED TO THE CITY OF ORMOND BEACH PRIOR TO REQUESTING A FINAL INSPECTION.
- THE CITY HAS A CONTRACTOR FOR ROLL OFF SERVICE. NO OTHER CONTRACTOR SHALL BE PERMITTED TO PROVIDE THIS SERVICE. VERIFY COMPANY UNDER CONTRACT WITH THE CITY.
- CONSTRUCTION SITES THAT DISTURB ONE ACRE OR MORE WILL BE REQUIRED TO SEEK COVERAGE UNDER THE GENERIC PERMIT FOR STORM WATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES. IN ACCORDANCE WITH THIS REQUIREMENT, A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) MUST BE SUBMITTED TO THE CITY'S ENGINEERING DIVISION PRIOR TO CONSTRUCTION TO BE IN COMPLIANCE WITH THE PERMIT.
- CONTRACTOR WILL FOLLOW REQUIRED WASTE MANAGEMENT PRACTICES
- SEEDING OR SODDING SHALL BE INITIATED FOR EROSION AND SEDIMENT CONTROL ON DISTURBED AREAS AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED.
- ANY FIELD MODIFICATIONS OR DEVIATIONS TO THIS CONSTRUCTION PLAN REQUIRES WRITTEN APPROVAL BY BOTH THE ENGINEER OF RECORD AND THE CITY OF ORMOND BEACH ENGINEERING DIVISION.

OUTSIDE AGENCY PERMIT CHECK LIST

IN ORDER TO ENSURE THAT ALL WORK WITHIN THE CITY IS CONSTRUCTED IN ACCORDANCE WITH ALL RELEVANT FEDERAL, STATE AND COUNTY REGULATIONS, IN ADDITION TO THE CITY REGULATIONS, THE APPLICANT SHALL CHECK ALL OUTSIDE AGENCY PERMITS REQUIRED FOR THIS PROJECT ON THE LIST BELOW.

THIS LIST WILL ALSO BE USED BY CITY PERSONNEL TO VERIFY THAT ONE HARD COPY AND ONE PDF OF ALL REQUIRED PERMITS ARE SUBMITTED TO THE PLANNING DEPARTMENT PRIOR TO FINAL SITE PLAN REVIEW COMMITTEE (SPRC) SIGNOFF.

- 1 [X] SJRWMD ENVIRONMENTAL RESOURCE PERMIT (ERP)
- 2 [] DEP WASTEWATER CONSTRUCTION/CONNECTION PERMIT
- 3 [] DEP WATER CONSTRUCTION/CONNECTION PERMIT
- 4 [] FDOT UTILITY PERMIT
- 5 [] FDOT DRIVEWAY CONNECTION PERMIT
- 6 [] COUNTY USE PERMIT
- 7 [] FDOT DRAINAGE CONNECTION PERMIT
- 8 [] DEP NPOES NOI
- 9 [] OTHER (PLEASE SPECIFY)



STANDARD CONSTRUCTION DETAIL
OUTSIDE AGENCY PERMIT CHECK LIST
NTS.

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M-21
MARCH 2014

LEGAL DESCRIPTION:

THE EASTERLY 1852 FEET OF LOT C, GRANT LOT 9, ASSESSOR'S SUBDIVISION OF THE HENRY YONGE GRANT, OF RECORD IN MAP BOOK 2, PAGE 118, LYING WESTERLY OF ORCHARD STREET, PUBLIC RECORDS OF VOUSIA COUNTY, FLORIDA



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AMELIA ISLAND
914 ATLANTIC AVE., STE #20, FERNANDINA BEACH, FL. 32044
(904) 491-6436 FAX (904) 797-4159

NO.	DATE	REVISIONS:
1	11-18-2014	ISSUED PER CITY COMMENTS DATED 11-18-2014
2	12-24-14	REVISED PER CITY COMMENTS DATED 12-24-2014

ORMOND BEACH YMCA
PARKING LOT EXPANSION
FINAL ENGINEERING PLANS
COVER SHEET

ZEV COHEN & ASSOCIATES, INC.
CIVIL ENGINEERS • LANDSCAPE ARCHITECTS
PLANNERS • TRANSPORTATION • ENVIRONMENTAL
WWW.ZEVCOHEN.COM
PROJECT NO: 13088 DRAFTED BY: CW
ISSUE DATE: 10-20-2014 CHECKED BY: SCH
DRAWING FILE: C01138800V
XREF'S: HK
DESIGNED BY:

FILE LOCATION: -
NOT VALID WITHOUT SEAL
SCALE: AS SHOWN
SHEET C-1 OF 10

- A. SCOPE OF WORK – THE WORK IN THIS SECTION CONSISTS OF FURNISHING AND COMPLETELY INSTALLING SEED AND MULCH OVER THE LIMITS CALLED FOR ON THE CONSTRUCTION DRAWINGS.
- B. MATERIALS – GRASS SEED SHALL BE A MIXTURE OF:
 PENSACOLA BAHIA (50% SCARIFIED SEED) 80 LBS/ACRE
 HULLED BERMUDA 20 LBS/ACRE
 BROWN TOP MILLET 30 LBS/ACRE
- IN THE FALL AND WINTER MONTHS (OCT. THRU FEB.) AND WITH THE APPROVAL OF THE CITY, ANNUAL RYE GRASS SHALL BE SUBSTITUTED IN EQUAL AMOUNTS FOR THE BROWN TOP MILLET. SEED SHALL BE PREMIXED BY A SEED COMPANY TO THE PROPORTIONS DESCRIBED ABOVE, WITH CERTIFICATION FROM THE SUPPLIER PROVIDED TO THE CITY, PRIOR TO USE. MULCH USED SHALL BE STRAW OR HAY CONSISTING OF OATS, RYE OR WHEAT STRAW OF PANOLA, PEANUT, COASTAL BERMUDA OR BAHIA GRASS HAY. MULCH SHALL BE FREE FROM UNDESIRABLE WEED AND OTHER UNDESIRABLE GRASS.
- C. METHODS – GRASSING SHALL BE DONE IMMEDIATELY UPON COMPLETION OF THE FINE GRADING OPERATION. HOWEVER, NO SEEDING SHALL BE DONE WHEN THE GROUND IS FROZEN OR UNDUPLY WET. THE RATE OF SPREAD FOR THE SEED MATERIAL SHALL BE ONE HUNDRED AND THIRTY (130) POUNDS PER ACRE. APPROXIMATELY TWO INCHES (2”), LOOSE THICKNESS, OF MULCH MATERIAL SHALL BE APPLIED INFORMALLY OVER THE GRASSED AREAS (APPROXIMATELY 1 1/2 BALES PER 1000 SQUARE FEET). THE MULCH MATERIAL SHALL BE CUT INTO THE SOIL WITH A DISC HARROW OR OTHERWISE ANCHORED DOWN.
- D. FERTILIZER –
 1. ANALYSIS OF SOILS SHALL BE OBTAINED BY SUBMITTAL OF SAMPLES TO VOLUSIA COUNTY AGRICULTURAL DEPARTMENT (PHONE: 258-7000). ALL APPLICATION RATES WILL BE BASED ON THIS REPORT. SUBMIT A COPY OF THIS REPORT TO THE CITY PRIOR TO COMMENCING ANY SOIL MODIFICATION.
 2. THE FERTILIZER SHALL BE A COMMERCIAL GRANULAR TYPE WITH A CHEMICAL DESIGNATION AS RECOMMENDED IN THE SOILS ANALYSIS REPORT.
 3. THE NUMERICAL DESIGNATIONS FOR FERTILIZER INDICATE THE MINIMUM PERCENTAGES (RESPECTIVELY) OF (1) TOTAL NITROGEN, (2) AVAILABLE PHOSPHORIC ACID AND (3) WATER SOLUBLE POTASH CONTAINED IN THE FERTILIZER.
 a) AT LEAST 50 PERCENT (50%) OF THE PHOSPHORIC ACID SHALL BE FROM A NORMAL SUPER PHOSPHATE OR AN EQUIVALENT SOURCE WHICH WILL PROVIDE A MINIMUM OF TWO UNITS OF SULFUR.
 b) THE AMOUNT OF SULFUR SHALL BE INDICATED ON THE QUANTITIVE ANALYSIS CARD ATTACHED TO EACH BAG OR CONTAINER.
 4. COMMERCIAL FERTILIZERS SHALL COMPLY WITH THE STATE FERTILIZER LAWS.
 5. FERTILIZER MAY, AT THE DISCRETION OF THE ENGINEER/ARCHITECT, UPON THE PRESENTATION BY THE MANUFACTURER OF SATISFACTORY FACTORY EVIDENCE OF ITS FEASIBILITY, BE APPLIED IN LIQUID FORM.

- CONSTRUCTION STANDARDS FOR ALL DRAINAGE SYSTEM COMPONENTS SHALL CONFORM TO THE LATEST EDITION OF THE "FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AND AS SPECIFIED HEREIN.
- ALL STORM WATER PIPES AND STRUCTURES SHALL BE INSTALLED ON A FIRM FOUNDATION WITH ALL UNSUITABLE MATERIAL (MUCK, ROCK, COQUINA, ETC.) REMOVED AND REPLACED WITH CLEAN GRANULAR MATERIAL.
- DEWATERING SHALL BE PROVIDED TO KEEP GROUNDWATER ELEVATION A MINIMUM OF 6 INCHES BELOW THE COMPONENT BEING INSTALLED.
- ALL PIPES AND STRUCTURES SHALL BE PLACED TRUE TO LINES AND GRADES AS DEPICTED ON THE APPROVED PLANS.
- ALL PIPE JOINTS SHALL BE PROPERLY HONED AND FILTER FABRIC LINED USING A METHOD TO HOLD THE FABRIC IN PLACE DURING BACKFILL.
- BACKFILL AND COMPACT TO THE SPRING-LINE (CENTER OF PIPE) ELEVATION AND REQUEST CITY INSPECTION AND APPROVAL BEFORE CONTINUING.
- ALL WORK COVERED WITHOUT CITY INSPECTION WILL BE REQUIRED TO BE EXCAVATED AND INSPECTED AT THE CONTRACTOR'S EXPENSE.
- TRENCHES SHALL BE BACKFILLED AND COMPACTED WITH CLEAN GRANULAR MATERIAL IN MAX 6" LIFTS WITH A MINIMUM COMPACTION OF 98 PERCENT (AASHTO-T180) IN PAVED AREAS AND 95 PERCENT (AASHTO-T180) IN UNPAVED AREAS.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT TRENCH COMPACTION TESTS AT POINTS 1' ABOVE THE PIPE AND AT A MAX. 1' VERTICAL INTERVALS TO FINISH GRADE, AT A MAXIMUM SPACING OF 100 FEET, AND TO FURNISH COPIES OF TEST REPORTS PROMPTLY TO THE CITY'S INSPECTOR.
- ALL STORM SEWER PIPE SHALL BE REINFORCED CONCRETE (RCP), HIGH DENSITY POLYETHYLENE (HDPE), POLYVINYL CHLORIDE (PVC) OR ALUMINUM CORRUGATED METAL PIPE (ACMP), AS SHOWN ON THE PLANS.
- STORM DRAINAGE PIPES WITHIN PUBLIC RIGHT-OF-WAY SHALL BE A MINIMUM OF FIFTEEN (15) INCH RCP DIAMETER OR EQUIVALENT.
- STORM INLETS, MANHOLES, AND CATCH BASINS SHALL BE EITHER POURED IN PLACE OR PRECAST REINFORCED CONCRETE. STRUCTURES SHALL BE REQUIRED AT EACH CHANGE OF PIPE SIZE OR CHANGE IN PIPE DIRECTION.

- STORM INLETS SHALL BE SPACED IN SUCH A MANNER AS TO ACCEPT ONE HUNDRED (100) PERCENT OF THE DESIGN STORM RUNOFF.
 - WET DETENTION PONDS SHALL BE EIGHT (8) FEET MINIMUM TO TWELVE (12) FEET MAXIMUM DEPTH BELOW THE DESIGN LOW OR NORMAL WATER STAGE.
- | PIPES SIZE (INCHES) | LENGTH OF RUN (FEET) |
|---------------------|----------------------|
| 15 | 150 |
| 18 | 300 |
| 24 OR GREATER | 400 |
- MAXIMUM DISTANCES BETWEEN INLETS AND/OR JUNCTION BOXES:
 - ALL SWALES, DITCHES, AND DRY RETENTION POND SIDE SLOPES SHALL BE NO STEEPER THAT 4:1 (H:V) AND SHALL BE SODDED.
 - ALL RETENTION POND BACKSLOPES SHALL BE NO STEEPER THAN 3:1 (H:V) AND SHALL BE SODDED.
 - NORMAL ROADSIDE SWALES SHALL BE CONSTRUCTED TO A MAXIMUM DEPTH OF 18" BELOW THE OUTSIDE EDGE OF PAVEMENT OR CONCRETE CURB.
 - CONCRETE EROSION CONTROL MUST BE PROVIDED WHERE SWALES OR CULVERTS INTERCEPT DRAINAGE DITCHES.
 - A MINIMUM ONE FOOT (1") FREEBOARD ABOVE THE DESIGN HIGH WATER ELEVATION IS REQUIRED AT ALL POINTS AROUND WET RETENTION PONDS.
 - A MINIMUM SIX INCH (6") FREEBOARD ABOVE THE DESIGN HIGH WATER ELEVATION IS REQUIRED AT ALL POINTS AROUND DRY RETENTION PONDS.
 - POND INFLOW SHALL GENERALLY BE CONSTRUCTED WITH REINFORCED CONCRETE AND SHALL BE SUBJECT TO THE APPROVAL OF THE CITY.
 - OUTLET STRUCTURES ARE REQUIRED ON ALL PONDS. ALL OUTLET STRUCTURES SHALL BE PERMANENT CONCRETE OVERFLOW WEIRS OR CONCRETE OUTLET CONTROL STRUCTURES. NO SODDED WEIRS OR OTHER NON-PERMANENT OVERFLOW STRUCTURES SHALL BE ALLOWED.
 - SOIL EROSION CONTROL MEASURES SATISFACTORY TO THE CITY, SHALL BE EMPLOYED DURING CONSTRUCTION AND UPON COMPLETION OF THE POND.
 - THE CITY MAY REQUEST THAT THE DEVELOPER SUBMIT A REPORT BY A QUALIFIED HYDROLOGIST ON THE IMPACT THE POND WILL HAVE ON NEIGHBORING WATER TABLE ELEVATIONS BOTH DURING CONSTRUCTION AND AFTER POND COMPLETION. THE CITY MAY REQUIRE GROUNDWATER MONITORING DURING THE POND EXCAVATION.

- ADEQUATE MAINTENANCE ACCESS AS APPROVED BY THE CITY SHALL BE PROVIDED AROUND THE ENTIRE PERIMETER OF ALL PONDS AND ASSOCIATED OUTFALLS DISCHARGING INTO AND OUT OF PONDS.
- IN GENERAL, ALL RETENTION/DETENTION PONDS MUST BE CONSTRUCTED PRIOR TO ANY ROAD, PARKING LOT, OR BUILDING CONSTRUCTION COMMENCING OR AS CURRENT PERMIT CONDITIONS DICTATE.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ANY DEWATERING PERMITS THAT MAY BE REQUIRED.
- CULVERTS CROSSING RIGHT-OF-WAYS SHALL EXTEND FROM RIGHT-OF-WAY LINE TO RIGHT-OF-WAY LINE UNDER THE ROADWAY.
- ALL STORM WATER DISCHARGE FROM RETENTION/DETENTION PONDS ARE REQUIRED TO BE CHANNLED INTO DEFINED DRAINAGE PATHS TO EXISTING WATER BODIES, WETLANDS, DITCHES, ETC.
- THE CITY OF ORMOND BEACH REQUIRES THE DEVELOPER TO TELEVISION ANY AND ALL STORM SEWER PIPE SYSTEMS IN THE PRESENCE OF THE CITY INSPECTOR BY A REPUTABLE COMPANY THAT ENGAGES IN THIS TYPE OF WORK. THE DVD SHALL BE IN HIGH QUALITY STANDARD RESOLUTION USING A CAMERA WITH SUITABLE LIGHTING TO ALLOW A CLEAR FOCUSED PICTURE OF THE ENTIRE INSIDE PIPE CIRCUMFERENCE. THE DVD SHALL BE NON-STOP WITH AUDIO DESCRIBING WHAT IS BEING VIEWED. COPIES OF DVD SHALL BE SUBMITTED IN DVD FORMAT ACCOMPANIED BY WRITTEN LOGS DESCRIBING THE CONDITION OF THE LINES AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO REQUESTING FINAL INSPECTIONS. ANY DEFECTS NOTED SHALL BE CORRECTED PRIOR TO ACCEPTANCE BY THE CITY OR ISSUANCE OF CERTIFICATE OF OCCUPANCY.

CITY OF ORMOND BEACH, FLORIDA

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SEEDING AND MULCHING

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STORM DRAINAGE CONSTRUCTION NOTES

ST-1C

MARCH 2014

- IN ORDER TO ENSURE THAT NEW DEVELOPMENTS WITHIN THE CITY ARE CONSTRUCTED SUBSTANTIALLY IN ACCORDANCE WITH CITY REGULATIONS AND THE APPROVED DRAWINGS "AS-BUILT" DRAWINGS ARE REQUIRED:
- THE FOLLOWING INFORMATION IS REQUIRED ON ALL PAVING AND DRAINAGE "AS-BUILT" DRAWINGS:
- PAVEMENT AND CURB WIDTHS SHALL BE VERIFIED AND DIMENSIONED FOR EACH STREET AT EACH BLOCK. ALL RADI AT INTERSECTIONS SHALL BE VERIFIED AND DIMENSIONED. THIS INFORMATION TO CLEARLY INDICATE IT AS "AS-BUILT" INFORMATION.
 - ROADWAY ELEVATIONS SHALL BE RECORDED AT ALL GRADE CHANGES OR OTHER INTERVALS AS NEEDED ALONG ALL STREETS. STREET CENTERLINE AND CURB INVERT ELEVATIONS SHALL BE RECORDED AS WELL AS THE "AS-BUILT" CENTERLINE PROFILE OF ALL STREETS SHALL ALSO BE SHOWN ON THE PLAN AND PROFILE SO IT MAY BE COMPARED TO THE EXISTING AND DESIGNED PROFILE GRADE LINES. ALL STREET CENTERLINES ON "AS-BUILTS" SHALL BE LABELED WITH STREET NAME AND RIGHT-OF-WAY WIDTH ON EVERY PAGE.
 - STORM DRAINAGE STRUCTURES SHALL BE LOCATED AND/OR DIMENSIONED FROM CENTERLINES OR LOT LINES AS APPROPRIATE.
 - STORM DRAINAGE PIPE INVERT AND STRUCTURE TOP AND BOTTOM ELEVATIONS SHALL BE RECORDED AND CLEARLY DENOTED AS "AS-BUILT" INFORMATION. DESIGN ELEVATIONS SHALL BE CROSSED OUT AND "AS-BUILT" INFORMATION WRITTEN NEXT TO IT.
 - STORM DRAINAGE PIPE MATERIAL, LENGTH, AND SIZE SHALL BE MEASURED AND/OR VERIFIED. THIS INFORMATION TO CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION.
 - ALL APPLICABLE TOPOGRAPHIC INFORMATION, PERTINENT TO THE ON SITE DRAINAGE SYSTEM SUCH AS DITCHES, LAKES, CANALS, ETC. THAT ARE DEEMED APPROPRIATE BY THE CITY SHALL BE NOTED. NORMALLY, RECORDING ELEVATIONS EVERY 100 FEET AT THE TOP OF BANK AND TOE OF SLOPE WILL BE REQUIRED. MEASUREMENTS SHALL BE TAKEN AND RECORDED IN ORDER TO ACCURATELY TIE DOWN THESE FEATURES TO THE ROADWAY CENTERLINES AND TO PLAT LINES. WHENEVER POSSIBLE, CONTOUR LINES SHALL BE UTILIZED TO GRAPHICALLY DESCRIBE THESE TOPOGRAPHIC FEATURES.
 - RETENTION AREAS SHALL HAVE THEIR TOP-OF-BANK AND BOTTOM ELEVATIONS RECORDED. ACTUAL MEASUREMENTS SHALL BE TAKEN AND DIMENSIONS RECORDED OF THE SIZE OF ALL RETENTION AREAS. MEASUREMENTS SHALL BE DONE FROM TOP-OF-BANK TO TOP-OF-BANK WITH SIDE SLOPES INDICATED. SEPARATE CALCULATIONS SHALL BE SUBMITTED TO INDICATE REQUIRED AND PROVIDED RETENTION VOLUMES.
 - STORM DRAINAGE SWALE CENTERLINES SHALL BE LOCATED AND ELEVATIONS OF FLOW LINE SHALL BE RECORDED EVERY 100 FEET.
 - ANY SPECIAL FEATURES SUCH AS CONCRETE FLUMES, LAKE BANKS, WALLS, FENCING, ETC., WHICH WERE A PART OF THE APPROVED CONSTRUCTION DRAWINGS SHOULD ALSO BE LOCATED AND DIMENSIONED.
 - ACTUAL MATERIALS USED AND ELEVATIONS AND DIMENSIONS OF OVERFLOW WEIR STRUCTURES AND SKIMMERS SHALL BE NOTED ON THE "AS-BUILT".
- THE FOLLOWING INFORMATION IS REQUIRED ON ALL WATER AND SEWER "AS-BUILT" DRAWINGS:
- SANITARY SEWER MANHOLES SHALL BE VERIFIED AND DIMENSIONED FROM STREET CENTERLINES OR LOT LINES AS APPROPRIATE. ALL RIM AND INVERT ELEVATIONS SHALL BE VERIFIED AND RECORDED. THIS INFORMATION TO CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION.
 - SANITARY SEWER LINE LENGTHS, SIZES, MATERIAL, SLOPE, ETC., SHALL BE VERIFIED AND RECORDED. THIS INFORMATION TO CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION.

- SEWER LATERALS SHALL BE VERIFIED AND RECORDED AT THEIR CLEAN-OUT LOCATIONS. STATIONING AND OFFSET DISTANCES SHALL BE MEASURED FROM DOWNSTREAM MANHOLES TOWARDS UPSTREAM MANHOLES.
 - LIFT STATIONS AND FORCE MAINS SHALL BE VERIFIED AND DIMENSIONED FROM STREET CENTERLINES OR LOT LINES AS APPROPRIATE. FORCE MAIN DEPTH AND LOCATION INCLUDING VALVES WILL BE PROVIDED AND TIED TO PERMANENT ABOVE GRADE FEATURES EVERY 500 FEET. DIMENSIONAL AND ELEVATION INFORMATION INDICATED ON THE APPROVED PLAN SHALL BE VERIFIED AND RECORDED. THIS INFORMATION TO CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION. BURIED ELECTRICAL SERVICE LINE SHALL BE CLEARLY DIMENSIONED, LOCATED AND LABELED.
 - CURB CUTS OR METAL TABS, USED TO MARK SEWER LATERALS, WATER SERVICES AND WATER VALVES, SHALL BE VERIFIED FOR PRESENCE AND ACCURACY OF LOCATION.
 - WATER MAIN LINES SHALL BE DIMENSIONED OFF THE BACK OF CURB OR EDGE OF PAVEMENT IF NO CURB IS PRESENT. WATER MAIN LINE MATERIAL, SIZE, LENGTH AND DEPTH PLACED SHALL ALSO BE NOTED. THIS INFORMATION TO CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION.
 - WATER VALVES, TEES, ALL SERVICES, BLOW - OFFS AND FIRE HYDRANTS SHALL BE LOCATED BY TYING THEM TO SANITARY SEWER MANHOLES. STATIONING AND OFFSET DISTANCES SHALL BE MEASURED FROM DOWNSTREAM MANHOLES TO UPSTREAM MANHOLES.
- THE FOLLOWING INFORMATION IS GENERAL REQUIREMENTS OF ALL "AS-BUILT" DRAWINGS:
- FOR PERPENDICULAR CROSSINGS OF STORM WATER, SANITARY SEWER, POTABLE WATER, OR RECLAIMED WATER, THE "AS-BUILT" PLANS SHALL CLEARLY INDICATE WHICH UTILITIES ARE LOCATED OVER OR UNDER OTHER UTILITIES, AS NECESSARY.
 - WHEN STORM WATER, POTABLE WATER, RECLAIMED WATER, OR SANITARY SEWER IMPROVEMENTS ARE LOCATED WITHIN AN EASEMENT, THE "AS-BUILT" SHALL ACCURATELY DEPICT THE LOCATION OF THE EASEMENT ITSELF AS WELL AS THE EXACT LOCATION OF THE IMPROVEMENTS WITHIN THE EASEMENT. THIS IS REQUIRED IN ORDER TO VERIFY THAT THE IMPROVEMENTS HAVE BEEN PROPERLY LOCATED AND TO ENSURE THAT FUTURE SUBSURFACE EXCAVATION TO PERFORM REMEDIAL REPAIR CAN BE ACCOMPLISHED WITHOUT DISTURBANCE BEYOND THE EASEMENT. SUCH DOCUMENTATION AND THE ASSOCIATED PROPOSED EASEMENT DOCUMENT WITH LEGAL DESCRIPTION SHALL BE SUBMITTED FOR CITY REVIEW AND APPROVAL PRIOR TO RECORDING OF SAID EASEMENT. UPON CITY APPROVAL, THE EASEMENT SHALL BE RECORDED WITH A SEPARATE LEGAL INSTRUMENT AND SHALL NOT BE INCLUDED AS PART OF HOMEOWNER COVENANTS AND RESTRICTIONS.
 - SUBMIT CERTIFIED PAPER PRELIMINARY "AS-BUILT" (24"x36") WITH REQUEST FOR FINAL INSPECTION. SUBMIT 3 SETS SHOWING WATER FACILITIES, 3 SETS WITH SEWER FACILITIES, AND 3 SETS WITH PAVING AND DRAINAGE FACILITIES. FOLLOWING FINAL INSPECTION AND COMMENTS, THE CONTRACTOR SHALL REVISE AS-BUILTS TO ADDRESS CITY COMMENTS AND SUBMIT 3 SETS CERTIFIED FINAL "AS-BUILTS" ALONG WITH 1 SET CERTIFIED MYLARS AND 1 CD-ROM CONTAINING AUTO-CAD FILES AND PDF VERSIONS SHOWING ALL "AS-BUILT" SHEETS. ALL "AS-BUILT" DRAWINGS SHALL BE CERTIFIED BY A REGISTERED LAND SURVEYOR AND ENGINEER OF RECORD.
 - INDICATE VERTICAL DATUM REFERENCE ON ALL SHEETS.
 - CAD FILE OF "AS-BUILTS" SHALL BE IN STATE PLANE COORDINATES; FILE SHOULD INCLUDE REFERENCE TO PROJECTION. (FLORIDA EASE, NAD83)
 - ALL "AS-BUILT" DRAWINGS SHALL BE PREPARED BY A FLORIDA REGISTERED LAND SURVEYOR USING THE FINAL APPROVED SITE DESIGN PREPARED BY THE ENGINEER OF RECORD. LINE WEIGHTS, LINETYPES, AND ANNOTATION SHALL BE MANAGED IN A MANNER THAT CLEARLY DISTINGUISHES DESIGN INFORMATION FROM "AS-BUILT" INFORMATION.
 - ALL "AS-BUILT" SHEETS SHALL INCLUDE A TITLE BLOCK AND CLEARLY STATE PROJECT NAME, PROJECT SURVEYOR, DATE OF FIELD WORK, AS WELL AS PROJECT CERTIFICATION BLOCK FROM THE ENGINEER OF RECORD.
- NOTE: REFERENCES TO WATER SHALL MEAN BOTH POTABLE AND RECLAIMED WATER.

- CONTRACTOR REQUIREMENTS FOR SITE CLEARING, GRADING, AND EROSION CONTROL DESIGN AND CONSTRUCTION NOTES
- THE FOLLOWING MEASURES REPRESENT MINIMUM STANDARDS TO BE ADHERED TO BY THE CONTRACTOR THROUGHOUT THE CONSTRUCTION OF A PROJECT. THE CITY RESERVES THE RIGHT TO REQUIRE ADDITIONAL MEASURES TO BE EMPLOYED WHEN WARRANTED BY EXTREME CONDITIONS AND/OR THE FAILURE OF THE CONTRACTOR TO EMPLOY THE APPROPRIATE EROSION CONTROL BEST MANAGEMENT PRACTICES. FAILURE TO COMPLY WITH THESE PROVISIONS SHALL RESULT IN THE ISSUANCE OF A "STOP WORK ORDER".
- NO DISTURBANCE OF PROPOSED CONSERVATION EASEMENTS, NATURAL BUFFERS, OR WATER BODIES IS PERMITTED. THE CONTRACTOR SHALL LOCATE THESE AREAS ON SITE AND BARRICADE THEM TO AVOID ANY UNAUTHORIZED CLEARING, BARRICADES AND OTHER PROTECTIVE FENCING ARE TO BE LOCATED AT THE DRIP LINE OF EXISTING NATIVE TREES OR AT THE EDGE OF THE NATIVE UNDER-STORY HABITAT, WHICHEVER IS NEAREST TO THE CONSTRUCTION ACTIVITY.
 - SPECIMEN AND HISTORIC TREES, CONSERVATION EASEMENTS, NATURAL VEGETATION BUFFERS, AND SIMILAR AREAS MUST BE PROTECTED BY BARRICADES OR FENCING PRIOR TO CLEARING. BARRICADES ARE TO BE SET AT THE DRIP LINE OF THE TREES AND MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT. BARBED WIRE IS NOT PERMITTED AS A PROTECTIVE BARRIER.
 - WHERE A CHANGE OF GRADE OCCURS AT THE DRIP LINE OF A SPECIMEN TREE, SILT FENCES WILL BE REQUIRED DURING CONSTRUCTION AND RETAINING WALLS MUST BE INSTALLED PRIOR TO FINAL ACCEPTANCE BY THE CITY.
 - IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL PROTECTIVE VEGETATION BARRICADES AND EROSION CONTROL STRUCTURES AND MEASURES IN PLACE PRIOR TO THE COMMENCEMENT OF ANY EARTHWORK, INCLUDING PRELIMINARY GRUBBING. THESE MEASURES INCLUDE, BUT ARE NOT LIMITED TO, TEMPORARY CONSTRUCTION FENCES, SYNTHETIC JUTE BALES, WATTLES, &/OR HAVE BEST MANAGEMENT PRACTICES (BMP'S) AS REQUIRED, SILT FENCES, AND FLOATING TURBIDITY BARRIERS. FURTHER, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL EROSION CONTROL DEVICES THROUGHOUT THE DURATION OF THE ENTIRE PROJECT. MAINTENANCE SHALL INCLUDE PERIODIC INSPECTION AND REMOVAL OF DEBRIS ABUTTING EROSION CONTROL DEVICES.
 - PRIOR TO THE INSTALLATION OF ANY FILL MATERIALS ON SUBJECT SITE, SILT FENCES SHALL BE INSTALLED (1) ALONG SUBJECT SITE BOUNDARY AND PROPERTY LINES, (2) AT THE EDGE OF CONSERVATION EASEMENTS AND WETLANDS, (3) ADJACENT TO NATURAL LANDSCAPE BUFFERS, (4) AROUND THE PERIMETER OF EXISTING STORM WATER TREATMENT FACILITIES, AND (5) AT ANY ADDITIONAL AREAS THAT THE CITY DEEMS NECESSARY TO BE PROTECTED FROM POTENTIAL EROSION IMPACTS DURING CONSTRUCTION. THESE CONDITIONS SHALL APPLY IN ALL INSTANCES WHERE FILL MATERIAL IS BEING INSTALLED WITHIN 25 FEET OF ANY OF THE AFOREMENTIONED LOCATIONS. WHILE THESE ITEMS REPRESENT THE MINIMUM REQUIREMENTS, THE CITY RESERVES THE RIGHT TO IMPOSE ADDITIONAL PROTECTIVE MEASURES, AS DETERMINED DURING ACTUAL SITE VISITS CONDUCTED AS PART OF THE STANDARD REVIEW OF THE SITE THROUGHOUT PROJECT CONSTRUCTION.
 - AT A MINIMUM, THE CONTRACTOR SHALL SEED AND MULCH ALL DISTURBED AREAS. SUFFICIENT GRASS COVERAGE IS TO BE ESTABLISHED WITHIN TWO WEEKS.
 - IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR THROUGH SCHEDULING, TO MINIMIZE THE DISTURBANCE OF SITE AREAS THAT HAVE BEEN BROUGHT TO THEIR PROPOSED FINAL GRADE WITHIN SEVEN (7) DAYS OF BRINGING A SUBJECT AREA TO ITS FINAL GRADE OR INACTIVITY IN CONSTRUCTION, THE CONTRACTOR SHALL INSTALL SEED AND MULCH OR SOD, AS REQUIRED, ANY PROJECT THAT IS INACTIVE FOR A PERIOD OF 30 DAYS OR MORE SHALL BE STABILIZED TO THE SATISFACTION OF THE CITY OF ORMOND BEACH
 - ONCE AN AREA IS SEEDDED OR SODDED, IT MUST BE MAINTAINED BY THE CONTRACTOR TO ALLOW THE GRASS TO BECOME ESTABLISHED. IF THE GRASS IS NOT ESTABLISHED WITHIN TWO WEEKS THE CITY MAY REQUIRE THE CONTRACTOR TO RE-SEED OR A NON-VEGETATIVE OPTION MAY BE EMPLOYED.
 - ABSOLUTELY NO BURYING OF CLEARED MATERIALS IS PERMITTED.

- CONTRACTOR REQUIREMENTS FOR SITE CLEARING, GRADING, AND EROSION CONTROL DESIGN AND CONSTRUCTION NOTES
- THE REMOVAL OF ALL VEGETATION AND TOPSOIL ON THE FUTURE ROADWAY, PARKING AND BUILDING LOT AREAS IS REQUIRED TO BE COMPLETED PRIOR TO THE PLACEMENT OF FILL ON THOSE AREAS. THE TOPSOIL MAY BE TEMPORARILY STOCKPILED AND USED AS TOPSOIL OVER OTHER PROPOSED GREEN AREAS SUCH AS PLANT BEDS, SODDED AREAS, AND WHERE TREES ARE TO BE INSTALLED OR RELOCATED.
 - A SIGNED, DATED, AND SEALED LETTER FROM A SOILS ENGINEER OR THE ENGINEER OF RECORD CERTIFYING THAT THE AREAS TO BE FILLED HAVE BEEN STRIPPED OF ORGANIC MATERIALS, MUST BE SUBMITTED TO THE CITY PRIOR TO FILLING.
 - FILL MATERIAL IS TO BE PLACED IN ONE FOOT LIFTS AND COMPACTED TO THE APPROPRIATE DENSITY (98% FOR PAVED AREAS AND 95% FOR BUILDING PADS AND ALL OTHER AREAS AS PER AASHTO T-180).
 - DURING SUBDIVISION DEVELOPMENT WHEN FUTURE BUILDING LOTS ARE FILLED AS PART OF THE OVERALL SUBDIVISION IMPROVEMENTS, COMPACTION TEST REPORTS MUST BE PERFORMED ON THE BUILDING LOTS AT 300 FOOT INTERVALS. THESE TESTS ARE TO BE PERFORMED IN ONE-FOOT VERTICAL INCREMENTS. THE RESULTS OF THESE TESTS ARE TO BE SUBMITTED TO THE CITY UPON COMPLETION OF THE TESTS.
 - IF ANY MUCK MATERIAL IS DISCOVERED, IT SHALL BE REQUIRED TO BE REMOVED AND REPLACED WITH A SUITABLE MATERIAL THAT IS PROPERLY BACKFILLED, COMPACTED AND TESTED USING AASHTO T-180 MODIFIED PROCTOR METHOD.
 - STOCKPIILING IS NOT GENERALLY PERMITTED BY THE CITY. WHEN ALLOWED, STOCKPILES SHALL NOT EXCEED SIX FEET IN HEIGHT MEASURED FROM THE ORIGINAL GRADE. AT A MINIMUM, STOCK PILES THAT WILL REMAIN IN PLACE IN EXCESS OF TWENTY DAYS SHOULD BE SEEDDED AND MULCHED IMMEDIATELY UPON PLACEMENT OF THE FINAL LIFT.
 - SOILS ARE TO BE STABILIZED BY WATER OR OTHER MEANS DURING CONSTRUCTION. THIS IS INTENDED TO REDUCE SOIL EROSION AND THE IMPACT TO NEIGHBORING COMMUNITIES. ADEQUATE WATERING METHODS SHOULD BE EMPLOYED TO ALLOW DAILY COVERAGE OF THE ENTIRE LIMITS OF ALL AREAS THAT DO NOT HAVE AN ESTABLISHED VEGETATIVE COVER. METHODS TO BE EMPLOYED INCLUDE, BUT ARE NOT LIMITED TO, WATER TRUCKS, PERMANENT IRRIGATION SYSTEMS, TEMPORARY SPRINKLER SYSTEMS OPERATED BY PUMPING UNITS CONNECTED TO WET RETENTION PONDS, WATER CANNONS, TEMPORARY IRRIGATION SYSTEMS MOUNTED ATOP STOCKPILE AREAS, AND OTHER METHODS AS DEEMED NECESSARY BY THE CITY.
 - ALL FILL MATERIALS LOCATED BENEATH STRUCTURES AND PAVEMENT SHALL CONSIST OF CLEAN GRANULAR SAND FREE FROM ORGANICS AND SIMILAR MATERIAL THAT COULD DECOMPOSE.
 - ALL FILL TO BE PLACED IN LANDSCAPED AREAS SHALL HAVE A Ph RANGE BETWEEN 5.5 AND 7.5, BE ORGANIC IN NATURE, FREE OF ROCKS AND DEBRIS, OR MATCH NATIVE EXISTING SOILS.
 - OWNER SHALL FILE A "NOTICE OF INTENT TO USE GENERIC PERMIT FOR STORM WATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES" WITH THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AS REQUIRED BY DEP. CONTRACTOR SHALL BE REQUIRED TO COMPLY WITH ALL PROVISIONS OF THE GENERIC PERMIT INCLUDING BUT NOT LIMITED TO:
 A. PROVIDE SUCH EROSION AND SEDIMENT CONTROL MEASURES AS MAY BE NECESSARY TO PREVENT DISCHARGE OF POLLUTANTS FROM THE SITE FROM THE START OF CONSTRUCTION UNTIL THE FINAL GROUND COVER HAS BEEN ESTABLISHED.
 B. EMPLOY A DEP CERTIFIED INSPECTOR TO MAKE WEEKLY INSPECTIONS / REPORTS OF THE CONDITION OF EROSION AND SEDIMENT CONTROL MEASURES.
 C. EMPLOY A DEP CERTIFIED INSPECTOR TO MAKE INSPECTIONS / REPORTS OF THE CONDITION OF EROSION AND SEDIMENT CONTROL MEASURES WITHIN 24 HOURS OF EVERY RAINFALL EVENT EXCEEDING ONE-HALF INCH.
 D. MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES THROUGHOUT CONSTRUCTION.
 E. ADD EROSION AND SEDIMENT CONTROL MEASURES AS SITE CONDITIONS CHANGE.

CITY OF ORMOND BEACH, FLORIDA

STANDARD CONSTRUCTION DETAIL

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REQUIREMENTS FOR "AS-BUILT" DRAWINGS

M-1A

MARCH 2014

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MARCH 2014

CITY OF ORMOND BEACH, FLORIDA

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CONTRACTOR REQUIREMENTS FOR SITE CLEARING, GRADING, AND EROSION CONTROL DESIGN AND CONSTRUCTION NOTES

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MARCH 2014

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CONTRACTOR REQUIREMENTS FOR SITE CLEARING, GRADING, AND EROSION CONTROL DESIGN AND CONSTRUCTION NOTES

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MARCH 2014

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PROJECT NO: 13188 DRAWN BY: CWH
 ISSUE DATE: 10-29-2014 CHECKED BY: SJK
 DESIGNED BY: HK DRAWING FILE: COP13889017
 AREA: 8-TB

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ORMOND BEACH YMCA
 PARKING LOT EXPANSION
 FINAL ENGINEERING PLANS
 CONSTRUCTION NOTES

NOT VALID WITHOUT SEAL

SCALE: AS SHOWN

SHEET C-2 OF 10

GENERAL NOTES
WATER SYSTEM CONSTRUCTION

- THE CITY'S PUBLIC UTILITIES DEPARTMENT SHALL BE NOTIFIED PRIOR TO BEGINNING ANY WATER SYSTEM CONSTRUCTION.
- DEWATERING SHALL BE PROVIDED TO KEEP GROUNDWATER ELEVATION A MINIMUM OF 6 INCHES BELOW WATER MAIN BEING LAID.
- ALL WATER MAINS SHALL BE LAID ON A FIRM FOUNDATION WITH ALL UNSUITABLE MATERIAL (MUCK, ROCK, COQUINA, ETC.) REMOVED AND REPLACED WITH CLEAN GRANULAR MATERIAL.
- TRENCHES SHALL BE BACKFILLED WITH CLEAN GRANULAR MATERIAL IN MAX. 1' LIFTS WITH A MINIMUM COMPACTION OF 98 PERCENT (AASHTO-T180) IN PAVED AREAS AND 90 PERCENT IN UNPAVED AREAS.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT TRENCH COMPACTION TESTS BE PROVIDED AT POINTS 1 FOOT ABOVE THE PIPE AND AT 1 FOOT VERTICAL INTERVALS TO FINISH GRADE, AT A MINIMUM SPACING OF EVERY 300 FEET, AND TO FURNISH COPIES OF TEST REPORTS PROMPTLY TO THE CITY INSPECTOR.
- METALLIZED PIPE LOCATION TAPE SHALL BE LOCATED 15 INCHES BELOW FINISHED GRADE OR AS SPECIFIED BY MANUFACTURER FOR ALL PVC LINES. MARKER TAPE SHALL BE USED ON ALL DUCTILE IRON PIPE.
- WATER SERVICES (SINGLE 1") SHALL BE POLYETHYLENE TUBING (BLUE IN COLOR); POLYBUTYLENE SHALL NOT BE ALLOWED.
- ALL WATER SERVICE ENDINGS SHALL BE MARKED WITH 4" X 4" LUMBER (PRESSURE TREATED) EXTENDING 4 FEET ABOVE GRADE, WITH WATER SERVICES SECURED 24" ABOVE THE GROUND. WIRE TIES SHALL BE USED TO SECURE THE CURB STOPS TO SUPPORT POSTS.
- WATER VALVES SHALL BE PLACED AT ALL STREET INTERSECTIONS AND AT MAXIMUM SPACING OF 500 FEET.
- AT ALL WATER MAIN TEES AND CROSSES, VALVES SHALL BE INSTALLED ON ALL LEGS EXCEPT ONE.
- APPROVED WATER VALVE TYPES ARE THE FOLLOWING:
 - STANDARD GATE VALVES LESS THAN 48" DIAMETER
 - RESILIENT SEAT GATE VALVES (AWWA C-509 OR C-515).
 - TAPPING VALVES AND MECHANICAL TAPPING SLEEVE SHALL BE STAINLESS STEEL (AWWA C - 509)

GENERAL NOTES
WATER SYSTEM CONSTRUCTION

- ALL WATER VALVE BOXES SHALL BE ADJUSTED TO FINISH GRADE AND THE LIDS PAINTED BLUE TO MAKE THEM PLAINLY VISIBLE.
- WATER VALVES SHALL BE COMPLETELY OPENED BY THE CONTRACTOR UPON FINAL ACCEPTANCE OF NEW WATER SYSTEMS IN THE PRESENCE OF UTILITY DEPARTMENT PERSONNEL.
- HYDRANTS SHALL BE PLACED AT 500 FEET MAXIMUM SPACING IN RESIDENTIAL DEVELOPMENTS AND AT 300 FEET MAXIMUM SPACING IN BUSINESS AND INDUSTRIAL DEVELOPMENTS. ALL WATER MAIN TO WHICH HYDRANTS ARE CONNECTED SHALL BE 8 INCHES MINIMUM.
- ALL FIRE HYDRANTS SHALL BE CONSTRUCTED TO MAKE THEM EASILY ACCESSIBLE TO FIRE PERSONNEL IN CASE OF FIRE. THE MAIN NOZZLE CONNECTION SHOULD ALWAYS FACE THE STREET AND BE 18-24" ABOVE GRADE.
- AS STANDARD PRACTICE, WATER MAINS SHALL BE INSTALLED 4 FEET OFF THE BACK OF CURB OR AS APPROVED BY THE CITY.
- ALL WATER MAINS SHALL BE NSF-APPROVED FOR POTABLE WATER USE, AND SHALL HAVE A MINIMUM COVER OF 36 INCHES. IN SPECIAL CASES WHERE IT IS IMPOSSIBLE OR INAPPROPRIATE TO PROVIDE ADEQUATE COVER, DUCTILE IRON CLASS 350 OR CONCRETE ENCASUREMENT MAY BE USED AS APPROVED BY THE CITY.
- ALL PROPOSED WATER MAINS SHALL BE FLUSHED, CLEANED WITH A POLY PIG, DISINFECTED AND BACTERIOLOGICALLY CLEARED FOR SERVICE IN ACCORDANCE WITH LATEST AWWA STANDARDS AND THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION REQUIREMENTS.
- WATER MAINS SHALL BE AWWA C-900 CL 150, OR D.I.P. CLASS 350 STANDARD CEMENT LINED.
- UPON CONSTRUCTION COMPLETION AND ACCEPTANCE OF THE SYSTEM, IT SHALL BE THE DESIGN ENGINEER'S RESPONSIBILITY TO ENSURE THAT THE SYSTEM IS PROPERLY CERTIFIED AND ACCEPTED BY THE HEALTH DEPARTMENT, AND THAT CERTIFIED AS-BUILT DRAWINGS (24"x36") ARE PROVIDED TO THE CITY PRIOR TO PAVING AND ANY USE OF THE SYSTEM. PROVIDE THREE (3) BLUELINE COPIES, ONE (1) MYLAR OF AS-BUILT DRAWINGS AND A DIGITAL COPY.
- MEGALUG OR EQUIVALENT, RESTRAINED JOINT SYSTEM MAY BE USED ON ALL RESTRAINED FITTINGS, VALVES, ETC. MINIMUM DEPTH OF BURY ON PIPES NOT MEETING REQUIRED COVER REQUIREMENTS SHALL FOLLOW THE MOST RECENT DIPRA THRUST RESTRAINT DESIGN GUIDELINES.

GENERAL NOTES
WATER SYSTEM CONSTRUCTION

- WATER SYSTEMS SHALL BE PRESSURE TESTED AT 150 PSI STATIC PRESSURE FOR A PERIOD OF 2 HOURS PER AWWA STANDARDS. TESTS SHALL BE CONDUCTED BEFORE FINAL PAVING AND IN THE PRESENCE OF THE CITY'S INSPECTOR.
- ALL WATER SERVICES SHALL BE MARKED WITH A "A" SAW CUT INTO THE CURB OR BY METAL TABS SET INTO THE PAVEMENT.
- ALL WATER VALVES AND BLOW-OFFS SHALL BE MARKED WITH AN "X" SAW CUT INTO THE CURB OR BY METAL TABS SET INTO THE PAVEMENT. LOCATION OF METAL TABS IN INCHES FROM EDGE OF PAVEMENT SHALL EQUAL DISTANCE IN FEET FROM EDGE OF PAVEMENT TO VALVE.
- UNIFLANGE 1300 SERIES PIPE RESTRAINTS AS MANUFACTURED BY FORD OR APPROVED EQUAL MAY BE USED AS APPROPRIATE FOR RESTRAINING IN-LINE PRESSURE PIPE EACH SIDE OF PIPE JOINT. AS REQUIRED BY RESTRAINT TABLE.
- TRACING WIRE SHALL BE INSTALLED IN ACCORDANCE WITH UTILITY PIPE LOCATION MATERIALS DETAIL.
- NO GALVANIZED PIPE, FITTINGS, ETC. ARE ACCEPTED.
- ALL WATER METERS SHALL BE INSTALLED AT THE RIGHT OF WAY LINE ONLY REGARDLESS OF SIZE.
- SUBMIT ASSEMBLY CERTIFICATION FOR ALL BACKFLOW PREVENTERS TO THE CITY'S ENGINEERING DEPARTMENT BEFORE FINAL INSPECTION.
- PIPING FOR RAW WATER SHALL BE OLIVE GREEN FOR ABOVE GROUND PIPING, BURIED PVC PIPING SHALL BE BLUE WITH WHITE COLOR BACKGROUND LOCATOR TAPE PLACED DIRECTLY ON TOP OF THE PIPE AND AT 12" TO 18" ABOVE THE PIPE. THE TAPE SHALL CONTINUOUSLY READ "CAUTION - RAW WATER MAIN BURIED BELOW" OR WHITE WITH LOCATOR TAPE PLACED 12" TO 18" ABOVE THE TOP OF THE PIPE.
- SEE CHART BELOW FOR WATER MAIN SIZE AND MATERIALS.

M A T E R I A L S		
DIAMETER	MATERIAL	STANDARD
2" - 4"	PVC 1120 / SDR 21	ASTM D 2241
> 4" - 12"	PVC 1120 / CLASS 150	AWWA C 900
> 4" - 12" DEDICATED FIRE LINE	PVC 1120 / CLASS 150	AWWA C 900
(14" - 24" - 36" DR - 18)	PVC 1120	AWWA C 905
(30" - 36" DR - 21)		
ALL SIZES	HDPE DIPS DR 11	ASTM F 714

NOTE: PVC PIPE COLOR SHALL BE BLUE FOR POTABLE WATER MAINS, BLUE WITH WHITE LOCATOR TAPE OR WHITE LOCATOR TAPE FOR RAW WATER MAIN.



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WATER SYSTEM CONSTRUCTION

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NO.	DATE	REVISION	BY	CHK'D
1	11-18-2014	ISSUED PER CITY COMMENTS DATE 11-18-2014		
2	12-22-14	REVISION PER CITY COMMENTS DATE 12-22-2014		

REVISIONS:

ORMOND BEACH YMCA
PARKING LOT EXPANSION
FINAL ENGINEERING PLANS

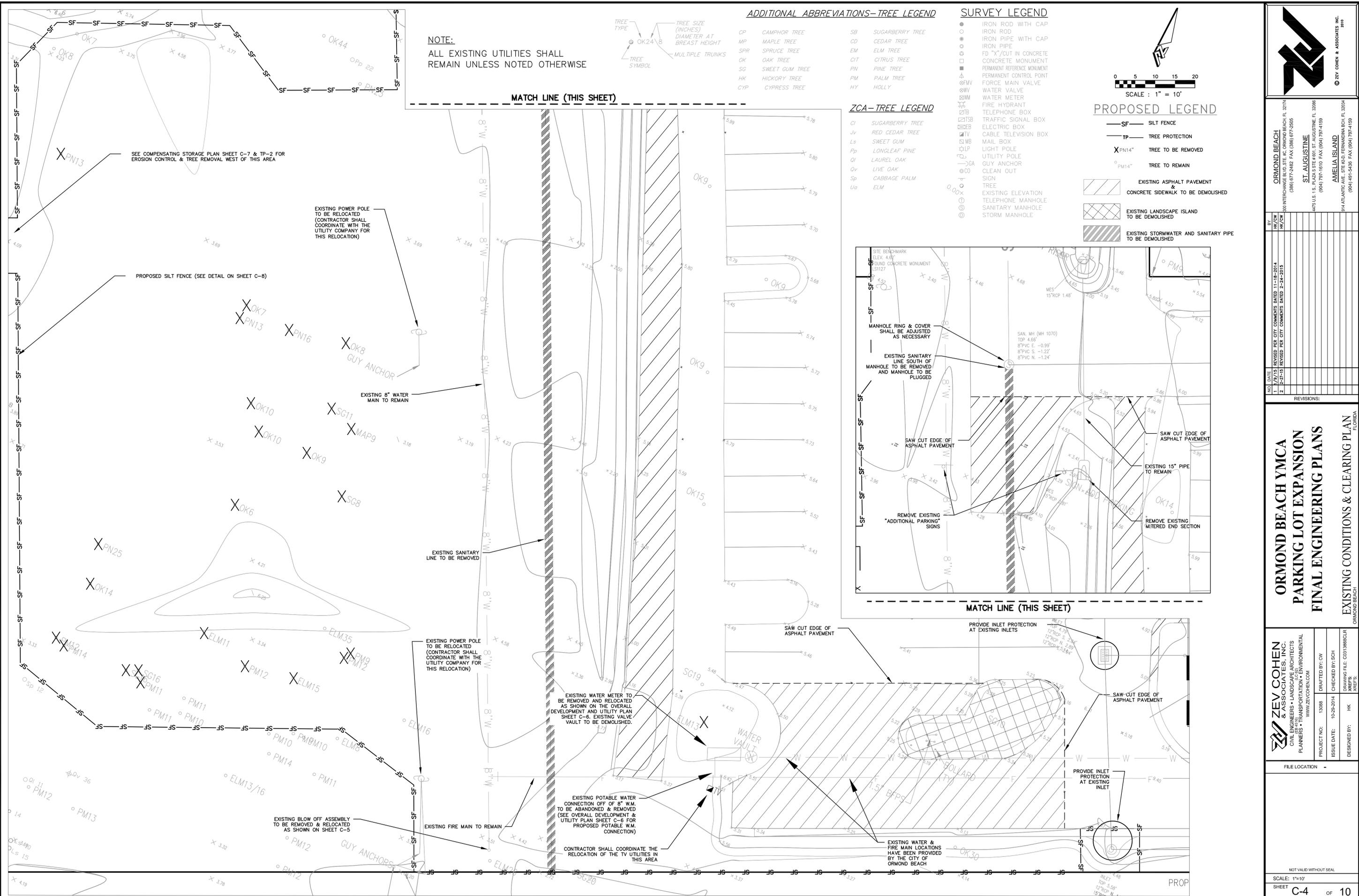
CONSTRUCTION NOTES
ORMOND BEACH, FLORIDA

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ISSUE DATE: 10-29-2014 CHECKED BY: SCH
DESIGNED BY: HK DRAWING FILE: C021388BNOT
REF S: TB

FILE LOCATION -

NOT VALID WITHOUT SEAL
SCALE: AS SHOWN
SHEET C-3 OF 10



NOTE:
ALL EXISTING UTILITIES SHALL
REMAIN UNLESS NOTED OTHERWISE

ADDITIONAL ABBREVIATIONS-TREE LEGEND

- | | | | |
|-----|----------------|----|-----------------|
| CP | CAMPBERRY TREE | SB | SUGARBERRY TREE |
| MP | MAPLE TREE | CD | CEDAR TREE |
| SPR | SPRUCE TREE | EM | ELM TREE |
| OK | OAK TREE | CT | CITRUS TREE |
| SG | SWEET GUM TREE | PN | PINE TREE |
| HK | HICKORY TREE | PM | PALM TREE |
| CYP | CYPRESS TREE | HY | HOLLY |

SURVEY LEGEND

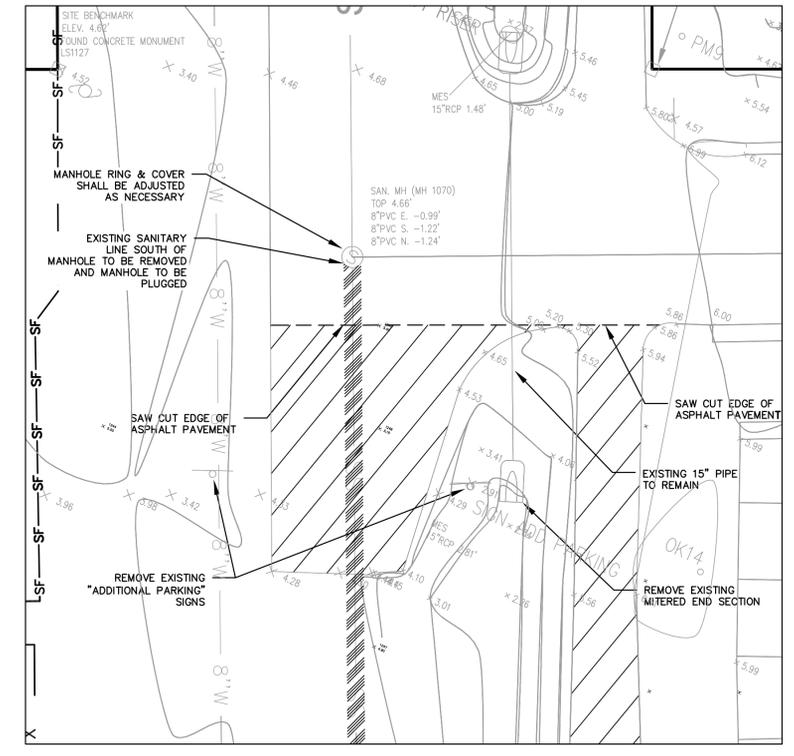
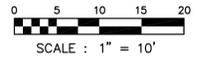
- IRON ROD WITH CAP
- IRON ROD
- IRON PIPE WITH CAP
- IRON PIPE
- FD "X"/CUT IN CONCRETE
- CONCRETE MONUMENT
- PERMANENT REFERENCE MONUMENT
- PERMANENT CONTROL POINT
- FMV FORCE MAIN VALVE
- WV WATER VALVE
- WM WATER METER
- X HYDRANT
- TB TELEPHONE BOX
- TSB TRAFFIC SIGNAL BOX
- TV CABLE TELEVISION BOX
- MB MAIL BOX
- LP LIGHT POLE
- UP UTILITY POLE
- GA GUY ANCHOR
- CO CLEAN OUT
- SIGN
- TREE
- EXISTING ELEVATION
- TELEPHONE MANHOLE
- SANITARY MANHOLE
- STORM MANHOLE

ZCA-TREE LEGEND

- Cl SUGARBERRY TREE
- Jv RED CEDAR TREE
- Ls SWEET GUM
- Pp LONGLEAF PINE
- Ol LAUREL OAK
- Ov LIVE OAK
- Sp CABBAGE PALM
- Ua ELM

PROPOSED LEGEND

- SF- SILT FENCE
- TP- TREE PROTECTION
- X PN14" TREE TO BE REMOVED
- PM14" TREE TO REMAIN
- [Hatched Box] EXISTING ASPHALT PAVEMENT & CONCRETE SIDEWALK TO BE DEMOLISHED
- [Cross-hatched Box] EXISTING LANDSCAPE ISLAND TO BE DEMOLISHED
- [Diagonal Hatched Box] EXISTING STORMWATER AND SANITARY PIPE TO BE DEMOLISHED



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NO.	DATE	REVISION
1	11-18-2014	ISSUED PER CITY COMMENTS DATED 11-18-2014
2	12-21-14	REVISED PER CITY COMMENTS DATED 12-21-2014

**ORMOND BEACH YMCA
PARKING LOT EXPANSION
FINAL ENGINEERING PLANS**

EXISTING CONDITIONS & CLEARING PLAN
FLORIDA

ZEV COHEN & ASSOCIATES, INC.
CIVIL ENGINEERS • LANDSCAPE ARCHITECTS
PLANNERS • TRANSPORTATION • ENVIRONMENTAL
WWW.ZEVCOHEN.COM

PROJECT NO: 13088 DRAFTED BY: CW
ISSUE DATE: 10-29-2014 CHECKED BY: SCH
DESIGNED BY: HK DRAWING FILE: C0113088CLR
AREA'S:

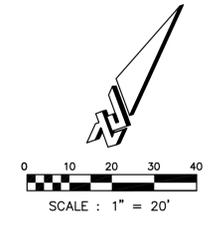
FILE LOCATION: -

NOT VALID WITHOUT SEAL

SCALE: 1"=10'
SHEET **C-4** OF 10

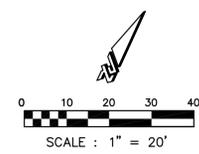
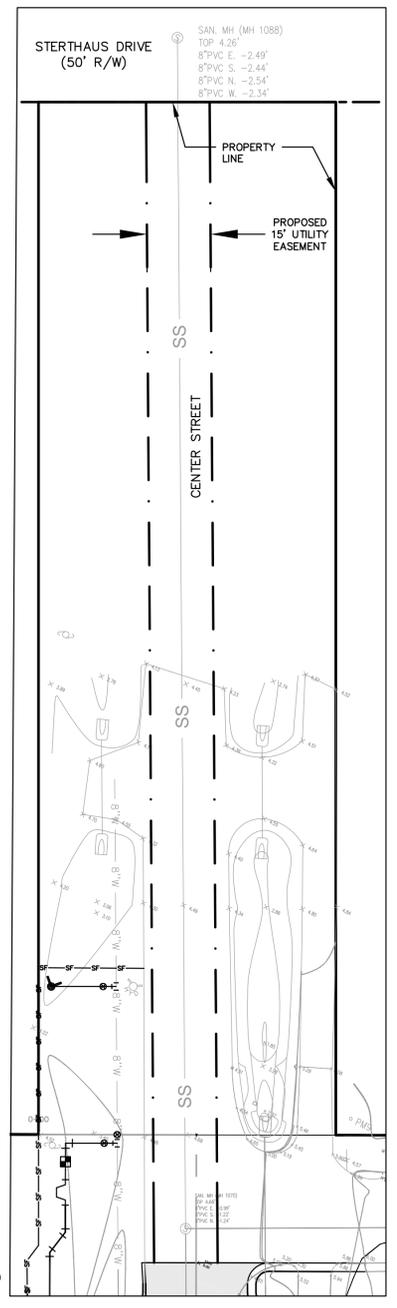
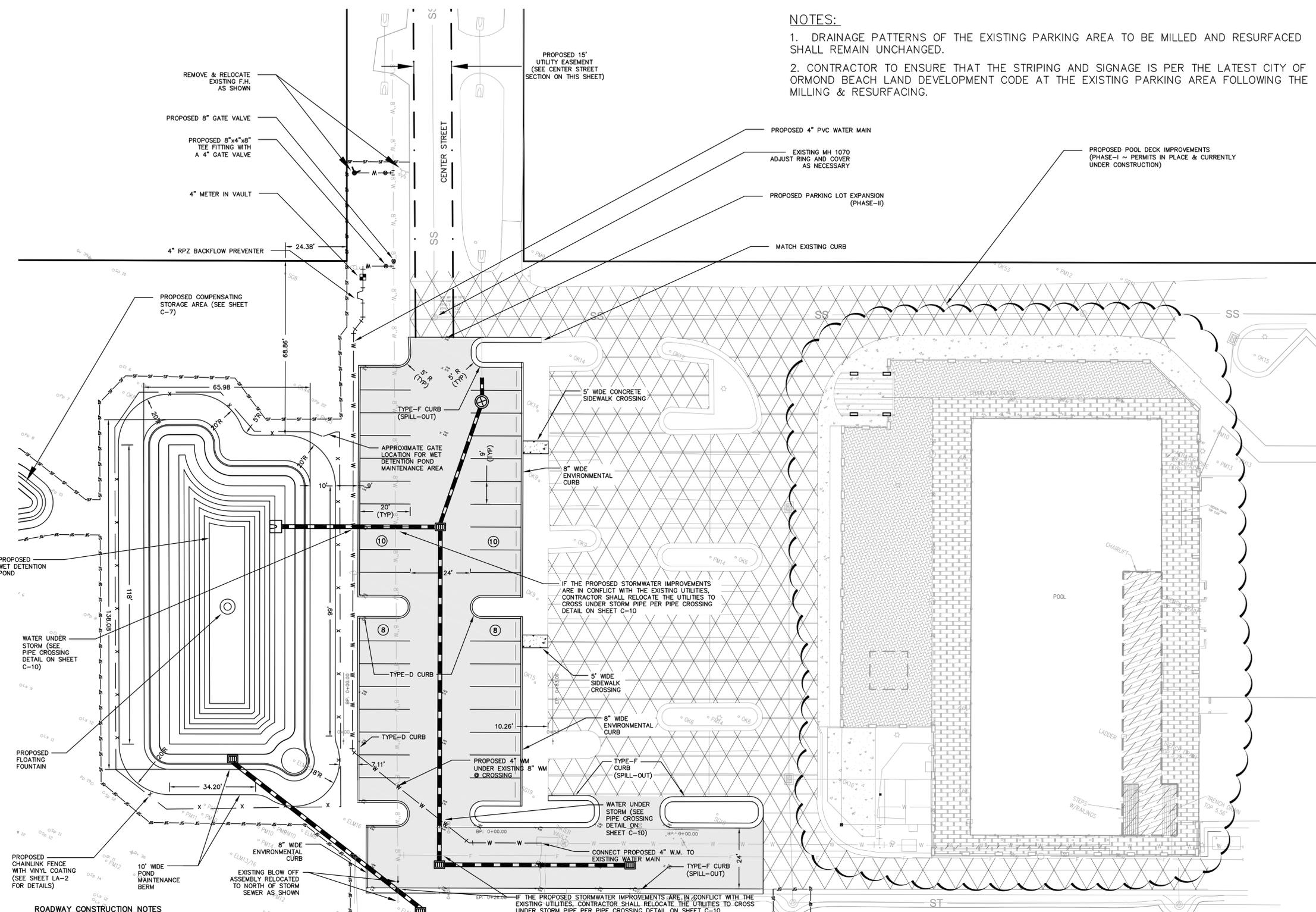
NOTES:

1. DRAINAGE PATTERNS OF THE EXISTING PARKING AREA TO BE MILLED AND RESURFACED SHALL REMAIN UNCHANGED.
2. CONTRACTOR TO ENSURE THAT THE STRIPING AND SIGNAGE IS PER THE LATEST CITY OF ORMOND BEACH LAND DEVELOPMENT CODE AT THE EXISTING PARKING AREA FOLLOWING THE MILLING & RESURFACING.



PROPOSED LEGEND

- PROPOSED ASPHALT PAVEMENT
- PROPOSED MILL & OVERLAY LIMITS
- PM14" TREE TO REMAIN
- # OF PROPOSED PARKING SPACES



CENTER STREET SECTION

ROADWAY CONSTRUCTION NOTES

1. ALL RIGHT OF WAY OTHER THAN ROADWAY AREAS SHALL BE SEEDED AND MULCHED OR SODED. ALL SLOPES GREATER THAN 6% SHALL BE SODED. THE CITY RESERVES THE RIGHT TO REQUIRE SOODING IN SPECIAL AREAS WHERE EROSION IS A CONCERN.
2. THE FOLLOWING WILL BE THE STANDARD PROTECTION FOR DITCHES UNLESS DRAINAGE CALCULATIONS INDICATE OTHERWISE:

SWALE PROFILE GRADES	PROTECTION REQUIRED
0.2% - 1.0%	SEEDING AND MULCHING
1.0% - 4.0%	SODING
4.0% AND GREATER	DITCH PAVING
3. ALL FRANCHISE UTILITY CROSSINGS, INCLUDING BUT NOT LIMITED TO FPL, BELLSOUTH AND CABLE SHALL BE INSTALLED PRIOR TO INSTALLATION AND COMPACTION OF THE ROAD SUB BASE. ANY CROSSINGS AFTER INSTALLATION OF THE SUB BASE SHALL BE BY DIRECTIONAL BORE.
4. THE LIMITS OF STABILIZED SUB BASE SHALL EXTEND TO A DEPTH OF SIX INCHES (6") BELOW THE BOTTOM OF THE BASE AND OUTWARD TO TWELVE INCHES (12") BEYOND THE CURB.
5. THE STABILIZING MATERIAL, IF REQUIRED, SHOULD BE A HIGH BEARING VALUE SOIL, SAND-CLAY, LIMEROCK, RECYCLED CONCRETE, SHELL OR OTHER MATERIAL AS APPROVED BY THE CITY AND A LICENSED SOILS ENGINEER.
6. THE SUB BASE SHALL BE STABILIZED NOT LESS THAN FORTY (40) POUNDS LIMEROCK BEARING RATIO (LBR). A COMPACTION OF NO LESS THAN NINETY-EIGHT (98%) PERCENT DENSITY BASED ON AASHTO T-190 SHALL BE REQUIRED.
7. TESTS FOR SUB BASE BEARING CAPACITY AND COMPACTION SHALL BE DONE AT A MINIMUM OF EVERY 300 FEET AND SHALL BE STAGGERED TO THE LEFT, RIGHT AND AT CENTER LINE OF THE ROADWAY.
8. BASES FOR ALL STREETS SHALL HAVE A MINIMUM SIX INCH (6") DEPTH. PRIMING AND SANDING SHALL BE REQUIRED AS SOON AS BEARING CAPACITY AND COMPACTION HAS BEEN ACHIEVED.
9. MAXIMUM DENSITY BASED ON AASHTO T-190 MODIFIED PROCTOR TEST. RECYCLED CONCRETE OR LIMEROCK BASES SHALL BE COMPACTED TO (98%).
10. MATERIAL DELIVERY TICKETS SHALL BE PROVIDED TO THE CITY AT THE TIME OF PLACEMENT.
11. TESTING OF THE IN-PLACE BASE SHALL BE DONE AT INTERVALS EQUIVALENT TO SUB BASE TESTING AND SHALL CONSIST OF, AS A MINIMUM, MOISTURE CONTENT AND COMPACTION TEST.
12. DESIGN MIXES SHALL BE SUBMITTED TO THE CITY FOR THEIR APPROVAL NO LESS THAN THREE (3) WORKING DAYS PRIOR TO ANY ROADWAY CONSTRUCTION.
13. ASPHALT SPECIFICATIONS SHALL BE SUBMITTED BY THE DESIGN ENGINEER WITH FINAL PLANS TO THE CITY. FLORIDA STATE CERTIFIED BATCH PLANTS MUST THEN CERTIFY THAT THESE APPROVED SPECIFICATIONS HAVE BEEN MET.
14. EXTRACTION AND GRADATION TESTS ON ASPHALT MIXES SHALL BE PROVIDED TO THE CITY TO INSURE THAT DESIGN MIXES MEET THE CITY STANDARD SPECIFICATIONS.
15. THE ROADWAY CROWN SHALL HAVE A STANDARD ONE QUARTER INCH (1/4") PER FOOT SLOPE.
16. ALL ROADWAYS WITH CURB AND GUTTER SECTIONS SHALL HAVE AS A STANDARD A MINIMUM LONGITUDINAL SLOPE OF 0.30%.
17. THE FINISHED PAVEMENT EDGE SHALL BE WITHIN ONE QUARTER INCH (1/4") OF THE ADJACENT CONCRETE CURB.
18. CONCRETE CURBS SHALL BE PROVIDED ON BOTH SIDES OF ALL STREETS AND CONSTRUCTED WITH 2500 PSI CONCRETE AT 28 DAYS.
19. CONCRETE CURBS SHALL BE SAW CUT TO A DEPTH EQUAL TO 1/4 OF CURB THICKNESS AT INTERVALS OF TEN FEET (10') WITH EXPANSION JOINTS AT STREET INTERSECTIONS, STRUCTURES AND ALONG CURVES AT SIXTY FEET (60') INTERVALS. ALL EXPANSION JOINT MATERIAL IS REQUIRED TO BE INSTALLED THROUGH THE ENTIRE DEPTH OF THE CONCRETE CURB.
20. AN "X" SHALL BE CUT IN THE CURB TO MARK THE LOCATION OF WATER DISTRIBUTION SYSTEM VALVE.
21. AN "I" SHALL BE CUT INTO THE CURB TO MARK THE LOCATION OF ALL VALVES OTHER THAN WATER DISTRIBUTION VALVES.
22. A "V" SHALL BE CUT IN THE CURB TO MARK THE LOCATION OF ALL SEWER SERVICES.
23. A "L" SHALL BE CUT IN THE CURB TO MARK THE LOCATION OF ALL RECLAIMED WATER SERVICES.
24. A "A" SHALL BE CUT IN THE CURB TO MARK THE LOCATION OF ALL WATER SERVICES.
25. THREE (3) CONCRETE COLUMNS SHALL BE TAKEN AND TESTED FOR EVERY THREE HUNDRED (300) FEET OF ROADWAY CONSTRUCTED. TEST RESULTS SHALL THEN BE PROVIDED TO THE CITY AS BECOME AVAILABLE.
26. THE DEVELOPER SHALL PROVIDE ALL REQUIRED PAVEMENT MARKINGS ON ALL ROADWAYS PER CITY, COUNTY AND STATE REQUIREMENTS. CENTERLINE STRIPES SHALL BE PROVIDED ON EXTENSIONS OF CITY COLLECTOR OR ARTERIAL ROADS, COUNTY ROADS AND STATE HIGHWAYS ONLY.
27. STOP BARS SHALL BE PLACED AT ALL SUBDIVISION ENTRANCES AND INTERSECTIONS CONTAINING CITY COLLECTOR AND ARTERIAL ROADS, COUNTY ROADS AND STATE HIGHWAYS.
28. ALL TRAFFIC CONTROL DEVICES PLACED AT INTERSECTIONS, PRIVATE STREETS, PUBLIC STREETS, COUNTY ROADS AND STATE HIGHWAYS WITHIN THE CITY LIMITS SHALL BE INSTALLED ACCORDING TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
29. THE DEVELOPER IS RESPONSIBLE FOR PAYING FEES FOR ALL STREET LIGHTS PRIOR TO ACCEPTANCE OF THE PROJECT BY THE CITY.
30. STANDARD TURNING RADI FOR INTERSECTIONS:

2-LANE ACCESS OR FEEDER	35'
LOCAL TO COLLECTOR	35'
LOCAL OR COLLECTOR TO ARTERIAL	40'
ARTERIAL TO ARTERIAL	50'
31. CITY INSPECTOR SHALL BE PRESENT DURING PAVING OF ALL PUBLIC AND PRIVATE ROADS. PAVING SHALL BE PERFORMED DURING NORMAL BUSINESS HOURS, MONDAY THROUGH FRIDAY. PAVING DURING WEEKENDS IS NOT PERMITTED.
32. CONSTRUCTION METHODS AND DESIGN FOR CONCRETE PAVEMENT SHALL CONFORM TO FOOT STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
33. ALL CONTRACTORS THAT ARE PERFORMING THE CONSTRUCTION OF PUBLIC IMPROVEMENTS (WATER MAIN, SANITARY SEWER MAIN, RECLAIMED WATER MAIN, STORM WATER PIPES AND INLETS AND ALSO CONSTRUCTION OF ROADWAYS) SHALL BE CERTIFIED WITH THE FLORIDA STATE DEPARTMENT OF PROFESSIONAL REGULATIONS (DPR) FOR THE TYPE OF WORK THAT THEY PERFORM. A COPY OF THE VALID LICENSE IS REQUIRED AT PRE CONSTRUCTION MEETING.
34. UTILITY DEPTH:
 - HIGH VOLTAGE UTILITIES SUCH AS POWER (FEEDER, SERVICE AND DROPS) SHALL BE BURIED A MINIMUM OF 30 INCHES IN DEPTH.
 - LOW VOLTAGE UTILITIES SUCH AS PHONE AND CABLE TV SHALL BE BURIED A MINIMUM OF 12 INCHES IN DEPTH FOR FEEDER AND SERVICES. SERVICE DROPS SHALL BE BURIED A MINIMUM OF 6 INCHES IN DEPTH.
 - HIGH VOLTAGE UTILITIES INSTALLED PARALLEL TO PRESSURE MAINS SHALL MAINTAIN A MINIMUM FIVE FOOT SEPARATION.
35. GEOTECHNICAL TESTING REPORTS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER SHALL BE SUBMITTED TO THE CITY OF ORMOND BEACH PRIOR TO FINAL SIGN OFF. REPORTS SHALL CLEARLY LABEL PROJECT NAME AND PHASE.



ORMOND BEACH
 300 INTERCHANGE BLVD. STE. #C ORMOND BEACH, FL 32174
 (386) 677-2482 FAX (386) 677-2505

ST. AUGUSTINE
 4472 U.S. 1, S. POZAS STE #601, ST. AUGUSTINE, FL 32086
 (904) 797-1610 FAX (904) 797-4159

AMELIA ISLAND
 914 ATLANTIC AVE. STE #200, FERNANDINA, FL 32044
 (904) 497-6436 FAX (904) 797-4159

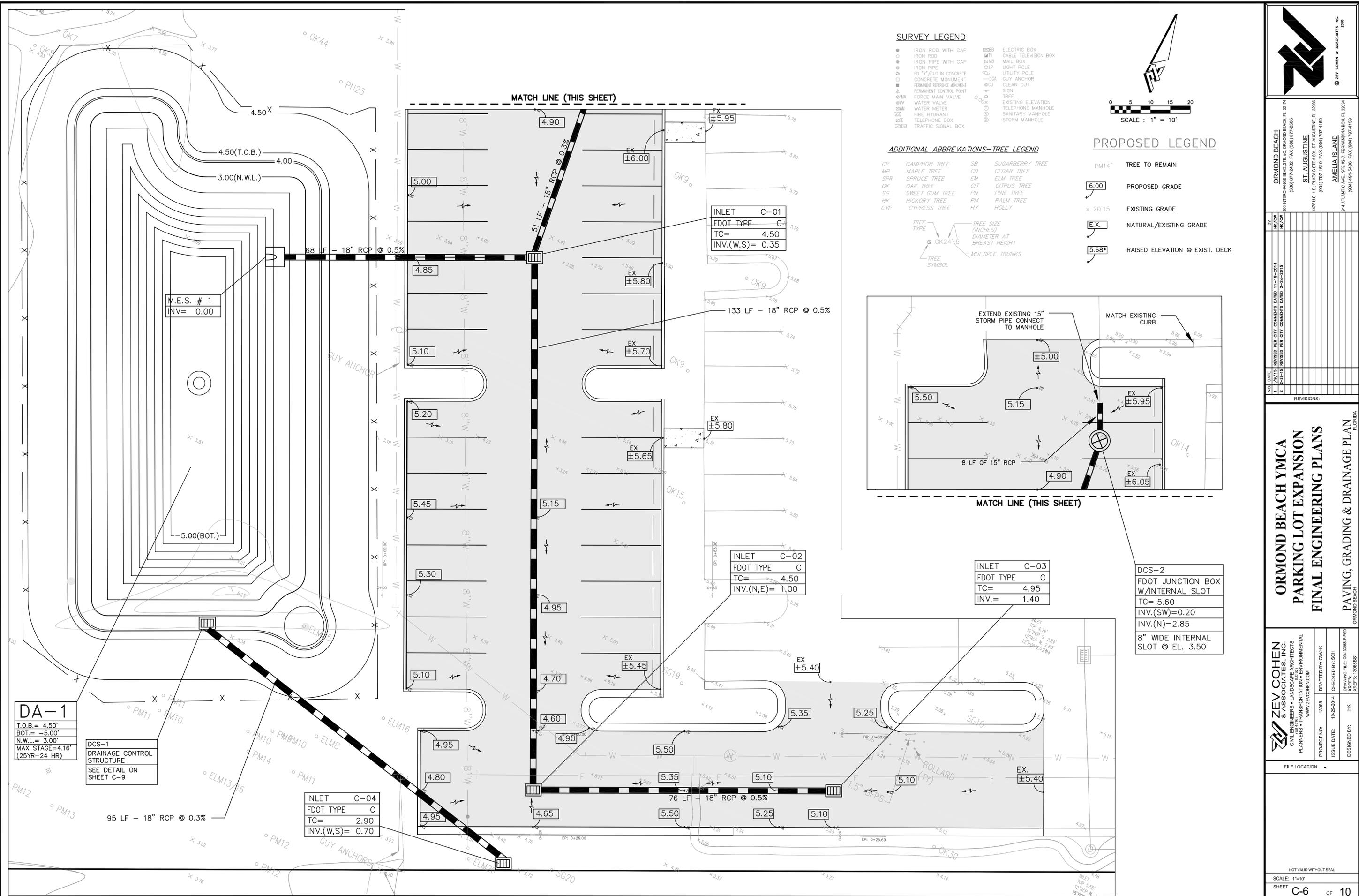
NO.	DATE	REASON FOR CITY COMMENTS DATED	BY
1	12/27/13	REUSED PER CITY COMMENTS DATED 11-18-2014	HK/SW
2	12/27/13	REUSED PER CITY COMMENTS DATED 12-24-2013	HK/SW

**ORMOND BEACH YMCA
 PARKING LOT EXPANSION
 FINAL ENGINEERING PLANS**

OVERALL DEVELOPMENT & UTILITY PLAN
 FLORIDA

ZEV COHEN & ASSOCIATES, INC.
 CIVIL ENGINEERS • LANDSCAPE ARCHITECTS
 PLANNERS • TRANSPORTATION • ENVIRONMENTAL
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PROJECT NO.: 13088 DRAFTED BY: CW/CHK
 ISSUE DATE: 10-29-2014 CHECKED BY: SCH
 DESIGNED BY: HK



SURVEY LEGEND

- IRON ROD WITH CAP
- IRON ROD
- IRON PIPE WITH CAP
- IRON PIPE
- FD "X"/OUT IN CONCRETE
- CONCRETE MONUMENT
- PERMANENT REFERENCE POINT
- ▲ FORCE MAIN VALVE
- WATER VALVE
- WATER METER
- FIRE HYDRANT
- TELEPHONE BOX
- TRAFFIC SIGNAL BOX
- ELEC. BOX
- TV CABLE TELEVISION BOX
- MAIL BOX
- LIGHT POLE
- UTILITY POLE
- GUY ANCHOR
- CLEAN OUT
- SIGN
- TREE
- EXISTING ELEVATION
- TELEPHONE MANHOLE
- SANITARY MANHOLE
- STORM MANHOLE

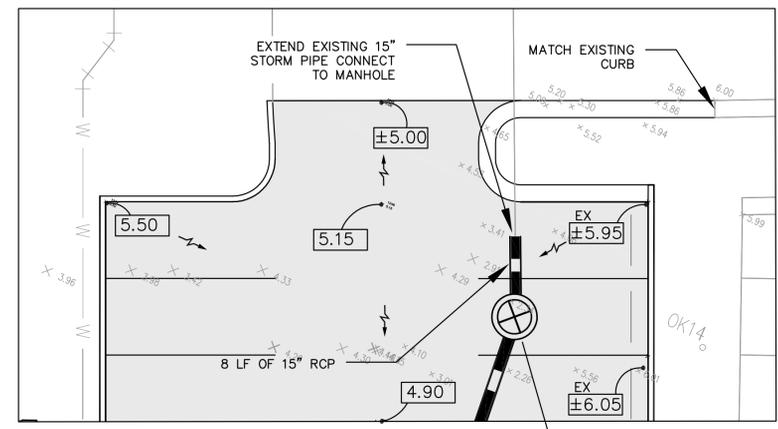
ADDITIONAL ABBREVIATIONS-TREE LEGEND

- CP CAMPHOR TREE
- MP MAPLE TREE
- SPR SPRUCE TREE
- OK OAK TREE
- SG SWEET GUM TREE
- HK HICKORY TREE
- CYP CYPRESS TREE
- SB SUGARBERRY TREE
- CD CEDAR TREE
- EM ELM TREE
- CIT CITRUS TREE
- PN PINE TREE
- PM PALM TREE
- HY HOLLY



PROPOSED LEGEND

- PM14" TREE TO REMAIN
- 6.00 PROPOSED GRADE
- x 20.15 EXISTING GRADE
- EX. NATURAL/EXISTING GRADE
- 5.68* RAISED ELEVATION @ EXIST. DECK



DA-1

T.O.B. = 4.50'
 BOT. = -5.00'
 N.W.L. = 3.00'
 MAX STAGE = 4.16'
 (25YR-24 HR)

DCS-1
 DRAINAGE CONTROL STRUCTURE
 SEE DETAIL ON SHEET C-9

INLET C-04
 FDOT TYPE C
 TC = 2.90
 INV.(W,S) = 0.70

INLET C-02
 FDOT TYPE C
 TC = 4.50
 INV.(N,E) = 1.00

INLET C-03
 FDOT TYPE C
 TC = 4.95
 INV. = 1.40

DCS-2
 FDOT JUNCTION BOX W/INTERNAL SLOT
 TC = 5.60
 INV.(SW) = 0.20
 INV.(N) = 2.85
 8" WIDE INTERNAL SLOT @ EL. 3.50



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NO.	DATE	REASON FOR CITY COMMENTS DATED	BY	DATE	REASON FOR CITY COMMENTS DATED
1	11-18-2014				
2	12-21-14				

**ORMOND BEACH YMCA
 PARKING LOT EXPANSION
 FINAL ENGINEERING PLANS**

PAVING, GRADING & DRAINAGE PLAN
 FLORIDA

ZEV COHEN & ASSOCIATES, INC.
 CIVIL ENGINEERS • LANDSCAPE ARCHITECTS
 PLANNERS • TRANSPORTATION • ENVIRONMENTAL
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PROJECT NO: 13088 DRAFTED BY: CWHK
 ISSUE DATE: 10-29-2014 CHECKED BY: SCH
 DESIGNED BY: HK



ORMOND BEACH
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 447 U.S. 1, SUITE 200, ST. AUGUSTINE, FL 32086
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NO.	DATE	REVISION
1	11-18-2014	ISSUED PER CITY COMMENTS DATED 11-18-2014
2	12-24-2014	REVISED PER CITY COMMENTS DATED 12-24-2014

**ORMOND BEACH YMCA
 PARKING LOT EXPANSION
 FINAL ENGINEERING PLANS**

COMPENSATING STORAGE PLAN
 FLORIDA
 ORMOND BEACH

ZEV COHEN & ASSOCIATES, INC.
 CIVIL ENGINEERS • LANDSCAPE ARCHITECTS
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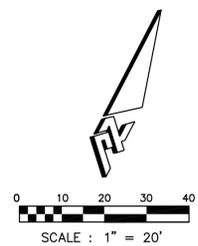
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 ISSUE DATE: 10-29-2014 CHECKED BY: SCH
 DESIGNED BY: HK DRAWING FILE: OT13088D01ST
 SHEET REF'S: 13088B01

FILE LOCATION: -

NOT VALID WITHOUT SEAL

SCALE: 1"=20'

SHEET **C-7** OF 10



SURVEY LEGEND

- IRON ROD WITH CAP
- IRON ROD
- IRON PIPE WITH CAP
- IRON PIPE
- FD "X"/OUT IN CONCRETE
- CONCRETE MONUMENT
- PERMANENT REFERENCE MONUMENT
- PERMANENT CONTROL POINT
- △ FORCE MAIN VALVE
- WATER VALVE
- WATER METER
- FIRE HYDRANT
- TELEPHONE BOX
- TRAFFIC SIGNAL BOX
- ELECTRIC BOX
- CABLE TELEVISION BOX
- MAIL BOX
- LIGHT POLE
- UTILITY POLE
- GUY ANCHOR
- CLEAN OUT
- SIGN
- TREE
- EXISTING ELEVATION
- TELEPHONE MANHOLE
- SANITARY MANHOLE
- STORM MANHOLE

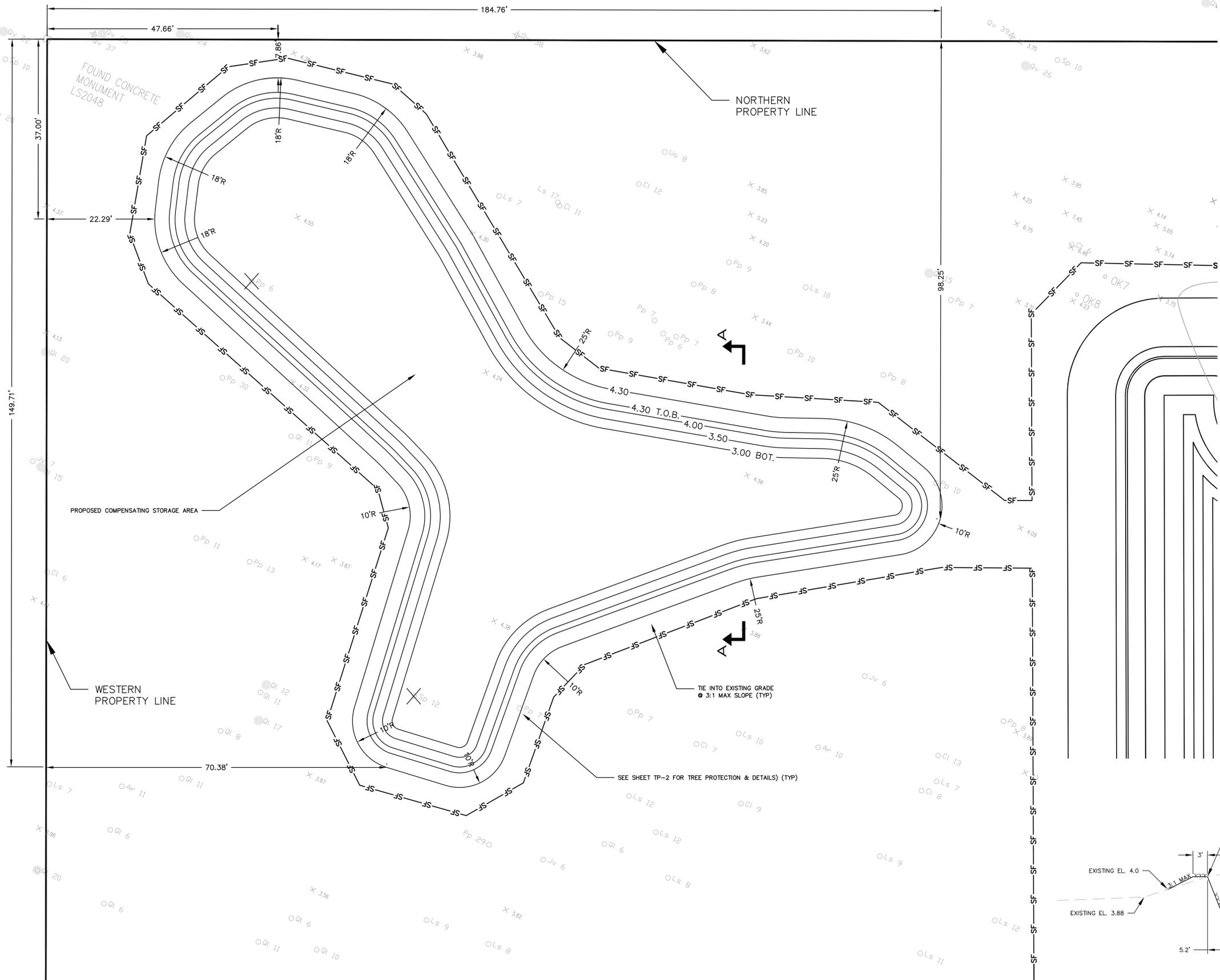
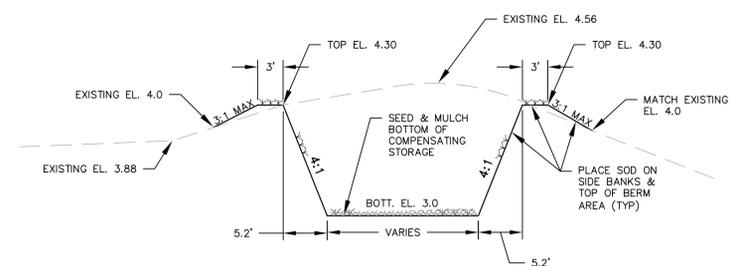
ADDITIONAL ABBREVIATIONS—TREE LEGEND

- | | | | |
|----|----------------|----|--------------------|
| Ua | ELM TREE | Cl | SUGARBERRY TREE |
| Ar | RED CEDAR TREE | Jv | RED CEDAR TREE |
| OK | OAK TREE | Ls | SWEET GUM TREE |
| | | Pp | LONGLEAF PINE TREE |
| | | Ol | LAUREL OAK TREE |
| | | Ov | LIVE OAK TREE |
| | | Sp | CABBAGE PALM |



LEGEND

- EXISTING TREE TO REMAIN
- ✕ EXISTING TREE TO BE REMOVED
- +38 EXISTING HISTORIC TREE TO REMAIN
- EXISTING SPECIMEN TREE
- SF— SILT FENCE

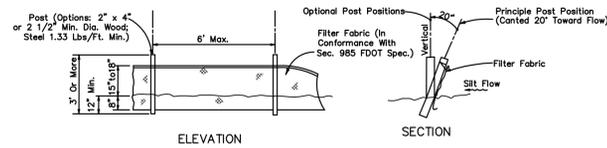


SEE SHEET TP-2 FOR TREE PROTECTION & DETAILS (TYP)

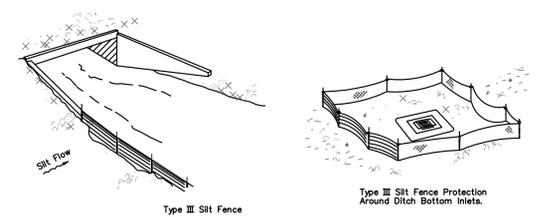
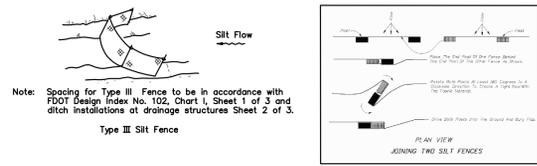
TIE INTO EXISTING GRADE
 @ 3:1 MAX SLOPE (TYP)

A

A

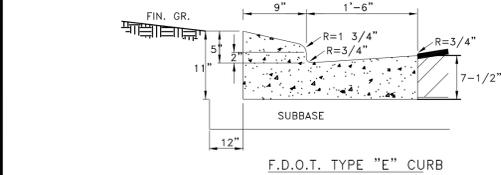
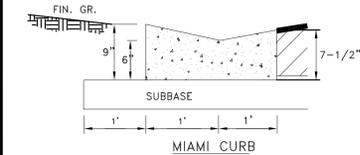
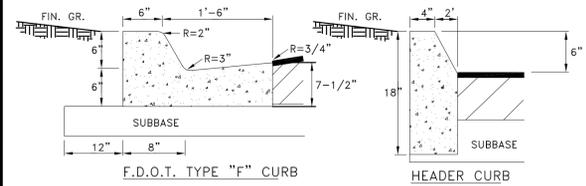


Note: Silt Fence to be paid for under the contract unit price for Staked Silt Fence (LF).
TYPE III SILT FENCE

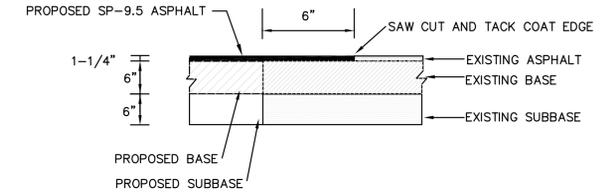
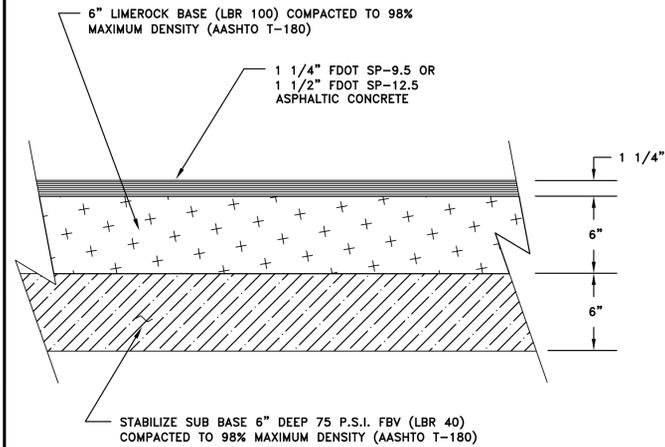


Do not deploy in a manner that silt fences will act as a dam across permanent flowing watercourses. Silt fences are to be used at upland locations and turbidity barriers used at permanent bodies of water.

SILT FENCE APPLICATIONS



- NOTES:**
1. ALL CURBS TO BE CONSTRUCTED OF 28 DAY, 2500 P.S.I. CONCRETE
 2. 1/2" PRE-MOLDED EXPANSION JOINT REQUIRED EVERY 500', CONSTRUCTION JOINT REQUIRED EVERY 10' MAXIMUM (4' MINIMUM).
 3. 1/2" PRE-MOLDED EXPANSION JOINT REQUIRED AT EACH SIDE OF ALL STORM INLET STRUCTURES AND AT ALL RADIUS POINTS.
 4. 6" SUBBASE TO BE COMPACTED AND TESTED TO 98% DENSITY WITH MINIMUM L.B.R. 40 BASED ON AASHTO T-180 MODIFIED PROCTOR TEST.
 5. EXPANSION JOINT MATERIAL MUST COVER THE ENTIRE CROSS SECTION OF CURB.
 6. ALL EXPOSED CORNERS TO BE ROUNDED AT 3/4" MIN. RADIUS.
 7. ALL CURB ENDS THAT DO NOT TIE INTO OTHER FACILITIES SHALL TRANSITION DOWN TO PAVEMENT GRADE IN 24 INCHES.

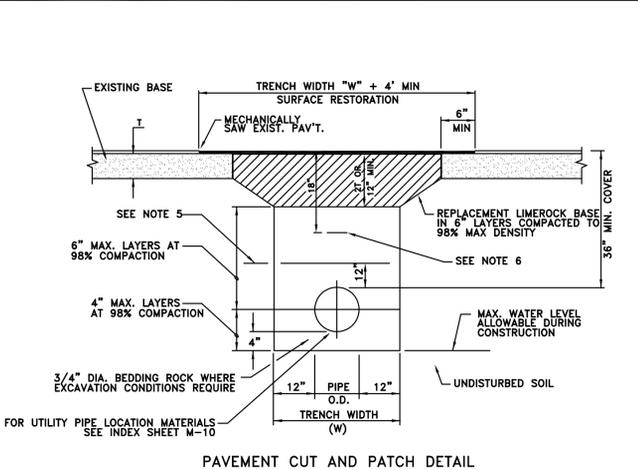


STANDARD CONSTRUCTION DETAIL
EROSION CONTROL – SILT FENCE
 NTS
 INDEX
 M-15
 MARCH 2014

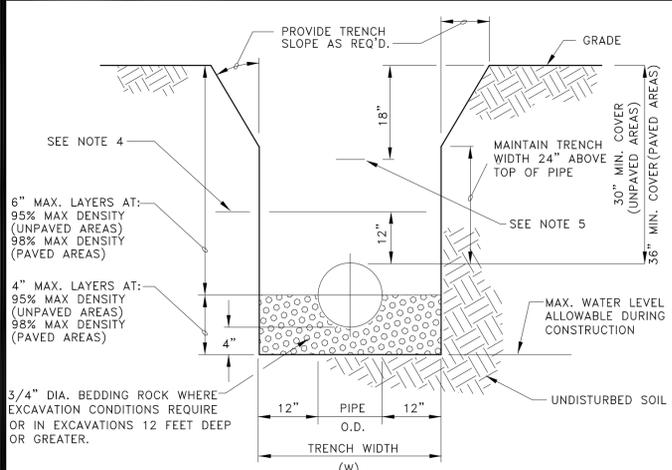
STANDARD CONSTRUCTION DETAIL
STANDARD CURB CONSTRUCTION
 NTS
 INDEX
 R-4
 MARCH 2014

STANDARD CONSTRUCTION DETAIL
STANDARD PAVING DETAIL
 NTS
 INDEX
 R-5
 MARCH 2014

STANDARD CONSTRUCTION DETAIL
PAVEMENT BUTT JOINT
 NTS
 INDEX
 R-9
 MARCH 2014



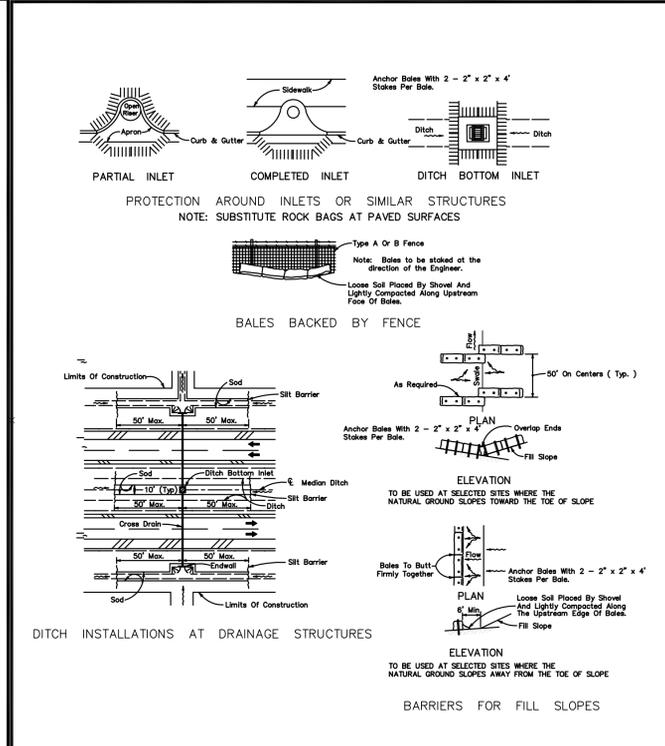
- NOTES:**
1. WHERE SOIL CONDITIONS CAN NOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE APPROVED METHOD OF CONSTRUCTION.
 2. SHEETING WILL BE REQUIRED AS DETERMINED IN THE FIELD.
 3. NEW SURFACING MATERIALS SHALL BE CONSISTENT WITH EXISTING AND SHALL HAVE LAPPED & FEATHERED JOINTS (1 1/2" MIN. THK.)
 4. COMPACTION PERCENTAGES SHOWN REFER TO A.A.S.H.T.O. T-180. PROVIDE COMPACTION TEST REPORTS TO CITY INSPECTOR.
 5. MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LEVEL.
 6. INSTALL METALLIC TAPE OVER FULL LENGTH OF PIPE.
 7. EIGHT INCHES (8") OF HIGH EARLY-STRENGTH CONCRETE MAY BE SUBSTITUTED FOR LIMEROCK UPON APPROVAL BY CITY ENGINEER.



- NOTES:**
1. WHERE SOIL CONDITIONS CAN NOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE APPROVED METHOD OF CONSTRUCTION.
 2. SHEETING WILL BE REQUIRED AS DETERMINED IN THE FIELD.
 3. COMPACTION PERCENTAGES SHOWN REFER TO A.A.S.H.T.O. T-180. PROVIDE COPIES OF CERTIFIED TEST REPORTS TO CITY INSPECTOR.
 4. MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LEVEL.
 5. INSTALL METALLIC TAPE OVER FULL LENGTH OF PIPE.

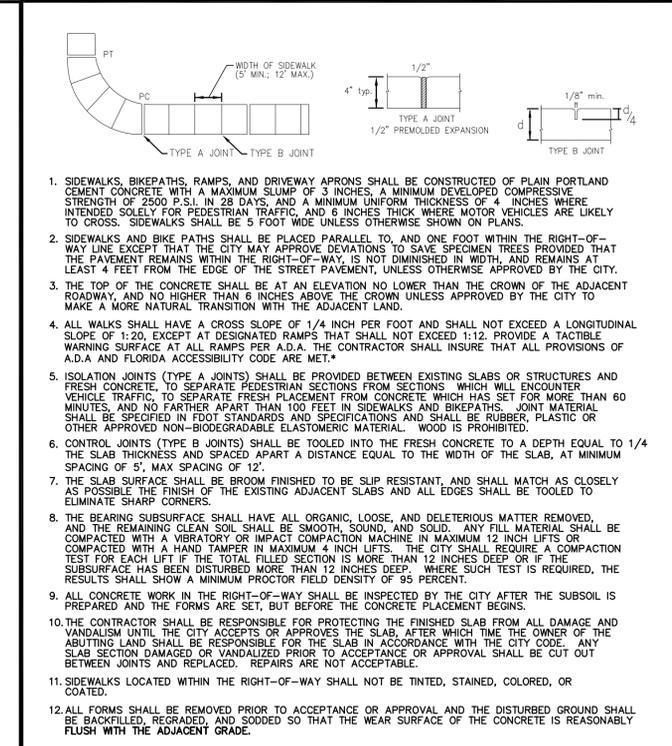
STANDARD CONSTRUCTION DETAIL
PAVEMENT CUT AND PATCH
 NTS
 INDEX
 R-8
 MARCH 2014

STANDARD CONSTRUCTION DETAIL
PIPE INSTALLATION
 INDEX
 M-9
 JAN 2011



- NOTES:**
1. WHERE SOIL CONDITIONS CAN NOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE APPROVED METHOD OF CONSTRUCTION.
 2. SHEETING WILL BE REQUIRED AS DETERMINED IN THE FIELD.
 3. COMPACTION PERCENTAGES SHOWN REFER TO A.A.S.H.T.O. T-180. PROVIDE COPIES OF CERTIFIED TEST REPORTS TO CITY INSPECTOR.
 4. MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LEVEL.
 5. INSTALL METALLIC TAPE OVER FULL LENGTH OF PIPE.

STANDARD CONSTRUCTION DETAIL
EROSION CONTROL – SYNTHETIC BALES
 NTS
 INDEX
 M-14A
 MARCH 2014



1. SIDEWALKS, BIKEPATHS, RAMPS, AND DRIVEWAY APRONS SHALL BE CONSTRUCTED OF PLAIN PORTLAND CEMENT CONCRETE WITH A MAXIMUM SLUMP OF 3 INCHES. A MINIMUM DEVELOPED COMPRESSIVE STRENGTH OF 2500 P.S.I. IN 28 DAYS, AND A MINIMUM UNIFORM THICKNESS OF 4 INCHES WHERE INTENDED SOLELY FOR PEDESTRIAN TRAFFIC, AND 6 INCHES THICK WHERE MOTOR VEHICLES ARE LIKELY TO CROSS. SIDEWALKS SHALL BE 5 FOOT WIDE UNLESS OTHERWISE SHOWN ON PLANS.
2. SIDEWALKS AND BIKE PATHS SHALL BE PLACED PARALLEL TO, AND ONE FOOT WITHIN THE RIGHT-OF-WAY LINE EXCEPT THAT THE CITY MAY APPROVE DEVIATIONS TO SAVE SPECIMEN TREES PROVIDED THAT THE PAVEMENT REMAINS WITHIN THE RIGHT-OF-WAY, IS NOT DIMINISHED IN WIDTH, AND REMAINS AT LEAST 4 FEET FROM THE EDGE OF THE STREET PAVEMENT, UNLESS OTHERWISE APPROVED BY THE CITY.
3. THE TOP OF THE CONCRETE SHALL BE AT AN ELEVATION NO LOWER THAN THE CROWN OF THE ADJACENT ROADWAY, AND NO HIGHER THAN 6 INCHES ABOVE THE CROWN UNLESS APPROVED BY THE CITY TO MAKE A MORE NATURAL TRANSITION WITH THE ADJACENT LAND.
4. ALL WALKS SHALL HAVE A CROSS SLOPE OF 1/4 INCH PER FOOT AND SHALL NOT EXCEED A LONGITUDINAL SLOPE OF 1:20, EXCEPT AT DESIGNATED RAMPS THAT SHALL NOT EXCEED 1:12. PROVIDE A TACTILE WARNING SURFACE AT ALL RAMPS PER A.D.A. THE CONTRACTOR SHALL INSURE THAT ALL PROVISIONS OF A.D.A. AND FLORIDA ACCESSIBILITY CODE ARE MET.
5. ISOLATION JOINTS (TYPE A JOINTS) SHALL BE PROVIDED BETWEEN EXISTING SLABS OR STRUCTURES AND FRESH CONCRETE, TO SEPARATE PEDESTRIAN SECTIONS FROM SECTIONS WHICH WILL ENCOUNTER VEHICLE TRAFFIC, TO SEPARATE FRESH PLACEMENT FROM CONCRETE WHICH HAS SET FOR MORE THAN 60 MINUTES, AND NO FARTHER APART THAN 100 FEET IN SIDEWALKS AND BIKEPATHS. JOINT MATERIAL SHALL BE SPECIFIED IN FDOT STANDARDS AND SPECIFICATIONS AND SHALL BE RUBBER, PLASTIC OR OTHER APPROVED NON-BIODEGRADABLE ELASTOMERIC MATERIAL. WOOD IS PROHIBITED.
6. CONTROL JOINTS (TYPE B JOINTS) SHALL BE TOOLED INTO THE FRESH CONCRETE TO A DEPTH EQUAL TO 1/4 THE SLAB THICKNESS AND SPACED APART A DISTANCE EQUAL TO THE WIDTH OF THE SLAB, AT MINIMUM SPACING OF 5', MAX SPACING OF 12'.
7. THE SLAB SURFACE SHALL BE BROOM FINISHED TO BE SLIP RESISTANT, AND SHALL MATCH AS CLOSELY AS POSSIBLE THE FINISH OF THE EXISTING ADJACENT SLABS AND ALL EDGES SHALL BE TOOLED TO ELIMINATE SHARP CORNERS.
8. THE BEARING SUBSURFACE SHALL HAVE ALL ORGANIC, LOOSE, AND DELETERIOUS MATTER REMOVED, AND THE REMAINING CLEAN SOIL SHALL BE SMOOTH, SOUND, AND SOLID. ANY FILL MATERIAL SHALL BE COMPACTED WITH A VIBRATORY OR IMPACT COMPACTION MACHINE IN MAXIMUM 12 INCH LIFTS OR COMPACTED WITH A HAND TAMPER IN MAXIMUM 4 INCH LIFTS. THE CITY SHALL REQUIRE A COMPACTION TEST FOR EACH LIFT IF THE TOTAL FILLED SECTION IS MORE THAN 12 INCHES DEEP OR IF THE SUBSURFACE HAS BEEN DISTURBED MORE THAN 12 INCHES DEEP. WHERE SUCH TEST IS REQUIRED, THE RESULTS SHALL SHOW A MINIMUM PROCTOR FIELD DENSITY OF 95 PERCENT.
9. ALL CONCRETE WORK IN THE RIGHT-OF-WAY SHALL BE INSPECTED BY THE CITY AFTER THE SUBSOIL IS PREPARED AND THE FORMS ARE SET, BUT BEFORE THE CONCRETE PLACEMENT BEGINS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING THE FINISHED SLAB FROM ALL DAMAGE AND VANDALISM UNTIL THE CITY ACCEPTS OR APPROVES THE SLAB, AFTER WHICH TIME THE OWNER OF THE ADJUTING LAND SHALL BE RESPONSIBLE FOR THE SLAB IN ACCORDANCE WITH THE CITY CODE. ANY SLAB SECTION DAMAGED OR VANDALIZED PRIOR TO ACCEPTANCE OR APPROVAL SHALL BE CUT OUT BETWEEN JOINTS AND REPLACED. REPAIRS ARE NOT ACCEPTABLE.
11. SIDEWALKS LOCATED WITHIN THE RIGHT-OF-WAY SHALL NOT BE TINTED, STAINED, COLORED, OR COATED.
12. ALL FORMS SHALL BE REMOVED PRIOR TO ACCEPTANCE OR APPROVAL AND THE DISTURBED GROUND SHALL BE BACKFILLED, REGRADED, AND SODDED SO THAT THE WEAR SURFACE OF THE CONCRETE IS REASONABLY FLUSH WITH THE ADJACENT GRADE.

STANDARD CONSTRUCTION DETAIL
SIDEWALK, RAMP, AND DRIVEWAY APRON CONSTRUCTION REQUIREMENTS
 NTS
 INDEX
 M-3
 MARCH 2014



ORMOND BEACH
 300 INTERCHANGE BLVD., STE. 1C, ORMOND BEACH, FL 32174
 (386) 677-2482 FAX (386) 677-2505
ST. AUGUSTINE
 4475 U.S. 1, SUITE 200, ST. AUGUSTINE, FL 32086
 (904) 797-1610 FAX (904) 797-4159
AMELIA ISLAND
 914 ATLANTIC AVE., STE. 200, FERNANDINA, FL 32044
 (904) 49-6408 FAX (904) 797-4159

NO.	DATE	REASON FOR CITY COMMENTS	DATE	BY
1.	11-18-2014	REVISION PER CITY COMMENTS DATED 11-18-2014		
2.	12-24-14	REVISION PER CITY COMMENTS DATED 12-24-2014		

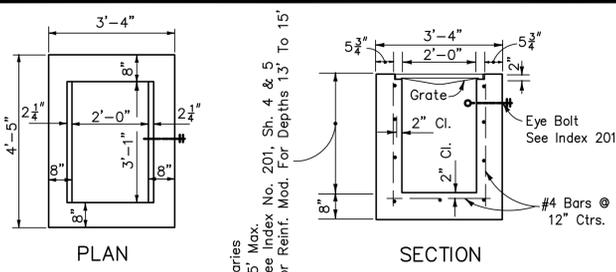
REVISIONS:

ORMOND BEACH YMCA
PARKING LOT EXPANSION
FINAL ENGINEERING PLANS
 CONSTRUCTION DETAILS
 ORMOND BEACH, FLORIDA

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 WWW.ZEVCOHEN.COM

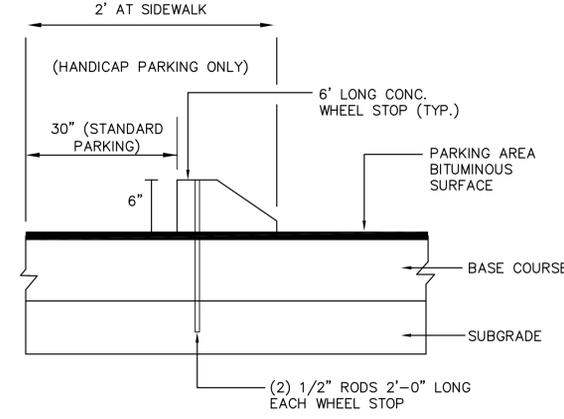
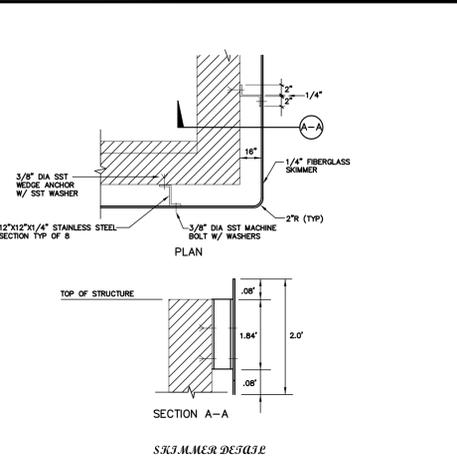
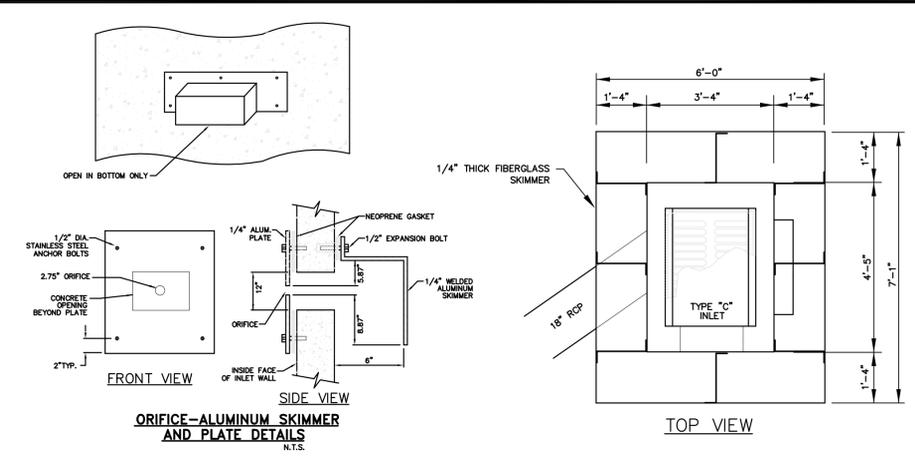
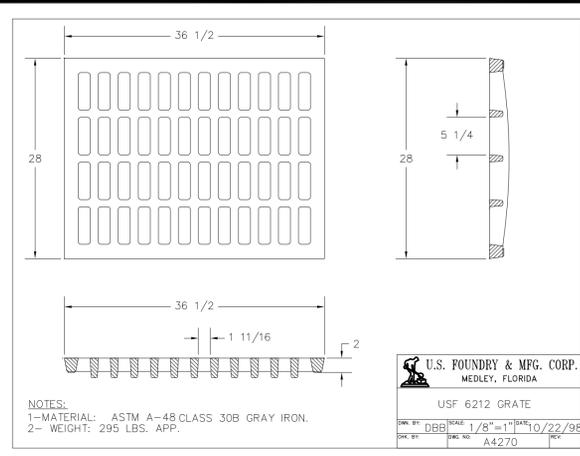
PROJECT NO: 13088
 ISSUE DATE: 10-29-2014
 DESIGNED BY: HK
 CHECKED BY: SH
 DRAWING FILE: CO13088DET
 SHEET 8 OF 8

FILE LOCATION: -
 NOT VALID WITHOUT SEAL
 SCALE: AS SHOWN
 SHEET **C-8** OF 10

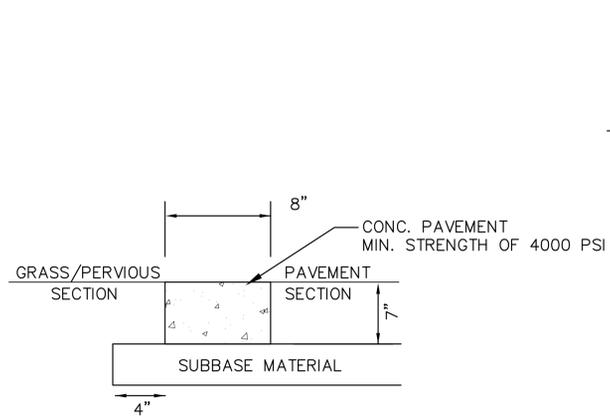


TYPE C INLET
N.T.S.

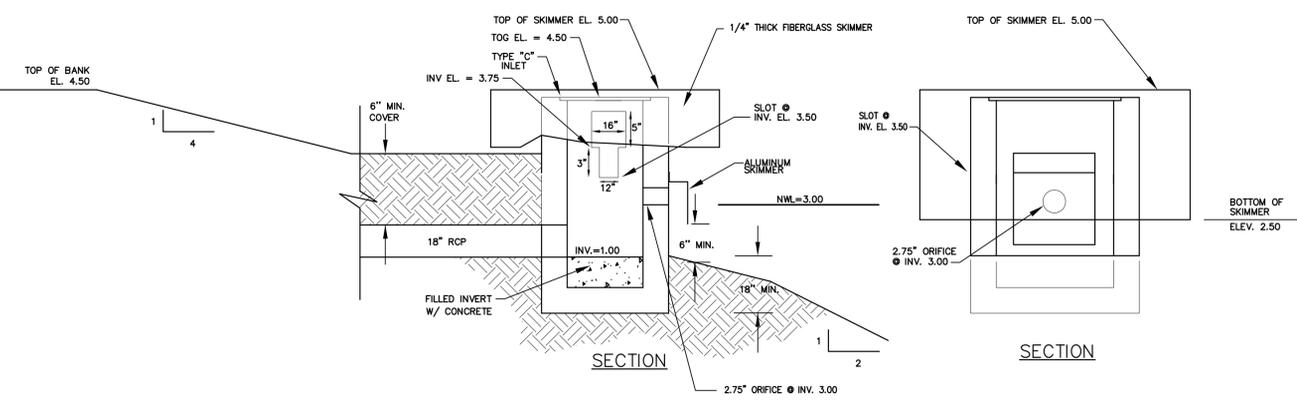
Recommended Maximum Pipe Size:
2'-0" Wall-18" Pipe
3'-1" Wall-24" Pipe



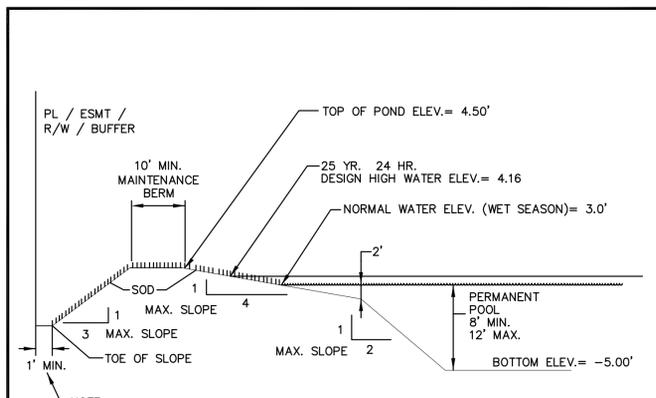
WHEEL STOP DETAIL
N.T.S.



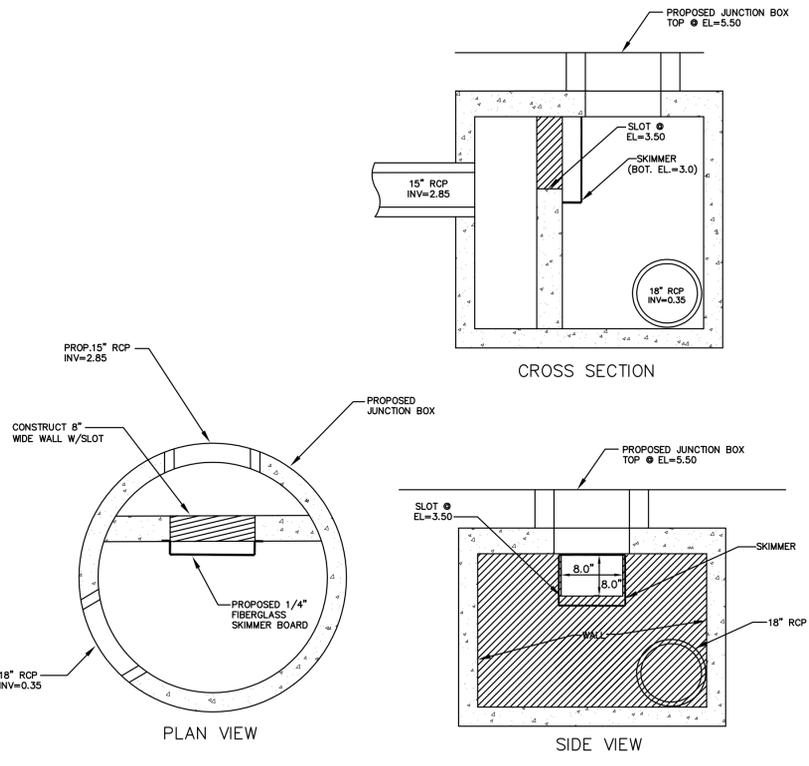
ENVIRONMENTAL CURB DETAIL
N.T.S.



DRAINAGE CONTROL STRUCTURE - DCS-1
(DA-1>99)
SCALE: N.T.S.

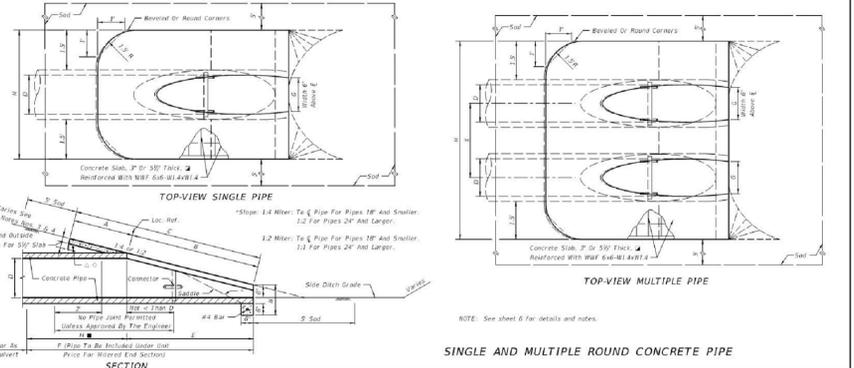


- NOTES:**
- SOD IS TO BE PLACED TO EDGE OF WATER EXCEPT IN LITTORAL PLANTING AREAS.
 - A MINIMUM OF ONE FOOT OF FREEBOARD IS REQUIRED BETWEEN DESIGN HIGH WATER ELEVATION AND TOP OF BANK. (SINCE THE FREEBOARD IS LESS THAN ONE FOOT, THE POND HAS BEEN DESIGNED TO HANDLE 100YR-24HR STORM EVENT.)
 - PROVIDE DESIGN DATA WHERE INDICATED (=)
 - PROVIDE SPILLWAY & DRAWDOWN DETAILS
 - IN ACCORDANCE WITH SECTION 3-58(F) ALL WET DETENTION POND SHALL INCLUDE AN AERATION FOUNTAIN TO ENSURE PROPER WATER QUALITY, ENHANCE MAINTENANCE AND IMPROVE AESTHETICS. PONDS SHALL BE DESIGNED TO APPEAR NATURAL AND NONGEOMETRIC.



DRAINAGE CONTROL STRUCTURE (DCS-2)
(DA-1>99N)
REFER TO FDOT INDEX #200 FOR ADDITIONAL DETAIL
N.T.S.

DIMENSIONS AND QUANTITIES															
D	X	A	B	C	E	F	G	30' CONCRETE SLAB (CY) #				SODDING (SQ)			
								Single	Double	Triple	Quad	Single	Double	Triple	Quad
15'	2'-0"	1'-0"	2'-0"	4'-0"	10'-0"	8'-0"	12'-0"	1.21	2.42	3.63	4.84	1.21	2.42	3.63	4.84
18'	2'-0"	1'-0"	2'-0"	4'-0"	10'-0"	8'-0"	12'-0"	1.51	3.02	4.53	6.04	1.51	3.02	4.53	6.04
21'	2'-0"	1'-0"	2'-0"	4'-0"	10'-0"	8'-0"	12'-0"	1.81	3.62	5.43	7.24	1.81	3.62	5.43	7.24
24'	2'-0"	1'-0"	2'-0"	4'-0"	10'-0"	8'-0"	12'-0"	2.11	4.22	6.33	8.44	2.11	4.22	6.33	8.44
27'	2'-0"	1'-0"	2'-0"	4'-0"	10'-0"	8'-0"	12'-0"	2.41	4.82	7.23	9.64	2.41	4.82	7.23	9.64
30'	2'-0"	1'-0"	2'-0"	4'-0"	10'-0"	8'-0"	12'-0"	2.71	5.42	8.13	10.84	2.71	5.42	8.13	10.84
33'	2'-0"	1'-0"	2'-0"	4'-0"	10'-0"	8'-0"	12'-0"	3.01	6.02	9.03	12.04	3.01	6.02	9.03	12.04
36'	2'-0"	1'-0"	2'-0"	4'-0"	10'-0"	8'-0"	12'-0"	3.31	6.62	9.93	13.24	3.31	6.62	9.93	13.24
39'	2'-0"	1'-0"	2'-0"	4'-0"	10'-0"	8'-0"	12'-0"	3.61	7.22	10.83	14.44	3.61	7.22	10.83	14.44
42'	2'-0"	1'-0"	2'-0"	4'-0"	10'-0"	8'-0"	12'-0"	3.91	7.82	11.73	15.64	3.91	7.82	11.73	15.64
45'	2'-0"	1'-0"	2'-0"	4'-0"	10'-0"	8'-0"	12'-0"	4.21	8.42	12.63	16.84	4.21	8.42	12.63	16.84
48'	2'-0"	1'-0"	2'-0"	4'-0"	10'-0"	8'-0"	12'-0"	4.51	9.02	13.53	18.04	4.51	9.02	13.53	18.04
51'	2'-0"	1'-0"	2'-0"	4'-0"	10'-0"	8'-0"	12'-0"	4.81	9.62	14.43	19.24	4.81	9.62	14.43	19.24
54'	2'-0"	1'-0"	2'-0"	4'-0"	10'-0"	8'-0"	12'-0"	5.11	10.22	15.33	20.44	5.11	10.22	15.33	20.44
57'	2'-0"	1'-0"	2'-0"	4'-0"	10'-0"	8'-0"	12'-0"	5.41	10.82	16.23	21.64	5.41	10.82	16.23	21.64
60'	2'-0"	1'-0"	2'-0"	4'-0"	10'-0"	8'-0"	12'-0"	5.71	11.42	17.13	22.84	5.71	11.42	17.13	22.84
63'	2'-0"	1'-0"	2'-0"	4'-0"	10'-0"	8'-0"	12'-0"	6.01	12.02	18.03	24.04	6.01	12.02	18.03	24.04
66'	2'-0"	1'-0"	2'-0"	4'-0"	10'-0"	8'-0"	12'-0"	6.31	12.62	18.93	25.24	6.31	12.62	18.93	25.24
69'	2'-0"	1'-0"	2'-0"	4'-0"	10'-0"	8'-0"	12'-0"	6.61	13.22	19.83	26.44	6.61	13.22	19.83	26.44
72'	2'-0"	1'-0"	2'-0"	4'-0"	10'-0"	8'-0"	12'-0"	6.91	13.82	20.73	27.64	6.91	13.82	20.73	27.64



SINGLE AND MULTIPLE ROUND CONCRETE PIPE
CROSS DRAIN MITERED END SECTION
INDEX NO. 272 SHEET NO. 1 of 6

STANDARD CONSTRUCTION DETAIL
WET RETENTION POND
N.T.S.

INDEX
ST-5
MARCH 2014

ORMOND BEACH YMCA
PARKING LOT EXPANSION
FINAL ENGINEERING PLANS

CONSTRUCTION DETAILS

ZEV COHEN & ASSOCIATES, INC.
CIVIL ENGINEERS • LANDSCAPE ARCHITECTS
PLANNERS • TRANSPORTATION • ENVIRONMENTAL

PROJECT NO: 13088 DRAFTED BY: CW
ISSUE DATE: 10-28-2014 CHECKED BY: SH
DESIGNED BY: HK DRAWING FILE: CO13088DET
AREA'S: 2

FILE LOCATION: -

NOT VALID WITHOUT SEAL
SCALE: AS SHOWN
SHEET **C-9** OF 10

18"x18"x4" THICK CONC. COLLAR (IN UNPAVED AREAS)

SET TOP OF VALVE BOX TO FINISHED GRADE & FLUSH OF CONCRETE COLLAR. ("WATER" ON TOP OR "SEWER" ON TOP PAINTED GREEN)

ADJUSTABLE CAST IRON VALVE BOX COVER AND LID

EXTENSION STEM WITH 2" SQ. WRENCH NUT AND UPPER GUIDE REQUIRED FOR MORE THAN 3 FT. DEPTH

VALVE BOX SHALL NOT REST ON PIPE OR VALVE

PRESSURE MAIN

MECHANICAL RESTRAINED JOINTS (MEGA LUGS OR APPROVED EQUAL)

6" GRAVEL SUPPORT

36" MINIMUM COVER

GATE VALVES 3" - 48" SHALL BE RESILIENT SEAT WEDGE VALVE (AWWA C-509 OR C-515), AS MANUFACTURED BY AMERICAN FLOW CONTROL, CLOW, M&H, KENNEDY, OR MUELLER. GATE VALVES LESS THAN 3" SHALL BE BRASS CONFORMING TO FED. SPEC. WW-V-54.

NOTE: USE RESTRAINED JOINT WHERE APPLICABLE.

STANDARD CONSTRUCTION DETAIL
GATE VALVE AND VALVE BOX
NTS

INDEX
W-2
MARCH 2014

TABLE APPLIES TO PVC PIPE FOR THE FOLLOWING CONDITIONS:
TEST PRESSURE: 150 PSIG
SOIL TYPE: SP
COVER DEPTH: 2.5 FEET
SAFETY FACTOR: 1.5
TRENCH TYPE: 3

SCHEDULE OF LENGTHS OF RESTRAINED PVC PIPE (FT.)					
FITTING	1/4 BEND	1/8 BEND	1/16 BEND	1/32 BEND	TEE OR DEAD END
4"	20	18	18	18	45
6"	28	18	18	18	63
8"	36	18	18	18	82
10"	44	28	18	18	98
12"	51	21	18	18	116
14"	57	24	18	18	132
16"	63	26	18	18	148
18"	69	29	18	18	163
20"	75	31	18	18	179
24"	87	36	18	18	208
30"	102	42	20	18	248

LENGTHS BETWEEN HEAVY LINES INDICATE ONE FULL LENGTH (18' MIN.) OF PIPE TO BE RESTRAINED.
TABLE SHOWS MINIMUM LENGTH OF PIPE EACH WAY FROM FITTING FOR WHICH RESTRAINT IS REQUIRED.

TABLE APPLIES TO D.I.P. FOR THE FOLLOWING CONDITIONS:
TEST PRESSURE: 150 PSIG
SOIL TYPE: SP
COVER DEPTH: 2.5 FEET
SAFETY FACTOR: 1.5
TRENCH TYPE: 2

SCHEDULE OF LENGTHS OF RESTRAINED DIP (FT.)					
FITTING	1/4 BEND	1/8 BEND	1/16 BEND	1/32 BEND	TEE OR DEAD END
4"	21 (26)	18 (18)	18 (18)	18 (18)	37 (55)
6"	30 (36)	18 (18)	18 (18)	18 (18)	52 (78)
8"	38 (45)	18 (18)	18 (18)	18 (18)	67 (100)
10"	45 (54)	18 (22)	18 (18)	18 (18)	81 (122)
12"	52 (63)	22 (26)	18 (18)	18 (18)	94 (141)
14"	60 (72)	25 (30)	18 (18)	18 (18)	107 (160)
16"	66 (80)	27 (33)	18 (18)	18 (18)	120 (180)
18"	74 (87)	31 (36)	18 (18)	18 (18)	132 (198)
20"	80 (94)	33 (39)	18 (18)	18 (18)	144 (216)
24"	92 (108)	38 (45)	18 (22)	18 (18)	167 (250)
30"	106 (128)	44 (53)	21 (25)	18 (18)	199 (298)
36"	69 (82)	28 (34)	18 (18)	18 (18)	170 (204)
42"	76 (92)	31 (37)	18 (18)	18 (18)	191 (229)
48"	90 (106)	40 (46)	18 (18)	18 (18)	212 (254)

LENGTHS BETWEEN HEAVY LINES INDICATE ONE FULL LENGTH (18' MIN.) OF PIPE TO BE RESTRAINED.
TABLE SHOWS MINIMUM LENGTH OF PIPE EACH WAY FROM FITTING FOR WHICH RESTRAINT IS REQUIRED.
VALUES IN PARENTHESIS ARE FOR PIPE ENCASED IN POLYETHYLENE.

STANDARD CONSTRUCTION DETAIL
PVC AND D.I.P. RESTRAINED JOINT TABLE
INDEX
W-5
MARCH 2014

ACCEPTABLE MANUFACTURERS: HERSEY MODEL 6CM, WILKINS MODEL 375, WATTS MODEL 009 WITH OS&Y VALVES.

FINISH GRADE

18"x18"x4" THICK CONC. COLLAR IN UNPAVED AREAS

HYDRANT CAP & CHAIN

PLASTIC METER BOX

FIRE HYDRANT THREADS 2-1/2" NST BRASS

SHUT OFF EXTENSION

BRACE (SCH. 80 PVC)

6" C.I. VALVE BOX & LID: POTABLE WATER: PAINT BLUE, "WATER" EMBOSSED RECLAIM WATER: PAINT PURPLE, "RECLAIM" EMBOSSED

OPERATING ROD ENCLOSED IN SCHEDULE 80 PVC PIPE

BRASS BALL VALVE

2" FIP INLET

BLOW-OFF SHALL BE MODEL VB2000B BY "WATER PLUS" CORP., OR APPROVED EQUAL

1. WRENCH AND DISCHARGE SPOUT AS SUPPLIED BY MANUFACTURER SHALL BE TURNED OVER TO THE CITY DURING FINAL INSPECTION.

MATERIALS		
ITEM	QUANT.	DESCRIPTION
1	1	3", 4" VALVE, REDUCED PRESSURE BACKFLOW PREVENTER
2	2	3", 4" VALVE, GATE, C.I., F-F
3	1	3", 4" NIPPLE, PVC, D.I., BRASS, OR COPPER (12" LONG) (OPT.)
4	2	3", 4" ELBOW, PVC, D.I., BRASS, OR COPPER - 90'
5	2	3", 4" FLANGE
6	2	3", 4" PIPE, PVC, D.I., BRASS OR COPPER (42" LONG)
7	1	3", 4" NIPPLE, PVC, D.I., BRASS OR COPPER (6" LONG)
8	*	PEA GRAVEL
9	*	PLASTIC LINER
10	1	PIPE SUPPORT / CONCRETE FOUNDATION

NOTE:
-FIELD ADJUST AND CUT ITEM 3 TO THE PROPER LENGTH.
-ASSEMBLY SHALL BE PAINTED FOREST GREEN.
-A COPY OF THE ASSEMBLY CERTIFICATION SHALL BE SUBMITTED TO THE CITY'S ENGINEERING DEPARTMENT BEFORE FINAL INSPECTION
-ASSEMBLY SHOULD HAVE ADEQUATE LANDSCAPING AROUND IT TO OBTAIN VIEW.
C-900 OR D.I. PIPE AND FITTINGS SHALL BE RESTRAINED. COPPER PIPE AND FITTINGS SHALL BE SWEATED. BRASS PIPE AND FITTINGS SHALL BE THREADED. NO GALVANIZED PIPE OR FITTINGS ALLOWED.

STANDARD CONSTRUCTION DETAIL
REDUCED PRESSURE BACKFLOW PREVENTER (POTABLE WATER) 3" OR 4"
INDEX
W-6B
MARCH 2014

FINISH GRADE

18"x18"x4" THICK CONC. COLLAR IN UNPAVED AREAS

HYDRANT CAP & CHAIN

PLASTIC METER BOX

FIRE HYDRANT THREADS 2-1/2" NST BRASS

SHUT OFF EXTENSION

BRACE (SCH. 80 PVC)

6" C.I. VALVE BOX & LID: POTABLE WATER: PAINT BLUE, "WATER" EMBOSSED RECLAIM WATER: PAINT PURPLE, "RECLAIM" EMBOSSED

OPERATING ROD ENCLOSED IN SCHEDULE 80 PVC PIPE

BRASS BALL VALVE

2" FIP INLET

BLOW-OFF SHALL BE MODEL VB2000B BY "WATER PLUS" CORP., OR APPROVED EQUAL

1. WRENCH AND DISCHARGE SPOUT AS SUPPLIED BY MANUFACTURER SHALL BE TURNED OVER TO THE CITY DURING FINAL INSPECTION.

STANDARD CONSTRUCTION DETAIL
BLOW-OFF ASSEMBLY
NTS

INDEX
W-11
MARCH 2014

OTHER PIPE	HORIZONTAL SEPARATION	CROSSINGS (1)	JOINT SPACING @ CROSSINGS (FULL JOINT CENTERED)
STORM SEWER, STORM WATER FORCE MAIN, RECLAIMED WATER (2)	WATER MAIN 3 FT. MINIMUM	WATER MAIN 12 INCHES IS THE MINIMUM EXCEPT FOR 6 INCHES IS THE MINIMUM AND 18 INCHES	ALTERNATE 3 FT. MINIMUM
VACUUM SANITARY SEWER	WATER MAIN 10 FT. PREFERRED 6 FT. MINIMUM (3)	WATER MAIN 12 INCHES PREFERRED 6 INCHES MINIMUM	ALTERNATE 3 FT. MINIMUM
GRAVITY OR PRESSURE SANITARY FORCE MAIN, RECLAIMED WATER (4)	WATER MAIN 10 FT. PREFERRED 6 FT. MINIMUM (3)	WATER MAIN 12 INCHES IS THE MINIMUM EXCEPT FOR 6 INCHES IS THE MINIMUM AND 18 INCHES	ALTERNATE 6 FT. MINIMUM
ON-SITE SEWAGE TREATMENT & DISPOSAL SYSTEM	WATER MAIN 10 FT. MINIMUM	WATER MAIN 12 INCHES IS THE MINIMUM EXCEPT FOR 6 INCHES IS THE MINIMUM AND 18 INCHES	ALTERNATE 6 FT. MINIMUM

10 WATER MAIN SHALL CROSS ABOVE OTHER PIPE WHEN WATER MAIN MUST BE BELOW OTHER PIPE. THE MINIMUM SEPARATION IS 18 INCHES.
11 WATER MAIN SHALL CROSS ABOVE OTHER PIPE WHEN WATER MAIN MUST BE BELOW OTHER PIPE. THE MINIMUM SEPARATION IS 18 INCHES.
12 WATER MAIN SHALL CROSS ABOVE OTHER PIPE WHEN WATER MAIN MUST BE BELOW OTHER PIPE. THE MINIMUM SEPARATION IS 18 INCHES.
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23 WATER MAIN SHALL CROSS ABOVE OTHER PIPE WHEN WATER MAIN MUST BE BELOW OTHER PIPE. THE MINIMUM SEPARATION IS 18 INCHES.
24 WATER MAIN SHALL CROSS ABOVE OTHER PIPE WHEN WATER MAIN MUST BE BELOW OTHER PIPE. THE MINIMUM SEPARATION IS 18 INCHES.
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40 RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-500, FAC.
DISCLAIMER - THIS DOCUMENT WAS PROVIDED FOR YOUR CONVENIENCE ONLY. PLEASE REFER TO FAC. RULE 62-500.04 FOR ADDITIONAL CONSTRUCTION REQUIREMENTS.

STANDARD CONSTRUCTION DETAIL
WATER MAIN SEPARATION
INDEX
W-9A
MARCH 2014

FINISHED GRADE

36" COVER TYP.

PVC OR DIP

VARIABLE-DIP CLASS 50

PVC OR DIP

UTILITY MAIN OR STORM SEWER

12" MIN.

12" MIN.

18" MIN.

UTILITY MAIN

45° D.I.P. BENDS WITH RESTRAINED JOINT (4 REQ'D)

NOTE: ABOVE DETAIL TO BE UTILIZED IF CONTRACTOR CANNOT MAINTAIN 18" CLEAR BETWEEN MAINS BY DEFLECTING PIPE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

STANDARD CONSTRUCTION DETAIL
PIPE CROSSING
INDEX
W-9B
MARCH 2014

AS REQUIRED

TAPPING SLEEVE OF EXISTING SERVICE

2" HDL (TYP.)

18" X 24" HINGED LID PROVIDE HASP FOR PADLOCK

CONCRETE BLOCK

FOOTING

TOP VIEW

8"x8"x12" CONCRETE BLOCK WITH CELLS POURED FULL OF CONCRETE AND ONE #5 # BAR EACH CORNER

FINISH GRADE

VALVE BOX (TYP.)

12" (TYP.)

SUPPORT PAD (BRICK OR CONCRETE)

4" COURSE STONE

6" X 12" CONCRETE FOOTING W/2 #5 # BARS CONT.

LOCKING HASP

STAINLESS STEEL BOLTS AND NUTS BETWEEN CONC. AND ALLUM.

WATER METER ASSEMBLY NOTES

- LID SHALL BE ALUMINUM DIAMOND PATTERN PLATE AS MANUFACTURED BY HALLIDAY PRODUCTS.
- AS AN ALTERNATIVE TO CONSTRUCTING THE VAULT ON SITE, A PRECAST VAULT AS MANUFACTURED BY BROOKS PRODUCTS OR AN APPROVED EQUAL IS AN OPTION.
- UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, GATE VALVES SHALL BE INSTALLED ON MAINS LESS THAN 12" AND BUTTERFLY VALVES FOR MAINS 12" AND GREATER.
- THE WATER SERVICE METER SHALL BE A NEPTUNE WATER METER WITH A 2" SEALED REGISTER METER. METERS SHALL REGISTER IN GALLONS, BE STRAIGHT READING AND CONFORM TO AWWA C-700 LATEST BY THE MANUFACTURER.
- WATER SERVICE METERS SERVING A FIRE PROTECTION SYSTEM SHALL BE NEPTUNE HIGH PERFORMANCE PROTECTUS III FIRE SERVICE METER.
- METERS 3" AND LARGER TO HAVE A 2" TEST PORT.
- WATER METER REGISTER SHALL BE THE TOUCH READ ECR TYPE.
- TOUCH READ DEVICE SHALL BE MOUNTED IN VAULT LID AS RECOMMENDED BY THE MANUFACTURER.
- USE DIP OR PVC PIPE IN ACCORDANCE WITH LDC. NO GIP ALLOWED.
- METER TO BE SUPPLIED BY THE CITY AND INSTALLED BY CONTRACTOR.
- ALL ITEMS EXCEPT METER TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.

INSIDE VAULT DIMENSIONS SHALL BE AS FOLLOWS:

3" METERS	4' x 5'
4" METERS	4' x 6'
6" METERS	5' x 6'
8" METERS	6' x 6'
10" METERS	7' x 6'

STANDARD CONSTRUCTION DETAIL
WATER METER ASSEMBLY 3" AND ABOVE
INDEX
W-12
MARCH 2014

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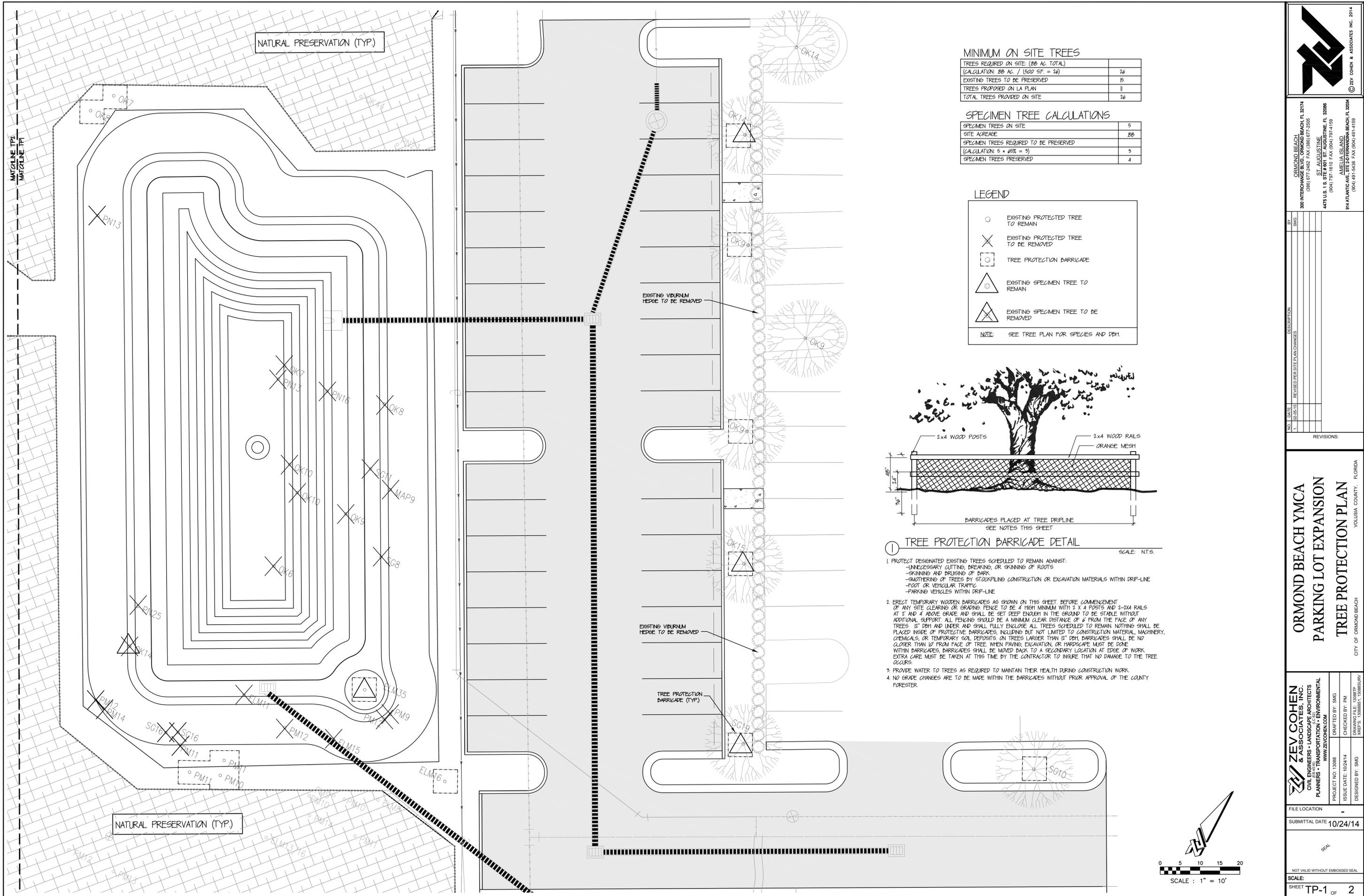
BY: [Signature]
DATE: [Date]
REVISIONS:

ORMOND BEACH YMCA
PARKING LOT EXPANSION
FINAL ENGINEERING PLANS
CONSTRUCTION DETAILS
ORMOND BEACH, FLORIDA

ZEV COHEN & ASSOCIATES, INC.
CIVIL ENGINEERS • LANDSCAPE ARCHITECTS
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PROJECT NO: 13088 DRAFTED BY: CW
ISSUE DATE: 10-29-2014 CHECKED BY: SH
DESIGNED BY: HK DRAWING FILE: CO13088DET
2/REV'S:

FILE LOCATION: -
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SCALE: AS SHOWN
SHEET C-10 OF 10



MINIMUM ON SITE TREES

TREES REQUIRED ON SITE (200 AC. TOTAL)	
(CALCULATION 200 AC. / 1500 SF. = 76)	76
EXISTING TREES TO BE PRESERVED	15
TREES PROPOSED ON LA PLAN	1
TOTAL TREES PROVIDED ON SITE	76

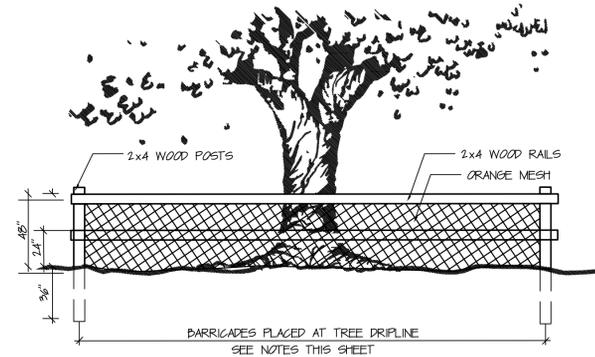
SPECIMEN TREE CALCULATIONS

SPECIMEN TREES ON SITE	5
SITE ACREAGE	200
SPECIMEN TREES REQUIRED TO BE PRESERVED	
(CALCULATION 5 * 40% = 2)	2
SPECIMEN TREES PRESERVED	4

LEGEND

- EXISTING PROTECTED TREE TO REMAIN
- ⊗ EXISTING PROTECTED TREE TO BE REMOVED
- TREE PROTECTION BARRICADE
- △ EXISTING SPECIMEN TREE TO REMAIN
- △ EXISTING SPECIMEN TREE TO BE REMOVED

NOTE: SEE TREE PLAN FOR SPECIES AND DBH.



- 1 TREE PROTECTION BARRICADE DETAIL** SCALE: N.T.S.
- PROTECT DESIGNATED EXISTING TREES SCHEDULED TO REMAIN AGAINST:
 - UNNECESSARY CUTTING, BREAKING, OR SKINNING OF ROOTS
 - SKINNING AND DRUISING OF BARK
 - SMOTHERING OF TREES BY STOCKPILING CONSTRUCTION OR EXCAVATION MATERIALS WITHIN DRIP-LINE
 - FOOT OR VEHICULAR TRAFFIC
 - PARKING VEHICLES WITHIN DRIP-LINE
 - ERECT TEMPORARY WOODEN BARRICADES AS SHOWN ON THIS SHEET. BEFORE COMMENCEMENT OF ANY SITE CLEARING OR GRADING FENCE TO BE 4' HIGH MINIMUM WITH 2" X 4" POSTS AND 2" X 4" RAILS AT 2' AND 4' ABOVE GRADE AND SHALL BE SET DEEP ENOUGH IN THE GROUND TO BE STABLE WITHOUT ADDITIONAL SUPPORT. ALL FENCING SHOULD BE A MINIMUM CLEAR DISTANCE OF 6' FROM THE FACE OF ANY TREES 12" DBH AND UNDER AND SHALL FULLY ENCLOSE ALL TREES SCHEDULED TO REMAIN. NOTHING SHALL BE PLACED INSIDE OF PROTECTIVE BARRICADES, INCLUDING BUT NOT LIMITED TO CONSTRUCTION MATERIAL, MACHINERY, CHEMICALS, OR TEMPORARY SOIL DEPOSITS. ON TREES LARGER THAN 12" DBH, BARRICADES SHALL BE NO CLOSER THAN 12' FROM FACE OF TREE WHEN PAVING, EXCAVATION, OR HARDSCAPE MUST BE DONE WITHIN BARRICADES, BARRICADES SHALL BE MOVED BACK TO A SECONDARY LOCATION AT EDGE OF WORK. EXTRA CARE MUST BE TAKEN AT THIS TIME BY THE CONTRACTOR TO INSURE THAT NO DAMAGE TO THE TREE OCCURS.
 - PROVIDE WATER TO TREES AS REQUIRED TO MAINTAIN THEIR HEALTH DURING CONSTRUCTION WORK.
 - NO GRADE CHANGES ARE TO BE MADE WITHIN THE BARRICADES WITHOUT PRIOR APPROVAL OF THE COUNTY FORESTER.



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NO.	DATE	DESCRIPTION
1	10/24/14	REVISED PER SITE PLAN CHANGES

**ORMOND BEACH YMCA
PARKING LOT EXPANSION
TREE PROTECTION PLAN**

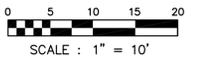
VOLUSIA COUNTY, FLORIDA
CITY OF ORMOND BEACH

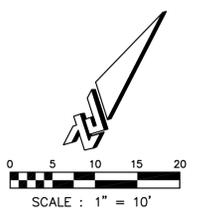
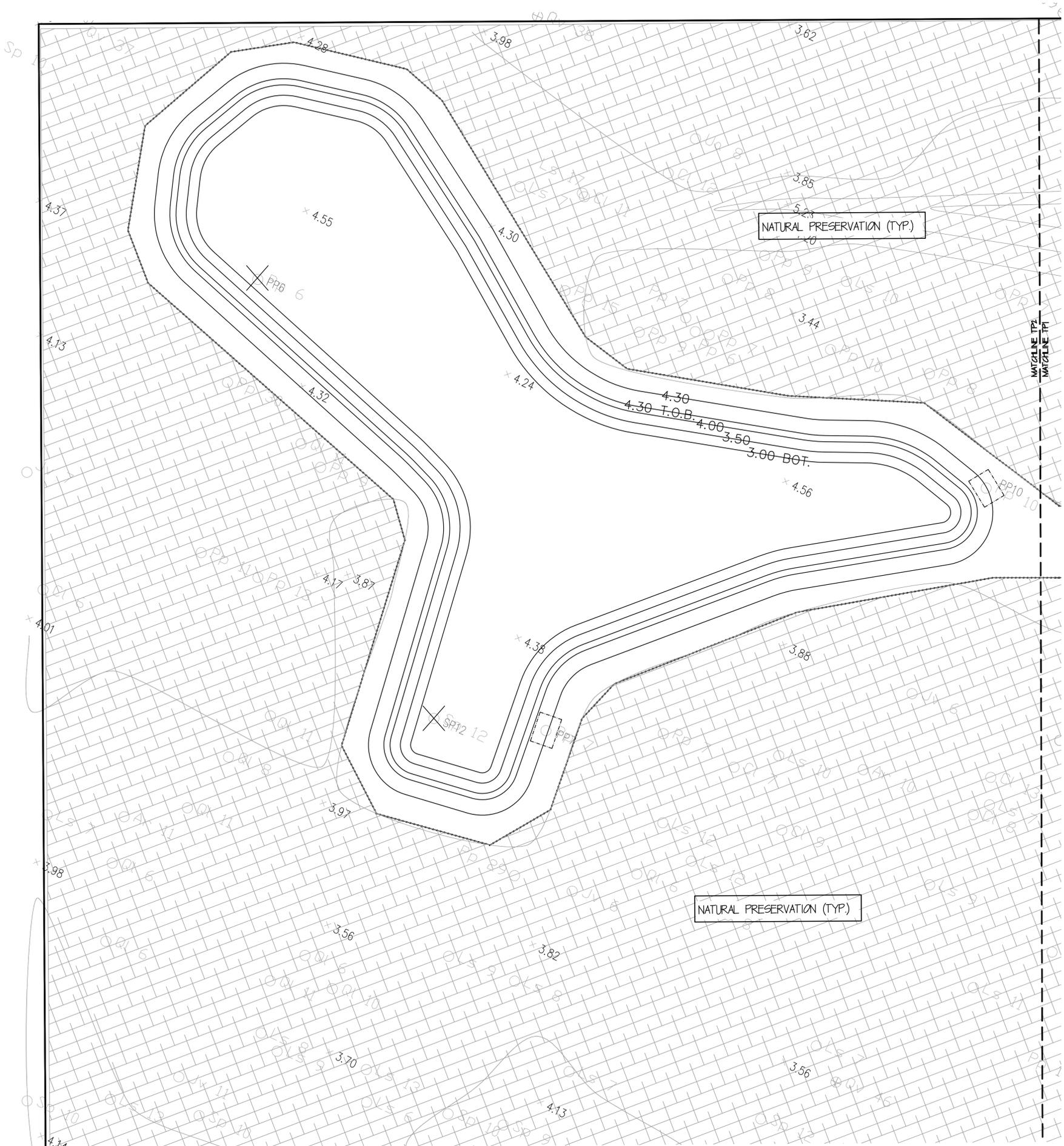
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DESIGNED BY: SNG

FILE LOCATION
SUBMITTAL DATE 10/24/14

SCALE: TP-1 OF 2





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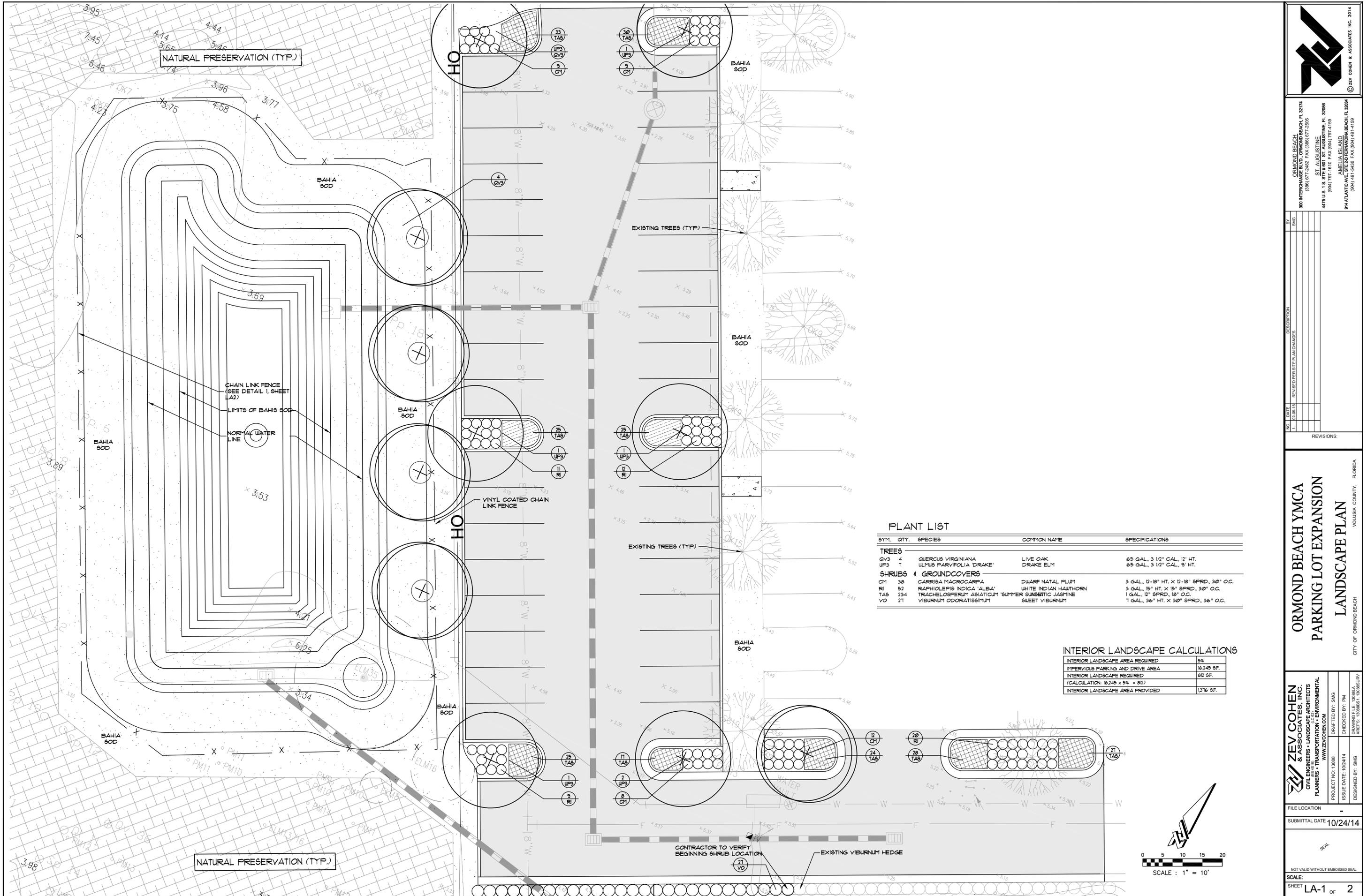
NO.	DATE	DESCRIPTION

REVISIONS:

**ORMOND BEACH YMCA
PARKING LOT EXPANSION
TREE PROTECTION PLAN**
CITY OF ORMOND BEACH VOLUSIA COUNTY, FLORIDA

ZEY COHEN & ASSOCIATES, INC.
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FILE LOCATION: -
SUBMITTAL DATE: 10/24/14
NOT VALID WITHOUT EMBOSSED SEAL
SCALE: TP-2 OF 2



PLANT LIST

SYM.	QTY.	SPECIES	COMMON NAME	SPECIFICATIONS
TREES				
QV3	4	QUERCUS VIRGINIANA	LIVE OAK	65 GAL., 3 1/2" CAL., 12' HT.
UP3	1	ULMUS PARVIFOLIA 'DRAKE'	DRAKE ELM	65 GAL., 3 1/2" CAL., 9' HT.
SHRUBS & GROUNDCOVERS				
CH	38	CARRISBA MACROCARPA	DWARF NATAL FLUM	3 GAL., 12-18" HT. X 12-18" SPRD., 30" O.C.
RI	52	RAPHIOLEPIS INDICA 'ALBA'	WHITE INDIAN HAUTHORN	3 GAL., 15" HT. X 15" SPRD., 30" O.C.
TAS	234	TRACHELOSPERUM ASIATICUM 'SUMMER SUNBERRY'	SUMMER SUNBERRY	1 GAL., 12" SPRD., 18" O.C.
VO	21	VIBURNUM ODORATISSIMUM	SWEET VIBURNUM	7 GAL., 36" HT. X 30" SPRD., 36" O.C.

INTERIOR LANDSCAPE CALCULATIONS

INTERIOR LANDSCAPE AREA REQUIRED	5%
IMPERVIOUS PARKING AND DRIVE AREA	16,245 SF.
INTERIOR LANDSCAPE REQUIRED	812 SF.
(CALCULATION: 16,245 x 5% = 812)	
INTERIOR LANDSCAPE AREA PROVIDED	1376 SF.



**ORMOND BEACH YMCA
PARKING LOT EXPANSION
LANDSCAPE PLAN**

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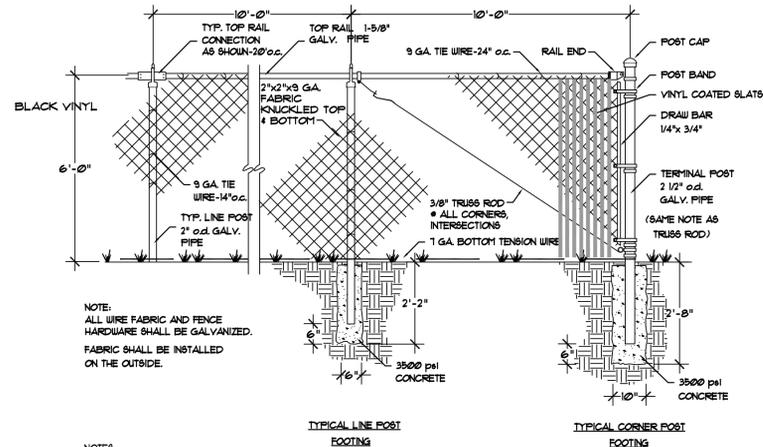
ORMOND BEACH YMCA
PARKING LOT EXPANSION
LANDSCAPE PLAN

CITY OF ORMOND BEACH
VOLUSIA COUNTY, FLORIDA

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PROJECT NO. 13088
ISSUE DATE: 10/24/14
DESIGNED BY: SMG
DRAFTED BY: SMG
CHECKED BY: PM
DRAWING FILE: 13088A
XREFS: 13088B, 13088C, 13088D, 13088E, 13088F, 13088G, 13088H, 13088I, 13088J, 13088K, 13088L, 13088M, 13088N, 13088O, 13088P, 13088Q, 13088R, 13088S, 13088T, 13088U, 13088V, 13088W, 13088X, 13088Y, 13088Z

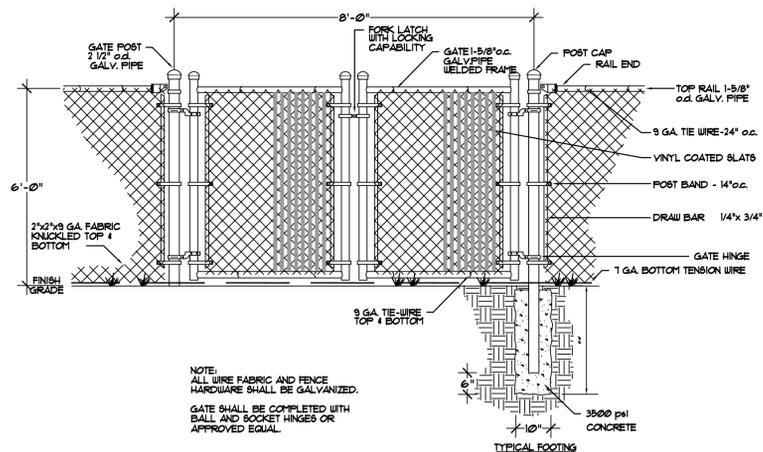
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SCALE: LA-1 OF 2



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CHAIN LINK FENCE DETAIL

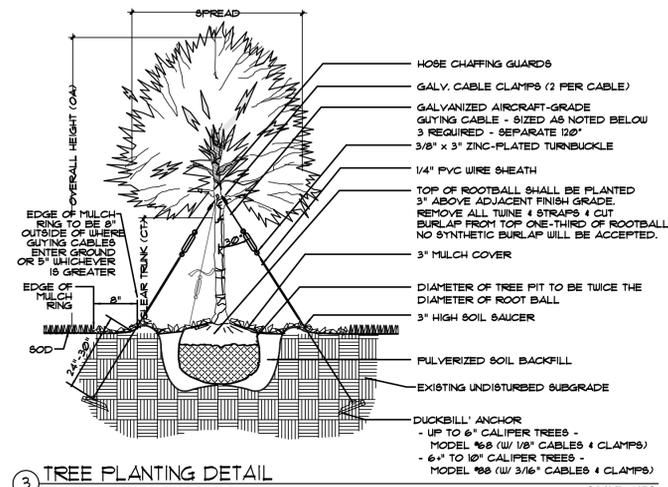
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CHAIN LINK DOUBLE GATE DETAIL

SCALE: N.T.S.



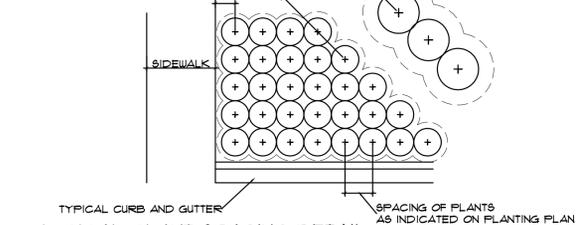
TREE PLANTING DETAIL

SCALE: N.T.S.

NOTE: IN MOST CASES, TRIANGULAR SPACING IS PREFERRED, USE SQUARE SPACING ONLY IN SMALL RECTILINEAR AREAS.

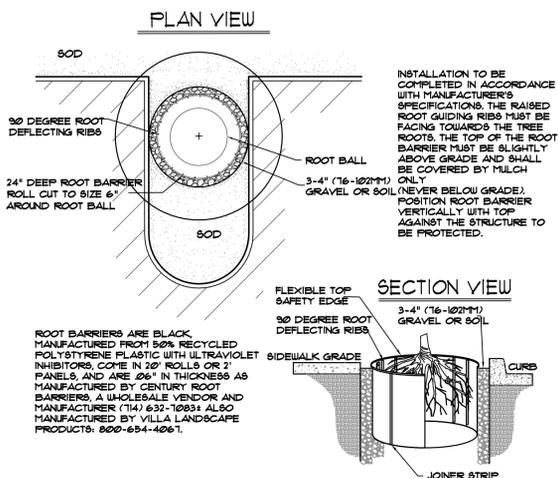
DISTANCE BETWEEN PLANTS SHOULD BE FAR ENOUGH TO ALLOW PLANTS TO REACH MATURE SIZE WITHOUT INTERFERING WITH GROWTH OF ADJACENT PLANT MATERIALS.

DISTANCE TO CENTERLINE WILL VARY ACCORDING TO SPECIES AND HABITAT OF GROWTH SO THAT MATURE PLANTS WILL NOT OVER LAP ONTO SIDEWALK, STRUCTURES, PAVED AREAS, ETC.



TYPICAL PLANT SPACING DETAIL

SCALE: N.T.S.



ROOT BARRIER DETAIL (SURROUND APPLICATION)

SCALE: N.T.S.

LANDSCAPE SPECIFICATIONS

1. FLORIDA: ALL PLANT MATERIAL SHALL BE GRADE FLORIDA NO. 1 OR BETTER IN QUALITY AS DESIGNATED IN THE MOST RECENT PUBLICATION OF "GRADES AND STANDARDS FOR NURSERY PLANTS," PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES. SEE #1 FOR INFO.
2. EXISTING PLANTS: IF PROPOSED PLANTINGS SHOWN ON PLAN INTERFERE WITH EXISTING LANDSCAPING, THE EXISTING LANDSCAPING IS TO BE REMOVED IN FAVOR OF THE NEW PLANTINGS.
3. EXISTING PLANTS: IF PROPOSED PLANTINGS SHOWN ON PLAN INTERFERE WITH EXISTING LANDSCAPING, THE PROPOSED LANDSCAPING SHALL BE LOCATED AS CLOSE AS POSSIBLE TO ITS INTENDED LOCATION.
4. MULCH: ALL PLANTING BEDS SHALL BE TOP DRESSED WITH 3" PINE BARK MULCH, GRADE "B" OR BETTER. ALL TREES NOT IN BEDS SHALL HAVE A 5' DIAMETER MULCH RING. ALL PALMS NOT IN BEDS SHALL HAVE A 3' DIAMETER MULCH RING.
5. SOD: SOD SHALL BE ST. AUGUSTINE FLORITAM UNLESS OTHERWISE SPECIFIED ON THE PLANS AS ARGENTINE BAHIA. ALL SOD SHALL BE ROLLED. CONTRACTOR TO SOD ALL AREAS THAT ARE DISTURBED BY CONSTRUCTION RELATED ACTIVITIES.
6. QUANTITIES: IN THE EVENT OF A VARIATION BETWEEN THE QUANTITIES SHOWN ON THE PLANT LIST AND THE ACTUAL QUANTITY OF PLANTS SHOWN ON THE PLAN, THE PLAN SHALL CONTROL. SOD QUANTITY TAKEOFFS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
7. UNFORESEEN CONFLICTS: CONTRACTOR SHALL NOT WILLFULLY INSTALL ANY PORTION OF THE LANDSCAPE PLAN AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNFORESEEN OBSTRUCTIONS, GRADE DIFFERENCES, STANDING WATER, SOIL CONDITIONS OR OTHER CONFLICTS EXIST. SUCH UNFORESEEN CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE AND THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
8. SUBSTITUTIONS: NO SUBSTITUTIONS OR VARIATIONS OF ANY PLANT MATERIAL OR ITS INSTALLED LOCATION WILL BE PERMITTED WITHOUT THE PRIOR WRITTEN CONSENT AND APPROVAL FROM THE LANDSCAPE ARCHITECT.
9. CONTAINERS: IF GALLONAGE FOR PLANTS OR TREES IS SHOWN THEY SHALL BE CONTAINER GROWN AND THE SIZE SHOWN SHALL REPRESENT THE MINIMUM ALLOWABLE GALLONAGE ACCEPTED. IN ALL CASES THE PLANT SPECIFIED SIZE SHALL GOVERN OVER THE GALLONAGE INDICATED.
10. SOIL TESTING: CONTRACTOR SHALL PROVIDE TO OWNER'S REPRESENTATIVE TESTING REPORTS FROM SOIL SAMPLES TAKEN AT A RATE OF ONE SAMPLE FROM EACH OF THE DIFFERENT AREAS TO BE PLANTED. AT MINIMUM, TESTING REPORTS SHALL BE PROVIDED FOR THE NORTH, SOUTH, EAST, AND WEST PORTIONS OF THE SITE.
11. PLANTING SOIL: CONTRACTOR SHALL VERIFY THAT SOIL CONDITIONS ARE SUITABLE TO THE PLANT SPECIES SPECIFIED. IF SOIL CONDITIONS ARE DEEMED UNSUITABLE FOR PROPER PLANT HEALTH, CONTRACTOR SHALL NOTIFY PROPOSED STAKING AND PROPER SUBSTITUTIONS SHALL BE SPECIFIED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. ADDITIONALLY, IF PRESENT THE CONTRACTOR SHALL REMOVE LIME ROCK, CONCRETE AND OTHER DELETERIOUS DEBRIS FROM PLANTING BEDS. IF DEBRIS IS INTEGRATED IN THE SOIL, THE SOIL MUST BE EXCAVATED AND REPLACED WITH ACCEPTABLE SOIL. LASTLY, ALL FILL TO BE PLACED IN LANDSCAPE AREAS MUST HAVE A PH RANGE BETWEEN 5.0 AND 7.5, BE ORGANIC IN NATURE, AND BE FREE OF ROCKS AND DEBRIS.
12. TOPSOIL: TOPSOIL MATERIAL, IF REQUIRED, SHALL BE FREE FROM ALL HARD CLODS, WEEDS, STONES OVER 1" IN DIAMETER, CLAY, HARD PAN, NOXIOUS PLANTS, SOD, INSECTS, OR OTHER UNDESIRABLE PLANTS, SEEDS, OR MATERIAL WHICH MAY BE HARMFUL FOR GROWTH AND SHALL BE CERTIFIED AS STERILE.
13. WEEDS: IF PRESENT, THE CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE ANY WEEDS FROM PLANTING AREAS PRIOR TO THE INSTALLATION OF PROPOSED PLANT MATERIAL AND MULCH COVER. CONTRACTOR SHALL BE RESPONSIBLE TO KEEP BEDS FREE OF WEEDS FOR THE DURATION OF THE 90 DAY MAINTENANCE PERIOD.
14. GRADING: UNLESS OTHERWISE STATED ON THESE PLANS, THE LANDSCAPE CONTRACTOR SHALL FINE GRADE ALL AREAS TO BE PLANTED AND SODDED IN ORDER TO ELIMINATE BUMPS AND DEPRESSIONS. FINE GRADING SHALL BE DEFINED AS THE FINAL 2" OF GRADE TO BE ACHIEVED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING AND REGRADING WASHOUT AREAS CAUSED BY EROSION UNTIL FINAL ACCEPTANCE OF THE PROJECT.
15. STAKING: ALL TREES, AND PALMS ARE TO BE STAKED ACCORDING TO THE DETAILS IN THESE PLANS. IF THE CONTRACTOR PREFERENCES TO USE OTHER STAKING METHODS THAN SHOWN IN THE DETAILS, HE OR SHE MUST SUBMIT PROPOSED STAKING DETAILS TO THE LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION. THE LANDSCAPE CONTRACTOR SHALL STRAIGHTEN, REPAIR, AND/OR REPLACE ANY PLANTS DAMAGED BY FAILURE TO PROPERLY STAKE OR GUY ANY TREES ON SITE, AT THEIR OWN EXPENSE.
16. CURVILINEAR: CURVILINEAR LANDSCAPE BEDS ARE TO BE EDGED WITH SMOOTH FLOWING CURVES. STRAIGHT-LINE LANDSCAPE BEDS ARE TO BE EDGED IN A STRAIGHT LINE PARALLEL TO PARKING LOTS AND STRUCTURES UNLESS DESIGNED OTHERWISE.
17. FERTILIZER: OSMOCOTE SLOW RELEASE FERTILIZER OR EQUIVALENT SHALL BE APPLIED TO ALL TREE, SHRUB, AND GROUND COVER PLANTING AREAS AT THE RATE OF THREE (3) TABLESPOONS PER 2 SF. OF PLANTING AREA.
18. DRAINAGE: THE LANDSCAPE CONTRACTOR SHALL ASSURE THAT THIS WORK DOES NOT INTERRUPT EXISTING OR PROPOSED DRAINAGE PATTERNS AND SHALL NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY SHALL A CONFLICT ARISE.
19. SPECIFICATIONS: THE LANDSCAPE ARCHITECT SHALL BE PERMITTED THE RIGHT DURING INSTALLATION TO REJECT ANY AND ALL PLANT MATERIAL AND WORKMANSHIP WHICH IN HIS OR HER OPINION DOES NOT MEET THE REQUIREMENTS OF THESE SPECIFICATIONS.
20. NATURAL AREAS: NATURAL VEGETATION PRESERVATION AREAS SHALL BE CLEANED UP INCLUDING BUT NOT LIMITED TO THE REMOVAL OF ANY DEBRIS OR WEEDS AND PRUNING OF DEAD OR YELLOW BRANCHES AND PALM FRONDS. MULCH EDGE OF NATURAL AREA 5 FEET.
21. WILDLIFE NOTIFICATION: UNLESS NOTIFIED BY THE CLIENT OR CONTRACTOR IN WRITING, LANDSCAPE ARCHITECT SHALL NOT BE HELD RESPONSIBLE FOR DAMAGES TO PROPOSED PLANT MATERIAL CAUSED BY DEER OR OTHER ANIMALS. UPON NOTIFICATION OF PEST ANIMAL EXISTENCE PROPER PLANT SUBSTITUTIONS SHALL BE PROVIDED BY THE LANDSCAPE ARCHITECT.
22. APPROVAL REQUIRED: CERTAIN PLAN VIEW CALLOUT TAGS FOR PLANT MATERIAL HAVE BEEN MARKED WITH "APP. REQ." SAID PLANT MATERIAL SHALL BE FLORIDA FANCY AS DESIGNED (SEE NOTE #1) QUALITY AND WRITTEN APPROVAL MUST BE OBTAINED BY LANDSCAPE ARCHITECT PRIOR TO DELIVERY TO THE SITE AND INSTALLATION. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE PICTURES OR OTHER MEANS BY WHICH WRITTEN APPROVAL MAY BE OBTAINED FROM THE LANDSCAPE ARCHITECT.
23. PERCOLATION: PERCOLATION TESTS ARE REQUIRED FOR ALL PLANTING PITS FOR PHOENIX SPP, PALM TREES. AFTER THE PLANTING PIT IS DUG TO THE PROPER DEPTH, FILL PIT WITH WATER AND DOCUMENT THE AMOUNT OF TIME IT TAKES FOR THE WATER TO DRAIN FROM THE PIT COMPLETELY. NOTIFY THE OWNER'S REPRESENTATIVE TO WITNESS THE TEST.
24. TURNOVER: CONTRACTOR SHALL CONTACT OWNER'S REPRESENTATIVE FOR A TURNOVER DATE TO INCLUDE A WALK-THROUGH AND ACCEPTANCE OF WORK BY THE LANDSCAPE ARCHITECT. ANY WORK DEEMED UNACCEPTABLE SHALL BE CORRECTED IMMEDIATELY AND REINSPECTED AS SCHEDULED.
25. MAINTENANCE: CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE TO BEGIN AFTER EACH PLANT HAS BEEN INSTALLED AND SHALL CONTINUE 90 DAYS AFTER FINAL WRITTEN ACCEPTANCE BY THE OWNER. MAINTENANCE SHALL INCLUDE WATERING, PRUNING, WEEDING, MULCHING, MOULING, REPLACEMENT OF SICK OR DEAD PLANTS, AND ANY OTHER CARE NECESSARY IN ORDER TO MAINTAIN PROPER PLANT HEALTH AND SOIL MOISTURE CONTENT.
26. GUARANTEE: CONTRACTOR SHALL GUARANTEE ALL INSTALLED PLANT MATERIAL FOR ONE (1) CALENDAR YEAR STARTING FROM THE TURNOVER DATE SHOULD WORK BE FOUND ACCEPTABLE. ANY CORRECTED WORK SHALL HAVE A PROPORTIONAL EXTENSION OF WARRANTY ONCE APPROVED. ANY SICK OR DEAD MATERIAL SHALL BE REPLACED IMMEDIATELY. THE LANDSCAPE CONTRACTOR SHALL NOT BE RESPONSIBLE TO HONOR ANY WARRANTY FOR THE LOSS OF ANY PLANT MATERIAL CAUSED BY FLOODING, FIRE, FREEZING TEMPERATURES, WINDS OVER 50 MPH, LIGHTNING, ANY OTHER NATURAL DISASTER, OR ANY LOSS/DAMAGE CAUSED BY VANDALISM OR NEGLIGENCE ON THE PART OF THE OWNER.
27. ROOT BARRIER: ROOT BARRIER TO BE INSTALLED 15' AWAY FROM TREE WHERE ROOTS MAY POTENTIALLY DISTURB INFRASTRUCTURE.

IRRIGATION NOTES

1. AN AUTOMATIC TIME CONTROLLED IRRIGATION SYSTEM WITH A RAIN SENSOR SHALL BE INSTALLED TO PROVIDE 100% HEAD TO HEAD COVERAGE OF ALL NEW PLANTINGS. IRRIGATION PLAN SHALL BE PROVIDED UPON SUBSTANTIAL SITE PLAN APPROVAL.
2. AMEND EXISTING AUTOMATIC TIME CONTROLLED IRRIGATION SYSTEM TO PROVIDE 100% COVERAGE OF ALL NEW PLANTINGS.



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AMELIA ISLAND
84 ATLANTIC AVE. ORMOND BEACH FL 32064
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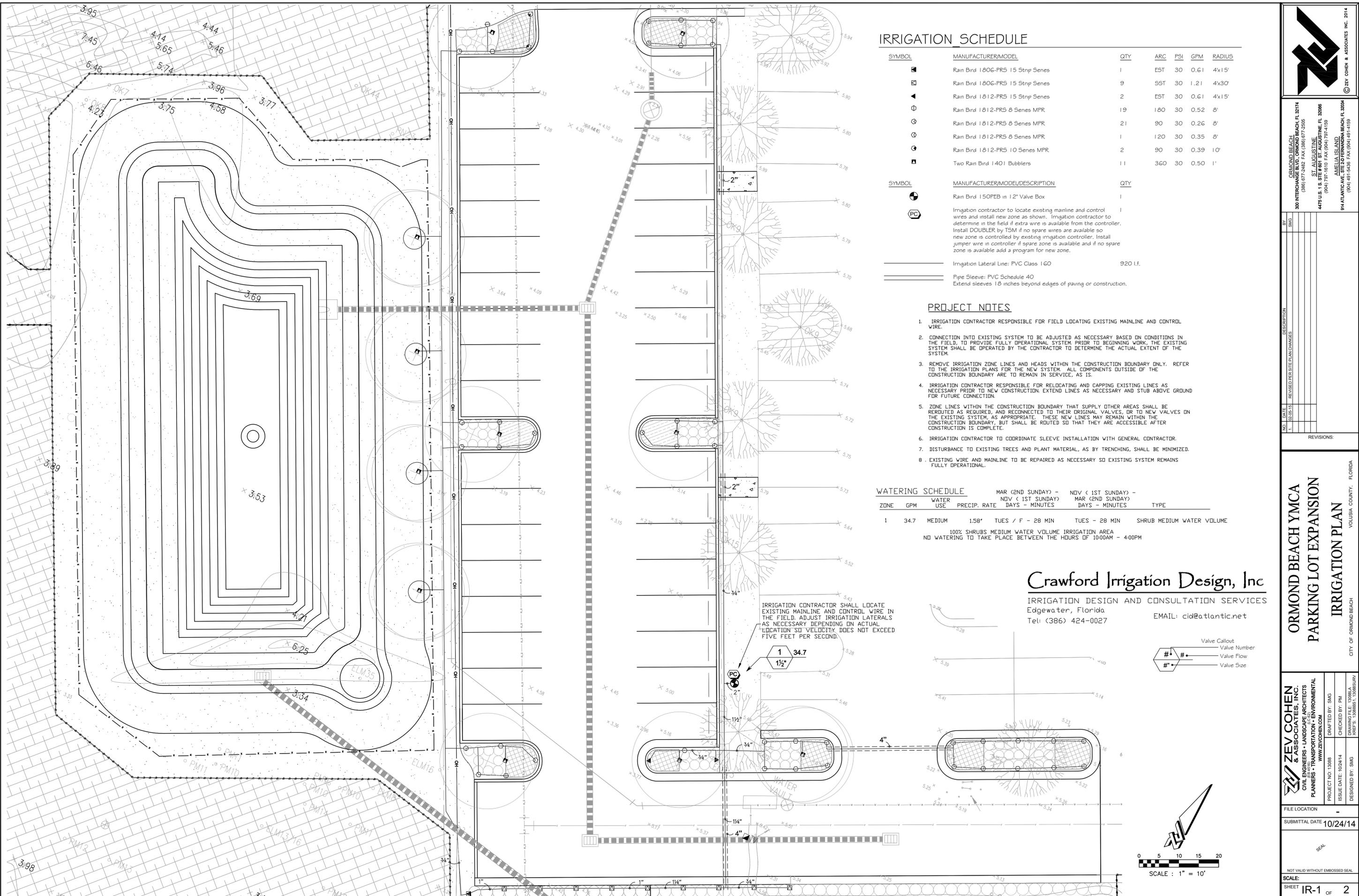
NO.	DATE	DESCRIPTION
1	10/24/14	REVISED PER SITE PLAN CHANGES

REVISIONS:

ORMOND BEACH YMCA
PARKING LOT EXPANSION
LANDSCAPE PLAN
FLORIDA
VOLUSIA COUNTY
CITY OF ORMOND BEACH

ZEV COHEN & ASSOCIATES, INC. CIVIL ENGINEERS - LANDSCAPE ARCHITECTS PLANNERS - TRANSPORTATION - ENVIRONMENTAL WWW.ZEVCOHEN.COM	PROJECT NO: 13098 ISSUE DATE: 10/24/14 DESIGNED BY: SMG	DRAFTED BY: SMG CHECKED BY: PM DRAWING FILE: 13098A XREF'S: 13098B, 13098C, 13098D, 13098E, 13098F, 13098G, 13098H, 13098I, 13098J, 13098K, 13098L, 13098M, 13098N, 13098O, 13098P, 13098Q, 13098R, 13098S, 13098T, 13098U, 13098V, 13098W, 13098X, 13098Y, 13098Z
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FILE LOCATION: -
SUBMITTAL DATE: 10/24/14
SCALE: LA-2 OF 2



IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL	QTY	ARC	PSI	GPM	RADIUS
☐	Rain Bird 1806-PRS 15 Strip Series	1	EST	30	0.61	4x15'
☐	Rain Bird 1806-PRS 15 Strip Series	9	SST	30	1.21	4x30'
▲	Rain Bird 1812-PRS 15 Strip Series	2	EST	30	0.61	4x15'
○	Rain Bird 1812-PRS 8 Series MPR	19	180	30	0.52	8'
○	Rain Bird 1812-PRS 8 Series MPR	21	90	30	0.26	8'
○	Rain Bird 1812-PRS 8 Series MPR	1	120	30	0.35	8'
○	Rain Bird 1812-PRS 10 Series MPR	2	90	30	0.39	10'
■	Two Rain Bird 1401 Bubblers	11	360	30	0.50	1'

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
⊙	Rain Bird 150PEB in 12" Valve Box	1
⊙	Irrigation contractor to locate existing mainline and control wires and install new zone as shown. Irrigation contractor to determine in the field if extra wire is available from the controller. Install DOUBLER by TSM if no spare wires are available so new zone is controlled by existing irrigation controller. Install jumper wire in controller if spare zone is available and if no spare zone is available add a program for new zone.	1
—	Irrigation Lateral Line: PVC Class 160	920 L.F.
—	Pipe Sleeve: PVC Schedule 40	
	Extend sleeves 18 inches beyond edges of paving or construction.	

PROJECT NOTES

- IRRIGATION CONTRACTOR RESPONSIBLE FOR FIELD LOCATING EXISTING MAINLINE AND CONTROL WIRE.
- CONNECTION INTO EXISTING SYSTEM TO BE ADJUSTED AS NECESSARY BASED ON CONDITIONS IN THE FIELD. TO PROVIDE FULLY OPERATIONAL SYSTEM PRIOR TO BEGINNING WORK, THE EXISTING SYSTEM SHALL BE OPERATED BY THE CONTRACTOR TO DETERMINE THE ACTUAL EXTENT OF THE SYSTEM.
- REMOVE IRRIGATION ZONE LINES AND HEADS WITHIN THE CONSTRUCTION BOUNDARY ONLY. REFER TO THE IRRIGATION PLANS FOR THE NEW SYSTEM. ALL COMPONENTS OUTSIDE OF THE CONSTRUCTION BOUNDARY ARE TO REMAIN IN SERVICE, AS IS.
- IRRIGATION CONTRACTOR RESPONSIBLE FOR RELOCATING AND CAPPING EXISTING LINES AS NECESSARY PRIOR TO NEW CONSTRUCTION. EXTEND LINES AS NECESSARY AND STUB ABOVE GROUND FOR FUTURE CONNECTION.
- ZONE LINES WITHIN THE CONSTRUCTION BOUNDARY THAT SUPPLY OTHER AREAS SHALL BE REROUTED AS REQUIRED, AND RECONNECTED TO THEIR ORIGINAL VALVES, OR TO NEW VALVES ON THE EXISTING SYSTEM, AS APPROPRIATE. THESE NEW LINES MAY REMAIN WITHIN THE CONSTRUCTION BOUNDARY, BUT SHALL BE ROUTED SO THAT THEY ARE ACCESSIBLE AFTER CONSTRUCTION IS COMPLETE.
- IRRIGATION CONTRACTOR TO COORDINATE SLEEVE INSTALLATION WITH GENERAL CONTRACTOR.
- DISTURBANCE TO EXISTING TREES AND PLANT MATERIAL, AS BY TRENCHING, SHALL BE MINIMIZED.
- EXISTING WIRE AND MAINLINE TO BE REPAIRED AS NECESSARY SO EXISTING SYSTEM REMAINS FULLY OPERATIONAL.

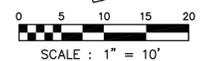
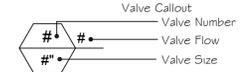
WATERING SCHEDULE

ZONE	GPM	WATER USE	PRECIP. RATE	MAR (2ND SUNDAY) - NOV (1ST SUNDAY) DAYS - MINUTES	NOV (1ST SUNDAY) - MAR (2ND SUNDAY) DAYS - MINUTES	TYPE
1	34.7	MEDIUM	1.58"	TUES / F - 28 MIN	TUES - 28 MIN	SHRUB MEDIUM WATER VOLUME

100% SHRUBS MEDIUM WATER VOLUME IRRIGATION AREA
NO WATERING TO TAKE PLACE BETWEEN THE HOURS OF 10:00AM - 4:00PM

Crawford Irrigation Design, Inc
 IRRIGATION DESIGN AND CONSULTATION SERVICES
 Edgewater, Florida
 Tel: (386) 424-0027
 EMAIL: cid@atlantic.net

IRRIGATION CONTRACTOR SHALL LOCATE EXISTING MAINLINE AND CONTROL WIRE IN THE FIELD. ADJUST IRRIGATION LATERALS AS NECESSARY DEPENDING ON ACTUAL LOCATION SO VELOCITY DOES NOT EXCEED FIVE FEET PER SECOND.



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NO.	DATE	DESCRIPTION
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REVISIONS:

ORMOND BEACH YMCA
PARKING LOT EXPANSION
IRRIGATION PLAN
 VOLUSIA COUNTY, FLORIDA
 CITY OF ORMOND BEACH

PROJECT NO. 13098	DRAFTED BY: SNG
ISSUE DATE: 10/24/14	CHECKED BY: PM
DESIGNED BY: SNG	DRAWING FILE: 13098A
	XREFS: 13098ST, 13098SURV

FILE LOCATION: -
 SUBMITTAL DATE: 10/24/14

NOT VALID WITHOUT EMBOSSED SEAL
 SCALE:
 SHEET: IR-1 OF 2

1.0 GENERAL

- 1.1 SUMMARY: Includes but not limited to:
 A. Furnishing and installing sprinkler system as described in Contract Documents complete with accessories necessary for proper functioning.
- 1.2 SYSTEM DESCRIPTION:
 A. Design Requirements:
 1. Layout of Irrigation Heads:
 a. Location of heads shown on Drawings is approximate. Actual placement may vary slightly as is required to achieve full, even coverage without spraying onto buildings, sidewalks, fences, etc.
 b. During layout, consult with Landscape Architect to verify proper placement and make recommendations, where revisions are advisable.
- 1.3 QUALITY ASSURANCE:
 A. Regulatory Requirements:
 1. Work and materials shall be in accordance with latest rules and regulations, and other applicable state or local laws. Nothing in Contract Documents is to be construed to permit work not conforming to these codes.
 B. Pre-Installation Conference:
 1. Meet with Owner and Landscape Architect to discuss and clarify all aspects of job requirements prior to commencing work of this Section.
 C. System Adjustments:
 1. Minor adjustments in system will be permitted to avoid existing fixed obstructions.
 2. Mainline, laterals, and valves are shown for clarity purposes only. All irrigation equipment to be with landscape area. Mainline, laterals and valves to be installed as far away from existing and new specimen trees as possible.
 D. 1. Documentation and submittal of actual water supply performance prior to commencing installation.
- 1.4 SUBMITTALS:
 A. Instruction Manual:
 1. Provide instruction manual which lists complete instructions for system operation and maintenance.
- 1.5 PRODUCT STORAGE:
 A. During construction and storage, protect materials from damage and prolonged exposure to sunlight.
- 1.6 WARRANTY:
 A. Standard one (1) year warranty stipulated in General Conditions shall include:
 1. Completed system including parts and labor.
 2. Filling and repairing depressions and replacing plantings due to settlement of irrigation trenches for one (1) year following final acceptance.
 3. System adjustment to supply proper coverage to areas to receive water.
- 1.7 MAINTENANCE:
 A. Extra Materials:
 1. In addition to installed system, furnish Owner with the following items at close-out:
 a. Two sprinkler head bodies of each size and type.

2.0 PRODUCTS:

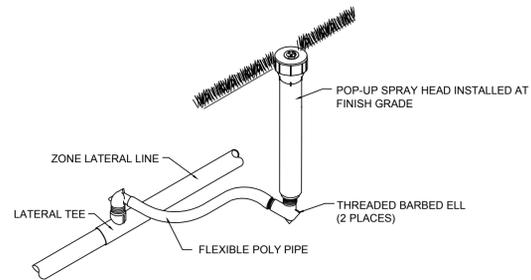
- 2.1 PIPE, PIPE FITTINGS, AND CONNECTIONS:
 A. Pipe shall be continuously and permanently marked with Manufacturer's name, size, schedule, type, and working pressure.
 B. Pipe:
 1. Pressure Lines: as indicated on plans.
 2. Lateral Lines: as indicated on plans.
 3. Risers: sch. 80 PVC, gray
 C. Fittings:
 1. Schedule 40 PVC.
 D. Sleeving:
 1. Schedule 40 PVC.
- 2.2 SPRINKLER HEADS:
 A. Conform to requirements shown on Drawings as to type, radius of throw, pressure, and discharge.
- 2.3 VALVES:
 A. Electric Valves:
 1. Make and model shown on Drawings.
- 2.4 VALVE ACCESSORIES:
 A. Valve Boxes:
 1. Ametek or Brooks rectangular heavy duty valve box with locking lid or Landscape Architect approved equal.
 2. Do not install more than one (1) valve in a single box.
 3. Valve boxes shall be large enough for easy removal or maintenance of valves.

3.0 EXECUTION:

- 3.1 PREPARATION:
 A. Protection:
 1. Work of others damaged by this Section during course of its work shall be replaced or repaired by original installer at this Section's expense.
- 3.2 INSTALLATION:
 A. Trenching and Backfilling:
 1. Over-excavate trenches by two (2") inches and bring back to indicated depth by filling with fine, rock-free soil or sand.
 2. Cover pipe both top and sides with two (2") inches of material specified in paragraph above. In no case shall there be less than two (2") inches of rock-free soil or sand surrounding pipe.

- B. Installation of Plastic Pipe:
 1. Install plastic pipe in a manner to provide for expansion and contraction as recommended by Manufacturer.
 2. Unless otherwise indicated on Drawings, install main lines with a minimum cover of twelve (12") inches based on finish grade. Install lateral lines with a minimum cover of twelve (12") inches based on finish grade.
 3. Install pipe and wires under driveways or parking areas in specified sleeves a minimum of eighteen (18") inches below finish grade or as shown on Drawings.
 4. Locate no sprinkler head closer than twelve (12") inches from building foundation. Heads immediately adjacent to mowing strips, walks or curbs shall be one (1") inch below top of mowing strip, walk or curb and have a minimum of one (1") inch clearance between head and mowing strip, walk or curb.
 5. Drawings show arrangement of piping. Should local conditions necessitate rearrangement, obtain approval of Landscape Architect prior to proceeding with work.
 6. Cut plastic pipe square. Remove burrs at cut ends prior to installation so unobstructed flow will result.
 7. Make solvent weld joints in the following manner:
 a. Clean mating pipe and fitting with clean, dry cloth and apply one (1) coat of P-70 primer to each.
 b. Apply uniform coat of 711 solvent to outside of pipe.
 c. Apply solvent to fitting in similar manner.
 d. Reapply a light coat of solvent to pipe and quickly insert into fitting.
 e. Give pipe or fitting a quarter turn to insure even distribution of solvent and make sure pipe is inserted to full depth of fitting socket.
 f. Hold in position for fifteen (15) seconds minimum or long enough to secure joint.
 g. Wipe off solvent appearing on outer shoulder of fitting.
 h. Do not use an excessive amount of solvent thereby causing an obstruction to form on the inside of pipe.
 i. Allow joints to set at least 24 hours before applying pressure to PVC pipe.
 8. Tape threaded connection with teflon tape.
 9. Install concrete thrust blocks wherever change of direction occurs a PVC main pressure lines unless otherwise detailed on Drawings.
- C. Control Valves and Controller:
 1. Install controller, control wires, and valves in accordance with Manufacturer's recommendations and according to applicable electrical code.
 2. Install valves in plastic boxes with reinforced heavy duty plastic covers. Locate valve box tops at finish grade.
 3. Install remote control valves in valve boxes positioned over valve so all parts of valve can be reached for service. Set cover of valve box even with finish grade.
 4. Install all valve boxes over nine (9") inches of gravel for drainage.
- D. Sprinkler Heads:
 1. Prior to the installation of sprinkler heads, open control valves and use full head of water to flush out system.
 2. Set sprinkler heads perpendicular to finish grade.
 3. Set lawn sprinkler heads adjacent to existing walks, curbs, and other paved areas to grade.
- 3.3 ADJUSTMENT AND CLEANING:
 A. Adjust heads to proper grade when turf is sufficiently established to allow walking on it without appreciable harm. Such lowering or raising of heads shall be part of the original contract with no additional charge to the Owner.
 B. Adjust sprinkler heads for proper distribution and trim to ensure spray does not fall on building.
 C. Adjust watering time of valves to provide proper amounts of water to all plants.
- 3.4 DEMONSTRATION:
 A. After system is installed and approved, instruct Owners Representative in complete operation and maintenance.

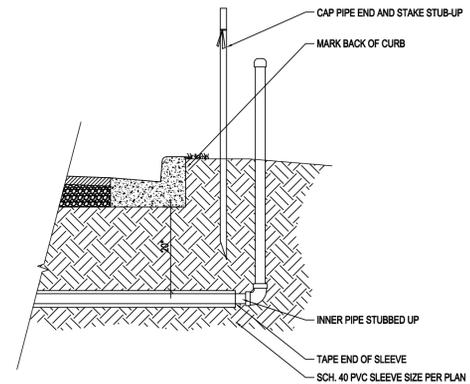
END OF SECTION



SPRAY HEAD INSTALLATION DETAIL

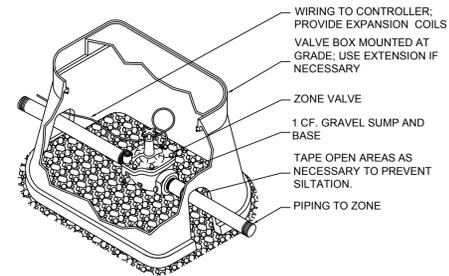
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PROVIDE MEASUREMENTS FROM 2 REFERENCE POINTS TO STUB UP ON THE AS-BUILT DRAWING



SLEEVING ROUGH-IN DETAIL

SCALE: NTS



INSTALL TOP OF VALVE A MAXIMUM OF 15" FROM FINISHED GRADE.

ZONE VALVE INSTALLATION DETAIL

SCALE: NTS



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NO.	DATE	DESCRIPTION
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REVISIONS:

ORMOND BEACH YMCA
 PARKING LOT EXPANSION
 LANDSCAPE PLAN

CITY OF ORMOND BEACH
 VOLUSIA COUNTY, FLORIDA

PROJECT NO. 13098	DRAFTED BY: SMG
ISSUE DATE: 10/24/14	CHECKED BY: PM
DESIGNED BY: SMG	DRAWING FILE: 13098A.XREF'S: 13098B;13098B;SURV

FILE LOCATION: -
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