DERBYSHIRE PARK PHASE III-SOUTHWEST FACILITY

CITY OF DAYTONA BEACH COMMISSION AND STAFF DERRICK L. HENRY, MAYOR RUTH TRAGER, COMMISSIONER, ZONE 1 AARON DELGADO, COMMISSIONER, ZONE 2 KELLY WHITE, COMMISSIONER, ZONE 3 ROBERT A. GILLILAND, COMMISSIONER, ZONE 4 DANNETTE HENRY, COMMISSIONER, ZONE 5 PAULA R. REED, COMMISSIONER, ZONE 6 JAMES V. CHISHOLM, CITY MANAGER DAVID WALLER, DEPUTY PUBLIC WORKS DIRECTOR FRANK VANPELT, TECHNICAL SERVICES DIRECTOR JIM NELSON, P.E. CITY ENGINEER

CITY OF DAYTONA BEACH - VOLUSIA COUNTY, FL **CITY PROJECT No.: 2017-051**

CLIENT:

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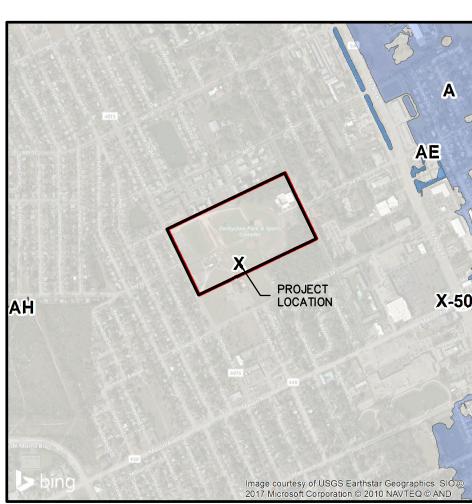
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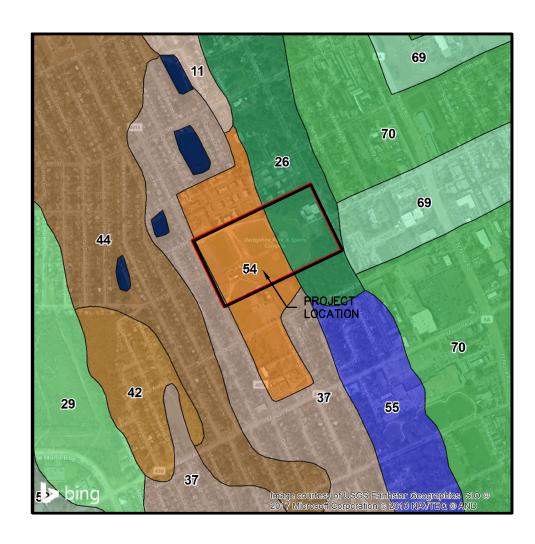
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LAND USE MAP SCALE: 1" - 1000'



SOILS MAP SCALE: 1" - 1000'

70 TUSCAWILLA-URBAN LAND COMPLEX 69 TUSCAWILLA FINE SAND 55 RIVIERA FINE SAND 54 QUARTZIPSAMMENTS; GENTLY SLOPING 52 POMPANO FINE SAND 44 PAOLA-URBAN LAND COMPLEX; 0 TO 8 PERCENT SLOPES 42 PAOLA FINE SAND; 0 TO 8 PERCENT SLOPES 37 ORSINO FINE SAND; 0 TO 5 PERCENT SLOPES 29 IMMOKALEE SAND 26 HOLOPAW SAND 11 BULOW SAND; 0 TO 5 PERCENT SLOPES WATER





SHEET INDEX:

SHEET NO. DESCRIPTION C01 COVER SHEET

C02 CONSTRUCTION NOTES

DEMOLITION & EROSION CONTROL PLAN C03 PAVING, GRADING & DRAINAGE AND LANDSCAPE PLAN

CONSTRUCTION DETAILS

IRRIGATION PLAN IRRIGATION DETAILS



MANDATORY PRE-CONSTRUCTION MEETING NOTE:

NO CONSTRUCTION ON THE PROPOSED PORTIONS OF THIS

PRE-CONSTRUCTION MEETING IS HELD WITH THE CITY.

PROJECT MAY COMMENCE UNTIL A MANDATORY

PROJECT NO: 17112 ISSUE DATE: 08-10-18

DESIGNED BY: KR DRAFTED BY: TR

CHECKED BY: KR

RAWING FILE: C01-17112COV.DWG XREF'S: 17112-TIB.DWG XREF'S: XXXXXX.DWG

KRISTOPHER ROWLEY, P.E. NO. 84263 NOT VALID WITHOUT SEAL

SCALE: N.T.S. SHEET: C01 OF

SITE DATA:

PROJECT INFORMATION

PARCEL ID #

44-14-32-01-19-0040 SECTION 31. TWNSHIP 14 SOUTH, RANGE 32 EAST, DAYTONA BEACH, VOLUSIA COUNTY, FLORIDA

PROJECT AREA CONSTRUCTION LIMITS (AREA WITHIN LIMITS OF CONSTRUCTION): 1.89 ACRES

TOTAL FIELD AREA: 70,300 SF

NOTES:

1. ALL CONSTRUCTION SHALL MEET CURRENT ADA REQUIREMENTS, ALL CONSTRUCTION NOT ADA COMPLIANT WILL BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

2. ALL PROPOSED IMPROVEMENTS SHOWN HEREIN SHALL BE CONSTRUCTED BY THE CONTRACTOR UNLESS NOTED OTHERWISE.

3. THE SCALE OF THE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.

GOVERNING STANDARDS AND SPECIFICATIONS:

City of Daytona Beach Engineering Standards for Design and Construction City of Daytona Beach Utilities Department Standard Details, Latest Edition Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, 2013 Edition.

GENERAL NOTES:

- ALL DISTURBED AREAS SHALL BE SODDED OR SEEDED 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 AN 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 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 ARE APPROXIMATE. THE LOCATION OF THE 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
- 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.
- ELECTRIC AND TELEPHONE SERVICES TO BE UNDERGROUND PER CITY OF DAYTONA BEACH LAND DEVELOPMENT
- OPERATION AND MAINTENANCE OF THE STORMWATER SYSTEM WILL BE PROVIDED BY THE OWNER OF PROPERTY.

LAND SURVEYOR

COVER (VEGETATIVE OR SUITABLE

- BI-WEEKLY MOWING OF SIDESLOPES FOR VEGETATION CONTROL. 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 TO THE SATISFACTION OF THE OWNER, THE GOVERNMENTAL AGENCY AND THE FNGINFFR OF RECORD
- CONTACT THE TECHNICAL SERVICES BUREAU TO DETERMINE THE INSPECTIONS NEEDED FOR THIS FACILITY. ALL REQUIRED FIRE LINES AND FIRE HYDRANTS SHALL BE INSTALLED AND OPERATIONAL PRIOR TO THE START
- OF CONSTRUCTION DURING CONSTRUCTION, AN ALL-WEATHER ACCESSIBLE ROADWAY SHALL BE MAINTAINED AT ALL TIMES FOR FIRE
- APPARATUS. NOTIFY CITY OF DAYTONA BEACH 48 HOURS PRIOR TO THE START OF CONSTRUCTION AT 386-671-8157. PLEASE SEND COPIES OF ALL TESTING REPORTS EXCEPT STRUCTURAL TO THE ENGINEERING DIVISION.

EROSION & SEDIMENT CONTROL NOTES

- ALL CONSTRUCTION ACTIVITIES SHALL INCORPORATE BEST MANAGEMENT PRACTICES (BMP'S) TO CONTROL EROSION, SEDIMENTATION, AND THE POTENTIAL FOR DOWNSTREAM WATER QUALITY DEGRADATION.
- CONTRACTOR SHALL MINIMIZE DISTURBANCE OF EXISTING VEGETATION, (PARTICULARLY AROUND THE PROJECT PERIMETER) AND ADJACENT EXISTING DRAINAGE PATTERNS TO THE MAXIMUM EXTENT PRACTICAL DURING THE CONSTRUCTION PROCESS.
- SILT FENCES AND TURBIDITY BARRIERS SHALL BE INSTALLED ON SITE AND APPROVED BY THE CITY PRIOR TO CONSTRUCTION, AND SHALL BE INSPECTED WEEKLY BY THE CONTRACTOR AND CORRECTIVE ACTION TAKEN AS
- STORMWATER RETENTION, DETENTION, STORAGE AND CONVEYANCE SYSTEMS MUST BE EXCAVATED TO ROUGH GRADE PRIOR TO BUILDING CONSTRUCTION OR PLACEMENT OF IMPERVIOUS SURFACE WITHIN THE AREA SERVED BY THOSE SYSTEMS. ADEQUATE MEASURES MUST BE TAKEN TO PREVENT SILTATION OF THESE TREATMENT SYSTEMS AND CONTROL STRUCTURES DURING CONSTRUCTION. SILTATION MUST BE REMOVED FROM THE STORMWATER SYSTEM WHEN HALF FULL AND IMMEDIATELY PRIOR TO FINAL GRADING AND GRASSING OF THE PROJECT. CONTRACTOR SHALL SOD ALL SWALES AND STORMWATER FACILITIES IN ACCORDANCE WITH TEMPORARY BMP'S
- WITHIN 14 DAYS AFTER CONSTRUCTION. THIS IS REQUIRED TO STABILIZE THE SLOPES AND MINIMIZE EROSION. DURING ALL CONSTRUCTION OF THE PERMITTED SYSTEM INCLUDING STABILIZATION AND REVEGETATION OF DISTURBED SURFACES, CONTRACTOR IS RESPONSIBLE FOR THE SELECTION, IMPLEMENTATION, AND OPERATION OF ALL EROSION AND SEDIMENT CONTROL MEASURES REQUIRED TO RETAIN ALL SEDIMENT ONSITE AND PREVENT VIOLATIONS OF THE WATER QUALITY STANDARDS IN ACCORDANCE WITH THE FLORIDA ADMINISTRATIVE CODE AND PROJECT PERMIT REQUIREMENTS. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN A PROTECTIVE
- ALTERNATIVE) FOR EROSION AND SEDIMENT CONTROL ON ALL LAND SURFACES EXPOSED OR DISTURBED BY CONSTRUCTION OF THE PERMITTED PROJECT, UNLESS MODIFIED BY ANOTHER CONDITION OF THE PERMIT OR OTHERWISE SPECIFIED ON A DISTRICT APPROVED EROSION AND SEDIMENT CONTROL PLAN. THE PROTECTIVE COVER MUST BE INSTALLED WITHIN FOURTEEN (14) DAYS AFTER FINAL GRADING OF THE AFFECTED LAND SURFACE. A PERMANENT VEGETATIVE COVER MUST BE ESTABLISHED WITHIN 60 DAYS OF IT'S INSTALLATION. THE PERMITTEE'S REQUIREMENT TO MAINTAIN COVER ON OFFSITE AND ONSITE SURFACES SHALL NOT BE COMPLETE UNTIL AFTER THE WATER MANAGEMENT DISTRICT RECEIVES THE PERMITTEE'S STATEMENT OF COMPLIANCE.
- AT A MINIMUM, SILT FENCES AND TURBIDITY BARRIERS SHALL BE INSTALLED PER PLAN. ADDITIONAL BMP MEASURES MUST BE TAKEN TO MINIMIZE IMPACTS OF RECEIVING WATERS SUCH AS THE USE OF APPROVED BARRIERS AT INLETS, ADDITIONAL SILT FENCING, SOIL ANTI-TRACKING DEVICES AND SODDING.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE PROJECT LIMITS IN COMPLIANCE WITH ALL JURISDICTIONAL PERMIT AND CITY REQUIREMENTS.
 ANY TIME THE CONTRACTOR NEEDS TO SUBMIT A NOTICE OF INTENT TO USE A GENERAL PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES, A COPY OF THE PERMIT SHALL
- ALSO BE SUBMITTED TO THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT. THE CONTRACTOR SHALL AS A MINIMUM PREPARE AND IMPLEMENT AN EROSION AND SEDIMENT CONTROL PLAN
- IN ACCORDANCE WITH FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) GUIDELINES 2. DEWATERING ACTIVITIES SHALL BE APPROVED BY THE UTILITIES DEPARTMENT BEFORE DISCHARGING INTO THE CITY'S MS4 SYSTEM (ST-1A NOTE 3).

SITE CLEARING AND GRADING NOTES

THE FOLLOWING REPRESENTS 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".

- 1. NO DISTURBANCE OF EXISTING OR PROPOSED CONSERVATION EASEMENTS, NATURAL BUFFERS, OR WATER BODIES IS PERMITTED WITHOUT PRIOR APPROVAL FROM THE CITY ENGINEER OR DESIGNEE. 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. 2. 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. 3. WHERE A CHANGE OF GRADE OCCURS AT THE DRIP LINE OF A SPECIMEN TREE, SILT FENCE WILL BE REQUIRED

DURING CONSTRUCTION AND RETAINING WALLS MUST BE INSTALLED PRIOR TO FINAL ACCEPTANCE BY THE CITY

4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL PROTECTIVE VEGETATION BARRICADES AND

FROSION CONTROL STRUCTURES AND MEASURES IN PLACE PRIOR TO THE COMMENCEMENT OF ANY FARTHWORK INCLUDING PRELIMINARY GRUBBING. THESE MEASURES INCLUDE, BUT ARE NOT LIMITED TO, TEMPORARY CONSTRUCTION FENCES, SYNTHETIC JUTE BALES, SILT FENCES, AND FLOATING TURBIDITY BARRIERS. FURTHER, 17 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 IN ACCORDANCE WITH THE CITY'S UTILITY DEPARTMENT STANDARDS.

5. PRIOR TO THE INSTALLATION OF ANY FILL MATERIAL ON SUBJECT SITE, SILT FENCE SHALL BE INSTALLED:

a. ALONG SUBJECT SITE BOUNDARY AND PROPERTY LINES. b. AT THE EDGE OF CONSERVATION EASEMENTS AND WETLANDS.

ESTABLISHED WITHIN THIRTY DAYS.

- c. ADJACENT TO NATURAL LANDSCAPE BUFFERS.
- d. AROUND THE PERIMETER OF EXISTING STORM WATER TREATMENT FACILITIES.
- e. 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-SPECIFIC CLEARING PERMIT AND THROUGHOUT PROJECT CONSTRUCTION.
- 6. WHERE FILL MATERIAL IS INTENDED TO BE INSTALLED ADJACENT TO EXISTING VEGETATION WHICH IS INTENDED TO REMAIN NATURAL, THE CONTRACTOR MAY INSTALL SILT FENCING AS A TREE PROTECTION MEASURE, IN LIEU OF INSTALLING EITHER WOOD BRACING OR ORANGE MESH FENCING. THIS PRACTICE IS ENCOURAGED BY THE CITY. IF THE SILT FENCE FAILS TO PROVIDE ADEQUATE PROTECTION FROM IMPACT DUE TO CONSTRUCTION, THEN
- ADDITIONAL CONSTRUCTION FENCING OR WOOD BRACING SHALL BE REQUIRED. 7. AT A MINIMUM, THE CONTRACTOR SHALL SEED AND MULCH ALL DISTURBED AREAS. GRASS COVERAGE IS TO BE
- 8. 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 TWENTY DAYS OF BRINGING A SUBJECT AREA TO ITS FINAL GRADE, THE CONTRACTOR SHALL INSTALL SEED AND MULCH OR SOD AND WATERING AS REQUIRED
- 9. FOR INDIVIDUAL CONSTRUCTION PROJECTS INVOLVING MULTIPLE PHASES, UPON COMPLETION OF EACH PHASE OF THE PROJECT, SEEDING AND MULCHING AND OR/ SODDING IS TO BE PERFORMED PRIOR TO COMMENCING THE NEXT PHASE OF CONSTRUCTION.
- 10. ONCE AN AREA IS SEEDED OR SODDED, IT MUST BE MAINTAINED, INCLUDING WATERING AND TRIMMING BY THE CONTRACTOR TO ALLOW THE GRASS TO BECOME ESTABLISHED.
- 11. ALL BURNING OF CLEARED MATERIALS MUST BE APPROVED AND PERMITTED THROUGH THE FL FOREST SERVICE, BUNNELL OFFICE
- 12. ABSOLUTELY NO BURYING OF CLEARED & GRUBBED MATERIALS IS PERMITTED. 13. 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 PROPOSED GREEN AREAS SUCH AS PLANT BEDS, SODDED AREAS, AND WHERE TREES ARE TO BE INSTALLED OR RELOCATED. TEMPORARY STOCKPILE SLOPES SHALL NOT
- EXCEED 4:1 (H: V). 14. 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.
- 15. 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 MODIFIED AASHTO T-180). 16. DURING SUBDIVISION DEVELOPMENT WHEN FUTURE BUILDING LOTS ARE FILLED AS PART OF THE OVERALL
- SUBDIVISION IMPROVEMENTS, COMPACTION TEST REPORTS MUST BE PERFORMED ON THESE LOTS AT 300' INTERVALS. THESE TESTS ARE TO BE PERFORMED IN 1' VERTICAL INCREMENTS. THE RESULTS OF THESE TESTS ARE TO BE SUBMITTED TO THE CITY UPON COMPLETION OF THE TESTS. 17. IF ANY MUCK OR ANY UNSUITABLE MATERIAL IS DISCOVERED, IT SHALL BE REMOVED AND REPLACED WITH A SUITABLE MATERIAL THAT IS PROPERLY BACKFILLED, COMPACTED AND TESTED USING AASHTO T-180 MODIFIED
- PROCTOR METHOD 18. STOCKPILING 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 FIVE DAYS SHALL BE COVERED OR WATERED TO MINIMIZE THE ADVERSE IMPACT ON ADJACENT PROPERTY OWNERS AT NO ADDITIONAL COST TO THE CITY OR OWNER. SEED AND MULCH IMMEDIATELY
- UPON PLACEMENT OF THE FINAL LIFT. 19. 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 20. ALL FILL MATERIALS LOCATED BENEATH STRUCTURES AND PAVEMENT SHALL CONSIST OF CLEAN GRANULAR SAND
- FREE FROM ORGANICS AND SIMILAR MATERIAL THAT COULD DECOMPOSE. 21. 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.

STORMWATER CONSTRUCTION NOTES

- 1. ALL MATERIALS AND INSTALLATION AND SEDIMENT AND EROSION CONTROL METHODS USED FOR LAND DEVELOPMENT CODE REQUIRED IMPROVEMENTS FOR SUBDIVISIONS AND SITE PLANS SHALL BE IN CONFORMANCE WITH THE CITY, FDEP, FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION), AND THE FDOT DESIGN STANDARDS (LATEST EDITION). THE USE OF BEST MANAGEMENT PRACTICES (BMP'S) IS REQUIRED.
- 2. BEST MANAGEMENT PRACTICES (BMP'S) FOR EROSION AND SEDIMENT CONTROL SHALL BE PLANNED, DESIGNED AND IMPLEMENTED THROUGHOUT THE SITE DEVELOPMENT ENGINEERING
- AND CONSTRUC-TION PHASES. 3. ALL DEWATERING ACTIVITIES EITHER DIRECTLY DISCHARGED OR THAT SUBSEQUENTLY USE THE CITY'S STORMWATER SYSTEM TO CONVEY GROUND OR SURFACE WATER FROM A SITE SHALL REQUIRE A STANDARD OR GENERAL USE PERMIT AS PER ARTICLE 7 SECTION 7 OF THE LAND DEVELOPMENT CODE. A PERMIT SHALL BE REQUIRED PRIOR TO ENGAGING IN ANY DEWATERING ACTIVITIES, OR IN ANY CON-STRUCTION ACTIVITIES. DEWATERING ACTIVITIES INCLUDE THE REMOVAL OF GROUND WATER FROM A CONSTRUCTION SITE, ENCLOSED VAULT, COFFERDAM, OR TRENCHES ALLOWING CONSTRUCTION OR MAINTENANCE TO BE DONE IN THE DRY, OR ANY ACTIVITY WHICH CHANGES THE IMPERVIOUS AREA OF LAND. SITE SPECIFIC PERMITS SHALL REQUIRE THE PAYMENT OF A PER ACRE FEE BASED ON THE SIZE OF THE DEVELOPMENT. GENERAL PURPOSE PERMITS SHALL REQUIRE THE PAYMENT OF AN ANNUAL FEE BASED ON ROUTINE SCHEDULE OF MAINTENANCE ACTIVITIES DISCHARGING DIRECTLY OR SUBSEQUENTLY INTO THE CITY'S MS4. DEWATERING PERMIT APPLICATIONS ARE FOUND AT http://www.codb.us/index.aspx?NID=262. FEES ARE SUBJECT TO ARTICLE 20 SECTION 3.1 OF THE LAND DEVELOPMENT CODE AND MUST BE SUBMITTED TO THE CITY OF DAYTONA BEACH UTILITY DEPARTMENT AT 125 BASIN STREET SUITE 130, DAYTONA BEACH FL 32114 BEFORE ANY USE OF THE MS4 WILL BE ALLOWED. FAILURE TO COMPLY WILL RESULT IN THE TERMINATION OF ACCESS TO THE CITY'S MS4 SYSTEM.
- CONTRACTOR SHALL FOLLOW REQUIRED EROSION AND SEDIMENT CONTROL PRACTICES AND INCLUDE AN EROSION CONTROL PLAN FOR REVIEW AND APPROVAL BY THE CITY PRIOR TO CONSTRUCTION. ALL CONSTRUCTION ACTIVITIES SHALL CONFORM TO THE CITY'S EROSION AND
- SEDIMENT CONTROL STANDARD DETAILS ST-2. CONTRACTOR WILL FOLLOW ALL OF THE CITY'S REQUIRED WASTE MANAGEMENT PRACTICES. ALL CONSTRUCTION, RENOVATION, AND DEMOLITION SITES ARE TO BE KEPT CLEAN AND FREE OF REFUSE, DEBRIS, AND LITTER DURING THE CONSTRUCTION, RENOVATION, OR DEMOLITION PROCESS. A CERTIFICATE OF OCCUPANCY FOR A NEWLY CONSTRUCTED OR RENOVATED BUILDING SHALL NOT BE ISSUED UNTIL ALL REFUSE AND LITTER CAUSED BY THE CONSTRUCTION OR REMODELING IS REMOVED FROM THE SITE AS PER THE DAYTONA BEACH
- 6. ALL DEVELOPMENT PLANS SHALL BE CONSISTENT WITH THE DAYTONA BEACH LAND DEVELOPMENT CODE ARTICLE 1 PURPOSE ADMINISTRATION AND ENFORCEMENT, ARTICLE 5 SECTION 2 STORMWATER MANAGEMENT, ARTICLE 4 LAND DEVELOPMENT ORDERS AND PROCEDURES, ARTICLE 5 SUBDIVISION AND SITE PLANS SECTION AND ARTICLE 7 SECTION 4

CODE OF ORDINANCES CHAPTER 28 SECTION 78-5 AND 78-8.

- PIPED STORMWATER SYSTEMS SHALL HAVE A MINIMUM DRAINAGE MAINTENANCE EASEMENT AND ACCESS WIDTH OF 20 FEET, AND MAY BE INCREASED DEPENDING UPON THE SIZE AND DEPTH OF PIPE.
- 8. CONCRETE EROSION CONTROL BMP'S MUST BE PROVIDED WHERE SWALES OR CULVERTS INTERCEPT DRAINAGE DITCHES. 9. SOIL EROSION AND SEDIMENT CONTROL BMP MEASURES, SATISFACTORY TO THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT, FDEP AND THE CITY, SHALL BE EMPLOYED DURING
- 10. IN GENERAL, ALL RETENTION/DETENTION SITES MUST BE CONSTRUCTED AND VEGETATED AS NECESSARY ON ALL PROJECTS PRIOR TO ANY ROAD, PARKING LOT, OR BUILDING CON-STRUCTION COMMENCING OR AS CURRENT PERMIT CONDITIONS DICTATE. SEWER AND WATER MAINS MAY BE INSTALLED PRIOR TO RETENTION/DETENTION SITE CONSTRUCTION IF DEWATERING IS NOT REQUIRED. HOWEVER BMP'S FOR EROSION AND SEDIMENT CONTROL WILL
- BE IMPLEMENTED AS NECESSARY. 11. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ANY AND ALL DEWATERING PERMITS THAT MAY BE REQUIRED (SEE ST-1A NOTE 3).
- 12. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW AND MAINTAIN A COPY OF THE SJRWMD, NPDES, AND ALL OTHER JURISDICTIONAL PERMITS AT THE CONSTRUCTION SITE, AND ABIDE BY ALL CONDITIONS OF THOSE PERMITS.
- 13. LANDSCAPE PLANS SHALL CLEARLY DEPICT THE DESIGN LOCATION OF TEMPORARY AND PERMANENT PLANTINGS RELATIVE TO THE LOCATION OF PUBLIC UTILITIES AND STORMWATER
- INFRASTRUCTURE IN ORDER TO EVALUATE POTENTIAL CONFLICTS. 14. THE MAXIMUM PERMISSIBLE SLOPE OF ANY NEW SITE GRADING IS 1:3
- (VERTICAL: HORIZONTAL). THIS LIMIT SHALL BE APPLIED TO ALL AREAS EXCEPT STORMWATER CONVEYANCE AND TREATMENT SYSTEMS WHICH HAVE A MAXIMUM SIDE SLOPE OF 1:4 (EXCEPT BELOW THE WATER TABLE WHERE STEEPER SLOPES ARE PERMISSIBLE).
- 15. ALL SWALES AND DITCHES SHALL HAVE A MAXIMUM PERMITTED FRONT (SIDE) SLOPE NOT STEEPER THAN 1 TO 4. THE MAXIMUM PERMITTED BACK (SIDE) SLOPE, SHALL BE 1:3, PROVIDED THAT A 2' WIDE BERM IS INSTALLED. DESIGN CENTERLINE AND TOP-OF-BANK ELEVATIONS SHALL BE NOTED AT INTERVALS OF 100' AND AT SIGNIFICANT GRADE CHANGES. 16. SWALES THAT ARE NORMALLY DRY AND INTENDED FOR CONVEYANCE OF STORMWATER
- RUNOFF AND ARE NOT INTENDED FOR RETENTION SHALL HAVE A MINIMUM DRAINAGE MAINTENANCE EASEMENT WIDTH MEASURING 15 FEET. SWALED AREAS INTENDED FOR RETENTION SHALL PROVIDE APPROPRIATE EASEMENT AREAS FOR ACCESS AND MAINTENANCE MEASURED UPLAND FROM THE TOP OF BANK. AT A MINIMUM, THE SAID EASEMENT SHALL MEASURE 10 FEET IN WIDTH FROM THE TOP OF THE SWALE.
- 17. NORMAL ROADSIDE SWALES ARE PERMITTED TO BE CONSTRUCTED TO A MAXIMUM DEPTH OF 18" BELOW THE OUTSIDE EDGE OF PAVEMENT OR CONCRETE CURB.
- 18. WHEN CULVERTS ARE INSTALLED TO MAINTAIN THE FLOW OF EXISTING DRAINAGE WAYS WHERE NEWLY PROPOSED ROADS WOULD OTHERWISE SEVER THE DRAINAGE RIGHT-OF- WAY, THEN CULVERTS CROSSING RIGHTS-OF-WAY SHALL EXTEND FROM RIGHT-OF-WAY LINE TO RIGHT-OF-WAY LINE UNDER THE ROADWAY. CULVERTS SHALL BE DESIGNED TO ACCOMMODATE THE FLOW FROM THE 100 YEAR - 24 HOUR STORM EVENT WITHOUT
- FLOODING ADJACENT PROPERTY OR SURCHARGING THE SAID ROADWAY. 19. WET POND DEPTHS SHALL BE EIGHT FEET (8') MINIMUM TO FIFTEEN FEET (15') MAXIMUM, MEASURED FROM THE TOP OF BANK.
- 20. WHEN A WET POND IS INCORPORATED WITHIN A SUBDIVISION AND IS ABUTTED BY LOTS, SUCH ABUTTING LOT LINES SHALL BE EXTENDED INTO THE LAKE PROPORTIONATELY
- ENCOMPASSING ALL OF THE LAKE AREA. 21. WET POND INFLOW AND OUTLET STRUCTURES SHALL GENERALLY BE CONSTRUCTED WITH REINFORCED CONCRETE AND SHALL BE SUBJECT TO THE APPROVAL OF THE CITY. SKIMMERS FOR WET PONDS SHALL BE CONSTRUCTED SUCH THAT THE BOTTOM EXTENDS 6" BELOW THE NORMAL WATER LEVEL AND 6" ABOVE THE OVERFLOW. FOR DRY PONDS, THE SKIMMER BOTTOM SHALL BE SET 6" BELOW THE LOWEST OVERFLOW ELEVATION AND 6" ABOVE THE HIGHEST POINT OF OVERFLOW. ALL SKIMMERS SHALL BE CONSTRUCTED OF MINIMUM 1/4" THICK ALUMINUM OR FIBERGLASS ADEQUATELY SUPPORTED TO PREVENT DEFLECTION.
- 22. THE CITY MAY REQUEST THAT THE DEVELOPER SUBMIT A REPORT BY A QUALIFIED HYDROLOGIST OR HYDROGEOLOGIST ON THE IMPACT THE WET POND WILL HAVE ON NEIGHBORING WATER TABLE ELEVATIONS BOTH DURING CONSTRUCTION AND AFTER LAKE COMPLETION. THE CITY MAY REQUIRE GROUNDWATER MONITORING DURING THE LAKE **FXCAVATION.**
- 23. ADEQUATE MAINTENANCE BERMS, MINIMUM 10' IN WIDTH, SHALL BE PROVIDED AROUND THE ENTIRE PERIMETER OF ALL WET PONDS AND ASSOCIATED OUTFALLS DISCHARGING INTO AND OUT OF LAKES. APPLICABLE CROSS SECTIONS SHALL BE INCLUDED ON ALL FINAL
- DEVELOPMENT PLANS 24. DEVELOPMENT PLANS FOR ALL STORMWATER MANAGEMENT SYSTEMS SHALL CONTAIN POP-OFF DATA (OVERFLOW), BOTTOM ELEVATION, NORMAL WATER LEVELS, MEAN ANNUAL SEASONAL HIGH WATER TABLE ELEVATION, TREATMENT VOLUME AND CORRESPONDING ELEVATION, 100 YEAR HIGH WATER LEVELS, AND THE DESIGN TAILWATER ELEVATION (IF
- APPLICABLE). 25. ALL STORM SEWERS AND CULVERTS LOCATED IN ROADWAY RIGHT-OF-WAYS AND ROADWAY EASEMENTS SHALL BE A MINIMUM OF CLASS III O-RING REINFORCED CONCRETE PIPE. OUTSIDE OF ROADWAY EASEMENTS AND R.O.W., PIPE MAY BE MADE OF ALTERNATE MATERIALS INCLUDING:
- A. SMOOTH INNER WALL HIGH DENSITY POLYETHYLENE (HDPE) IN ACCORDANCE WITH AASHTO M-294, AASHTO MP7, ASTM D3350 AND ASTM D2412 FOR SIZES UP TO 42" IN
- B. PVC IN ACCORDANCE WITH THE PROVISION NOTED IN THE "SEWER DETAILS" OF THESE SPECIFICATIONS 26. ALL STORM SEWER PIPE JOINTS LOCATED IN ROADWAY RIGHT-OF-WAYS AND ROADWAY EASEMENTS SHALL BE ENTIRELY WRAPPED WITH NON-WOVEN FILTER FABRIC WITH A MINIMUM
- WIDTH OF 24" AND A MINIMUM OF 24" OVERLAP. GASKETS ARE NOT PERMITTED AS AN EQUIVALENT SUBSTITUTE FOR MEETING THIS REQUIREMENT. THIS PRACTICE IS ENCOURAGED ON PRIVATE SITES. ADDITIONALLY, ALL JOINTS SHALL BE RUBBER GASKETED FOR BOTH ROUND AND ELLIPTICAL PIPE.
- 27. DEPTH OF COVER MEASURED TO THE TOP OF PIPE (INCLUDING THE BELL JOINT) SHALL BE A MINIMUM OF 3 FEET OVER RCP. DEVIATION FROM THIS REQUIREMENT MAY BE ALLOWED BY INCREASING THE PIPE'S STRUCTURAL STRENGTH. IF AN ALTERNATE MATERIAL IS APPROVED, DEPTH OF COVER SHALL MEET MANUFACTURER'S RECOMMENDATION.
- 28. ALL STORM DRAINAGE PIPES LOCATED IN ROADWAY RIGHT-OF-WAYS AND ROADWAY EASEMENTS SHALL BE A MINIMUM OF FIFTEEN INCH (15") INSIDE DIAMETER OR EQUIVALENT. STORM DRAINAGE PIPES SMALLER THAN 15" ARE PERMITTED ON PRIVATE SITE PLANS PROVIDING THAT MAINTENANCE SHALL BE PERFORMED BY THE OWNER.
- 29. FOR NON-METALLIC STORMWATER FORCE MAINS A #12 UF INSULATED SINGLE STRAND COPPER WIRE SHALL BE ATTACHED TO ALL PIPES AND TERMINATED AT THE VALVES IN ACCORDANCE WITH RECLAIM WATER VALVE DETAIL RW-4.
- 30. STORM INLETS, MANHOLES, AND CATCH BASINS SHALL BE FDOT COMPLIANT, EITHER POURED IN PLACE OR PRECAST REINFORCED CONCRETE STRUCTURES SHALL BE REQUIRED AT EACH CHANGE OF PIPE SIZE OR CHANGE IN PIPE DIRECTION. ALL STRUCTURES SHALL BE IN COMPLIANCE WITH ASTM C-478 AND SHALL HAVE 6" THICK WALLS. THINNER WALLS MAY BE PERMITTED PROVIDING THAT THE DESIGN IS IN ACCORDANCE WITH FDOT STANDARD INDEX NO. 200 AND NO. 201. IN ADDITION, THIS REQUIREMENT MUST BE REFLECTED ON BOTH THE SHOP DRAWING AND AS-BUILT PLANS. STRUCTURES PLACED IN HIGH TRAFFIC AREAS SHALL BE OF TRAFFIC BEARING CONSTRUCTION IN ACCORDANCE WITH FDOT STANDARDS.
- 31. STORM INLETS SHALL BE SPACED IN SUCH A MANNER AS TO ACCEPT ONE HUNDRED (100) PERCENT OF THE DESIGN STORM RUNOFF WITHOUT IMPEDING THE FLOW OF TRAFFIC. FOR ROADWAY SECTIONS WITH DESIGN SPEEDS OF 45 MPH AND LESS AND WITHOUT FULL WIDTH SHOULDERS, SPREAD RESULTING FROM A RAINFALL INTENSITY OF FOUR INCHES (4") PER HOUR SHALL NOT EXCEED ONE-HALF OF THE TRAVEL LANE ADJACENT TO THE GUTTER. FOR SITE PLANS, INLET SPACING SHALL BE DESIGNED TO ACCEPT ONE HUNDRED (100) PERCENT OF THE RUNOFF FROM A RAINFALL INTENSITY OF FOUR INCHES (4") PER HOUR WITHOUT RESULTING IN PONDING OF WATER AROUND THE INLET.
- 32. FOR CONNECTIONS BETWEEN INLETS WITH PIPING 15" IN DIAMETER AND LARGER, THE MAXIMUM DISTANCES BETWEEN INLETS AND / OR CLEAN-OUT JUNCTION BOXES SHALL BE 300 FEET. CULVERTS SHALL BE SLOPED TO MAINTAIN A MINIMUM SELF-CLEANING VELOCITY OF 2.5 FEET PER SECOND USING A MANNING'S 'n' OF 0.012. SPACING FOR CLEAN-OUTS AND INLETS FOR SMALLER PIPING SHALL BE REDUCED AND EVALUATED ON A CASE BY
- CASE BASIS 33. ALL STORMWATER INLETS SHALL MEET FDOT CRITERIA IN THE FDOT DESIGN STANDARD LATEST EDITION.

STORMWATER CONSTRUCTION NOTES (CONT.)

REQUIRED ON ALL AS-BUILT DRAWINGS.

CLEARLY INDICATED ON THE AS-BUILT.

SKIMMERS SHALL BE NOTED ON THE AS-BUILT.

34. TRACER WIRE SHALL BE TESTED FOR CONTINUITY UNDER SUPERVISION BY CITY

AS-BUILT DRAWING REQUIREMENTS

IN ORDER TO ENSURE THAT NEW SUBDIVISIONS AND SITE PLANS ARE CONSTRUCTED SUBSTANTIALLY IN

ACCORDANCE WITH CITY REGULATIONS AND THE APPROVED DRAWINGS, THE FOLLOWING INFORMATION IS

1. PAVEMENT AND CURB WIDTHS SHALL BE VERIFIED AND DIMENSIONED FOR EACH STREET AT EACH BLOCK.

3. ROADWAY ELEVATIONS SHALL BE RECORDED AT ALL GRADE CHANGES, 100' INTERVALS ALONG ROADWAY,

ELEVATIONS SHALL BE RECORDED AS NOTED. THE AS-BUILT CENTERLINE PROFILE OF ALL STREETS

SHALL ALSO BE SHOWN ON THE PLAN AND PROFILE SO IT MAY BE COMPARED TO THE DESIGN PROFILE

GRADE LINES. IN THE EVENT THAT THE AS-BUILT CENTERLINE LONGITUDINAL GRADE DOES NOT MEET

THE CITY MINIMUM STANDARDS, ADDITIONAL LONGITUDINAL GRADES OF THE ADJACENT CURBING AND

SIMILAR ROADWAY CROSS-SECTION SURVEYS TO VERIFY THE CORRECT CROSS SLOPE, SHALL BE

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

5. RETENTION AREAS SHALL HAVE THEIR TOP-OF-BANK AND BOTTOM ELEVATIONS RECORDED. ACTUAL

6. ACTUAL MATERIALS USED AND ELEVATIONS AND DIMENSIONS OF OVERFLOW WEIR STRUCTURES AND

7. STORM DRAINAGE SWALE CENTERLINES SHALL BE LOCATED AND ELEVATIONS OF FLOW LINE AND TOP

OF BANK SHALL BE RECORDED EVERY 100 FEET OR CHANGE IN GRADE. SIDE SLOPES SHALL ALSO BE

LOTS ON THE APPROPRIATE PLAN AND PROFILE SHEET AS WELL AS ON THE MASTER DRAINAGE PLAN.

9. 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.

SURVEYOR SHOULD PROVIDE THE EXACT LOCATION OF THE SPECIMEN TREE(S) FROM THE RIGHT-OF-WAY

10. IF AN APPROVED SUBDIVISION PLAT OR SITE PLAN SHOWS A CONSERVATION EASEMENT, THE PROJECT

OR PROPERTY LINES AND PROPOSED EASEMENT BOUNDARIES ON THE AS-BUILT DRAWING. THE

AS-BUILT LOCATION OF THESE TREES WILL HELP VERIFY THE SUFFICIENCY OF THE CONSERVATION

11. AS BUILT DRAWINGS ARE TO BE PREPARED BY A FLORIDA LICENSED SURVEYOR AND SHALL INCLUDE A

SEALED PAPER SETS OF AS-BUILT RECORD DRAWINGS SHALL BE PROVIDED ALONG WITH A DIGITAL

SIGNED CERTIFICATION STATEMENT BY THE FLORIDA LICENSED ENGINEER OF RECORD. TWO (2) SIGNED &

8. FOR SUBDIVISIONS, PROPOSED DESIGN FINISHED FLOOR ELEVATIONS SHALL APPEAR ON ALL SUBDIVISION

4. ALL APPLICABLE TOPOGRAPHIC INFORMATION PERTINENT TO THE ON-SITE DRAINAGE SYSTEM, SUCH AS

DITCHES, SWALES, LAKES, CANALS, ETC. THAT ARE DEEMED NECESSARY BY THE CITY TO VERIFY THE

FUNCTIONAL PERFORMANCE OF THE STORM WATER SYSTEM, SHALL BE NOTED. NORMALLY, RECORDING

FEATURES TO THE ROADWAY CENTERLINES AND TO PLAT LINES. WHENEVER POSSIBLE, CONTOUR LINES

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

AND OTHER INTERVALS AS NEEDED ALONG ALL STREETS. STREET CENTERLINE AND CURB INVERT

(FOR SUBDIVISIONS) AND AS APPROPRIATE TO CONFIRM PAVING LIMITS (ON SITE PLANS).

REQUIRED TO VERIFY THAT THE SYSTEM WILL FUNCTION AS ORIGINALLY DESIGNED.

SHALL BE UTILIZED TO GRAPHICALLY DESCRIBE THESE TOPOGRAPHIC FEATURES.

EASEMENT PRIOR TO PLAT RECORDING OR CERTIFICATE OF OCCUPANCY.

COPY IN BOTH, A COMPATIBLE AutoCAD FORMAT & PDF FORMAT.

2. ALL RADII AT INTERSECTIONS SHALL BE VERIFIED AND DIMENSIONED. THIS INFORMATION IS TO BE

- REPRESENTATIVE AFTER INSTALLATION. 35. ALL GASKETS SHALL BE LUBRICATED BEFORE BEING INSTALLED.
- 36. ALL FITTINGS SHALL MEET THE MINIMUM RESTRAINED REQUIREMENTS PER ANSI/AWWA/DIPRA, AND ALL PRESSURE PIPES UNDER THE ROADWAY SHALL BE



M O **S**

PROJECT NO: 17112 SSUE DATE: 08-10-18 DESIGNED BY: KR

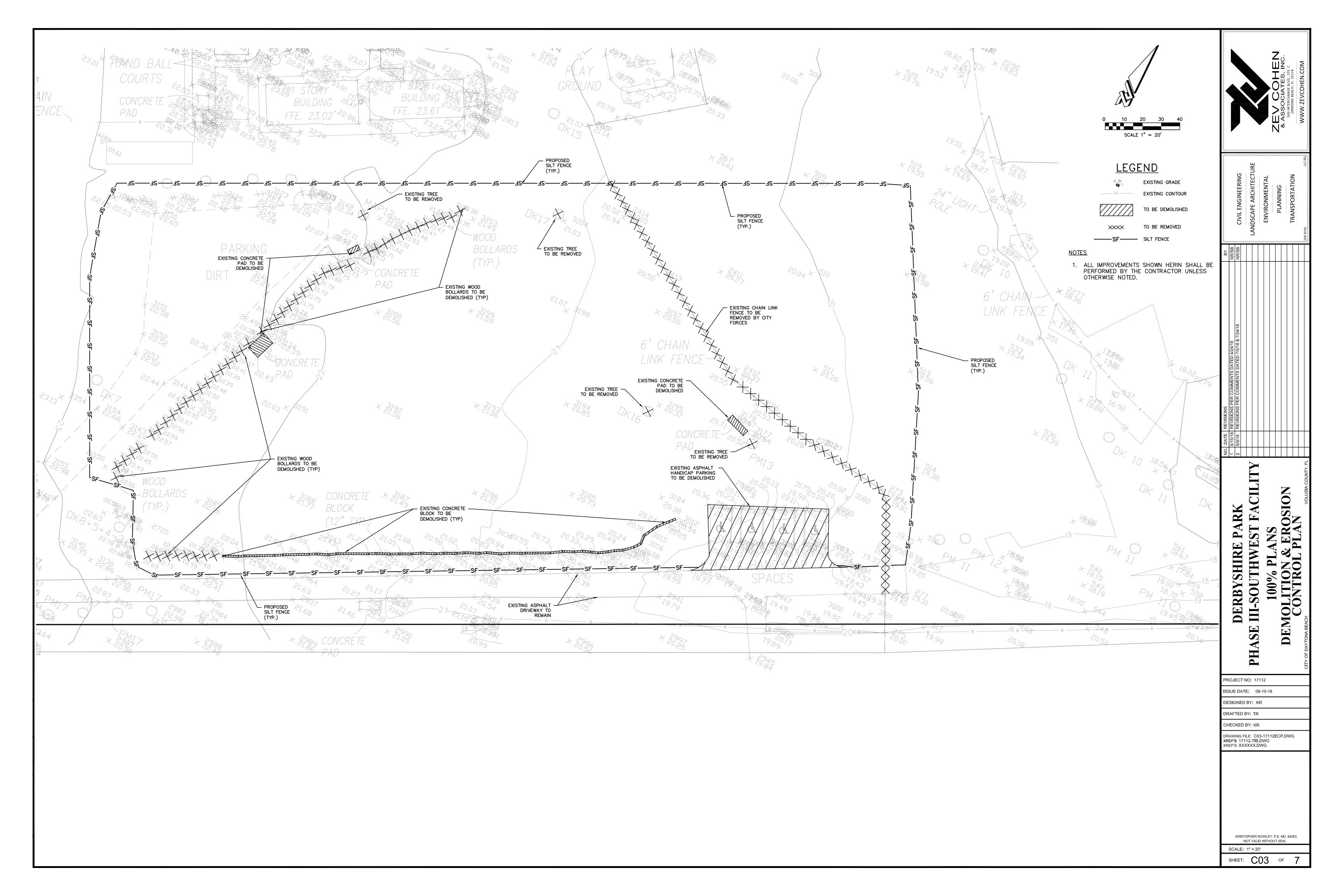
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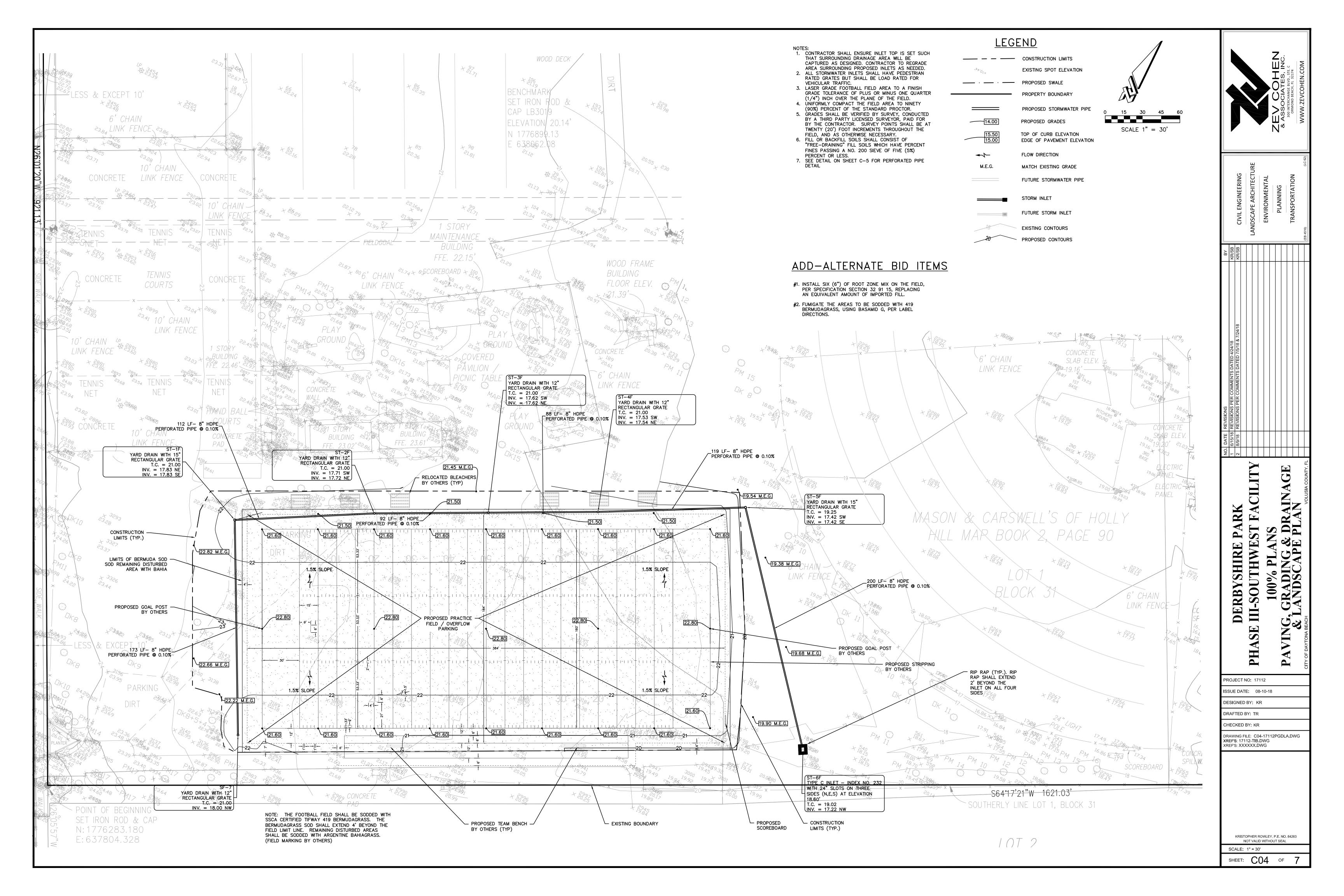
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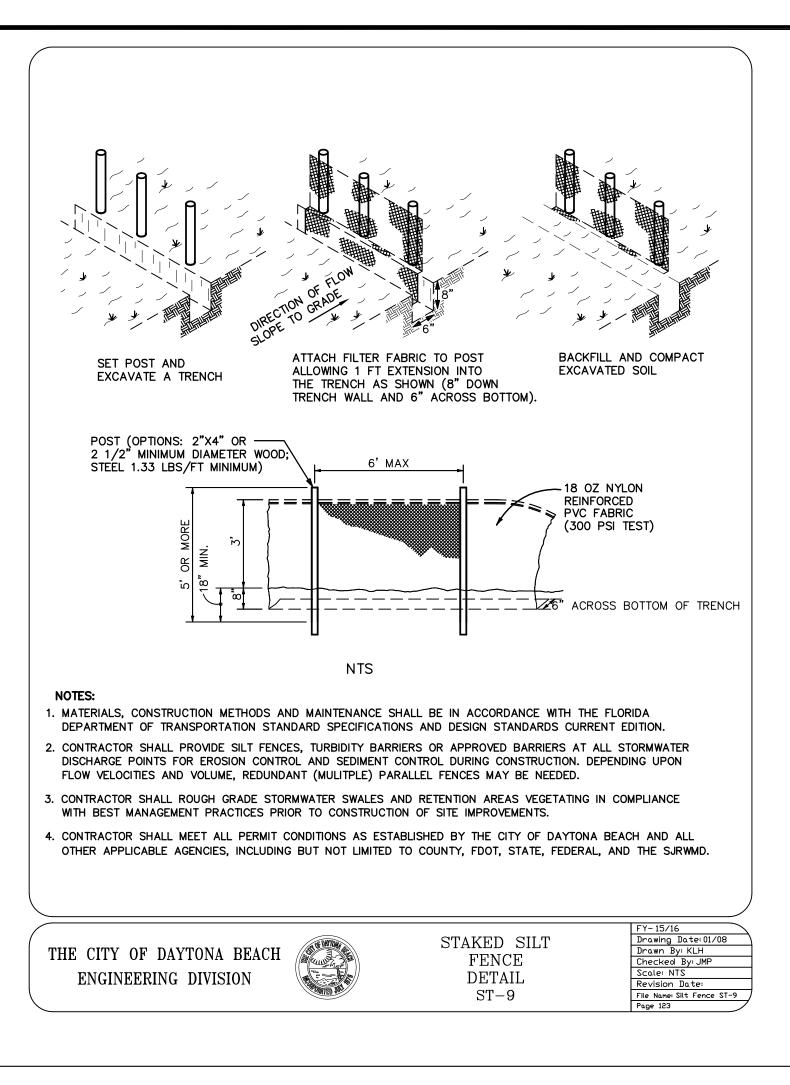
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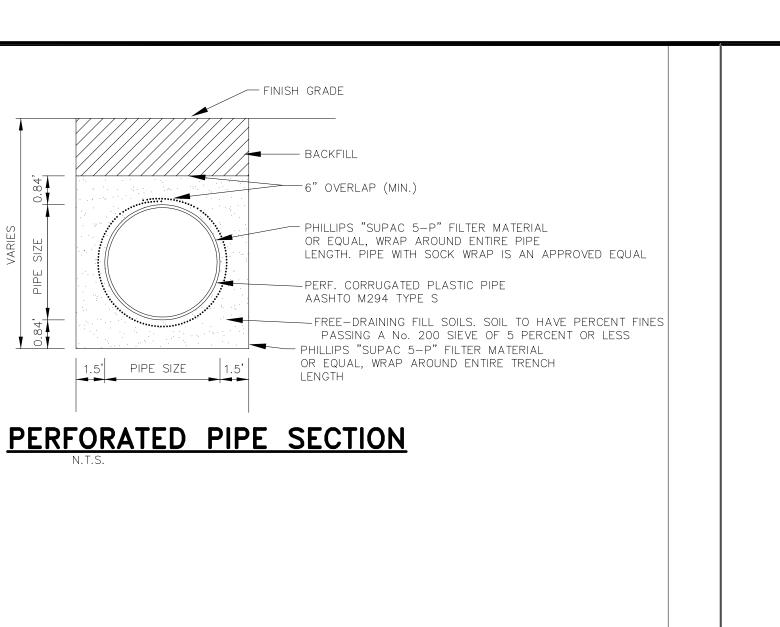
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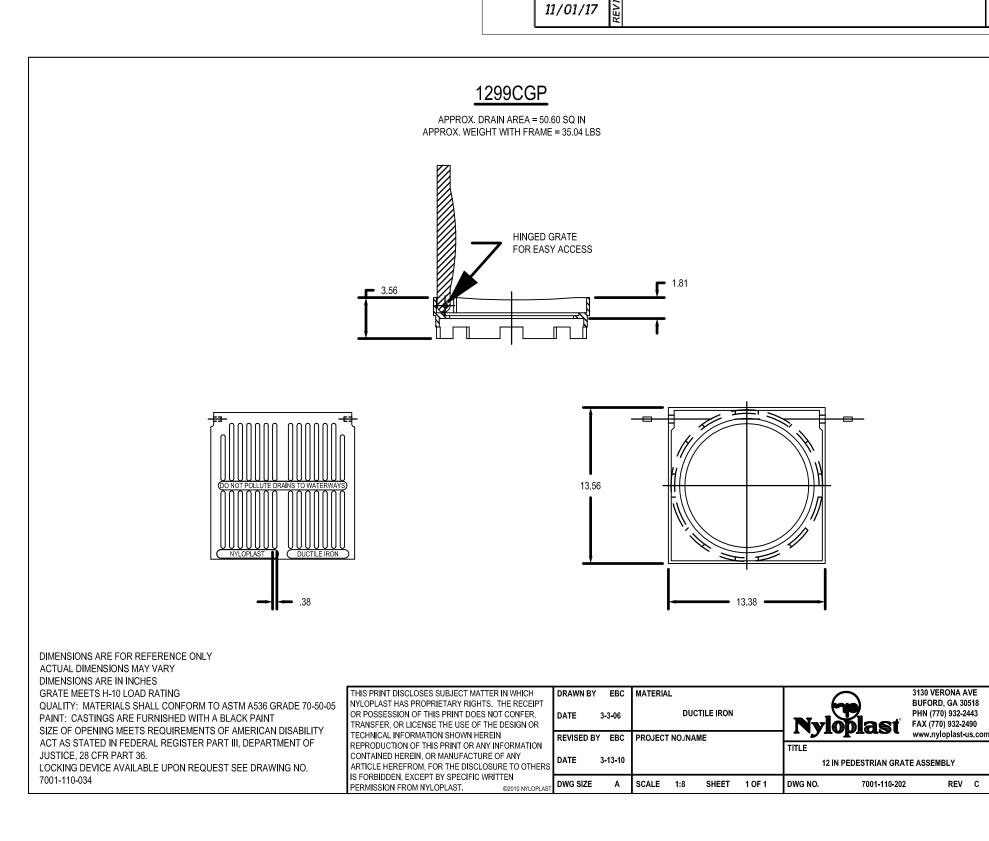
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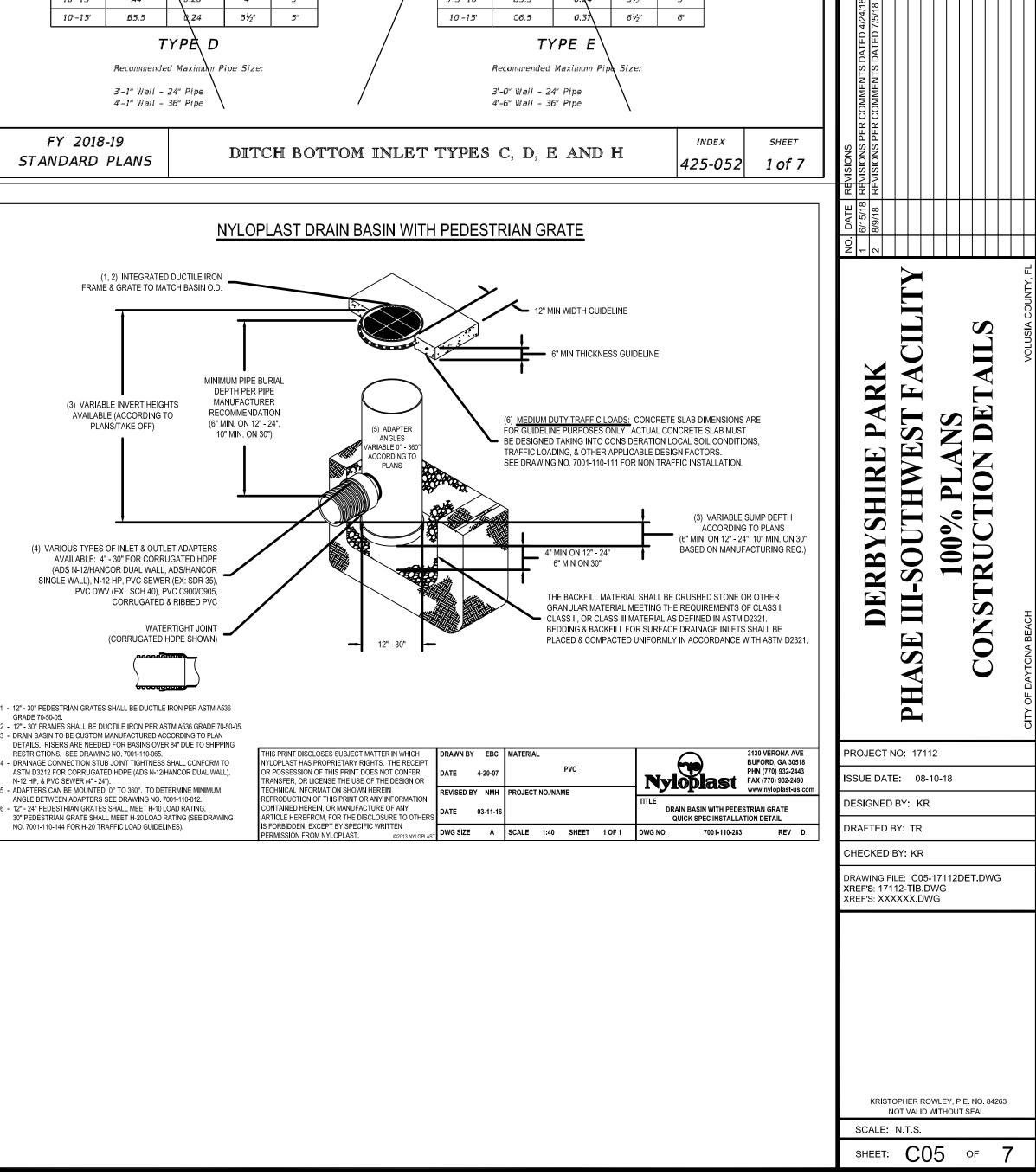












4'-4" C-I-P 4'-0" Precast

SECTION

SCHEDULE

A12

DEPTH

O'-5'

HORIZONT'AL WALL REINFORCING

SCHEDULES (TABLE 3)

0.20

Center Of Box

Sta./Offset Location

See Index 425-001

– #4 Bars @ 12" Ctrs.

— #4 Bars @ 10" Ctrs.

MAX. SPACING

12" 8"

\(in.2/ft.) BARS WWF

— Horiz. Wall Reinf.

(See Table 3)

5'-1" Precast

Grate —

Horiz, Wall Reinf

SECTION

*SCHEDU*****E

A12

DEPTH

0'-6'

HORIZONTAL WALL REINFORCING

SCHEDULES (TABLE 2)

0.20

(5ee Table 2) -

4" Precast

- Center Of Box

Sta./Offset Location

5¾" C-I-P

3¾" Precast

See Index 425-001

– #4 Bars

@ 12" Ctrs.

@ 11" Ctrs.

MAX. SPACING

(in.²/ft.) BARS WWF

3'-0" Precast

2'-0"

PLAN

3'-0" Precast

SECTION

TYPEC

3'-1" Wall - 24" Pipe (18" where an 18" pipe

enters a 2'-0" wall)

SCHEDULE

A12

Recommended Maximum Pipe Size:

2'-0" Wall - 18" Pipe

DEPTH

0'-15'

DESCRIPTION:

REVISION

HORIZONTAL WALL REINFORCING

SCHEDULES (TABLE 1)

└─ Center Of Box

Sta./Offset Location

Evebolt

@ 12" Ctrs.

@ 12" Ctrs.

MAX. SPACING

BUFORD, GA 30518

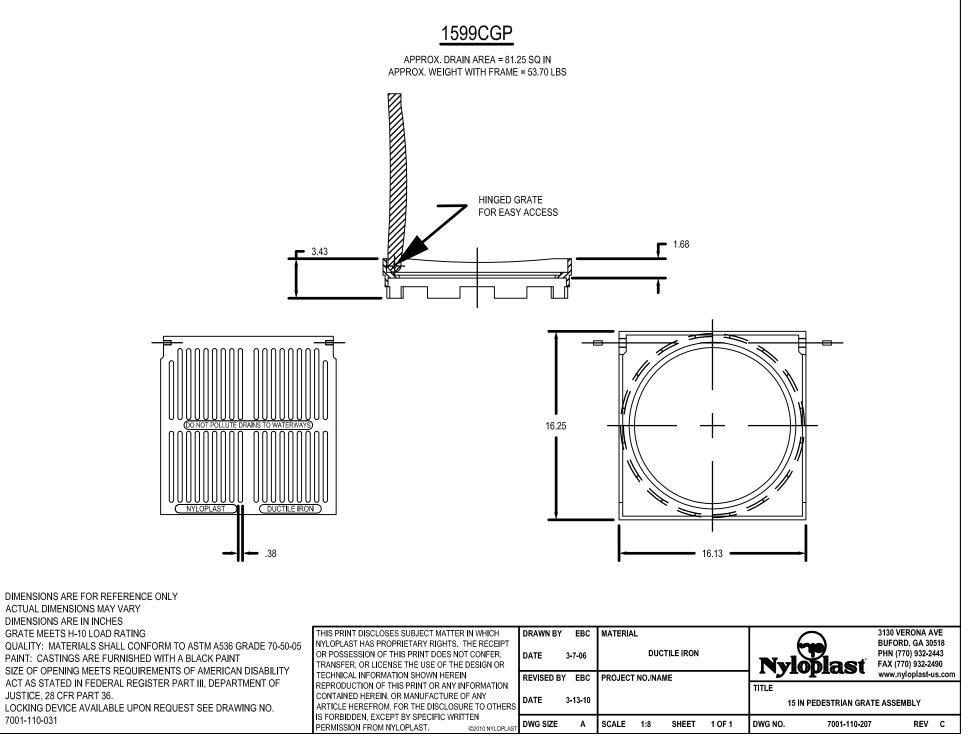
FAX (770) 932-2490

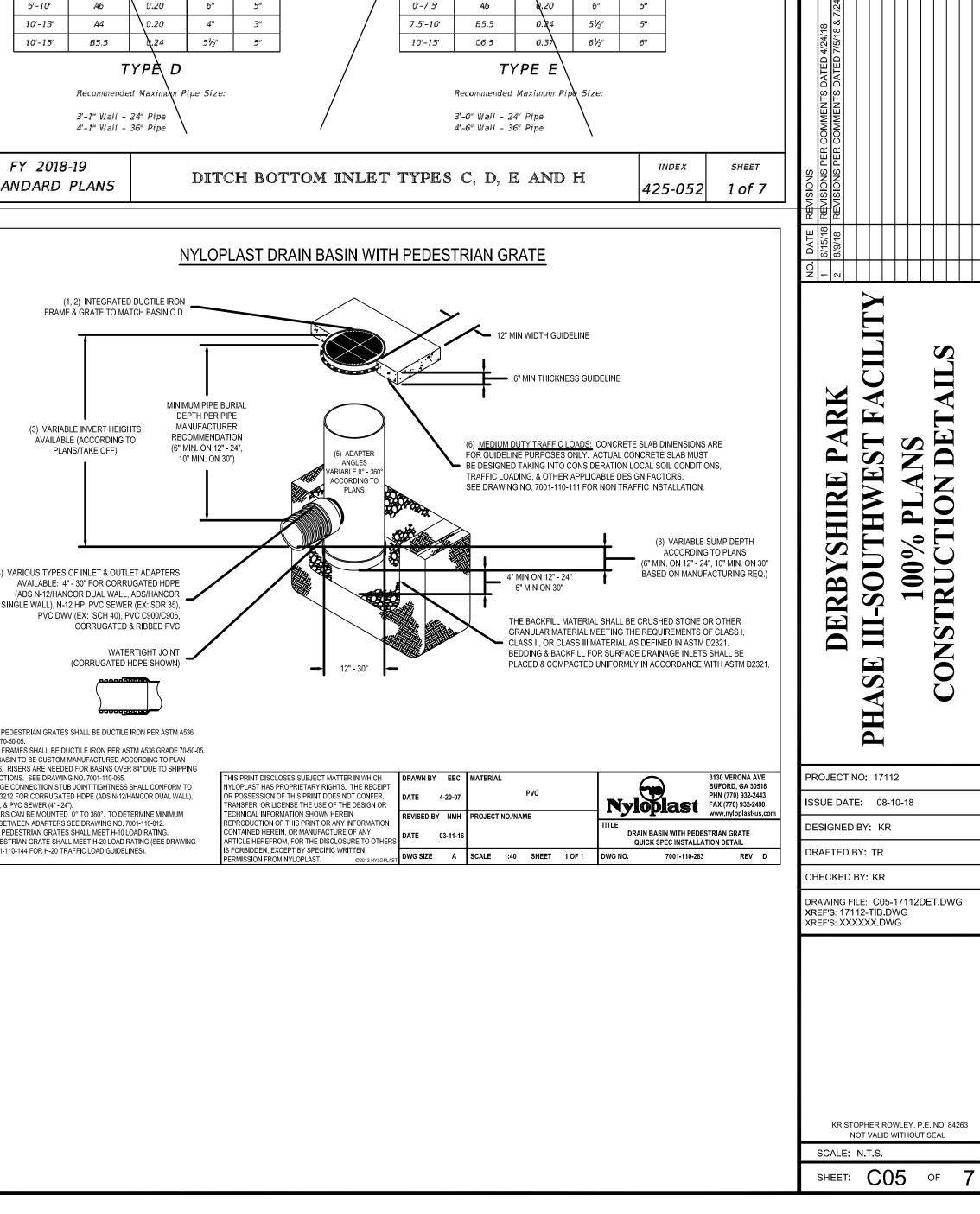
PHN (770) 932-2443

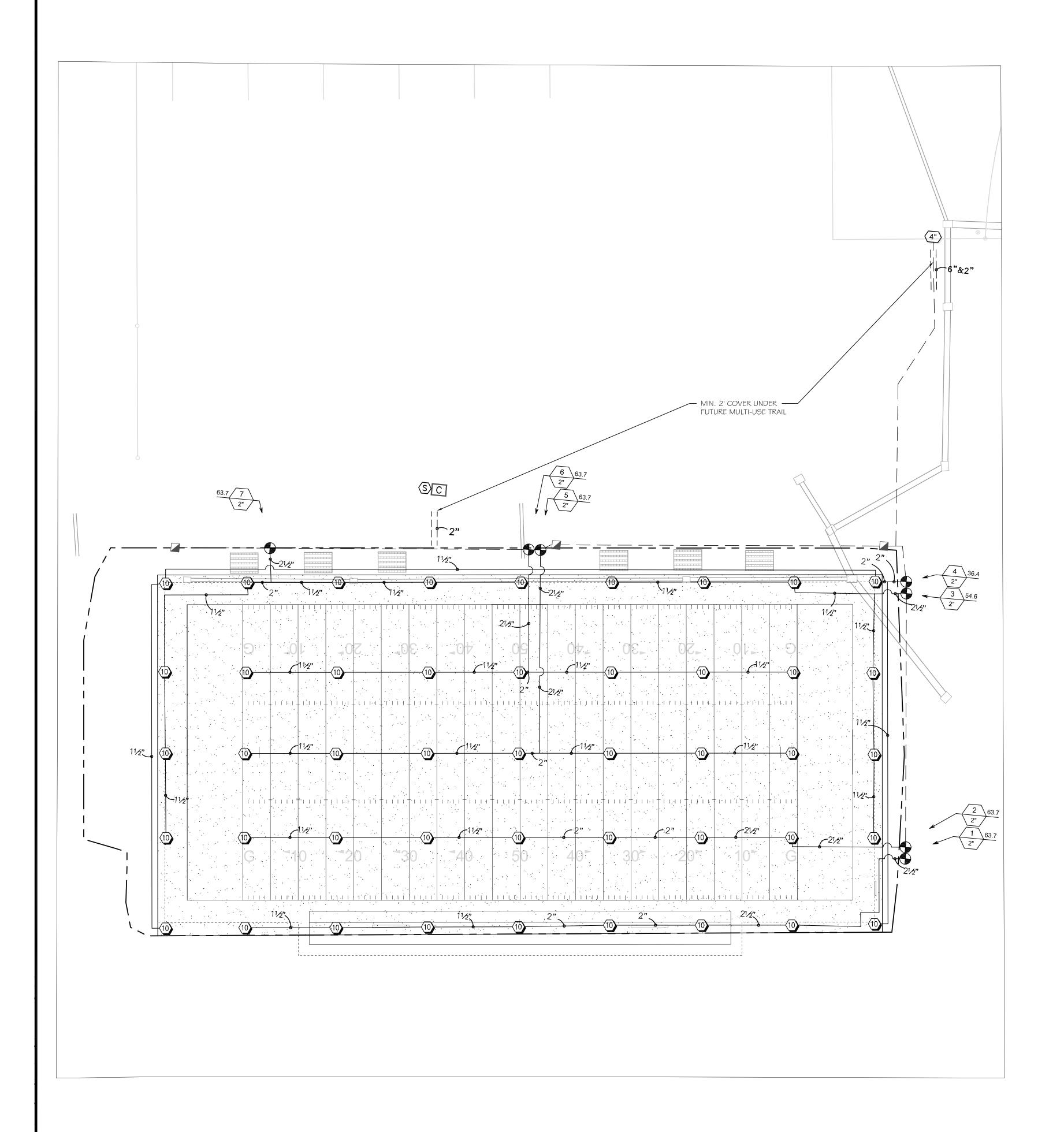
(in.²/ft.) BARS WWF

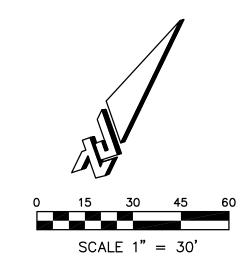
0.20 12" 8"

See Index 425-001



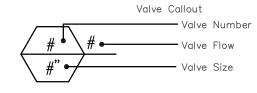






IRRIGATION_SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	<u> QTY</u>	<u>PSI</u>	<u>GPM</u>	RADIUS
10	Rain Bird F4-PC, FC	45	50	9.10	53'
<u>SYMBOL</u>	MANUFACTURER/MODEL/DESCRIPTION	<u>QTY</u>			
	Rain Bird PESB in 12" Valve Box	7			
	Rain Bird 5RC Quick Coupler in 12" Valve Box	3			
С	Hunter IC-600-PL with DUAL48M Two Wire Module. Install a Hunter IDIBLU control from zone 4 to the point of connection for future use. This wire will not be connected into new controller at this time.	I			
S	Hunter Miniclik Rain Sensor	1			
<u>4"</u>	Point of Connection- Mark future wire with 12" valve box.	1			
	Irrigation Lateral Line: PVC Schedule 40	3,000 l.f.			
	Irrigation Mainline: PVC 3" Schedule 40	600 l.f.			
=======	Sleeve: PVC Schedule 40				



	1 6/15/18 REVISIONS PER COMMENTS DATED 4/24/18 KR/SE 2 8/9/18 REVISIONS PER COMMENTS DATED 7/5/18 & 7/24/18 KR/SE					FOR REVIEW ONLY NOT FOR	CONSTRUCTION
	DERBYSHIRE PARK	PHASE III-SOUTHWEST FACILITY	•	IKKIGATION PLAN			CITY OF DAYTONA BEACH
	OJECT N		7112 8-10-1	18			
	SIGNED AFTED E		JC :				
СНЕ	ECKED	BY: SE	3				
XRE	\WING FI E F'S : 171 EF'S: XX)	12-TIB	.DWG		R.C)WG	

STEPHEN R. BURNS, R.L.A NO. 986 NOT VALID WITHOUT SEAL

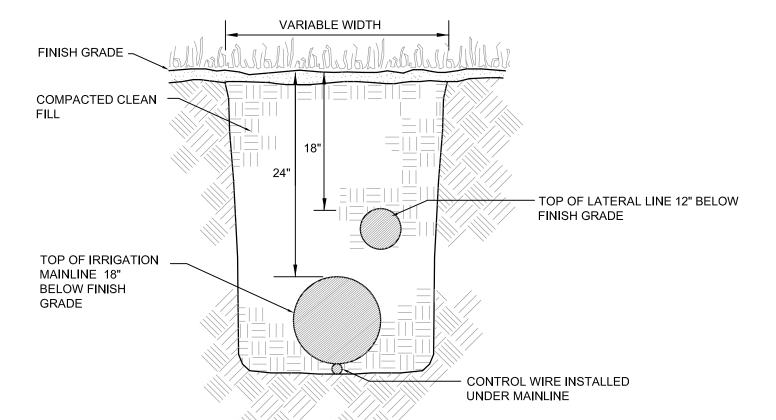
SHEET: C06 OF

SCALE: 1" = 30'

Crawford Irrigation Design, Inc

IRRIGATION DESIGN AND CONSULTATION SERVICES
Edgewater, Florida
Tel: (386) 424-0027

EMAIL: cid@atlantic.net



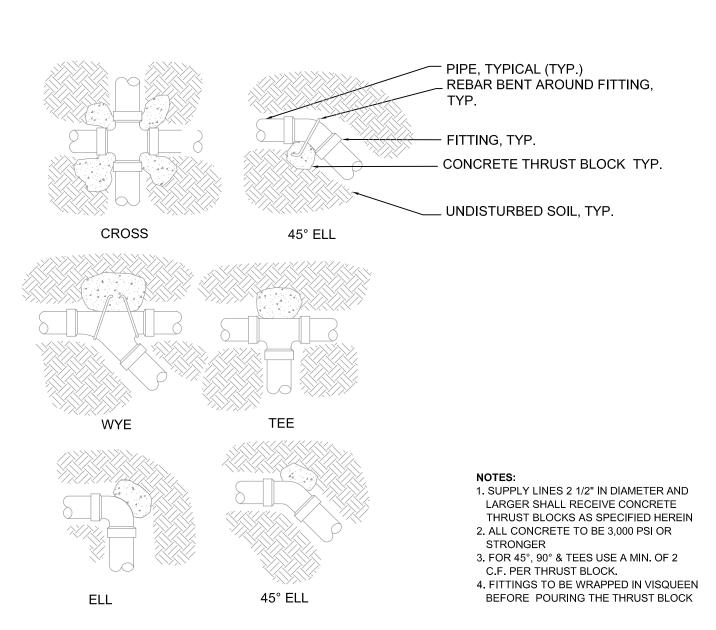
NOTES:

- 1. DEPTH MEASUREMENTS ARE TO BE DONE FROM FINISH GRADE
- TO TOP OF PIPE.
 2. PROVIDE A 6" MINIMUM VERTICAL SEPARATION BETWEEN
- MAINLINES AND LATERAL LINES.

 3. ALL TRENCHES SHALL BE BACKFILLED WITH CLEAN SOIL FREE OF DEBRIS & NOXIOUS WEEDS.

TRENCHING DETAIL

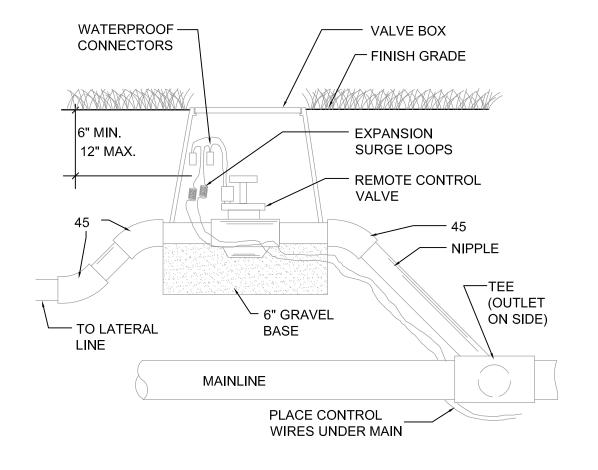
SCALE: NTS



THRUST BLOCK REINFORCEMENT DETAILS

SCALE: NTS

MARK ALL VALVE BOXES WITH THE ZONE NUMBER AS DIRECTED BY THE LANDSCAPE ARCHITECT.

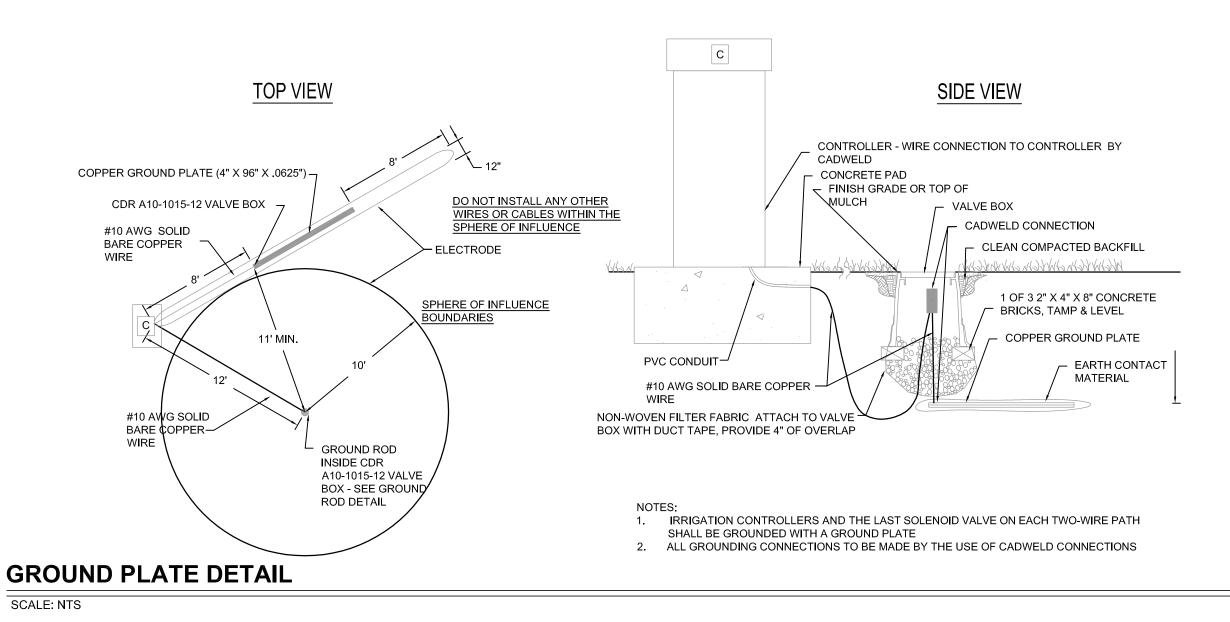


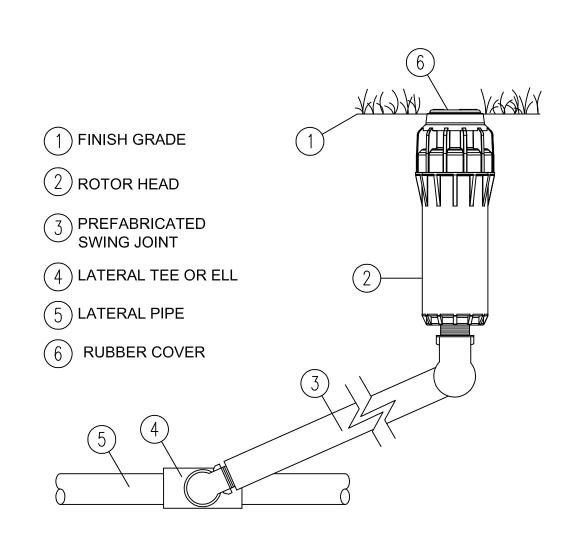
ELECTRIC VALVE INSTALLATION DETAIL

SCALE: NTS

IRRIGATION NOTES

- 1. THE PLANS AND DRAWINGS ARE DIAGRAMMATIC OF THE WORK TO BE PERFORMED. SOME COMPONENTS MAY BE SHOWN OUTSIDE THE WORK AREA FOR CLARITY. THE WORK SHALL BE EXECUTED IN A MANNER TO AVOID CONFLICTS WITH UTILITIES AND OTHER ELEMENTS OF CONSTRUCTION, INCLUDING LANDSCAPE MATERIALS. ALL DEVIATIONS FROM THE PLANS SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE BEFORE BEING INSTALLED. THE CONTRACTOR SHALL NOT WILLFULLY INSTALL ANY ASPECT OF THE IRRIGATION SYSTEM AS SHOWN ON THE PLANS AND DRAWINGS, WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS, GRADE DIFFERENCES, OR DISCREPANCIES EXIST THAT MIGHT NOT HAVE BEEN KNOWN DURING THE DESIGN OF THE IRRIGATION SYSTEM. IN THE EVENT THAT NOTIFICATION OF THE CONFLICT IS NOT APPROVED BY THE OWNER'S REPRESENTATIVE, THE CONTRACTOR WILL ASSUME FULL RESPONSIBILITY FOR ALL REVISIONS.
- 2. THE IRRIGATION SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE PLANS, IRRIGATION SYSTEM SPECIFICATIONS AND ALL CONTRACT DOCUMENTS. THE CONTRACTOR SHALL COMPLY WITH ALL PREVAILING LOCAL CODES, ORDINANCES, AND REGULATIONS.
- 3. CONTRACTOR SHALL VERIFY ALL SITE CONDITIONS, INCLUDING UTILITY LOCATIONS, BEFORE INSTALLATION OF THE IRRIGATION SYSTEM. ALL UTILITIES AND STRUCTURES MAY NOT BE SHOWN ON THE PLANS CONTRACTOR TO VERIFY. COORDINATE ALL IRRIGATION SYSTEM CONSTRUCTION WITH EXISTING AND NEW PLANTINGS TO AVOID CONFLICT OR INTERFERENCE WITH LOCATION OF PIPING, SLEEVING, CABLES, AND SERVICE UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING INSTALLATION WITH ALL OTHER CONSTRUCTION ON SITE, ESPECIALLY LANDSCAPE INSTALLATION. IRRIGATION SYSTEM SHALL BE RELOCATED AT NO ADDITIONAL COST FOR ANY CONFLICT WITH LANDSCAPE INSTALLATION OR ANY OTHER SITE CONSTRUCTION OR EXISTING CONDITIONS. ALL COMPONENTS THAT ARE NOT CONTAINED WITHIN THE SPECIFIC AREAS SHOWN OR CALLED OUT ON THE DRAWINGS WILL NOT BE ACCEPTED. ALL PIPING AND OTHER COMPONENTS ARE TO REMAIN WITHIN THE PROPERTY OF THE OWNER.
- 4. WHERE EXISTING OR NEW TREES, LIGHT STANDARDS, SIGNS, ELECTRONIC CONTROLLERS AND/OR OTHER OBJECTS ARE AN OBSTRUCTION TO AN IRRIGATION SPRINKLER'S PATTERN, THE COMPONENT AND PIPING SHALL BE RELOCATED AS NECESSARY TO OBTAIN PROPER COVERAGE OF AN IRRIGATION SPRINKLER'S PATTERN, THE COMPONENT AND PIPING SHALL BE RELOCATED AS NECESSARY TO OBTAIN THE PROPER COVERAGE WITHOUT DAMAGING THE OBSTRUCTION. OWNER'S REPRESENTATIVE SHALL DETERMINE WHETHER AN OBSTRUCTION OCCURS OR NOT.
- 5. COMPONENT SPACINGS ARE MAXIMUM. DO NOT EXCEED SPACINGS SHOWN OR NOTED ON THE PLANS. COMPONENT SPACINGS MAY BE ADJUSTED TO ACCOMMODATE CHANGES IN TERRAIN AND PLANTING LAYOUT AS LONG AS THE MODIFIED SPACINGS DO NOT EXCEED THE SPACINGS SHOWN IN THE PLANS. UNLESS SHOWN OTHERWISE, CONTRACTOR SHALL PROVIDE 100% COVERAGE.
- 6. ALL MATERIALS AND EQUIPMENT SHOWN SHALL BE NEW AND INSTALLED AS DETAILED ON THE PLANS. IF THE DRAWINGS DO NOT THOROUGHLY DESCRIBE THE TECHNIQUES TO BE USED, THE INSTALLER SHALL FOLLOW THE INSTALLATION METHODS AND INSTRUCTIONS RECOMMENDED BY THEIR MANUFACTURER.
- 7. THE LOCATION OF THE IRRIGATION MAINLINE SHALL BE IDENTIFIED IN THE FIELD AND APPROVED BY THE OWNER'S REPRESENTATIVE BEFORE INSTALLATION.
- 8. IRRIGATION CONTRACTOR SHALL ADJUST ALL SPRINKLERS, CONTROLLER AND OTHER DEVICES TO OBTAIN SPECIFIED OPERATING PARAMETERS, INCLUDING COVERAGE, OPERATING PRESSURE, FLOW RATES AND OPERATION TIME, AS INDICATED ON THE DRAWINGS AND IN THE IRRIGATION SYSTEM SPECIFICATIONS.
- 9. CONTRACTOR TO PROVIDE INSTALLATION SHOP DRAWINGS AND MANUFACTURER PRODUCT INFORMATION FOR ALL IRRIGATION COMPONENTS, ALL INSTALLATIONS SHALL BE AS RECOMMENDED BY MANUFACTURERS, THE QUANTITIES SHOWN IN THE LEGENDS AND SYMBOL SHEETS SHALL NOT BE USED FOR BIDDING PURPOSES, THE CONTRACTOR WILL BE RESPONSIBLE FOR CONDUCTING A COMPREHENSIVE MATERIALS TAKEOFF TO DETERMINE THE ACTUAL QUANTITIES OF MATERIAL NECESSARY TO EXECUTE THE WORK DESCRIBED IN THE DOCUMENTS.
- 10. ALL TRENCHES SHALL BE BACKFILLED WITH CLEAN, DEBRIS-FREE MATERIALS, CLEAN SAND SHALL BE USED FOR BEDDING MATERIAL IF PARENT SOIL CANNOT BE ADEQUATELY RID OF ROCK AND OTHER EXTRANEOUS DEBRIS, PULLING PIPE SHALL BE PROHIBITED.
- 11. ALL SOLVENT WELDING SHALL BE PRECEDED BY PRIMING OF THE FITTINGS AND PIPE AS RECOMMENDED BY THE MANUFACTURER.
- 12. ALL MAINLINE CHANGE OF DIRECTION FITTINGS SHALL BE DUCTILE IRON GASKET THRUST BLOCKED PER DETAIL. ALL SERVICE TEES TO CONTROL VALVES SHALL BE PVC GASKET.
- 13. CONTRACTOR TO PLACE TREE BUBBLERS AT OUTER EDGE OF ROOT BALL, NOT OUTER EDGE OF PLANTING HOLE.
- 14. ALL FALCON HEADS AND QUICK COUPLERS TO BE INSTALLED ON LASCO 1" PREFABRICATED SWING JOINTS.
- 15. IRRIGATION CONTROL WIRE SHALL BE HUNTER ID1BLU IDWIRE1 LAID BELOW THE MAINLINE. ALL WIRE SPLICES INTO THE THE HUNTER IDWIRE1 SHALL BE MADE WITH 3M-DBR6 WIRE SPLICES. INSTALL HUNTER ID DECODERS AT ALL VALVE LOCATIONS. ALL WIRE SPLICES FROM THE DECODER TO THE SOLENOID SHALL BE MADE WITH 3M-DBY WIRE CONNECTORS. THE IRRIGATION CONTROLLER AND CONTROL WIRE SHALL BE GROUNDED TO MANUFACTURE SPECIFICATIONS.
- 16. LOCATE ALL VALVES WITH A MINIMUM DEESET DE 3'-0" FROM BACK DE CURB DR EDGE DE PAVEMENT.
- 17. ALL VALVES (SOLENOID, GATE, ISOLATION, AIR RELIEF AND FLUSH), SURGE PROTECTORS AND FILTERS SHALL BE LOCATED WITHIN THE SPECIFIED VALVE BOXES.
- 18. THE IRRIGATION CONTRACTOR SHALL BE DIRECTLY RESPONSIBLE FOR ALL SLEEVES.
- 19. ALL UNSIZED PIPE SHALL BE 3/4".
- 20, IRRIGATION LATERAL LINES TO BE BURIED AT A DEPTH OF 18" UNLESS NOTED OTHERWISE.
- 21. IRRIGATION MAINLINES TO BE BURIED AT A DEPTH OF 24" UNLESS NOTED OTHERWISE.
- 22. CONTROLLER, RAIN SENSOR, VALVES, MAINLINE AND SLEEVE CROSSINGS INSTALLED BY THE IRRIGATION CONTRACTOR, SHALL BE LOCATED ON THE "AS-BUILT" DRAWINGS. LOCATION OF COMPONENTS SHALL HAVE DIMENSION OF LOCATION RELATIVE TO HAND POINTS ON SITE SHOWN ON THE "AS-BUILT" DRAWINGS.
- 23. IRRIGATION CONTRACTOR SHALL SECURE ANY AND ALL NECESSARY PERMITS FOR THE WORK PRIOR TO COMMENCEMENT OF HIS OPERATIONS ON-SITE, COPIES OF THE PERMITS SHALL BE SENT TO THE LANDSCAPE SUPERVISOR, WORK IN THE RIGHT OF WAY SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF LOCAL AND/OR STATE HIGHWAY JURISDICTION.





BALL FIELD ROTOR HEAD



	N O	DATE	NO. DATE REVISIONS	ВУ	
	_	6/15/18	6/15/18 REVISIONS PER COMMENTS DATED 4/24/18	KR/SB	
	7	8/9/18	REVISIONS PER COMMENTS DATED 7/5/18 & 7/24/18	KR/SB	CIVII ENGINEER
>					LAINDSCAPE ARCHII
					ENVIRONMENT
					PLANNING
		H	OR REVIEW ONLY NOT FOR		TRANSPORTAT
			MOITDITOTION		

DERBYSHIRE PARK
HASE III-SOUTHWEST FACII

PROJECT NO: 17112

ISSUE DATE: 08-10-18

DESIGNED BY: KR

DRAFTED BY: TR

CHECKED BY: KR

DRAWING FILE: C06-17112IR.DWG

XREF'S: 17112-TIB.DWG

XREF'S: XXXXXXX.DWG

STEPHEN R. BURNS, R.L.A NO. 986 NOT VALID WITHOUT SEAL SCALE: NOT TO SCALE

SHEET: C07

IRRIGATION DETAIL