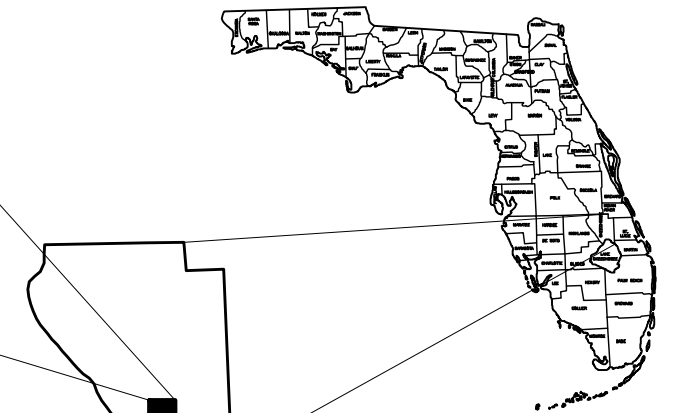


S.W. 28th ST. — S.W.3rd TERR. — S.W. 32nd ST.



VICINITY MAP
SCALE: N.T.S.

CHAIRMAN – DISTRICT 3	CLIF BETTS, JR.
1ST VICE CHAIRMAN – DISTRICT 2	NOEL CHANDLER
2ND VICE CHAIRMAN – DISTRICT 4	JOEY HOOVER
DISTRICT 1	RAY DOMER
DISTRICT 5	MARGARET GARRARD HELTON
COUNTY ADMINISTRATOR	LYNDON BONNER

PREPARED FOR:

OKEECHOBEE COUNTY

PROJECT No. 00-0903-429

CALL SUNSHINE STATE
ONE-CALL CENTER 48 HOURS
BEFORE EXCAVATION
1-800-432-4770

FILE NAME: 00-0429-G-00-COV.dwg

FOR BIDDING PURPOSES ONLY



ORLANDO A. RUBIO, P.E. (CIVIL)

DATE _____

FLORIDA PROFESSIONAL ENGINEER NO. 48265

GENERAL NOTES

1. THE LOCATION OF ALL EXISTING UTILITIES ON THE PLAN IS APPROXIMATE. THE CONTRACTOR SHALL LOCATE AND EXPOSE ALL EXISTING UTILITIES TO BE CONNECTED SUFFICIENTLY AHEAD OF CONSTRUCTION TO ALLOW REDESIGN BY THE ENGINEER IF SUCH UTILITIES ARE FOUND TO BE DIFFERENT THAN SHOWN ON THESE PLANS.
2. THE CONTRACTOR SHALL PROTECT ALL UTILITIES AND OTHER IMPROVEMENTS SHOWN ON THESE PLANS AND ALL OTHER UTILITIES AND OTHER IMPROVEMENTS NOT SHOWN. THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR REPAIRS OF UTILITIES AND OTHER IMPROVEMENTS DAMAGED DURING CONSTRUCTION AND SHALL MAINTAIN SUFFICIENT RETECTION TO ALL UTILITIES REQUIRED TO PROTECT THEM FROM DAMAGE AND TO PROTECT THE PUBLIC DURING CONSTRUCTION.
3. CONTRACTOR SHALL NOTIFY CRAIG A. SMITH & ASSOCIATES AT (561) 314-4445 AT LEAST 48 HOURS PRIOR TO COMMENCING CONSTRUCTION.
4. THE CONTRACTOR SHALL NOTIFY FLORIDA POWER & LIGHT COMPANY, SPRINT TELEPHONE CO., AND ANY OTHER UTILITY COMPANY WHICH MAY HAVE THEIR UTILITIES WITHIN THE CONSTRUCTION AREAS BEFORE BEGINNING CONSTRUCTION.
5. A PRE-CONSTRUCTION MEETING IS TO BE HELD BETWEEN THE OKEECHOBEE COUNTY, ENGINEER OF RECORD AND CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION.
6. PLANS AND SPECIFICATIONS REQUIRE THAT COMPACTED BACKFILL BE PLACED ALONG SIDE OF AND OVER ALL UTILITIES. THE ENGINEER MAY REQUIRE THAT COMPACTION TESTS BE TAKEN TO VERIFY BACKFILL COMPACTION. THE COSTS OF SUCH COMPACTION TESTS WILL BE BORNE BY THE CONTRACTOR.
7. ELEVATIONS SHOWN HEREIN ARE NGVD, 1929 DATUM.
8. THE SEQUENCE OF CONSTRUCTION SHALL BE SUCH THAT ALL UNDERGROUND INSTALLATIONS OF EVERY KIND (INCLUDING SPRINKLERS) SHALL BE PLACED BENEATH THE PAVEMENT AREA AND ITS EDGE PRIOR TO THE CONSTRUCTION OF PAVEMENT. THE PAVEMENT SHALL NOT BE CUT WITHOUT PRIOR APPROVAL OF THE ENGINEER.
9. CONSTRUCTION INSPECTION WILL BE PROVIDED BY THE ENGINEER AND IS REQUIRED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST 48 HOURS BEFORE BEGINNING CONSTRUCTION, AND AT LEAST 48 HOURS BEFORE REQUIRING INSPECTION ON EACH AND EVERY PHASE OF WORK.
10. CONSTRUCTION SURVEYING WILL BE PERFORMED BY THE SURVEYORS DESIGNATED BY THE CONTRACTOR. THE CONTRACTOR SHALL CONTACT THE SURVEYOR NOT LESS THAN 48 HOURS BEFORE THE SURVEYORS ARE NEEDED ON-SITE TO STAKEOUT ANY PHASE OF WORK. THE CONTRACTOR SHALL ASSUME THE RESPONSIBILITY OF PROTECTING ALL SURVEY STAKES AND MONUMENTS. REPLACEMENT COSTS OF ALL STAKES SHALL BE BORNE BY THE CONTRACTOR.
11. A MINIMUM THREE (3) SETS OF SHOP DRAWINGS OF ALL MATERIALS BEING USED SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
12. ALL PAVING BASE INSTALLED WITHIN PLANTING AREAS SHALL BE REMOVED IN ITS ENTIRETY PRIOR TO PLACING PLANTER FILL AND/OR TOPSOIL.
13. THE EXISTING ELEVATIONS SHOWN ON THE GRADING PLAN INDICATES THE ELEVATION AT THE POINT DEPICTED ONLY, AND SHOULD NOT BE INTERPRETED AS INDICATING THE ELEVATIONS OF ANY OTHER POINT. THESE EXISTING ELEVATIONS ARE IN NO WAY AN INDICATOR OF SURFACE OR SUBSURFACE SOIL CONDITIONS.

EROSION CONTROL NOTES

1. THE CONTRACTOR SHALL MAKE EVERY EFFORT DURING CONSTRUCTION TO CONTROL WIND AND WATER EROSION OF THE SOIL ON THE SITE.
2. THE CONTRACTOR SHALL CONTROL EXCESSIVE RUNOFF FROM THE PROJECT DURING THE CLEARING AND GRUBBING OPERATION OF THE PROJECT.
3. TYPE I HAY BALES, SILT FENCE & FLOATING TURBIDITY BARRIERS SHALL BE INSTALLED ON THE SITE TO PREVENT EROSION FROM STORM WATER WATER DISCHARGE AND TO PREVENT STORM WATER FROM ENTERING ONTO ADJACENT PROPERTIES. HAY BALES, SILT FENCE AND FLOATING TURBIDITY BARRIERS SHALL BE INSTALLED IN ACCORDANCE WITH FDOT INDEX 102 & 103. SILT FENCE SHALL BE PLACED AROUND THE PROJECT AS REQUIRED AND/OR SHOWN ON THE PLANS AND SHALL BE MAINTAINED THROUGHOUT THE ENTIRETY OF THE PROJECT.
4. SHOULD THE SITE BECOME EXCESSIVELY DRY, AND WIND AND SOIL EROSION BECOMES PREVALENT AND A NUISANCE TO THE COMMUNITY, THE CONTRACTOR SHALL WATER AND/OR SEED AND MULCH THE AREA, AND/OR PROVIDE FENCING AS NECESSARY AT NO ADDITIONAL COST TO THE OWNER.

SIGNING AND PAVEMENT MARKING NOTES

1. ALL PAVEMENT MARKINGS WITHIN PUBLIC RIGHT-OF-WAY SHALL BE HIGH INTENSITY REFLECTORIZED THERMOPLASTIC.
2. ALL PAVEMENT MARKINGS ON-SITE SHALL BE PAINT IN ACCORDANCE WITH OKEECHOBEE COUNTY MINIMUM STANDARDS.
3. ALL PAVEMENT MARKINGS FOR PARKING STALLS SHALL BE FOUR INCH WHITE PAINT SPACED 9' FOOT CENTER TO CENTER AS IN ACCORDANCE WITH OKEECHOBEE COUNTY MINIMUM STANDARDS.
4. ALL R1-1 SIGNS SHALL HAVE HIGH INTENSITY SHEETING.

GENERAL NOTES FOR WATER AND SEWER

1. ALL APPLICABLE PERMITS MUST BE OBTAINED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. ALL APPLICABLE FEES AND CHARGES MUST BE PAID PRIOR TO COMMENCEMENT OF CONSTRUCTION.
3. THE LOCATION OF EXISTING UTILITIES AS SHOWN ON THE APPROVED PLANS HAVE NOT BEEN FIELD VERIFIED. ANY DISCREPANCY IN OR VARIATION FROM THE APPROVED PLANS IS TO BE BROUGHT TO THE ATTENTION OF THE AUTHORITY BY THE CONTRACTOR.
4. THE CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES THROUGHOUT THE DURATION OF CONSTRUCTION FOR THE PROTECTION OF EXISTING AND NEWLY INSTALLED UTILITIES AND IMPROVEMENTS FROM DAMAGE, DISRUPTION OF SERVICE, OR DESTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING SUCH MEASURES AS NECESSARY TO PROTECT THE HEALTH, SAFETY AND WELFARE OF THOSE PERSONS HAVING ACCESS TO THE WORK SITE.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING LOCATIONS OF ALL UTILITIES AND NOTIFICATION OF UTILITY COMPANIES 48 HOURS IN ADVANCE OF CONSTRUCTION.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SCHEDULING AND/OR PAYMENT FOR SUCH TESTS AS MAY BE DEEMED NECESSARY BY THE ENGINEER OF RECORD OR THE AUTHORITY ENGINEER, AND AS CALLED FOR IN THE PLANS AND SPECIFICATIONS.
7. ALL LABOR, MATERIALS AND METHODS OF CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH THE PLANS AND CONSTRUCTION SPECIFICATIONS. WHERE CONFLICTS OR OMISSIONS EXIST, THE OKEECHOBEE COUNTY CONSTRUCTION STANDARDS AND SPECIFICATIONS SHALL DICTATE. SUBSTITUTIONS AND DEVIATIONS FROM PLANS AND SPECIFICATIONS SHALL BE PERMITTED ONLY WHEN WRITTEN APPROVAL HAS BEEN ISSUED BY THE ENGINEER.
8. THE CONTRACTOR SHALL MAINTAIN A CURRENT APPROVED SET OF CONSTRUCTION PLANS ON-SITE. THE PLANS ARE TO BE MADE AVAILABLE TO THE AUTHORITY ENGINEER OR HIS DESIGNEE UPON REQUEST.
9. THE ENGINEER OF RECORD SHALL MAKE SUFFICIENT INSPECTIONS OF THE WORK TO ENABLE HIM TO CERTIFY THE INSTALLATION AS BEING IN CONFORMANCE WITH THE APPLICABLE STANDARDS AND SPECIFICATIONS.
10. IN ADDITION TO THE ENGINEER OF RECORD, THE OKEECHOBEE COUNTY WILL CARRY OUT INSPECTIONS OF THE WORK, WILL INFORM THE CONTRACTOR WHEN TO BACKFILL THE WORK AND WILL WITNESS PRESSURE, BACTERIOLOGICAL AND INFILTRATION/EXFILTRATION TESTS.
11. PRIOR TO ACCEPTANCE OF THE WORK, THE CONTRACTOR SHALL PROVIDE THOSE ITEMS AS SPECIFIED IN THE OKEECHOBEE MANUAL OF MINIMUM STANDARDS.
12. NO DEVIATION FROM APPROVED PLANS SHALL BE PERMITTED WITHOUT THE WRITTEN CONSENT OF OKEECHOBEE COUNTY.
13. SHOP DRAWINGS FOR ALL MATERIAL/COMPONENTS INSTALLED SHALL BE SUBMITTED BY THE CONTRACTOR THROUGH THE ENGINEER OF RECORD TO THE COUNTY FOR REVIEW. THE CONTRACTOR AND ENGINEER SHALL REVIEW EACH SUBMITTAL PRIOR TO PASSING ON TO THE NEXT LEVEL. SHOP DRAWINGS SUBMITTALS SHALL BE GROUPED INTO CATEGORIES SUCH AS WATER, WASTEWATER, PUMP STATION, ECT.
14. 4" MARKER BALLS (3M TYPE) SHALL BE USED AT ALL WATER MAIN & FORCE MAINS AT FITTINGS, CHANGE OF HORIZONTAL DIRECTION AND VALVES.

GRADING AND DRAINAGE SPECIFICATIONS

1. ALL ORGANIC OR DELETERIOUS MATERIAL SHALL BE REMOVED FROM WITHIN 10 FEET OF ANY EDGE OF PAVEMENT OR BUILDING. ANY SUCH MATERIAL SHALL BE REPLACED BY APPROVED GRANULAR FILL WHICH SHALL BE COMPACTED TO 98% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
2. SUBGRADE TO BE COMPACTED TO 98% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180 (UNLESS OTHERWISE NOTED).
3. SHELLROCK BASE COURSE SHALL CONFORM TO THE REQUIREMENTS OF SECTION 911 OF FLORIDA D.O.T. STANDARD SPECIFICATIONS EXCEPT THAT THE MINIMUM PERCENTAGE OF CARBONATES OF CALCIUM AND MAGNESIUM SHALL BE 60%. SHELLROCK BASE MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF INTERIM FDOT SPECIFICATION 913-A.
4. ASPHALTIC CONCRETE COURSE TYPE S-1 SHALL CONFORM TO THE REQUIREMENTS OF SECTIONS 334-1 THROUGH 334-5, INCLUSIVE, OF FLORIDA D.O.T. STANDARD SPECIFICATIONS. ACSC TYPE S-1 SHALL CONFORM TO THE REQUIREMENTS OF SECTIONS 333-1 THROUGH 333-5, INCLUSIVE.
5. PRIME COAT AND TACK COAT FOR BASE COURSES SHALL CONFORM TO THE REQUIREMENTS OF SECTIONS 300-1 THROUGH 300-7 OF FLORIDA D.O.T. STANDARD SPECIFICATIONS. PRIME COAT SHALL BE APPLIED AT A RATE OF 0.25 GALLONS PER SQUARE YARD AND TACK COAT AT A RATE OF 0.08 GALLONS PER SQUARE YARD UNLESS A VARIATION RATE IS APPROVED BY THE ENGINEER.
6. EMBANKMENT AND SUBGRADE SHALL BE TESTED EVERY 500 FEET IN ROADWAYS AND EVERY 2500 SQUARE FEET IN PARKING AREAS PER 12 INCH LIFT.
7. BASE COURSE SHALL BE TESTED EVERY 500 FEET OR LESS PER LIFT IN ROADWAYS AND EVERY 2500 SQUARE FEET IN PARKING AREAS. A MINIMUM OF THREE DENSITY TESTS SHALL BE MADE ON EACH DAY'S FINAL COMPACTION OPERATION ON EACH COURSE.
8. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS.
9. PRECAST CONCRETE MANHOLES AND CATCH BASINS SHALL MEET THE REQUIREMENTS OF A.S.T.M. SPECIFICATIONS, C-478 AND 64T.
10. CONCRETE FOR PRECAST MANHOLES AND CATCH BASINS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS.
11. REINFORCING STEEL FOR MANHOLES AND CATCH BASINS SHALL CONFORM TO A.S.T.M. SPECIFICATIONS A-615 AND A-305, LATEST REVISION.
12. ALL RE-BAR SPLICES IN CONCRETE STRUCTURES SHALL HAVE A MINIMUM LAP OF 24 BAR DIAMETER.
13. ALL JOINTS AND PENETRATIONS IN CONCRETE STRUCTURES SHALL BE FINISHED WATERTIGHT.
14. ALL SPACES AROUND PIPING ENTERING OR LEAVING MANHOLES AND CATCH BASINS SHALL BE COMPLETELY GROUTED USING 2:1 CEMENT MORTAR.
15. ALL HIGH DENSITY POLYETHYLENE PIPE (N12) SHALL CONFORM TO THE REQUIREMENT OF A.S.T.M. SPECIFICATIONS F667-85 AND AASHTO SPECIFICATIONS M294-881, CLASS C UNLESS OTHERWISE APPROVED BY THE ENGINEER.
16. PIPE SECTIONS SHALL BE JOINED BY INTEGRAL GASKET BELL AND SPIGOT PIPE OR CLEATTED COUPLING (ADS PRO LINK "S7" OR APPROVED EQUAL)
17. ALL LABOR, MATERIALS, AND METHODS OF CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH THE MINIMUM ENGINEERING AND CONSTRUCTION STANDARDS ADOPTED BY CONSTRUCTION SPECIFICATIONS. WHERE CONFLICTS OR OMISSIONS EXIST, THE OKEECHOBEE COUNTY STANDARDS SHALL DICTATE. SUBSTITUTIONS AND DEVIATIONS FROM PLANS AND SPECIFICATIONS SHALL BE PERMITTED ONLY WHEN WRITTEN APPROVAL HAS BEEN ISSUED BY THE ENGINEER.
18. WHERE CONNECTIONS TO AN EXISTING DRAINAGE SYSTEM ARE PROPOSED, SAID EXISTING DRAINAGE STRUCTURES AND LINES SHALL BE CLEANED OF ALL SILT AND OTHER DEBRIS PRIOR TO CONNECTIONS BEING MADE, AND WHERE THE EXISTING DRAINAGE SYSTEM INCLUDES DITCHES, SAID DITCHES SHALL BE CLEARED AND REWORKED, AS NECESSARY, TO RESTORE THEM TO AN APPROVED DESIGN SECTION. SYSTEMS ARE TO BE CLEANED AND/OR GRADED TO THE POINT OF LEGAL POSITIVE OUTFALL.
19. ALL EMBANKMENT/SPREAD & FILL AREAS SHALL BE COMPACTED TO MIN. 95% OF AASHTO T-180, UNLESS NOTED OTHERWISE.

GENERAL WATER SYSTEM NOTES

1. FITTINGS 4" AND LARGER SHALL BE CAST IRON OR DUCTILE IRON, MECHANICAL JOINT, MEETING ANSI/AWWA C110/A21.10-87 SPECIFICATIONS. FITTINGS MUST BE EPOXY (24 MILS) LINED AND SEAL COATED PER ANSI/AWWA C-104/A21.4-5.
2. GATE VALVES 4" AND LARGER SHALL BE RESILIENT SEAT, NON- RISING STEM AND SHALL MEET ANSI/AWWA C-509-87 (LATEST REVISION) SPECIFICATION.
3. FIRE HYDRANTS SHALL BE INSTALLED WITH THE CENTER OF THE HOSE NOZZLE 18" ABOVE FINISHED GRADE.
4. PAVEMENT RESTORATION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
5. ALL TRENCHING, PIPE-LAYING, BACKFILL, PRESSURE TESTING AND DISINFECTING MUST COMPLY WITH OKEECHOBEE COUNTY TECHNICAL SPECIFICATIONS.
6. ALL CONNECTIONS TO EXISTING MAINS SHALL BE MADE UNDER THE DIRECTION OF THE UTILITIES DEPARTMENT.
7. ALL PIPE, ETC. SHALL BE TESTED UNDER A CONSTANT PRESSURE OF 150 PSI FOR A MINIMUM TEST OF 2 HOURS AND SHALL NOT EXCEED THE LEAKAGE REQUIREMENTS AS PER ANSI/AWWA SPECIFICATIONS OF C600-87 LEAKAGE FORMULA:
- $Q = 133,200 \sqrt{P}$
- Q = ALLOWABLE LEAKAGE IN GALLONS PER HOUR
S = TOTAL LENGTH OF PIPE TESTED IN FEET
D = DIAMETER OF THE PIPE TESTED IN INCHES
P = AVERAGE TEST PRESSURE IN POUNDS PER SQUARE INCH.
8. THE MINIMUM DEPTH OF COVER OVER WATERMAIN SHALL BE 30", EXCEPT IN THE CASE OF PVC PIPE WHICH REQUIRES A MINIMUM DEPTH OF COVER OF 36".
9. DISINFECTION OF MAINS SHALL COMPLY WITH AWWA C651-92 STANDARD BACTERIOLOGICAL SAMPLING POINTS SHALL BE DESIGNATED ON THE ENGINEERING PLANS.
10. MARKER TAPE: MARKING TAPE (BLUE) SHALL BE INSTALLED WITH ALL NEW WATERMAINS CONTINUOUSLY FOR THE ENTIRE LENGTH OF THE LINE. THE TAPE SHALL BE METALLIZED AND SHALLBE IMPRINTED WITH THE CONTINUOUS MESSAGE "CAUTION - WATERMAIN BURIED BELOW". THE TAPE MUST CONFORM TO ALLEN SYSTEMS, INC. DETECTATAPE OR AN APPROVED EQUAL. MINIMUM WIDTH SHALL BE 3" AND MAXIMUM DEPTH OF BURIAL SHALL BE 18".
11. WATER MAINS 6" AND LARGER SHALL BE PVC SLIP AND GASKETED C900 DR18, AND SHALL BE DESIGNED FOR 160 PSI WORKING PRESSURE.
12. ALL SHOP DRAWINGS SHALL BE APPROVED BY OKEECHOBEE COUNTY THROUGH ENGINEER OF RECORD PRIOR TO CONSTRUCTION.
13. ALL FIRE HYDRANTS SHALL BE TRAFFIC BREAKAWAY CLOW AMERICAN DARLING OR MUELLER CENTURION TRAFFIC TYPE.

STANDARD SEPARATION STATEMENT
FOR WATER & SEWER CONFLICTS

1. SANITARY SEWERS, FORCEMAINS, SEWER LATERALS AND STORM SEWERS SHOULD ALWAYS CROSS UNDER WATER MAINS OR WATER SERVICES WHENEVER POSSIBLE. SANITARY SEWERS, FORCE MAINS, SEWER LATERALS AND STORM SEWERS CROSSING WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE WHENEVER POSSIBLE. WHERE SANITARY SEWERS, FORCEMAINS, SEWER LATERALS AND STORM SEWERS MUST CROSS A WATERMAIN WITH LESS THAN 18 INCHES VERTICAL DISTANCE, BOTH THE SEWER AND THE WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (DIP) AT THE CROSSING. (DIP IS NOT REQUIRED FOR STORM SEWERS). SUFFICIENT LENGTHS OF DIP MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 10 FEET BETWEEN ANY TWO JOINTS. ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING MUST BE ECHANICALLY RESTRAINED. A MINIMUM VERTICAL CLEARANCE OF 6 INCHES MUST BE MAINTAINED AT THE CROSSING. ALL CROSSINGS SHALL BE ARRANGED SO THAT THE SEWER PIPE JOINTS AND THE WATERMAIN PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING (PIPES CENTERED ON THE CROSSING). WHERE A NEW PIPE CONFLICTS WITH AN EXISTING PIPE WITH LESS THAN 18" VERTICAL CLEARANCE, THE NEW PIPE SHALL BE CONSTRUCTED OF DIP (EXCEPT STORM SEWERS) AND THE NEW PIPE SHALL BE ARRANGED TO MEET THE CROSSING REQUIREMENTS ABOVE.
2. A MINIMUM 10-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN ANY TYPE OF SEWER AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE. IN CASES WHERE IT IS NOT POSSIBLE TO MAINTAIN A 10-FOOT HORIZONTAL SEPARATION, THE WATER MAIN MUST BE LAID IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELF LOCATED ON ONE SIDE OF THE SEWER OR FORCE MAIN AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER. WHERE IT IS NOT POSSIBLE TO MAINTAIN A VERTICAL DISTANCE OF 18 INCHES IN PARALLEL INSTALLATIONS, THE WATER MAIN SHALL BE CONSTRUCTED OF DIP AND THE SEWER OR THE FORCE MAIN SHALL BE CONSTRUCTED OF DIP (EXCEPT STORM SEWERS) WITH A MINIMUM VERTICAL DISTANCE OF 6 INCHES. THE WATER MAIN SHOULD ALWAYS BE ABOVE THE SEWER. JOINTS ON THE WATER MAIN SHALL BE LOCATED AS FAR APART AS POSSIBLE FROM JOINTS ON THE SEWER OR FORCE MAIN (STAGGERED JOINTS).
3. ALL DIP SHALL BE CLASS 50 OR HIGHER, DUCTILE IRON FITTINGS SHALL BE CLASS 350. ADEQUATE PROTECTIVE MEASURES AGAINST CORROSION SHALL BE USED.
4. MAXIMUM OBTAINABLE SEPARATION OF RECLAIMED WATER LINES AND DOMESTIC WATER LINES SHALL BE PRACTICED.A MINIMUM HORIZONTAL SEPARATION OF FIVE FEET (CENTER TO CENTER) OR THREE FEET (OUTSIDE TO OUTSIDE), SHALL BE MAINTAINED BETWEEN RECLAIMED WATER LINES AND POTABLE WATER MAINS AND BETWEEN SEWAGE RECLAIMED WATER LINES AND COLLECTION LINES. A MINIMUM VERTICAL CLEARANCE OF 18 INCHES MUST BE MAINTAINED BETWEEN RECLAIMED WATER LINES AND POTABLE WATER MAINS OR SEWAGE COLLECTION LINES AND SEWER LATERALS. AT CROSSINGS PROVISIONS OF F.A.C. RULE 17-604 AND 10 STATE STANDARDS APPLY.

FOR BIDDING PURPOSES ONLY

NO.	DATE	REVISION	BY

Date:	10/16/07
Designed:	WT
Drawn:	MM
Checked:	OAR

APPROVED BY:	ORLANDO A. RUBIO, P.E.
DATE	
FLORIDA PROFESSIONAL ENGINEER NO.	48265

CRAIG A. SMITH & ASSOCIATES
CONSULTING ENGINEERS-PLANNERS-SURVEYORS



7777 GLADES ROAD, SUITE 410
BOCA RATON, FLORIDA 33434
(561)791-9280
CERTIFICATE. NO. LB0003110

PREPARED FOR:

OKEECHOBEE COUNTY

S.W. DRAINAGE
IMPROVEMENTS

GENERAL NOTES

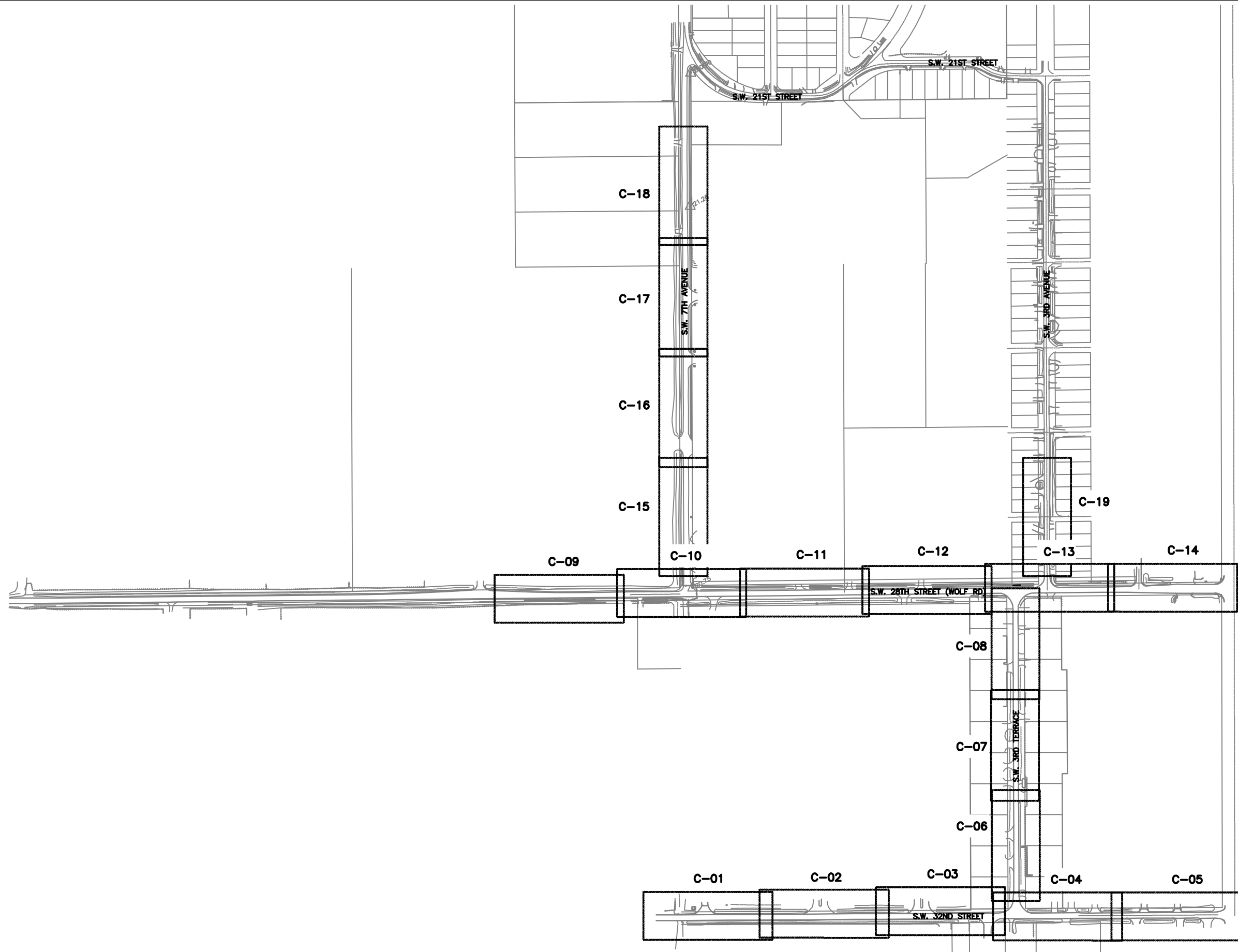
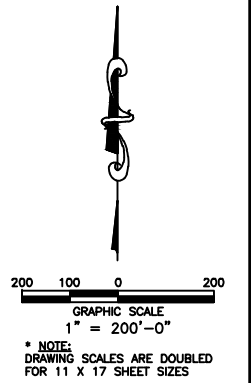
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LAST SAVED: 04/23/10 - 8:12am

SCALE
AS SHOWN

PROJECT
00-0903-429

SHEET

G-02



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NO.	DATE	REVISION	BY

Date: 10/16/07
Designed: WT
Drawn: MM
Checked: OAR

APPROVED BY: ORLANDO A. RUBIO, P.E.
DATE: _____
FLORIDA PROFESSIONAL ENGINEER NO. 48265

CRAIG A. SMITH & ASSOCIATES
CONSULTING ENGINEERS-PLANNERS-SURVEYORS
7777 GLADES ROAD, SUITE 410
BOCA RATON, FLORIDA 33434
(561)791-9280
CERTIFICATE NO. LB0003110

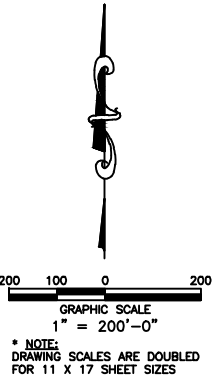
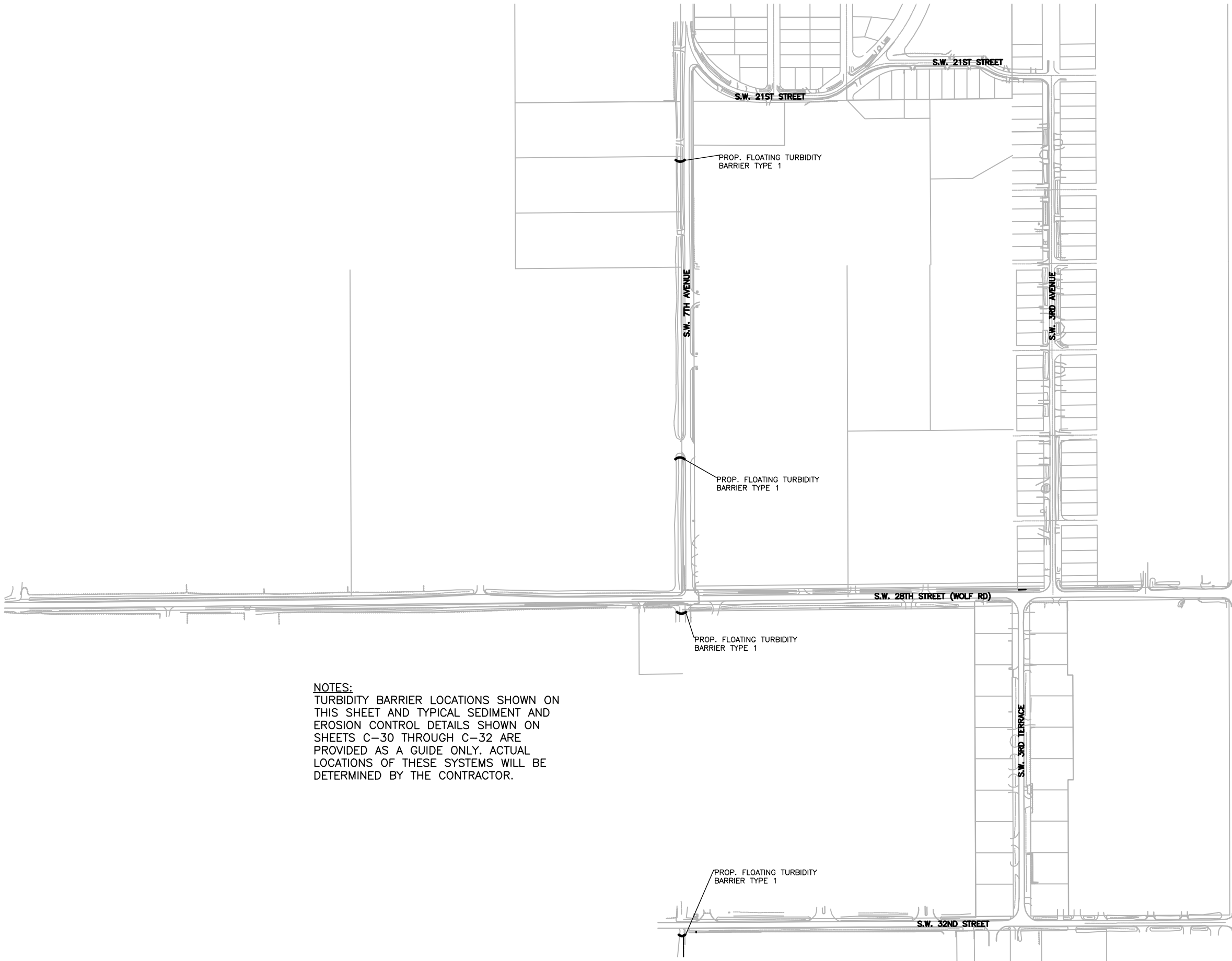
PREPARED FOR:
OKEECHOBEE COUNTY

**S.W. DRAINAGE
IMPROVEMENTS**

KEY SHEET

FILE NAME: 03-0429-G-03-KEY.dwg
LAST SAVED: 10/17/08 - 10:28am
SCALE: AS SHOWN
PROJECT: 00-0903-429

SHEET
G-03



NOTES:
TURBIDITY BARRIER LOCATIONS SHOWN ON THIS SHEET AND TYPICAL SEDIMENT AND EROSION CONTROL DETAILS SHOWN ON SHEETS C-30 THROUGH C-32 ARE PROVIDED AS A GUIDE ONLY. ACTUAL LOCATIONS OF THESE SYSTEMS WILL BE DETERMINED BY THE CONTRACTOR.

FOR BIDDING PURPOSES ONLY

NO.	DATE	REVISION	BY

Date: 10/16/07
Designed: WT
Drawn: MM
Checked: OAR

APPROVED BY: ORLANDO A. RUBIO, P.E.

DATE: _____
FLORIDA PROFESSIONAL ENGINEER NO. 48265

CRAIG A. SMITH & ASSOCIATES
CONSULTING ENGINEERS-PLANNERS-SURVEYORS

7777 GLADES ROAD, SUITE 410
BOCA RATON, FLORIDA 33434
(561)791-9280
CERTIFICATE NO. LB0003110

PREPARED FOR:
OKEECHOBEE COUNTY

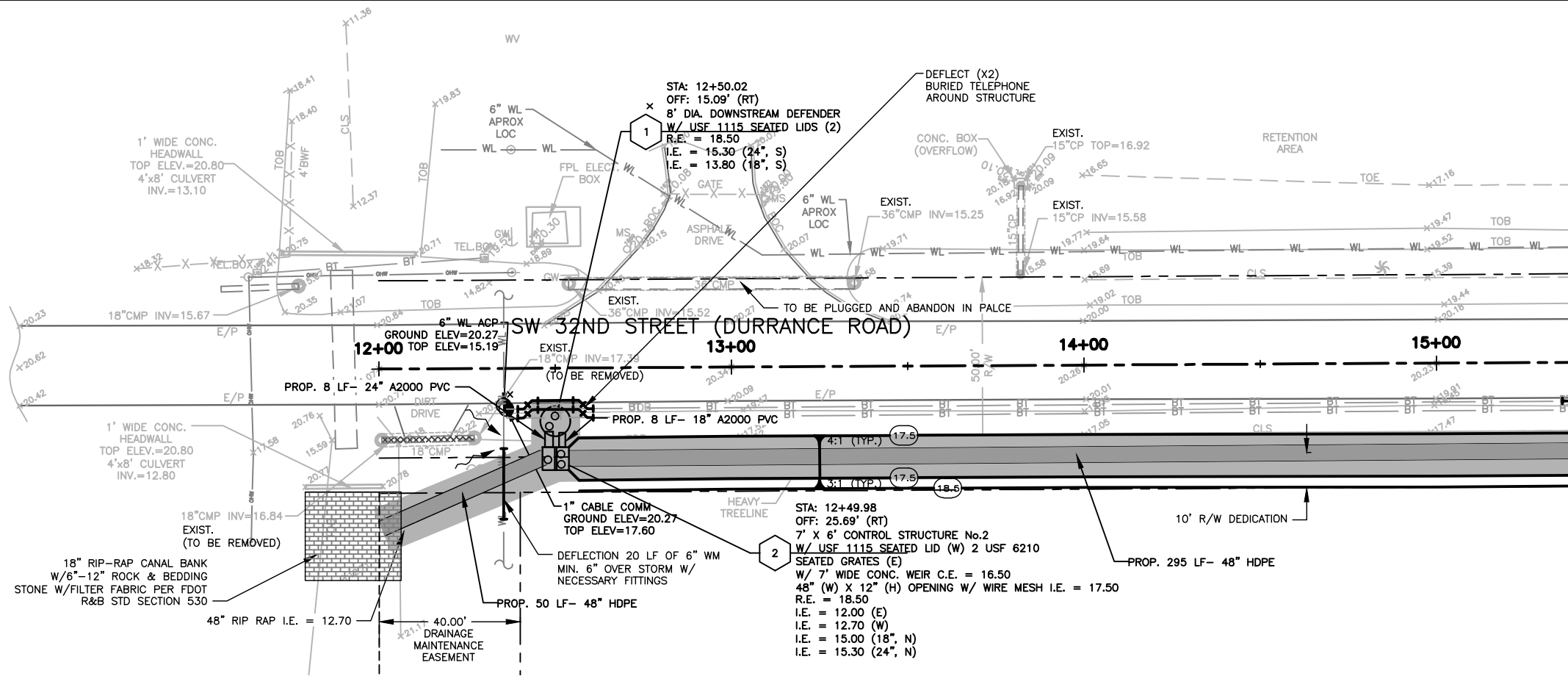
S.W. DRAINAGE IMPROVEMENTS

POLLUTION PREVENTION PLAN

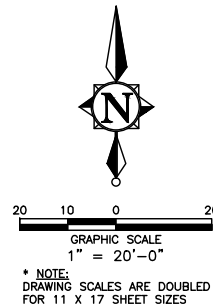
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SCALE: AS SHOWN
PROJECT: 00-0903-429

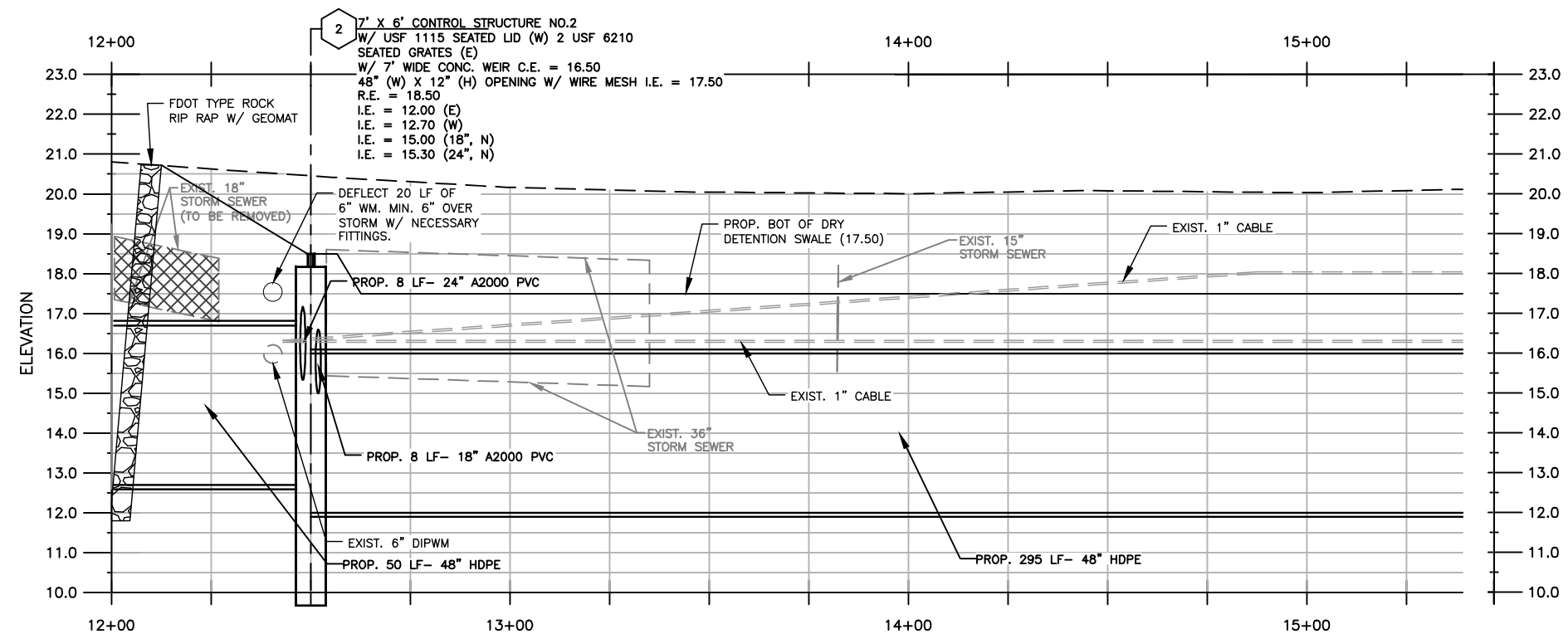
SHEET
G-04



STA.15+39.24
MATCHLINE SEE SHEET C-02



- NOTES:
1. THE EXISTENCE AND LOCATION OF ANY UTILITIES SHOWN ON THESE PLANS MUST BE VERIFIED IN THE FIELD BY THE CONTRACTOR.
 2. CONTRACTOR WILL OBTAIN A WATER USE PERMIT FOR ANY CONSTRUCTION DEWATERING AS NECESSARY FROM ANY WATER MANAGEMENT DISTRICT.
 3. CONTRACTOR WILL OBTAIN A N.P.D.E.S. N.O.I. PERMIT FROM F.D.E.P. PRIOR TO COMMENCEMENT OF CONSTRUCTION AND COMPLY WITH THE WATER MANAGEMENT DISTRICT PERMIT.



FOR BIDDING PURPOSES ONLY

NO.	DATE	REVISION	BY

Date: 10/16/07
Designed: WT
Drawn: MM
Checked: OAR

APPROVED BY: ORLANDO A. RUBIO, P.E.
DATE: _____
FLORIDA PROFESSIONAL ENGINEER NO. 48265

CRAIG A. SMITH & ASSOCIATES
CONSULTING ENGINEERS-PLANNERS-SURVEYORS
7777 GLADES ROAD, SUITE 410
BOCA RATON, FLORIDA 33434
(561)791-9280
CERTIFICATE NO. LB0003110

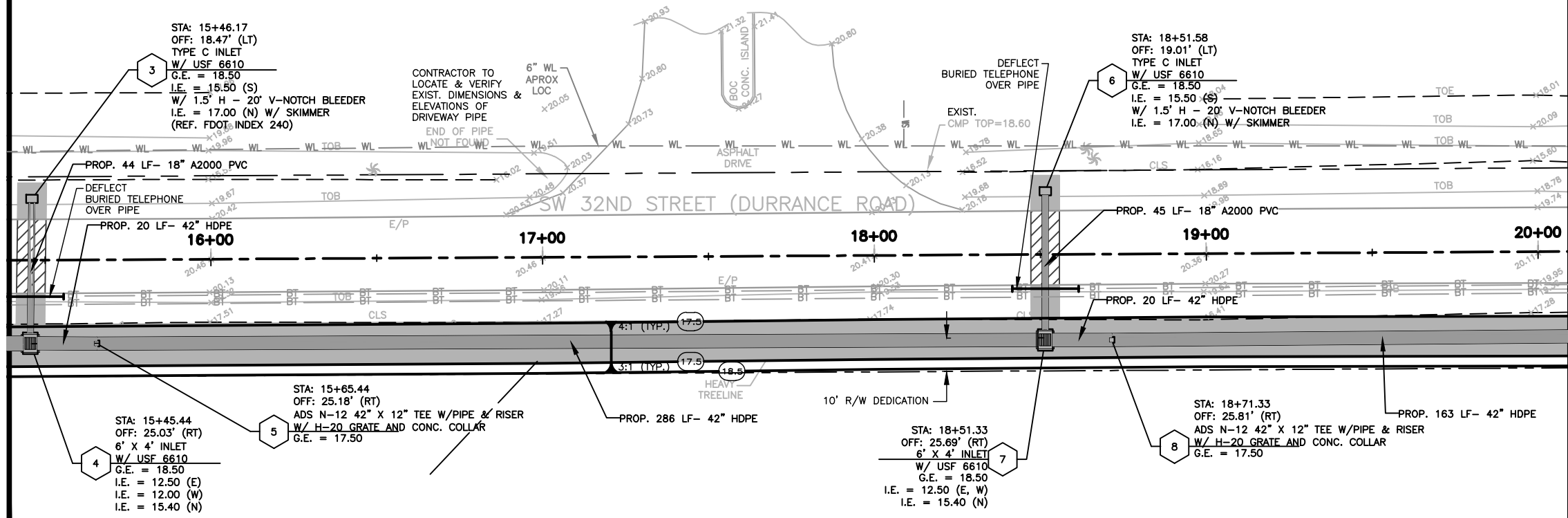
PREPARED FOR:
OKEECHOBEE COUNTY

S.W. DRAINAGE IMPROVEMENTS
S.W. 32ND STREET
STA: 12+00 - 15+39

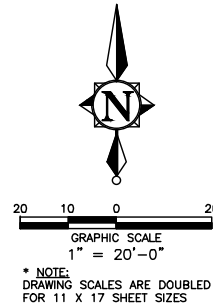
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PROJECT 00-0903-429

SHEET
C-01

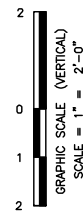
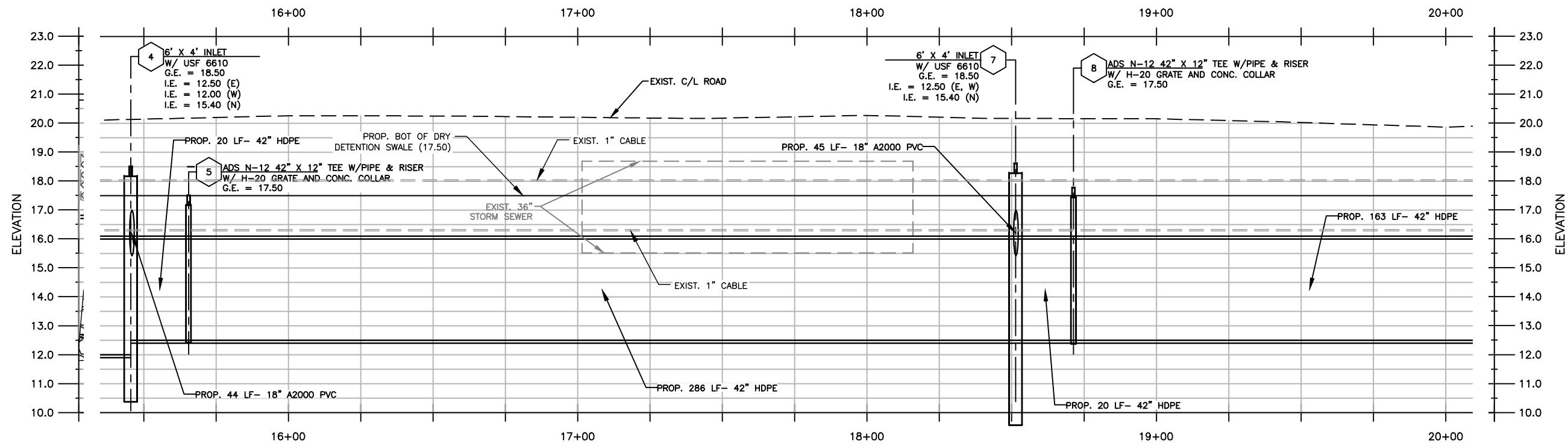
STA.15+39.24
MATCHLINE SEE SHEET C-01



STA.20+9.56
MATCHLINE SEE SHEET C-03



- NOTES:
1. THE EXISTENCE AND LOCATION OF ANY UTILITIES SHOWN ON THESE PLANS MUST BE VERIFIED IN THE FIELD BY THE CONTRACTOR.
 2. CONTRACTOR WILL OBTAIN A WATER USE PERMIT FOR ANY CONSTRUCTION DEWATERING AS NECESSARY FROM ANY WATER MANAGEMENT DISTRICT.
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FOR BIDDING PURPOSES ONLY

NO.	DATE	REVISION	BY

Date: 10/16/07
Designed: WT
Drawn: MM
Checked: OAR

APPROVED BY: ORLANDO A. RUBIO, P.E.
DATE: _____
FLORIDA PROFESSIONAL ENGINEER NO. 48265

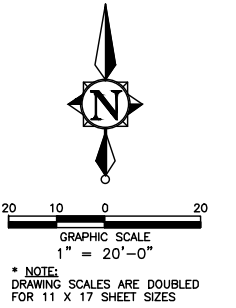
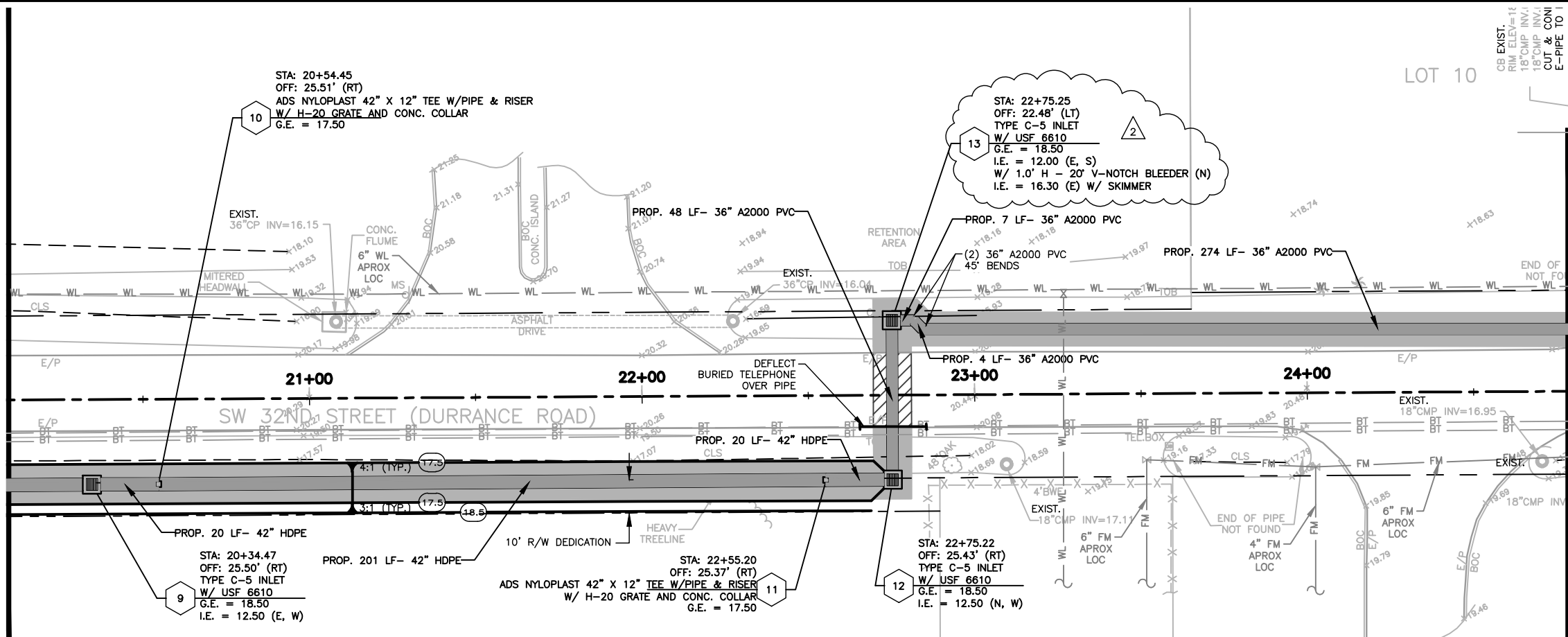
CRAIG A. SMITH & ASSOCIATES
CONSULTING ENGINEERS-PLANNERS-SURVEYORS
7777 GLADES ROAD, SUITE 410
BOCA RATON, FLORIDA 33434
(561)791-9280
CERTIFICATE NO. LB0003110

PREPARED FOR:
OKEECHOBEE COUNTY

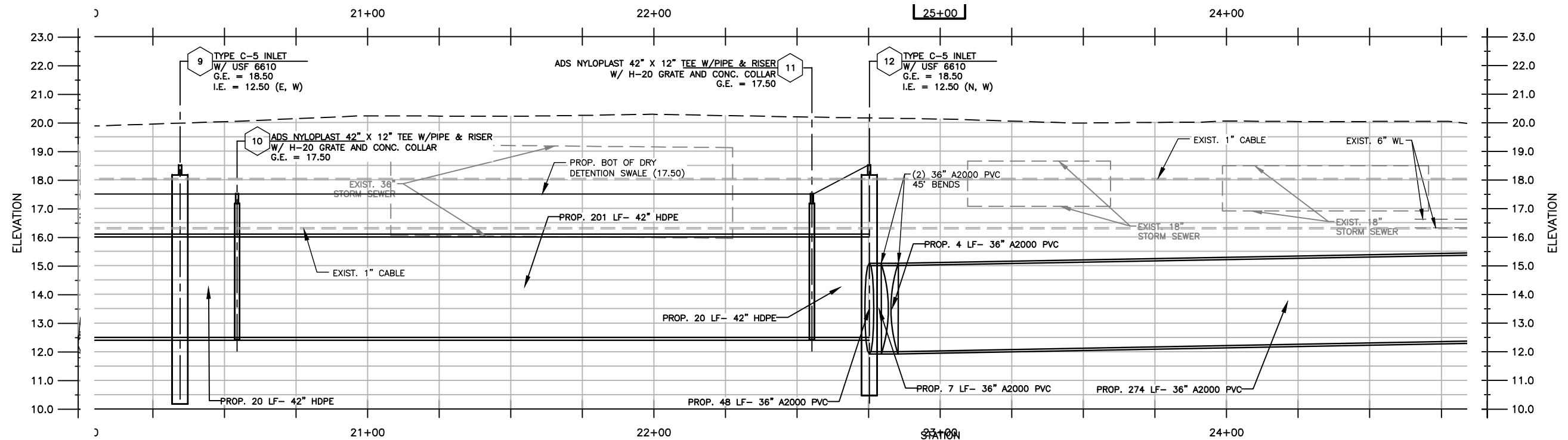
S.W. DRAINAGE
IMPROVEMENTS
S.W. 32ND STREET
STA: 15+39 - 20+9

FILE NAME: 06-0429-C-02-PAP.dwg
LAST SAVED: 03/24/10 - 12:44pm
SCALE: AS SHOWN
PROJECT: 00-0903-429

SHEET
C-02



- NOTES:
1. THE EXISTENCE AND LOCATION OF ANY UTILITIES SHOWN ON THESE PLANS MUST BE VERIFIED IN THE FIELD BY THE CONTRACTOR.
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FOR BIDDING PURPOSES ONLY)

2	06-04-10	PER ADDENDUM NO.2	OAR
NO.	DATE	REVISION	BY

Date: 10/16/07
Designed: WT
Drawn: MM
Checked: OAR

APPROVED BY: ORLANDO A. RUBIO, P.E.

DATE _____

FLORIDA PROFESSIONAL ENGINEER NO. 48265

CRAIG A. SMITH & ASSOCIATES
CONSULTING ENGINEERS-PLANNERS-SURVEYORS

 7777 GLADES ROAD, SUITE 410
BOCA RATON, FLORIDA 33434
(561)791-9280
CERTIFICATE NO. LB0003110 

PREPARED FOR:

OKEECHOBEE COUNTY

S.W. DRAINAGE
IMPROVEMENTS
S.W. 32ND STREET
STA: 20+9 - 24+78

FILE NAME: 07-0429-C-03-PAP.dwg
LAST SAVED: 06/07/10 - 10:08am

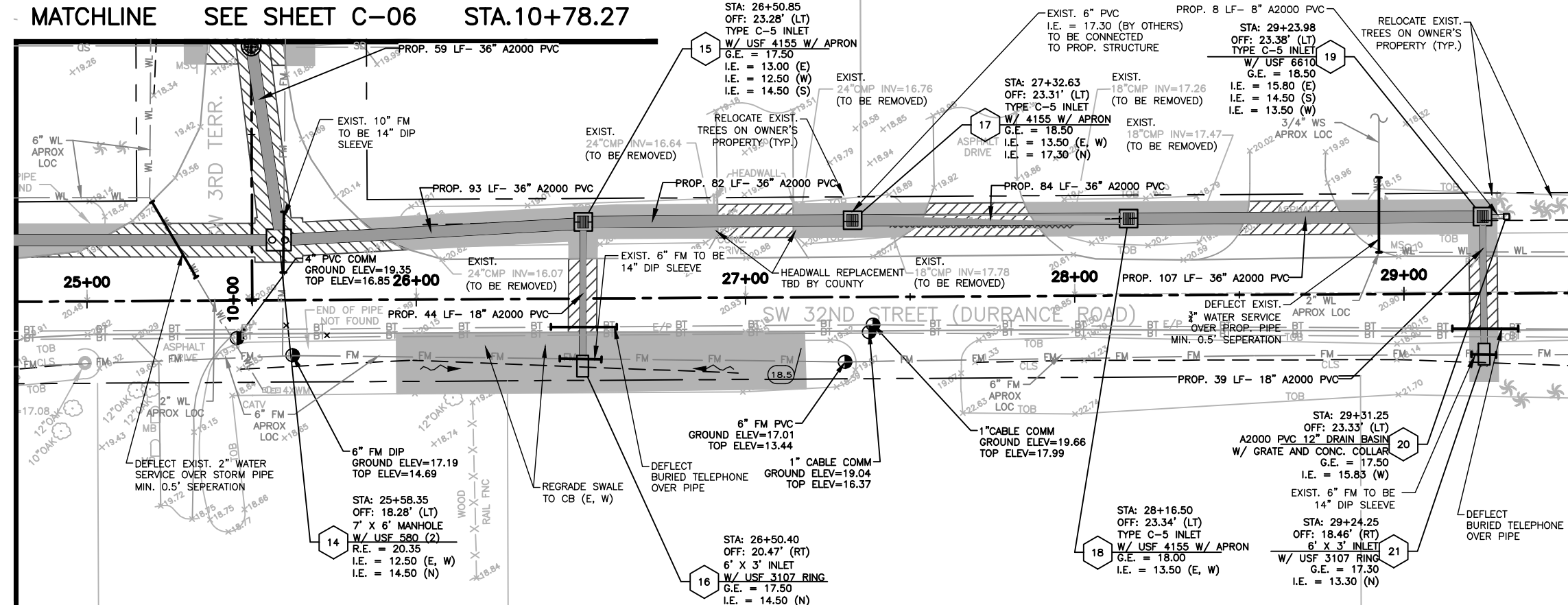
SCALE
AS SHOWN

PROJECT
00-0903-429

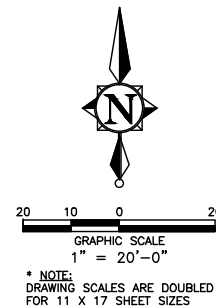
SHEET
C-03

MATCHLINE SEE SHEET C-03 STA.24+78.39

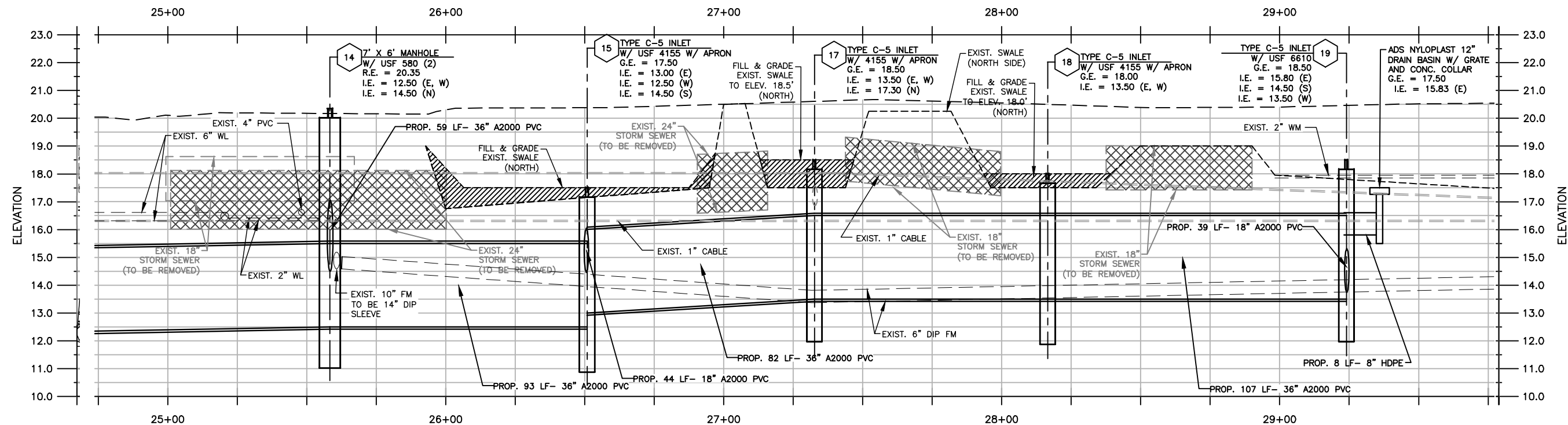
MATCHLINE SEE SHEET C-06 STA.10+78.27



MATCHLINE SEE SHEET C-05 STA.29+53.64



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FOR BIDDING PURPOSES ONLY

NO.	DATE	REVISION	BY

Date: 10/16/07
Designed: WT
Drawn: MM
Checked: OAR

APPROVED BY: ORLANDO A. RUBIO, P.E.
DATE: _____
FLORIDA PROFESSIONAL ENGINEER NO. 48265

CRAIG A. SMITH & ASSOCIATES
CONSULTING ENGINEERS-PLANNERS-SURVEYORS
7777 GLADES ROAD, SUITE 410
BOCA RATON, FLORIDA 33434
(561)791-9280
CERTIFICATE NO. LB0003110

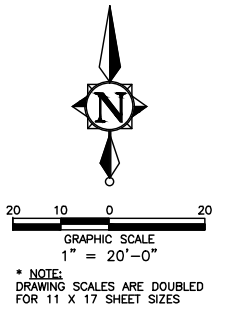
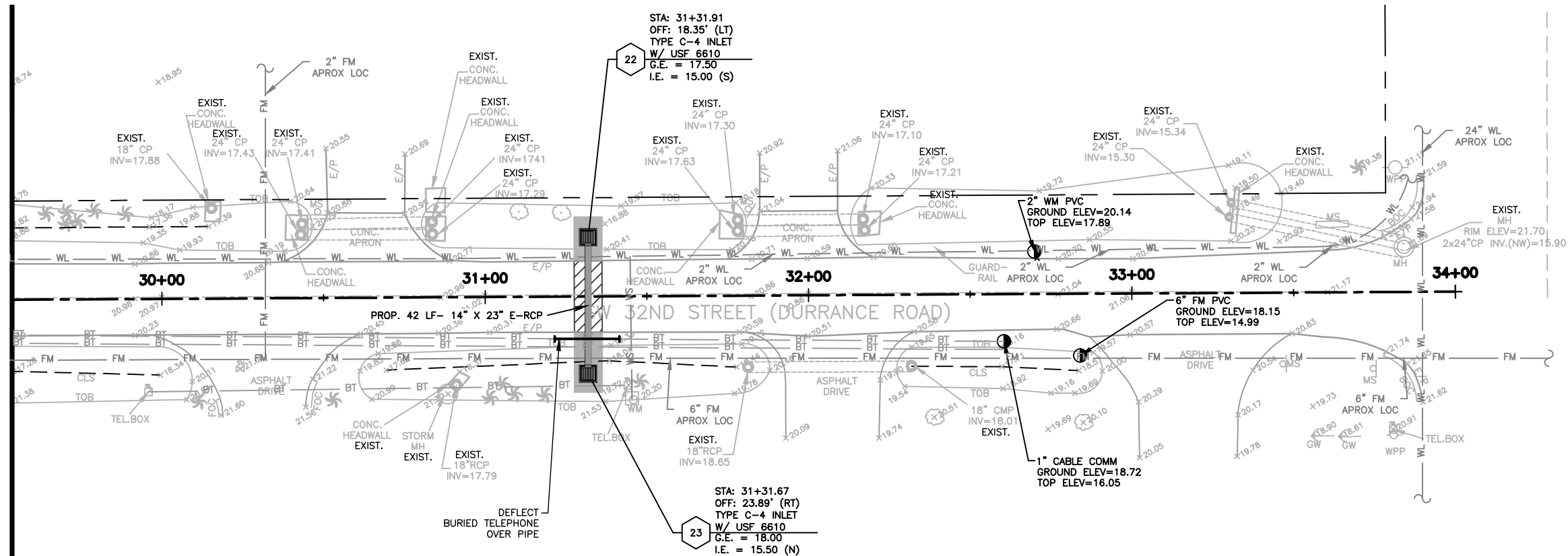
PREPARED FOR:
OKEECHOBEE COUNTY

S.W. DRAINAGE IMPROVEMENTS
S.W. 32ND STREET
STA: 24+78 - 29+53

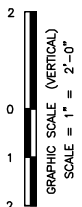
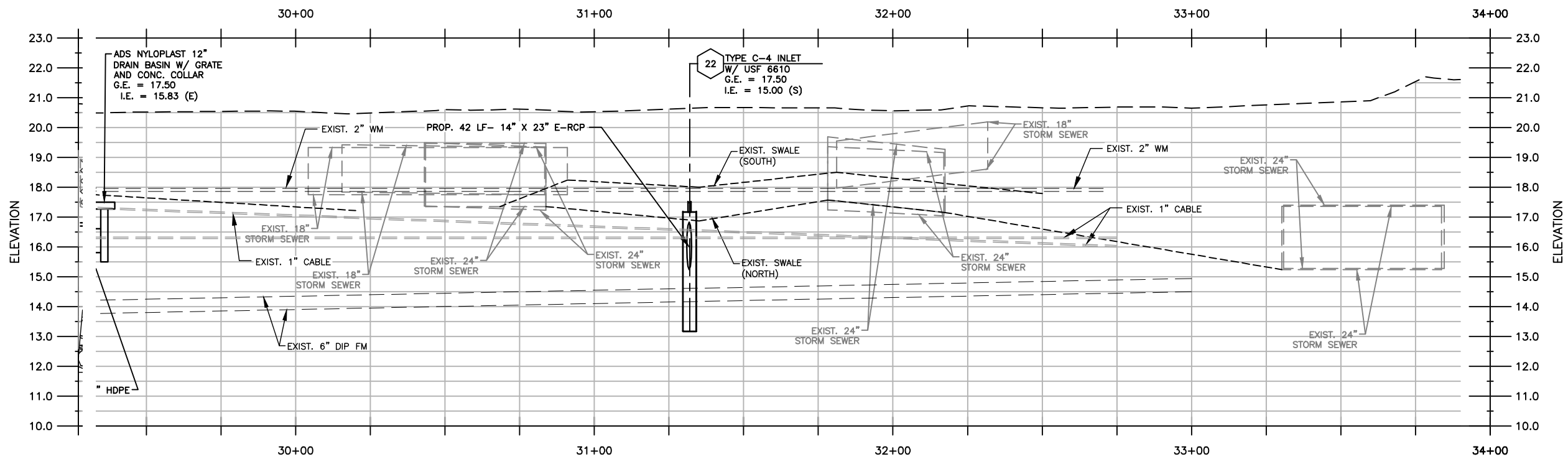
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LAST SAVED: 03/24/10 - 9:19am
SCALE AS SHOWN
PROJECT 00-0903-429

SHEET
C-04

MATCHLINE SEE SHEET C-04 STA.29+53.64



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FOR BIDDING PURPOSES ONLY

NO.	DATE	REVISION	BY

Date: 10/16/07
Designed: WT
Drawn: MM
Checked: OAR

APPROVED BY: ORLANDO A. RUBIO, P.E.
DATE: _____
FLORIDA PROFESSIONAL ENGINEER NO. 48265

CRAIG A. SMITH & ASSOCIATES
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7777 GLADES ROAD, SUITE 410
BOCA RATON, FLORIDA 33434
(561)791-9280
CERTIFICATE NO. LB0003110

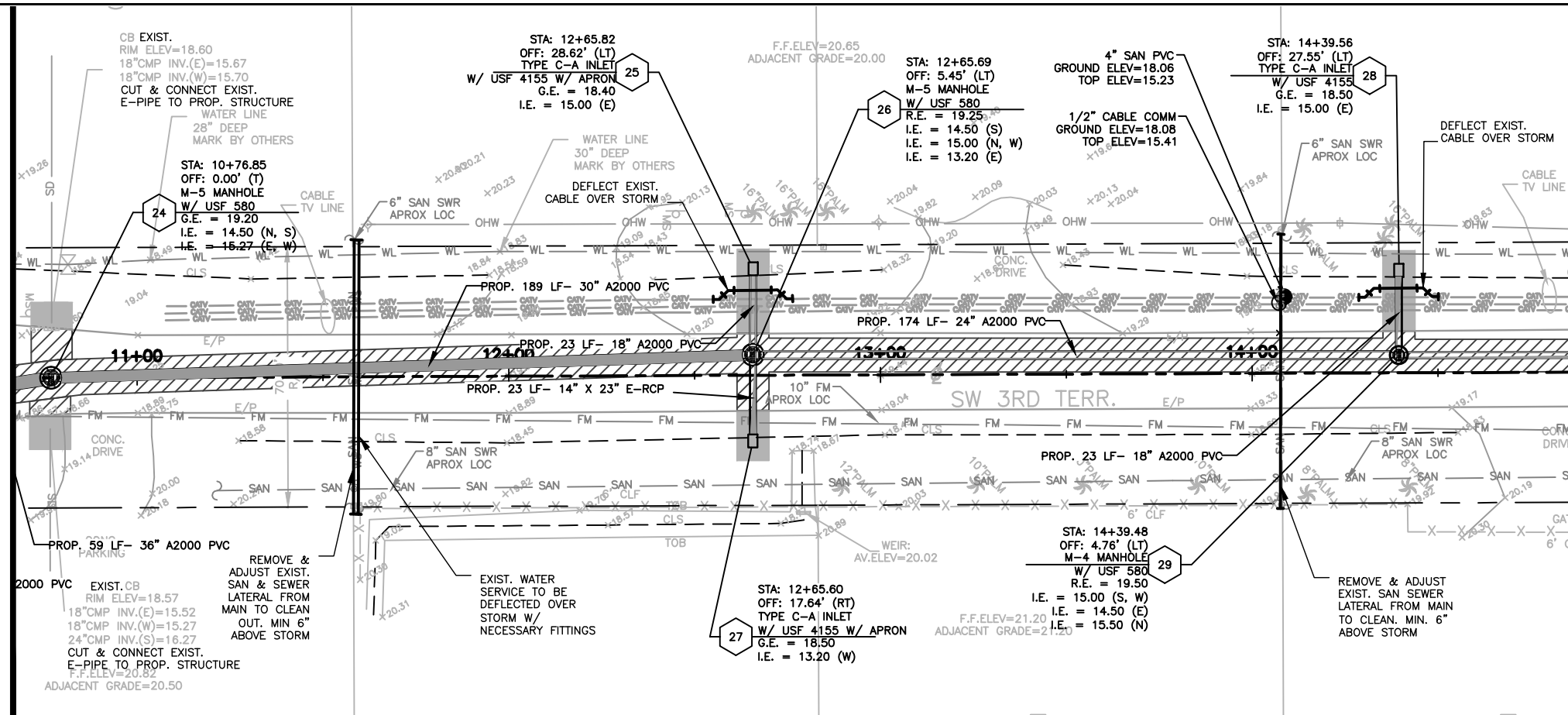
PREPARED FOR:
OKEECHOBEE COUNTY

S.W. DRAINAGE IMPROVEMENTS
S.W. 32ND STREET
STA: 29+53 - 33+00

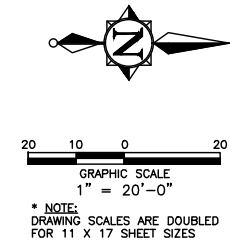
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LAST SAVED: 04/07/09 - 3:01pm
SCALE AS SHOWN
PROJECT 00-0903-429

SHEET
C-05

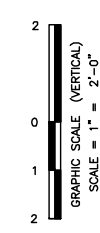
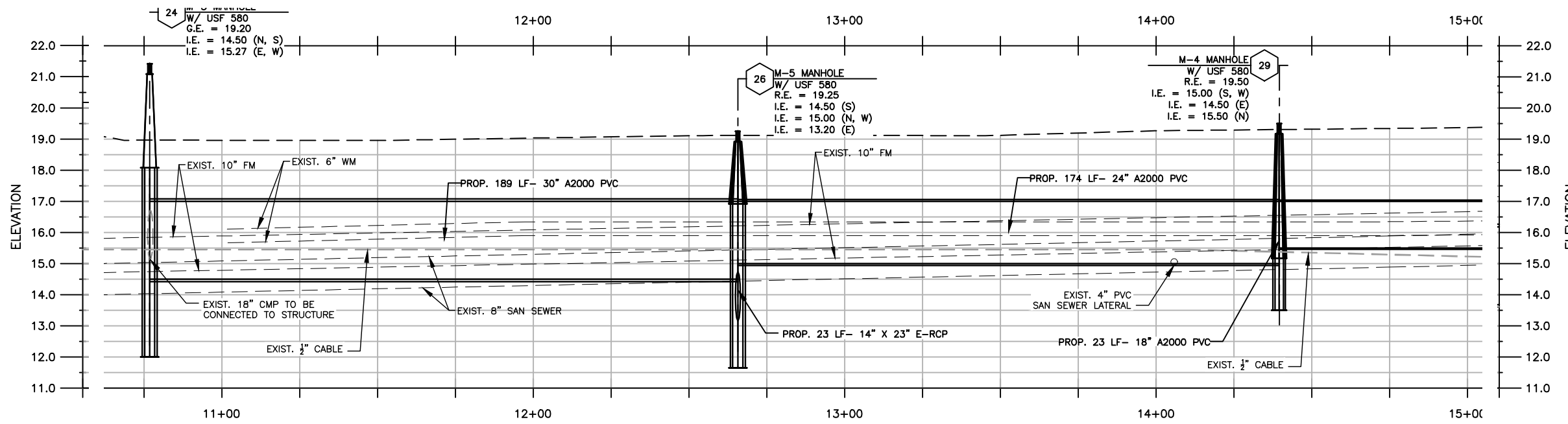
MATCHLINE SEE SHEET C-04 STA.10+78.27



MATCHLINE SEE SHEET C-07 STA.14+86.98



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FOR BIDDING PURPOSES ONLY

NO.	DATE	REVISION	BY

Date: 10/16/07
Designed: WT
Drawn: MM
Checked: OAR

APPROVED BY: ORLANDO A. RUBIO, P.E.
DATE: _____
FLORIDA PROFESSIONAL ENGINEER NO. 48265

CRAIG A. SMITH & ASSOCIATES
CONSULTING ENGINEERS-PLANNERS-SURVEYORS
7777 GLADES ROAD, SUITE 410
BOCA RATON, FLORIDA 33434
(561)791-9280
CERTIFICATE NO. LB0003110

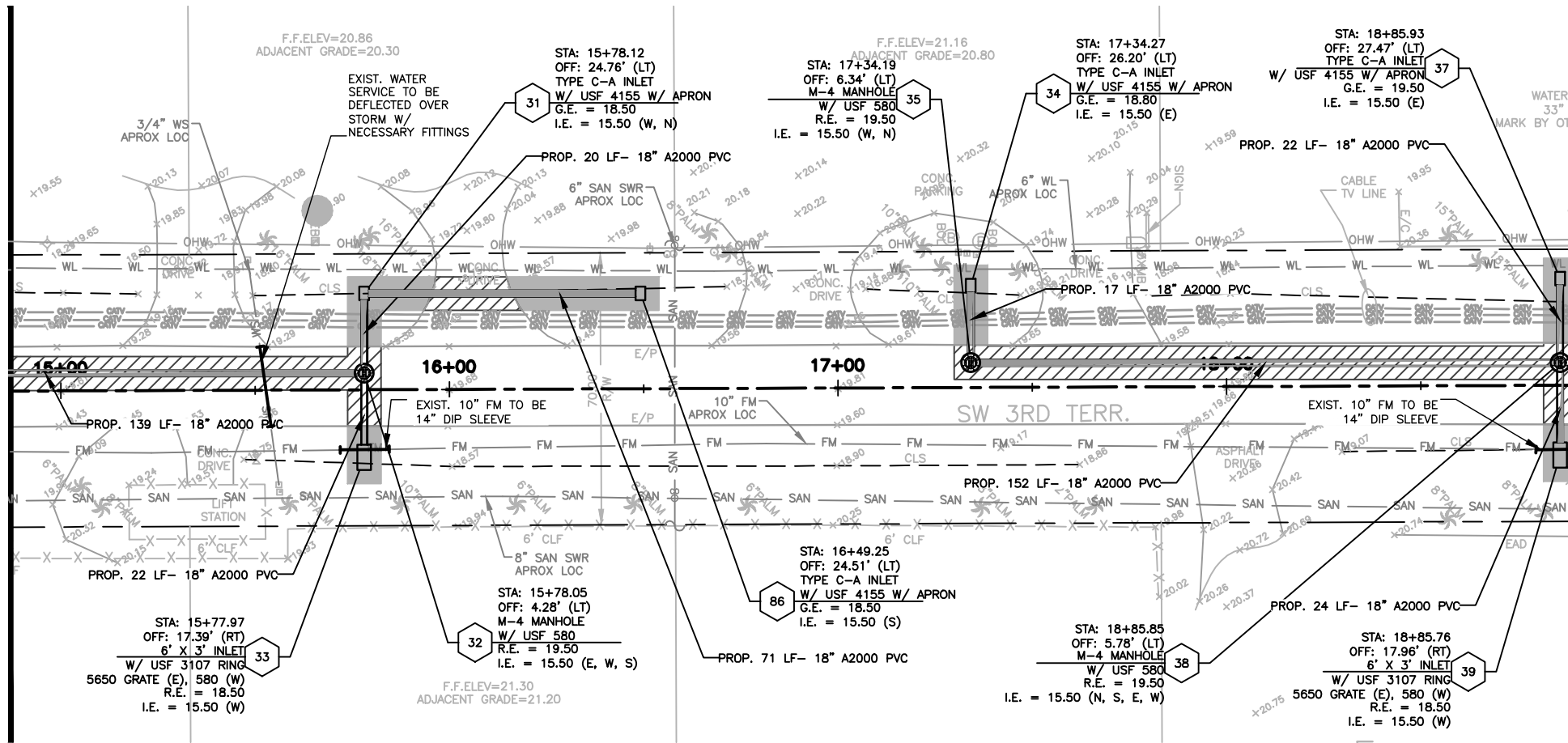
PREPARED FOR:
OKEECHOBEE COUNTY

S.W. DRAINAGE IMPROVEMENTS
S.W. 3RD TERR.
STA: 10+78 - 14+86

FILE NAME: 10-0429-C-06-PAP.dwg
LAST SAVED: 04/07/09 - 3:06pm
SCALE AS SHOWN
PROJECT 00-0903-429

SHEET
C-06

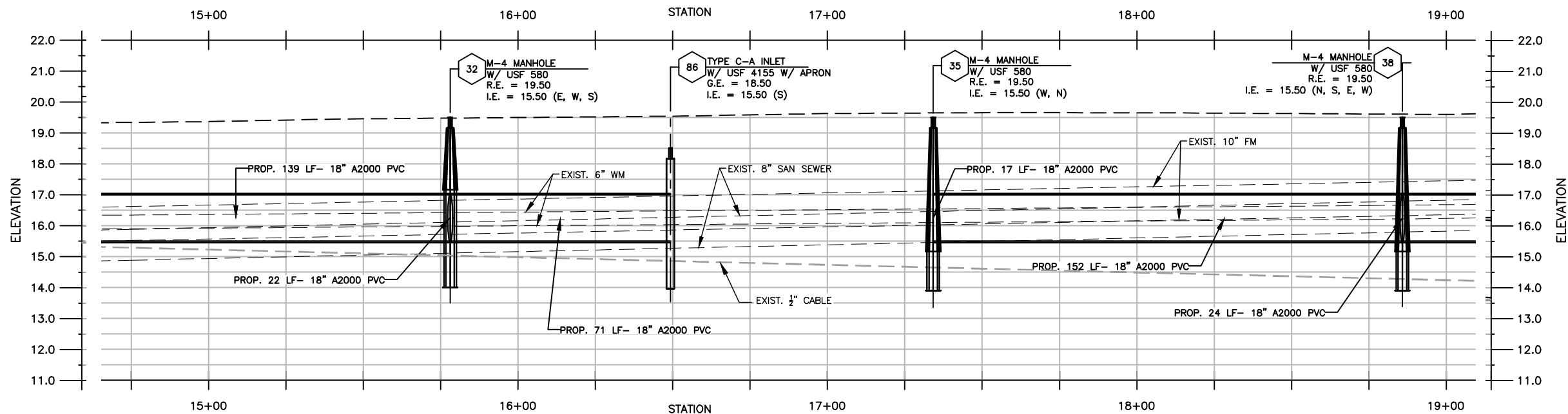
MATCHLINE SEE SHEET C-06 STA. 14+86.98



GRAPHIC SCALE
1" = 20'-0"

* NOTE:
DRAWING SCALES ARE DOUBLED
FOR 11 X 17 SHEET SIZES

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GRAPHIC SCALE (VERTICAL)
SCALE = 1" = 2'-0"

FOR BIDDING PURPOSES ONLY

NO.	DATE	REVISION	BY

Date: 10/16/07
Designed: WT
Drawn: MM
Checked: OAR

APPROVED BY: ORLANDO A. RUBIO, P.E.
DATE: _____
FLORIDA PROFESSIONAL ENGINEER NO. 48265

CRAIG A. SMITH & ASSOCIATES
CONSULTING ENGINEERS-PLANNERS-SURVEYORS
7777 GLADES ROAD, SUITE 410
BOCA RATON, FLORIDA 33434
(561)791-9280
CERTIFICATE NO. LB0003110

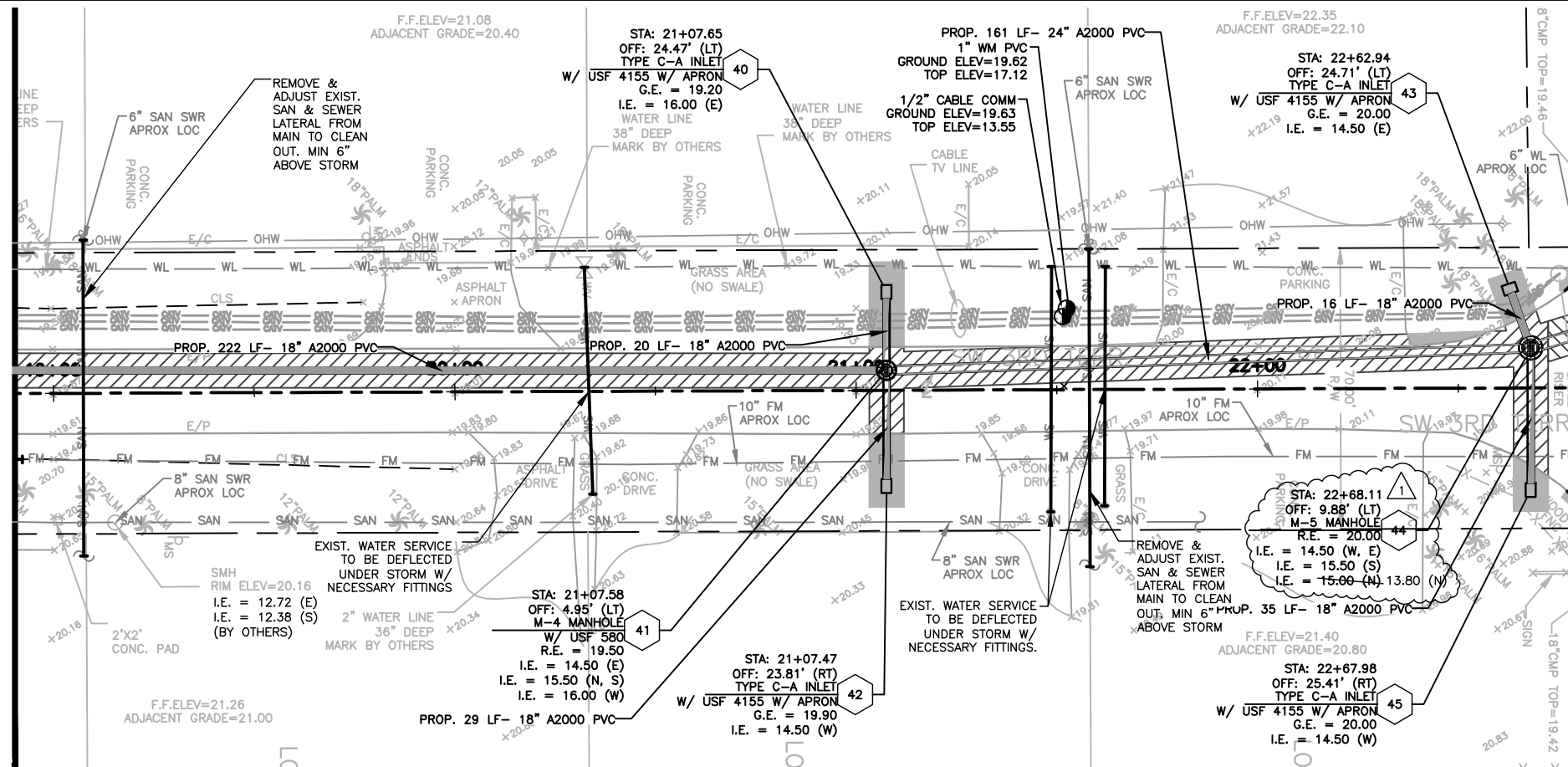
PREPARED FOR:
OKEECHOBEE COUNTY

S.W. DRAINAGE
IMPROVEMENTS
S.W. 3RD TERR.
STA: 14+86 - 18+90

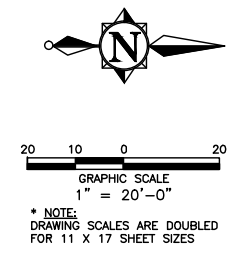
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SCALE: AS SHOWN
PROJECT: 00-0903-429

SHEET
C-07

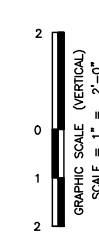
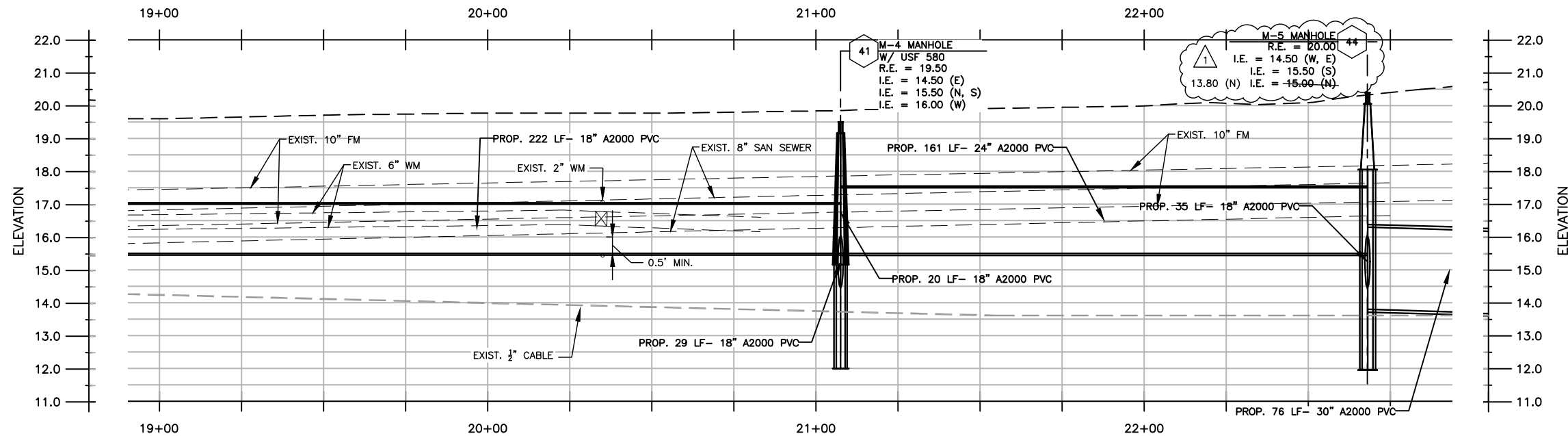
MATCHLINE SEE SHEET C-07 STA.18+90.31



STA.22+80.35 MATCHLINE SEE SHEET C-13



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FOR BIDDING PURPOSES ONLY

1	5/27/10	PER ADDENDUM NO. 1	OAR
NO.	DATE	REVISION	BY

Date: 10/16/07
Designed: WT
Drawn: MM
Checked: OAR

APPROVED BY: ORLANDO A. RUBIO, P.E.
DATE
FLORIDA PROFESSIONAL ENGINEER NO. 48265

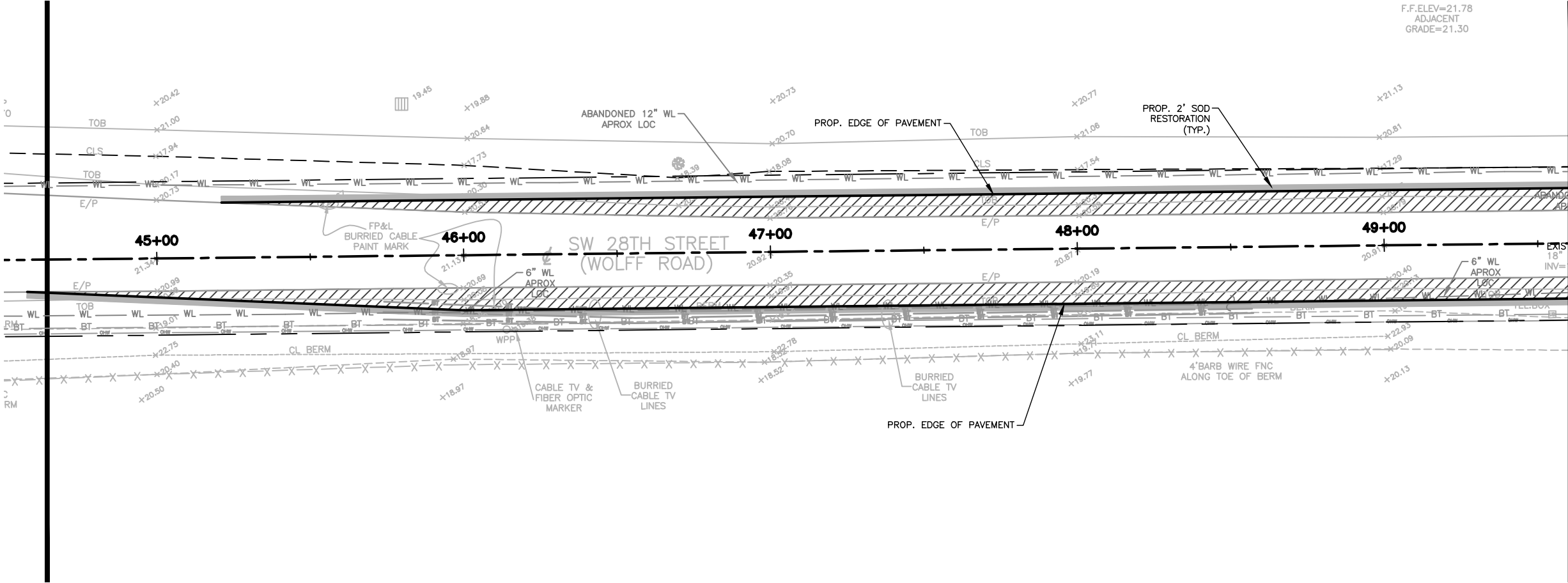
CRAIG A. SMITH & ASSOCIATES
CONSULTING ENGINEERS-PLANNERS-SURVEYORS
7777 GLADES ROAD, SUITE 410
BOCA RATON, FLORIDA 33434
(561)791-9280
CERTIFICATE NO. LB0003110

PREPARED FOR:
OKEECHOBEE COUNTY

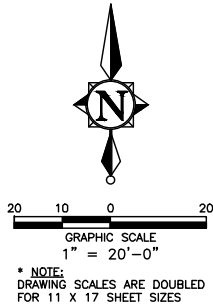
S.W. DRAINAGE IMPROVEMENTS
S.W. 3RD TERR.
STA: 18+90 - 22+65

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LAST SAVED: 05/27/10 - 4:03pm
SCALE AS SHOWN
PROJECT 00-0903-429

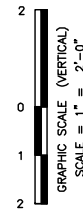
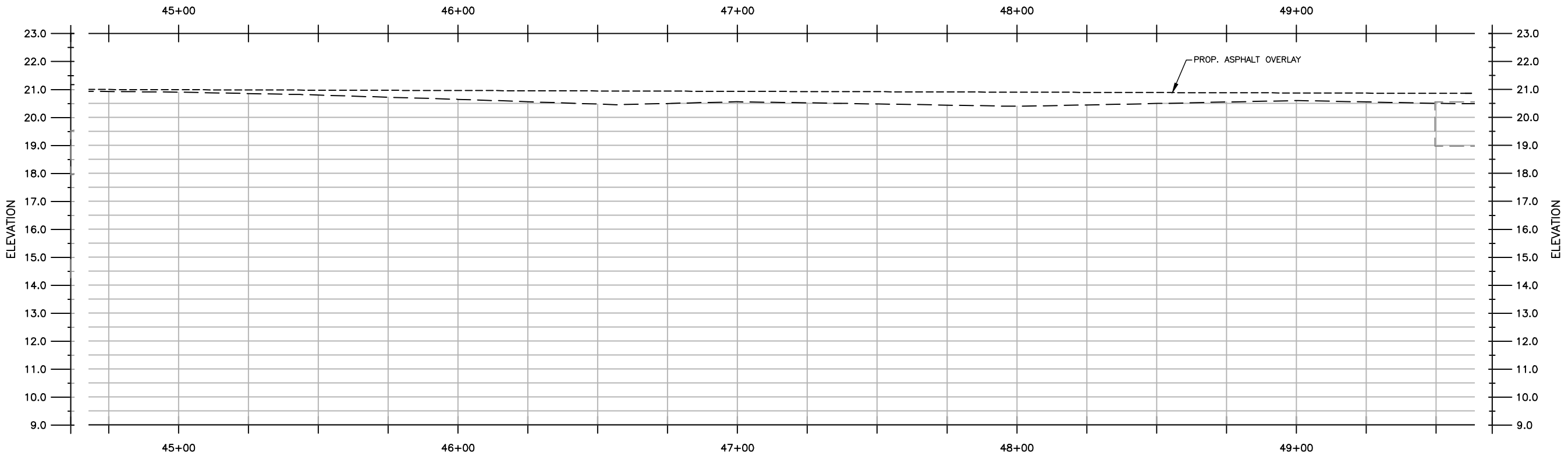
SHEET
C-08



MATCHLINE SEE SHEET C-10 STA. 49+60.63



- NOTES:
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FOR BIDDING PURPOSES ONLY

NO.	DATE	REVISION	BY

Date: 10/16/07
Designed: WT
Drawn: MM
Checked: OAR

APPROVED BY: ORLANDO A. RUBIO, P.E.
DATE: _____
FLORIDA PROFESSIONAL ENGINEER NO. 48265

CRAIG A. SMITH & ASSOCIATES
CONSULTING ENGINEERS-PLANNERS-SURVEYORS
7777 GLADES ROAD, SUITE 410
BOCA RATON, FLORIDA 33434
(561) 791-9280
CERTIFICATE NO. LB0003110

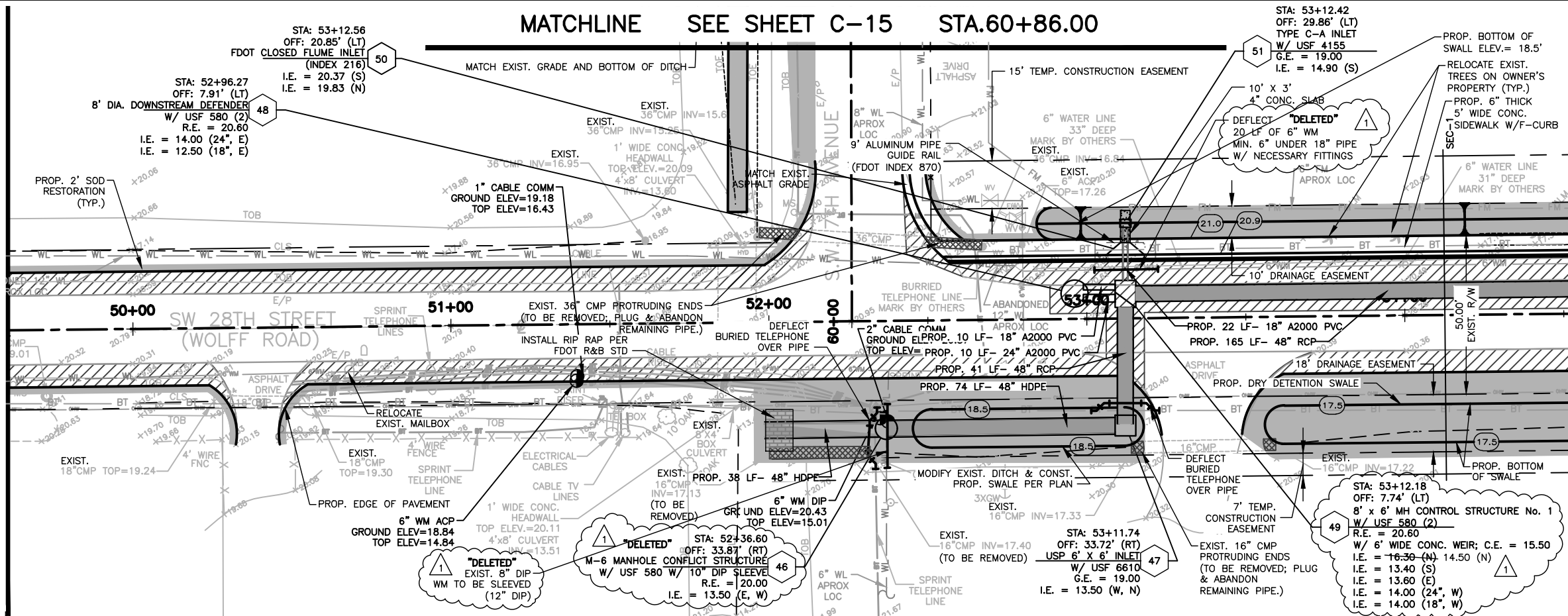
PREPARED FOR:
OKEECHOBEE COUNTY

S.W. DRAINAGE IMPROVEMENTS
S.W. 28TH STREET
STA: 44+64 - 49+60

FILE NAME: 13-0429-C-09-PAP.dwg
LAST SAVED: 04/08/09 - 9:35am
SCALE AS SHOWN
PROJECT 00-0903-429

SHEET
C-09

MATCHLINE SEE SHEET C-09 STA.49+60.63



MATCHLINE SEE SHEET C-11 STA.54+53.82

STA: 53+12.42
OFF: 29.86' (LT)
TYPE C-A INLET
W/ USF 4155
G.E. = 19.00
I.E. = 14.90 (S)

PROP. BOTTOM OF SWALL ELEV. = 18.5'
RELOCATE EXIST. TREES ON OWNER'S PROPERTY (TYP.)
PROP. 6" THICK 5' WIDE CONC. SIDEWALK W/F-CURB

10' X 3' 4" CONC. SLAB
DEFLECT 20 LF OF 6" WM MIN. 6" UNDER 18" PIPE W/ NECESSARY FITTINGS
APPROX LOC

6" WATER LINE 31" DEEP MARK BY OTHERS

10' DRAINAGE EASEMENT

PROP. 22 LF- 18" A2000 PVC
PROP. 165 LF- 48" RCP

18" DRAINAGE EASEMENT

PROP. DRY DETENTION SWALE

EXIST. 16" CMP PROTRUDING ENDS (TO BE REMOVED; PLUG & ABANDON REMAINING PIPE.)

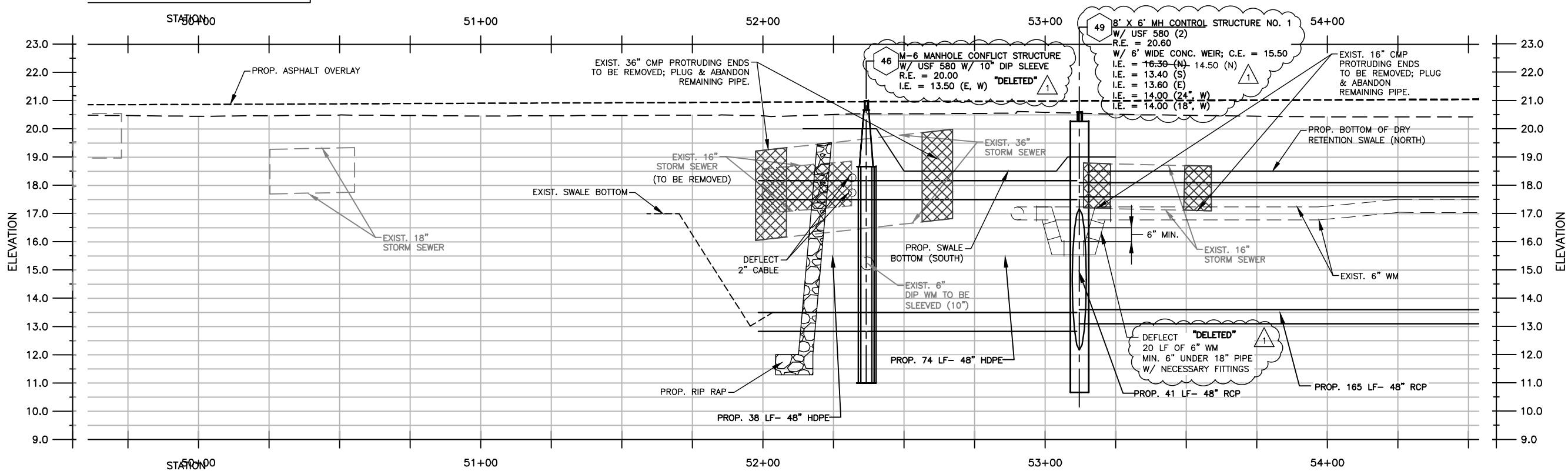
7' TEMP. CONSTRUCTION EASEMENT

STA: 53+12.18
OFF: 7.74' (LT)
8' x 6' MH CONTROL STRUCTURE No. 1
W/ USF 580 (2)
R.E. = 20.60
I.E. = 16.30 (N) 14.50 (N)
I.E. = 13.40 (S)
I.E. = 13.60 (E)
I.E. = 14.00 (24", W)
I.E. = 14.00 (18", W)

NOTES:
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GRAPHIC SCALE
1" = 20'-0"

* NOTE:
DRAWING SCALES ARE DOUBLED FOR 11 X 17 SHEET SIZES



FOR BIDDING PURPOSES ONLY

1	05/25/10	PER ADDENDUM NO.1	OAR
NO.	DATE	REVISION	BY

Date: 10/16/07
Designed: WT
Drawn: MM
Checked: OAR

APPROVED BY: ORLANDO A. RUBIO, P.E.
DATE: _____
FLORIDA PROFESSIONAL ENGINEER NO. 48265

CRAIG A. SMITH & ASSOCIATES
CONSULTING ENGINEERS-PLANNERS-SURVEYORS
7777 GLADES ROAD, SUITE 410
BOCA RATON, FLORIDA 33434
(561)791-9280
CERTIFICATE NO. LB0003110

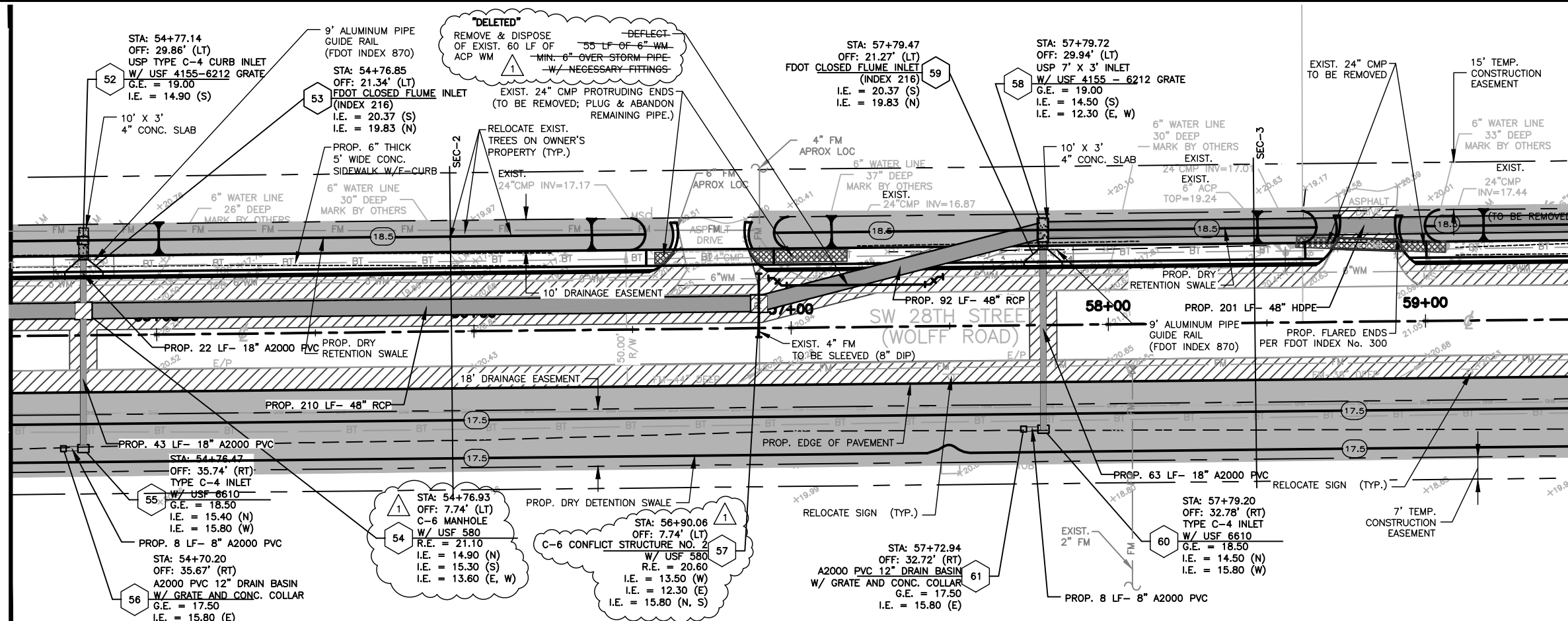
PREPARED FOR:
OKEECHOBEE COUNTY

S.W. DRAINAGE IMPROVEMENTS
S.W. 28TH STREET
STA: 49+60 - 54+53

FILE NAME: 14-0429-C-10-PAP.dwg
LAST SAVED: 06/02/10 - 3:29pm
SCALE AS SHOWN
PROJECT 00-0903-429

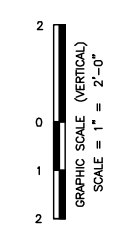
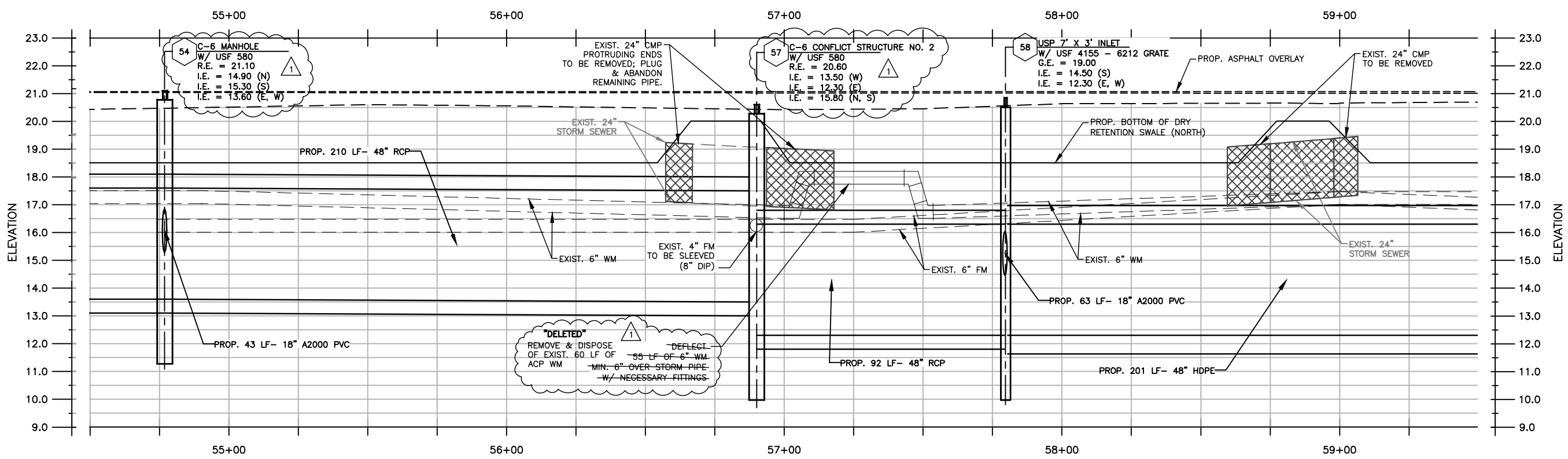
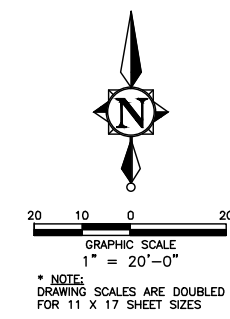
SHEET
C-10

MATCHLINE SEE SHEET C-10 STA.54+53.82



MATCHLINE SEE SHEET C-12 STA.59+47.41

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Drawn: MM
Checked: OAR

APPROVED BY: ORLANDO A. RUBIO, P.E.
DATE: _____
FLORIDA PROFESSIONAL ENGINEER NO. 48265

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BOCA RATON, FLORIDA 33434
(561)791-9280
CERTIFICATE NO. LB0003110

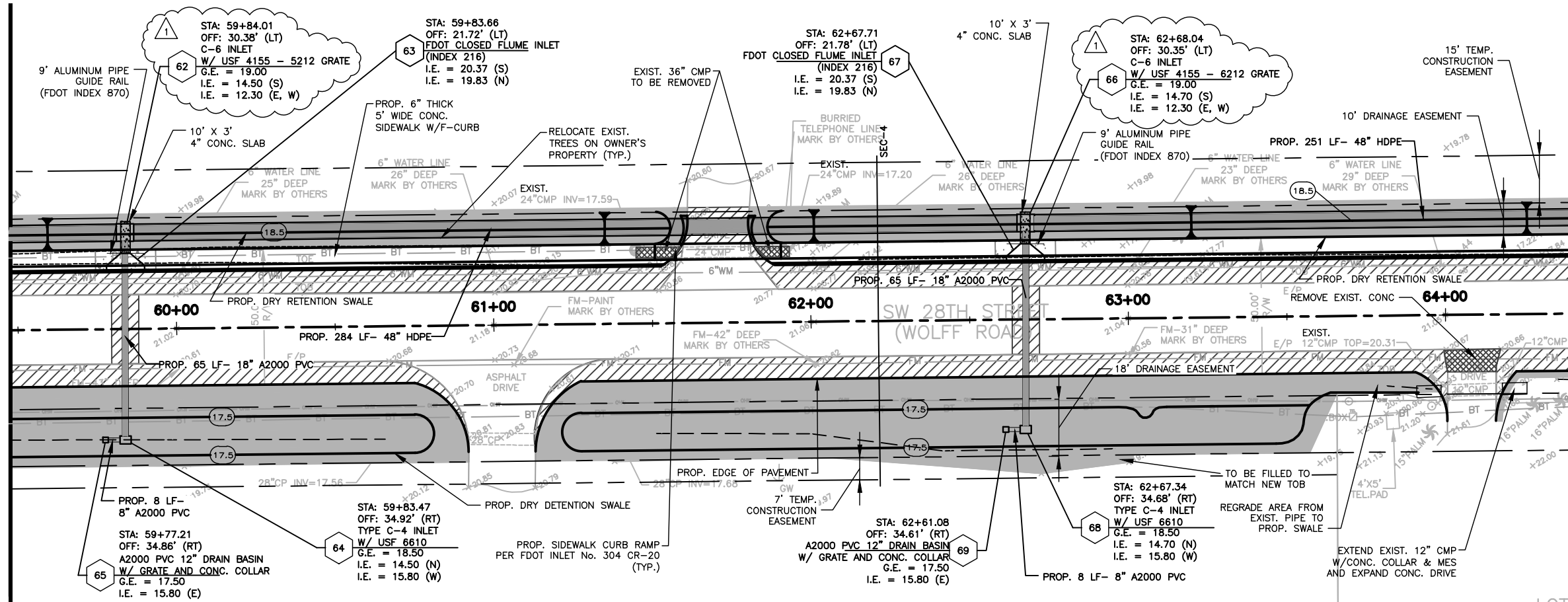
PREPARED FOR:
OKEECHOBEE COUNTY

S.W. DRAINAGE IMPROVEMENTS
S.W. 28TH STREET
STA: 54+53 - 59+47

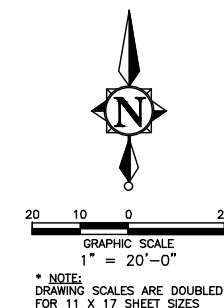
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LAST SAVED: 05/28/10 - 2:36pm
SCALE AS SHOWN
PROJECT 00-0903-429

SHEET
C-11

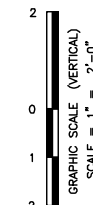
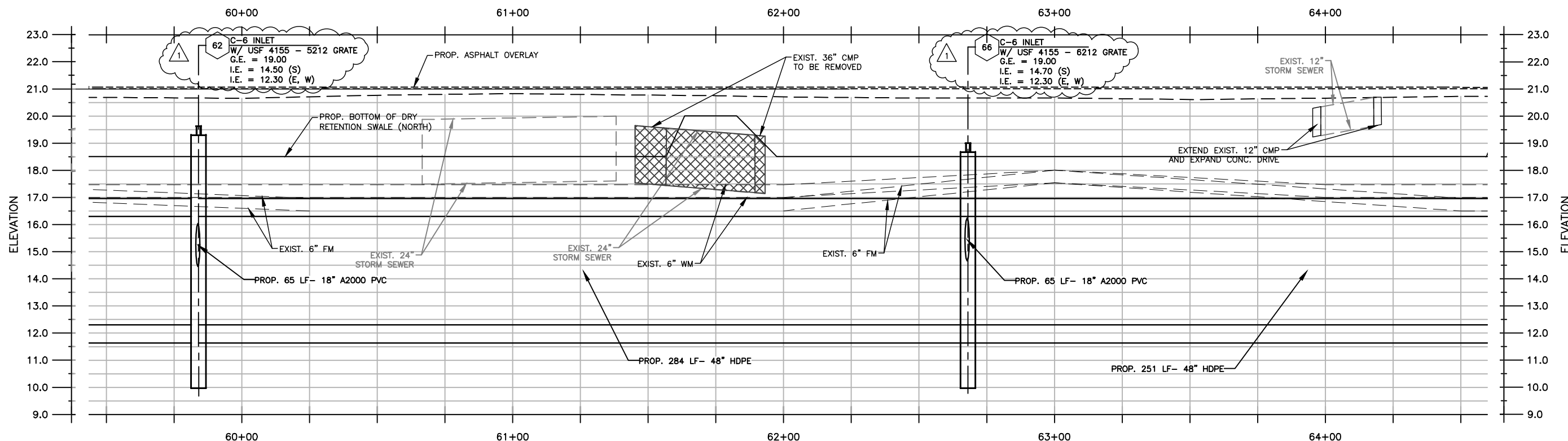
MATCHLINE SEE SHEET C-11 STA.59+47.41



MATCHLINE SEE SHEET C-13 STA.64+42.92



- NOTES:
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FOR BIDDING PURPOSES ONLY

1	05/25/10	PER ADDENDUM NO.1	OAR
NO.	DATE	REVISION	BY

Date: 10/16/07
Designed: WT
Drawn: MM
Checked: OAR

APPROVED BY: ORLANDO A. RUBIO, P.E.
DATE: _____
FLORIDA PROFESSIONAL ENGINEER NO. 48265

CRAIG A. SMITH & ASSOCIATES
CONSULTING ENGINEERS-PLANNERS-SURVEYORS
7777 GLADES ROAD, SUITE 410
BOCA RATON, FLORIDA 33434
(561)791-9280
CERTIFICATE NO. LB0003110

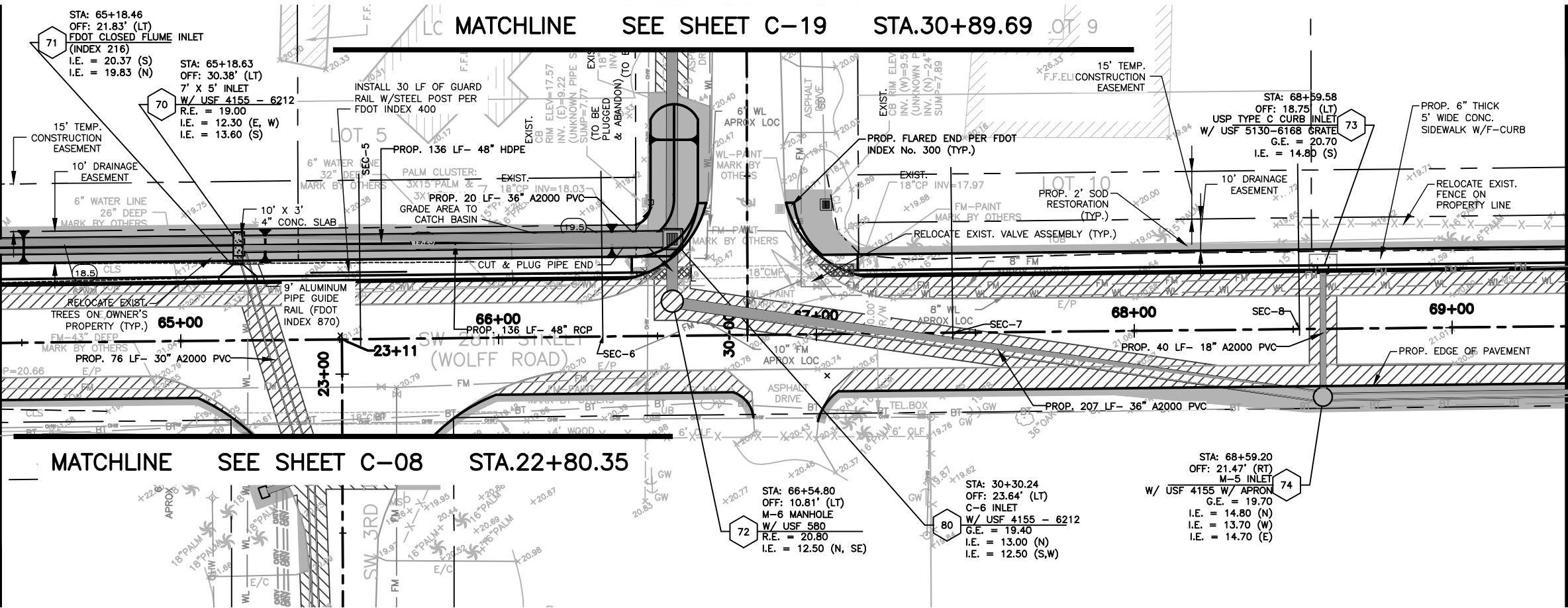
PREPARED FOR:
OKEECHOBEE COUNTY

S.W. DRAINAGE IMPROVEMENTS
S.W. 28TH STREET
STA: 59+47 - 64+42

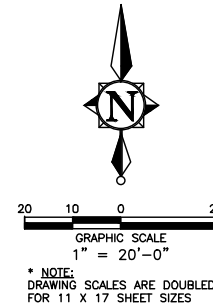
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LAST SAVED: 05/26/10 - 1:00pm
SCALE AS SHOWN
PROJECT 00-0903-429

SHEET
C-12

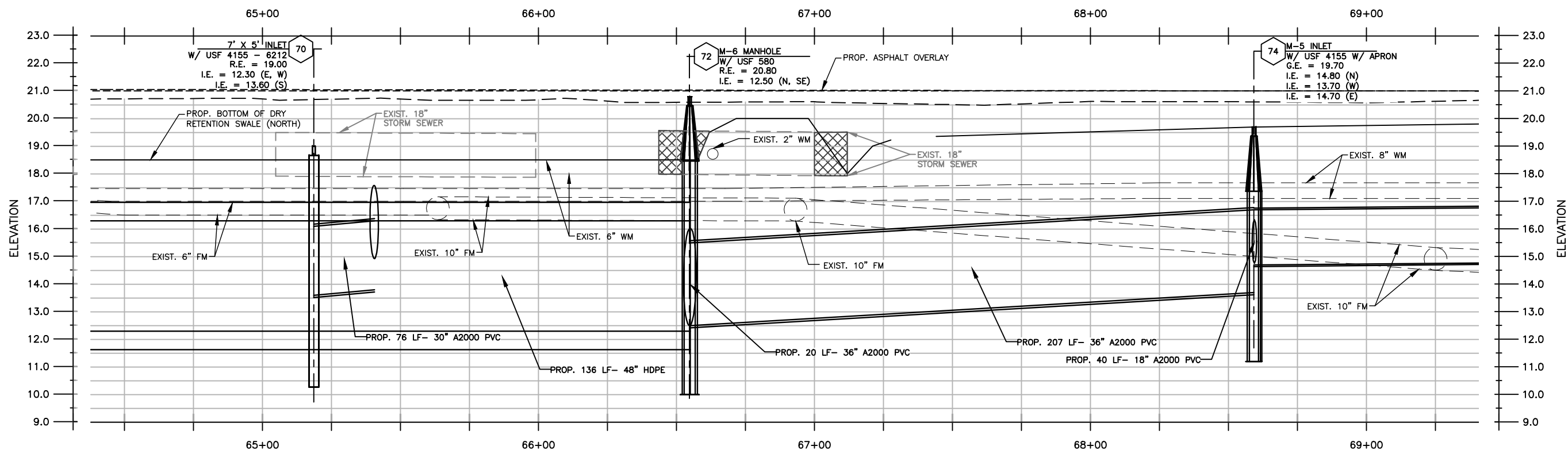
MATCHLINE SEE SHEET C-12 STA.64+42.92



MATCHLINE SEE SHEET C-14 STA.69+36.32



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FOR BIDDING PURPOSES ONLY

NO.	DATE	REVISION	BY

Date: 10/16/07
Designed: WT
Drawn: MM
Checked: OAR

APPROVED BY: ORLANDO A. RUBIO, P.E.
DATE: _____
FLORIDA PROFESSIONAL ENGINEER NO. 48265

CRAIG A. SMITH & ASSOCIATES
CONSULTING ENGINEERS-PLANNERS-SURVEYORS
7777 GLADES ROAD, SUITE 410
BOCA RATON, FLORIDA 33434
(561)791-9280
CERTIFICATE NO. LB0003110

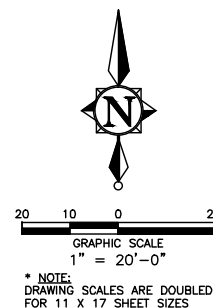
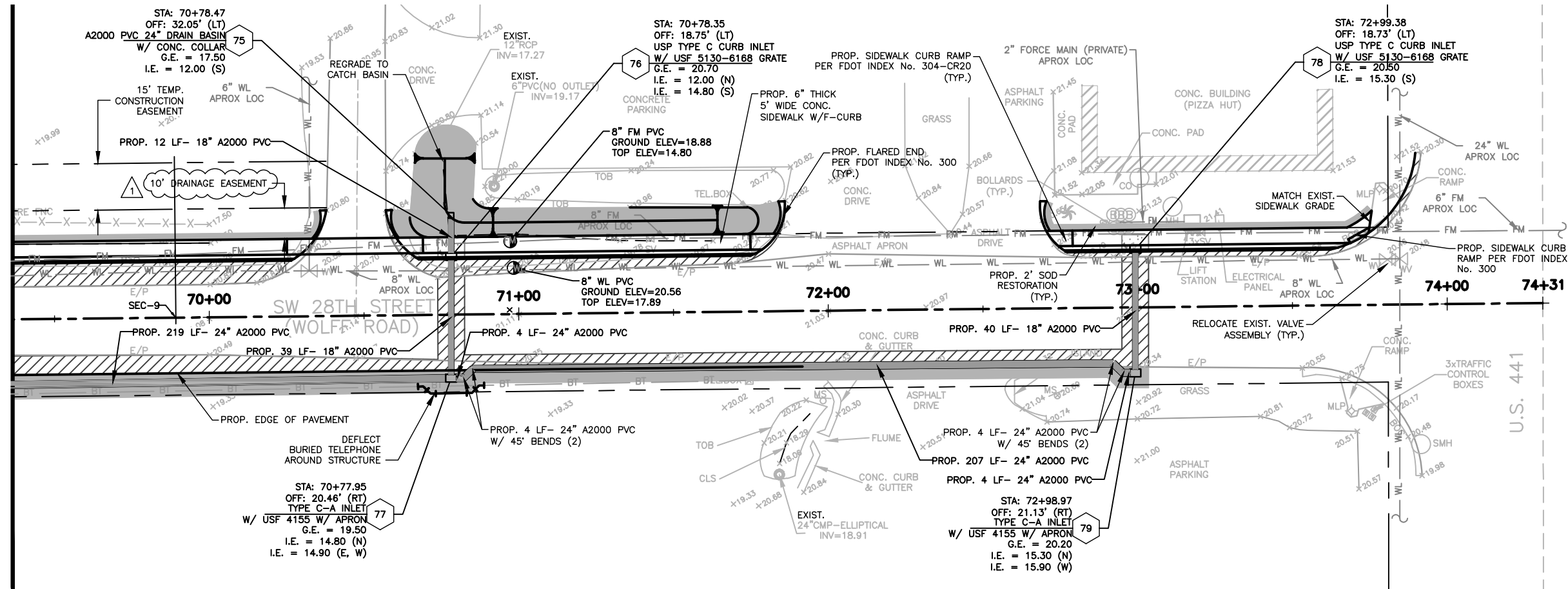
PREPARED FOR:
OKEECHOBEE COUNTY

S.W. DRAINAGE
IMPROVEMENTS
S.W. 28TH STREET
STA: 64+42 - 69+36

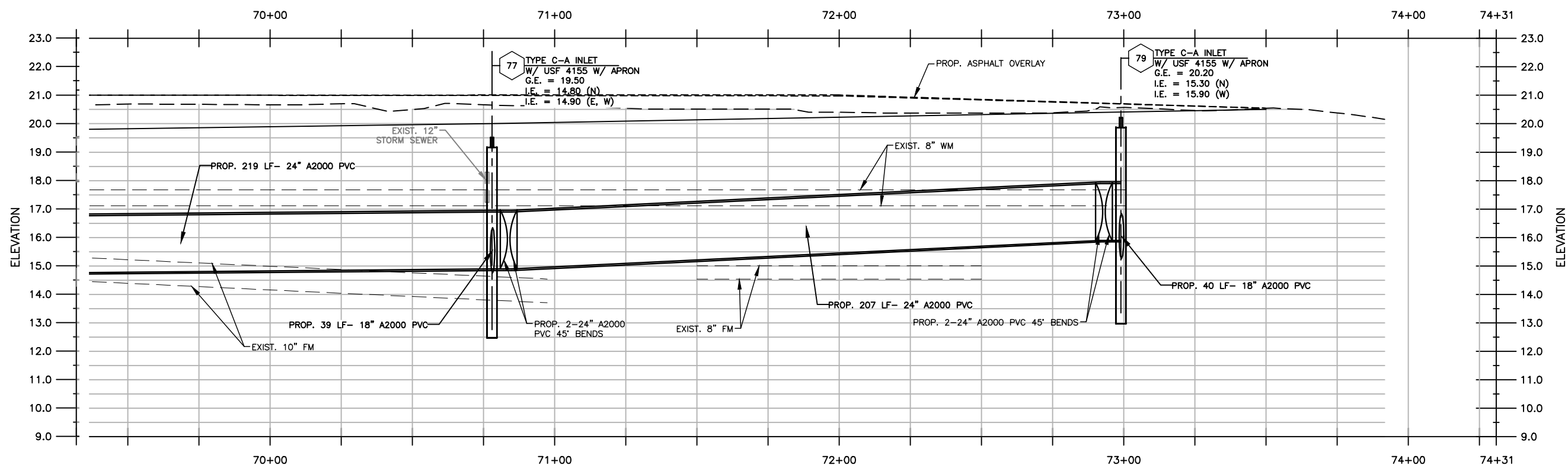
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LAST SAVED: 04/08/09 - 9:57am
SCALE: AS SHOWN
PROJECT: 00-0903-429

SHEET
C-13

MATCHLINE SEE SHEET C-13 STA. 69+36.32



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1	05/25/10	PER ADDENDUM NO.1	OAR
NO.	DATE	REVISION	BY

Date: 10/16/07
Designed: WT
Drawn: MM
Checked: OAR

APPROVED BY: ORLANDO A. RUBIO, P.E.

DATE _____

FLORIDA PROFESSIONAL ENGINEER NO. 48265

CRAIG A. SMITH & ASSOCIATES
CONSULTING ENGINEERS-PLANNERS-SURVEYORS

 7777 GLADES ROAD, SUITE 410
BOCA RATON, FLORIDA 33434
(561) 791-9280
CERTIFICATE NO. LB0003110 

PREPARED FOR:

OKEECHOBEE COUNTY

S.W. DRAINAGE
IMPROVEMENTS
S.W. 28TH STREET
STA: 69+36 - 74+30

FILE NAME: 18-0429-C-14-PAP.dwg
LAST SAVED: 05/26/10 - 1:10pm

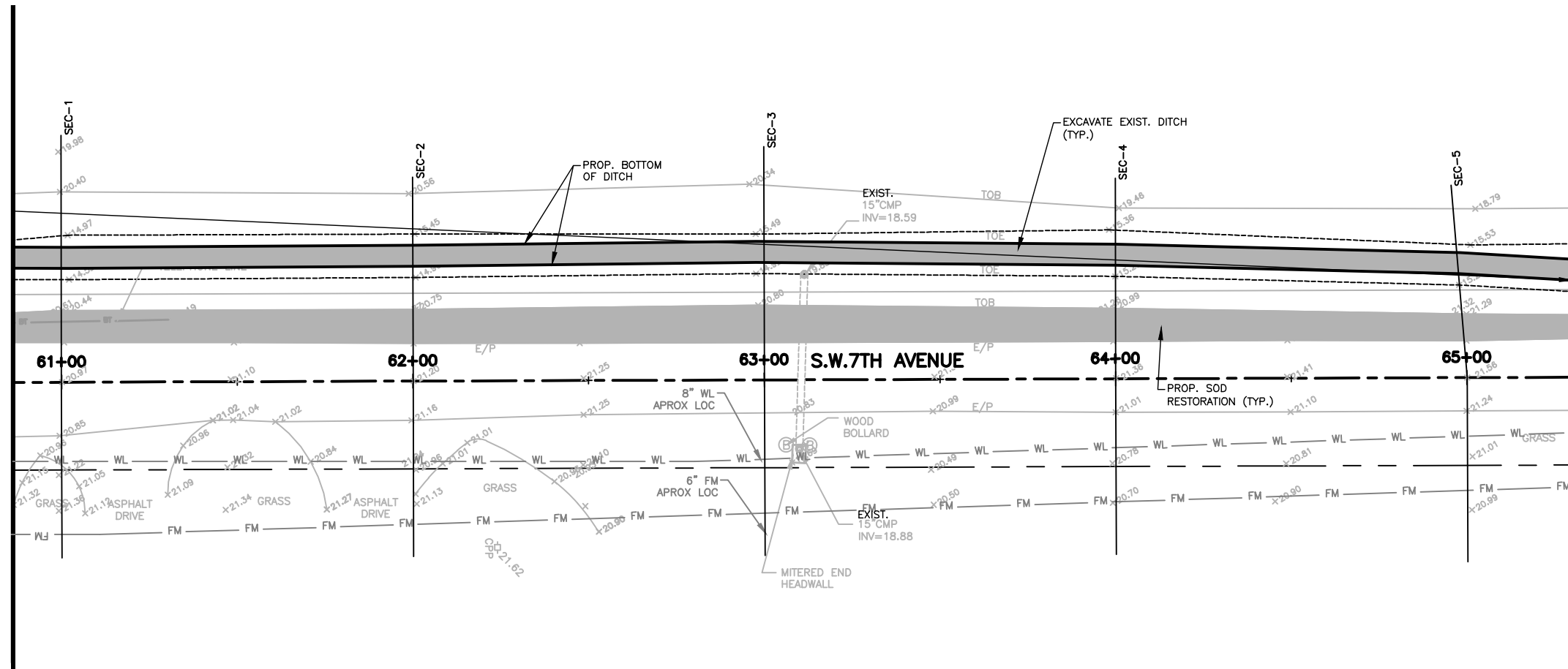
SCALE
AS SHOWN

PROJECT
00-0903-42

SHEET

C-14

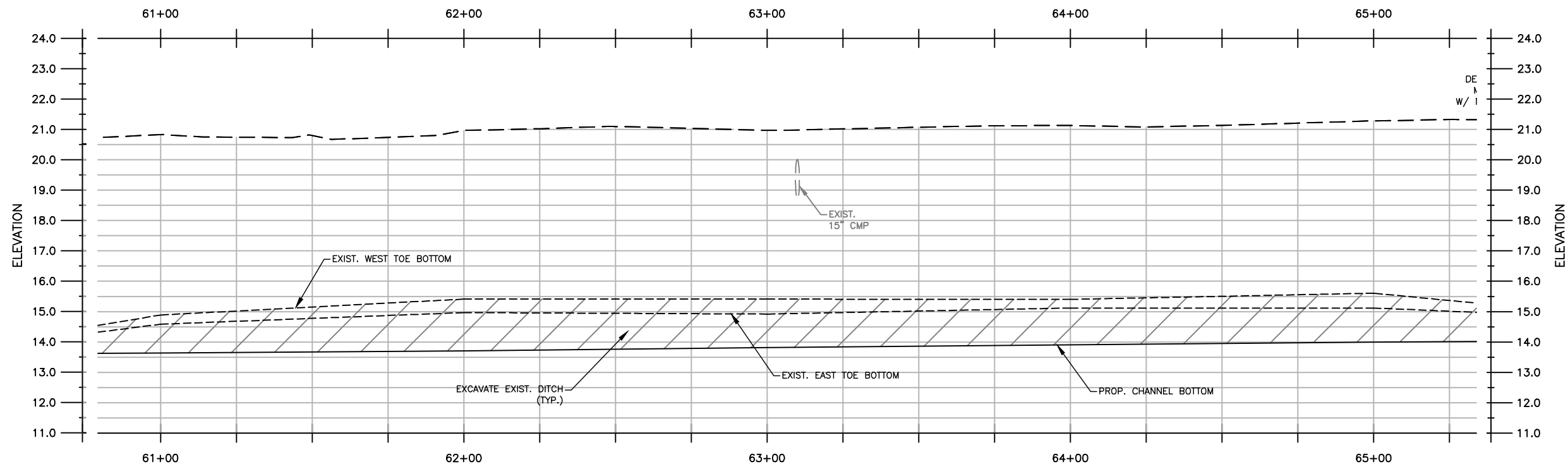
MATCHLINE SEE SHEET C-10 STA.60+86.00



20 10 0 20
GRAPHIC SCALE
1" = 20'-0"

* NOTE:
DRAWING SCALES ARE DOUBLED
FOR 11 X 17 SHEET SIZES

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2
0
1
2
GRAPHIC SCALE (VERTICAL)
SCALE = 1" = 2'-0"

FOR BIDDING PURPOSES ONLY

NO.	DATE	REVISION	BY

Date: 10/16/07
Designed: WT
Drawn: MM
Checked: OAR

APPROVED BY: ORLANDO A. RUBIO, P.E.
DATE: _____
FLORIDA PROFESSIONAL ENGINEER NO. 48265

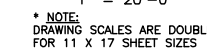
CRAIG A. SMITH & ASSOCIATES
CONSULTING ENGINEERS-PLANNERS-SURVEYORS
7777 GLADES ROAD, SUITE 410
BOCA RATON, FLORIDA 33434
(561)791-9280
CERTIFICATE NO. LB0003110

PREPARED FOR:
OKEECHOBEE COUNTY

S.W. DRAINAGE
IMPROVEMENTS
S.W. 7TH AVENUE
STA: 60+86 - 65+30

FILE NAME: 19-0429-C-15-PAP.dwg
LAST SAVED: 04/08/09 - 10:20am
SCALE AS SHOWN
PROJECT 00-0903-429

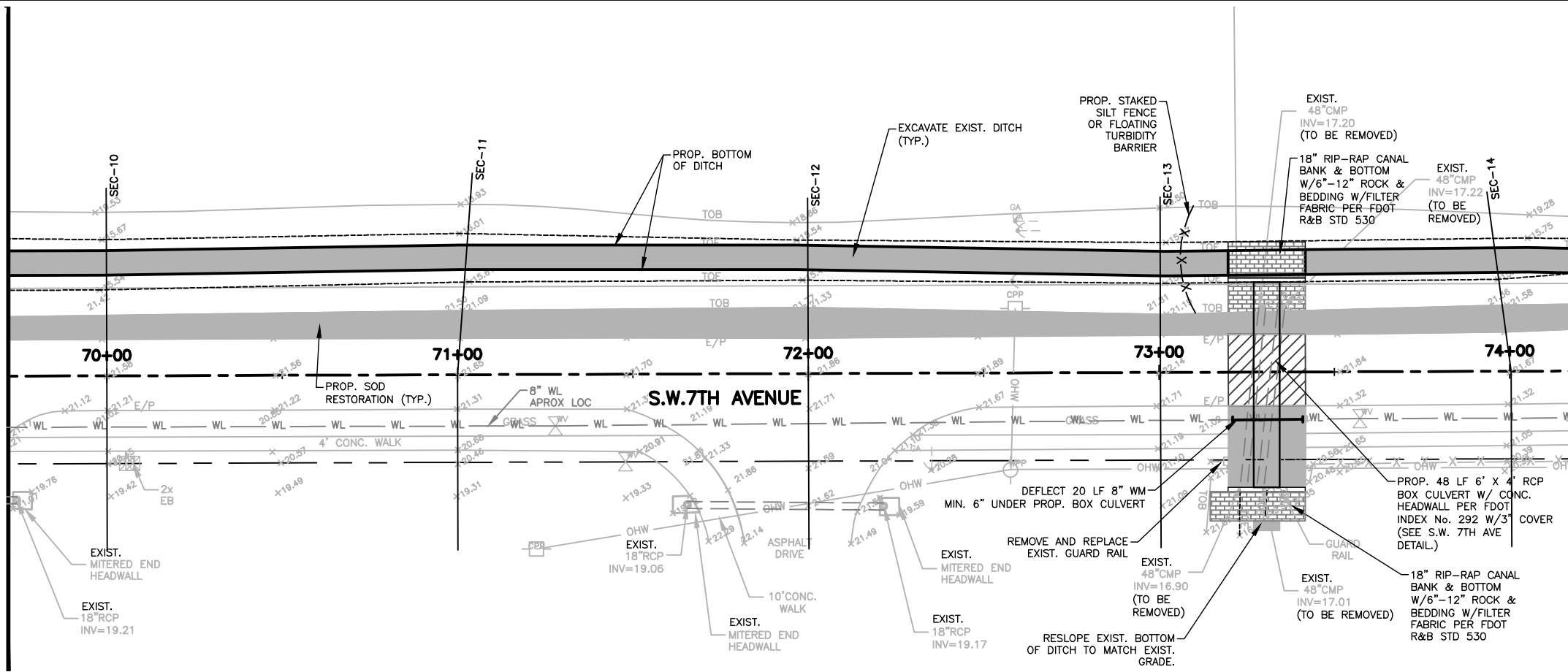
SHEET
C-15



-

SHEET
C-16

MATCHLINE SEE SHEET C-16 STA.69+71.72



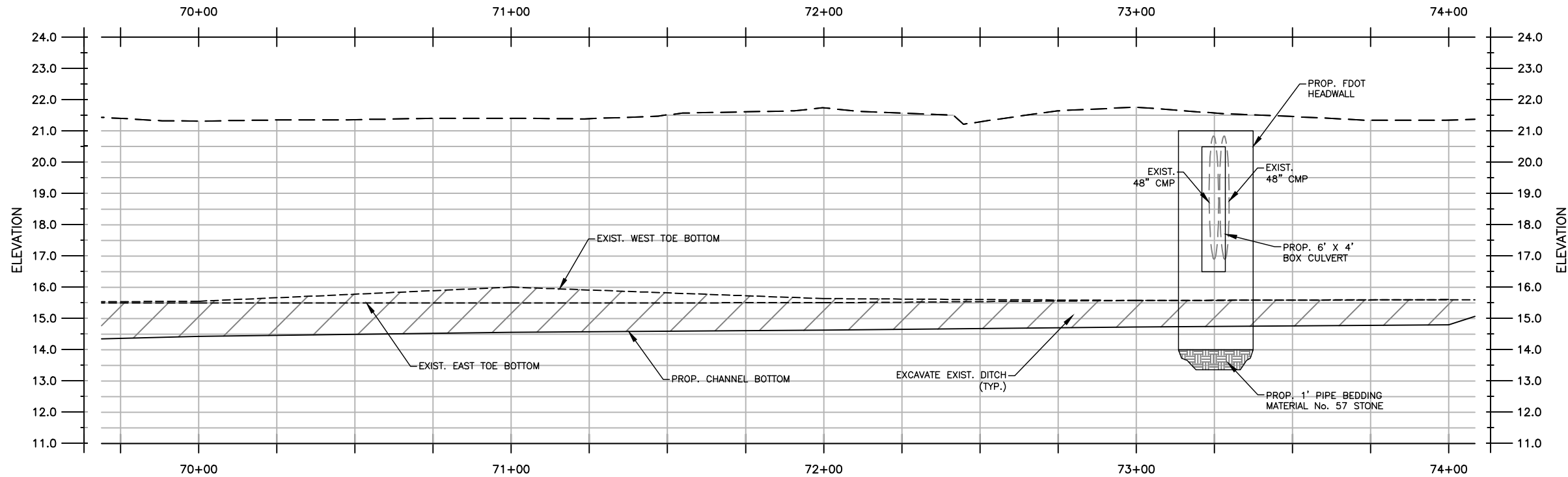
MATCHLINE SEE SHEET C-18 STA.74+18.50



20 10 0 20
GRAPHIC SCALE
1" = 20'-0"

* NOTE:
DRAWING SCALES ARE DOUBLED
FOR 11 X 17 SHEET SIZES

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2
0
1
2
GRAPHIC SCALE (VERTICAL)
SCALE = 1" = 2'-0"

FOR BIDDING PURPOSES ONLY

NO.	DATE	REVISION	BY

Date: 10/16/07
Designed: WT
Drawn: MM
Checked: OAR

APPROVED BY: ORLANDO A. RUBIO, P.E.
DATE: _____
FLORIDA PROFESSIONAL ENGINEER NO. 48265

CRAIG A. SMITH & ASSOCIATES
CONSULTING ENGINEERS-PLANNERS-SURVEYORS
7777 GLADES ROAD, SUITE 410
BOCA RATON, FLORIDA 33434
(561)791-9280
CERTIFICATE NO. LB0003110

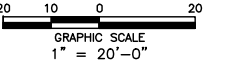
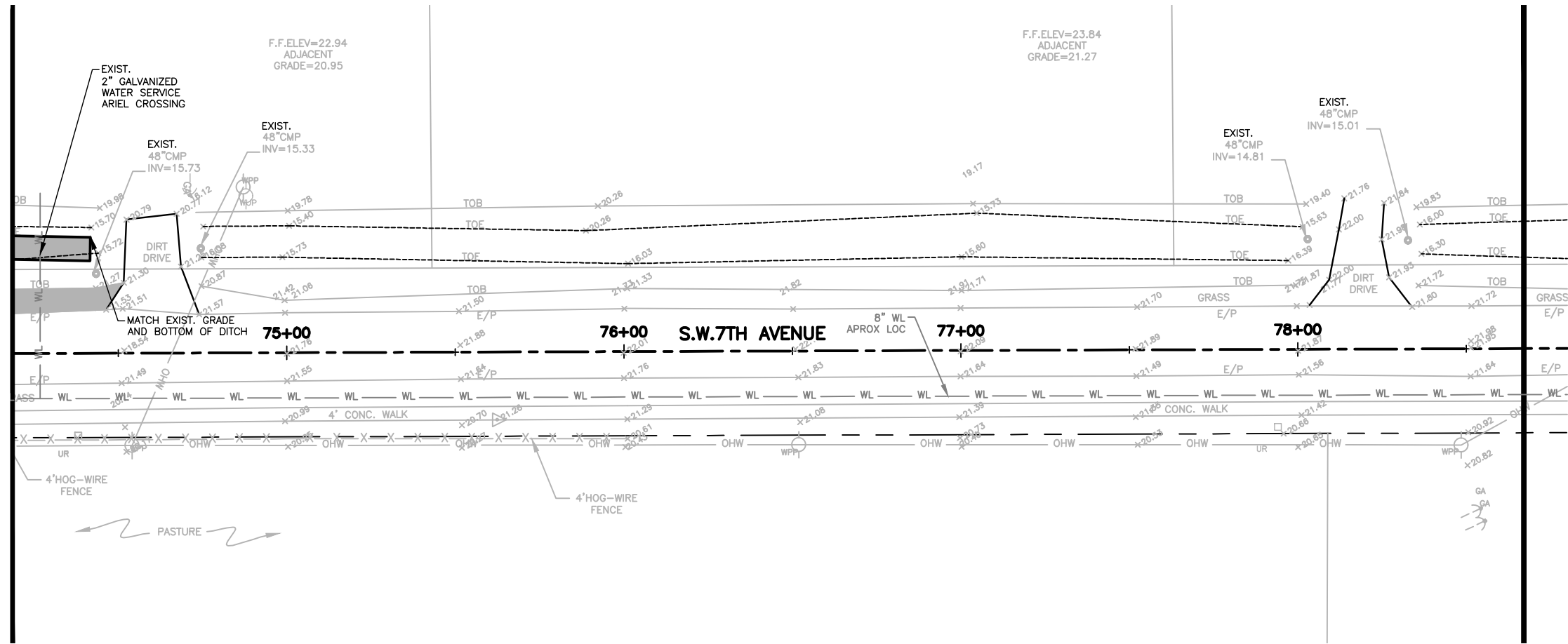
PREPARED FOR:
OKEECHOBEE COUNTY

S.W. DRAINAGE
IMPROVEMENTS
S.W. 7TH AVENUE
STATION 69+71 - 74+18

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PROJECT 00-0903-429

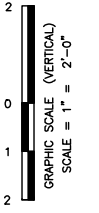
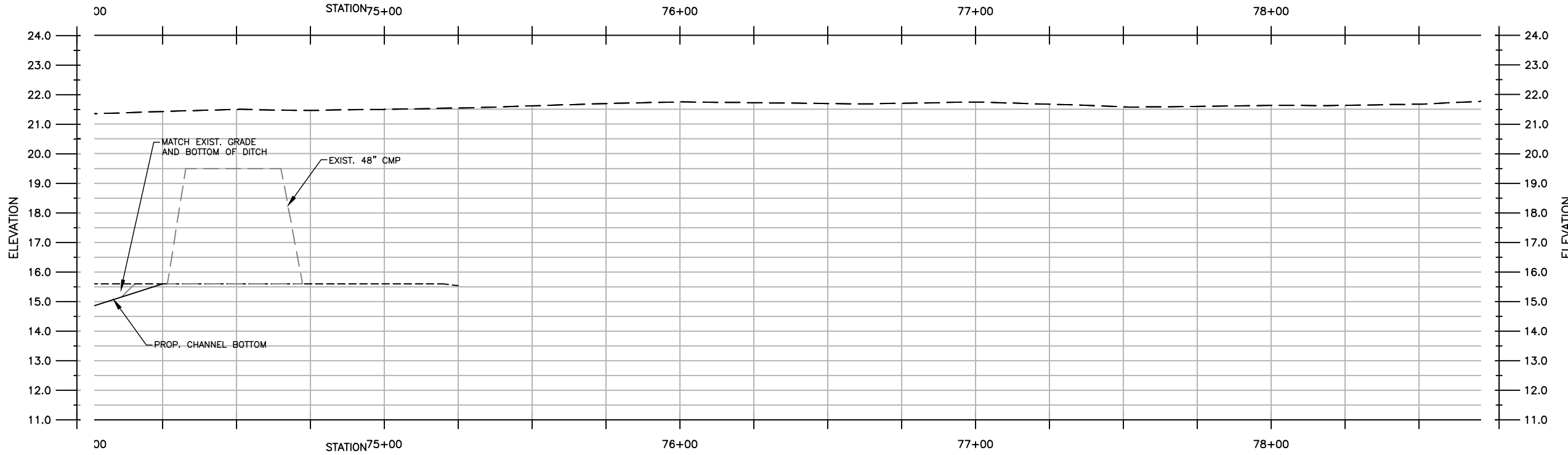
SHEET
C-17

MATCHLINE SEE SHEET C-17 STA. 74+18.50



* NOTE: DRAWING SCALES ARE DOUBLED FOR 11 X 17 SHEET SIZES

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NO.	DATE	REVISION	BY

Date: 10/16/07
Designed: WT
Drawn: MM
Checked: OAR

APPROVED BY: ORLANDO A. RUBIO, P.E.
DATE: _____
FLORIDA PROFESSIONAL ENGINEER NO. 48265

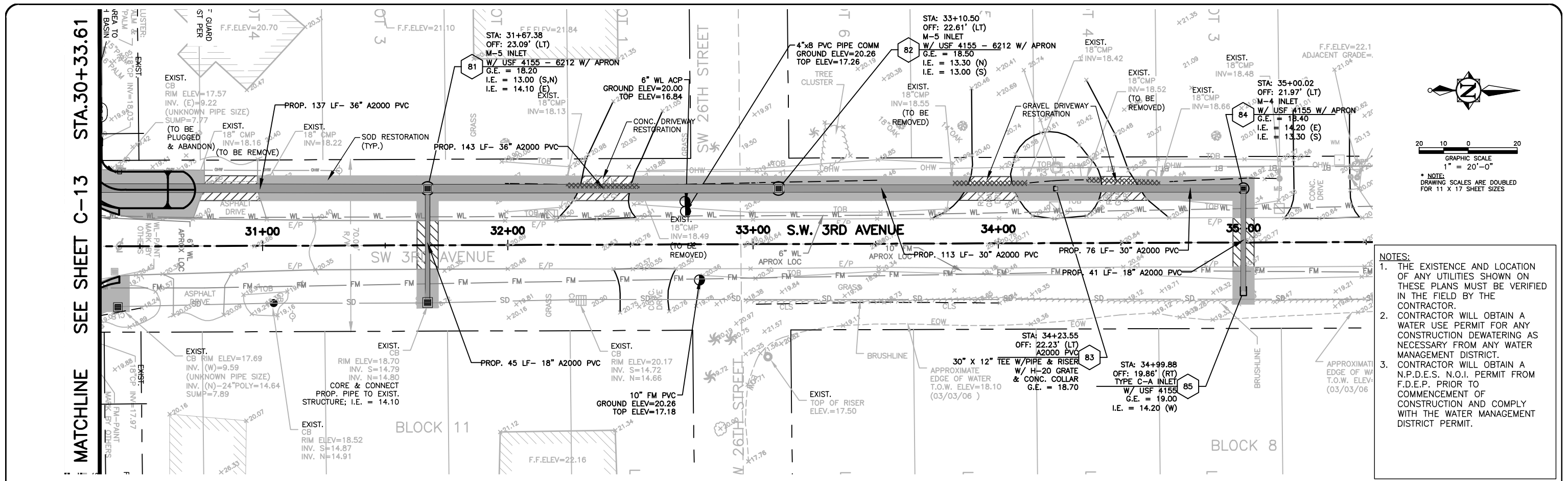
CRAIG A. SMITH & ASSOCIATES
CONSULTING ENGINEERS-PLANNERS-SURVEYORS
7777 GLADES ROAD, SUITE 410
BOCA RATON, FLORIDA 33434
(561) 791-9280
CERTIFICATE NO. LB0003110

PREPARED FOR:
OKEECHOBEE COUNTY

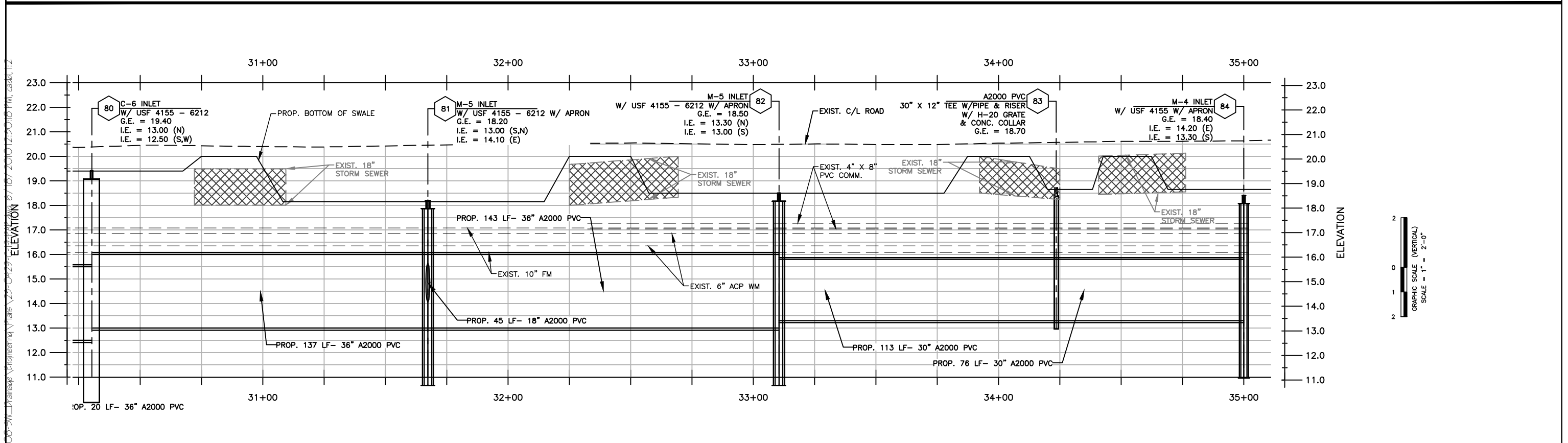
S.W. DRAINAGE IMPROVEMENTS
S.W. 7TH AVENUE
STATION 74+18 - 78+67

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PROJECT 00-0903-429

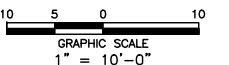
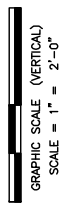
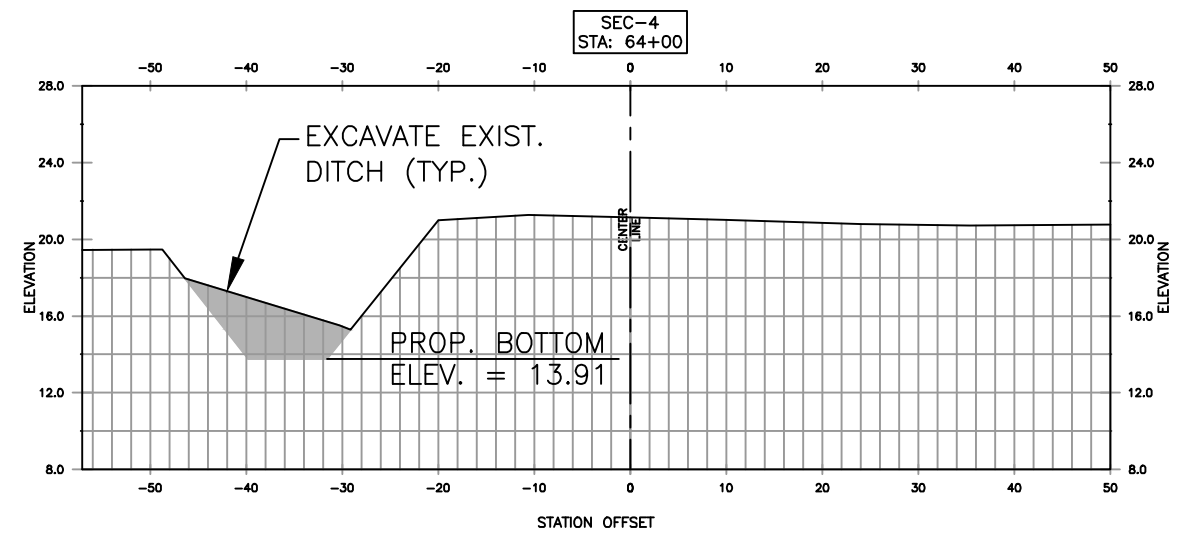
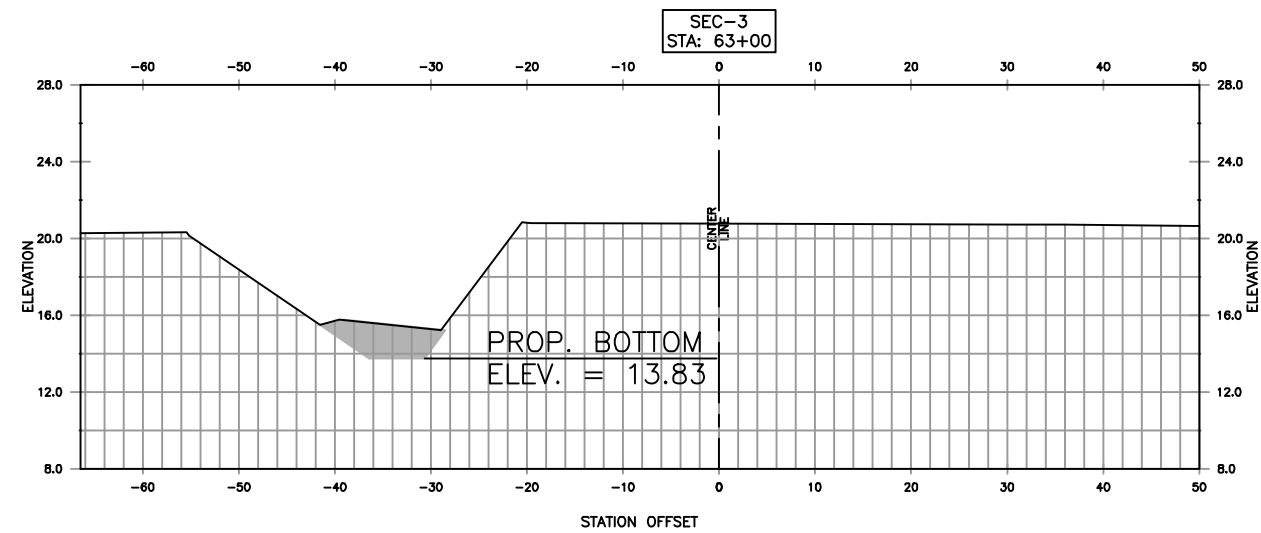
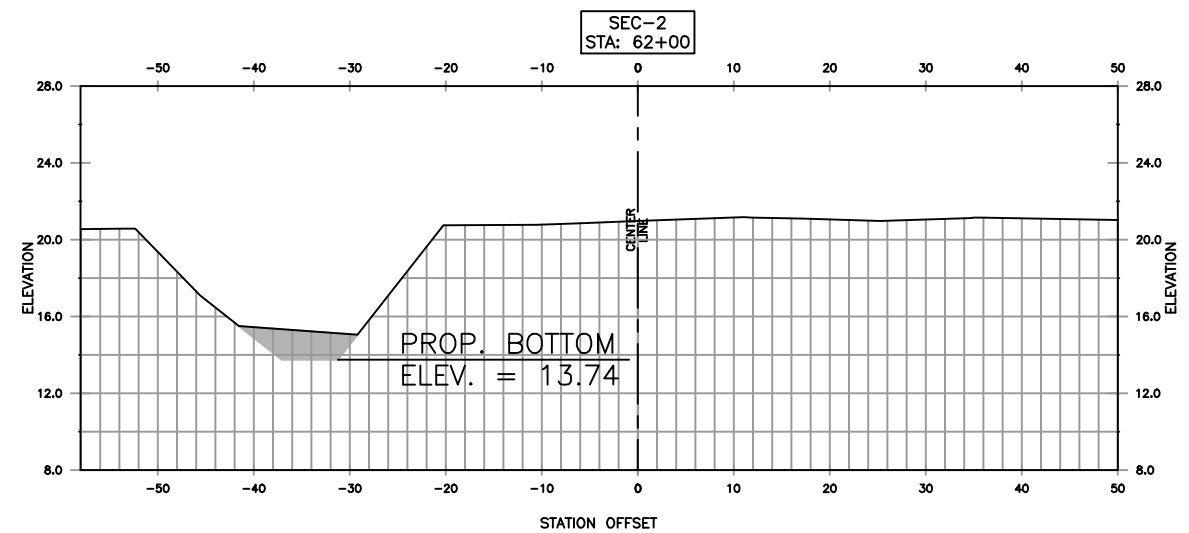
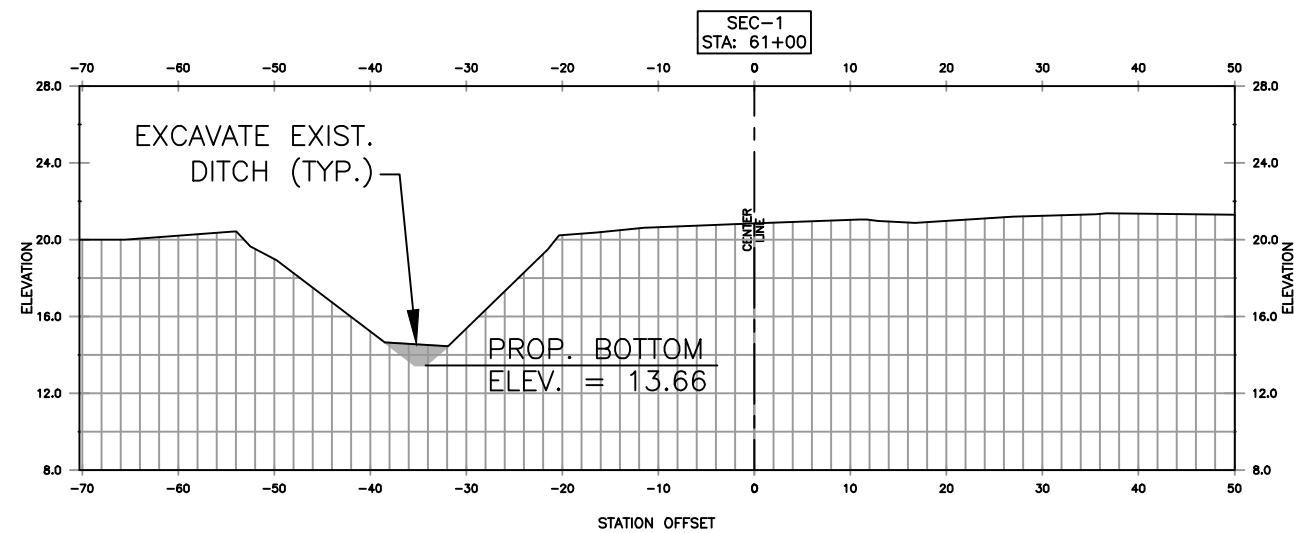
SHEET
C-18



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FOR BIDDING PURPOSES ONLY



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FOR 11 X 17 SHEET SIZES

FOR BIDDING PURPOSES ONLY

NO.	DATE	REVISION	BY

Date: 10/16/07
Designed: WT
Drawn: MM
Checked: OAR

APPROVED BY: ORLANDO A. RUBIO, P.E.
DATE: _____
FLORIDA PROFESSIONAL ENGINEER NO. 48265

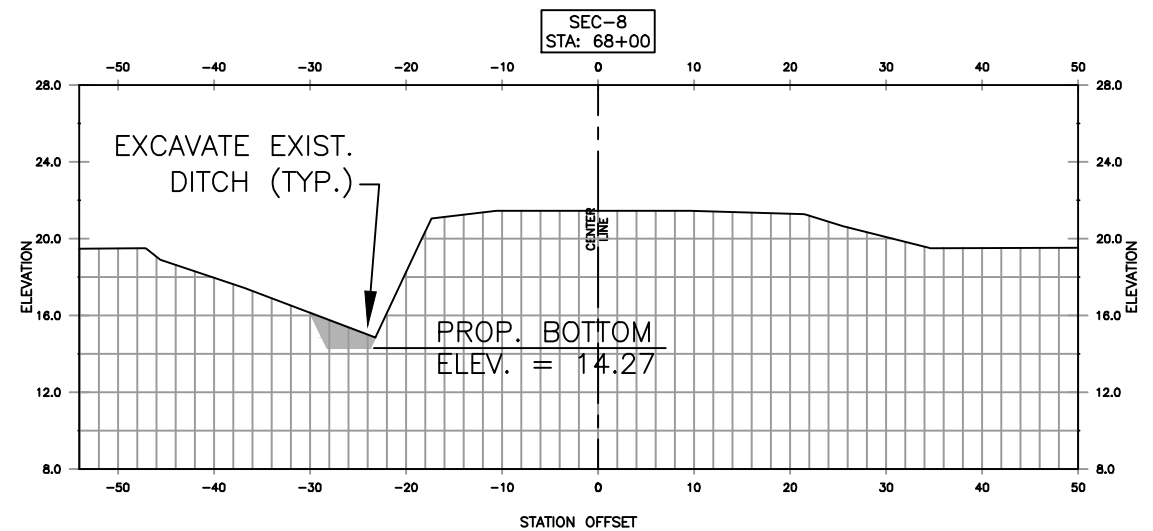
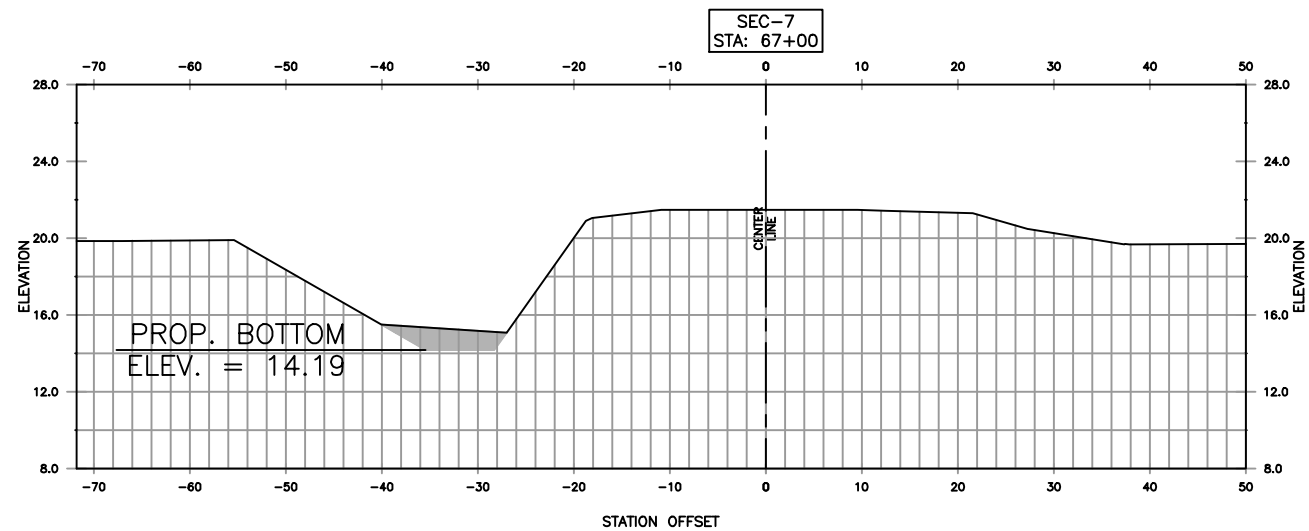
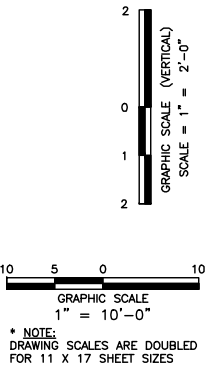
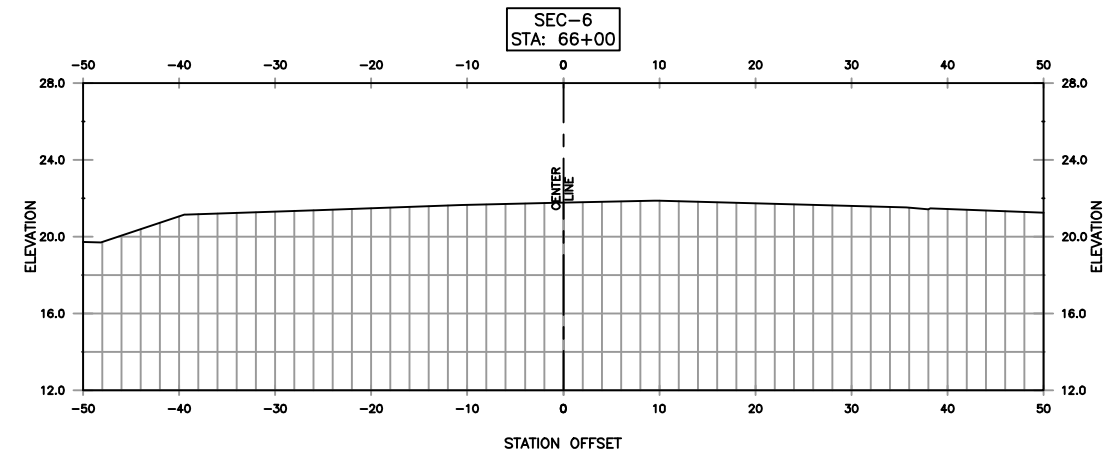
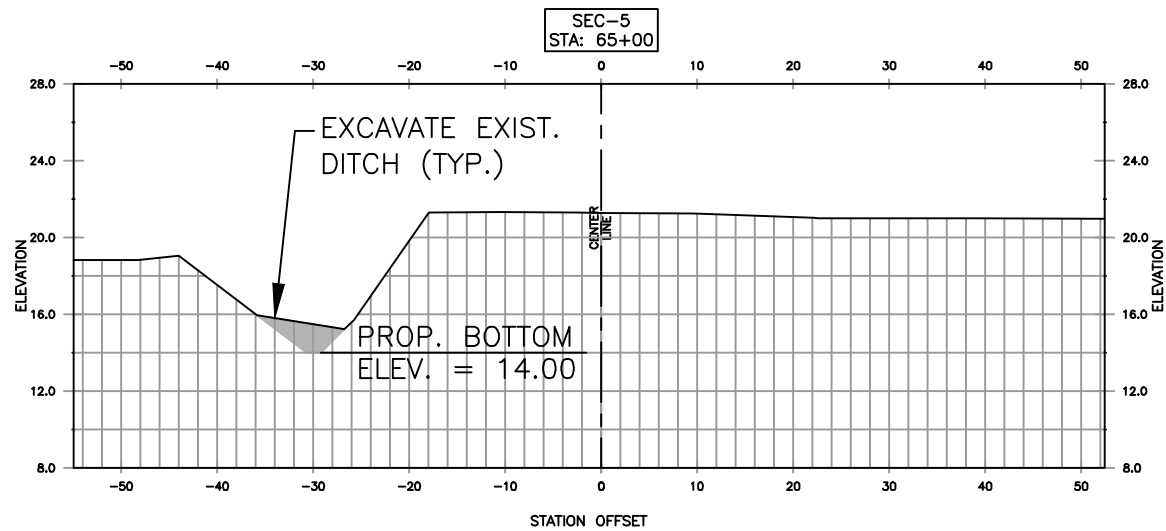
CRAIG A. SMITH & ASSOCIATES
CONSULTING ENGINEERS-PLANNERS-SURVEYORS
7777 GLADES ROAD, SUITE 410
BOCA RATON, FLORIDA 33434
(561)791-9280
CERTIFICATE NO. LB0003110

PREPARED FOR:
OKEECHOBEE COUNTY

S.W. DRAINAGE
IMPROVEMENTS
SECTION CUTS

FILE NAME: 24-0429-C-20-SEC.dwg
LAST SAVED: 07/31/08 - 4:31pm
SCALE: AS SHOWN
PROJECT: 00-0903-429

SHEET
C-20



FOR BIDDING PURPOSES ONLY

NO.	DATE	REVISION	BY

Date: 10/16/07
 Designed: WT
 Drawn: MM
 Checked: OAR

APPROVED BY: ORLANDO A. RUBIO, P.E.
 DATE: _____
 FLORIDA PROFESSIONAL ENGINEER NO. 48265

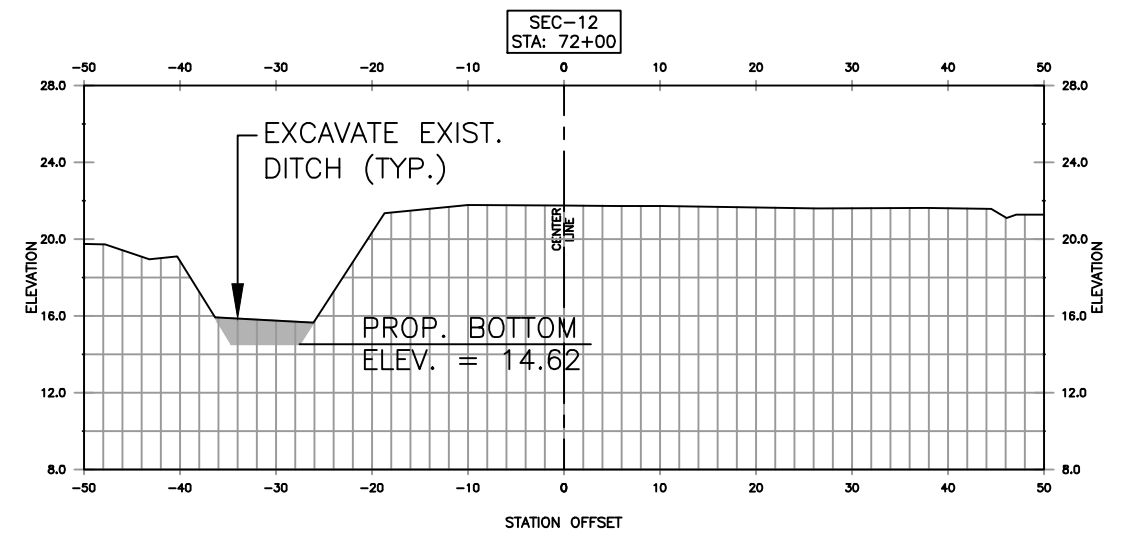
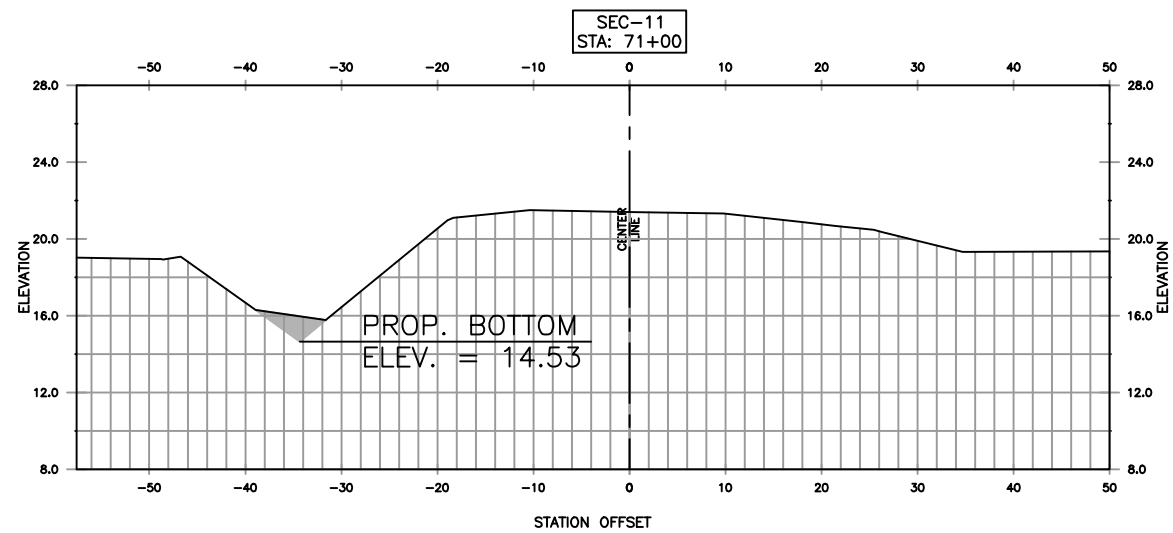
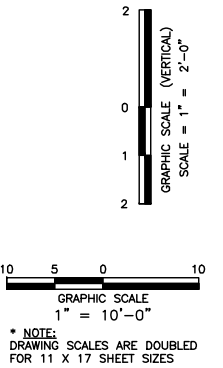
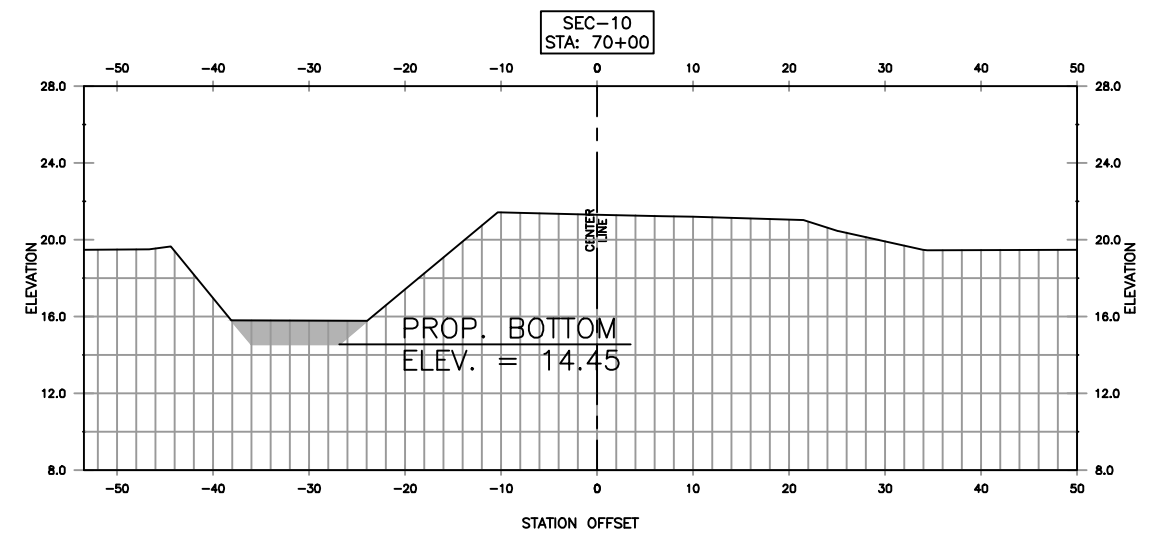
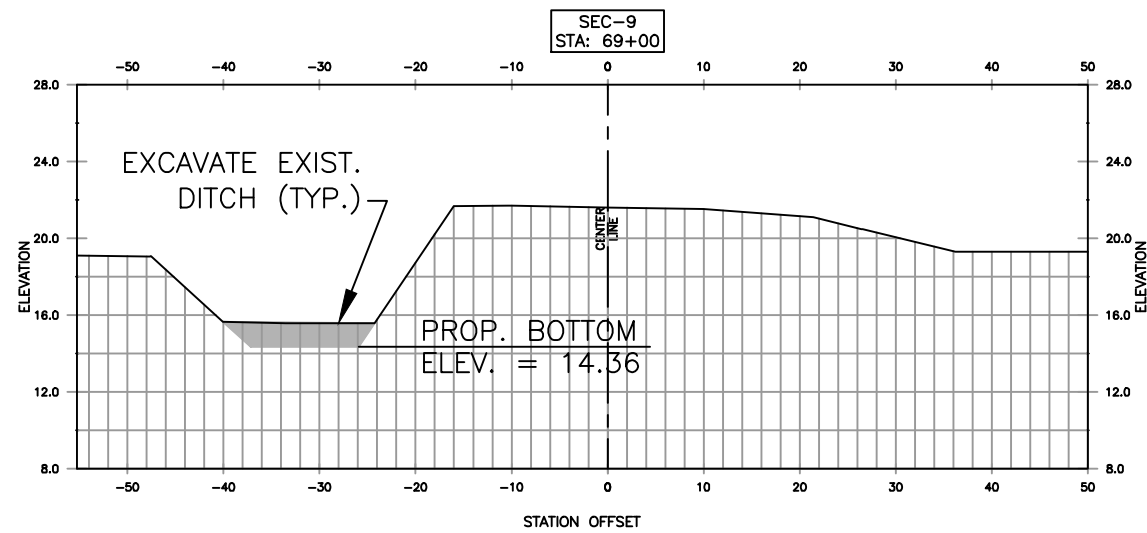
CRAIG A. SMITH & ASSOCIATES
 CONSULTING ENGINEERS-PLANNERS-SURVEYORS
 7777 GLADES ROAD, SUITE 410
 BOCA RATON, FLORIDA 33434
 (561)791-9280
 CERTIFICATE NO. LB0003110

PREPARED FOR:
OKEECHOBEE COUNTY

S.W. DRAINAGE
 IMPROVEMENTS
 SECTION CUTS

FILE NAME: 25-0429-C-21-SEC.dwg
 LAST SAVED: 07/31/08 - 4:48pm
 SCALE: AS SHOWN
 PROJECT: 00-0903-429

SHEET
C-21



FOR BIDDING PURPOSES ONLY

NO.	DATE	REVISION	BY

Date: 10/16/07
Designed: WT
Drawn: MM
Checked: OAR

APPROVED BY: ORLANDO A. RUBIO, P.E.
DATE
FLORIDA PROFESSIONAL ENGINEER NO. 48265

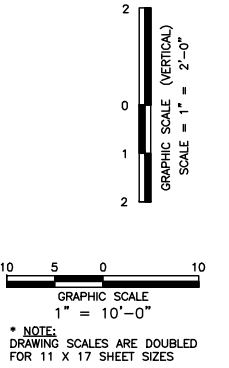
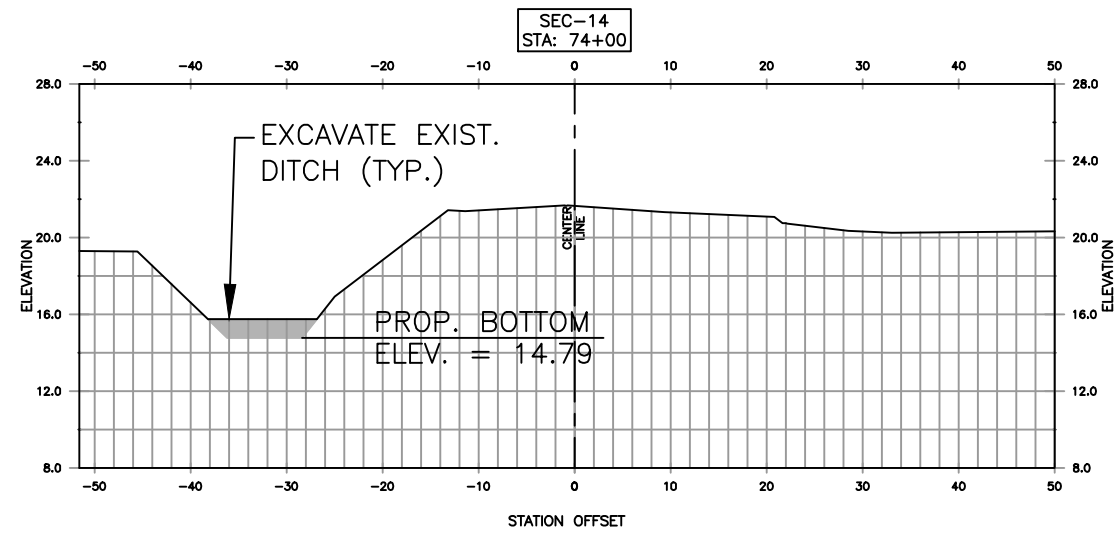
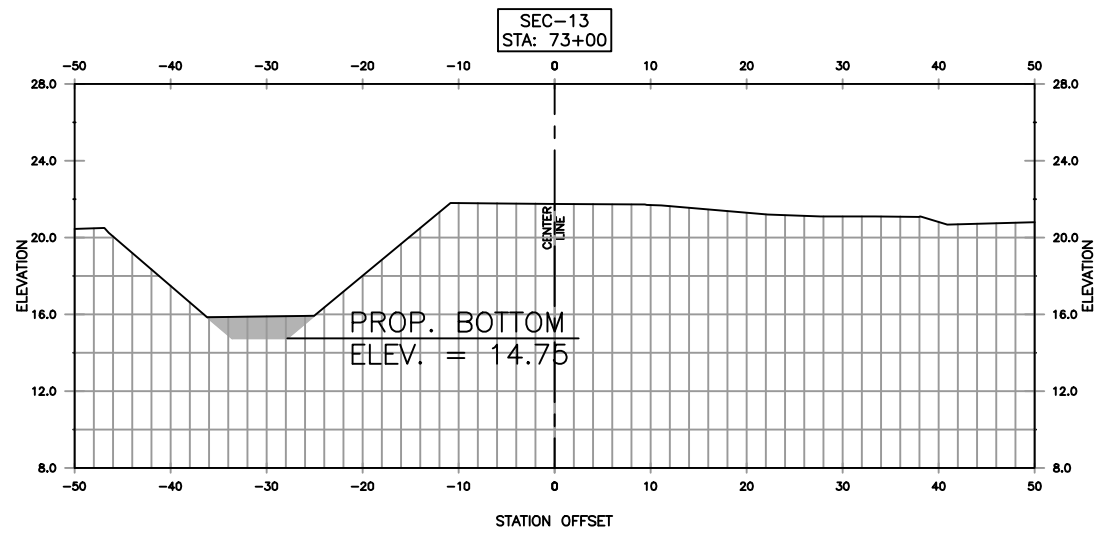
CRAIG A. SMITH & ASSOCIATES
CONSULTING ENGINEERS-PLANNERS-SURVEYORS
7777 GLADES ROAD, SUITE 410
BOCA RATON, FLORIDA 33434
(561)791-9280
CERTIFICATE NO. LB0003110

PREPARED FOR:
OKEECHOBEE COUNTY

S.W. DRAINAGE
IMPROVEMENTS
SECTION CUTS

FILE NAME: 26-0429-C-22-SEC.dwg
LAST SAVED: 07/31/08 - 4:52pm
SCALE AS SHOWN
PROJECT 00-0903-429

SHEET
C-22



FOR BIDDING PURPOSES ONLY

NO.	DATE	REVISION	BY

Date: 10/16/07
Designed: WT
Drawn: MM
Checked: OAR

APPROVED BY: ORLANDO A. RUBIO, P.E.
DATE
FLORIDA PROFESSIONAL ENGINEER NO. 48265

CRAIG A. SMITH & ASSOCIATES
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BOCA RATON, FLORIDA 33434
(561)791-9280
CERTIFICATE NO. LB0003110

PREPARED FOR:
OKEECHOBEE COUNTY

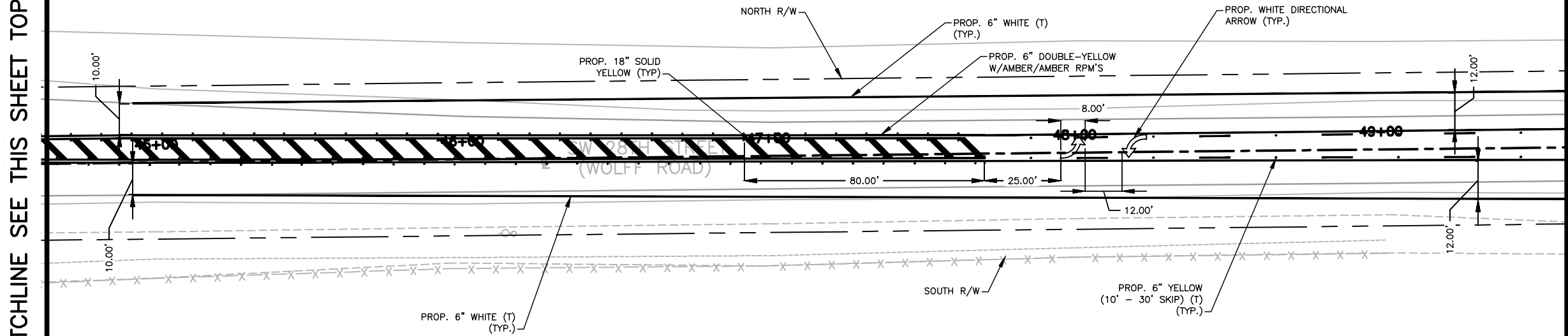
S.W. DRAINAGE
IMPROVEMENTS
SECTION CUTS

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LAST SAVED: 07/31/08 - 4:55pm
SCALE
AS SHOWN
PROJECT
00-0903-429

SHEET
C-23

\\craiga\0909100-SW Drainage\Engineering\Plans\28-0429-C-24\HWS.dwg, 07/10/2010 12:33:00 PM, cadd, 112

MATCHLINE SEE THIS SHEET TOP RIGHT



MATCHLINE SEE SHEET C-21 STA.49+60.63

SIGNING AND PAVEMENT MARKINGS NOTES:

1. HIGHWAYS* AND FDOT STANDARDS (LATEST EDITION). THE *MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND ALL PAVEMENT MARKING AND SIGNING SHALL BE IN ACCORDANCE WITH FDOT STANDARDS THERMOPLASTIC.
2. TEMPORARY MARKINGS TO BE TRAFFIC PAINT PER ALL PAVEMENT MARKINGS SHALL BE HIGH INTENSITY REFLECTORIZED
3. ALL EXISTING SIGNS SHALL BE REMOVED AND REPLACED PER FDOT INDEX No. 17302.

PAVEMENT MARKING AND STRIPING NOTES

1. PAVEMENT MARKINGS, REFLECTIVE PAVEMENT MARKERS AND GEOMETRICS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (MUTCD).
2. ALL PAVEMENT MARKINGS WITHIN PUBLIC RIGHT-OF-WAYS SHALL BE REFLECTORIZED THERMOPLASTIC.
3. ALL EXISTING PAVEMENT MARKINGS IN CONFLICT WITH PROPOSED DESIGN SHALL BE REMOVED. METHOD OF REMOVAL TO BE APPROVED BY THE COUNTY ENGINEERING DEPARTMENT (BCTED).
4. ALL R1-1 SIGNS SHALL HAVE HIGH INTENSITY SHEETING.
5. ALL TEMPORARY PAVEMENT MARKINGS WITHIN PUBLIC RIGHT-OF-WAYS SHALL BE PAINT IN ACCORDANCE WITH MINIMUM STANDARDS UNLESS OTHERWISE NOTED EXCEPT ON FINAL LIFT WHICH SHALL BE FOIL BACK TAPE OR PAPER TAPE.

BIDDING PURPOSES ONLY

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Checked: OAR

APPROVED BY: ORLANDO A. RUBIO, P.E.
DATE: _____
FLORIDA PROFESSIONAL ENGINEER NO. 48265

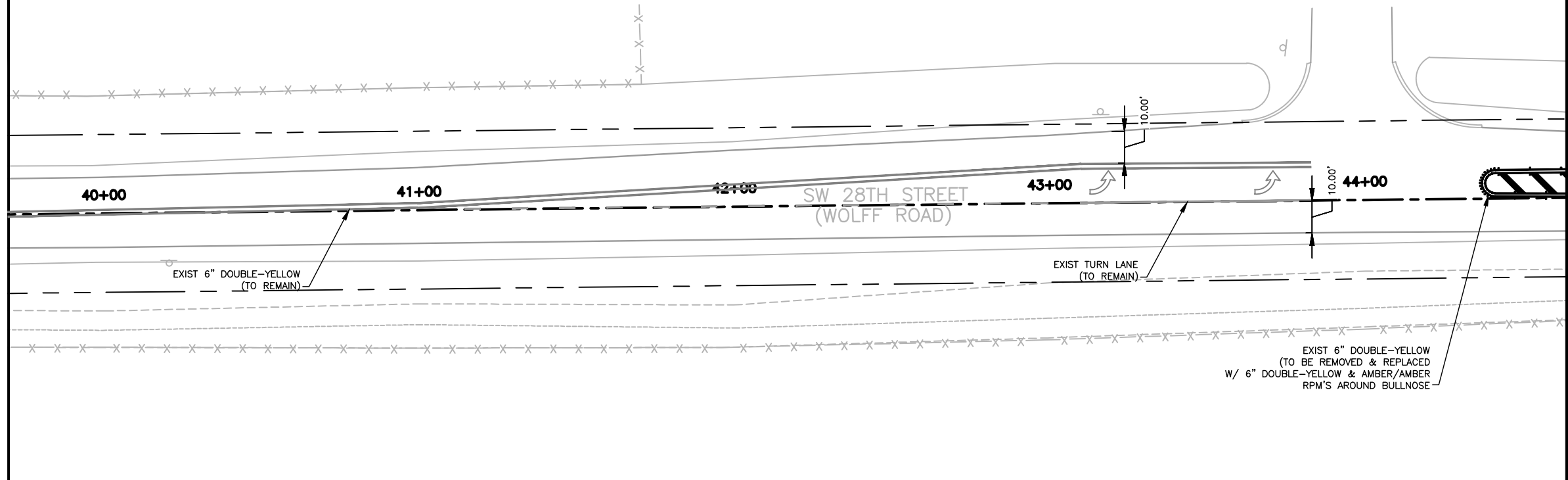
CRAIG A. SMITH & ASSOCIATES
CONSULTING ENGINEERS-PLANNERS-SURVEYORS
7777 GLADES ROAD, SUITE 410
BOCA RATON, FLORIDA 33434
(561)791-9280
CERTIFICATE NO. LB0003110

PREPARED FOR:
OKEECHOBEE COUNTY

S.W. DRAINAGE
IMPROVEMENTS
STRIPING PLAN

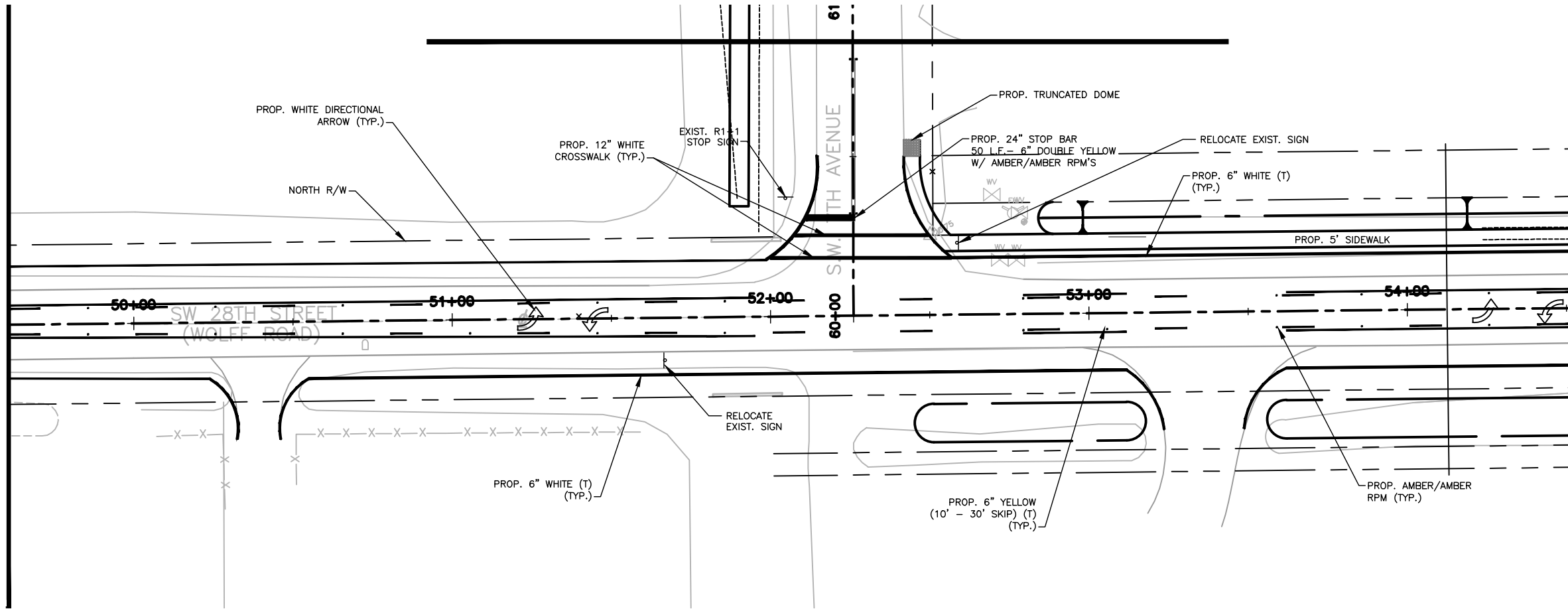
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PROJECT: 00-0903-429

SHEET
C-24

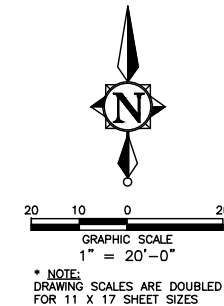


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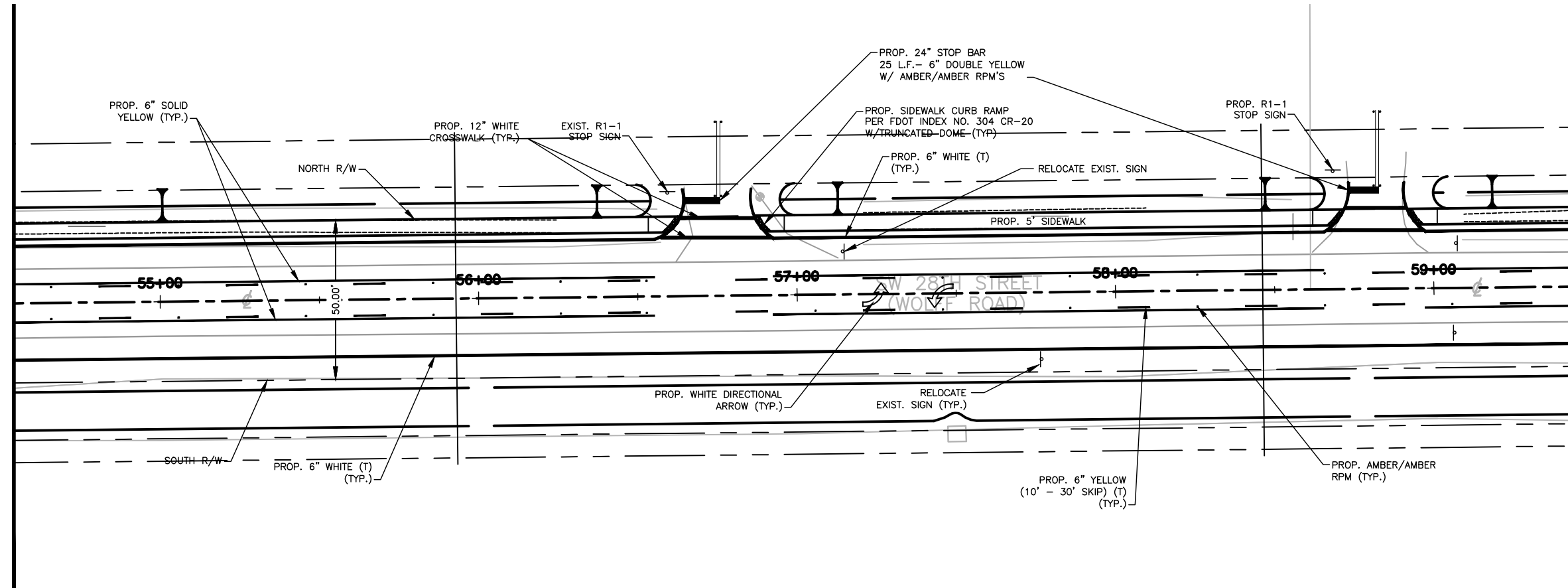
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MATCHLINE SEE THIS SHEET TOP RIGHT



MATCHLINE SEE SHEET C-22 STA.59+47.41

SIGNING AND PAVEMENT MARKINGS NOTES:

1. HIGHWAYS* AND FDOT STANDARDS (LATEST EDITION), THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND ALL PAVEMENT MARKING AND SIGNING SHALL BE IN ACCORDANCE WITH FDOT STANDARDS THERMOPLASTIC.
2. TEMPORARY MARKINGS TO BE TRAFFIC PAINT PER ALL PAVEMENT MARKINGS SHALL BE HIGH INTENSITY REFLECTORIZED
3. ALL EXISTING SIGNS SHALL BE REMOVED AND REPLACED PER FDOT INDEX No. 17302.

PAVEMENT MARKING AND STRIPING NOTES

1. PAVEMENT MARKINGS, REFLECTIVE PAVEMENT MARKERS AND GEOMETRICS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (MUTCD).
2. ALL PAVEMENT MARKINGS WITHIN PUBLIC RIGHT-OF-WAYS SHALL BE REFLECTORIZED THERMOPLASTIC.
3. ALL EXISTING PAVEMENT MARKINGS IN CONFLICT WITH PROPOSED DESIGN SHALL BE REMOVED. METHOD OF REMOVAL TO BE APPROVED BY THE COUNTY ENGINEERING DEPARTMENT (BCTED).
4. ALL R1-1 SIGNS SHALL HAVE HIGH INTENSITY SHEETING.
5. ALL TEMPORARY PAVEMENT MARKINGS WITHIN PUBLIC RIGHT-OF-WAYS SHALL BE PAINT IN ACCORDANCE WITH MINIMUM STANDARDS UNLESS OTHERWISE NOTED EXCEPT ON FINAL LIFT WHICH SHALL BE FOIL BACK TAPE OR PAPER TAPE.

BIDDING PURPOSES ONLY

\\craiga\002100-SW Drainage\Engineering\Plans\29-0429-C-25-PMS.dwg, 07/10/2010 12:55:12 PM, cadd, 1:2

NO.	DATE	REVISION	BY

Date: 10/16/07
Designed: WT
Drawn: MM
Checked: OAR

APPROVED BY: ORLANDO A. RUBIO, P.E.
DATE: _____
FLORIDA PROFESSIONAL ENGINEER NO. 48265

CRAIG A. SMITH & ASSOCIATES
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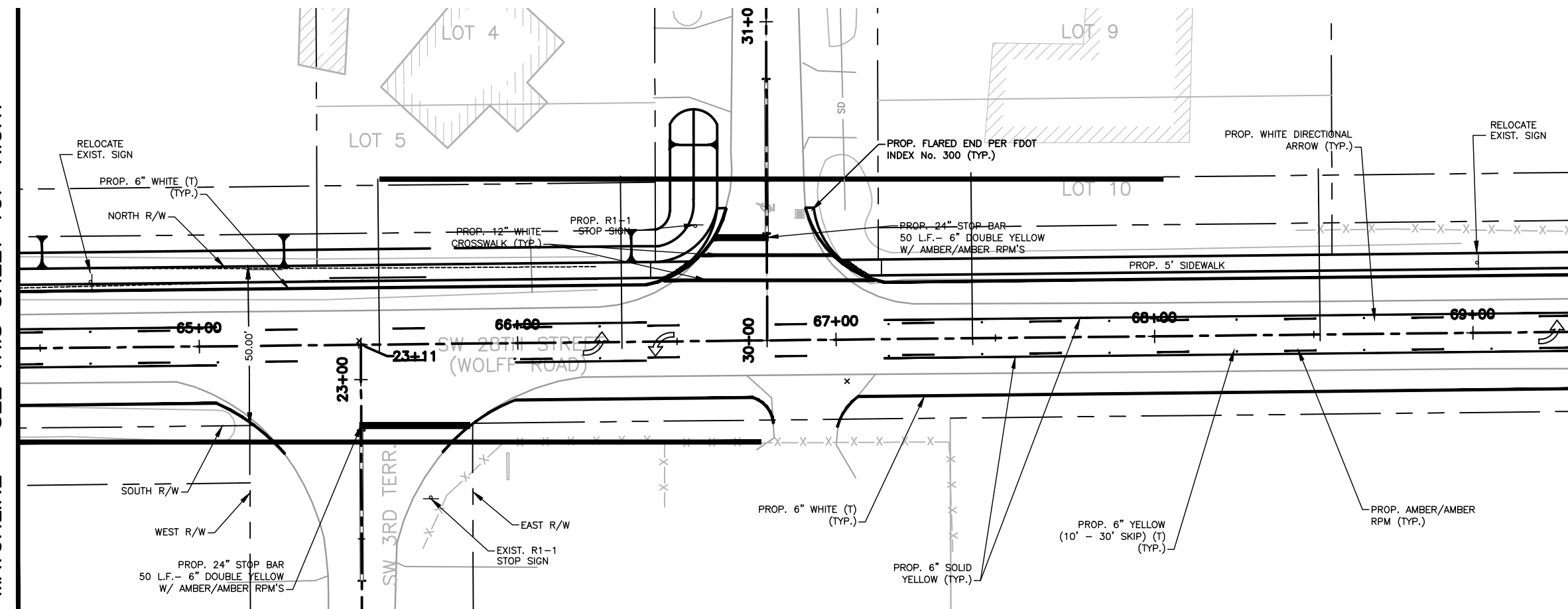
PREPARED FOR:
OKEECHOBEE COUNTY

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IMPROVEMENTS
STRIPING PLAN

FILE NAME: 29-0429-C-25-PMS.dwg
LAST SAVED: 07/31/08 - 4:59pm
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PROJECT: 00-0903-429

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C-25

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MATCHLINE SEE SHEET C-23 STA. 69+36.32



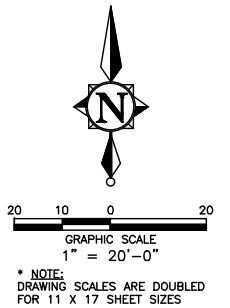
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PAVEMENT MARKING AND STRIPING NOTES

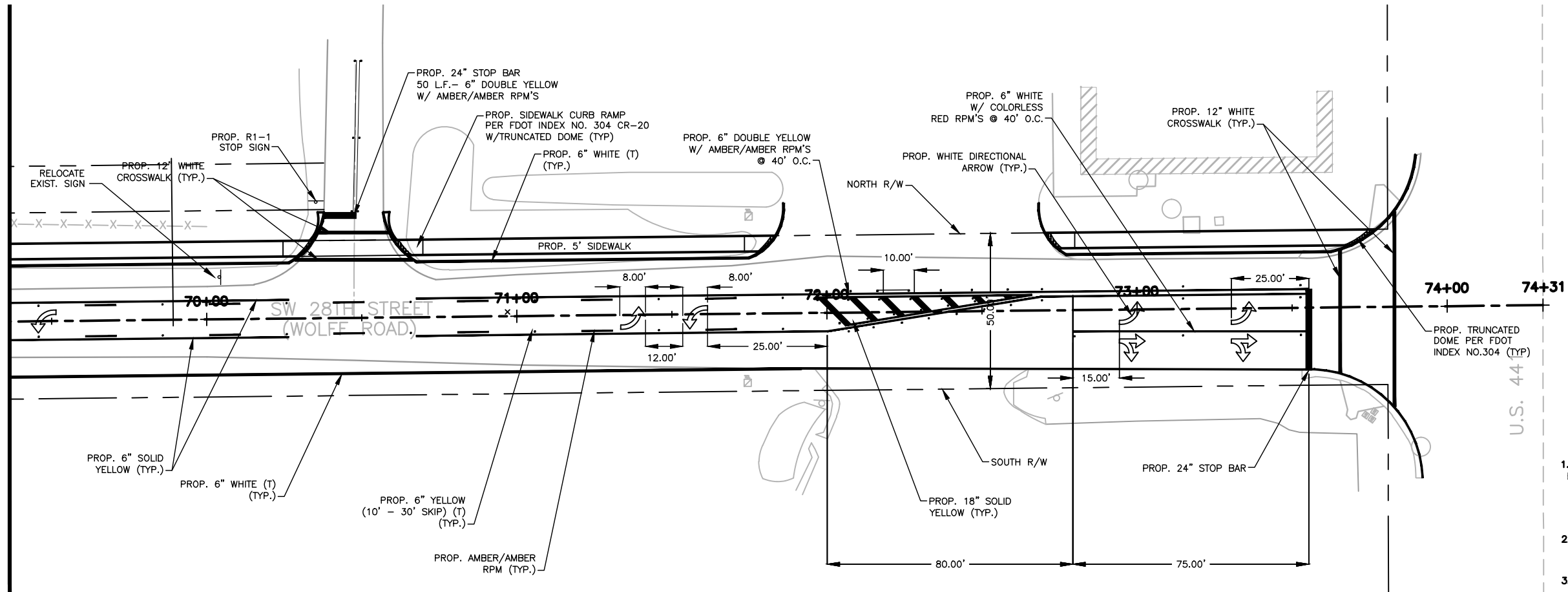
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BIDDING PURPOSES ONLY

SHEET
C-20



MATCHLINE SEE SHEET C-22 STA. 69+36.32



SIGNING AND PAVEMENT MARKINGS NOTES:

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NO.	DATE	REVISION	BY

Date: 10/16/07
Designed: WT
Drawn: MM
Checked: OAR

APPROVED BY: ORLANDO A. RUBIO, P.E.
DATE: _____
FLORIDA PROFESSIONAL ENGINEER NO. 48265

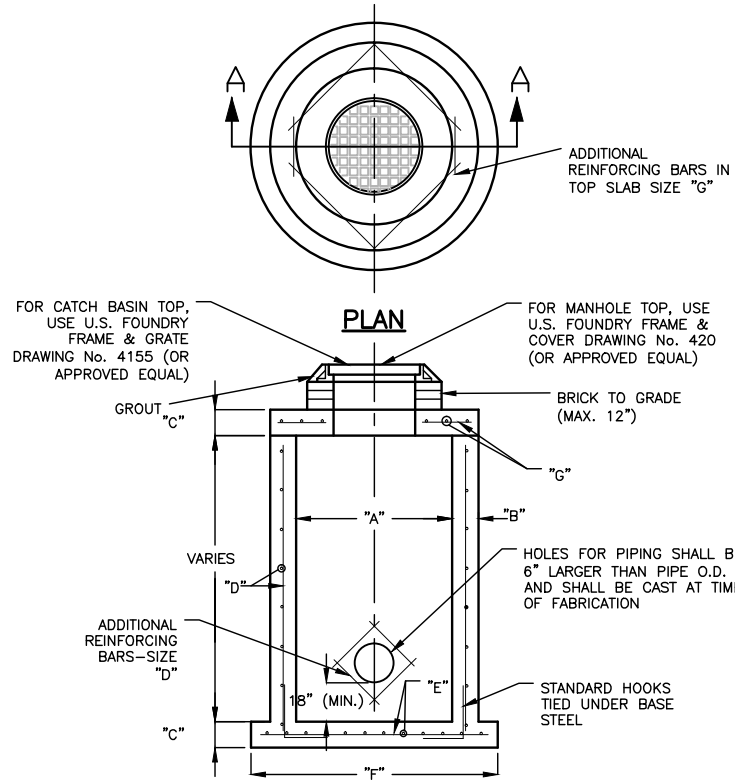
CRAIG A. SMITH & ASSOCIATES
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7777 GLADES ROAD, SUITE 410
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(561) 791-9280
CERTIFICATE NO. LB0003110

PREPARED FOR:
OKEECHOBEE COUNTY

S.W. DRAINAGE
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STRIPING PLAN

FILE NAME: 31-0429-C-27-PMS.dwg
LAST SAVED: 04/23/10 - 9:47am
SCALE: AS SHOWN
PROJECT: 00-0903-429

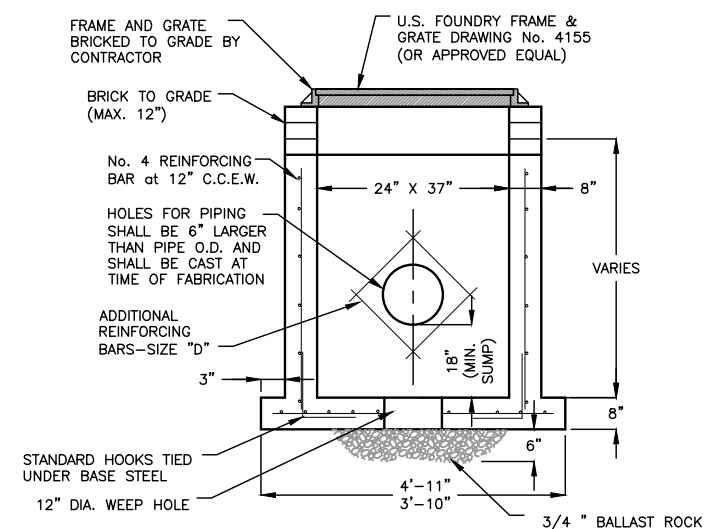
SHEET
C-27



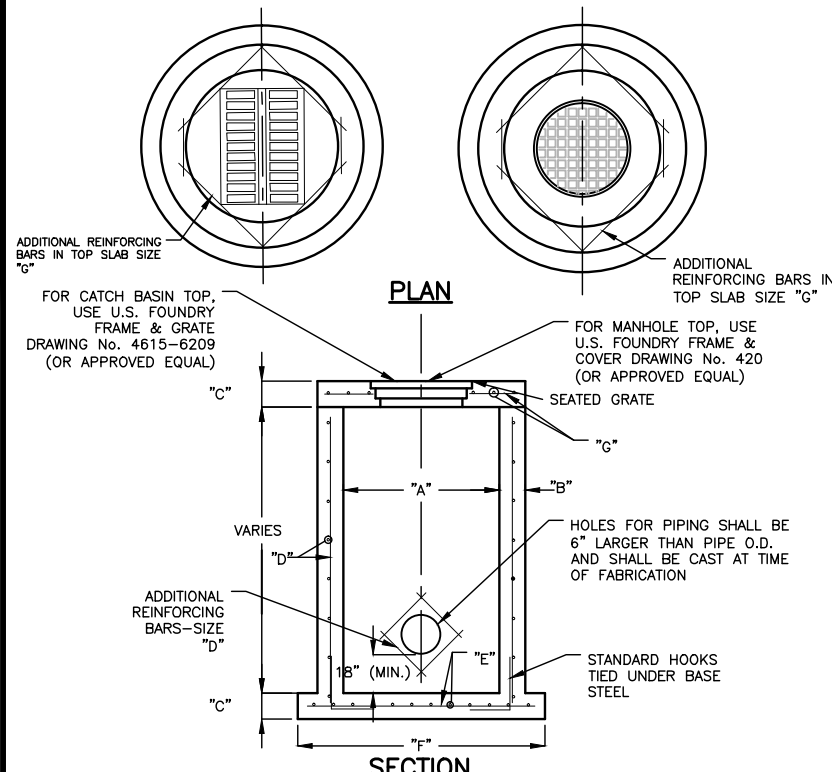
PRECAST DRAINAGE MANHOLE/CATCH BASIN

TYPE	"A"	"B"	"C"	"D"	"E"	"F"	"G"
C-4 / M-4	4'-0"	8"	8"	#4 @ 12" C.C.E.W.	#4 @ 12" C.C.E.W.	6'-4"DIA	#4 @ 6" C.C.E.W.
C-5 / M-5	5'-0"	8"	8"	#5 @ 12" C.C.E.W.	#5 @ 12" C.C.E.W.	7'-4"DIA	#5 @ 8" C.C.E.W.
C-6 / M-6	6'-0"	8"	10"	#5 @ 12" C.C.E.W.	#5 @ 6" C.C.E.W.	8'-4"DIA	#5 @ 6" C.C.E.W.
C-7 / M-7	7'-0"	8"	10"	#5 @ 12" C.C.E.W.	#5 @ 6" C.C.E.W.	9'-4"DIA	#5 @ 6" C.C.E.W.
C-8 / M-8	8'-0"	10"	10"	2-W.W.M.W./#4 @ 12" C.C. VERT.	#5 @ 6" C.C.E.W.	10'-8"DIA	#5 @ 6" C.C.E.W.

PRECAST DRAINAGE STRUCTURE



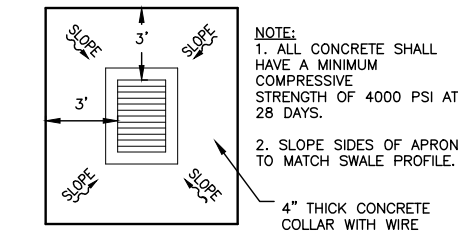
TYPICAL PRECAST TYPE "C-A" CATCH BASIN



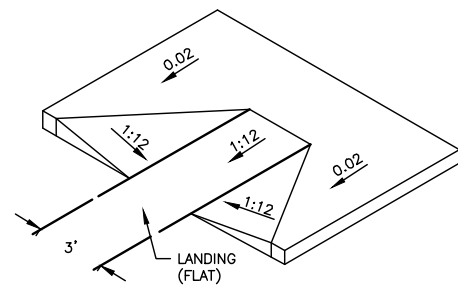
PRECAST DRAINAGE MANHOLE/CATCH BASIN

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C-4 / M-4	4'-0"	8"	8"	#4 @ 12" C.C.E.W.	#4 @ 12" C.C.E.W.	6'-4"DIA	#4 @ 6" C.C.E.W.
C-5 / M-5	5'-0"	8"	8"	#5 @ 12" C.C.E.W.	#5 @ 12" C.C.E.W.	7'-4"DIA	#5 @ 8" C.C.E.W.
C-6 / M-6	6'-0"	8"	10"	#5 @ 12" C.C.E.W.	#5 @ 6" C.C.E.W.	8'-4"DIA	#5 @ 6" C.C.E.W.
C-7 / M-7	7'-0"	8"	10"	#5 @ 12" C.C.E.W.	#5 @ 6" C.C.E.W.	9'-4"DIA	#5 @ 6" C.C.E.W.
C-8 / M-8	8'-0"	10"	10"	2-W.W.M.W./#4 @ 12" C.C. VERT.	#5 @ 6" C.C.E.W.	10'-8"DIA	#5 @ 6" C.C.E.W.

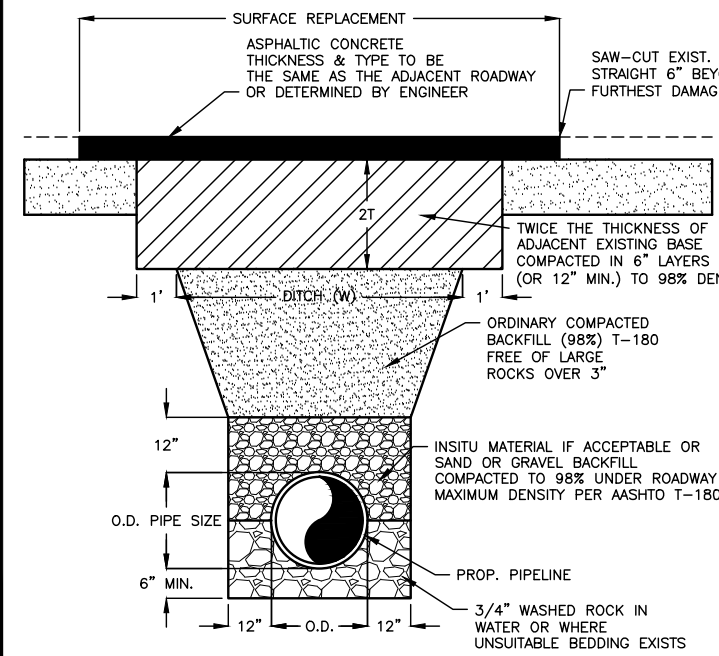
PRECAST DRAINAGE STRUCTURE



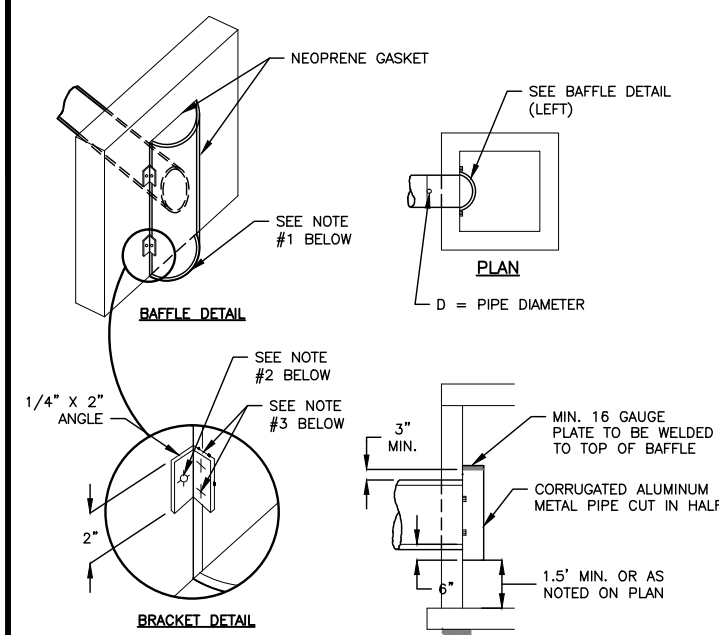
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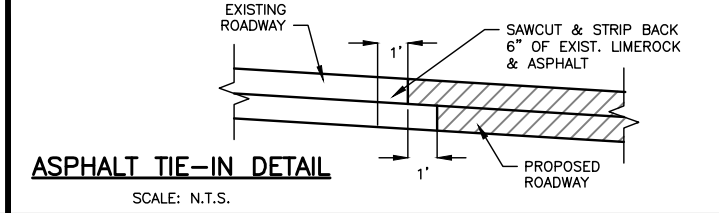
SIDEWALK CURB RAMP DETAIL



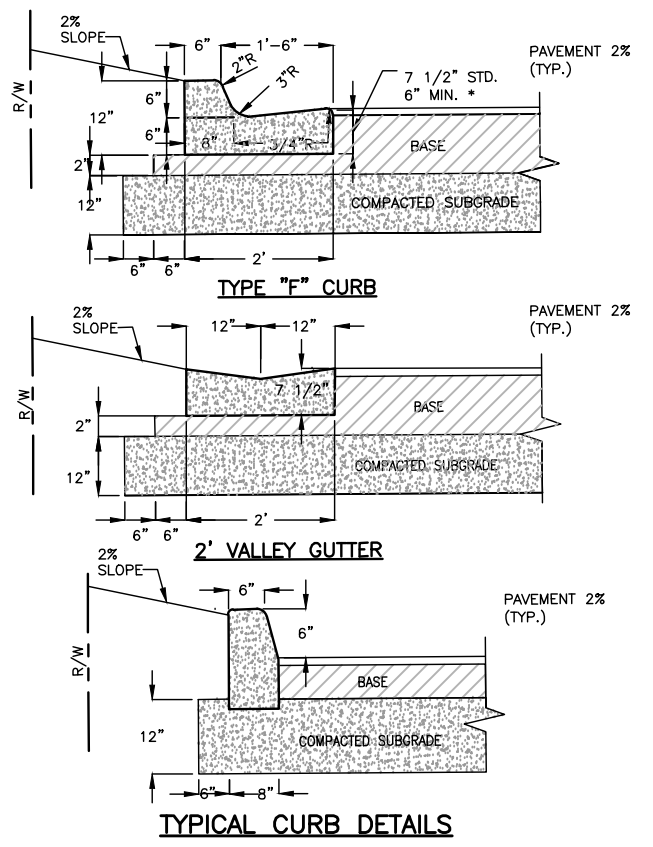
PAVEMENT RESTORATION AND INSTALLATION DETAILS



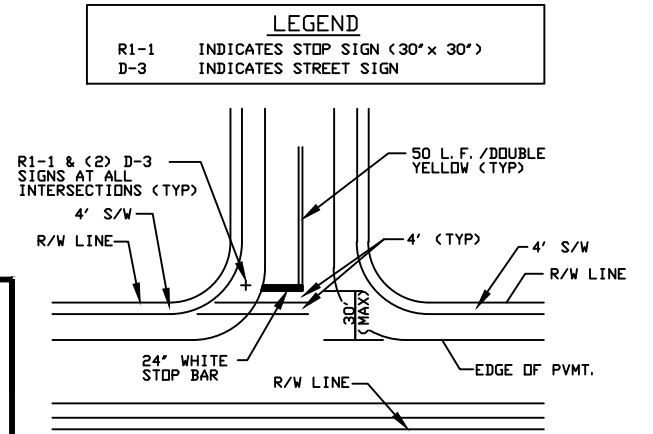
POLLUTION RETARDANT BASIN



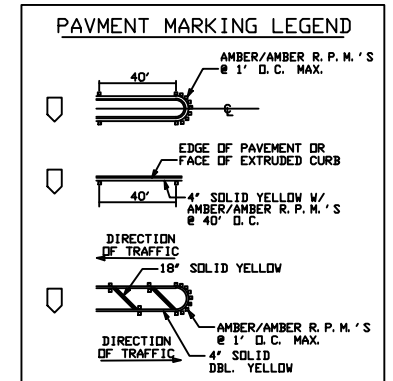
ASPHALT TIE-IN DETAIL



TYPICAL CURB DETAILS



TYPICAL STOP BAR LOCATION DETAIL



FOR BIDDING PURPOSES ONLY

\\0909100-21W-Drainage-Engineering-Files\\22-0429-C-28-0123.dwg, 07/10/2010 10:00:03 PM, cadd, 1:2

NO.	DATE	REVISION	BY

Date:	10/16/07
Designed:	WT
Drawn:	MM
Checked:	OAR

APPROVED BY:	ORLANDO A. RUBIO, P.E.
DATE:	
FLORIDA PROFESSIONAL ENGINEER NO.	48265

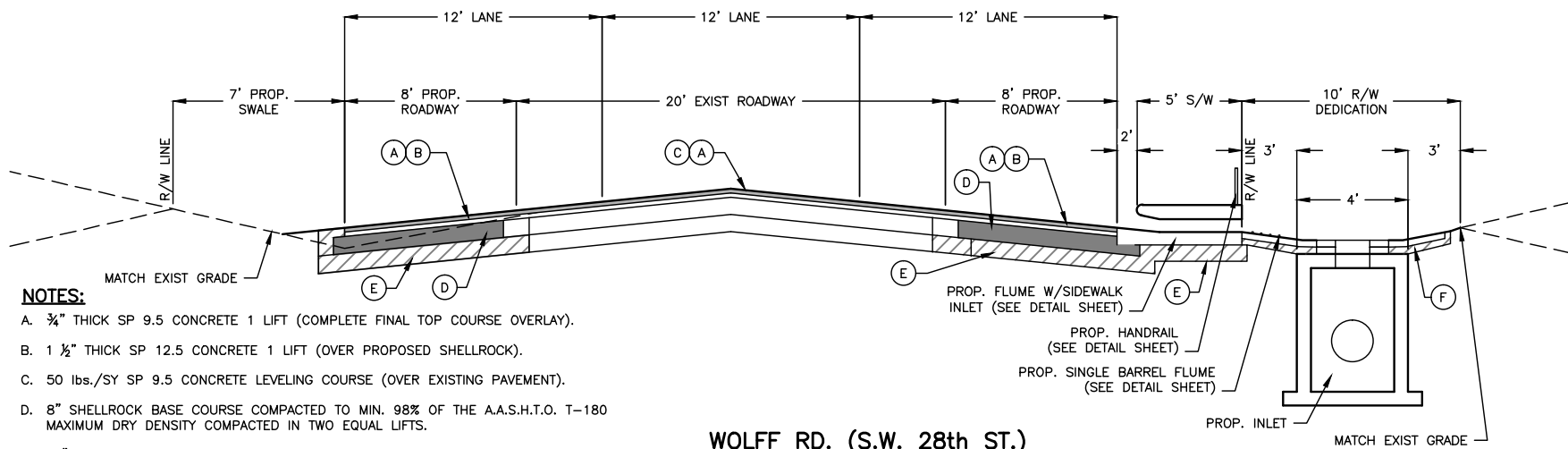
CRAIG A. SMITH & ASSOCIATES
CONSULTING ENGINEERS-PLANNERS-SURVEYORS
7777 GLADES ROAD, SUITE 410
BOCA RATON, FLORIDA 33434
(561)791-9280
CERTIFICATE NO. LB0003110

PREPARED FOR:
OKEECHOBEE COUNTY

S.W. DRAINAGE IMPROVEMENTS
STANDARD DETAILS

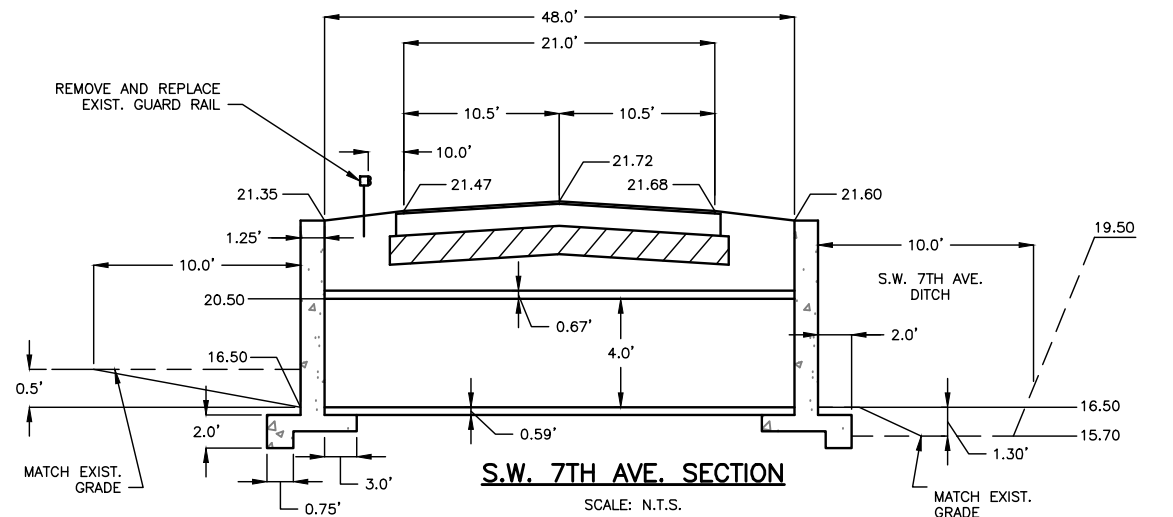
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PROJECT: 00-0903-429

SHEET
C-28



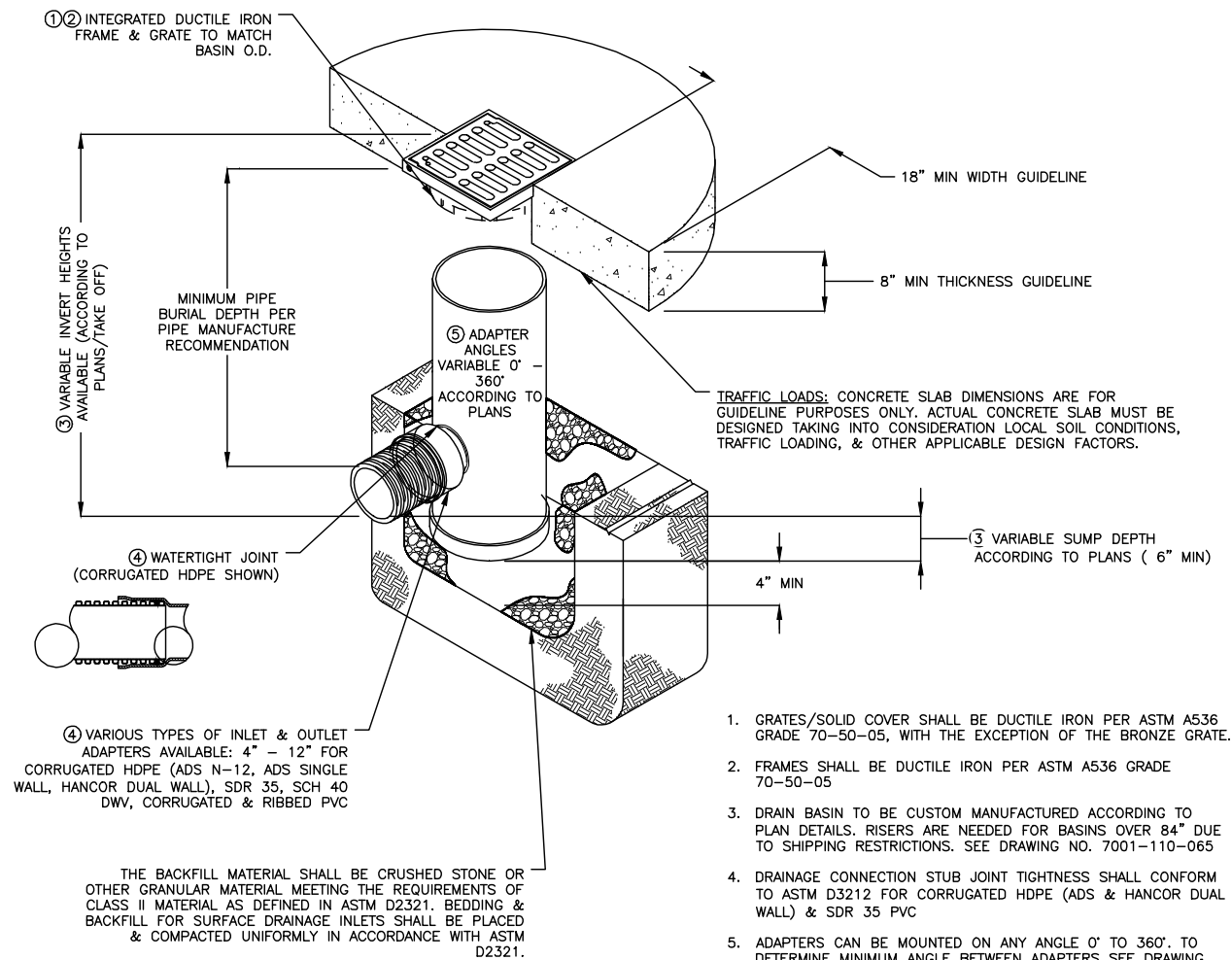
- NOTES:**
- A. ¾" THICK SP 9.5 CONCRETE 1 LIFT (COMPLETE FINAL TOP COURSE OVERLAY).
 - B. 1 ½" THICK SP 12.5 CONCRETE 1 LIFT (OVER PROPOSED SHELLROCK).
 - C. 50 lbs./SY SP 9.5 CONCRETE LEVELING COURSE (OVER EXISTING PAVEMENT).
 - D. 8" SHELLROCK BASE COURSE COMPACTED TO MIN. 98% OF THE A.A.S.H.T.O. T-180 MAXIMUM DRY DENSITY COMPACTED IN TWO EQUAL LIFTS.
 - E. 12" SUBGRADE COMPACTED TO A MIN. 98% OF THE A.A.S.H.T.O. T-180 MAXIMUM DRY DENSITY.
 - F. 6" SHELLROCK BASE COURSE COMPACTED TO MIN. 98% OF THE A.A.S.H.T.O. T-180 MAXIMUM DRY DENSITY.

WOLFF RD. (S.W. 28th ST.)
TYPICAL SECTION
N.T.S.



S.W. 7TH AVE. SECTION
SCALE: N.T.S.

NYLOPLAST 12" DRAIN BASIN: 2812AG_X
SCALE: N.T.S.



1. GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05, WITH THE EXCEPTION OF THE BRONZE GRATE.
2. FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3. DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065
4. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS & HANCOR DUAL WALL) & SDR 35 PVC
5. ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.

GENERAL NOTES:

1. DIRECTION OF TRAFFIC
COLORLESS/RED
1' - 10'-30' SKIP
4' WHITE
2. DIRECTION OF TRAFFIC
4' SOLID YELLOW
1' D. C.
AMBER/AMBER
3. DIRECTION OF TRAFFIC
1'-2'
4' SOLID YELLOW
AMBER/AMBER
4. DIRECTION OF TRAFFIC
18' YELLOW
1' D. C.
4' SOLID DBL YELLOW
DIRECTION OF TRAFFIC
5. ALL STOP BARS TYPICALLY, 4' BEHIND SIDEWALKS
ALL CROSSWALKS WILL BE 10' FROM OUT TO OUT
WITH 12" SOLID WHITE STRIPING.
6. 4' SOLID WHITE
OUTSIDE EDGE OF PAV'T OR
EXTRUDED CURB/GUTTER
4' SOLID DBL YELLOW
AMBER/AMBER
7. 4' SOLID DBL YELLOW
AMBER/AMBER
8. RAISED PAVEMENT MARKERS MUST BE APPLIED WITH EPOXY.
9. DIRECTION OF TRAFFIC
DIRECTION OF TRAFFIC
10. TYPE 'F' CURB & GUTTER
20'
4' SOLID YELLOW
6' MINIMUM
TYPE IV SEPARATOR
AMBER/AMBER

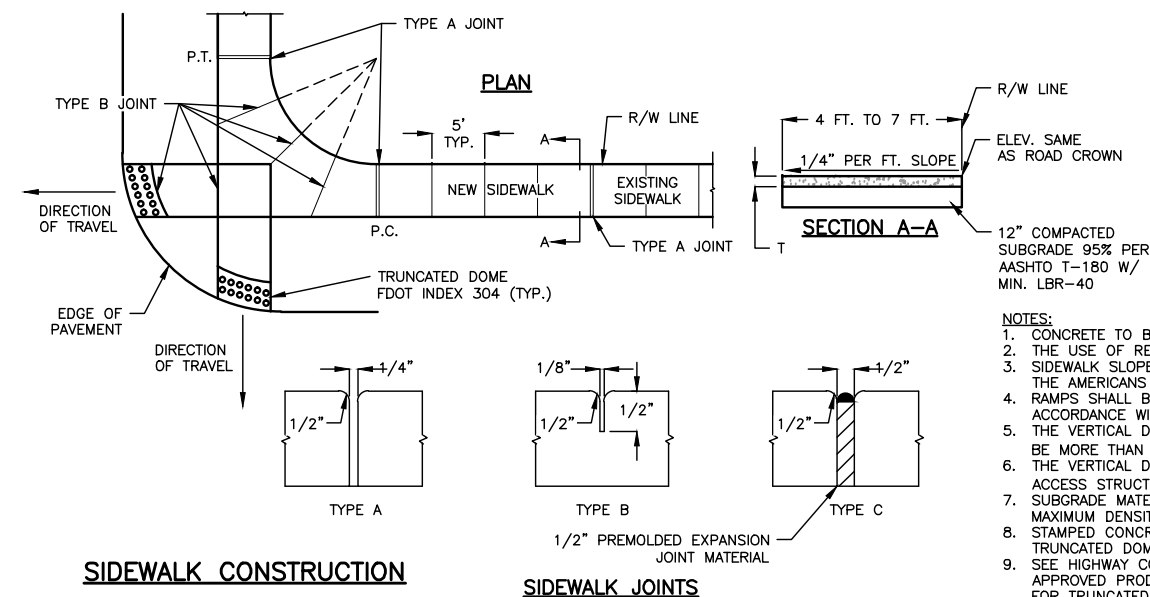


TABLE OF SIDEWALK JOINTS	
LOCATION	
A	P.C. AND P.T. OF CURVES. JUNCTION OF EXISTING AND NEW SIDEWALK
B	5'-0" CENTER TO CENTER ON SIDEWALK
C	WHERE SIDEWALK ABUTS CONCRETE CURBS, DRIVEWAYS, AND SIMILAR STRUCTURES

TABLE OF SIDEWALK THICKNESS - T	
LOCATION	T
RESIDENTIAL AREAS	4"
AT DRIVEWAYS AND OTHER AREAS	6"

- NOTES:**
1. CONCRETE TO BE CLASS 1,3000 P.S.I.
 2. THE USE OF REINFORCEMENT IS NOT PERMITTED
 3. SIDEWALK SLOPES SHALL MEET THE REINFORCEMENTS OF THE AMERICANS WITH DISABILITIES ACT.
 4. RAMPS SHALL BE PROVIDED AT ALL INTERSECTIONS IN ACCORDANCE WITH FDOT INDEX 304.
 5. THE VERTICAL DEVIATION FOR A NEW SIDEWALK SHALL NOT BE MORE THAN 1/4".
 6. THE VERTICAL DEVIATION FOR A NEW MAINTENANCE ACCESS STRUCTURE COVER SHALL NOT BE MORE THAN 1/4".
 7. SUBGRADE MATERIAL SHALL BE COMPACTED TO 100% OF MAXIMUM DENSITY, PER AASHTO T-99.
 8. STAMPED CONCRETE IS NOT ALLOWED IN LIEU OF TRUNCATED DOMES.
 9. SEE HIGHWAY CONSTRUCTION AND ENGINEERING DIVISION APPROVED PRODUCT LIST FOR ACCEPTABLE MATERIALS FOR TRUNCATED DOMES.

FOR BIDDING PURPOSES ONLY

NO.	DATE	REVISION	BY

Date:	10/16/07
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DATE:	
FLORIDA PROFESSIONAL ENGINEER NO.	48265

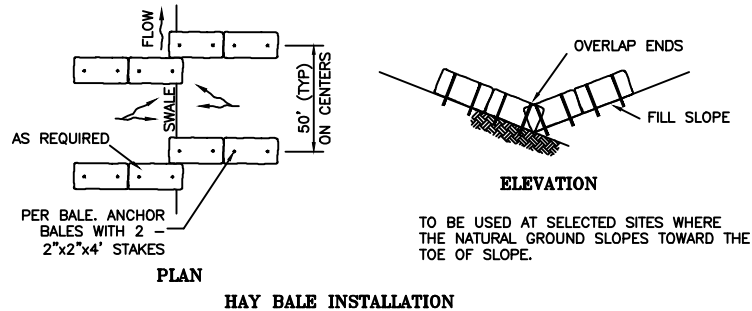
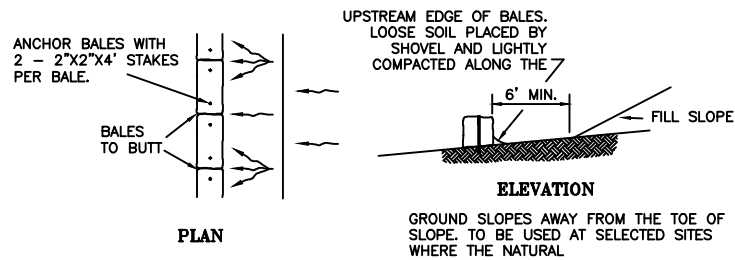
CRAIG A. SMITH & ASSOCIATES	
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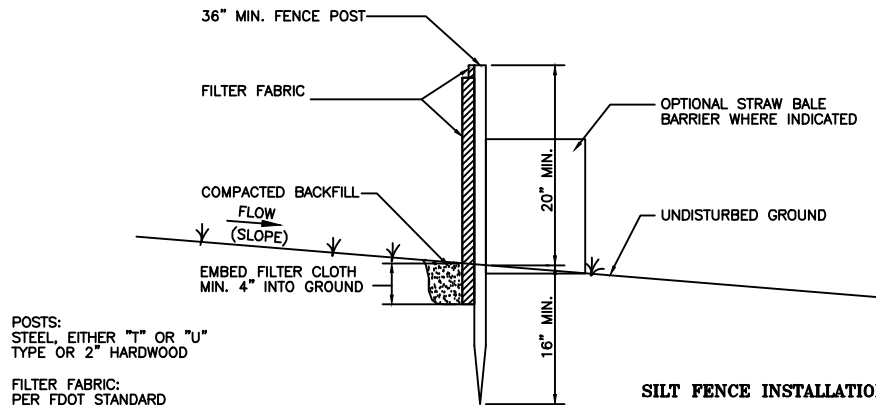
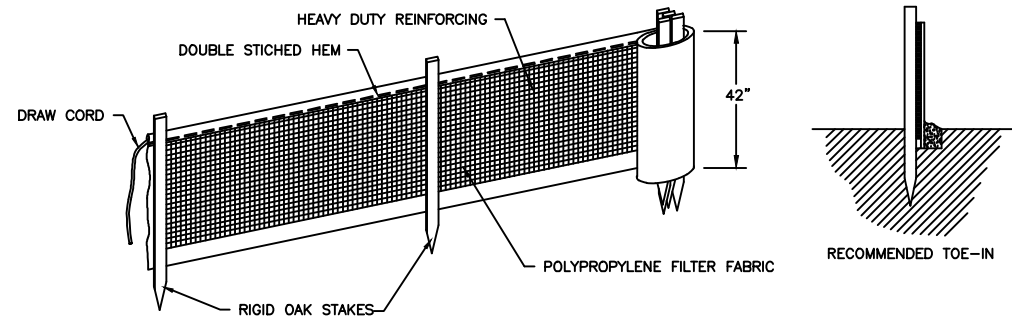
S.W. DRAINAGE IMPROVEMENTS
STANDARD DETAILS

FILE NAME: 33-0429-C-29-DTLS.dwg
LAST SAVED: 04/30/10 - 10:34am
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PROJECT 00-0903-429

SHEET
C-29



HAY BALE INSTALLATION



POSTS:
STEEL, EITHER "T" OR "U"
TYPE OR 2" HARDWOOD

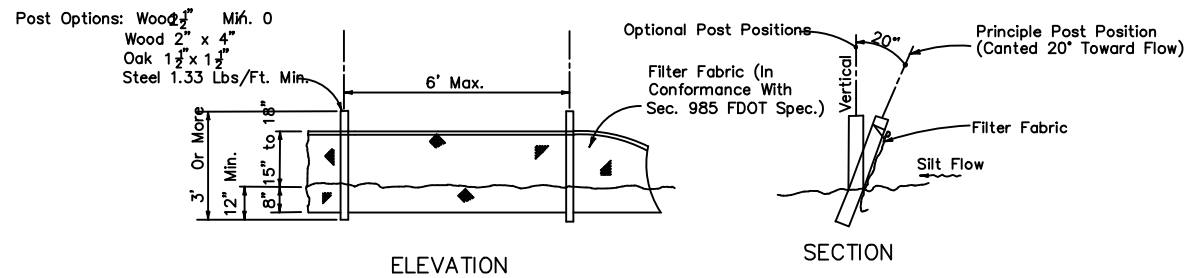
FILTER FABRIC:
PER FDOT STANDARD
SPECIFICATION PER
FDOT INDEX 102

PREFABRICATED UNIT:
GEOFAB, ENVIROFENCE,
OR APPROVED EQUAL

SILT FENCE INSTALLATION

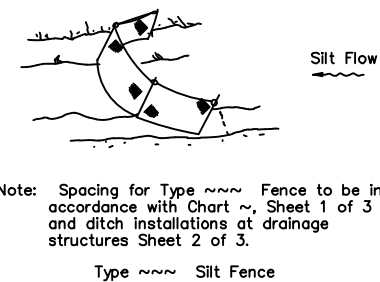
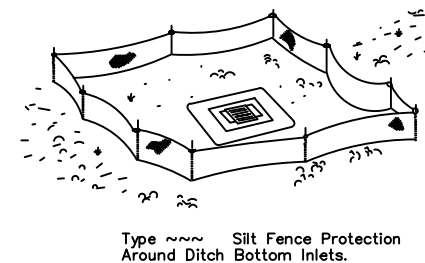
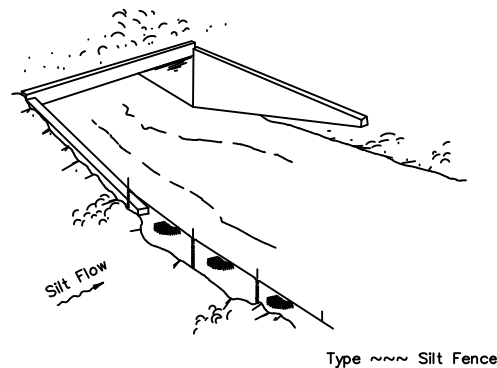
SILT FENCE NOTES:

1. FILTER FABRIC FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO POSTS WITH TIES SPACED EVERY 24 INCHES AT TOP AND MID. SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE OR DEPTH OF ACCUMULATED SEDIMENT REACHES 6 INCHES.
5. SILT FENCE SHALL BE INSTALLED PER MANUFACTURES SPECIFICATIONS PRIOR TO THE START OF CONSTRUCTION AND SHALL NOT BE REMOVED UNTIL CONSTRUCTION IS COMPLETE.
6. THE CONTRACTOR SHALL INSPECT AND REPAIR THE SILT FENCE AFTER EACH RAIN EVENT AND REMOVE SEDIMENT WHEN NECESSARY.
7. REMOVED SEDIMENT SHALL BE DEPOSITED IN AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFFSITE AND CAN BE PERMANENTLY STABILIZED.
8. THE SILT FENCE SHALL BE PLACED ON SLOPE CONTOUR TO MAXIMIZE ITS PONDING EFFICIENCY.
9. IF DITCH LEVEL IS DEEPER THAN 30", THEN A FLOATING SILT SCREEN SHALL BE USED



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

TYPE ~~~ SILT FENCE



Note: Spacing for Type ~~~ Fence to be in accordance with Chart ~, Sheet 1 of 3 and ditch installations at drainage structures Sheet 2 of 3.

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

FOR BIDDING PURPOSES ONLY

NO.	DATE	REVISION	BY

Date:	10/16/07
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Drawn:	MM
Checked:	OAR

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DATE	
FLORIDA PROFESSIONAL ENGINEER NO.	48265

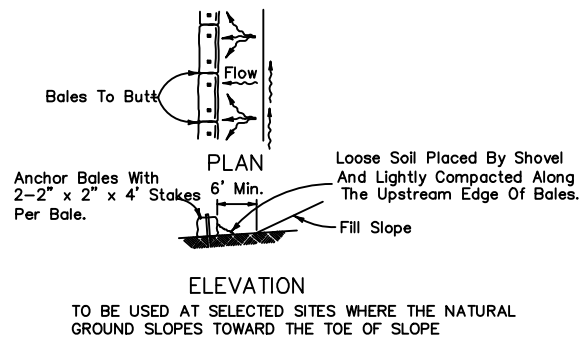
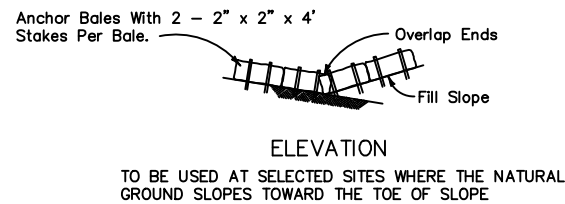
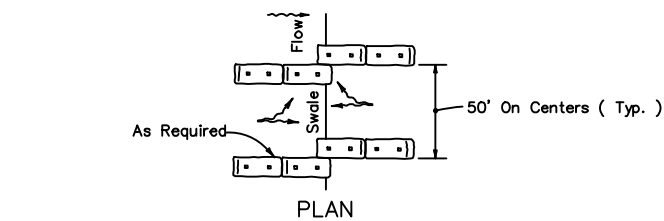
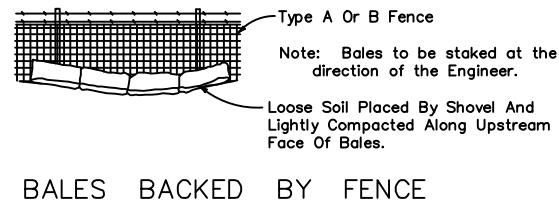
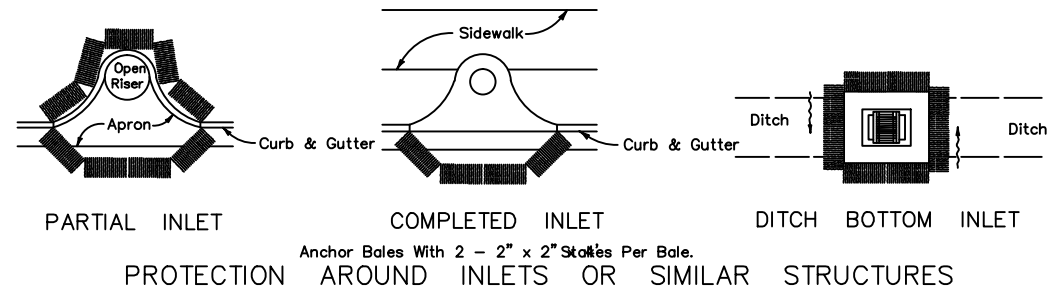
CRAIG A. SMITH & ASSOCIATES
CONSULTING ENGINEERS-PLANNERS-SURVEYORS
7777 GLADES ROAD, SUITE 410
BOCA RATON, FLORIDA 33434
(561)791-9280
CERTIFICATE NO. LB0003110

PREPARED FOR:
OKEECHOBEE COUNTY

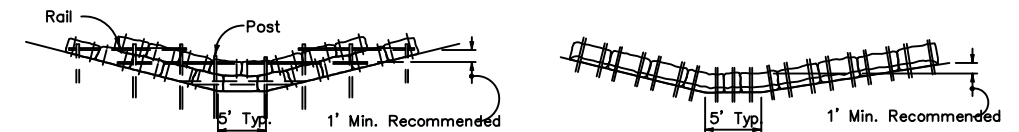
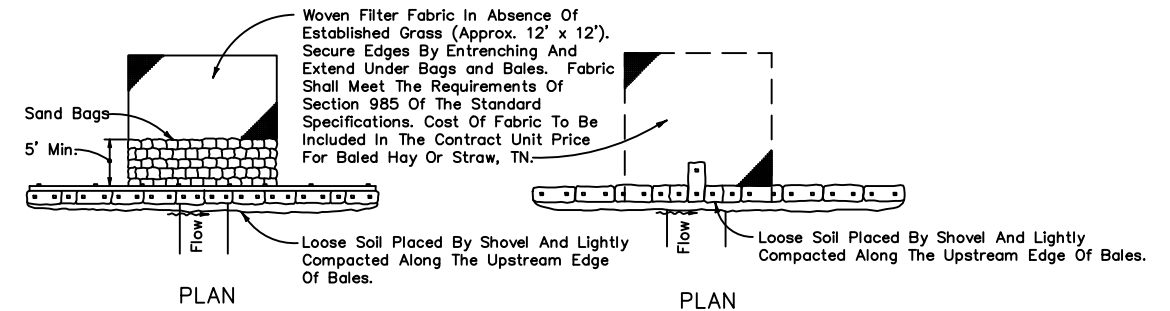
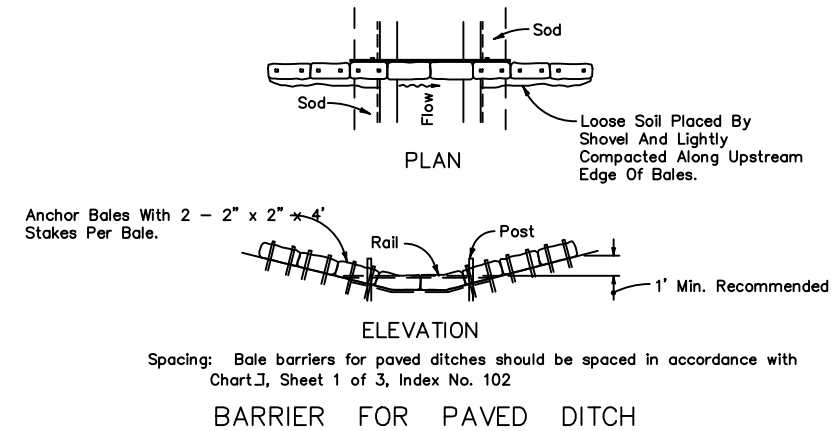
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STANDARD DETAILS

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SCALE AS SHOWN
PROJECT 00-0903-429

SHEET
C-30



BARRIERS FOR FILL SLOPES

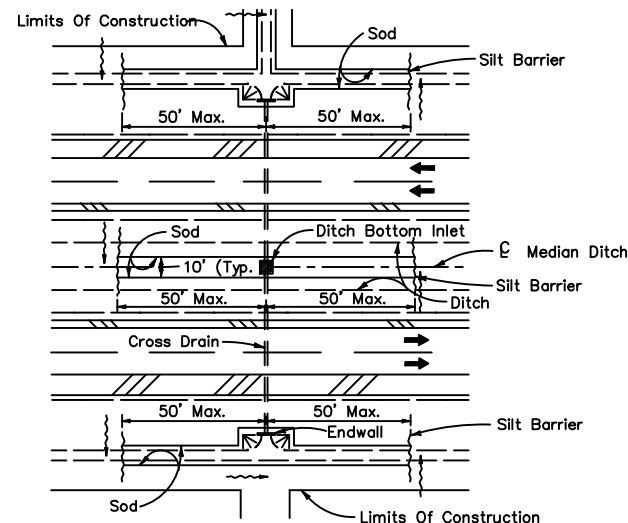


Anchor Lower Bales With 2 - 2" x 2" x 4' Stakes Per Bale.
Anchor Top Bales To Lower Bales With 2 - 2" x 2" x 4' Stakes Per Bale

Application and Spacing: The use of Types I & II bale barriers should be limited to the conditions outlined in Chart I, Sheet 1 of 3, Index No. 102

TYPE II TYPE I

BARRIER FOR UNPAVED DITCHES



FOR BIDDING PURPOSES ONLY

NO.	DATE	REVISION	BY

Date:	10/16/07
Designed:	WT
Drawn:	MM
Checked:	OAR

APPROVED BY:	ORLANDO A. RUBIO, P.E.
DATE:	
FLORIDA PROFESSIONAL ENGINEER NO.	48265

CRAIG A. SMITH & ASSOCIATES
CONSULTING ENGINEERS-PLANNERS-SURVEYORS

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(561) 791-9280
CERTIFICATE NO. LB0003110

PREPARED FOR:

OKEECHOBEE COUNTY

S.W. DRAINAGE IMPROVEMENTS

STANDARD DETAILS

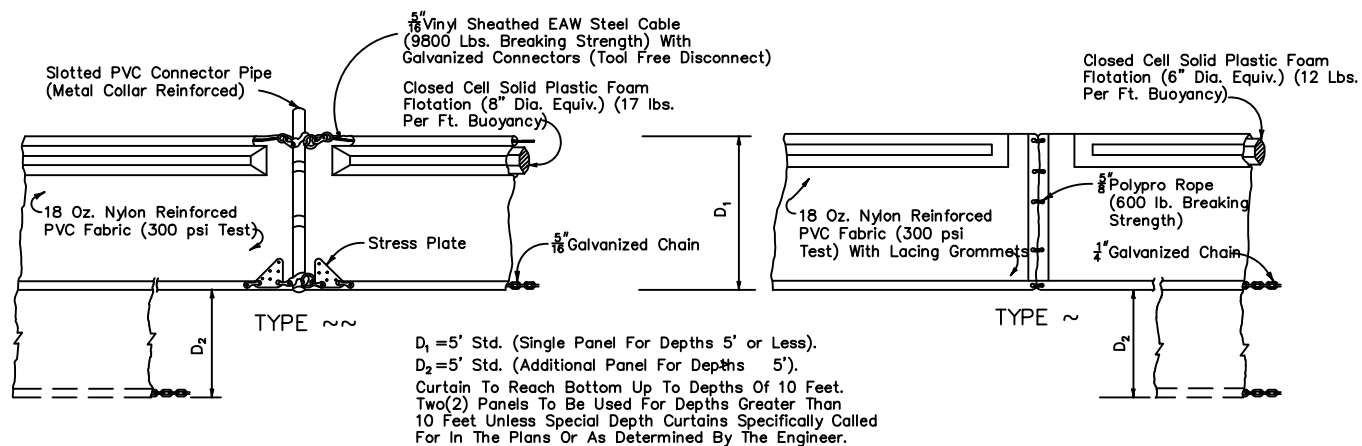
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LAST SAVED: 07/31/08 - 5:04pm

SCALE: AS SHOWN

PROJECT: 00-0903-429

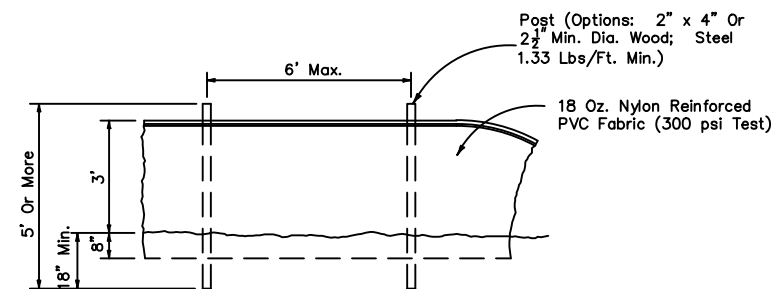
SHEET

C-31

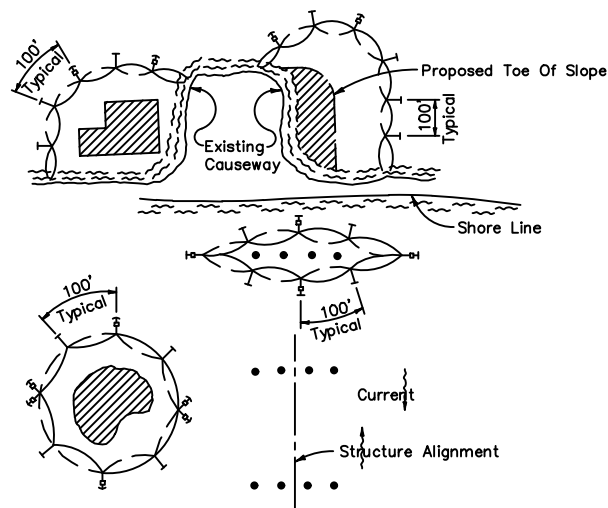


NOTICE: COMPONENTS OF TYPES ~ AND ~ MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES ~ AND ~ SHALL BE AS APPROVED BY THE ENGINEER.

FLOATING TURBIDITY BARRIERS

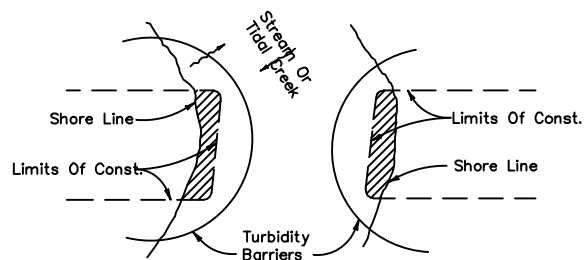


STAKED TURBIDITY BARRIER



LEGEND

- Pile Locations
- ▨ Dredge Or Fill Area
- Mooring Buoy w/Anchor
- Anchor
- ↻ Barrier Movement Due To Current Action



Note: Turbidity barriers for flowing streams and tidal creeks may be either floating, or staked types or any combinations of types that will suit site conditions and meet erosion control and water quality requirements. The barrier type(s) will be at the Contractors option unless otherwise specified in the plans, however payment will be under the pay item(s) established in the plans for Floating Turbidity Barrier and/or Staked Turbidity Barrier. Posts in staked turbidity barriers to be installed in vertical position unless otherwise directed by the Engineer.

NOTES:

- Turbidity barriers are to be used in all permanent bodies of water regardless of water depth.
- Number and spacing of anchors dependent on current velocities.
- Deployment of barrier around pile locations may vary to accommodate construction operations.
- Navigation may require segmenting barrier during construction operations.
- For additional information see Section 104 of the Standard Specifications.

GENERAL NOTES

- Floating turbidity barriers are to be paid for under the contract unit price for Floating Turbidity Barrier, LF.
- Staked turbidity barriers are to be paid for under the contract unit price for Staked Turbidity Barrier, LF.

TURBIDITY BARRIER APPLICATIONS

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NO.	DATE	REVISION	BY

Date: 10/16/07
Designed: WT
Drawn: MM
Checked: OAR

APPROVED BY: ORLANDO A. RUBIO, P.E.
DATE: _____
FLORIDA PROFESSIONAL ENGINEER NO. 48265

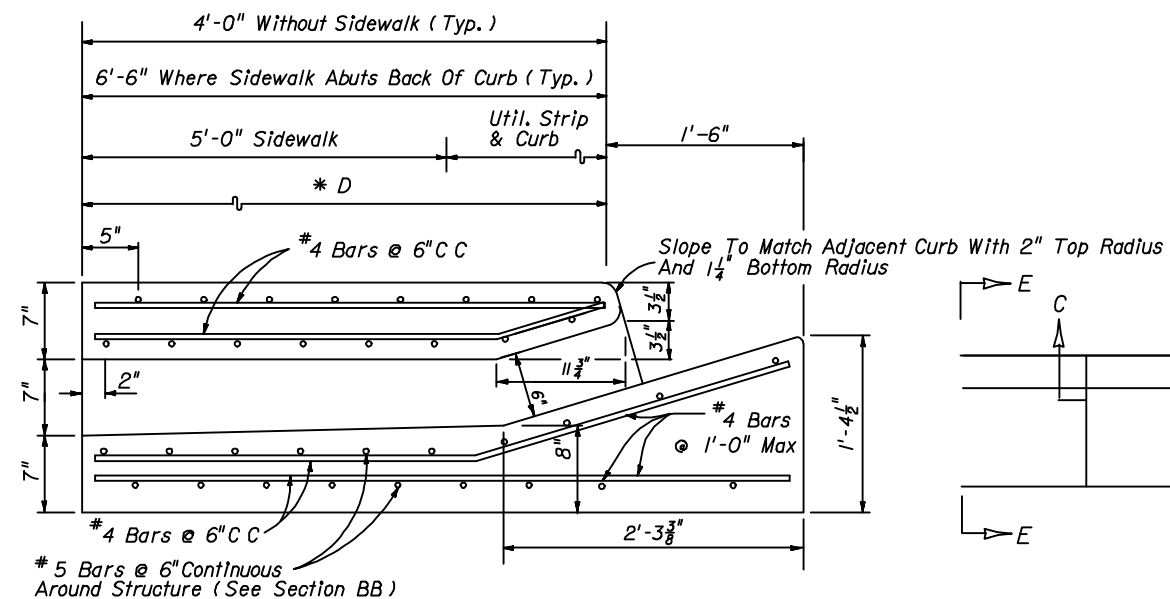
CRAIG A. SMITH & ASSOCIATES
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BOCA RATON, FLORIDA 33434
(561) 791-9280
CERTIFICATE NO. LB0003110

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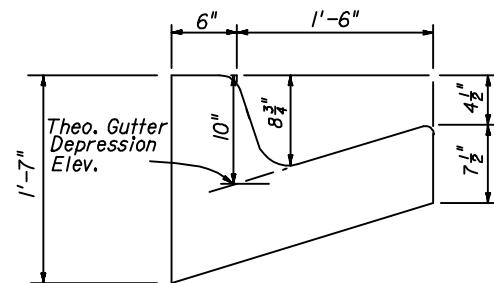
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IMPROVEMENTS
STANDARD
DETAILS

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LAST SAVED: 07/31/08 - 5:04pm
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PROJECT: 00-0903-429

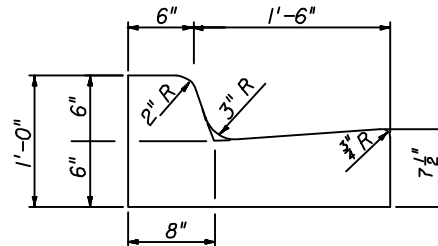
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C-32



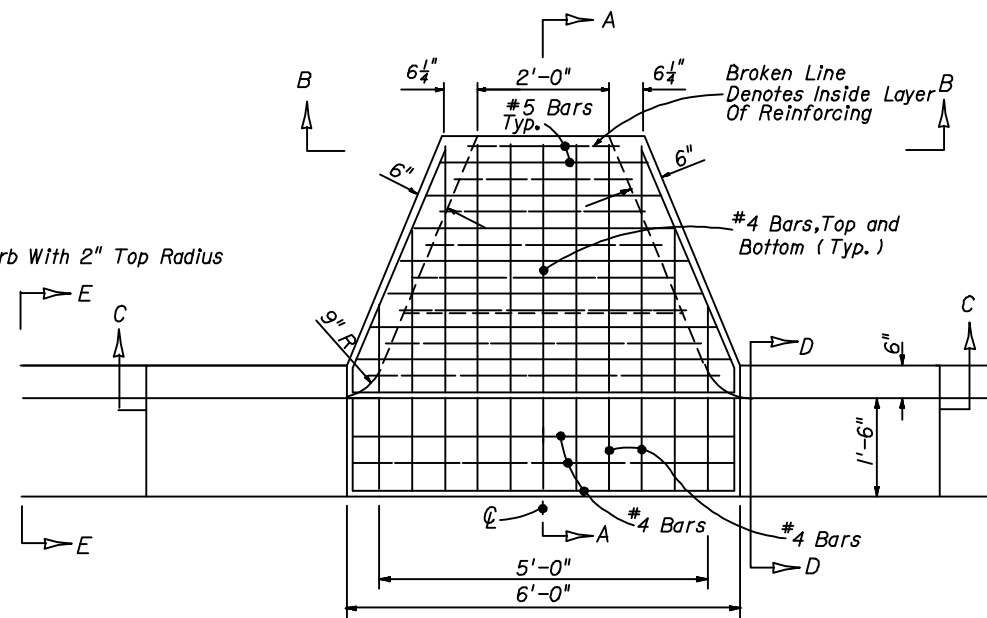
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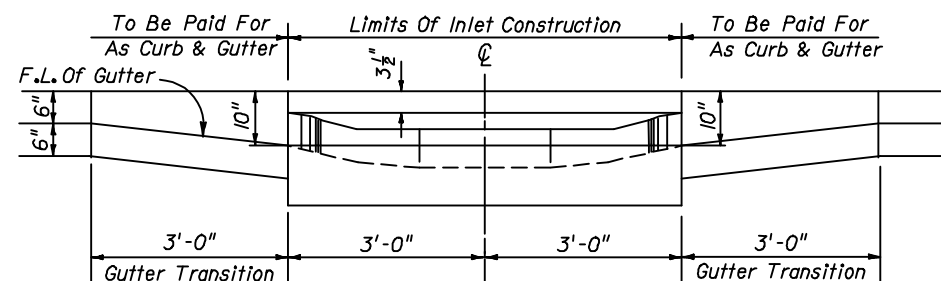
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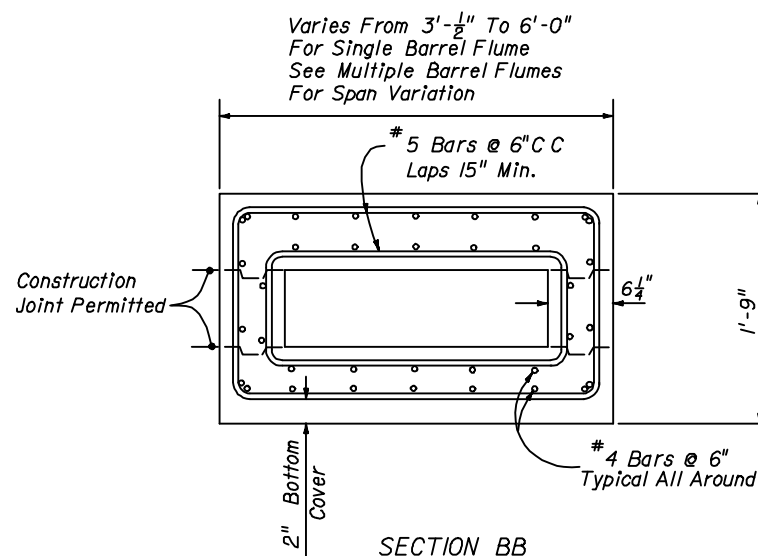
Curb And Gutter Type F
SECTION EE



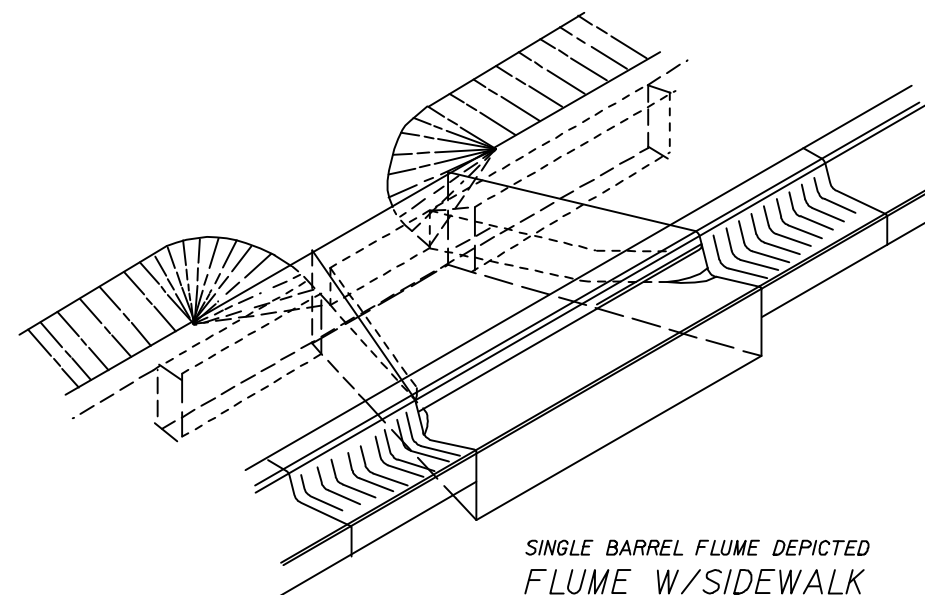
TOP VIEW



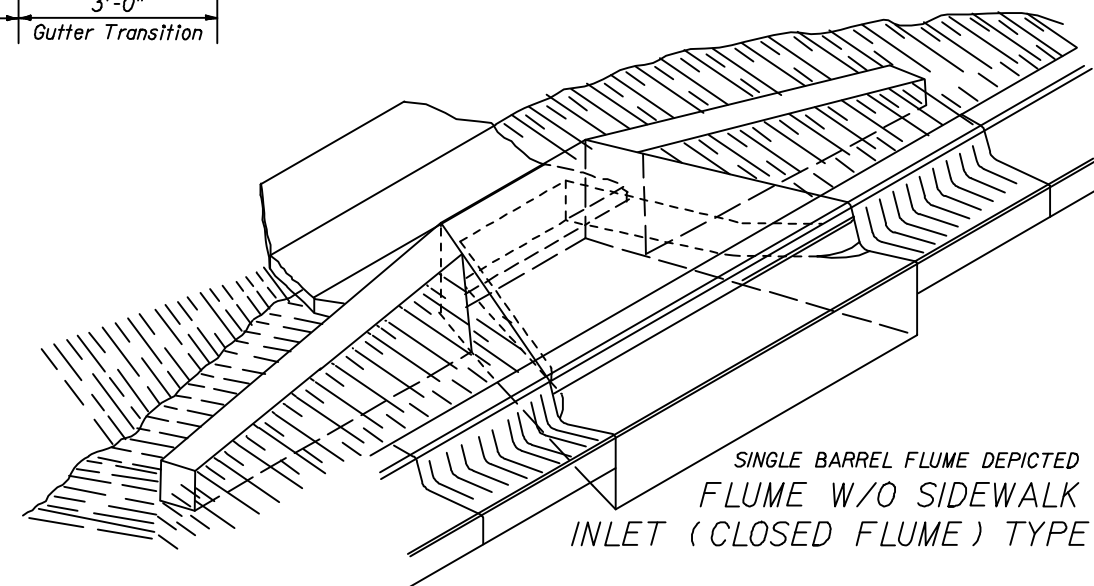
SECTION CC
SINGLE BARREL FLUME



SECTION BB



SINGLE BARREL FLUME DEPICTED
FLUME W/SIDEWALK
INLET (CLOSED FLUME) TYPE I



SINGLE BARREL FLUME DEPICTED
FLUME W/O SIDEWALK
INLET (CLOSED FLUME) TYPE II

GENERAL NOTES

1. The finished grade and slope of the inlet top are to conform with the finished cross slope and grade of the proposed sidewalk and/or border.
2. When inlets are to be constructed on a curve, refer to the plans to determine the radius and, where necessary, modify the inlet details accordingly. Bend steel when necessary.
3. All steel shall have 1 1/4" minimum cover unless otherwise shown. Inlets can be either cast-in-place or precast concrete. Chamfer all exposed edges 3/4".
4. All reinforcement is ASTM A615/A615M Grade 60 steel, either smooth or deformed. Equivalent area grade 40 steel or 65 ksi welded wire fabric may be substituted.
5. Precasting of this inlet will be permitted. Precast units shall conform to the dimensions shown or in accordance with approved shop drawings. Request for shop drawing approval shall be directed to the State Drainage Engineer.
6. Inlets to be paid for under the contract unit price for Inlets (Closed Flume) EA.

DESIGN NOTES

1. These inlets are designed for use with Type F curb and gutter only. Locate inlet outside of curb ramp area. The Single Barrel Flume is intended for locations with light to moderate flows. Multiple Barrel Flumes must be selected to meet design heavy flows.
2. Designer must specify Flume Type, "D" dimension, number of barrels and handrail requirements in plans.
3. Designer must specify where energy dissipating bricks are required.

FOR BIDDING PURPOSES ONLY

NO.	DATE	REVISION	BY

Date:	10/16/07
Designed:	WT
Drawn:	MM
Checked:	OAR

APPROVED BY:	ORLANDO A. RUBIO, P.E.
DATE:	
FLORIDA PROFESSIONAL ENGINEER NO.	48265

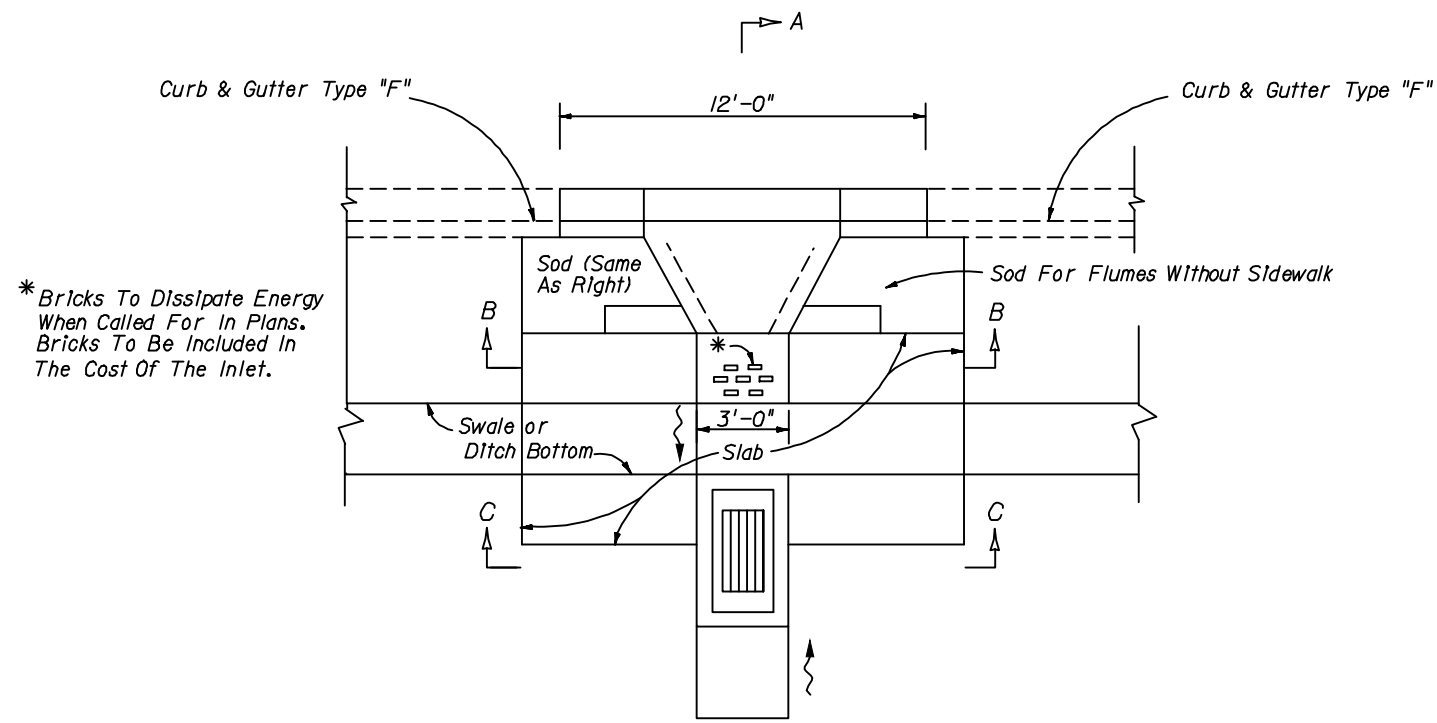
CRAIG A. SMITH & ASSOCIATES
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7777 GLADES ROAD, SUITE 410
BOCA RATON, FLORIDA 33434
(561)791-9280
CERTIFICATE NO. LB0003110

PREPARED FOR:
OKEECHOBEE COUNTY

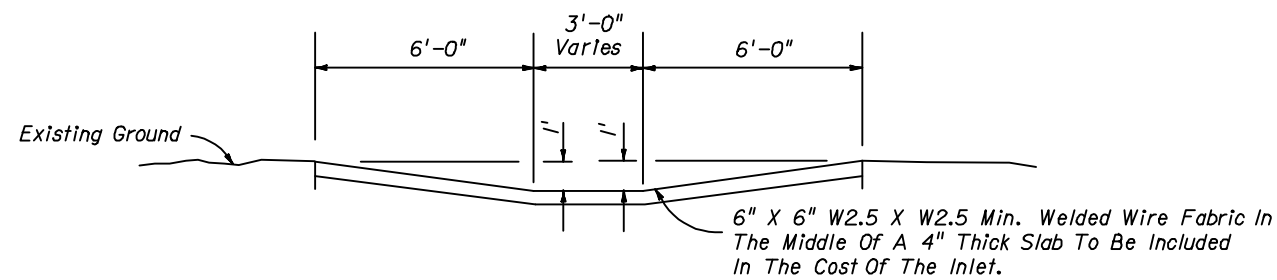
S.W. DRAINAGE IMPROVEMENTS
STANDARD DETAILS

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PROJECT: 00-0903-429

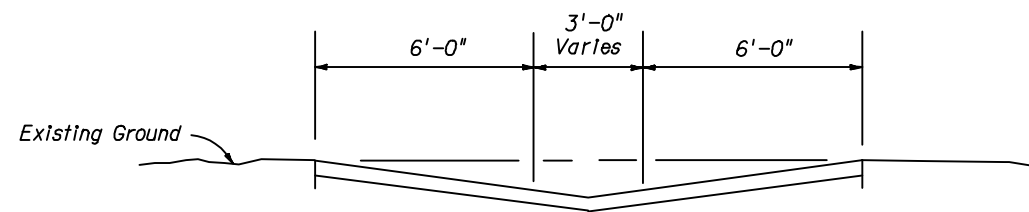
SHEET
C-33



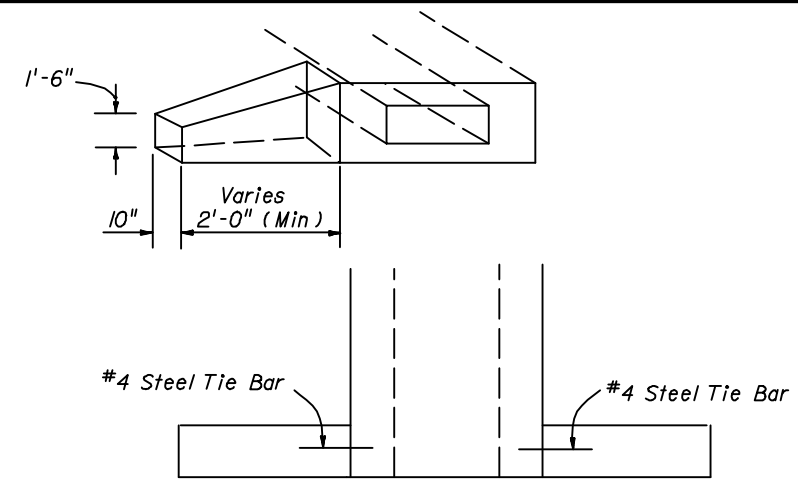
SINGLE BARREL FLUME DEPICTED
PLAN



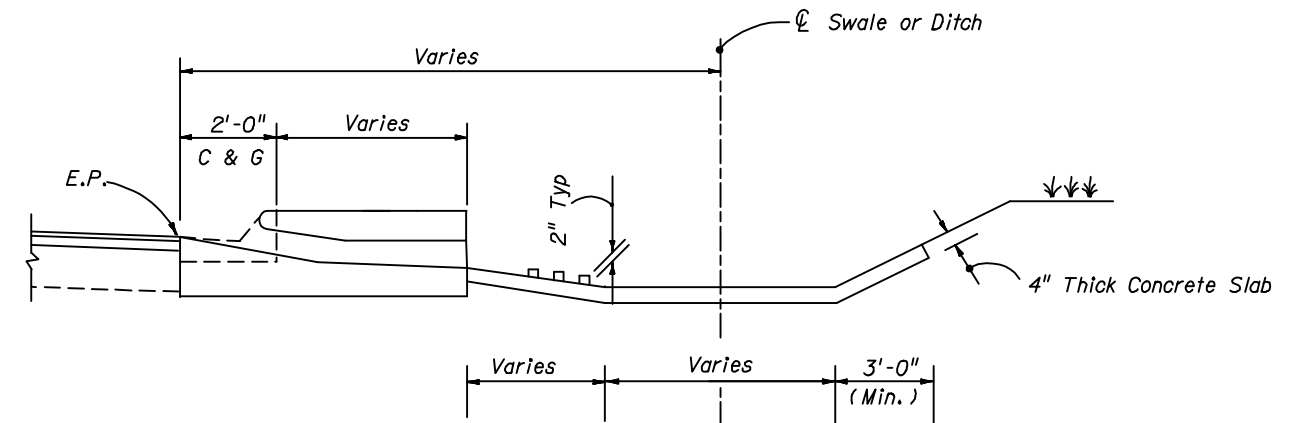
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SECTION BB



SECTION CC



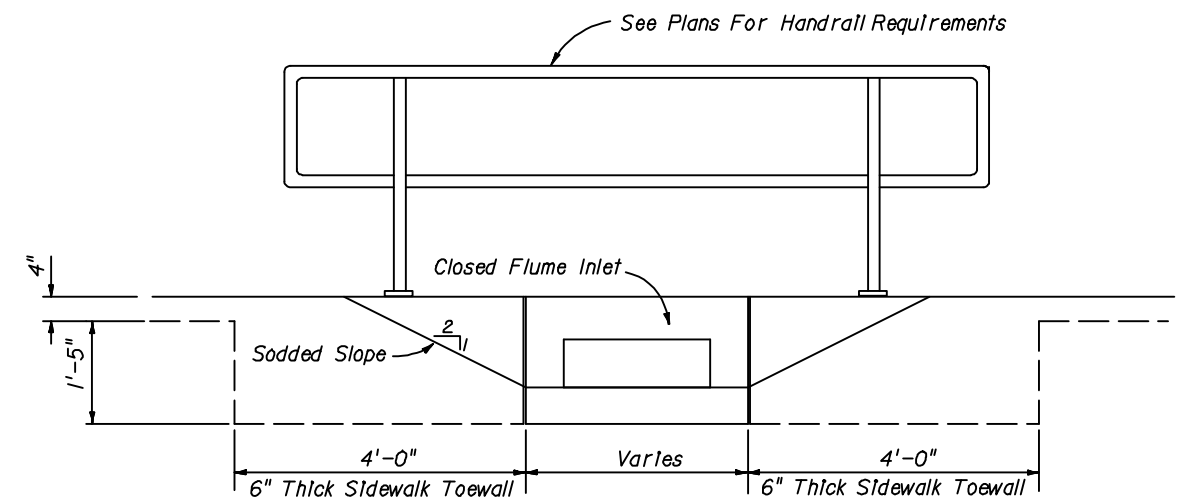
SINGLE BARREL FLUME DEPICTED
ENDWALL



Ditch Pavement To Be Adjusted When Inlet Present

SECTION AA

SLOPES, DITCH APRON AND ENDWALLS



SINGLE BARREL FLUME DEPICTED
ELEVATION

HANDRAIL FOR FLUME IN SIDEWALK FOR BIDDING PURPOSES ONLY

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NO.	DATE	REVISION	BY

Date:	10/16/07
Designed:	WT
Drawn:	MM
Checked:	OAR

APPROVED BY:	ORLANDO A. RUBIO, P.E.
DATE:	
FLORIDA PROFESSIONAL ENGINEER NO.	48265

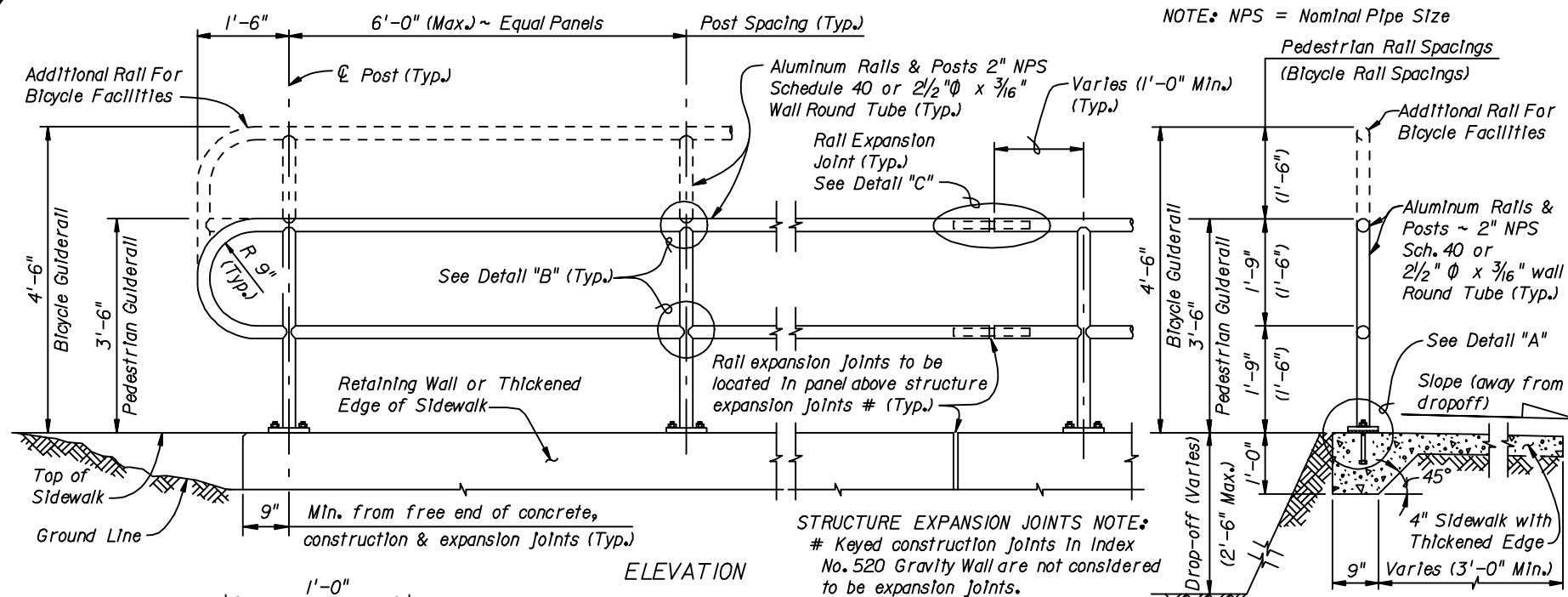
CRAIG A. SMITH & ASSOCIATES
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7777 GLADES ROAD, SUITE 410
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(561)791-9280
CERTIFICATE NO. LB0003110

PREPARED FOR:	OKEECHOBEE COUNTY
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S.W. DRAINAGE IMPROVEMENTS
STANDARD DETAILS

FILE NAME: 38-0429-C-34-FLUME.dwg
LAST SAVED: 07/31/08 - 5:04pm
SCALE AS SHOWN
PROJECT 00-0903-429

SHEET C-34



NOTE: NPS = Nominal Pipe Size

ALUMINUM PIPE GUIDERAIL NOTES

GENERAL SPECIFICATIONS:

The Florida Department of Transportation "Standard Specifications for Road and Bridge Construction".

DESIGN LIVE LOADS:

The Pedestrian Guiderail was tested by the FDOT Structural Research Center and found to resist an equivalent Service Loading of 50 lbs/ft acting simultaneously in the transverse and vertical direction when applied at the height of the Top Rail.

PAYMENT:

Guiderall shall be paid for under the contract unit price for Pipe Guiderall (Aluminum), LF (Item No. 515-1-2). Payment for the Guiderall will be plan quantity measured as the length along the center line of the top rail, and includes rails, posts, pickets, rail splice assembly, base plates, anchor bolts, nuts, washers and all incidental materials and labor required to complete installation of the Guiderall.

APPLICABILITY NOTE TO DESIGNER:

This Guideline is not applicable for shielding drop-off hazards for vehicular traffic. This Guideline is applicable for mounting on walls and other roadway structures subject to pedestrian or bicycle use where drop-off hazards do not exceed 2'-6". Also applicable for select uses on sidewalks, within service areas and similar locations where foundation support and anchorage are adequate or can be provided. For drop-off hazards exceeding 2'-6", Pedestrian/Bicycle Railings for customary applications are provided in Index No's. 850 or 860. For unusual site conditions a site specific railing is to be designed by the responsible engineer. Refer to the FDOT Plans Preparation Manual (Volume I), Chapters 4 & 8 for the definition of vehicular, pedestrian and bicyclist "drop-off hazards".

ADA REQUIREMENTS:

The Gulderall shown on this drawing does not conform with the requirements of the Americans with Disabilities Act (ADA) for ramps steeper than a 5% grade or stairways.

ALTERNATE DESIGN:

Manufacturers seeking approval of proprietary railing systems for inclusion on the Qualified Products List as pre-approved alternate designs must submit application along with design documentation showing the proprietary railing system is designed to meet the geometric requirements specified herein, provides a minimum 50 year design life and that deflections due to the Design Live Loads do not exceed 1/2" at midspan of the top rail for the Pedestrian Guiderail and 2 1/2" at midspan of the top rail for the Bicycle Guiderail. All fixed joints are to be either welded or commercially designed fixed joint systems. Each field section of railing must be identified with a permanently affixed label with the manufacturer's name and the FDOT QPL approval number. Labels must be a maximum of 1 1/2" by 3" and located at the base of a post within the field section. Project specific shop drawings are required for QPL approved railings, see Shop Drawings note.

PIPE RAILING & POSTS:

Structural Tube and Pipe shall be in accordance with ASTM B221 or ASTM B429, Alloy 6061-T6. End Panel 90° Bends and corner bends with a maximum 4'-0" post spacing, may be Alloy 6063-T6. Posts shall be fabricated and installed plumb, $\pm 1"$ tolerance when measured 3'-6" above the foundation.

BASE PLATE:

Base plate shall be in accordance with ASTM B209, Alloy 6061-T6.

SHIM PLATES:

Shim plates shall be in accordance with ASTM B209, Alloy 6061-T6 and shall be used for foundation elevation adjustments greater than $\frac{1}{4}$ " or localized irregularities greater than $\frac{1}{8}$ ". Field trim shim plates when necessary to match foundation contours. Beveled shim plates may be used in lieu of trimmed flat shim plates shown.

ANCHOR BOLTS, NUTS & WASHERS:

Galvanized Anchor Bolts shall be in accordance with ASTM F1554 Grade 36, Galvanized Nuts shall be in accordance with ASTM A563 or ASTM A194 and Galvanized Washers shall be in accordance with ASTM F436. After the nuts have been tightened, the anchor bolt threads shall be distorted or the nuts and bolts spot welded and coated with a galvanizing compound in accordance with the Specifications.

RESILIENT PADS OR NEOPRENE PADS:

Resilient or Neoprene pads shall be in accordance with Specification Section 932, except that testing of the finished pads will not be required. Neoprene pads shall be durometer hardness 60 or 70.

JOINTS:

All fixed joints are to be either welded all around and ground smooth or commercially designed fixed joint systems (soldered, brazed, fused, bonded or shrink fitted) approved by the Engineer. Mechanical joints other than expansion joints are not permitted unless approved by the Engineer. Posts shall be connected to the base plate by welding only. Field splices similar to the expansion joint detail may be approved by the Engineer to facilitate shipping and handling, but rails must be continuous across a minimum of two posts. Expansion joints shall be spaced at a maximum of 30'-0".

WELDING:

All welding shall be in accordance with the American Welding Society Structural Welding Code (Aluminum) ANSI/AWS D1.2 (current edition). Filler metal shall be either ER5183, ER5356 or ER5556. Nondestructive testing of the welds shall not be required.

SHOP DRAWINGS:

Complete details addressing project specific geometry (line & grade) showing post and expansion joint locations must be submitted by the Contractor for the Engineer's approval prior to fabrication of the Gulderall. Shop drawings shall be in accordance with the Specifications.

FOR BIDDING PURPOSES ONLY

[illegible]

Date: 10/16/07
Designed: WT
Drawn: MM
Checked: OAR

APPROVED BY: ORLANDO A. RUBIO, P.E.

DATE _____

FLORIDA PROFESSIONAL ENGINEER NO. 48265

CRAIG A. SMITH & ASSOCIATES
CONSULTING ENGINEERS-PLANNERS-SURVEYORS

 7777 GLADES ROAD, SUITE 410
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(561) 791-9280
CERTIFICATE, NO. LB00033110 

PREPARED FOR:

OKEECHOBEE COUNTY

S.W. DRAINAGE IMPROVEMENTS

STANDARD DETAILS

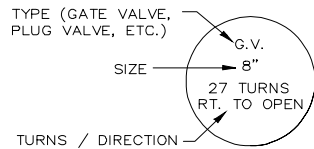
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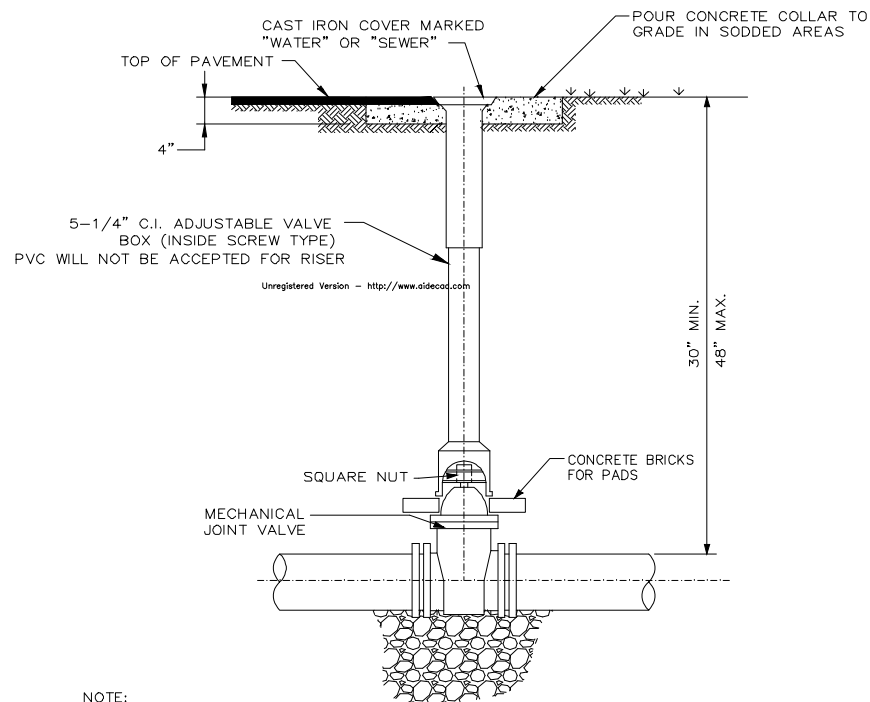
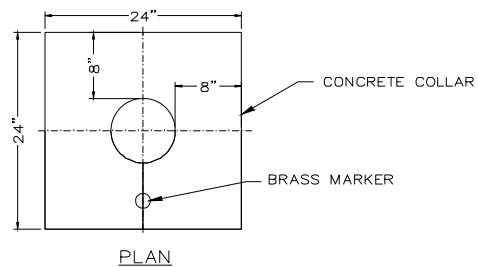
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SHEET
C-35

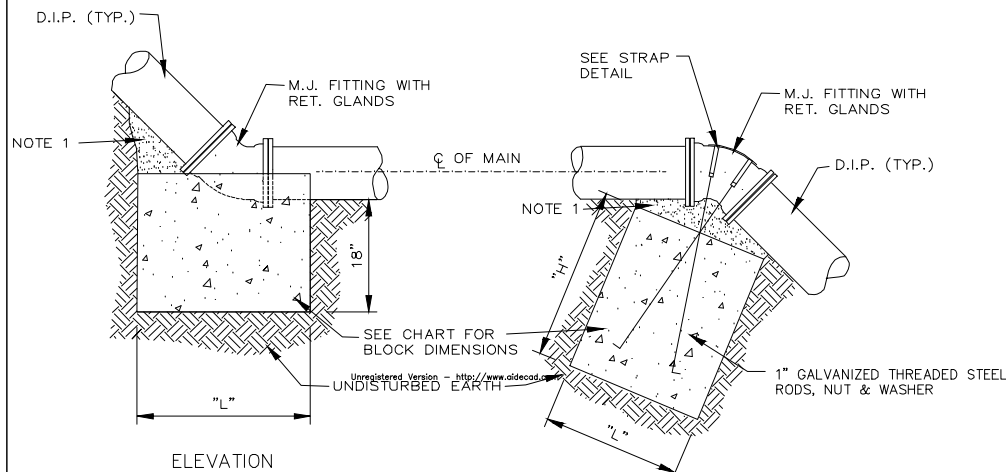
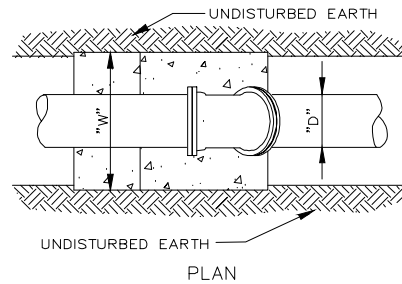
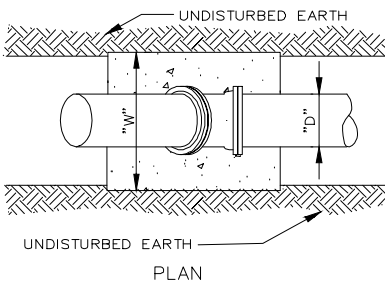
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BRASS MARKER
WITH INFORMATION AS
REQUIRED ABOVE



NOTE:
VALVE NUT EXTENSION IS REQUIRED ON ALL VALVES WITH MORE THAN 36" OF COVER. EXTEND NUT TO WITHIN 18" OF VALVE BOX RIM. PROVIDE SOLID BRICK PAD FOR VALVE BOX TO SIT ON.



BLOCKING DETAIL
FOR
VERTICAL SAG
N.T.S.

BLOCKING DETAIL
FOR
VERTICAL CREST
N.T.S.

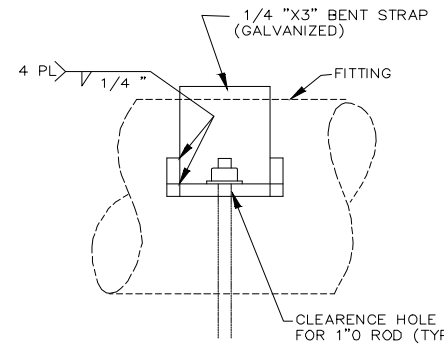
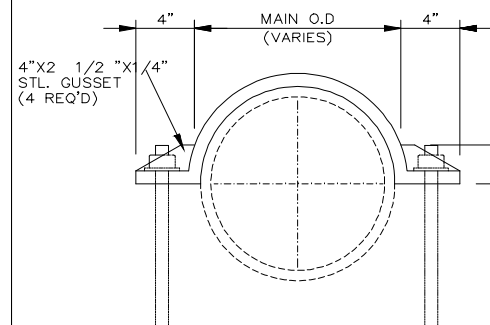
- NOTES:
1. ANY VOID BETWEEN MAIN AND GRAVITY BLOCK TO BE FILLED WITH GROUT BY CONTRACTOR
 2. FITTINGS SHALL BE WRAPPED WITH SUITABLE COVERING TO PREVENT ADHERENCE TO GRAVITY BLOCK.
 3. USE MEGALUGS ON ALL FITTINGS.

NOTE: THRUST BLOCKS ONLY ON EXISTING LINES AND WHEN PRE-APPROVED BY THE EXECUTIVE DIRECTOR

PIPE DIA. "D"	VERTICAL CREST											
	DEGREE OF BEND											
	11 1/4°			22 1/2°			45°			90°		
	"W"	"L"	"H"	"W"	"L"	"H"	"W"	"L"	"H"	"W"	"L"	"H"
6"	36"	16"	18"	36"	24"	24"	48"	28"	30"	54"	36"	36"
8"	48"	20"	20"	48"	30"	24"	54"	36"	36"	60"	46"	48"
12"	54"	24"	30"	54"	36"	40"	66"	48"	48"	72"	60"	60"
24"	72"	48"	48"	76"	60"	66"	96"	72"	84"	—	—	—

PIPE DIA. "D"	VERTICAL SAG											
	DEGREE OF BEND											
	11 1/4°			22 1/2°			45°			90°		
	"W"	"L"	—	"W"	"L"	—	"W"	"L"	—	"W"	"L"	—
6"	6"	36"	—	6"	36"	—	18"	36"	—	24"	36"	—
8"	8"	36"	—	12"	36"	—	24"	36"	—	36"	36"	—
12"	18"	36"	—	30"	36"	—	42"	42"	—	54"	48"	—
16"	36"	36"	—	48"	48"	—	60"	60"	—	72"	72"	—
24"	48"	42"	—	60"	54"	—	78"	78"	—	96"	96"	—
36"	60"	54"	—	84"	78"	—	96"	96"	—	120"	120"	—

Unregistered Version - <http://www.didecod.com>



STRAP DETAIL

- NOTES:
1. GUSSETS REQ'D FOR 16" O AND LARGER MAINS.
 2. STRAPS WITH GUSSET TO BE GALVANIZED AFTER WELDING.

OKEECHOBEE UTILITY AUTHORITY CONSTRUCTION STANDARDS & DETAILS

REVISION JULY-07 TYPICAL VALVE SETTING PAGE No D12

OKEECHOBEE UTILITY AUTHORITY CONSTRUCTION STANDARDS & DETAILS

REVISION JULY-07 GRAVITY BLOCKS FOR PRESSURE PIPING PAGE No D14

OKEECHOBEE UTILITY AUTHORITY CONSTRUCTION STANDARDS & DETAILS

REVISION JULY-07 GRAVITY BLOCKS FOR PRESSURE PIPING PAGE No D14A

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NO.	DATE	REVISION	BY

Date: 10/16/07
Designed: WT
Drawn: MM
Checked: OAR

APPROVED BY: ORLANDO A. RUBIO, P.E.
DATE: _____
FLORIDA PROFESSIONAL ENGINEER NO. 48265

CRAIG A. SMITH & ASSOCIATES
CONSULTING ENGINEERS-PLANNERS-SURVEYORS
7777 GLADES ROAD, SUITE 410
BOCA RATON, FLORIDA 33434
(561)791-9280
CERTIFICATE NO. LB0003110

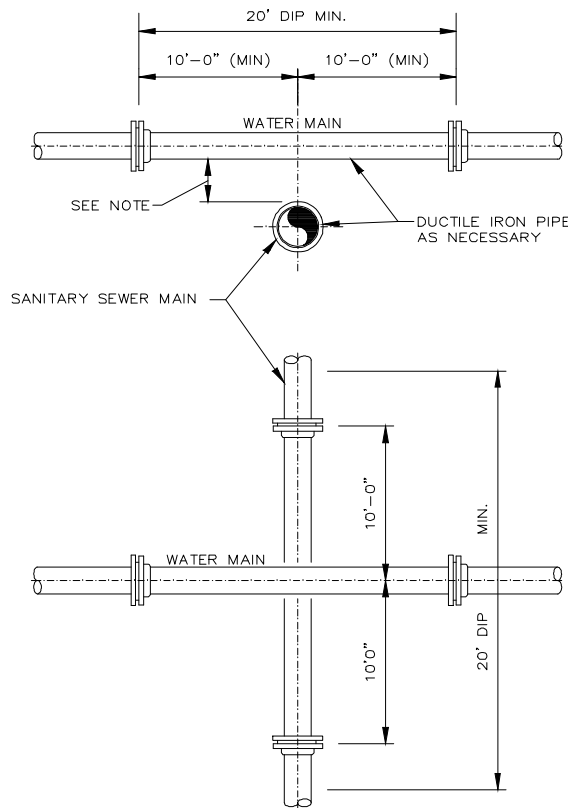
PREPARED FOR:
OKEECHOBEE COUNTY

S.W. DRAINAGE
IMPROVEMENTS
OUA STANDARD
DETAILS

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LAST SAVED: 07/31/08 - 5:05pm
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PROJECT: 00-0903-429

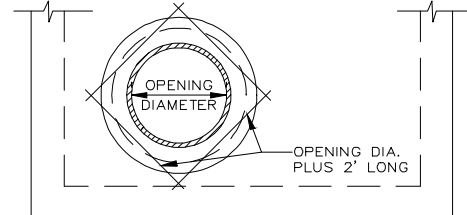
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C-37

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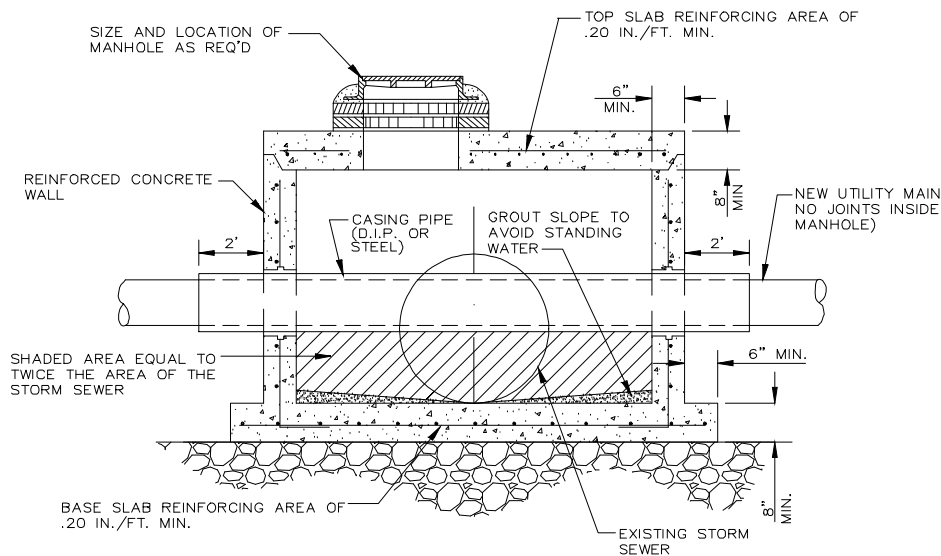


NOTES:

1. WATERMAIN TO CROSS OVER CONFLICT PIPES WHEREVER POSSIBLE, MAINTAINING 30" INCHES COVER AND 6" SEPARATION AS MINIMUMS.
2. REFER TO FLORIDA ADMINISTRATIVE CODE (FAC) CHAPTER 62-555 FOR MINIMUM SEPARATION REQUIREMENTS, BETWEEN POTABLE WATER, RECLAIMED WATER AND WASTEWATER.
3. THESE METHODS ARE TO BE USED WHEN INSUFFICIENT COVER EXISTS TO ALLOW PRESSURE PIPE TO CROSS ABOVE CONFLICT PIPE WITH 6" VERTICAL SEPARATION AND MAINTAIN 30" COVER TO FINISHED GRADE.
4. FITTINGS SHALL BE RESTRAINED WITH MECHANICAL RESTRAINTS (MEGALUG). IN ACCORDANCE WITH OUA STANDARD DETAILS.
5. THE DEFLECTION TYPE CROSSING IS PREFERRED.
6. DO NOT EXCEED 75% OF MANUFACTURERS RECOMMENDED MAXIMUM JOINT DEFLECTION.
7. MECHANICALLY RESTRAIN ALL FITTINGS, AS PER MANUFACTURERS RECOMMENDATION AND OUA STANDARD DETAILS.

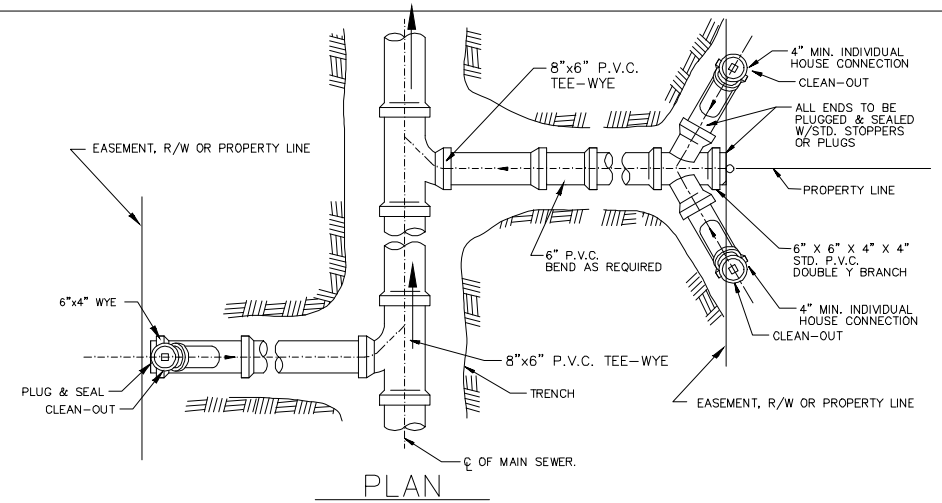


PARTIAL PLAN

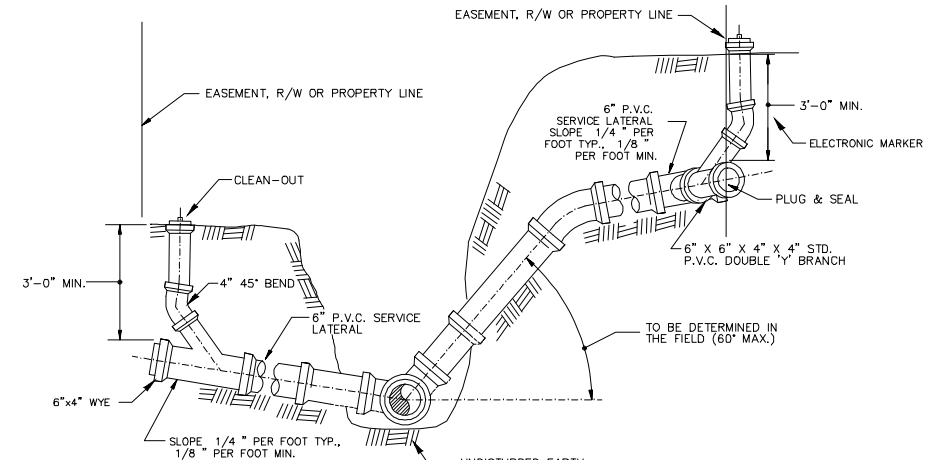


NOTES:

1. WHERE CONDITIONS PERMIT THE LOWEST POINT OF CONFLICT MAIN AT OR ABOVE CENTER LINE OF STORM SEWER.
2. CONFLICT MANHOLES WILL BE ALLOWED WHERE DESIGN PROBLEMS AND ECONOMICS PROVE THEM TO BE THE ONLY VIABLE SOLUTION AS APPROVED BY O.U.A.
3. CONFLICT MANHOLES WILL NOT BE ALLOWED FOR WATER MAINS CROSSING GRAVITY WASTEWATER SYSTEMS.
4. COAT INTERIOR & EXTERIOR WITH 2 COATS COAL TAR EPOXY, 8 MIL. MIN. FRY FILM THICKNESS EACH COAT OR OUA APPROVED EQUAL.



PLAN



SINGLE SERVICE CONNECTION

DOUBLE SERVICE CONNECTION

SECTION

NOTES:

1. SERVICE LATERALS SHALL TERMINATE AT PROPERTY LINE AT A DEPTH OF 3 FEET, PLUGGED WATERTIGHT WITH CLEAN-OUT.
2. THE MINIMUM DIAMETER OF ALL SERVICE LATERALS SHALL BE 6 INCHES INDIVIDUAL HOUSE CONNECTIONS TO BE 4".
3. CONNECTION TO O.U.A. LATERAL SHALL BE MADE WITH A TWO WAY CLEAN-OUT AT PROPERTY LINE BY THE CONTRACTOR OR CUSTOMER MAKING THE CONNECTION.

OKEECHOBEE UTILITY AUTHORITY CONSTRUCTION STANDARDS & DETAILS			OKEECHOBEE UTILITY AUTHORITY CONSTRUCTION STANDARDS & DETAILS			OKEECHOBEE UTILITY AUTHORITY CONSTRUCTION STANDARDS & DETAILS		
REVISION JULY-07	WATER MAIN — SANITARY SEWER CONFLICT	PAGE No D16	REVISION JULY-07	CONFLICT MANHOLE	PAGE No D26A	REVISION JULY-07	TYPICAL SEWER SERVICE CONNECTION	PAGE No D31

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NO.	DATE	REVISION	BY

Date: 10/16/07
Designed: WT
Drawn: MM
Checked: OAR

APPROVED BY: ORLANDO A. RUBIO, P.E.
DATE: _____
FLORIDA PROFESSIONAL ENGINEER NO. 48265

CRAIG A. SMITH & ASSOCIATES	
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7777 GLADES ROAD, SUITE 410	
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(561)791-9280	
CERTIFICATE NO. LB0003110	

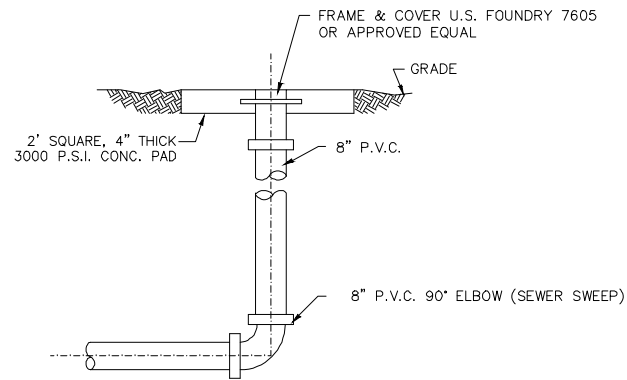
PREPARED FOR:
OKEECHOBEE COUNTY

S.W. DRAINAGE IMPROVEMENTS
OUA STANDARD DETAILS

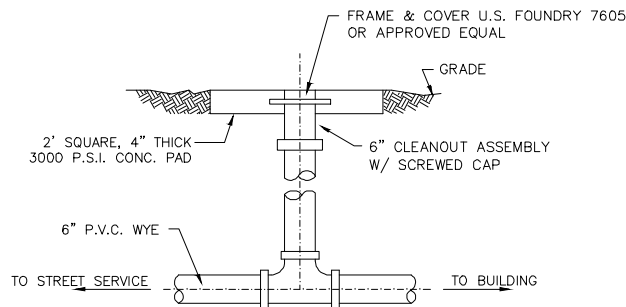
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SCALE AS SHOWN
PROJECT 00-0903-429

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C-38

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TYPICAL MAIN LINE TERMINAL CLEANOUT



- NOTES:
1. TWO WAY CLEANOUT (SWEEP IN BOTH DIRECTIONS).
 2. CLEAN OUT SHALL BE LOCATED ON RIGHT OF WAY LINE.
 3. ALL CLEAN OUT'S REQUIRE AN INSPECTION.

TYPICAL SERVICE LATERAL TWO WAY CLEANOUT

MECHANICAL THRUST RESTRAINT CHART 1										
PIPE SIZE, in	90° BEND		45° BEND		22 1/2° BEND		11 1/4° BEND		DEADEND / VALVE	
	PVC	DIP	PVC	DIP	PVC	DIP	PVC	DIP	PVC	DIP
4	21	16	9	7	5	4	2	2	45	29
6	28	23	12	10	6	5	3	3	63	40
8	37	29	16	12	8	6	4	3	83	53
10	44	35	18	15	9	7	5	4	99	63
12	51	41	21	17	11	8	5	4	116	74
14	57	46	24	19	12	10	6	5	132	83
16	64	51	27	21	13	11	7	5	149	94
18	70	56	29	24	14	12	7	6	164	104
20	76	61	32	26	16	13	8	6	179	113
24	87	70	36	29	18	14	9	7	208	131

THRUST RESTRAINT CHART BASED UPON THE FOLLOWING:

PVC/DIP	PIPE MATERIAL, AS NOTED
SP	SOIL TYPE (designer to confirm)
1.5	SAFETY FACTOR (minimum)
3	TRENCH TYPE (designer to confirm)
2.5	DEPTH OF BURY, ft (designer to confirm)
150	TEST PRESSURE, psi (minimum)

THE MINIMUM LENGTH OF PIPE OUT OF ANY VALVE OR FITTING SHOULD BE 20 LF.
FITTINGS NOT SHOWN TO BE CALCULATED UTILIZING THE CRITERIA LISTED ABOVE AND SUBMITTED IN A SHOP DRAWING
VALUES SHOWN IN CHART INDICATE LENGTH (LF) OF PIPE TO BE RESTRAINED ON EITHER SIDE OF ITEM LISTED

NOTE 1: ANY CONDITION OTHER THAN THOSE LISTED ABOVE (including poly-wrapped DIP) SHALL REQUIRE REVISION OF THE TABLE IN ACCORDANCE WITH EBAA IRON, INC., RESTRAINT LENGTH CALCULATOR (V. 5.4).
(<http://www.ebaa.com/engineering.htm> or <http://rcp.ebaa.com>)
NOTE 2: THE REVISED CHARTS SHALL BE SUBMITTED TO OUA AS A SHOP DRAWING SUBMITTAL.

MECHANICAL THRUST RESTRAINT CHART 2							
MAIN RUN, in	BRANCH, in	TEE		LARGE SIZE	SMALL LARGE	REDUCER	
		PVC	DIP			PVC	DIP
4	4	1	1	6	4	33	21
6	4	1	1	8	4	60	38
6	6	1	1	8	6	35	22
8	4	1	1	10	4	81	51
8	6	1	1	10	6	61	39
8	8	7	5	10	8	33	21
10	6	1	1	12	4	101	64
10	8	1	1	12	6	85	54
10	10	21	14	12	8	62	39
12	6	1	1	16	4	138	87
12	8	1	1	16	6	126	79
12	12	36	24	16	8	109	68
16	6	1	1	16	12	63	40
16	8	1	1	18	4	154	97
16	16	65	43	18	6	144	91
18	6	1	1	18	8	129	81
18	8	1	1	20	4	171	107
18	18	79	52	20	6	161	101
20	6	1	1	20	8	148	93
20	8	1	1	20	12	113	71
20	20	92	61	24	4	201	127
24	6	1	1	24	6	194	122
24	8	1	1	24	8	183	115
24	24	118	78	24	12	154	97

THRUST RESTRAINT CHART BASED UPON THE FOLLOWING:

PVC/DIP	PIPE MATERIAL, AS NOTED
SP	SOIL TYPE (designer to confirm)
1.5	SAFETY FACTOR (minimum)
3	TRENCH TYPE (designer to confirm)
2.5	DEPTH OF BURY, ft (designer to confirm)
150	TEST PRESSURE, psi (minimum)

THE MINIMUM LENGTH OF PIPE OUT OF ANY VALVE OR FITTING SHOULD BE 20 LF.
FITTINGS NOT SHOWN TO BE CALCULATED UTILIZING THE CRITERIA LISTED ABOVE AND SUBMITTED IN A SHOP DRAWING
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OKEECHOBEE UTILITY AUTHORITY CONSTRUCTION STANDARDS & DETAILS

REVISION
JULY-07

TYPICAL CLEANOUT

PAGE No
D32

OKEECHOBEE UTILITY AUTHORITY CONSTRUCTION STANDARDS & DETAILS

REVISION
JULY-07

WATER THRUST RESTRAINT

PAGE No
D49

OKEECHOBEE UTILITY AUTHORITY CONSTRUCTION STANDARDS & DETAILS

REVISION
JULY-07

WATER THRUST RESTRAINT

PAGE No
D50

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NO.	DATE	REVISION	BY

Date: 10/16/07
Designed: WT
Drawn: MM
Checked: OAR

APPROVED BY: ORLANDO A. RUBIO, P.E.

DATE _____
FLORIDA PROFESSIONAL ENGINEER NO. 48265

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7777 GLADES ROAD, SUITE 410
BOCA RATON, FLORIDA 33434
(561)791-9280
CERTIFICATE NO. LB0003110

PREPARED FOR:
OKEECHOBEE COUNTY

S.W. DRAINAGE
IMPROVEMENTS
OUA STANDARD
DETAILS

FILE NAME: 43-0429-C-39-DTLS.dwg
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MECHANICAL THRUST RESTRAINT CHART 1										
PIPE SIZE, in	90° BEND		45° BEND		22 1/2° BEND		11 1/4° BEND		DEADEND/VALVE	
	PVC	DIP	PVC	DIP	PVC	DIP	PVC	DIP	PVC	DIP
4	14	11	6	5	3	3	2	2	30	19
6	19	15	8	7	4	3	2	2	42	27
8	25	20	11	8	5	4	3	2	55	35
10	29	23	12	10	6	5	3	3	66	42
12	34	27	14	12	7	6	4	3	78	49
14	38	31	16	13	8	7	4	3	88	56
16	43	34	18	14	9	7	5	4	99	63
18	47	38	20	16	10	8	5	4	110	69
20	51	41	21	17	11	9	5	4	120	75
24	58	47	24	20	12	10	6	5	139	88

THRUST RESTRAINT CHART BASED UPON THE FOLLOWING:

PVC/DIP PIPE MATERIAL, AS NOTED
SP SOIL TYPE (designer to confirm)
1.5 SAFETY FACTOR (minimum)
3 TRENCH TYPE (designer to confirm)
2.5 DEPTH OF BURY, ft (designer to confirm)
100 TEST PRESSURE, psi (minimum)

THE MINIMUM LENGTH OF PIPE OUT OF ANY VALVE OR FITTING SHOULD BE 20 LF.

FITTINGS NOT SHOWN TO BE CALCULATED UTILIZING THE CRITERIA LISTED ABOVE AND SUBMITTED IN A SHOP DRAWING
VALUES SHOWN IN CHART INDICATE LENGTH (LF) OF PIPE TO BE RESTRAINED ON EITHER SIDE OF ITEM LISTED

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NOTE 2: THE REVISED CHARTS SHALL BE SUBMITTED TO OUA AS A SHOP DRAWING SUBMITTAL.

MECHANICAL THRUST RESTRAINT CHART 2							
MAIN RUN, in	BRANCH, in	TEE		LARGE SIZE	SMALL SIZE	REDUCER	
		PVC	DIP			PVC	DIP
4	4	1	1	6	4	22	14
6	4	1	1	8	4	40	25
6	6	1	1	8	6	23	15
8	4	1	1	10	4	54	34
8	6	1	1	10	6	41	26
8	8	1	1	10	8	22	14
10	6	1	1	12	4	68	43
10	8	1	1	12	6	57	36
10	10	1	1	12	8	41	26
12	6	1	1	16	4	92	58
12	8	1	1	16	6	84	53
12	12	1	1	16	8	73	46
16	6	1	1	16	12	42	27
16	8	1	1	18	4	103	65
16	16	18	12	18	6	96	61
18	6	1	1	18	8	86	54
18	8	1	1	20	4	114	72
18	18	27	18	20	6	108	68
20	6	1	1	20	8	99	62
20	8	1	1	20	12	75	47
20	20	36	24	24	4	134	85
24	6	1	1	24	6	129	81
24	8	1	1	24	8	122	77
24	24	52	35	24	12	103	65

THRUST RESTRAINT CHART BASED UPON THE FOLLOWING:

PVC/DIP PIPE MATERIAL, AS NOTED
SP SOIL TYPE (designer to confirm)
1.5 SAFETY FACTOR (minimum)
3 TRENCH TYPE (designer to confirm)
2.5 DEPTH OF BURY, ft (designer to confirm)
100 TEST PRESSURE, psi (minimum)

THE MINIMUM LENGTH OF PIPE OUT OF ANY VALVE OR FITTING SHOULD BE 20 LF.

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VALUES SHOWN IN CHART INDICATE LENGTH (LF) OF PIPE TO BE RESTRAINED ON EITHER SIDE OF ITEM LISTED

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OKEECHOBEE UTILITY AUTHORITY CONSTRUCTION STANDARDS & DETAILS

REVISION JULY-07	FORCE MAIN THRUST RESTRAINT	PAGE No D51
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OKEECHOBEE UTILITY AUTHORITY CONSTRUCTION STANDARDS & DETAILS

REVISION JULY-07	FORCE MAIN THRUST RESTRAINT	PAGE No D52
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NO.	DATE	REVISION	BY

Date:	10/16/07
Designed:	WT
Drawn:	MM
Checked:	OAR

APPROVED BY:	ORLANDO A. RUBIO, P.E.
DATE	
FLORIDA PROFESSIONAL ENGINEER NO.	48265

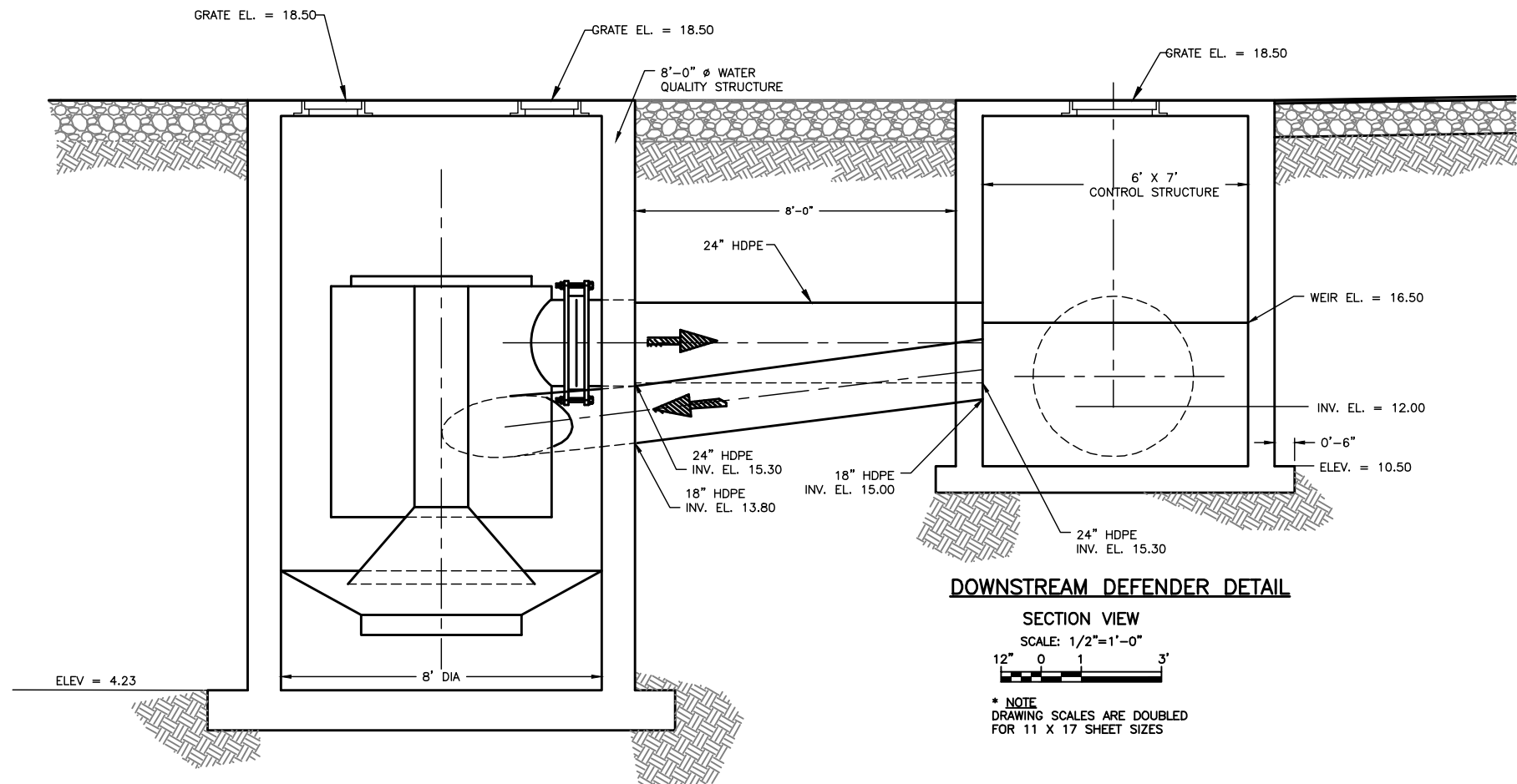
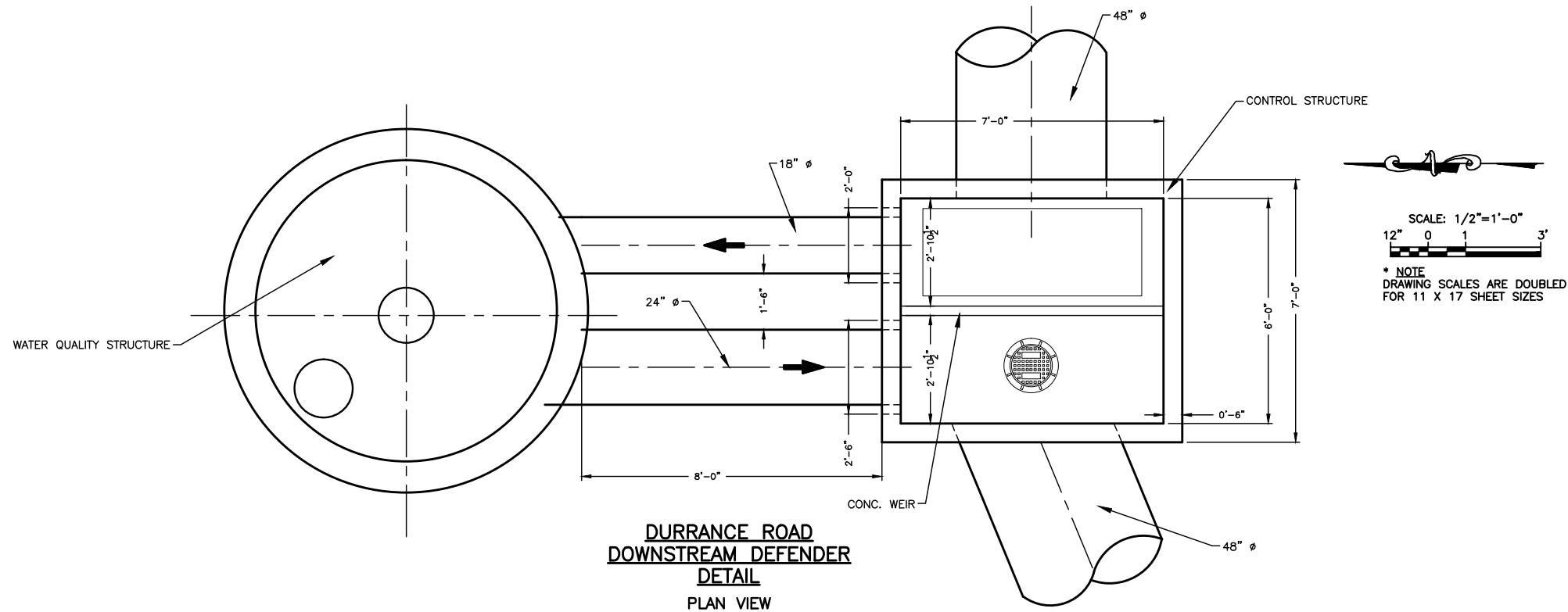
CRAIG A. SMITH & ASSOCIATES
CONSULTING ENGINEERS-PLANNERS-SURVEYORS
7777 GLADES ROAD, SUITE 410
BOCA RATON, FLORIDA 33434
(561)791-9280
CERTIFICATE NO. LB0003110

PREPARED FOR:
OKEECHOBEE COUNTY

S.W. DRAINAGE
IMPROVEMENTS
OUA STANDARD
DETAILS

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CERTIFICATE NO. LB0003110

PREPARED FOR:
OKEECHOBEE COUNTY

S.W. DRAINAGE
IMPROVEMENTS
DURRANCE ROAD
DOWNSTREAM DEFENDER DETAIL

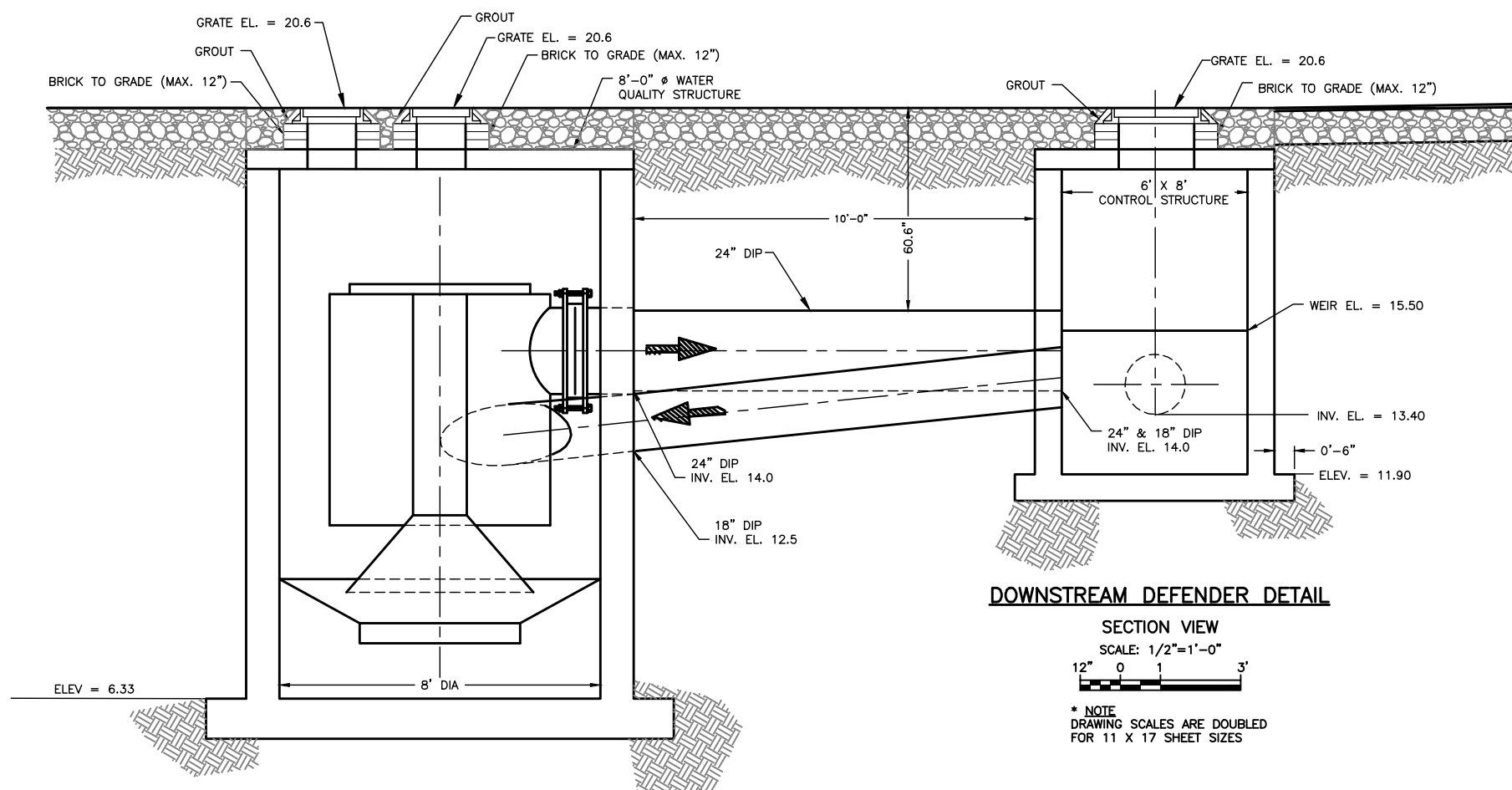
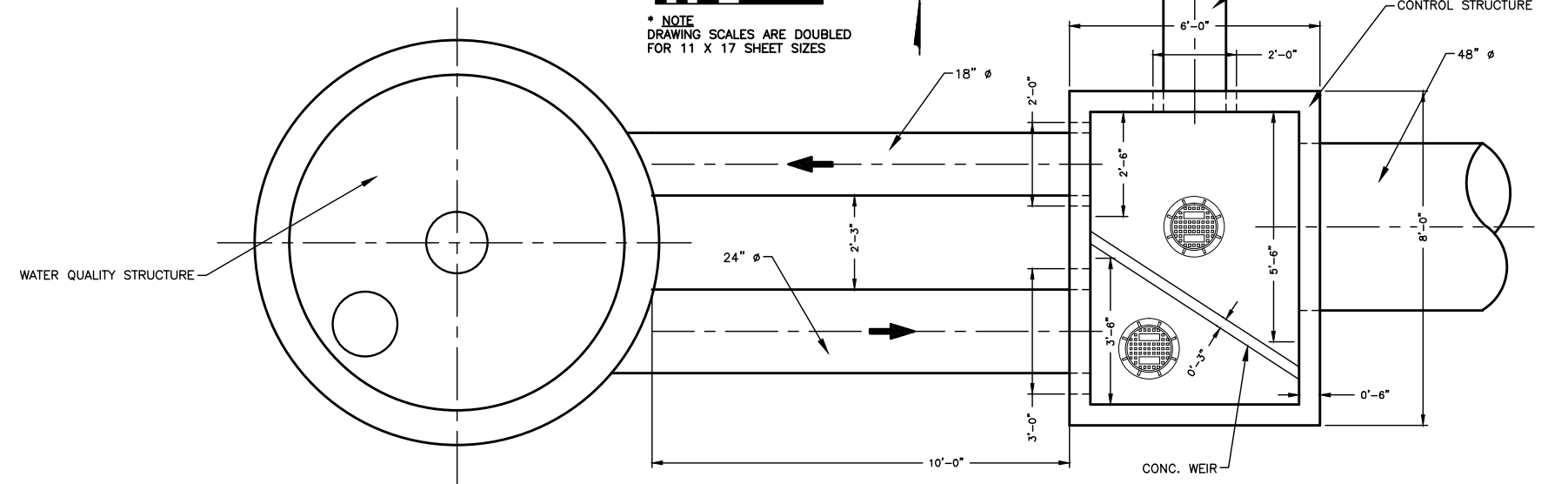
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LAST SAVED: 08/12/08 - 3:39pm
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PROJECT: 00-0903-429

SHEET
C-41

SCALE: $1/2" = 1'-0"$

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* NOTE
DRAWING SCALES ARE DOUBLED
FOR 11 X 17 SHEET SIZES



12000			
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CRAIG A. SMITH & ASSOCIATES
CONSULTING ENGINEERS-PLANNERS-SURVEYORS

 7777 GLADES ROAD, SUITE 410
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CERTIFICATE NO. LB0003110 

PREPARED FOR:

OKEECHOBEE COUNTY

S.W. DRAINAGE
IMPROVEMENTS

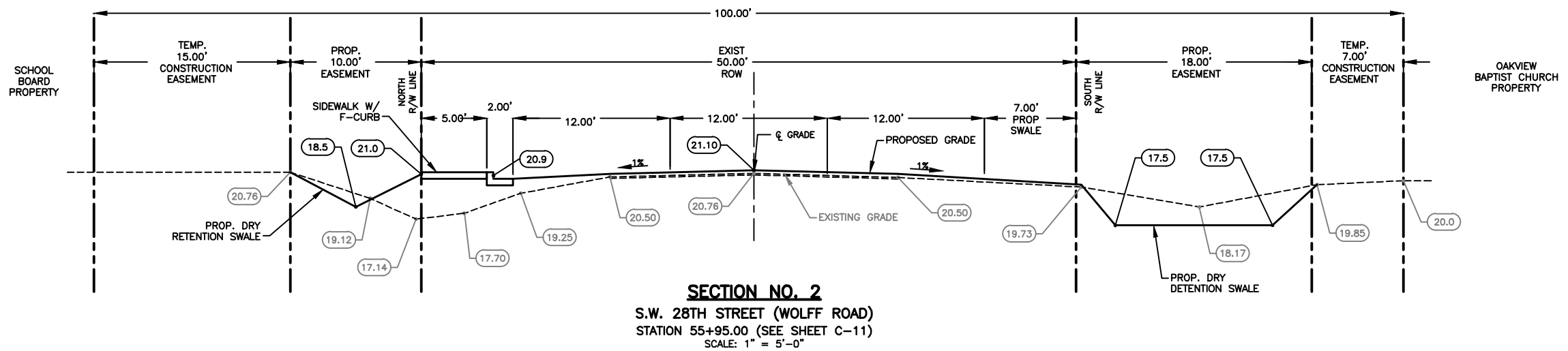
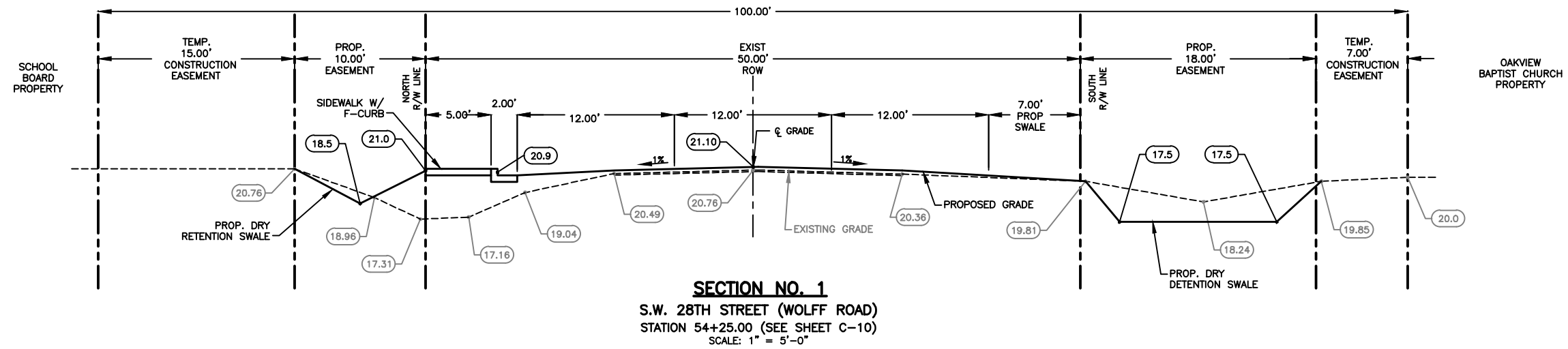
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DATE: _____
FLORIDA PROFESSIONAL ENGINEER NO. 48265

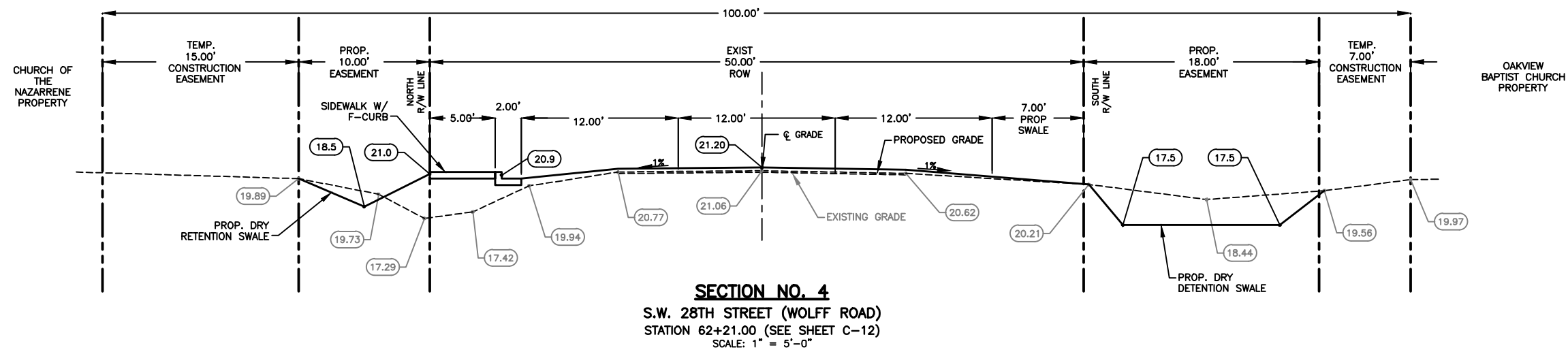
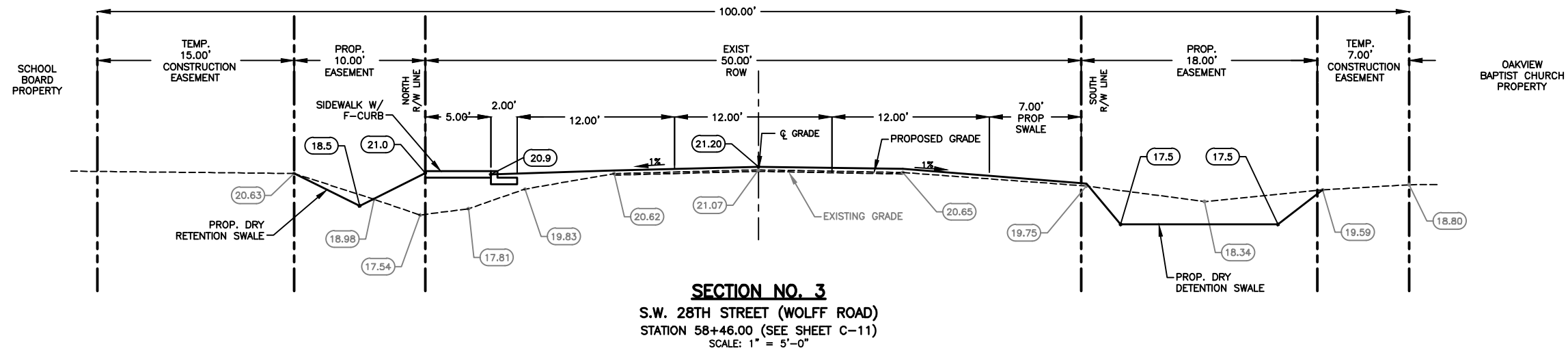
CRAIG A. SMITH & ASSOCIATES
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7777 GLADES ROAD, SUITE 410
BOCA RATON, FLORIDA 33434
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CERTIFICATE NO. LB0003110

PREPARED FOR:
OKEECHOBEE COUNTY

S.W. DRAINAGE
IMPROVEMENTS
S.W. 28TH STREET
SECTION VIEWS

FILE NAME: 47-0429-C-43-SEC.dwg
LAST SAVED: 08/18/09 - 10:26am
SCALE: AS SHOWN
PROJECT: 00-0903-429

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C-43



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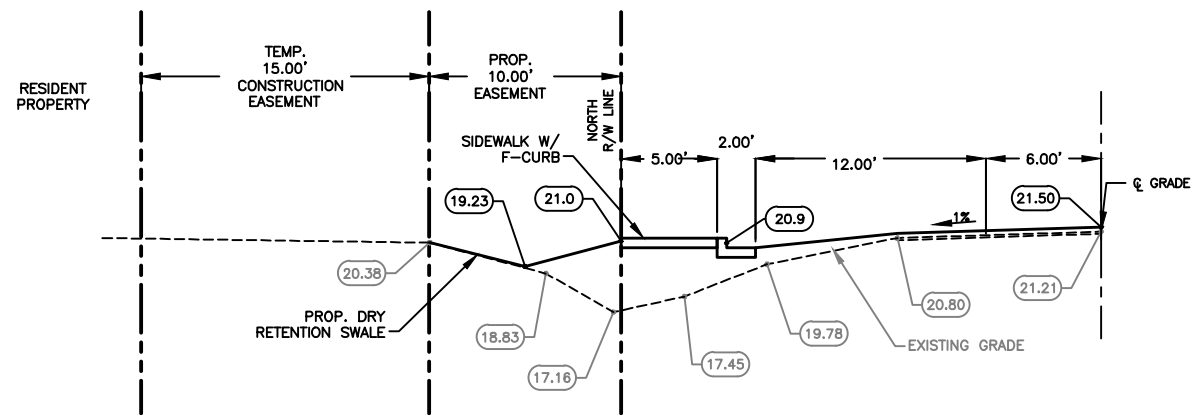
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7777 GLADES ROAD, SUITE 410
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(561)791-9280
CERTIFICATE NO. LB0003110

PREPARED FOR:
OKEECHOBEE COUNTY

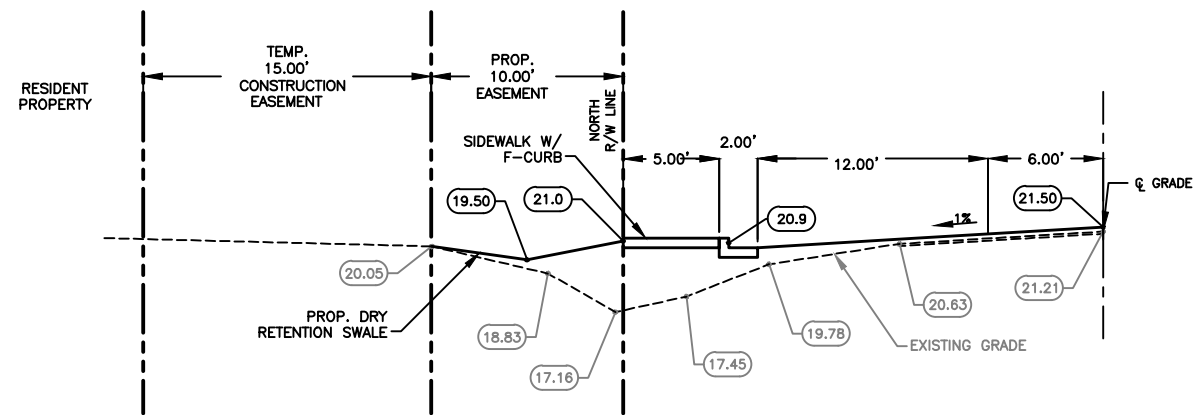
S.W. DRAINAGE
IMPROVEMENTS
S.W. 28TH STREET
SECTION VIEWS

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SCALE: AS SHOWN
PROJECT: 00-0903-429

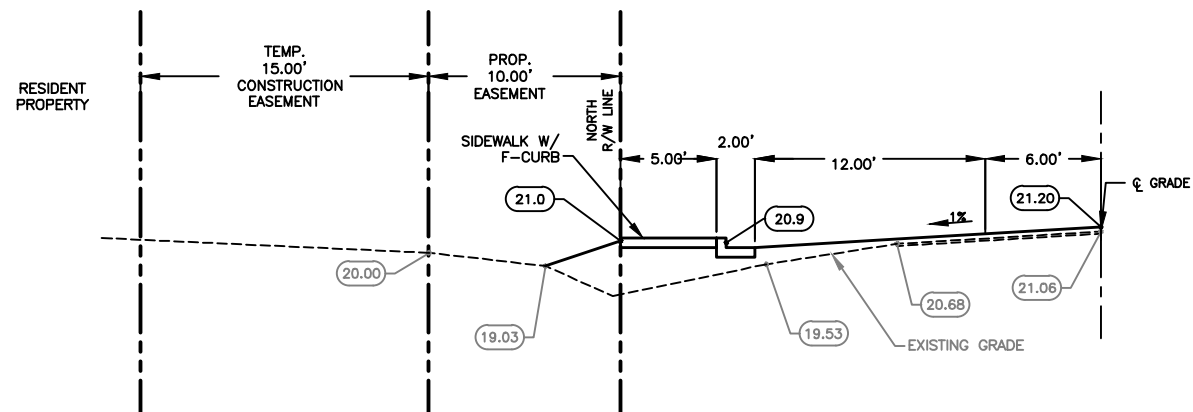
SHEET
C-44



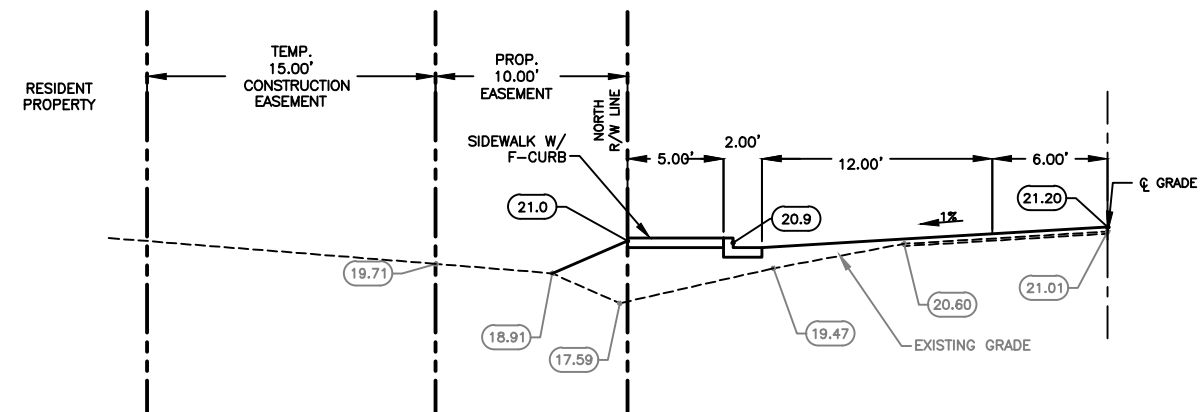
SECTION NO. 5
S.W. 28TH STREET (WOLFF ROAD)
STATION 65+60.00 (SEE SHEET C-13)
SCALE: 1" = 5'-0"



SECTION NO. 6
S.W. 28TH STREET (WOLFF ROAD)
STATION 66+40.00 (SEE SHEET C-13)
SCALE: 1" = 5'-0"



SECTION NO. 7
S.W. 28TH STREET (WOLFF ROAD)
STATION 67+30.00 (SEE SHEET C-13)
SCALE: 1" = 5'-0"



SECTION NO. 8
S.W. 28TH STREET (WOLFF ROAD)
STATION 68+55.00 (SEE SHEET C-13)
SCALE: 1" = 5'-0"

FOR BIDDING PURPOSES ONLY

NO.	DATE	REVISION	BY

Date: 10/16/07
Designed: WT
Drawn: MM
Checked: OAR

APPROVED BY: ORLANDO A. RUBIO, P.E.
DATE: _____
FLORIDA PROFESSIONAL ENGINEER NO. 48265

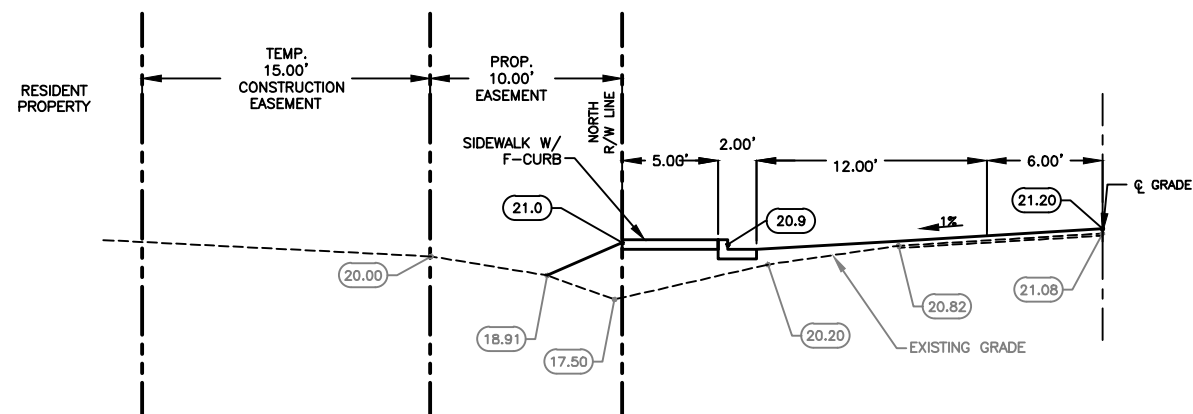
CRAIG A. SMITH & ASSOCIATES
CONSULTING ENGINEERS-PLANNERS-SURVEYORS
7777 GLADES ROAD, SUITE 410
BOCA RATON, FLORIDA 33434
(561)791-9280
CERTIFICATE NO. LB0003110

PREPARED FOR:
OKEECHOBEE COUNTY

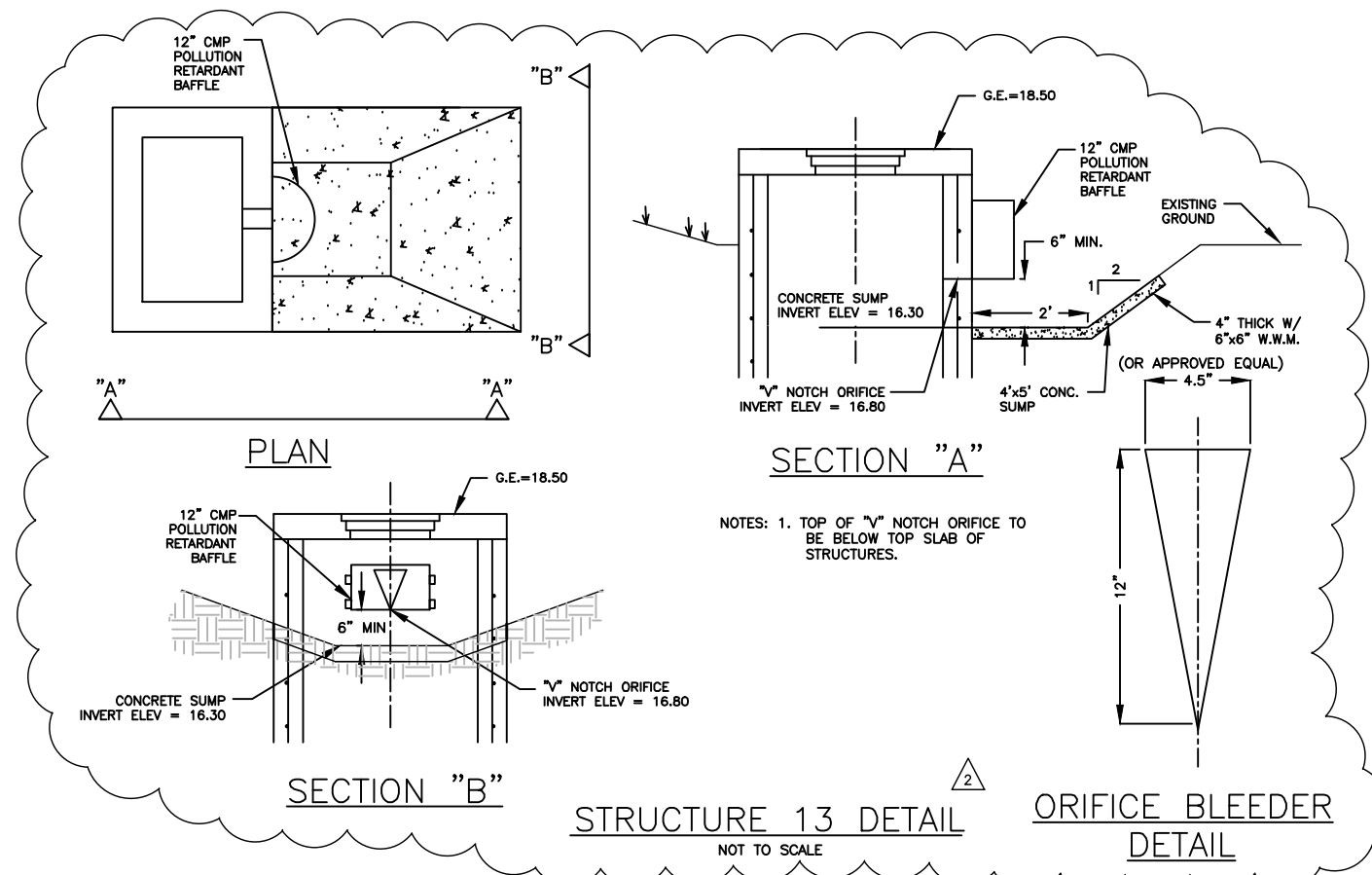
S.W. DRAINAGE
IMPROVEMENTS
S.W. 28TH STREET
SECTION VIEWS

FILE NAME: 49-0429-C-45-SEC.dwg
LAST SAVED: 08/18/09 - 10:29am
SCALE: AS SHOWN
PROJECT: 00-0903-429

SHEET
C-45



SECTION NO. 9
S.W. 28TH STREET (WOLFF ROAD)
STATION 69+90.00 (SEE SHEET C-14)
SCALE: 1" = 5'-0"



FOR BIDDING PURPOSES ONLY

2	06-04-10	PER ADDENDUM NO.2	OAR
NO.	DATE	REVISION	BY

Date:	10/16/07
Designed:	WT
Drawn:	MM
Checked:	OAR

APPROVED BY:	ORLANDO A. RUBIO, P.E.
DATE:	
FLORIDA PROFESSIONAL ENGINEER NO.	48265

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CERTIFICATE NO. LB0003110

PREPARED FOR:
OKEECHOBEE COUNTY

S.W. DRAINAGE IMPROVEMENTS
S.W. 28TH STREET SECTION VIEWS

FILE NAME: 50-0429-C-46-SEC.dwg
LAST SAVED: 06/07/10 - 10:57am
SCALE: AS SHOWN
PROJECT: 00-0903-429

SHEET
C-46