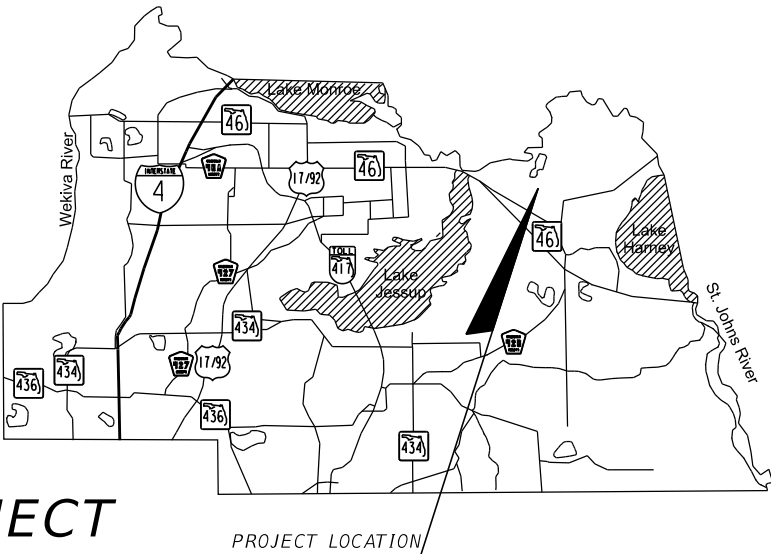


COMPONENTS OF CONTRACT PLANS SET
ROADWAY PLANS

SEMINOLE COUNTY
ENGINEERING DIVISION
CONTRACT PLANS



RETREAT ROAD DRAINAGE IMPROVEMENTS PROJECT
SEMINOLE COUNTY CIP NO. 01907068

INDEX OF RETREAT ROAD PLANS

SHEET NO.	SHEET DESCRIPTION
1	KEY SHEET
2-4	TYPICAL SECTIONS
5	TYPICAL SECTION DETAILS
6-12	PLAN & PROFILES
13	COMPENSATING STORAGE POND DETAIL
14-16	STORMWATER POLLUTION PREVENTION PLAN
17	EROSION CONTROL DETAILS

GOVERNING STANDARDS PLANS:
Florida Department of Transportation, FY2020-21 Standard Plans for Road and Bridge Construction and applicable Interim Revisions (IRs).

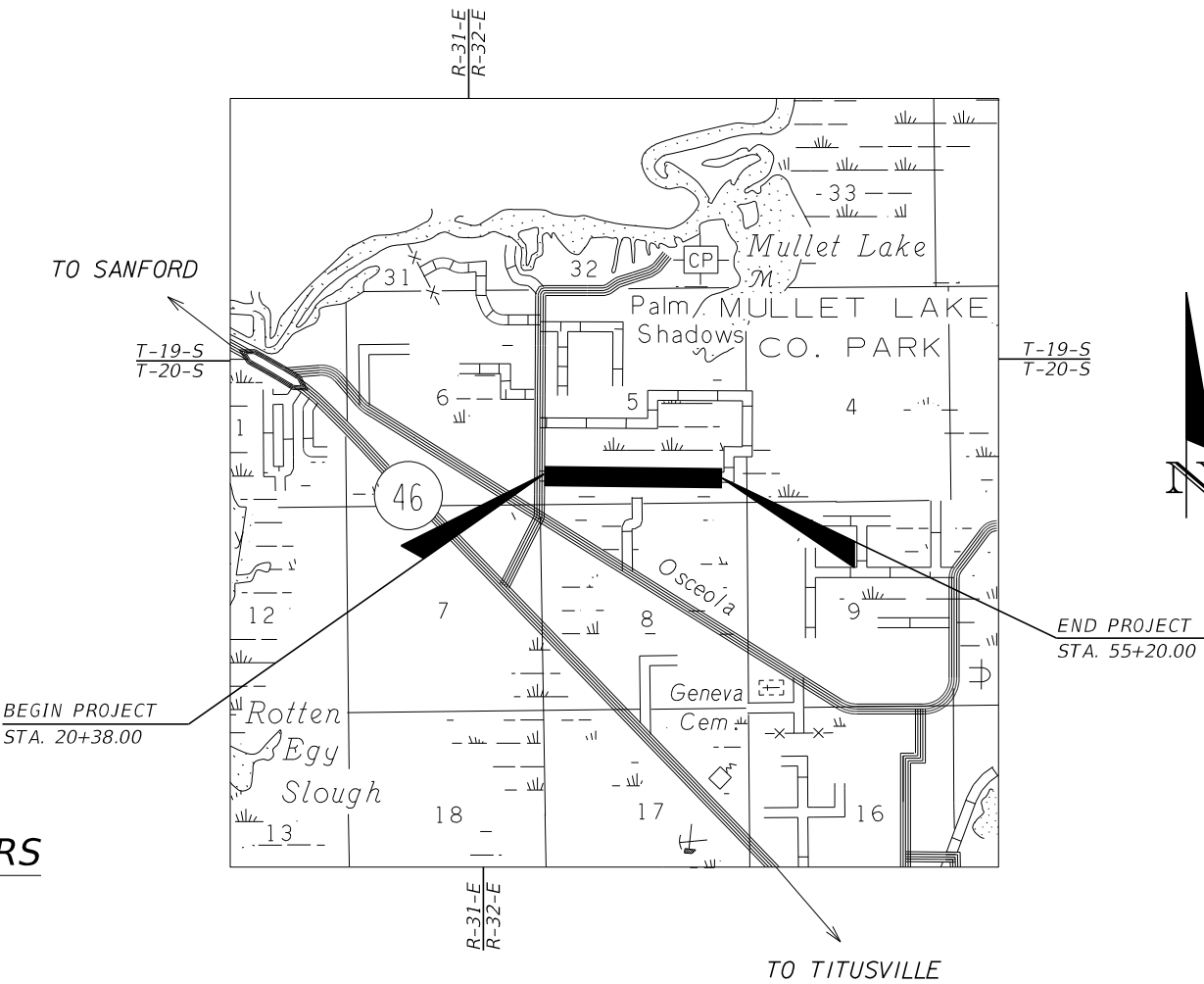
Standard Plans for Road Construction and associated IRs are available at the following website: <http://www.fdot.gov/design/standardplans>

GOVERNING STANDARD SPECIFICATIONS:
Florida Department of Transportation, July 2020 Standard Specifications for Road and Bridge Construction at the following website: <http://www.fdot.gov/programmanagement/Implemented/SpecBooks>

BOARD OF COUNTY COMMISSIONERS

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JAY ZEMBOWER	DISTRICT 2
LEE CONSTANTINE	DISTRICT 3
AMY LOCKHART	DISTRICT 4
BRENDA CAREY	DISTRICT 5

NICOLE GUILLET, COUNTY MANAGER



PLANS PREPARED BY:



NOTE: THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.

ROADWAY PLANS
ENGINEER OF RECORD: STEVE SOMMERFELDT, P.E.

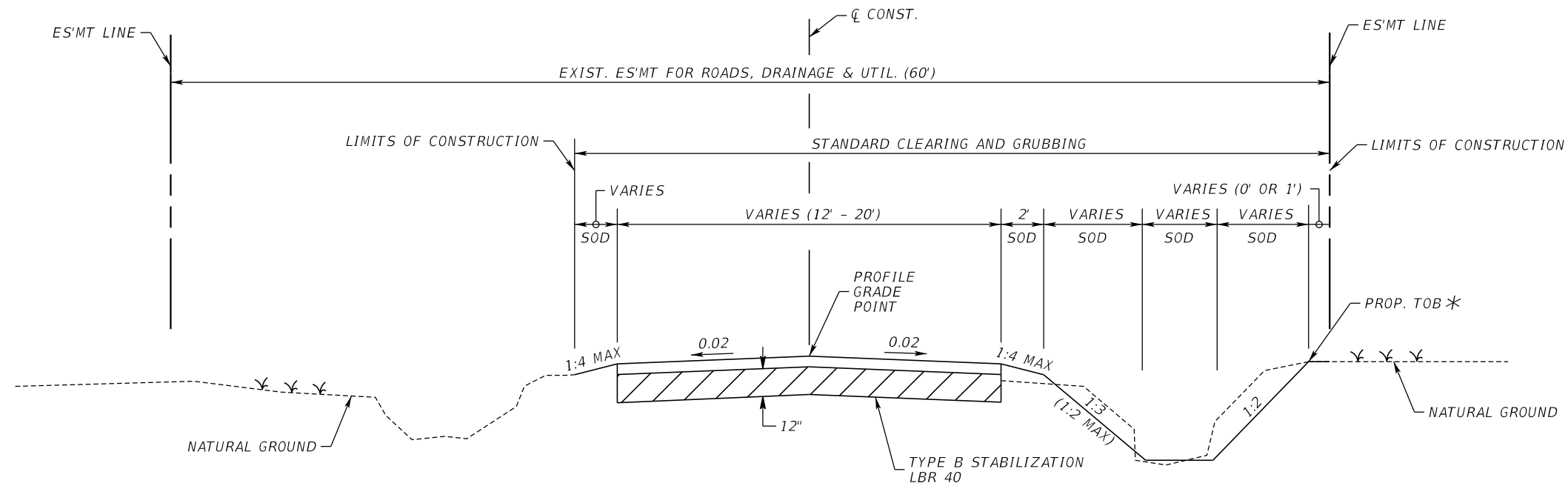
P.E. NO. 64074

COUNTY PROJECT MANAGER:
TUAN HUYNH, P.E.

60% PLANS
AUGUST 2020
NOT FOR CONSTRUCTION

PUBLIC WORKS DIRECTOR: JEAN JREIJ, P.E.

FISCAL YEAR	SHEET NO.
20	1



TYPICAL SECTION 1
RETREAT ROAD
(NTS)

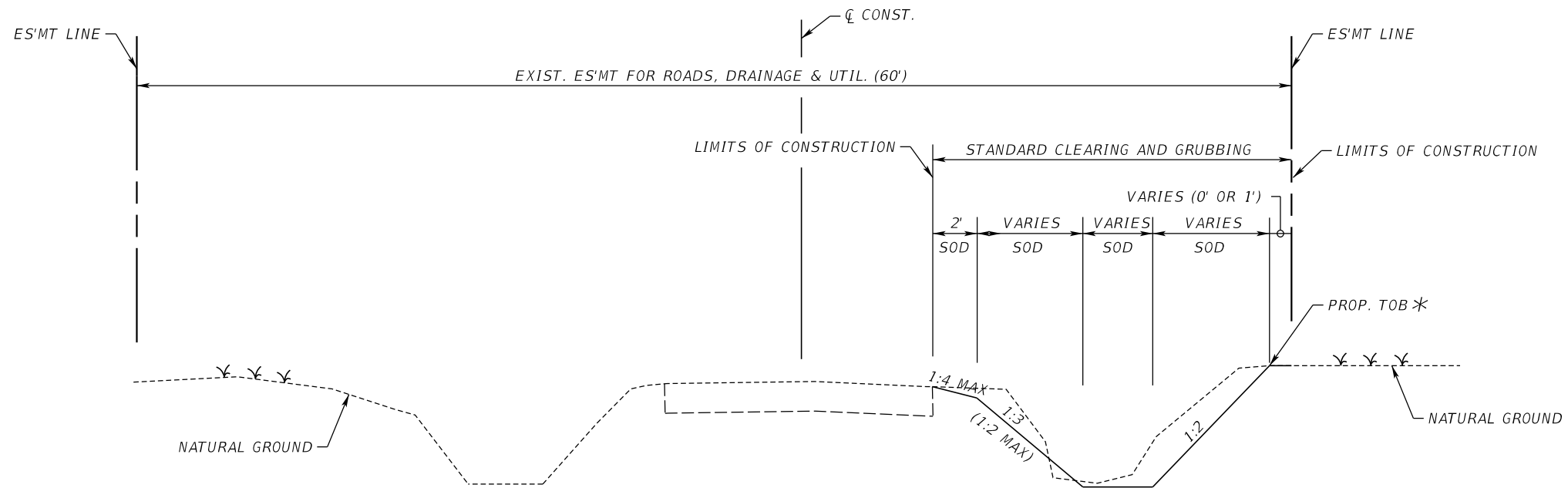
STA. 20+38.00 TO STA. 25+53.13
STA. 35+15.00 TO STA. 42+51.92
STA. 47+11.82 TO STA. 55+20.00

NEW CONSTRUCTION

STABILIZED SAND WITH LIMEROCK, SHELL AND CLAY (LBR 100) (6")

* IF THE EXISTING TOP OF BANK (TOB) IS MORE THAN 1' INSIDE THE EASEMENT (ES'MT), PROVIDE 1' BUFFER FROM ES'MT BEFORE TIE IN. OTHERWISE TIE INTO EXISTING GROUND AT ES'MT.

REVISIONS							SEMINOLE COUNTY ENGINEERING DIVISION		TYPICAL SECTION	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY CIP NO.		
						Steven M. Sommerfeldt, PE PE No. 64074 Certificate of Authorization No. 7074	3000 Dovera Drive, Suite 200 Oviedo, Florida 32765 p 407.971.8850	RETREAT ROAD	01907068	2

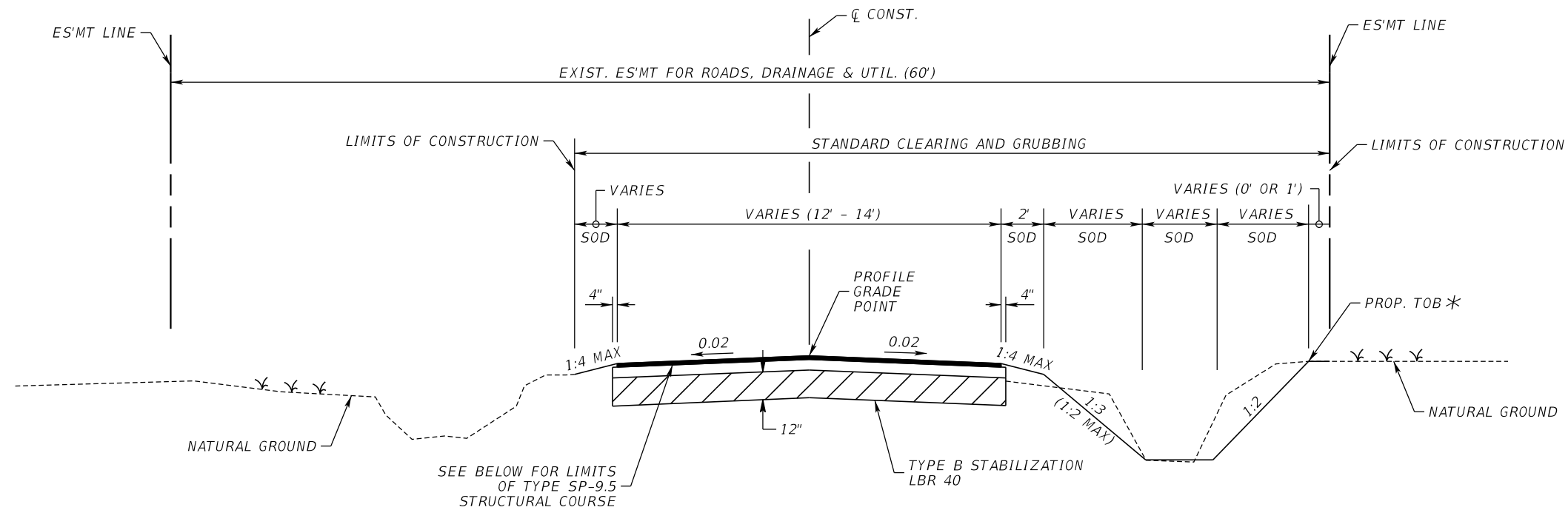


* IF THE EXISTING TOP OF BANK (TOB) IS MORE THAN 1' INSIDE THE EASEMENT (ES'MT), PROVIDE 1' BUFFER FROM ES'MT BEFORE TIE IN. OTHERWISE TIE INTO EXISTING GROUND AT ES'MT.

TYPICAL SECTION 2
RETREAT ROAD
(NTS)

STA. 25+53.13 TO STA. 35+15.00

REVISIONS							SEMINOLE COUNTY ENGINEERING DIVISION		TYPICAL SECTION	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY CIP NO.		
						Steven M. Sommerfeldt, PE PE No. 64074 Certificate of Authorization No. 7074	3000 Dovera Drive, Suite 200 Oviedo, Florida 32765 p 407.971.8850	RETREAT ROAD 01907068		3



TYPICAL SECTION 3
RETREAT ROAD
(NTS)

STA. 42+51.92 TO STA. 47+11.82

NEW CONSTRUCTION

STABILIZED SAND WITH LIMEROCK, SHELL AND CLAY (LBR 100) (6")
TYPE SP-9.5 STRUCTURAL COURSE (TRAFFIC B) (1")

* IF THE EXISTING TOP OF BANK (TOB) IS MORE THAN 1' INSIDE THE EASEMENT (ES'MT), PROVIDE 1' BUFFER FROM ES'MT BEFORE TIE IN. OTHERWISE TIE INTO EXISTING GROUND AT ES'MT.

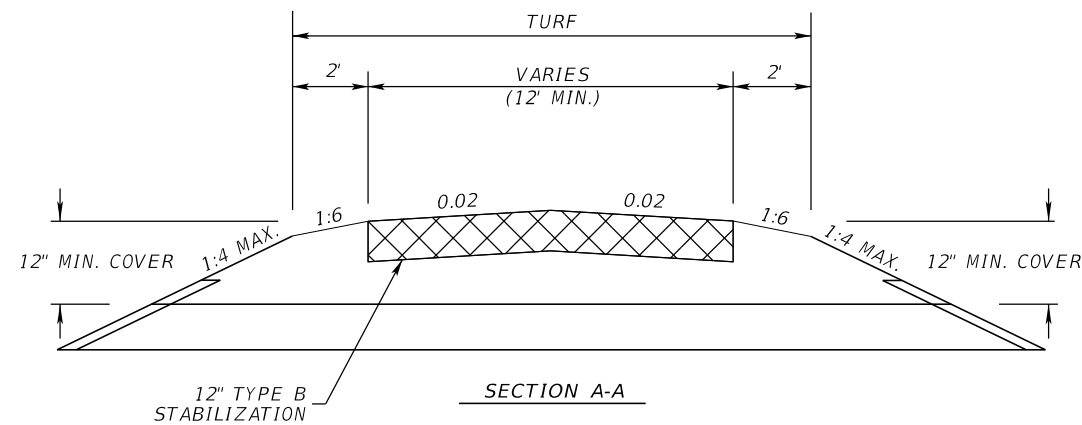
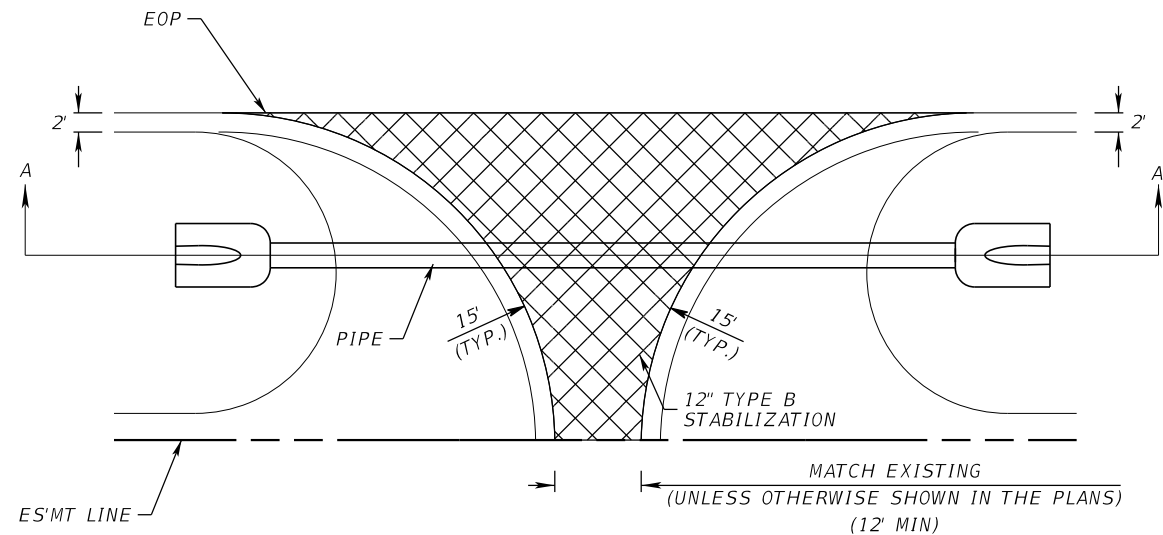
REVISIONS							SEMINOLE COUNTY ENGINEERING DIVISION		TYPICAL SECTION	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY CIP NO.		
						Steven M. Sommerfeldt, PE PE No. 64074 Certificate of Authorization No. 7074	3000 Dovera Drive, Suite 200 Oviedo, Florida 32765 p 407.971.8850	RETREAT ROAD 01907068		4

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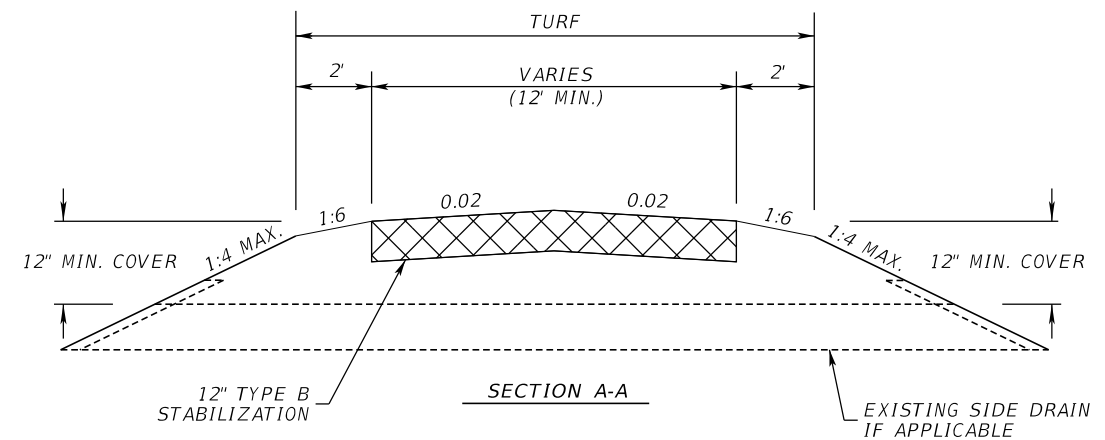
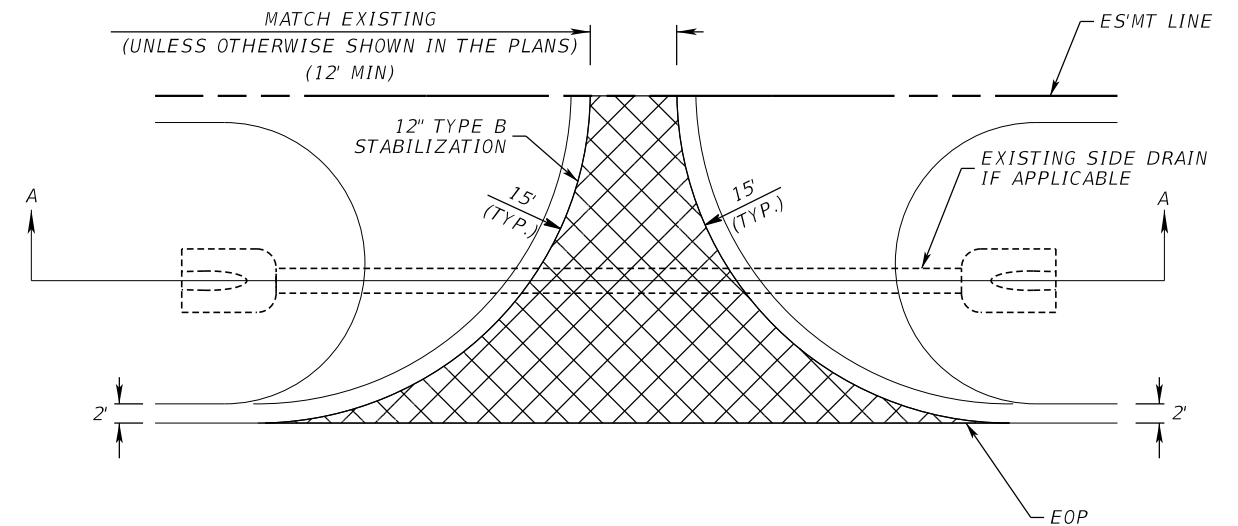
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STABILIZED TURNOUT

SEE PLANS FOR LOCATIONS
NTS



STABILIZED TURNOUT

SEE PLANS FOR LOCATIONS
NTS

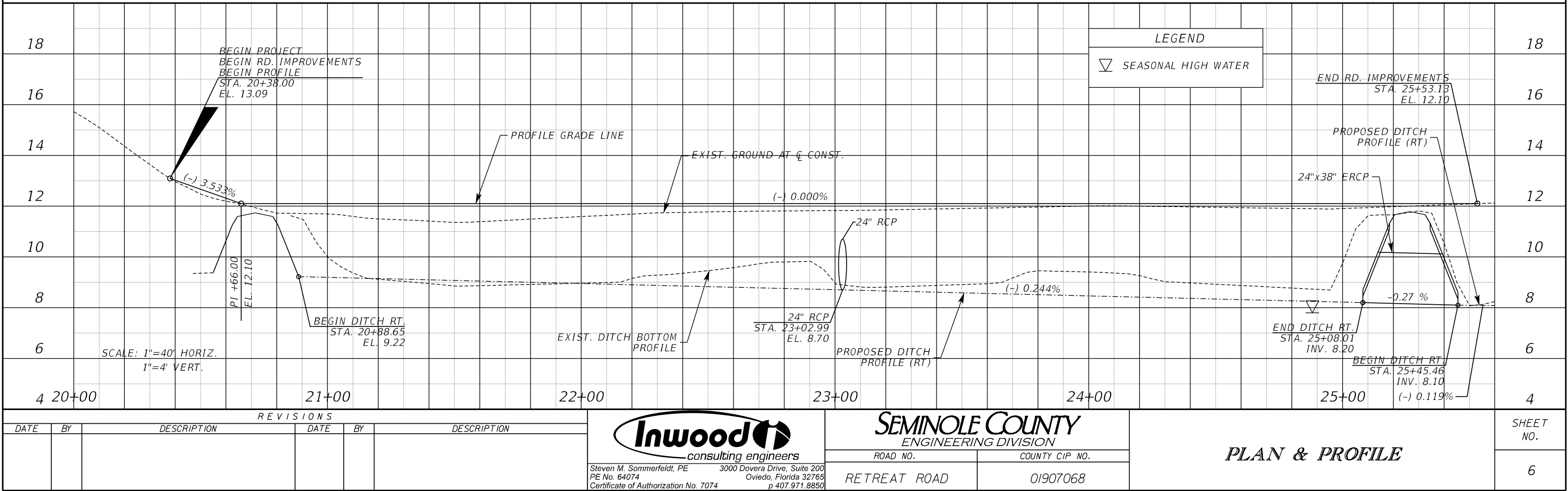
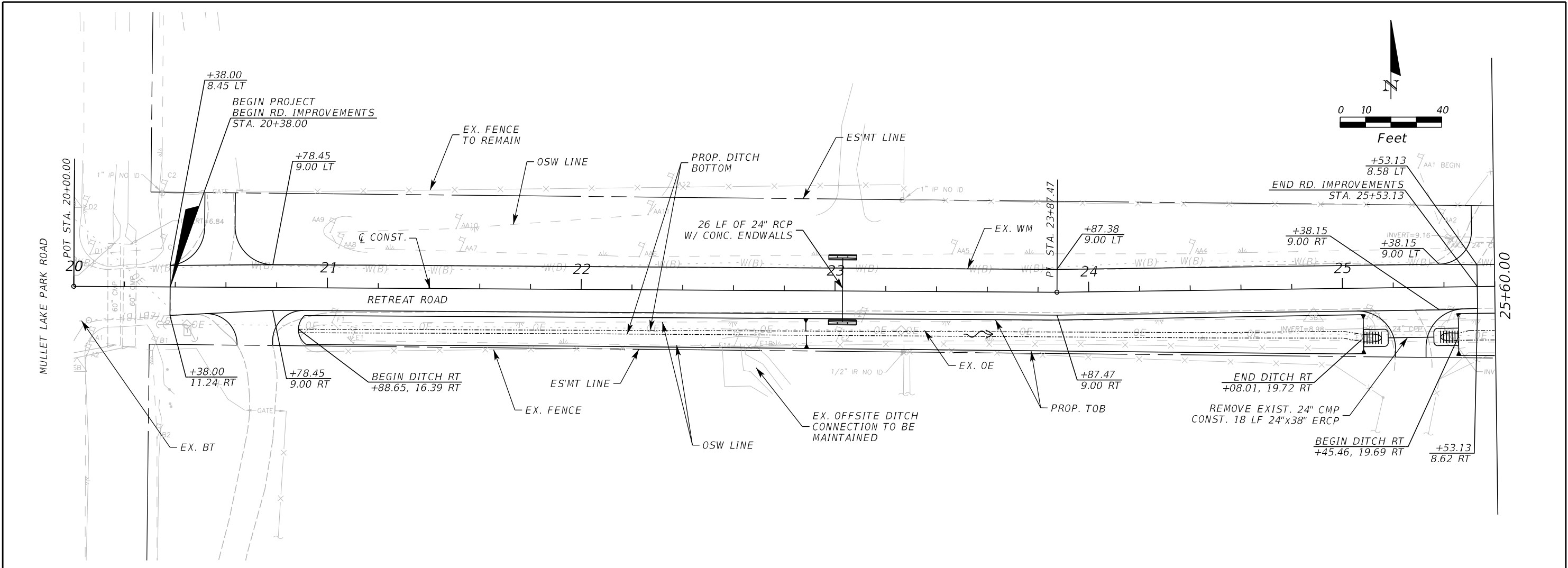
REVISIONS							SEMINOLE COUNTY ENGINEERING DIVISION		TYPICAL SECTION DETAILS	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY CIP NO.		
						Steven M. Sommerfeldt, PE PE No. 64074 Certificate of Authorization No. 7074	3000 Dovera Drive, Suite 200 Oviedo, Florida 32765 p 407.971.8850	RETREAT ROAD 01907068		5

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION



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PE No. 64074
Certificate of Authorization No. 7074

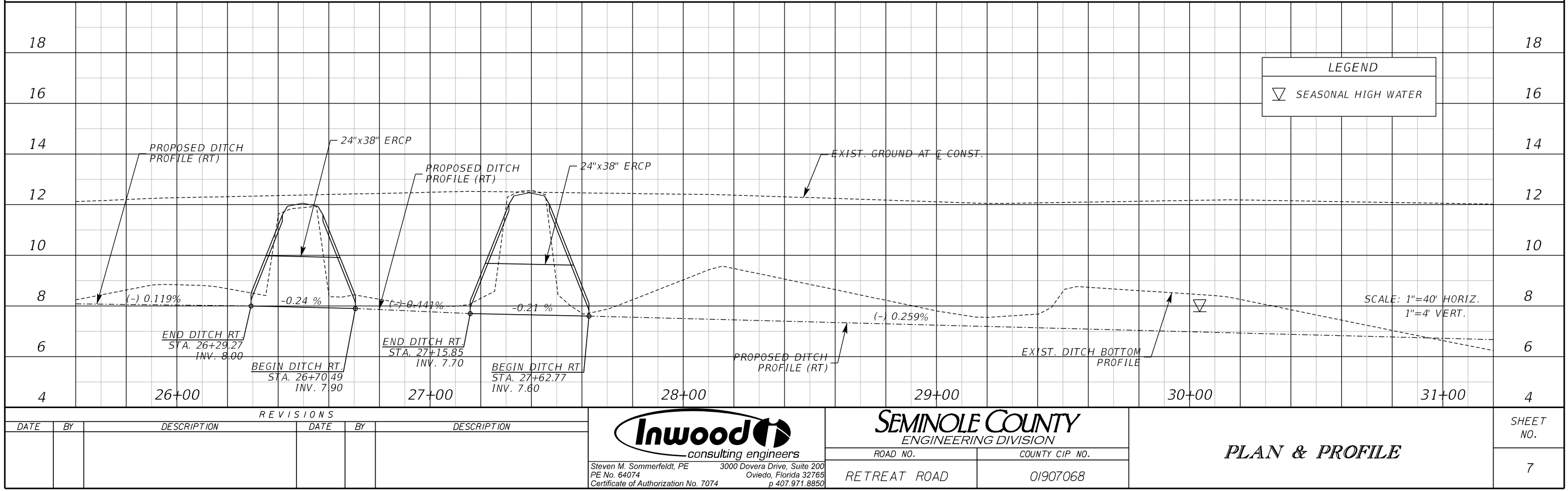
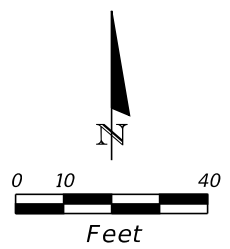
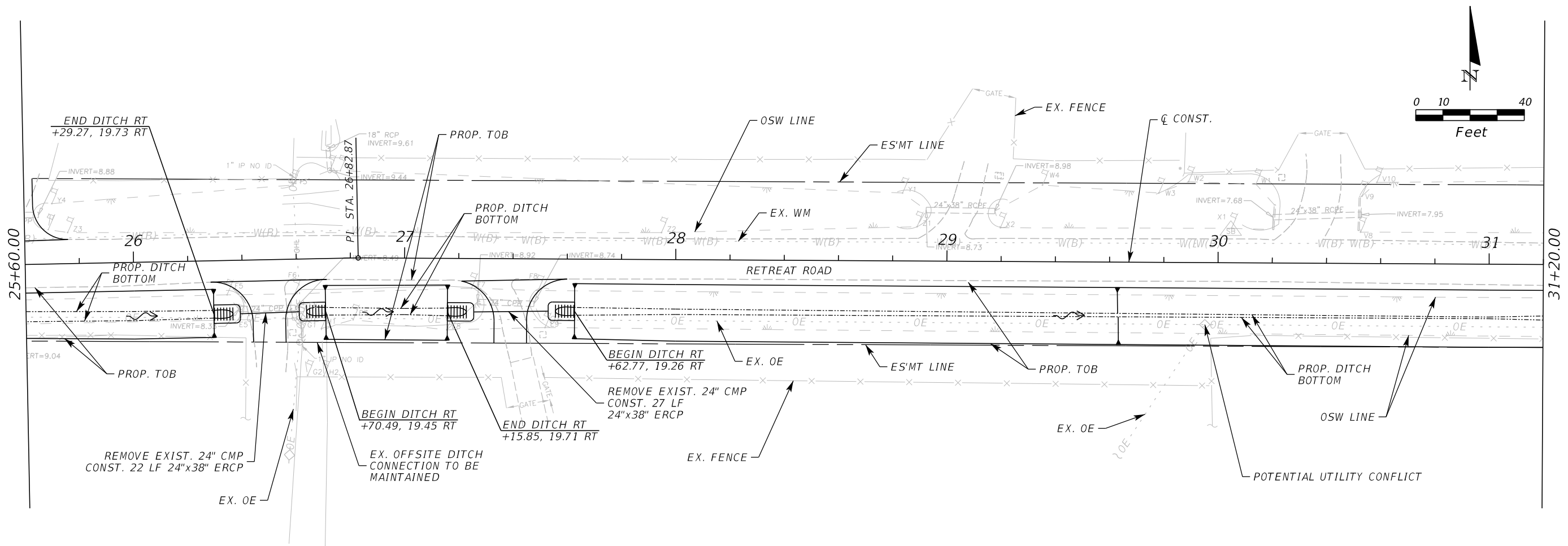
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Oviedo, Florida 32765
p 407.971.8850

SEMINOLE COUNTY
ENGINEERING DIVISION

ROAD NO.	COUNTY CIP NO.
RETREAT ROAD	01907068

PLAN & PROFILE

SHEET NO. 6



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Inwood
consulting engineers

Steven M. Sommerfeldt, PE
PE No. 64074
Certificate of Authorization No. 7074

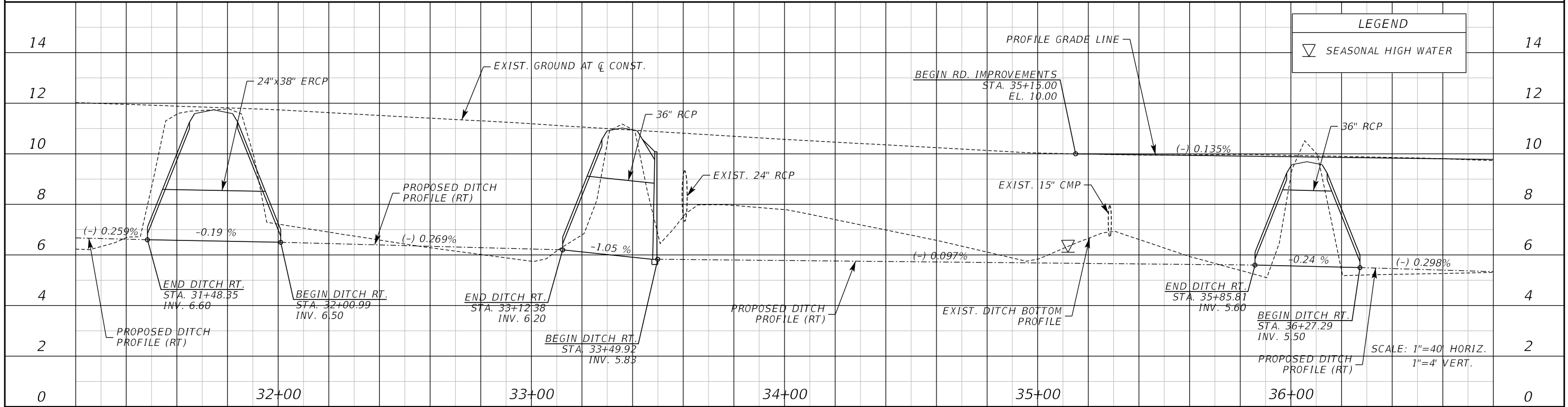
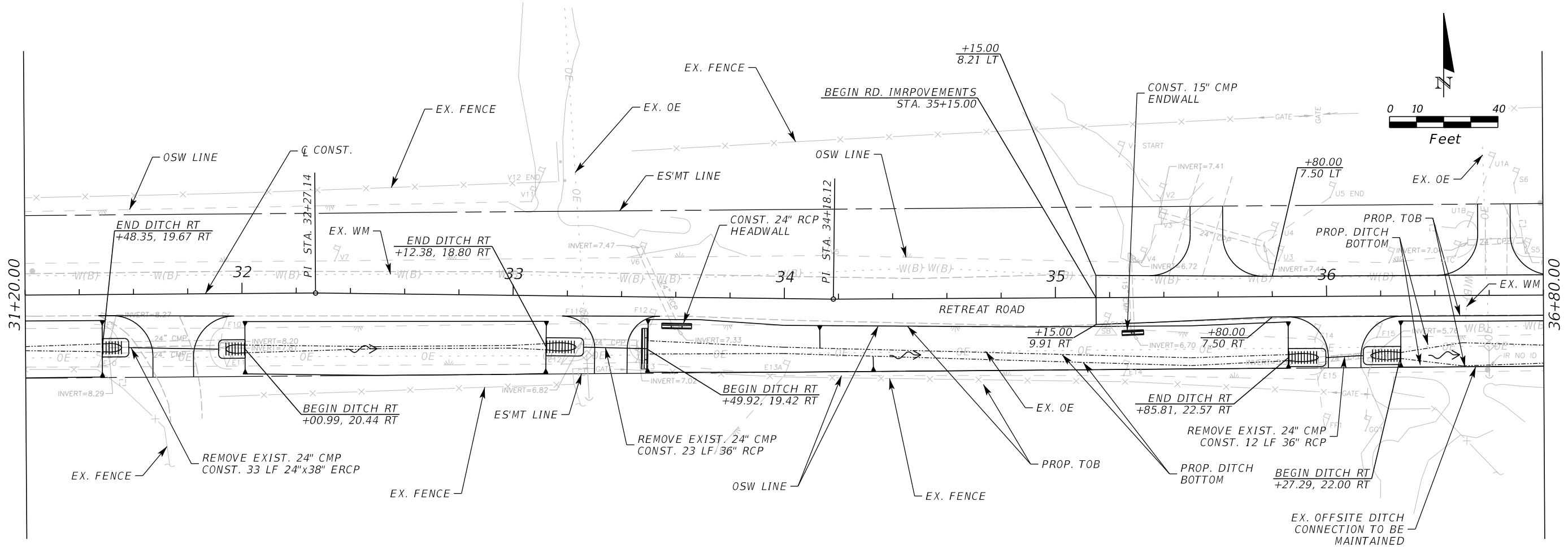
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Oviedo, Florida 32765
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SEMINOLE COUNTY
ENGINEERING DIVISION

ROAD NO.	COUNTY CIP NO.
RETREAT ROAD	01907068

PLAN & PROFILE

SHEET NO. 7



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Inwood
consulting engineers

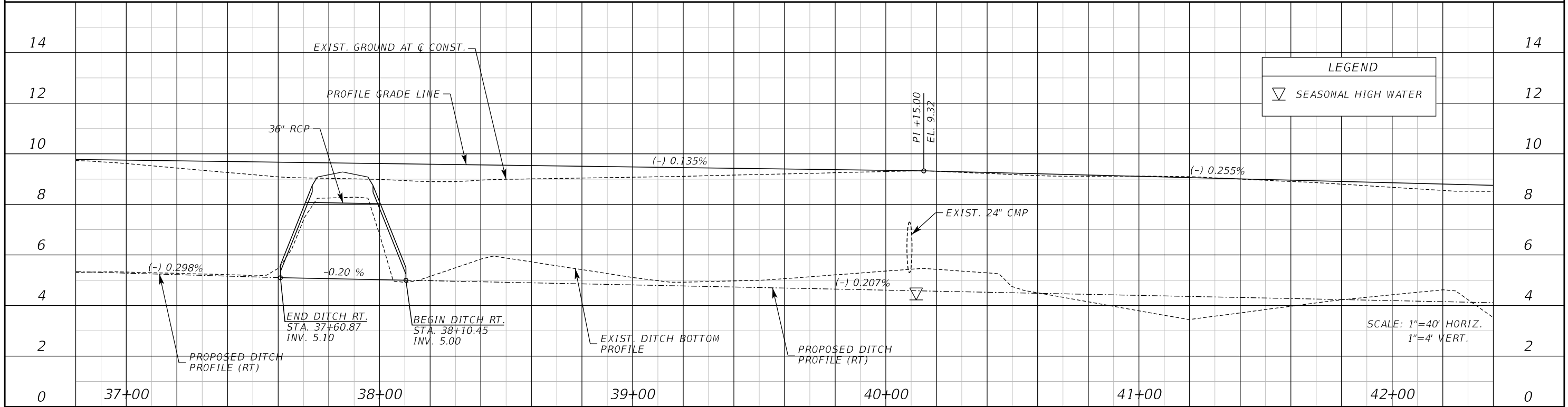
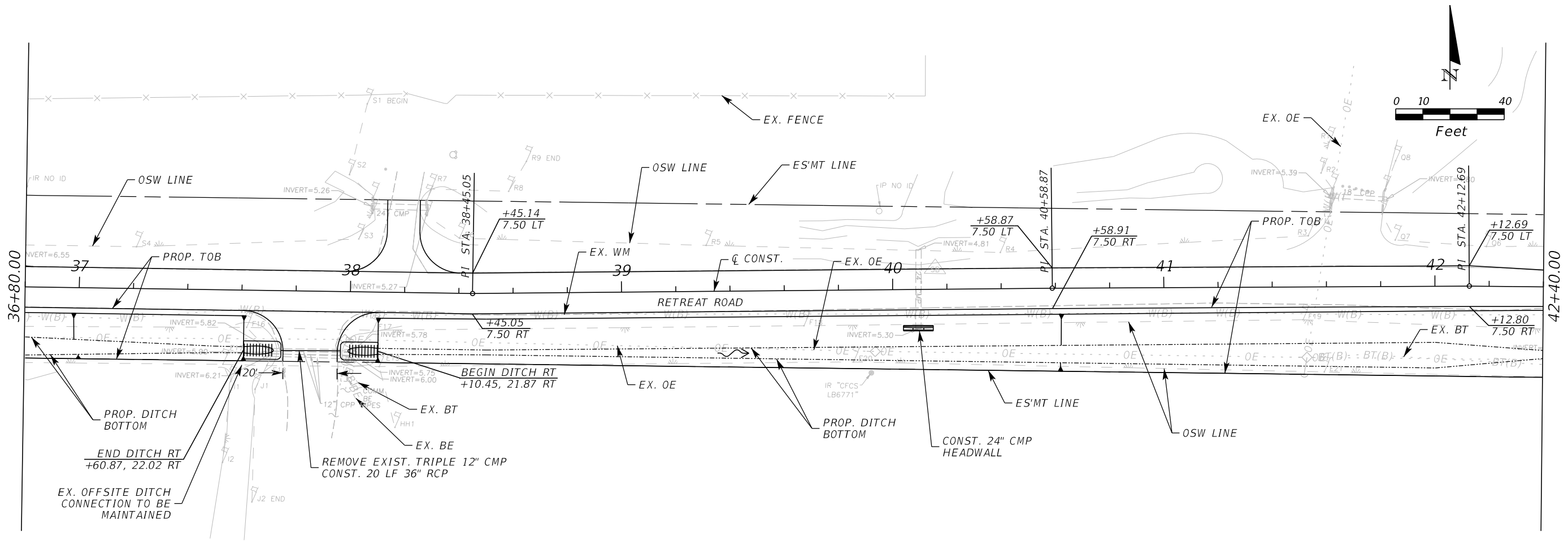
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PE No. 64074 Oviedo, Florida 32765
Certificate of Authorization No. 7074 p 407.971.8850

SEMINOLE COUNTY
ENGINEERING DIVISION

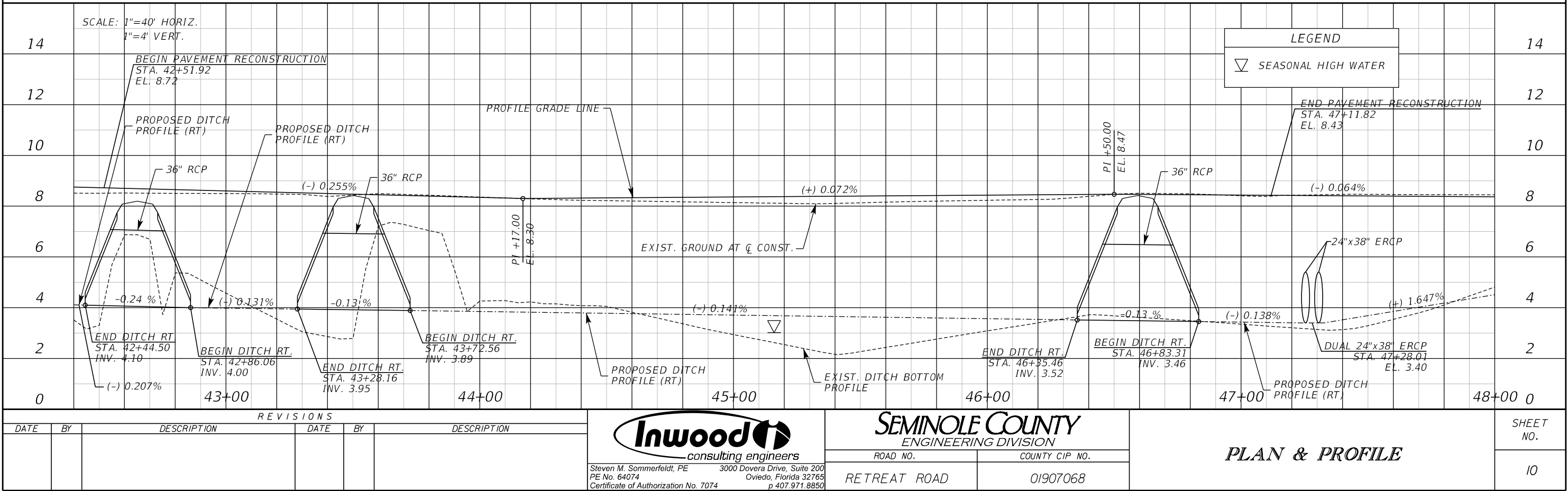
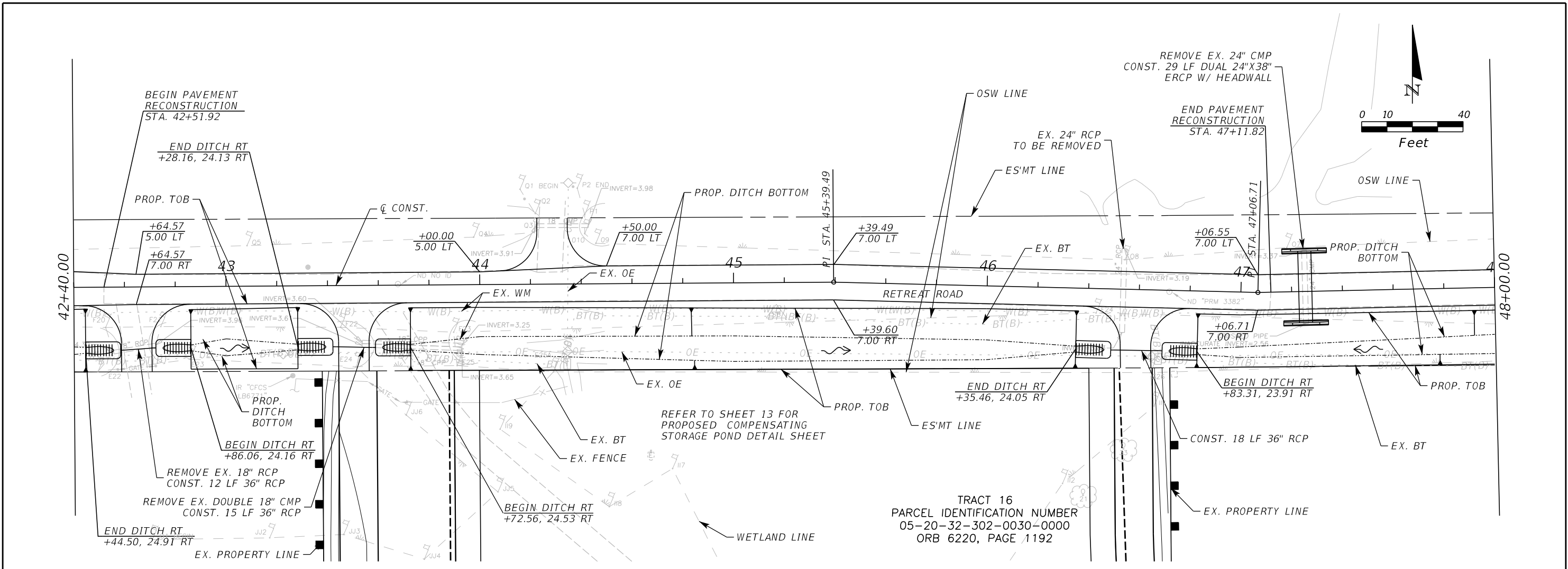
ROAD NO.	COUNTY CIP NO.
RETREAT ROAD	01907068

PLAN & PROFILE

SHEET NO. 8



REVISIONS							SEMINOLE COUNTY ENGINEERING DIVISION		PLAN & PROFILE		SHEET NO. 9
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY CIP NO.			
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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Inwood
consulting engineers

Steven M. Sommerfeldt, PE
PE No. 64074
Certificate of Authorization No. 7074

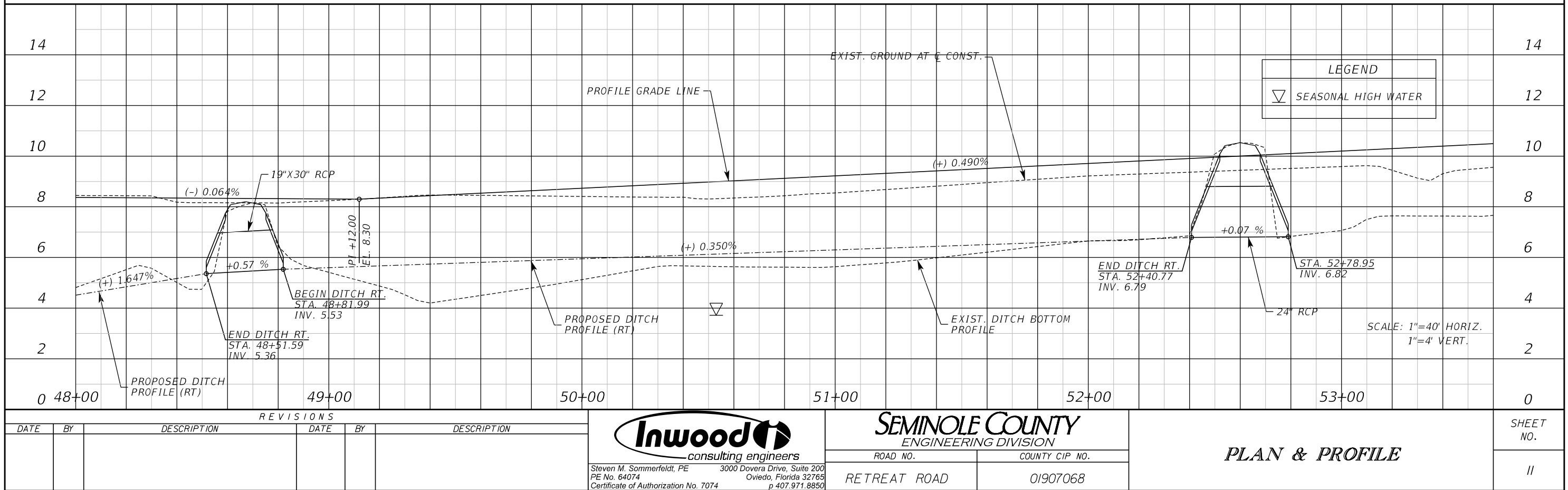
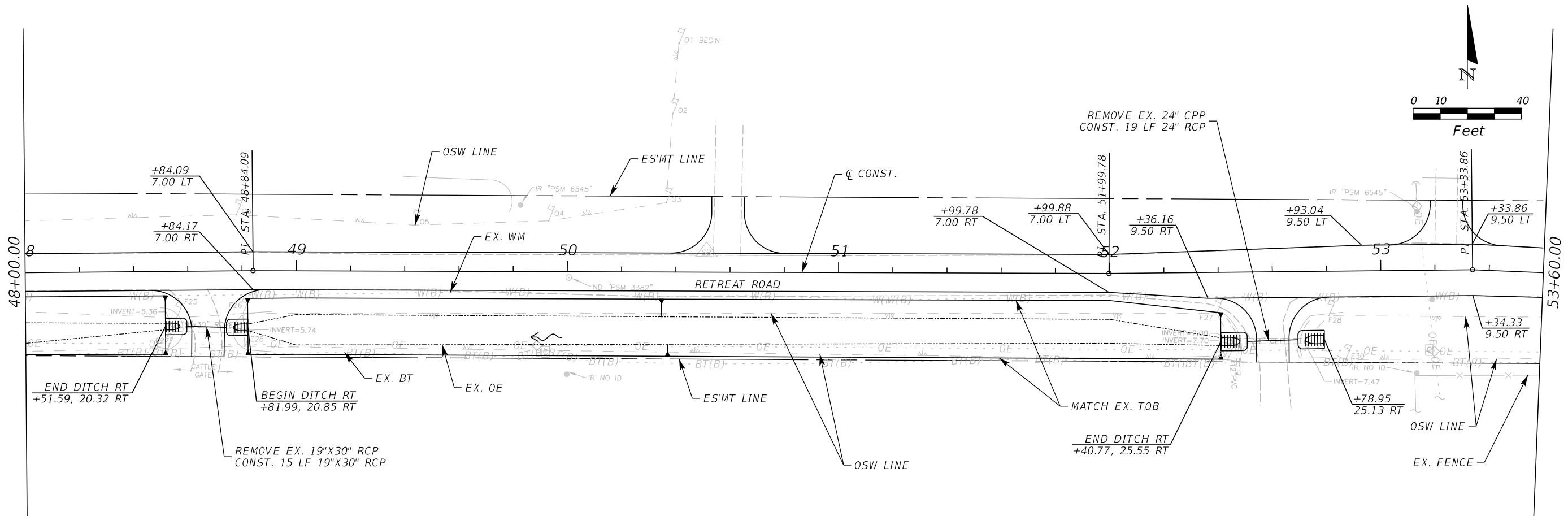
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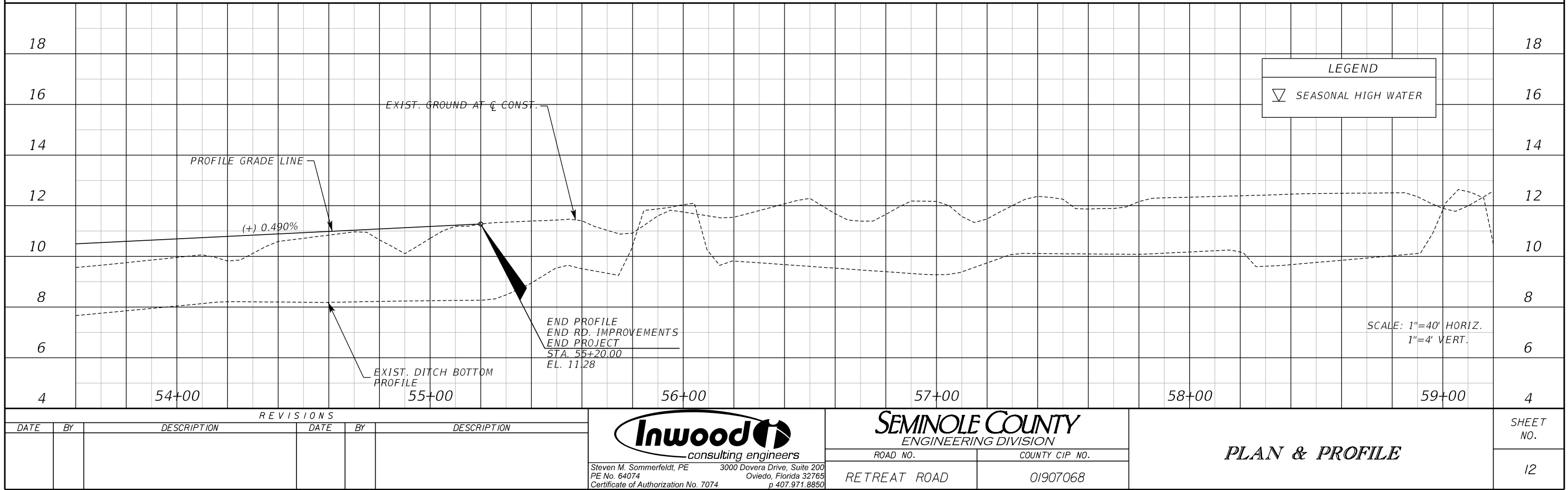
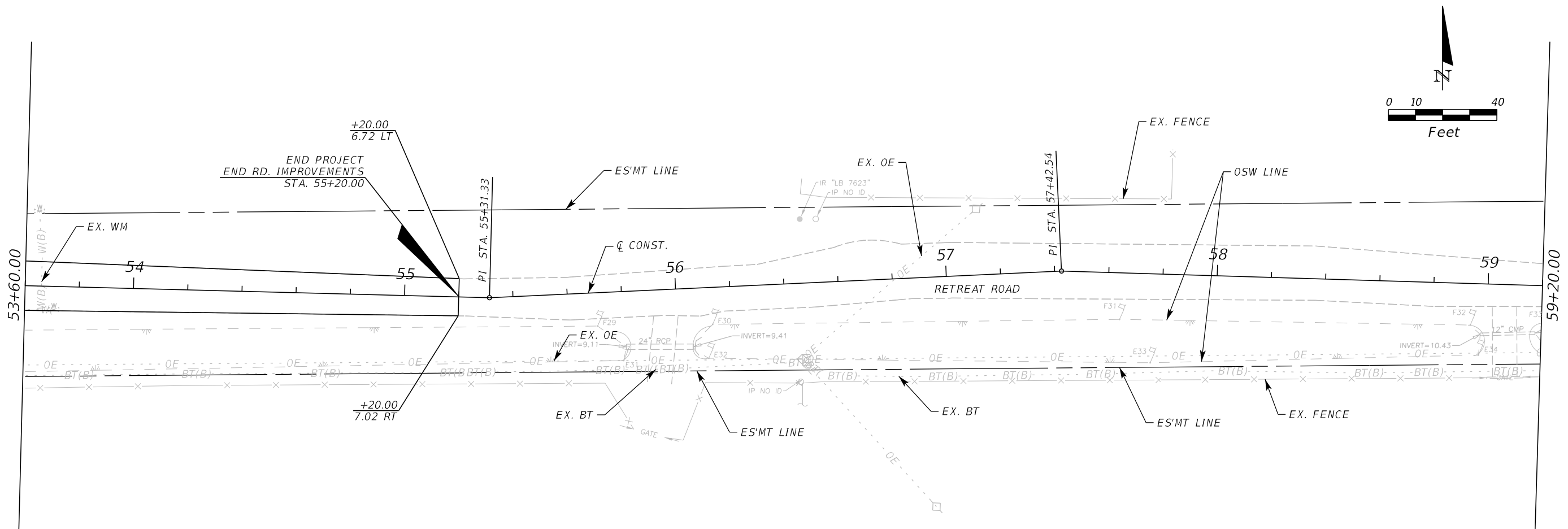
SEMINOLE COUNTY
ENGINEERING DIVISION

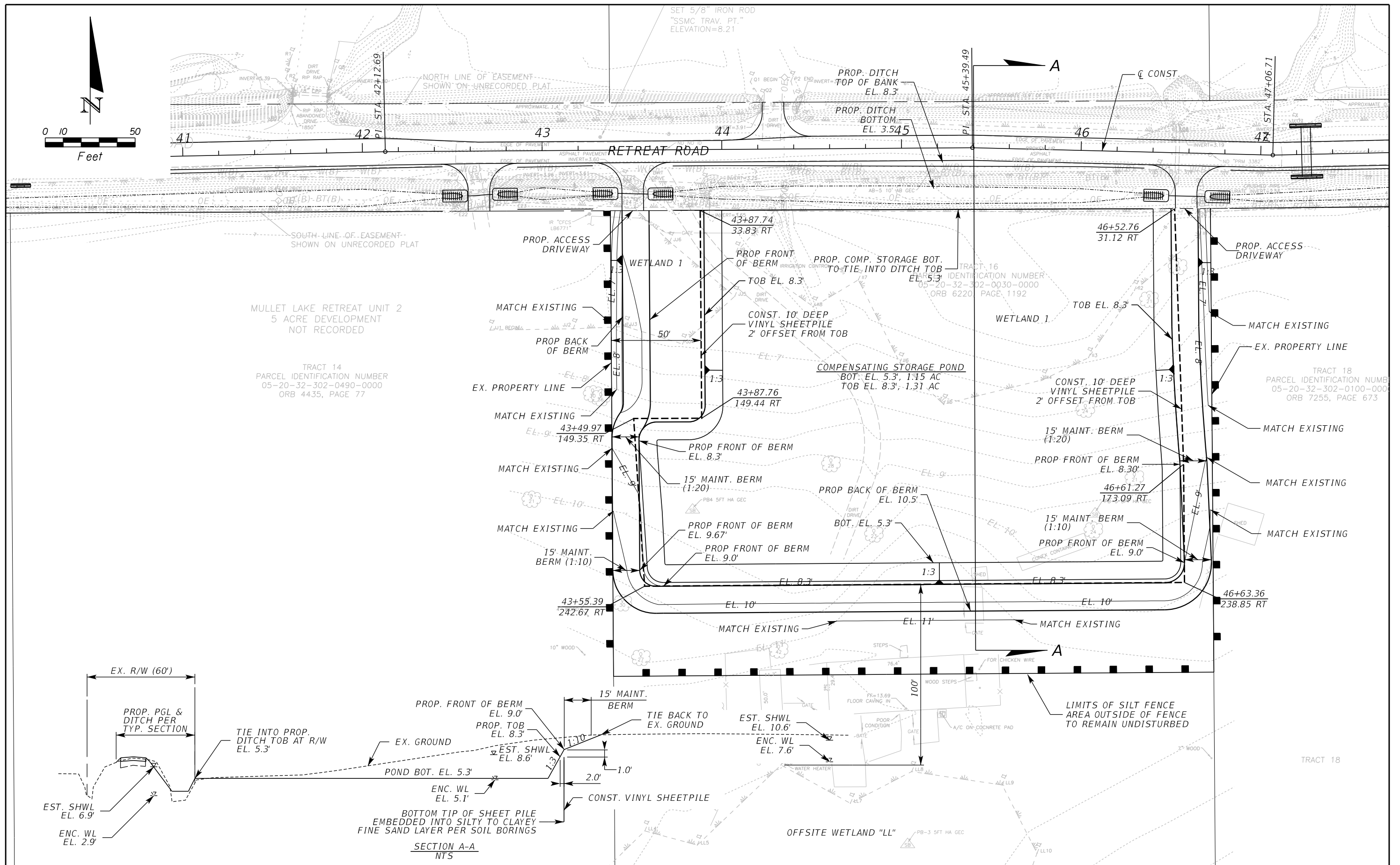
ROAD NO.	COUNTY CIP NO.
RETREAT ROAD	01907068

PLAN & PROFILE

SHEET NO.
10







STORMWATER POLLUTION PREVENTION PLAN FOR RETREAT ROAD DRAINAGE IMPROVEMENTS PROJECT
SEMINOLE COUNTY

I. SITE DESCRIPTION:

- (1) NATURE OF CONSTRUCTION ACTIVITY
THE PROPOSED IMPROVEMENTS CONSIST OF:
REGRAIDING OF THE EXISTING DITCH ON THE SOUTH SIDE OF RETREAT ROAD,
UPSIZING OF THE SIDEDRAINS ALONG THE DITCH TO 24"X38" ERCP OR 36" RCP,
REPLACEMENT OR UPSIZING OF EXISTING CROSSDRAINS UNDER RETREAT ROAD,
RAISING OF THE ROADWAY PROFILE GRADE LINE (PGL) ALONG THE LOW SPOTS OF THE ROAD, AND
EXCAVATION OF A COMPENSATING STORAGE POND AT A COUNTY-OWNED PARCEL TO THE SOUTH OF RETREAT ROAD.
- (2) SEQUENCE OF MAJOR SOIL DISTURBING ACTIVITIES:
THE CONTRACTOR SHALL BE REQUIRED TO PREPARE A SITE SPECIFIC EROSION CONTROL PLAN ALONG WITH A DETAILED CONSTRUCTION SCHEDULE TO INDICATE DATES OF MAJOR GRADING ACTIVITIES AND DETERMINE SEQUENCES OF TEMPORARY AND PERMANENT SOIL DISTURBING ACTIVITIES ON ALL PORTIONS OF THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO MODIFY THE PLAN OR MATERIALS TO ADAPT TO SEASONAL VARIATIONS, CONSTRUCTION ACTIVITY VARIATIONS, OR AS DIRECTED BY THE ENGINEER. APPLICABLE EROSION CONTROL DEVICES AND IMPLEMENTATION PROCEDURES ARE SUPPLIED IN THE STATE OF FLORIDA EROSION AND SEDIMENT CONTROL DESIGNER AND REVIEW MANUAL (E&SC MANUAL). THE ENGINEER IS RESPONSIBLE FOR DETERMINING IF ANY MODIFICATIONS OR ADDITIONAL CONTROLS ARE REQUIRED AND TO OBTAIN DEPLOYMENT SCHEDULES FOR THE IMPLEMENTATION OF ALL ADDITIONAL EROSION CONTROL DEVICES FROM THE CONTRACTOR.
- (3) GENERAL NOTES:
(a) ALL EROSION AND SEDIMENT CONTROL DEVICES FOR EACH PHASE OF WORK ARE TO BE INSTALLED PRIOR TO BEGINNING WORK ON THAT PHASE.
(b) INSTALL EROSION AND SEDIMENT CONTROL DEVICES WHERE LISTED IN THE CONTRACTOR'S APPROVED EROSION AND SEDIMENT CONTROL PLAN FOR PERIMETER CONTROLS BEFORE THE LAND IS DISTURBED.
(c) PROVIDE SEDIMENT BARRIERS WHERE LISTED IN THE CONTRACTOR'S APPROVED EROSION AND SEDIMENT CONTROL PLAN FOR DITCH BLOCKS DURING CONSTRUCTION.
(d) PROVIDE INLET PROTECTION SYSTEMS AT ANY IDENTIFIED INLET OPENINGS.
(e) COVER OR STABILIZE DISTURBED AREAS AS SOON AS POSSIBLE.
(f) DO NOT DISTURB AN AREA UNTIL IT IS NECESSARY FOR CONSTRUCTION TO PROCEED.
(g) TIME CONSTRUCTION ACTIVITIES TO LIMIT IMPACT FROM SEASONAL CLIMATE CHANGES OR WEATHER EVENTS.
(h) DO NOT REMOVE PERIMETER CONTROLS UNTIL AFTER ALL UPSTREAM AREAS ARE FULLY STABILIZED AND PERMANENT VEGETATION IS ESTABLISHED.
- (4) PROJECT AREAS
THE ESTIMATED TOTAL PROJECT AREA IS 6.78 ACRES.
THE ESTIMATED AREA TO BE DISTURBED DURING CONSTRUCTION ACTIVITIES IS 6.78 ACRES.
- (5) RUNOFF COEFFICIENTS BEFORE Cw(B), DURING Cw(D) AND AFTER Cw(A) CONSTRUCTION:
RUNOFF COEFFICIENT FOR:
GRASSED SHOULDERS ADJACENT TO ROADWAY: C=0.20
IMPERVIOUS ROADWAYS AND PAVED SHOULDER: C=0.90
DISTURBED AREAS, EXPOSED SOIL, ETC., DURING CONSTRUCTION: C=0.40
- WEIGHTED RUN-OFF COEFFICIENT:
BEFORE: Cw(B) = 0.51 DURING: Cw(D) = 0.51 - 0.52 AFTER: Cw(A) = 0.52
- THE RUN-OFF COEFFICIENT DURING CONSTRUCTION, Cw(D), IS CALCULATED ASSUMING THAT THE MAXIMUM ALLOWABLE AREA OF SOIL IS DISTURBED DURING CONSTRUCTION, AND THE REMAINING AMOUNT IS THE EXISTING IMPERVIOUS AND GRASSED SHOULDER AREAS.
- (6) DESCRIPTION OF SOIL OR QUALITY OF DISCHARGE
THE SOIL WITHIN THE PROJECT AREA ENCOUNTERED IN THE PROPOSED PROJECT CONSISTS PRIMARILY OF SAND:

SOIL NAME	SOIL DESCRIPTION	AASHTO SOIL CLASSIFICATION
BASINGER FINE SAND	FINE SAND	A-2-4, & A-3
HONTOON MUCK	MUCK	A-8
SAMSULA MUCK	MUCK	A-8, A-3, & A-2-4
SMYRNA FINE SAND	FINE SAND	A-3, & A-2-4
IMMOKALEE SAND	FINE SAND	A-3, & A-2-4
POMELLO FINE SAND	FINE SAND	A-3, & A-2-4
ST. JOHNS FINE SAND	FINE SAND	A-3, & A-2-4
EAGALLIE FINE SAND	FINE SAND	A-3, A-2-4, & A-2-6

REFERENCE: USDA SOIL SURVEY OF SEMINOLE COUNTY FLORIDA.

- (7) ESTIMATED DRAINAGE AREA AND AVERAGE SLOPE OF DRAINAGE AREA FOR EACH OUTFALL:
(a) SITE MAP: THE CONSTRUCTION PLANS ARE BEING USED AS THE SITE MAP.
- (8) RECEIVING WATERS:
THE STORMWATER RUNOFF FROM THE SITE IS TO BE CONVEYED THROUGH THE PROPOSED ROADSIDE DITCH, AND COMPENSATING STORAGE POND PRIOR TO DISCHARGING TO THE WETLAND NORTH OF RETREAT ROAD. THE PROJECT ULTIMATELY OUTFALLS TO MULLET LAKE AND THE ST JOHNS RIVER.
- (9) THE OUTFALL IS A LISTED IMPAIRED WATER.
- (10) OUTFALL LOCATIONS: (TEMPORARY AND PERMANENT)
(a) ROADSIDE DITCH AND WETLAND NORTH OF RETREAT ROAD.
- (11) WETLAND IMPACTS ARE ANTICIPATED.
- (12) DESCRIPTION OF STORMWATER MANAGEMENT: (EXISTING/PROPOSED)
(a) PRESENTLY, EXISTING DRAINAGE FLOWS DIRECTLY THROUGH A SERIES OF DITCHES ALONG RETREAT ROAD BEFORE DISCHARGING TO A WETLAND NORTH OF THE ROAD.

(b) THE PROPOSED DRAINAGE PATTERN WILL REMAIN UNCHANGED.

(c) OFF-SITE RUNOFF SHOULD BE DIVERTED AWAY OR THROUGH THE CONSTRUCTION AREA, IF POSSIBLE. THIS ADDITIONAL FLOW, IF NOT DIVERTED, CAN ADD VOLUME AND SIZE TO STRUCTURAL PRACTICES, REQUIRING MORE FREQUENT MAINTENANCE AND LIMITING EFFECTIVENESS OF EROSION AND SEDIMENT CONTROLS.

(d) THE CONTRACTOR WILL PROVIDE POLLUTION CONTROL BY IMPLEMENTING DUST CONTROL DURING ALL PHASES OF CONSTRUCTION. THIS WILL BE ACCOMPLISHED BY USING STREET OR VACUUM SWEEPERS.

(e) THE STORMWATER SHALL BE CONVEYED TO THE NATURAL OUTFALLS LOCATED IN THIS PROJECT.

(f) THE CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO PREVENT UNAUTHORIZED MATERIALS FROM ENTERING WETLANDS, WATERWAYS, OTHER SURFACE WATERS OR WATERS OF THE US.

II. CONTROLS:
EROSION AND SEDIMENT CONTROLS

- (1) WATER QUALITY MONITORING SHALL BE CONDUCTED BY THE PROJECT ENGINEER UPON THE OBSERVATION THAT THE WATER QUALITY STANDARDS MAY BE VIOLATED BY THE CONTRACTOR'S ACTIVITIES. MONITORING LOCATIONS SHALL BE DESIGNATED BY THE PROJECT ENGINEER. THE PROJECT ENGINEER WILL BE RESPONSIBLE FOR MONITORING ANY ACTIVITIES FOR VIOLATION OF WATER QUALITY STANDARDS AS THEY RELATE TO TURBIDITY (29 NTU'S ABOVE BACKGROUND). MONITORING OF WATER QUALITY SHALL BE CONDUCTED A MINIMUM OF TWICE DAILY FOR ANY EARTHWORK ACTIVITIES WITHIN THE STRUCTURE IMPROVEMENT AREA. MONITORING WILL BE ACCOMPLISHED BY RECORDING TURBIDITY READINGS FROM THE CENTER OF THE STREAM, ONE (1) UPSTREAM OF THE ACTIVITY AND ONE (1) DOWNSTREAM OF THE EROSION CONTROL DEVICES, BUT WITHIN THE PROJECT RIGHT OF WAY. IF WATER QUALITY STANDARDS ARE VIOLATED, CONSTRUCTION SHOULD BE STOPPED IMMEDIATELY AND EROSION CONTROL DEVICES REEVALUATED BY THE FDOT REPRESENTATIVE PRIOR TO ANY CONTINUATION OF ACTIVITY. MONITORING ACTIVITIES AND TURBIDITY READINGS SHALL BE RECORDED ON THE CONSTRUCTION INSPECTION REPORT AND CONTINUED UNTIL TURBIDITY READINGS FALL BELOW AN ACCEPTABLE LEVEL (29NTU'S ABOVE BACKGROUND). WATER QUALITY MONITORING MAY BE CONDUCTED DURING ANY PHASE OF CONSTRUCTION AS DIRECTED BY THE PROJECT ENGINEER.
- (2) STABILIZATION PRACTICES:
- (a) STABILIZATION MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO MAINTAINING, ESTABLISHING AND USING VEGETATION, APPLYING MULCHES, SODDING, SEEDING, BMP'S AND THE USE OF ROLLED EROSION CONTROLLED PRODUCTS. WHEN CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, SIDE SLOPES SHALL BE STABILIZED WITH PERFORMANCE SODDING OR SEEDING OR ANY OTHER APPROVED METHOD OF STABILIZATION INCLUDED IN THE STATE OF FLORIDA EROSION AND SEDIMENT CONTROL DESIGNER AND REVIEW MANUAL (E&SC MANUAL).
- (b) STABILIZATION SHALL TAKE PLACE AS SOON AS PRACTICAL IN PORTIONS OF THE PROJECT WHERE CONSTRUCTION ACTIVITIES HAVE CEASED, BUT NO LATER THAN 7 DAYS AFTER ANY CONSTRUCTION ACTIVITY CEASES EITHER TEMPORARILY OR PERMANENTLY.

R E V I S I O N S							SEMINOLE COUNTY ENGINEERING DIVISION		STORMWATER POLLUTION PREVENTION PLAN	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY CIP NO.		
							RETREAT ROAD	01907068		14

Steven M. Sommerfeldt, PE
PE No. 64074
Certificate of Authorization No. 7074

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- (c) ALL EROSION CONTROL STRUCTURES SHALL BE INSTALLED ACCORDING TO THE CONTRACT DOCUMENTS, AND THE CONTRACTOR'S APPROVED EROSION CONTROL PLAN.
 - (d) ANY TEMPORARY MATERIAL USED FOR POLLUTION OR EROSION AND SEDIMENT CONTROL DURING CONSTRUCTION SHALL BE REMOVED AT THE COMPLETION OF THE PROJECT AND FINAL STABILIZATION OF THE PROJECT HAS BEEN ACHIEVED.
 - (e) SEDIMENT BARRIERS SHOULD BE USED ALONG THE LENGTH OF THE PROJECT WHERE THE GROUND SLOPES AWAY FROM THE RIGHT OF WAY OR WHERE THERE IS POTENTIAL FOR SEDIMENT TO BE DIRECTED OFF-SITE. PARTICULAR CARE SHOULD BE USED WHEN THERE ARE WETLANDS OR WATERS OF THE U.S. ARE INVOLVED. SEDIMENT BARRIERS SHOULD BE USED AROUND THE PERIMETER OF STOCKPILE AREAS.
 - (f) SPACING OF SEDIMENT BARRIERS USED AS DITCH OR SWALE CHECKS/DAMS SHOULD BE BASED UPON THE HEIGHT OF THE BARRIER AND THE SLOPE OF THE DITCH OR SWALE.
 - (g) THE CONTRACTOR SHALL BE RESPONSIBLE FOR MODIFYING SOIL TRACKING PREVENTION SYSTEMS OR PROCEDURES AS NEEDED.
- (3) STRUCTURAL PRACTICES FOR EROSION AND SEDIMENT CONTROL:
- (a) ROLLED EROSION CONTROL PRODUCTS (ARTIFICIAL COVERINGS)

PURPOSE: TO PROTECT DISTURBED SLOPE SURFACES AGAINST EROSION DUE TO RAINFALL OR FLOWING WATER.

 - (1) USED FOR PAUSES IN CONSTRUCTION DUE TO INCLEMENT WEATHER OR OTHER CIRCUMSTANCES. COULD INCLUDE NATURAL OR SYNTHETIC FIBER MATS, PLASTIC SHEETING OR NETS.
 - (2) USED FOR EROSION CONTROL THAT FACILITATES PLANT GROWTH WHILE PERMANENT GRASS IS ESTABLISHED. COULD INCLUDE BIODEGRADABLE EROSION CONTROL BLANKETS INSTALLED ON A SEEDED AREA, ON FILL SLOPES OR IN DITCHES.
 - (3) USED TO STABILIZE DRAINAGE CHANNELS. CONSULT E&SC MANUAL TO DETERMINE CORRECT PRODUCT TYPE FOR CHANNEL STABILIZATION.
 - (b) RUNOFF CONTROL STRUCTURE (TEMPORARY SLOPE DRAIN)

PURPOSE: TO PROTECT HILLSIDE SURFACES AGAINST EROSION DUE TO CONCENTRATED FLOW OF RUNOFF WATER.

 - (1) USED ON FILL SLOPES AND CUT SLOPES TO REDUCE SEDIMENT TRANSPORT AND COULD INCLUDE TEMPORARY SLOPE DRAINS, GRASS-LINED CHANNELS, ROCK-LINED CHANNELS AND CHECK DAMS.
 - (2) RUNOFF CONTROL STRUCTURES TYPICALLY DISCHARGE TO A SEDIMENT BASIN.
 - (c) SEDIMENT BASIN (CONTAINMENT SYSTEM)

PURPOSE: A CONTAINMENT SYSTEM IS DESIGNED TO DETAIN AN ADEQUATE VOLUME OF RUNOFF, REDUCE THE VELOCITY OF FLOW THROUGH THE SYSTEM, ALLOW FOR SETTLEMENT OF SUSPENDED SOLIDS AND REGULATE THE DISCHARGE RATE FROM THE SEDIMENT BASIN.

 - (1) SEDIMENT BASINS MUST BE PLACED IN STRATEGIC LOCATIONS WITHIN THE ACTIVE AREAS OF CONSTRUCTION. CONTRIBUTING AREA AND SIZE OF TARGET SOIL PARTICLE WILL DICTATE WHETHER THE SEDIMENT BASIN WILL BE TYPE 1, TYPE 2 OR TYPE 3 SYSTEM.
 - (2) THE USE OF SMALLER PRE-SEDIMENTATION BASINS USED IN CONJUNCTION WITH LARGER PERMANENT RETENTION/DETENTION PONDS ARE EFFECTIVE IN CAPTURING LARGER VOLUMES OF SEDIMENTS. THIS TECHNIQUE REQUIRES PERIODICALLY SCHEDULED REMOVAL OF THE ACCUMULATED SEDIMENTS.
 - (d) SEDIMENT BARRIERS (TEMPORARY CONSTRUCTION SITE BMP'S)

PURPOSE: SEDIMENT BARRIERS EITHER OBSTRUCT FLOW OR PREVENT THE PASSAGE OF WATER WHILE CONSTRUCTION ACTIVITIES OCCUR. SMALLER SEDIMENT BARRIERS MAY FUNCTION AS A SMALL SEDIMENT CONTAINMENT SYSTEM OR AS A METHOD TO REDUCE FLOW VELOCITY.

 - (1) THESE CONSTRUCTION BMP'S CAN INCLUDE SYNTHETIC BALES, STAKED SILT FENCE, TURBIDITY BARRIER, STORM SEWER INLET BARRIERS, ROCK BARRIERS, GEOSYNTHETIC BARRIERS, ETC.
 - (2) APPROPRIATE LOCATIONS INCLUDE SITE PERIMETER, BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION, BELOW THE TOE OF EXPOSED AND ERODIBLE SLOPES, ALONG THE TOE OF STREAM AND CHANNEL BANKS, AROUND DRAINS AND INLETS LOCATED IN LOWPOINTS OR THE DOWNSTREAM EDGE OF AREAS UNDERGOING VERTICAL OR BOX CULVERT CONSTRUCTION ACTIVITIES.
 - (3) INAPPROPRIATE LOCATIONS FOR THESE SAME MEASURES INCLUDE PARALLEL TO A HILLSIDE CONTOUR, IN CHANNELS WITH CONCENTRATED FLOW (UNLESS PROPERLY REINFORCED), UPSTREAM OR DOWNSTREAM OF CULVERTS WITH CONCENTRATED FLOW, IN FRONT OF OR AROUND INLETS ON A GRADE WITH CONCENTRATED FLOW OR IN FLOWING STREAMS.

- (e) **FLOATING TURBIDITY BARRIER**
- PURPOSE:** USED IN PERMANENT BODIES OF WATER TO RETAIN SEDIMENT AND FLOATING DEBRIS FROM A CONSTRUCTION AREA SO THAT REMOVAL OR CONTAINMENT OF THE MATERIAL IS POSSIBLE. THEY ARE ALSO USED TO CONTROL MIGRATION OF SUSPENDED SEDIMENTS.
- (1) TYPE I, LIGHT DUTY, IS USED WHERE THERE IS LITTLE OR NO CURRENT, NO WIND AND NO WAVE ACTION.
 - (2) TYPE II, MODERATE DUTY, IS USED WITH SOME CURRENT (<3.5 FT. PER SECOND) AND SOME EXPOSURE TO WIND.
 - (3) TYPE III, HEAVY DUTY, IS USED WITH GREATER CURRENT (3.5-5.0 FT. PER SECOND), MODERATE WIND AND WAVE ACTION.
 - (4) BARRIER MUST BE ATTACHED AT BOTH ENDS AND WEIGHTED ON THE BOTTOM.
 - (5) MULTIPLE LINES OF BARRIER MAY BE USED IN SOME CIRCUMSTANCES FOR ADDITIONAL PROTECTION.
 - (6) STANDARD PANELS FOR WATER DEPTHS ARE 5.0'. ADDITIONAL PANELS CAN BE USED FOR WATER DEPTHS > 5.0'.
- (f) **STAKED TURBIDITY BARRIER**
- PURPOSE:** THIS ITEM IS COMMONLY USED IN AREAS WHERE CONTINUOUS CONSTRUCTION ACTIVITIES CHANGE THE NATURAL CONTOURS AND DRAINAGE RUNOFF PATTERNS.
- (1) COMMONLY USED IN LAKES AND STREAMS AS A SEDIMENT CONTAINMENT SYSTEM. SHOULD NOT BE USED WHERE WATER CURRENTS MOVE THE CURTAIN AND DISLODGE COLLECTED SEDIMENTS.
 - (2) MAXIMUM DEPTH OF PANEL IS 3'-8".
 - (3) POST MUST BE A MINIMUM LENGTH OF 5.0' AND A MINIMUM OF 10" OF FABRIC MUST BE IMBEDDED IN THE GROUND.
- (g) **INLET PROTECTION SYSTEM**
- PURPOSE:** ANY OF A NUMBER OF SEDIMENT BARRIERS THAT EITHER PREVENT SEDIMENT FROM ENTERING AN INLET OR TRAP THE SEDIMENTS ONCE THEY ENTER THE INLET.
- (1) TYPICAL APPLICATIONS INCLUDE ROCK BARRIERS, FRAME AND FILTER BARRIERS, CURB INLET "SUMP" BARRIER, CURB INLET DIVERSION BERM, CURB AND GUTTER SEDIMENT CONTAINMENT SYSTEM OR CURB INLET INSET.
 - (2) SHOULD BE INSTALLED ONLY WHEN CONSTRUCTION ACTIVITIES ARE ON-GOING AND ONLY WHERE SUMP CONDITIONS EXIST.
 - (3) SHOULD NOT BE USED WHEN CONSTRUCTION IS COMPLETE AND SHOULD NOT BE USED IN AREAS WHERE FLOODING COULD ENCROACH INTO THE TRAVEL LANES.
- (h) **SOIL TRACKING PREVENTION DEVICE**
- PURPOSE:** TEMPORARY STRUCTURES TO ASSIST WITH THE REMOVAL OF SOIL MATERIAL CAPTURED ON VEHICLE TIRES BEFORE THE VEHICLES ENTER THE ROADWAY.
- (1) USE ONE DEVICE PER MILE WITH A MINIMUM OF TWO PER PROJECT.
 - (2) USE ADDITIONAL DEVICES FOR CONSTRUCTION AREAS THAT ARE NOT ADJACENT TO THE ROAD RIGHT OF WAY AND NO ACCESS IS PROVIDED THROUGH A SOIL TRACKING PREVENTION DEVICE.
 - (3) RRR PROJECTS SHOULD BE HANDLED ON A CASE BY CASE BASIS.

R E V I S I O N S						 Steven M. Sommerfeldt, PE PE No. 64074 Certificate of Authorization No. 7074 3000 Dovera Drive, Suite 200 Oviedo, Florida 32765 p 407.971.8850	SEMINOLE COUNTY ENGINEERING DIVISION		STORMWATER POLLUTION PREVENTION PLAN	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY CIP NO.		15
							RETREAT ROAD	01907068		

III. OTHER CONTROLS:

- (1) WASTE DISPOSAL:
- (a) THE CONTRACTOR WILL PROVIDE LITTER CONTROL AND COLLECTION WITHIN THE PROJECT BOUNDARIES DURING CONSTRUCTION ACTIVITIES.

(b) ALL FERTILIZER AND CHEMICAL CONTAINERS SHALL BE DISPOSED OF BY THE CONTRACTOR ACCORDING TO EPA'S STANDARD PRACTICES AS DETAILED BY THE MANUFACTURER.

(c) NO SOLID MATERIALS, INCLUDING BUILDING AND CONSTRUCTION MATERIALS, SHALL BE DISCHARGED TO WETLANDS OR BURIED ON SITE.

(d) ALL SANITARY WASTE WILL BE COLLECTED FROM PORTABLE UNITS BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR AS REQUIRED BY STATE REGULATIONS.

(2) OFF-SITE VEHICLE TRACKING - WILL BE CONTROLLED BY THE FOLLOWING METHODS:

- (A) LOADED HAUL TRUCKS ARE TO BE COVERED BY A TARPAULIN AT ALL TIMES.
- (B) EXCESS DIRT ON ROAD WILL BE REMOVED DAILY.

(3) STATE AND LOCAL REGULATIONS: PERMITS WILL BE REQUIRED FROM THE FOLLOWING AGENCIES:

SJRWMD

(4) NON-STORMWATER (INCLUDING SPILL REPORTING)

THE CONTRACTOR WILL PROVIDE SEMINOLE COUNTY WITH AN EROSION CONTROL PLAN THAT WILL INCLUDE SPILL CONTAINMENT, REPORTING, AND RESPONSES. THE PLAN SHALL SPECIFY WHAT MANAGEMENT PRACTICES AND CONTAINMENT METHODS WILL BE USED TO PREVENT POTENTIAL POLLUTANTS (FUEL, LUBRICANTS, HERBICIDES, ETC.) FROM SPILLING ONTO THE SOIL OR INTO THE SURFACE WATERS. IF A SPILL DOES OCCUR, OR IF CONTAMINATED SOIL OR GROUNDWATER IS ENCOUNTERED, CONTACT SEMINOLE COUNTY HEALTH DEPARTMENT IMMEDIATELY.

IV. DEWATERING OPERATIONS:

- (1) DESCRIPTION: DEWATERING OPERATIONS ARE PRACTICES THAT MANAGE THE DISCHARGE OF TURBID WATER WHEN WATER OTHER THAN STORMWATER AND ACCUMULATED SURFACE WATER THAT MUST BE REMOVED FROM A LOCATION SO THAT CONSTRUCTION WORK MAY BE ACCOMPLISHED. THESE WATERS CAN INCLUDE GROUNDWATER, WATER FROM COFFERDAMS, WATER DIVERSIONS AND WATERS USED DURING CONSTRUCTION THAT MUST BE REMOVED FROM A WORK AREA.
- (a) ENVIRONMENTAL AGENCIES ARE ESPECIALLY CONVERED WITH PROTECTION OF WETLANDS FROM DRAWDOWN EFFECTS, PROTECTING RECEIVING BODIES FROM SEDIMENTATION AND POSSIBLE CAPACITY LIMITATIONS.

(b) THREE PRIMARY METHODS OF DEWATERING COMMONLY USED IN FLORIDA ARE RIM-DITCHING, SOCK/PIPE/HORIZONTAL WELLS AND WELL-POINT SYSTEMS.

(c) METHODS FOR CONTAINING SEDIMENTATION CAN INCLUDE A COMBINATION OF BMP'S AND SEDIMENT TRAPS, SEDIMENT BASINS, GRAVITY BAG FILTERS, WEIR TANKS, DEWATERING TANKS, AND SAND MEDIA/PRESSURIZED BAGS

V. WATER FLOW:

- (1) GIVEN THE DITCH DISCHARGE RATES THAT WOULD OCCUR FOR REGULAR FLOW AND STORM EVENTS WITH SIGNIFICANT RAINFALL, COMPLETE BYPASSING OF ALL POSSIBLE FLOWS MAY NOT BE POSSIBLE. THEREFORE, THE CONTRACTOR'S FLOW BYPASS PLAN SHOULD ADDRESS ALL ISSUES INVOLVED INCLUDING THE MEANS AND METHODS FOR ALLOWING WATER FLOW TO "PASS" THROUGH THE CONSTRUCTION AREA WITHOUT CAUSING AN ADVERSE IMPACT TO UPSTREAM WATER LEVELS AND OFFSITE PROPERTIES.
- (2) THE FOLLOWING DITCH FLOW RATES CAN BE ANTICIPATED AT THE PROJECT LOCATION FOR VARIOUS STORM EVENTS.

(a) 2.33 YEAR/24 HOUR STORM EVENT PEAK DISCHARGE = 43 CFS

(b) 10 YEAR/24 HOUR STORM EVENT PEAK DISCHARGE = 46 CFS

(c) 25 YEAR/24 HOUR STORM EVENT PEAK DISCHARGE = 48 CFS

(d) 50 YEAR/24 HOUR STORM EVENT PEAK DISCHARGE = 49 CFS

(e) 100 YEAR/24 HOUR STORM EVENT PEAK DISCHARGE = 50 CFS
- (3) SOME AREAS MAY REQUIRE THE USE OF TEMPORARY SHEETING OR SHORING.

VI. MAINTENANCE:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE AND REPAIRS OF ALL EROSION AND SEDIMENT CONTROL DEVICES AND REMOVAL OF EROSION AND SEDIMENT CONTROL DEVICES WHEN NOTICE OF TERMINATION IS MAILED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND PROPER DISPOSAL OF SEDIMENT BUILDUP THROUGH THE LIFE OF THE INSTALLED EROSION AND SEDIMENT CONTROL DEVICES.

- (1) ALL CONTROL MEASURES WILL BE MAINTAINED DAILY BY THE CONTRACTOR AND ALL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER. IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF NOTICE.

(2) SODDING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH.

(3) SYNTHETIC BALES SHALL BE MAINTAINED TO ENSURE THEIR USEFULNESS AND NOT BLOCK OR IMPEDE STORMWATER FLOW OR DRAINAGE.

(4) STAKED SILT FENCES SHALL BE REPLACED EVERY TWELVE (12) MONTHS OR WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORMWATER FLOW OR DRAINAGE.

(5) STABILIZED CONSTRUCTION ENTRANCES SHALL BE MAINTAINED TO PREVENT CLOGGING OF ROCK BEDDING WHICH MAY IMPEDE THE USEFULNESS OF THE STRUCTURE.

VII. INSPECTION:

- (1) THE CONTRACTOR SHALL INSTALL AND MAINTAIN RAIN GAUGES ON THE PROJECT SITE AND RECORD WEEKLY RAINFALL IN ACCORDANCE WITH THE NPDES PERMIT. ALL CONTROL MEASURES WILL BE MAINTAINED DAILY BY THE CONTRACTOR.

(2) ALL EROSION AND WATER POLLUTION ABATEMENT AND CONTROL MEASURES WILL BE INSPECTED DAILY BY CONTRACTOR'S PERSONNEL WHO ARE F.D.E.P. CERTIFIED STORMWATER MANAGEMENT INSPECTORS.

(3) THE CONTRACTOR SHALL COMPLETE ALL SWPPP INSPECTION REPORT FORMS REQUIRED FOR THE NPDES PERMIT.

VIII. TRACKING AND REPORTING:

- (1) THE CONTRACTOR SHALL SUBMIT A WEEKLY REPORT TO THE DEPARTMENT DOCUMENTING THE DAILY INSPECTIONS AND MAINTENANCE OR REPAIRS TO THE SEDIMENT CONTROL DEVICES. THE CONTRACTOR SHALL MAINTAIN ALL REQUIRED REPORTS AND COMPLETE ALL SWPPP INSPECTION FORMS.

(2) PREPARATION OF ALL THE CONTRACTOR'S REPORTS OF INSPECTION, MAINTENANCE AND REPAIRS REQUIRED FOR THE CONTROL AND ABATEMENT OF EROSION AND WATER POLLUTION, SHALL BE INCLUDED IN THE INDIVIDUAL COSTS OF THE EROSION CONTROL DEVICES OF THE PROJECT.

(3) THE CONTRACTOR SHALL USE THE MOST RECENT CONSTRUCTION INSPECTION REPORT (# 650-040-03), FOR DAILY INSPECTIONS.

R E V I S I O N S						 Inwood consulting engineers Steven M. Sommerfeldt, PE PE No. 64074 Certificate of Authorization No. 7074 3000 Dovera Drive, Suite 200 Oviedo, Florida 32765 p 407.971.8850	SEMINOLE COUNTY ENGINEERING DIVISION		STORMWATER POLLUTION PREVENTION PLAN	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY CIP NO.		16
							RETREAT ROAD	01907068		

EROSION CONTROL GENERAL NOTES

1.

THE CONTRACTOR SHALL EXECUTE ALL MEASURES NECESSARY TO LIMIT THE TRANSPORT OF SEDIMENTS OUTSIDE THE LIMITS OF THE PROJECT TO THE VOLUME AND AMOUNT THAT ARE EXISTING PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THIS CONDITION WILL BE SATISFIED FOR THE TOTAL ANTICIPATED CONSTRUCTION PERIOD. PROVISION MUST BE MADE TO PRESERVE THE INTEGRITY AND CAPACITY OF CHECK WEIRS, SEDIMENT BASINS, SLOPE DRAINS, GRADING PATTERNS, ETC. REQUIRED TO MEET THIS PROVISION THROUGHOUT THE LIFE OF THE CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE HAY BALES, SILT BARRIERS, TEMPORARY GRASSING, ETC. AS REQUIRED TO FULLY COMPLY WITH THE INTENT OF THIS SPECIFICATION.
2.

NO EXCAVATED MATERIAL SHALL BE STOCKPILED IN SUCH A MANNER AS TO DIRECT RUNOFF DIRECTLY OFF THE PROJECT SITE OR INTO ANY ADJACENT WATER BODY OR STORMWATER COLLECTION FACILITY.
3.

THE SURFACE AREA OF OPEN, RAW ERODIBLE SOIL EXPOSED BY CLEARING AND GRUBBING OPERATIONS OR EXCAVATION AND FILLING OPERATIONS SHALL BE CONTROLLED, SO THAT THIS OPERATION WILL NOT SIGNIFICANTLY AFFECT OFF-SITE DEPOSIT OF SEDIMENTS.
4.

INLETS AND CATCH BASINS SHALL BE PROTECTED FROM SEDIMENT LADEN STORMWATER RUNOFF UNTIL THE COMPLETION OF ALL CONSTRUCTION OPERATIONS THAT MAY CONTRIBUTE SEDIMENT TO THE INLET. (SEE NOTE 16).
5.

AREAS OPENED BY CONSTRUCTION OPERATIONS THAT ARE NOT ANTICIPATED TO BE DRESSED OR RECEIVE FINAL GRASSING TREATMENT WITHIN THIRTY DAYS SHALL BE SEEDED WITH A QUICK GROWING GRASS SPECIES WHICH WILL PROVIDE AN EARLY COVER DURING THE SEASON IN WHICH IT IS PLANTED. TEMPORARY SEEDING SHALL BE CONTROLLED SO AS TO NOT ALTER OR COMPETE WITH PERMANENT GRASSING. THE RATE OF SEEDING SHALL BE 30 POUNDS PER ACRE.
6.

THE SEEDED OR SEEDED AND MULCHED AREA(S) SHALL BE ROLLED AND WATERED AS REQUIRED TO ASSURE OPTIMUM GROWING CONDITIONS FOR THE ESTABLISHMENT OF A GOOD GRASS COVER.
7.

IF AFTER 14 DAYS, THE TEMPORARY GRASSED AREAS HAVE NOT ATTAINED A MINIMUM OF 75% GOOD GRASS COVER, THE AREA WILL BE REWORKED AND ADDITIONAL SEED APPLIED TO ESTABLISH THE DESIRED VEGETATION COVER.
8.

ALL FEATURES OF THE PROJECT SHALL BE CONSTRUCTED TO PREVENT EROSION AND SEDIMENT AND SHALL BE MAINTAINED DURING THE LIFE OF THE CONSTRUCTION SO AS TO FUNCTION PROPERLY WITHOUT THE TRANSPORT OF SEDIMENTS OUTSIDE THE LIMITS OF THE PROJECT.
9.

ALL DISTURBED AREAS OUTSIDE THE EXCAVATION AND FILL LIMITS WILL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THEIR CONDITION PRIOR TO CONSTRUCTION.
10.

THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTENANCE OF ALL NEWLY PLANTED GRASSES OR VEGETATION AND RETENTION/DETENTION FACILITIES UNTIL THE WORK HAS BEEN ACCEPTED BY THE COUNTY.
11.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF EMBANKMENTS AND SHALL REPLACE ANY PORTION, WHICH IN THE OPINION OF THE ENGINEER, HAS BECOME DISPLACED DUE TO EROSION OR DUE TO CARELESSNESS OR NEGLIGENCE ON THE PART OF THE CONTRACTOR.
12.

THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS CONTROLLING POLLUTION OF THE ENVIRONMENT. MEASURES SHALL BE TAKEN BY THE CONTRACTOR TO CONTROL EROSION AND SEDIMENT RUNOFF FROM THE SITE DURING CONSTRUCTION. SUCH METHODS SHALL BE IN ACCORDANCE WITH THE CURRENT FLORIDA DEPARTMENT OF TRANSPORTATION STANDARDS.
13.

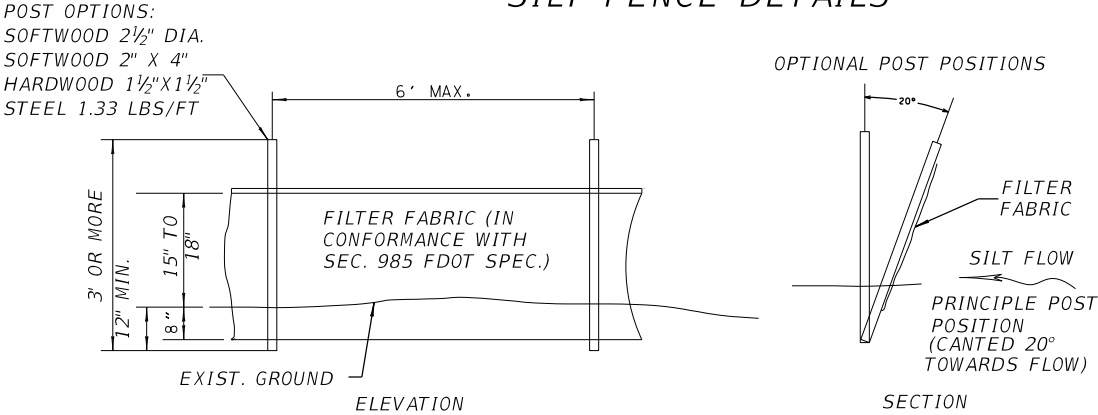
ABSOLUTELY NO WORK WILL BE ALLOWED WITHIN ANY CONSERVATION AREA, BUFFER AREA, MITIGATION AREA OR DESIGNATED WETLAND AREA UNLESS SO SPECIFICALLY DESCRIBED BY THE PLANS AND GRANTED BY REASON OF PERMIT FROM THE GOVERNMENTAL ENTITY HAVING JURISDICTION OVER SAID AREA.
14.

PRIOR TO CLEARING AND GRUBBING, THE LIMITS OF WETLANDS, BUFFERS, AND MITIGATION AREAS SHALL BE CLEARLY MARKED ALONG THE PROPOSED RIGHT OF WAY LINE TO PROTECT THESE AREAS FROM ENCROACHMENT FROM CONSTRUCTION ACTIVITIES.
15.

ALL FILL EMBANKMENT AND GRADED AREAS SHALL BE PROTECTED AGAINST EROSION BY METHODS STATED IN SECTION 104, "F.D.O.T. STANDARD SPECIFICATIONS FOR BRIDGE AND ROAD CONSTRUCTION." SIDE SLOPES MAY BE SEEDED AND MULCHED, PROVIDED THAT THE MULCH MATERIAL IS DISK HARROWED AND THE SIDE SLOPES ARE NEITHER GREATER THAN 1:3 NOR PART OF A DRAINAGE CONVEYANCE.
16.

EROSION CONTROL AT ALL INLET DRAINAGE STRUCTURES DURING CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH F.D.O.T. INDEX NO. 102.

SILT FENCE DETAILS



- NOTES:
1.

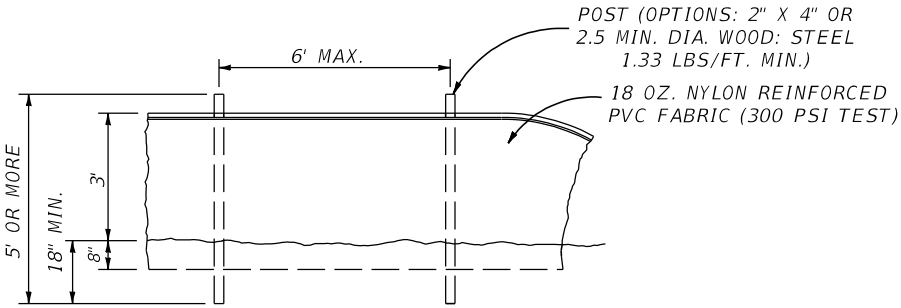
SILT FENCE TO BE PAID FOR UNDER THE CONTRACT LUMP SUM UNIT PRICE FOR EROSION CONTROL , PAY ITEM NO. 104-14.
2.

DO NOT DEPLOY IN A MANNER THAT SILT FENCES WILL ACT AS A DAM ACROSS PERMANENT FLOWING WATER COURSES. SILT FENCES ARE TO BE USED AT UPLAND LOCATIONS AND TURBIDITY BARRIERS ARE TO BE USED AT PERMANENT BODIES OF WATER.
3.

WHERE USED AS SLOPE PROTECTION SILT FENCE IS TO BE CONSTRUCTED ON 0% LONGITUDINAL GRADE TO AVOID CHANNELIZING RUNOFF ALONG THE LENGTH OF THE FENCE.
4.

WHERE USED IN DITCHES THE SPACING FOR SILT FENCE SHALL BE IN ACCORDANCE WITH CHART 1, SHEET 1 OF F.D.O.T. STANDARD INDEX 570.

STAKED TURBIDITY BARRIER DETAILS



- NOTES:
1.

TURBIDITY BARRIERS ARE TO BE USED IN ALL PERMANENT BODIES OF WATER REGARDLESS OF WATER DEPTH.
2.

THE NUMBER AND SPACING OF ANCHORS IS DEPENDENT ON CURRENT VELOCITIES.
3.

DEPLOYMENT OF BARRIER AROUND PILE LOCATIONS MAY VARY TO TO ACCOMMODATE CONSTRUCTION OPERATIONS.
4.

NAVIGATION MAY REQUIRE SEGMENTING BARRIER DURING CONSTRUCTION OPERATIONS.
5.

FOR ADDITIONAL INFORMATION, SEE THE STATE OF FLORIDA EROSION AND SEDIMENT CONTROL DESIGNER AND REVIEWER MANUAL.
6.

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 TYPES WILL BE AT THE CONTRACTOR'S OPTION UNLESS OTHERWISE SPECIFIED IN THE PLANS; HOWEVER, PAYMENT WILL BE UNDER THE LUMP SUM UNIT PRICE FOR EROSION CONTROL. POSTS IN STAKED TURBIDITY BARRIERS TO BE INSTALLED IN VERTICAL POSITION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

R E V I S I O N S						 Steven M. Sommerfeldt, PE PE No. 64074 Certificate of Authorization No. 7074 3000 Dovera Drive, Suite 200 Oviedo, Florida 32765 p 407.971.8850	SEMINOLE COUNTY ENGINEERING DIVISION		EROSION CONTROL DETAILS	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY CIP NO.		17
							RETREAT ROAD	01907068		