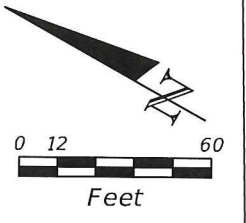


HORIZONTAL CONTROL POINT GAD1  
SET 5/8" IRON ROD AND CAP  
STAMPED "TRAV PT LB 6556"  
N: 1478336.18  
E: 500539.62

HORIZONTAL CONTROL POINT GAD2  
SET 5/8" IRON ROD AND CAP  
STAMPED "TRAV PT LB 6556"  
N: 1477937.41  
E: 500527.73

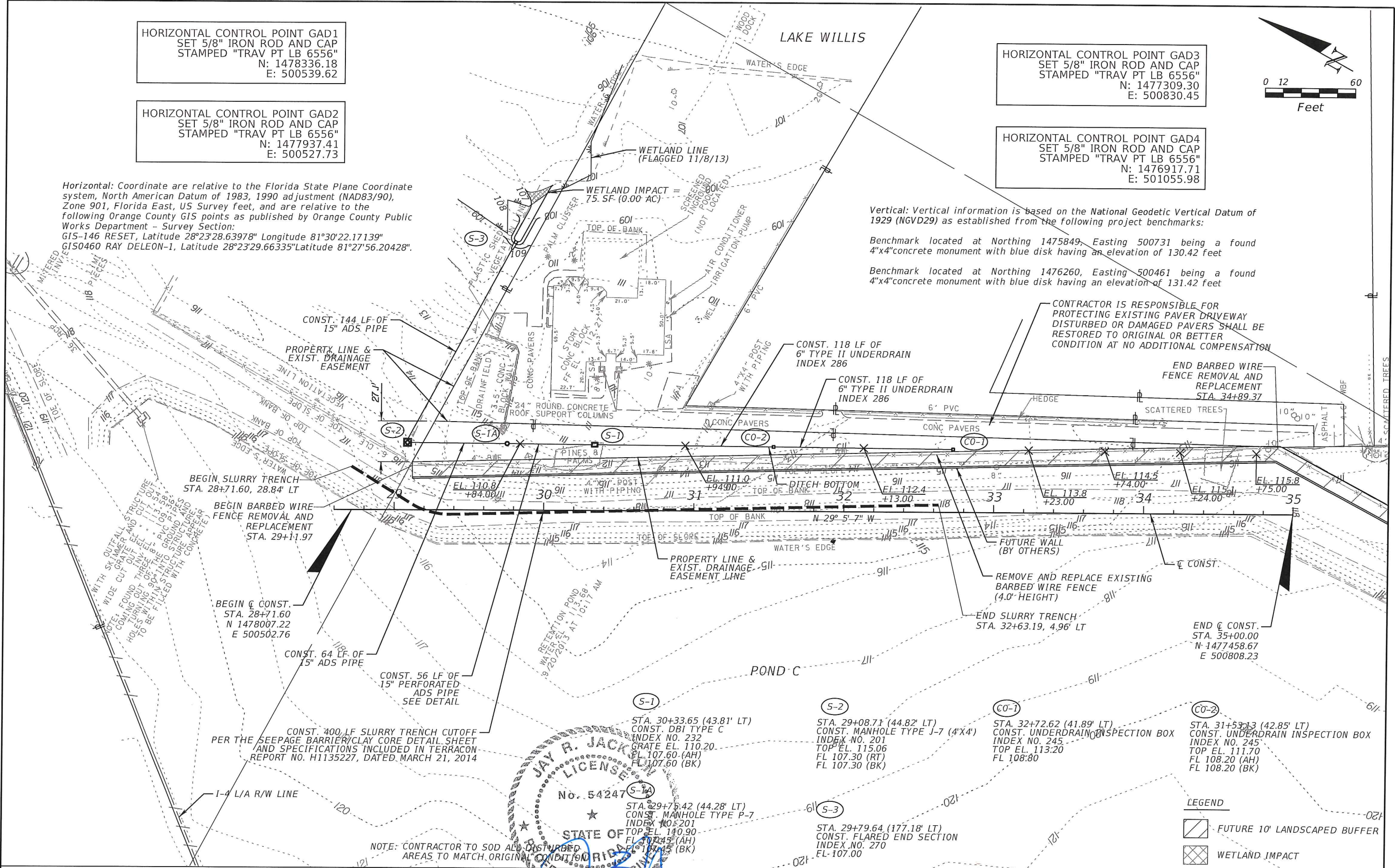
HORIZONTAL CONTROL POINT GAD3  
SET 5/8" IRON ROD AND CAP  
STAMPED "TRAV PT LB 6556"  
N: 1477309.30  
E: 500830.45

HORIZONTAL CONTROL POINT GAD4  
SET 5/8" IRON ROD AND CAP  
STAMPED "TRAV PT LB 6556"  
N: 1476917.71  
E: 501055.98

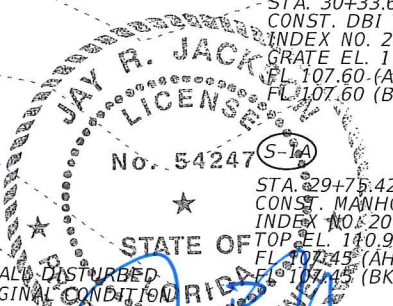


Horizontal: Coordinate are relative to the Florida State Plane Coordinate system, North American Datum of 1983, 1990 adjustment (NAD83/90), Zone 901, Florida East, US Survey feet, and are relative to the following Orange County GIS points as published by Orange County Public Works Department - Survey Section:  
GIS-146 RESET, Latitude 28°23'28.63978" Longitude 81°30'22.17139"  
GIS0460 RAY DELEON-1, Latitude 28°23'29.66335" Longitude 81°27'56.20428".

Vertical: Vertical information is based on the National Geodetic Vertical Datum of 1929 (NGVD29) as established from the following project benchmarks:  
Benchmark located at Northing 1475849, Easting 500731 being a found 4"x4" concrete monument with blue disk having an elevation of 130.42 feet  
Benchmark located at Northing 1476260, Easting 500461 being a found 4"x4" concrete monument with blue disk having an elevation of 131.42 feet



NOTE: CONTRACTOR TO SOD ALL DISTURBED AREAS TO MATCH ORIGINAL CONDITION RIGOROUSLY



LEGEND

	FUTURE 10' LANDSCAPED BUFFER
	WETLAND IMPACT

REVISIONS	
DATE	DESCRIPTION

Kimley-Horn and Associates, Inc.  
Professional Seal of Authorization No. 696  
Jay R. Jackson, P.E.  
P.E. License No. 54247  
3660 Maguire Boulevard, Suite 200  
Orlando, Florida 32803

ORANGE COUNTY GOVERNMENT  
ORANGE COUNTY DEPARTMENT OF PUBLIC WORKS

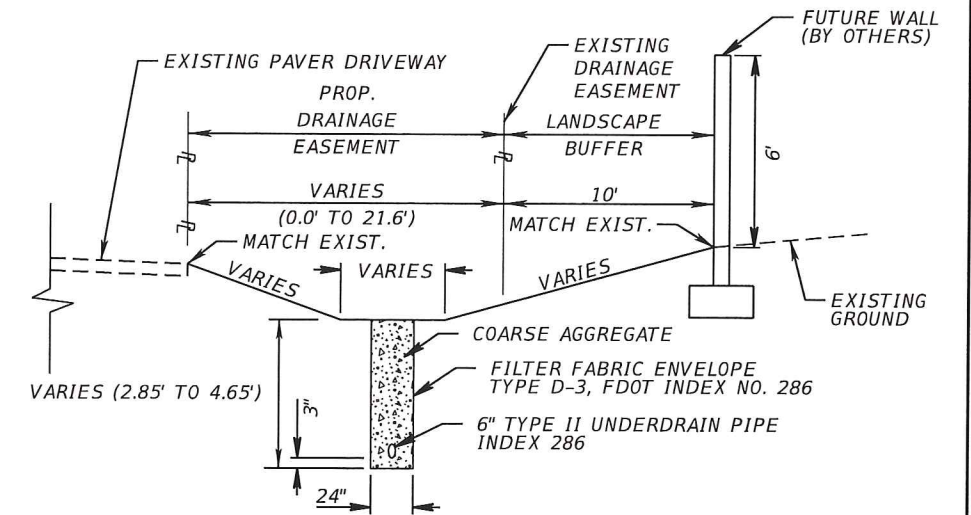
DRAINAGE AND UNDERDRAIN  
DETAIL SHEET (01)

SHEET NO.  
1

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
101-1	MOBILIZATION	LS	1
104-14	PREVENTION, CONTROL AND ABATEMENT OF EROSION AND WATER POLLUTION	LS	1
110-1-1	CLEARING AND GRUBBING	LS	1
120-9	EXCAVATION, EMBANKMENT AND GRADING	LS	1
121-10	SLURRY TRENCH (CLAY CORE)	LF	400
425-1-521	INLET (DITCH BOTTOM TYPE C) (<10')	EA	1
425-2-41	MANHOLE (P-7) (<10')	EA	1
425-2-71	MANHOLE (J-7) (<10')	EA	1
430-175-115A	PIPE CULVERT (ADS) (ROUND) (15")	LF	208
430-175-115B	PIPE CULVERT (ADS) (ROUND) (15") (PERFORATED)	LF	56
430-200-23	FLARED END SECTION (CONCRETE) (15")	EA	1
440-1-20	UNDERDRAIN (TYPE II) (COARSE AGGREGATE ONLY)	LF	236
440-70	UNDERDRAIN INSPECTION BOX	EA	2
550-10-918	FENCING (BARBED WIRE) (4.0' HEIGHT) REMOVE AND REPLACE	LF	575
570-1	PERFORMANCE TURF	SY	5386
900-1	AS-BUILT PLANS	LS	1
900-2	INDEMNIFICATION	LS	1
900-3-1	GROUNDWATER - TREATMENT & DISPOSAL	DA	150

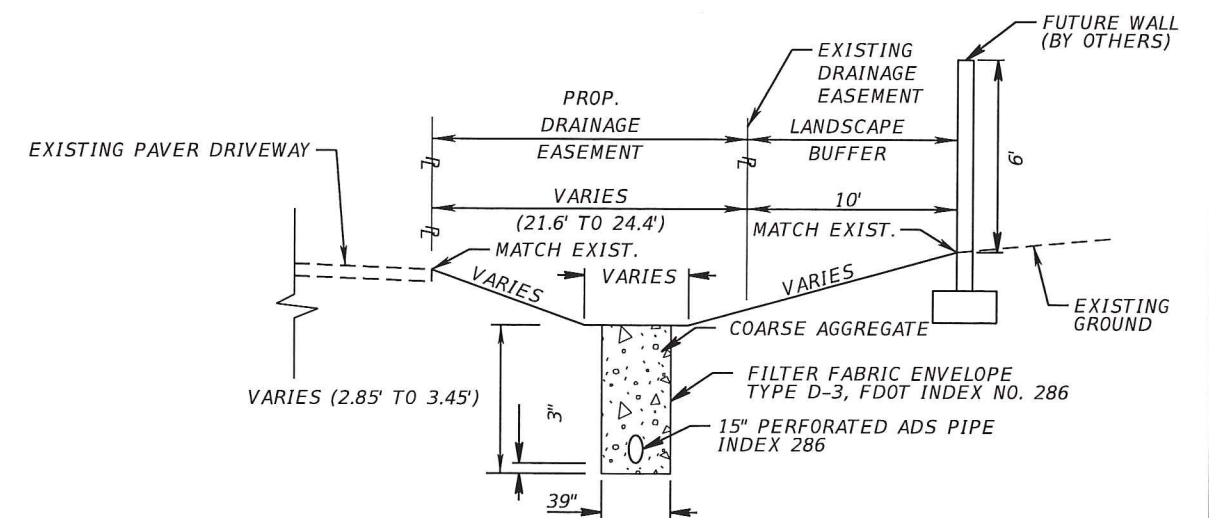
**PAY ITEM NOTES:**

121- 10 - INCLUDES THE COST OF ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE SLURRY TRENCH (CLAY CORE) IN ACCORDANCE WITH THE REQUIREMENTS SHOWN IN THE SEEPAGE BARRIER/CLAY CORE DETAIL SHEET AND THE SPECIFICATIONS INCLUDED IN TERRACON REPORT NO. H1135227, DATED MARCH 21, 2014.



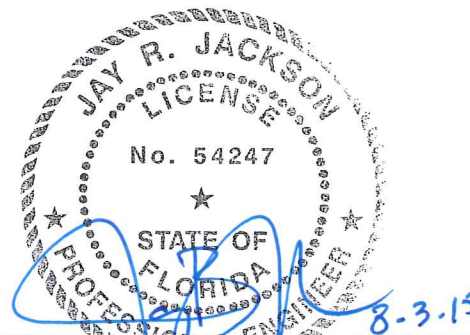
**UNDERDRAIN TYPE II DETAIL**

FDOT INDEX NO. 286 AND 500  
N.T.S.



**PERFORATED ADS PIPE DETAIL**

FDOT INDEX NO. 286 AND 500  
N.T.S.

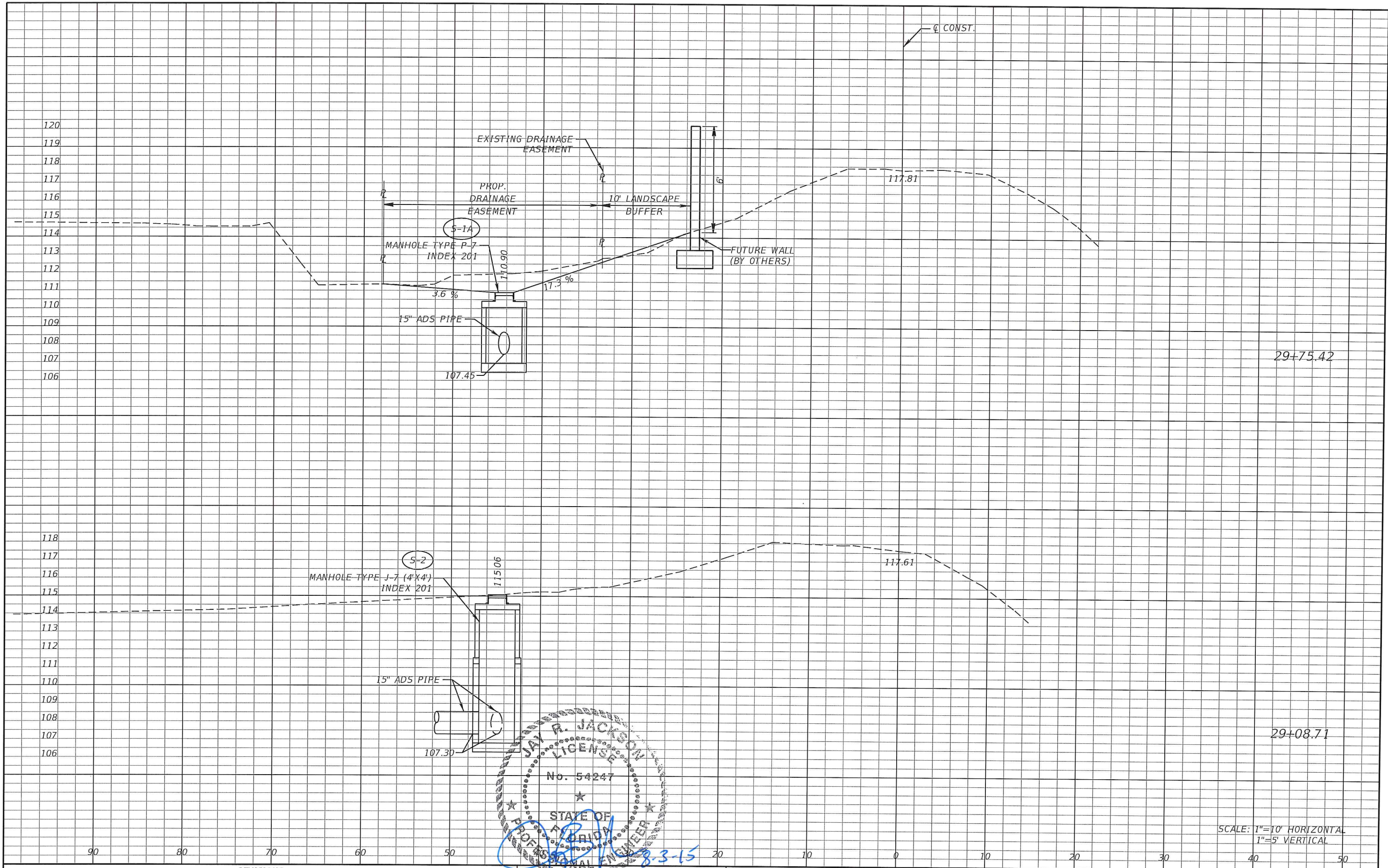


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**DRAINAGE AND UNDERDRAIN  
DETAIL SHEET (02)**

SHEET NO.  
2



29+75.42

29+08.71

SCALE: 1"=10' HORIZONTAL  
1"=5' VERTICAL

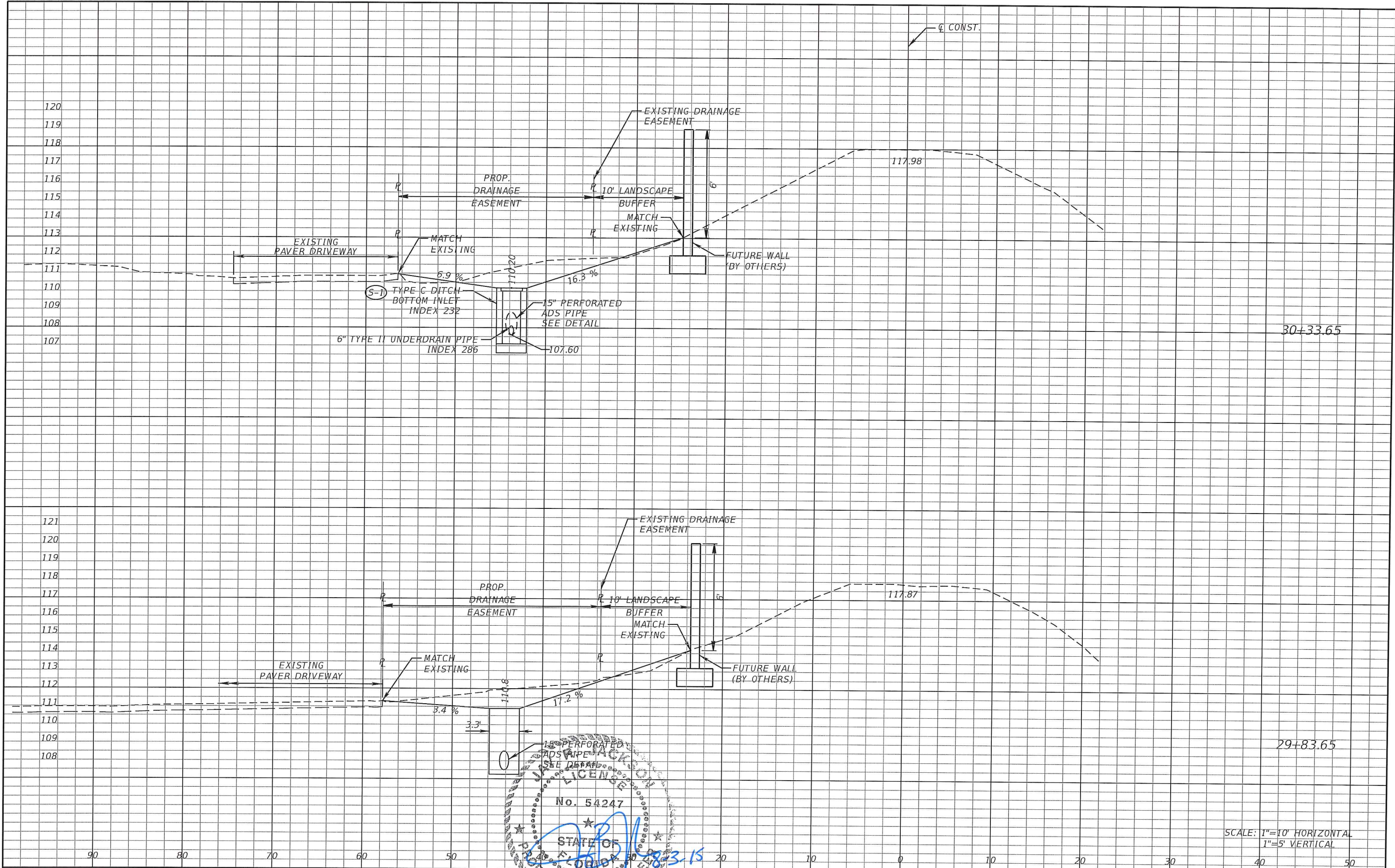
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

Jay R. Jackson, P.E.  
 P.E. License No. 54247  
 3660 Maguire Boulevard, Suite 200  
 Orlando, Florida 32803

**ORANGE COUNTY**  
 DEPARTMENT OF PUBLIC WORKS

# CROSS SECTIONS

SHEET NO.  
3



SCALE: 1"=10' HORIZONTAL  
1"=5' VERTICAL

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

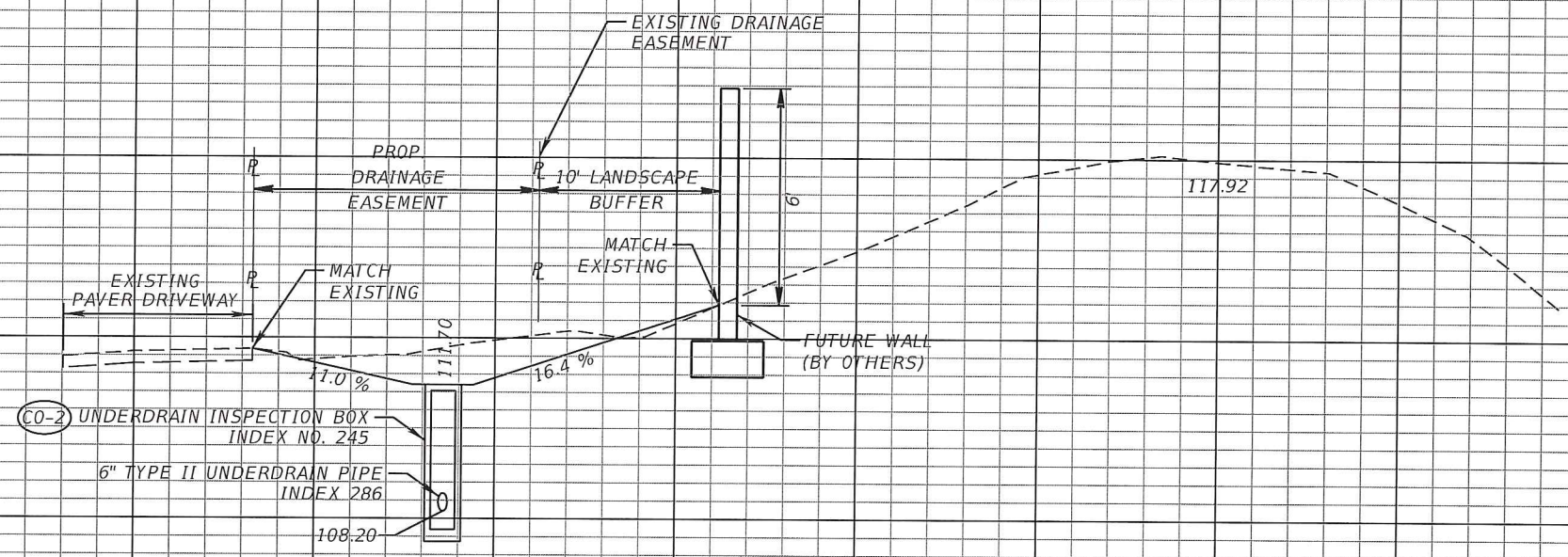
Kimley-Horn and Associates, Inc.  
 A Certificate of Authorization No. 696  
 Jay R. Jackson, P.E.  
 P.E. License No. 54247  
 3660 Maguire Boulevard, Suite 200  
 Orlando, Florida 32803

ORANGE COUNTY  
 DEPARTMENT OF PUBLIC WORKS

**CROSS SECTIONS**

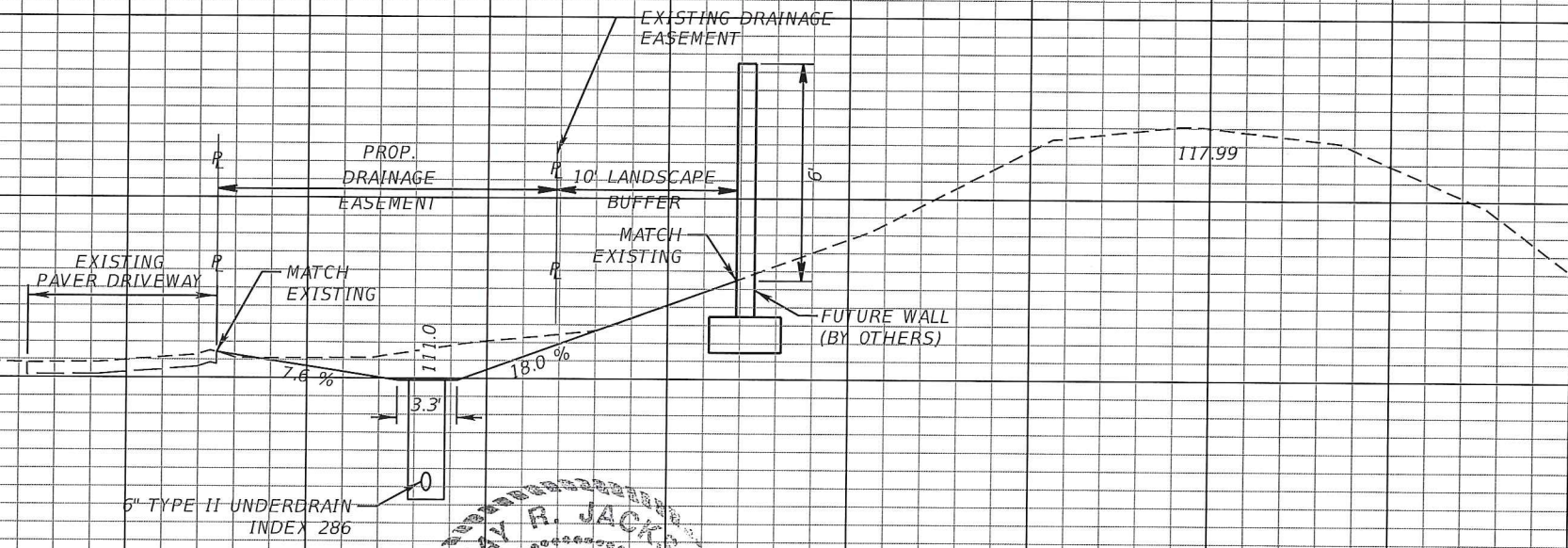
SHEET NO.  
 4

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109  
108

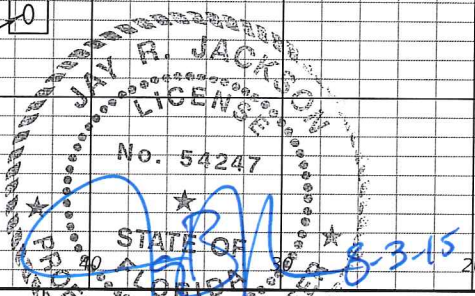


31+53.13

121  
120  
119  
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117  
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115  
114  
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112  
111  
110  
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107



30+93.65



SCALE: 1"=10' HORIZONTAL  
1"=5' VERTICAL

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

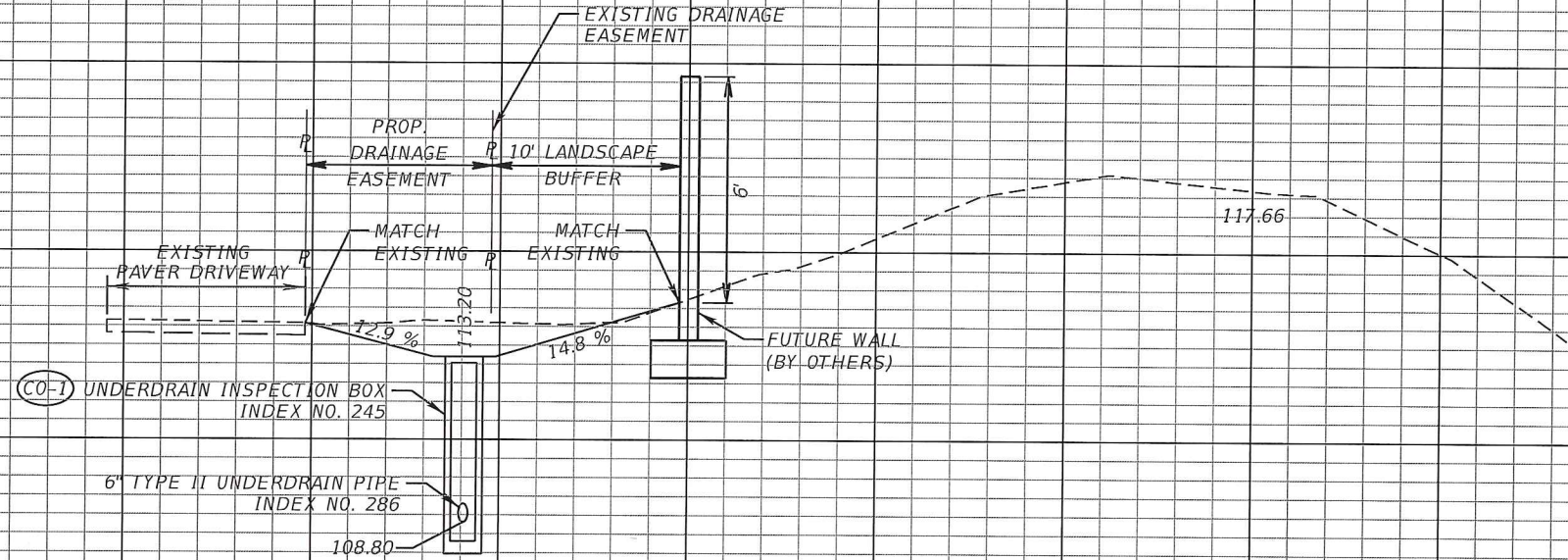
Kimley-Horn and Associates, Inc.  
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ORANGE COUNTY GOVERNMENT  
ORANGE COUNTY DEPARTMENT OF PUBLIC WORKS

CROSS SECTIONS

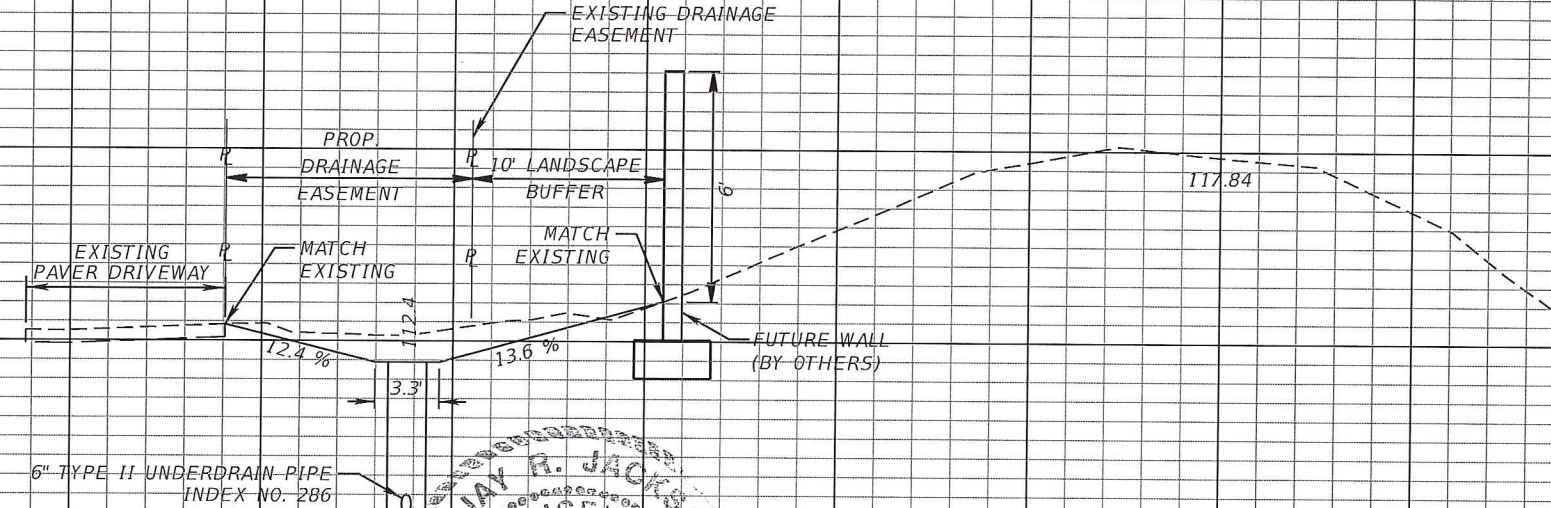
SHEET NO.  
5

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109  
108

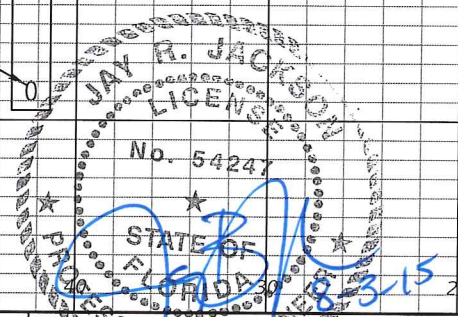


32+72.62

121  
120  
119  
118  
117  
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115  
114  
113  
112  
111  
110  
109



32+13.13



SCALE: 1"=10' HORIZONTAL  
1"=5' VERTICAL

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

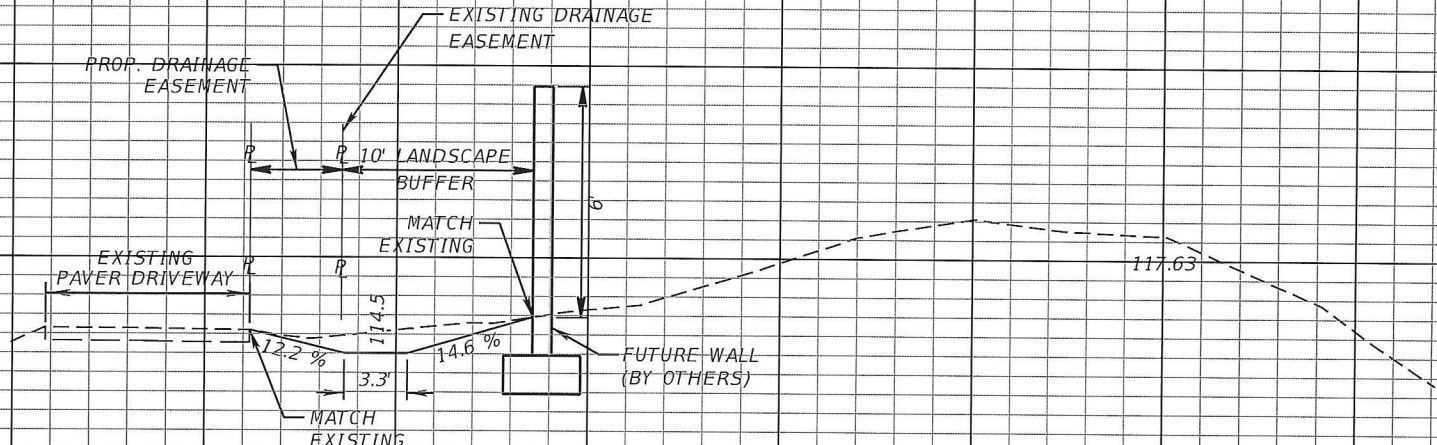
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CROSS SECTIONS

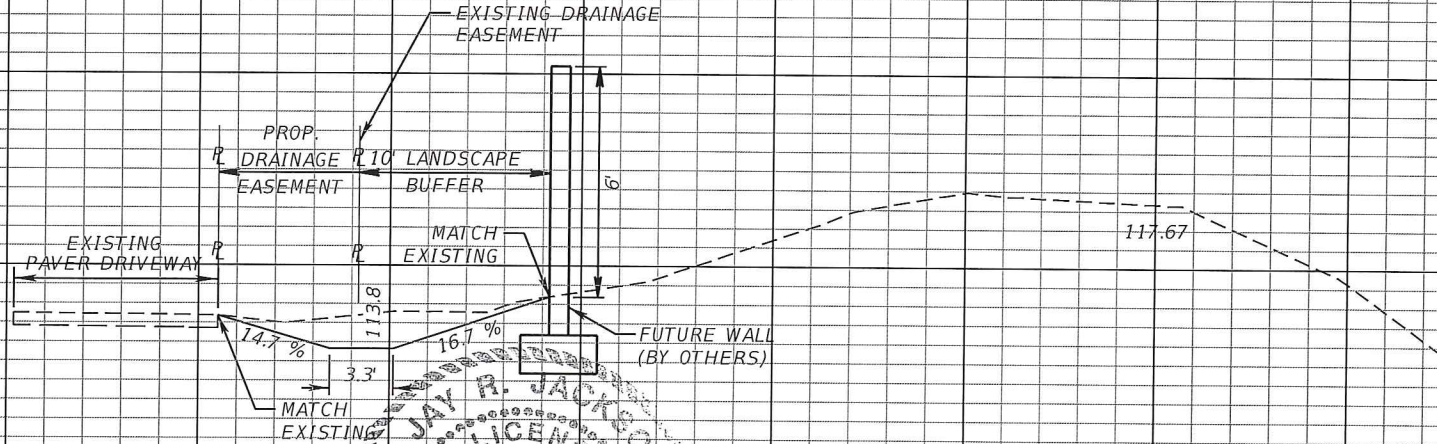
SHEET NO.  
6

123  
122  
121  
120  
119  
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117  
116  
115  
114  
113  
112



33+74.09

122  
121  
120  
119  
118  
117  
116  
115  
114  
113  
112



33+22.62

SCALE: 1"=10' HORIZONTAL  
1"=5' VERTICAL

90 80 70 60 50 40 30 20 10 0 10 20 30 40 50

REVISIONS	
DATE	DESCRIPTION

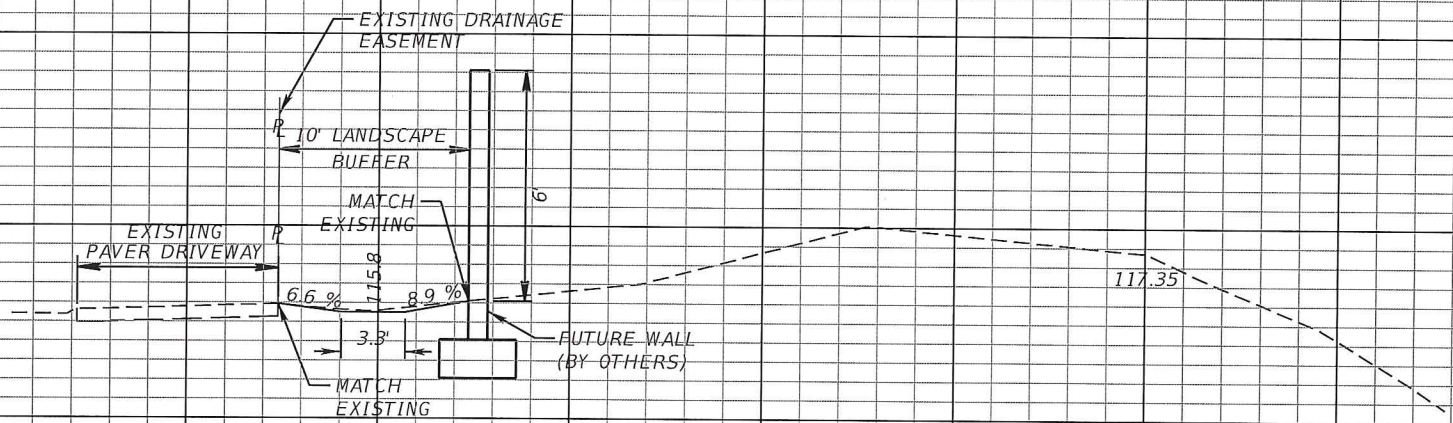
Jay R. Jackson, P.E.  
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 3660 Maguire Boulevard, Suite 200  
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**ORANGE COUNTY**  
 DEPARTMENT OF PUBLIC WORKS

**CROSS SECTIONS**

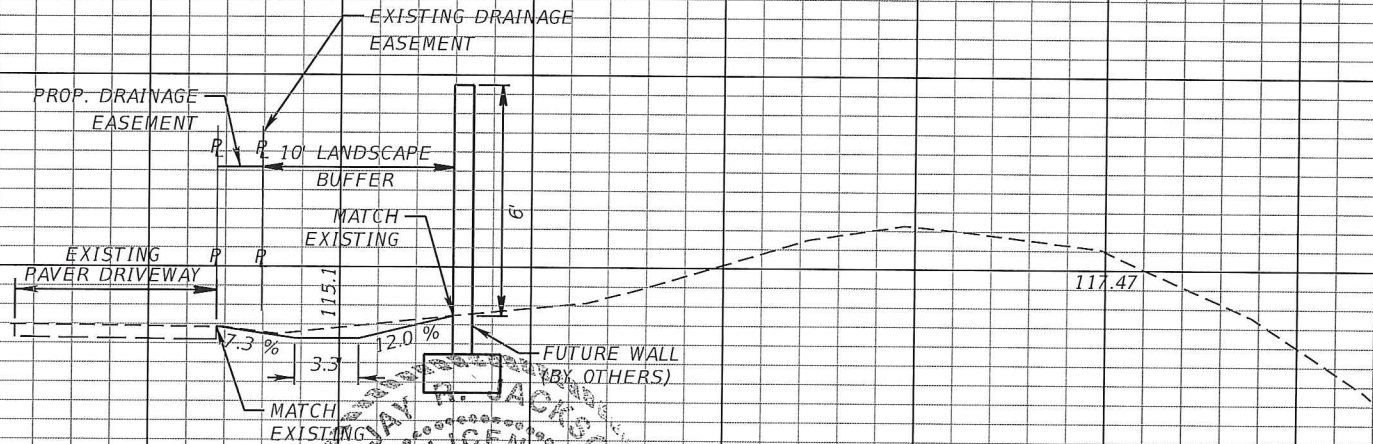
SHEET NO.  
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123  
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113



34+74.68

123  
122  
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117  
116  
115  
114  
113



34+24.09

SCALE: 1"=10' HORIZONTAL  
1"=5' VERTICAL

90 80 70 60 50 40 30 20 10 0 10 20 30 40 50

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

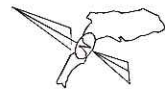
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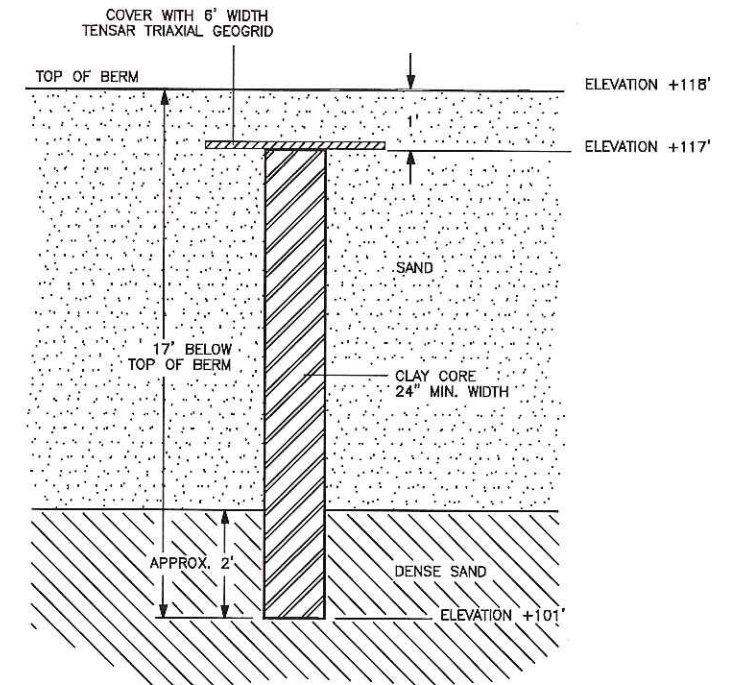
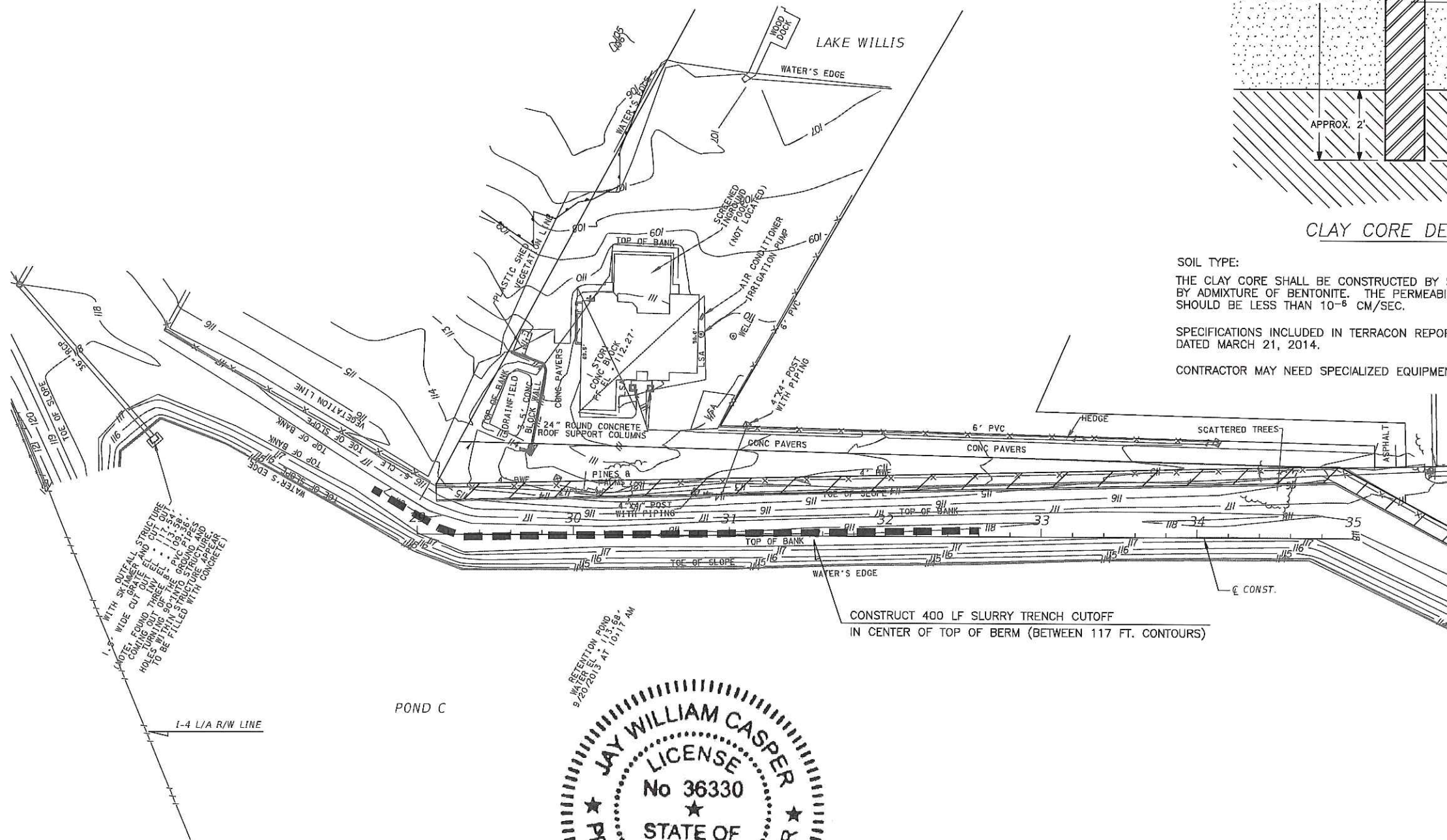
**CROSS SECTIONS**

SHEET NO.  
 7A





LOCATION PLAN  
APPROX. SCALE IN FEET



CLAY CORE DETAIL

SOIL TYPE:

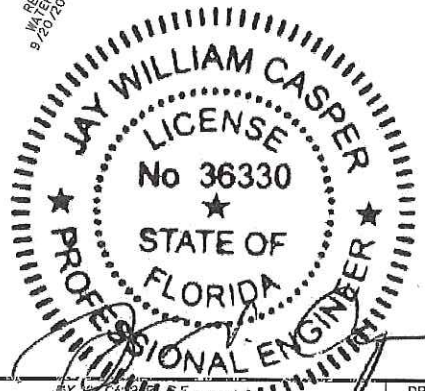
THE CLAY CORE SHALL BE CONSTRUCTED BY SLURRY TRENCH METHOD BY ADMIXTURE OF BENTONITE. THE PERMEABILITY OF THE CLAY/SOIL MIXTURE SHOULD BE LESS THAN  $10^{-6}$  CM/SEC.

SPECIFICATIONS INCLUDED IN TERRACON REPORT No. H1135227, DATED MARCH 21, 2014.

CONTRACTOR MAY NEED SPECIALIZED EQUIPMENT TO EXCAVATE THE DENSE SAND.

1'-8" WITH SATELLITE STRUCTURE  
NOTE: FOUND BRASSER AND FULL CUTOFF  
COMING THROUGH EL. 111.1  
HOLES WITHIN SOIL THIS CUTOFF  
TO BE FILLED WITH CONCRETE

RETENTION POND  
WATER EL. 113.58  
9/20/2015 AT 10:11 AM



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

DRAWN BY: SW 4-15-15	ORANGE COUNTY PUBLIC WORKS		SHEET TITLE: <b>SEEPAGE BARRIER / CLAY CORE DETAIL SHEET</b>	REF. DWG. NO.	
CHECKED BY: ENJ 4-15-15	ROAD NO.	COUNTY	FINANCIAL PROJECT ID	PROJECT NAME: <b>POND C AND LAKE WILLIS LAKE WILLIS DRIVE</b>	
DESIGNED BY:	-	ORANGE	-		SHEET NO. <b>8</b>
CHECKED BY:					

Apr 15, 2015 4:09pm

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH AND CONFORM TO THE MOST STRINGENT REQUIREMENT OF THE PROJECT SPECIFICATIONS, THE 2010 EDITION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (FDOT), AND SUPPLEMENTS THERETO, ORANGE COUNTY ROAD CONSTRUCTION SPECIFICATIONS, AND THE FDOT DESIGN STANDARDS.
2. ALL PERSONAL PROPERTY, EXCEPT MAIL BOXES WITHIN THE RIGHT-OF-WAY NOT RELOCATED BY PROPERTY OWNER SHALL BE REMOVED BY THE CONTRACTOR AS NECESSARY TO CONSTRUCT THE PROJECT IN ACCORDANCE WITH THE PLANS. MAIL BOXES SHALL BE RELOCATED BY THE CONTRACTOR IN ACCORDANCE WITH F.D.O.T. DESIGN STANDARD 532. PAYMENT WILL BE INCLUDED IN ITEM NO. 110-1-1 CLEARING & GRUBBING.
3. THE CONTRACTOR SHALL IMPLEMENT MEASURES TO PRESERVE EXISTING TREES WITHIN THE PROJECT LIMITS DURING CONSTRUCTION. THE REMOVAL OF ANY TREE REQUIRED FOR CONSTRUCTION MUST BE APPROVED BY THE ENGINEER AND SHALL BE INCLUDED IN CLEARING AND GRUBBING PAY ITEM NO. 110-1-1.
4. SOD ALL DISTURBED AREAS UNLESS OTHERWISE DIRECTED. SOD SHALL MATCH EXISTING TYPE SOD UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
5. THE INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES IS BASED ON AVAILABLE RECORDS AND SURVEYS BUT IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR SHALL MAKE HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO AND IS RESPONSIBLE FOR COORDINATING UTILITY RELOCATION WITH UTILITY OWNERS.
6. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES A MINIMUM OF TWO WORKING DAYS PRIOR TO EXCAVATION AS REQUIRED BY CHAPTER 77-153 OF THE FLORIDA STATUTES.
7. ALL (P.R.M.'S) IRONS AND MONUMENTS SHOWN ON PLANS, OR FOUND, SHALL BE PRESERVED. THOSE SHOWN IN PROPOSED PAVEMENT SHALL BE PROTECTED WITH A CAST IRON VALVE BOX.
8. ANY U.S.C. AND G.S. MONUMENTS WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED, IF IN DANGER OF DAMAGE, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, AND BOTH SHALL NOTIFY STATE GEODETIC ADVISOR, RONNIE TAYLOR, 3900 COMMONWEALTH BOULEVARD, MS105, TALLAHASSEE, FL, 32399 (850) 245-2606.
9. PUBLIC LAND CORNERS WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED. IF A CORNER MONUMENT IS IN DANGER OF BEING DESTROYED OR DISTURBED, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND THE COUNTY SURVEYOR (407) 836-7940, WITHOUT DELAY, BY TELEPHONE. THE CONTRACTOR SHALL PROVIDE WRITTEN FOLLOW UP CONFIRMATION WITHIN 48 HOURS OF TELEPHONE NOTIFICATION.
10. WITHIN 21 CALENDAR DAYS AFTER NOTICE TO PROCEED, THE CONTRACTOR SHALL STAKE THE RIGHT-OF-WAY AT 50 FEET INTERVALS AND AT RIGHT-OF-WAY BREAKS WITH STATIONING SHOWN ON THE STAKES. NO INVOICE FOR PAYMENT WILL BE PROCESSED UNTIL THE RIGHT-OF-WAY HAS BEEN STAKED TO THE SATISFACTION OF THE ENGINEER. PAYMENT IS INCLUDED IN THE PRICE BID FOR ITEM NO. 101-1, "MOBILIZATION".
11. CONTRACTOR IS TO MAINTAIN UNINTERRUPTED ACCESS TO ALL DRIVEWAYS AT ALL TIMES AND IS TO NOTIFY PROPERTY OWNERS FIVE DAYS PRIOR TO STARTING CONSTRUCTION.
12. ALL PRIVATE AND PUBLIC PROPERTY AFFECTED BY THIS WORK SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THE CONDITION EXISTING. COST TO BE INCIDENTAL TO OTHER CONSTRUCTION AND NO EXTRA COMPENSATION WILL BE ALLOWED.
13. MEASUREMENT OF DRAINAGE PIPE FOR PAYMENT SHALL BE DETERMINED FROM ACTUAL LENGTHS INSTALLED.
14. ALL EXISTING DRAINAGE STRUCTURES AND PIPES WITHIN THE RIGHT-OF-WAY SHALL REMAIN, UNLESS OTHERWISE DIRECTED. IN THE EVENT THAT THE CONTRACTOR ENCOUNTERS AN ABANDONED DRAINAGE STRUCTURE OR PIPE, THE CONTRACTOR SHALL NOTIFY THE ORANGE COUNTY HIGHWAY CONSTRUCTION DIVISION TO OBTAIN APPROVAL PRIOR TO REMOVAL. COST TO BE INCLUDED IN 110-1-1, CLEARING AND GRUBBING.
15. ALL INLET/MANHOLE-PIPE JOINTS SHALL BE FILLED WITH NON-SHRINK GROUT, COVERED WITH AN ASPHALTIC MASTIC COATING, AND WRAPPED WITH A FILTER FABRIC MATERIAL PER INDEX NO. 201.
16. ALL CURB INLETS, DITCH BOTTOM INLETS AND MANHOLES SHALL HAVE TRAFFIC BEARING FRAMES AND COVERS OR GRATES MEETING HS-20 LOADING REQUIREMENTS.
17. SUBSURFACE INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FOR USE IN ESTABLISHING DESIGN CRITERIA FOR THE PROJECT. THE ACCURACY OF THIS INFORMATION IS NOT GUARANTEED AND IS NOT TO BE CONSTRUED AS PART OF THE PLANS GOVERNING CONSTRUCTION OF THE PROJECT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INQUIRE OF THE ENGINEER IF ADDITIONAL INFORMATION IS AVAILABLE, TO MAKE ARRANGEMENTS TO REVIEW SAME PRIOR TO BIDDING AND TO MAKE HIS OWN DETERMINATION AS TO ALL SUBSURFACE CONDITIONS.
18. THE CONTRACTOR SHALL PERFORM HIS WORK IN ACCORDANCE WITH REQUIREMENTS OF FDOT DESIGN STANDARDS INDEX 102 & 103 EROSION & SEDIMENT CONTROL MEASURES INCLUDED IN THE BID PRICE FOR SECTION 104; "PREVENTION, CONTROL, AND ABATEMENT OF EROSION AND WATER POLLUTION", EXCLUDING ITEMS SPECIFIED ELSEWHERE. ENVIRONMENTAL CONTROLS SHALL BE USED AT LOCATIONS DESIGNATED IN THE PLANS AND/OR DESIGNATED BY THE ENGINEER.
19. PRIOR TO BEGINNING ANY CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO ORANGE COUNTY HIGHWAY CONSTRUCTION DIVISION A SET OF FIELD NOTES VERIFYING THE BENCHMARK ELEVATIONS AND THE REFERENCE POINT TIES SHOWN ON THE TITLE SHEET AND PLAN AND PROFILE SHEETS, AND/OR A SET OF FIELD NOTES FOR ALL ADDITIONAL BENCHMARK AND REFERENCE POINT TIES PROPOSED TO BE USED IN CONSTRUCTING THE PROJECT WITH THEIR LOCATION, DESCRIPTION AND SEALED BY A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF FLORIDA.

20. THE CONTRACTOR SHALL DEVELOP AND SUBMIT MAINTENANCE OF TRAFFIC STAGING PLANS AND A CONSTRUCTION SCHEDULE FOR APPROVAL BY THE ENGINEER AND THE ORANGE COUNTY HIGHWAY CONSTRUCTION DIVISION PRIOR TO CONSTRUCTION.
21. THE VERTICAL INFORMATION OBTAINED FROM SURVEY IS BASED UPON THE NGVD OF 1929 AS PUBLISHED BY ORANGE COUNTY PUBLIC WORKS DEPARTMENT.
22. THE CONTRACTOR SHALL NOTIFY UTILITY OWNERS THROUGH SUNSHINE ONE CALL OF FLORIDA INC. (1-800-432-4770) IN ACCORDANCE WITH FLORIDA STATUTE 556.

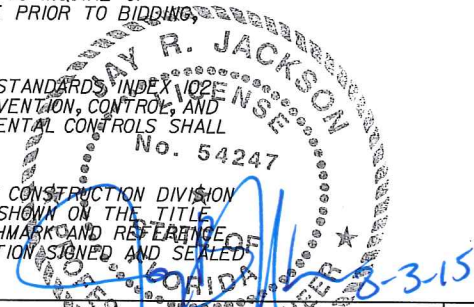
UTILITY OWNERS:

COMPANY	CONTACT	TELEPHONE NUMBERS
MAURY-ML CARTER DEVELOPMENT INC.	EMILY BROWN	407-581-6202
BRIGHT HOUSE NETWORKS	TRACEY DOMOSTOY	407-532-8511
DUKE ENERGY (TRANSMISSION)	DEFTRANSMISSIONGOV@DUKE-ENERGY.COM	
DUKE ENERGY (DISTRIBUTION)	DEFDISTRIBUTIONGOV@DUKE-ENERGY.COM	
MCI	INVESTIGATIONS	972-729-6016
ORANGE COUNTY UTILITIES	DOUGLAS HETTRICH	407-254-9865
ORLANDO TELEPHONE COMPANY	PAUL CASE	407-996-8900 EXT. 183
ORLANDO UTILITIES COMMISSION	RIC DY-LIACCO	407-236-9651
TECO PEOPLES GAS	BRUCE STOUT	407-420-2678
BELLSOUTH	KARRIE SNYDER	407-539-2313
TRAFFIC CONTROL DEVICES	FRED HORN	407-869-5300 EXT. 110
ADELPHIA CABLE	SHARON WALDEN	407-422-3961
SPRINT	MIKE SHELL	407-814-5344



DEWATERING NOTE

1. OBTAINING ALL APPLICABLE DEWATERING PERMITS FOR ANY DEWATERING ACTIVITIES IS THE RESPONSIBILITY OF THE CONTRACTOR. THE COST OF OBTAINING A DEWATERING PERMIT SHALL BE INCLUDED IN ITEM 104-14, PREVENTION, CONTROL & ABATEMENT OF EROSION AND WATER POLLUTION. THE CONTRACTOR SHALL REVIEW THE ENVIRONMENTAL RESOURCE PERMIT TO IDENTIFY WETLAND LOCATIONS.



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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ORANGE COUNTY GOVERNMENT  
 ORANGE COUNTY DEPARTMENT OF PUBLIC WORKS

DRAINAGE AND UNDERDRAIN  
 GENERAL NOTES

SHEET NO.  
 9