



**Interoffice Memorandum**

Date March 1, 2019

TO: Mayor Jerry L. Demings  
and Board of County Commissioners

FROM: Mark V. Massaro P.E., Director, Public Works Department

CONTACT PERSON: ~~Deodat~~<sup>DB</sup> Budhu, P.E., Manager  
Roads & Drainage Division

PHONE NUMBER: (407) 836- 7958

SUBJ: **Florida Central Railroad Application for Facility Installation**

The north end of Dunbar Avenue in the Winter Garden area experiences frequent flooding of private properties due to a buried drainage culvert under the railroad. To re-establish this drainage connection, Florida Central Railroad (FCR) requires an agreement to be executed in order to facilitate the installation of a new drainage pipe.

The construction of this pipe will be coordinated with Florida Central Railroad, who will be responsible for the removal and replacement of the railroad tracks and other related infrastructure during the drainage pipe installation. Per the Application for Facility Installation, the cost for the removal and replacement of the tracks will amount to \$30,830, plus any additional engineering fees. The application was approved by the Board. However, the agreement is required to be executed prior to construction commencement.

Please feel free to contact Mehul Parekh at (407) 836-7735 if you have any questions.

**Action Requested: Approval and execution of License Agreement by and between Florida Central Railroad Company, Inc. and Orange County for the installation of a drainage culvert under Florida Central Railroad tracks. District 1.**

MVM/MJP/ hw

Attachment(s)

## LICENSE AGREEMENT

**THIS LICENSE AGREEMENT** is made and entered into as of this <sup>27<sup>th</sup></sup> day of March, 2019 by and between **FLORIDA CENTRAL RAILROAD COMPANY, INC.**, a Florida corporation with an address of 3001 West Orange Avenue, Apopka, FL 32703 ("FCEN") and **ORANGE COUNTY**, a political subdivision of the State of Florida with an address of 4200 S. John Young Parkway, Orlando, FL 32839 (the "Licensee").

### Preliminary Statement

- A. Licensee, for the economical and convenient conduct of Licensee's business, desires to obtain from FCEN a license to use a portion of FCEN's right of way leased to FCEN pursuant to a lease agreement between FCEN and CSX Transportation, Inc. (the "CSX Lease"), without establishing, claiming, or possessing any estate or interest therein (the "License"), for the benefit of Licensee.
- B. FCEN has the right, power and authority to enter into this License Agreement, pursuant to the CSX Lease.
- C. Licensee desires to construct and maintain an underground storm water runoff pipe (the "Pipe") within the License Area, defined below.

**NOW THEREFORE**, in consideration of the mutual promises contained herein the parties agree as follows:

1. GRANT OF LICENSE  
FCEN hereby grants unto Licensee, its successors and assigns a License, with authority to enter upon, construct and maintain, pursuant to this License, the Pipe under FCEN's tracks and right of way on Christopher Street, Winter Garden, Orange County, Florida in the vicinity of Railroad Mile Post MP ATB-31 (the "License Area"), described on Exhibit A, which is attached hereto and incorporated herein..
2. SUBJECT TO MASTER LEASE AGREEMENT  
This License shall be subject to the terms and conditions of the CSX Lease, a memorandum of which is recorded in the public records.
3. STATUS OF SUBCONTRACTORS  
For purposes of this agreement, all references to Licensee shall include Licensee, its contractors, subcontractors, agents, officers, employees and others acting under its or their authority.
4. USE  
Licensee shall use the License Area for the construction, maintenance and operation of the Pipe that is the subject of this Agreement only for the conveyance of storm

water runoff, and any other purpose or use is prohibited. Notwithstanding any contrary provisions herein, Licensee agrees that this License shall not be used in any way that will inhibit the use of the License Area by FCEN, its successors or assigns. The Pipe shall be constructed, maintained and operated by Licensee in accordance with Exhibit A.

5. CONDUCT OF WORK

All work connected with the construction, maintenance, repair, renewal, modification, relocation, reconstruction or removal of the said Pipe shall be undertaken within the License Area. However, no such work shall be performed without prior written notice to, and approval of, FCEN's General Manager. Any and all work shall be performed in a manner satisfactory to the FCEN. All work shall be performed at times and in a manner which shall not disturb the reasonable operation of the business of FCEN. At the sole discretion of FCEN's General Manager, flag protection services may be required during construction and periods of maintenance. Licensee, in accordance with Paragraph 15 below, shall be responsible for all costs and expenses of any flagging service.

6. OPEN CUT FEES

Licensee shall pay to FCEN the amount of Thirty Thousand One Hundred and Ten Thirty (\$30,110.00) Dollars for the privilege of installing the Pipe through open cut installations as set forth in Exhibit A prior to any work commencing within the License Area. Tracks affected by the installation of the Pipe will be out of service for two (2) days to allow for installation. If the Pipe installation is not completed within two (2) days, Licensee shall pay to FCEN the sum of Two Thousand (\$2,000.00) per day for each additional day that the installation is not completed. Licensee shall pay to FCEN, within thirty (30) days of receipt of FCEN's presentation of an invoice, all engineering fees and costs incurred by FCEN for the engineers of FCEN's choosing, with respect to the installation, construction, and maintenance of the Pipe.

7. TERM

The term of the License this Agreement shall run for a period of one (1) year from the above date. Thereafter, this Agreement shall automatically renew for successive one-year periods unless or until it is terminated as provided below. In no event shall the Term of the License or this Agreement extend beyond the term of the CSX Lease.

8. DEFAULT

The failure by Licensee to perform any of its obligations when due under this License Agreement shall constitute an event of default (a "Default"). Upon default, FCEN may terminate this License Agreement upon thirty (30) days of notice to Licensee.

9. TERMINATION

Notwithstanding any contrary provisions contained herein, this Agreement may be terminated at any time by either FCEN or Licensee by giving to the other party thirty

(30) days advance written notice of its intention to so terminate. In the event of termination, Licensee shall remove the Pipe and restore the License Area as nearly as possible to as good order and condition as when original entry was made thereon by said Licensee, at its sole expense, cost and liability.

10. GOVERNMENT REQUIREMENTS

Installation of the Pipe pursuant to this License Agreement shall be performed in accordance with all appropriate governmental and administrative requirements for the use(s) for which such Pipe is to be maintained.

11. FCEN REGULATIONS

Licensee agrees that it shall observe and obey all regulations of FCEN respecting the use of the License and the License Area.

12. NON-PERMANENT LOCATION

Licensee recognizes that it may be in the best interest of FCEN to move the Pipe to other Area within FCEN's property, and therefore, Licensee agrees, at Licensee's cost and expense, to move or relocate the said Pipe at the reasonable request of FCEN. Licensee hereby agrees to effectuate and perform such move expeditiously and within reasonable constraints of time.

13. RISK, LIABILITY, INDEMNITY

13.1 To the extent permitted by law, Licensee shall defend, indemnify and save FCEN and its officers, shareholders, directors, affiliates, employees and agents harmless, from and against, any and all liability, loss, claim, suit, damage, charge, or expense (including reasonable attorney's fees and experts) which any such party may suffer, sustain, incur or in any way be subjected to, on account of death of, or injury to, any person and damage to or loss of or destruction of any property, arising out of, or resulting from, or in any way connected with, the construction, presence, existence, repair, maintenance, replacement, operation, use, or removal of Licensee's Pipe, the use of the License Area pursuant hereto or any structure in connection therewith, or restoration of the License Area to good order or condition.

13.2 Use of FCEN's right of way involves certain risks of loss or damage as a result of FCEN's operations. To the extent permitted by law, Licensee expressly assumes all risk of loss and damage to persons or Licensee's property or Pipe, in, on, over or under the License Area, including loss of or any interference with use thereof, regardless of cause, including derailment, arising out of FCEN's operations. For purposes of this section, Licensee's property shall include the contents of the Pipe as well as property of third parties situated or placed upon FCEN's right of way by Licensee or by such third parties at the request of or for the benefit of Licensee.

13.3 Without limiting the generality of other provisions herein, to the extent permitted by law, Licensee also expressly assumes all risk of loss which may

result from Licensee's failure to maintain either the Pipe or the required depth and support for the Pipe.

13.4 Without limiting the generality of other provisions contained herein, to the extent permitted by law, Licensee assumes all responsibility for, and agrees to defend, indemnify and hold FCEN and its officers, shareholders, directors, employees, affiliates, and agents harmless from (a) all claims, costs and expenses, including reasonable attorneys' fees as a consequence of any pollution of air, water, land and/or ground water on or off the License Area, arising from, or in connection with, the use of this License Area or resulting from the leaking, bursting, spilling, or escape of the material transmitted in or through Licensee's Pipe; (b) any claim or liability arising under federal or state law dealing with pollution of air, water, land, and/or ground water arising therefrom or the remedy thereof; and (c) any subsidence or failure of lateral or subjacent support of FCEN's tracks.

13.5 Obligations of Licensee hereunder to defend, indemnify and hold FCEN harmless shall also extend to companies or other legal entities that control or are under common control with FCEN and its/their respective officers, directors, shareholders, agents and employees.

13.6 Nothing herein shall be construed as a waiver of Licensee's sovereign immunity.

13.7 Licensee's duty to defend, indemnify, and hold FCEN harmless shall survive the expiration and/or termination of this License Agreement.

14. NOTICES

All notices on the part of Licensee to FCEN shall be given in writing to the General Manager, **FLORIDA CENTRAL RAILROAD COMPANY, INC.**, of 3001 West Orange Avenue, Apopka, FL 32703.

All notices on the part of FCEN to Licensee shall be given in writing to the Attn: Mark V. Massaro, Director, Orange County Public Works Department, 4200 South John Young Parkway, Orlando, FL 32839-9205.

All notices shall be sent in person, or via overnight courier, facsimile or email.

15. FCEN COSTS AND EXPENSES

Licensee agrees to pay to FCEN all reasonable costs and expenses incurred by FCEN due to FCEN's granting of this License or due to the use, maintenance or existence of said License by Licensee. Such costs and expenses shall include, but are not limited to, FCEN's cost of providing flag protection services pursuant to Paragraph 5 above. Licensee's cost for such flag protection services shall be the then-current rate per day for the particular flag protection services that FCEN

determines, in its sole discretion, are required after reviewing the needs of the work site.

16. COSTS AND ATTORNEYS FEES

In the event FCEN retains the services of attorneys, other professionals or persons in order to collect fees or other obligations from Licensee hereunder, FCEN shall be entitled to collect from Licensee all such attorney's fees, professional fees and costs so incurred, including but not limited to, said attorney's fees and costs for litigation and appeals thereof.

17. NO WARRANTIES

This License is herein granted without any warranty, express or implied, and Licensee hereby agrees that no damages shall be recoverable from FCEN because of any dispossession of Licensee or because of any failure of, defect in, cancellation of, or termination of, FCEN's property interest in the License Area.

18. ASSIGNMENT

No assignment of rights or privileges hereunder by Licensee shall be valid unless the written consent of FCEN is first obtained.

19. FUTURE PARTIES

This License shall inure to the benefit of, and be binding upon, the Parties hereto and their respective, heirs, legal representatives, successors and assigns.

20. REMEDIES

The remedies under this Agreement are cumulative and shall not exclude any other remedies to which any party may be lawfully entitled. The failure or delay of any party to insist upon the strict or timely performance of a covenant hereunder or any obligation hereunder, shall not be a waiver of such party's right to demand strict compliance therewith in the future.

21. CAPTIONS

All titles or captions are inserted for convenience only and they in no way shall be construed to define, limit or describe the scope of this Agreement or any provision thereof.

22. SEVERABILITY

If any clause or provision of this Agreement shall be deemed to be invalid or unenforceable under present or future laws, then, in that event it is the intention of the Parties that the remainder of this Agreement shall not be affected thereby.

23. CHOICE OF LAW

This instrument is being delivered and is intended to be performed in the state of Florida and shall be construed and enforced in accordance with the laws of that state. Any aggrieved party may proceed to enforce its rights in the appropriate action at law or in equity. Venue for all suits arising out of this instrument shall lie

exclusively in the Courts of Orange County, Florida. By execution or adoption of this agreement, each party hereby submits itself to the *in personam* jurisdiction of the Courts of Orange County, Florida.

24. INSURANCE

Licensee shall maintain insurance in the following amounts:

- (a) General liability insurance in the amount of Two Million dollars (\$2,000,000);
- (b) Contractual liability in the amount of Two Million dollars (\$2,000,000);
- (c) Worker's compensation, statutory limits or greater;
- (d) Automobile liability, One Million dollars (\$1,000,000); and
- (e) Railroad Protective Liability with bodily injury protection of Two Million dollars (\$2,000,000) and property damage of Two Million dollars (\$2,000,000).

All such insurance shall name FCEN as an additional insured. The original of the railroad protective liability policy shall be provided to FCEN and certificates of insurance evidencing Licensee's compliance with subparagraphs (a), (b), (c), (d) and (e) above shall be forwarded to FCEN prior to any work commencing on or within the License Area. Notwithstanding anything to the contrary, the insurance required under subparagraph (e) shall only be required during installation of the Pipe and whenever the Pipe will be reconstructed, updated, maintained or otherwise improved.

25. MODIFICATION

All modifications or waivers to this License Agreement must be in writing and executed by both parties.

26. MERGER

This Agreement represents the final, complete and exclusive understanding of the Parties of the subject matter hereto.

27. LICENSEE'S AUTHORITY TO EXECUTE THIS AGREEMENT

Licensee represents and warrants that it has taken all necessary actions required in order to enter into this License Agreement and cause it to be fully enforceable against Licensee, and that its agent below is authorized to execute this License Agreement.

[THE REST OF THIS PAGE LEFT BLANK INTENTIONALLY]

IN WITNESS WHEREOF, the parties have executed this Agreement as a sealed instrument on the day, month and year first written above.

Signed and delivered in the presence of:

FLORIDA CENTRAL RAILROAD COMPANY, INC.

Karen Kuivinen  
Witness  
Print Name: Karen Kuivinen

By: Thomas C. Owen  
Thomas C. Owen  
President

\_\_\_\_\_  
Witness  
Print Name:

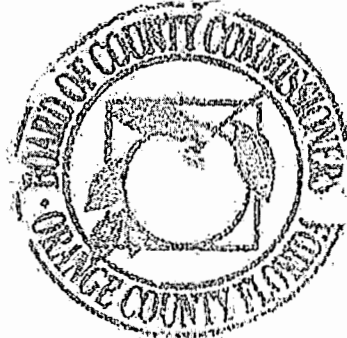
ORANGE COUNTY, FLORIDA  
By: Board of County Commissioners

Jennifer Lara-Klimate  
Witness  
Print Name: Jennifer Lara - Klimate

By: Jerry U. Demings  
Jerry U. Demings  
Orange County Mayor

Laketa Louis  
Witness  
Print Name: Laketa Louis

ATTEST: Phil Diamond, CPA, County Comptroller  
As Clerk of the Board of County Commissioners



By: Kacie Sweet  
Deputy Clerk

APPROVED AS TO FORM AND LEGALITY:

\_\_\_\_\_  
Print Name:  
County Attorney



**EXHIBIT A**  
**LICENSEE'S MARCH 8, 2018 APPLICATION FOR PIPE CROSSING**  
**(22 pages below)**

# Application for Facility Installation

Plans for proposed installation shall be submitted to and meet the approval and requirements of the Railroad Company before construction is begun. Material and installation are to be in strict accordance with specifications of the National Electrical Safety Code (NESC) or the American Railway Engineering Association (AREMA) which ever applies. **An original Plan, Section and Elevation views from field survey showing location in respect to Mile Post, width of Railroad Right of Way, location of adjacent structures affecting crossing must accompany application.** If open cutting or tunneling is necessary, details of sheeting and method of supporting tracks or driving tunnel shall also be shown. Flagging as defined by Railroad is required during installation and costs are responsibility of Agreement Holder.

**THIS SECTION RAILROAD USE ONLY**

Date Application Received by Road: **March 26, 2018**

Application Fee: **\$720.00**

RR Agreement No: **ORAN-60-001**

Railroad Approval: **K Kuivinen**  
Digitally signed by K Kuivinen  
 Date: 2018.03.09 13:29:24 -0500

Licensing Type: Other

Licensing Amount:

If Other Licensing Type, describe: **Open cut costs in the amount of \$30,110.00 plus STV Engineering fees**

**FIELDS BELOW TO BE FILLED IN BY APPLICANT**

Narrative		
Please provide a Description / Scope of work to be performed (include purpose, scope of work, special conditions)		
Installation of a 51 linear feet of 30" Class V RCP culverts under the FCR railroad tracks at a single location with a concrete head wall (FDOT Index No. 250) and concrete Type H inlet (FDOT Index No. 232)		
Installation Location Information		
City: <b>Winter Garden</b>	State: <b>Florida</b>	County: <b>Orange</b>
Railroad Location: <b>Florida Central Railroad</b>	GPS Latitude Entering ROW: <b>28°34'06.3386"</b>	GPS Longitude Entering ROW: <b>-81°33'31.3435"</b>
Feet:	Select a direction from nearest railroad mile post:	Mile Post No: <b>MP ATB-31 Christopher St</b>
Angle between center line of right of way and occupancy will be (degrees):	No of RR Tracks to be crossed: <b>2</b>	Total length within RR right of way measured in feet: <b>51'</b>
Will facility be located within public road right No		
Facility Owner Information		
Legal Information		
Owner's Complete Legal Company Name: <b>Orange County Roads and Drainage</b>		
Legal Address Line 1: <b>4200 S John Young Parkway</b>		
Legal Address Line 2:		
City: <b>Orlando</b>	State: <b>FL</b>	Zip: <b>32839</b>
Business Type: <b>Other</b>	State of Business Registration:	
The following must be provided for the person who will sign off on agreement:	Name: <b>Mark Massaro, P.E.</b>	Title: <b>Director of Public Works</b>

### Billing Information

If same as legal address above, check here: <input checked="" type="checkbox"/>		
Billing City: Orlando	Billing State: FL	Billing Zip: 32839
Billing Address Line 1: 4200 S John Young Parkway	Billing Address 2:	

### Owner Contact Information

Contact Name: Mehul Parekh	Title: Chief Engineer	E-mail: Mehul.Parekh@ocfl.net
Office Phone: 407-836-7735	Extension:	Mobile Phone: 321-388-2802

Emergency Phone:

### Project Engineer/Consultant/Agent Information

If same as legal address above, check here: <input checked="" type="checkbox"/>	Engineer/Consultant/Agent Company Name:	
Contact Name: Alexandra Bedoya		
Address Line 1: 4200 S John Young Parkway		
Address Line 2:		
City: Orlando	State: FL	Zip: 32839
Office Phone: 407-836-7793	Mobile Phone:	E-mail alexandra.bedoya@ocfl.net

### Project Information

Is this covered by existing Railroad permit/agreement or master agreement?	No	
Is this project related to another transaction/project with railroad?	Yes	
Is this a new installation? <b>New Installation Request</b>		
Will proposed installation connect to an existing facility within railroad corridor?	No	
Type of Installation: Pipe	Method: Sub-grade	<i>Plans of any sub-grade ≥30" diameter are subject to review by Engineers of Railroad choice at cost &amp; expense of facility owner.</i>
Will this installation be parallel to railroad company tracks anywhere in excess of 150 feet?	No	

**Sub-grade Installation Information**

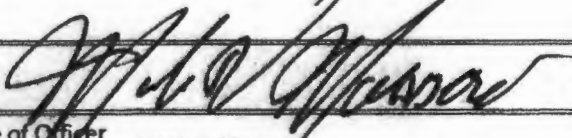
If sub-grade, select the proposed method of installation:	Open Cut
Bury: Base of rail to top of casing:	4.3'
Bury: Not beneath tracks:	NA
Bury: Roadway ditches:	NA
Temporary track support or r/rapping required:	No
Wires, pole obstructions to be relocated:	No

**Pipe Installation**

Pipe Type: Water – Storm	Flammable: No	
Max working pressure (PSI): NA	Test Pressure Type: NA	
<b>Pipe Specifications</b>	<b>Carrier Pipe</b>	<b>Casing Pipe</b>
Materials Specs & Grade	Class IV RCP	NA
Minimum Yield Strength of Material PSI	5500	NA
Mill Test Pressure PSI	NA	NA
Inside Diameter	30"	NA
Wall Thickness	2.75"	NA
Outside Diameter	35.5"	NA
Type of Seam	End to End	NA
Laying Lengths	4'	NA
Kind of Joints	Non Shrink Grout	NA
Number of Vents: NA	Size of Vents: NA	Height Above Ground: NA
Seals:	Cathodic Protection: No	Protective Coating: No
Type, size and spacing of insulators or supports: NA		

If application is approved, applicant agrees to reimburse the Railroad for any cost incurred by the railroad incident to installation, maintenance, and/or supervision necessitated by this installation and further agrees to assume all liability for accidents or injuries which arise as a result of this installation.

IF THE APPLICATION IS APPROVED, THE APPLICANT SHALL EXECUTE THE RAILROAD'S STANDARD FORM OF LICENSE AGREEMENT. IN THE EVENT THE RAILROAD INCURS LEGAL FEES IN EXCESS OF \$500 IN CONNECTION WITH THE COMPLETION OF THE LICENSE AGREEMENT THE APPLICANT SHALL PAY FOR ALL SUCH LEGAL FEES OF THE RAILROAD IN EXCESS OF \$500. WHETHER APPROVED OR DENIED, IN THE EVENT LITIGATION ARISES OUT OF OR IN CONNECTION WITH THIS APPLICATION OR THE UNDERLYING SUBJECT MATTER OF THIS APPLICATION, THE APPLICANT SHALL BE RESPONSIBLE FOR, AND AGREES TO PAY, ALL ATTORNEY'S FEES AND COSTS INCURRED BY THE RAILROAD. THE APPLICANT AGREES THAT THERE IS VALID CONSIDERATION EXCHANGED BY ALL PARTIES HERETO TO SUPPORT ALL OBLIGATIONS CREATED BY THIS APPLICATION.

Date: <b>3/8/18</b>	Written Signature: 
Title of Officer Signing Application: <b>Director of Public Works</b>	Printed Name of Officer Signing Application: <b>Mark V. Massaro</b>



# CONSTRUCTION PLANS FOR: DUNBAR AVENUE DRAINAGE EVALUATION - PHASE 2 FINAL DESIGN

## DISTRICT NO: 1 ORANGE COUNTY, FLORIDA

### SOURCE OF BENCHMARK DATUM

**Horizontal**  
Bearings and Coordinates are relative to the Florida State Plane Coordinate System, North American Datum of 1983/1980 adjustment (NAD83/90). East Zone Bearings for Yucatan Drive are based on the Southwly Right-of-Way line of Yucatan Drive, from Alder Drive, Northwest to the Point of Curvature (North line of Block "B", Arzola Park Section Thirteen, Plat Book "17", Page 1), having a bearing of North 52° 4' 26" East. Bearings for Cocoa Drive are based on the Westerly Right-of-Way line of Cocoa Drive, from Dogwood Drive, North to the Point of Curvature (East line of Block "B", Arzola Park Section Thirteen, Plat Book "17", Page 123), having a bearing of North 00° 23' 23" West. The following Orange County Section Corners were utilized for this project:

**Southeast Corner of Section 27-29-38** (Certified Corner Record # 071711)  
Found 6"x8" concrete monument with 1" iron pipe in well box.  
Latitude 28° 33' 13.22292" N, Longitude 81° 17' 39.08215" W (NAD83/90)

**Southwest Corner of Section 27-29-38** (Certified Corner Record # 071713)  
Found Orange County Aluminum Disk.  
Latitude 28° 33' 12.84852" N, Longitude 81° 18' 38.64505" W (NAD83/90)

**East 1/4 Corner of Section 27-29-38** (Certified Corner Record # 071721)  
Found 6"x8" concrete monument with 1/2" brass pin.  
Latitude 28° 32' 47.07037" N, Longitude 81° 17' 38.63887" W (NAD83/90)

Horizontal closures for this project exceed 1 cent in 18,000 required for commercial / high net surveys by the Minimum Technical Standards set forth by the Florida Board of Professional Surveyors and Mappers in Chapter §1G17-8, Florida Administrative Code.

**Vertical**  
Vertical information is based on the North American Vertical Datum of 1988 (NAVD88) as established from the following Orange County Benchmarks:

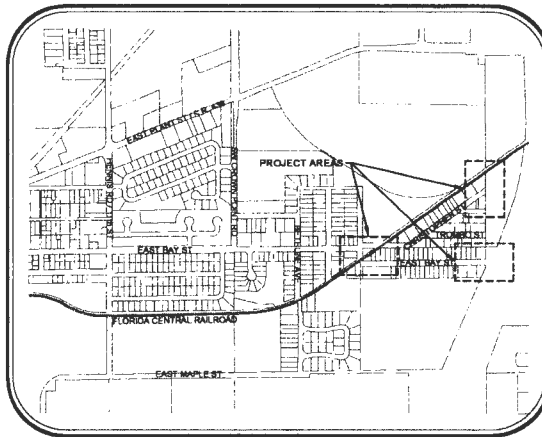
**8828989** - Found "X" cut on headwall, 80 ft east of Yucatan Drive, 100' +/- West of side Drive, in front of house 88014. Cut over South invert of pipe. Published Elevation = 88.892 feet (NAVD88)

**L1178011** - Found 1/2" Orange County Brass Disk in curb on side of Yucatan Drive, 15' +/- North of centerline of Yucatan Drive. Published Elevation = 80.217 feet (NAVD88)

**81838887** - Found 3" Orange County Aluminum Disk on North edge of 5' sidewalk at the southwest corner of address 85229 Dogwood Drive.  
Published Elevation = 88.154 feet (NAVD88)

**81838886** - Found 3" Orange County Aluminum Disk on North edge of 5' sidewalk, at angle break in sidewalk, on Northwest corner of Dogwood Drive and Beaman Drive. Published Elevation = 87.880 feet (NAVD88)

Vertical closures for this project do not exceed 0.05 feet times the square root of the distance in miles, standard for Vertical Control required by the Minimum Technical Standards set forth by the Florida Board of Professional Surveyors and Mappers in Chapter §1G17-8 Florida Administrative Code.



VICINITY MAP

**NOTE:**  
PLANS WERE PREPARED ACCORDING TO AVAILABLE INFORMATION TO ADEQUATELY ADDRESS CONDITIONS AS THEY EXISTED AT THE TIME OF PLANS PREPARATION. NEEDS, CONDITIONS, AND OWNERSHIP OF PROPERTIES MAY HAVE CHANGED SINCE PROJECT DESIGN. THIS COUNTY'S REPRESENTATIVE WILL ADDRESS CHANGES AND NEEDS WITH THE PROPERTY OWNER OR THEIR REPRESENTATIVES. CONTRACTOR SHALL WORK WITH THE COUNTY'S REPRESENTATIVE IN ADDRESSING AND MEETING NEEDS AND CONDITIONS THAT MAY HAVE CHANGED SINCE PLANS PREPARATION.

### CERTIFICATION TO PLANS

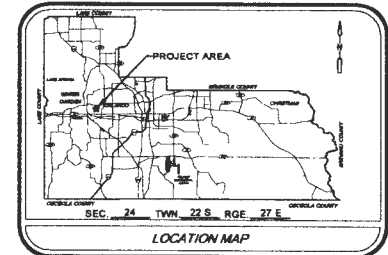
I HEREBY CERTIFY THAT THE DESIGN FOR THIS PROJECT AND THE ATTACHED CONSTRUCTION PLANS COMPLY WITH THE REQUIREMENTS OF SECTION 336.045 OF THE FLORIDA STATUTES AND ARE IN SUBSTANTIAL CONFORMANCE WITH THE STANDARDS CONTAINED IN THE EDITION OF THE "MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS" IN EFFECT ON THIS DATE AS ADOPTED BY THE FLORIDA DEPARTMENT OF TRANSPORTATION PURSUANT TO SUBSECTION 336.045(1) OF THE FLORIDA STATUTES.

DATE: \_\_\_\_\_ ENGINEER: \_\_\_\_\_

TERESA JACOBS, COUNTY MAYOR

BOARD OF COUNTY COMMISSIONERS

- |                    |                       |
|--------------------|-----------------------|
| BETSY VANDERLEY    | DISTRICT 1            |
| BRYAN NELSON       | DISTRICT 2            |
| PETE CLARK         | DISTRICT 3            |
| JENNIFER THOMPSON  | DISTRICT 4            |
| EMILY BONILLA      | DISTRICT 5            |
| VICTORIA P. SIPLIN | DISTRICT 6            |
| MARK MASSARO       | PUBLIC WORKS DIRECTOR |



INDEX OF SHEETS	
COVER SHEET	
G-1	GENERAL NOTES, LEGEND, AND ABBREVIATIONS
G-2	PAY ITEM LIST
G-3	KEY MAP
G-4	SURVEY REFERENCE TIES
G-5	DUNBAR AVENUE EXISTING CONDITIONS PLAN
G-6	CHRISTOPHER STREET EXISTING CONDITIONS PLAN
G-7	EAST BAY STREET EXISTING CONDITIONS PLAN
G-8	LIMITS OF CONSTRUCTION
G-9	SURFACE WATER IMPACTS
C-1	DUNBAR AVENUE DRAINAGE PLAN AND PROFILE
C-2	CHRISTOPHER STREET DITCH EXTENSION PLAN AND PROFILE
C-3	CHRISTOPHER STREET DRAINAGE PLAN AND PROFILE
C-4	EAST BAY STREET DRAINAGE PLAN AND PROFILE
C-5	DRAINAGE STRUCTURES AND ENDWALL DETAILS
XS-1	CROSS SECTIONS
CD-1	CIVIL DETAILS
CD-2	CIVIL DETAILS

UTILITIES ENCOUNTERED	
EMBARO	407-814-5344
SPECTRUM	855-222-0102
CITY OF WINTER GARDEN	407-856-4111
CITY OF OCOCHEE ENGINEERING / UTILITIES DEPT	407-805-3100
PROGRESS ENERGY	407-942-9357
LAKE APOPKA NATURAL GAS DISTRICT	407-856-2734
OCCEA EXPRESSWAY AUTHORITY	407-647-7275
FLORIDA CENTRAL RAILROAD	407-880-8500

PREPARED BY:  
**Royal Consulting Services, Inc.**  
211 West Walnut Avenue  
Longwood, FL 32750  
(407) 881-3200 phone  
(407) 881-3065 fax  
www.royalconsulting.com  
FL CDA No. 7280

REVISIONS	DATE	BY

DESIGNED BY	J.B.A.	DATE	2-22-2018
DRAWN BY	J.D.D.	DATE	2-22-2018
CHECKED BY	B.L.R.	DATE	2-22-2018
APPROVED BY	J.B.A.	DATE	2-22-2018
PROJECT NO.	011612405		

SHEET 1  
OF 18

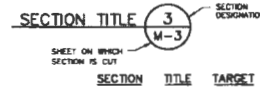
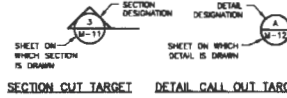
**LEGEND**

	STORM SEWER
	EXISTING SANITARY SEWER LINE
	EXISTING POTABLE WATER LINE
	EXISTING IRRIGATION LINE
	EXISTING BURIED TELEPHONE
	EXISTING POWER DUCTS OR CABLES
	OVERHEAD ELECTRIC
	EXISTING STORM SEWER/CATCH BASIN
	EXISTING POWER POLE
	EXISTING LIGHT POLE
	R/W - RIGHT OF WAY
	P - PROPERTY LINE
	JURISDICTIONAL BOUNDARY
	LIMITS OF CONSTRUCTION
	EASEMENTS
	WATER ELEVATION
	BASE LINE
	PROPOSED UTILITY FENCE
	STORMSEWERS TO BE COVERED UNDER EXISTING UTILITY
	STORMSEWERS TO BE COVERED OVER EXISTING UTILITY
	BENCH MARK
	EXISTING BURIED WIRE FENCE TO REMAIN
	NEW BURIED WIRE FENCE
	EXISTING CONTOUR
	PROPOSED CONTOUR
	EXISTING SPOT ELEVATION
	PROPOSED SPOT ELEVATION
	DRAINAGE STRUCTURE IN PLAN
	DITCH BOTTOM INLET
	STORMWATER MANHOLE
	PROPOSED FLOATING TURBIDITY BARRIER

**ABBREVIATIONS**

ADJUSTABLE	AJJ	NOT TO SCALE	NRS
AHEAD OF STATION	AL	NUMBER	NO
ALUMINUM	AL	ON CENTER	OC
ANGLE	<	OPPOSITE	OPP
BACK OF STATION	BS	OFFSHOULDER	OS
BALL VALVE	BV	OPENING	OPNG
BASELINE OF SURVEY	B	OR EQUAL	O/E
BELONG	BL	PRELIMINARY	PRMNT
BELONGING	BL	PERFORATED	PFM
BETWEEN	BTWN	POINT OF CURVATURE	POC
BETWEEN CENTER TO CENTER	BTWN CC	POINT OF TANGENCY	POT
BURIED COATED POLYETHYLENE GLASS FIBER REINFORCED CONCRETE PIPE	BCCP	POINT	PT
BURIED TELEPHONE	BT	POLYETHYLENE PIPE	PEP
CENTER LINE OF CONSTRUCTION	CL	POLYMER CHLORIDE LIQUID	PLC
CONCRETE	CONC	PLATE	PL
CONCRETE BOX CULVERT	CBC	PRECAST	PRECT
CONTRACT	CONTR	PROFILE GRADE LINE	PGL
CORRODED METAL PIPE	CMP	ROUND	RND
CENTER (EOD)	CTR	REINFORCED CONCRETE PIPE	RCCP
CROSS SECTION	X-SEC	REQUIRED	REQ'D
DEMOLITION	DEMOL	RESTRAINED JOINT	RJ
DIMETER	DM, DIA	RIGHT	RT, R
DIRECTIONAL	DIR	RIGHT OF WAY	R/W, ROW
DIVERSION	DM	SANITARY SEWER	SAW, S
DOWNSTREAM	D/S	SECTION	SEC
DRAINAGE	DRNG	SHEET	SH, SH#
DITCH BOTTOM INLET	DBI	SHOULDER	SHDL, S/W
DRAINING	DRG	SLIP-ON JOINT	SOJ, JT, SF
DUCTILE IRON PIPE	DIP	SQUARE FEET	SQ. FT., SF
DUCTILE IRON	DI	STAINLESS STEEL	SS
ELEVATION	ELEV	STATION	STA
EDGE OF PAVEMENT	EOP, EP	STEEL	STL
EXISTING	EXIST	STEEL PIPE	SP
FIBERGLASS REINFORCED PIPE	FRRP	STORM SEWER	SS, STORM
FLANGE	FLN	STRONG	STRNG
FLARED END SECTION	FES	SYNTHETICAL	SYNTH
FLOOR	FLR	TANGENT TO CURVE	TC
FURNISHED BY OTHERS	FBO	TEMPORARY CONSTRUCTION EASEMENT	TCE
FEET/FOOT	FT	TRUCK	TRK
GALVANIZED STEEL PIPE	GSP	TOP OF CURVE	TOC
HEIGHT	HT	TEMPORARY	TEMP
HIGH POINT	HP	UPSTREAM	U/S
INSTALL	INST	UTILITY EASEMENT	UE
LEFT	L, LT	VERTICAL ELEVATION AND HORIZONTAL LOCATION	VHL, VHL
LOW POINT	LP	VERTICAL	VERT
MATERIAL	MTL	VERTICAL CURVE	VC
MANHOLE	MH	WATER	WTR
MECHANICAL	MEDH	WATER LEVEL	WL
METAL	MET	WATER MAIN	WM
MATERIAL	MAT	WEATHERPROOF	WP
MATERIAL (EOD SECTION)	MAT (EOD)	WELL	WEL
MANHOLE	MH	WITH	W/
NOT IN CONTRACT	NIC		

**SECTION AND DETAIL NUMBERING SYSTEM**



**GENERAL NOTES**

- ALL ELEVATIONS ARE REFERRED TO NORTH AMERICAN VERTICAL DATUM OF 1988. HORIZONTAL COORDINATES/COORDINATES SHOWN HEREON REFER TO FLORIDA STATE PLANE COORDINATE SYSTEM OF 1983 WITH THE 1980 ADJUSTMENT FOR FLORIDA EAST ZONE.
- LOCATIONS, ELEVATIONS AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS. BUT DO NOT PURPORT TO BE ABSOLUTELY CORRECT. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY AND AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES AFFECTING HIS WORK.
- THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE UTILITY COMPANY SEVENTY-TWO (72) HOURS IN ADVANCE OF ANY EXCAVATION INVOLVING ITS UTILITIES SO THAT A COUNTY REPRESENTATIVE CAN BE PRESENT. THE LOCATION OF THE UTILITIES SHOWN IN THE PLANS ARE APPROXIMATE ONLY. THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY IF OTHER UTILITIES (NOT SHOWN IN THE PLANS) EXIST WITHIN THE AREA OF CONSTRUCTION. SHOULD THESE BE OTHER UTILITIES, THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE UTILITY OWNERS TO RESOLVE UTILITY CONFLICTS AND UTILITY ADJUSTMENTS, AS REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ALL UTILITIES TO REMAIN IN PLACE.
- TOPOGRAPHIC SURVEY WAS PERFORMED BY:  
GENERAL SURVEY:      SITE SURVEY WHERE NOTED:  
GEODATA CONSULTANTS, INC.      F.R.S. AND ASSOCIATES, INC.  
2700 WESTHALL LANE, SUITE 137      2257 VISTA PARKWAY, SUITE 4  
MAITLAND, FLORIDA 32751      WEST PALM BEACH, FL 33411  
PHONE: 407-860-2327      PHONE: 561-478-1718  
FAX: 407-860-8823
- THE CONTRACTOR SHALL CONTACT THE ENGINEER'S OFFICE IMMEDIATELY UPON OBSERVING ANY CONFLICTS DURING CONSTRUCTION ON ANY IMPROVEMENTS SHOWN ON THE DRAWINGS.
- EROSION CONTROL AND SEDIMENTATION CONTROL DEVICES SHALL BE IN PLACE PRIOR TO BEGINNING OF ANY CLEARING, GRUBBING, DEMOLITION OR CONSTRUCTION. THEY SHALL BE INSTALLED TO THE LIMITS SHOWN IN THE DRAWINGS, AS REQUIRED IN THE SPECIFICATIONS AND IN ACCORDANCE WITH ALL REGULATORY AGENCY REQUIREMENTS (SEE EROSION CONTROL NOTES).

- THE CONTRACTOR SHALL REPLACE ANY MONUMENTS, FENCES, ETC. WITH THE SAME TYPE OF MATERIAL THAT WAS REMOVED DURING CONSTRUCTION.
- ALL STATIONING AND OFFSET REFERS TO CONSTRUCTION BASELINE UNLESS OTHERWISE NOTED ON PLANS.
- EXISTING UTILITIES AND FACILITIES SHOWN ON THE DRAWINGS WERE LOCATED FROM THE UTILITY OWNER'S RECORDS OF UNDERGROUND FACILITIES. GUARANTEE IS NOT MADE THAT ALL EXISTING FACILITIES ARE SHOWN NOR THAT THOSE FACILITIES SHOWN ARE EXTREMELY ACCURATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION/RELOCATION OF THE EXISTING UTILITIES.
- THE LIMITS OF CONSTRUCTION SHOWN ON THE PLANS SHALL BE STRICTLY OBSERVED BY THE CONTRACTOR. ALL ACCESS, EGRESS AND TRAFFIC PATTERNS ON THE SITE SHALL BE WITHIN THE LIMITS OF CONSTRUCTION SHOWN ON THE DRAWINGS.
- DURING CONSTRUCTION OF THE IMPROVEMENTS, THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL, PROTECTION, AND REPLACEMENT OF ITEMS ON PRIVATE PROPERTY AND PUBLIC RIGHTS OF WAY SUCH AS SPRINKLERS, FENCES, SOIL, SHOULDER, TREES, SURVEYING MARKERS, ETC.
- PRIOR TO EXCAVATING, THE CONTRACTOR SHALL NOTIFY THE EXISTING UTILITIES COMPANIES OWNERS IN ACCORDANCE WITH THE REQUIREMENTS OF FLORIDA STATUTES, PROTECTION OF UNDERGROUND UTILITIES F.S. 353.851, CH 17-143.
- INSTALLATION OF ALL STORM SEWERS, INLETS, MANHOLES, BOX CULVERTS AND APPURTENANCES SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE SECTIONS OF FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, OR AS INDICATED ON THE DRAWINGS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL UTILITIES THAT MAY EXIST ABOVE OR BELOW GROUND.
- ALL BRUSH, STRIPPINGS OR UNSUITABLE MATERIAL SHALL BE DISPOSED OF ON-SITE AT THE CONTRACTOR'S EXPENSE UNDER THE DIRECTION OF THE ENGINEER.
- STATION OFFSETS SHOWN ON PLANS ARE FROM CENTERLINE TO CENTERLINE OF STRUCTURE.

**CONSTRUCTION NOTES**

- THE CONSTRUCTION WILL NEED TO BE COORDINATED WITH FLORIDA CENTRAL RAILROAD (FCR) FOR THE PROJECT AREA WITH DUAL TRACK (NORTH OF CHRISTOPHER STREET). ONE TRACK WILL NEED TO BE OPEN ONE DAY AFTER BEING TAKEN OUT OF SERVICE.
- THE FCR WILL TEMPORARILY REMOVE THE TRACKS AT THE CROSSING LOCATIONS TO ALLOW OPEN CUT INSTALLATION. TWO WEEKS NOTICE SHALL BE GIVEN BY CONTRACTOR TO FCR.
- THE RAILROAD CROSSING PIPE INSTALLATION IS TO BE COMPLETED IN ONE DAY, OR AT A DURATION ACCEPTABLE TO FCR.
- THE FCR WILL REINSTALL THE TRACKS.
- THE CONTRACTOR NEEDS TO PROVIDE COMPACTION TESTING RECORDS TAKEN DURING THE PIPE INSTALLATION TO THE COUNTY AND THE RAILROAD. THE FILL MUST BE COMPACTION TO CONFORM TO AREMA STANDARDS FOR "BACKFILL AND EMBANKMENT".
- ALL DISTURBED AREAS MUST BE SOODED UNLESS OTHERWISE NOTED ON THE PLANS. ALL SOODING MUST BE DONE IN ACCORDANCE WITH SECTION 570 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
- THE CULVERTS UNDER THE RAILROAD TRACKS WILL BE INSTALLED BY THE OPEN CUT METHOD.
- THE STORMWATER SYSTEM IS TO REMAIN FUNCTIONING DURING CONSTRUCTION. THIS MAY REQUIRE TEMPORARY PUMPING AT EAST BAY STREET.
- THE RCP DRAINAGE PIPE INSTALLATION UNDER THE RAILROAD TRACKS SHALL COMPLY WITH AREMA CHAPTER 8 PART 2 - "REINFORCED CONCRETE CULVERT PIPE".

JOB NO.	0174-12-15
SCALE	AS SHOWN
DATE	2-22-2018
DESIGN	J.G.J.
DRAWN	J.A.O.
CHECKED	B.L.R.
APPROVED	J.G.J.

REVISION	
NO.	DATE

**DUNBAR AVENUE DRAINAGE EVALUATION - PHASE 2**  
 FLORIDA  
 ORANGE COUNTY

**GENERAL NOTES, LEGEND, AND ABBREVIATIONS**



**SHEET G-1**

JOEL G. JORDAN, P.E.  
 FL. P.E. NO. 51588

NUMBER	ITEM NUMBER	ITEM DESCRIPTION	UNIT	PLANS	FINAL
1	101-1	MOBILIZATION	LS	1	
2	102-1	MAINTENANCE OF TRAFFIC	LS	1	
3	104-14	PREVENTION CONTROL & ABATEMENT CONTROL OF EROSION & WATER POLLUTION	LS	1	
4	110-1-1	CLEARING AND GRUBBING	AC	0.33	
5	120-1	EXCAVATION, EMBANKMENT, AND GRADING	CY	1,583	
6	160-4	STABILIZED SUBGRADE	SY	95	
7	200-709	LIMEROCK BASE (PRIMED)	SY	95	
8	331-72-14	TYPE S-3 ASPHALTIC CONCRETE PAVEMENT	SY	95	
9	400-1-2	CONCRETE STRUCTURES (ENDWALLS)	CY	19.85	
10	425-1-581	INLET (DITCH BOTTOM TYPE H) (<10)	EA	1	
11	430-175-102	PIPE CULVERT, CLASS V RCP, 30" ROUND	LF	51	
12	430-175-202	PIPE CULVERT, CLASS III RCP, 29" x 45" ELLIPTICAL	LF	68	
13	536-1-1	GUARDRAIL	LF	61	
14	536-9-85	GUARDRAIL ANCHORAGE ASSEMBLY	EA	4	
15	550-10-210	FENCING, TYPE B, 0.0-5.0', STANDARD FEATURES	LF	170	
16	570-1	PERFORMANCE TURF	SY	1,393	
17	900-1	AS-BUILT PLANS	LS	1	
18	900-2	INDEMNIFICATION	LS	1	
19	10000	REIMBURSEMENT TO FCR FOR TRACK REMOVAL AND REPLACEMENT	LS	1	

JOB NO. 2114-12-13  
SCALE: AS SHOWN  
DATE: 2-22-2018  
DESIGN: J.C.J.  
DRAWN: J.C.J.  
CHECKED: B.L.R.  
APPROVED: J.C.J.

REVISED  
DATE

DUNBAR AVENUE DRAINAGE  
EVALUATION - PHASE 2  
ORANGE COUNTY  
FLORIDA

PAY ITEM LIST

Royal Consulting Services, Inc.  
311 West Orange Avenue  
Suite 200  
Orange, Florida 32668  
(407) 253-1111  
www.royalcs.com  
FL. COUNTY 796

SHEET  
G-2

JOEL G. JORDAN, P.E.  
FL. P.E. No. 51986





JOEL G. JORDAN, P.E.  
FL P.E. No. 51080

JOB NO. 0-14-12-13  
SCALE: AS SHOWN  
DATE: 2-22-2018  
DESIGN: J.G.J.  
DRAWN: J.G.J.  
CHECKED: B.L.B.  
APPROVED: J.G.J.

NO.	DATE	REVISION

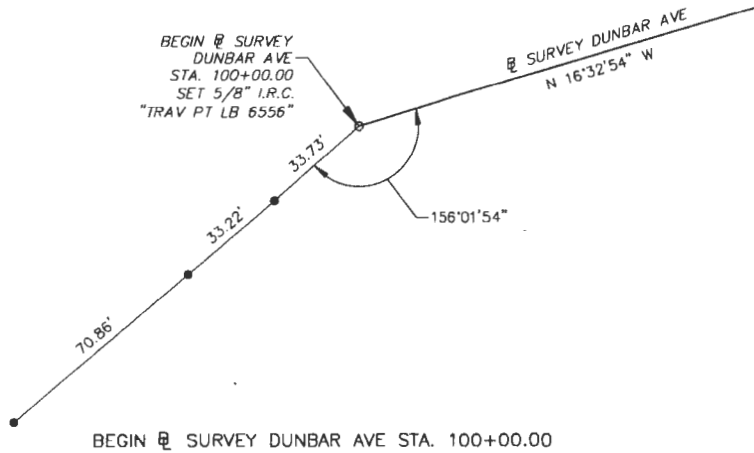
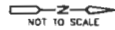
DUNBAR AVENUE DRAINAGE  
EVALUATION - PHASE 2  
ORANGE COUNTY  
FLORIDA

KEY MAP

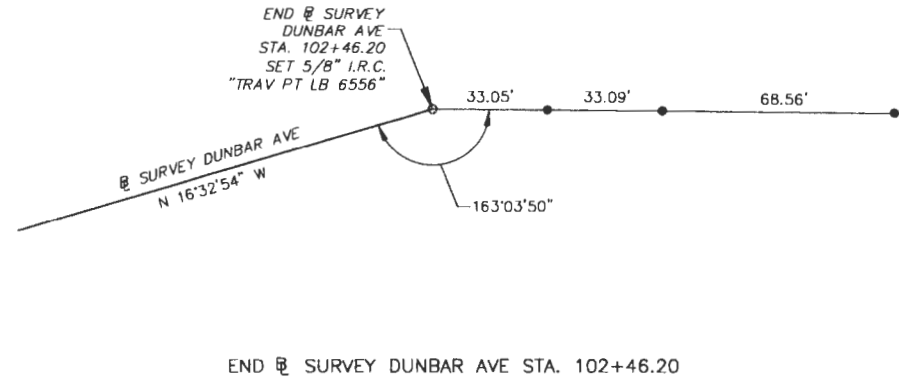
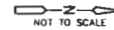
Royal Consulting Services, Inc.  
271 West Orange Avenue  
Orlando, FL 32805  
407-831-2000  
www.royalconsulting.com  
FL License 7960

SHEET  
G-3

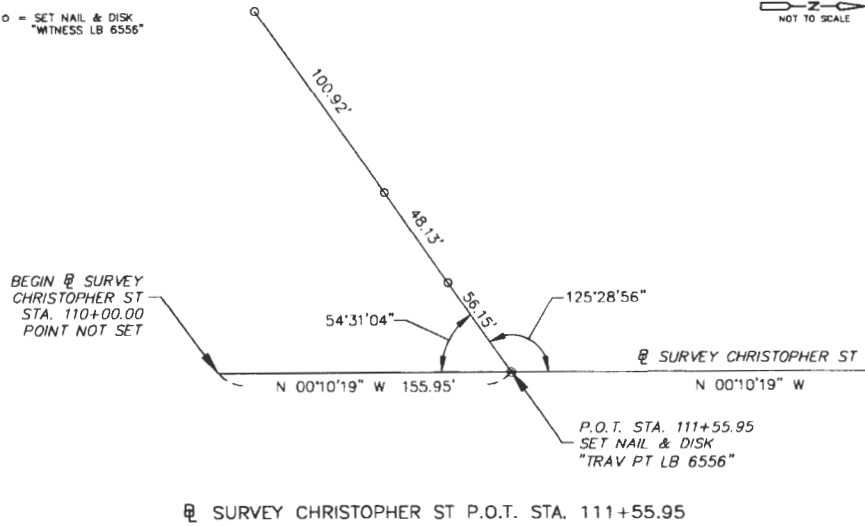
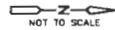
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"WITNESS LB 6556"



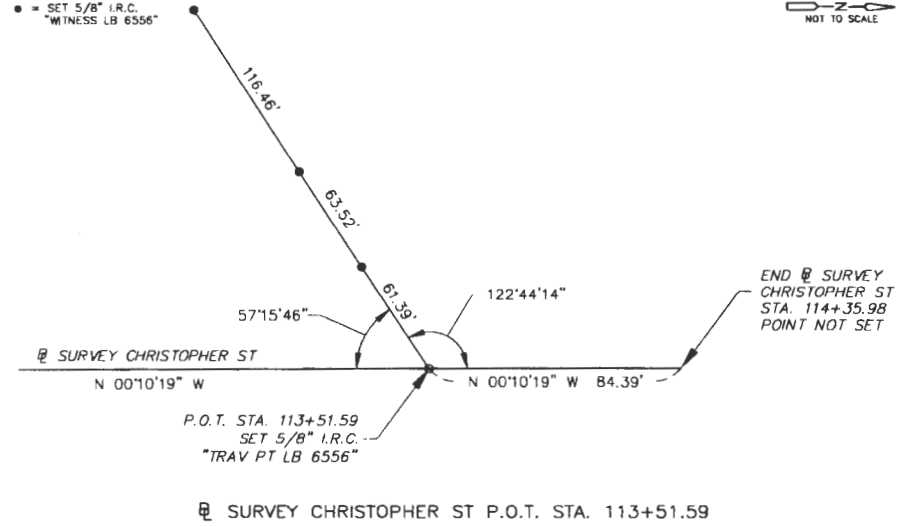
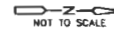
• = SET 5/8" I.R.C.  
"WITNESS LB 6556"



○ = SET NAIL & DISK  
"WITNESS LB 6556"



• = SET 5/8" I.R.C.  
"WITNESS LB 6556"



JOB NO. 011-12-15  
SCALE AS SHOWN  
DATE 7-22-2016  
DESIGN J.O.D.  
DRAWN J.O.D.  
CHECKED B.L.R.  
APPROVED J.O.D.

NO.	DATE	REVISION

DUNBAR AVENUE DRAINAGE  
EVALUATION - PHASE 2  
FLORIDA  
ORANGE COUNTY

SURVEY REFERENCE TIES

Royal Consulting Services, Inc.  
11000 W. 11th Street  
Maitland, Florida 32751  
Phone: (407) 660-8223  
Fax: (407) 660-8223  
FL. REG. NO. 1786

GRODATA CONSULTANTS, INC.  
SURVEYING & MAPPING

2700 WESTHALL LANE SUITE 103  
MAITLAND, FLORIDA 32751  
PHONE: (407) 660-2122  
FAX: (407) 660-8223

SHEET  
G-4



JOB NO. 40-095-17065-1  
 SCALE AS SHOWN  
 DATE 2-27-2016  
 DESIGN J.S.J.  
 DRAWN J.S.J.  
 CHECKED B.A.R.  
 APPROVED J.S.J.

NO.	DATE	REVISION

DUNBAR AVENUE DRAINAGE  
 EVALUATION - PHASE 2  
 ORANGE COUNTY  
 FLORIDA

DUNBAR AVENUE  
 EXISTING CONDITIONS PLAN

Royal Consulting Services, Inc.  
 11100 Highway 17, Suite 100  
 Maitland, Florida 32751  
 (407) 660-3322  
 www.royalcs.com

SHEET  
 65

GEODATA CONSULTANTS, INC.  
 SURVEYING & MAPPING  
 2700 WINTHALL LANE SUITE 137  
 MAITLAND, FLORIDA 32751  
 PHONE: (407) 660-3322  
 FAX: (407) 660-8233



EAST BAY STREET SUB AREA 2 PROJECT AREA  
 CONCURRENT ORANGE COUNTY PROJECT  
 ERP APPLICATION # 40-095-12085-1

SW1

SW2

SW3

SW4

W1

CHRISTOPHER STREET

22000 CENTRAL FLORIDA

JOB NO.	2014-12-15
SCALE	AS SHOWN
DATE	2-22-2016
DESIGN	J.G.J.
DRAWN	J.G.J.
CHECKED	D.L.R.
APPROVED	J.G.J.

NO.	DATE	REVISION

DUNBAR AVENUE DRAINAGE  
 EVALUATION - PHASE 2  
 ORANGE COUNTY  
 FLORIDA

CHRISTOPHER STREET  
 EXISTING CONDITIONS PLAN

Royal Consulting Services, Inc.  
 311 West Orange Avenue  
 Suite 100  
 Orlando, Florida 32801  
 Phone: (407) 444-3332  
 Fax: (407) 444-3333  
 Florida License No. 12000  
 12/08/15



SCALE: 1" = 20'

ORODA FA CONSULTANTS, INC.  
 SURVEYING & MAPPING

2700 WISTHALL LANE SUITE 137  
 MAITLAND, FLORIDA 32751  
 PHONE: (407) 660-3332  
 FAX: (407) 660-8333

SHEET  
 C-6



EAST BAY STREET SUB AREA 2 PROJECT AREA  
 CONCURRENT ORANGE COUNTY PROJECT  
 ERP APPLICATION # 40-095-120685-1

EAST BAY STREET  
 60' R/W (R)

SW1

SCALE 1" = 30'

JOB NO.	2014-12-05
SCALE	AS SHOWN
DATE	2-22-2016
DESIGN	J.G.J.
DRAWN	J.J.D.
CHECKED	S.L.R.
APPROVED	J.G.J.

NO.	DATE	REVISION

DUNBAR AVENUE DRAINAGE  
 EVALUATION - PHASE 2  
 ORANGE COUNTY  
 FLORIDA

EAST BAY STREET  
 EXISTING CONDITIONS PLAN

Royal Consulting Services, Inc.  
 111 West Orange Avenue  
 Suite 200  
 Orlando, Florida 32801  
 (407) 841-1111  
 www.royalconsulting.com  
 ESTABLISHED 1986

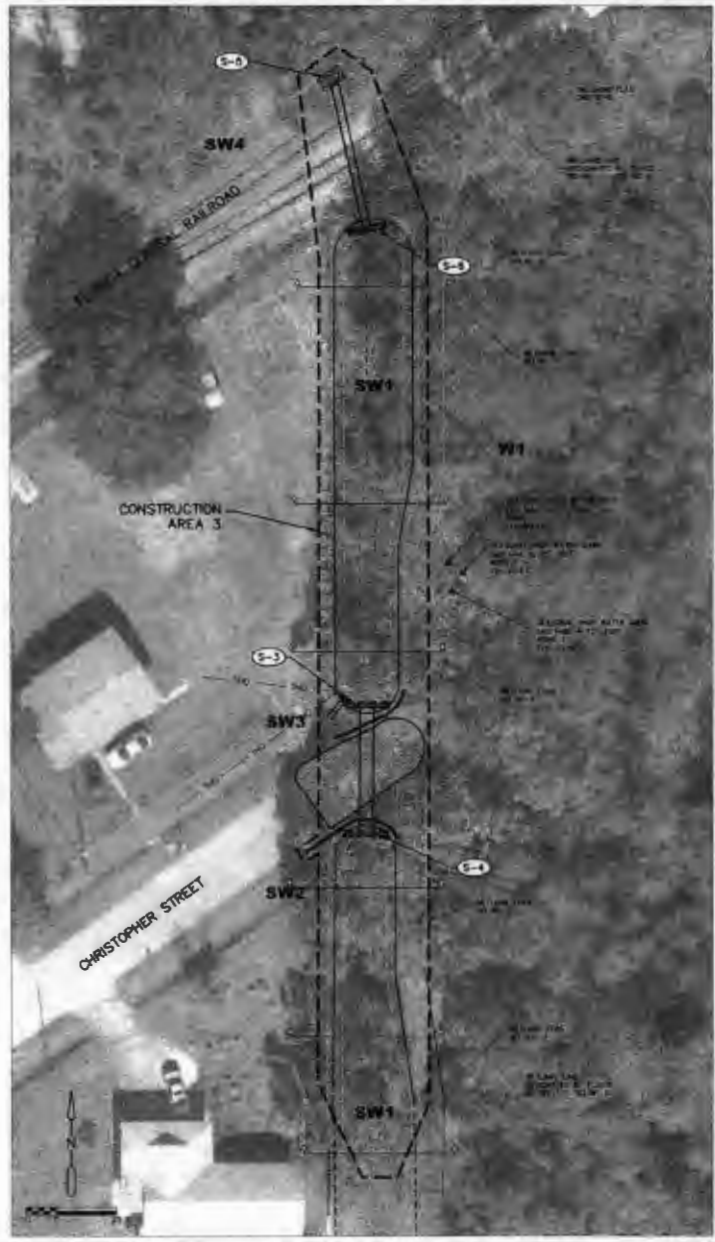
**GISODATA CONSULTANTS, INC.**  
 SURVEYING & MAPPING  
 2700 WESTHALL LANE SUITE 137  
 MAITLAND, FLORIDA 32751  
 PHONE: (407) 660-2321  
 FAX: (407) 660-2823

**SHEET**  
**6-7**





Construction Area	Sheet Location	Area	
		(sq ft)	(ac)
2	C-4	1050.00	0.02
3	C-2, C-3	12948.32	0.30
Total		13998.32	0.33



JOB NO. 2144-2105  
 SCALE: AS SHOWN  
 DATE: 2-22-2016  
 DESIGN: J.G.  
 DRAWN: J.F.  
 CHECKED: A.B.  
 APPROVED: G.J.

NO.	DATE	REVISION

DUNBAR AVENUE DRAINAGE  
 EVALUATION - PHASE 2  
 FLORIDA  
 ORANGE COUNTY

LIMITS OF CONSTRUCTION

Royal Consulting Services, Inc.  
 27  
 JORDAN C.S. 2716  
 3271212121  
 FL 32712 1212

SHEET  
 G-8

JOEL G. JORDAN, P.E.  
 FL P.E. No. 51980

Surface Water Impact Areas			
Surface Water Area ID	Surface Water Impact ID	Impact Area (sq ft)	Impact Area (sq yd)
SW1	SWI-1	41.8	4.6
	SWI-2	38.9	4.3
	SWI-3	568.9	63.2
SW2	SWI-6	449.7	50.0
SW3	SWI-7	403.1	44.8
SW4	SWI-4	113.8	12.6
SW5	n/a	0.0	0.0
SW6	n/a	0.0	0.0
W1	n/a	0.0	0.0
	TOTAL	1616.2	179.6



ASH NO. 211-11-11-11  
 SCALE: AS SHOWN  
 DATE: 2-13-2014  
 DESIGN: J.S.J.  
 DRAWN: J.S.J.  
 CHECKED: B.L.B.  
 APPROVED: J.C.J.

NO.	DATE	REVISION

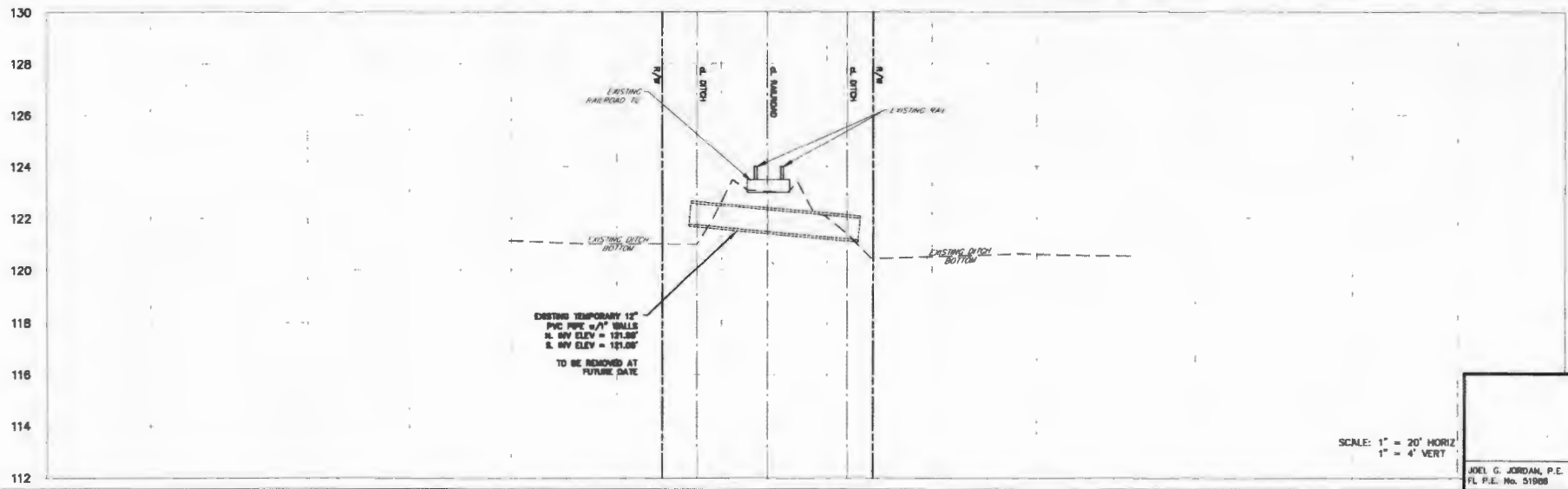
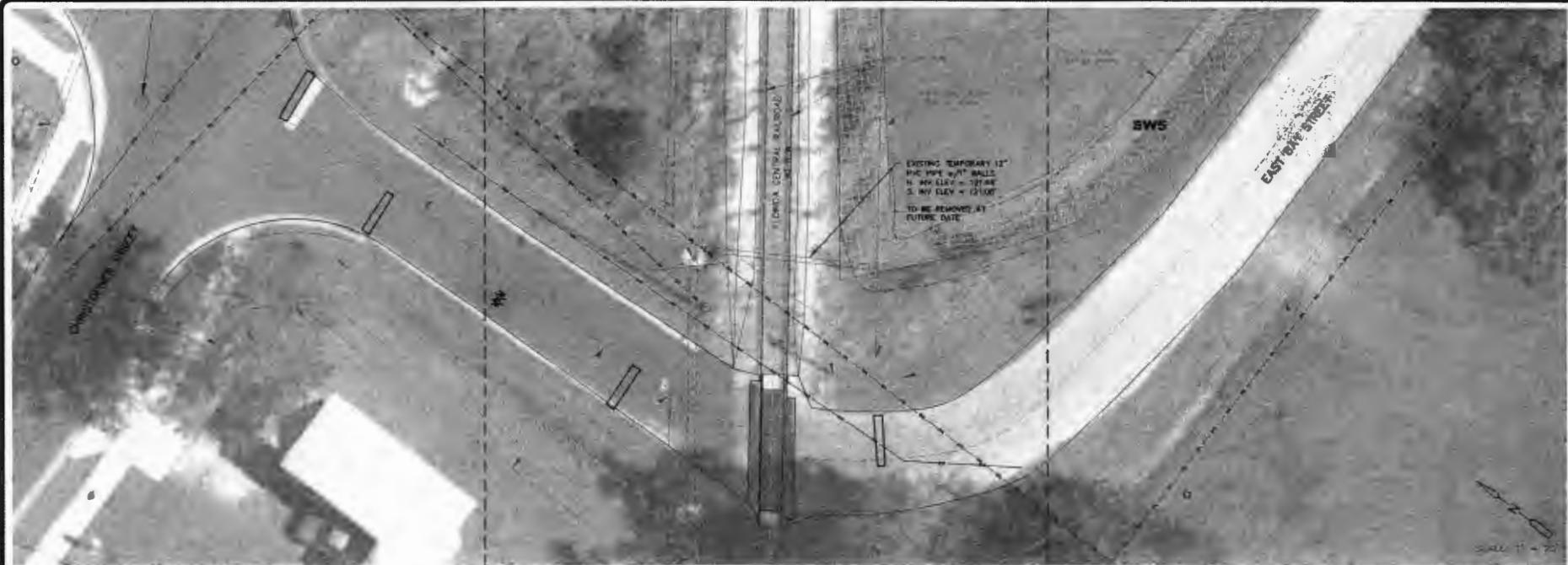
DUNBAR AVENUE DRAINAGE  
 EVALUATION - PHASE 2  
 FLORIDA  
 DRAINAGE COUNTY

**SURFACE WATER IMPACTS**

Royal Consulting Engineers, Inc.  
 1000 N.W. 10th St., Suite 100  
 Ft. Lauderdale, FL 33304  
 Phone: (954) 561-1111  
 Fax: (954) 561-1112

**SHEET**  
**G-9**

JOEL S. JORDAN, P.E.  
 FL. P.E. No. 51066



SCALE: 1" = 20' HORIZ  
1" = 4' VERT

JOEL G. JORDAN, P.E.  
FL P.E. No. 51988

JOB NO. 0114-12-15  
SCALE: AS SHOWN  
DATE: 2-22-2018

DESIGN	J.G.J.
DRAWN	J.G.J.
CHECKED	R.S.
APPROVED	J.G.J.

NO.	DATE	REVISION

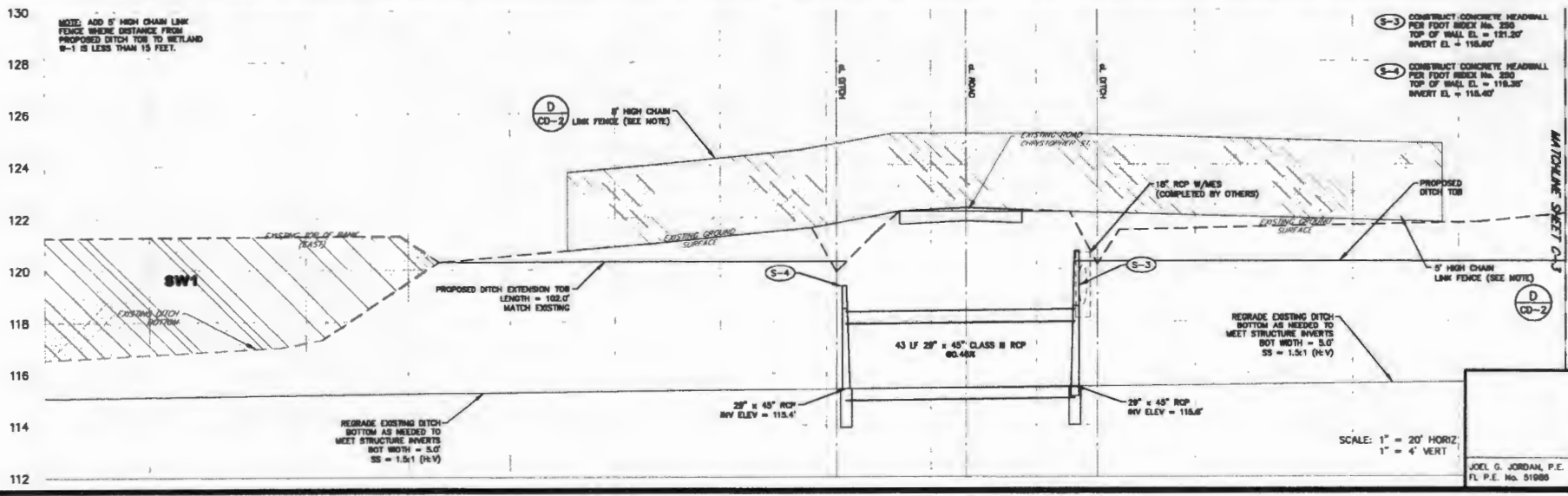
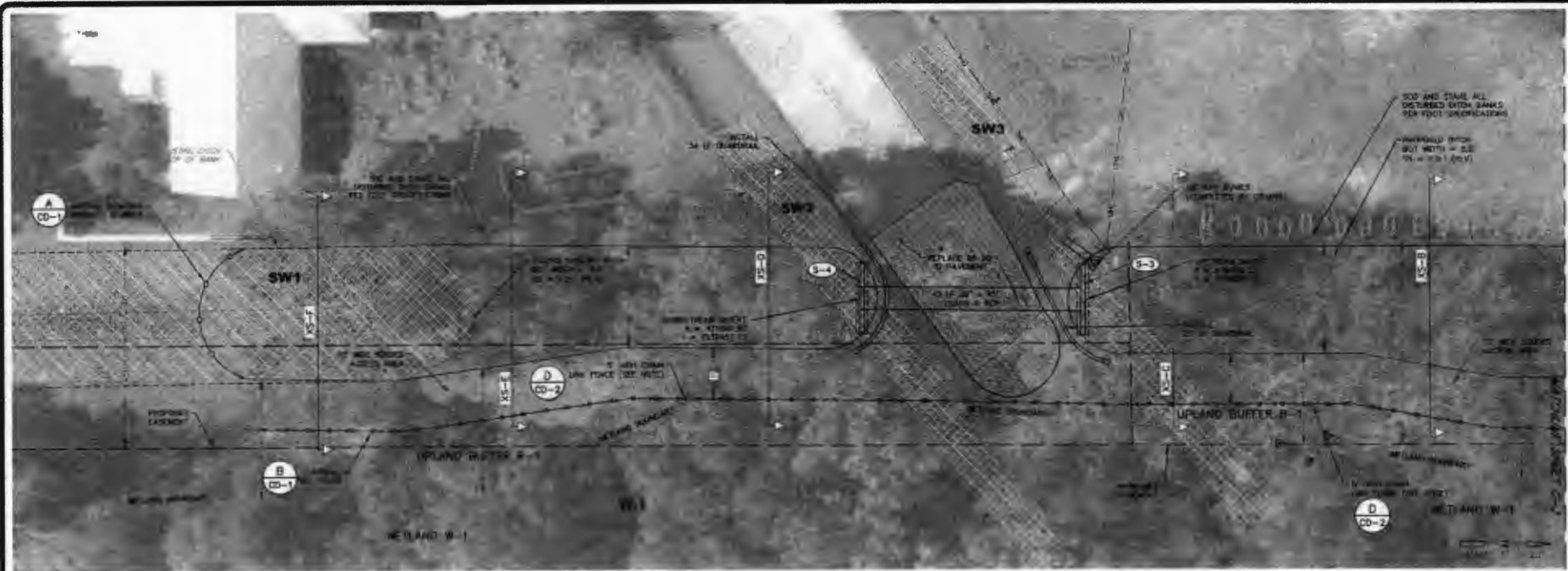
DUNBAR AVENUE DRAINAGE  
EVALUATION - PHASE 2  
ORANGE COUNTY FLORIDA

DUNBAR AVENUE DRAINAGE  
PLAN AND PROFILE

Royal Consulting Services, Inc.  
11 Dunbar Ct., Suite 100  
Orlando, FL 32817  
TEL: 407-253-1111  
FL LICENSE # 1208

**SHEET**  
**C-1**





JOB NO. 214-12-15  
 SCALE: AS SHOWN  
 DATE: 2-22-2016  
 DESIGN: J.G.J.  
 DRAWN: J.J.B.  
 CHECKED: B.L.B.  
 APPROVED: J.C.J.

NO.	DATE	REVISION

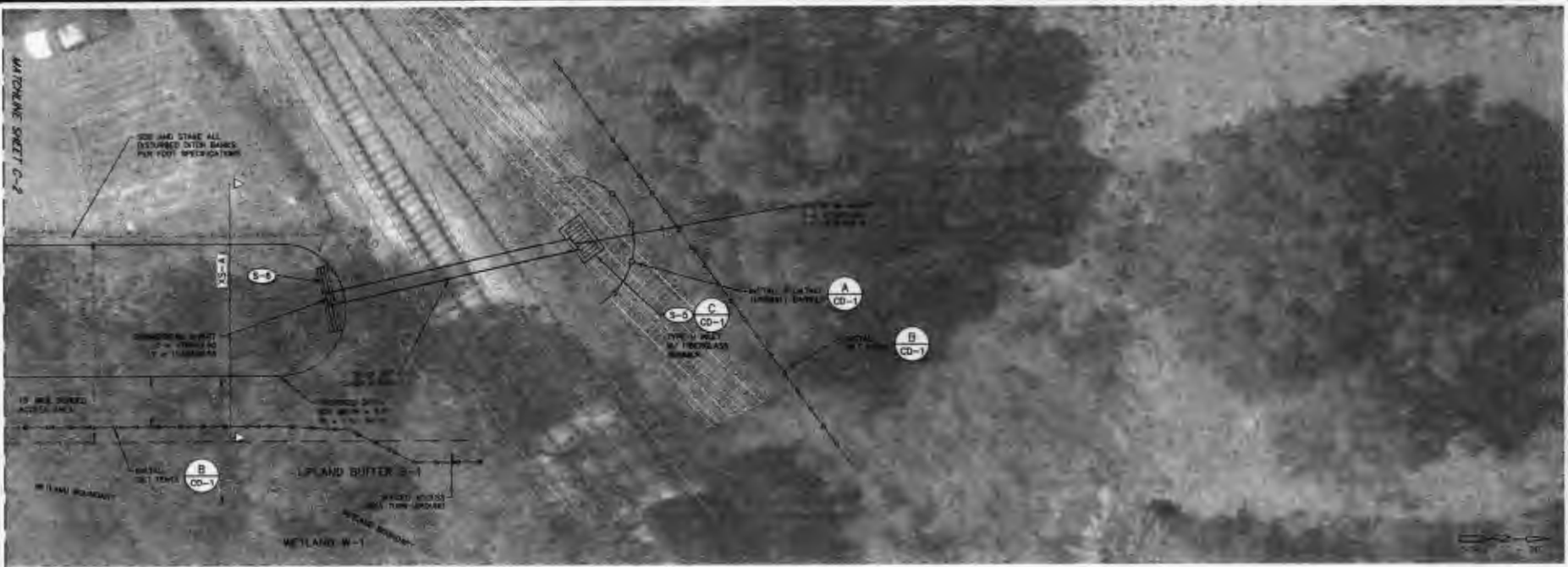
DUNBAR AVENUE DRAINAGE  
 EVALUATION - PHASE 2  
 FLORIDA  
 ORANGE COUNTY

CHRISTOPHER STREET DITCH  
 EXTENSION PLAN AND PROFILE  
 MATCHLINE SHEET C-1



SHEET  
 C-2

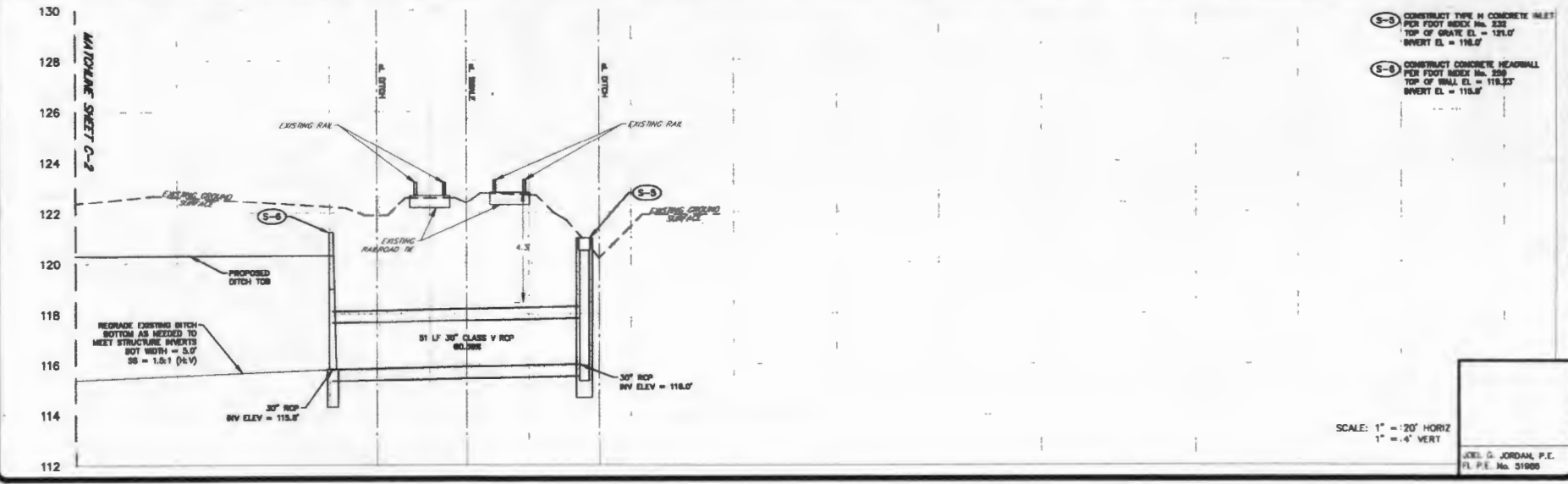
JOEL G. JORDAN, P.E.  
 FL. P.E. No. 51988



JOB NO.	01-14-19-02
SCALE	AS SHOWN
DATE	2-27-2014
DESIGN	J.S.J.
DRAWN	J.S.J.
CHECKED	J.S.J.
APPROVED	J.S.J.

NO.	SITE	REVISION

DUNBAR AVENUE DRAINAGE  
EVALUATION - PHASE 2  
ORANGE COUNTY  
FLORIDA



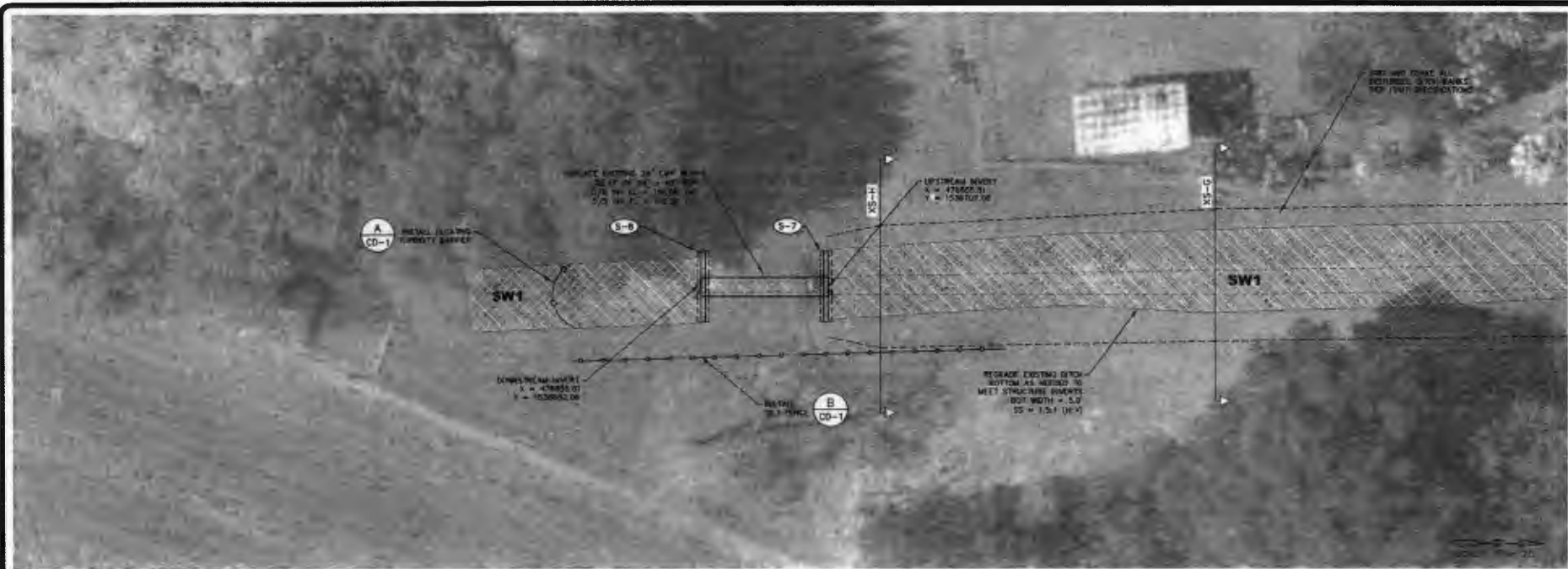
- (S-5) CONSTRUCT TYPE H CONCRETE INLET FOR FOOT INDEX No. 232  
TOP OF GRATE EL. = 125.07  
INVERT EL. = 118.07
- (S-6) CONSTRUCT CONCRETE HEADWALL FOR FOOT INDEX No. 228  
TOP OF WALL EL. = 118.37  
INVERT EL. = 115.87

SCALE: 1" = 20' HORIZ  
1" = 4' VERT

CHRISTOPHER STREET  
DRAINAGE PLAN AND PROFILE



JANEL G. JORDAN, P.E.  
FL. P.E. No. 51900  
**SHEET C-3**

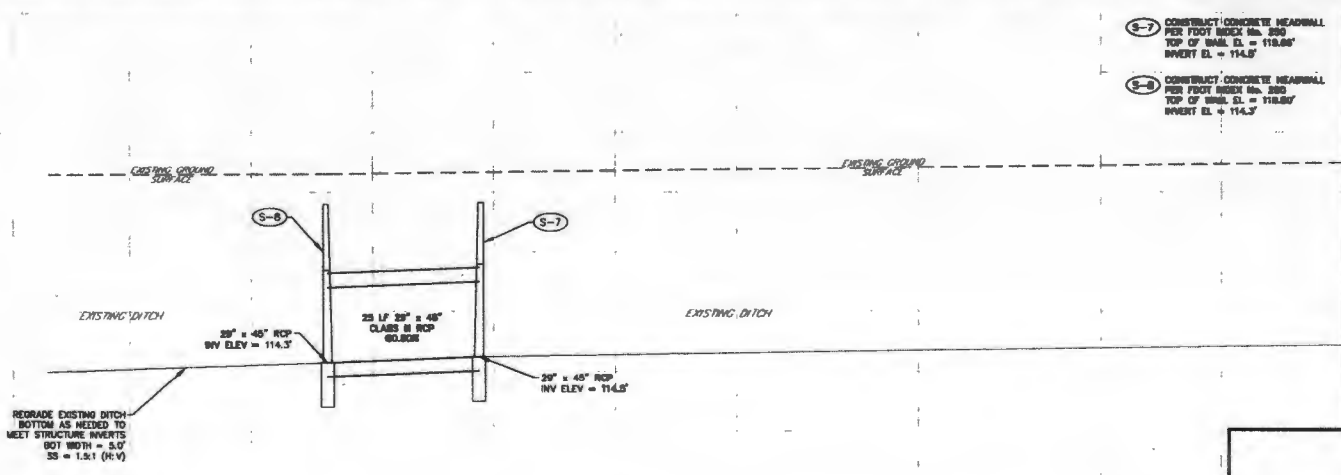


JOB NO. 014-12-10  
 SCALE: AS SHOWN  
 DATE: 2-22-2010  
 DESIGN: J.G.J.  
 DRAWN: J.G.J.  
 CHECKED: B.L.R.  
 APPROVED: J.G.J.

REV.	DATE	DESCRIPTION

DUNBAR AVENUE DRAINAGE  
 EVALUATION - PHASE 2  
 ORANGE COUNTY  
 FLORIDA

126  
 124  
 122  
 120  
 118  
 116  
 114  
 112  
 110  
 108



- (S-7) CONSTRUCT CONCRETE HEADWALL PER FOOT RIDGE No. 300 TOP OF WALL EL. = 118.66' INVERT EL. = 114.5'
- (S-8) CONSTRUCT CONCRETE HEADWALL PER FOOT RIDGE No. 300 TOP OF WALL EL. = 118.66' INVERT EL. = 114.5'

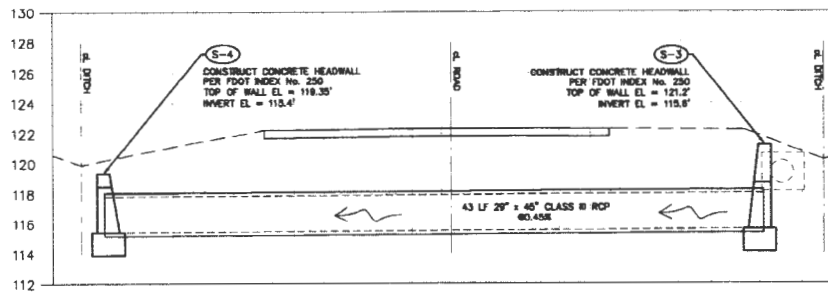
SCALE: 1" = 20' HORIZ  
 1" = 4' VERT

EAST BAY STREET DRAINAGE  
 PLAN AND PROFILE

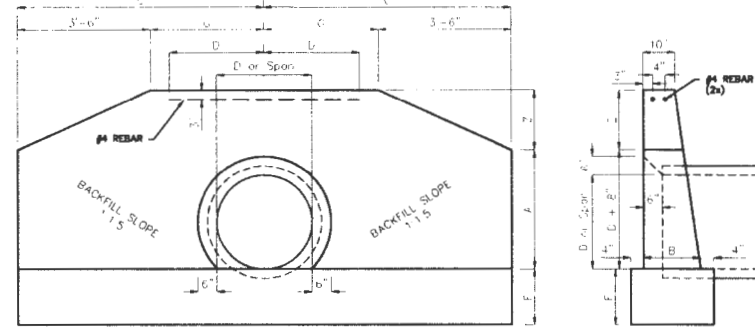
Road Consulting Services, Inc.  
 311 West Newberry Avenue  
 Newberry, Florida 32579  
 904.328.2222  
 FL REG. NO. 1288  
 LICENSEE SINCE 1986

JOEL G. JORDAN, P.E.  
 FL P.E. No. 51988

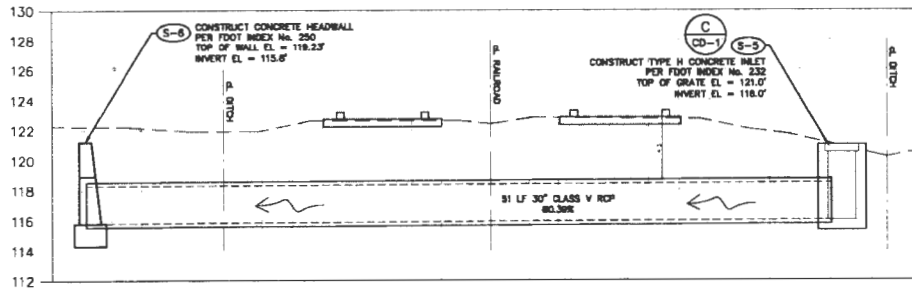
SHEET  
 C-4



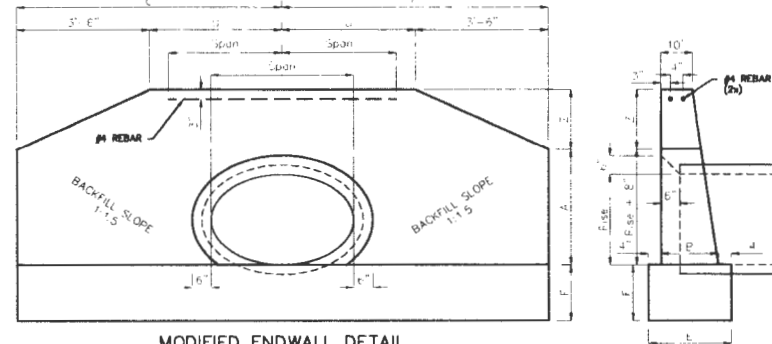
SHEET C-2  
CHRISTOPHER STREET CROSSING



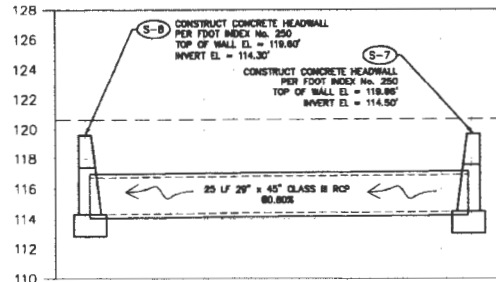
MODIFIED ENDWALL DETAIL  
ROUND CONCRETE PIPE  
MODIFIED FDOT 250



SHEET C-3  
RAILROAD AT CHRISTOPHER STREET



MODIFIED ENDWALL DETAIL  
ELLIPTICAL CONCRETE PIPE  
MODIFIED FDOT 250



SHEET C-4  
DITCH CROSSING AT EAST BAY STREET

ID	PIPE			ENDWALL										CONC. VOLUME cu yd
	RISE in	D or SPAN in	INV. ELEV ft	EXST GND ELEV ft	MIN. TOP ELEV ft	FOOTER INV. ELEV ft	A in	B in	C in	E in	F in	G in	Z in	
S-3	29.0	45.0	115.60	122.20	121.20	114.10	37.0	18.0	84.0	26.0	18.0	42.0	30.0	4.29
S-4	29.0	45.0	115.40	120.35	119.35	113.90	37.0	18.0	84.0	26.0	18.0	42.0	10.0	3.47
S-6	30.0	30.0	115.80	122.23	121.23	114.30	38.0	18.0	78.0	26.0	18.0	36.0	27.0	3.96
S-7	29.0	45.0	114.50	120.66	119.66	113.00	37.0	18.0	84.0	26.0	18.0	42.0	25.0	4.03
S-8	29.0	45.0	114.30	120.60	119.60	112.80	37.0	18.0	84.0	26.0	18.0	42.0	27.0	4.11

CONCRETE ENDWALL DIMENSIONS  
MODIFIED FDOT 250

JOB NO. 0114-12-13  
SCALE: AS SHOWN  
DATE: 2-22-2016  
DESIGN: J.G.J.  
DRAWN: J.L.D.  
CHECKED: B.L.R.  
APPROVED: J.G.J.

NO.	DATE	REVISION

DUNBAR AVENUE DRAINAGE  
EVALUATION - PHASE 2  
ORANGE COUNTY  
FLORIDA

DRAINAGE STRUCTURES  
AND ENDWALL DETAILS

Royal Consulting Services, Inc.  
71 Dunbar Ave., Suite 200  
Orlando, FL 32810  
Phone: 407.251.1111  
Fax: 407.251.1112  
www.royalcs.com  
FL REG. NO. 1786

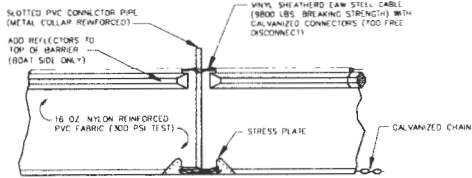
SHEET  
C-5

JOEL G. JORDAN, P.E.  
FL P.E. No. 51986



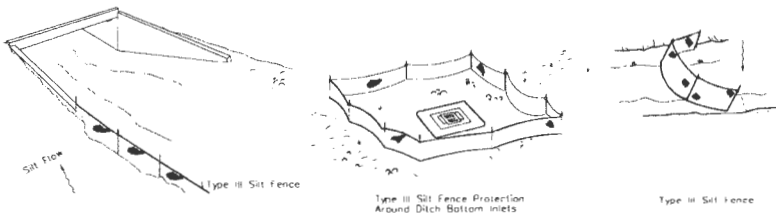
**NOTES**

1. TURBIDITY BARRIERS ARE TO BE USED IN ALL PERMANENT BODIES OF WATER REGARDLESS OF DEPTH.
2. NUMBER AND SPACING OF ANCHORS DEPENDENT ON CURRENT VELOCITIES.
3. DEPLOYMENT OF BARRIER AROUND PILE LOCATIONS MAY VARY TO ACCOMMODATE CONSTRUCTION OPERATIONS.
4. NAVIGATION MAY REQUIRE SEGMENTING BARRIER DURING CONSTRUCTION OPERATIONS.
5. THE ABOVE APPLICATIONS INDICATE TYPE I FLOATING TURBIDITY BARRIER SINCE ANCHORS ARE SHOWN. HOWEVER, IF CONDITIONS WARRANT TYPE II FLOATING TURBIDITY BARRIER MAY BE USED.
6. USE RED REFLECTIVE TAPE ON FLOATING BARRIERS ONLY.



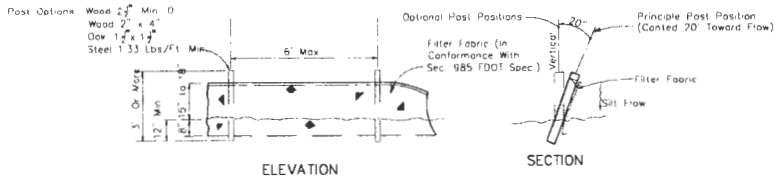
**TYPE I**

**FLOATING TURBIDITY BARRIER (A)**  
N.T.S.



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 are to be used at permanent bodies of water.

**SILT FENCE APPLICATIONS**

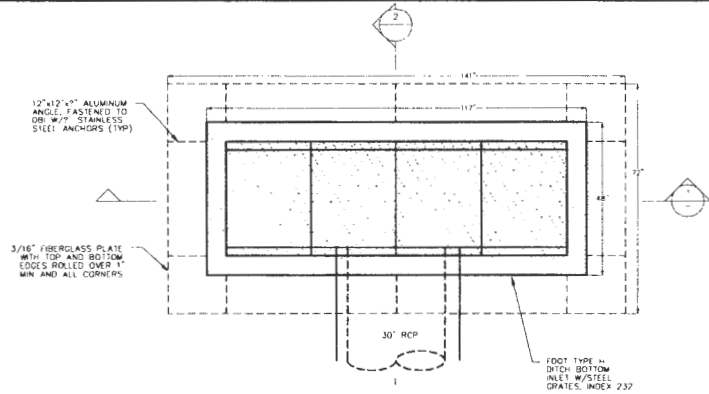


**ELEVATION**

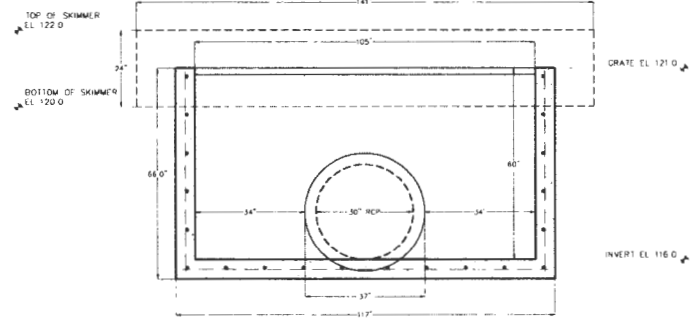
**SECTION**

Note: Silt fence and floating turbidity barriers should be installed as required by local and state laws. Contractor should submit turbidity control plan for approval before commencing work.

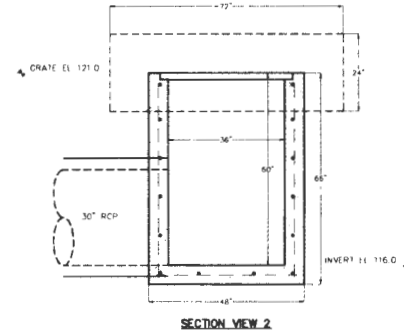
**SILT FENCE DETAIL (B)**  
N.T.S.



**PLAN VIEW**



**SECTION VIEW 1**



**SECTION VIEW 2**

**TYPE H INLET W/SKIMMER DETAIL (C)**  
N.T.S.

JOB NO. 2014-12-15
SCALE: AS SHOWN
DATE: 2-22-2018
DESIGN: J.G.J.
DRAWN: J.G.J.
CHECKED: S.A.B.
APPROVED: J.G.J.

REVISION	NO.	DATE

**DUNBAR AVENUE DRAINAGE EVALUATION - PHASE 2**  
FLORIDA  
ORANGE COUNTY

**CIVIL DETAILS**

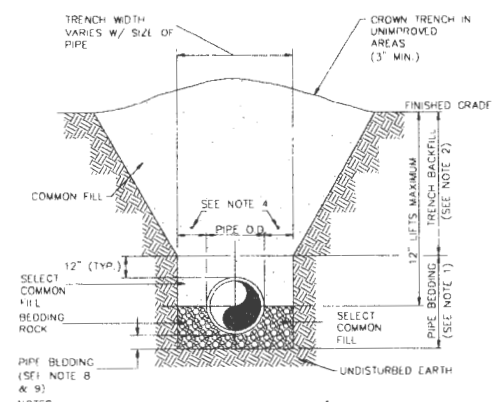
Royal Consulting Services, Inc.  
3115  
Lakewood Blvd., Suite 100  
Lakewood, CO 80026  
Phone: (303) 233-8888  
www.royalcs.com  
FL Civil No. 1798

**SHEET CD-1**

JOEL G. JORDAN, P.E.  
FL P.E. No. 51986

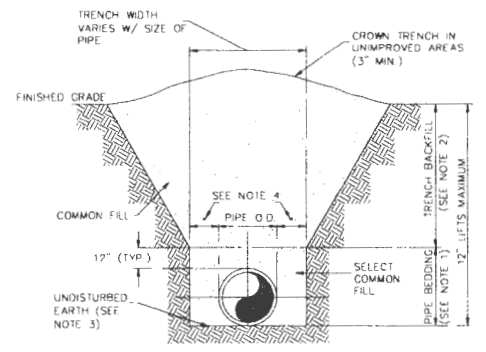
NO.	DATE	REVISION

JOEL G. JORDAN, P.E.  
 FL. P.E. No. 51986



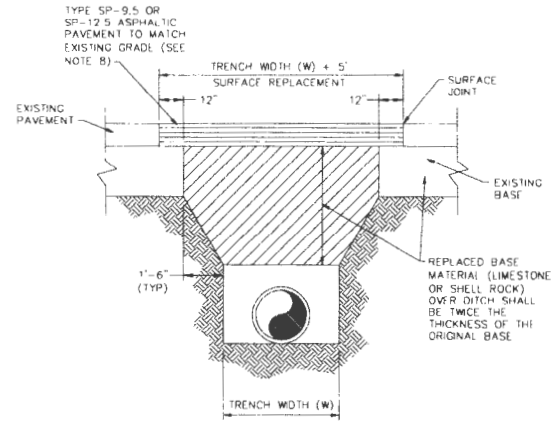
- NOTES:**
1. PIPE BEDDING, SELECT COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO 1-180
  2. TRENCH BACKFILL, COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO 1-180
  3. USE OF TYPE A BEDDING TO BE DETERMINED IN THE FIELD AS DIRECTED BY THE COUNTY'S FIELD REPRESENTATIVE
  4. (1) 15" MAX (12" MIN.) FOR PIPE DIAMETER LESS THAN 24", AND 24" MAX (12" MIN.) FOR PIPE DIAMETER 24" AND LARGER
  5. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION
  6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW
  7. REFER TO THE SPECIFICATIONS FOR SHEETING AND BRACING IN EXCAVATIONS
  8. GRAVITY SEWERS SHALL UTILIZE TYPE A BEDDING, IF REQUIRED BY THE CITY'S FIELD REPRESENTATIVE. BEDDING DEPTH SHALL BE 4" MINIMUM FOR PIPE DIAMETER LESS THAN 15", AND 6" MINIMUM FOR PIPE DIAMETER 16" AND LARGER
  9. DEPTH FOR REMOVAL OF UNSUITABLE MATERIAL SHALL GOVERN DEPTH OF BEDDING ROCK BELOW THE PIPE. THE TESTING SERVICE SHALL DETERMINE IN THE FIELD REQUIRED REMOVAL OF UNSUITABLE MATERIAL TO REACH SUITABLE FOUNDATION

**TYPE 'A' BEDDING AND TRENCHING** (A)  
 N.T.S.



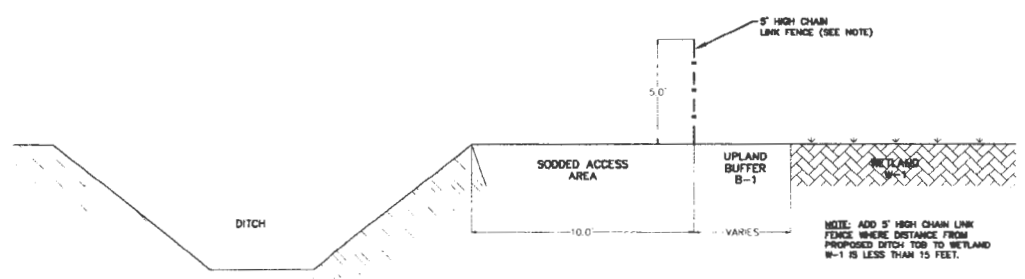
- NOTES:**
1. PIPE BEDDING, SELECT COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO 1-180
  2. TRENCH BACKFILL, COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO 1-180
  3. PIPE BEDDING UTILIZING SELECT COMMON FILL OR BEDDING ROCK IN ACCORDANCE WITH TYPE A BEDDING AND TRENCHING DETAIL MAY BE REQUIRED AS DIRECTED BY THE COUNTY'S FIELD REPRESENTATIVE
  4. (1) 15" MAX (12" MIN.) FOR PIPE DIAMETER LESS THAN 24", AND 24" MAX (12" MIN.) FOR PIPE DIAMETER 24" AND LARGER
  5. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION
  6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW REFER TO THE SPECIFICATIONS FOR SHEETING AND BRACING IN EXCAVATIONS
  7. FINAL RESTORATION IN IMPROVED AREAS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF GOVERNING AGENCIES

**TYPE 'B' BEDDING AND TRENCHING** (B)  
 N.T.S.



- NOTES:**
1. SEE NOTES FOR TYPICAL BEDDING AND TRENCHING DETAILS FOR BACKFILL AND BEDDING SPECIFICATIONS
  2. BASE MATERIAL SHALL BE PLACED IN 6" LAYERS AND EACH LAYER COMPACTED TO 98% OF MAXIMUM DENSITY PER AASHTO 1-180. BASE MATERIAL SHALL HAVE AN LBR=100
  3. ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED
  4. SURFACE TREATED PAVEMENT JOINTS SHALL BE LAPPED AND FEATHERED
  5. SURFACE MATERIAL SHALL BE CONSISTENT WITH THE EXISTING SURFACE. THE AFFECTED AREA SHALL BE RESTORED TO EQUAL OR BETTER CONDITION
  6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE REGARDING ANY ADDITIONAL SPECIFICATIONS AS REQUIRED BY THE COUNTY
  7. EXCAVATABLE "FLOWABLE FILL" WITH ULTIMATE COMPRESSIVE STRENGTH BETWEEN 50 AND 150 PSI MAY BE USED TO SUBSTITUTE FOR THE BACKFILL AND BASE MATERIAL
- | TYPE MIX | MINIMUM THICKNESS | MAXIMUM THICKNESS |
|----------|-------------------|-------------------|
| SP-9.5   | 1"                | 1-1/2"            |
| SP-12.5  | 1-1/2"            | 2-1/2"            |

**PAVEMENT REPLACEMENT - OPEN CUT** (C)  
 N.T.S.



**CHAIN LINK FENCE INSTALLATION DETAIL** (D)  
 N.T.S.

## FIRST AMENDMENT TO LETTER AGREEMENT

This First Amendment to Letter Agreement (the "First Amendment") is made as of this \_\_\_ day of \_\_\_\_\_, 2019 (the "Effective Date"), by and between **FLORIDA CENTRAL RAILROAD COMPANY, INC.**, a Florida corporation ("FCEN") and **ORANGE COUNTY**, a political subdivision of the State of Florida ("Licensee"), collectively referred to as the Parties.

### Preliminary Statement

FCEN and Licensee are parties to a Letter Agreement dated as of January 10, 2017 (the "Agreement"), which is attached hereto as Exhibit A and made a part hereof. Pursuant to the Agreement, FCEN authorized Licensee to install a temporary drainage pipe (the "Temporary Pipe") in the vicinity of railroad milepost ATB 31.12, along Dunbar Avenue, Winter Garden, Florida (the "License Area"). The Parties desire to amend the Letter Agreement to permit the Licensee to maintain the Temporary Pipe for an additional period of time.

Now, therefore, in consideration of the foregoing and of the mutual promises contained herein, FCEN and Licensee agree as follows:

1. Unless otherwise defined herein, all terms shall have the same meanings as set forth in the Agreement.
2. Removal or Reinstallation of the Temporary Pipe. Paragraph 1 of the Agreement is hereby amended to permit the Licensee to maintain the Temporary Pipe in its current location until December 31, 2019. Licensee shall remove the Temporary Pipe, at Licensee's sole cost and expense, on or before January 31, 2020.
4. Other Terms and Conditions Unchanged. Except as amended or modified herein, the Agreement is ratified, adopted and confirmed.

[END OF AGREEMENT EXCEPT FOR SIGNATURE PAGE AND EXHIBIT.]



**IN WITNESS WHEREOF**, the parties have executed this Agreement as a sealed instrument on the day, month and year first written above.

Signed and delivered in the presence of:

**FLORIDA CENTRAL RAILROAD  
COMPANY, INC.**

\_\_\_\_\_  
Witness  
Print Name:

By: \_\_\_\_\_  
Thomas C. Owen  
President

\_\_\_\_\_  
Witness  
Print Name:

**ORANGE COUNTY, FLORIDA  
By: Board of County Commissioners**

\_\_\_\_\_  
Witness  
Print Name:

By: \_\_\_\_\_  
Jerry L. Demings  
Orange County Mayor

\_\_\_\_\_  
Witness  
Print Name:

**ATTEST:** Phil Diamond, CPA, County Comptroller  
As Clerk of the Board of County Commissioners

By: \_\_\_\_\_  
Deputy Clerk

**APPROVED AS TO FORM AND LEGALITY:**

\_\_\_\_\_  
Print Name:  
County Attorney

EXHIBIT A  
LETTER AGREEMENT DATED JANUARY 10, 2017  
(1 page below)



**FLORIDA CENTRAL RAILROAD  
FLORIDA MIDLAND RAILROAD  
FLORIDA NORTHERN RAILROAD**

P.O. Box 967, Plymouth, Florida 32768 • Telephone 407-880-8500 • FAX 407-880-7748

Mark Massaro  
DPW Director

January 10, 2017

Dear Mr. Massaro,

In partnership with Orange County Roads and Drainage Division (OC), Florida Central Railroad Company Inc. (FCEN) will provide its forces to assist OC to install their materials in the vicinity of railroad milepost ATB 31.12, Dunbar Ave. Winter Garden, FL Dot # 621886M. Materials are to consist of ± 30' of 12" carrier pipe and #57 stone. The drainage installation is to be temporary and is to be removed or reinstalled to permanent specifications approved by FCEN no later than 10/31/17 and at Orange County's expense.

In addition, OC is to provide FCEN with at least 8 cu yards of #57 stone to repair a washout at or near railroad milepost ATB 31 from a previous OC pumping operation. During the site meeting of January 9, 2017 it was mutually agreed that FCEN requires advanced notification of any work to be performed on FCEN property.

By signing the acknowledgement below Orange County agrees to the above statements.

Sincerely,

Thomas C. Owen  
President  
Florida Central Railroad Co. Inc

In acknowledgement dated 3/20/2017

  
Signed by Public Works Director  
Mark Massaro