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**TO:** TECHNICAL REVIEW COMMITTEE  
**FROM:** BRANDON C. CREAGAN, MCRP, LEED GREEN ASSOCIATE, SENIOR PLANNER  
**RE:** TECHNICAL REVIEW PROJECT# 21-07000017  
**DATE:** AUGUST 26, 2021

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**Development & Design Review – Jetson Expansion – 4145 S. US Highway 1**

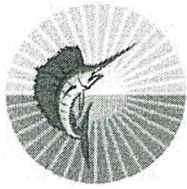
Attached is an Application for Development Review (Site Plan) and Design Review for property located at 4145 S. US Highway 1 & 504 Tumblin Kling Road. The applicant is proposing to construct a 32,330 square foot addition with associated site improvements to Jetson TV & Appliance. The City Zoning is General Commercial (C-3), and the Future Land Use is General Commercial (GC). The parcel IDs for the properties are 2434-314-0003-000-4 & 2434-314-0005-000-8.

Please review and provide comments on the project. Please send all comments to my email [Bcreagan@cityoffortpierce.com](mailto:Bcreagan@cityoffortpierce.com) or through interoffice mail to the Planning Department. If you have comments, please respond by September 14, 2021.

Please do not hesitate to contact me should you require any additional information at 772-467-3742.

Thank you.

Brandon C. Creagan



**DEVELOPMENT REVIEW**

Property address or Location 4145 S. US Hwy. 1 and 504 Tumblin Kling Road  
 Parcel ID #(s) 2434-314-0003-000-4, 2434-314-0005-000-8  
 Project description Proposes the unification of 2 parcels and construction of a 32,330 +/- SF facility with site improvements.

Jelson Investment, Inc.  
**Property Owner(s)**  
 4145 S. US Hwy. 1  
 Street Address  
 Fort Pierce FL 34982  
 City State Zip  
 772-464-7050  
 Phone Number  
 trey@shopjelson.com  
 Email Address

Ryan McLean, Project Manager - MBV Engineering, Inc.  
**Applicant/Representative, Title, Company**  
 1835 20th Street  
 Street Address  
 Vero Beach FL 32960  
 City State Zip  
 772-569-0035  
 Phone Number  
 ryanm@mbveng.com  
 Email Address

*Property Owner(s) Acknowledgements: - This application will not be considered complete without the signature of all property owners of record, which shall serve as an acknowledgement of the submission of this application. The property owner's signature below shall also authorize the Applicant (if other than the property owner) and/or Representative to act in his/her behalf for the purposes of seeking approval for the application described herein. The undersigned consents to inspection and photographing of the subject property by the Planning staff for purposes of consideration of this Application and/or presentation to the Planning Board and City Commission.*

✗ [Signature]  
 Property Owner(s) Signature(s)

STATE OF FLORIDA -- COUNTY  
 The foregoing instrument was acknowledged before me this 26 day of March, 2021, by  
John E. Thofner III who is personally known to me or has produced  
[Signature] as identification.

Signature of Notary (seal)

Amy Lynne Thofner  
 NOTARY PUBLIC  
 STATE OF FLORIDA  
 Comm# GG215958  
 Expires 5/9/2022

**INTAKE MEETINGS ARE REQUIRED FOR ALL SUBMITTALS. CALL (772) 467-3729**

**TO BE COMPLETED BY STAFF**

Zoning	Future Land Use	Total Acres	Historic District	Historic Designation
				Contributing Individual Non-Contributing None

Pre-Application Meeting Date \_\_\_\_\_ Fees \_\_\_\_\_ Control # \_\_\_\_\_ B. Permit # \_\_\_\_\_  
 Intake Planner \_\_\_\_\_  
 Planner Assigned \_\_\_\_\_  
 Approved By \_\_\_\_\_ Date \_\_\_\_\_  
 Comments \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Intake Date Stamp

# DEVELOPMENT REVIEW

## General Information

- Incomplete application packets cannot be accepted.
- Site Plan approval is valid for one (1) year following City Commission approval. In order to maintain site plan approval, vertical improvements, permitted by the Building Department must commence prior to the 12-month expiration date, and building permits must be maintained until site plan is completed, per plans, or approval shall lapse.

Choose Application Type:

### Application Type

- |  |  |  |
|--|--|--|
| <input checked="" type="checkbox"/> Site Plan        | <input type="checkbox"/> Conditional Use with New Const. | <input type="checkbox"/> Major Amendment |
| <input type="checkbox"/> Conceptual Development Plan | <input type="checkbox"/> Minor Amendment                 |  |

Site Information:

32, 330

Non-Residential: Proposed Sq. Ft.: \_\_\_\_\_

Residential: Proposed Units: \_\_\_\_\_

Surrounding Uses: (i.e. single family home, retail, industrial, etc.)

North	South	East	West
commercial		commercial	single-family

## Application Outlook



## Site Plan submittal requirements:

Submit one (1) original & thirteen (13) hard copies and one (1) CD of the following. Additional copies will be required of subsequent submittals.

- Complete notarized application
- Warranty Deed
- SLC Property Record Card
- Statements of ownership & control of proposed development. Statement describing in detail: character & intended use.
- General location map (see Section 22-58.d.2) (on plan)
- Survey (see Section 22-58.d.3)
- Site Plan (see Section 22-58.d.4)
- Landscaping Plan (see Section 22-187)
- Storm Drainage Plan (see Section 22-58.d.6)
- Environmental Impact Report N/A
- Beach/Dune System protection plan, if applicable (see Section 22-58.d.7) N/A
- Lighting Plan (see Section 22-58.d.8)
- Design Review submittals (see Design Review application)
- Traffic Impact Report N/A
- Concurrency Review submittals (see Concurrency Review application)



## Design Review

Property address or Location 4145 S. US Hwy. 1 and 504 Tumblin Kling Road  
 Parcel ID #(s) 2434-314-0003-000-4, 2434-314-0005-000-8  
 Project Description Proposes the unification of 2 parcels and construction of a 32,330 +/- SF facility with site improvements.

Jetson Investment, Inc.  
**Property Owner(s)**  
4145 S. US Hwy. 1  
**Street Address**  
Fort Pierce FL 34982  
**City State Zip**  
772-464-7050  
**Phone Number**  
trey@shopjetson.com  
**Email Address**

Ryan McLean, Project Manager - MBV Engineering, Inc.  
**Applicant/Representative, Title, Company**  
1835 20th Street  
**Street Address**  
Vero Beach FL 32960  
**City State Zip**  
772-569-0035  
**Phone Number**  
ryanm@mbveng.com  
**Email Address**

**Property Owner(s) Acknowledgements:** - This application will not be considered complete without the signature of all property owners of record, which shall serve as an acknowledgement of the submission of this application. The property owner's signature below shall also authorize the Application (if other than the property owner) and/or Representative to act in his/her behalf for the purposes of seeking approval for the application described herein.

[Signature]  
 ✕ **Property Owner(s) Signature(s)**

STATE OF FLORIDA -- COUNTY  
 The foregoing instrument was acknowledged before me this 16 day of March, 2021, by

John E. Thofner III who is personally known to me or has produced  
[Signature] as identification.

Amy Lynne Thofner  
 NOTARY PUBLIC  
 STATE OF FLORIDA  
 Comm# GG215958  
 Expires 5/9/2022  
 (seal)

[Signature]  
 Signature of Notary

**TO BE COMPLETED BY STAFF**

Zoning	Future Land Use	Total Acres	Historic Districts	Historic Designation

Pre-Application Meeting Date \_\_\_\_\_ Fees \_\_\_\_\_ Control # \_\_\_\_\_ B. Permit \_\_\_\_\_  
 Intake Planner \_\_\_\_\_  
 Planner Assigned \_\_\_\_\_  
 Approved \_\_\_\_\_ Date \_\_\_\_\_  
 Comments \_\_\_\_\_

Intake Date Stamp

## **Design Review Application Checklist**

**(City Code of Ordinances 22-59)**

### Submittal for Administrative Approval

- a. A survey (1" = 30' minimum scale) of property lines, existing topography and the location of trees meeting the tree protection regulations of section 22-194, location of bordering streets and, if applicable, wetlands and beaches.
- b. A site analysis study to include a discussion of specimen trees and other natural vegetation, access, significant topography, wetlands, buffers, setbacks, views, orientation, the surrounding built environment and other site features that may influence design elements.
- c. A draft written narrative describing the design intent of the project, its goals and objectives and how it reflects the site analysis study results.
- d. Context photographs of neighboring uses and architectural styles.
- e. Photographs and/or drawings of architectural buildings or objects that serve as a precedent for the proposed building design. Models should be taken from local exemplary buildings, either existing or demolished. Documentation of such buildings is available in the city's planning department.
- f. Photographs of all existing structures located on the property. If existing structures on the property are more than fifty (50) years of age, documentation of these structures with data from the Florida Master Site File form is also required.
- g. Conceptual site plan (to scale) showing proposed location of all buildings, structures, parking areas, signs and landscaping.
- h. Landscape plan, at the same scale as the site plan. The planning director or designee may request enlarged plans of detailed planting areas. Planting schedule with sizes of proposed plantings must be included.
- i. Accurate color rendering of proposed signs showing dimensions, type of lettering, materials and actual color samples that demonstrates cohesiveness with the project design.
- j. Exterior elevations showing architectural character, external architectural features and streetscape of the proposed development, including materials, colors, shadow lines and landscaping. The street elevation shall encompass the entire proposed project and generally identify the major elements of the adjacent two (2) properties on either side of the site. If the adjacent properties are vacant or underutilized, a diagram shall be provided that identifies the mass and form that is allowable under current zoning. If the street elevation must be drawn at such a scale as to render architectural details of the building unreadable, drawings of individual buildings at a larger scale should be provided as well.
- k. Design review concurrent with conceptual development plan procedure according to subsection 22-58(e) is also available.

### Submittal for Board Approval

- a. A written narrative describing how the project conforms to administrative approval and design review guidelines of this section.
- b. A final site plan meeting the requirements of section 22-58
- c. A final site lighting plan that meets the requirements of subsection 22-58(d)(8).
- d. A final landscape plan that meets the requirements of Article XII, Landscaping and Trees.
- e. Final floor plans and elevation drawings (1/8" = 1'-0" minimum scale), as detailed under administrative approval, showing exterior building materials and colors with architectural sections and details to adequately describe the project.
- f. A color board (11"x17" maximum) containing actual color samples of all exterior finishes, keyed to the elevations, and indicating the manufacturer's name and color designation.



ZONING ADMINISTRATION  
 DEVELOPMENT REVIEW  
 COMPREHENSIVE PLANNING  
 URBAN DESIGN  
 HISTORIC PRESERVATION  
 CULTURAL RESOURCES

# CITY OF FORT PIERCE

2005 Florida League of Cities "City of Excellence" Award Winner

## DEPARTMENT OF PLANNING

"IMPROVING THE WAY WE DO BUSINESS"

### CERTIFICATE OF CONCURRENCY APPLICATION

**Project Name:** Jetson Ft. Pierce Site Improvements

1. Name of owner(s):  
Jetson Investment, Inc.  
 Mailing Address: (street) 4145 S. US Hwy. 1 Tumblin Kling Road  
 (City) Fort Pierce (State) FL (zip) 34982  
 Phone # 772-464-7050
  
2. Name of Applicant:  
Same as Owner  
 Mailing Address: (street) \_\_\_\_\_  
 (City) \_\_\_\_\_ (State) \_\_\_\_\_ (zip) \_\_\_\_\_  
 Phone # \_\_\_\_\_
  
3. Name of Representative:  
Ryan McLean, Project Manager - MBV Engineering, Inc.  
 Mailing Address: (street) 1835 20th Street  
 (City) Vero Beach (State) FL (zip) 32960  
 Phone # 772-569-0035 Fax # \_\_\_\_\_  
 E-mail: ryanm@mbveng.com
  
4. Is this concurrency application related to a specific project (Please circle one)?  
 **Yes**       No  
 If yes, list the corresponding site plan or subdivision name and corresponding file number: See Above

<b>To be completed by the City</b>	
Date Received _____	By _____
Fee: _____	Receipt# _____

**Project Description**

<b>PHASING</b>		
Is this project (phase) part of a larger project? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
If yes, enumerate each phase, the number of units or square footage in each phase and beginning/completion date.		
Total Project: Residential Units:	Single Family:	Multifamily:
Non-residential (square footage):		
Mixed-use (describe use):		
(If this is a single phase project, name it Phase I – Total)		

<b>RESIDENTIAL DATA</b>					
Type	Phase	Number of Units	Acres	Expected beginning date	Expected completion date
Single-family, detached					
Single-family, attached					
Multi-family					
Other (specify)					

<b>NON-RESIDENTIAL DATA</b>					
Type(s) specify	Phase	Square footage	Acres	Expecting beginning date	Expected completion date
Warehouse	N/A	32,330	0.74	November 2021	April 2022

5. Indicate whether the proposed project will be eliminating any existing recreational facilities. If yes, detail the number and type being eliminated.     Yes     No
  
6.
  - a. Does this application involve demolition or re-use of any structure(s)?     Yes     No  
 If yes, what is the size of the structure(s) to be demolished or re-used?    3,500
  - b. What is the current use of the structure to be demolished or re-used?    Residential
  - c. Are you claiming trip credits for the demolition or re-use of a structure(s) at the site?     Yes     No  
 If yes, provide estimates of credits for each previous use at the site. (Attach sheet with calculations)

**Applicant Acknowledgements** (Owner's signature must be notarized)

I certify that: (Check One)

I (we) do hereby certify that I (we) own in fee simple the above referenced described property for which a certificate of concurrency is requested, and that the application is true, correct, and complete to the best of my knowledge.

I (we) are not the owner of the above described property; however, the owners signature below authorizes the applicants the authority to act as agent for the owner(s) of record and that the application is true, correct, and complete to the best of my knowledge.

[Signature] Applicants Signature 7/29/21 Date

4145 S. US Hwy. 1 and 504 Tumblin Kling Road, Fort Pierce FL 34982  
Address City State Zip

772-464-7050 Phone Fax trey@jetsononline.com E-mail Address

**Property Owners Acknowledgements:** (please print) - This application will not be considered complete without the signature of all property owners of record, which shall serve as an acknowledgement of the submission of this application for a change in future land use. The property owner's signature below shall also authorize the applicant (if other than the property owner) and/or Agent to act in his/her behalf for the purpose of seeking a certificate of concurrency.

John E. Thofner III Property Owner's Name (Please Print) Phone: 772-464-7050

4145 S. US Hwy. 1 and 504 Tumblin Kling Road, Fort Pierce FL 34982  
Address City State Zip

[Signature] Property Owner's Signature 7/29/21 Date

STATE OF FLORIDA, CITY OF FORT PIERCE

The foregoing instrument was acknowledged before me this 29 day of 21, by John E Thofner III who is personally known to me or has produced as identification.

Melissa A Hughes  
Signature of Notary  
admin Title

Melissa A Hughes  
Type or Print Name of Notary

Commission Number  
HH 150473



**Required Information**

**Provide 7 Copies of the following:**

1. Location map which clearly shows where the property is located by providing the exact distance from the nearest intersection.
2. Traffic impact study which includes the following information:
  - a. An executive summary of no more than one page outlining the land use(s), trip generation, concurrency results, driveway classification, requested special exceptions, and requested variances (if applicable).
  - b. Each proposed development shall distribute the trips generated to the main arterials and intersection network that is comprised of their traffic impact area. The radius of impact will be determined according to the size of the development accounted for trips generated. (see Table A).

Table A- Radius of Impact for Transportation Concurrency Management System

Minimal Scale	Trips 9-50	1.0 Mile Radius
Small Scale	Trips 51-100	1.5 Mile Radius
Intermediate Scale	Trips 101-500	2.0 Mile Radius
Medium Scale	Trips 501-1000	3.0 Mile Radius
Large Scale	Trips 1000-Up	5.0 Mile Radius

- c. The minimum horizon for forecasting traffic shall be 5 years from the project's opening date. However, if the project is built in phases, the horizon will project traffic to build out of the last phase or 5 years from the time of opening, whichever is more restrictive.
- d. Analysis of the new site traffic to the satisfaction of the Director of Planning which shall contain as a minimum: tables summarizing existing traffic volumes, committed traffic from proposed developments, growth rates, trip generation rates (including used formulas), levels of services for studied intersections, and any other documentation required to justify numbers used in the analysis. New site traffic analysis shall be prepared for the AM and PM peak period unless otherwise indicated by the Director of Planning.
- e. The Applicant may provide traffic counts in accordance with accepted traffic engineering principles. Counts shall be made during any continuous two-hour period on a weekday between 6:00 AM and 9:00 AM for any AM counts and 4:00 PM and 7:00 PM for PM counts. All count data collected by the applicant must be collected between September 1 and May 31 (no summer out of school weeks) and seasonally adjusted to reflect average peak season conditions (100<sup>th</sup> highest hour) in accordance with most current FDOT planning factors and procedures. There shall be no counts on Fridays and legal holidays, unless otherwise authorized or required by the City's Director of Planning, in accordance with accepted traffic engineering principles. All data are subject to review and acceptance by the Director of Planning based upon accepted traffic engineering principles.
- f. Analysis of the total site traffic as it relates to the specific requirements of City Code concerning driveways and access and acceptable engineering access management standards.
- g. Trip generation comparison between existing and proposed conditions.
- h. Trip generation calculations and driveway assignments (inbound and outbound traffic) for each phase of development. Trip distribution and assignment of traffic along the traffic impact area.
- i. Justification of the number and location of site driveways. Location and type of driveways and median openings need to adhere to FDOT access management standards or any other standard accepted by the Director of Planning. The Planning Department will comment and make recommendations on the number of driveways based on the plan review. Excessive driveways may

not be supported by staff. All driveways should be located on a site plan with distancing from upstream and downstream driveways and/or intersections.

j. A capacity analysis of each driveway may be required as determined by the Director of Planning. All evaluations shall include existing and proposed conditions during the AM and PM peak periods. The capacity analysis should be performed using the methodology set forth in the Highway Capacity Manual, latest edition at the time the study is prepared and reviewed by Planning Department for public hearing.

k. In cases where the proposed development requires a signalized intersection, a signal warrant study will be required. Additionally, a capacity analysis of the site intersection and upstream and downstream location may be required by Director of Planning. In cases where traffic re-routing occurs as a result of the proposed development, additional traffic studies may be required.

l. Provide an analysis of u-turn movements at the median openings to the north, south, east and west (as appropriate according to project location) of project driveways, including daily, AM peak hour and PM peak hour. Assess the impact of proposed and existing volumes on available storage.

m. Show the total driveway assignment as the driveway provides joint access with the adjacent property. Joint access among similar or compatible land uses may be required by the Director of Planning.

n. After initial review, the Director of Planning may require additional information if it is deemed necessary to properly evaluate the traffic study.

o. For entryway features the applicant must make sure that traffic turn-arounds are, at a minimum, 15-feet in width, have a 25-foot turnaround radius, and have mountable curves. The applicant must make sure that there is enough stacking for visitors and residents.

p. In cases where driveways abut a County or State road, or a city road classified as an arterial or main collector, the Director of Planning may require deceleration and storage lanes for vehicles turning to and from the proposed development served by the access driveway.

q. Pass-by trips shall not be higher than 25% and internal trip rates shall be approved by the Director of Planning and shall be consistent with the ITE manual.

### 3. Capacity for Intersections.

a. As part of the Traffic Impact Analysis, major intersections should be analyzed. The level of service for roadway segments may be analyzed using a variety of types of arterial analyses based on the principals, guidelines and criteria outlined in the most current version of the Highway Capacity Manual. In determining whether a corridor can be maintained at an the Level of service determined in the Comprehensive Plan for the purpose of monitoring concurrency, it is recognized that some individual links, intersections, or turning movements may be able to operate below the Level of Service while still maintaining an overall Level of Service established for the corridor based on overall average running speed. However, since some of the available software models can report an overall LOS "D" for a corridor while still allowing some components of the corridor to operate at a LOS "E" condition, it is appropriate to define maximum tolerances for individual instances of LOS "E" conditions embedded within the total corridor analysis. The following maximum allowable tolerances are established so that the level of service determination is not unduly biased toward the mainline at the expense of any particular intersection, approach or movement. These tolerances apply to all computerized applications of the Highway Capacity Manual, including the Highway Capacity Software (HCS) and SYCHRO:

1. For any individual turning movement or through movement within any signalized intersection included in the analysis: no individual movement or lane group can be reported to have a volume-to-capacity (v/c) ratio greater than 1.20 or a total delay estimate greater than 1.20 x signal cycle length.

2. For any individual signalized intersection approach for any intersection included in the analysis, no approach can be reported to have a volume-to-capacity (v/c) ratio greater than 1.0 or a total delay estimate greater than the signal cycle length.
  
3. For any individual signalized intersection included in the analysis, the overall signalized intersection v/c cannot exceed 1.20, NOR can the total intersection delay estimate be greater than the signal cycle length. Also, only one of the mainline approaches can operate below LOS D (regardless of delay).

**Level of Service Standards**

<u>Public Facility</u>	<u>Fiscal Year</u>	<u>Level of Service</u>	
		<u>Road Type</u>	<u>State, County and City Roads</u>
<u>Transportation</u>		<u>Local Road</u>	<u>D</u>
		<u>Collector Roadway</u>	<u>D</u>
		<u>Minor Arterial</u>	<u>D</u>
		<u>Major Arterial</u>	<u>D</u>
<u>Sanitary Sewer</u>		<u>240 gallons per day per equivalent residential connection</u>	
<u>Potable Water</u>		<u>300 gallons per day per equivalent residential unit</u>	
<u>Solid Waste</u>		<u>330 tons per day of Class I trash</u>	
		<u>300 tons per day of Construction and Debris</u>	
<u>Stormwater</u>		<u>25-year 3-day storm Pre vs. Post Runoff</u>	
		<u>Storm sewers to convey 5 year – 1 day storm event</u>	
		<u>Canals to convey 3 year – 1 day storm event</u>	
<u>Recreation and Open Space</u>			
<u>Neighborhood Park:</u>	<u>2005</u>	<u>1.36 acre/1,000 population</u>	
	<u>2010</u>	<u>1.36 acre/1,000 population</u>	
	<u>2015</u>	<u>1.5 acre/1,000 population</u>	
	<u>2020</u>	<u>1.75 acre/1,000 population</u>	
	<u>2025</u>	<u>2.0 acres/1,000 population</u>	
	<u>2030</u>	<u>2.0 acres/1,000 population</u>	
<u>Community Park:</u>	<u>2005</u>	<u>2.50 acre/1,000 population</u>	
	<u>2010</u>	<u>2.50 acre/1,000 population</u>	
	<u>2015</u>	<u>2.75 acre/1,000 population</u>	
	<u>2020</u>	<u>2.75 acre/1,000 population</u>	
	<u>2025</u>	<u>3.0 acres/1,000 population</u>	
	<u>2030</u>	<u>3.0 acres/1,000 population</u>	
<u>Baseball/Softball</u>	<u>Ongoing</u>	<u>1 field/2,500 population</u>	
<u>Basketball</u>	<u>Ongoing</u>	<u>1 court/5,000 population</u>	
<u>Boat ramp</u>	<u>Ongoing</u>	<u>1 ramp/4,500 population</u>	
<u>Fishing Pier</u>	<u>Ongoing</u>	<u>1,600 linear feet/25,000 population</u>	

<u>Multi-Purpose</u>	<u>Ongoing</u>	<u>1 field/3,000 population</u>
<u>Picnic Area</u>	<u>Ongoing</u>	<u>1 acre/2,500 population</u>
<u>Recreation Trail</u>	<u>Ongoing</u>	<u>1.22 mile/10,000 population</u>
<u>Swimming pool</u>	<u>Ongoing</u>	<u>1 pool/50,000 population</u>
<u>Tennis</u>	<u>Ongoing</u>	<u>1 court/2,000 population</u>

This Instrument Prepared by and Return to:  
Gonano & Harrell  
1600 SOUTH FEDERAL HIGHWAY, SUITE 200  
FORT PIERCE, FLORIDA 34950  
Our File No. 1565.035  
Florida Documentary Stamps have been paid hereon.

\_\_\_\_\_ Space above this line for Recording Data \_\_\_\_\_

**SPECIAL WARRANTY DEED**

**THIS SPECIAL WARRANTY DEED**, made the 16<sup>th</sup> day of **June, 2020** by **Marilyn L. Richards, an un-remarried widow** hereinafter called the Grantor, to **Jetson Investments, Inc., a Florida corporation** whose post office address is **4145 U.S. 1, Fort Pierce, FL 34982**, hereinafter called the Grantee:

*(Wherever used herein the terms "Grantor" and "Grantee" include all the parties to this instrument and the heirs, legal representatives and assigns of individuals, and the successors and assigns of a corporation)*

**W I T N E S S E T H:** That the Grantors, for and in consideration of the sum of **FIVE HUNDRED TWENTY FIVE THOUSAND AND 00/100 (\$25,000.00)** and other valuable considerations, receipt whereof is hereby acknowledged, hereby grants, bargains, sells, aliens, remises, releases, conveys and confirms unto the Grantee all that certain land situate in ST. LUCIE County, State of Florida, viz.:

**SEE EXHIBIT "A"**

**SUBJECT TO:** all restrictions, reservations, covenants, conditions, easements, mortgages and liens of record; all governmental zoning regulations, resolutions, and ordinances; and taxes accruing subsequent to December 31, 2019.

**TOGETHER** with all the tenements, hereditaments, and appurtenances thereto belonging or in any wise appertaining.

**TO HAVE AND TO HOLD**, the same in fee simple forever.

**AND** the Grantor hereby covenants that the premises are free from all encumbrances made by Grantor and Grantor does hereby bind Grantor and Grantor's heirs, successors, and assigns to warrant and forever defend the title to the property to the Grantee above named and Grantee's heirs, successors, and assigns, against every person lawfully claiming the property, or any part thereof, by, through, or under the Grantor, but not otherwise.

**This property is the homestead of Grantor.**

**IN WITNESS WHEREOF**, the said Grantors have signed and sealed these presents the day and year first above written.

Signed, sealed and delivered in the presence of:

Edward W Becht  
Witness #1 Signature

Edward W. Becht  
Witness #1 Printed Name

Michael K Russell  
Witness #2 Signature

Michael K. Russell  
Witness #2 Printed Name

x Marilyn L. Richards by  
By: Elizabeth R. Russell, her attorney-in-  
fact  
Marilyn L. Richards by Elizabeth R. Russell, her attorney-  
in-fact

State of Florida  
County of Saint Lucie

The foregoing instrument was acknowledged by means of  physical presence or  online notarization  
this 10<sup>th</sup> day of June, 2020, by Marilyn L. Richards by Elizabeth R. Russell, her attorney-in-fact who  
is/are personally known to me or has/have produced \_\_\_\_\_ as identification.

SEAL



**EDWARD W. BECHT**  
Commission # GG 206856  
Expires May 12, 2022  
Bonded thru Budget Notary Services

Edward W Becht  
Notary Public

Printed Notary Name

My Commission Expires:

**EXHIBIT A**

Parcel 1 (Deed Legal)

The South 150 feet of the W 1/2 of the SE 1/4 of the NE 1/4 of the SW 1/4, LESS the East 90 feet thereof, and LESS the West 60 feet thereof, and LESS the South 25 Feet for Road Right of Way, said land lying and being in Section 34, Township 35 South, Range 40 East, St. Lucie County, Florida,

AND

The West 150 feet of the W 1/2 of the SE 1/4 of the NE 1/4 of the SW 1/4, LESS the South 150 feet thereof, said land lying and being in Section 34, Township 35 South, Range 40 East, St. Lucie County, Florida

AND

The East 180 feet of the W 1/2 of the SE 1/4 of the NE 1/4 of the SW 1/4, LESS the East 75 feet thereof, and LESS the West 90 feet of the South 150 feet thereof, and LESS the South 25 feet for Road Right of Way said land lying and being in Section 34, Township 35 South, Range 40 East, St. Lucie County, Florida

Parcel 2 (Overall Parcel per property appraiser)

W 1/2 of the SE 1/4 of the NE 1/4 of the SW 1/4, LESS the East 75 feet thereof, and LESS the West 60 feet of the South 150 feet thereof and LESS the South 25 feet for Road Right of Way said land lying and being in Section 34, Township 35 South, Range 40 East, St. Lucie County, Florida,

*24/3  
6-10-20*

### Property Identification

Site Address: 504 TUMBLIN KLING RD B  
 Sec/Town/Range: 34/35S/40E  
 Parcel ID: 2434-314-0005-000-8  
 Jurisdiction: Fort Pierce

Use Type: 0100  
 Account #: 33279  
 Map ID: 24/34S  
 Zoning: General Co

### Ownership

Jetson Investments Inc  
 4145 S US Highway 1  
 Fort Pierce, FL 34982

### Legal Description

34 35 40 W 1/2 OF SE 1/4 OF NE 1/4 OF SW 1/4-LESS E 75 FT AND LESS W 60 FT OF S 150 FT AND LESS S 25 FT RD R/W- (3.64 AC)

### Current Values

Just/Market Value: \$327,700  
 Assessed Value: \$164,871  
 Exemptions: \$76,000  
 Taxable Value: \$88,871



**Property taxes are subject to change upon change of ownership.**

- Past taxes are not a reliable projection of future taxes.
- The sale of a property will prompt the removal of all exemptions, assessment caps, and special classifications.

### Total Areas

Finished/Under Air (SF): 1,522  
 Gross Sketched Area (SF): 2,223  
 Land Size (acres): 3.64  
 Land Size (SF): 158,558.4

Taxes for this parcel: SLC Tax Collector's Office

Download TRIM for this parcel: Download PDF

### Building Design Wind Speed

Occupancy Category	I	II	III & IV
Speed	140	160	160

Sources/links:

### Sale History

Date	Book/Page	Sale Code	Deed	Grantor	Price
Jun 10, 2020	4431 / 1978	0137	SP	Russell Elizabeth R	\$525,000
Jun 10, 2020	4431 / 1978	0137	SP	Russell Michael	\$525,000
Jun 10, 2020	4431 / 1978	0137	SP	Richards (LF EST) Marilyn	\$525,000
Nov 12, 2012	3453 / 0974	0114	WD	Richards (LF EST) William H	\$100
Oct 4, 2012	3440 / 0322	0114	WD	Richards William H	\$100
Nov 1, 1979	0321 / 0920	XX01	CV		\$0

### Building Information (1 of 1)

Finished Area: 1,522 SF

Gross Sketched Area: 2,223 SF

#### Exterior Data

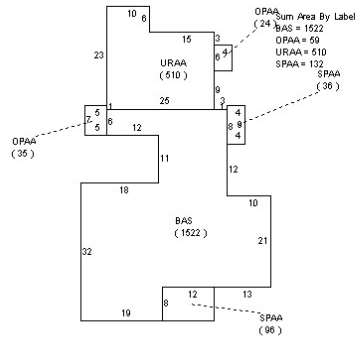
View:	Roof Cover: Fibrglss Shg	Roof Structure: Gable
Building Type: HC-	Year Built: 1950	Frame:
Grade: C-	Effective Year: 1950	Primary Wall: CB Stucco
Story Height: 2 Story	No. Units: 1	Secondary Wall: Abs Shingle

Interior Data

Bedrooms: 3  
 Full Baths: 2  
 Half Baths: 0  
 A/C %: 0%

Electric: MAXIMUM  
 Heat Type:  
 Heat Fuel:  
 Heated %: N/A%

Primary Int Wall:  
 Avg Hgt/Floor: 0  
 Primary Floors: Vinyl Rolled  
 Sprinkled %: 0%



Sketch Area Legend

Sub Area	Description	Area	Fin. Area	Perimeter
BAS	BASE AREA	1522	1522	210
OPAA	Open Porch Attached Average	59	0	44
SPAA	Screen Porch Attached Average	132	0	66
URAA	Utility Room Attached Average	510	0	98

Special Features and Yard Items

Type	Qty	Units	Year Blt
UTILITY LOW	1	396	1950
UTILITY LOW	1	100	1999

Current Year Values

Current Values Breakdown


Building:	\$50,500
Land:	\$277,200
Just/Market:	\$327,700
Ag Credit:	\$0
Save Our Homes or 10% Cap:	\$162,829
Assessed:	\$164,871
Exemption(s):	\$76,000
Taxable:	\$88,871

Current Year Exemption Value Breakdown

Tax Year	Grant Year	Code	Description	Amount
2020	2008	0550	Homestead Exemption over \$ 50,000	\$25,000
2020	1999	0500	Homestead Exemption	\$25,000
2020	2004	0565	Senior Homestead over 65	\$25,000
2020	1999	2300	Total & Permanent Disability	\$500
2020	2016	4000	Widow's Exemption	\$500

Current Year Special Assessment Breakdown

Start Year	AssessCode	Units	Description	Amount
2009	2009	12	County Solid Waste	\$276.14

This does not necessarily represent the total Special Assessments that could be charged against this property. The total amount charged for special assessments is reflected on the most current tax statement and information is available with the SLC Tax Collector's Office .

### Historical Values

Year	Just/Market	Assessed	Exemptions	Taxable
2020	\$327,700	\$164,871	\$76,000	\$88,871
2019	\$330,400	\$161,165	\$76,000	\$85,165
2018	\$328,500	\$158,160	\$76,000	\$82,160

### Permits

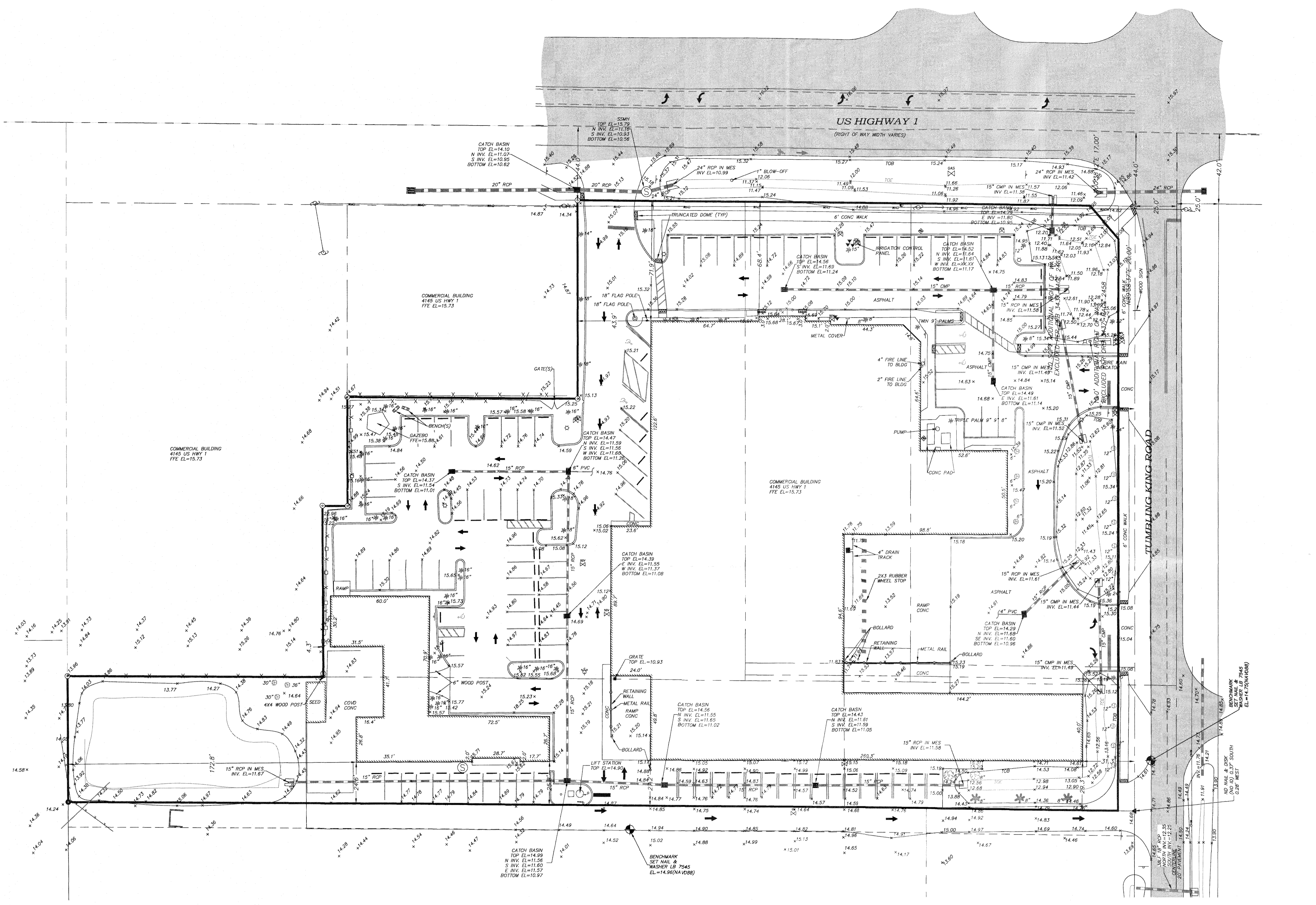
Number	Issue Date	Description	Amount	Fee
SLC0607-0084	Jul 6, 2006	Roof	\$6,500	\$0

Notice: This does not necessarily represent all the permits for this property.  
 Click the following link to check for additional permit data in Fort Pierce

All information is believed to be correct at this time, but is subject to change and is provided without any warranty.  
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MAP OF BOUNDARY & TOPOGRAPHIC SURVEY  
 GRAPHIC SCALE  
 0' 15' 30'  
 1" = 30'



LEGEND			
CM	= CONCRETE MONUMENT		= CABLE RISER
CMP	= CORRUGATED METAL PIPE		= FIRE HYDRANT
CONC.	= CONCRETE		= GUY ANCHOR
COVD.	= COVERED		= UTILITY POLE
(D)	= DESCRIPTION		= WATER GATE VALVE IN 2'X2' CONCRETE
DDCV	= DOUBLE DETECTOR CHECK VALE		= WATER METER
EL	= ELEVATION		= WATER VALVE
EP	= EDGE OF PAVEMENT		= ELECTRIC BOX
FFE	= FINISHED FLOOR ELEVATION		= IRRIGATION CONTROL VALVE
FM	= FORCE MAIN		= IRON PIPE
FND.	= FOUND		= IRON ROD
GV	= GATE VALVE		= IRRIGATION CONTROL VALVE
ID	= IDENTIFICATION		= IRON ROD WITH CAP
IP	= IRON PIPE		= INVERTED
IR	= IRON ROD		= LICENSED BUSINESS
ICV	= IRRIGATION CONTROL VALVE		= LIGHT POLE
IRC	= IRON ROD WITH CAP		= SIGN
INV	= INVERTED		= GROUND LIGHTING
LB	= LICENSED BUSINESS		= LIGHT POLE
LP	= LIGHT POLE		= SANITARY STORM SEWER MANHOLE
LS	= LICENSED SURVEYOR		= PLAT BOOK
MES	= MITERED END SECTION		= PAGE
MH	= MANHOLE		= PROFESSIONAL SURVEYOR AND MAPPER
OHW	= OVERHEAD WIRE		= POLY VINYL CHLORIDE
O.R.B.	= OFFICIAL RECORDS BOOK		= REVERSE PRESSURE ZONE
(P)	= PLAT		= REINFORCED CONCRETE PIPE
(S)	= SURVEYED		= SANITARY SEWER
PSW	= PROFESSIONAL SURVEYOR AND MAPPER		= SANITARY SEWER CLEAN-OUT
PVC	= POLY VINYL CHLORIDE		= FIRE DEPARTMENT CONNECTION (FDC)
RPZ	= REVERSE PRESSURE ZONE		= REDUCES PRESSURE ZONE (RPZ)
RCP	= REINFORCED CONCRETE PIPE		= DOUBLE DETECTOR CHECK VALE (DDCV)
(S)	= SURVEYED		= GATE VALVE
SSCO	= SANITARY SEWER CLEAN-OUT		= PINE TREE
TOB	= TOP OF BANK		= PALM TREE
TOP	= TOP OF SLOPE		= OAK TREE
WD	= WOOD FENCE		= MAGNOLIA
WL	= WATER LINE		
WM	= WATER METER		
X	= CHAIN LINE FENCE		
	= WOOD FENCE		
	= METAL RAIL		

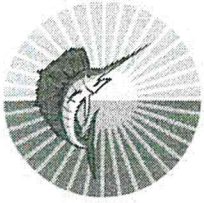
**INDIAN RIVER SURVEY, INC.**  
 PROFESSIONAL SURVEYING AND MAPPING  
 CERTIFICATE OF AUTHORIZATION No. LB 7545  
 1835 20TH STREET, VERO BEACH, FLORIDA 32960  
 PHONE (772) 569-7880 FAX (772) 778-3617

REVISIONS	DATE

504 TUMBLIN KLING ROAD

FIELD BOOK 78	DRAWN RJS	SHEET <b>2</b>
PAGE(S) 61-75	SCALE 1"=30'	<b>2</b>
FIELD DATE 09/16/2020	JOB # IRS-19-408	OF

NOT VALID WITHOUT BOTH SHEETS 1 AND 2



Permit #: \_\_\_\_\_

## APPLICATION FOR VEGETATION REMOVAL

Note: A permit is not required for the removal of invasive Australian Pine Trees, Brazilian Pepper Trees or Melaleuca (Paper) Trees.

- Address: 4145 S. US Hwy. 1 and 504 Tumblin Kling Road
- Property Tax ID: 2434-314-0003-000-4, 2434-314-0005-000-8
- Size of described property: 7.46 ac. total
- Description and quantity of vegetation to be removed: Species: See attached tree removal schedule Quantity: \_\_\_\_\_  
Species: \_\_\_\_\_ Quantity: \_\_\_\_\_ Species: \_\_\_\_\_ Quantity: \_\_\_\_\_
- Purpose of vegetation removal: Removal as required to allow for proposed site improvements.
- Date work to begin: May 2021 Duration of work: May 2022
- Is this a Historic property? No
- Use of property: Single-Family/Two-Family  Commercial/Industrial  Other
- Property Owners Acknowledgements: I certify that I am the owner of the above described property. I certify that all information submitted with this application is true and complete to the best of my knowledge.

Property Owner's Name Jetson Investment, Inc. Phone 772-464-7050  
Address 4145 S. US Hwy. 1 City Fort Pierce State FL Zip 34982  
Property Owner's Signature  [Signature] Date: 3/26/21

STATE OF FLORIDA) The foregoing instrument was acknowledged before me this 26 day of  
ST LUCIE COUNTY) March, 2021. ID \_\_\_\_\_  
Signature of Notary [Signature] (seal) \_\_\_\_\_  
Amy Lynne Thofner  
NOTARY PUBLIC  
STATE OF FLORIDA  
Comm# GG215958  
Expires 5/9/2022

10. Name of Business: Contractor - TBD  
Qualifier's Name & Signature: \_\_\_\_\_  
State Certification #: \_\_\_\_\_ City Certification #: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_  
(City) \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
Phone \_\_\_\_\_ Fax \_\_\_\_\_  
E-mail: \_\_\_\_\_

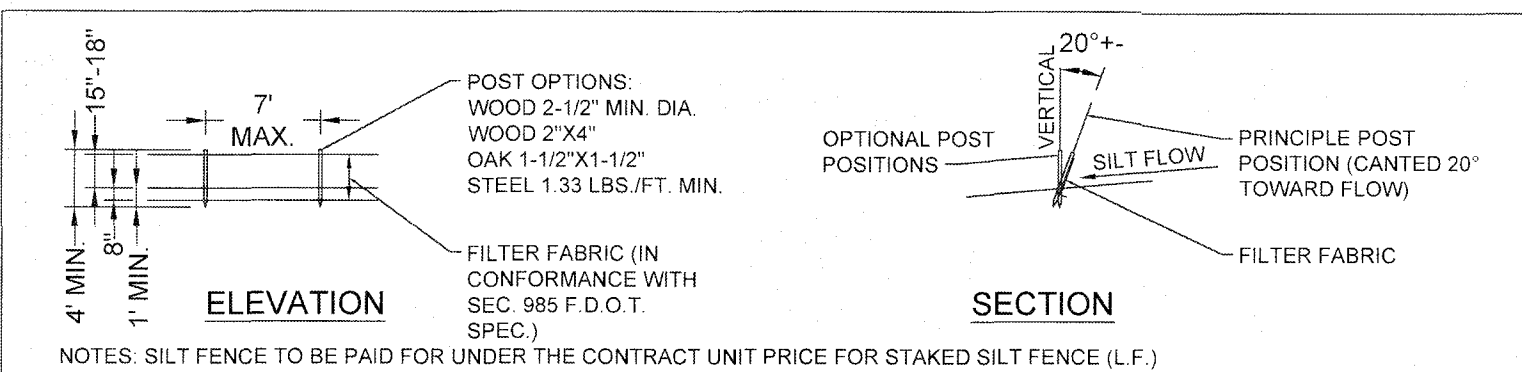
Approved  Approved with Condition  Denied  Fee: \$ \_\_\_\_\_ Paid

Conditions: \_\_\_\_\_  
Inspector: \_\_\_\_\_ Date: \_\_\_\_\_  
Site Inspection: \_\_\_\_\_ Date: \_\_\_\_\_  
Final Inspection: \_\_\_\_\_ Date: \_\_\_\_\_

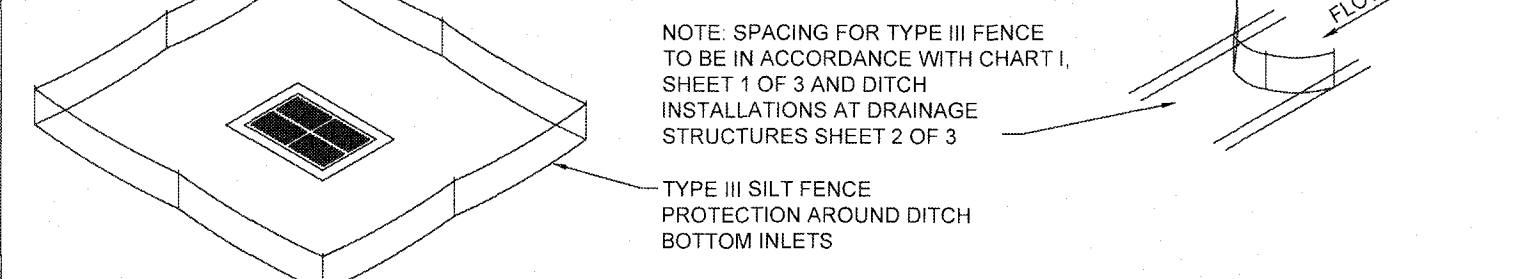








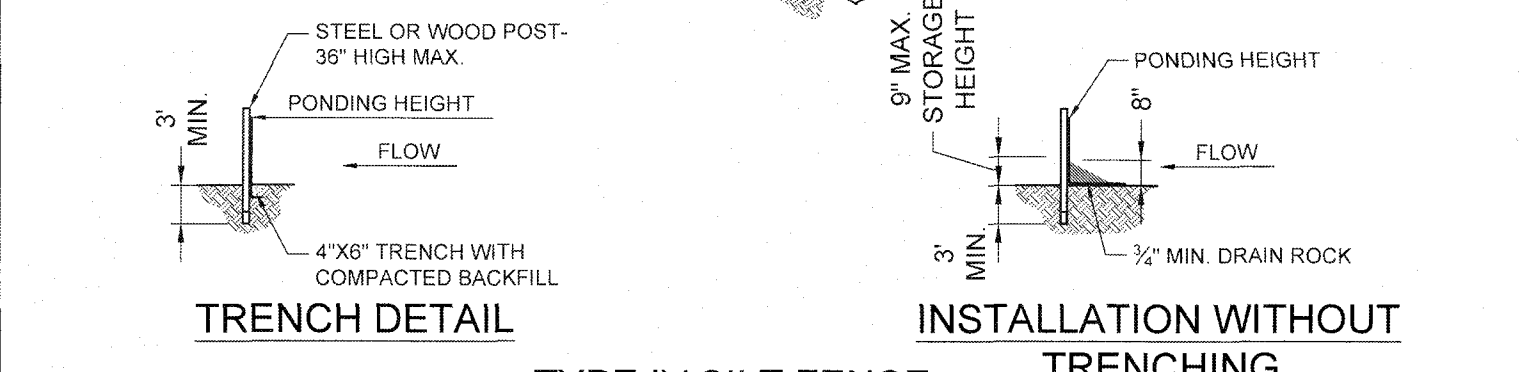
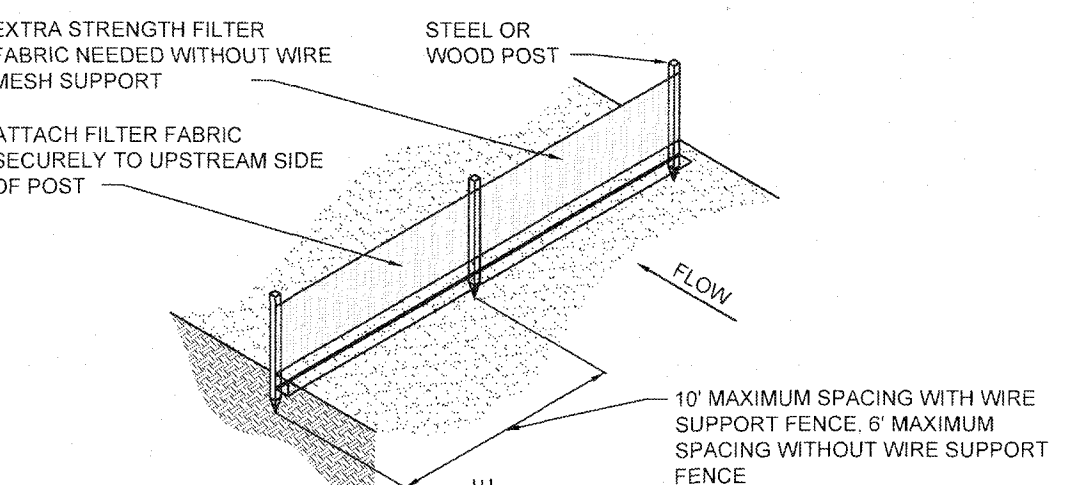
**TYPE III SILT FENCE**



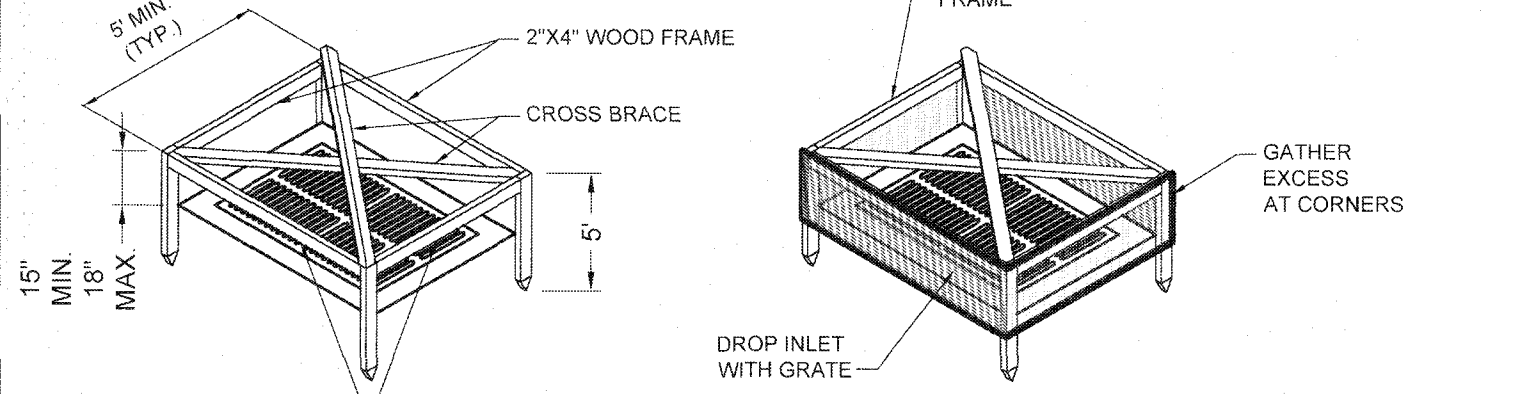
DO NOT DEPLOY IN A MANNER THAT SILT FENCES WILL ACT AS A DAM ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE USED AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.

**SILT FENCE APPLICATIONS**

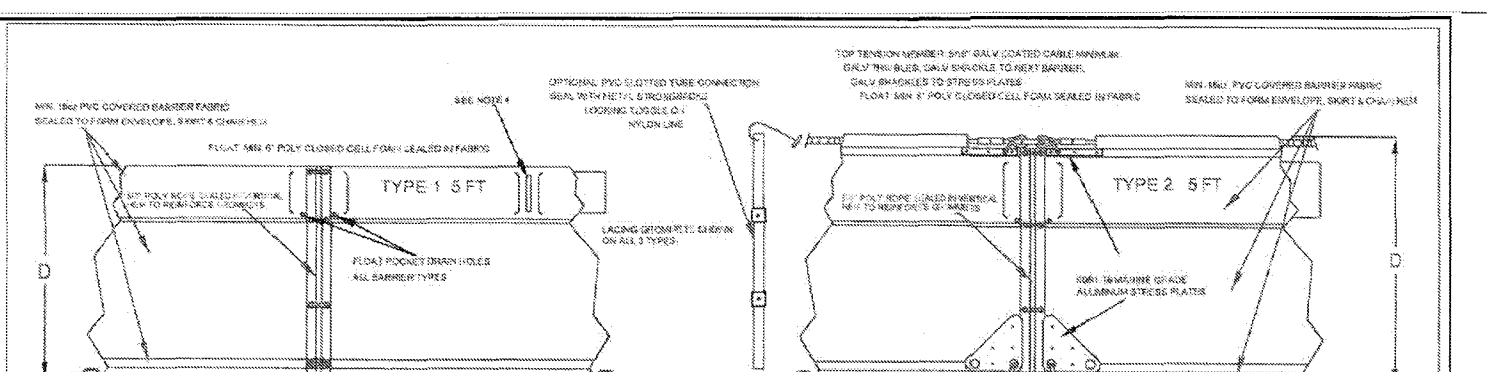
- SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
- INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. 6" MAXIMUM RECOMMENDED STORAGE HEIGHT.
- REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.



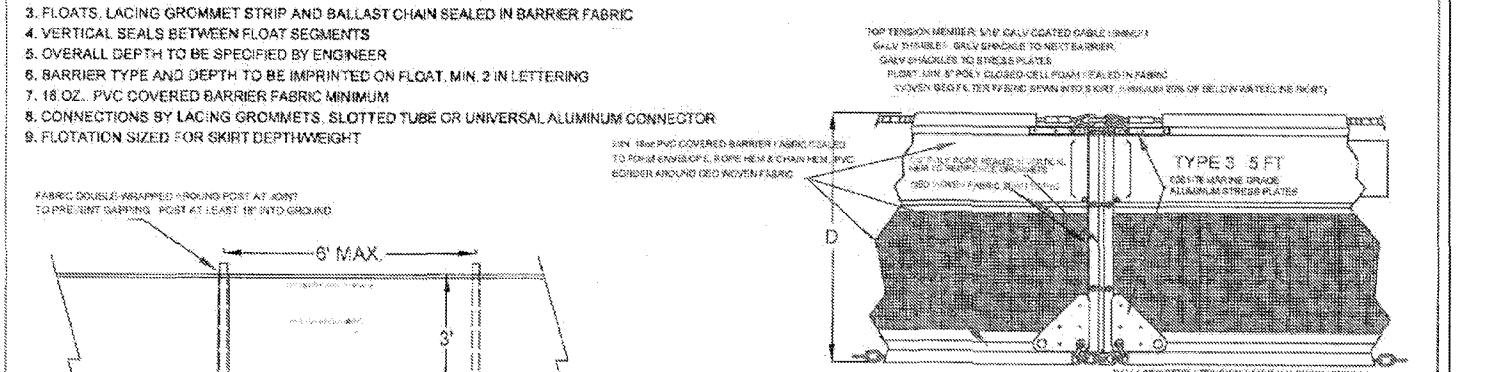
**TYPE IV SILT FENCE**



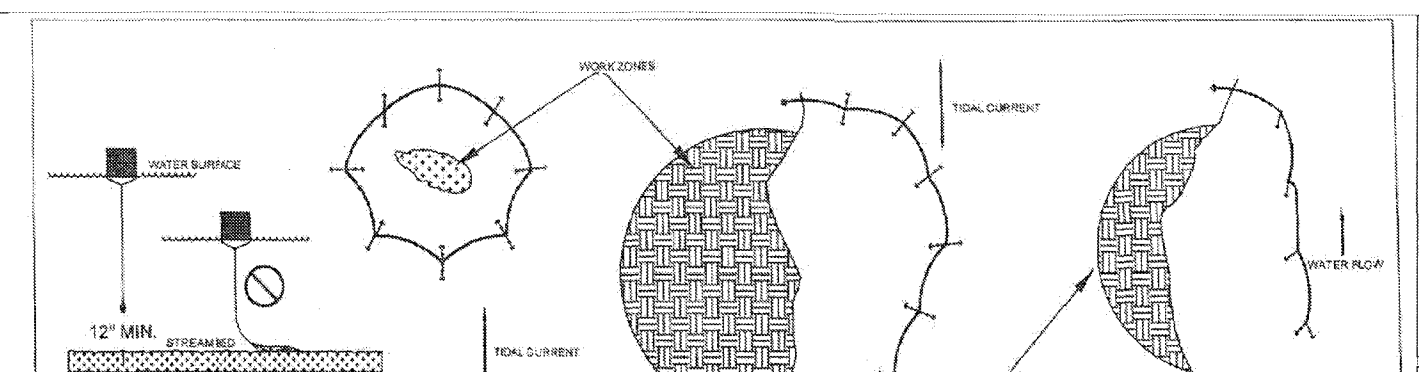
**SILT FENCE INLET PROTECTION**



**STAKED TURBIDITY BARRIER**

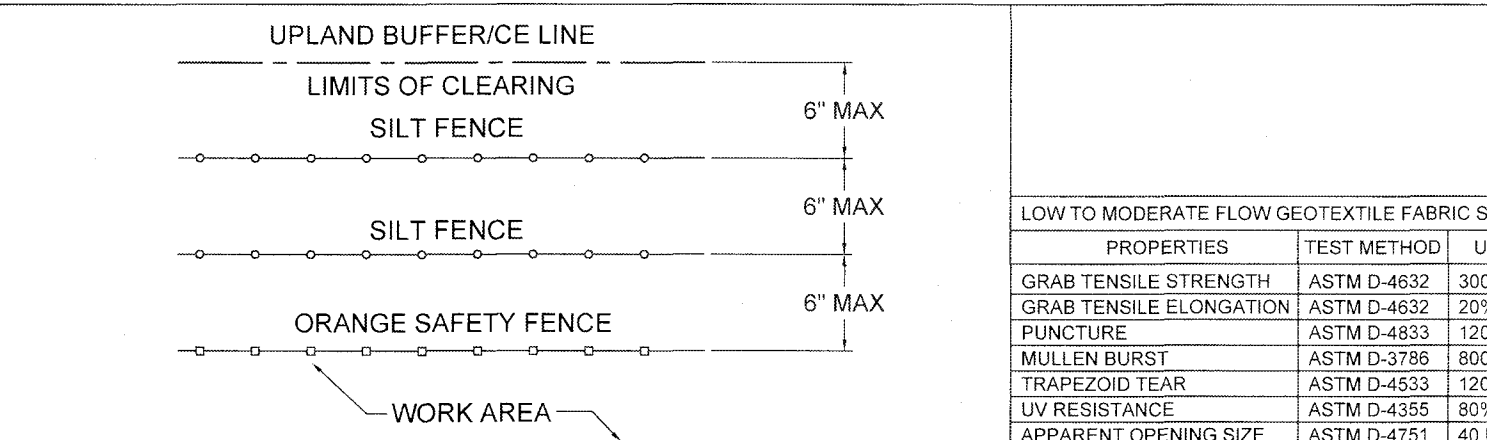


**2012 FDOT Design Standards TURBIDITY BARRIERS**

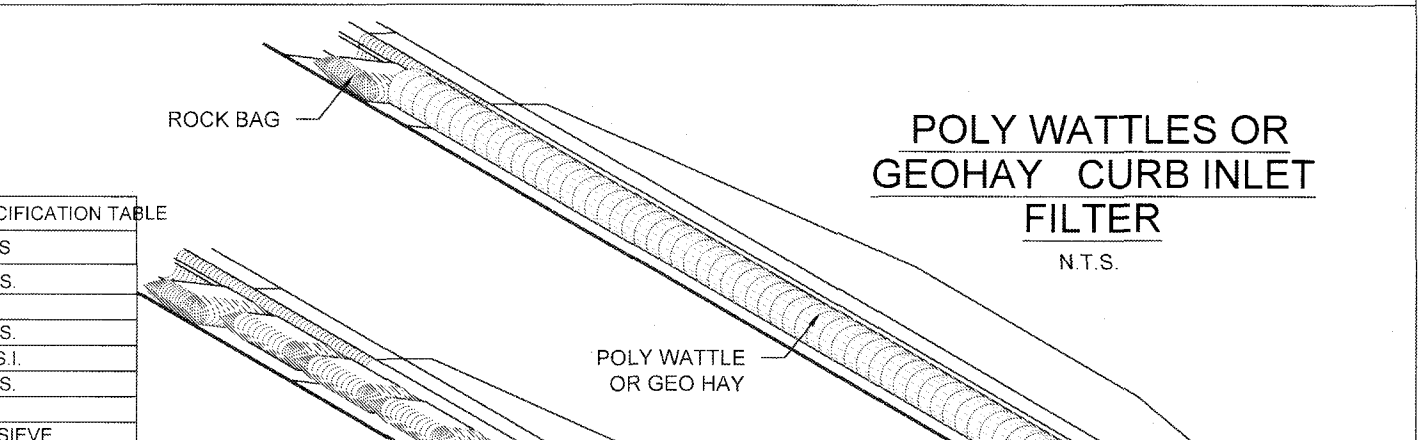


**2012 FDOT Design Standards TURBIDITY BARRIERS**

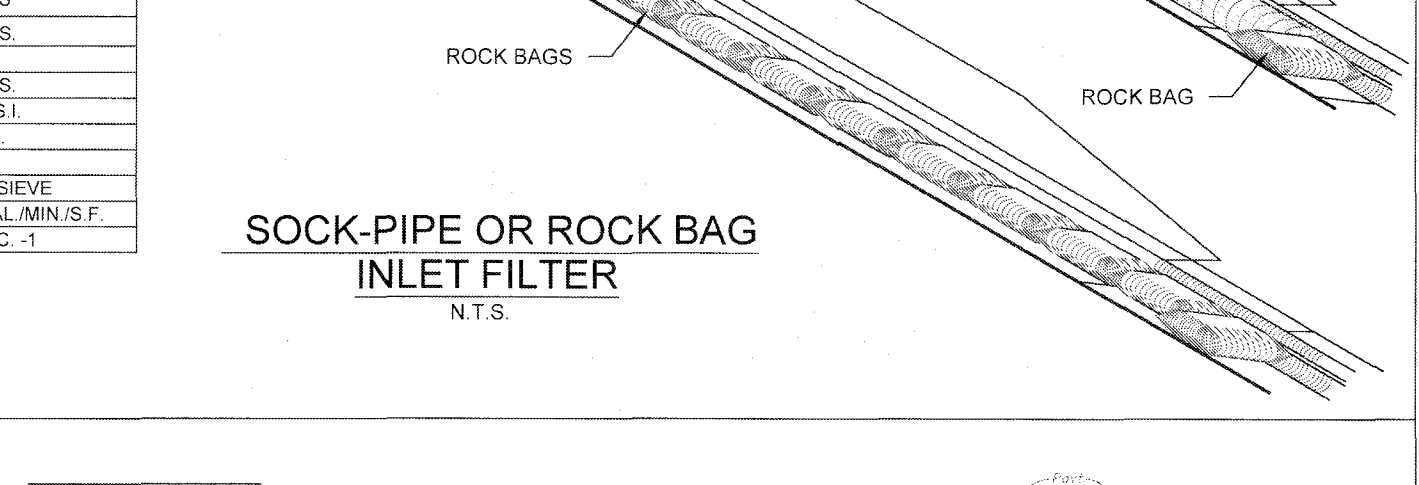
**TURBIDITY BARRIER APPLICATIONS**



**SILT FENCE/ORANGE FENCE PLACEMENT DETAIL AROUND WETLANDS**



**POLY WATTLES OR GEOHAY CURB INLET FILTER**



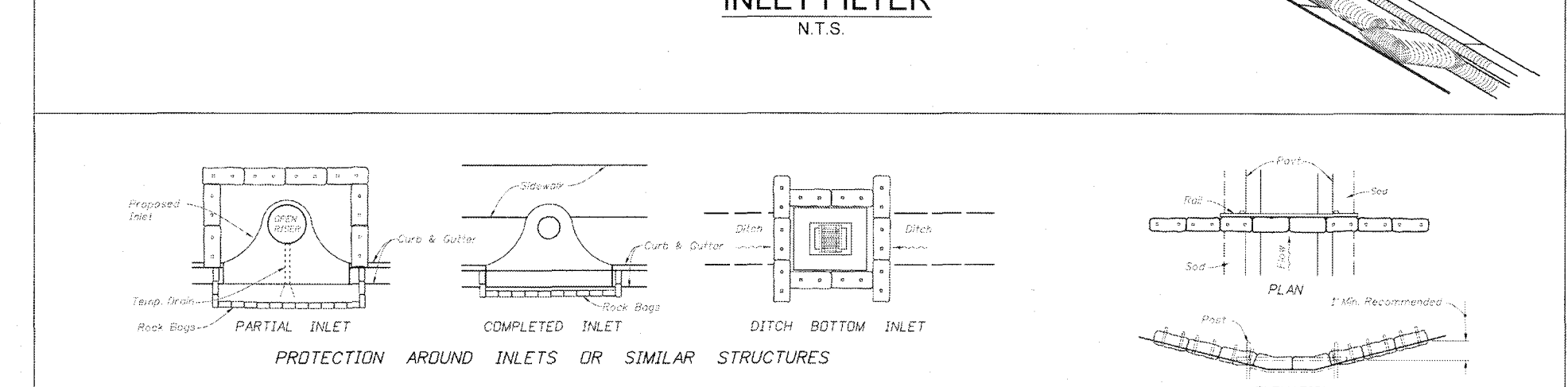
**SOCK-PIPE OR ROCK BAG INLET FILTER**

**LOW TO MODERATE FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE**

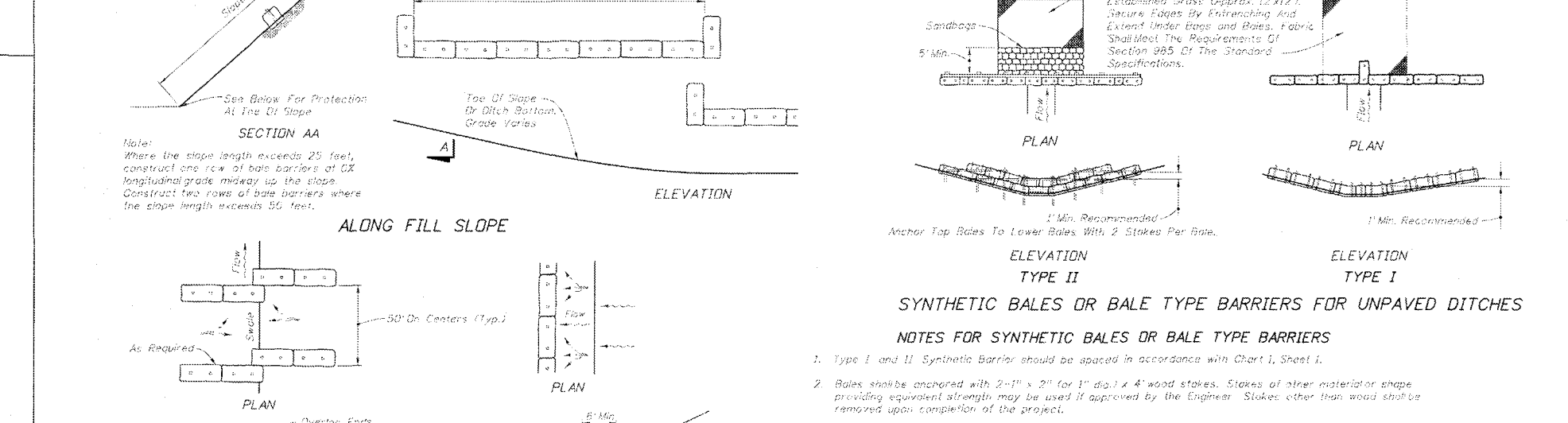
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20%
PUNCTURE	ASTM D-4633	120 LBS
MULLEN BURST	ASTM D-3786	800 P.S.I.
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80%
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL./MIN./S.F.
PERMITTIVITY	ASTM D-4491	0.50 SEC.-1

**MODERATE TO HIGH FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE**

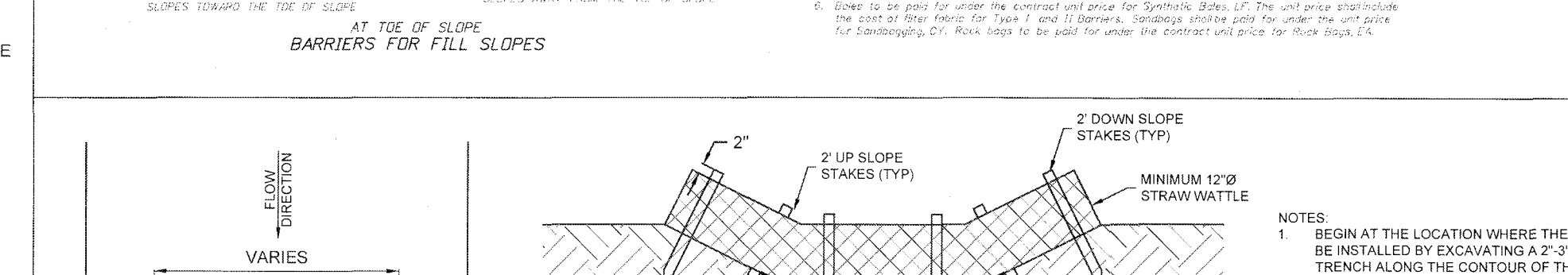
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20%
PUNCTURE	ASTM D-4633	135 LBS
MULLEN BURST	ASTM D-3786	420 P.S.I.
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90%
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL./MIN./S.F.
PERMITTIVITY	ASTM D-4491	1.5 SEC.-1



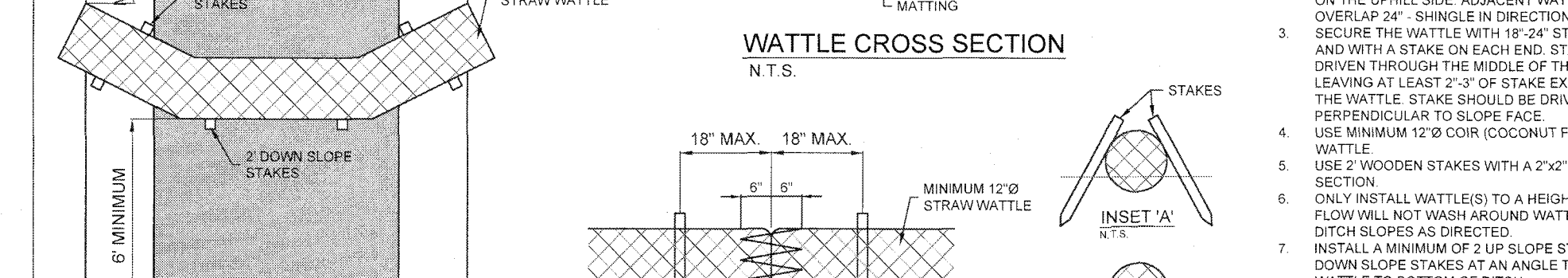
**SYNTHETIC BALES OR BALE TYPE BARRIERS FOR PAVED DITCHES**



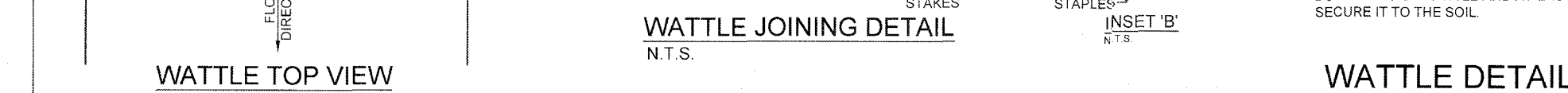
**SYNTHETIC BALES OR BALE TYPE BARRIERS FOR UNPAVED DITCHES**



**WATTLE CROSS SECTION**



**WATTLE JOINING DETAIL**

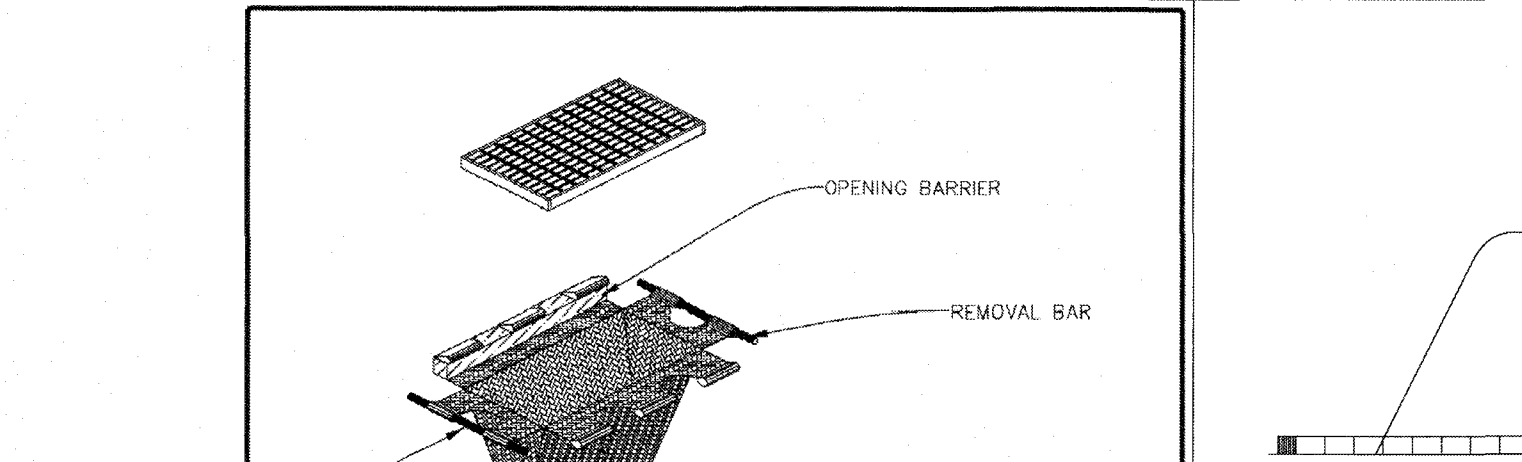


**WATTLE TOP VIEW**

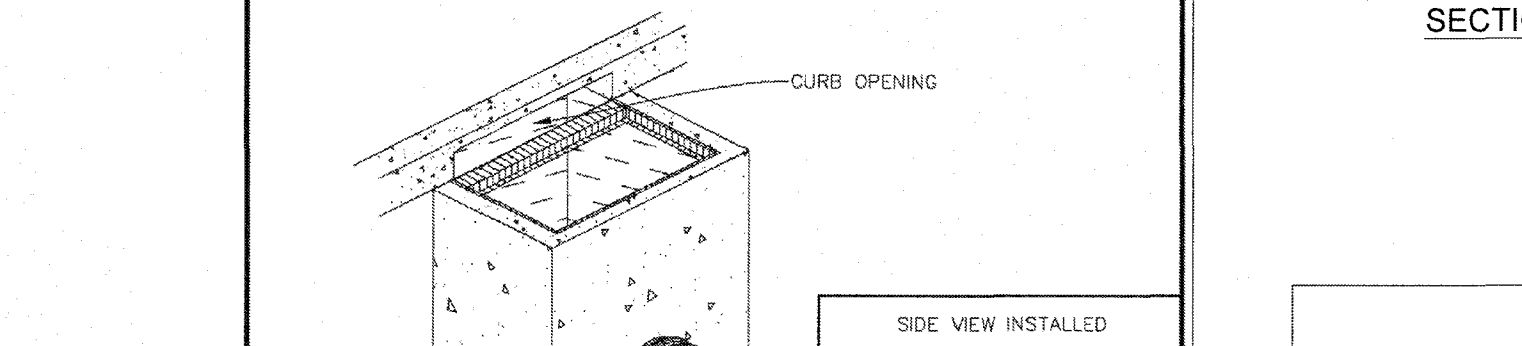
**EROSION AND SEDIMENTATION CONTROL NOTES**  
 CONSTRUCTION ACTIVITIES CAN RESULT IN THE GENERATION OF SIGNIFICANT AMOUNTS OF POLLUTANTS WHICH MAY REACH SURFACE OR GROUND WATER. ONE OF THE PRIMARY POLLUTANTS OF SURFACE WATERS IS SEDIMENT DUE TO EROSION. EXCESSIVE QUANTITIES OF SEDIMENT WHICH REACH WATER BODIES OF FLOOD PLAINS HAVE BEEN SHOWN TO ADVERSELY AFFECT THEIR PHYSICAL, BIOLOGICAL AND CHEMICAL PROPERTIES. TRANSPORTED SEDIMENT CAN OBSTRUCT STREAM CHANNELS, REDUCE HYDRAULIC CAPACITY OF WATER BODIES OF FLOOD PLAINS, REDUCE THE DESIGN CAPACITY OF CULVERTS AND OTHER WORKS, AND ELIMINATE BENTHIC INVERTEBRATES AND FISH SPAWNING SUBSTRATES BY SILTATION. EXCESSIVE SUSPENDED SEDIMENTS REDUCE LIGHT PENETRATION AND THEREFORE, REDUCE PRIMARY PRODUCTIVITY.

**MINIMUM STANDARDS**

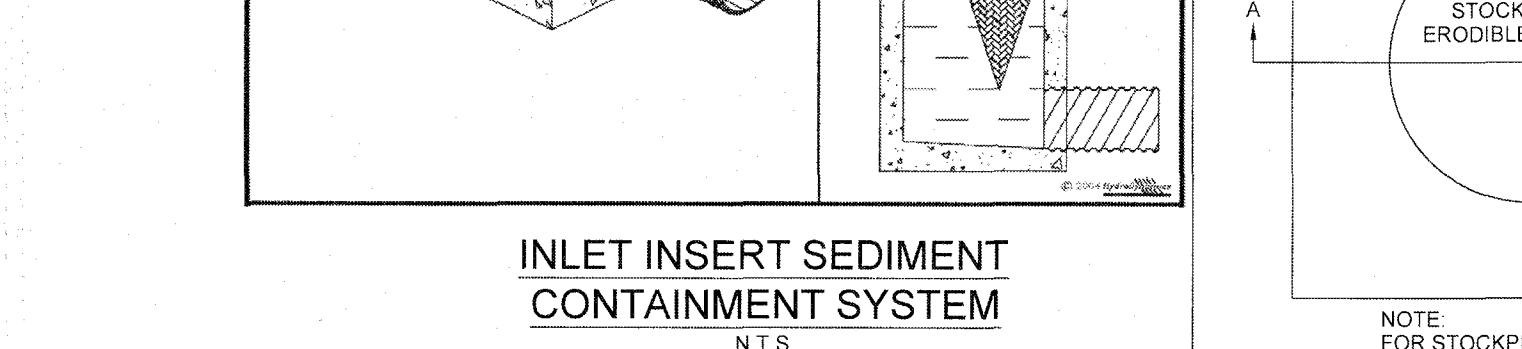
- SEDIMENT BASIN AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UNSLOPE LAND DISTURBANCE TAKES PLACE.
- ALL SEDIMENT CONTROL MEASURES ARE TO BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION AND RECONSTRUCTED PRIOR TO ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL ON BALANCE OF SITE. PERIMETER SEDIMENT BARRIERS SHALL BE CONSTRUCTED TO PREVENT SEDIMENT OR TRASH FROM FLOWING OR FLOATING ON TO ADJACENT PROPERTIES.
- PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN UNDISTURBED FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT UNDISTURBED FOR MORE THAN ONE YEAR.
- DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.
- A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT, IN THE OPINION OF THE REVIEWER, IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.
- STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.
- SURFACE RUNOFF FROM DISTURBED AREAS THAT IS COMPRISED OF FLOW FROM DRAINAGE AREAS GREATER THAN OR EQUAL TO THREE ACRES SHALL BE CONTROLLED BY A SEDIMENT BASIN. THE SEDIMENT BASIN SHALL BE DESIGNED AND CONSTRUCTED TO ACCOMMODATE THAT OUPLET SEDIMENT LOADING FROM THE LAND-DISTURBING ACTIVITY. THE OUTFALL DEVICE OR SYSTEM DESIGN SHALL TAKE INTO ACCOUNT THE TOTAL DRAINAGE AREA FLOWING THROUGH THE DISTURBED AREA TO BE SERVED BY THE BASIN.
- AFTER ANY SIGNIFICANT RAINFALL, SEDIMENT CONTROL STRUCTURES WILL BE INSPECTED FOR INTEGRITY. ANY DAMAGED DEVICES SHALL BE CORRECTED IMMEDIATELY.
- WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.
- SEDIMENT WILL BE PREVENTED FROM ENTERING ANY STORM DRAIN SYSTEM, DITCH OR CHANNEL. ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.
- BEFORE TEMPORARY OR NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LININGS SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.
- WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT CONTROL, SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS. EARTHEN FILL MAY BE USED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER MATERIALS.
- WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES, A TEMPORARY STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIAL SHALL BE PROVIDED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER MATERIALS.
- THE BED AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.
- PERIODIC INSPECTION AND MAINTENANCE OF ALL SEDIMENT CONTROL STRUCTURES MUST BE PROVIDED TO ENSURE INTENDED PURPOSE IS ACCOMPLISHED. THE DEVELOPER, OWNER AND/OR CONTRACTOR SHALL BE CONTINUALLY RESPONSIBLE FOR ALL SEDIMENT LEAVING THE PROPERTY. SEDIMENT CONTROL MEASURES SHALL BE IN WORKING CONDITION AT THE END OF EACH WORKING DAY.
- UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:
  - NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
  - EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
  - EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.
  - RESTALLATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS.
- WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY TRACKING ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PUBLIC ROAD SURFACE WITH CURBS AND GUTTERS, THE ROAD SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER. THIS PROVISION SHALL APPLY TO INDIVIDUAL, SUBDIVISION LOTS AS WELL AS TO LARGER LAND-DISTURBING ACTIVITIES.
- ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED. IN THE OPINION OF THE REVIEWER, DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.
- PROPERTIES AND WATERWAYS DOWNSTREAM FROM CONSTRUCTION SITE SHALL BE PROTECTED FROM SEDIMENT DISPOSITION AND EROSION.
- PHASED PROJECTS SHOULD BE CLEANED IN CONJUNCTION WITH CONSTRUCTION OF EACH PHASE.
- EROSION CONTROL DESIGN AND CONSTRUCTION SHALL FOLLOW THE REQUIREMENTS IN INDEX NOS. 104 AND 105 OF FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS.
- THE REVIEWER MAY APPROVE MODIFICATIONS OR ALTER PLANS TO THESE EROSION CONTROL CRITERIA DUE TO SITE SPECIFIC CONDITIONS.



**INLET INSERT SEDIMENT CONTAINMENT SYSTEM**



**SEDIMENT CONTROL DETAIL FOR STOCKPILING OF ERODIBLE MATERIAL**



**CONCRETE WASHOUT SIGN DETAIL (OR EQUIVALENT)**



**CONCRETE & STUCCO WASTE MANAGEMENT**

DATE	REVISIONS
19-0273	1
19-0273	2
19-0273	3
19-0273	4
19-0273	5
19-0273	6
19-0273	7
19-0273	8
19-0273	9
19-0273	10
19-0273	11
19-0273	12
19-0273	13
19-0273	14
19-0273	15
19-0273	16
19-0273	17
19-0273	18
19-0273	19
19-0273	20
19-0273	21
19-0273	22
19-0273	23

JOB NO.	DESIGNED	DRAWN	DATE	CHECKED	DATE ISSUED
19-0273	RTM	GR	JULY 2021	AJB	7/29/2021

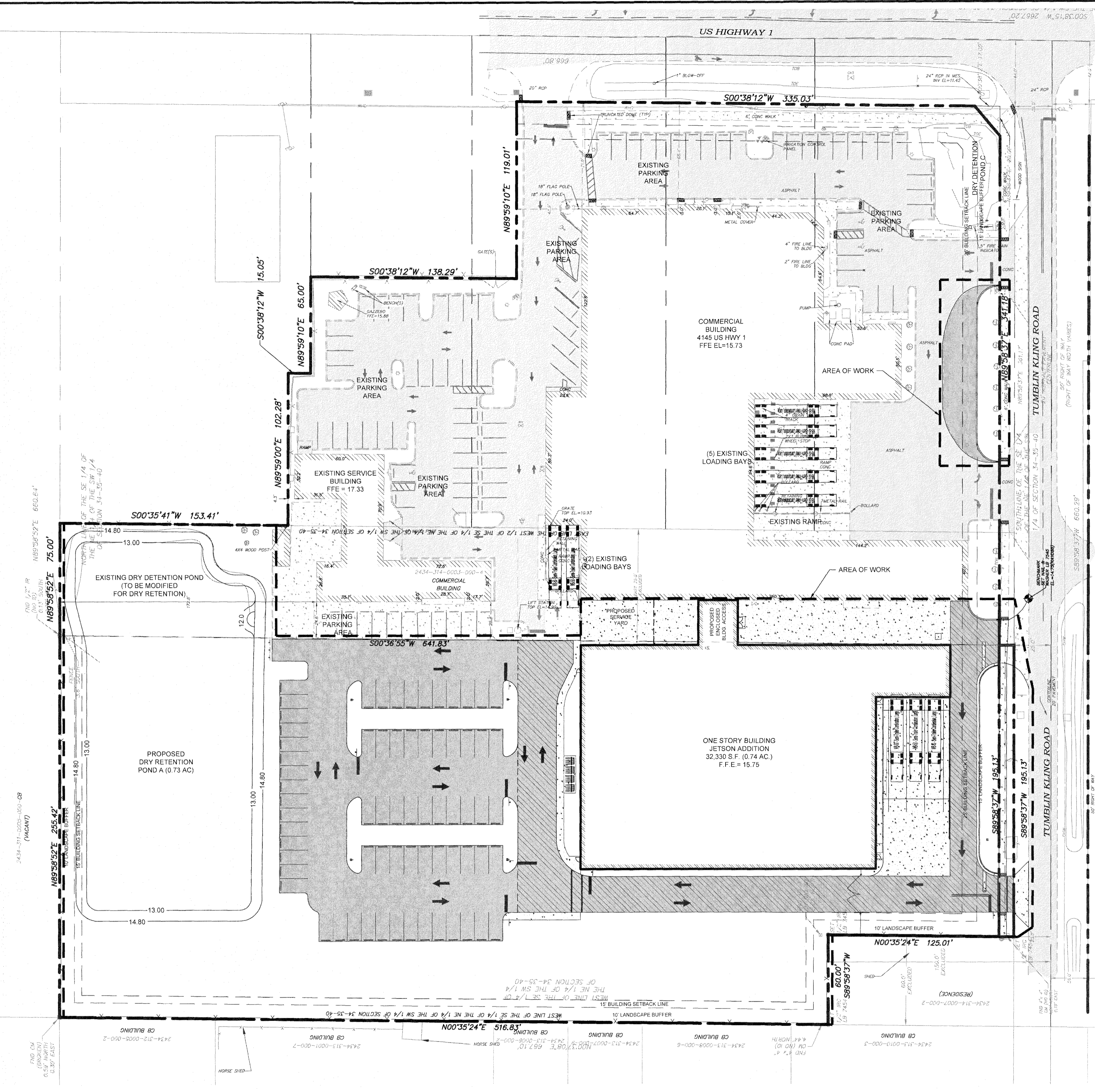
**EMBV ENGINEERING, INC.**  
 AARON J. BOWLES, P.E. & ASSOCIATES  
 CONSULTING ENGINEERING  
 1004 BOWLES MILLIKEN & CA #3728  
 1000 W. STATE ST. SUITE 100  
 TAMPA, FL 33607  
 TEL: (813) 287-1111  
 FAX: (813) 287-1111

**EROSION CONTROL DETAILS**

**JETSON FORT PIERCE SITE IMPROVEMENTS**

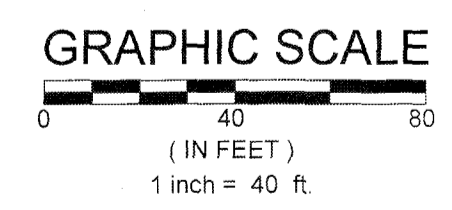
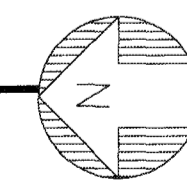
**FLORIDA**

**STATE OF FLORIDA**  
 AARON J. BOWLES  
 L. CENSE No. 55313  
 PROFESSIONAL ENGINEER



**OVERALL SITE PLAN**

SCALE 1" = 40'



**LEGEND**

- EXISTING ASPHALT
- PROPOSED (REGULAR DUTY) ASPHALT
- PROPOSED (HEAVY DUTY) ASPHALT
- EXISTING CONCRETE
- PROPOSED CONCRETE
- EXISTING BUILDINGS

**PROJECT INFORMATION**

**SITE ADDRESS**  
4145 S. US HIGHWAY #1  
& 504 TUMBLIN KLING ROAD  
FORT PIERCE, FLORIDA 34982

**OWNER / APPLICANT**  
JETSON INVESTMENT, INC.  
4145 S US HIGHWAY 1  
FORT PIERCE, FLORIDA 34982  
PHONE (772) 464-7050

**ARCHITECT**  
ANTHONY J. MAZZA, AIA  
8220 COMPTON WAY  
MELBOURNE, FLORIDA 32940  
PHONE (321) 255-2050

**LANDSCAPE ARCHITECT**  
LANDSCAPE DESIGN ASSOCIATES  
2510 NW 182ND AVE.  
HIGH SPRINGS, FLORIDA 32643  
PHONE (352) 210-5765

**TAX PARCEL I.D. NUMBER(S)**  
2434-314-0003-000-4  
2434-314-0005-000-8

**ZONING LAND USE**  
C3 GC

**LATITUDE LONGITUDE**  
27° 23' 09.82" N 80° 19' 38.88" W

**ENGINEER**  
MBV ENGINEERING, INC.  
1835 20TH STREET  
VERO BEACH, FLORIDA 32960  
PHONE (772) 569-0035

**SURVEYOR**  
INDIAN RIVER SURVEY, INC.  
1835 20TH STREET  
VERO BEACH, FLORIDA 32960  
PHONE (772) 569-7880

**PROJECT DESCRIPTION**  
THIS PROJECT PROPOSES THE UNIFICATION OF (2) PARCELS (4145 US HWY 1 AND 504 TUMBLIN KLING RD.) AND THE CONSTRUCTION OF A +/- 32,330 WAREHOUSE FACILITY WITH REQUIRED SITE IMPROVEMENTS.

**EXISTING SITE DATA**

4145 S. US HIGHWAY 1	SF	AC	%
SITE AREA	168,713 SF	3.87 AC	100.0%
IMPERVIOUS AREA	130,389 SF	2.99 AC	77.3%
EXISTING BUILDING	53,220 SF	1.22 AC	31.5%
EXISTING ASPHALT	54,454 SF	1.25 AC	32.3%
EXISTING CONCRETE	22,715 SF	0.52 AC	13.46%
PERVIOUS AREA	38,324 SF	0.88 AC	22.7%

504 TUMBLIN KLING ROAD	SF	AC	%
SITE AREA	156,334 SF	3.59 AC	100.0%
IMPERVIOUS AREA	10,813 SF	0.25 AC	6.9%
EXISTING BUILDING	3,528 SF	0.08 AC	2.3%
EXISTING ASPHALT	0 SF	0.00 AC	0.0%
EXISTING CONCRETE	7,285 SF	0.17 AC	4.7%
PERVIOUS AREA	145,521 SF	3.34 AC	93.08%

**PROPOSED SITE DATA**

4145 S. US HIGHWAY 1	SF	AC	%
SITE AREA	168,713 SF	3.87 AC	100.0%
IMPERVIOUS AREA	121,011 SF	2.78 AC	71.7%
TOTAL BUILDING	53,220 SF	1.22 AC	31.5%
TOTAL ASPHALT	55,575 SF	1.28 AC	32.9%
TOTAL CONCRETE	12,216 SF	0.28 AC	7.2%
PERVIOUS AREA	47,702 SF	1.10 AC	28.3%

504 TUMBLIN KLING ROAD	SF	AC	%
SITE AREA	156,334 SF	3.59 AC	100.0%
IMPERVIOUS AREA	78,037 SF	1.79 AC	49.9%
TOTAL BUILDING	32,330 SF	0.74 AC	20.7%
TOTAL ASPHALT	39,707 SF	0.91 AC	25.4%
TOTAL CONCRETE	6,000 SF	0.14 AC	3.8%
PERVIOUS AREA	78,297 SF	1.80 AC	50.1%

OVERALL UNIFIED SITE	SF	AC	%
SITE AREA	325,047 SF	7.46 AC	100.0%
IMPERVIOUS AREA	199,048 SF	4.57 AC	61.2%
TOTAL BUILDING	85,550 SF	1.96 AC	26.3%
TOTAL ASPHALT	95,282 SF	2.19 AC	29.3%
TOTAL CONCRETE	18,216 SF	0.42 AC	5.6%
PERVIOUS AREA	125,999 SF	2.89 AC	38.8%

NET NEW IMPERVIOUS + 57,846 SF 1.33 AC

**ZONING DATA**

CRITERIA	REQUIRED	EXISTING	PROPOSED
LOT SIZE	10,000	156,333 SF	156,333 SF
LOT WIDTH	70'	255.42'	255.42'
BUILDING SETBACKS			
FRONT	25'	NA	33'
SIDE (EAST)	15'	NA	A (UNITY OF PARCELS)
SIDE (WEST)	15'	NA	45.13'
REAR	15'	NA	368.14'
BUILDING COVERAGE	60% MAX.	NA	26.3%
OPEN SPACE	30% MIN.	100%	44.4%
BUILDING HEIGHT	35' MAX.	---	---
FAR	0.35	---	0.26

**PARKING DATA**  
PARKING PROVIDED (MAIN-SITE) = 104 SPACES (6 HC, 98 STD.)  
PARKING TO BE REMOVED (MAIN-SITE) = 11 SPACES (11 STD.)  
PARKING REQUIRED (EXPANSION) = 1 SP / 600 GSF = 32,330 / 600 = 53.88 (54) SPACES  
PARKING REQUIRED (OVERALL) = 158 SPACES (6HC MIN.)

PARKING PROVIDED = 168 SPACES TOTAL  
(OVERALL) 6 HC SPACES  
162 STANDARD

**TRAFFIC STATEMENT**  
PER ITE, 10TH EDITION:  
(150) WAREHOUSING : (PROPOSED) 32,330 SF BUILDING  
= 1.74 TRIPS PER 1000 SF = 32.33 X 1.74 = 56 ADT (28 ENTRY, 28 EXIT)

**DRAINAGE STATEMENT**  
STORMWATER ATTENUATION AND TREATMENT REQUIRED FOR THE SITE EXPANSION TO BE PROVIDED ON-SITE WITH AN INTERCONNECTION TO THE EXISTING MASTER STORMWATER MANAGEMENT SYSTEM SERVING THE OVERALL PROPERTY. ULTIMATE OUTFALL IS TO THE FDOT US HWY 1 DRAINAGE SYSTEM.

**PERMITS REQUIRED**  
CITY OF FORT PIERCE PRE-APPLICATION  
CITY OF FORT PIERCE SITE PLAN DESIGN REVIEW APPLICATION  
CITY OF FORT PIERCE DEVELOPMENT REVIEW  
CITY OF FORT PIERCE CONCURRENCY REVIEW  
CITY OF FORT PIERCE VEGETATION REMOVAL PERMIT  
CITY OF FORT PIERCE EROSION AND SEDIMENT CONTROL AFFIDAVIT  
ST. LUCIE COUNTY RIGHT OF WAY PERMIT  
ST. LUCIE COUNTY FIRE REVIEW  
FPUA PLAN REVIEW  
FDEP DOMESTIC WATER EXTENSION PERMIT  
FDEP WASTEWATER PERMIT  
FDEP NPDES NOI  
SFWMD ENVIRONMENTAL RESOURCE PERMIT MODIFICATION  
FDOT DRAINAGE PERMIT  
FDOT DRIVEWAY CONNECTION PERMIT

**FLOOD ZONE**  
THE SUBJECT PROPERTY IS LOCATED IN FLOOD ZONE AE (EL 6 FEET) PER FLOOD INSURANCE RATE MAP #12061C0242 H, DATED DEC. 4, 2012.

**LEGAL DESCRIPTION**  
PER (ORB 3453, PG. 874):  
THE SOUTH 150 FEET OF THE WEST 1/2 OF THE SOUTHWEST 1/4 OF THE NORTHEAST 1/4 OF THE SOUTHWEST 1/4, LESS THE EAST 90 FEET THEREOF, AND LESS THE WEST 60 FEET THEREOF, SAID LAND LYING AND BEING IN SECTION 34, TOWNSHIP 35 SOUTH, RANGE 40 EAST, ST. LUCIE COUNTY, FLORIDA.  
AND  
THE WEST 150 FEET OF THE WEST 1/2 OF THE SOUTHWEST 1/4 OF THE NORTHEAST 1/4 OF THE SOUTHWEST 1/4, LESS THE SOUTH 150 FEET THEREOF, SAID LAND LYING AND BEING IN SECTION 34, TOWNSHIP 35 SOUTH, RANGE 40 EAST, ST. LUCIE COUNTY, FLORIDA.  
AND  
THE EAST 180 FEET OF THE WEST 1/2 OF THE SOUTHWEST 1/4 OF THE NORTHEAST 1/4 OF THE SOUTHWEST 1/4, LESS THE EAST 75 FEET THEREOF, AND LESS THE WEST 90 FEET OF THE SOUTH 150 FEET THEREOF, SAID LAND LYING AND BEING IN SECTION 34, TOWNSHIP 35 SOUTH, RANGE 40 EAST, ST. LUCIE COUNTY, FLORIDA.

**WASTEWATER SOURCE**  
FPUA

**POTABLE WATER SOURCE**  
FPUA

**CONSTRUCTION SCHEDULE**  
START: NOV 2021  
FINISH: APR 2022

JOB NO.	DESIGNED	DRAWN	DATE	CHECKED	DATE ISSUED
19-0273	RTM	GR	JULY 2021	AJB	8/2/2021

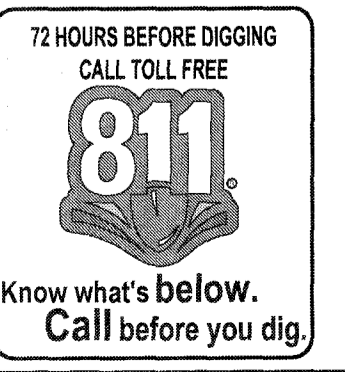
**MBV ENGINEERING, INC.**  
MOJA BOWLES VILLAMIZAR & ASSOCIATES  
CONSULTING ENGINEERING  
VERO BEACH, FL 32909  
PH: (772) 776-1911  
FX: (772) 776-1911

**OVERALL SITE PLAN**

JETSON FORT PIERCE  
SITE IMPROVEMENTS  
FLORIDA  
CITY OF FORT PIERCE

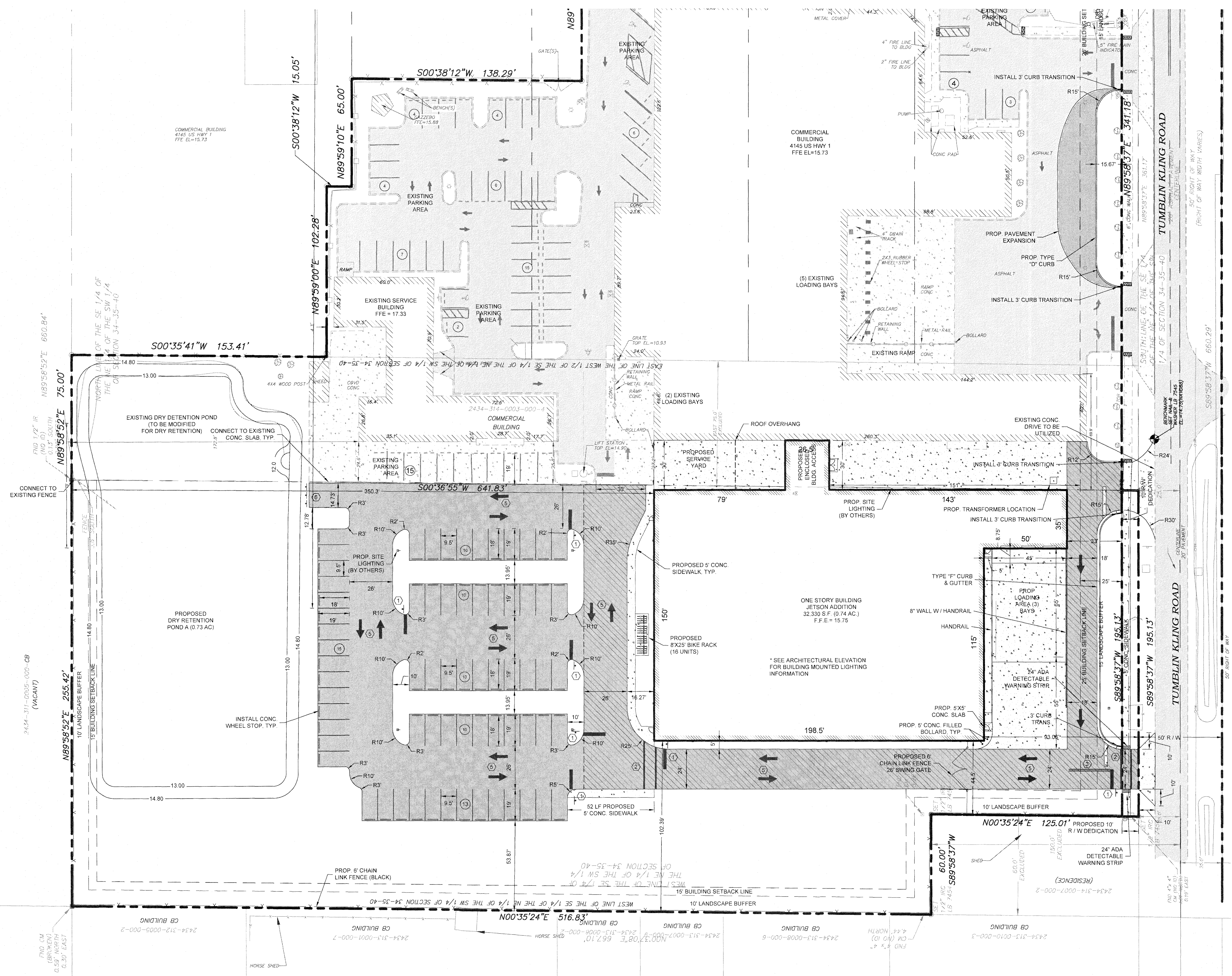
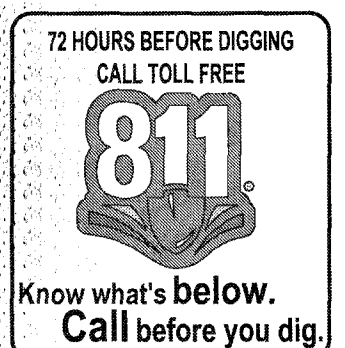
AARON J. BOWLES  
L. DENSE  
No. 55313  
STATE OF FLORIDA  
PROFESSIONAL ENGINEER

AARON J. BOWLES  
FL P.E. #55313  
8/2/21  
SHEET  
**C5**  
19-0273



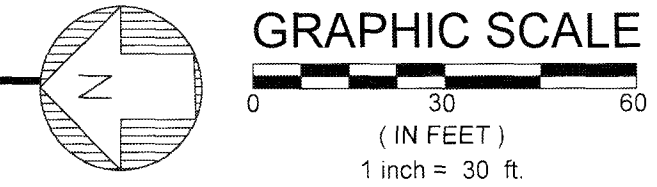
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DATE PLOTTED: 7/21/2021 10:53:15 AM



### SITE PLAN

SCALE: 1" = 30'



### LEGEND

- EXISTING ASPHALT
- PROPOSED (REGULAR DUTY) ASPHALT
- PROPOSED (HEAVY DUTY) ASPHALT
- EXISTING CONCRETE
- PROPOSED CONCRETE
- EXISTING BUILDINGS

### SIGN & PAVEMENT MARKING SCHEDULE

SIGN ID NUMBER	SIZE	DESIGNATION / NOTES
(1)	30"	(R1-1) STOP SIGN AND 24" SOLID WHITE STOP BAR
(2)	12"	6" WIDE CROSSWALK, 12" SOLID WHITE STRIPING
(3)	6"	25 LF DOUBLE YELLOW (PAINTED)
(4)		DO NOT ENTER SIGN
(5)		PAVEMENT MARKINGS PER MUTCD
(6)		(3) TYPE 4 OBJECT MARKERS (OM4-1) 5" O.C.

NO.	DATE	REVISIONS
1	8/2/2021	DATE ISSUED
2	AJB	CHECKED
3	JULY 2021	DATE
4	GR	DRAWN
5	RTM	DESIGNED
6	19-0273	JOB NO.

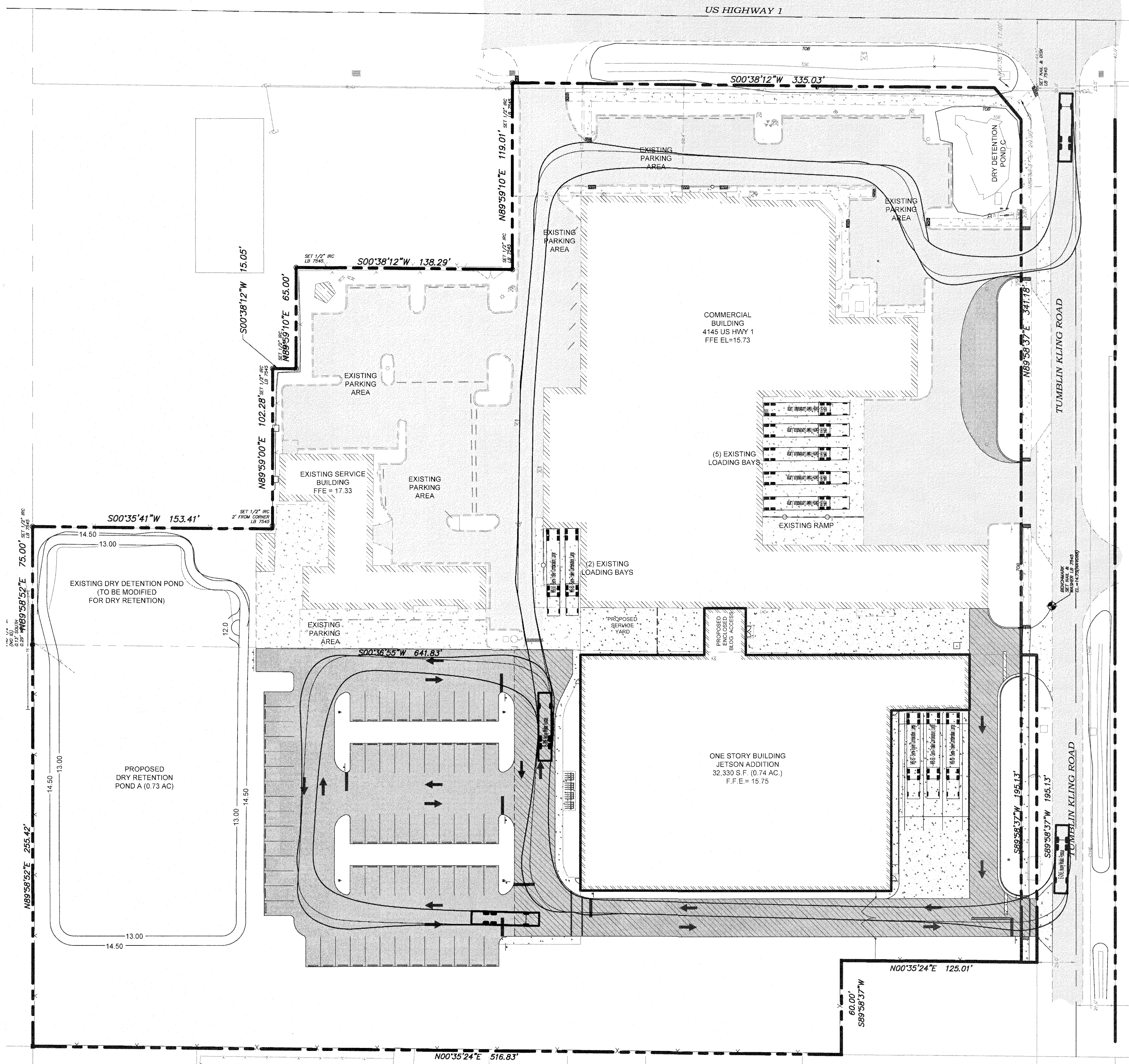
**MBV ENGINEERING, INC.**  
 MOA BOWLES VILLAMIZAR & ASSOCIATES  
 CONSULTING ENGINEERING CA #5728  
 1105 JOPPA STREET  
 SUITE 100  
 RICHMOND, CA 94804  
 (925) 799-8811  
 (925) 799-8812

### SITE PLAN

JETSON FORT PIERCE  
 SITE IMPROVEMENTS  
 FLORIDA  
 CITY OF FORT PIERCE

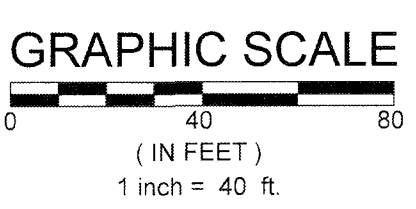
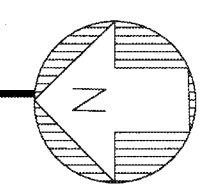
MARION J. BOWLES  
 LICENSE  
 No. 55313  
 STATE OF FLORIDA  
 PROFESSIONAL ENGINEER

AARON J. BOWLES  
 P.E. #55313  
 8/2/21  
 SHEET  
**C6**  
 19-0273



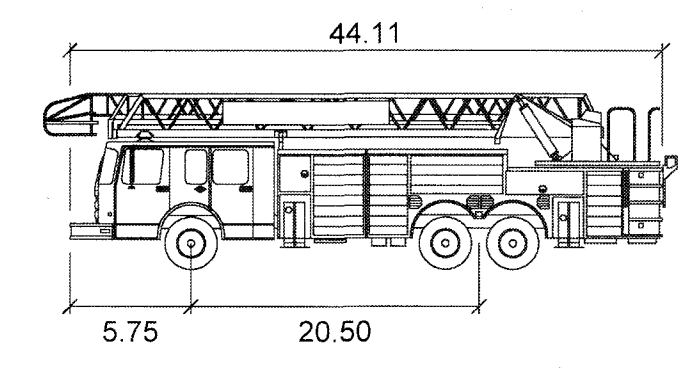
# EMERGENCY SERVICES ACCESS PLAN

SCALE: 1" = 40'



## LEGEND

- EXISTING ASPHALT
- PROPOSED ASPHALT
- EXISTING CONCRETE
- PROPOSED CONCRETE
- EXISTING BUILDINGS



Fire Truck-44

	feet
Width	: 7.22
Track	: 7.22
Lock to Lock Time	: 6.0
Steering Angle	: 33.3

## FIRE TRUCK PROFILE

SCALE: N.T.S.

Vehicle Tracking Vehicle Details	Ref:
Unit Name:	F-ONE Heavy Walkin Rescue Tractor
Type:	Tractor (with driver controlled steering)
Body style:	Fire tender
Classification:	(Unspecified)
Source:	No data
Description:	No data
Notes:	No data
Datum:	Front Primary Axle
Front Axles:	1 Ackerman (axles fixed, wheels turn)
Primary Front Axle Offset:	0.000ft
Effective Front Axle Offset:	0.000ft (Auto Calculated)
Maximum Wheel Angle:	45.000deg (Any Front Wheel)
Status:	Active Non Self-Steered
Track Width:	8.333ft
Total Wheels:	2 (positioned at the ends of the axle)
Tire Width:	0.833ft (Auto Calculated - proportion of Track Width)
Tire Diameter:	2.917ft (Auto Calculated - proportion of Track Width)
Rear Axles:	2 Fixed (All axles identical)
Primary Rear Axle Offset:	20.750ft (Innermost Axle behind Front Primary Axle)
Effective Rear Axle Offset:	23.167ft (Auto Calculated)
Maximum Wheel Angle:	Unlimited
Rear Axle Spacing:	4.833ft
Status:	Active Non Self-Steered
Track Width:	8.333ft
Total Wheels:	4 (positioned at the ends of the axle)
Tire Width:	0.833ft (Auto Calculated - proportion of Track Width)
Tire Diameter:	2.917ft (Auto Calculated - proportion of Track Width)
Steering:	Front Axles:
Maximum Wheel Angle:	See Front Axles: Maximum Wheel Angle
Calculated Maximum Wheel Angle:	45.000deg
Lock-to-Lock Time (Fwd/Rev):	6.0sec / 6.0sec
Driver Files:	Driver Offset Longitudinally: -3.412ft (in front of Front Primary Axle)
Driver Offset Laterally:	-1.969ft (Height of Centerline)
Driver Height:	5.202ft (Above ground level)
Front Coupling:	None
Rear Coupling:	None
Body outline (plan):	Rectangle
Outline Type:	-8.333ft / 8.000ft
Length / Width:	43.250ft / 8.333ft

Every Effort Has Been Made To Ensure The Accuracy Of This Information  
Please Check Data From Your Own Sources

72 HOURS BEFORE DIGGING  
CALL TOLL FREE  
**811**  
Know what's below.  
Call before you dig.

JOB NO.	DESIGNED	DRAWN	DATE	CHECKED	DATE ISSUED	REVISIONS	DATE
19-0273	RTM	GR	JULY 2021	AJB	7/29/2021		

**MBV ENGINEERING, INC.**  
MOJA BOWLES VILLAMIZAR & ASSOCIATES  
CONSULTING ENGINEERING CA #3728  
VILLAMIZAR & ASSOCIATES  
11111 W. BAYVIEW BLVD. SUITE 100  
MIAMI, FL 33147  
TEL: (305) 778-8817

**EMERGENCY SERVICES ACCESS PLAN**

JETSON FORT PIERCE SITE IMPROVEMENTS

FLORIDA

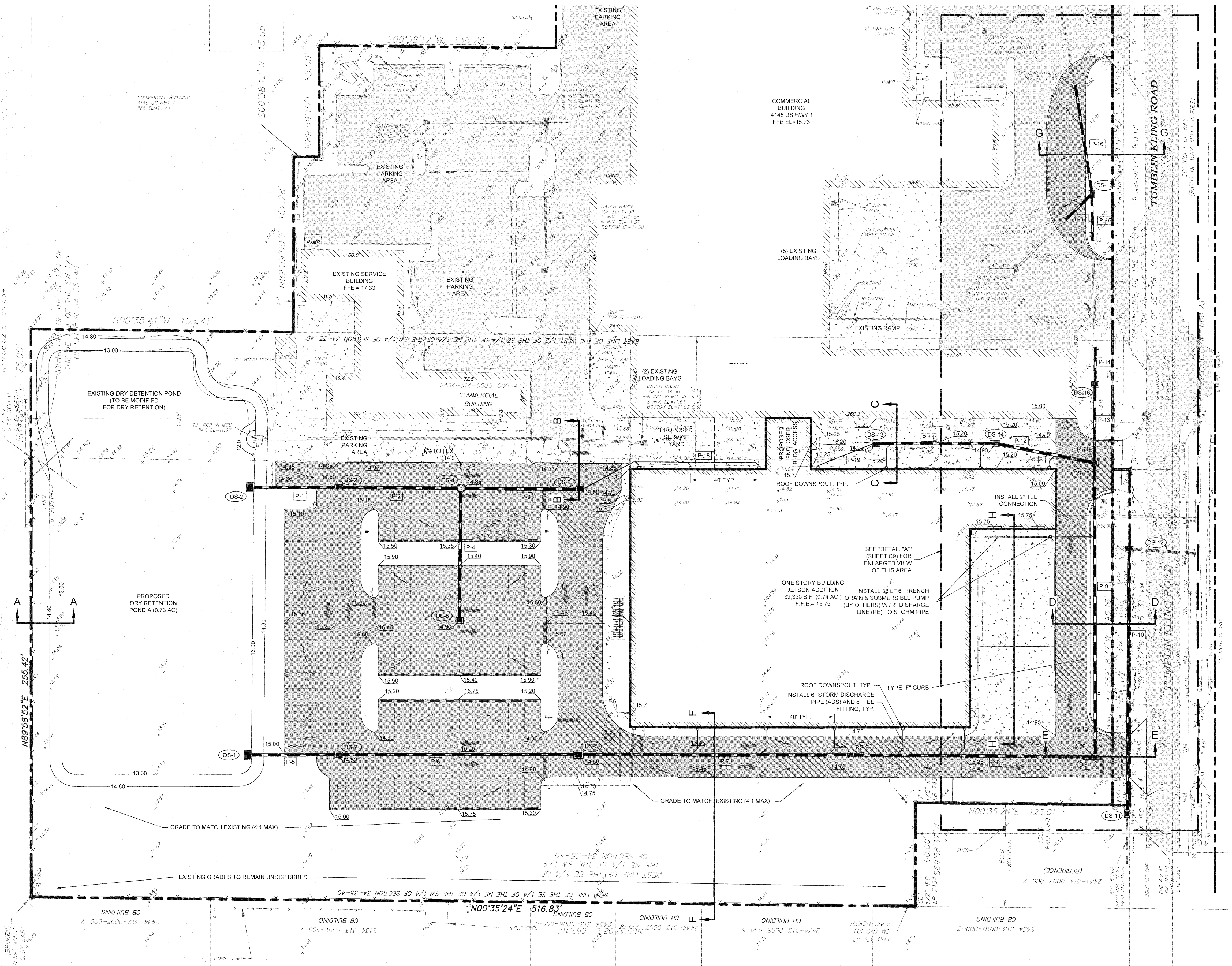
CITY OF FORT PIERCE

AARON J. BOWLES  
FL. P. E. #55313 8/2/21

SHEET

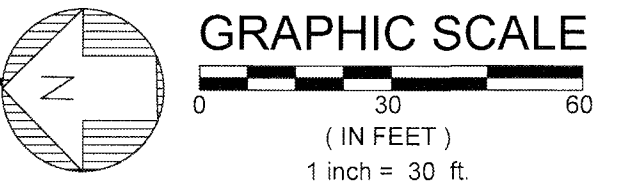
**C7**

19-0273



# PAVING, GRADING AND DRAINAGE PLAN

SCALE: 1" = 30'



## LEGEND

- EXISTING ASPHALT
- PROPOSED (REGULAR DUTY) ASPHALT
- PROPOSED (HEAVY DUTY) ASPHALT
- EXISTING CONCRETE
- PROPOSED CONCRETE
- EXISTING BUILDINGS
- PROPOSED DRAINAGE STRUCTURE
- PROPOSED STORMWATER PIPE DESIGNATION

DRAINAGE STRUCTURE SCHEDULE		STRUCTURE NUMBER	DS-1	DS-2	DS-3	DS-4	DS-5	DS-6
INVERT ELEVATION	FOOT INDEX #	# 425-052	# 425-052	# 425-052	# 425-052	# 425-052	# 425-052	# 425-052
	DESCRIPTION	TYPE 'E' DITCH BOTTOM INLET	TYPE 'E' DITCH BOTTOM INLET	TYPE 'C' DITCH BOTTOM INLET	TYPE 'E' DITCH BOTTOM INLET	TYPE 'C' DITCH BOTTOM INLET	TYPE 'C' DITCH BOTTOM INLET	TYPE 'C' DITCH BOTTOM INLET
	RIM ELEV.	13.25	13.25	14.50	14.85	14.90	14.50	14.50
	PIPE DIA. (IN)	18.00	18.00	18.00	18.00	18.00	18.00	18.00
	COVER	2.75	3.00	4.05	3.25	3.00	2.00	2.00
INVERT ELEVATION	N	-	-	8.95 N	9.20 N	-	9.45 N	-
	S	9.00 S	8.75 S	8.95 S	9.20 S	-	11.00 S	-
	E	-	-	-	-	10.40 E	-	-
	W	-	-	-	10.10 W	-	-	-
BOTTOM ELEV.	8.50	8.25	8.45	8.70	9.00	8.95		

DRAINAGE STRUCTURE SCHEDULE		STRUCTURE NUMBER	DS-7	DS-8	DS-9	DS-10	DS-11	DS-12
INVERT ELEVATION	FOOT INDEX #	# 425-052	# 425-052	# 425-052	# 425-052	# 425-052	# 425-052	# 425-052
	DESCRIPTION	TYPE 'C' DITCH BOTTOM INLET	TYPE 'C' DITCH BOTTOM INLET	TYPE 'C' DITCH BOTTOM INLET	TYPE 'C' DITCH BOTTOM INLET	TYPE 'C' DITCH BOTTOM INLET	TYPE 'C' DITCH BOTTOM INLET	TYPE 'C' DITCH BOTTOM INLET
	RIM ELEV.	14.50	14.50	14.60	13.00	13.75	14.25	14.25
	PIPE DIA. (IN)	18.00	18.00	18.00	18.00	15.00	15.00	15.00
	COVER	4.15	4.50	5.00	3.80	0.30	0.65	-
INVERT ELEVATION	N	8.85 N	8.50 N	8.10 N	7.70 N	-	-	-
	S	8.85 S	8.50 S	8.10 S	-	-	12.35 S	-
	E	-	-	-	7.70 E	12.20 E	-	-
	W	-	-	-	-	12.20 W	12.00 W	-
BOTTOM ELEV.	8.35	8.00	7.60	7.20	11.70	11.50		

DRAINAGE STRUCTURE SCHEDULE		STRUCTURE NUMBER	DS-13	DS-14	DS-15	DS-16	DS-17
INVERT ELEVATION	FOOT INDEX #	# 425-052	# 425-052	# 425-052	# 425-052	# 425-052	# 425-052
	DESCRIPTION	TYPE 'C' DITCH BOTTOM INLET	TYPE 'C' DITCH BOTTOM INLET	TYPE 'C' DITCH BOTTOM INLET	TYPE 'C' DITCH BOTTOM INLET	TYPE 'C' DITCH BOTTOM INLET	TYPE 'C' DITCH BOTTOM INLET
	RIM ELEV.	14.90	14.90	14.60	14.50	14.90	14.90
	PIPE DIA. (IN)	15.00	15.00	18.00	15.00	15.00	15.00
	COVER	2.00	2.30	2.00	1.75	2.15	-
INVERT ELEVATION	N	11.65 N	11.35 N	11.1 N	-	11.50 N	-
	S	11.65 S	11.35 S	-	-	-	-
	E	-	-	7.25 E	11.50 E	11.50 E	-
	W	-	-	7.25 W	7.15 W	11.50 W	-
BOTTOM ELEV.	11.15	10.85	6.75	6.65	11.00		

STORM PIPE SCHEDULE				
PIPE ID	TYP.	SIZE (IN)	LENGTH (FT)	SLOPE (%)
P-1	ADS HP STORM (PP)	18	48	0.52%
P-2	ADS HP STORM (PP)	18	67	0.37%
P-3	ADS HP STORM (PP)	18	65	0.38%
P-4	ADS HP STORM (PP)	18	72	0.42%
P-5	ADS HP STORM (PP)	18	50	0.30%
P-6	ADS HP STORM (PP)	18	135	0.26%
P-7	ADS HP STORM (PP)	18	155	0.26%
P-8	ADS HP STORM (PP)	18	140	0.29%
P-9	ADS HP STORM (PP)	18	167	0.27%
P-10	ADS HP STORM (PP)	15	150	0.13%
P-11	ADS HP STORM (PP)	15	67	0.45%
P-12	ADS HP STORM (PP)	15	56	0.45%
P-13	ADS HP STORM (PP)	15	44	0.23%
P-14	ADS HP STORM (PP)	15	20	0.00%
P-15	ADS HP STORM (PP)	15	26	0.00%
P-16	ADS HP STORM (PP)	15	62	0.00%
P-17	ADS HP STORM (PP)	15	20	0.50%
P-18	ADS HP STORM (PP)	8	105	0.95%
P-19	ADS HP STORM (PP)	8	35	1.00%

\*NOTE: ALL PROPOSED ADS HP STORM (PP) SHALL BE DUAL WALL

JOB NO.	DESIGNED	DRAWN	DATE	CHECKED	DATE ISSUED	REVISIONS	DATE
18-0273	RTM	GR	JULY 2021	AJB	8/2/2021	1	
						2	
						3	
						4	
						5	
						6	
						7	

**MBV ENGINEERING, INC.**  
 MOIA BOWLES VILLAMIZAR & ASSOCIATES  
 CONSULTING ENGINEERING CA #3728  
 1801 30TH STREET  
 FORT PIERCE, FLORIDA 34947  
 TEL: (888) 333-3333  
 FAX: (888) 333-3333

## JETSON FORT PIERCE PAVING, GRADING AND DRAINAGE PLAN

JETSON FORT PIERCE SITE IMPROVEMENTS  
 CITY OF FORT PIERCE  
 FLORIDA

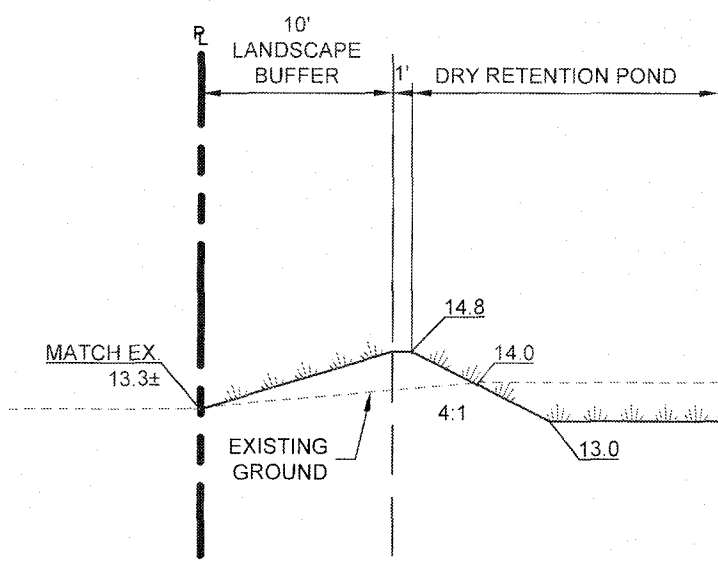
ARON J. BOWLES  
 LICENSE No. 56313  
 STATE OF FLORIDA  
 PROFESSIONAL ENGINEER

8/2/21  
 SHEET

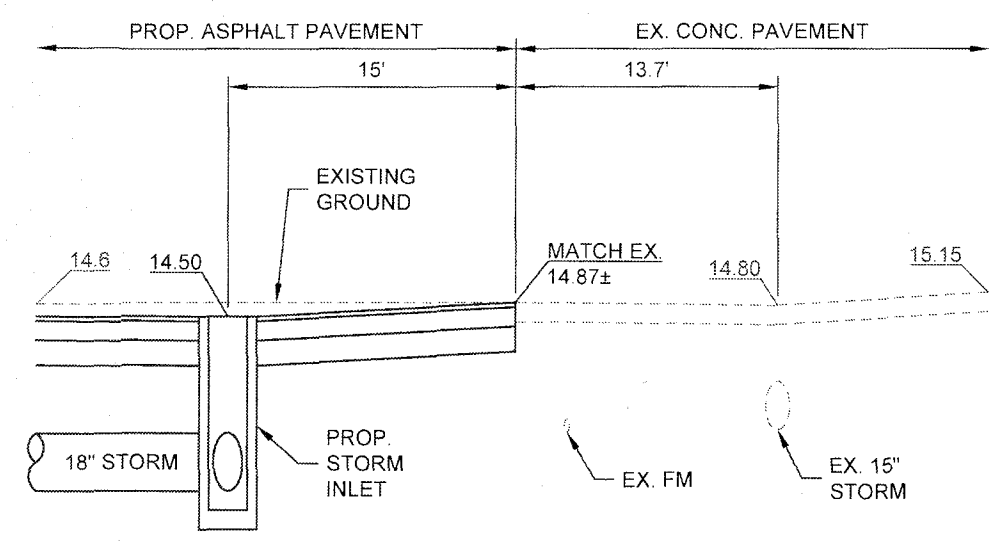
**C8**

19-0273

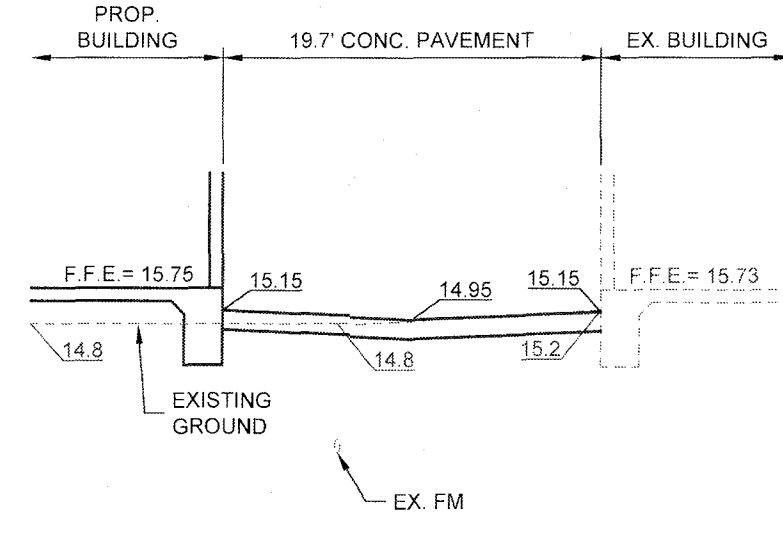
72 HOURS BEFORE DIGGING  
 CALL TOLL FREE  
**811**  
 Know what's below.  
 Call before you dig.



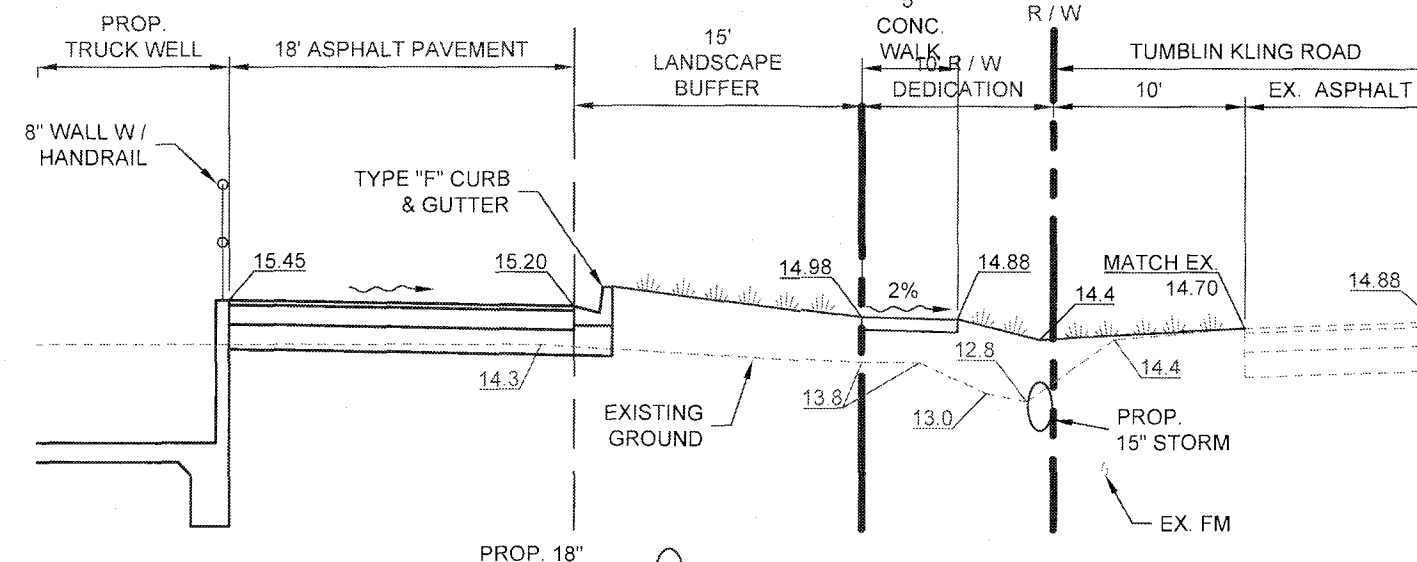
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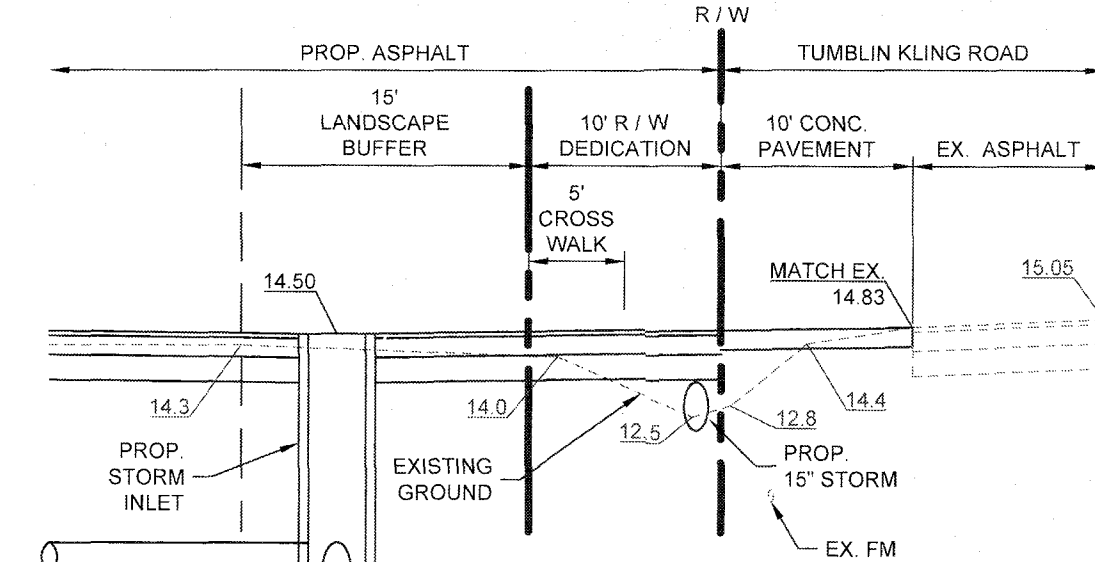
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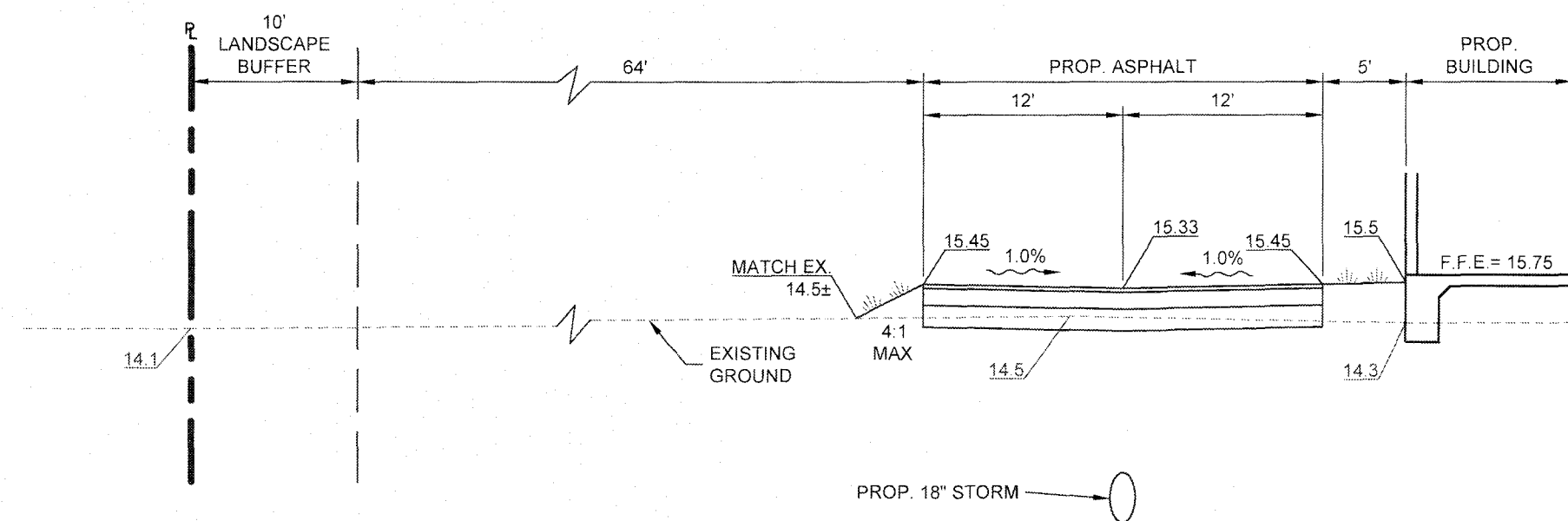
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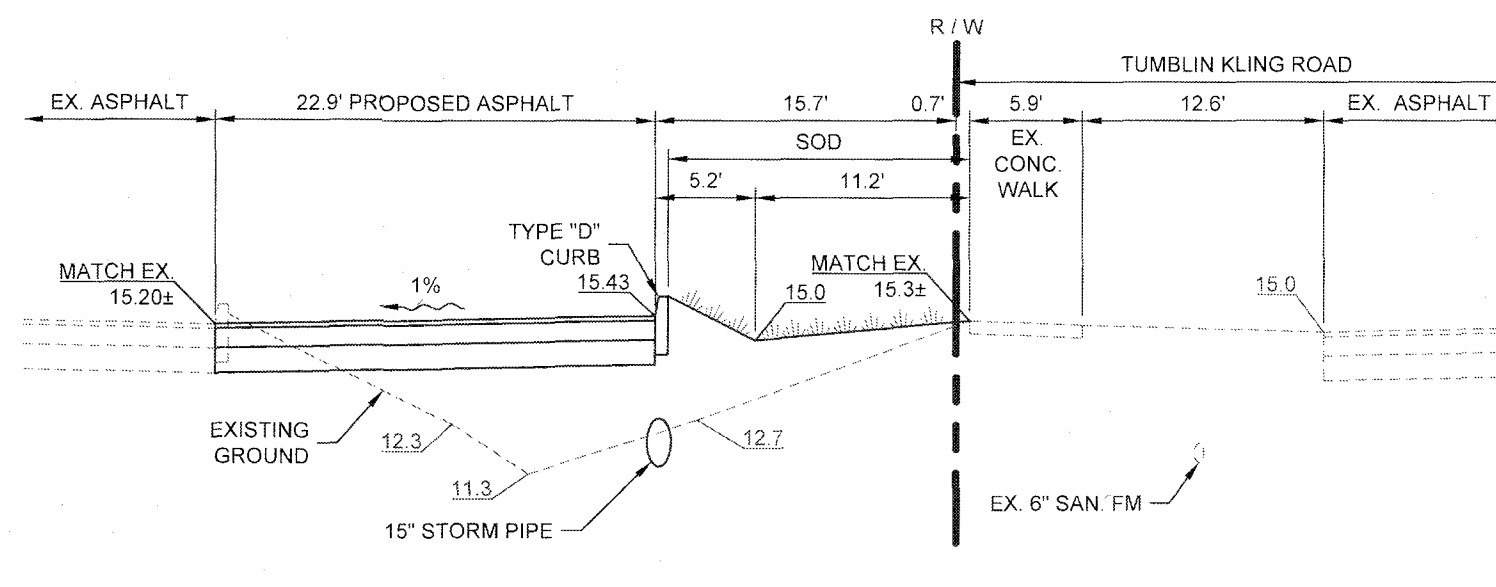
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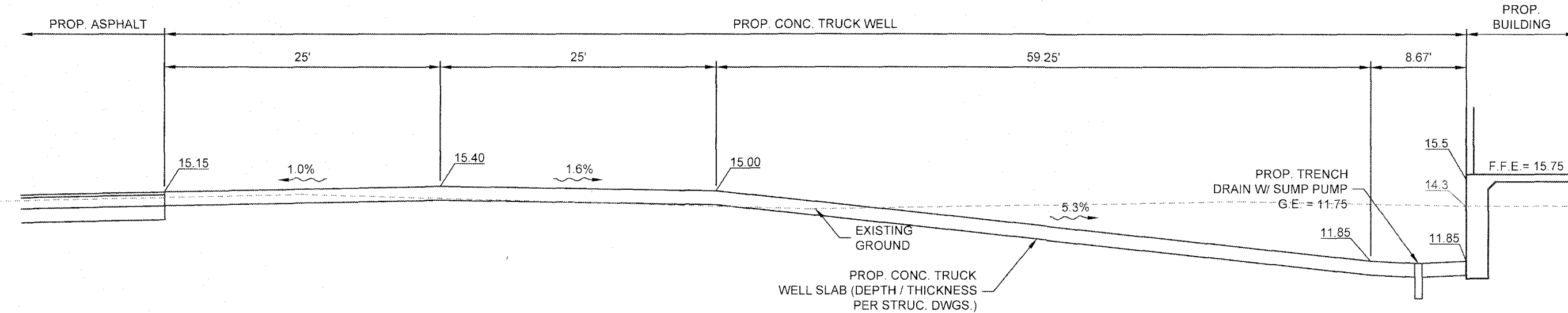
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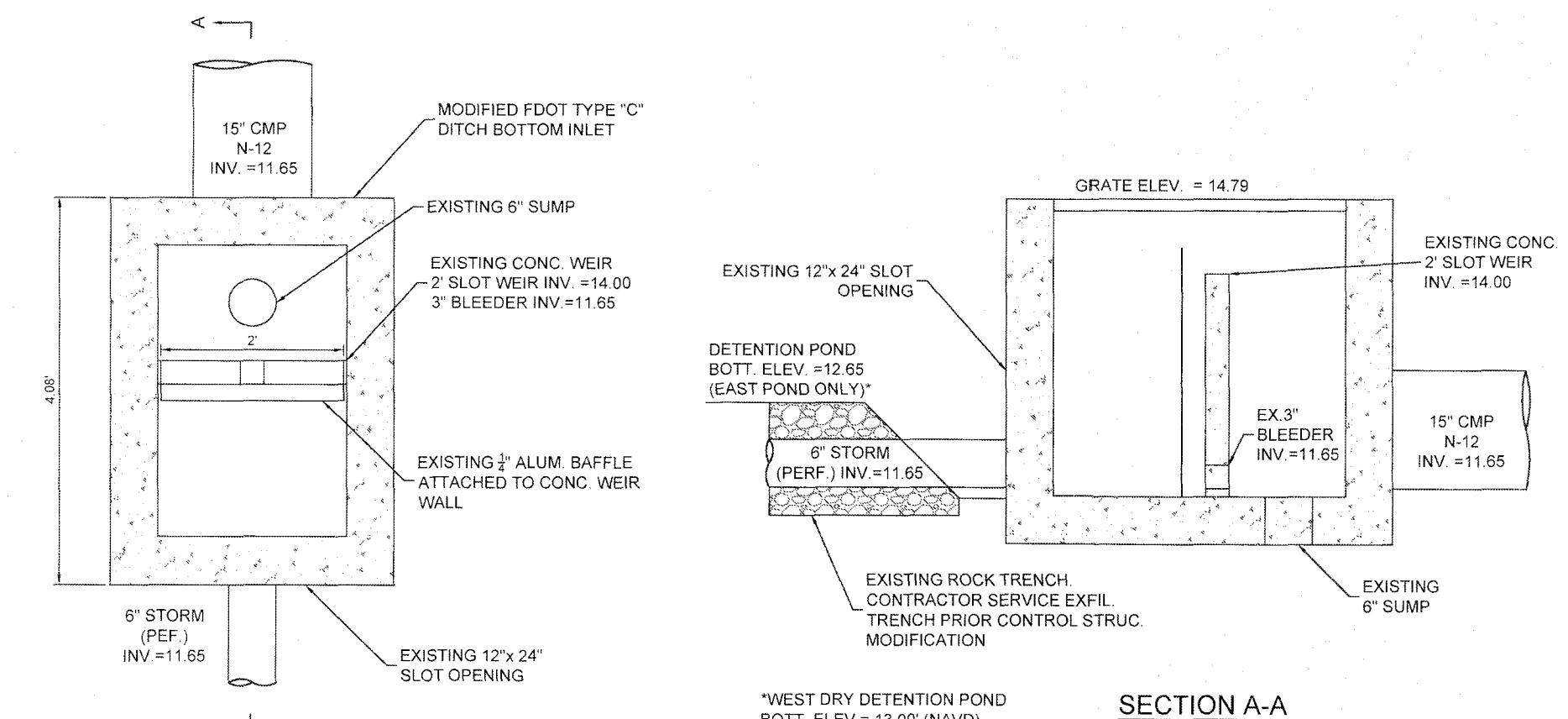
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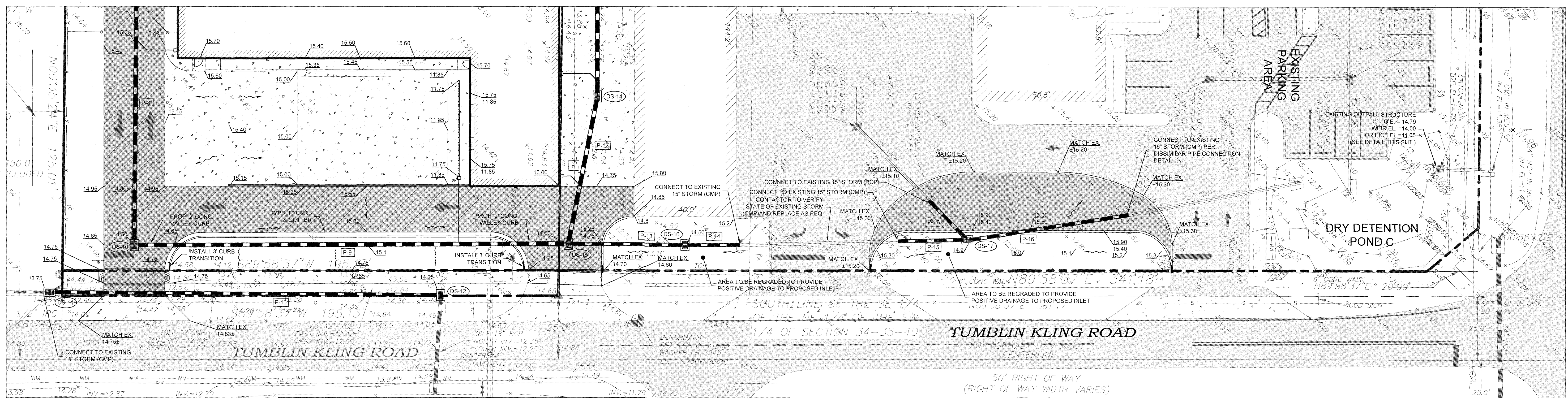
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SECTION H-H  
N.T.S.

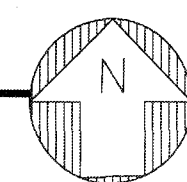


(CS-1) MOD. TYPE "C" CONTROL STRUCTURE  
N.T.S.



DETAIL "A"

SCALE: 1" = 20'



GRAPHIC SCALE

0 20 40  
(IN FEET)  
1 inch = 20 ft.

NO.	REVISIONS	DATE
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

JOB NO.	19-0273
DESIGNED	RTM
DRAWN	GR
DATE	JULY 2021
CHECKED	AUB
DATE ISSUED	8/2/2021

**MBV ENGINEERING, INC.**  
MOIA BOWLES VILLAMIZAR & ASSOCIATES  
CONSULTING ENGINEERING  
1800 JEFFERSON STREET  
SUITE 100  
TALLAHASSEE, FL 32304  
TEL: (904) 344-8005  
FAX: (904) 344-8007  
FL PRAC. NO. 14072-000005

CROSS SECTIONS

JETSON FORT PIERCE  
SITE IMPROVEMENTS

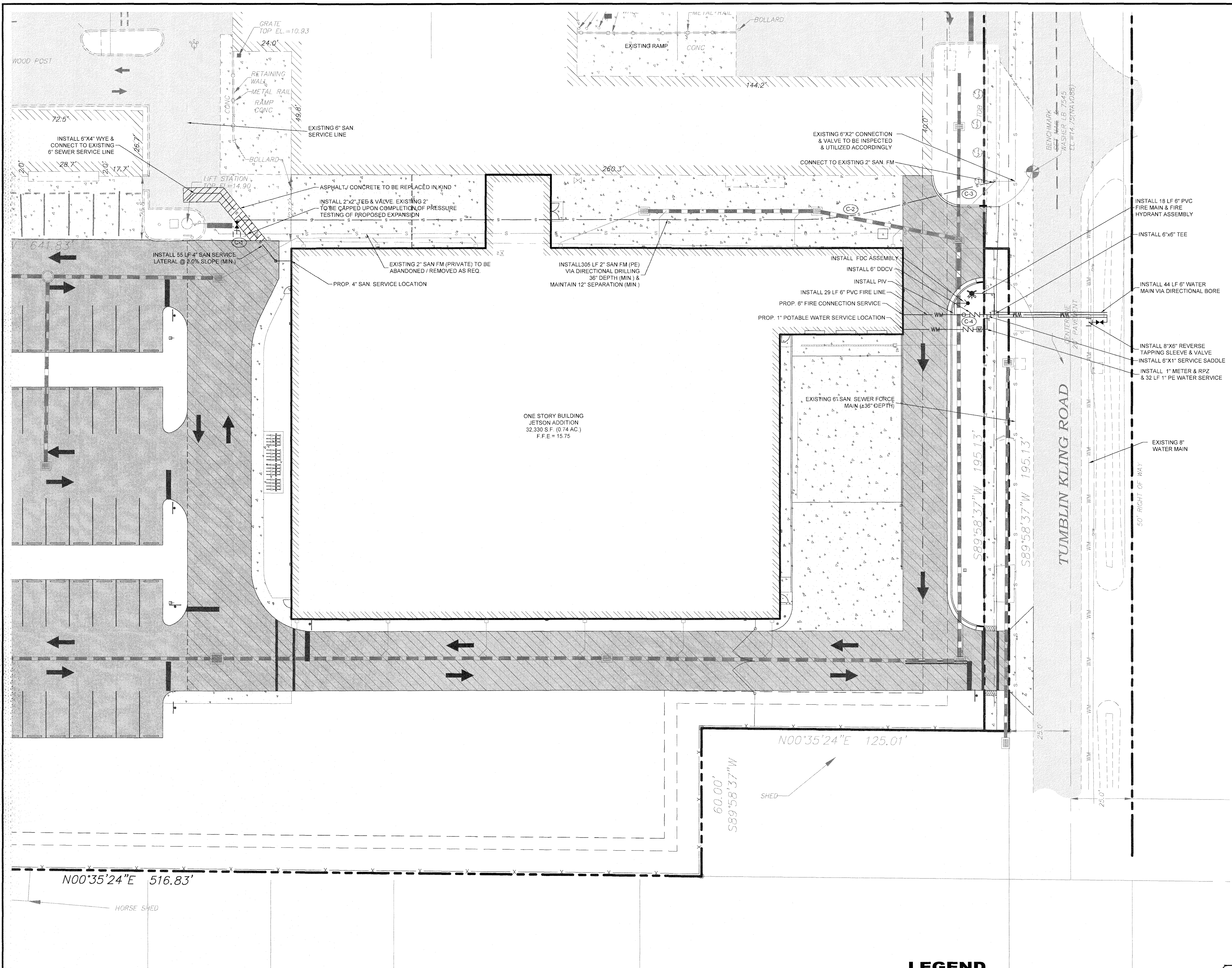
FLORIDA

CITY OF FORT PIERCE

AARON J. BOWLES  
L. DENSE  
No. 55313  
STATE OF FLORIDA  
PROF. CIVIL ENGR. MEMBER

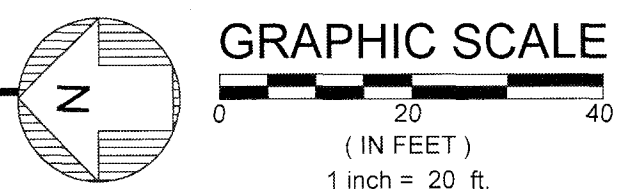
AARON J. BOWLES  
FL P.E. #55313  
8/2/21

SHEET  
**C9**  
19-0273



# UTILITY PLAN

SCALE: 1" = 20'



## LEGEND

- EXISTING ASPHALT
- PROPOSED (REGULAR DUTY) ASPHALT
- PROPOSED (HEAVY DUTY) ASPHALT
- EXISTING CONCRETE
- PROPOSED CONCRETE
- EXISTING BUILDINGS
- CONFLICT LOCATION

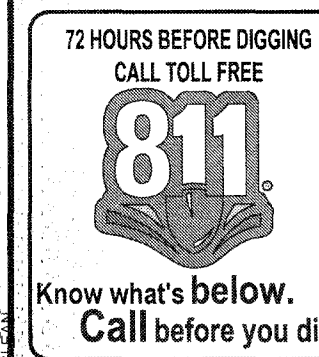
### FDEP SEPARATION CRITERIA:

- (1) HORIZONTAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORM WATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS.
  - (A) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORM WATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
  - (B) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER.
  - (C) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY OR SURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
- (2) VERTICAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORM WATER FORCE MAINS, AND RECLAIMED WATER PIPELINES.
  - (A) NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES, AND PREFERABLY 12 INCHES, ABOVE OR AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.
  - (B) NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORM WATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.
  - (C) AT THE UTILITY CROSSINGS DESCRIBED IN PARAGRAPHS (A) AND (B) ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL THE WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORM WATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY OR SURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
- (3) SEPARATION BETWEEN WATER MAINS AND SANITARY OR STORM SEWER MANHOLES.
  - (A) NO WATER MAIN SHALL PASS THROUGH, OR COME INTO CONTACT WITH, ANY PART OF A SANITARY SEWER MANHOLE.
  - (B) EFFECTIVE AUGUST 28, 2003, WATER MAINS SHALL NOT BE CONSTRUCTED OR ALTERED TO PASS THROUGH, OR COME INTO CONTACT WITH, ANY PART OF A STORM SEWER MANHOLE OR INLET STRUCTURE.
- (4) SEPARATION BETWEEN FIRE HYDRANT DRAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORM WATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS.
 

NEW OR RELOCATED FIRE HYDRANTS WITH UNDERGROUND DRAINS SHALL BE LOCATED SO THAT THE DRAINS ARE AT LEAST THREE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORM WATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. AT LEAST THREE FEET, AND PREFERABLY TEN FEET, FROM ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST TEN FEET FROM ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AS DEFINED IN SECTION 381.0065(2), F.S., AND RULE 64E-6.002, F.A.C.

### CONFLICT TABLE

CONFLICT NUMBER	C1	C2	C3	C4
GROUND ELEVATION	14.9'	15.0'	15.1'	15.1'
COVER (UPPER)	3.0'	2.1'	2.2'	2.6'
PIPE SIZE	2"	15"	16"	4"
Upper Pipe MATERIAL	FM(HDPE)	ST (ADS)	ST (ADS)	WTR(DP)
INV. ELEV.	11.7'	11.5'	11.5'	12.1'
WALL THICKNESS	0.22"	1.50"	1.50"	0.32"
BOTT. OF PIPE	11.7'	11.4'	11.4'	12.1'
SEPARATION	1.3'	1.0'	1.0'	3.1'
COVER (LOWER)	4.5'	4.6'	4.7'	6.1'
TOP OF PIPE	10.4'	10.4'	10.4'	9.0'
OBV. ELEV.	10.3'	10.4'	10.4'	8.9'
Lower Pipe MATERIAL	SS(PVC)	FM(HDPE)	FM(HDPE)	ST (ADS)
PIPE SIZE	4"	2"	2"	16"
INV. ELEV.	10.0'	10.2'	10.2'	7.4'
WALL THICKNESS	0.24"	0.22"	0.22"	2.00"



NO.	DATE	BY	REVISIONS
8			
7			
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3			
2			
1			

JOB NO.	DESIGNED	DRAWN	DATE	CHECKED	DATE ISSUED
19-0273	RTM	GR	JULY 2021	AJB	7/29/2021

**MBV ENGINEERING, INC.**  
 MOA BOWLES VILLAMIZAR & ASSOCIATES  
 CONSULTING ENGINEERING  
 1700 BRACKEN LANE  
 SUITE 100  
 MOBILE, AL 36688  
 (904) 638-1199  
 (904) 638-1199  
 (904) 638-1199

### UTILITY PLAN & DETAILS

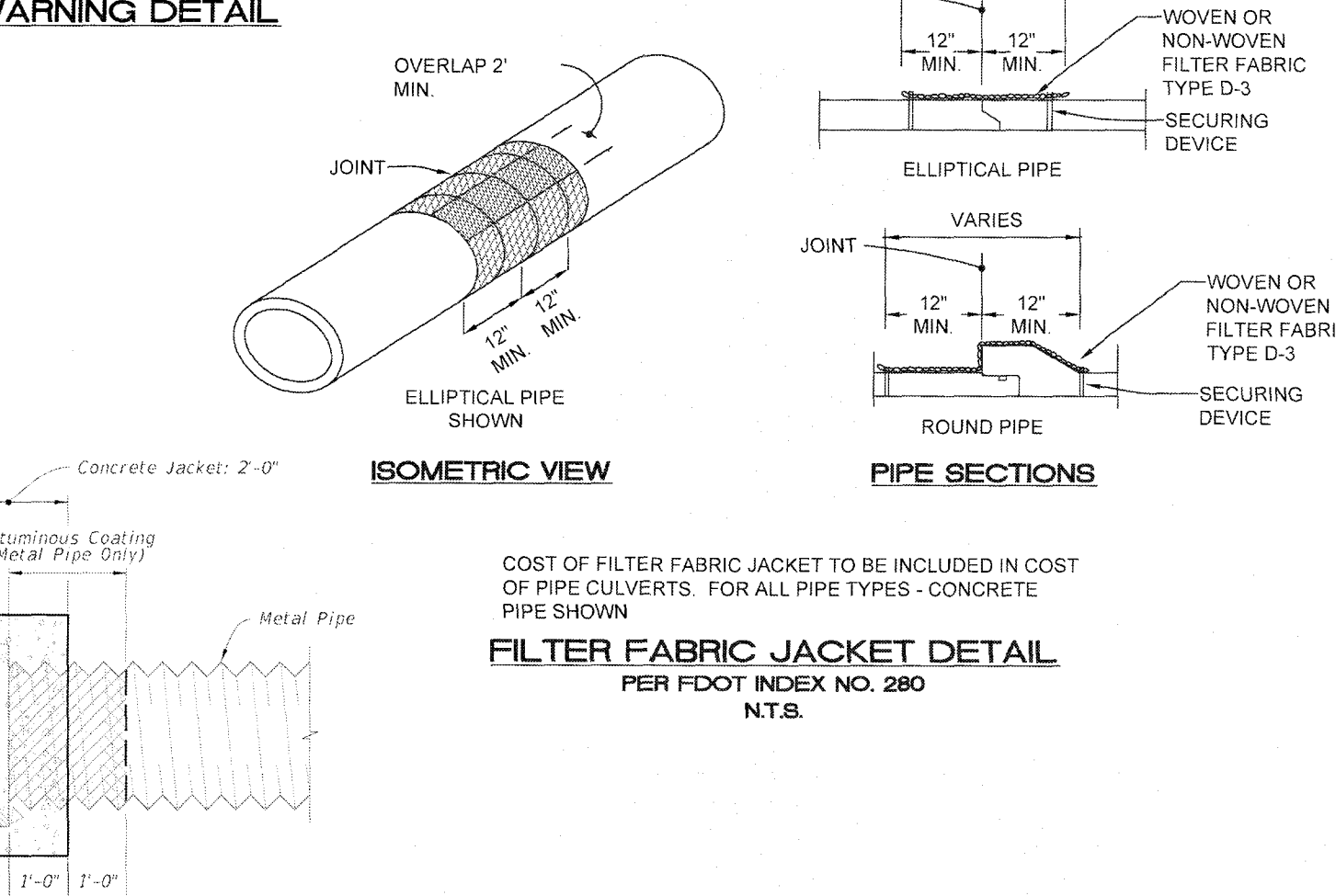
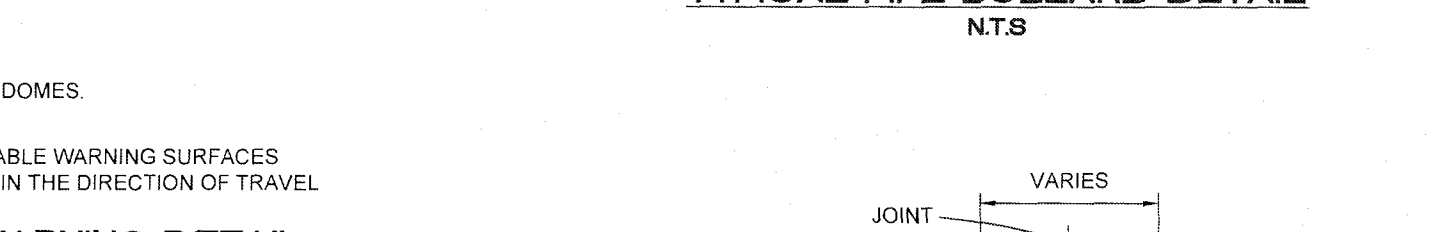
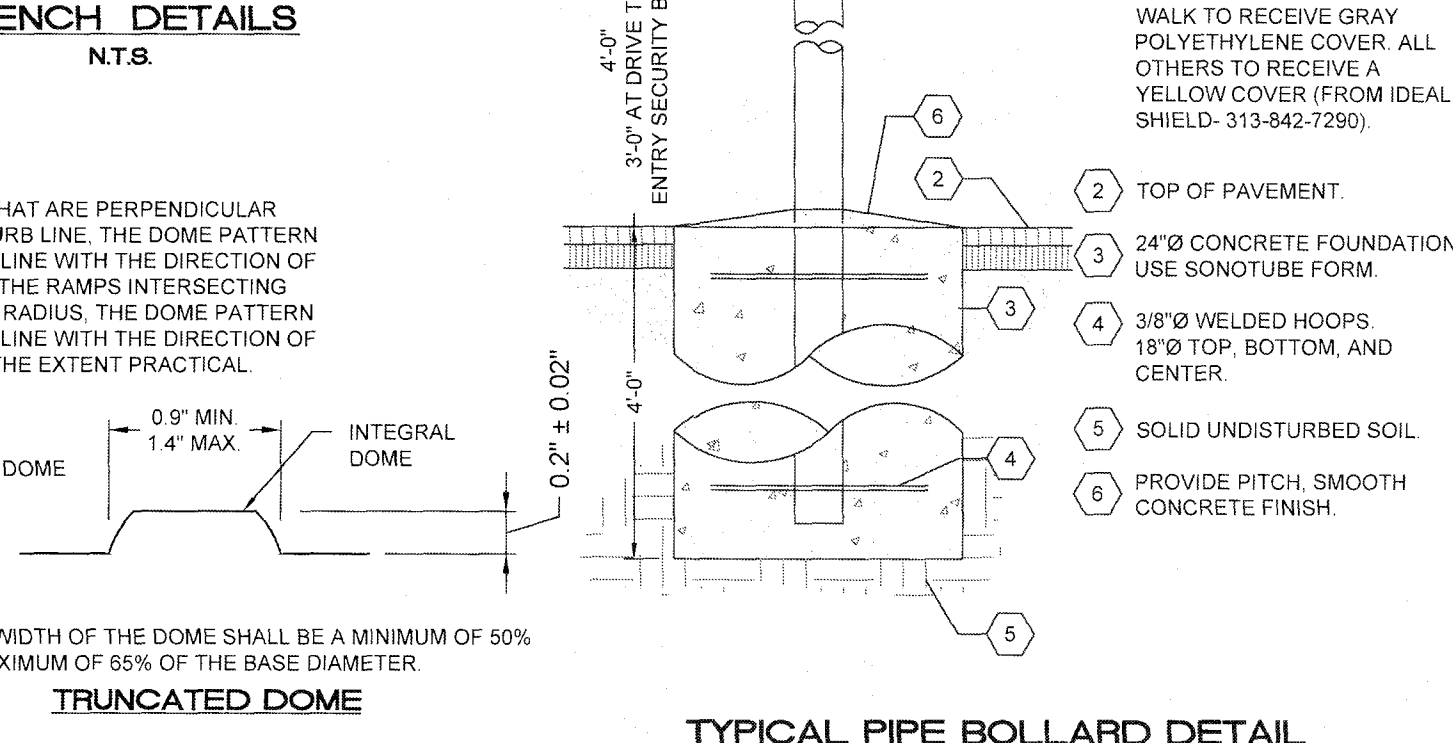
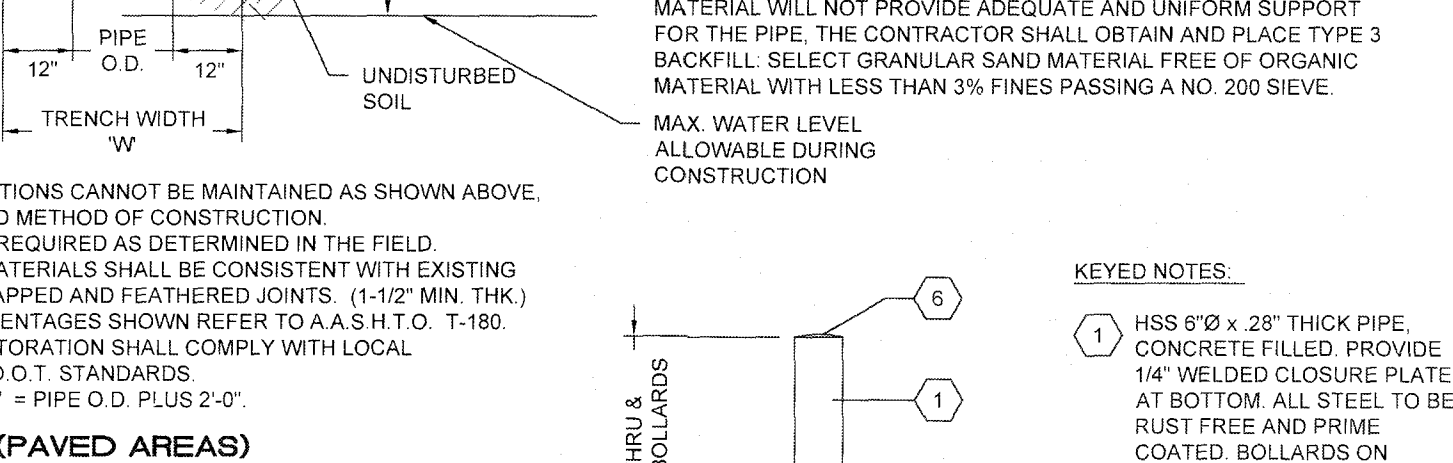
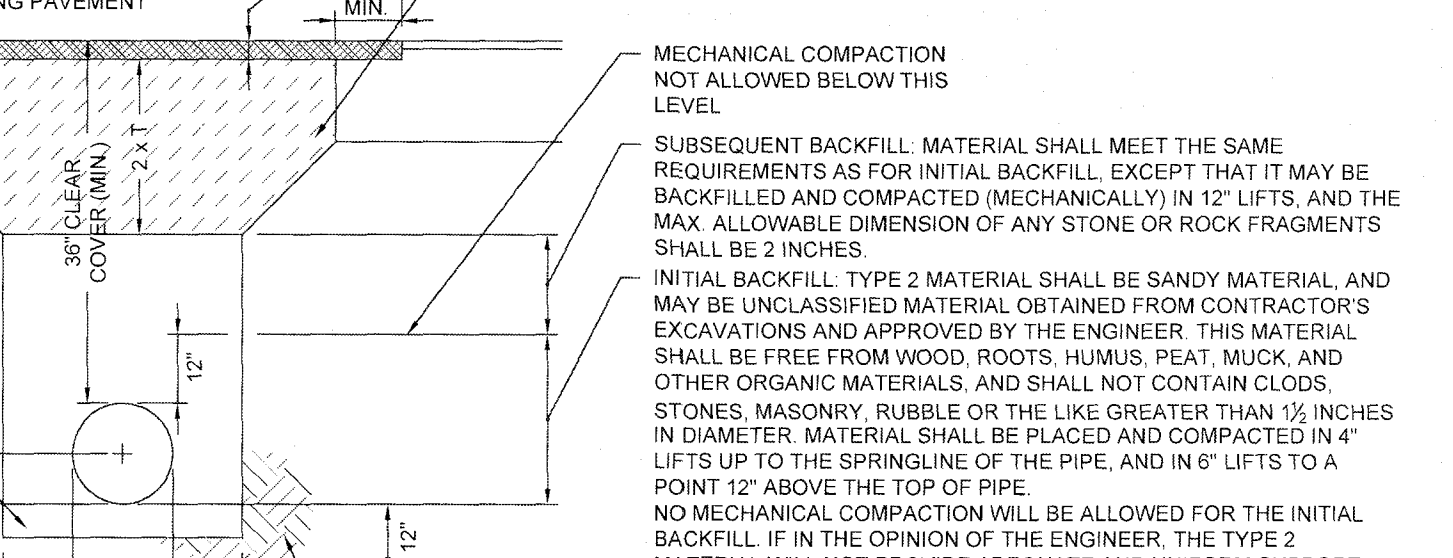
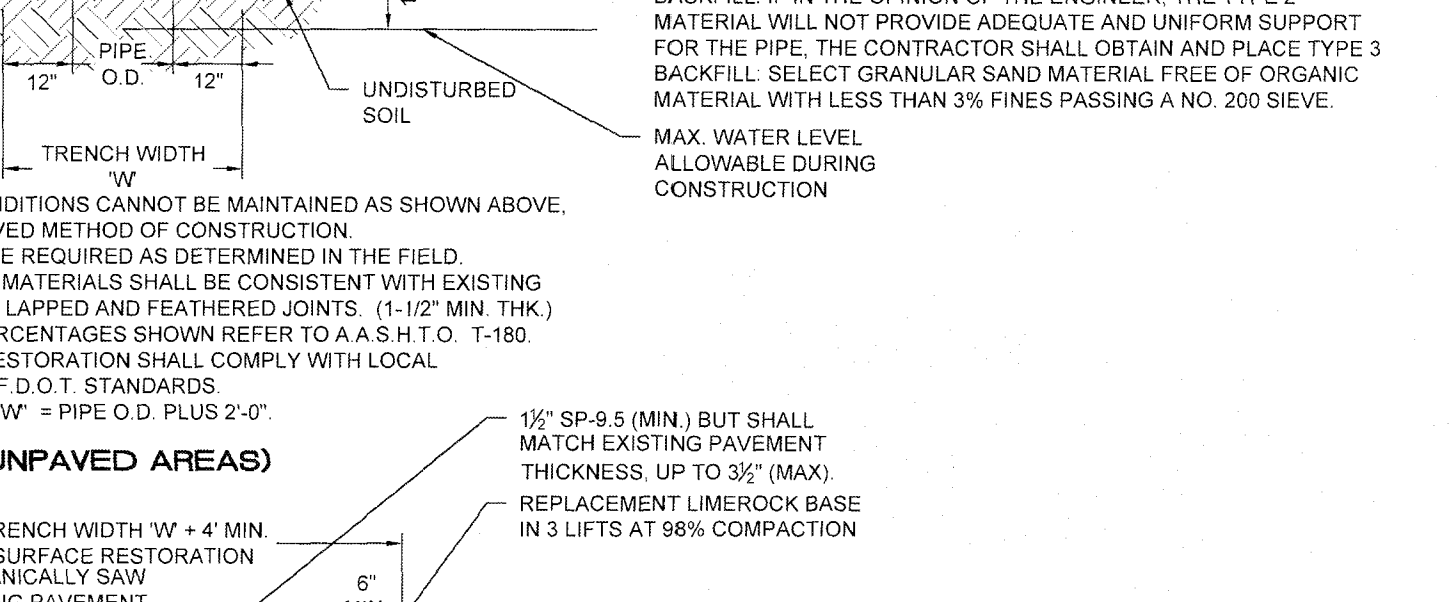
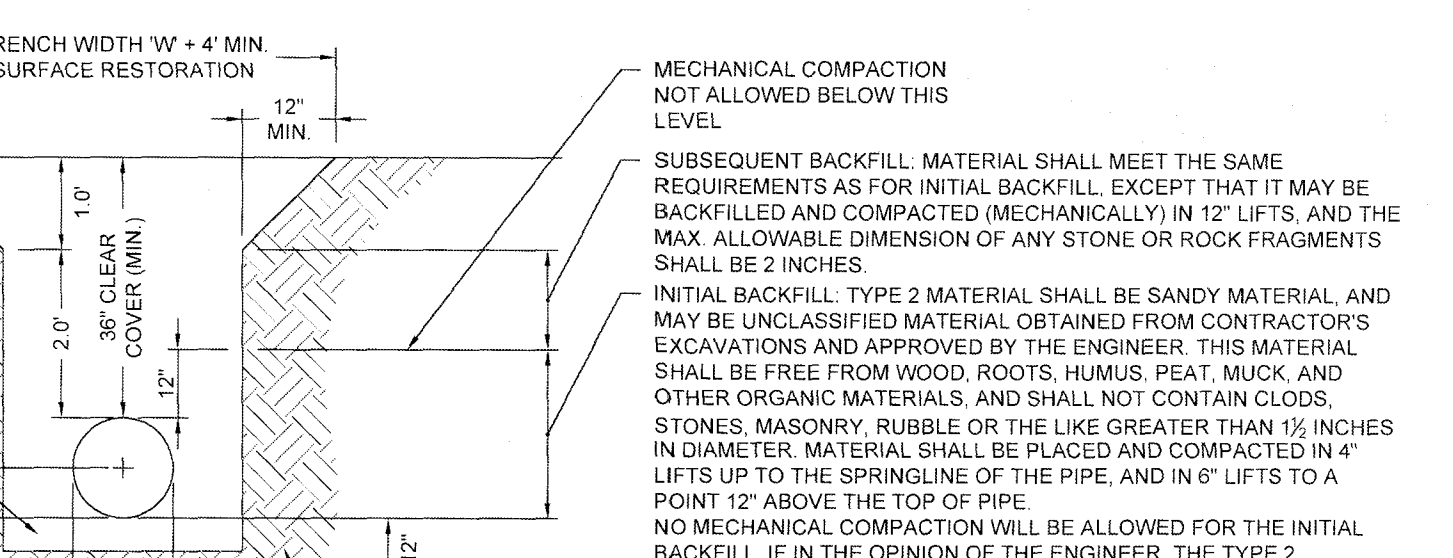
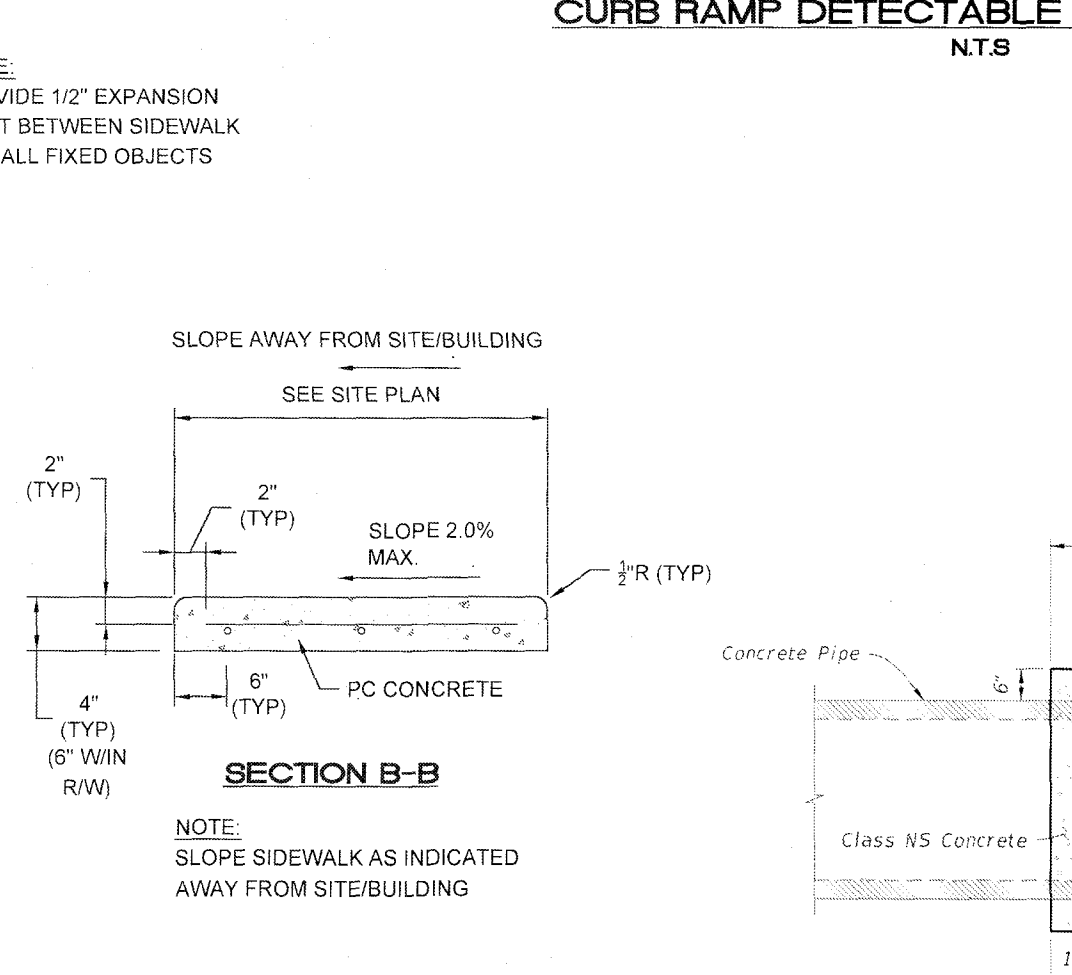
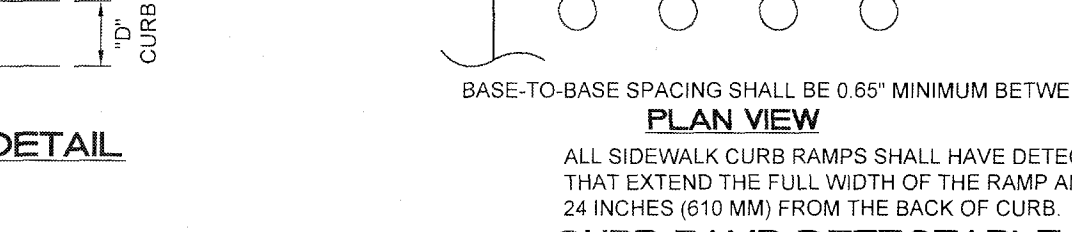
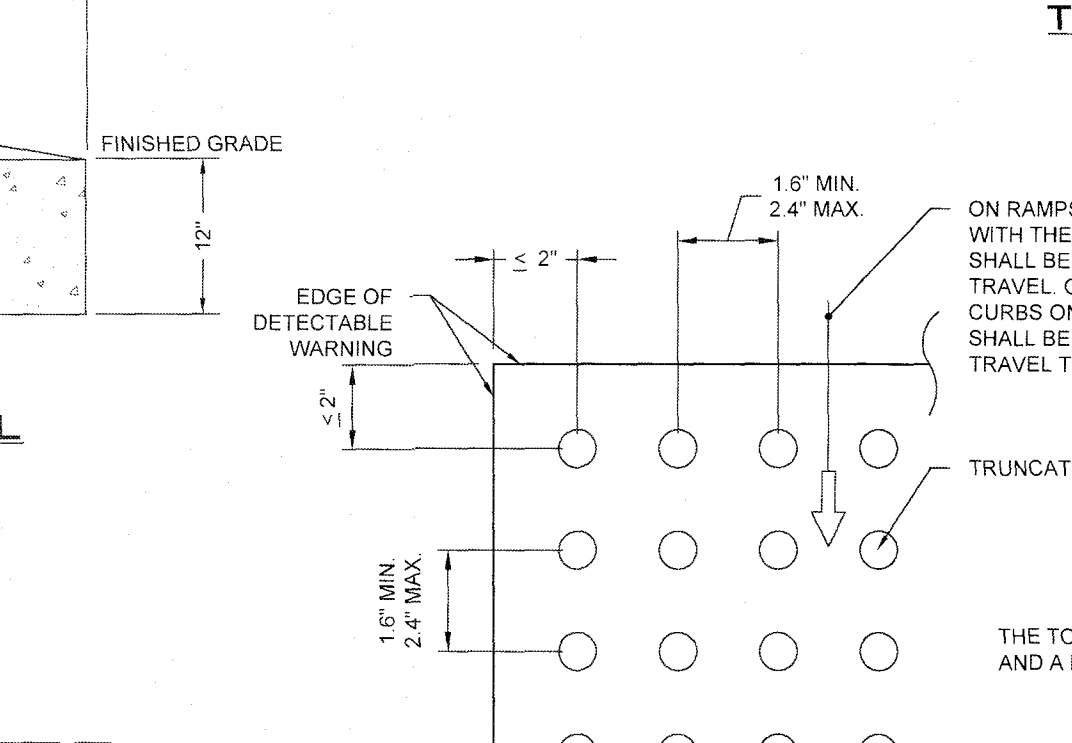
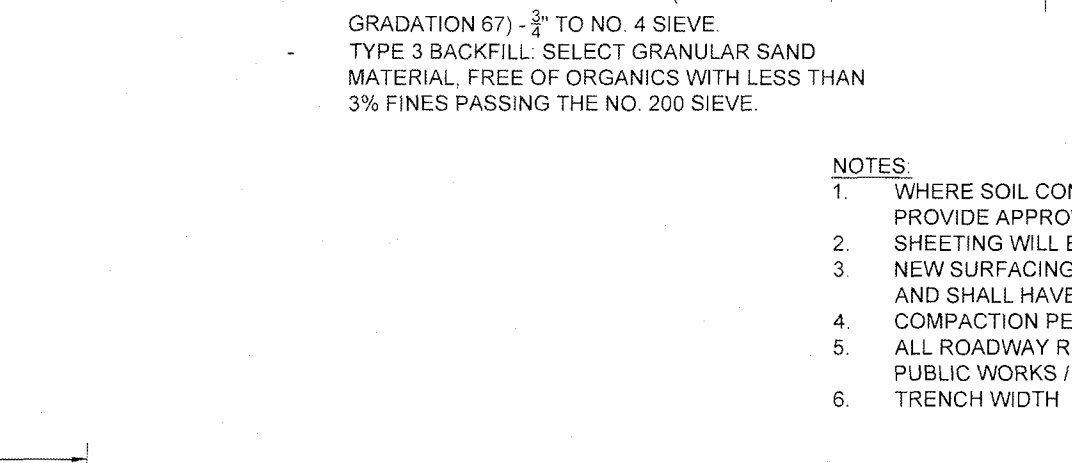
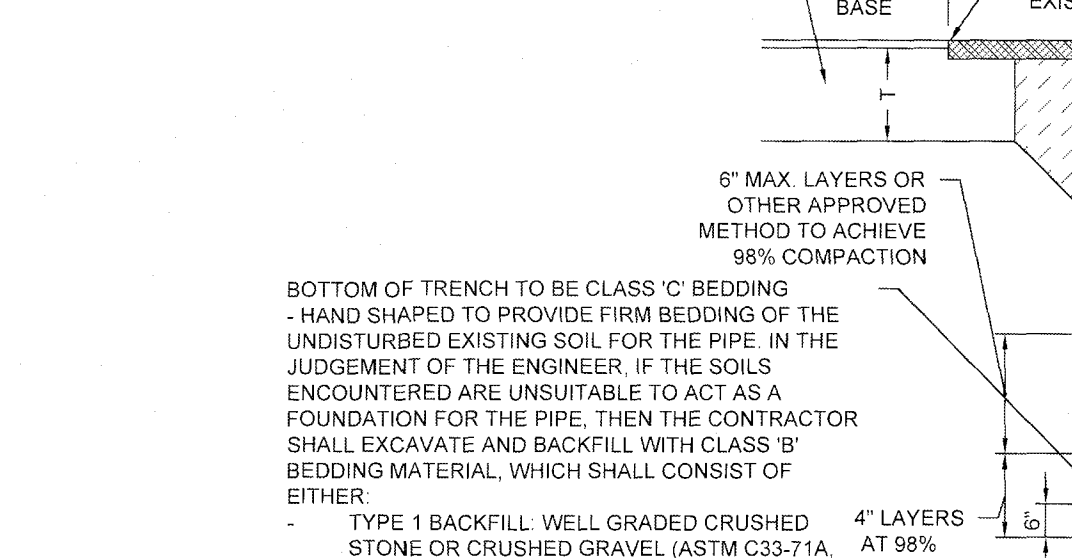
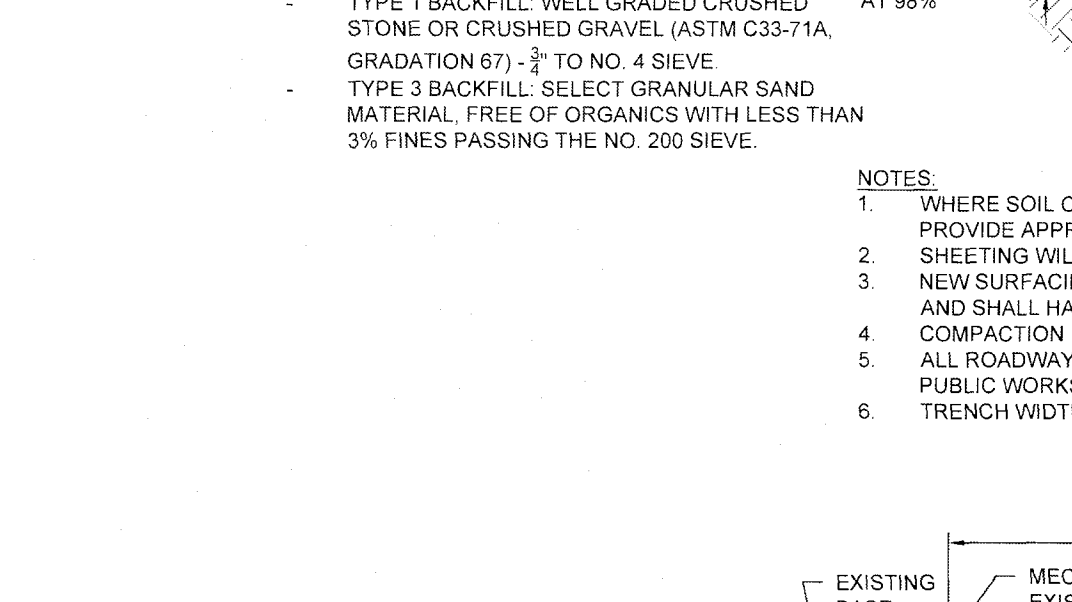
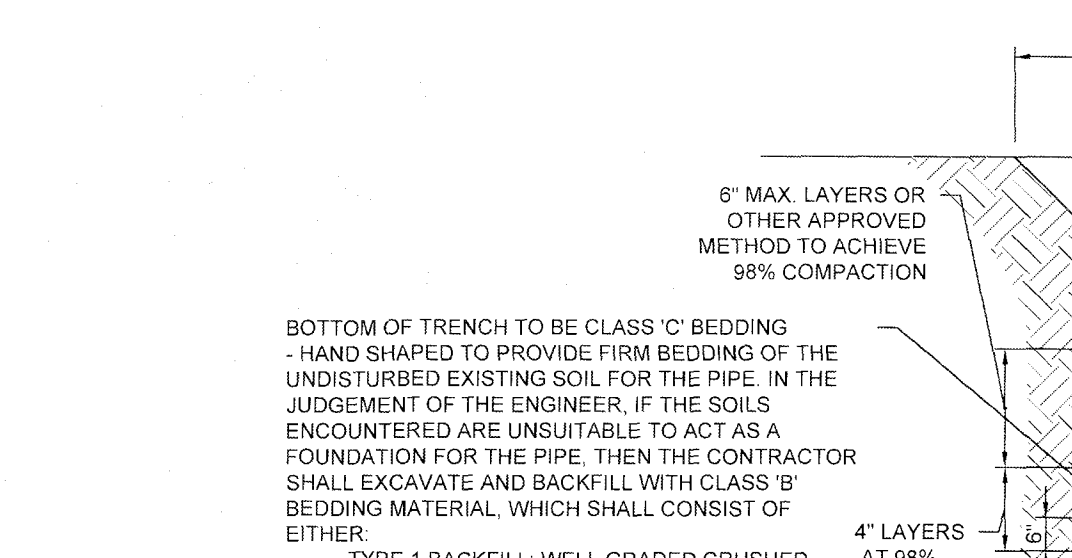
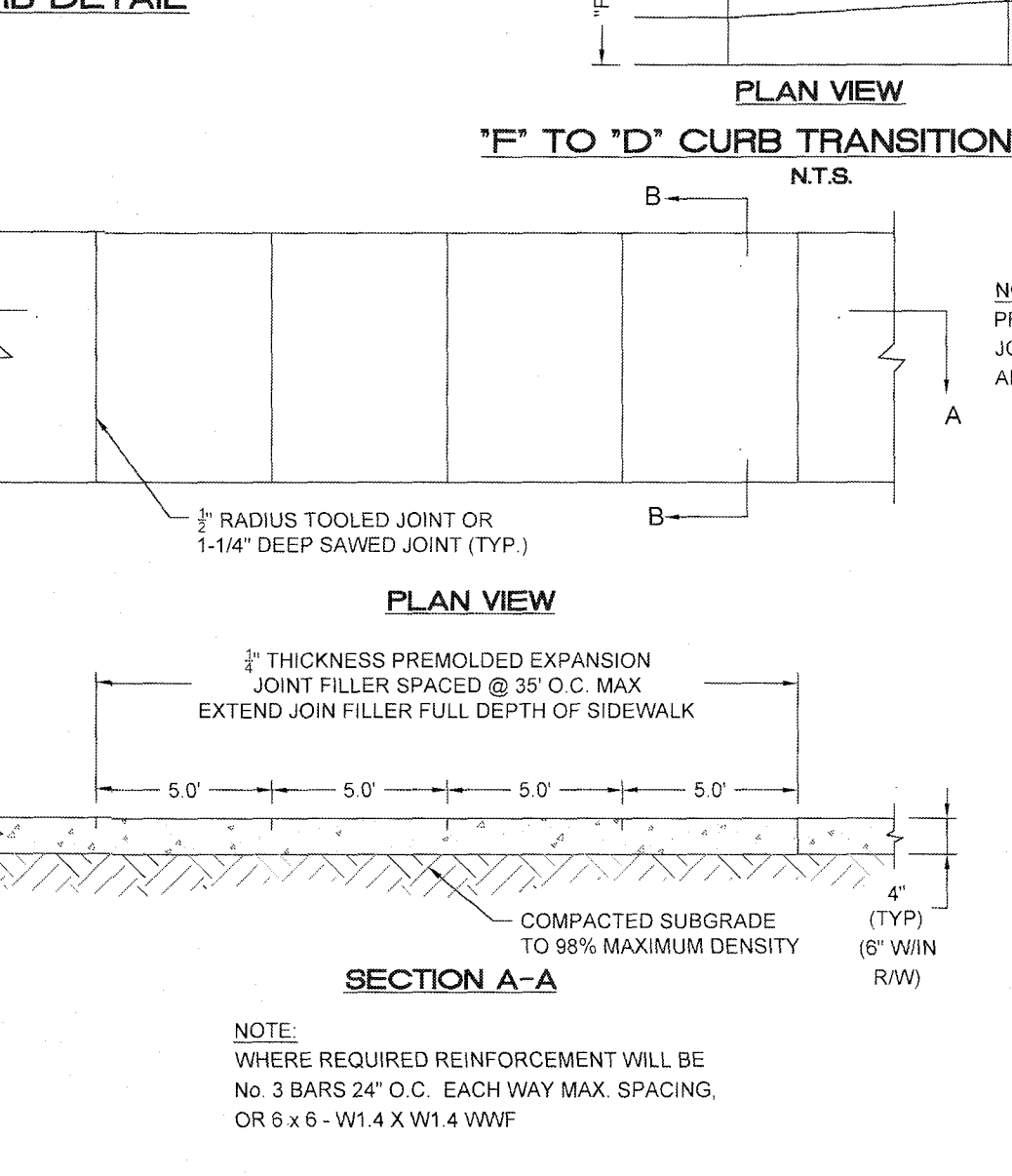
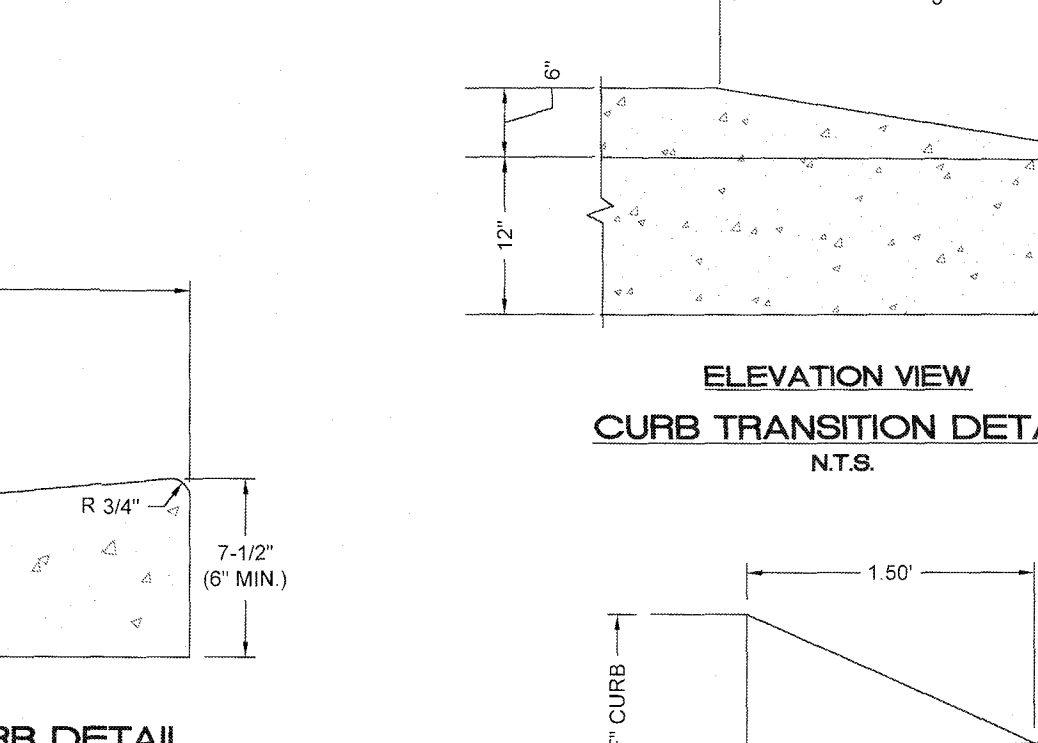
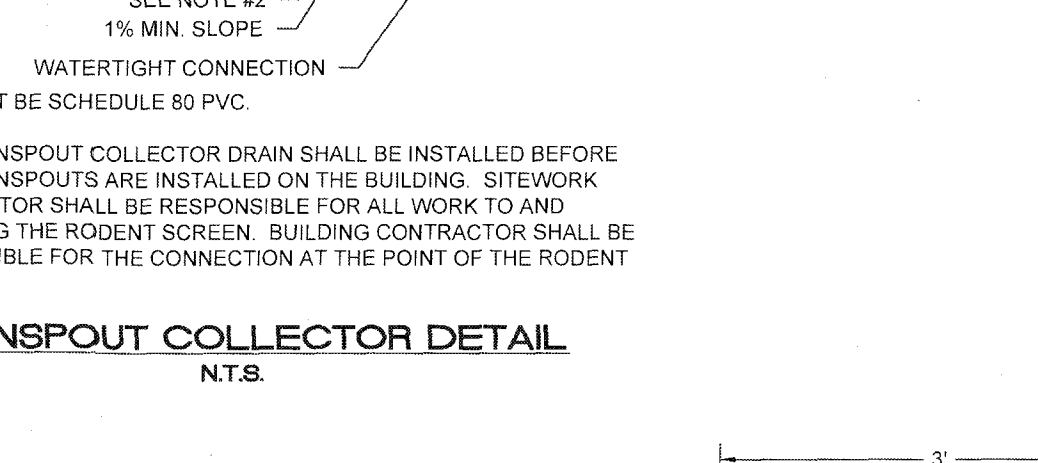
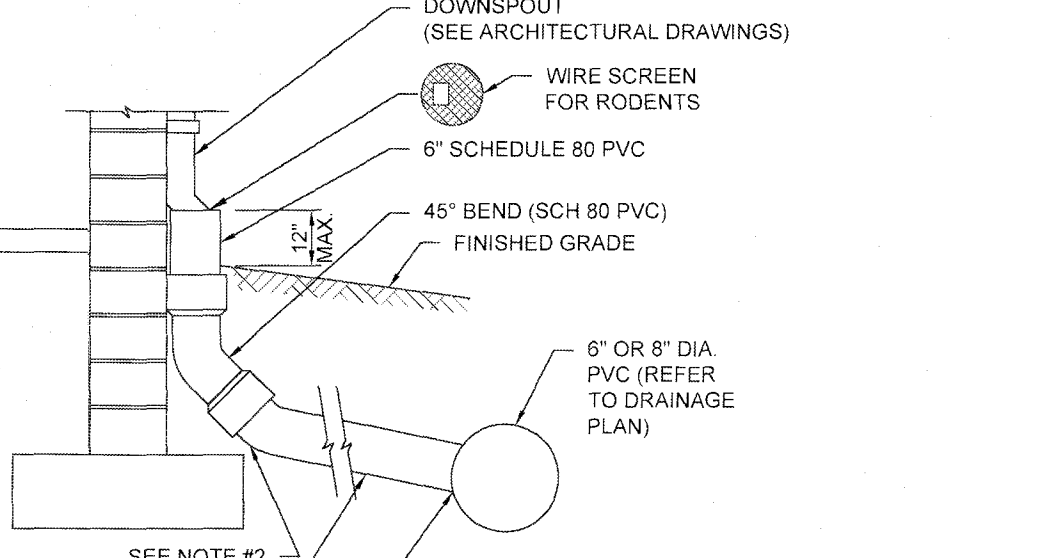
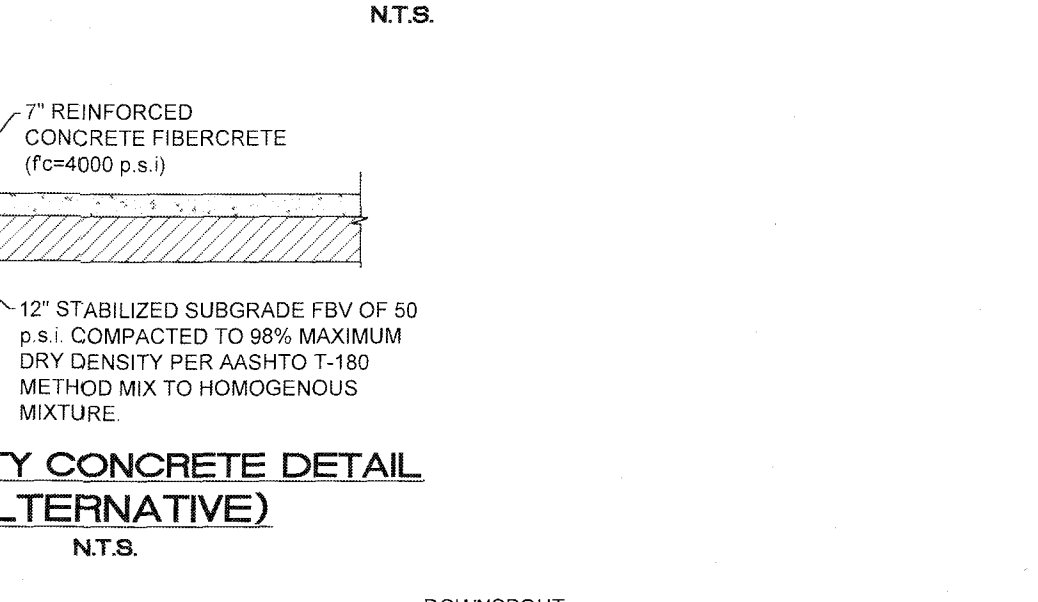
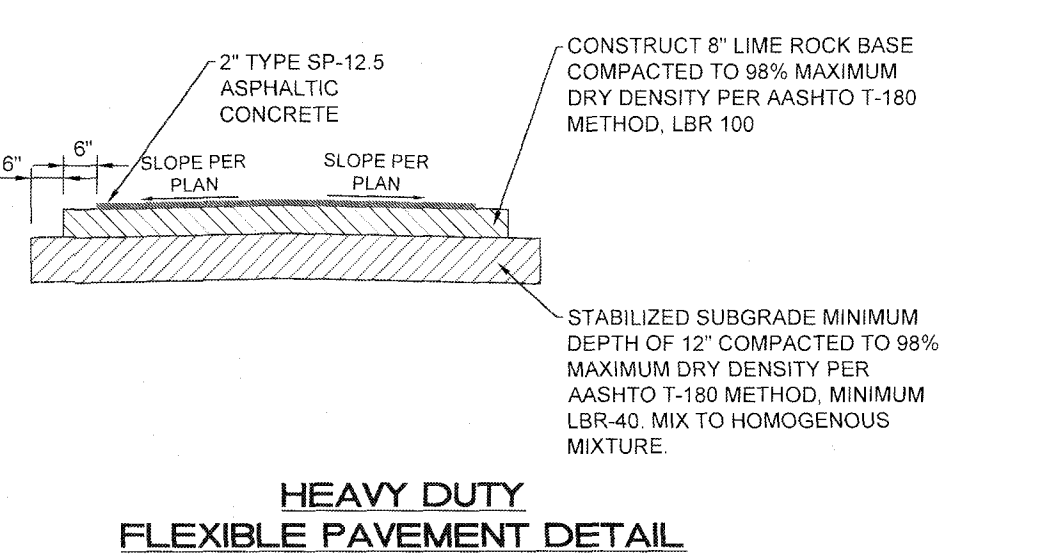
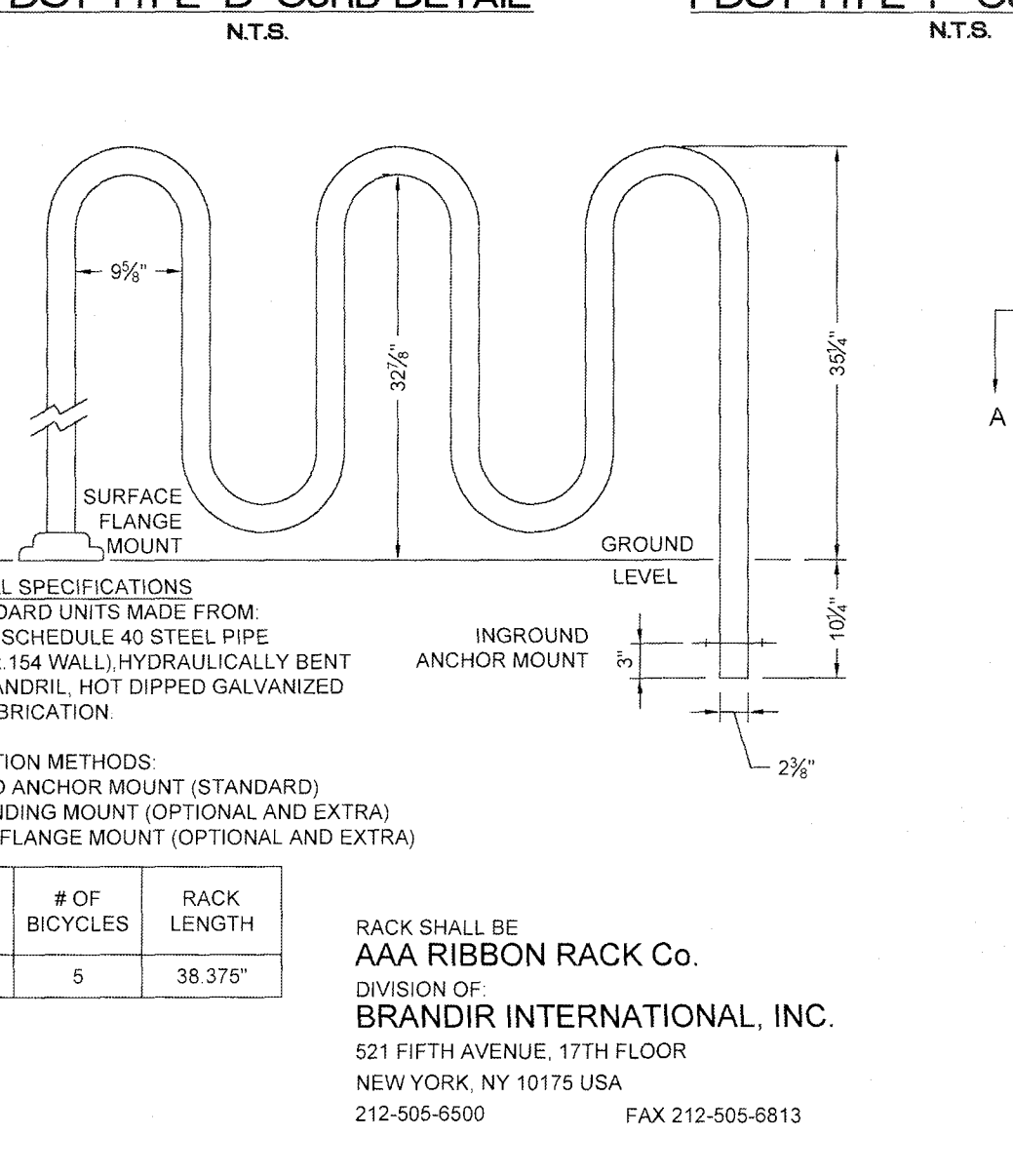
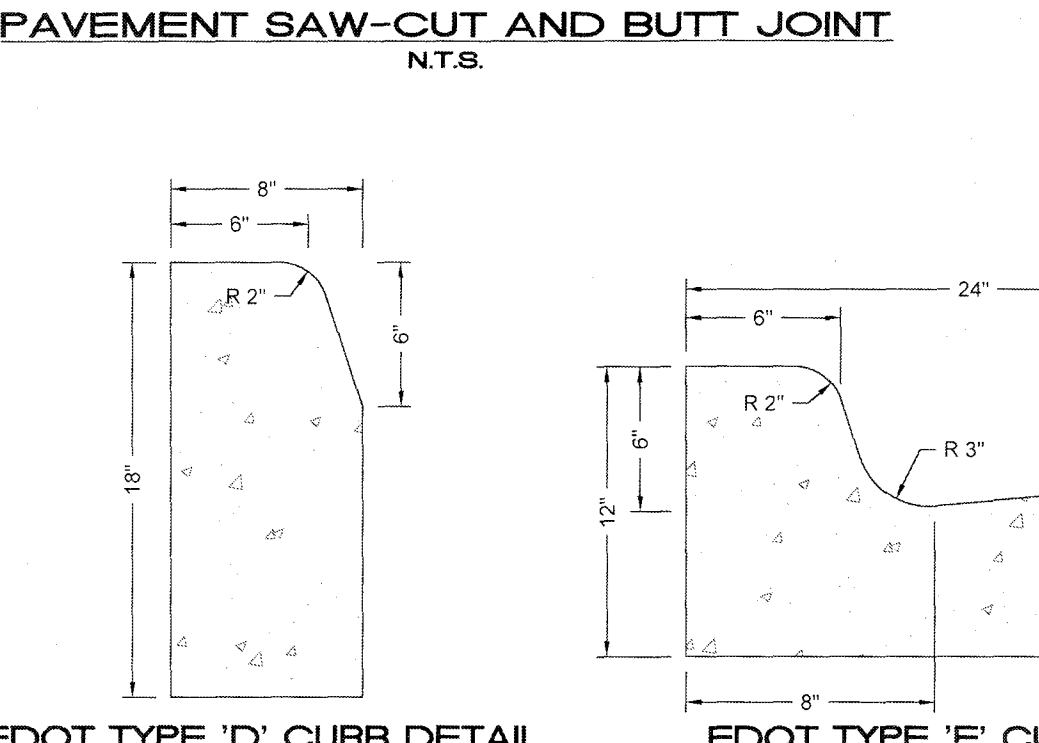
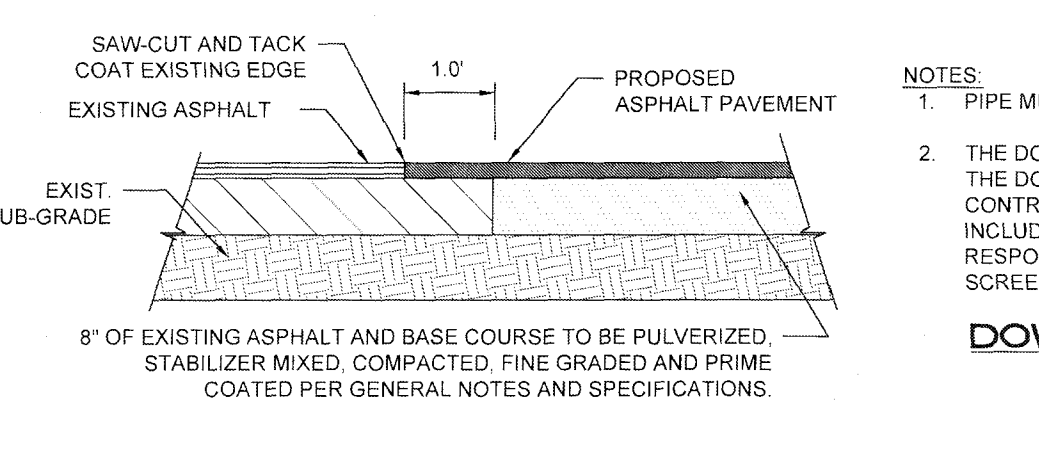
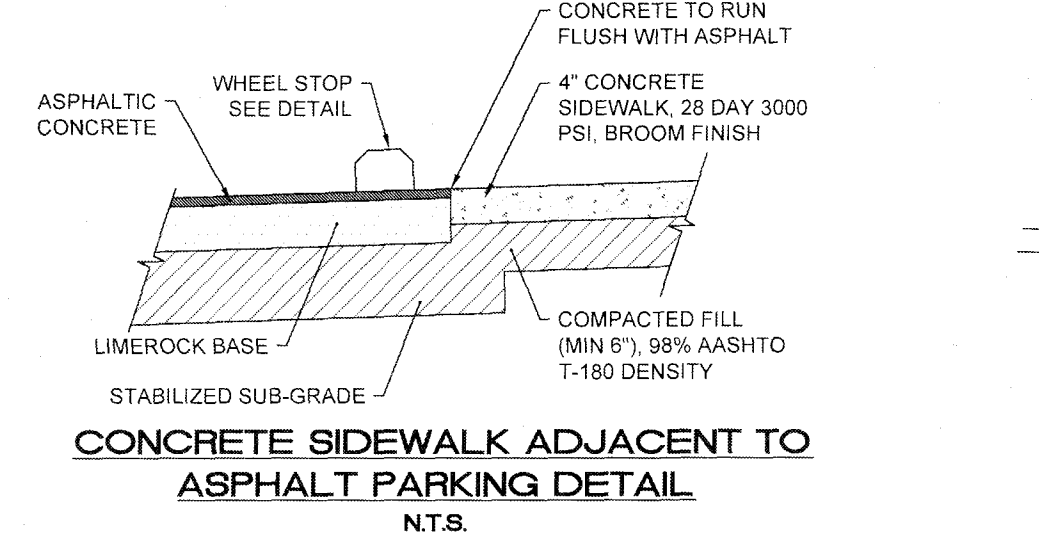
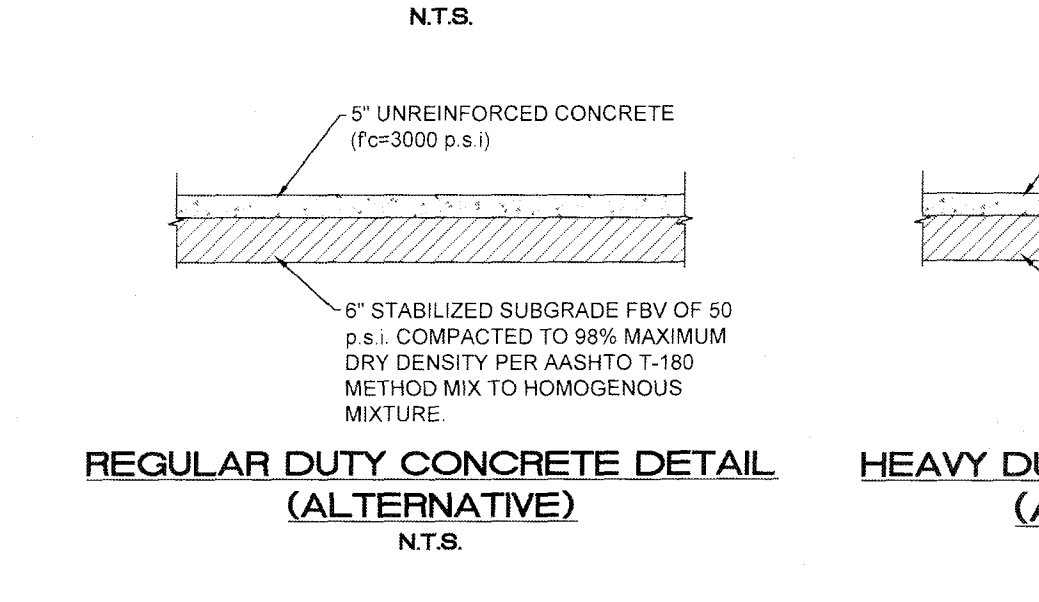
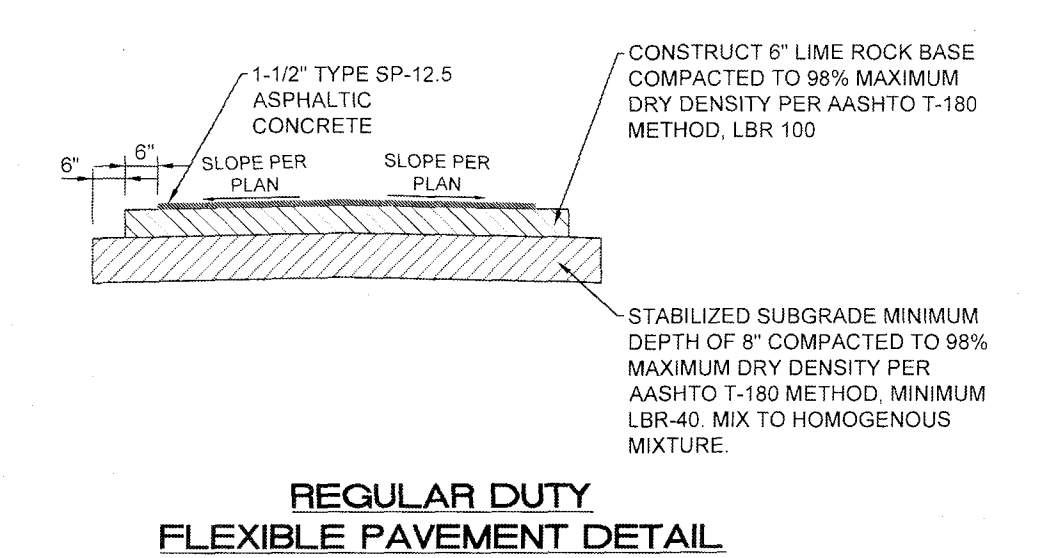
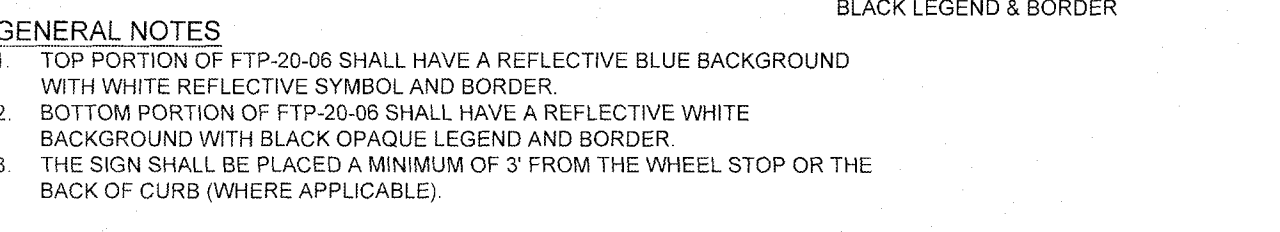
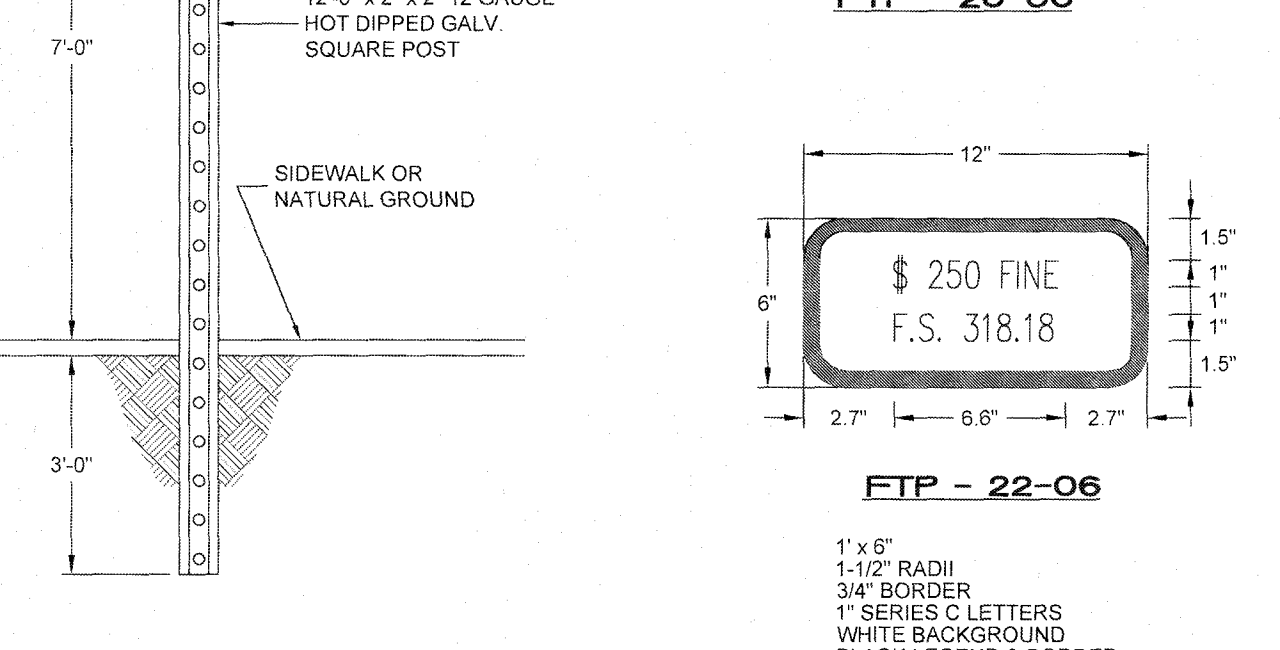
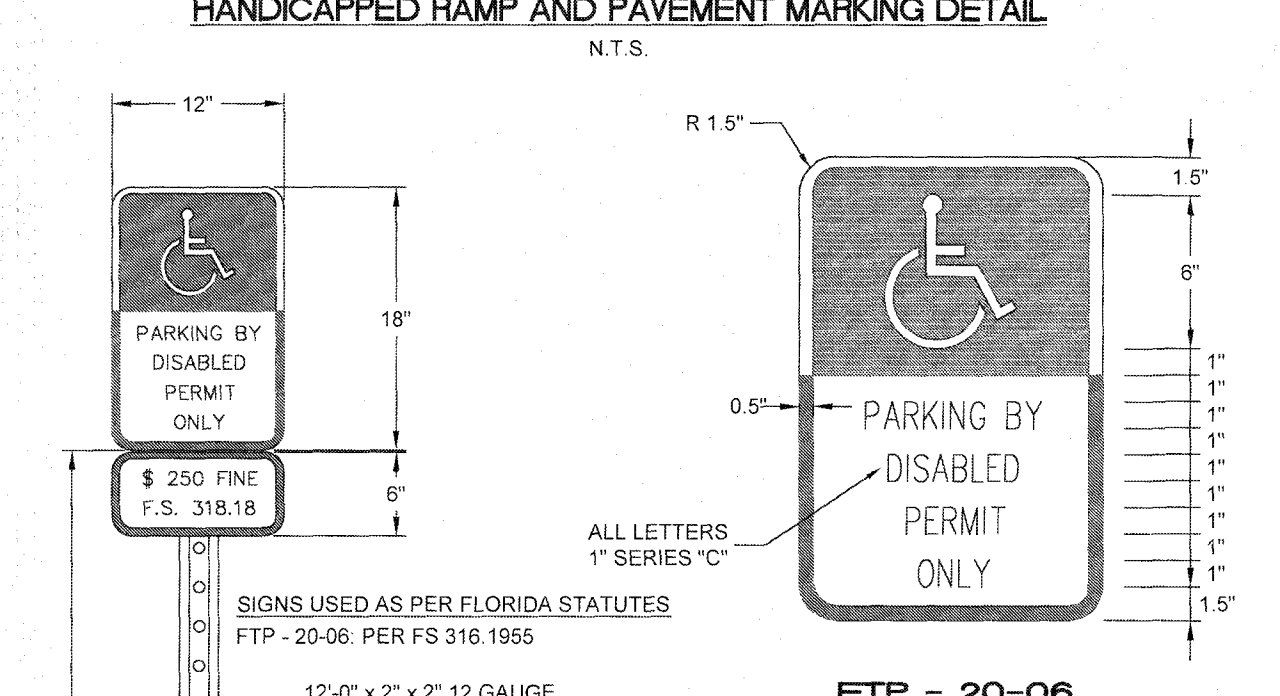
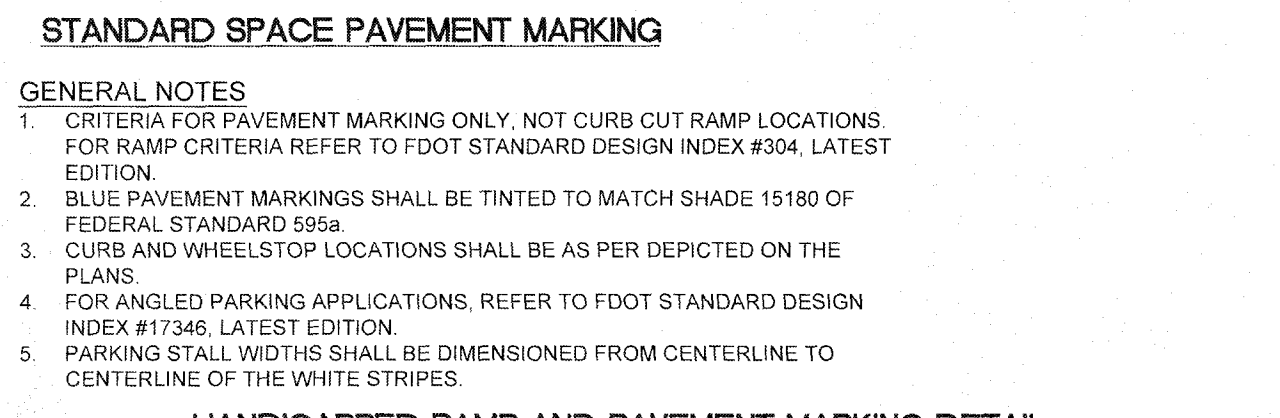
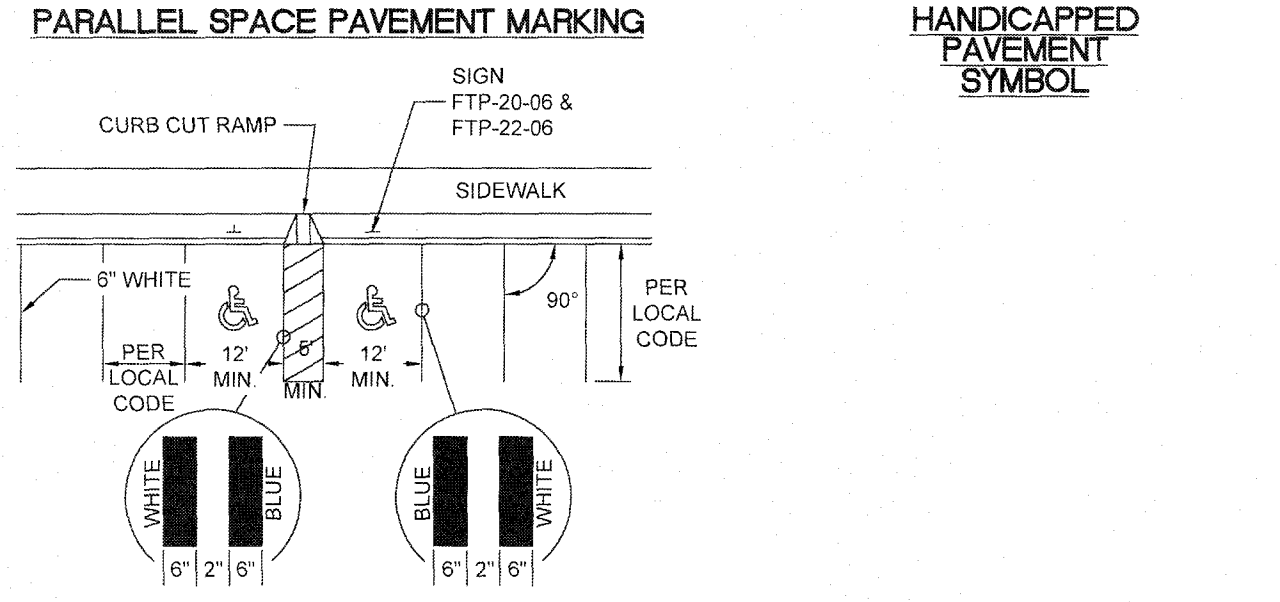
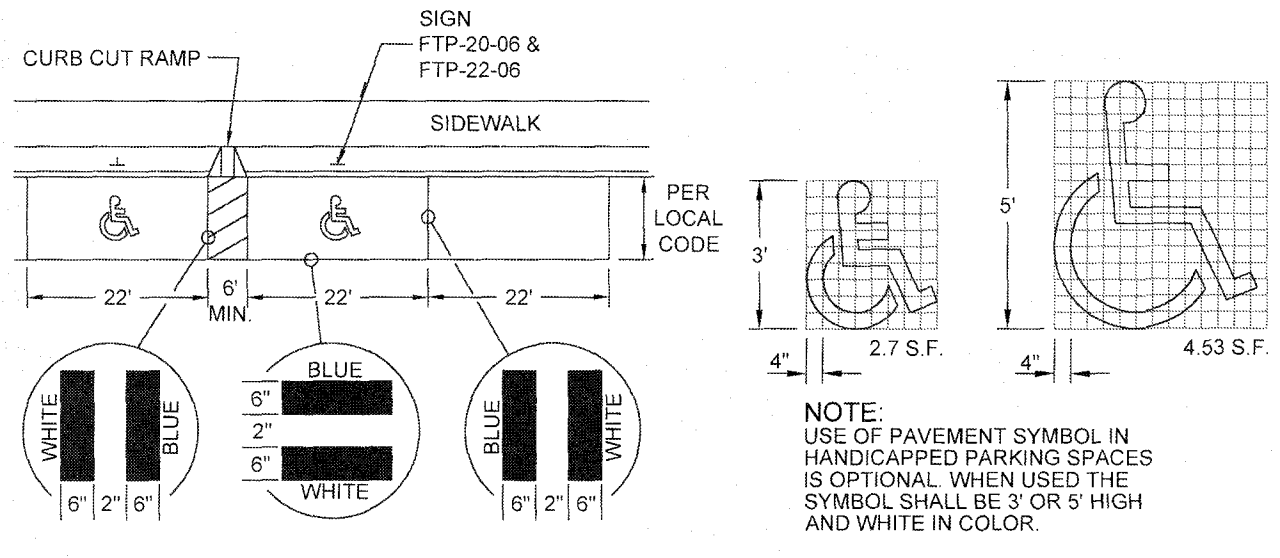
### JETSON FORT PIERCE SITE IMPROVEMENTS

FLORIDA

CITY OF FORT PIERCE

AARON J. BOWLES  
 L. DENSE  
 No. 55313  
 STATE OF FLORIDA  
 PROFESSIONAL ENGINEER

AARON J. BOWLES  
 FL P.E. #55313  
 8/2/21  
 SHEET  
**C10**  
 19-0273



**JETSON FORT PIERCE SITE IMPROVEMENTS**

CITY OF FORT PIERCE

FLORIDA

REVISIONS

NO.	DATE	BY	REVISION
1	8/2/2021	AJB	DATE ISSUED
2			CHECKED
3			DATE
4			DRAWN
5			GR
6			RTM
7			DESIGNED
8			JOB NO.

19-0273

MBV ENGINEERING, INC. MOJA BOWLES VILLAMIZAR & ASSOCIATES CONSULTING ENGINEERING CA #3728

ARON J. BOWLES No. 55313 P.E. #55313

8/2/21

SHEET

C11

19-0273

**FORT PIERCE UTILITIES AUTHORITY**  
**WATER DISTRIBUTION NOTES**

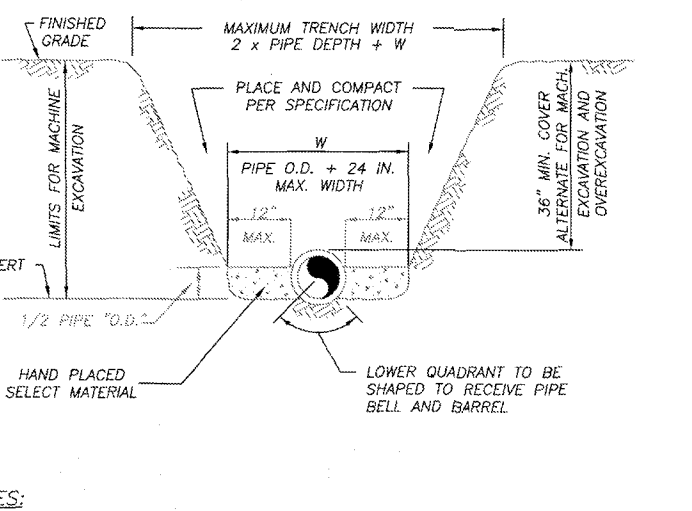
1. ALL CONSTRUCTION MATERIAL, INSTALLATION AND TESTING SHALL CONFORM TO THE STANDARD SPECIFICATIONS OF THE FORT PIERCE UTILITIES AUTHORITY.
2. WATER MAINS WHERE SPECIFIED AS POLYETHYLENE GLYCOL (PE) SHALL CONFORM TO ASTM C-800 OR C-805, PRESSURE CLASS 150, OR (P.S.) WATER MAINS WHERE SPECIFIED AS POLYESTER (PE) SHALL CONFORM TO ASTM C-801 OR C-806, STANDARD CODE DESIGNATION PE3408, PIPE CLASS 200, DIMENSION RATIO (DR) 17 FOR DIRECT BURIAL, (DR) 11 FOR DIRECTIONAL BORING, AND (DR) 9 FOR 2 INCH AND SMALLER FITTINGS.
3. WATER MAIN, WHERE SPECIFIED AS DUCTILE IRON PIPE, SHALL CONFORM TO ANSI/AWWA C151/A21.51 AND SHALL BE PRESSURE CLASS 250 (MINIMUM).
4. POLYETHYLENE GLYCOL WATER MAIN SHALL BE BLUE IN COLOR OR WHITE IN COLOR WITH BLUE STRIPES. THE USE OF IDENTIFICATION TAPE ATTACHED TO THE TOP OF THE PIPE MAY BE USED IN LIEU OF MARKING AND TRACER WIRE.
5. FITTINGS SHALL BE DUCTILE IRON CONFORMING TO ANSI/AWWA C-110/A21.10, CLASS 250 MIN. CEMENT LINED AND FACTORY COATED.
6. GATE VALVES SHALL BE MUELLER RESILIENT SEAT, KENNEDY KEN-SEAL, AMERICAN OR APPROVED EQUAL. VALVES SHALL CONFORM TO AWWA C-509.
7. WATER LINES SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH FPUA DESIGN AND CONSTRUCTION STANDARDS. THE CONTRACTOR SHALL SUBMIT CERTIFIED DENSITY TESTS AS REQUIRED BY FPUA ENGINEERING AND THE CITY/COUNTY/FOOT. IN CASES WHERE PAVED AREAS FALL WITHIN THE JURISDICTION OF LOCAL OR STATE AGENCIES, THE COMPACTING REQUIREMENTS SHALL NOT BE LESS THAN THE MINIMUM REQUIRED BY THE APPROPRIATE RESPONSIBLE AGENCY.
8. NO FIELD CHANGES OR DEVIATIONS FROM THE DESIGN SHALL BE MADE WITHOUT PRIOR APPROVAL OF THE FPUA ENGINEER AND CITY/COUNTY/FOOT ENGINEER.
9. THE CONTRACTOR SHALL NOTIFY FPUA ENGINEERING AND CITY/COUNTY/FOOT ENGINEERING 48 HOURS PRIOR TO COMMENCING CONSTRUCTION.
10. A PRE-CONSTRUCTION CONFERENCE BETWEEN THE ENGINEER, THE CONTRACTOR, FPUA AND CITY/COUNTY/FOOT ENGINEER SHALL BE MANDATORY PRIOR TO COMMENCEMENT OF CONSTRUCTION.
11. TRAFFIC CONTROL, BARRICADES, ETC. SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARDS AND APPROVED BY THE CITY ENGINEER.
12. MINIMUM COVER SHALL BE 36 INCHES EXCEPT AS APPROVED BY THE UTILITIES ENGINEER AND CITY/COUNTY/FOOT ENGINEER. PIPES WITH COVER LESS THAN 30 INCHES SHALL BE CONSTRUCTED OF DUCTILE IRON OR IN PVC CASING.
13. EXISTING AREAS SHALL BE RESTORED IN CONFORMANCE WITH THE APPLICABLE GOVERNING AGENCY REQUIREMENTS.
14. EXISTING UTILITIES AND DRAINAGE SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION AND PROTECTED BY THE CONTRACTOR.
15. WATER MAINS SHALL BE TESTED AND PROTECTED IN ACCORDANCE WITH THE APPLICABLE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AND AWWA C-651 FOR DISINFECTION.

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**WATER DISTRIBUTION NOTES**

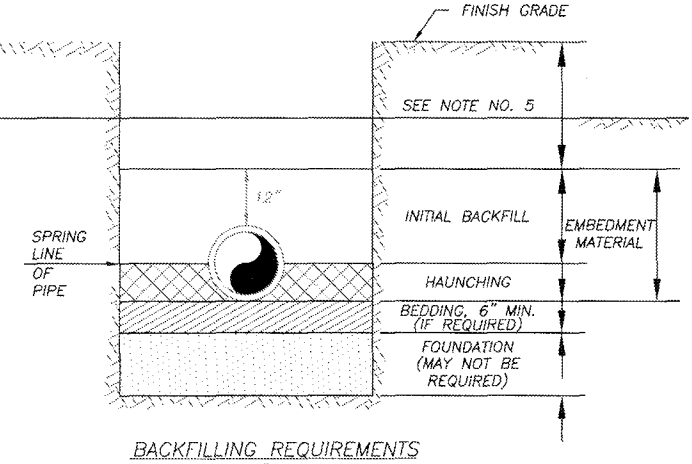
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EXISTING UTILITIES AND DRAINAGE.
17. THE CONTRACTOR SHALL FURNISH RECORD DRAWING INFORMATION TO THE ENGINEER INCLUDING LOCATIONS OF VALVES, FITTINGS, SERVICE CONNECTIONS, BLOWOFFS, AIR RELEASE VALVES, AND ANY OTHER PERTINENT INFORMATION NECESSARY TO LOCATE ITEMS CONSTRUCTED UNDER THIS PROJECT, AS REQUIRED BY THE UTILITIES ENGINEER.
18. THE CONTRACTOR SHALL TAP EXISTING LINES UNDER THE SUPERVISION OF THE FORT PIERCE UTILITIES AUTHORITY ONLY AFTER TESTING AND CONSTRUCTION HAS BEEN COMPLETED AND APPROVED ON THE TAPPING VALVE AND SLEEVE.
19. WATER MAIN SHALL BE MARKED BY THE USE OF CONTINUOUS 10 GAUGE THIN MULTI STRANDED WIRE (BLUE IN COLOR) AND IDENTIFICATION TAPE WITH "WATER" MARKED ON TAPE, PERMANENTLY ATTACHED TO THE TOP OF THE WATER MAIN IN ACCORDANCE WITH THE FORT PIERCE UTILITIES AUTHORITY SPECIFICATIONS.
20. SERVICE TAPS SHALL BE PLACED APPROXIMATELY TEN FEET AWAY FROM GATE VALVES, AS SHOWN FOR TESTING FOLLOWING TESTING AND IDENTIFICATION OF WATER USE. CONTRACTOR SHALL PLACE A BRASS PLUG IN CORPORATION STOPS AND CURB STOPS SHALL BE REMOVED FROM TESTING LOCATIONS.
21. MECHANICAL RESTRAINTS TO BE USED ON ALL FITTINGS AND PLACED IN ACCORDANCE WITH MANUFACTURER'S ENGINEER'S RECOMMENDATIONS (WHICHEVER IS MORE STRINGENT) AND FPUA REQUIREMENTS.
22. ALL MAINS SHALL BE TESTED AT A MINIMUM OF 150 PSI. TESTING METHODS SHALL CONFORM TO AWWA C-800 - 2 FOR MINIMUM TEST.  
 $L = \text{SOIL } 1/2$   
 $L = \text{LEAKAGE IN GPH}$   
 $S = \text{LENGTH OF PIPE IN FEET}$   
 $D = \text{PIPE DIAMETER IN INCHES}$   
 $P = \text{TESTING PRESSURE IN PSI}$
23. PRIOR TO ANY TESTING, ALL MAINS 6" IN DIA. AND LARGER SHALL HAVE A SWAB PASSED THRU THE ENTIRE LENGTH OF THE LINE. NOTE: SWAB SHOULD BE PLACED IN THE JOINT OF NEW LINE. END OF MAIN SHOULD BE "DRIED" UP AT 45% AND EXTENDED 20 FEET SHAMING AND A FULL BORE FLOW CAN BE ACCOMPLISHED. SWAB MUST BE PLACED IN MAINS WHERE BRANCH MAINS BRANCH MAINS MUST BE PLACED IN BRANCH LINES AND SEQUENTIALLY SWABED AND FLUSHED.
24. A MINIMUM SIX FEET AND PREVIOUSLY TEN FEET HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN THE WATER MAIN AND ANY WATER LINES. 6 INCHES MINIMUM VERTICAL SEPARATION IF WATER MAIN IS OVER WASTEWATER AND 12 INCHES IF WATER MAIN IS UNDER SLAB. SEPARATION BETWEEN THE WATER MAIN AND ANY WASTEWATER LINES, THE DISTANCE SHALL BE MEASURED FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE OR STRUCTURE. WHEN THIS MINIMUM SEPARATION CANNOT BE MAINTAINED, THE CROSSING SHALL BE ARRANGED SO THAT THE WATERMAIN PIPE JOINTS AND THE WATER MAIN PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING, AND THE WATER MAIN SHALL BE CONSTRUCTED OF CASTLE IRON PIPE (CIP) AT THE CROSSING. SUFFICIENT LENGTHS OF DIP MUST BE MAINTAINED TO MAINTAIN MINIMUM SEPARATION OF 10 FEET BETWEEN AND INCLUDING ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING MUST BE MECHANICALLY RESTRAINED. A MINIMUM VERTICAL CLEARANCE OF 8 INCHES MUST BE MAINTAINED AT ALL CROSSINGS.
25. WHERE A WATER MAIN IS TO BE INSTALLED BELOW A STORM DRAIN PIPE, A MINIMUM OF 8 INCHES OF VERTICAL CLEARANCE BETWEEN PIPES SHALL BE CONSTRUCTED OF DIP AT THE CROSSING, AND SHALL BE MECHANICALLY RESTRAINED WITHIN 20 FEET OF THE CROSSING.
26. CONTRACTOR SHALL COMPLY WITH FLORIDA TRENCH SAFETY ACT REQUIREMENTS.

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- NOTES:
- 1) THE CONTRACTOR SHALL COMPLY WITH REQUIREMENTS OF THE FLORIDA TRENCH SAFETY ACT.
  - 2) INITIAL BACKFILL SHALL BE HAND PLACED TO 12" ABOVE THE PIPE. BACKFILL SHALL BE MECHANICALLY TAMPED TO A MINIMUM OF 100% OF MAX. DENSITY AS DETERMINED BY ASTMC METHOD T-99.

TYPICAL TRENCH DETAIL		M-1	
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- NOTES:
- 1) IN CERTAIN SOIL CONDITIONS A FOUNDATION MAY BE REQUIRED.
  - 2) BEDDING IS REQUIRED PRIMARILY TO BRIDGE THE TRENCH BOTTOM UP TO GRADE. BEDDING MATERIAL SHALL PROVIDE A UNIFORM AND ADEQUATE LONGITUDINAL SUPPORT UNDER THE PIPE.
  - 3) HANDING MATERIAL SHALL BE HAND PLACED TO THE SPRINGLINE OF THE PIPE. MATERIAL SHALL BE CONSOLIDATED UNDER THE PIPE AND HAND TAMPED TO PROVIDE ADEQUATE SUPPORT.
  - 4) INITIAL BACKFILL MATERIAL SHALL BE HAND PLACED TO 12" ABOVE THE TOP OF PIPE. THE SOIL SHALL BE COMPACTED TO 100% MAX. DENSITY (ASTM D-1557) TO A POINT 30" BELOW PROPOSED PROFILE GRADE OR EXISTING GRADE. THE FINAL 30" OF BACKFILL SHALL BE COMPACTED

**Revisions**

Rev#	Description

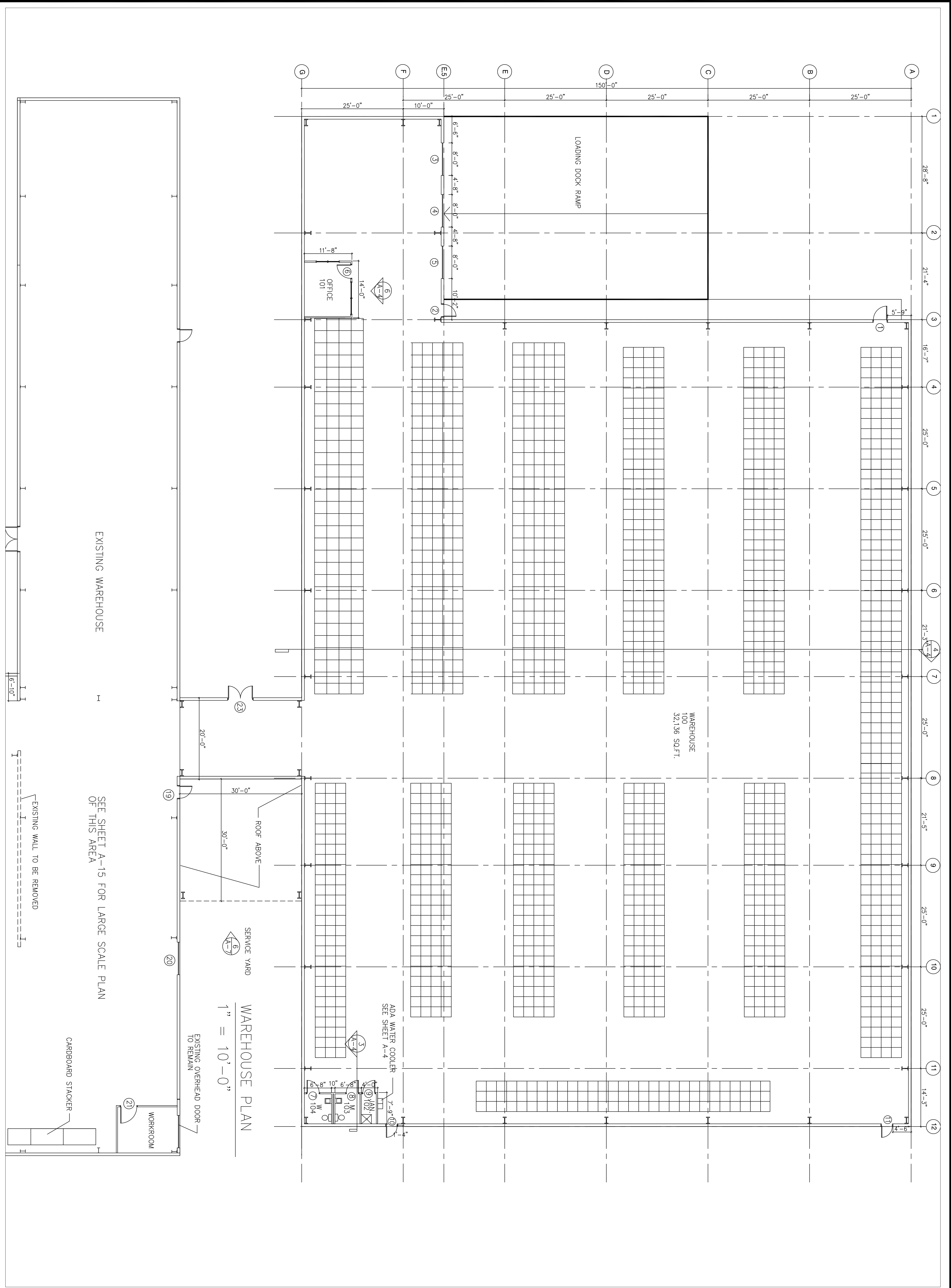
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Drawing Title  
**FLOOR PLAN**

Project Name & Location  
**JETSON APPLIANCE WAREHOUSE**  
 4145 S. FEDERAL HIGHWAY  
 FORT PIERCE, FL.

**Anthony J. Mazza, AIA**  
 Registered Architect  
 8220 Compton Way  
 Melbourne, FL 32940  
 Tel. (321) 255-2050

Project No.  
 Original Submitter Date  
 Drawn By: AJM  
 Checked By: AJM  
 Drawing Number  
**A-2**  
 Sheet of Total



**Revisions**

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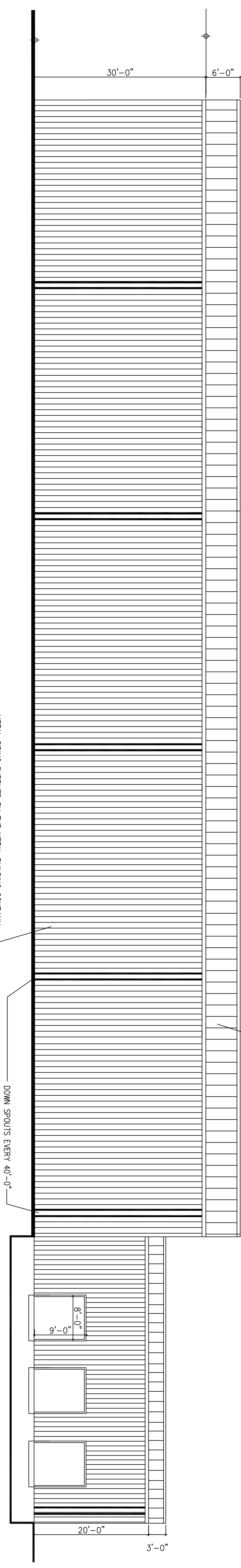
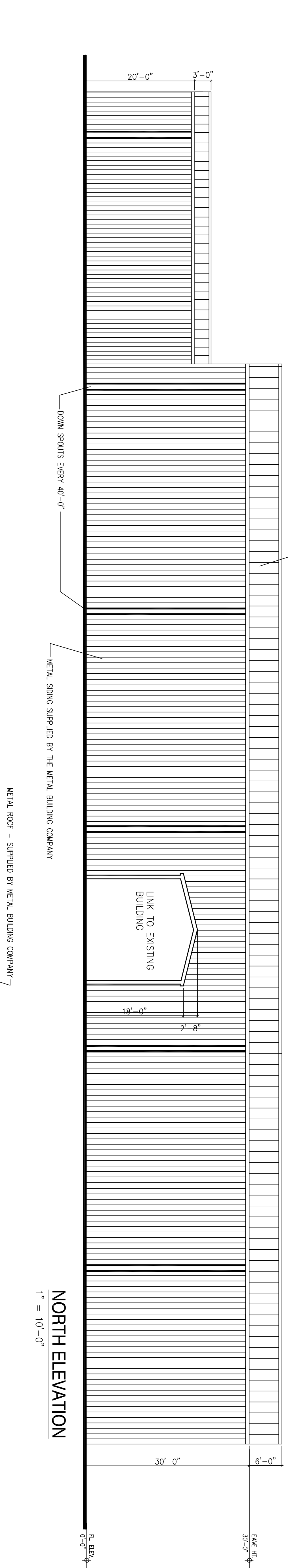
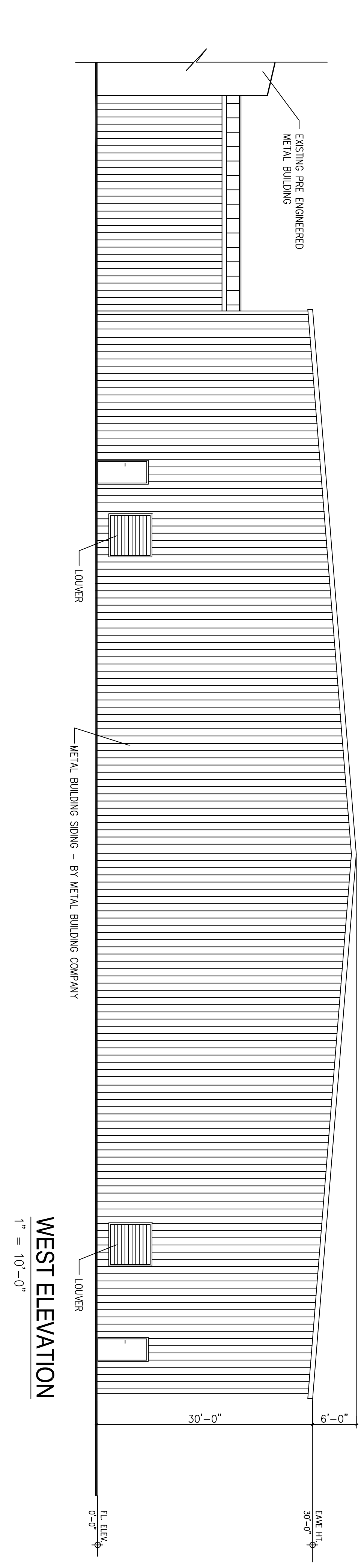
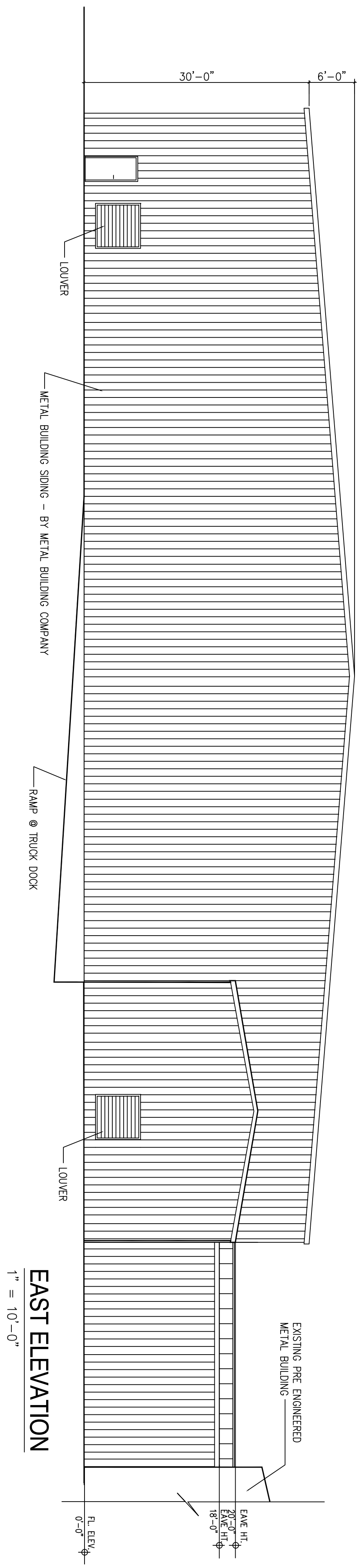
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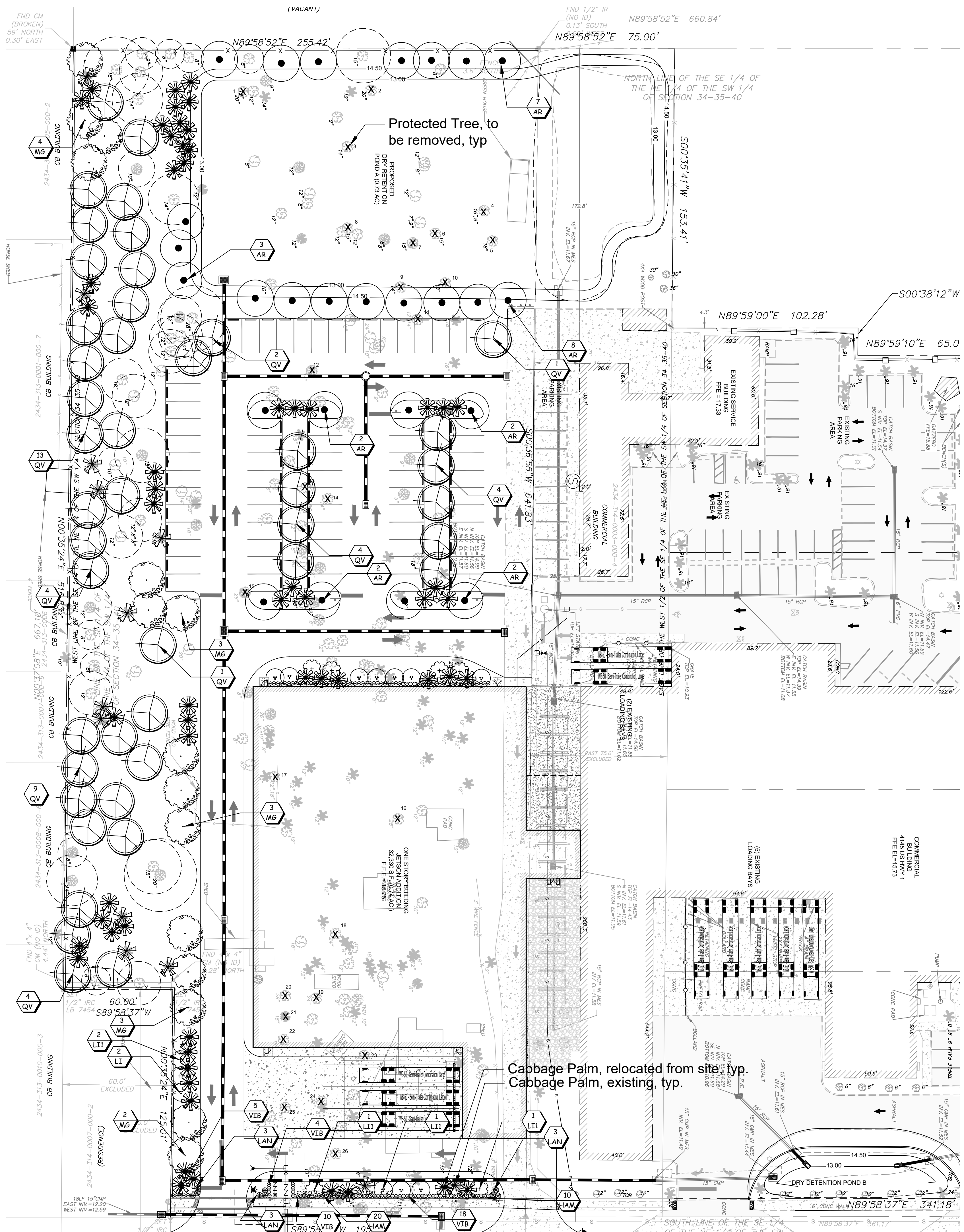
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**EXTERIOR ELEVATIONS**

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 Registered Architect  
 8220 Compton Way  
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**A-3**  
 Sheet of Total





**Landscape Legend:**

Qty	Symb	Name
26	AR	Red Maple
15	MG	Acer rubrum 'Florida Flame', FG, 14' Ht, 5' spr, 4" cal
46	QV	Southern Magnolia Magnolia grandiflora, FG, 14' Ht, 5' spr, 4" cal
12	LI	Live Oak Quercus virginiana, FG, 14 Ht, 6' spr, 4" cal
8	L1	Crape Myrtle Lagerstromia indica 'Muskogee', FG, 12' Ht, 4' spr, 2.5" cal total, Crape Myrtle Lagerstromia indica 'Tuscarora', FG, 12' Ht, 4' spr, 2.5" cal total, I
<b>Shrubs:</b>		
30	HAM	Dwarf Firebush Hamelis patens 'Compacta', 3 gal, 24"x18", 24" oc
97	VIB	Dwarf Walters Viburnum Viburnum obovatum 'Select', 3 gal, 24"x18", 24" oc
<b>Groundcover:</b>		
9	LAN	Pineland Lantana Lantana depressa, 1 gal, 12" spr, 36" oc

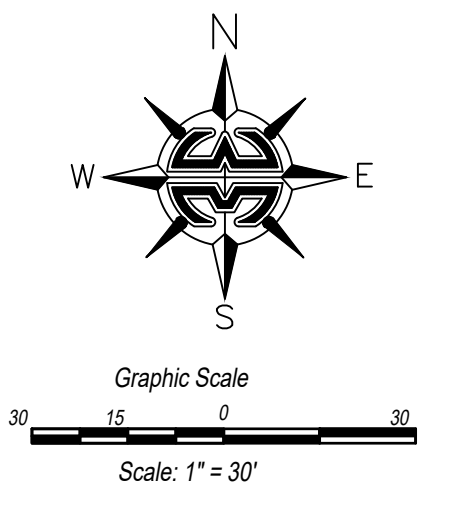
**Landscape Data:**

**Exterior Landscape:**

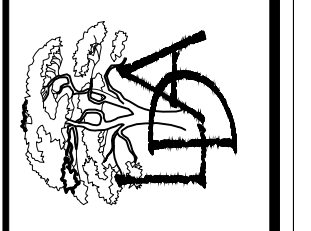
VUA against other Property Lines:

North: 255'x10' = 2550/200	13 trees
West: 692'x10 = 6920/200	35 trees
VUA against R/W line:	
South: 195'-54' driveway = 141x10 = 1410/300	5 trees
<b>Interior Landscape</b>	
Total VUA area: 42,602 sf	
Landscape Area required: 1 sf/15 sf VUA	2,840 sf
Landscape area provided:	4,540 sf
Area reduction for preservation of trees: 50%	
Total landscape area required: 1420, 1 tree/100 sf	14 trees
Total trees required:	66 Trees
<b>Tree Mitigation</b>	
Native trees, 14" or greater removed:	483 inches
Native trees preserved:	367 inches
Mitigation planting required:	232 inches
Total Planting required (incl req. landscape trees)	398 inches
Total Planting provided:	398 inches

- General Notes:**
- No landscape materials other than sod grasses may be planted within a 5' radius maintenance area of any underground utility such as water meters, backflow devices, fire hydrants, sanitary sewer cleanouts, and manholes, air release valves, etc.
  - No landscaping shall be planted in a manner that would adversely affect utility easements.
  - All landscape areas to receive automatic irrigation. Water source to be potable or well and will be determined at time of building permit application.
  - Sod around buildings to be St. Augustine 'Bitter Blue' sod. Sod to be weed and disease free and laid tight. All areas within in preservation areas to be seeded with Argentine Bahia grass.
  - Not trees to be placed within 6' of any hard surface unless root barrier will be installed along the edge of the hard surface. Root barrier to extend at least 5' in either direction from the center of the tree trunk. Refer to Sheet LD-02 for installation details.



Landscape Design Associates  
 25110 NW 182nd Ave  
 High Springs, FL 32643  
 352-710-5765 ph, www.landscapea.com

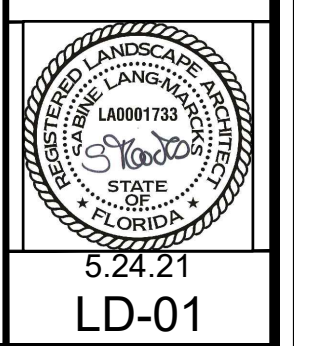


Scale:	1" = 30'
Drawn by:	SM
Checked by:	SM
CADD No.:	21-043 lp.dwg
Date:	5.24.21

Revisions	Comments
Date	

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 WITHOUT WRITTEN CONSENT

**Jetson Fort Pierce**  
 City of Fort Pierce  
**Landscape Plan**



5.24.21  
LD-01

**PLANTING NOTES:**

**FERTILIZER**

FERTILIZERS SHALL BE SLOW RELEASE, UNIFORM IN COMPOSITION, DRY AND FREE FLOWING. THE FERTILIZER SHALL BE DELIVERED TO THE SITE IN THE ORIGINAL UNOPENED BAGS, EACH BEARING THE MANUFACTURERS STATEMENT OF ANALYSIS AND SHALL MEET THE FOLLOWING REQUIREMENTS: SIX (6) PERCENT NITROGEN, SIX (6) PERCENT PHOSPHOROUS, AND SIX (6) PERCENT POTASSIUM. FERTILIZER SHALL BE APPLIED TO ALL SHRUBS (1/3 LB PER 3 GAL POT, 1/4 LB PER 1 GAL POT) AND GROUNDCOVER. THE SOD STARTER FERTILIZER MIXTURE SHALL BE A 5-10-10 ANALYSIS. A 14-14-14 FERTILIZER ANALYSIS IS REQUIRED ON ALL TREES AND SHRUBS OVER 5" IN HEIGHT (1/2 LB PER 5" OF SPREAD). AGRIFORM TABLETS WITH TWENTY (20) PERCENT NITROGEN, TEN (10) PERCENT PHOSPHOROUS, FIVE (5) PERCENT POTASSIUM IN 21 GRAM SIZES SHALL BE APPLIED ALONG WITH THE FERTILIZER PROCESS (1 WITH 1 GAL PLANTS, 2 WITH 3 GAL PLANTS AND 2 TABLETS PER 1" OF TREE TRUNK CALIPER). MAGNESIUM SULFATE SHALL BE APPLIED TO ALL PALMS AT INSTALLATION AT A RATE OF 1/2 LB PER INCH OF TRUNK CALIPER. MANGANESE SHALL BE APPLIED AT THE SAME RATE.

**MULCH**

MULCH MATERIAL SHALL BE COLORED 'A' GRADE CERTIFIED RECYCLED MULCH AND MOISTENED AT THE TIME OF APPLICATION TO PREVENT WIND DISPLACEMENT. MULCH SHALL BE APPLIED TO A MINIMUM OF 3" DEPTH IN PLANTING BEDS. MULCH SHALL NOT BE PLACED WITHIN 6" OF TREE OR PALM TRUNKS.

**SOD**

THE SOD SHALL BE CERTIFIED TO MEET FLORIDA STATE PLANT BOARD SPECIFICATIONS, ABSOLUTELY TRUE TO VARIETAL TYPE, AND FREE FROM WEEDS, FUNGUS, INSECTS AND DISEASE OF ANY KIND.

**SUBSTITUTIONS**

NO SUBSTITUTION OF PLANT MATERIAL TYPES OR SIZES WILL BE ALLOWED WITHOUT WRITTEN AUTHORIZATION FROM THE LANDSCAPE ARCHITECT OF RECORD. CONTAINER GROWN MATERIAL WILL NOT BE ACCEPTED AS A SUBSTITUTE FOR B & B MATERIAL UNLESS PREVIOUSLY APPROVED. INTENDED SUBSTITUTIONS SHALL BE SPELLED OUT IN BID MEASUREMENTS

**SHADE TREES:** HEIGHT SHALL BE MEASURED FROM GROUND TO THE AVERAGE BRANCH HEIGHT OF CANOPY. SPREAD SHALL BE MEASURED TO THE END OF BRANCHING EQUALLY AROUND THE CROWN FROM THE CENTER OF THE TRUNK. MEASUREMENTS ARE NOT TO INCLUDE ANY TERMINAL GROWTH. SINGLE TRUNK TREES SHALL BE FREE OF "V" CROTCHES THAT COULD BE POINTS OF WEAK LIMB STRUCTURE OR DISEASE INFESTATION.

**SHRUBS:** HEIGHT SHALL BE MEASURED FROM THE GROUND TO THE AVERAGE POINT WHERE MATURE PLANT GROWTH STOPS. SPREAD SHALL BE MEASURED TO THE END OF BRANCHING EQUALLY AROUND THE SHRUB MASS. MEASUREMENT AREA NOT TO INCLUDE ANY TERMINAL GROWTH.

**PALMS:** CLEAR TRUNK SHALL BE MEASURED FROM THE GROUND AT THE TIME OF INSTALLATION TO THE POINT WHERE THE MATURE AGED TRUNK JOINS THE IMMATURE OR GREEN PORTION OF THE TRUNK OR HEAD.

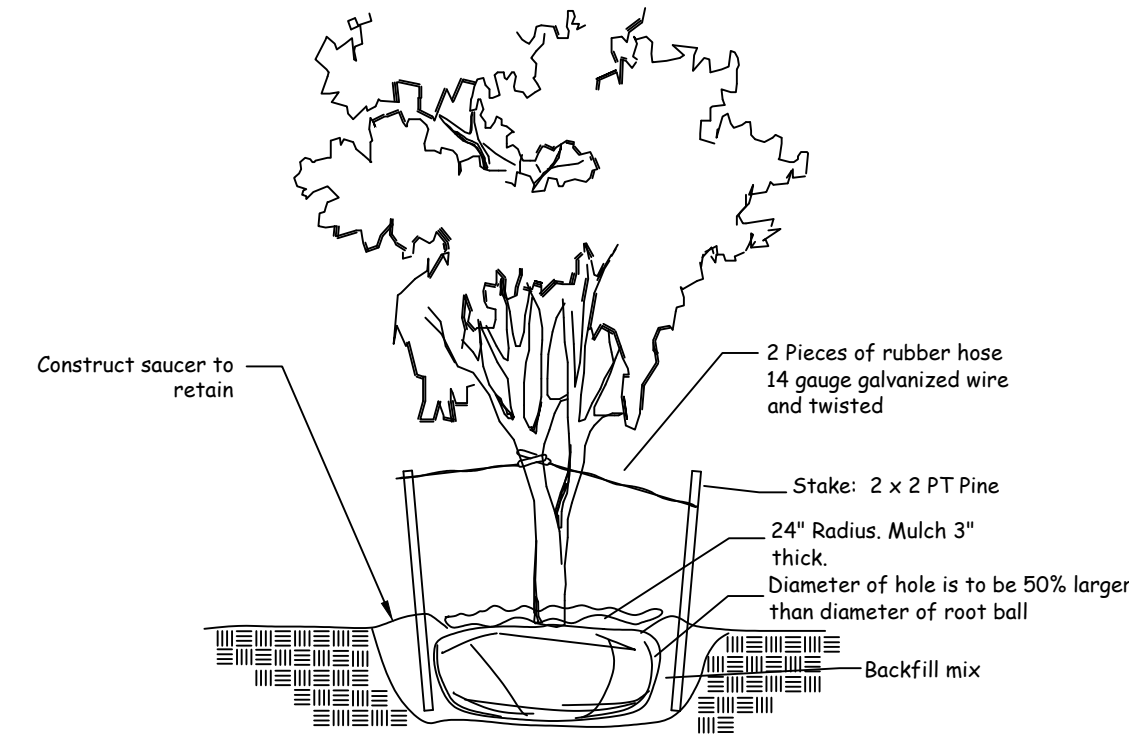
**GREY WOOD (G.W.):** SHALL BE MEASURED FROM THE GROUND AT THE TIME OF INSTALLATION TO TOP OF THE HARDENED TRUNK.

**OVERALL HEIGHT (O.A.):** SHALL BE MEASURED FROM THE GROUND AT THE TIME OF INSTALLATION TO THE AVERAGE FROND HEIGHT.

**PALMS WITH MARRED OR BURNED TRUNKS** WILL NOT BE ACCEPTED.

**Tree Planting Detail**

Tree Stakes are to be removed between 6-12 months by the Owner. NTS



**PLANTING SOIL AND BACKFILL**

PLANTING SOIL SHALL BE RECYCLED TOPSOIL. RECYCLED TOPSOIL SHALL CONSIST OF A STABILIZED MIXTURE OF GROUND YARD TRIMMINGS AND POSSIBLY BIOSOLIDS PROCESSED ACCORDING TO STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION GUIDELINES FOR THE PROCESSING AND DISTRIBUTION OF SEWAGE SLUDGE COMPOST. RECYCLED TOPSOIL SHALL ONLY BE OBTAINED FROM A STATE PERMITTED RECYCLING FACILITY WHICH IS ALSO D.O.T. CERTIFIED AND STORES PRODUCT ON A PAD WITH A CURRENT NEMATODE CERTIFICATION FROM FLORIDA DEPARTMENT OF AGRICULTURE. RECYCLED TOPSOIL SHALL HAVE THE FOLLOWING CHARACTERISTICS:  
 - WEED FREE  
 - MOISTURE CONTENT 50% BY WEIGHT MAXIMUM  
 - WATER HOLDING CAPACITY 200% BY WEIGHT MINIMUM  
 - CARBON TO NITROGEN RATIO LESS THAN 25 TO 1  
 - ORGANIC MATTER CONTENT 40% BY DRY WEIGHT MINIMUM  
 - SOLUBLE SALTS LESS THAN 3 MMHOS/CM  
 - PH RANGE 7.0 - 7.9  
 - MINIMUM NUTRIENT LEVELS AS FOLLOWS:  
 MACRO NUTRIENTS: NITROGEN (N) - 1% MINIMUM, WATER INSOLUBLE NITROGEN 90% MINIMUM, PHOSPHORUS (P) - 0.5% MINIMUM, POTASSIUM (K) - 0.2% MINIMUM AND OTHER MACRO AND MICRO NUTRIENTS, THE RECYCLED TOPSOIL SHALL CONTAIN LEVELS OF THOSE MICRO NUTRIENTS NECESSARY FOR PLANT GROWTH. THESE INCLUDE CALCIUM, MAGNESIUM, SULFUR, BORON, COPPER, IRON, MANGANESE AND MOLYBDENUM. RECYCLED TOPSOIL NOT MEETING THESE REQUIREMENTS WILL NOT BE ACCEPTED.

**BACKFILL:**

ALL NEW AND TRANSPLANTED PLANT MATERIAL (INCLUDING NEW SOD) SHALL BE PLANTED ONLY AFTER PREPARATION OF EXISTING SOIL AS FOLLOWS:  
 SPREAD A LAYER OF 3" DEPTH OF RECYCLED TOPSOIL (AS DEFINED ABOVE) OVER THE ENTIRE PLANTING AREA. THE TOPSOIL SHALL THEN BE UNIFORMLY DISKED, TILLED OR AERIFIED INTO THE EXISTING SOIL TO A DEPTH OF 12" UNDERNEATH SHRUBS AND GROUNDCOVERS, 6" UNDERNEATH SOD AND TO A DEPTH OF 36" FOR THE TREE PITS, WITH THE FOLLOWING EXCEPTION: NO ROTOTILLING OR DISKING SHALL OCCUR CLOSER TO THE TRUNKS OF ESTABLISHED PLANTS THAN ONE HALF (1/2) THE DISTANCE OF THE CANOPY FURTHER OUT FROM THE DRIP LINE OF THE EXISTING PLANT CANOPY. ALL PLANTS, INCLUDING HEDGES AND GROUND COVER SHALL BE PLANTED IN INDIVIDUALLY DUG HOLES AND THE MATERIAL DUG FROM THE HOLES SHALL THEN BE FURTHER MIXED WITH THE PREPARED SITE SOIL PRIOR TO BACKFILLING OF THE PLANTING HOLES AROUND THE ROOT BALLS. NO ADDITIONAL BACKFILL SOIL SHALL BE USED.

AN EXCEPTION ARE PLANTING PITS FOR CABBAGE PALMS, WHICH SHALL BE BACKFILLED WITH CLEAN NATIVE SAND ONLY.

REMOVE EXCESS MATERIAL TO PROVIDE PROPER FINISHED GRADE.

ALL PLANTING PITS AND PLANTING AREAS SHALL BE AMENDED WITH AGRODIAMONDS PER MANUFACTURERS SPECIFICATIONS.

**PLANT MATERIALS**

TREES, PALMS, SHRUBS, GROUND COVERS:

PLANT SPECIES AND SIZES SHALL CONFORM TO THOSE INDICATED IN THE DRAWINGS. NOMENCLATURE SHALL CONFORM TO STANDARDIZED PLANT NAMES, 1942 EDITION. ALL NURSERY STOCK SHALL BE IN ACCORDANCE WITH GRADES AND STANDARDS FOR NURSERY PLANTS, PARTS I & II, LATEST EDITION PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES, UNLESS SPECIFIED OTHERWISE. ALL PLANTS SHALL BE NORMAL FOR THE VARIETY AND FLORIDA GRADE NUMBER 1 OR BETTER AS DETERMINED BY THE FLORIDA DIVISION OF PLANT INDUSTRY.

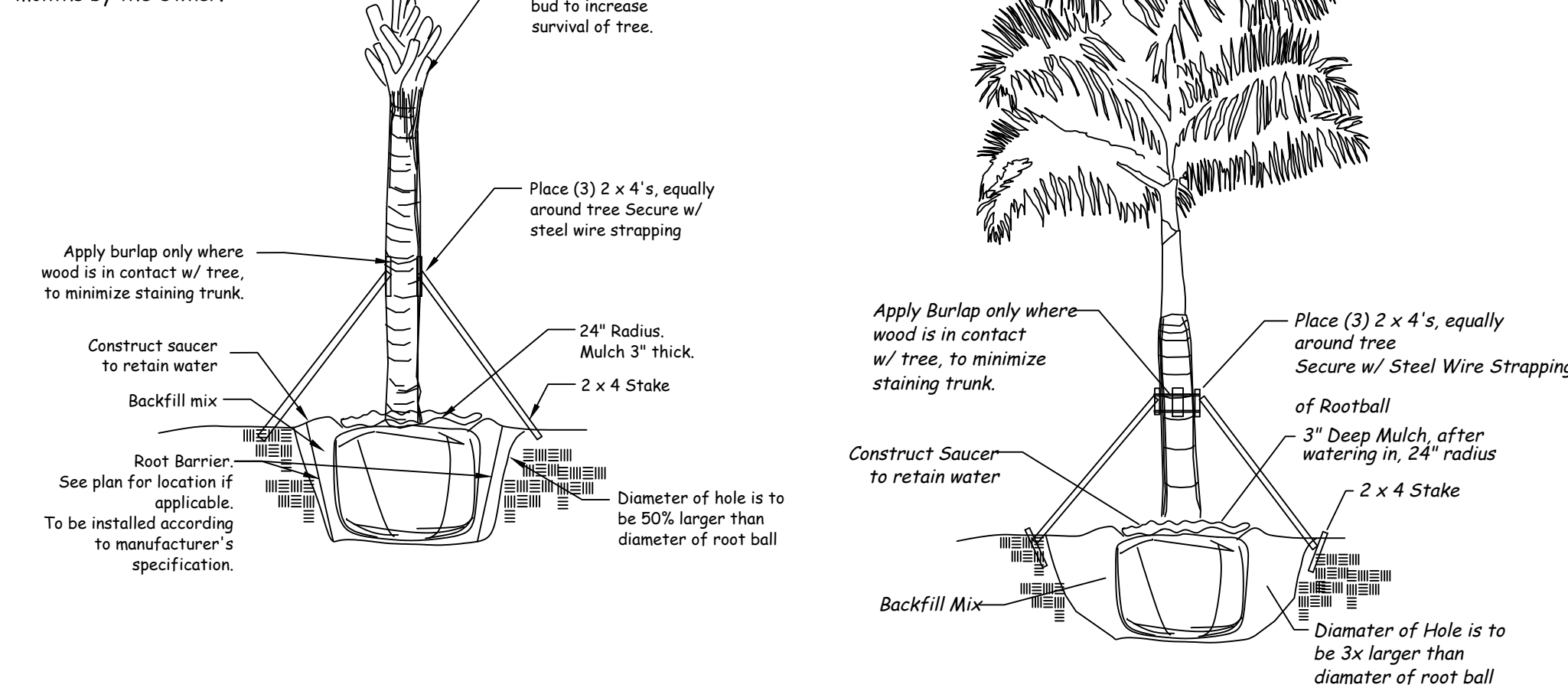
SPECIMEN MEANS AN EXCEPTIONALLY HEAVY, SYMMETRICAL, TIGHTLY KNOT PLANT, SO TRAINED OR FAVORED IN ITS DEVELOPMENT THAT FIRST APPEARANCE IS UNQUESTIONABLE AND IT IS OUTSTANDINGLY SUPERIOR IN FORM, NUMBER OF BRANCHES, COMPACTNESS AND SYMMETRY.

ALL PLANTS SHALL BE FRESHLY DUG, SOUND, HEALTHY, VIGOROUS, WELL BRANCHED AND FREE OF DISEASE AND INSECT EGGS AND LARVAE AND SHALL HAVE ADEQUATE ROOT SYSTEMS. TREES FOR PLANTING ROWS SHALL BE UNIFORM IN SIZE AND SHAPE. ALL MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE LANDSCAPE ARCHITECT, WHERE REQUIREMENTS ARE OMITTED FROM THE PLANT LIST. PLANTS SHALL BE PRUNED PRIOR TO DELIVERY ONLY UPON THE APPROVAL OF THE LANDSCAPE ARCHITECT.

ALL CONTAINER GROWN MATERIAL SHALL BE HEALTHY, VIGOROUS, WELL ROOTED PLANTS AND ESTABLISHED IN THE CONTAINER IN WHICH THEY ARE SOLD. THE PLANTS SHALL HAVE TOPS OF GOOD QUALITY AND BE IN HEALTHY GROWING CONDITION. AN ESTABLISHED CONTAINER GROWN PLANT SHALL BE TRANSPLANTED INTO A CONTAINER AND GROWN IN THAT CONTAINER SUFFICIENTLY LONG ENOUGH FOR THE NEW FIBROUS ROOTS TO HAVE DEVELOPED SO THAT THE ROOT MASS WILL RETAIN ITS SHAPE AND HOLD TOGETHER WHEN REMOVED FROM THE CONTAINER.

**Palm Planting Detail**

Tree Stakes are to be removed between 6-12 months by the Owner. NTS

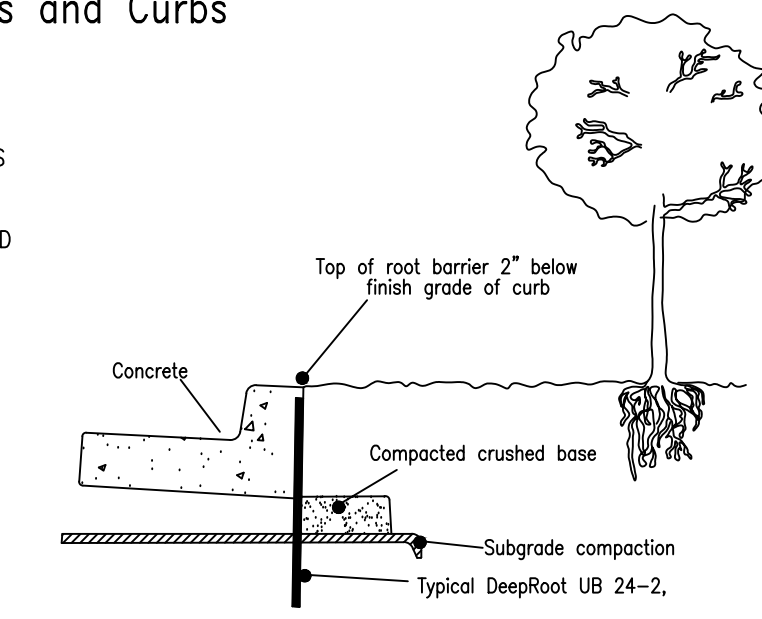


**GENERAL NOTES:**

1. THE CONTRACTOR SHALL PERSONALLY ACQUAINT HIM/HER SELF WITH THE EXISTING SITE CONDITIONS AND THE EXTENT AND SCOPE OF WORK REQUIRED.
2. THE PLANT LIST INDICATES THE NAMES, SIZES AND SPACING OF SPECIFIC PLANT MATERIALS. QUANTITIES HAVE BEEN PROVIDED TO THE CONTRACTOR AS A CONVENIENCE, THE CONTRACTOR IS RESPONSIBLE FOR HIS/HER OWN QUANTITY COUNT. IN CASE OF DISCREPANCIES BETWEEN THE DRAWINGS AND PLANT LIST, THE QUANTITIES ON THE DRAWINGS SHALL PREVAIL.
3. NO SUBSTITUTES ON VARIETIES LISTED WILL BE ALLOWED WITHOUT WRITTEN APPROVAL FROM LANDSCAPE ARCHITECT.
4. PLANTS SHALL BE WATERED AS NECESSARY OR WITHIN 24 HOURS AFTER NOTIFICATION BY THE LANDSCAPE ARCHITECT.
5. THE LOCATIONS OF PLANTS, AS SHOWN IN THESE PLANS, ARE APPROXIMATE. THE FINAL LOCATIONS MAY BE ADJUSTED TO ACCOMMODATE UNFORESEEN FIELD CONDITIONS. MAJOR ADJUSTMENTS TO THE LAYOUT ARE TO BE APPROVED BY THE LANDSCAPE ARCHITECT OF RECORD.
6. ALL PLASTIC FABRIC SHALL BE REMOVED FROM PLANT MATERIAL AT TIME OF INSTALLATION.
7. ALL TREES MUST BE STAKED AS SHOWN ON THE LANDSCAPE DETAIL SHEET WITHIN 24 HRS OF PLANTING. STAKES TO REMAIN FOR A MINIMUM OF 12 MONTH BUT NO LONGER THAN 18 MONTH. CONTRACTOR RESPONSIBLE FOR MAINTENANCE AND REMOVAL OF THE STAKES.
8. ALL TREES MUST BE PRUNED AS PER LANDSCAPE ARCHITECT DIRECTION.
9. ALL SOD EDGES SHALL BE TRIMMED AS PER THE LANDSCAPE ARCHITECTS DIRECTION.
10. ALL SHRUBS, TREES, GROUNDCOVERS, SOD AND WILDFLOWER AREAS SHALL HAVE IMPROVED SOIL AS PER PLANTING SOIL NOTES.
11. DO NOT ALLOW AIR POCKETS TO FORM WHEN BACKFILLING.
12. SOAK PLANTS IMMEDIATELY WITH WATER FOLLOWING PLANTING.
13. MAINTAIN THE ORIGINAL GRADE OF THE TREE BASE.
14. DO NOT BREAK ROOTBALL.
15. ALL PLANT SHALL BE HARDY UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE ON LOCALITY OF THE PROJECT.
16. THE LANDSCAPE CONTRACTOR SHALL WATER, MULCH, WEED, PRUNE, AND OTHERWISE MAINTAIN ALL PLANTS, INCLUDING SOD, UNTIL COMPLETION OF THE CONTRACT OR ACCEPTANCE BY THE LANDSCAPE ARCHITECT. SETTLED PLANTS SHALL BE RESET TO PROPER GRADE, PLANTING SAUCERS RESTORED, AND DEFECTIVE WORK CORRECTED.
17. THE LANDSCAPE CONTRACTOR SHALL AT ALL TIMES KEEP THE PREMISES FREE FROM ACCUMULATION OF WASTE MATERIALS OR DEBRIS CAUSED BY THE CREWS DURING THE PERFORMANCE OF THE WORK. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL PROMPTLY REMOVE ALL WASTE MATERIALS, DEBRIS, UNUSED PLANT MATERIAL, EMPTY PLANT CONTAINERS AND ALL EQUIPMENT FROM THE PROJECT SITE.
18. UPON COMPLETION OF THE WORK, THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT AND REQUEST A FINAL INSPECTION. ANY ITEMS THAT ARE JUDGED INCOMPLETE OR UNACCEPTABLE BY THE LANDSCAPE ARCHITECT OR REPRESENTATIVE SHALL BE PROMPTLY CORRECTED BY THE LANDSCAPE CONTRACTOR.
19. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE IN WRITING FROM THE LANDSCAPE ARCHITECT. AT THE TIME OF FINAL ACCEPTANCE THE ONE (1) YEAR PERIOD SHALL COMMENCE. ANY MATERIALS WHICH HAVE DIED DURING THIS PERIOD SHALL BE PROMPTLY REPLACED WITH SPECIMENS THAT MEET THE MINIMUM REQUIREMENTS CALLED FOR IN THE DRAWINGS. THE LANDSCAPE CONTRACTOR SHALL NOT BE HELD RESPONSIBLE FOR THE DEATH OR DAMAGE RESULTING FROM LIGHTNING, VANDALISM, AUTOMOBILES OR FROM NEGLIGENCE BY THE OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING AND OTHERWISE MAINTAINING PLANTS DURING THE GUARANTEE PERIOD UNLESS A WRITTEN AGREEMENT WITH THE LANDSCAPE ARCHITECT PROVIDES FOR A DIFFERENT ARRANGEMENT.
20. ALL LABOR AND MATERIAL FOR SOIL AMENDMENTS AND FERTILIZER THAT IS REQUIRED TO INSURE THE SUCCESSFUL ESTABLISHMENT AND SURVIVAL OF THE PROPOSED VEGETATION AS WELL AS ALL COST FOR THE REMOVAL OF UNSUITABLE OR EXCESS BACKFILL MATERIAL SHALL BE INCLUDED IN THE CONTRACTORS BID TO PERFORM THE WORK PRESENTED IN THIS PLAN SET.
21. NO LANDSCAPING ADDED UNDER THIS PROJECT SHALL BE LOCATED SUCH THAT SAID LANDSCAPING OBSCURES MOTORIST'S VISIBILITY OF ANY EXISTING SIGN(S).

**Linear Application of DeepRoot Tree Root Barriers at Time of Installing Concrete Sidewalks and Curbs**

TYPICAL SECTION OF CURB AND GUTTER WITH DEEPROOT TREE ROOT BARRIER INSET INTO CONCRETE. BARRIER INSTALLED IN A TRENCH IN SUBGRADE WHICH IS THEN COMPACTED. BARRIER IS SET SO THAT TOP EDGE WILL BE 2" BELOW FINISH GRADE OF CURB, AND SET FLUSH WITH EDGE OF CURB. BARRIER RIBS FACE TOWARD TREE ROOTS.

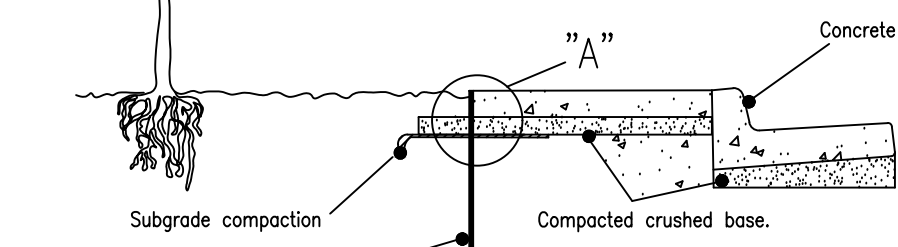


**INSTALLATION SEQUENCE:**

1. Prepare base and subgrade
2. Trench to appropriate depth for installation of root barrier so that top of barrier is 2" below finish grade of top of curb.
3. Place root barrier in trench, vertical ribs must face toward tree roots.
4. Backfill and compact to requirements.
5. Place form material against barrier (it may be nailed from the outside of the form)

TYPICAL SECTION OF CURB, GUTTER AND SIDEWALK WITH DEEPROOT TREE ROOT BARRIER INSET INTO CONCRETE

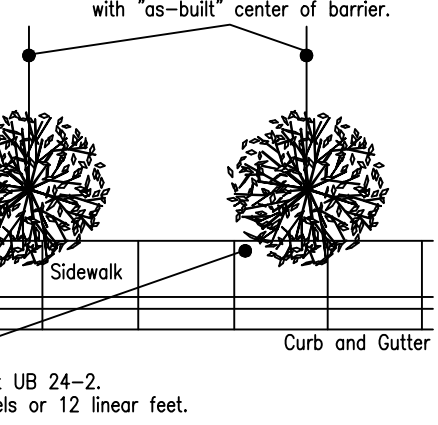
BARRIER INSTALLED IN A TRENCH IN SUBGRADE WHICH IS THEN COMPACTED. BARRIER IS SET SO THAT TOP EDGE WILL BE 2" ABOVE COMPACTED BASE (OR HALFWAY BETWEEN BASE AND FINISH GRADE OF SW). BARRIER RIBS FACE TOWARD TREE ROOTS.



**INSTALLATION SEQUENCE:**

1. Prepare base and subgrade
2. Trench to appropriate depth for installation of root barrier so that top of barrier is 2" (5cm) below finish grade of top of sidewalk (or halfway between top of compacted base and finish grade of SW)
3. Place root barrier in trench, vertical ribs must face toward tree roots.
4. Backfill and compact to requirements.
5. Place form material against barrier (it may be nailed from the outside of the form)

IMPORTANT NOTE: Tree location must align with "as-built" center of barrier.



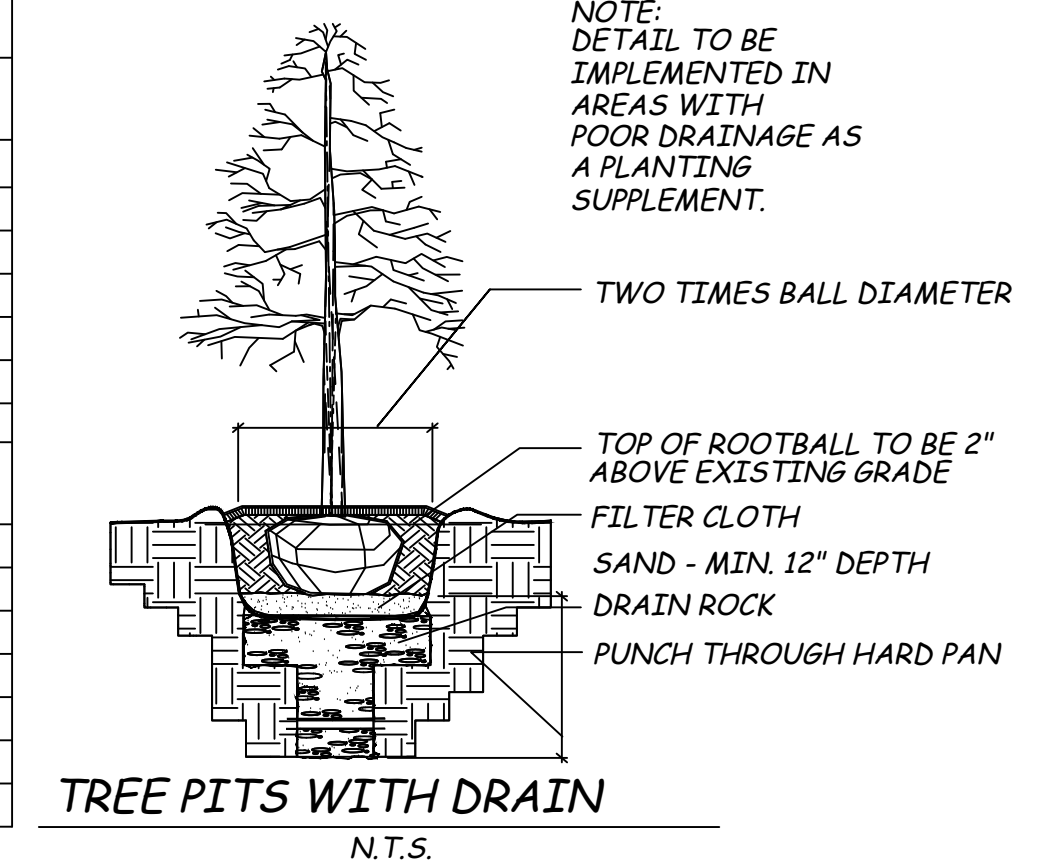
**WATERING SCHEDULE**

APPLICATION SCHEDULE	
PALM TREES	20 GAL/APPLICATION/PLANT
LARGE TREES	30 GAL/APPLICATION/PLANT
SMALL TREES	20 GAL/APPLICATION/PLANT
LARGE SHRUBS	10 GAL/APPLICATION/PLANT
SMALL SHRUBS	5 GAL/APPLICATION/PLANT
GROUNDCOVER	5 GAL/APPLICATION/PLANT

APPLICATION AMOUNT	
MONTH 1	12 APPLICATIONS
MONTH 2	12 APPLICATIONS
MONTH 3	8 APPLICATIONS
MONTH 4	8 APPLICATIONS
MONTH 5	5 APPLICATIONS
TOTAL:	45 APPLICATIONS

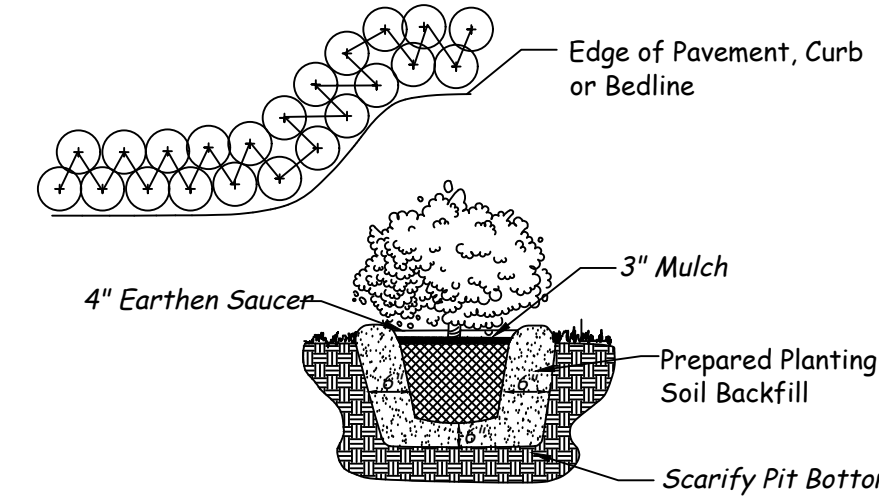
**ABBREVIATIONS:** C.T. - CLEAR TRUNK  
 Ht. - HEIGHT  
 O.C. - ON CENTER  
 Spr. - SPREAD



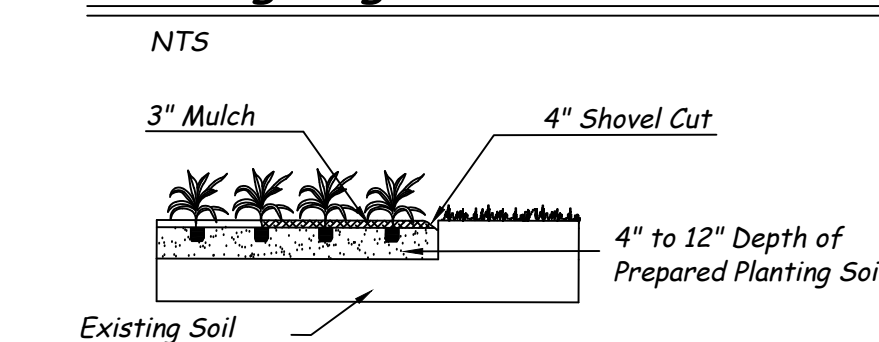
NOTE: DETAIL TO BE IMPLEMENTED IN AREAS WITH POOR DRAINAGE AS A PLANTING SUPPLEMENT.

**Shrub & Groundcover Planting Detail**

Note: All Shrubs And Groundcover Shall Be Triangular Spaced Along Straight Edges And Will Be Planted In Parallel Rows Along Curved Edges. NTS

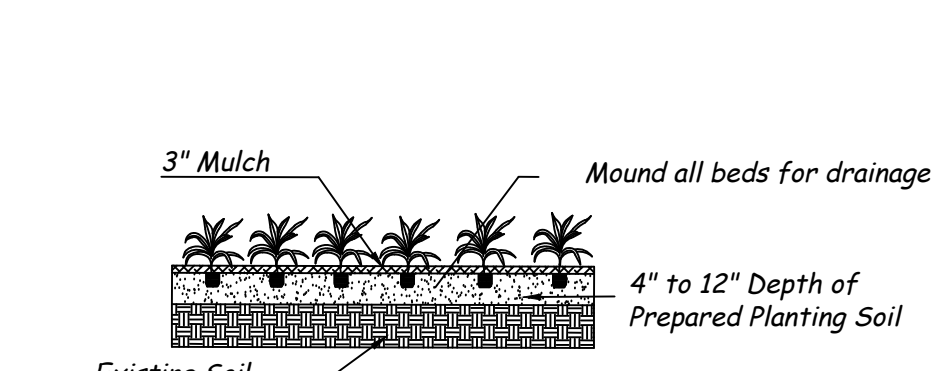


**Planting Edge at Sod Detail**

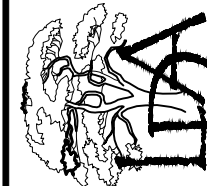
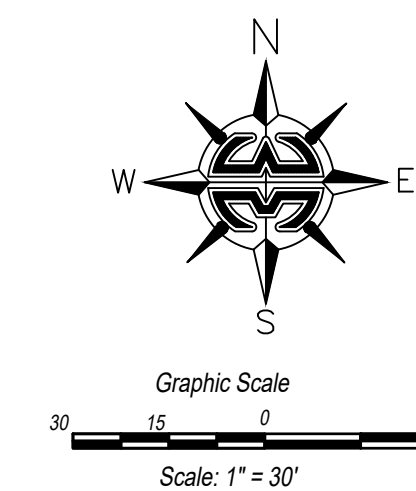
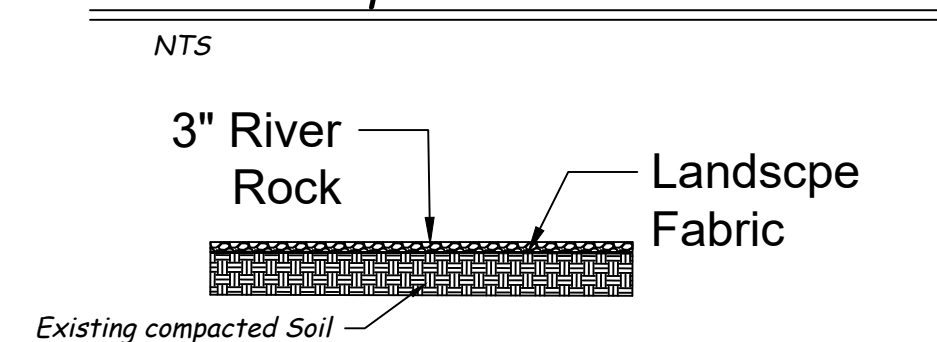


**Groundcover & Annual Detail**

NOTE: Annuals Are To Be Planted As Per Groundcover Detail Excluding Mulch. NTS

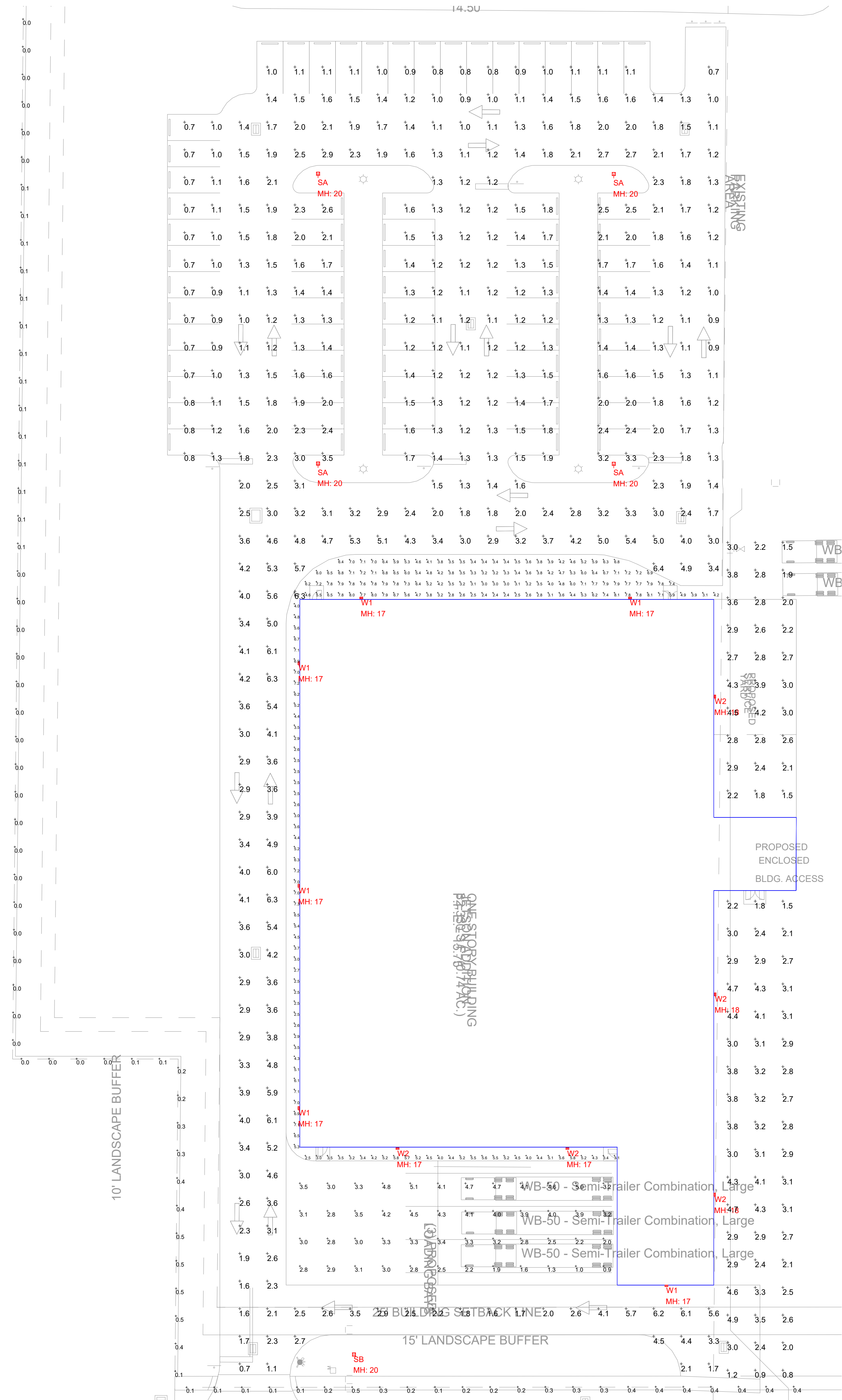


**Gravel Strip Detail**



Revisions	Scale:	NTS
Date	Drawn by:	SM
Comments	Checked by:	SM
	CADD No.:	21-043 Ip.dwg
	Date:	5.24.21

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Photometrics Calculation Software Generated Luminaire Schedule

Symbol	Qty	Label	Arrangement	Lum. Lumens	Arr. Lum. Lumens	LLF	Lum. Watts	Arr. Watts
W1	6	W1	SINGLE	14485	14485	0.900	113	113
W2	5	W2	SINGLE	14658	14658	0.900	113	113
SA	4	SA	SINGLE	20332	20332	0.900	151	151
SB	1	SB	SINGLE	14072	14072	0.900	151	151

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
LOADING AREA BAY	Illuminance	Fc	3.26	5.1	0.9	3.62	5.67
OUTSIDE BUILDING PATHWAY	Illuminance	Fc	5.10	8.1	2.4	2.13	3.38
PARKING LOT	Illuminance	Fc	2.15	6.4	0.7	3.07	9.14
PERIMETER	Illuminance	Fc	0.13	0.5	0.0	N.A.	N.A.
WEST	Illuminance	Fc	2.94	4.9	0.8	3.68	6.13

**JETSON'S WAREHOUSE ADDITION  
LIGHTING FIXTURE SCHEDULE**

TYPE	DESCRIPTION	MFR	CATALOG NUMBER	VOLTS	LAMPS	INPUT WATTS	MOUNTING	DIMMING (if Req)	REMARKS
L1	LED HIGH BAY	METALUX	LHB-24-UNV-L840-CD-U / LHB-PMK	UNV	LED	172.8W	SUSPENDED	0-10V	
L1E	LED HIGH BAY W/ EMERGENCY PACK	METALUX	LHB-24-UNV-L840-CD-EL14W-REM-U / LHB-PMK	UNV	LED	172.8W	SUSPENDED	0-10V	
L2	2' X 2' LED FLAT PANEL	METALUX	22FP3240C	UNV	LED	30.1W	RECESSED	0-10V	
L2E	2' X 2' LED FLAT PANEL W/ EMERGENCY PACK	METALUX	22FP3240C-EL7W	UNV	LED	30.1W	RECESSED	0-10V	
L3	2' LED STRIP	METALUX	2SNLED-LD5-16SL-LW-UNV-L840-CD1-U	UNV	LED	15.9W	SURFACE	0-10V	
L4	4' LED STRIP	METALUX	4SNLED-LD5-44SL-LW-UNV-L840-CD1-U	UNV	LED	38.7W	SURFACE	0-10V	
L4E	4' LED STRIP W/ EMERGENCY PACK	METALUX	4SNLED-LD5-44SL-LW-UNV-EL14W-L840-CD1-U	UNV	LED	38.7W	SURFACE	0-10V	
L5	LED WALL PACK	MCGRAW-EDISON	GWC-SA1C-740-U-T3-FINISH	UNV	LED	59W	WALL	0-10V	NOTE 1
EM	EXIT SIGN / EMERGENCY LIGHT COMBO	SURE-LITES	APC7G	UNV	LED	2.1W	SURFACE	N/A	
EX	LED EXIT SIGN	SURE-LITES	APX7G	UNV	LED	1.8W	SURFACE	N/A	

**SITE**

SA	LED SITE LUMINAIRE	LUMARK	PRV-PA2-B-740-U-5WQ-FINISH / MA1017-XX	UNV	LED	151W	20' POLE	N/A	NOTE 1, 2
SB	LED SITE LUMINAIRE	LUMARK	PRV-PA2-B-740-U-T4W-FINISH-HSS / MA1017-XX	UNV	LED	151W	20' POLE	N/A	NOTE 1, 2
W1	LED WALL PACK	MCGRAW-EDISON	GWC-SA2C-740-U-T2-FINISH	UNV	LED	113W	WALL	N/A	NOTE 1
W2	LED WALL PACK	MCGRAW-EDISON	GWC-SA2C-740-U-T4W-FINISH	UNV	LED	113W	WALL	N/A	NOTE 1

**FIXTURE SCHEDULE NOTES**

NOTE 1: ADVISE FINISH

NOTE 2: FIXTURE MOUNTED ON 20' VALMONT ALUMINUM DIRECT BURIAL POLE #1908-40504TE-P2-FINISH

FOR QUESTIONS PERTAINING TO THIS FIXTURE SCHEDULE PLEASE CONTACT RYAN HUFF @ LIGHTING DYNAMICS (772) 285-7169; RHUFF@LIGHTINGDYNAMICS.COM



Based on the information provided, all dimensions and luminaire locations shown represent recommended positions. The engineer and/or architect must determine applicability of the layout to existing or future field conditions. This lighting pattern represents illumination levels calculated from laboratory data taken under controlled conditions utilizing current industry standard lamp ratings in accordance with Illuminating Engineering Society approved methods. Actual performance of any manufacturer's luminaire may vary due to variation in electrical voltage, tolerance in lamps and other variable field conditions.

**NOTES:**

2	PHOTOMETRIC LAYOUT	06/03/21
1	PHOTOMETRIC LAYOUT	06/01/21
No.	Revision/Issue	Date

**LIGHTING DYNAMICS, INC.**  
7835 West Commercial Blvd.  
Tamarac, FL 33351  
(954) 944-0286  
www.lightingdynamics.com

Project Name and Address  
**JETSON'S WAREHOUSE**  
SITE - Normal mode  
Ft. Pierce, FL

FILE J:\PROJECTS\2021\JANUARY  
CLIENT MBV ENGINEERING

Project Jetson's Warehouse Sheet  
Date 06/03/2021 **LO**  
Scale 1/2" = 1' DRAWN BY EC / MG

# STORMWATER MANAGEMENT CALCULATIONS

for

## JETSONS FORT PIERCE SITE EXPANSION

FORT PIERCE, FLORIDA

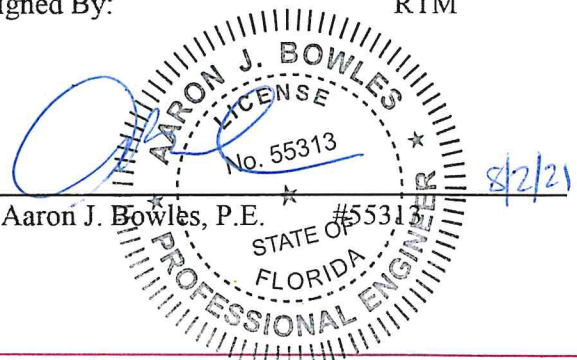
AUGUST 2021

Prepared by: MBV Engineering, Inc.  
1835 20th Street  
Vero Beach, Florida 32960  
772-569-0035  
Certificate of Authorization #: 3728

Engineers Project #: 19-0273  
Designed By: RTM

Mr. Aaron J. Bowles, P.E. #55313

STATE OF FLORIDA  
PROFESSIONAL ENGINEER





## TABLE OF CONTENTS

- I Purpose
- II Proposed System
- III Site Data
- IV Pre-Development Conditions
- V Post Development Conditions
- VI Required Treatment Volume
- VII Proposed Treatment Volume
- VIII Stage-Storage Computation
- IX. Summary

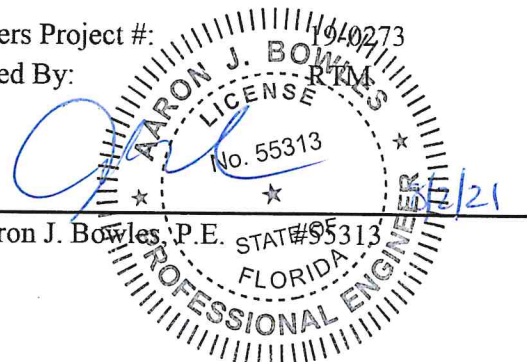
### APPENDICES

- Appendix A** ICPR Modeling Data:  
10YR-24HR, 25YR-72 HR, 100YR-72HR
- Appendix B** Geotechnical Investigation by KSM Engineering  
(KSM Internation, Dated 3/3/2021)
- Appendix C** SFWMD Permit 56-02898-P Excerpt
- Appendix D** Other Miscellaneous Backup  
(Mannings Table, Curve Number Sheet, Pre-Tc / Basin Exhibit)

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772-569-0035  
Certificate of Authorization #: 3728

Engineers Project #: 1910273  
Designed By: RTM

Mr. Aaron J. Bowles, P.E. STATE # 55313



## I. PURPOSE

The purpose of this report is to provide City of Ft. Pierce, St. Lucie County, SFWMD, and FDOT with calculations and documentation which demonstrates the proposed surface water management system complies with state and local criteria.

## II. PROPOSED SYSTEM

The proposed stormwater management system is comprised of an expansion / retrofit of the existing dry retention basin to support the expanded site area and additional impervious coverage associated with the proposed construction. It is the intention of the retrofitted master stormwater system to maintain the existing outfall location at the SE corner of the project and discharge into the FDOT US Drainage system.

The retention basin is designed to retain the required treatment volume and attenuation per the following SFWMD Water Quality / Quantity Criteria:

1. Minimum pavement elevations shall exceed the 10yr- 24hr storm event. (6.0" Rainfall)
2. The site shall provide storage to sustain the 25yr-72hr storm event. (7.0" Rainfall)
3. Finished Floor Elevations shall exceed the 100yr-72hr storm event (9.0" Rainfall)

## III. SITE DATA

Existing Parcel Area (East)	168,713 s.f.	3.87 ac
Proposed Expansion Area (West)	156,334 s.f.	3.59 ac
Drainage Basin Area (Post-Dev.)	325,047 s.f.	7.46 ac

Site Location (East): 4145 S. US Hwy. 1  
Fort Pierce, FL

Site Location (West): 504 Tumblin Kling  
Fort Pierce, FL

Flood Zone: THE SUBJECT PROPERTY IS LOCATED IN FLOOD ZONE AE (EL 6 FEET)  
PER FLOOD INSURANCE RATE MAP #12061C0242 H, DATED DEC. 4, 2012.

Site Soils:

The soil survey mapped the area as (2), Anokona and Farmton sands and (47) Urban Land (0 to 2 % Slopes), HSG C/D & B/D & C/D, respectively

Pre-Development: HSG C/D, See Appendix D

Post-Development: HSG C, See Appendix D

Soil Boring #		DEPTH (INCHES BELOW GRADE)	HORIZONTAL FLOW RATE (ft/day)	VERTICAL FLOW RATE (ft/day)
<u>Soil Boring P-1:</u>				
Existing Grade at Soil Boring		12.6 ft. (NAVD)		
Measured Water Table Elev.		11.7 ft. (NAVD)	11	2.8
Seasonal High Water Elev.		11.4 ft. (NAVD)	15	1.73
<u>Soil Boring P-2:</u>				
Existing Grade at Soil Boring		13.5 ft. (NAVD)		
Measured Water Table Elev.		10.0 ft. (NAVD)	42	12.9
Seasonal High Water Elev.		12.2 ft. (NAVD)	16	5.95
<u>Soil Boring P-3:</u>				
Existing Grade at Soil Boring		13.5 ft. (NAVD)		
Measured Water Table Elev.		9.8 ft. (NAVD)	44	12.2
Seasonal High Water Elev.		12.1 ft. (NAVD)	17	5.6
Average SHWT Elev. =		11.9 ft. (NAVD)	$k_h = 9.3^*$	$k_v = 4.4^*$

\* Flow rates shown are the averages of the flows at differing strata.

#### IV. PRE-DEVELOPMENT CONDITIONS

The previously permitted east parcel, permitted under SFMWD 56-02898-P, is served by a dry detention water management facility with discharge to the US Hwy. 1 R/W via a control structure located in the SE corner of the property. An excerpt of the SFMWD permit documents are included in appendix C for reference.

##### 4145 S. US Hwy 1 (East Parcel)

Site Area	168,713 s.f.	3.87	100.0%
Exist. Building Area	53,220 s.f.	1.22	31.5%
Exist. Pavement Area	54,454 s.f.	1.25	32.3%
Exist. Pavement Area	22,715 s.f.	0.52	13.5%
Total Impervious	130,389 s.f.	2.99	77.3%
Total Pervious	38,324 s.f.	0.88	22.7%

##### *Weighted Curve Number for Drainage Basin*

% Impervious	77.3%	Soil Group D	CN1 = 98
% Semi-Impervious	0.0%	Soil Group D	CN2 = 98
% Pervious	22.7%	Soil Group D	CN3 = 79

\*Non DCIA CN Value Based on Woods (Fair Condition) - HSG D

$$CN = [(\% \text{ Impervious})(CN1) + (\% \text{ Semi-Impervious})(CN2) + (\% \text{ Pervious})(CN3) ]$$

$$CN = 93.7$$

*Time of Concentration (Previously Permitted):*

15.0 min.

The existing, marginally developed West parcel is heavily wooded and is comprised of (2) pre-development basins (A & B). See appendix D for Basin Exhibit. Basin A drains from the center of the parcel southerly towards the Tumblin Kling R/W conveyance system and ultimately the US 1 drainage system. Basin B drains toward the NW corner of the parcel with an overland flow into the Platts Branch Tributary creek. The creek drains west from US Hwy1 to the North Fork of the St. Lucie River. For design purposes, only basin A was included in the pre-development model as it maintains the same downstream receiving system as the proposed post-development expansion.

**504 Tumblin Kling (West Parcel) Basin A**

Site Area	87,536 s.f.	2.01	100.0%
Exist. Building Area	3,528 s.f.	0.08	4.0%
Exist. Asphalt Pavement Area	s.f.	0.00	0.0%
Exist. Conc. Pavement Area	7,285 s.f.	0.17	8.3%
Total Impervious	10,813 s.f.	0.25	12.4%
Total Pervious	76,723 s.f.	1.76	87.6%

*Weighted Curve Number for Drainage Basin*

% Impervious	12.4%	Soil Group D	CN1 = 98
% Semi-Impervious	0.0%	Soil Group D	CN2 = 98
% Pervious	87.6%	Soil Group D	CN3 = 73

\*Non DCIA CN Value Based on Warnings Table, Curve Number Sheet)

$$CN = [(\% \text{ Impervious})(CN1) + (\% \text{ Semi-Impervious})(CN2) + (\% \text{ Pervious})(CN3) ]$$

$$CN = 76.1$$

*Time of Concentration*

T<sub>1</sub>: Over wooded area

$$T_c = [ 0.007 (N \times L)^{0.8} ] / [ P^{0.5} \times S^{0.4} ]$$

Kinematic Wave Eq.

Where :

- N = Mannings Roughness Coeff. =
- L = Length of Flow (ft) =
- Change in elevation (ft) =
- P = Rainfall Intensity (in/hr) =
- S = slope (ft/ft) =

0.250
325
1.15
5.5
0.0035

$$T_1 = \underline{57.7 \text{ min.}}$$

Total Time of Concentration (T<sub>c</sub>)

57.7 min.
-----------

**504 Tumblin Kling (West Parcel) Basin B**

Site Area	68,798 s.f.	1.58	100.0%
Exist. Building Area	s.f.	0.00	0.0%
Exist. Asphalt Pavement Area	s.f.	0.00	0.0%
Exist. Conc. Pavement Area	s.f.	0.00	0.0%
Total Impervious	0 s.f.	0.00	0.0%
Total Pervious	68,798 s.f.	1.58	100.0%

*Weighted Curve Number for Drainage Basin*

% Impervious	0.0%	Soil Group D	CN1 = 98
% Semi-Impervious	0.0%	Soil Group D	CN2 = 98
% Pervious	100.0%	Soil Group D	CN3 = 73

\*Non DCIA CN Value Based on Warnings Table, Curve Number Sheet)

$$CN = [(\% \text{ Impervious})(CN1) + (\% \text{ Semi-Impervious})(CN2) + (\% \text{ Pervious})(CN3) ]$$

CN = 73.0

*Time of Concentration*

T<sub>1</sub>: Over wooded area

$$T_c = [ 0.007 (N \times L)^{0.8} ] / [ P^{0.5} \times S^{0.4} ]$$

Where :

N = Mannings Roughness Coeff. =  
 L = Length of Flow (ft) =  
 Change in elevation (ft) =  
 P = Rainfall Intensity (in/hr) =  
 S = slope (ft/ft) =

Kinematic Wave Eq.

0.250
300
0.95
5.5
0.0032

T<sub>1</sub> = 56.6 min.

Total Time of Concentration (T<sub>c</sub>)

56.6 min.
-----------

## V. POST-DEVELOPMENT CONDITIONS

Drainage Basin Area (Post-Dev.)	325,047 s.f.	7.46	100.0%
Total Building Area	85,550 s.f.	1.96	26.3%
Asphalt Asphalt Area	95,282 s.f.	2.19	29.3%
Total Concrete Area	18,216 s.f.	0.42	5.6%
Total Impervious Area	199,048 s.f.	4.57	61.2%
Total Pervious Area	125,999 s.f.	2.89	38.8%
Net Impervious Area	68,659 s.f.	1.58	100.0%

### Weighted Curve Number for Drainage Basin

% Impervious	61.2%	Soil Group C	CN1 = 98
% Semi-Impervious	0.0%	Soil Group C	CN2 = 98
% Pervious	38.8%	Soil Group C	CN3 = 74

\*Non DCIA CN Value Based on Open Space (Good Condition) - HSG C

$$CN = [(\% \text{ Impervious})(CN1) + (\% \text{ Semi-Impervious})(CN2) + (\% \text{ Pervious})(CN3) ]$$

$$CN = 88.7$$

### Time of Concentration

$$T_1: \text{Roof to Ground (Building Discharge)} \quad T_1 = \underline{2.0 \text{ min.}}$$

T<sub>2</sub>: Over Asphalt Drive

$$T_c = [ 0.007 (N \times L)^{0.8} ] / [ P^{0.5} \times S^{0.4} ] \quad \text{Kinematic Wave Eq.}$$

Where :

N = Mannings Roughness Coeff. =	0.015
L = Length of Flow (ft) =	20
Change in elevation (ft) =	0.5
P = Rainfall Intensity (in/hr) =	5.5
S = slope (ft/ft) =	0.0250
	T <sub>2</sub> = <u>3 min.</u>

$$T_3 = \text{time in pipe} = L / \text{Vel} = 475' / 1 \text{ fps} = \quad T_3 = \underline{7.9 \text{ min.}}$$

Time of Concentration (T <sub>c</sub> )	Calculated T <sub>c</sub> =	8.2 min.
	Min. T <sub>c</sub> =	10.0 min.

## VI. REQUIRED TREATMENT VOLUME

### A. Treatment Volume Tabulations Based on Contributing Area

Total Contributing Area (ac) =	7.462	100.0%
Total Impervious Area (ac) =	4.570	61.2%

Required Treatment over site (in) =	1.0	0.622 ac-ft = 27,087 cf
Required Treatment over impervious area (in) =	2.50	0.952 ac-ft = 41,468 cf

Required Treatment Volume from above Wet Detention (ac-ft) =	0.952 ac-ft = 41,468 cf
Required Treatment Volume from above Dry Detention (ac-ft) (75% WD REQ.) =	0.714 ac-ft = 31,101 cf
Required Treatment Volume from above Dry Retention (ac-ft) (50% WD REQ.) =	0.476 ac-ft = 20,734 cf

Total Required Treatment Volume (ac-ft) =	0.714 ac-ft	= 31,101 cf
---	-------------	-------------

<b>Total Required Treatment Volume for Basin (ac-ft) = Max. of ` above =</b>	<b>0.714 ac-ft</b>	<b>= 31,101 cf</b>
--	--------------------	--------------------

## VII. PROPOSED TREATMENT VOLUME

### A. Dry Detention Stage-Storage Calculations

Stage (ft)	Area (ac)	Incremental volume (ac-ft)	Incremental volume (c.f.)	Cumulative volume (ac-ft)	Cumulative volume (c.f.)
bot. of pond = 12.65	0.031 1,350.s.f.	0.12	5,352	0.000	0
13.00	0.671 29,235.s.f.	0.59	25,764	0.123	5,352
reqd. treat. vol. = 14.00	0.512 22,294.s.f.	0.00	0	0.714	31,117
weir elev. = 14.00	0.512 22,294.s.f.	0.14	6,058	0.714	31,117
14.25	0.601 26,172.s.f.	0.38	16,741	0.853	37,175
top of bank = 14.80	0.797 34,705.s.f.			1.238	53,916

### VIII. STAGE-STORAGE COMPUTATION

	<b>Building</b>	<b>Pavement</b>	<b>Open</b>	<b>Dry Detention</b>	<b>Dry Detention</b>	
	<b>Linear</b>	<b>Linear</b>	<b>Linear</b>	<b>Bottom</b>	<b>Bank</b>	<b>Total</b>
<b>Area (ac)</b>	1.96	2.61	2.89	0.671	0.766	7.46
	<b>V</b>	<b>L</b>	<b>L</b>	<b>V</b>	<b>L</b>	
<b>Starting Elev (ft)</b>	15.75	14.50	13.20	13.00	13.00	
<b>Ending Elev (ft)</b>	15.75	15.70	16.00	14.80	14.80	

	<b>Vertical</b>	<b>Linear</b>	<b>Linear</b>	<b>Vertical</b>	<b>Linear</b>	<b>Total</b>
<b>Stage</b>	<b>Storage</b>	<b>Storage</b>	<b>Storage</b>	<b>Storage</b>	<b>Storage</b>	<b>Storage</b>
<b>NAVD</b>	<b>ac-ft</b>	<b>ac-ft</b>	<b>ac-ft</b>	<b>ac-ft</b>	<b>ac-ft</b>	<b>ac-ft</b>
12.50	0.000	0.000	0.000	0.000	0.000	0.00
13.00	0.000	0.000	0.000	0.000	0.000	0.00
13.50	0.000	0.000	0.046	0.336	0.053	0.44
14.00	0.000	0.000	0.331	0.671	0.213	1.21
14.50	0.000	0.000	0.873	1.007	0.479	2.36
15.00	0.000	0.271	1.674	1.342	0.861	4.15
15.50	0.000	1.086	2.732	1.678	1.244	6.74
16.00	0.491	2.388	4.050	2.013	1.627	10.08
16.50	1.473	3.691	5.496	2.349	2.010	13.55

## IX. SUMMARY

Following are summaries of pre-developed and post-developed discharges for the storms that have been analyzed.

### ROUTING SUMMARY

#### South Florida Water Management District (SJRWMD)

##### 10 Yr-24 Hr (6.0")

##### PRE-DEVELOPED CONDITIONS

##### 10 Year-24 Hour (SCS Type II, SFWMD-24 Storm Event)

	Peak Discharge (CFS)
PRE-DEV (EAST) PERMITTED	2.97
PRE-DEV (WEST)	0.63

##### POST-DEVELOPED CONDITIONS

##### Mean Annual- 24 hour (SCS Type II, Fl. Modified Storm Event)

	Peak Discharge (CFS)	Peak Stage (NAVD)
POST-DEVELOPMENT	2.04	14.41
pre/post diff.	-1.56	

##### 25Yr-72Hr (7.0")

##### PRE-DEVELOPED CONDITIONS

##### 25 Year- 72 hour (SCS Type II, SFWMD-72HR Storm Event)

	Peak Discharge (CFS)
PRE-DEV (EAST) PERMITTED	3.23
PRE-DEV (WEST)	1.95

##### POST-DEVELOPED CONDITIONS

##### 25 Year- 72 hour (SCS Type II, SFWMD-72HR Storm Event)

	Peak Discharge (CFS)	Peak Stage (NAVD)
Post-Development: HSG C, See Appendix I		
POST-DEVELOPMENT	3.60	14.65
pre/post diff.	-1.58	

##### 100Yr-72Hr (9.0")

##### 100 Year- 72 hour (SCS Type II, SFWMD-72 Storm Event)

	Peak Stage (NAVD)	F.F.E. (MIN.) (NAVD)
POST-DEVELOPMENT	14.38	15.73

As demonstrated by the above calculations and the flood routing computations contained in the appendices of this report, the proposed stormwater management system meets the requirements of the South Florida Water Management District, St. Lucie County, FDOT, and the City of Fort Pierce. The system provides adequate treatment volume and attenuation for the 10yr-24 hr. and 25yr-72 hr. storm events as well finished floor evaluation for the 100 year – 72 hr. storm event.

**Appendix A**  
**ICPR Modeling Data:**  
10YR-24HR, 25YR-72 HR, 100YR-72HR

## Node Max Conditions [Scenario1]

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft <sup>2</sup> ]
PRE-WEST STAGE-STORAGE	A. 10YR-24HR	14.50	13.66	0.0004	0.64	0.63	12145
PROP. STAGE STORAGE	A. 10YR-24HR	14.80	14.41	0.0010	4.07	2.04	93958
TAILWATER	A. 10YR-24HR	15.00	12.25	0.0003	2.60	0.00	0
PRE-WEST STAGE-STORAGE	B. 25YR-72HR	14.50	14.05	0.0005	2.02	1.95	31277
PROP. STAGE STORAGE	B. 25YR-72HR	14.80	14.65	0.0010	21.86	3.60	126873
TAILWATER	B. 25YR-72HR	15.00	14.05	0.0003	5.54	0.21	0
PRE-WEST STAGE-STORAGE	C. 100YR-72HR	14.50	14.05	0.0003	0.45	0.45	31274
PROP. STAGE STORAGE	C. 100YR-72HR	14.80	14.38	0.0010	1.94	1.77	90456
TAILWATER	C. 100YR-72HR	15.00	14.05	0.0003	2.23	0.39	0

Simple Basin: POST-DEVELOPMENT

Scenario: Scenario1  
 Node: PROP. STAGE STORAGE  
 Hydrograph Method: NRCS Unit Hydrograph  
 Infiltration Method: Curve Number  
 Time of Concentration: 10.0000 min  
 Max Allowable Q: 0.00 cfs  
 Time Shift: 0.0000 hr  
 Unit Hydrograph: UH256  
 Peaking Factor: 256.0  
 Area: 7.4600 ac  
 Curve Number: 88.7  
 % Impervious: 0.00  
 % DCIA: 0.00  
 % Direct: 0.00  
 Rainfall Name:

Comment:

Simple Basin: WEST- PRE-DEV

Scenario: Scenario1  
 Node: PRE-WEST STAGE-STORAGE  
 Hydrograph Method: NRCS Unit Hydrograph  
 Infiltration Method: Curve Number  
 Time of Concentration: 57.7000 min  
 Max Allowable Q: 0.00 cfs  
 Time Shift: 0.0000 hr  
 Unit Hydrograph: UH256  
 Peaking Factor: 256.0  
 Area: 2.0000 ac  
 Curve Number: 76.1  
 % Impervious: 0.00  
 % DCIA: 0.00  
 % Direct: 0.00  
 Rainfall Name:

Comment:

Node: PRE-WEST STAGE-STORAGE

Scenario: Scenario1  
 Type: Stage/Area  
 Base Flow: 0.00 cfs  
 Initial Stage: 13.50 ft  
 Warning Stage: 14.50 ft

Stage [ft]	Area [ac]	Area [ft <sup>2</sup> ]
13.50	0.1000	4356
14.30	1.0000	43560

Comment:

**Node: PROP. STAGE STORAGE**

Scenario: Scenario1  
 Type: Stage/Area  
 Base Flow: 0.00 cfs  
 Initial Stage: 13.00 ft  
 Warning Stage: 14.80 ft

Stage [ft]	Area [ac]	Area [ft <sup>2</sup> ]
13.00	0.0000	0
13.50	0.4400	19166
14.00	1.2200	53143
14.50	2.3600	102802
15.00	4.1500	180774
15.50	6.7400	293594
16.00	10.0800	439085
16.50	13.5500	590238

Comment:

**Node: TAILWATER**

Scenario: Scenario1  
 Type: Time/Stage  
 Base Flow: 0.00 cfs  
 Initial Stage: 11.35 ft  
 Warning Stage: 15.00 ft  
 Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	11.35
0	0	0	72.0000	14.05
0	0	0	360.0000	11.35

Comment: Tailwater Elevations per SFWMD Permit 56-02898-P

Drop Structure Link: CS-1	Upstream Pipe	Downstream Pipe
Scenario: Scenario1	Invert: 11.65 ft	Invert: 11.38 ft

From Node:	PROP. STAGE STORAGE	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	TAILWATER	Geometry:	Circular	Geometry:	Circular
Link Count:	1	Max Depth:	1.25 ft	Max Depth:	1.25 ft
Flow Direction:	Both	Bottom Clip			
Solution:	Combine	Default:	0.00 ft	Default:	0.00 ft
Increments:	0	Op Table:		Op Table:	
Pipe Count:	1	Ref Node:		Ref Node:	
Damping:	0.0000 ft	Manning's N:	0.0000	Manning's N:	0.0000
Length:	20.00 ft	Top Clip			
FHWA Code:	0	Default:	0.00 ft	Default:	0.00 ft
Entr Loss Coef:	0.00	Op Table:		Op Table:	
Exit Loss Coef:	1.00	Ref Node:		Ref Node:	
Bend Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Pipe Comment:

Weir Component	
Weir:	1
Weir Count:	1
Weir Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Sharp Crested Vertical
Geometry Type:	Rectangular
Invert:	14.00 ft
Control Elevation:	14.00 ft
Max Depth:	999.00 ft
Max Width:	2.00 ft
Fillet:	0.00 ft
Bottom Clip	
Default:	0.00 ft
Op Table:	
Ref Node:	
Top Clip	
Default:	0.00 ft
Op Table:	
Ref Node:	
Discharge Coefficients	
Weir Default:	3.200
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Weir Comment:

Weir Component	
Weir:	2
Weir Count:	1
Weir Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Sharp Crested Vertical
Geometry Type:	Circular
Invert:	11.65 ft
Control Elevation:	11.65 ft
Max Depth:	0.25 ft
Bottom Clip	
Default:	0.00 ft
Op Table:	
Ref Node:	
Top Clip	
Default:	0.00 ft
Op Table:	
Ref Node:	
Discharge Coefficients	
Weir Default:	3.200
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Weir Comment:

Weir Component:	
Weir: 3	Bottom Clip
Weir Count: 1	Default: 0.00 ft
Weir Flow Direction: Both	Op Table:
Damping: 0.0000 ft	Ref Node:
Weir Type: Horizontal	Top Clip
Geometry Type: Rectangular	Default: 0.00 ft
Invert: 14.79 ft	Op Table:
Control Elevation: 14.79 ft	Ref Node:
Max Depth: 2.25 ft	Discharge Coefficients
Max Width: 2.83 ft	Weir Default: 3.200
Fillet: 0.00 ft	Weir Table:
	Orifice Default: 0.600
	Orifice Table:

Weir Comment:

Drop Structure Comment:

Weir Link: PRE-DEV DISCHARGE	
Scenario: Scenario1	Bottom Clip
From Node: PRE-WEST STAGE-STORAGE	Default: 0.00 ft
To Node: TAILWATER	Op Table:
Link Count: 1	Ref Node:
Flow Direction: Both	Top Clip
Damping: 0.0000 ft	Default: 0.00 ft
Weir Type: Gravel Road Vertical	Op Table:
Geometry Type: Irregular	Ref Node:
Invert: 13.52 ft	Discharge Coefficients
Control Elevation: 13.52 ft	Weir Default: 2.800
Cross Section: SOUTH BASIN BOUNDARY	Weir Table:
	Orifice Default: 0.600
	Orifice Table:

Comment:

Simulation: A. 10YR-24HR  
 Scenario: Scenario1  
 Run Date/Time: 8/2/2021 11:36:20 AM  
 Program Version: ICPR4 4.07.08

General				
Run Mode:	Normal			
	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	24.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:

Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:

Extern Hydrograph Set:

Curve Number Set:

Green-Ampt Set:

Vertical Layers Set:

Impervious Set:

Tolerances & Options

Time Marching: SAOR	IA Recovery Time: 24.0000 hr
Max Iterations: 6	
Over-Relax Weight: 0.5 dec	
Fact:	
dZ Tolerance: 0.0010 ft	Smp/Man Basin Rain Global
	Opt:
Max dZ: 1.0000 ft	Rainfall Name: ~FDOT-24
Link Optimizer Tol: 0.0001 ft	Rainfall Amount: 6.00 in
	Storm Duration: 24.0000 hr
Edge Length Option: Automatic	
	Dflt Damping (1D): 0.0050 ft
	Min Node Srf Area 100 ft2
	(1D):
	Energy Switch (1D): Energy

Comment:

Simulation: B, 25YR-72HR

Scenario: Scenario1  
 Run Date/Time: 8/2/2021 11:36:21 AM  
 Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	72.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:

Unit Hydrograph

Folder:

Lookup Tables

Boundary Stage Set:

Extern Hydrograph Set:

Curve Number Set:

Green-Ampt Set:

Vertical Layers Set:

Impervious Set:

Tolerances & Options

Time Marching: SAOR	IA Recovery Time: 24.0000 hr
Max Iterations: 6	
Over-Relax Weight: 0.5 dec	
Fact: .	
dZ Tolerance: 0.0010 ft	Smp/Man Basin Rain: Global
	Opt:
Max dZ: 1.0000 ft	Rainfall Name: ~SFWMD-72
Link Optimizer Tol: 0.0001 ft	Rainfall Amount: 7.00 in
	Storm Duration: 72.0000 hr
Edge Length Option: Automatic	
	Dflt Damping (1D): 0.0050 ft
	Min Node Srf Area: 100 ft2
	(1D):
	Energy Switch (1D): Energy

Comment:

Simulation: C\_100YR-72HR  
 Scenario: Scenario1  
 Run Date/Time: 8/2/2021 11:36:24 AM  
 Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	72.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:	30.0000	30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Restart File  
Save Restart: False

Resources & Lookup Tables

Resources  
Rainfall Folder:  
Unit Hydrograph Folder:

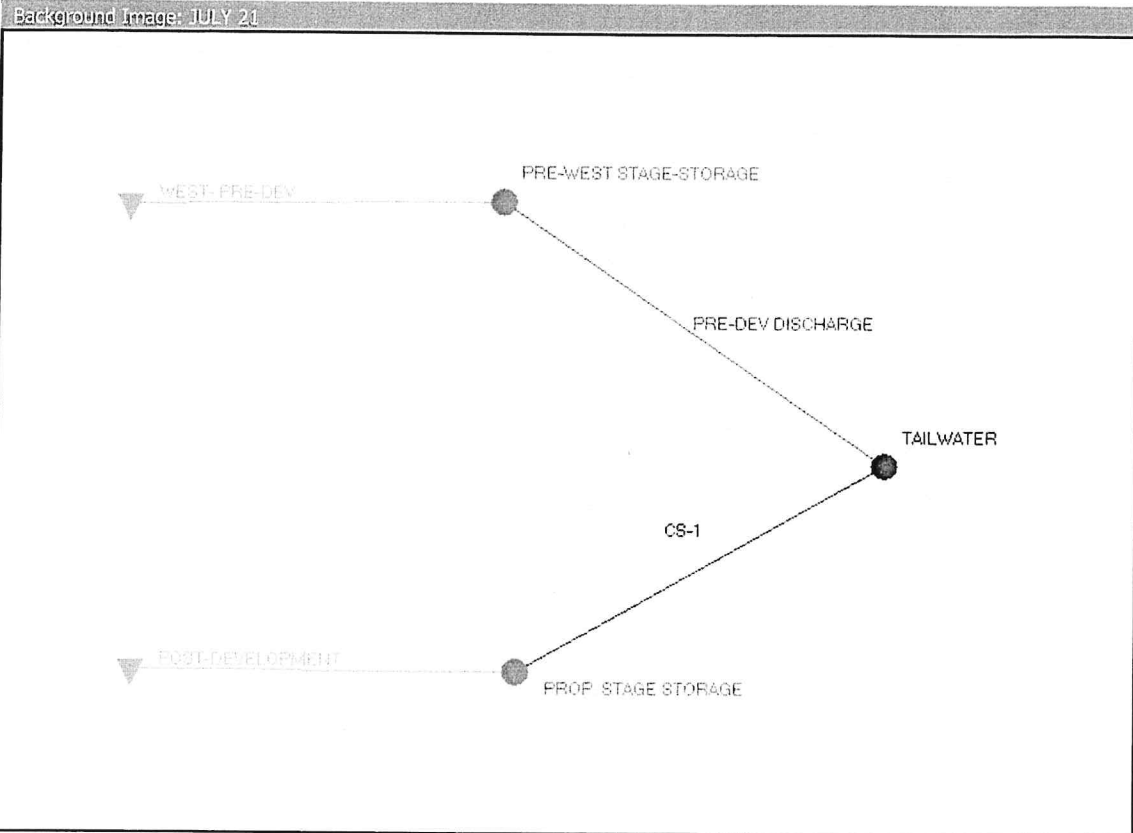
Lookup Tables  
Boundary Stage Set:  
Extern Hydrograph Set:  
Curve Number Set:  
Green-Ampt Set:  
Vertical Layers Set:  
Impervious Set:

Tolerances & Options

Time Marching: SAOR  
Max Iterations: 6  
Over-Relax Weight Fact: 0.5 dec  
dZ Tolerance: 0.0010 ft  
Max dZ: 1.0000 ft  
Link Optimizer Tol: 0.0001 ft  
Edge Length Option: Automatic

IA Recovery Time: 24.0000 hr  
Smp/Man Basin Rain Opt: Global  
Rainfall Name: ~FDOT-1  
Rainfall Amount: 9.00 in  
Storm Duration: 72.0000 hr  
Dflt Damping (1D): 0.0050 ft  
Min Node Srf Area (1D): 100 ft2  
Energy Switch (1D): Energy

Comment:



**Appendix B**  
Geotechnical Investigation by KSM Engineering  
(KSM Internation, Dated 3/3/2021)

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723 Progress Way  
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March 3, 2021

Anthony Della Porta  
Della Porta Construction Inc.  
1165 22nd Street  
Vero Beach, FL 32960

**Re: Jetson's Fort Pierce  
4145 S. US 1  
Fort Pierce, Florida  
KSM Project #: 211328-b&p**

Dear Mr. Della Porta:

As requested, KSM Engineering & Testing has performed a subsurface investigation at the referenced site. Presentation of the data gathered during the investigation, together with our geotechnical related opinions, are included in this report.

#### Site Description:

At the time of drilling, the site was somewhat hilly with moderate to heavy surface vegetation and many trees.

#### Project Description:

A 39,825 square foot addition to the existing Jetson's building is planned to be constructed on the site. Loads from the structure will be transferred to the ground by conventional shallow footings. We estimate the maximum loads will be less than 3,500 pounds per linear foot along the wall foundation and less than 60 kips for any individual column load. Some additional site fill may be required to reach the desired grades.

The parking lot and the stormwater retention area will also be expanded.

The scope of our study consisted of the following:

1. Performed Standard Penetration Test borings (SPT), percolation borings (PB), and Hand Auger borings (HA) in the proposed construction area to estimate the subsoil relative density and evaluate the permeability of the soils.
2. Measured the observed groundwater level at each boring.
3. Evaluated the existing soil conditions with respect to the proposed construction and provided recommendations for site preparation and foundation design.
4. Obtain Shelby tube soil samples per each soil type encountered in order to perform both a constant head horizontal and vertical permeability tests in our laboratory.
5. Perform engineering calculations to determine the permeability coefficient "K" values along with estimates for the elevation of wet-season and dry-season water tables for the percolation test locations.
6. Prepared this report to document our findings

#### Site Investigation:

The site investigation program consisted of performing five (5) Standard Penetration Test borings in the area of the proposed addition, three (3) percolation borings in the proposed dry retention area and three (3) hand augers in the proposed pavement areas. The borings were terminated at depths ranging from 10 to 30 feet below grade. The locations of the borings are indicated on the attached location plan.

The SPT borings were completed in accordance with procedures described in ASTM D-1586. A standard 1.5 inch I.D., 2 inch O.D. split-spoon sampler is driven into the soil by successive blows of a 140 pound hammer freely falling 30 inches. The number of blows required to drive the sampler 1 foot, after seating 6 in., is designated the Penetration Resistance, or "N" value. At regular intervals the sampler is extracted from the ground and opened to allow visual examination and classification of the retained soil sample. Also, the groundwater table was allowed to stabilize and the depth of the groundwater elevation recorded from existing grade.

The hand-auger borings were performed with a 3 inch diameter bucket auger with a cutting head. It is rotated by hand and at regular intervals is extracted from the ground and the sample visually inspected. During the hand augers, a shaft with a conical point is pushed through the soil and the thrust required to push the cone tip is measured on an attached calibrated gauge. The value of the bearing pressure exerted by the cone point allows the operator to estimate the existing soil density. After the thrust was measured, the hole was advanced with a hand-auger in 1-foot increments to permit a continuation of measurement of relative density versus depth.

The relationship of the static cone penetrometer reading to the relative density is listed below:

Penetrometer Table	
Relative Density	Static Penetrometer Reading
Very Loose or Soft	<15
Loose	15-40
Medium Dense	40-70
Dense	>70

The records of the soils encountered, the penetration resistances and groundwater level are shown on the attached logs.

#### Engineering Evaluation and Conclusions:

Based on the information obtained from this site investigation, we are pleased to offer the following evaluation:

The boring logs indicate the subsurface soils consist generally of fine-grained sand, slightly silty/slightly clayed fine-grained sand and some clayed sand. Hardpan was also found in some of the borings, typically between 2 and 7 feet below grade and in varying layer thicknesses. "N" values recorded during the boring operation indicate the soil density is generally loose at the surface and becomes medium dense below a depth of 2 to 3 feet below existing grade. The loose soils encountered near the surface will not affect the proposed construction provided that our recommendations for site preparation are followed. Please refer to the soil boring logs for specific information relative to the soil description.

Based on the existing soil conditions, the proposed structure can be supported on a shallow foundation system provided that the site is properly prepared.

The following sections provide recommendations for the site preparation and foundation design.

#### Site Preparation:

The proposed building area and areas to be paved, plus a minimum margin of five feet beyond the proposed construction shall be stripped and grubbed of surface debris, including vegetation, roots and organic matter. Stumps shall be removed entirely. The building area should be graded level and proofrolled. Any soft yielding areas shall be excavated and replaced with clean compacted fill. Sufficient passes should be made during compaction operations to produce a density no less than 95 percent of its modified dry Proctor value (ASTM D 1557) to a depth of two feet. We do not recommend using heavy vibratory equipment on this site due to the proximity to the existing structures.

After the exposed surface has been proofrolled, the building and pavement areas may be filled to the desired grades. The fill material shall consist of clean granular sand containing less than 10% material passing the U.S. Standard No. 200 mesh sieve. Place structural fill in loose layers of 12 inches in thickness and compact each lift to at least 95 percent of its modified dry Proctor value.

After excavating for the footings, the disturbed footing subgrade should be recompacted to 95 percent (minimum) of its modified dry Proctor value. This can be best achieved by making several passes with a relatively light-weight walk-behind vibratory sled or roller. Tests in the excavated footings should be conducted prior to placement of any steel or concrete and conducted at every column footing and once for every 100 linear feet of footing trench.

In-place density of the compacted soil can be verified using a nuclear density gauge. The subgrade and each lift of fill should be tested for compaction at a frequency no less than one test per 2,500 sf of building area, per lift and one test per 10,000 sf of roadway area, per lift with a minimum of 4 tests in each area prepared.

#### Foundation:

Provided that our recommendations for site preparation are followed, the proposed structure may be supported on conventional concrete, steel reinforced footings designed for an allowable soil bearing pressure of 2,500 pounds per square foot, or less.

With the foundation properly designed and the site properly prepared, we anticipate total settlements less than  $\frac{3}{4}$  of an inch and differential settlement of less than  $\frac{1}{4}$  of an inch. The majority of the settlement should occur during construction. This estimate is based on a minimum strip footing width of 24 inches and 5 foot square isolated column pad footings with a minimum embedment of 16 inches. If the loading exceeds the amount listed on the front page of this report or the footer dimensions vary, please contact our office for additional settlement calculations.

#### Floor Slabs:

A conventional slab-on-grade can be used in the "at grade" portion of the building. We recommend the disturbed subgrade below the floor slab be re-compacted to 95 percent of the modified Proctor maximum dry density (ASTM D 1557) prior to placement of the concrete. An estimated modulus of subgrade reaction of 150 pounds per cubic inch (pci) can be used for design of the slab-on-grade. We recommend that expansion or control joints be incorporated between the slab and the column or wall footings. Control Joints should also be incorporated in the slab at frequent intervals to control shrinkage cracks.

A moisture barrier is recommended beneath the floor slab to prevent moisture migration from the underlying soil resulting in dampness of the slab.

Drives and Parking Areas:

We performed three (3) hand-augers in the proposed roadway to evaluate the soils in relation to the proposed pavement. We did not find any "muck" or other unsuitable material in the test borings. Penetrometer readings recorded during the investigation indicates the existing soil density is firm to medium dense.

Although a comprehensive pavement evaluation was not within the scope of this study the site may be prepared to support a flexible pavement or rigid concrete pavement. The pavement should be designed for the anticipated loads and frequencies. Refer to Table 1 for the minimum pavement section. The minimum pavement design for standard duty asphalt should include the following:

Clear the roadway area of any surface debris, including vegetation, roots, organic matter and existing pavement. Stumps shall be removed entirely. The cleared areas should be graded level and proof rolled. Any soft yielding areas shall be excavated and replaced with clean compacted fill. Sufficient passes should be made during compaction operations to produce a density no less than 95 percent of its modified dry Proctor value (AASHTO T180) to a depth of two feet. Additional fill shall consist of clean granular sand containing less than 10% material passing the U.S. Standard No. 200 mesh sieve and placed in loose layers of 12 inches and compacted to the above densities. A minimum of 16 inches separation should be maintained between the bottom of the base and the high seasonal groundwater table.

Where a concrete pavement section is used, concrete reinforcement should be designed to withstand the design traffic loads and saw cuts constructed for crack control. The concrete should have a minimum compressive strength of 4,000 psi.

Light duty pavement areas are considered car and pickup truck loading conditions and a few medium trucks such as box trucks. Heavy duty pavement areas are considered dumpster pad & apron area and semi-tractor trailer truck loading conditions.

<b>Table 1 Minimum Pavement Section</b>			
<b>Pavement Type</b>	<b>Material</b>	<b>Layer Thickness (in)</b>	
		<b>Standard Duty</b>	<b>Heavy Duty</b>
Flexible	Florida DOT Asphalt Type 3	1.5	2
	Cemented Coquina Rock (LBR of 100)*-or- Limerock* Base Course	6	8
	Clayed soil (LBR of 40)* Stabilized Subgrade	8	12
Rigid	Portland Cement (4,000 psi)	5	7
	Clayed Soil (LBR of 40)* Stabilized Subgrade	6	10

\* Compacted to minimum 98 percent of its modified dry Proctor value (AASHTO T180)

### Soil Percolation and Water Tables:

Three (3) Hydraulic Conductivity Tests were performed in the field by the 'Usual Open-Hole Test' method.

The horizontal and vertical permeability flow rates were determined by excavating a test pit adjacent to the soil profiles and obtaining undisturbed shelly tube samples. We then performed a permeability test on the field samples in our laboratory.

All these tests were performed to evaluate the drainage characteristics of the soils for this particular test location. Please note that P-1 was conducted in the bottom of the existing retention pond. If the existing retention area is to be utilized for new retention, we recommend removing the top 12" and replace with clean fine grained sand.

The following table indicates the usual Open Hole Hydraulic Conductivity test results:

Usual Open-Hole Test Results	
Test Location (See Location Plan)	Hydraulic Conductivity (CFS/SF- Ft Head)
P-1	$3.4 \times 10^{-5}$
P-2	$2.1 \times 10^{-4}$
P-3	$1.8 \times 10^{-4}$

**NOTES:**

- 1) The above hydraulic conductivity values are for a French drain installed to the same depth as the borehole tests. The designer should apply the appropriate factor of safety.
- 2) A hole diameter of 3" was used in the computation of the Hydraulic Conductivity values presented in the above table.

The following table indicates the horizontal and vertical flow rates for the test location:

<b>Constant Head Permeability Results</b>			
<b>Test Location (See Location Plan)</b>	<b>Horizontal Flow Rate (in/hr)</b>	<b>Vertical Flow Rate (in/hr)</b>	<b>Layer Depth (in)</b>
P-1	1.4	1.0	0-40
P-1	--	0.5	40-50
P-1	--	1.1	50-60
P-2	5.4	4.6	0-10
P-2	7.5	6.3	10-30
P-2	--	0.3	30-38
P-2	--	0.7	38-60
P-3	5.0	4.2	0-14
P-3	7.2	5.8	14-24
P-3	--	0.5	24-36
P-3	--	0.7	36-60

The following table indicates the measured water table along with our estimated normal wet season water table and normal dry season water table for the test location:

<b>Water Table Observations</b>			
<b>Test Location (See Location Plan)</b>	<b>Observed Water Table</b>	<b>Estimated Wet Season Water Table</b>	<b>Estimated Dry Season Water Table</b>
P-1, PB-1	11" Below Grade	15" Above Existing Grade	21" Below Existing Grade
P-2, PB-2	42" Below Grade	16" Below Grade	52" Below Grade
P-3, PB-3	44" Below Grade	17" Below Grade	53" Below Grade

This estimate is based upon our interpretation of existing site conditions and a review of the USDA Soil Survey for St. Lucie County, Florida. The majority of the site soils are mapped as (2) Ankona and Farmton sands, and (47) Urban land, 0 to 2 percent slopes, according to the Soil Survey Map of St. Lucie County, Florida.

Hydrologic Soil Group Classification for the Pre Development:

The soils in the test locations can be classified in accordance with Chapter 7, Part 630 of the USDA National Engineering Handbook as follows:

Test Location (See Location Plan)	Hydrologic Soil Group
P-1	C/D
P-2	B/D
P-3	B/D

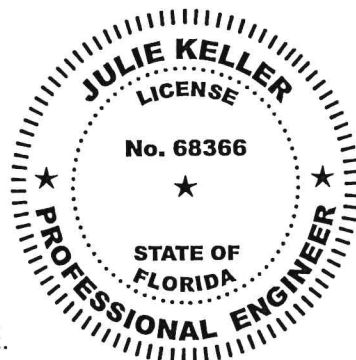
The soils in test location P-1 are part of the dual hydrologic soil group "C/D" due to the moderate fines content in the soil, the relatively low hydraulic conductivity rates of the soils and the depth to high season water table which is above existing grade.

The soils in test locations P-2 and P-3 are part of the dual hydrologic soil group "B/D" due to the moderate fines content in the soil, the high hydraulic conductivity rate of the soils in the depth range, the depth to a water impermeable layer between 20 and 40 inches below grade and the high season water table which is less than 24 inches from the surface.

Note that the Hydrologic Soil Group is a dynamic classification which changes with the conditions of the site at any given moment. Changes in water table elevation as well as changes in the ground elevations of the site can affect the hydrologic soil group for any particular location.

If you have any questions, please feel free to contact the office.

Respectfully,



Julie E. Keller, P.E.  
President  
P.E. # 68366

JEK/cv

Email to: [tonydp@dellaportaconstruction.com](mailto:tonydp@dellaportaconstruction.com)



KSM Engineering & Testing  
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 Sebastian, FL 32978  
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# BORING NUMBER B-1

PAGE 1 OF 1

CLIENT Della Porta Construction Inc. PROJECT NAME Jetson's Fort Pierce, 4145 S. US 1  
 PROJECT NUMBER 211328-b&p PROJECT LOCATION Fort Pierce, Florida  
 DATE STARTED 2/25/21 COMPLETED 2/25/21 GROUND ELEVATION \_\_\_\_\_ HOLE SIZE inches  
 DRILLING CONTRACTOR \_\_\_\_\_ GROUND WATER LEVELS:  
 DRILLING METHOD Split Spoon Sample ▽ AT TIME OF DRILLING 5.00 ft  
 LOGGED BY SR/SF CHECKED BY JEK AT END OF DRILLING \_\_\_\_\_  
 NOTES See Attached Location Plan AFTER DRILLING \_\_\_\_\_

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲		
								20	40	60
								PL      MC      LL 20      40      60      80		
								<input type="checkbox"/> FINES CONTENT (%) <input type="checkbox"/> 20      40      60      80		
0		Gray Sand with Traces of Roots								
		Light Gray Sand	SS		1-1-1 (2)					
		Dark Brown Sand with Traces of Hardpan	SS		4-7-11 (18)					
5		Brown Clayed Sand	SS		5-6-8 (14)					
		Dark Gray Sand with Traces of Hardpan	SS		8-10-8 (18)					
		Brown Sand with Some Clay	SS		4-4-4 (8)					
		Brown Sand	SS		4-6-8 (14)					
10			SS		3-4-5 (9)					

Bottom of borehole at 14.0 feet.

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 3/2/21 11:20 - K:\KSM FILES\21 DOCS (KSM-SERVER)\211328\SOIL INVESTIGATION\211328-B&P.GPJ



KSM Engineering & Testing  
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**BORING NUMBER B-2**  
 PAGE 1 OF 1

CLIENT Della Porta Construction Inc. PROJECT NAME Jetson's Fort Pierce, 4145 S. US 1  
 PROJECT NUMBER 211328-b&p PROJECT LOCATION Fort Pierce, Florida  
 DATE STARTED 2/25/21 COMPLETED 2/25/21 GROUND ELEVATION \_\_\_\_\_ HOLE SIZE inches  
 DRILLING CONTRACTOR \_\_\_\_\_ GROUND WATER LEVELS:  
 DRILLING METHOD Split Spoon Sample  $\nabla$  AT TIME OF DRILLING 5.25 ft  
 LOGGED BY SR/SF CHECKED BY JEK AT END OF DRILLING \_\_\_\_\_  
 NOTES See Attached Location Plan AFTER DRILLING \_\_\_\_\_

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
								20	40	60	80
								□ FINES CONTENT (%) □			
								20	40	60	80
0		Gray Sand with Traces of Roots									
		Light Gray Sand	X SS		1-1-2 (3)						
			X SS		2-3-2 (5)						
5		Dark Gray Sand with Traces of Hardpan	X SS		9-13-11 (24)						
		Brown Clayed Sand	X SS		4-5-6 (11)						
		Brown Sand	X SS		4-4-6 (10)						
10											

Bottom of borehole at 10.0 feet.

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 3/3/21 11:20 - K:\KSM FILES\21 DOCS (KSM-SERVER)\211328\SOIL INVESTIGATION\211328-B&P.GPJ



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**BORING NUMBER B-3**

PAGE 1 OF 1

CLIENT Della Porta Construction Inc. PROJECT NAME Jetson's Fort Pierce, 4145 S. US 1  
 PROJECT NUMBER 211328-b&p PROJECT LOCATION Fort Pierce, Florida  
 DATE STARTED 2/25/21 COMPLETED 2/25/21 GROUND ELEVATION \_\_\_\_\_ HOLE SIZE inches  
 DRILLING CONTRACTOR \_\_\_\_\_ GROUND WATER LEVELS:  
 DRILLING METHOD Split Spoon Sample ∇ AT TIME OF DRILLING 3.42 ft  
 LOGGED BY SR/SF CHECKED BY JEK AT END OF DRILLING \_\_\_\_\_  
 NOTES See Attached Location Plan AFTER DRILLING \_\_\_\_\_

GEO TECH BH PLOTS - GINT STD US LAB.GDT - 3/3/21 11:20 - K:\KSM FILES\21 DOCS (KSM-SERVER)\211328\SOIL INVESTIGATION\211328-B&P.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲		
								PL	MC	LL
								20 40 60 80		
								20 40 60 80		
								□ FINES CONTENT (%) □		
								20 40 60 80		
0		Light Brown Sand								
		Brown Clayed Sand with Traces of Roots	SS		1-1-1 (2)					
		Brown Sand with Traces of Clay	SS		3-3-4 (7)					
5			SS		4-6-5 (11)					
		Dark Brown Sand	SS		4-5-6 (11)					
			SS		3-2-3 (5)					
10		Dark Reddish Brown Sand	SS		5-7-7 (14)					
15										
		Reddish Brown Sand	SS		2-2-3 (5)					
20										
		Brown Sand	SS		2-4-4 (8)					
25										
30										

Bottom of borehole at 30.0 feet.



KSM Engineering & Testing  
 P.O. Box 78-1377  
 Sebastian, FL 32978  
 Tel: (772)-589-0712  
 Fax: (772)-589-6469

# BORING NUMBER B-4

PAGE 1 OF 1

CLIENT Della Porta Construction Inc. PROJECT NAME Jetson's Fort Pierce, 4145 S. US 1  
 PROJECT NUMBER 211328-b&p PROJECT LOCATION Fort Pierce, Florida  
 DATE STARTED 2/25/21 COMPLETED 2/25/21 GROUND ELEVATION \_\_\_\_\_ HOLE SIZE \_\_\_\_\_ inches  
 DRILLING CONTRACTOR \_\_\_\_\_ GROUND WATER LEVELS:  
 DRILLING METHOD Split Spoon Sample ∇ AT TIME OF DRILLING 4.50 ft  
 LOGGED BY SR/SF CHECKED BY JEK AT END OF DRILLING \_\_\_\_\_  
 NOTES See Attached Location Plan AFTER DRILLING \_\_\_\_\_

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲						
								20	40	60	80			
0		Gray Sand with Traces of Roots												
		Light Gray Sand	SS		1-1-2 (3)									
		Dark Gray Sand with Traces of Hardpan	SS		3-5-7 (12)									
5		∇ Brown Clayed Sand	SS		13-11-9 (20)									
		Brown Sand	SS		6-7-7 (14)									
10			SS		4-3-4 (7)									

Bottom of borehole at 10.0 feet.

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 3/2/21 11:20 - K:\KSM FILES\21 DOCS (KSM-SERVER)\211328\SOIL INVESTIGATION\211328-B&P.GPJ



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**BORING NUMBER B-5**

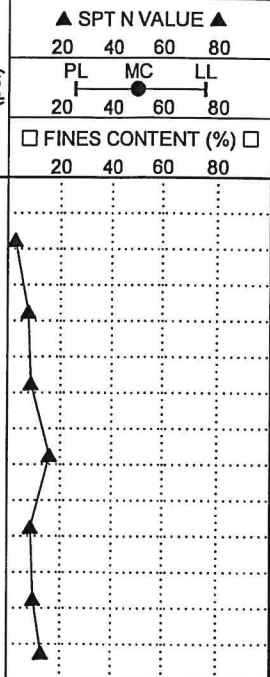
PAGE 1 OF 1

CLIENT Della Porta Construction Inc. PROJECT NAME Jetson's Fort Pierce, 4145 S. US 1  
 PROJECT NUMBER 211328-b&p PROJECT LOCATION Fort Pierce, Florida  
 DATE STARTED 2/25/21 COMPLETED 2/25/21 GROUND ELEVATION \_\_\_\_\_ HOLE SIZE \_\_\_\_\_ inches  
 DRILLING CONTRACTOR \_\_\_\_\_ GROUND WATER LEVELS:  
 DRILLING METHOD Split Spoon Sample ∇ AT TIME OF DRILLING 4.92 ft  
 LOGGED BY SR/SF CHECKED BY JEK AT END OF DRILLING \_\_\_\_\_  
 NOTES See Attached Location Plan AFTER DRILLING \_\_\_\_\_

GEO TECH BH PLOTS - GINT STD US LAB.GDT - 3/3/21 11:20 - K:\KSM FILES\21 DOCS (KSM-SERVER)\211328\SOIL INVESTIGATION\211328-B&P.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲					
								20	40	60	80		
0		Gray Sand with Traces of Roots											
		Light Gray Sand	SS		1-2-1 (3)								
		Brown Clayed Sand	SS		3-4-4 (8)								
		Brown Sand, Slightly Clayed	SS		4-4-5 (9)								
		Gray Clayed Sand	SS		4-7-9 (16)								
		Light Gray Sand, Slightly Silty	SS		3-5-4 (9)								
		Dark Reddish Brown Sand	SS		3-5-5 (10)								
			SS		4-6-7 (13)								

Bottom of borehole at 14.0 feet.





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# BORING NUMBER HA-1

PAGE 1 OF 1

CLIENT Della Porta Construction Inc. PROJECT NAME Jetson's Fort Pierce, 4145 S. US 1  
 PROJECT NUMBER 211328-b&p PROJECT LOCATION Fort Pierce, Florida  
 DATE STARTED 2/24/21 COMPLETED 2/24/21 GROUND ELEVATION \_\_\_\_\_ HOLE SIZE inches  
 DRILLING CONTRACTOR \_\_\_\_\_ GROUND WATER LEVELS:  
 DRILLING METHOD \_\_\_\_\_  $\nabla$  AT TIME OF DRILLING 3.67 ft  
 LOGGED BY DP CHECKED BY JEK AT END OF DRILLING -  
 NOTES See Attached Location Plan AFTER DRILLING -

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲					
								20	40	60	80		
								PL	MC	LL			
								20	40	60	80		
								☐ FINES CONTENT (%) ☐					
								20	40	60	80		
0		Gray Sand with Traces of Roots				44							
		Light Gray Sand				44							
		Dark Gray Sand with Traces of Hardpan				56							
		Brown Clayed Sand				55							
5						52							
						55							

Bottom of borehole at 6.0 feet.

GEO TECH BH PLOTS - GINT STD US LAB.GDT - 3/3/21 11:02 - K:\KSM FILES\21 DOCS (KSM-SERVER)\211328\SOIL INVESTIGATION\211328-B&P.GPJ



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**BORING NUMBER HA-2**

PAGE 1 OF 1

CLIENT Della Porta Construction Inc. PROJECT NAME Jetson's Fort Pierce, 4145 S. US 1  
 PROJECT NUMBER 211328-b&p PROJECT LOCATION Fort Pierce, Florida  
 DATE STARTED 2/24/21 COMPLETED 2/24/21 GROUND ELEVATION \_\_\_\_\_ HOLE SIZE \_\_\_\_\_ inches  
 DRILLING CONTRACTOR \_\_\_\_\_ GROUND WATER LEVELS:  
 DRILLING METHOD \_\_\_\_\_ ∇ AT TIME OF DRILLING 3.50 ft  
 LOGGED BY DP CHECKED BY JEK AT END OF DRILLING \_\_\_\_\_  
 NOTES See Attached Location Plan AFTER DRILLING \_\_\_\_\_

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲		
								20	40	60
0		Gray Sand with Traces of Roots				34				
		Light Gray Sand				37				
		Dark Gray Sand with Traces of Hardpan				53				
		∇ Brown Clayed Sand				52				
5						54				
						50				

Bottom of borehole at 6.0 feet.

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 3/3/21 11:02 - K:\KSM FILES\1 DOCS (KSM-SERVER)\211328\SOIL INVESTIGATION\211328-B&P.GPJ



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### BORING NUMBER HA-3

PAGE 1 OF 1

CLIENT Della Porta Construction Inc. PROJECT NAME Jetson's Fort Pierce, 4145 S. US 1  
 PROJECT NUMBER 211328-b&p PROJECT LOCATION Fort Pierce, Florida  
 DATE STARTED 2/24/21 COMPLETED 2/24/21 GROUND ELEVATION \_\_\_\_\_ HOLE SIZE \_\_\_\_\_ inches  
 DRILLING CONTRACTOR \_\_\_\_\_ GROUND WATER LEVELS:  
 DRILLING METHOD \_\_\_\_\_ ∇ AT TIME OF DRILLING 3.75 ft  
 LOGGED BY DP CHECKED BY JEK AT END OF DRILLING \_\_\_\_\_  
 NOTES See Attached Location Plan AFTER DRILLING \_\_\_\_\_

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲					
								20	40	60	80		
								PL — MC — LL 20 40 60 80					
								<input type="checkbox"/> FINES CONTENT (%) <input type="checkbox"/> 20 40 60 80					
0		Gray Sand with Traces of Roots				31							
		Light Gray Sand				38							
		Dark Gray Sand with Traces of Hardpan				50							
		∇ Brown Clayed Sand				47							
5		Light Gray Clayed Sand				49							
						51							

Bottom of borehole at 6.0 feet.

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 3/3/21 11:02 - K:\KSM FILES\21 DOCS (KSM-SERVER)\211328\SOIL INVESTIGATION\211328-B&P.GPJ



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**BORING NUMBER PB-1**

PAGE 1 OF 1

CLIENT Della Porta Construction Inc. PROJECT NAME Jetson's Fort Pierce, 4145 S. US 1  
 PROJECT NUMBER 211328-b&p PROJECT LOCATION Fort Pierce, Florida  
 DATE STARTED 2/24/21 COMPLETED 2/24/21 GROUND ELEVATION \_\_\_\_\_ HOLE SIZE inches  
 DRILLING CONTRACTOR \_\_\_\_\_ GROUND WATER LEVELS:  
 DRILLING METHOD Split Spoon Sample  $\nabla$  AT TIME OF DRILLING 0.92 ft  
 LOGGED BY SR/SF CHECKED BY JEK AT END OF DRILLING \_\_\_\_\_  
 NOTES See Attached Location Plan AFTER DRILLING \_\_\_\_\_

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲		
								20	40	60
								PL      MC      LL 20    40    60    80		
								<input type="checkbox"/> FINES CONTENT (%) <input type="checkbox"/> 20    40    60    80		
0		Gray Sand with Traces of Clay and Shell	SS		1-2-2 (4)					
		Light Gray Clayed Sand	SS		3-4-5 (9)					
5		Light Gray Sand, Slightly Clayed	SS		4-4-6 (10)					
		Light Gray Sand, Slightly Silty	SS		5-6-5 (11)					
10		Reddish Brown Sand	SS		4-5-5 (10)					
			SS		3-5-4 (9)					
15			SS		4-4-6 (10)					

Bottom of borehole at 15.0 feet.

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 3/9/21 09:27 - K:\KSM FILES\21 DOCS (KSM-SERVER)\211328\SOIL INVESTIGATION\211328-B&P.GPJ



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**BORING NUMBER PB-2**

PAGE 1 OF 1

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DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RGD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL MC LL			
								20	40	60	80
								□ FINES CONTENT (%) □			
								20	40	60	80
0		Gray Sand with Traces of Roots									
		Light Gray Sand	SS		1-2-2 (4)						
		Dark Gray Sand with Traces of Hardpan									
		Brown Clayed Sand	SS		2-3-7 (10)						
5		Brown Sand with Traces of Clay	SS		9-6-5 (11)						
		Light Gray Sand, Slightly Clayed	SS		5-5-6 (11)						
10		Light Gray Sand, Slightly Silty	SS		4-6-6 (12)						
		Reddish Brown Sand	SS		3-4-4 (8)						
15			SS		4-6-7 (13)						

Bottom of borehole at 15.0 feet.

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 3/9/21 09:27 - K:\KSM FILES\21 DOCS (KSM-SERVER)\211328\SOIL INVESTIGATION\211328-B&P.GPJ



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**BORING NUMBER PB-3**

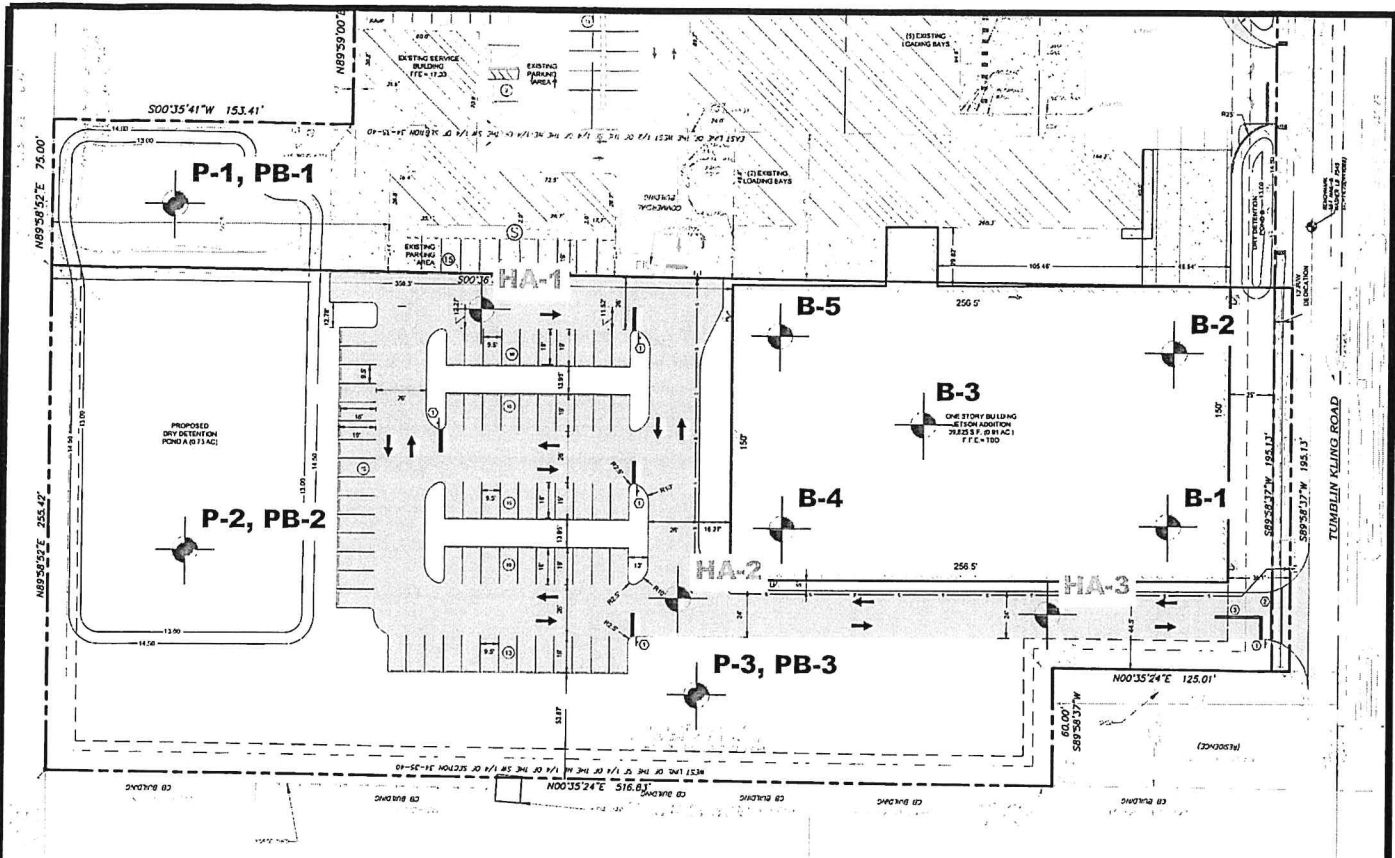
PAGE 1 OF 1

CLIENT Della Porta Construction Inc. PROJECT NAME Jetson's Fort Pierce, 4145 S. US 1  
 PROJECT NUMBER 211328-b&p PROJECT LOCATION Fort Pierce, Florida  
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DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲	
								PL	MC LL
								20 40 60 80	20 40 60 80
								□ FINES CONTENT (%) □	
								20 40 60 80	20 40 60 80
0		Gray Sand with Traces of Roots							
		Light Gray Sand	SS		1-2-2 (4)				
		Dark Gray Sand with Traces of Hardpan							
		∇ Brown Clayed Sand	SS		2-3-7 (10)				
5		Light Gray Clayed Sand	SS		11-8-6 (14)				
		Light Gray Sand, Slightly Clayed	SS		6-5-5 (10)				
10		Light Gray Sand, Slightly Silty	SS		4-4-4 (8)				
		Reddish Brown Sand	SS		5-4-5 (9)				
15			SS		6-8-8 (16)				

Bottom of borehole at 15.0 feet.



**SITE PLAN**

SCALE: 1" = 30'



**LEGEND**

- EXISTING ASPHALT
- PROPOSED ASPHALT
- EXISTING CONCRETE
- PROPOSED CONCRETE
- EXISTING BUILDINGS

**SIGN & PAVEMENT MARKING SCHEDULE**

SIGN ID NUMBER	SIZE	DESIGNATION/NOTES
⓪	36"	8' x 11' STOP SIGN AND 24" SOLID WHITE STOP BAR
Ⓛ	12"	6" WIDE ORIGINAL, 12" SOLID WHITE STRIPING
Ⓜ	6"	24" LF DOUBLE YELLOW PAINTED
Ⓝ		DO NOT ENTER SIGN
Ⓢ		PAVEMENT MARKINGS PER MUTCD

**LOCATION OF TESTS**

PROJECT: Jetson's Fort Pierce, 4145 S. US 1, Fort Pierce, Florida

SHEET 1 OF 2  
 PERMIT #:  
 PROJECT #: 211328-b&p



DRAWN BY: C.V.  
 DESIGNED BY: J.K.  
 DATE: 20210303  
 SCALE: NONE



## **USDA SOILS SURVEY**

**2-Ankona and Farmton Sands  
47-Urban Land, 0 to 2 Percent Slopes**

PROJECT: Jetson's Fort Pierce, 4145 S. US 1, Fort Pierce, Florida

SHEET 2 OF 2  
PERMIT #:  
PROJECT #: 211328-soils

**KSM ENGINEERING  
AND TESTING**

DRAWN BY: C.V.  
DESIGNED BY: J.K.  
DATE: 20210303  
SCALE: NONE

**Appendix C**  
SFWMD Permit 56-02898-P Excerpt

Last Date For Agency Action: 17-JUN-2008

**GENERAL ENVIRONMENTAL RESOURCE PERMIT STAFF REPORT**

**Project Name:** Jetson Tv And Appliance

**Permit No.:** 56-02898-P

**Application No.:** 080124-20      **Associated File:** 080317-11 WU

**Application Type:** Environmental Resource (New General Permit)

**Location:** St Lucie County, S34/T35S/R40E

**Permittee :** Jetson Investment Inc

**Operating Entity :** Jetson Investment Inc

**Project Area:** 3.87 acres

**Project Land Use:** Commercial

**Drainage Basin:** NORTH ST LUCIE

**Receiving Body:** US Highway 1 system

**Class:** N/A

**Special Drainage District:** NA

**Conservation Easement To District :** No

**Sovereign Submerged Lands:** No

**PROJECT PURPOSE:**

This application is a request for an Environmental Resource Permit to authorize construction and operation of a surface water management system to serve 3.87 acres of commercial development.

**PROJECT EVALUATION:**

**PROJECT SITE DESCRIPTION:**

The site is located on the northwest corner of the intersection of U.S.Highway 1 and Tumblin Kling Road in St. Lucie County. Please refer to Exhibit 1.

There are no permitted surface water management facilities within the project area. The site contains 2.28 acres of existing development, including three buildings and associated pavement.

There are no wetlands located within or affected by the proposed project.

**PROPOSED PROJECT:**

The proposed project involves the construction and operation a surface water management system to serve 3.87 acres of commercial development. Specifically, the existing warehouse/retail buildings will be enlarged, along with added access drives and parking areas.

The proposed surface water management system consists of catch basins interconnected by conveyance piping, which will direct the surface water to interconnected dry detention areas to be located at the northwest and south boundaries of the property. The dry detention areas will discharge to the existing catch basin within the U.S. Highway 1 right-of-way along the east project boundary. Please refer to Exhibit # 2.1 (three pages).

**LAND USE:**

**Construction:**

Basin : Site

**Total Basin**

Building Coverage	1.20	acres
Concrete	.20	acres
Dry Detention Bottom	.41	acres
Dry Detention Sides	.16	acres
Pavement	1.40	acres
Pervious	.50	acres
<b>Total:</b>	<b>3.87</b>	

**WATER QUANTITY:**

**Discharge Rate :**

As shown in the table below, the proposed project discharge is within the allowable limit for the area.

<b>Basin</b>	<b>Allow Disch (cfs)</b>	<b>Method Of Determination</b>	<b>Peak Disch (cfs)</b>	<b>Peak Stage ( ft, NGVD 29)</b>
Site	3.78	Pre Vs Post	3.78	16.18

**Finished Floors :**

Basin	Peak Stage ( ft, NGVD 29)	Proposed Min. Finished Floors ( ft, NGVD 29)	FEMA Elevation ( ft, NGVD 29)
Site	17.14	17.17	N/A

**Parking Lot Design :**

Basin	Peak Stage ( ft, NGVD 29)	Proposed Min.Parking Elev. ( ft, NGVD 29)
Site	15.82	16

**Control Elevation :**

Basin	Area (Acres)	Ctrl Elev ( ft, NGVD 29)	WSWT Ctrl Elev ( ft, NGVD 29)	Method Of Determination
Site	3.87	13.15	13.15	Wet Season Soil Borings

**Receiving Body :**

Basin	Str.#	Receiving Body
Site	CS	US Highway 1 system

**Discharge Structures:** Note: The units for all the elevation values of structures are ( ft, NGVD 29).

**Bleeders:**

Basin	Str#	Count	Type	Width	Height	Length	Dia.	Invert Angle	Invert Elev.
Site	CS	1	Circular Orifice				3"		13.15

**Culverts:**

Basin	Str#	Count	Type	Width	Length	Dia.
Site	CS	1	Reinforced Concrete Pipe		17'	15"

**Inlets:**

Basin	Str#	Count	Type	Width	Length	Dia.	Crest Elev.
Site	CS	1	Inlet	27"	34"		16.5

**Weirs:**

Basin	Str#	Count	Type	Width	Height	Length	Dia.	Elev.
Site	CS	1	Sharp Crested	2'				15.5 (crest)

**WATER QUALITY**

Water quality volume provided is equivalent to 2.5 inches times the percent impervious project area, adjusted for dry detention. No adverse water quality impacts are anticipated as a result of the proposed project. The applicant has provided reasonable assurance that water quality standards will not be violated during construction of the proposed work. Best Management Practices (BMPs) will be implemented and silt screens will be placed so as to contain turbidity during construction of the proposed project. All erosion and turbidity control measures shall remain in place until the completion of onsite construction. Please refer to Exhibit No. 2.1 and Special Conditions.

Basin	Treatment Method		Vol Req.d (ac-ft)	Vol Prov'd
Site	Treatment	Dry Detention	.44	.44

**CERTIFICATION AND MAINTENANCE OF THE WATER MANAGEMENT SYSTEM**

It is suggested that the permittee retain the services of a Professional Engineer registered in the State of Florida for periodic observation of construction of the surface water management (SWM) system. This will facilitate the completion of construction completion certification Form #0881 which is required pursuant to Section 10 of the Basis of Review for Environmental Resource Permit Applications within the South Florida Water Management District, and Rule 40E-4.361(2), Florida Administrative Code (F.A.C.).

Pursuant to Chapter 40E-4 F.A.C., this permit may not be converted from the construction phase to the operation phase until certification of the SWM system is submitted to and accepted by this District. Rule 40E-4.321(7) F.A.C. states that failure to complete construction of the SWM system and obtain operation phase approval from the District within the permit duration shall require a new permit authorization unless a permit extension is granted.

For SWM systems permitted with an operating entity who is different from the permittee, it should be noted that until the permit is transferred to the operating entity pursuant to Rule 40E-1.6107, F.A.C., the permittee is liable for compliance with the terms of this permit.

The permittee is advised that the efficiency of a SWM system will normally decrease over time unless the system is periodically maintained. A significant reduction in flow capacity can usually be attributed to partial blockages of the conveyance system. Once flow capacity is compromised, flooding of the project may result. Maintenance of the SWM system is required to protect the public health, safety and the natural resources of the state. Therefore, the permittee must have periodic inspections of the SWM system performed to ensure performance for flood protection and water quality purposes. If deficiencies are found, it is the responsibility of the permittee to correct these deficiencies in a timely manner.

**RELATED CONCERNS:**

**Water Use Permit Status:**

The applicant has indicated that groundwater well will be used as a source for irrigation water for the project. Water Use application number 080317-11 has been submitted and is being processed concurrently for this project.

The applicant has indicated that dewatering is not required for construction of this project.

This permit does not release the permittee from obtaining all necessary Water Use authorization(s) prior to the commencement of activities which will require such authorization, including construction dewatering and irrigation, unless the work qualifies for a No-Notice Short-Term Dewatering permit pursuant to Chapter 40E-20.302(3) or is exempt pursuant to Section 40E-2.051, FAC.

**CERP:**

The proposed project is not located within or adjacent to a Comprehensive Everglades Restoration Project component.

**Potable Water Supplier:**

Fort Pierce Utilities Authority

**Waste Water System/Supplier:**

Fort Pierce Utilities Authority

**Right-Of-Way Permit Status:**

A Right-of-Way Permit is not required for this project.

**DRI Status:**

This project is not a DRI.

**Historical/Archeological Resources:**

The District has received correspondence from the Florida Department of State, Division of Historical Resources indicating that the agency has no objections to the issuance of this permit.

**DCA/CZM Consistency Review:**

The District has not received a finding of inconsistency from the Florida Department of Environmental Protection or other commenting agencies regarding the provisions of the federal Coastal Zone Management Plan.

**Third Party Interest:**

No third party has contacted the District with concerns about this application.

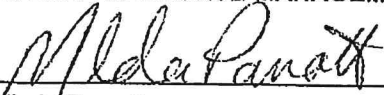
**Enforcement:**

There has been no enforcement activity associated with this application.

**STAFF REVIEW:**

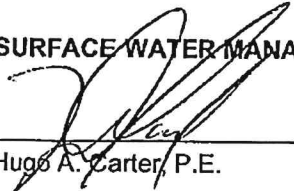
**DIVISION APPROVAL:**

**NATURAL RESOURCE MANAGEMENT:**

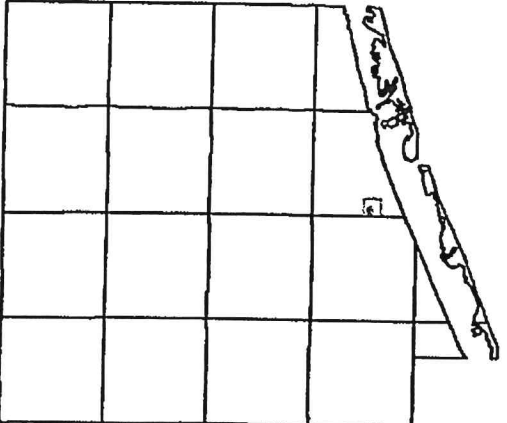
  
\_\_\_\_\_  
Melinda Parrott

DATE: 28 May 08

**SURFACE WATER MANAGEMENT:**

  
\_\_\_\_\_  
Hugo A. Carter, P.E.

DATE: 27 May 08



ST LUCIE COUNTY, FLORIDA

Legend

 Application



Map Date: 5/14/2008

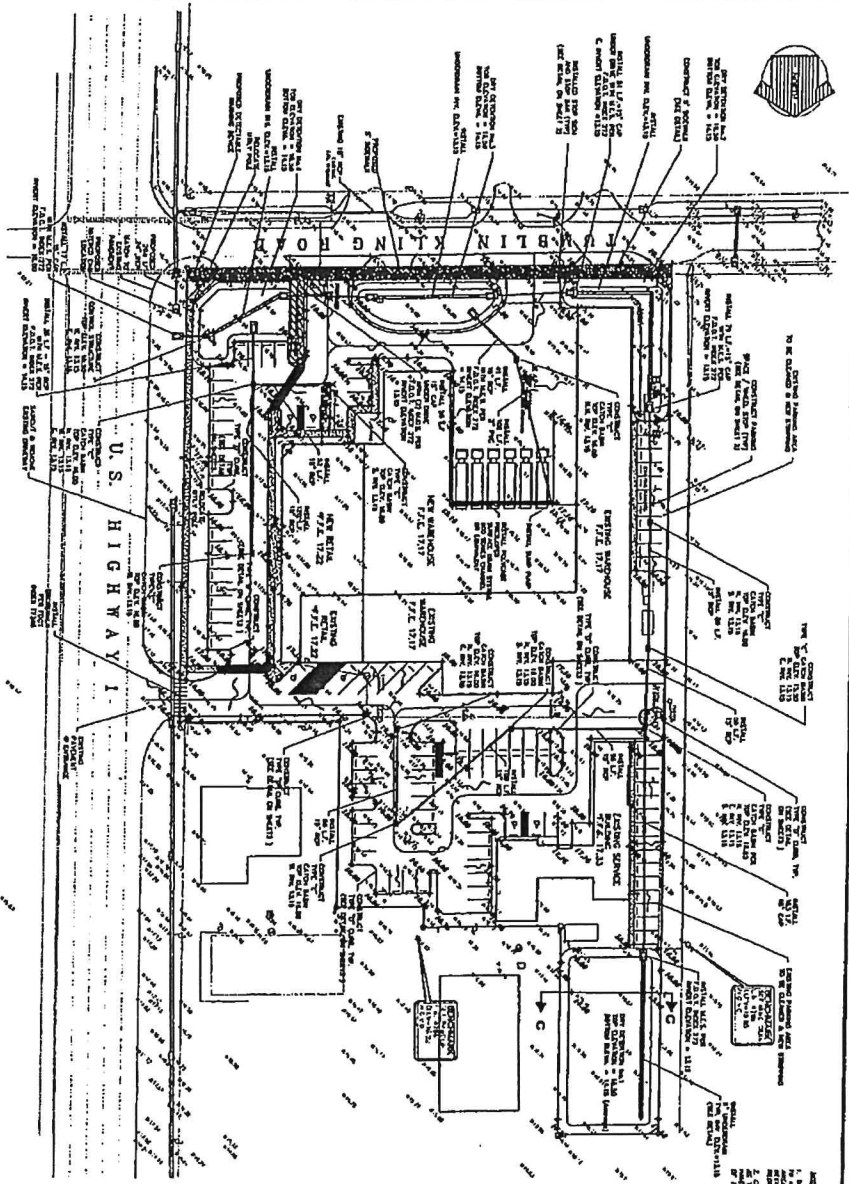
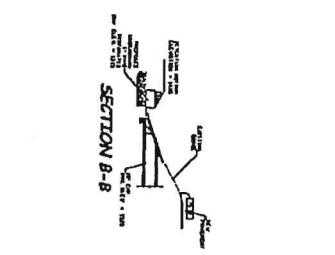
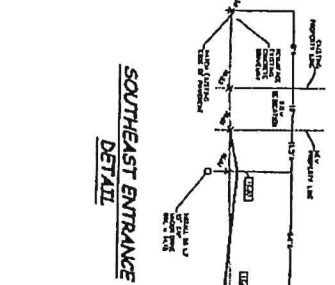
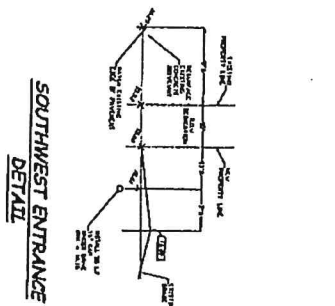
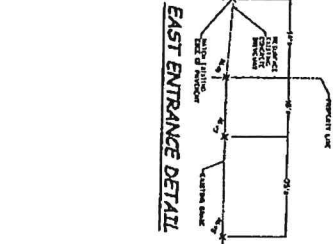
Application Number: 080124-20

Permit Number:

Project Name: JETSON TV AND APPLIANCE



**Exhibit 1**



**LEGEND**

[Symbol]	Asphalt
[Symbol]	Concrete
[Symbol]	Gravel
[Symbol]	Asph/Fly
[Symbol]	Grass
[Symbol]	Drainage
[Symbol]	Manhole
[Symbol]	Storm Drain
[Symbol]	Sanitary Drain
[Symbol]	Water
[Symbol]	Proposed
[Symbol]	Existing

- EXPLANATORY NOTES:**
1. The drainage plan is prepared for the proposed building and parking areas. The drainage system is designed to collect and convey rainwater from the roof and paved areas to the street or water body.
  2. The drainage system is designed to meet the minimum requirements of the Florida Building Code and the Florida Department of Transportation (FDOT) standards.
  3. The drainage system is designed to provide a minimum slope of 1/4" per foot to the drainage points.
  4. The drainage system is designed to provide a minimum depth of 4" for the drainage channels.
  5. The drainage system is designed to provide a minimum width of 18" for the drainage channels.
  6. The drainage system is designed to provide a minimum depth of 6" for the drainage channels.
  7. The drainage system is designed to provide a minimum width of 24" for the drainage channels.
  8. The drainage system is designed to provide a minimum depth of 8" for the drainage channels.
  9. The drainage system is designed to provide a minimum width of 30" for the drainage channels.
  10. The drainage system is designed to provide a minimum depth of 10" for the drainage channels.
  11. The drainage system is designed to provide a minimum width of 36" for the drainage channels.
  12. The drainage system is designed to provide a minimum depth of 12" for the drainage channels.
  13. The drainage system is designed to provide a minimum width of 42" for the drainage channels.
  14. The drainage system is designed to provide a minimum depth of 14" for the drainage channels.
  15. The drainage system is designed to provide a minimum width of 48" for the drainage channels.
  16. The drainage system is designed to provide a minimum depth of 16" for the drainage channels.
  17. The drainage system is designed to provide a minimum width of 54" for the drainage channels.
  18. The drainage system is designed to provide a minimum depth of 18" for the drainage channels.
  19. The drainage system is designed to provide a minimum width of 60" for the drainage channels.
  20. The drainage system is designed to provide a minimum depth of 20" for the drainage channels.

<p><b>JETSON TV &amp; APPLIANCE</b>                  US HIGHWAY ONE                  CITY OF FORT PIERCE, FL</p>	<p><b>PAVING &amp; GRADING</b>                  DRAINAGE PLAN</p>	<p><b>THE VELCON GROUP INC.</b>                  ENGINEERS &amp; SURVEYORS                  703 S.W. PORT ST. LUCIE BLVD.                  SUITE 101                  FORT PIERCE, FL 34946                  (772) 879-0477 F (772) 871-6659-FAX                  CERTIFICATE OF AUTHORIZATION # 4942</p>	<p>ENGINEER'S APPROVAL</p>	<p>SCALE</p>
			<p>DATE</p>	<p>BY</p>





**Appendix D**  
**Other Miscellaneous Backup**  
(Mannings Table, Curve Number Sheet, Pre-Tc / Basin Exhibit)

**Table 2-2a** Runoff curve numbers for urban areas <sup>1/</sup>

Cover description	Average percent impervious area <sup>2/</sup>	Curve numbers for hydrologic soil group			
		A	B	C	D
<i>Fully developed urban areas (vegetation established)</i>					
Open space (lawns, parks, golf courses, cemeteries, etc.) <sup>3/</sup> :					
Poor condition (grass cover < 50%) .....		68	79	86	89
Fair condition (grass cover 50% to 75%) .....		49	69	79	84
Good condition (grass cover > 75%) .....		39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. POST-DEVELOPMENT (excluding right-of-way) .....					
		98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way) .....		98	98	98	98
Paved; open ditches (including right-of-way) .....		83	89	92	93
Gravel (including right-of-way) .....		76	85	89	91
Dirt (including right-of-way) .....		72	82	87	89
Western desert urban areas:					
Natural desert landscaping (pervious areas only) <sup>4/</sup> .....		63	77	85	88
Artificial desert landscaping (impervious weed barrier, desert shrub with 1- to 2-inch sand or gravel mulch and basin borders) .....		96	96	96	96
Urban districts:					
Commercial and business .....	85	89	92	94	95
Industrial .....	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (town houses) .....	65	77	85	90	92
1/4 acre .....	38	61	75	83	87
1/3 acre .....	30	57	72	81	86
1/2 acre .....	25	54	70	80	85
1 acre .....	20	51	68	79	84
2 acres .....	12	46	65	77	82
<i>Developing urban areas</i>					
Newly graded areas (pervious areas only, no vegetation) <sup>5/</sup> .....					
		77	86	91	94
Idle lands (CN's are determined using cover types similar to those in table 2-2c).					

<sup>1</sup> Average runoff condition, and  $I_a = 0.2S$ .<sup>2</sup> The average percent impervious area shown was used to develop the composite CN's. Other assumptions are as follows: impervious areas are directly connected to the drainage system, impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition. CN's for other combinations of conditions may be computed using figure 2-3 or 2-4.<sup>3</sup> CN's shown are equivalent to those of pasture. Composite CN's may be computed for other combinations of open space cover type.<sup>4</sup> Composite CN's for natural desert landscaping should be computed using figures 2-3 or 2-4 based on the impervious area percentage (CN = 98) and the pervious area CN. The pervious area CN's are assumed equivalent to desert shrub in poor hydrologic condition.<sup>5</sup> Composite CN's to use for the design of temporary measures during grading and construction should be computed using figure 2-3 or 2-4 based on the degree of development (impervious area percentage) and the CN's for the newly graded pervious areas.

**Table 2-2b** Runoff curve numbers for cultivated agricultural lands <sup>1/</sup>

Cover description		Hydrologic condition <sup>2/</sup>	Curve numbers for hydrologic soil group			
Cover type	Treatment <sup>2/</sup>		A	B	C	D
Fallow	Bare soil	—	77	86	91	94
	Crop residue cover (CR)	Poor	76	85	90	93
		Good	74	83	88	90
Row crops	Straight row (SR)	Poor	72	81	88	91
		Good	67	78	85	89
	SR + CR	Poor	71	80	87	90
		Good	64	75	82	85
	Contoured (C)	Poor	70	79	84	88
		Good	65	75	82	86
	C + CR	Poor	69	78	83	87
		Good	64	74	81	85
	Contoured & terraced (C&T)	Poor	66	74	80	82
		Good	62	71	78	81
C&T+ CR	Poor	65	73	79	81	
	Good	61	70	77	80	
Small grain	SR	Poor	65	76	84	88
		Good	63	75	83	87
	SR + CR	Poor	64	75	83	86
		Good	60	72	80	84
	C	Poor	63	74	82	85
		Good	61	73	81	84
	C + CR	Poor	62	73	81	84
		Good	60	72	80	83
	C&T	Poor	61	72	79	82
		Good	59	70	78	81
C&T+ CR	Poor	60	71	78	81	
	Good	58	69	77	80	
Close-seeded or broadcast legumes or rotation meadow	SR	Poor	66	77	85	89
		Good	58	72	81	85
	C	Poor	64	75	83	85
		Good	55	69	78	83
	C&T	Poor	63	73	80	83
Good	51	67	76	80		

<sup>1/</sup> Average runoff condition, and  $I_a=0.2S$

<sup>2/</sup> Crop residue cover applies only if residue is on at least 5% of the surface throughout the year.

<sup>3/</sup> Hydraulic condition is based on combination factors that affect infiltration and runoff, including (a) density and canopy of vegetative areas, (b) amount of year-round cover, (c) amount of grass or close-seeded legumes, (d) percent of residue cover on the land surface (good  $\geq 20\%$ ), and (e) degree of surface roughness.

Poor: Factors impair infiltration and tend to increase runoff.

Good: Factors encourage average and better than average infiltration and tend to decrease runoff.

**Table 2-2c** Runoff curve numbers for other agricultural lands <sup>1/</sup>

Cover type	Hydrologic condition	Curve numbers for hydrologic soil group			
		A	B	C	D
Pasture, grassland, or range—continuous forage for grazing. <sup>2/</sup>	Poor	68	79	86	89
	Fair	49	69	79	84
	Good	39	61	74	80
Meadow—continuous grass, protected from grazing and generally mowed for hay.	—	30	58	71	78
Brush—brush-weed-grass mixture with brush the major element. <sup>3/</sup>	Poor	48	67	77	83
	Fair	35	56	70	77
	Good	30 <sup>4/</sup>	48	65	73
Woods—grass combination (orchard or tree farm). <sup>5/</sup>	Poor	57	73	82	86
	Fair	43	65	76	82
	Good	32	58	72	79
Woods. <sup>6/</sup> PRE-DEVELOPMENT	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	30 <sup>4/</sup>	55	70	77
Farmsteads—buildings, lanes, driveways, and surrounding lots.	—	59	74	82	86

<sup>1/</sup> Average runoff condition, and  $I_a = 0.2S$ .

<sup>2/</sup> *Poor*: <50% ground cover or heavily grazed with no mulch.

*Fair*: 50 to 75% ground cover and not heavily grazed.

*Good*: > 75% ground cover and lightly or only occasionally grazed.

<sup>3/</sup> *Poor*: <50% ground cover.

*Fair*: 50 to 75% ground cover.

*Good*: >75% ground cover.

<sup>4/</sup> Actual curve number is less than 30; use CN = 30 for runoff computations.

<sup>5/</sup> CN's shown were computed for areas with 50% woods and 50% grass (pasture) cover. Other combinations of conditions may be computed from the CN's for woods and pasture.

<sup>6/</sup> *Poor*: Forest litter, small trees, and brush are destroyed by heavy grazing or regular burning.

*Fair*: Woods are grazed but not burned, and some forest litter covers the soil.

*Good*: Woods are protected from grazing, and litter and brush adequately cover the soil.

## Sheet flow

Sheet flow is flow over plane surfaces. It usually occurs in the headwater of streams. With sheet flow, the friction value (Manning's  $n$ ) is an effective roughness coefficient that includes the effect of raindrop impact; drag over the plane surface; obstacles such as litter, crop ridges, and rocks; and erosion and transportation of sediment. These  $n$  values are for very shallow flow depths of about 0.1 foot or so. Table 3-1 gives Manning's  $n$  values for sheet flow for various surface conditions.

**Table 3-1** Roughness coefficients (Manning's  $n$ ) for sheet flow

Surface description	$n$ <sup>1</sup>
Smooth surfaces (concrete, asphalt, gravel, or bare soil) .....	0.011
Fallow (no residue) .....	0.05
Cultivated soils:	
Residue cover ≤20% .....	0.06
Residue cover >20% .....	0.17
Grass:	
Short grass prairie .....	0.15
Dense grasses <sup>2</sup> .....	0.24
Bermudagrass .....	0.41
Range (natural) .....	0.13
Woods: <sup>3</sup>	
Light underbrush .....	0.40
Dense underbrush .....	0.80

<sup>1</sup> The  $n$  values are a composite of information compiled by Engman (1986).

<sup>2</sup> Includes species such as weeping lovegrass, bluegrass, buffalo grass, blue grama grass, and native grass mixtures.

<sup>3</sup> When selecting  $n$ , consider cover to a height of about 0.1 ft. This is the only part of the plant cover that will obstruct sheet flow.

For sheet flow of less than 300 feet, use Manning's kinematic solution (Overtop and Meadows 1976) to compute  $T_t$ :

$$T_t = \frac{0.007(nL)^{0.8}}{(P_2)^{0.5} s^{0.4}} \quad [\text{eq. 3-3}]$$

where:

- $T_t$  = travel time (hr),
- $n$  = Manning's roughness coefficient (table 3-1)
- $L$  = flow length (ft)
- $P_2$  = 2-year, 24-hour rainfall (in)
- $s$  = slope of hydraulic grade line (land slope, ft/ft)

This simplified form of the Manning's kinematic solution is based on the following: (1) shallow steady uniform flow, (2) constant intensity of rainfall excess (that part of a rain available for runoff), (3) rainfall duration of 24 hours, and (4) minor effect of infiltration on travel time. Rainfall depth can be obtained from appendix B.

## Shallow concentrated flow

After a maximum of 300 feet, sheet flow usually becomes shallow concentrated flow. The average velocity for this flow can be determined from figure 3-1, in which average velocity is a function of watercourse slope and type of channel. For slopes less than 0.005 ft/ft, use equations given in appendix F for figure 3-1. Tillage can affect the direction of shallow concentrated flow. Flow may not always be directly down the watershed slope if tillage runs across the slope.

After determining average velocity in figure 3-1, use equation 3-1 to estimate travel time for the shallow concentrated flow segment.

## Open channels

Open channels are assumed to begin where surveyed cross section information has been obtained, where channels are visible on aerial photographs, or where blue lines (indicating streams) appear on United States Geological Survey (USGS) quadrangle sheets. Manning's equation or water surface profile information can be used to estimate average flow velocity. Average flow velocity is usually determined for bank-full elevation.





THE SUNRISE CITY  
**FORT PIERCE**  
 ENGINEERING  
 DEPARTMENT

Florida

**EROSION AND SEDIMENT CONTROL AFFIDAVIT**

PROJECT: Jetson Fort Pierce Site Improvements

PCN#: \_\_\_\_\_

LOCATION: 4145 S US Hwy. 1 P 504 Fumblin King Road

I now state under oath that I will perform all land disturbing activities on this project, for which I am responsible for or upon land I own, in accordance with the provisions of Ordinance K-421 of the City of Fort Pierce aka Erosion and Sediment Control Ordinance and also within the obligations set forth in my Erosion and Sediment Control Plan as approved by or modified by the City of Fort Pierce. I acknowledge that the City of Fort Pierce Erosion and Sediment Control Ordinance is based on rules and regulations promulgated by the State of Florida in accordance with NPDES.


- With my signature on this document, let it be known to all that I have received a copy of the City of Fort Pierce Erosion and Sediment Control Ordinance.
- With my signature on this document, let it be known to all that I am aware of and I will comply with the provision for establishing temporary and permanent ground covers as per the ordinance.
- With my signature on this document, let it be known to all that I will install all reasonable measures to protect all public and private properties from any sediment damage as a result of my land disturbing activities. I will keep my sediment on my site.
- With my signature on this document, let it be known to all that I am aware of the rules and regulations regarding buffer zone requirements as per the Ordinance.
- I agree to comply with the provision of my Erosion and Sediment Control Plan as approved or modified by the City of Fort Pierce, the above statements and the rules, regulations and requirements of Ordinance K-421 of the City of Fort Pierce Erosion and Sediment Control Ordinance.

Witness my signature below:

Person Responsible or Representative for Project: John E. Thofner III  
 Land Owner: Jetson Investment, Inc

Before me, the undersigned authority, on this day personally appeared \_\_\_\_\_, the, President of Jetson TV & Appliance Centers, Inc who personally appeared before me, is personally known to me ( ), or has produced \_\_\_\_\_ as identification, and who did ( ) or did not ( ) take an oath.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this the 26 day of March 20 21.

 NOTARY PUBLIC  
 STATE OF FLORIDA  
 Comm# GG215958  
 Expires 5/9/2022

Notary Public Amy Lynn Thofner

August 23, 2021

Mr. Grant Chambers, P.E.  
St. Lucie County Public Works Department  
2300 Virginia Avenue  
Fort Pierce, FL 34982

Subject: Jetson Fort Pierce Site Improvements  
St. Lucie County, Florida  
Engineer's Project Number: 19-0273

Dear Mr. Chambers:

In accordance with the pre-application letter request, the following information is provided for a traffic statement for the subject project:

The subject project is proposing to construct a 32,330 +/- SF warehouse addition, which will have minimal impact to the current trip generation of the business as the intent of expansion is to provide additional storage capacity and to not expand the current employee volume.

Per ITE, 10<sup>th</sup> Edition:  
(150) Warehousing = 1.74 trips / 1000 SF  
32,330 SF = 56 ADT (28 entry / 28 exit)

Should you have any questions regarding the above subject, please feel free to contact our office at any time.

Sincerely,



Aaron Bowles, P.E.  
Vice President