ENGINEERS ◓ SURVEYORS ◓ ENVIRONMENTAL

April 11, 2019 *Via: Hand Delivery*

Peter Walden
Martin County Growth Management
2401 SE Monterey Road
Stuart, FL 34996

Re: West Stuart Business Center Revised Major Final Site Plan
Response to Comments, # E016-036, DEV2018110010

Dear Pete:

On behalf of our client, please find the attached response to comments received via email on March 18, 2019 for a project known as West Stuart Business Center Revised Major Final Site Plan. Each comment is identified below followed by a response in ***bold italics***.

H. Determination of compliance with the urban design and community redevelopment requirements – Community Development Department

The South façade of Building 4, and the East and West facades of Buildings 3, 4, 5 and 6 are considered the primary façades.

Please show on the site plan the total length and width of buildings 3, 4, 5 and 6.
Unresolved Issues:

Item #1:
Primary Facades – Minimum Design Features
All primary facades on the ground floor shall have at least four of the design features identified in Section 4.872.C.2 of the LDR, along a minimum of 50% of their horizontal length. MARTIN COUNTY, FLA., LDR, § 4.872.C.2 (2013)

Remedy/Suggestion/Clarification:
The South Façade of Building 4 has only three design features. Please show on the South Elevation Façade of Building 4 one additional design feature.
RESPONSE: The south façade of Building 4 has the following four design features: 1) Window, 2) Decorative light fixture, 3) Foam medallions, 4) Stucco reveal joints in a decorative pattern. See Sheet A4.1, Drawing 5, Revision 2.

Item #2:
Primary Facades – Limitation on Blank Wall Areas
Blank wall areas shall not exceed 10 feet in vertical direction and 20 feet in horizontal direction of any primary façade. Control and expansion joints shall be considered blank wall areas unless used as a decorative pattern. Wall areas adorned with at least one of the design features set forth in Section 4.872.C.2, shall not be considered blank wall areas. Walls that are adjacent to a pedestrian arcade shall not be considered blank wall

areas. MARTIN COUNTY, FLA., LDR, § 4.872.C.3 (2013)

Remedy/Suggestion/Clarification:

The South Façade of Building 4 shows a blank wall area that exceeds 10 feet in vertical direction and 20 feet in horizontal direction. Please include on the blank wall one additional design feature from the list of Section 4.872.C.2.

RESPONSE: The south façade of Building 4 has stucco reveal joints indicated in decorative patterns. The patterns have been dimensioned to indicate there are no blank wall areas greater than 10' in vertical direction and 20' in horizontal direction. See Sheet A4.1, Drawing 5, Revision 2.

Item #3:

Roofs – Flat Roofs

Flat roofs shall have a parapet of at least one foot in height along any primary façade and shall have at least two changes in height of a minimum of two feet along each primary façade. Provide 12" height, three-dimensional cornice treatments with a minimum of three reliefs along entire length of the primary facades. MARTIN COUNTY, FLA.,LDR, § 4.872.F.2 (2013)

Remedy/Suggestion/Clarification:

The South Façade of Building 4 does not have at least two changes in height. Please provide one additional change in the height along the South Façade of Building 4. Please submit an architectural detail showing the required cornice treatment along the entire length of the primary facades.

RESPONSE: The south façade of Building 4 has been revised to indicate two changes in parapet height. See Sheet A4.1, Drawing 5, Revision 2 and Sheet A4.2, Drawing 4, Revision 2.

A foam cornice detail has been added to the drawings. See Sheet A4.1, Cornice Detail, Revision 2.

Item #4:

Bicycle and pedestrian amenities shall be provided as determined by square footage of building on the site as schedule in this Code. These amenities maybe incorporated into a pedestrian arcade or similar feature that otherwise meets the requirements of this Division 20. Bike racks shall be provided within 50 feet of any customer entrance. The design of all amenities shall be of durable, long-lasting materials consistent with the design of the principle structures on the site and the principles found in Bicycle Facilities Planning and Design Handbook (FDOT 1997). Benches shall be not less than 6 feet in length and shall provide structural or vegetative shading. Required bike racks shall be the inverted "U" type and shall be designed to store a minimum of 6 bicycles each. MARTIN COUNTY, FLA.,LDR, §
4.873.B (2013)

Remedy/Suggestion/Clarification:

The site plan shows only one bike rack. Bike racks shall be provided within 50 feet of any customer entrance. One bike rack is required for each building. Please show on the Site Plan three additional bike racks.

RESPONSE: See revised site plan which includes additional bike racks as requested.

Item #5:
Exterior light fixtures shall not exceed 30 feet in height within vehicular areas or 20 feet in non- vehicular pedestrian areas. MARTIN COUNTY, FLA.,LDR, § 4.873.C (2013)

Remedy/Suggestion/Clarification:
Please show on the site plan location and dimensions of the required light fixtures.
REPSONSE: Please see revised site plan.

Item #6:
The required screening of roof mounted mechanical equipment including air conditioning units and ductwork shall be as follows: when located on a flat roof, roof shall provide full parapet coverage a minimum of four feet in height, or to the highest point of the mechanical equipment whichever is lower. All mechanical equipment shall comply with the provisions of Article XI, Noise, of Article 12, Environmental Control of the Code of Laws and Ordinances. MARTIN COUNTY, FLA.,LDR, §
4.873.D (2013)

Remedy/Suggestion/Clarification:
Please show on the facades elevations the required screening.
RESPONSE: Roof mounted equipment is limited to plumbing vents. Screening is not required.

J. Determination of compliance with environmental and landscaping requirements - Growth Management Department

Landscape

Unresolved Issues:

Item #1:
Standard Application Requirements
The deficiencies noted in this section need to be addressed by the applicant with revised plans and documentation. To ensure a successful review, the following shall be provided with your resubmittal information:
Revision dates/notes on all affected plans.
Plans should be provided with "call-out" revision clouds/notes to identify areas that have been modified from the original submittal.
A summary of changes that are provided with your resubmittal information, the staff report may be used as a template for your responses. It is important that you be specific as to what has been changed and where the changes may be found in the resubmitted materials. Resubmittal comments provided to address deficiencies such as "see the revised plans" should be replaced with more specific language such as "refer to the revised 30' dimension to the NE buffer provided on sheet 3/4 and revised landscape note 3 on sheet 2/4".
RESPONSE: Acknowledged.

Item #2:
Landscape Tabular Data
Landscape plans shall include a table which lists the gross and net acreage, acreage of development and preservation areas, number of trees and tree clusters to be protected within the developed area and within perimeter areas, and square footage of vehicular use areas (Ref. Section 4.662.A.10, LDR).
Interior and perimeter vehicular use areas should be quantified separately in the table. Tabular data shall also indicate a calculation of the minimum total number of trees and shrubs required to be planted based upon the proposed developed area and separately based upon quantities required to meet the vehicular use area planting requirements and any required bufferyard requirements.
Please also include the following:

a. Identify each species intended to meet the required trees, shrubs, and ground cover separately in the tabular data. Tabular data shall also indicate calculations of the minimum total number of trees and shrubs to be planted based upon the proposed developed area and separately based upon quantities required to meet vehicular use planting requirements and bufferyard requirements.

Remedy/Suggestion/Clarification:
While it appears that sufficient landscape area has been provided, it is unclear from the site data table if sufficient trees have been provided based on perimeter and interior vehicular use area requirements.
There is no tally for trees required for the entire 8.5 acre site. Since 21 trees are proposed to be relocated from the 1st construction area and 7 slash pine are being omitted for the additional parking, data needs to be evaluated with respect to the entire site. Revise site data table to document required tree quantities for the entire site.
RESPONSE: The table has been updated to reflect individual requirements and a line has been added addressing the overall tree count. 5 trees have been added to replace pine trees removed for the additional parking area

Item #3:
General Landscape Design Standards
Please demonstrate compliance with the following general landscape requirements on the provided plans:

Remedy/Suggestion/Clarification:
The perimeter landscape area on the south property line is still shown within the access easement, though the site plan has labeled the area north of the easement as the landscape area, remove landscaping from easement area. Landscaping has been removed from the tower access easement on the east but only by 3 feet and the site plan still labels the easement as the landscape area. Please correct the site plan label, label the access easements on the landscape plan, and move oak trees back from this easement where they will not be impacted by truck access traffic.
RESPONSE: Landscaping was moved outside the access easement

Item #4:
Landscape Native Tree Protect & Survey

A tree survey is required to identify specific native trees required to be protected from development [Section 4.666, LDR]. Please note that trees in proposed preservation areas, palm trees and non-native species need not be identified on this survey. Existing native vegetation shall be retained to act as buffers between adjacent land uses, and to minimize nuisance dust noise and air pollution during construction.

Remedy/Suggestion/Clarification:
Comment not properly addressed. While replacement trees will be sufficient to mitigate please provide a tree summary table or tree disposition table to demonstrate compliance.
RESPONSE: No native hardwood trees are being removed. The site contains 2 pine trees that are being removed which are not protected.

We feel the attached adequately addresses staff comments and respectfully request the approval of this project. If you have any questions regarding this application, the attached documents, or the project, please contact our office.

Respectfully,

ENGINEERING DESIGN & CONSTRUCTION, INC.

Patricia Sesta
Planner

cc: George Kelly – West Stuart Business Center, LLC

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CONSTRUCTION PLANS AND SPECIFICATIONS

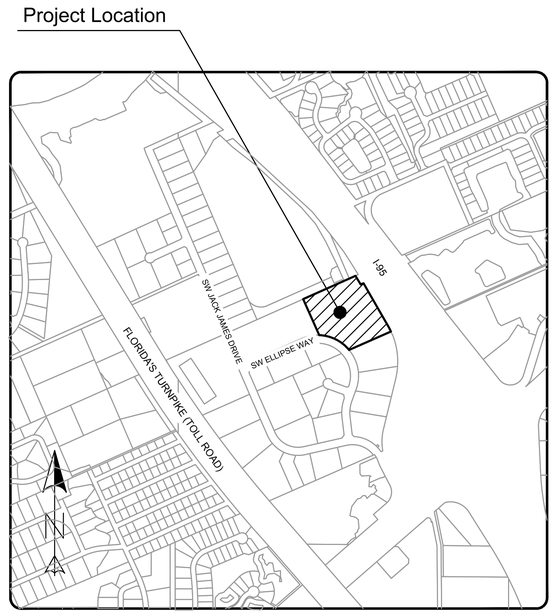
FOR

WEST STUART BUSINESS CENTER

SECTION 43, TOWNSHIP 38S, RANGE 41E

MARTIN COUNTY, FLORIDA

LOCATION MAP



VICINITY MAP

INDEX OF SHEETS

WEST STUART BUSINESS CENTER - CONSTRUCTION PLANS 22 FEBRUARY 2019 #18-382

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L.B. CERTIFICATE OF AUTHORIZATION 8098

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10250 SW VILLAGE PKWY - SUITE 201
PORT SAINT LUCIE, FL 34987
772-462-2455

DATUM NOTE:
ALL ELEVATIONS SHOWN ON THESE PLANS REFERENCE THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD). A TYPICAL ACCEPTED CONVERSION TO NGVD FROM NAVD IS ==> NAVD = NGVD - 1.475'

DAVID C. BAGGETT, P.E.(DATE)
#81375

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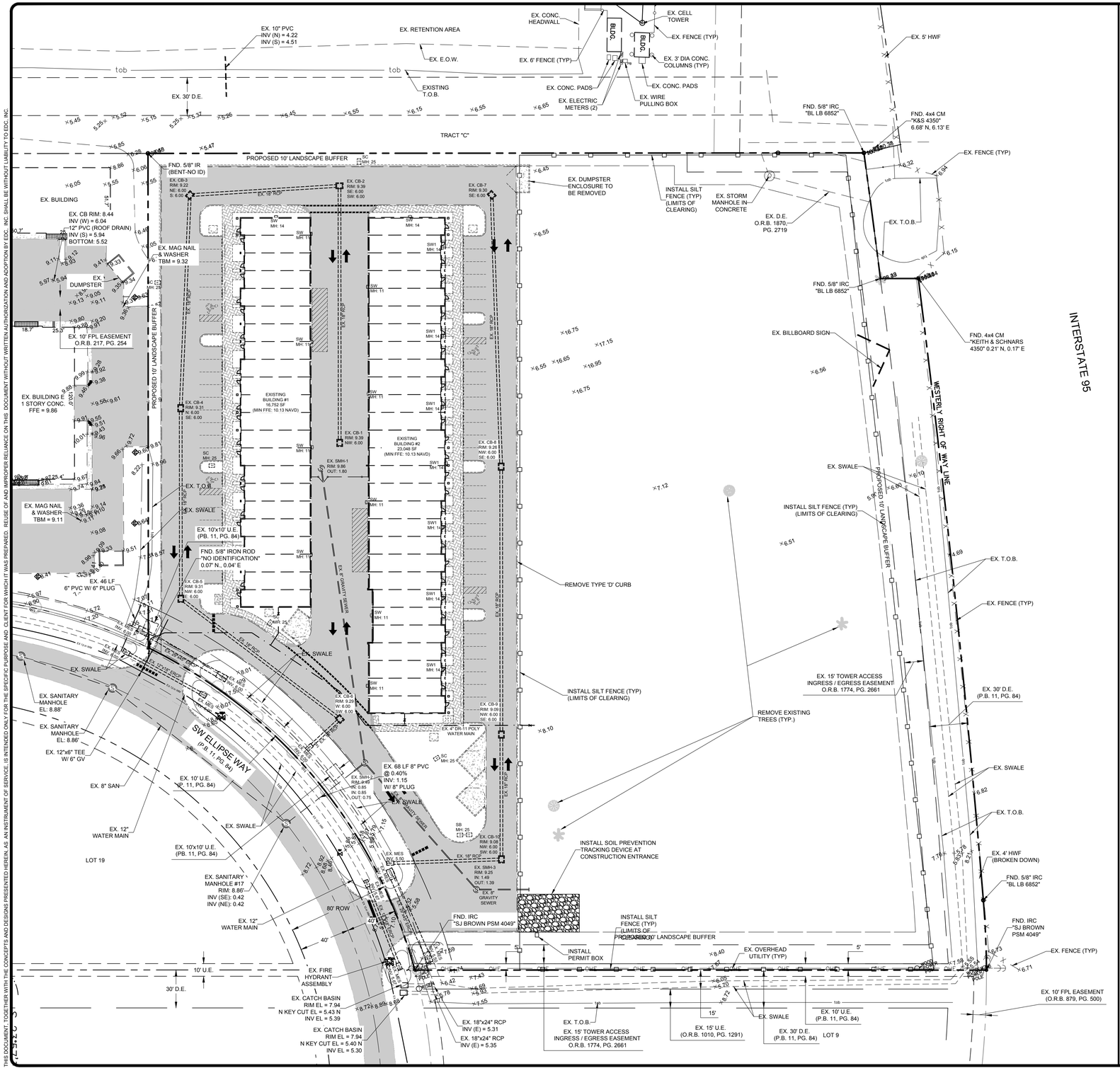

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0 40

(IN FEET)
1 inch = 40 ft.

LEGEND

- +24.39 EXISTING SPOT ELEVATION
- EXISTING CONCRETE
- EXISTING ASPHALT
- EXISTING TREES TO BE REMOVED
- EXISTING TREES TO REMAIN

NOTES TO CONTRACTOR:

1. ALL PIPE ELEVATIONS SHALL BE FIELD VERIFIED BEFORE COMMENCEMENT.
2. REGRADE AND SOD ALL DISTURBED AREA. (STABILIZATION (SEED OR SOD) OF THE DISTURBED AREA MUST BE COMPLETED WITHIN 30 DAYS OF VEGETATION REMOVAL).
3. DURING PERIODS OF DEVELOPMENT AND CONSTRUCTION, THE AREAS WITHIN THE DRIP-LINE OF PRESERVED TREES SHALL BE MAINTAINED AT THEIR ORIGINAL GRADE WITH PERVIOUS LANDSCAPE MATERIAL. WITHIN THESE AREAS, THERE SHALL BE NO TRENCHING OR CUTTING OF ROOTS; NO FILL, COMPACTION OR REMOVAL OF SOIL; AND, NO USE OF CONCRETE, PAINT, CHEMICALS OR OTHER FOREIGN SUBSTANCES.
4. PROPERTY CORNERS SHALL BE LOCATED BY A LICENSED LAND SURVEYOR AND CLEARLY MARKED IN THE FIELD PRIOR TO THE ENGINEERING DEPARTMENT'S PRE-CONSTRUCTION MEETING FOR SITE DEVELOPMENT.
5. AUTHORIZATION TO INSTALL EROSION CONTROL DEVICES AND PRESERVE BARRICADES WILL BE GRANTED AT THE PRE-CONSTRUCTION MEETING. THIS AUTHORIZATION SHALL BE POSTED ON THE SITE, IN THE PERMIT BOX, ITS LOCATION SHOWN ELSEWHERE ON THIS PAGE.
6. NO ADDITIONAL LAND CLEARING SHALL COMMENCE UNTIL A SATISFACTORY INSPECTION OF THE REQUIRED EROSION CONTROL BARRICADES HAS BEEN OBTAINED.
7. ALL CONSTRUCTION BARRICADES AND SILT FENCES WILL REMAIN IN PLACE AND BE MONITORED FOR COMPLIANCE BY THE PERMIT HOLDER DURING THE PERMITTED DEVELOPMENT ACTIVITIES.

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DESIGNED BY	DCB
DRAWN BY	JLW
FILENAME	18-382 (04-08-2019).dwg
LAYOUT	Demo & LCE Plan
SCALE	AS SHOWN
DATE	16 NOVEMBER 2018

DATE	REVISION COMMENTS
02.22.2019	REVISED PLANS PER MARTIN COUNTY DRC COMMENTS (01-15-2019)

WEST STUART BUSINESS CENTER

DEMOLITION PLAN AND LAND CLEARING & EROSION PLAN

MARTIN COUNTY FLORIDA

DAVID C. BAGGETT, P.E.(DATE)
#81375

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18-382

GENERAL NOTES EROSION CONTROL

1.0 SITE DESCRIPTION

1.a Nature of Construction Activities

Development of approximately 3.80 acres of a 8.50 acre parcel consisting of constructing two buildings for office / warehouse use. Project will create a drainage system of pipes and inlets which will convey drainage to an existing on-site swale along SW Ellipse Way, which route drainage into a master surface water management system (SFWMD ERP 43-00429-S)

1.b Sequence of Major Soil Disturbing activities:

The following sequence of major activities shall be followed unless the contractor can propose an alternative that is equal or exceeds the erosion and sediment control practices described in this document, and is approved by the Engineer. The detailed sequence for the entire project can vary significantly from contractor to contractor. The contractor is responsible for providing a detailed sequence of construction for all construction activities.

1- Clearing and grubbing of site
2- Excavation general grading
3- Installation of underground utilities.
4- Finishing grading.

1.c Area Estimates

Total site area:	8.50 Acres
Total area to be disturbed:	3.80 Acres

1.d Estimate of drainage area size for each discharge point.

Basin #1:	8.50 Acres

1.e Latitude and longitude of each discharge point and identify the receiving water or MS4 for each discharge point:

Basin #1 27° 06' 45" N
80° 15' 53" W

Discharge into a master surface water management system (SFWD ERP 43-00429-S) that ultimately outfalls into the St Lucie River.

2.0 CONTROLS

2.a Erosion and Sediment Controls

Silt fencing shall be installed and maintained around the perimeter of the disturbed area of the project. Gravel shall be installed at the entrance/exit of the site to prevent track out. Paved roads shall be swept and kept clear of transported soils. Permanent perimeter berms shall be installed as part of the Martin County site plan approval. All disturbed areas shall be sodded to prevent erosion and control wind-borne soil transport. Contractor shall have water trucks on-site for dust control. Filter Fabric shall be used to protect all inlets from Filtration.

2.a.1 Permanent and Temporary Stabilization Practices

Contractor shall be responsible for having water truck on-site for temprorary stabilization during construction. All disturbed areas are to be sodded upon completion of grading. The contractor is responsible for documenting this portion of the SWPPP.

2.a.2 Structural Practices

Site shall be initially graded to direct runoff to direct run-off to a temporary on-site containment area. Silt screens are to be installed and maintained around perimeter of site. No discharge from site permitted until certification of permitted surface water management system.

Temporary: Construct silt fence in accordance with FDOT Index 102.A stabilized construction entrance and soil tracking prevention device shall be installed in accordance with FDOT Index 106. A sediment basin is to be installed as part of the soil tracking prevention plan. All sediment controls shall be in place prior to any soil disturbing activity upstream of the controls.

2.b Stormwater Management

Upon certification of surface water management system, the conveyances will be permanent. Perimeter berms shall remain installed to prevent runoff from passing off-site prior to entering treatment facilities.

2.c Other Controls

2.c.1 Waste Disposal

Contractor shall be responsible for the proper disposal and storage of all debris, chemicals, litter, and sanitary waste per local, state and federal guidelines. No discharges are allowed into surface water management system.

2.c.2 Offsite vehicle tracking

Gravel to be installed at entrance/exit to minimize transport of soil off of site. Paved roads are to be swept daily.

2.c.3 Application rates of all fertilizers, herbicides and pesticides used.

Any fertilizers, herbicides, and pesticides to be used shall be applied per methods and rates recommended by the manufacturers label which must be affixed to or printed directly on the container.

2.c.4 Storage, application, generation and migration of all toxic substances.

Contractor is required to properly maintain all vehicles in good working order to prevent leakage. No toxic substances to be storecd on site.

3.0 MAINTENANCE

3.a all structural and non-structural controls to be visually inspected and repaired on a daily basis by the contractor. These controls are to remain in good and effective operating condition per the approved construction plans and per standard FDOT indexes.

4.0 INSPECTION

Contractor is responsible for visually inspecting silt fences, perimeter berms, and entrance/exit controls on a daily basis. A more thorough inspection of all structural and non-structural controls shall occur at least once per week and within 24 hours of the end of a storm that is 0.50 inches or greater.

5.0 NON-STORMWATER DISCHARGES

None

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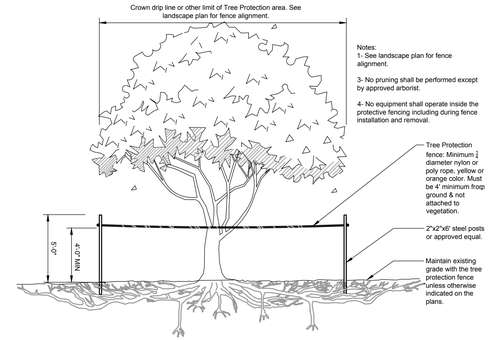
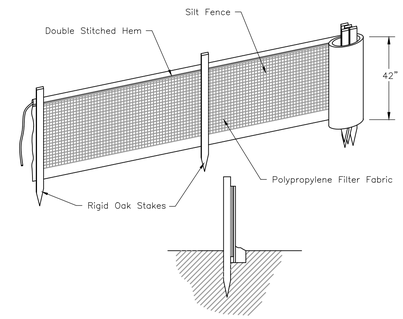


TREE PROTECTION BARRICADE
NTS

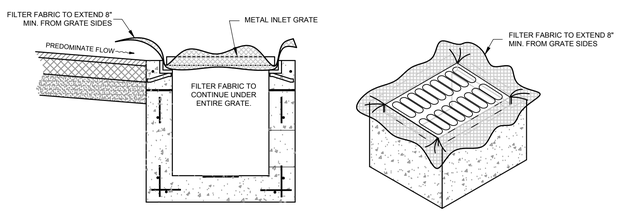


Recommended Toe-in

1. Silt Fence shall be installed per manufactures specifications prior to the start of construction and shall not be removed until construction is complete.
2. The Contractor shall inspect and repair the silt fence after each rain event and remove sediment when necessary.
3. Removed sediment shall be deposited in an area that will not contribute sediment offsite and can be permanently stabilized.

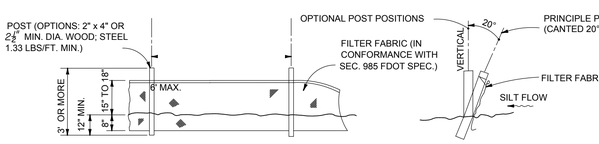
NOTES: the silt fence shall be placed on slope contour to maximize its ponding efficiency.

SILT FENCE DETAIL



GENERAL NOTES

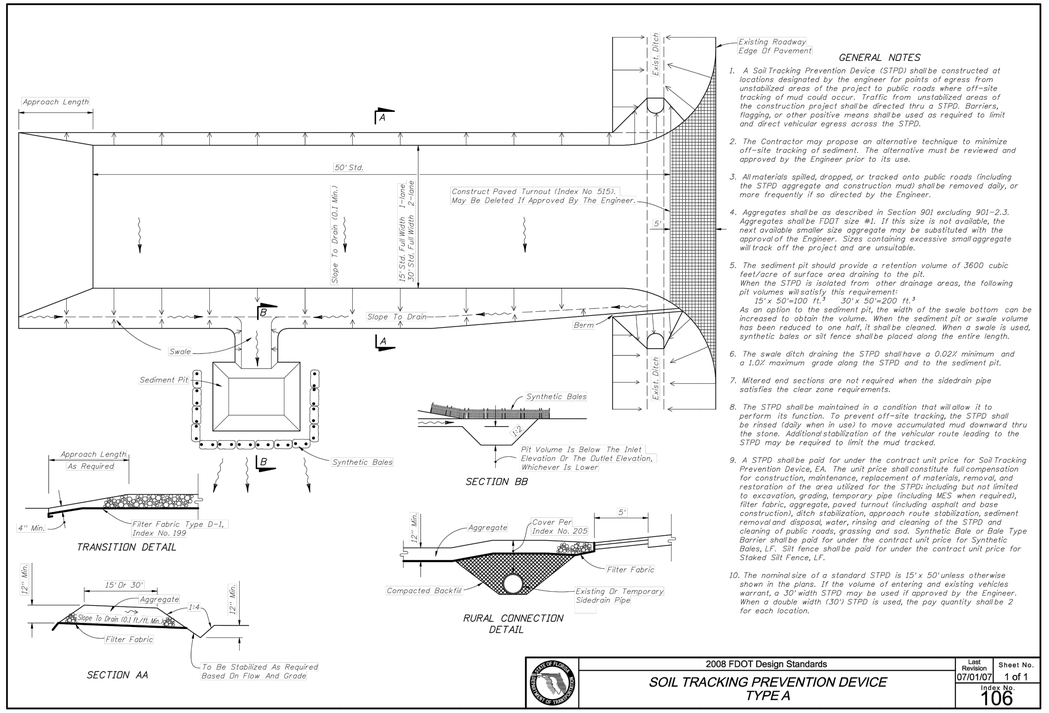
1. THIS INLET IS DESIGNED WITH FILTER FABRIC PROTRUDING 8" FROM SIDES FOR GRIPPING WHEN SEDIMENT NEEDS TO CLEARED AFTER FINAL CONSTRUCTION.
2. FILTER FABRIC TO BE INSTALLED AND TRIMMED BEFORE GRATE IS INSET.



ELEVATION SECTION

NOTE: SILT FENCE TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR STACKED SILT FENCE (LF).

FILTER FABRIC DETAIL



GENERAL NOTES

1. A Soil Tracking Prevention Device (STPD) shall be constructed at locations designated by the engineer for points of egress from unstabilized areas of the project to public roads where off-site tracking of mud could occur. Traffic from unstabilized areas of the construction project shall be directed thru a STPD. Barriers, flagging, or other positive means shall be used as required to limit and direct vehicular egress across the STPD.
2. The Contractor may propose an alternative technique to minimize off-site tracking of sediment. The alternative must be reviewed and approved by the Engineer prior to its use.
3. All materials spilled, dropped, or tracked onto public roads (including the STPD aggregate and construction mud) shall be removed daily, or more frequently if so directed by the Engineer.
4. Aggregates shall be as described in Section 901 excluding 901-2.3. Aggregates shall be FDOT size #1. If this size is not available, the next available smaller size aggregate may be substituted with the approval of the Engineer. Sizes containing excessive small aggregate will track off the project and are unsuitable.
5. The sediment pit should provide a retention volume of 3600 cubic feet/acre of surface area draining to the pit. When the STPD is isolated from other drainage areas, the following pit volumes will satisfy this requirement:
   15' x 50'=100 ft.³ 30' x 50'=200 ft.³
   As an option to the sediment pit, the width of the swale bottom can be increased to obtain the volume. When the sediment pit or swale volume has been reduced to one half, it shall be cleaned. When a swale is used, synthetic bales or silt fence shall be placed along the entire length.
6. The swale ditch draining the STPD shall have a 0.02% minimum and a 1.0% maximum grade along the STPD and to the sediment pit.
7. Mitered end sections are not required when the sidedrain pipe satisfies the clear zone requirements.
8. The STPD shall be maintained in a condition that will allow it to perform its function. To prevent off-site tracking, the STPD shall be rinsed (daily when in use) to move accumulated mud downward thru the stone. Additional stabilization of the vehicular route leading to the STPD may be required to limit the mud tracked.
9. A STPD shall be paid for under the contract unit price for Soil Tracking Prevention Device, EA. The unit price shall constitute full compensation for construction, maintenance, replacement of materials, removal, and restoration of the area utilized for the STPD; including but not limited to excavation, grading, temporary pipe (including MES when required), filter fabric, aggregate, paved turnout (including asphalt and base construction), ditch stabilization, approach route stabilization, sediment removal and disposal, water, rinsing and cleaning of the STPD and cleaning of public roads, grassing and sod. Synthetic Bale or Bale Type Barrier shall be paid for under the contract unit price for Synthetic Bales, LF. Silt fence shall be paid for under the contract unit price for Staked Silt Fence, LF.
10. The nominal size of a standard STPD is 15' x 50' unless otherwise shown in the plans. If the volume of entering and existing vehicles warrant, a 30' width STPD may be used if approved by the Engineer. When a double width (30') STPD is used, the pay quantity shall be 2 for each location.

2008 FDOT Design Standards	Last Revision	Sheet No.
SOIL TRACKING PREVENTION DEVICE TYPE A	07/01/07	1 of 1
	Index No.	106

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WEST STUART BUSINESS CENTER
LAND CLEARING & EROSION DETAILS
FLORIDA
MARTIN COUNTY

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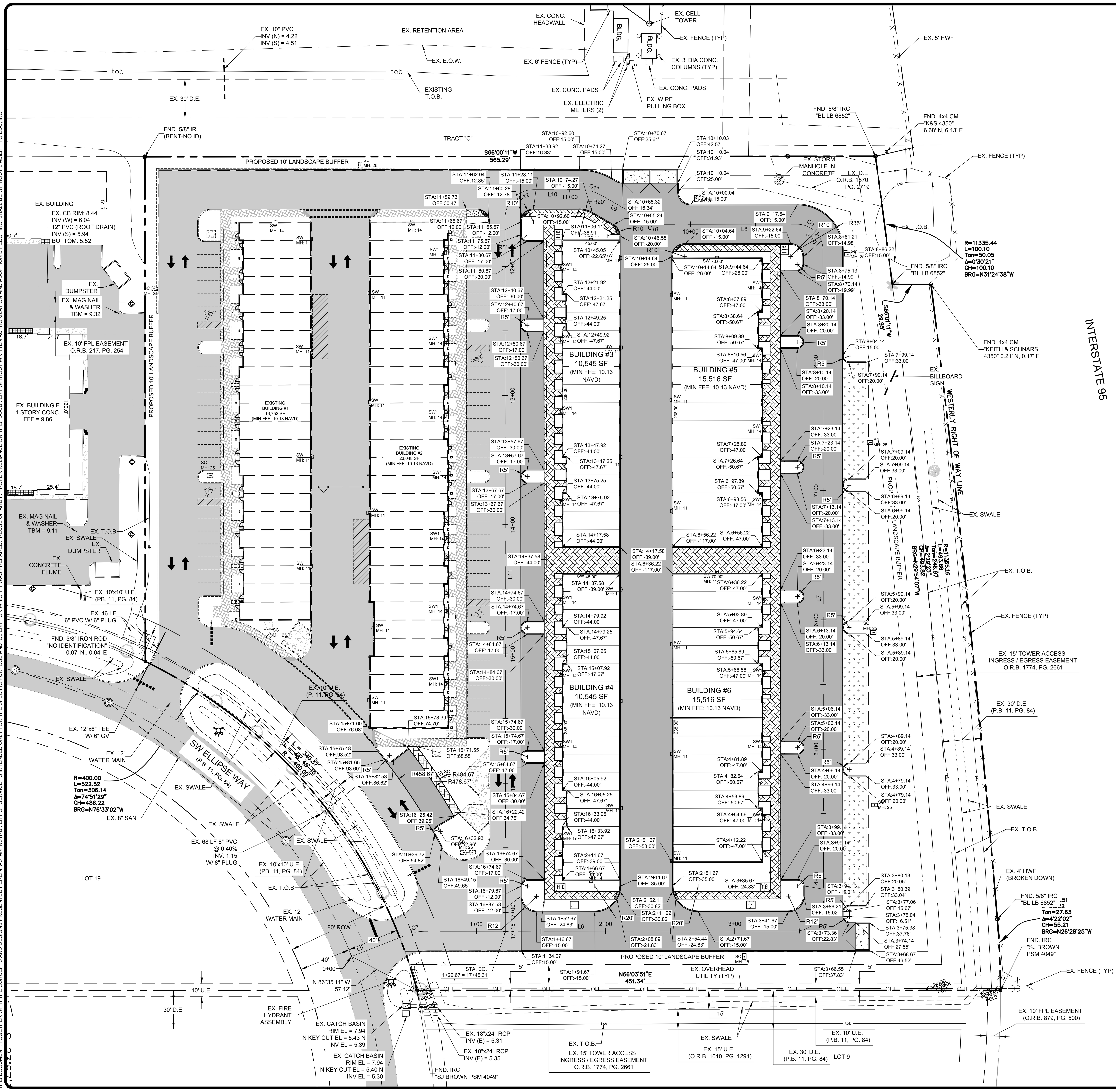

DATUM NOTE:
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NOTE TO CONTRACTOR:
1. ALL PIPE ELEVATIONS SHALL BE FIELD VERIFIED BEFORE COMMENCEMENT.
2. REGRADE AND SOD ALL DISTURBED AREA.

(IN FEET)
1 inch = 40 ft.

ALIGNMENT LINE DATA

LINE #	LENGTH	BEARING
L1	5.35'	S65° 59' 43"W
L2	301.15'	N24° 00' 17"W
L3	203.00'	N65° 59' 43"E
L4	506.57'	S24° 00' 17"E

ALIGNMENT CURVE DATA

CURVE #	RADIUS	LENGTH
C1	445.67'	241.16'
C2	40.00'	24.34'
C3	25.00'	39.27'
C4	25.00'	39.27'
C5	25.00'	39.27'
C6	25.00'	68.01'

LEGEND
- EXISTING SPOT ELEVATION
- FLOW ARROW
- LIGHT POLE (BY OTHERS)
- EXISTING SEWER MANHOLE
- PROPOSED SEWER MANHOLE
- PROPOSED DRAINAGE MANHOLE
- EXISTING CONCRETE
- PROPOSED CONCRETE
- PROPOSED PAVERS
- PROPOSED ASPHALT
- EXISTING ASPHALT
- EXISTING TREES TO REMAIN

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WEST STUART BUSINESS CENTER
HORIZONTAL CONTROL PLAN
MARTIN COUNTY FLORIDA

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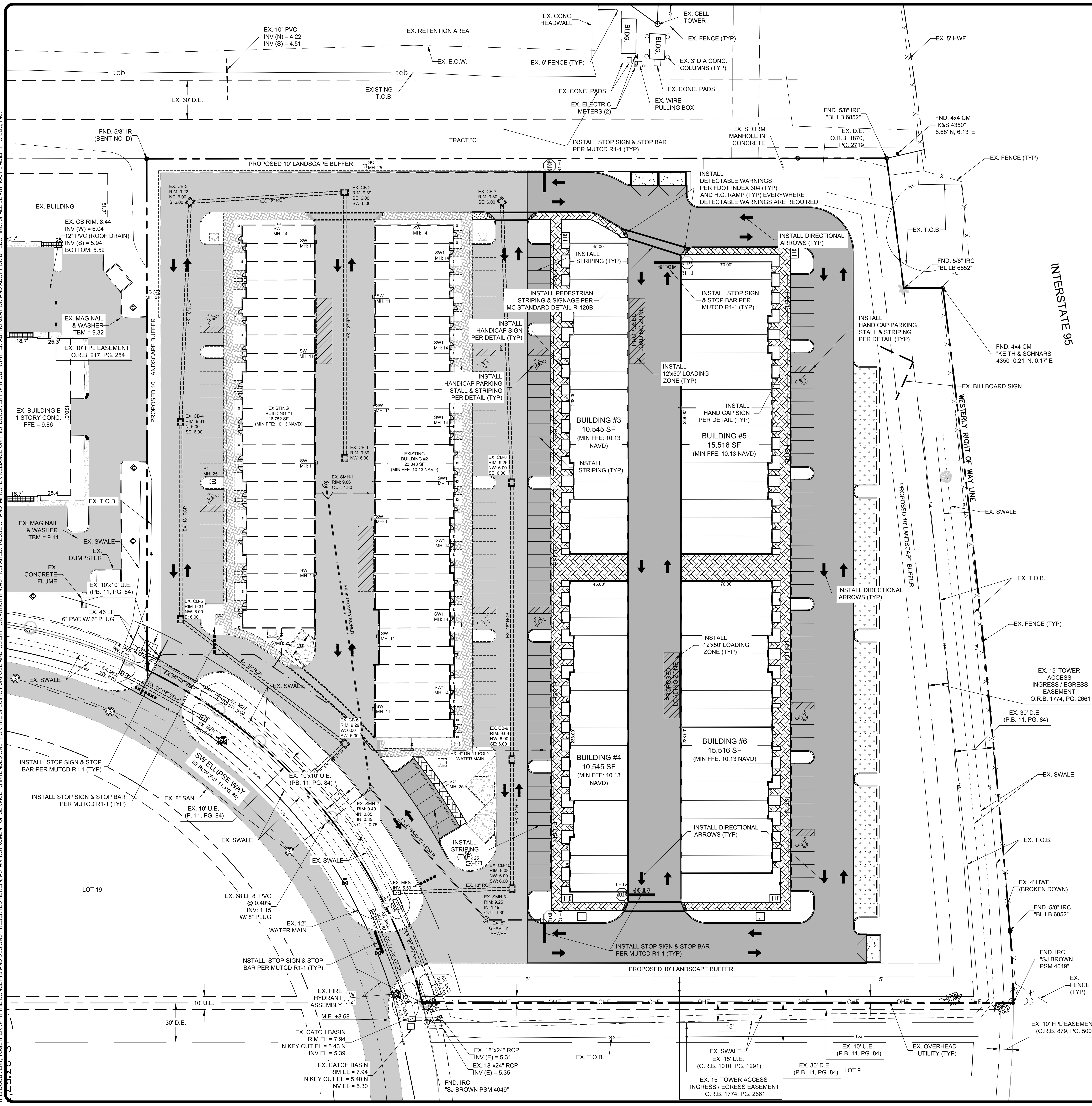
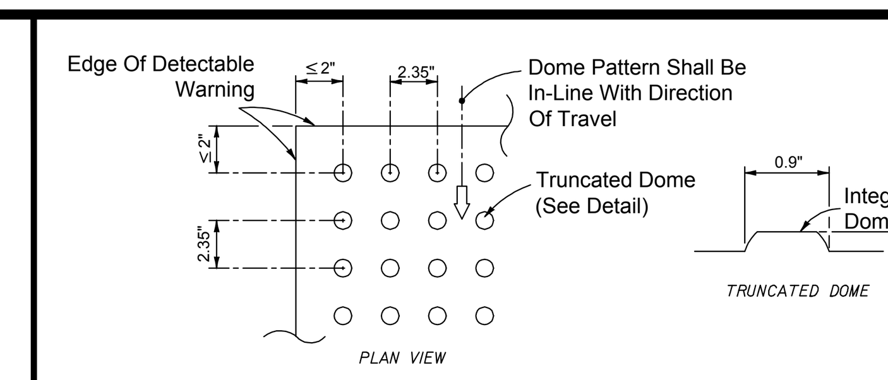
#81375
10250 SW VILLAGE PARKWAY - SUITE 201
PORT SAINT LUCIE, FL 34987
772-462-2455

18-382





All Sidewalk Curb Ramps shall have Detectable Warning Surfaces that extend the full width of the ramp and in the direction of travel 24" (610mm) from the Back Of Curb

NOTES:
REFER TO FDOT INDEX 304 FOR FURTHER DETAILS

CURB RAMP DETECTABLE WARNING

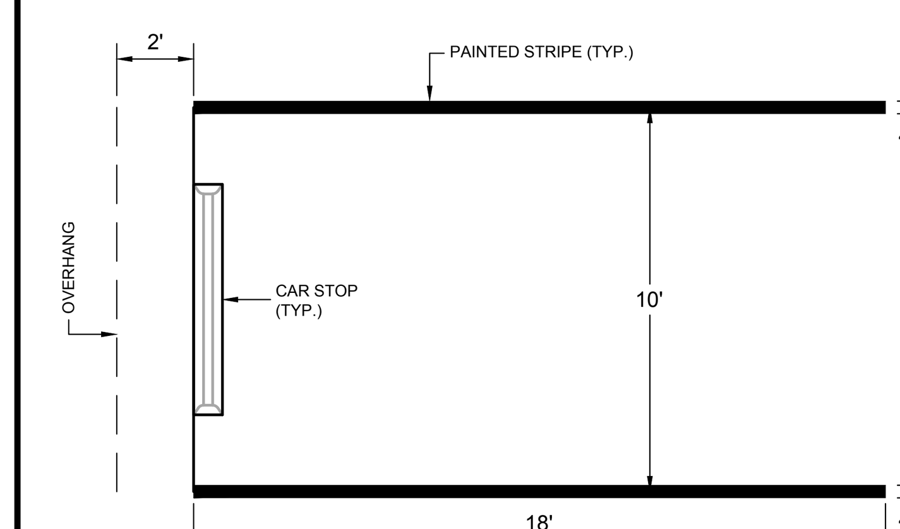
(IN FEET)
1 inch = 40 ft.

LEGEND

- EXISTING SPOT ELEVATION
- FLOW ARROW
- LIGHT POLE (BY OTHERS)
- EXISTING SEWER MANHOLE
- PROPOSED SEWER MANHOLE
- PROPOSED DRAINAGE MANHOLE
- EXISTING CONCRETE
- PROPOSED CONCRETE
- PROPOSED PAVERS
- PROPOSED ASPHALT
- EXISTING ASPHALT
- EXISTING TREES TO REMAIN

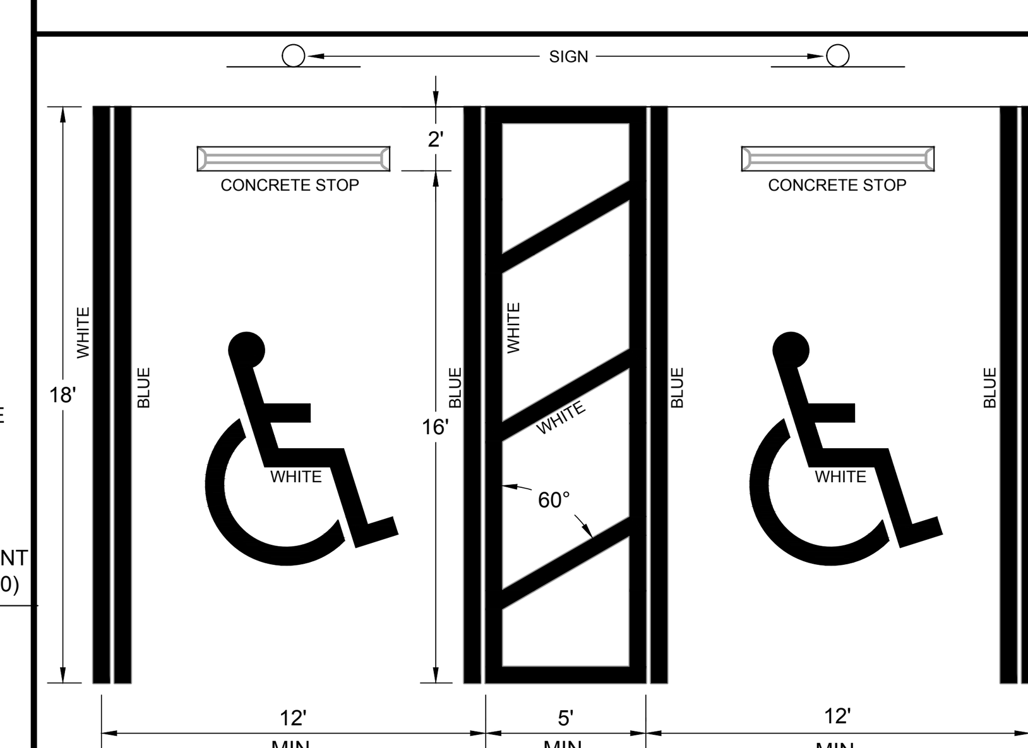
DATUM NOTE:
ALL ELEVATIONS SHOWN ON THESE PLANS REFERENCE THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD). A TYPICAL ACCEPTED CONVERSION TO NGVD FROM NAVD IS ==> NAVD = NGVD - 1.475'

NOTE TO CONTRACTOR:
1. ALL PIPE ELEVATIONS SHALL BE FIELD VERIFIED BEFORE COMMENCEMENT.
2. REGRADE AND SOD ALL DISTURBED AREA.

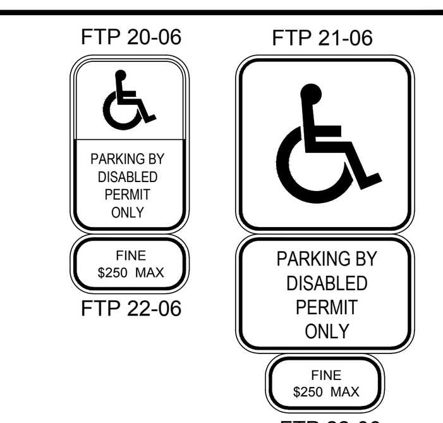


TYPICAL 20' PARKING STALL

1" = 5'



HANDICAPPED SPACE DETAIL



NOTES:
1. FTP 20-06: TOP PORTION SHALL HAVE REFLECTIVE BLUE BACKGROUND WITH WHITE REFLECTIVE SYMBOL AND BORDER. BOTTOM PORTION SHALL HAVE A REFLECTIVE WHITE BACKGROUND WITH BLACK OPAQUE LEGEND AND BORDER.
2. FTP 21-06: TOP PORTION SHALL HAVE REFLECTIVE BLUE BACKGROUND WITH WHITE REFLECTIVE SYMBOL AND BORDER. BOTTOM PORTION SHALL HAVE A REFLECTIVE WHITE BACKGROUND WITH BLACK OPAQUE LEGEND AND BORDER.
3. FTP 20-06 IS FOR USE IN AREAS WHERE SPACE IS LIMITED.
4. FTP 22-06 IS SUPPLEMENTAL PANEL FOR THE FTP 20-06 & FTP 21-06 SIGNS.
5. HEIGHT SHALL BE 7 FEET MEASURED FROM THE GROUND OR SIDEWALK TO THE BOTTOM OF "PERMIT ONLY" SIGN OR 6 FEET TO THE BOTTOM OF "$250 FINE" SIGN.
6. REFER TO FDOT INDEX No. 711-001 FOR PAVEMENT MARKING DETAILS & FDOT INDEX No. 700-102 SIGN DETAILS PER THE LATEST FDOT DESIGN STANDARDS.

ENGINEERS SURVEYORS
PORT SAINT LUCIE OFFICE
10250 SW VILLAGE PARKWAY - SUITE 201
PORT SAINT LUCIE, FL 34987
☎ 772-462-2455
www.edc-inc.com

F.B.P.E. CERTIFICATE OF AUTHORIZATION 9935
L.B. CERTIFICATE OF AUTHORIZATION 8098

DESIGNED BY	DCB
DRAWN BY	JLW
FILENAME	18-382 (04-08-2019).dwg
LAYOUT	Signage & Striping
SCALE	AS SHOWN
DATE	16 NOVEMBER 2018

DATE	REVISION COMMENTS
02-22-2019	REVISED PLANS PER MARTIN COUNTY DRC COMMENTS (01-15-2019)

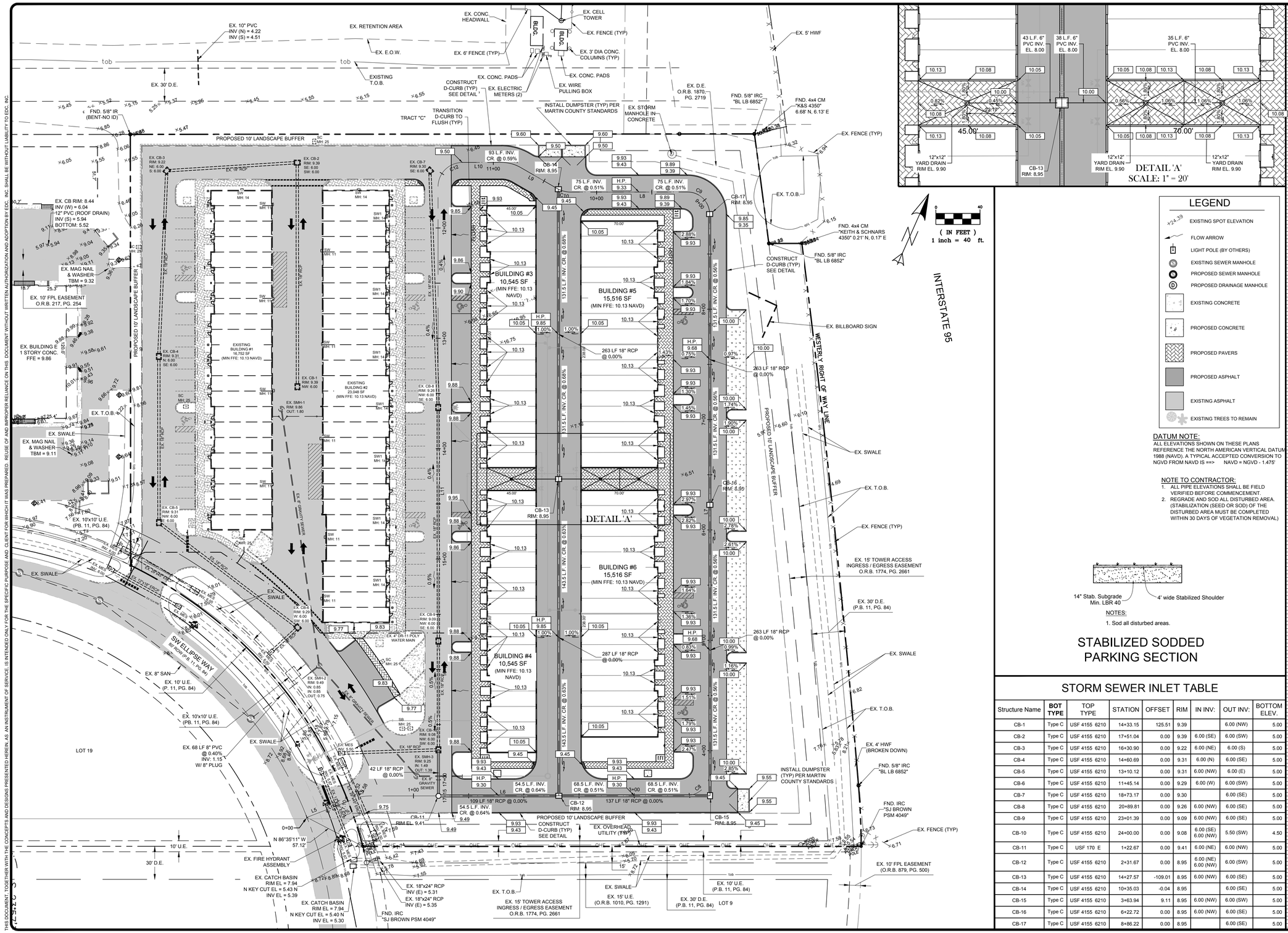
WEST STUART BUSINESS CENTER

SIGNAGE AND STRIPING PLAN

MARTIN COUNTY FLORIDA

DAVID C. BAGGETT, P.E.(DATE)
#81375
10250 SW VILLAGE PARKWAY - SUITE 201
PORT SAINT LUCIE, FL 34987
☎ 772-462-2455

18-382



LEGEND

- EXISTING SPOT ELEVATION
- FLOW ARROW
- LIGHT POLE (BY OTHERS)
- EXISTING SEWER MANHOLE
- PROPOSED SEWER MANHOLE
- PROPOSED DRAINAGE MANHOLE
- EXISTING CONCRETE
- PROPOSED CONCRETE
- PROPOSED PAVERS
- PROPOSED ASPHALT
- EXISTING ASPHALT
- EXISTING TREES TO REMAIN

DATUM NOTE:
ALL ELEVATIONS SHOWN ON THESE PLANS REFERENCE THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD). A TYPICAL ACCEPTED CONVERSION TO NGVD FROM NAVD IS ==> NAVD = NSVD - 1.475'

NOTE TO CONTRACTOR:
1. ALL PIPE ELEVATIONS SHALL BE FIELD VERIFIED BEFORE COMMENCEMENT.
2. REGRADE AND SOD ALL DISTURBED AREA. (STABILIZATION (SEED OR SOD) OF THE DISTURBED AREA MUST BE COMPLETED WITHIN 30 DAYS OF VEGETATION REMOVAL)

NOTES:
1. Sod all disturbed areas.

STABILIZED SODDED PARKING SECTION

STORM SEWER INLET TABLE

Structure Name	BOT TYPE	TOP TYPE	STATION	OFFSET	RIM	IN INV:	OUT INV:	BOTTOM ELEV.
CB-1	Type C	USF 4155 6210	14+33.15	125.51	9.39		6.00 (NW)	5.00
CB-2	Type C	USF 4155 6210	17+51.04	0.00	9.39	6.00 (SE)	6.00 (SW)	5.00
CB-3	Type C	USF 4155 6210	16+30.90	0.00	9.22	6.00 (NE)	6.00 (S)	5.00
CB-4	Type C	USF 4155 6210	14+60.69	0.00	9.31	6.00 (N)	6.00 (SE)	5.00
CB-5	Type C	USF 4155 6210	13+10.12	0.00	9.31	6.00 (NW)	6.00 (E)	5.00
CB-6	Type C	USF 4155 6210	11+45.14	0.00	9.29	6.00 (W)	6.00 (SW)	5.00
CB-7	Type C	USF 4155 6210	18+73.17	0.00	9.30		6.00 (SE)	5.00
CB-8	Type C	USF 4155 6210	20+89.81	0.00	9.26	6.00 (NW)	6.00 (SE)	5.00
CB-9	Type C	USF 4155 6210	23+01.39	0.00	9.09	6.00 (NW)	6.00 (SE)	5.00
CB-10	Type C	USF 4155 6210	24+00.00	0.00	9.08	6.00 (SE) 6.00 (NW)	5.50 (SW)	4.50
CB-11	Type C	USF 170 E	1+22.67	0.00	9.41	6.00 (NE)	6.00 (NW)	5.00
CB-12	Type C	USF 4155 6210	2+31.67	0.00	8.95	6.00 (NE) 6.00 (NW)	6.00 (SW)	5.00
CB-13	Type C	USF 4155 6210	14+27.57	-109.01	8.95	6.00 (NW)	6.00 (SE)	5.00
CB-14	Type C	USF 4155 6210	10+35.03	-0.04	8.95		6.00 (SE)	5.00
CB-15	Type C	USF 4155 6210	3+63.94	9.11	8.95	6.00 (NW)	6.00 (SW)	5.00
CB-16	Type C	USF 4155 6210	6+22.72	0.00	8.95	6.00 (NW)	6.00 (SE)	5.00
CB-17	Type C	USF 4155 6210	8+86.22	0.00	8.95		6.00 (SE)	5.00

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F.B.P.E. CERTIFICATE OF AUTHORIZATION 9935
L.B. CERTIFICATE OF AUTHORIZATION 8098

DESIGNED BY	DCB
DRAWN BY	JLW
FILENAME	18-382 (04-08-2019).dwg
PCD Plan	
LAYOUT	
SCALE	AS SHOWN
DATE	16 NOVEMBER 2018

DATE	REVISION COMMENTS
02-22-2019	REVISED PLANS PER MARTIN COUNTY DRC COMMENTS (01-15-2019)

WEST STUART BUSINESS CENTER

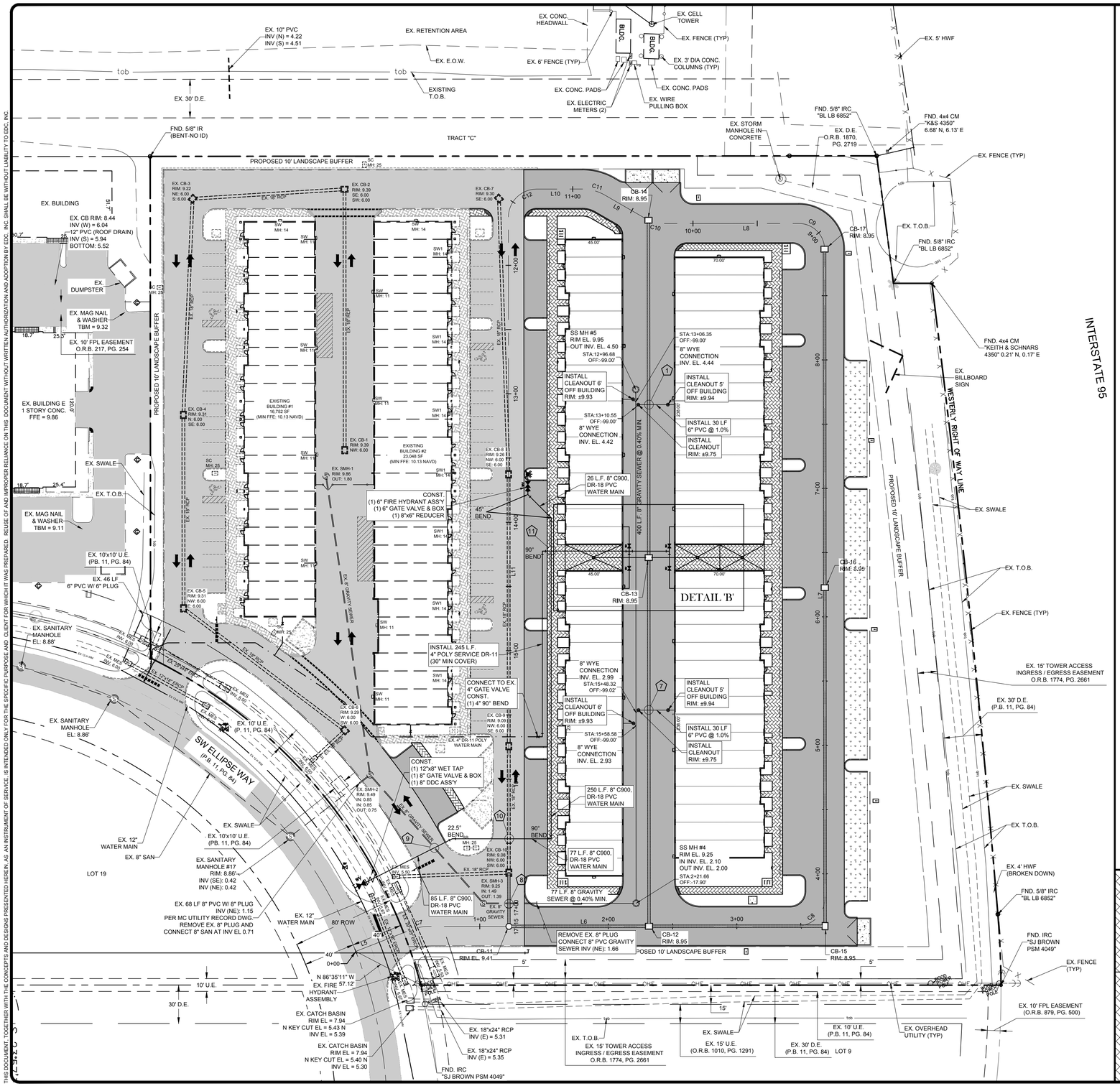
PAVING, GRADING, & DRAINAGE PLAN

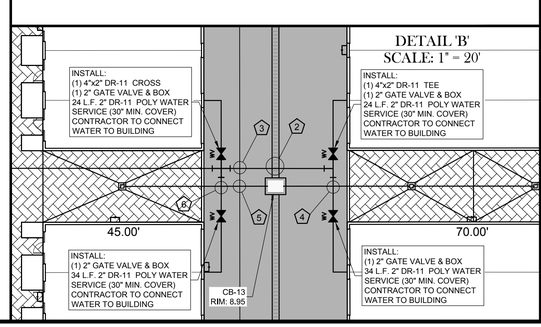
MARTIN COUNTY FLORIDA

DAVID C. BAGGETT, P.E.(DATE)
#81375
10250 SW VILLAGE PARKWAY - SUITE 201
PORT SAINT LUCIE, FL 34987
772-462-2455

17-224

6 OF 13





UTILITY CONFLICTS:

① STA: 13+08.55
OFF: -109.01'
6" SEWER CROSSES UNDER 18" STORM
(12" MIN SEPARATION)
BOTTOM STORM = 5.79
TOP SEWER = 3.85

② STA: 14+22.61
OFF: -109.01'
4" WATER CROSSES UNDER 18" STORM
(12" MIN SEPARATION)
BOTTOM STORM = 5.79
TOP 4" WATER = 4.75
FG = ±8.95

③ STA: 14+22.59
OFF: -99.00'
8" SANITARY CROSSES UNDER 4" WATER
(12" MIN SEPARATION)
BOTTOM WATER = 4.90
TOP SANITARY = 3.90
FG = ±9.5

④ STA: 6+46.23
OFF: -120.90'
4" WATER CROSS UNDER 6" STORM
(12" MIN SEPARATION)
BOTTOM STORM = 5.95
TOP WATER = 4.75
FG = ±9.95

⑤ STA: 14+27.57
OFF: -99.00'
8" SANITARY CROSSES UNDER 6" STORM
(12" MIN SEPARATION)
BOTTOM STORM = 5.95
TOP SANITARY = 3.88
FG = ±9.46

⑥ STA: 14+27.58
OFF: -93.82'
4" WATER CROSSES UNDER 6" STORM
(12" MIN SEPARATION)
BOTTOM STORM = 5.95
TOP WATER = 4.75
FG = ±9.95

⑦ STA: 15+46.32
OFF: -109.01'
6" SEWER CROSSES UNDER 18" STORM
(12" MIN SEPARATION)
BOTTOM STORM = 5.79
TOP SEWER = 3.18
FG = ±9.75

⑧ STA: 16+97.06
OFF: 0.00'
8" SEWER CROSSES UNDER 18" STORM
(12" MIN SEPARATION)
BOTTOM STORM = 5.79
TOP SEWER = 1.57
FG = ±9.28

⑨ STA: 16+53.54
OFF: 58.26'
8" SEWER CROSSES UNDER 8" WATER
(12" MIN SEPARATION)
BOTTOM WATER = 5.94
TOP SEWER = 1.83
FG = ±9.61

⑩ STA: 16+46.40
OFF: 0.00'
8" WATER CROSSES UNDER 18" STORM
(12" MIN SEPARATION)
BOTTOM STORM = 5.79
TOP WATER = 4.75
FG = ±9.21

⑪ STA: 14+22.51
OFF: -33.13'
4" WATER CROSSES UNDER 6" WATER
(12" MIN SEPARATION)
BOTTOM WATER = 6.23
TOP WATER = 5.23
FG = ±9.9

LEGEND

+24.39	EXISTING SPOT ELEVATION
←	FLOW ARROW
⊡	LIGHT POLE (BY OTHERS)
Ⓢ	EXISTING SEWER MANHOLE
Ⓢ	PROPOSED SEWER MANHOLE
Ⓓ	PROPOSED DRAINAGE MANHOLE
⬚	EXISTING CONCRETE
⬚	PROPOSED CONCRETE
▨	PROPOSED PAVERS
■	PROPOSED ASPHALT
▩	EXISTING ASPHALT
✱	EXISTING TREES TO REMAIN

DATUM NOTE:
ALL ELEVATIONS SHOWN ON THESE PLANS REFERENCE THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD). A TYPICAL ACCEPTED CONVERSION TO NGVD FROM NAVD IS ==> NAVD = NGVD - 1.475'

NOTE TO CONTRACTOR:
1. ALL PIPE ELEVATIONS SHALL BE FIELD VERIFIED BEFORE COMMENCEMENT.
2. REGRADE AND SOD ALL DISTURBED AREA.
3. IRRIGATION FOR THE ENTIRE PLAT IS PROVIDED BY THE POA AND PUMPED FROM THE MASTER WET DETENTION LAKE. SEE IRRIGATION PLANS BY OTHERS.
4. WATER LINE TO MAINTAIN 10' HORIZONTAL SEPARATION FROM TRUNKS OF LANDSCAPE TREES. WHERE SEPARATION CANNOT BE MET A ROOF BARRIER MAY BE INSTALLED WITH APPROVAL OF LANDSCAPE ARCHITECT.

DETAIL 'B'
SCALE: 1" = 20'

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ENGINEERS ⊕ SURVEYORS

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F.B.P.E. CERTIFICATE OF AUTHORIZATION 9935
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DESIGNED BY	DCB
DRAWN BY	JLW
FILENAME	18-382 (04-08-2019).dwg
LAYOUT	Utility Plan
SCALE	AS SHOWN
DATE	16 NOVEMBER 2018

DATE	REVISION COMMENTS
02-22-2019	REVISED PLANS PER MARTIN COUNTY DRC COMMENTS (01-15-2019)

WEST STUART BUSINESS CENTER

UTILITY PLAN

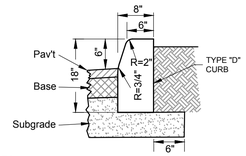
MARTIN COUNTY
FLORIDA

DAVID C. BAGGETT, P.E.(DATE)
#81375

10250 SW VILLAGE PARKWAY - SUITE 201
PORT SAINT LUCIE, FL 34987
☎ 772-462-2455

18-382

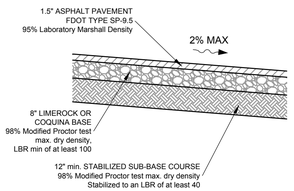
7 OF 13



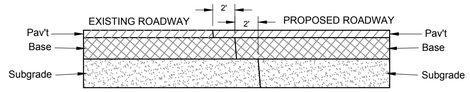
NOTES:

1. Use 3,000 P.S.I. concrete at 28 days for construction.
2. Subgrade to extend an additional 6" beyond Type "D" Curb.
3. Type "D" Curb to be constructed in accordance with FDOT Index #300.

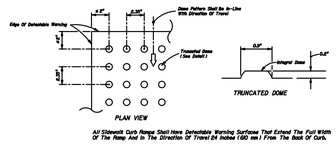
TYPE "D" CURB



TYPICAL ON-SITE PAVEMENT SECTION



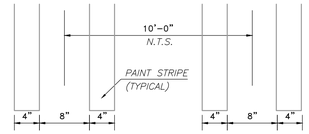
MATERIAL BENCHING DETAIL
(FOR ATTACHING TO EXISTING ROADWAY)



NOTES:
REFER TO FDOT INDEX 304 FOR FURTHER DETAILS

DETECTABLE WARNING

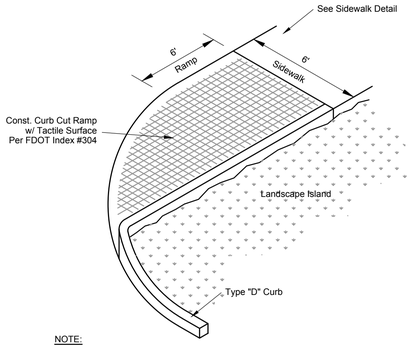
DATUM NOTE:
ALL ELEVATIONS SHOWN ON THESE PLANS
REFERENCE THE NORTH AMERICAN VERTICAL DATUM
1988 (NAVD). A TYPICAL ACCEPTED CONVERSION TO
NGVD FROM NAVD IS ==> NAVD = NGVD - 1.475'



DOUBLE STRIPING DETAIL

SPACING OR REQUIRED ROADWAY / PARKING AREA TESTS								
ITEMS TO BE TESTED	F.B.V.		DENSITY		L.B.R.		THICKNESS	
	MAX. SPACING		MAX. SPACING		MAX. SPACING		MAX. SPACING	
	LIN.FT.	SQ.FT.	LIN.FT.	SQ.FT.	LIN.FT.	SQ.FT.	LIN.FT.	SQ.FT.
COMPACTED OR STABILIZED SUBGRADE	300	10,000	300	10,000	___	___	300	10,000
LIMEROCK BASE	___	___	300	10,000	___	___	300	10,000
SHELLROCK BASE	___	___	300	10,000	___	___	300	10,000
ASPHALT	___	___	___	___	___	___	PER INSP.	PER INSP.

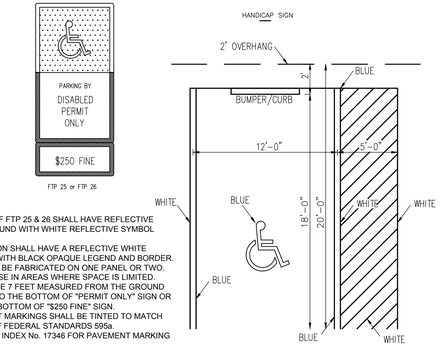
NOTE: ALL TESTING SHALL BE TAKEN IN A STAGGERED SAMPLING PATTERN FROM A POINT 12" INSIDE THE LEFT EDGE OF THE ITEM TESTED, TO THE CENTER, TO A POINT 12" INSIDE OF THE RIGHT EDGE.



NOTE:

1. Landscape island to be 2" below top of sidewalk.

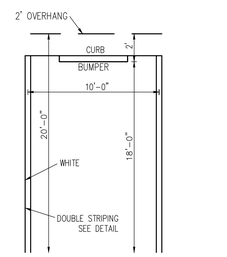
CURB CUT RAMP



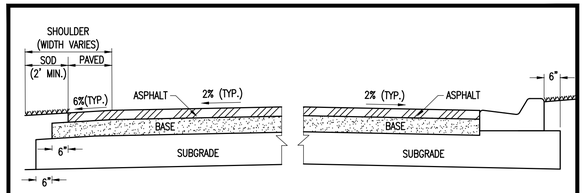
NOTES:

1. TOP PORTION OF FTP 25 & 26 SHALL HAVE REFLECTIVE BLUE BACKGROUND WITH WHITE REFLECTIVE SYMBOL AND BORDER.
2. BOTTOM PORTION SHALL HAVE A REFLECTIVE WHITE BACKGROUND WITH BLACK OPAQUE LEGEND AND BORDER.
3. FTP 25 & 26 MAY BE FABRICATED ON ONE PANEL OR TWO.
4. FTP 25 IS FOR USE IN AREAS WHERE SPACE IS LIMITED.
5. HEIGHT SHALL BE 7 FEET MEASURED FROM THE GROUND OR SIDEWALK TO THE BOTTOM OF "PERMIT ONLY" SIGN OR 6 FEET TO THE BOTTOM OF "$250 FINE" SIGN.
6. BLUE PAVEMENT MARKINGS SHALL BE TINTED TO MATCH SHADE 15180 OF FEDERAL STANDARDS 595a.
7. REFER TO FDOT INDEX No. 17346 FOR PAVEMENT MARKING DETAILS.

HANDICAP SPACE DETAIL



20' PARKING STALL DETAIL



~~LOCAL RESIDENTIAL (SN-3.0 MIN.)~~

- ~~MIN. E.O.P. ELEVATION - PEAK STAGE OF 10-YR / 24-HR STORM EVENT~~
- ~~SURFACE COURSE: 1.5" TYPE SP-9.5 ASPHALTIC CONCRETE ASPHALT MIX TO CONTAIN NO MORE THAN 30% RECLAIMED ASPHALT PAVEMENT (R.A.P.)~~
- ~~BASE COURSE: OPTIONAL BASE GROUP 6 PER FDOT INDEX 514~~
- ~~SUBGRADE: 12" COMPACTED OR STABILIZED SUBGRADE (LBR-40)~~

COLLECTOR & LOCAL COMMERCIAL/INDUSTRIAL (SN-3.5 MIN.)

MIN. E.O.P. ELEVATION › PEAK STAGE OF 10-YR / 24-HR STORM EVENT (MINOR)
MIN. E.O.P. ELEVATION › PEAK STAGE OF 25-YR / 24-HR STORM EVENT (MAJOR)

- SURFACE COURSE 1½" TYPE SP-12.5 ASPHALTIC CONCRETE (1ST LIFT) 1" TYPE SP-9.5 ASPHALTIC CONCRETE (2ND LIFT) ASPHALT MIX TO CONTAIN NO MORE THAN 30% R.A.P.
- BASE COURSE: OPTIONAL BASE GROUP 6 PER FDOT INDEX 514
- SUBGRADE: 12" COMPACTED OR STABILIZED SUBGRADE (LBR-40)

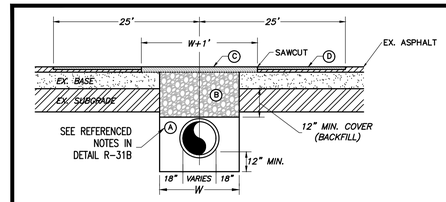
~~ARTERIAL (SN-4.0 MIN.)~~

- ~~MIN. E.O.P. ELEVATION - PEAK STAGE OF 25-YR / 72-HR STORM EVENT~~
- ~~SURFACE COURSE 1½" TYPE S-1 OR SP-12.5 ASPHALTIC CONCRETE (1ST LIFT) 1½" TYPE SP-9.5 ASPHALTIC CONCRETE (2ND LIFT) ASPHALT MIX TO CONTAIN NO MORE THAN 30% R.A.P.~~
- ~~BASE COURSE: OPTIONAL BASE GROUP 9 PER FDOT INDEX 514~~
- ~~SUBGRADE: 12" COMPACTED OR STABILIZED SUBGRADE (LBR-40)~~

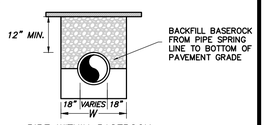
NOTES:

1. SHOULDER DESIGN:
   - SURFACE COURSE: SAME AS TRAVEL LANE SURFACE COURSE
   - BASE COURSE: OPTIONAL BASE GROUP 4 PER FDOT INDEX 514
2. STRUCTURAL NUMBER (SN) PER FDOT STANDARDS (REFER TO FDOT FLEXIBLE PAVEMENT DESIGN MANUAL).
3. SUBSTITUTIONS MAY BE APPROVED BY MARTIN COUNTY, PROVIDED MINIMUM SN IS DEMONSTRATED.
4. R.A.P. – RECLAIMED ASPHALT PAVEMENT REUSED IN NEW HOT MIX ASPHALT MIXES (30% MAX IN ALL MIX DESIGNS)

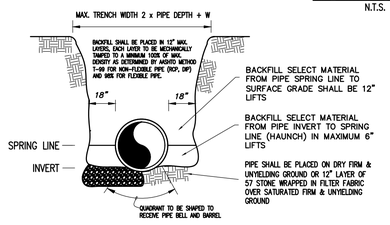
	MARTIN COUNTY ENGINEERING - STANDARD DETAILS	DETAIL
	FLEXIBLE PAVEMENT SECTIONS	R-10
		DATE: 12/20/16



TRENCH DETAIL WITH PAVEMENT OVERLAY
N.T.S.



PIPE WITHIN BASEROCK
N.T.S.



NOTE:
IF PIPE IS UNDER PROPOSED PAVEMENT, REFER TO TRENCH DETAIL WITH PAVEMENT OVERLAY

TYPICAL TRENCH DETAIL
N.T.S.

NOTES:

SEE SPECIFICATIONS & NOTES ON NEXT PAGE

	MARTIN COUNTY ENGINEERING - STANDARD DETAILS	DETAIL
	TYPICAL OPEN CUT TRENCH	R-31A
		DATE: 12/20/16

BACKFILL AND BASE

A. PROVIDE CLEAN BACKFILL. BACKFILL SHALL BE REPLACED IN 12" LAYERS. EACH LAYER SHALL BE MECHANICALLY COMPACTED TO A MINIMUM 100% DENSITY AS DETERMINED BY AASHTO T-180, METHOD "C" (MINIMUM LBR OF 40).
B. BASE ROCK MATERIAL SHALL BE A MINIMUM OF 2' THICK AND BE PLACED IN 6" LAYERS OR AS OTHERWISE APPROVED AND EACH LAYER THOROUGHLY MECHANICALLY COMPACTED TO (100%) DENSITY AS DETERMINED BY AASHTO T-180. ALL BASE MATERIAL MUST MEET FDOT SPECIFICATIONS FROM A CERTIFIED MINING OPERATION. DEPTH OF BASE MATERIAL VARIES ON ROADWAY TYPE AS PER MARTIN COUNTY ENGINEERING STANDARD DETAIL R-10.

PAVING

C. A TEMPORARY PATCH SHALL BE NO LESS THAN 2" THICK OR MATCHING EXISTING PAVEMENT THICKNESS, WHICHEVER IS GREATER. ASPHALT PATCHES MUST BE OF A HOT MIX TYPE FRICTION COURSES. MARTIN COUNTY DOES NOT ALLOW COLD PATCH IN COUNTY MAINTAINED ROADWAYS. THE PATCH IS TO REMAIN 30 DAYS AT MINIMUM TO ASSURE ANY SETTLING OF THE ROADWAY TRENCH HAS TAKEN PLACE.
D. MILL 1" OF ASPHALT A MINIMUM OF 25' FROM CENTER OF TRENCH ON BOTH SIDES, SEE NOTE #1. PAVE AND COMPACT 1" OF SP-9.5 OR MATCH EXISTING TYPE OF FRICTION COURSE.
E. ASPHALT MIX TO CONTAIN NO MORE THAN 30% RECLAIMED ASPHALT PAVEMENT (R.A.P.)

NOTES:

1. ALL OPEN CUT OF PAVEMENT MUST BE REVIEWED BY MARTIN COUNTY ENGINEERING PRIOR TO ANY WORK BEING DONE IN COUNTY MAINTAINED RIGHT-OF-WAY. DEPENDING ON THE LOCATION OF THE OPEN CUT ADDITIONAL MILLING AND PAVING MAY BE REQUIRED; ALL PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED.
2. ALL MATERIAL USED WITHIN THE ROADWAY MUST MEET FDOT SPECIFICATIONS AND BE SUPPLIED FROM A FDOT CERTIFIED MINING OPERATION AND ASPHALT PLANT.
3. A MINIMUM OF TWO DENSITY TESTS SHALL BE TAKEN FOR EACH SIX (6) INCH LIFT OF SUB GRADE AND EACH OPEN CUT CROSSING. WHEN THE SPECIFIED COMPACTED BASE IS GREATER THAN SIX AND ONE-HALF (6 ½") INCHES THE BASE SHALL BE CONSTRUCTED IN TWO OR MORE COURSES. PROCTORS FOR MATERIALS USED IN BACK-FILLING SHALL BE OBTAINED BY A CERTIFIED LABORATORY. DENSITY TESTS SHALL BE CONDUCTED BY A CERTIFIED LABORATORY OR THE PERMITTEE'S CONSULTANTS. THE PERCENTAGE OF MAXIMUM DENSITY REQUIRED SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS. A COPY OF ALL COMPLETED AND ACCEPTED DENSITY TESTS SHALL BE FURNISHED TO THE COUNTY ENGINEER'S OFFICE PRIOR TO FINAL INSPECTION.
4. MARTIN COUNTY DOES NOT ALLOW CRUSHED CONCRETE WITHIN COUNTY MAINTAINED ROADWAY.

	MARTIN COUNTY ENGINEERING - STANDARD DETAILS	DETAIL
	TYPICAL OPEN CUT TRENCH	R-31B
		DATE: 12/20/16

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DESIGNED BY: DCB
DRAWN BY: JLW
FILENAME: 18-382 (04-08-2019).dwg
LAYOUT: PGD Details
SCALE: AS SHOWN
DATE: 16 NOVEMBER 2018

REVISION COMMENTS
DATE

WEST STUART BUSINESS CENTER
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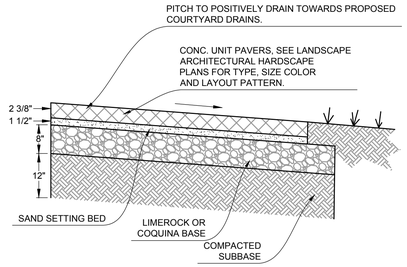
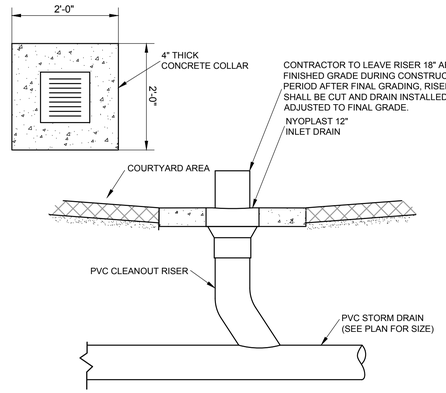
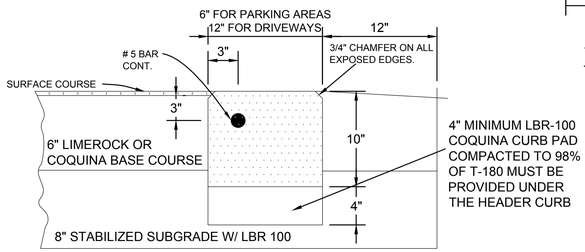
8 OF 13



CONCRETE BRICK PAVERS (BY OTHERS)

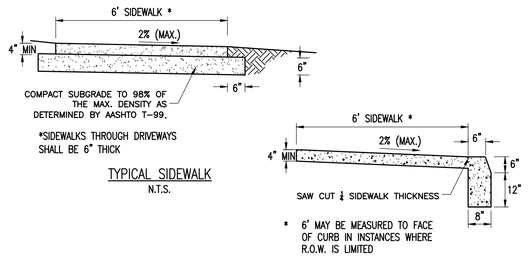


YARD INLET INSTALLATION



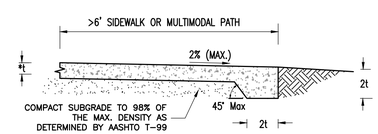
NOTE: 3,000 P.S.I. CONCRETE AT 28 DAYS.

FLUSH HEADER CURB DETAIL



TYPICAL SIDEWALK
N.T.S.

TYPE "D" CURB & SIDEWALK COMBINATION
N.T.S.



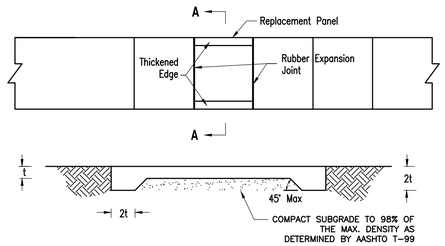
*t is typically 4" – 6" and shall be specified by Engineer of Record

TYPICAL MULTIMODAL PATHWAY or SIDEWALK > 6'
N.T.S.

NOTES:

1. SIDEWALK MATERIALS AND CONSTRUCTION SHOWN HEREIN SHALL BE IN ACCORDANCE WITH APPLICABLE FDOT STANDARD SPECIFICATIONS 520 AND FDOT STANDARD SERIES INDEX 300.
2. FIBER-REINFORCED CONCRETE FOR CURBS AND SIDEWALKS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS WITH A WATER TO CEMENT RATIO NOT MORE THAN 0.53 (LB/LB).
3. THICKENED EDGE SHALL CONTAIN APPLICABLE SUBGRADE COMPACTED TO 98% OF MAXIMUM DRY DENSITY (AASHTO T-99)
4. A DESIRED 8 FEET SHALL BE MAINTAINED BETWEEN EDGE OF TRAVEL LANE AND SIDEWALK WHERE CURB AND GUTTER DOES NOT EXIST (MINIMUM SHALL BE 4.5 FEET, UNLESS OTHERWISE APPROVED BY THE COUNTY ENGINEER).

	MARTIN COUNTY ENGINEERING - STANDARD DETAILS	DETAIL
	SIDEWALK	R-41
		DATE: 12/20/16



SECTION A–A

PROCEDURES FOR SIDEWALK PLACEMENT & REPAIR:

1. REMOVE EXISTING SIDEWALK TO THE FULL WIDTH FROM CONTROL JOINT TO CONTROL JOINT (I.E. ONE "SECTION")
2. COMPLETELY REMOVE ANY STRUCTURE, POLE OR DEVICE LOCATED WITHIN SECTION TO BE REPLACED.
3. BACKFILL ANY VOID CREATED OR CAUSEDBY REMOVAL OF SUCH STRUCTURE, POLE OR DEVICE AND COMPACT TO 98% OF AASHTO T-99.
4. COMPACT SOIL UNDER PROPOSED SIDEWALK AND 12" BEYOND EACH SIDE OF SIDEWALK (WHEN RIGHT-OF-WAY ALLOWS) TO 98% OF AASHTO T-99
5. CONCRETE PREP & PLACING:
   a) INSTALL EXPANSION JOINT AT ALL COLD JOINTS FLUSH WITH THE SURFACE OF THE SIDEWALK
      1) EXPANSION JOINT MATERIAL MEETS THE AASHTO M153 STANDARD FOR TYPE IV: POLYURETHANE-BONDED RECYCLED RUBBER. FIBER EXPANSION JOINT MATERIAL SHALL NOT BE UTILIZED.
   b) INSTALL 4" MINIMUM THICKNESS SIDEWALK OR MATCH EXISTING THICKNESS IF GREATER THAN 4".
      1) MIN. 3,000 PSI
      2) CONCRETE LOAD TICKETS SHOULD BE KEPT FOR FINAL INPSECTION AND SIGN-OFF
   c) SCREEDING:
      1) STRIKE-OFF THE CONCRETE BY MEANS OF A WOOD OR METAL SCREED, USED PERPENDICULAR TO THE FORMS, TO OBTAIN THE REQUIRED GRADE AND REMOVE SURPLUS WATER AND LAITANCE.
   d) FINISH SHALL MATCH EXISTING AND WITH THE FOLLOWING REQUIREMENTS:
      1) PROVIDE THE CONCRETE WITH A BROOM FINISH
      2) ENSURE THAT THE SURFACE VARIATIONS ARE NOT MORE THAN ¼" UNDER A 10 FOOT STRAIGHTEDGE, OR MORE THAN ⅜" ON A 5 FOOT TRANSVERSE SECTION.
      3) FINISH THE EDGE OF THE SIDEWALK WITH AN EDGING TOOL HAVING A RADIUS OF ½".
6. REPAIR ALL RUTS AND/OR SOD THAT HAS BEEN DAMAGED. REGRADE WORK AREA AND PLACE NEW SOD IN ALL DISTURBED AREAS.
7. PEDESTRIAN SAFETY: PER FDOT INDEX 660.

NOTE: ANY ADDITIONAL SECTION OF SIDEWALK THAT ABUTS THE WORK AREA AND IS DEEMED UNSAFE, WHETHER EXISTING OR DAMAGED BY THE PERMIT HOLDER (OR ITS CONTRACTOR), SHALL BE REPLACED IN CONJUNCTION WITH THE AREA(S) DESIGNATED ON THE ROW USE PERMIT.

	MARTIN COUNTY ENGINEERING - STANDARD DETAILS	DETAIL
	SIDEWALK REPLACEMENT/REPAIR	R-42
		DATE: 12/20/16

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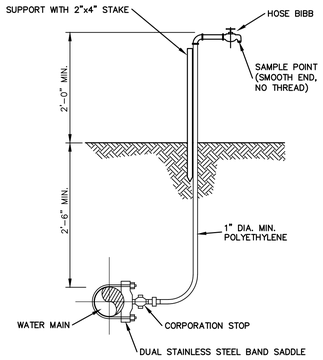
18-382

STANDARD WATER/SEWER SEPARATION STATEMENT

62-555.314 Location of Public Water System Mains.
For the purpose of this section, the phrase "water mains" shall mean mains, including treatment plant process piping, conveying either raw, partially treated, or finished drinking water; fire hydrant leads; and service lines that are under the control of a public water system and that have an inside diameter of three inches or greater.
(1) Horizontal Separation Between Underground Water Mains and Sanitary or Storm Sewers, Wastewater or Stormwater 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, Stormwater 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 vacuum-type sanitary 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. 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.
(d) New or relocated, underground water mains shall be laid to provide a horizontal distance of at least ten feet between the outside of the water main and all parts of 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.
(2) Vertical Separation Between Underground Water Mains and Sanitary or Storm Sewers, Wastewater or Stormwater 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 stormwater 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 water main joints are at least three feet from all joints in vacuum-type sanitary sewers, storm sewers, stormwater 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 pressure-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. Where it is not technically feasible or economically sensible to comply with this requirement (i.e., where there is a conflict in the routing of a water main and a storm sewer and where alternative routing of the water main or the storm sewer is not technically feasible or is not economically sensible), the Department shall allow exceptions to this requirement (i.e., the Department shall allow construction of conflict manholes), but suppliers of water or persons proposing to construct conflict manholes must first obtain a specific permit from the Department in accordance with Part V of this chapter and must provide in the preliminary design report or drawings, specifications, and design data accompanying their permit application the following information:
1. Technical or economic justification for each conflict manhole.
2. A statement identifying the party responsible for maintaining each conflict manhole.
3. Assurance of compliance with the design and construction requirements in sub-subparagraphs a. through d. below.
a. Each water main passing through a conflict manhole shall have a flexible, watertight joint on each side of the manhole to accommodate differential settling between the main and the manhole.
b. Within each conflict manhole, the water main passing through the manhole shall be installed in a watertight casing pipe having high impact strength (i.e., having an impact strength at least equal to that of 0.25-inch-thick ductile iron pipe).
c. Each conflict manhole shall have an access opening, and shall be sized, to allow for easy cleaning of the manhole.
d. Gratings shall be installed at all storm sewer inlets upstream of each conflict manhole to prevent large objects from entering the manhole.
(4) Separation Between Fire Hydrant Drains and Sanitary or Storm Sewers, Wastewater or Stormwater 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, stormwater 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; at least six feet, and preferably ten feet, from 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 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.
(5) Exceptions. Where it is not technically feasible or economically sensible to comply with the requirements in subsection (1) or (2) above, the Department shall allow exceptions to these requirements if suppliers of water or construction permit applicants provide technical or economic justification for each exception and provide alternative construction features that afford a similar level of reliability and public health protection. Acceptable alternative construction features include the following:
(a) Where an underground water main is being laid less than the required minimum horizontal distance from another pipeline and where an underground water main is crossing another pipeline and joints in the water main are being located less than the required minimum distance from joints in the other pipeline:
1. Use of pressure-rated pipe conforming to the American Water Works Association standards incorporated into Rule 62-555.330, F.A.C., for the other pipeline if it is a gravity- or vacuum-type pipeline;
2. Use of welded, fused, or otherwise restrained joints for either the water main or the other pipeline; or
3. Use of watertight casing pipe or concrete encasement at least four inches thick for either the water main or the other pipeline.
(b) Where an underground water main is being laid less than three feet horizontally from another pipeline and where an underground water main is crossing another pipeline and is being laid less than the required minimum vertical distance from the other pipeline:
1. Use of pipe, or casing pipe, having high impact strength (i.e., having an impact strength at least equal to that of 0.25-inch-thick ductile iron pipe) or concrete encasement at least four inches thick for the water main; and
2. Use of pipe, or casing pipe, having high impact strength (i.e., having an impact strength at least equal to that of 0.25-inch-thick ductile iron pipe) or concrete encasement at least four inches thick for the other pipeline if it is new and is conveying wastewater or reclaimed water.

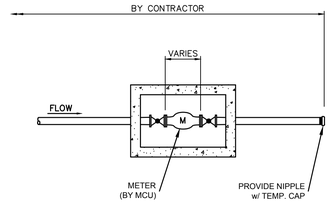
MARTIN COUNTY CONSTRUCTION STANDARDS + DETAILS		
REVISION AUGUST 2016	GENERAL NOTES, SPECIFICATIONS AND SEPARATION STATEMENT	DWG No. 1E



NOTES:

1. SAMPLE POINT SHOULD BE A SERVICE LINE.
2. AFTER SAMPLING IS COMPLETED AND APPROVED, SHUT OFF CORP, STOP, REMOVE TUBING, PLUG WITH BRASS PLUG AND LOCATE FOR RECORD DRAWINGS.
3. MOUNT METAL OR PLASTIC TAG INDICATING "SAMPLE POINT - DO NOT TURN OFF"

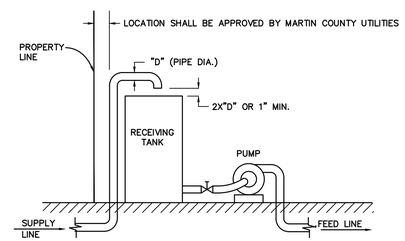
MARTIN COUNTY CONSTRUCTION STANDARDS + DETAILS		
REVISION AUGUST 2016	SAMPLE POINT DETAIL	DWG No. 9



NOTES:

1. ALL VALVES TO BE STRAIGHT 1-1/2" BALL VALVES FOR 1-1/2" METER AND 2" BALL VALVES FOR 2" METER WITH LOCK-WING. (FLANGE AT METER) FORD OR APPROVED EQUAL.
2. SEE TYPICAL SERVICE DETAIL FOR MAIN CONNECTION.
3. METER BOX SHALL BE POLYMER CONCRETE AND FIBER REINFORCED POLYESTER.
4. PIPING SHALL BE 1-1/2" HDPE FOR 1-1/2" METER AND 2" HDPE FOR 2" METER, DR 9 WITH BRONZE COMPRESSION FITTINGS.

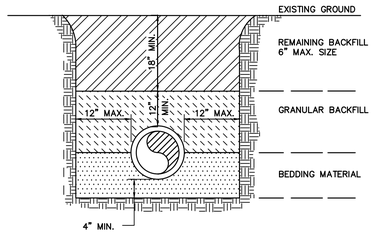
MARTIN COUNTY CONSTRUCTION STANDARDS + DETAILS		
REVISION AUGUST 2016	1-1/2" AND 2" METER DETAIL	DWG No. 5



NOTES:

1. AN AIR GAP SEPARATION MEANS THE UNOBSTRUCTED VERTICAL DISTANCE THROUGH THE FREE ATMOSPHERE BETWEEN THE LOWEST OPENING FROM ANY PIPE OR FAUCET SUPPLYING WATER TO A TANK, PLUMBING FIXTURE OR OTHER DEVICE AND THE FLOOD LEVEL OR OVERFLOW RIM OF THE RECEPTACLE.
2. THE "APPROVED AIR GAP SEPARATION" SHALL BE AT LEAST DOUBLE THE DIAMETER OF THE SUPPLY PIPE MEASURED VERTICALLY ABOVE THE OVERFLOW RIM OF THE VESSEL AND IN NO CASE SHALL THE GAP BE LESS THAN ONE (1) INCH IN DIAMETER.

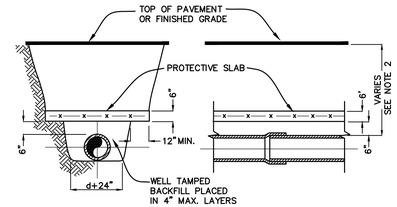
MARTIN COUNTY CONSTRUCTION STANDARDS + DETAILS		
REVISION AUGUST 2016	AIR GAP SEPARATION	DWG No. 22



NOTES:

1. BEDDING MATERIAL SHALL BE HAND PLACED IN 6" LIFTS AND SHALL CONSIST OF IN-SITU GRANULAR MATERIAL OR WASHED AND GRADED LIMEROCK 3/8"-7/8" SIZING. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGER ROCK SHALL BE REMOVED.
2. THE PIPE SHALL BE FULLY SUPPORTED FOR ITS ENTIRE LENGTH WITH APPROPRIATE COMPACTION UNDER THE PIPE HAUNCHES.
3. THE PIPE SHALL BE PLACED IN A DRY TRENCH.
4. BACKFILL SHALL BE DONE WITH APPROVED MATERIAL, CLEAN AND FREE OF ROCKS, MUCK AND OTHER DELETERIOUS MATTER AND COMPACTED BENEATH THE HAUNCHES OF THE PIPE USING MECHANICAL TAMPERS TO 100% MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99.
5. BACKFILL TO BE COMPACTED ALONG THE SIDES OF THE PIPE AND TO A POINT ONE FOOT ABOVE THE TOP OF THE PIPE TO 100% MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99.
6. A. WHERE PAVEMENT IS TO BE CONSTRUCTED OVER THE PIPE THE REMAINING BACKFILL SHALL BE COMPACTED IN 6 INCH LAYERS AND COMPACTED TO 95% MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
B. WHERE "NO" PAVEMENT IS TO BE CONSTRUCTED OVER THE PIPE THE REMAINING FILL SHALL BE COMPACTED IN 6 INCH LAYERS TO A DENSITY 90% MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
7. CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL TRENCH SAFETY REGULATIONS

MARTIN COUNTY CONSTRUCTION STANDARDS + DETAILS		
REVISION AUGUST 2016	TYPICAL TRENCH DETAIL	DWG No. 23



NOTES:

1. CONCRETE PROTECTIVE SLAB SHALL BE 2500 P.S.I. WITH 6"X6"-10/10 W.W. MESH AND 12" MIN. BEARING EACH SIDE OF TRENCH.
2. PROTECTIVE SLAB REQUIRED WHERE COVER FOR MAINS IS LESS THAN 30" AND LATERALS WHEN LESS THAN 24".

MARTIN COUNTY CONSTRUCTION STANDARDS + DETAILS		
REVISION AUGUST 2016	PROTECTIVE SLAB FOR PIPE	DWG No. 30

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DRAWN BY	JLW
FILENAME	18-382 (04-08-2019).dwg
LAYOUT	Utility Details
SCALE	AS SHOWN
DATE	16 NOVEMBER 2018

REVISION COMMENTS

DATE

WEST STUART BUSINESS CENTER

UTILITY DETAILS

MARTIN COUNTY FLORIDA

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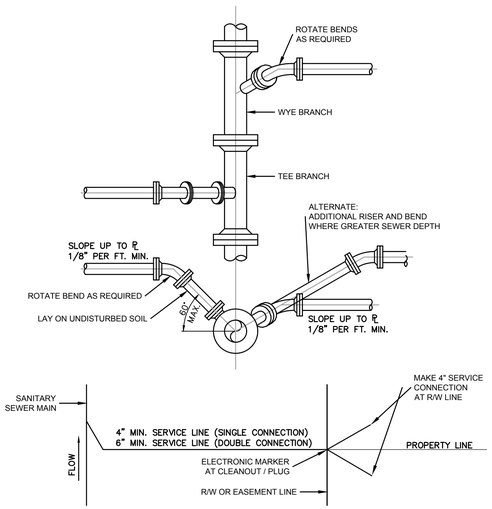
10 OF 13

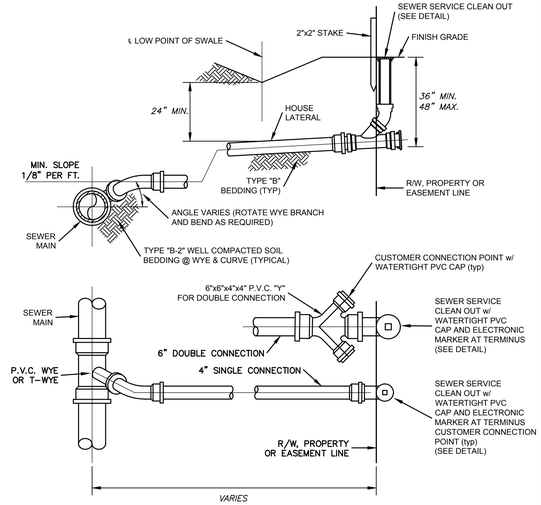


NOTES:

1. SERVICE LATERALS SHALL TERMINATE WITH A CLEANOUT AT ℄.
2. LATERAL DEPTH AT ℄ SHALL BE (3) FEET MIN., PLUGGED WATERTIGHT AND MARKED WITH 2" x 2" TREATED STAKE AND ELECTRONIC MARKER.

MARTIN COUNTY CONSTRUCTION STANDARDS + DETAILS

REVISION		DWG No.
AUGUST 2016	TYPICAL SEWER SERVICE CONNECTION	31

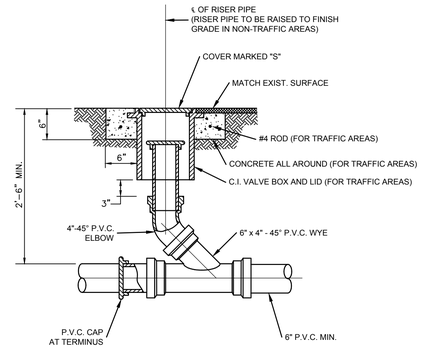


NOTES:

1. INVERT OF LATERAL TO BE 36" FROM FINISHED GRADE EXCEPT ON " WATER LINE SIDE " OF STREET R/W WHERE IT SHALL DROP TO 48" AS SOON AS DEPTH OF SEWER MAIN PERMITS.
2. THIS DETAIL TO BE USED WHEN TOP OF SEWER MAIN IS LESS THAN 7'-0" DEEP.
3. INSTALL MAGNETIC MARKERS AT THE END OF EACH SERVICE LINE OR OPPOSITE WYES AND RECORD LOCATION.
4. SERVICE LATERALS SHALL TERMINATE WITH A CLEANOUT AT R/W.

MARTIN COUNTY CONSTRUCTION STANDARDS + DETAILS

REVISION		DWG No.
AUGUST 2016	SANITARY SEWER LATERAL DETAIL	32

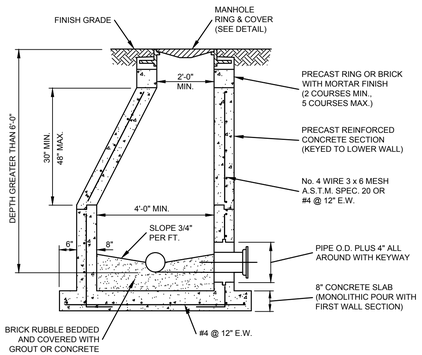


NOTES:

1. CONCRETE PAD w/ REBAR AND CAST IRON VALVE BOX TO BE INSTALLED IN TRAFFIC AREAS ONLY.

MARTIN COUNTY CONSTRUCTION STANDARDS + DETAILS

REVISION		DWG No.
AUGUST 2016	SEWER SERVICE CLEANOUT	33

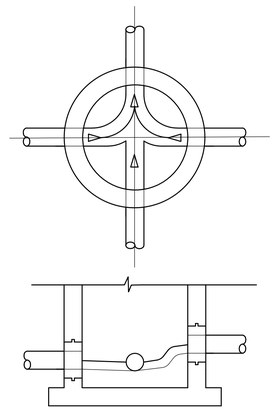


NOTES:

1. PROVIDE 0.1' DROP THROUGH MANHOLE.
2. PRECAST CONCRETE TYPE II, 4000 P.S.I.
3. "RAMNEK" OR EQUAL AT ALL RISER JOINTS (1/2" THICK WITH WIDTH AT LEAST 1/2 THE WALL THICKNESS) WITH GROUT ON INSIDE AND OUTSIDE.
4. ALL OPENINGS SHALL BE SEALED WITH A WATERPROOF NON-SHRINKING GROUT.
5. FLOW CHANNELS SHALL BE CONSTRUCTED TO DIRECT INFLUENT INTO FLOW STREAM. (SEE DETAIL)
6. LIFT HOLES ARE PERMITTED.
7. ALL PIPE HOLES SHALL BE PRECAST OR CORE-DRILLED.
8. SAND COLLAR OR APPROVED RUBBER BOOT MUST BE USED WITH P.V.C. PIPE.
9. MANHOLE TO RECEIVE 2 COATS WATER BASED EPOXY (PRO TECH EW-1 OR APPROVED EQUAL) ON THE INTERIOR AND EXTERIOR. TERMINAL MANHOLES, i.e. THE LAST MANHOLE PRIOR TO DISCHARGE TO A LIFT STATION, SHALL RECEIVE 2 COATS OF WATER BASED EPOXY ON THE EXTERIOR (PRO TECH EW-1 OR APPROVED EQUAL). THE INTERIOR SHALL RECEIVE COATING OF 120 MILS OF REZOLAD E-1255 AR OR MIN. 1/2" SEWPER COAT OR IET SYSTEMS COATING (10 MILS PRIMARY COAT, 30 MILS INTERMEDIATE COAT, 5-10 MILS FINISH COAT) OR MIN. 1/2" REFRATTA HAC 100.

MARTIN COUNTY CONSTRUCTION STANDARDS + DETAILS

REVISION		DWG No.
AUGUST 2016	STANDARD MANHOLE	34

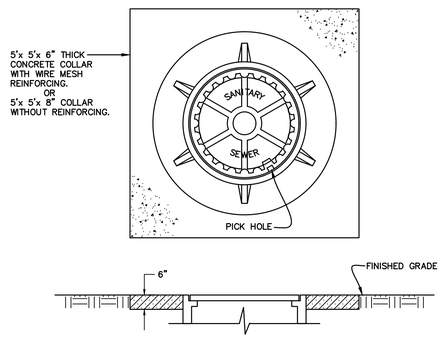


NOTES:

1. ALL INVERT CHANNELS ARE TO BE CONSTRUCTED FOR SMOOTH FLOW WITHOUT OBSTRUCTION.
2. PROPERLY SHAPED SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS TO PROVIDE FOR SMOOTH FLOWS.
3. BRICK AND CONCRETE RUBBLE PERMITTED AS FLOW CHANNEL BUILDUP.
4. SIDEWALLS OF FLOW CHANNEL SHALL BE AT LEAST HALF OF PIPE HEIGHT AT ALL POINTS.

MARTIN COUNTY CONSTRUCTION STANDARDS + DETAILS

REVISION		DWG No.
AUGUST 2016	INVERT FLOW CHANNEL DETAIL	37



NOTES:

1. COLLAR IS REQUIRED ONLY WHEN MANHOLE IS OUT OF PAVEMENT.
2. MINIMUM WEIGHTS: COVER - 160 LBS., FRAME - 240 LBS.
3. RING AND COVER SHALL BE U.S. FOUNDRY 420-C, VULCAN FOUNDRY V-101 OR APPROVED EQUAL.
4. MANHOLE COVER SHALL HAVE THE WORDS "SANITARY SEWER" CAST IN METAL.
5. MANHOLE COVER SHALL MEET H-20 TRAFFIC LOADING.

MARTIN COUNTY CONSTRUCTION STANDARDS + DETAILS

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L.B. CERTIFICATE OF AUTHORIZATION 8098

DESIGNED BY: DCB
DRAWN BY: JLW
FILENAME: 18-382 (04-08-2019).dwg
LAYOUT: Utility Details (2)
SCALE: AS SHOWN
DATE: 16 NOVEMBER 2018

REVISION COMMENTS
DATE

WEST STUART BUSINESS CENTER
UTILITY DETAILS
MARTIN COUNTY FLORIDA

DAVID C. BAGGETT, P.E.(DATE)
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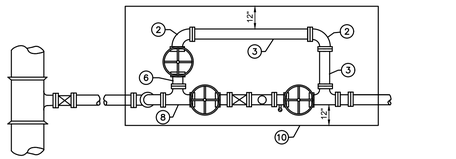
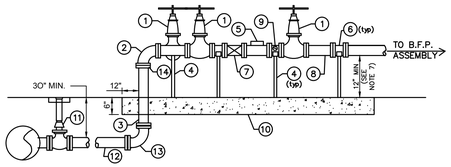




MATERIAL

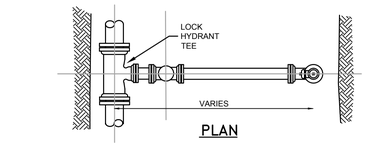
ITEM	QUANT.	DESCRIPTION
1	3	4",6",8" VALVE, GATE, C.I., (FLANGE – FLANGE) OS&Y
2	3	4",6",8" BEND – 90 , (FLANGE – FLANGE)
3	VARIES	4",6",8" PIPE, DUCTILE IRON, (FLANGE – FLANGE)
4	4	ADJUSTABLE PIPE SUPPORTS (316 SS)
5	1	3",4",6",8" METER, (FLANGE – FLANGE)
6	4	4",6",8" D.I. SPOOL PIECE, 12" MIN. LENGTH, F – F
7	1	3",4",6",8" WATER METER STRAINER, (FLANGE – FLANGE)
8	2	D.I. BYPASS TEE, (FLANGE – FLANGE), (SIZE VARIES)
9	1	2" TAP WITH LOCKING BALL VALVE
10	*	CONC. SLAB, 2500# PSI
11	1	4",6",8" VALVE, GATE, MJ
12	VARIES	4",6",8" PIPE
13	1	4",6",8" BEND–90°, (MJ–MJ) W/ RETAINER GLANDS
14	1	4",6",8" ADAPTER, FLANGE, DIP

NOTES:

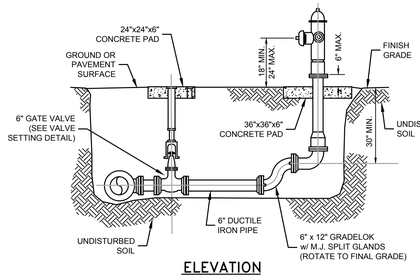
1. ALL ABOVE GRADE PIPING SHALL BE DUCTILE IRON WITH FLANGED ENDS
2. FOR 3" METER AND STRAINER, USE 4" D.I. PIPE WITH 4"x3" REDUCER WITH FLANGED ENDS ON BOTH SIDES OF THE METER/STRAINER ASSEMBLY.
3. FIELD ADJUST AND CUT D.I. PIPE TO THE PROPER LENGTH AS REQUIRED.
4. METER BYPASS SHALL BE A MIN. OF 4" DIA. AND SIZED TO MEET REQUIRED FLOWS
5. ALL EXPOSED DUCTILE IRON PIPING AND FITTINGS SHALL BE PAINTED "BLUE". PAINT SPECIFICATIONS MUST BE SUBMITTED TO MARTIN COUNTY UTILITIES PRIOR TO APPLICATION.
6. METER SHALL BE BADGER COMPOUND METER, BRONZE BODY, POLYMER BOTTOM PLATE WITH INTEGRAL MOUNT ITRON 100W FN ENDPOINT.
7. HEIGHT SHALL ALLOW A MINIMUM OF 12" FROM TOP OF SLAB TO THE BOTTOM OF THE BLOWDOWN OF THE B.F.P.

MARTIN COUNTY CONSTRUCTION STANDARDS + DETAILS

REVISION		DWG No.
AUGUST 2016	TYPICAL ABOVE GROUND METER (3" OR LARGER)	6



PLAN



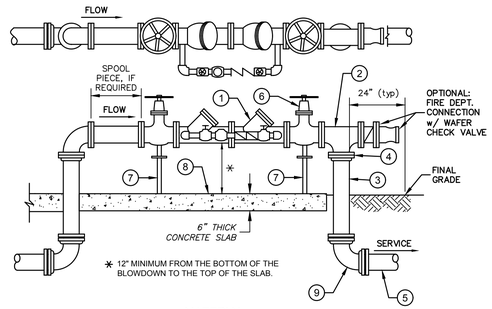
ELEVATION

NOTES:

1. HYDRANTS SHALL BE INSTALLED PLUMB AND TRUE.
2. VALVES SHALL BE PLACED ADJACENT TO MAIN, AND TIED TO TEE.
3. ANCHOR TEES ARE REQUIRED.
4. ALL HYDRANTS SHALL BE TEED OFF OF MAIN.
5. HYDRANTS SHALL NOT BE PLACED IN SIDEWALK, ROADWAYS OR BIKEPATHS.
6. PIPE FROM VALVE TO HYDRANT SHALL BE RESTRAINED.
7. HYDRANT BARREL AND BONNET COLOR TO BE OSHA YELLOW.
8. THE CONNECTOR PIPE SHALL BE CEMENT LINED DUCTILE IRON, CLASS 350 AND POSITIONED BETWEEN THE FIRE HYDRANT AND GATE VALVE.
9. THE CONNECTOR PIPE SHALL HAVE AN ANCHORING FEATURE AT BOTH ENDS SO THAT WHEN USED WITH M.J. SPLIT GLANDS A RESTRAINED JOINT IS PROVIDED.
10. HYDRANT EXTENSIONS SHALL NOT BE ALLOWED.
11. NEWLY CONSTRUCTED FIRE HYDRANTS THROUGHOUT THE PROJECT SHALL HAVE A RED "OUT OF SERVICE" DISK (JOSEPH G. POLLARD CO. OR EQUAL) ATTACHED TO 4" PUMPER NOZZLE CAP. DISK TO BE REMOVED AFTER WATER SYSTEM HAS BEEN APPROVED FOR SERVICE BY THE DEPARTMENT.
12. A MAXIMUM OF 20 FEET OF HORIZONTAL PIPE SHALL TYPICALLY BE INSTALLED BETWEEN THE 6" GATE VALVE AT THE WATER MAIN AND THE HYDRANT. IF IT IS NECESSARY TO INSTALL MORE THAN 20 FEET OF HORIZONTAL PIPE, AN ADDITIONAL 6" GATE VALVE WILL BE REQUIRED AT THE HYDRANT LOCATION.

MARTIN COUNTY CONSTRUCTION STANDARDS + DETAILS

REVISION		DWG No.
AUGUST 2016	FIRE HYDRANT INSTALLATION DETAIL AND NOTES	7



MATERIAL

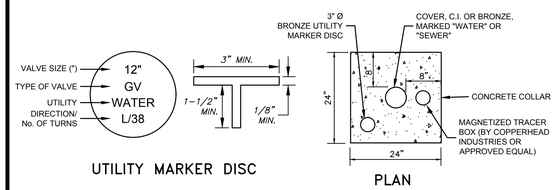
ITEM	QUANT.	DESCRIPTION
1	1	2", 4", 6", 8" DOUBLE CHECK DETECTOR BACKFLOW PREVENTER
2	2	2", 4", 6", 8" TEE (FLANGE–FLANGE)
3	*	2", 4", 6", 8" PIPE, DUCTILE IRON (CLASS 350)
4	2	2", 4", 6", 8" ADAPTER, FLANGE, D.I.P.
5	2	2", 4", 6", 8" PIPE
6	2	2", 4", 6", 8" GATE VALVE, C.I., (FLANGE–FLANGE) OS&Y
7	2	ADJUSTABLE PIPE SUPPORTS (316 SS)
8	1	6" CONCRETE SLAB
9	3	BEND – 90° (MJ–MJ)

NOTES:

1. FIELD ADJUST AND CUT ITEM 3 TO PROPER LENGTH. THIS TYPE OF CONSTRUCTION IS DESIGNED FOR LIMITED WORKING AREA.
2. ALL EXPOSED DUCTILE IRON PIPES AND FITTINGS SHALL BE PAINTED "RED". PAINT SPECIFICATIONS MUST BE SUBMITTED TO MARTIN COUNTY UTILITIES PRIOR TO APPLICATION.
3. DETECTOR METER SHALL READ IN GALLONS AND SHALL BE 5/8" NEPTUNE MAGNETIC DRIVE, MODEL T-10.

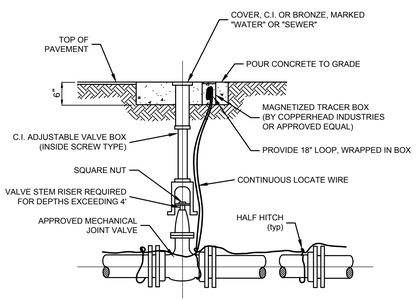
MARTIN COUNTY CONSTRUCTION STANDARDS + DETAILS

REVISION		DWG No.
AUGUST 2016	FIRE LINE DOUBLE CHECK DETECTOR ASSEMBLY	17



UTILITY MARKER DISC

PLAN



ELEVATION

NOTES:

1. A LOCATION BALL (3M EMS BALL MARKERS; WATER/BLUE, MODEL No. 1403-XR; SEWER/GREEN, MODEL No. 1404-XR OR EQUAL) SHALL BE INSTALLED AT EACH FITTING AND/OR EVERY 100 FEET OF SEPARATION.
2. FOR DEEP VALVE INSTALLATIONS, AN EXTENSION MAY BE USED (TURNING WRENCH)

MARTIN COUNTY CONSTRUCTION STANDARDS + DETAILS

REVISION		DWG No.
AUGUST 2016	VALVE SETTING DETAIL	18

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WEST STUART BUSINESS CENTER

UTILITY DETAILS

MARTIN COUNTY FLORIDA

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18-382

GENERAL NOTES

1. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE COMMENCING WORK. NO FIELD CHANGE OR DEVIATIONS FROM THE DESIGN ARE TO BE MADE WITHOUT PRIOR APPROVAL OF THE ENGINEER.

2. THE CONTRACTOR SHALL CONTACT ENGINEER OF RECORD, THE APPROPRIATE GOVERNMENTAL JURISDICTIONAL AGENCY AND ALL OTHER CONCERNED UTILITIES AT LEAST 2 FULL BUSINESS DAYS IN ADVANCE OF CONSTRUCTION OPERATIONS.

3. THE LOCATION AND SIZE OF ALL EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND ARE BASED ON THE BEST AVAILABLE INFORMATION. ADDITIONAL UTILITIES MAY EXIST WHICH ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PHYSICALLY LOCATING ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITIES BY ELECTRONIC METHODS AND BY HAND EXCAVATION IN COORDINATION WITH ALL UTILITY COMPANIES, PRIOR TO BEGINNING ANY CONSTRUCTION OPERATIONS. ANY AND ALL CONFLICTS OF EXISTING UTILITIES WITH PROPOSED IMPROVEMENTS SHALL BE RESOLVED BY THE ENGINEER AND THE OWNER PRIOR TO BEGINNING ANY CONSTRUCTION OPERATIONS. THIS WORK BY THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.

4. PROJECT SUPERINTENDENT: THE CONTRACTOR SHALL PROVIDE A QUALIFIED SUPERINTENDENT TO REMAIN ON THE JOB SITE AT ALL TIMES WHEN WORK IS BEING PERFORMED. THE SUPERINTENDENT SHALL BE PRESENT AT THE PRE-CONSTRUCTION MEETING. THE CONTRACTOR SHALL NOTIFY THE OWNER BY LETTER, PRIOR TO THE PRE-CONSTRUCTION MEETING, APPOINTING THE SUPERINTENDENT FOR THIS PROJECT INCLUDING A FORMAL RESUME SHOWING QUALIFICATIONS.

5. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE HIS COMPLETE FAMILIARITY WITH THE PROJECT SITE AND COMPONENTS TO INCLUDE SUBSURFACE CONDITIONS OF SOIL AND GROUNDWATER TABLE. BY SUBMITTAL OF A BID FOR THIS PROJECT, THE CONTRACTOR ACKNOWLEDGES HIS COMPLETE UNDERSTANDING AND RESPONSIBILITIES WITH RESPECT TO THE CONSTRUCTION ACTIVITIES REQUIRED UNDER THE SCOPE OF THIS PROJECT.

6. THE "TRENCH SAFETY ACT" SHALL BE INCORPORATED INTO THIS CONTRACT AS ENHANCED BY THE LEGISLATURE OF THE STATE OF FLORIDA TO BE IN EFFECT AS OF OCTOBER 1, 1990.

7. AS-BUILT PLANS: THE CONTRACTOR SHALL PROVIDE ONE (1) REPRODUCIBLE MYLAR COPY, FIFTEEN (15) BLACK LINE COPIES AND ONE (1) DIGITAL FORMAT OF A CERTIFIED AS-BUILT SURVEY. DRAWINGS SHALL BEAR THE ORIGINAL SIGNATURE AND EMBOSSED SEAL OF THE SURVEYOR AND SHALL BE SUBMITTED AFTER THE COMPLETION OF CONSTRUCTION, BUT PRIOR TO FINAL APPROVAL. THE AS-BUILT SURVEY SHALL BE PREPARED IN PLAN AND PROFILE FORMAT BY A LICENSED PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF FLORIDA AND SHALL COMPLY WITH APPLICABLE PROVISIONS OF THE FLORIDA ADMINISTRATIVE CODE AND CHAPTER 472 OF THE FLORIDA STATUES. THE DRAWINGS SHALL BE AT A SCALE COMPARABLE TO THE DESIGN DRAWINGS PREPARED BY THE ENGINEER AND SHALL REFERENCE THE BASE LINE OF SURVEY APPEARING ON THE ENGINEERING DRAWINGS. THE HORIZONTAL AND VERTICAL LOCATION OF THE ROADWAYS, DRAINAGE FACILITIES AND ALL APPURTENANCES SHALL BE ACCURATELY DEPICTED TO SCALE AND SHALL BE IDENTIFIED RELATIVE TO THE BASE LINE AND TO READILY IDENTIFIABLE PERMANENT OR SEMI-PERMANENT REFERENCE POINTS EXISTING AFTER THE COMPLETION OF CONSTRUCTION. LOCATIONS SHALL BE SHOWN FOR ALL FITTINGS, VALVES, HYDRANTS, MANHOLES, SAMPLE POINTS, AIR RELEASES, ETC., BOTH HORIZONTAL AND VERTICAL, AND THE LOCATION OF THE MAIN AT EACH BASELINE STATION AS SHOWN ON THE PLANS (100 FEET MAXIMUM) BOTH HORIZONTAL AND VERTICAL. UNDERGROUND FACILITIES (I.E., DRAINAGE, GAS, ELECTRIC, TELEPHONE, ETC.) CROSSING THE MAINS SHALL BE ACCURATELY SHOWN BOTH HORIZONTAL AND VERTICAL AND SHALL IDENTIFY SIZE, TYPE, FACILITY, MATERIAL AND CLEARANCE. ALL INFORMATION SHALL BE BASED UPON MEASUREMENTS AND OBSERVATIONS MADE IN THE FIELD BY THE SURVEYOR CERTIFYING THE SURVEY OR BY PERSONNEL UNDER HIS EMPLOYMENT, DIRECTION AND SUPERVISION. THE COST FOR PREPARING AND MAINTAINING THE AS-BUILT PLANS SHALL BE INCIDENTAL TO THE CONSTRUCTION COST.

8. THE CONTRACTOR SHALL PREPARE A PLAN SHOWING THE SCHEDULE OF WORK, INCLUDING A HIGHLIGHTED PLAN SHOWING THE ORDER OF CONSTRUCTION WHICH WILL FACILITATE MAINTAINING EXISTING SERVICES DURING CONSTRUCTION. THIS PLAN SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION MAINTENANCE OF TRAFFIC AND STAGING PLAN.

9. ALL CONSTRUCTION IS TO BE IN ACCORDANCE WITH FLORIDA DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS, OR THE LOCAL JURISDICTIONAL MUNICIPALITY, WHICHEVER IS MORE STRINGENT.

10. ALL UNDERGROUND MUNICIPAL UTILITIES, FIBER OPTIC, TELEPHONE, FPL, LOCAL CABLE AND ALL OTHER LOCAL UTILITY COMPANY LOCATIONS SHOWN ARE TAKEN FROM INFORMATION PROVIDED BY THAT UTILITY COMPANY. THESE LOCATIONS HAVE NOT BEEN VERIFIED IN THE FIELD. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL EXPOSE ALL CROSSINGS WITH PUBLIC & PRIVATE UTILITIES PRIOR TO BEGINNING CONSTRUCTION AND DELIVERY OF PIPE. THE CONTRACTOR SHALL USE EXTREME CAUTION WITHIN THE VICINITY OF PUBLIC & PRIVATE UTILITY FACILITIES. THE CONTRACTOR WILL REQUEST THE PRESENCE OF THE RESPECTIVE UTILITY REPRESENTATIVES DURING CONSTRUCTION IN THE VICINITY OF THEIR FACILITIES EVEN IF A PROFILE OF THE UTILITY FACILITIES IS PROVIDED IN THESE DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE PUBLIC & PRIVATE UTILITIES AND VERIFYING / OBTAINING THE LOCATION(S) OF THESE FACILITIES.

11. ANY NGVD 29 AND NAVD 88 MONUMENT WITHIN THE LIMITS OF CONSTRUCTION IS TO BE PROTECTED. IF IN DANGER OF DAMAGE, THE CONTRACTOR SHOULD NOTIFY:

GEODETIC INFORMATION CENTER
ATTN: MARK MAINTENANCE CENTER
ATTN: M/CG - 162
6001 EXECUTIVE BOULEVARD
ROCKVILLE, MD 20852
TELEPHONE: (301) 443-8319

MARTIN COUNTY
ENGINEERING DEPARTMENT
2401 SE MONTEREY ROAD
STUART, FL 34996

12. CONTRACTOR TO UTILIZE "APPROVED FOR CONSTRUCTION" PLANS ONLY. ANY PLANS NOT "APPROVED FOR CONSTRUCTION" SHALL BE CONSIDERED PRELIMINARY AND SHOULD NOT BE USED FOR BIDDING OR CONSTRUCTION.

13. SHOP DRAWINGS FOR ALL STRUCTURES SHALL BE SUBMITTED TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ORDERING.

14. SHOP DRAWINGS ARE REQUIRED ON ALL STRUCTURES. THE ENGINEER REQUIRES FIVE (5) BUSINESS DAYS TO REVIEW SHOP DRAWINGS AFTER RECEIPT. ADDITIONAL TIME MAY BE REQUIRED IF LOCAL GOVERNMENT OR MUNICIPALITIES REQUIRE AN INTERNAL REVIEW AND APPROVAL PROCESS.

15. CONCRETE SHALL BE CLASS I 3,000 PSI MINIMUM COMPRESSIVE STRENGTH UNLESS NOTED OTHERWISE. REINFORCING SHALL BE GRADE 60 DEFORMED STEEL BARS IN ACCORDANCE ASTM A-615.

16. CONTRACTOR SHALL PROTECT ALL EXISTING ABOVE OR UNDERGROUND STRUCTURES, LANDSCAPE FEATURES, TREES AND UTILITIES NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY ITEM DAMAGED BY CONSTRUCTION ACTIVITY TO MEET ALL APPLICABLE CURRENT CODES. ANY REPAIRED / REPLACED ITEMS ARE SUBJECT TO REVIEW AND APPROVAL BY APPLICABLE LOCAL JURISDICTIONAL AGENCY.

17. ALL PROPOSED UTILITY MATERIALS, CONSTRUCTION METHODS, TESTING AND DISINFECTION SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT LOCAL UTILITY COMPANY STANDARDS AND AWWA CURRENT STANDARD. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN AND UTILIZE A CURRENT COPY OF THE LOCAL REGULATING UTILITY COMPANY STANDARDS AND ENSURE ALL CONSTRUCTION IS IN ACCORDANCE WITH THEIR STANDARDS. ANY CONFLICT WITH THE CONSTRUCTION DRAWINGS AND THE LOCAL UTILITY COMPANY SHALL BE RESOLVED UTILIZING THE MOST STRINGENT DIRECTIONS.

18. ALL HORIZONTAL AND VERTICAL SURVEY CONTROL POINTS SHALL BE PROTECTED AND UNDISTURBED. IN THE EVENT THAT A CONTROL POINT IS DISTURBED OR DESTROYED, THE POINT SHALL BE RE-ESTABLISHED BY A FLORIDA REGISTERED LAND SURVEYOR. THE METHOD TO RE-ESTABLISH THE POINT SHALL BE APPROVED BY THE CITY / COUNTY ENGINEER AT THE EXPENSE OF THE CONTRACTOR.

19. THE CONTRACTOR SHALL PREPARE A COMPLETE VIDEO RECORD OF THE PROJECT SITE BEFORE BEGINNING ANY WORK. THE VIDEO RECORD SHALL INCLUDE ALL ROADWAY, DRAINAGE AND UTILITIES POINTS OF CONNECTION AND SHALL EXTEND A MINIMUM OF 1800 FEET BEYOND THE WORK LIMITS TO DOCUMENT THE EXISTING CONDITIONS. THE CONTRACTOR SHALL ALSO VIDEO DOCUMENT ALL HAUL ROUTES NEEDED FOR THE OFF-SITE MOVEMENT OF EARTHWORK. COPIES OF THE VIDEO RECORD SHALL BE PROVIDED TO THE ENGINEER OF RECORD AND THE OWNER PRIOR TO SUBMITTAL OF THE FIRST PAY REQUEST. IF DAMAGE TO EXISTING INFRASTRUCTURE IS RECOGNIZED DURING THE COURSE OF THE PROJECT AND CANNOT BE IDENTIFIED AS A PRE-CONSTRUCTION CONDITION ON THE VIDEO RECORD, THE CONTRACTOR MAY BE REQUIRED TO MAKE PROPER REPAIRS.

20. THE CONTRACTOR SHALL VIDEO TAPE THE EXTERIOR AND REAR YARDS OF ALL HOUSES / BUSINESSES IN THE PROJECT AREA.

PAVING, GRADING AND DRAINAGE NOTES

1. ALL UNSUITABLE MATERIALS, SUCH AS MUCK, ORGANIC MATERIAL AND OTHER DELETERIOUS MATERIAL AS CLASSIFIED BY AASHTO M-145, FOUND SHALL BE REMOVED DOWN TO ROCK OR SUITABLE MATERIAL, AND REPLACED WITH THE SPECIFIED FILL MATERIAL IN MAXIMUM 12 INCH LIFTS COMPACTED TO NOT LESS THAN 100% MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE IN ACCORDANCE WITH AASHTO T-99. THICKNESS OF LAYERS MAY BE INCREASED, PROVIDED THAT THE EQUIPMENT AND METHODS USED ARE PROVEN BY FIELD DENSITY TESTING AND CAPABLE OF COMPACTING THICK LAYERS TO SPECIFIED DENSITIES.

2. ALL AREAS SHALL BE CLEARED AND GRUBBED PRIOR TO CONSTRUCTION. THIS SHALL CONSIST OF THE COMPLETE REMOVAL AND DISPOSAL OF ALL TREES, BRUSH, STUMPS, GRASS, WEEDS, RUBBISH AND ALL OTHER OBSTRUCTIONS RESTING ON, OR PROTRUDING THROUGH THE SURFACE OF THE EXISTING GROUND TO A DEPTH OF ONE (1) FOOT. ITEMS DESIGNATED TO REMAIN, TO BE RELOCATED, OR TO BE ADJUSTED SHALL BE SO DESIGNATED ON THE DRAWINGS.

3. FILL MATERIAL SHALL BE CLASSIFIED AS A-1, A-3, OR A-2-4 IN ACCORDANCE WITH AASHTO M-145 AND SHALL BE FREE FROM VEGETATION AND ORGANIC MATERIAL NOT MORE THAN 12% BY WEIGHT OF FILL MATERIAL SHALL PASS THE NO. 200 SIEVE.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING CERTIFIED MATERIAL TEST RESULTS TO THE ENGINEER OF THE RECORD PRIOR TO THE RELEASE OF FINAL CERTIFICATION BY THE ENGINEER. TEST RESULTS MUST INCLUDE, BUT MAY NOT BE LIMITED TO, DENSITIES FOR SUBGRADE AND BASE DENSITIES AT UTILITY CROSSINGS, MANHOLES, INLETS, AND STRUCTURES. TEST SHALL INCLUDE ASPHALT GRADATION REPORTS, CONCRETE CYLINDERS, ETC. DENSITY TESTS SHALL BE PERFORMED AT THREE (3) LOCATIONS AROUND ANY STRUCTURE. BEGIN TESTING IN THE FIRST FOOT ABOVE THE BOTTOM OF THE STRUCTURE AND THEN EVERY TWO FEET TO WITHIN TWO FEET OF THE FINISH GRADE; THESE DENSITY REQUIREMENTS ARE THE MINIMUM. THE CONTRACTOR SHALL VERIFY DENSITY REQUIREMENTS AND PROTOCOLS WITH THE LOCAL APPROVING AUTHORITY PRIOR TO CONSTRUCTION OR BIDDING OF THE PROJECT.

5. ALL INLETS AND PIPE SHALL BE PROTECTED DURING CONSTRUCTION TO PREVENT SILTATION IN THE DRAINAGE SYSTEMS BY WAY OF TEMPORARY PLUGS AND PLYWOOD OR PLASTIC COVERS OVER THE INLETS. THE ENTIRE DRAINAGE SYSTEMS SHALL BE CLEANED OF ALL DEBRIS PRIOR TO FINAL ACCEPTANCE. ALL CONCRETE SHALL BE A MINIMUM 3,000 PSI. SOME LOCAL GOVERNMENT STORMWATER PROJECTS MAY REQUIRE TELEVISING OF THE STORM SEWER. CONTRACTOR SHOULD BE KNOWLEDGEABLE OF THIS REQUIREMENT PRIOR TO BIDDING OF THE PROJECT.

6. ALL PROPOSED ELEVATIONS REFER TO FINISHED GRADES.

7. THE CONTRACTOR MUST OBTAIN A WATER USE PERMIT PRIOR TO CONSTRUCTION DEWATERING UNLESS THE WORK QUALIFIES FOR A GENERAL PERMIT PURSUANT TO SUBSECTION 40E-20 302(4), F. A C.

STORM SEWER NOTES

1. STANDARD SEPARATION FOR ALL WATER AND/OR WASTEWATER MAINS, HORIZONTAL AND VERTICAL, SHALL BE PER FDEP REQUIREMENTS, PROVISIONS OF F.A.C. RULE 62.604 AND TEN STATES STANDARD OR LOCAL MUNICIPALITIES, WHICHEVER IS MORE STRINGENT.

2. ALL DISTURBED OUTFALL DRAINAGE AREAS SHALL BE SODDED UPON COMPLETION OF GRADING AFTER AS-BUILT GRADE ELEVATIONS ARE APPROVED BY THE ENGINEER.

3. PRIOR TO FINAL PAYMENT FOR RETENTION, DETENTION AND DRAINAGE DITCH QUANTITIES, ALL SLOPES AND SWALES SHALL BE SODDED TO AVOID EROSION.

4. THERE IS TO BE NO OFF-SITE HAULING WITHOUT PRIOR APPROVAL AND ALL EXCAVATED MATERIAL SHALL BE USED ON-SITE. COORDINATION WITH THE OWNER IS REQUIRED FOR THE REMOVAL OF ANY UNSUITABLE MATERIALS.

5. THE CONTRACTOR SHALL CONSTRUCT THE STORMWATER MANAGEMENT SYSTEM IN A MANNER SO AS TO MINIMIZE ANY ADVERSE IMPACTS OF THE WORKS ON FISH, WILDLIFE, NATURAL ENVIRONMENTAL VALUES AND WATER QUALITY ON OR OFF-SITE. THE CONTRACTOR SHALL INSTITUTE NECESSARY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING FULL COMPACTION OF ANY FILL MATERIAL PLACED AROUND NEWLY INSTALLED STRUCTURES TO REDUCE EROSION, TURBIDITY, NUTRIENT LOADING AND SEDIMENTATION IN THE RECEIVING WATERS.

6. WITHIN THIRTY (30) DAYS AFTER COMPLETION OF CONSTRUCTION OF THE SURFACE WATER MANAGEMENT SYSTEM, THE CONTRACTOR SHALL ASSIST THE DESIGN ENGINEER TO PROVIDE A WRITTEN STATEMENT OF COMPLETION AND CERTIFICATION BY A FLORIDA PROFESSIONAL ENGINEER. THESE STATEMENTS MUST SPECIFY THE ACTUAL DATE OF CONSTRUCTION COMPLETION AND MUST CERTIFY THAT ALL FACILITIES HAVE BEEN CONSTRUCTED IN SUBSTANTIAL CONFORMANCE WITH THE PLANS AND SPECIFICATIONS. THE CONSTRUCTION COMPLETION CERTIFICATION MUST INCLUDE, AT A MINIMUM EXISTING ELEVATIONS, LOCATIONS AND DIMENSIONS OF THE COMPONENTS OF THE SURFACE WATER MANAGEMENT FACILITIES. ADDITIONALLY, IF DEVIATIONS FROM THE APPROVED DRAWINGS ARE DISCOVERED DURING THE CERTIFICATION PROCESS, THE CERTIFICATION MUST BE ACCOMPANIED BY A COPY OF THE APPROVED PERMIT DRAWINGS WITH DEVIATIONS NOTED. SEE ALSO AS-BUILT REQUIREMENTS.

7. A STABLE PERMANENT AND ACCESSIBLE ELEVATION REFERENCE SHALL BE ESTABLISHED ON OR WITHIN ONE HUNDRED (100) FEET OF ALL PERMITTED DISCHARGE STRUCTURES NO LATER THAN THE SUBMISSION OF THE CERTIFICATION TO THE WATER MANAGEMENT DISTRICT. THE LOCATION OF THE ELEVATION REFERENCE MUST BE NOTED ON OR WITHIN THE CERTIFICATION REPORT.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY EROSION OR SHOALING OF THE WATER QUALITY MANAGEMENT SYSTEM.

9. INLETS (425 / 430): INCLUDES THE LIST OF MATERIALS / INSTALLATION / DEWATERING STABILIZATION / AS-BUILT SURVEYING / TESTING. ALL STRUCTURES WILL REQUIRE THREE (3) COMPACTION TESTS AT DIFFERENT LOCATIONS AND UNDER STRUCTURES OR PER LOCAL APPROVING AUTHORITY, WHICHEVER IS MORE STRINGENT.

10. PIPE CULVERTS AND STORM SEWERS SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH SECTION 430 FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

11. HDPE (HIGH DENSITY POLYETHYLENE) CULVERT SHALL BE N-12 INSTALLED PER MANUFACTURER RECOMMENDATIONS. MANUFACTURER IS ADS (ADVANCED DRAINAGE SYSTEMS, INC.) AIR ENTRENCHED PIPE.

12. REINFORCED CONCRETE PIPE SHALL BE ASTM C-76 CLASS III IN ACCORDANCE WITH SECTION 941 OF THE FDOT STANDARD SPECIFICATIONS.

FILTER FABRIC (STORM PIPE JOINTS)

THE CONTRACTOR SHALL WRAP ALL STORM PIPE JOINTS. CONSTRUCTION SHALL BE PER F.D.O.T. INDEX NO. 280 WITH WOVEN GEOTEXTILE TYPE D-3 (F.D.O.T. INDEX NO. 199), SECURED W / STRAPPING. ALL JOINTS SHALL BE WRAPPED FOR A MINIMUM OF 18 INCHES FROM THE BAND OR JOINT OR BELL AND SPIGOT AS APPLICABLE.

DEWATERING

STORM SEWER PIPES AND STRUCTURES AND UTILITIES SHALL BE LAID "IN THE DRY", UNLESS OTHERWISE APPROVED IN WRITING BY THE UTILITY AND ENGINEER OF RECORD. THE CONTRACTOR, AT NO DIRECT COST TO THE OWNER, SHALL PERFORM ALL DEWATERING ACTIVITY. TRENCH EXCAVATIONS SHALL BE DEWATERED BY USING ONE OR MORE OF THE FOLLOWING METHODS: SOCK DRAINS, WELL POINT SYSTEM, SUMP PUMPS OR OTHER METHOD(S) AS APPROVED BY THE ENGINEER. DEWATERING SYSTEMS SHALL BE UTILIZED IN ACCORDANCE WITH GOOD STANDARD PRACTICE AND MUST BE EFFICIENT ENOUGH TO LOWER THE WATER LEVEL IN ADVANCE OF THE EXCAVATION AND MAINTAIN IT CONTINUOUSLY TO KEEP THE TRENCH BOTTOM AND SIDES FIRM AND DRY. IF THE MATERIAL ENCOUNTERED AT TRENCH GRADE IS SUITABLE FOR THE PASSAGE OF WATER WITHOUT DESTROYING THE SIDES OR UTILITY FOUNDATION OF THE TRENCH, SUMPS MAY BE PROVIDED AT INTERVALS AT THE SIDE OF THE MAIN TRENCH EXCAVATION, WITH PUMPS USED TO LOWER THE WATER LEVEL BY TAKING THEIR SUCTION FROM SAID SUMPS. DISCHARGE FROM DEWATERING SHALL BE DISPOSED OF IN SUCH A MANNER THAT IT WILL NOT INTERFERE WITH NORMAL DRAINAGE OF THE AREA IN WHICH THE WORK IS BEING PERFORMED, CREATE A PUBLIC NUISANCE OR FORM PONDING. ALL DISCHARGE SHALL BE IN ACCORDANCE WITH ANY SFWMD ISSUED PERMITS. THE OPERATIONS SHALL NOT CAUSE INJURY TO ANY PORTION OF THE WORK COMPLETED OR IN PROGRESS OR TO THE SURFACE OF STREETS OR TO PRIVATE PROPERTY. THE ENGINEER OF RECORD AND NECESSARY REGULATORY AGENCIES, PRIOR TO CONSTRUCTION, SHALL APPROVE THE PROPOSED DEWATERING METHOD(S) AND SCHEDULE. ADDITIONALLY, WHERE PRIVATE PROPERTY WILL BE INVOLVED, THE CONTRACTOR SHALL OBTAIN ADVANCE PERMISSION FROM THE PROPERTY OWNER.

CONFLICTS

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BECOME ACQUAINTED WITH EXISTING CONDITIONS AND TO LOCATE STRUCTURES AND STORM PIPES ALONG THE PROPOSED STORM PIPE ALIGNMENT IN ORDER TO AVOID CONFLICTS. WHERE ACTUAL CONFLICTS ARE UNAVOIDABLE, WORK SHALL BE COORDINATED WITH THE FACILITY OWNER AND PERFORMED SO AS TO CAUSE AS LITTLE INTERFERENCE AS POSSIBLE WITH THE SERVICE RENDERED BY THE FACILITY DISTURBED. ALL AFFECTED UTILITIES SHALL BE NOTIFIED PRIOR TO EXCAVATION IN THEIR VICINITY. CONTRACTOR TO POTHOLE ALL CONFLICTS OF EXISTING UTILITIES AND PROPOSED IMPROVEMENTS AT LEAST 10 DAYS PRIOR TO CONSTRUCTION TO CONFIRM CONFLICT RESOLUTION SHOWN ON THE PLANS.

SOD

1. 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. ALL SODDED AREAS SHALL BE GRASSED AS SPECIFIED ON PLANS AND SURVIVAL GUARANTEED FOR NINETY DAYS FROM DATE OF REPLACEMENT. SURVIVAL OF ALL RELOCATED TREES SHALL BE GUARANTEED FOR 1 YEAR AFTER TRANSPLANTING.

2. SODDING SHALL CONSIST OF SITE PREPARATION, FURNISHING AND PLACING SOD, STAPLES AND FERTILIZER AND IRRIGATING AT THE RATES AND MANNER DESCRIBED IN THIS SPECIFICATION FOR THE DESIGNATED AREAS.

3. UNLESS NOTED OTHERWISE ON LANDSCAPE PLANS, SOD SHALL BE ARGENTINE BAHIA GRASS AND SHALL BE 12-INCH BY 12-INCH SQUARES OR OTHER COMMERCIALLY AVAILABLE RECTANGLES. THE SOD SHALL BE SUFFICIENTLY THICK (MINIMUM THICKNESS OF 2 INCHES) TO PROVIDE A DENSE STAND OF LIVE GRASS. THE SOD SHALL HAVE BEEN GROWN ON MINERAL SOIL. SOD SHALL BE LIVE, FRESH, AND UNINJURED AT THE TIME OF PLANTING AND SHALL BE PROTECTED FROM DRYING OUT BY SHADING AND WATERING FROM THE TIME IT IS DUG UNTIL PLANTING.

4. FERTILIZER SHALL BE EITHER IN THE LIQUID OR DRY FORM. FERTILIZER SHALL BE UNIFORM IN COMPOSITION, FREE-FLOWING AND SUITABLE FOR APPLICATION WITH STANDARD EQUIPMENT. THE FERTILIZER SHALL CONFORM TO THE FLORIDA FERTILIZER LAWS IN EFFECT ON THE DATE OF IT BEING PLACED AND SHALL BE DELIVERED IN BAGS, BOTTLES, DRUMS, OR OTHER CONVENIENT CONTAINERS, EACH FULLY LABELED AND BEARING THE NAME, TRADEMARK, ANALYSIS, AND WARRANTY OF THE PRODUCT. FERTILIZER SHALL HAVE AN AVAILABLE PLANT FOOD ANALYSIS OF 180-10-10 OR EQUIVALENT PLANT FOOD VALUE AND SHALL BE MIXED WITH THE TOP 3 TO 4 INCHES OF SOIL. FERTILIZER SHALL BE APPLIED AT THE RATE OF 800 POUNDS PER ACRE OR 18 POUNDS PER 1,000 SQ. FT.

5. LIME SHALL BE DOLOMITIC LIMESTONE, AND SHALL BE IN ACCORDANCE WITH RULES AND REGULATIONS OF FLORIDA FERTILIZER LAW IN EFFECT ON THE DATE OF IT BEING PLACED. LIME SHALL BE APPLIED AT THE RATE OF ONE TON PER ACRE OR 45 POUNDS PER 1,000 SQ. FT.

6. STAPLES FOR SOD PLACED ON SIDE SLOPES 3:1 & STEEPER SHALL BE BLACK IRON WIRE NOT SMALLER THAN 14 GAUGE, AND BENT FROM A LENGTH OF WIRE AT LEAST 25 INCHES LONG INTO A 'U' WITH A 1 INCH WIDTH AT THE CROWN. COST OF STAPLES SHALL BE INCIDENTAL TO THE SOD UNIT PRICE.

7. WATER USED FOR IRRIGATION MAY BE OBTAINED FROM ANY APPROVED SOURCE. IT SHALL BE FREE OF EXCESS AND HARMFUL CHEMICALS, ACIDS, ALKALIES, OR ANY SUBSTANCE, WHICH IS HARMFUL TO PLANT GROWTH.

8. WHERE SODDING WILL BE DONE, ALL LOOSE ROCK, WOODY MATERIAL, AND OTHER OBSTRUCTIONS THAT WILL INTERFERE WITH SODDING SHALL BE REMOVED AND THE AREA SHALL BE REASONABLY SMOOTH AND UNIFORM. LIME AND FERTILIZER WILL BE APPLIED IN THE SAME QUANTITY AND MANNER AS SPECIFIED BY THE MANUFACTURER.

9. THE SOD STRIPS SHALL BE LAID IN A STAGGERED PATTERN WITH SNUG EVEN JOINTS. ALL JOINTS SHALL BE BUTTED TIGHT TO PREVENT VOIDS. IMMEDIATELY FOLLOWING SOD PLACEMENT, IT SHALL BE ROLLED OR TAMPED TO INSURE SOLID CONTACT OF ROOT MAT TO SOIL SURFACE. THE SOD SHALL BE SECURELY ANCHORED TO THE SOIL BY PINNING WITH STAPLES OR WOODEN PEGS WHEN PLACED ON SLOPES 3:1 OR STEEPER. COST OF STAPLES AND PEGS SHALL BE INCIDENTAL TO THE SOD UNIT PRICE. PIN OR PEG EACH SEPARATE PIECE OF SOD PLACED OR EVERY 3 FEET ALONG EACH CONTINUOUS STRIP OF SOD.

SOIL EROSION PLAN

1. NO POLLUTION OR EROSION CAUSED BY THIS PROJECT WILL BE ALLOWED IN THE STORMWATER DRAINAGE SYSTEM. THE CONTRACTOR SHALL INSTALL ANY DEVICES NECESSARY TO PREVENT POLLUTION OR EROSION. THE COST OF POLLUTION AND EROSION CONTROL SHALL BE INCIDENTAL TO THE COST OF THE CONSTRUCTION.

2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT A SITE SPECIFIC SOIL EROSION CONTROL PLAN. IN GENERAL, THE SOIL EROSION CONTROL PLAN SHALL REQUIRE THAT ALL ON-SITE SOILS WILL REMAIN ON-SITE AND WILL NOT ERODE INTO THE ADJACENT ROADSIDE SWALES, ADJACENT PROPERTIES OR RETENTION DITCHES. ALL EXISTING SWALES SHALL REMAIN SODDED DURING CONSTRUCTION. THE CONTRACTOR SHALL SCARIFY ONLY AS NECESSARY TO CONSTRUCT THE PROJECT. THE CONTRACTOR SHALL SCARIFY AREAS TO PLACE VARIOUS PIPE WORK. AFTER PLACEMENT OF THE PIPE, THESE TRENCHES SHALL BE BACKFILLED AND COMPACTED TO 98% MODIFIED PROCTOR AASHTO T-180. PRIOR TO DISCHARGE FROM THE SITE, SILTATION BARRIERS AND HAY BALES SHALL BE UTILIZED AS PER FDOT INDEX 102. THE DRAINAGE WHICH OUTFALLS TO THE RETENTION AREAS SHALL BE STABILIZED AND SODDED IMMEDIATELY UPON COMPLETION OF CONSTRUCTION. ANY DEWATERING OR PUMPING OF WATER INTO THE ROADSIDE SWALES OR RETENTION SWALES SHALL BE STAKED WITH BALED HAY AND SILTATION FENCES AS PER FDOT INDEX 102 TO AVOID FILLING THESE AREAS. UPON COMPLETION OF THE SITE WORK, ALL AREAS SHALL BE SODDED TO AVOID EROSION. CONTRACTOR IS REQUIRED TO COMPLY WITH ALL STATE WATER QUALITY CRITERIA. SPECIFICALLY, NO OFF-SITE DISCHARGES WILL BE ALLOWED WHICH EXCEED THE STATE TURBIDITY CRITERIA.

WATER QUALITY NOTES

1. THE CONTRACTOR MUST MAINTAIN A COPY OF THE LATEST LOCAL WATER MANAGEMENT DISTRICT SURFACE WATER PERMIT, COMPLETE WITH ALL CONDITIONS, ATTACHMENTS, EXHIBITS AND PERMIT MODIFICATIONS IN GOOD CONDITION AT THE CONSTRUCTION SITE. THE COMPLETE PERMIT MUST BE AVAILABLE FOR REVIEW UPON REQUEST BY DISTRICT REPRESENTATIVES. THE CONTRACTOR SHALL REVIEW THE COMPLETE PERMIT PRIOR TO COMMENCEMENT OF THE ACTIVITY AUTHORIZED BY THE PERMIT.

2. ALL ACTIVITIES SHALL BE IMPLEMENTED AS SET FORTH IN THE PLANS, SPECIFICATIONS AND PERFORMANCE CRITERIA AS APPROVED BY LOCAL SURFACE WATER PERMIT. ANY DEVIATION FROM THE PERMITTED ACTIVITY AND THE CONDITIONS FOR UNDERTAKING THAT ACTIVITY SHALL BE CONSIDERED A VIOLATION OF THE PERMIT. PRIOR TO ANY WORK COVERED BY A PERMIT FROM SOUTH FLORIDA WATER MANAGEMENT DISTRICT (SFWMD), A NOTICE OF CONSTRUCTION COMMENCEMENT (FORM 0960) MUST BE SUBMITTED TO SFWMD BY THE PERMITTEE OR AUTHORIZED AGENT.

3. THE LOCAL WATER MANAGEMENT DISTRICT AUTHORIZED STAFF, UPON PROPER IDENTIFICATION, MUST BE GRANTED PERMISSION TO ENTER, INSPECT AND OBSERVE THE SYSTEM TO INSURE CONFORMITY WITH THE PLANS AND SPECIFICATIONS APPROVED BY THE PERMIT.

4. PRIOR TO AND DURING CONSTRUCTION, THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES (BEST MANAGEMENT PRACTICES) REQUIRED TO RETAIN SEDIMENT ON-SITE AND TO PREVENT VIOLATIONS OF STATE WATER QUALITY STANDARDS. ALL PRACTICES MUST BE IN ACCORDANCE WITH THE GUIDELINES AND SPECIFICATIONS IN CHAPTER 6 OF THE FLORIDA LAND DEVELOPMENT MANUAL: A GUIDE TO SOUND LAND AND WATER MANAGEMENT (FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATIONS 1988), WHICH ARE HEREBY INCORPORATED BY REFERENCE, UNLESS A PROJECT'S SPECIFIC EROSION AND SEDIMENT CONTROL PLAN IS APPROVED AS PART OF THE SFWMD PERMIT, IN WHICH CASE THE PRACTICES MUST BE IN ACCORDANCE WITH THE PLAN. IF SITE'S SPECIFIC CONDITIONS REQUIRE ADDITIONAL MEASURES DURING ANY PHASE OF CONSTRUCTION OR OPERATION TO PREVENT EROSION OR CONTROL SEDIMENT, BEYOND THOSE SPECIFIED IN THE EROSION AND SEDIMENT CONTROL PLAN, THE CONTRACTOR SHALL IMPLEMENT ADDITIONAL BEST MANAGEMENT PRACTICES AS NECESSARY, IN ACCORDANCE WITH THE SPECIFICATIONS IN CHAPTER 6 OF THE FLORIDA LAND DEVELOPMENT MANUAL: A GUIDE TO SOUND LAND AND WATER MANAGEMENT (FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION 1988). THE CONTRACTOR SHALL CORRECT ANY EROSION OR SHOALING THAT CAUSES ADVERSE IMPACTS TO THE WATER RESOURCES AT NO ADDITIONAL COST TO OWNER.

5. WITHIN 30 DAYS AFTER COMPLETION OF THE STORMWATER SYSTEM, THE CONTRACTOR MUST ASSIST IN SUBMITTING TO THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT THE FOLLOWING: DISTRICT FORM EN-45 (AS-BUILT CERTIFICATION BY A REGISTERED PROFESSIONAL), SIGNED AND SEALED BY AN APPROPRIATE PROFESSIONAL REGISTERED IN THE STATE OF FLORIDA AND TWO SETS OF AS-BUILT DRAWINGS WHEN, A) REQUIRED BY A SPECIAL CONDITION OF THIS PERMIT; B) THE PROFESSIONAL USES AS-BUILT DRAWINGS TO SUPPORT THE AS-BUILT CERTIFICATION; OR C) WHEN THE COMPLETED SYSTEM SUBSTANTIALLY DIFFERS FROM PERMITTED PLANS. THIS SUBMITTAL WILL SERVE TO NOTIFY THE DISTRICT STAFF THAT THE SYSTEM IS READY FOR INSPECTION AND APPROVAL.

6. STABILIZATION MEASURES SHALL BE INITIATED FOR EROSION AND SEDIMENT CONTROL ON DISTURBED AREAS AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN SEVEN (7) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.

7. THE STORMWATER MANAGEMENT SYSTEM MUST BE COMPLETE IN ACCORDANCE WITH THE PERMITTED PLANS AND PERMIT CONDITIONS PRIOR TO THE INITIATION OF THE PERMITTED USE OF SITE INFRASTRUCTURE. THE SYSTEM MUST BE COMPLETED IN ACCORDANCE WITH THE PERMITTED PLANS AND PERMIT CONDITIONS PRIOR TO TRANSFERRING RESPONSIBILITY FOR OPERATION AND MAINTENANCE OF THE STORMWATER MANAGEMENT SYSTEM TO A RESPONSIBLE ENTITY.

8. IF DEWATERING IS TO OCCUR DURING ANY PHASE OF CONSTRUCTION OR THEREAFTER AND THE SURFACE WATER PUMP(S), WELL(S) OR FACILITIES ARE CAPABLE OF WITHDRAWING ONE MILLION GALLONS OF WATER PER DAY OR MORE OR AN AVERAGE OF 1800,000 GALLONS PER DAY OR MORE OVER A YEAR AND ANY DISCHARGE IS TO BE OFF-SITE, THE CONTRACTOR MUST APPLY FOR AND OBTAIN A CONSUMPTIVE USE PERMIT (40C-2) FROM THE SFWMD. CONTRACTOR SHALL NOTIFY ENGINEER IF ADDITIONAL INFORMATION OR APPLICATION MATERIALS ARE NEEDED.

9. WATER QUALITY MONITORING SHALL BE PERFORMED DAILY. SAMPLING SHALL BE PERFORMED IN THE MIDDLE OF ADJACENT CHANNELS MEASURING FOR TURBIDITY, 100 FEET UPSTREAM AND 100 FEET DOWNSTREAM OF DISCHARGES. WHEN TURBIDITY EXCEEDS 29 NTU'S ABOVE BACKGROUND LEVELS AT A SAMPLE POINT 100 FEET UPSTREAM OF DISCHARGES AND / OR 0 NTU'S ABOVE BACKGROUND LEVELS AT A SAMPLE POINT 100 FEET DOWNSTREAM OF DISCHARGES, WORK MUST CEASE AND REMEDIAL MEASURES MUST BE PERFORMED TO RETURN CONDITIONS TO ACCEPTABLE TURBIDITY LEVELS. CONTRACTOR MUST RECEIVE ENGINEER'S APPROVAL PRIOR TO RESTARTING WORK. SAMPLE POINT LOCATIONS ARE IDENTIFIED IN THE SFWMD PERMITS.

10. THE CONTRACTOR SHALL PLACE TURBIDITY BARRIERS AT ALL OUTFALLS PRIOR TO CONSTRUCTION. ALL CUT / FILL WILL BE RELOCATED WITHIN THE EXISTING SITE AND THEREFORE HAULING OF MATERIAL WILL NOT BE REQUIRED, UNLESS APPROVED BY THE OWNER. CONTRACTOR SHALL INSTALL TURBIDITY CONTROL MEASURES PRIOR TO COMMENCEMENT OF CONSTRUCTION, MAINTAIN SAID CONTROLS IN WORKING ORDER THROUGHOUT THE CONSTRUCTION PERIOD, ASSURE THAT TURBID DISCHARGES FROM THE PROJECT TO PROTECTED WATERS AND WETLANDS DO NOT EXCEED LIMITS STATED IN NOTE 9 AND REMOVE SAID CONTROLS AFTER COMPLETION OF CONSTRUCTION.

EARTHWORK AND RELATED OPERATIONS

1. THE CONTRACTOR SHALL PROVIDE A QUALITY CONTROL PLAN FOR MONITORING OF ALL EARTHWORK AND RELATED OPERATIONS. THE QUALITY CONTROL PLAN SHALL INCLUDE AS A MINIMUM, ALL TESTS THAT WILL BE PERFORMED INCLUDING THE PROPOSED TEST FREQUENCIES, ALL MATERIAL SOURCES, THE NAME AND BACKGROUND OF THE PERSON THAT THE CONTRACTOR WILL DESIGNATE AS THE CONTRACTOR'S QUALITY CONTROL MANAGER. THE NAME AND QUALIFICATIONS OF THE TESTING LABORATORY THAT WILL BE PERFORMING QUALITY CONTROL TESTING AND THE NAMES AND QUALIFICATIONS OF THE TESTING LABORATORY PERSONNEL THAT WILL BE PERFORMING THE QUALITY CONTROL TESTING.

2. THE TESTING LABORATORY THAT IS RETAINED TO PERFORM THE CONTRACTOR'S QUALITY CONTROL TESTING MUST BE CERTIFIED BY A RECOGNIZED QUALIFYING AGENCY SUCH AS FDOT, CMEC OR AASHTO FOR THE TYPE OF WORK TO BE PERFORMED.

3. THE QUALITY CONTROL PLAN SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO THE START OF ANY EARTHWORK OR RELATED OPERATION.

4. UTILIZATION OF MATERIALS WITHIN ANY ROADWAY CROSS-SECTION SHALL BE IN ACCORDANCE WITH FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS (LATEST EDITION) UNLESS OTHERWISE SHOWN ON THE PLANS.

5. IF THE EXISTING FILL IS CLASSIFIED AS A-2-4 BASED ON AASHTO M-145 CRITERIA, THE MAXIMUM PERMISSIBLE MOISTURE CONTENT SHALL BE 2 PERCENT ABOVE THE OPTIMUM MOISTURE CONTENT.

COMPACTION

1. WHERE THERE ARE EXISTING STRUCTURES ADJACENT TO THE SITE THAT MAY BE AFFECTED BY THE SELF-PROPELLED STEEL DRUM VIBRATORY EQUIPMENT, DENSIFICATION MUST BE PERFORMED USING EQUIPMENT THAT WILL SATISFY THE REQUIRED DENSIFICATION WITHOUT THE RISK OF DAMAGE TO THE EXISTING STRUCTURE(S).

2. LOADERS AND HEAVY PLATE COMPACTORS ARE TWO TYPES OF EQUIPMENT THAT HAVE BEEN USED SUCCESSFULLY.

3. DENSIFICATION PROCEDURES MUST COMPLY WITH THE CAPABILITY OF THE EQUIPMENT EMPLOYED.

4. WHEN SELF-PROPELLED STEEL DRUM VIBRATORY EQUIPMENT CANNOT BE USED AS SPECIFIED, VIBRATORY PLATE COMPACTORS MAY BE USED. WHEN THIS CONDITION OCCURS, THE OVERALL DENSIFICATION PROCEDURE MUST BE REVISED TO COMPLY WITH THE CAPABILITY OF THE EQUIPMENT EMPLOYED. IN GENERAL, SMALL PLATE COMPACTORS WILL BE EFFECTIVE TO A MAXIMUM DEPTH OF 6 TO 8 INCHES.

SOIL RECOMMENDATION AND REQUIREMENTS

1. STRIPPING AND GRUBBING:
   DURING THE GRUBBING OPERATION, ROOTS WITH A DIAMETER GREATER THAN ½ INCH, OR SMALL ROOTS IN A DENSE STATE, SHOULD BE GRUBBED AND COMPLETELY REMOVED.
   PROOF-ROLLING THE CLEARED SURFACE IS RECOMMENDED TO LOCATE ANY UNFORESEEN SOFT AREAS OR UNSUITABLE SURFACE OR LOOSE TO LOOSE FINE SAND SOILS WITHIN THE TOP 3 TO 4 FEET, AND TO PREPARE THE EXISTING SURFACE FOR THE ADDITION OF THE FILL SOILS (AS REQUIRED). ONE COVERAGE CONSISTS OF PARALLEL PASSES OF THE VIBRATORY ROLLER TRAVELING AT "WALKING SPEED". EACH PASS SHOULD OVERLAP THE PRECEDING PASS BY 30% TO INSURE COMPLETE COVERAGE. SUBSEQUENT COVERAGES SHOULD BE CONDUCTED IN A DIRECTION PERPENDICULAR TO THE PRECEDING COVERAGE. IN AREAS THAT CONTINUE TO "YIELD" REMOVE ALL DELETERIOUS MATERIAL AND REPLACE WITH A CLEAN, COMPACTED SAND BACKFILL. THE PROOF ROLLING SHOULD PRODUCE A DENSITY EQUIVALENT TO 95% OF THE MODIFIED PROCTOR (ASTM D-1557) MAXIMUM DRY DENSITY VALUE FOR A DEPTH OF 2 FEET IN THE BUILDING AREA. ADDITIONAL PASSES MAY BE REQUIRED IF THESE MINIMUM DENSITY REQUIREMENTS ARE NOT ACHIEVED.

2. FILL REPLACEMENTS:
   - WHERE FILL IS TO BE PLACED ON NATURAL GROUND, THE SURFACE MUST FIRST BE PREPARED AS OUTLINED ABOVE. THE FILL AT GRADE SHOULD EXTEND A MINIMUM OF FIVE FEET (5') BEYOND THE STRUCTURE OUTLINE.
   - FILL SHOULD BE A UNIFORM FREE DRAINING GRANULAR SOIL (CLEAN SAND) AND BE PLACED IN LAYERS NOT TO EXCEED 12 INCHES LOOSE MEASURE AND COMPACTED AS OUTLINED ABOVE. SUFFICIENT COMPACTIVE EFFORT SHOULD BE APPLIED TO OBTAIN A MINIMUM OF 98% OF THE MODIFIED PROCTOR (ASTM D-1557) MAXIMUM VALUE.

3. EXCAVATION AND BACKFILLING:
   - WHERE EXCAVATION AND BACKFILLING ARE REQUIRED, THE SOILS SHOULD BE REMOVED TO THE SPECIFIED DEPARTMENT SUFFICIENT COMPACTIVE EFFORT MUST THEN BE APPLIED TO THE EXCAVATED SURFACE TO OBTAIN A MINIMUM OF 95% OF THE MODIFIED PROCTOR (ASTM D-1557) MAXIMUM VALUE.
   BACKFILL SHALL BE UNIFORM FREE DRAINING GRANULAR SOIL (CLEAN SAND) AND BE PLACED IN LAYERS NOT TO EXCEED 12 INCHES LOOSE MEASURE. SUFFICIENT COMPACTIVE EFFORT SHOULD BE APPLIED TO EACH LAYER TO OBTAIN A MINIMUM OF 95% OF THE MODIFIED PROCTOR (ASTM D-1557) MAXIMUM VALUE. THE EXCAVATED SURFACE AND EACH LAYER OF BACKFILL SHOULD BE COMPACTED WITH A SELF-PROPELLED STEEL DRUM VIBRATORY ROLLER HAVING A MINIMUM TOTAL APPLIED FORCE OF 180 TONS.

4. FOOTING EXCAVATION:
   SEE SOILS LABORATORY RECOMMENDATIONS.

5. GROUNDWATER:
   - HEAVY RAINFALL AND / OR A HIGH WATER TABLE MAY OCCUR BEFORE THE EARTHWORK COMMENCES, OR DURING THE EARTHWORK OPERATION. WHEN THESE CONDITIONS OCCUR AND THE SITE PREPARATION CANNOT BE ACHIEVED AS SPECIFIED, AN EXCAVATION OF THE EXISTING CONDITIONS SHOULD BE CONDUCTED AND THE SPECIFICATIONS REVISED ACCORDINGLY.

6. PAVING AREAS SUITABLE FILL MATERIAL AND THE COMPACTION OF FILL SOILS:
   - ALL FILL MATERIAL SHOULD BE FREE OF ORGANIC MATERIALS, SUCH AS ROOTS AND VEGETATION AS A GENERAL GUIDE TO AID THE CONTRACTOR, USE FILLINGS WITH 3 TO 12 PERCENT BY DRY WEIGHT OF MATERIAL PASSING THE U.S. STANDARDS NO. 200 SIEVE SIZE. WITH PROPER MOISTURE CONTROL, THESE SOILS SHOULD DENSIFY USING VIBRATORY COMPACTION METHODS. SOILS WITH MORE THAN 12% PASSING THE NO. 200 SIEVE WILL BE MORE DIFFICULT TO COMPACT.

7. ALL IMPORTED FILL SHALL HAVE RADIUM 226 CONTENT LESS THAN 1.0 PCI PER GRAM.

EXCAVATION FOR STRUCTURES AND PIPES

1. EARTHWORK AND RELATED OPERATIONS PERFORMED ON STRUCTURES AND PIPES SHALL BE CONDUCTED IN ACCORDANCE WITH SECTIONS 125 AND OTHER APPLICABLE SECTIONS OF THE F.D.O.T. STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION (LATEST EDITION) UNLESS OTHERWISE SHOWN ON THE PLANS.

2. REMOVAL OF UNSUITABLE, ORGANIC OR PLASTIC MATERIAL SHALL BE PERFORMED AT THE CONTRACTOR'S EXPENSE AND SHALL BE INCIDENTAL TO OTHER WORK.

3. UTILIZATION OF MATERIALS WITHIN THE WORK LIMITS SHALL BE AS DIRECTED BY THE GEOTECHNICAL ENGINEER UNLESS OTHERWISE SHOWN ON THE PLANS.

PIPE AND STRUCTURE BACKFILL

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE IF EXCAVATED SOILS MEET THE REQUIREMENTS OF THE PROJECT PLANS AND SPECIFICATIONS RELATIVE TO MATERIAL CLASSIFICATION. PIPE AND STRUCTURE BACKFILL MATERIAL SHALL BE LIMITED TO MATERIAL CLASSIFIED AS A-1, A-3 AND A-2-4 IN ACCORDANCE WITH AASHTO M-145 AND SHALL BE COMPACTED IN ACCORDANCE WITH F.D.O.T. SECTION 125 REQUIREMENTS.

2. IF THE BACKFILL MATERIAL IS CLASSIFIED AS A-2-4 BASED ON AASHTO M-145 CRITERIA, THE MAXIMUM PERMISSIBLE MOISTURE CONTENT SHALL BE 2 PERCENT ABOVE THE OPTIMUM MOISTURE CONTENT.

CLEAN-UP

1. THE CONTRACTOR SHALL MAINTAIN THE JOB SITE IN A NEAT CONDITION AT ALL TIMES AND SHALL RESTORE / REPAIR ALL DRIVEWAYS, SIDEWALKS, UTILITIES, LANDSCAPING, IRRIGATION SYSTEMS, ETC., AFFECTED BY CONSTRUCTION ACTIVITIES.

2. THE CONTRACTOR SHALL REMOVE ALL EXCESS MATERIALS, DEBRIS, EQUIPMENT, ETC., FROM THE JOBSITE IMMEDIATELY AFTER COMPLETION OF CONSTRUCTION OPERATIONS.

3. FOR FURTHER SITE MAINTENANCE REQUIREMENTS THE CONTRACTOR IS REFERRED TO THE "AGREEMENT BETWEEN OWNER AND CONTRACTOR".

4. UNLESS OTHERWISE SPECIFIED OR NOTED; ALL DISTURBED AREAS TO BE RESTORED BY CONTRACTOR TO PRE-CONSTRUCTION CONDITION OR BETTER PRIOR TO ACCEPTANCE BY THE OWNER OR LOCAL APPROVING AUTHORITY.

FOUNDATION PREPARATION

1. CONSTRUCTION METHODS. AREAS ON WHICH FILTER FABRIC AND ARTICULATED CONCRETE BLOCK MATRESSES ARE TO BE PLACED SHALL BE CONSTRUCTED TO THE LINES AND GRADES SHOWN ON THE DRAWINGS. THE SUBGRADE FOR THE ARTICULATED CONCRETE BLOCK MATS SHALL BE FREE OF VOIDS, PITS, OR DEPRESSIONS AND SHALL BE PROOF-ROLLED TO A MINIMUM OF 90% OF THE ASTM D-698 DENSITY. VOIDS, PITS OR DEPRESSIONS SHALL BE BROUGHT TO GRADE BY BACKFILLING IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF THE PROJECT SPECIFICATIONS. ALL OBSTRUCTIONS, SUCH AS ROOTS AND PROJECTING STONES LARGER THAN 1 INCH REMAINING ON THE SURFACE, SHALL BE REMOVED AND ALL OF THE SOFT OR LOW DENSITY POCKETS OF MATERIAL REMOVED MUST BE FILLED WITH SELECTED MATERIAL AND COMPACTED TO A MINIMUM OF 90% OF THE ASTM D-698 DENSITY. SPECIAL CONSIDERATION FOR BURIED OBSTRUCTIONS (I.E. STUMPS, DEBRIS. ETC.) WILL BE AS SHOWN ON THE DRAWINGS.

2. EXCAVATION AND PREPARATION FOR ANCHOR TRENCHES, SIDE TRENCHES, AND TOE TRENCHES OR APRONS SHALL BE DONE IN ACCORDANCE TO THE LINES, GRADES AND DIMENSIONS SHOWN ON THE DRAWINGS.

3. INSPECTION AND APPROVAL. IMMEDIATELY PRIOR TO PLACING THE FILTER FABRIC AND ARTICULATED CONCRETE BLOCK MATTRESSES, THE PREPARED AREA SHALL BE INSPECTED BY THE OWNER'S REPRESENTATIVE AND APPROVAL OBTAINED BEFORE ANY FABRIC OR MATTRESSES ARE PLACED THEREON.

48 HOURS BEFORE DIGGING CALL SUNSHINE STATE ONE CALL CENTER.
TOLL FREE 1-(800) 432-4770

PAVEMENT MARKING AND SIGNAGE

1. PAVEMENT MARKINGS: THE CONTRACTOR SHALL PROVIDE ALL NECESSARY MATERIALS AND LABOR REQUIRED TO COMPLETE THE PROJECT WORK IN THIS SECTION. MATERIALS AND CONSTRUCTION METHODS FOR APPLYING PAINTED TRAFFIC STRIPES AND MARKINGS, COMPLETE WITH REFLECTIVE GLASS SPHERES, SHALL CONFORM TO THE REQUIREMENTS OF SECTION 710, FDOT SPECIFICATIONS. TRAFFIC PAINT SHALL BE APPLIED IN ALL LOCATIONS SHOWN ON THE PLANS. IN THE EVENT THAT BRICK PAVERS ARE UTILIZED IN AN AREA PLANNED FOR STRIPING, COLORED BRICKS SHALL BE USED IN LIEU OF PAINT.

2. SIGNAGE: THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR NEEDED, INCLUDING ALL SUPPORTING ELEMENTS, TO INSTALL SIGNS AT THE LOCATIONS SHOWN ON THE PLANS. MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO SECTION 700, FDOT SPECIFICATIONS. STOP SIGNS ARE TO BE HIGH INTENSITY REFERENCE PER FDOT STANDARDS, LOCAL COUNTY/CITY STANDARD AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. IF THE PROJECT IS WITHIN A COMMUNITY DEVELOPMENT DISTRICT (OR THE LIKE) WITH SEPARATE SIGNAGE REQUIREMENTS, SUCH AS ARCHITECTRUAL POSTS OR SIGN BODIES, ETC.. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO BE FAMILIAR WITH THESE REQUIREMENTS AND PROVIDE SIGNS MEETING THESE REQUIREMENTS. AT NO TIME SHALL ANY SIGNS NOT MEET THE SAFETY REQUIREMENTS SET FORTH BY FDOT.

ENGINEERS ⊕ SURVEYORS

PORT SAINT LUCIE OFFICE
10250 SW VILLAGE PARKWAY - SUITE 201
PORT SAINT LUCIE, FL 34987
☎ 772-462-2455

www.edc-inc.com

F.B.P.E. CERTIFICATE OF AUTHORIZATION 9935
L.B. CERTIFICATE OF AUTHORIZATION 8098

DESIGNED BY	DCB
DRAWN BY	JLW
FILENAME	18-382 (04-08-2019).dwg
LAYOUT	Specs
SCALE	AS SHOWN
DATE	16 NOVEMBER 2018

REVISION COMMENTS

DATE

WEST STUART BUSINESS CENTER

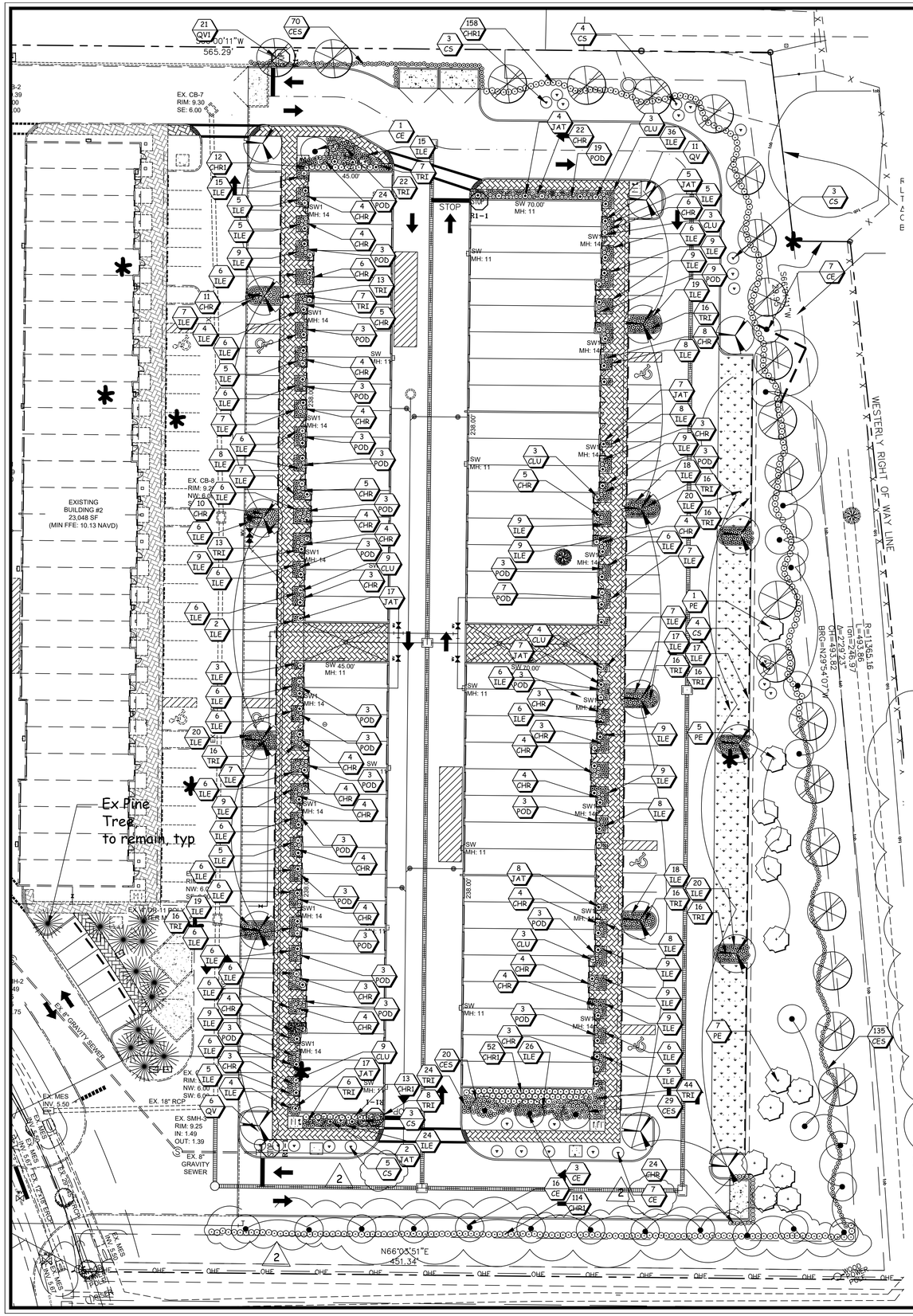
SPECIFICATIONS

MARTIN COUNTY FLORIDA

DAVID C. BAGGETT, P.E.(DATE)
#81375

10250 SW VILLAGE PARKWAY - SUITE 201
PORT SAINT LUCIE, FL 34987
☎ 772-462-2455

18-382



Notes:

1. 100% of the required trees are low water use.
2. 100% of the required shrubs are low water use.
3. All sod areas to be Argentine Bahia, Paspalum notatum.
4. All landscape areas are low water use areas, unless otherwise indicated . Retention Area will not receive irrigation, therefore it is indicated as a low water use aera.
5. No landscaping shall be placed in a manner that would create conflicts with the intended operation and maintenance of any existing or proposed water/wastewater utility lines.
6. All landscape material to be Florida No.1
7. All landscaping meets FDOT clearzone and sight distance criteria.
8. All landscaping to receive irrigation from non-potable source, providing 100% coverage and 50% overlap.
9. All trees placed within 10' of a structure, sidewalk, utility line or exfiltration trench to be installed with 24" root barrier. Refer to sheet LD-02 for installation details.
10. All landscaping placed within safe sight triangle to be maintained to provide sight window between 24" and 8'
11. The use of Cypress mulch is prohibited.

Water Efficient Design Options

	Design Options	Points
a.	Utilization of moisture sensing controller other than rain sensor override device	
b.	Plan submitted with low, moderate and high water usage zones indicated on the landscape plan	5
c.	Twenty-five percent to 50 % of the grass areas are made up of drought tolerant grass species from the list	
d.	Fifty-one percent or more of the grass areas are made up of drought-tolerant grass species from the list.	10
e.	Twenty-five percent to 50 % of the required shrubs are made up of drought tolerant species from the list.	
f.	Fifty-one percent or more of the required shrubs are made up of drought tolerant species from the list.	10
g.	Twenty-five percent to 50 % of the required trees are made up of drought tolerant species from the list	
h.	Fifty-one percent or more of the required trees are made up of drought tolerant species from the list.	10
i.	Twnety-five percent more than the required shade trees planted in the vehicular use area	
j.	Fifty percent more than the required shade trees planted in the vehicular use area	
k.	Sod areas less than 50 percent of the total landscaped areas	
l.	Utilization of compacted mulch beds at least three inches deep in all planted areas except ground cover.	10
m.	Utilitzation of mulch	5
n.	Utliization of native plant species in stormwater retention areas, other than turf grass or sod. As permitted in division 9 of article 4, LDR.	
	Total points awarded:	**50**

Landscape Data:

Total Landscape Area:

Total Buffer Area: (2,720 sf North, 6,530 sf East,3,690 sf South PL) 12,940 sf
Vehicular Use Area (VUA): 77,303 sf
Landscape Area required (500 sf/5000 sf VUA): 7,730 sf

Total Area Required: 43,816, sf
Total Area Provided: 70,389 sf

The minimum landscape requirement of 20% of total Development area is being met (154,382 x 20% = 30,876 sf)
The requirement of 1 tree/2,500 sf (154,382:2,500=62) is being met.

Landscape Data

		Canopy Tree, 1/30 LF		Shrubs 1/3 LF	
Exterior					
Buffer/Length	Buffer Type	Required	Provided	Required	Provided
North/272'	Perimeter	9	9	91	108
East/ 653'	Perimeter	22	22	218	249
South / 340'	Perimeter	12	12	113	114
West	not required				
Interior					
Landscape Area	15 areas	3 trees/area		N/A	
		45	45	N/A	
Parking Islands	17 islands	1 trees/island		N/A	
		17	17		
interior trees removed from prev. phase		5*	5		
Total		110	110	432	471

*prev. phase provided 2 extra trees, total removed was 7

100% of required/proposed trees are native
88% of required/proposed shrubs are native
100% of required/proposed groundcovers/grasses are native

Landscape Legend:
Qty Symb Name (N=Native)(R=required to meet code)

Trees:
32 CS Silver Buttonwood (N)(R)
Conocarpus erectus sericeus, 10' Ht, 4' Spr, 2.5" cal
27 CE Green Buttonwood (N)(R)
Conocarpus erectus, 10' Ht, 4' Spr, 2.5" ca
13 PE Slash Pine (N)(R)
Pinus eliottii 'Densa', 12' Ht, 5' Spr, 2.5" cal
17 QV Live Oak (N)(R)
Quercus virginiana, 14' Ht, 5' Spr, 2" cal
21 QV2 Existing Live Oak (N)(R)
Quercus virginiana, relocated from site

Shrubs:
204 CHR Red Tip Cocoplum (N)(R)
Chrysobalanus icaco 'Redtip', 3 gal, 18"x18", 24" o.c.
349 CHR1 Red Tip Cocoplum (N)(R)
Chrysobalanus icaco 'Redtip', 3 gal, 24"x18", 36" o.c.
34 CLU Small-leaf Clusia
Clusia guttifera, 15 gal, 4' Ht, 36" o.c.
250 CES Silver Buttonwood (N)(R)
Conocarpus erectus sericeus, 3 gal, 24"x18", 24" o.c.
696 ILE Dwarf Yaupon Holly(N)(R)
Ilex vomitoria 'Stokes Dwarf', 3 gal, 18"x18", 24" o.c.
73 JAT Compact Jatropha
Jatropha integerrima 'Compacta', 10 gal, 4' Ht, 36" o.c.
124 POD Podocarpus
Podocarpus macrophyllus, 3 gal, 24"x12", 24" o.c.

Grasses:
294 TRI Florida Gama Grass (N)(R)
Tripsacum floridana, 3 gal, 24" o.c.

Maintenance of Required Landcaping

1. Encroachment into required bufferyards and landscaped areas by vehicles, boats, mobile homes or trailers shall not be permitted, and required landscaped areas shall not be used for the storage or sale of materials or products or the parking of vehicles and equipment.
2. Required landscaping shall be maintained so as to at all times present a healthy, neat and orderly appearance, free of refuse and debris. If vegetation which is required to be planted dies it shall be replaced with equivalent vegetation. All trees for which credit was awarded and which subsequently die, shall be replaced by the requisite number of living trees according to the standards established in the Martin County Landscape Code.
3. All landscaping shall be maintained free from disease, pests, weeds and litter. Maintenance shall include weeding, watering, fertilizing, pruning, mowing, edging, mulching or other maintenance, as needed and in accordance with acceptable horticultural practices. Perpetual maintenance shall be provided to prohibit the reestablishment of harmful exotic species within landscaping and preservation areas.
4. Regular landscape maintenance shall be provided for repair or replacement, where necessary, of any screening or buffering required as shown on this plan. Regular landscape maintenance shall be provided for the repair or replacement of required walls, fences or structures to a structurally sound condition as shown on this plan.
5. The property owner is responsible for replacing any required landscaping in easement areas that may be disturbed by future maintenance
6. All prohibited, exotic and invasive species shall be removed from the entire site prior to the issuance of a certificate of occupancy."

Landscape Design Associates
700 SW Port St. Lucie Blvd
Port St. Lucie, FL 34953
772-871-6060 ph. 772-871-6659 fax

Scale: 1" = 30'
Drawn by: SM
Checked by: SM
CADD No.: 18-121 lp.dwg
Date: 11.2.18

Revisions
Date — Comments
1.25.19 — Per staff comments
4.4.19 — Per staff comments

West Stuart Business Center
Martin County
Landscape Plan

Graphic Scale
30 15 0 30
Scale: 1" = 30'

REGISTERED LANDSCAPE ARCHITECT
LA0001733
STATE OF FLORIDA

4.2.19
LD-01

PLANTING NOTES:

FERTILIZER

FERTILIZERS SHALL BE SLOW RELEASE, UNIFROM 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 RE-CYCLED 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.

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 50% 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 KNIT 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.

GENERAL NOTES:

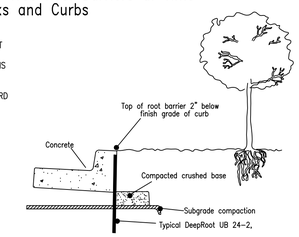
1. THE CONTRACTOR SHALL PERSONALLY ACQUAINT HIM/HER SELF WITH THE EXISTING SITE CONDITIONS AND THE EXTENT AND SCOPE OF WORK REQUIRED.
2. THE PLANT LIST INDICATES THE NAMES, SIZES AND SPACING OF SPECIFIC PLANT MATERIALS. QUANTITIES HAVE BEEN PROVIDED TO THE CONTRACTOR AS A CONVENIENCE, THE CONTRACTOR 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 FROM 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).

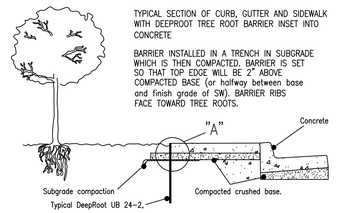
Linear Application of DeepRoot Tree Root Barriers at Time of Installing Concrete Sidewalks and Curbs

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)



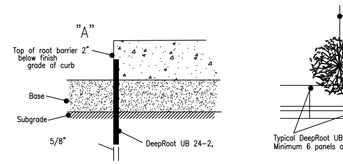


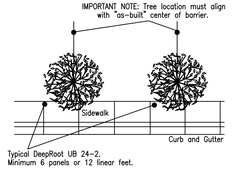
TYPICAL SECTION OF CURB, GUTTER AND SIDEWALK WITH DEEPROOT TREE ROOT BARRIER INSET INTO CONCRETE

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)



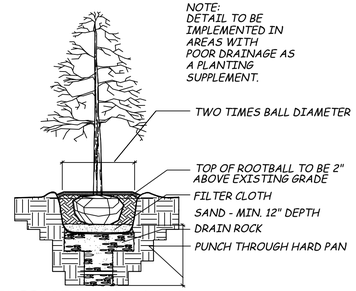


WATERING SCHEDULE

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

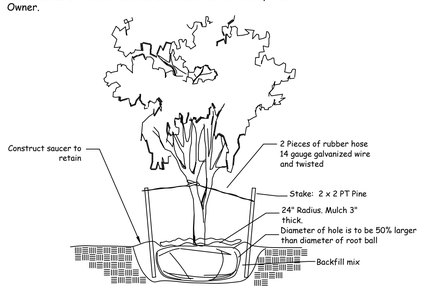
ABBREVIATIONS:
C.T.- CLEAR TRUNK
Ht.- HEIGHT
O.C.- ON CENTER
Spr.- SPREAD



TREE PITS WITH DRAIN
N.T.S.

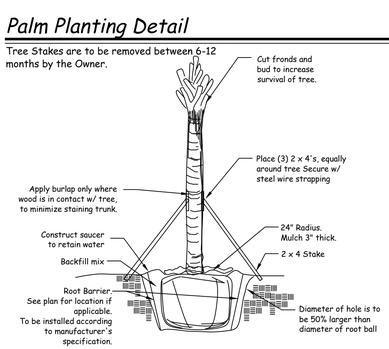
Tree Planting Detail

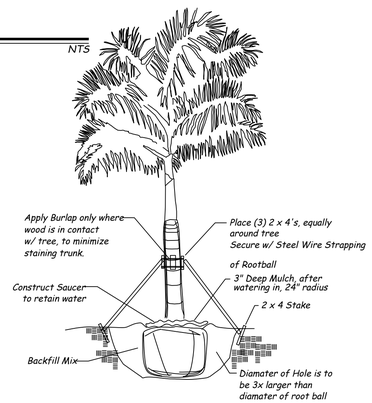
Tree Stakes are to be removed between 6-12 months by the Owner. NTS



Palm Planting Detail

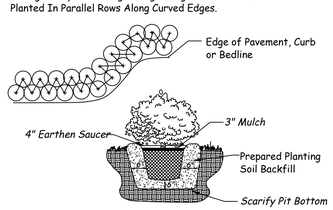
Tree Stakes are to be removed between 6-12 months by the Owner. NTS





Shrub & Groundcover Planting Detail

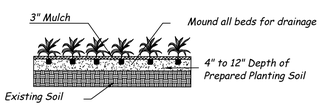
Note: All Shrubs And Groundcover Shall Be Triangular Spaced Along Straight Edges And Will Be Planted In Parallel Rows Along Curved Edges. NTS



Groundcover & Annual Detail

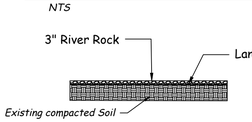
NTS

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



Gravel Strip Detail

NTS



Landscape Design Associates
702 SW Port St. Lucie Blvd
Port St. Lucie, FL 34953
772-871-6060 ph. 772-871-6659 fax

Scale: NTS
Drawn by: SM
Checked by: SM
CADD No.: 18-121 lp.dwg
Date: 11.2.18

Revisions
Date | Comments

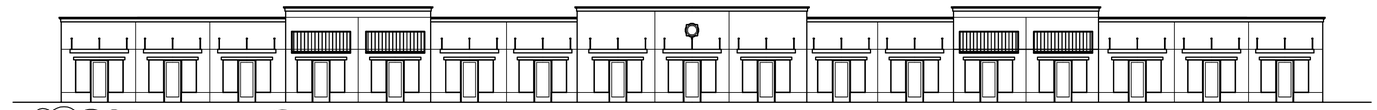
West Stuart Business Center

Martin County

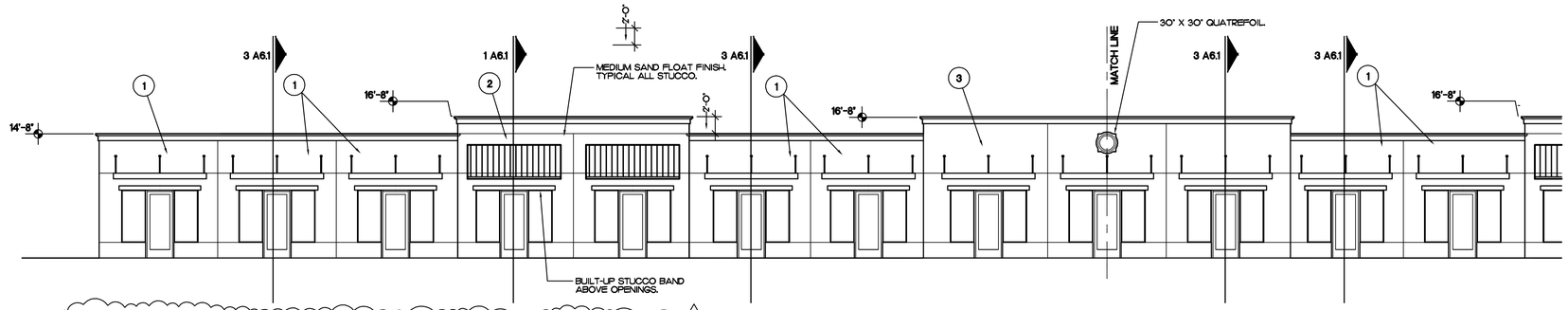
Landscape Notes & Details

LANDSCAPE ARCHITECT LA0001733 STATE OF FLORIDA
11.2.18

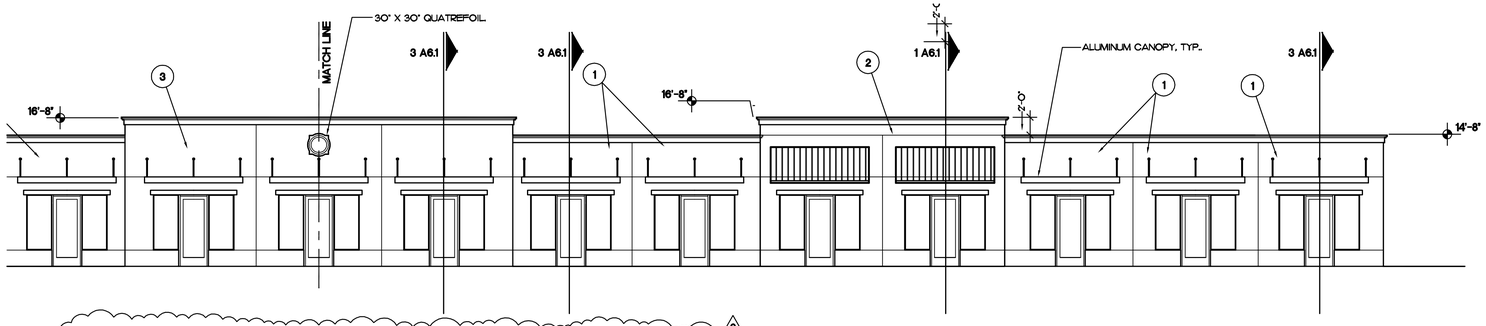
LD-02



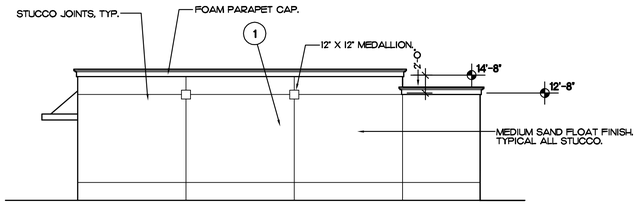
BUILDINGS 3 AND 4
1 WEST ELEVATION-PRIMARY FACADE
SCALE: 1/16"=1'-0"



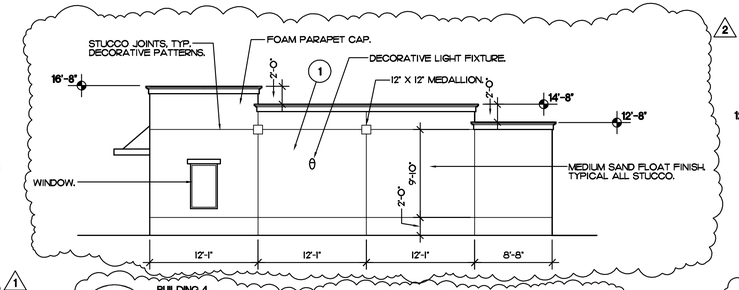
BUILDINGS 3 AND 4
2 PARTIAL WEST ELEVATION-PRIMARY FACADE
SCALE: 1/8"=1'-0"



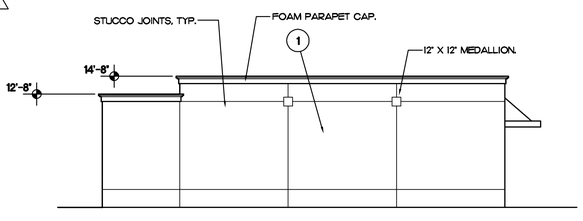
BUILDING 3
3 PARTIAL WEST ELEVATION-PRIMARY FACADE
SCALE: 1/8"=1'-0"



BUILDING 3
4 SOUTH ELEVATION-SECONDARY FACADE
SCALE: 1/8"=1'-0"



BUILDING 4
5 SOUTH ELEVATION-PRIMARY FACADE
SCALE: 1/8"=1'-0"



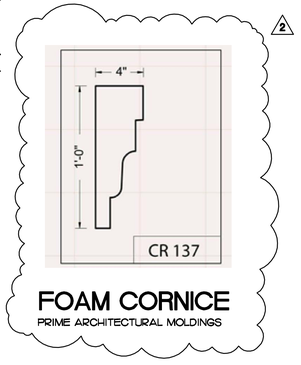
BUILDINGS 3 AND 4
6 NORTH ELEVATION-SECONDARY FACADE
SCALE: 1/8"=1'-0"

ARCHITECTURAL DESIGN REQUIREMENTS COMPLIANCE

1. PRIMARY WALL PLANES OFFSET A MINIMUM OF 3'.
2. CANOPIES LOCATED OVER WINDOWS AND DOORS IN INCREMENTS OF 10' OR LESS.
3. RAISED PARAPETS OVER ENTRANCES.
4. PARAPETS A MINIMUM OF 12" IN HEIGHT.
5. DECORATIVE LIGHT FIXTURES.
6. THREE-DIMENSIONAL CORNICE TREATMENTS.
7. MINIMUM OF TWO CHANGES IN HEIGHT OF THE PARAPETS AT A MINIMUM OF 2'.
8. WINDOWS

PROPOSED COLORS

1. PPGI092-2 MESA BEIGE
2. PPGI092-3 TUSCAN BREAD
3. PPGI092-4 CRAFTSMAN GOLD
4. CANOPY ROOFING-BLACK



FOAM CORNICE
PRIME ARCHITECTURAL MOLDINGS

Morel De Guiramond architecture LLC

14080 Mahogany Avenue
Jacksonville, Florida
32258
(561) 758 8454

memorel@outlook.com

Corporation Number
AA26001553

Michael Morel
Architect
AR0013132

West Stuart Business Center
Section 43, Township 38S, Range 41E
Martin County, Florida

Revisions:
1 1/29/19
2 3/28/19

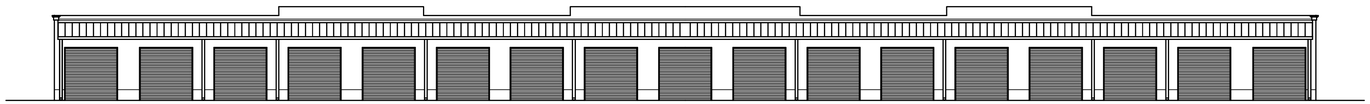
Content:
Buildings 3 and 4 Exterior Elevations

Dwg:

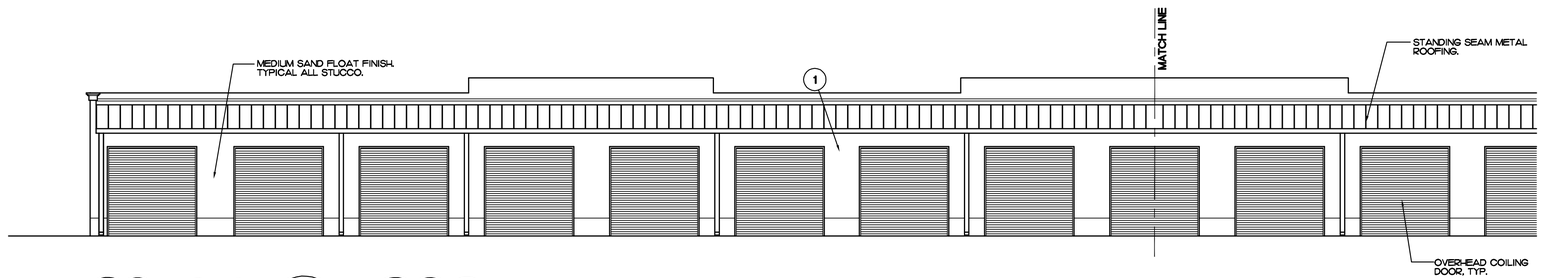
Date: 10/3/18

Proj. No. 1806

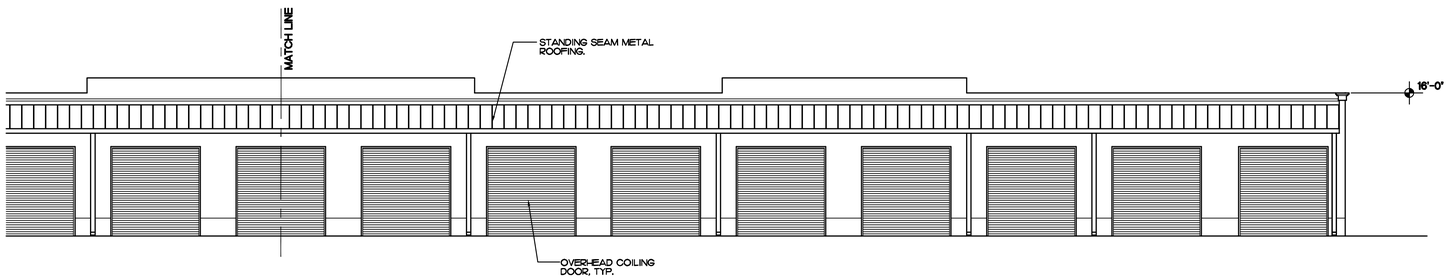
Sheet No.
A4.1



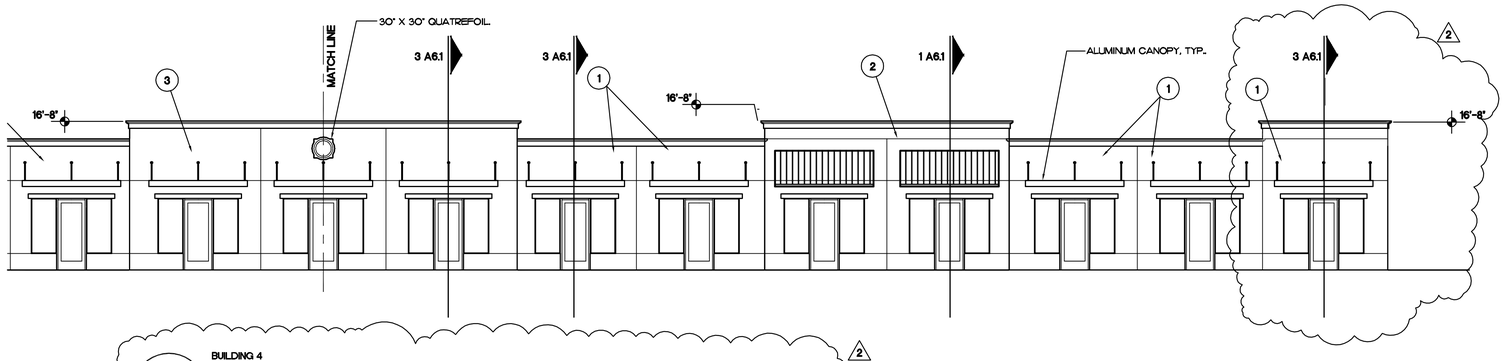
BUILDINGS 3 AND 4
1 EAST ELEVATION-SECONDARY FACADE
SCALE: 1/16"=1'-0"



BUILDINGS 3 AND 4
2 PARTIAL EAST ELEVATION-SECONDARY FACADE
SCALE: 1/8"=1'-0"



BUILDINGS 3 AND 4
3 PARTIAL EAST ELEVATION-SECONDARY FACADE
SCALE: 1/8"=1'-0"



BUILDING 4
3 PARTIAL WEST ELEVATION-PRIMARY FACADE
SCALE: 1/8"=1'-0"

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Sheet No.
A4.2