LEE COUNTY BOARD OF COUNTY COMMISSIONERS
PUBLIC WORKS ADMINISTRATION – DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED
GLADIOLUS DRIVE WIDENING
PINE RIDGE ROAD TO WINKLER ROAD
PHASE 2 – PINE RIDGE ROAD TO A&W BULB ROAD

ROADWAY PLANS

PROJECT NO. 4083

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LOCATION MAP

LEE COUNTY, FLORIDA
PROJECT MANAGER: ROBERT PHELAN

1. LOC SECTION 10,596 LANE WIDTH – ALLOW 11 LANE WIDTHS.

GOVERNING STANDARDS AND SPECIFICATIONS:
FLORIDA DEPARTMENT OF TRANSPORTATION DESIGN STANDARDS (2007)
APPLICABLE DESIGN STANDARDS MODIFICATIONS: 07/20/07
For Design Standards modifications go to the following Web site:
http://www.dot.state.fl.us/designs/DesignStandards.htm

APPROVALS

THIS IS TO CERTIFY THAT THESE PLANS AND THE ASSOCIATED CONSTRUCTION PROJECT ARE IN SUBSTANTIAL COMPLIANCE WITH THE LEE COUNTY LAND DEVELOPMENT CODE WITH THE EXCEPTION OF THE FOLLOWING, WHICH HAVE BEEN APPROVED BY THE DIRECTOR OF PUBLIC WORKS.

1. LOC SECTION 10,596 LANE WIDTH – ALLOW 11 LANE WIDTHS.

GEO KENYON, P.E.
PROJECT MANAGING ENGINEER

JIM LYNCH, P.E.
DIRECTOR OF PUBLIC WORKS
### SUMMARY OF PAY ITEMS - ROADWAY

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<th>PAY ITEM</th>
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### SUMMARY OF PAY ITEMS - STRUCTURES

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<th>PAY ITEM</th>
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GENERAL NOTES

1. ALL ELEVATIONS INCLUDING BENCHMARK ELEVATIONS ARE BASED ON NOVA DATUM 1929.
2. ALL STATIONS AND OFFSETS ARE MEASURED FROM THE CENTER LINE OF CONSTRUCTION.
3. FOR REFERENCE POINTS REFER TO RIGHT OF WAY MAP/CONTROL SURVEY.
4. ALL CONSTRUCTION ITEMS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND SUPPLEMENT THERETO.
5. ALL EXISTING PIPES ARE TO BE REMOVED UNLESS NOTED ON THE PLANS. PAYMENT TO BE INCLUDED UNDER THE CLEARING AND GRUBBING ITEM.
6. WHEN PLANS CALL FOR PIPE EXTENSION, PROVIDE A CONCRETE COLLAR AS SHOWN ON FOOT INDEX 280.
7. THE LOCATION OF PROPOSED DRAINAGE STRUCTURES IS GIVEN TO THE CENTER LINE OF THE BOTTOM STRUCTURE.
8. THE LENGTH OF PROPOSED PIPE IS APPROXIMATE AND FROM WALL TO WALL OF THE DRAINAGE STRUCTURE ROUNDED TO THE NEAREST FOOT.
9. THE PURPOSE FOR THE DITCH BOTTOM INLETS AND YARD DRAINS IS MAINLY TO COLLECT DRAINAGE FROM THE ADJACENT PROPERTIES. THE CONTRACTOR MAY ADJUST THE LOCATION OF THESE INLETS AND YARD DRAINS TO ENSURE PROPER DRAINAGE. MINOR REGRADING WILL BE REQUIRED TO ENSURE THAT DRAINAGE IS DIRECTED TOWARD THE INLETS AND YARD DRAINS.
10. ANY PUBLIC LAND CORNER WITHIN THE LIMITS OF CONSTRUCTION IS TO BE PROTECTED. IF A CORNER MONUMENT IS IN DANGER OF BEING DESTROYED AND HAS NOT BEEN PROPERLY REFERENCED, THE PROJECT ENGINEER SHOULD NOTIFY THE DISTRICT LOCATION SURVEYOR WITHOUT DELAY BY TELEPHONE.
11. DURING CONSTRUCTION, ANY MANHOLE WITH A TOP ELEVATION OF 37 OR MORE ABOVE THE ADJACENT PAVEMENT SHALL HAVE A TEMPORARY ASPHALT APRON CONSTRUCTED AS SHOWN IN INDEX 650. WHEN THE POSTED SPEED LIMIT IS 50 MPH OR LESS AND THE CONDITION IS EXPECTED TO LAST LESS THAN 24 HOURS, THE ENGINEER MAY WAIVE THE APRON REQUIREMENT. THIS REQUIREMENT MAY NOT BE WAIVED WHEN THE ELEVATION DIFFERENCE EXCEEDS ONE INCH.

SPECIAL Dewatering NOTE

THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT A WATER USE PERMIT FOR DWATERING ACTIVITIES IS NOT INCLUDED IN THE PERMITS OBTAINED BY LEE COUNTY FOR THIS PROJECT. IF THE CONTRACTOR DETERMINES THAT IT IS NECESSARY TO CONDUCT DWATERING OPERATIONS FOR ANY CONSTRUCTION OPERATIONS REQUIRED FOR ANY PHASE OF THIS PROJECT THEY SHALL BE RESPONSIBLE FOR OBTAINING ANY AND ALL REQUIRED PERMITS. THESE OPERATIONS MAY INCLUDE, BUT ARE NOT LIMITED TO, DRAINAGE STRUCTURES, PIPE, CULVERT EXTENSIONS, WATER LINES, SEWER LINES, ETC. PAYMENT FOR OBTAINING THE PERMITS AND ALL DWATERING OPERATIONS SHALL BE INCLUDED IN THE MAINTENANCE OF TRAFFIC.

ROCK NOTE

IT HAS BEEN THE EXPERIENCE OF THE DEPARTMENT, WITH PROJECTS CONSTRUCTED WITHIN THIS GENERAL GEOGRAPHIC AREA, THAT ALTHOUGH PRELIMINARY RINNINGS DO NOT INDICATE A CONSTANT PRESENCE OF ROCK, ROCK WAS ENCOUNTERED WHILE PREPARING UNDERGROUND INSTALLATIONS. THEREFORE, THE CONTRACTOR SHOULD CONSIDER THE INCREASED COST OF ALL UNDERGROUND WORK ACTIVITIES WHILE PREPARING HIS BID. ALL COSTS OF ROCK EXCAVATION SHALL BE INCLUDED IN THE APPLICABLE ITEMS OF WORK CONTAINED WITHIN THE CONTRACT. NO EXTRA COMPENSATION OR TIME EXTENSION WILL BE ALLOWED FOR ADDITIONAL WORK DIRECTLY ASSOCIATED WITH THE SPLITTING, EXCAVATION, CRUSHING, DISPOSAL, REPLACEMENT OF DISPLACED VOLUME OF EXTRACTED ROCK WITH FULL MATERIAL OR SPECIAL HANDLING OF ROCK.

Phase 2

GLADIOLUS DRIVE WIDENING
PINE RIDGE ROAD TO WINKLER ROAD

GENERAL NOTES
### SUMMARY OF DRAINAGE STRUCTURES

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**Jan 8 2000**
# SUMMARY OF DRAINAGE STRUCTURES

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**Notes:**
- Construct 24" RIP, 18" L, PIPE & FEUX W END
- Control Structure, Const 18" RIP CONC COLLAR
- Add Curb Inlet Top Type 2
- Add Curb Inlet Top Type 3
- Gladiolus Preserve RX Control, Struct for Basin 3

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**Phase 2**

**Summary of Drainage Structures**
# SUMMARY OF DRAINAGE STRUCTURES

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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>NIC 2450</td>
<td>1-996+00 CROSBY ST</td>
<td>PALE PINE</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>NIC 2451</td>
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<td>0</td>
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</tr>
<tr>
<td>NIC 2452</td>
<td>1-996+00 CROSBY ST</td>
<td>PALE PINE</td>
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<td>0</td>
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<td>0</td>
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<td>0</td>
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</tr>
<tr>
<td>NIC 2453</td>
<td>1-996+00 CROSBY ST</td>
<td>PALE PINE</td>
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<td>0</td>
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<td>NIC 2454</td>
<td>1-996+00 CROSBY ST</td>
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<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>NIC 2455</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>NIC 2456</td>
<td>1-996+00 CROSBY ST</td>
<td>PALE PINE</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
</tbody>
</table>

**Phase 2**

**Sheet 12 of 237**

**GLADIOLUS DRIVE WIDENING**
**FINE RIDGE ROAD TO WINKLER ROAD**

**SUMMARY OF DRAINAGE STRUCTURES**

**Summary:**

- **Location:** NIC 2441 to NIC 2456
- **Description:** Pale Pine
- **Storm Sewer:** Various
- **Cumulants:** Various
- **Maholes:** Various
- **Ditch Drainage Sections:** Various
- **Class:** Various
- **Conc:** Various
- **Rubble:** Various
- **Roof/Structure:** Various
- **Remarks:** Various
Phase 2

GLADIOLUS DRIVE WIDENING
PINE RIDGE ROAD TO WINKLER ROAD
PLAN & PROFILE – GLADIOLUS DRIVE
 Phase 2

INTERSECTION DETAIL - BASS RD. & LAGUNA LAKES NST

GLADIOLUS DRIVE WIDENING
FINE RIDGE ROAD TO WINKLER ROAD

LEGEND
x= SPOT ELEV.
X= PROP. SPOT ELEV.
<> FLOW DIRECTION

JAN 08 2006

PHASE 2

DESIGNER: LEE COUNTY SOUTHWEST FLOIDADEPARTMENT)

TRAFFIC ENGR.

ENGINEER, TRAFFIC

PRESIDING, ENGINEER

FORT MYERS, FLORIDA 33901

SCALE: 1"=100'

SHEET 65

TOTAL SHEETS 307

Sheet: 65
Gravity Wall Details

1. The purpose of the gravity walls in this project is to avoid permanent slopes outside the existing right of way.
2. Property owners have the option to avoid the construction of gravity walls if they agree to voluntary slope easements to the county.
3. It is expected that before construction begins, some property owners will grant slope easements to the county. If so, the contractor shall coordinate with the engineer and the property owner to construct earthen slopes in lieu of gravity walls.
4. Refer to foot index S20 for all gravity wall construction.

Phase 2

GLADIUS DRIVE WIDENING
PINE RIDGE ROAD TO WINKLER ROAD
GRAVITY WALL DETAILS AND NOTES
**LEE COUNTY, FLORIDA**  
**DEPARTMENT OF TRANSPORTATION**  
**CROSS SECTION OF SOIL SURVEY**  
**REPORT OF SOIL BORINGS**  
**PROPOSED GLADIOLUS DRIVE WIDENING**

**TOWNSHIP:**  
**RANGE:**  
**SECTION:**  
**COUNTY:** LEE  
**DATES OF SURVEY:** 3/25/98 – 10/28/98  
**SURVEYED BY:** UNIVERSAL ENGINEERING SCIENCES  
**PROJECT BORNS AP PROXIMATE STA. NO.:** 31+00  
**PROJECT EXHIS AP PROXIMATE STA. NO.:** 1244+50  
**DATE REPORTED:** 7/17/98

<table>
<thead>
<tr>
<th>STRATUM NO.</th>
<th>MAX. LBB VALUE</th>
<th>% ORGANIC</th>
<th>MOISTURE CONTENT</th>
<th>%</th>
<th>#10 MESH</th>
<th>#40 MESH</th>
<th>#80 MESH</th>
<th>#100 MESH</th>
<th>#200 MESH</th>
<th>AASHTO GROUP</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-</td>
<td>-</td>
<td>13-30</td>
<td>100</td>
<td>90-100</td>
<td>-</td>
<td>66-91</td>
<td>23-36</td>
<td>2-3</td>
<td>A-3</td>
<td>Fine SAND with varying amounts of silt.</td>
</tr>
<tr>
<td>2</td>
<td>-</td>
<td>-</td>
<td>9-26</td>
<td>81-100</td>
<td>61-98</td>
<td>48-91</td>
<td>22-44</td>
<td>5-10</td>
<td>A-3</td>
<td>Fine SAND with silt, rock &amp; shell fragments.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>-</td>
<td>-</td>
<td>12-27</td>
<td>97-100</td>
<td>91-94</td>
<td>72-77</td>
<td>32-46</td>
<td>15-24</td>
<td>A-2-4</td>
<td>Silty fine SAND with rock &amp; shell fragments.</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Rock</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>A-8</td>
<td>Fine SAND with fibrous peat &amp; organic.</td>
</tr>
</tbody>
</table>

**NOTES:**

1) STRATA BOUNDARIES ARE APPROXIMATE. MAKE FINAL CHECK AFTER DRILLING.

2) WATER TABLE ENCOUNTERED IN ALL STRATA.

3) THE MATERIAL FROM STRATA NUMBERS 1 AND 2 APPEARS SATISFACTORY FOR USE IN THE EMBANKMENT WHEN UTILIZED IN ACCORDANCE WITH INDEX SOILS. SOME OVERSIZED ROCK PARTICLES MAY BE PRESENT IN THE MATERIAL EXCAVATED FROM THESE STRATA, AND WILL HAVE TO BE REMOVED DURING PLACEMENT.

4) THE MATERIAL FROM STRATUM NUMBER 3 APPEARS SATISFACTORY FOR USE IN THE EMBANKMENT WHEN UTILIZED IN ACCORDANCE WITH INDEX SOILS. HOWEVER, THIS MATERIAL IS LIKELY TO RETAIN EXCESS MOISTURE AND MAY BE DIFFICULT TO DRY AND COMPACT. IT SHOULD BE USED IN THE EMBANKMENT ABOVE WATER LEVEL EXISTING AT THE TIME OF CONSTRUCTION.

5) THE MATERIAL FROM STRATUM NUMBER 4 IS CLAYEY, A-2-4 MATERIAL, AND SHALL BE USED IN ACCORDANCE WITH INDEX SOILS.

6) THE MATERIAL FROM STRATUM NUMBER 5 IS A-8 MATERIAL, AND SHALL BE REMOVED THROUGH THE LIMITS OF THE ROADWAY, SHOULDER AND SIDEWALK CONSTRUCTION.
### BORING LOGS

<table>
<thead>
<tr>
<th>BORING</th>
<th>LOCATION</th>
<th>DEPTH (FT)</th>
<th>MATERIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>AB-13</td>
<td>STA. 147+00</td>
<td>35.5</td>
<td>Brown, five SAND with rock (A-3X1)</td>
</tr>
<tr>
<td>AB-14</td>
<td>STA. 148+20</td>
<td>23.5</td>
<td>Gray and brown, five SAND with shell fragments (A-2X4)</td>
</tr>
<tr>
<td>AB-15</td>
<td>STA. 149+00</td>
<td>15.5</td>
<td>Light gray to brown, fine SAND with rock (A-2X2)</td>
</tr>
<tr>
<td>AB-16</td>
<td>STA. 140+00</td>
<td>15.5</td>
<td>Brown, five SAND with rock (A-1X2)</td>
</tr>
<tr>
<td>AB-17</td>
<td>STA. 151+00</td>
<td>33.0</td>
<td>Light gray and brown, fine SAND (A-1X1)</td>
</tr>
<tr>
<td>AB-18</td>
<td>STA. 152+00</td>
<td>20.0</td>
<td>Light gray to brown, fine SAND with shell fragments (A-2X1)</td>
</tr>
<tr>
<td>AB-19</td>
<td>STA. 153+00</td>
<td>42.0</td>
<td>Gray and brown, fine SAND with shell fragments (A-1X1)</td>
</tr>
<tr>
<td>AB-20</td>
<td>STA. 154+00</td>
<td>36.0</td>
<td>Light gray to brown, five SAND with rock (A-1X2)</td>
</tr>
<tr>
<td>AB-21</td>
<td>STA. 155+00</td>
<td>25.0</td>
<td>Light gray and brown, five SAND with rock (A-2X2)</td>
</tr>
<tr>
<td>AB-22</td>
<td>STA. 156+00</td>
<td>30.5</td>
<td>Black, five SAND with shell fragments (A-3X2)</td>
</tr>
<tr>
<td>AB-23</td>
<td>STA. 157+28</td>
<td>33.0</td>
<td>Light gray to brown, five SAND with rock (A-1X2)</td>
</tr>
<tr>
<td>AB-24</td>
<td>STA. 158+00</td>
<td>33.5</td>
<td>Light gray to brown, five SAND with shell fragments (A-2X2)</td>
</tr>
</tbody>
</table>

### CORRELATION OF STANDARD PENETRATION RESISTANCE WITH RELATIVE DENSITY AND CONSISTENCY OF SOIL

<table>
<thead>
<tr>
<th>MATERIALS (SANDS &amp; GRAVELS)</th>
<th>RELATIVE DENSITY</th>
<th>CONSIDERATION (BLOW/LFT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Loose</td>
<td>0-4</td>
<td>Very Soft</td>
</tr>
<tr>
<td>Loose</td>
<td>5-10</td>
<td>Soft</td>
</tr>
<tr>
<td>Medium Tampic</td>
<td>11-30</td>
<td>Firm</td>
</tr>
<tr>
<td>Dense</td>
<td>31-59</td>
<td>Stiff (9-16)</td>
</tr>
<tr>
<td>Very Dense</td>
<td>50+</td>
<td>Very Stiff (17-30)</td>
</tr>
<tr>
<td>Hard</td>
<td>90+</td>
<td>Very Stiff (30+)</td>
</tr>
</tbody>
</table>

### NOTES

1. Subsurface variations between borings should be anticipated as indicated in Section 2-4 of the Standard Specifications.
2. Boring locations are approximate (estimated from plans provided by client).
### Soil Borings Summary

**Location:** STA. 170+00

- Depth: 30 ft. North from Centerline
- **AB-38:**
  - Boring Terminated at 4 ft.
  - **Location:** STA. 170+00
  - **AB-30:**
  - Boring Terminated at 4 ft.
  - **Location:** STA. 173+00
  - **AB-40:**
  - Boring Terminated at 4 ft.
  - **Location:** STA. 174+00

**Location:** STA. 171+00

- Depth: 47 ft. South from Centerline
- **AB-37:**
  - Boring Terminated at 4 ft.
  - **Location:** STA. 171+00
  - **AB-41:**
  - Boring Terminated at 4 ft.
  - **Location:** STA. 175+00

**Location:** STA. 172+00

- Depth: 47 ft. North from Centerline
- **AB-38:**
  - Boring Terminated at 4 ft.
  - **Location:** STA. 172+00

**Location:** STA. 176+00

- Depth: 32 ft. North from Centerline
- **AB-42:**
  - Boring Terminated at 4 ft.
  - **Location:** STA. 176+00

**Location:** STA. 177+00

- Depth: 25 ft. South from Centerline
- **AB-43:**
  - Boring Terminated at 5 ft.
  - **Location:** STA. 177+00

**Location:** STA. 178+00

- Depth: 45 ft. North from Centerline
- **AB-44:**
  - Boring Terminated at 3.5 ft.
  - **Location:** STA. 178+00

**Location:** STA. 179+00

- Depth: 28 ft. South from Centerline
- **AB-45:**
  - Boring Terminated at 2.8 ft.
  - **Location:** STA. 179+00

**Location:** STA. 180+00

- Depth: 38 ft. North from Centerline
- **AB-46:**
  - Boring Terminated at 1.0 ft.
  - **Location:** STA. 180+00

**Location:** STA. 181+00

- Depth: 27 ft. South from Centerline
- **AB-47:**
  - Boring Terminated at 1.0 ft.
  - **Location:** STA. 181+00

---

**KEY TO BORING LOGS**

- **SHELL**
- **CLAY**
- **SAND**
- **SILT**
- **CLAY SILT**
- **SAND WITH SILT**
- **SILT WITH SAND**

**N. STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT (SPF SPOON – ASTM D 1586)**

**W.C.**

**NOTES**

1. Subsurface conditions between borings should be anticipated as indicated in Section 2–4 of the Standard Specifications.
2. Boring locations are approximate (estimated from plans provided by client).

---

**CORRELATION OF STANDARD PENETRATION RESISTANCE WITH RELATIVE DENSITY AND CONSISTENCY OF SOIL**

<table>
<thead>
<tr>
<th>GRAVELLY MATERIALS (DRAINS &amp; GRAVELS)</th>
<th>COMPRESSIBLE MATERIALS (CLAYS &amp; CLAYSY)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative Density (SPT N)</td>
<td>Consistency (Designation) (BGR/CMFT)</td>
</tr>
<tr>
<td>Very Loose</td>
<td>0–4</td>
</tr>
<tr>
<td>Loose</td>
<td>5–10</td>
</tr>
<tr>
<td>Medium Dense</td>
<td>15–30</td>
</tr>
<tr>
<td>Dense</td>
<td>35–50</td>
</tr>
<tr>
<td>Very Dense</td>
<td>65+</td>
</tr>
</tbody>
</table>

---

**PROPOSED GLADIOLUS DRIVE WIDENING**

**REPORT OF SOIL BORINGS**

**SHEET 101**

**UNIVERSAL ENGINEERING SCIENCES, INC.**

**207-9407**
**BASEMENT DEVELOPMENT**

- **AB-80**
  - Location: STA. 218+00
  - 44 ft. North from Centerline
  - Light gray to light brown, fine sand (A-3E)
  - Refusal Boring Terminated at 4 ft.

- **AB-85**
  - Location: STA. 215+85
  - 37 ft. South from Centerline
  - Gray and brown, fine sand (A-3E)
  - Refusal Boring Terminated at 4 ft.

- **AB-88**
  - Location: STA. 220+00
  - 44 ft. North from Centerline
  - Light brown, fine sand (A-3E)
  - Refusal Boring Terminated at 4 ft.

- **AB-91**
  - Location: STA. 224+00
  - 50 ft. North from Centerline
  - Light gray to light brown, fine sand (A-3E)
  - Refusal Boring Terminated at 4 ft.

- **AB-92**
  - Location: STA. 226+00
  - 45 ft. North from Centerline
  - Light gray to light brown, fine sand (A-3E)
  - Refusal Boring Terminated at 4 ft.

- **AB-93**
  - Location: STA. 227+00
  - 47 ft. South from Centerline
  - Light gray to brown, fine sand (A-3E)
  - Refusal Boring Terminated at 4 ft.

- **AB-94**
  - Location: STA. 229+00
  - 47 ft. North from Centerline
  - Light gray, fine sand (A-3E)
  - Refusal Boring Terminated at 4 ft.

- **AB-95**
  - Location: STA. 228+87
  - 47 ft. South from Centerline
  - Light gray to brown, fine sand (A-3E)
  - Refusal Boring Terminated at 4 ft.

**KEY TO BORING LOGS**

- **SHELL**
- **CLAY**
- **SAND-CLAY**
- **SAND**
- **SAND WITH Silt**
- **SAND WITH CLAY**

- **N. STANDAR-D PENETRATION RESISTANCE IN BLOWS PER FOOT** (1'-0" SQUARE - ASTM D 1586)

- **(A2)** AAISS8 soil classification system Group Symbol, based on visual, vibration and laboratory tests.

- **WD** Natural Moisture Content

- **LL** Liquid Limit

- **PI** Plasticity Index

- **GW** Groundwater Table Depth/Date

**NOTES**

1. Subsurface variations between borings should be distinguished as indicated in Sections 2-4 of the Standard Specifications.

2. Boring reactions are approximate (estimated from plans provided by client).

**CORRELATION OF STANDARD PENETRATION RESISTANCE WITH RELATIVE DENSITY AND CONSISTENCY OF SOIL**

<table>
<thead>
<tr>
<th>ORIGINIAL MATERIALS (SAND &amp; GRAVELS)</th>
<th>CONSISTENCY DESIGNATION (CAD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPT N breck</td>
<td>RELATIVE DENSITY (BLOM/P1)</td>
</tr>
<tr>
<td>Very Loose</td>
<td>0-4</td>
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<tr>
<td>Loose</td>
<td>5-10</td>
</tr>
<tr>
<td>Medium Dense</td>
<td>11-30</td>
</tr>
<tr>
<td>Dense</td>
<td>31-50</td>
</tr>
<tr>
<td>Very Dense</td>
<td>50+</td>
</tr>
<tr>
<td>Hard</td>
<td>30+</td>
</tr>
</tbody>
</table>
KEY TO BORING LOSS

- SHELL
- CLAY
- Sandy/Gray CLAY
- ROCK
- SAND
- Silty SAND
- SAND w/ grit
- Sand w/ clay
- Dark gray SAND
- Silt
- Silt with clay
- Clayey SAND

N. STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT (VF SPOON - AFWM 0-1965)
(A-3) AMEND TO SOIL CLASSIFICATION SYSTEM GROUP SYMBOL BASED ON VISUAL OBSERVATION AND LABORATORY TESTS
<200 PERCENT PASSING NO. 200 U.S. STANDARD SIEVE
MOC NATURAL MOISTURE CONTENT
LL LIQUID LIMIT
PI PLASTICITY INDEX
GW GROUNDWATER TABLE DEPTH/DATE
GWV-15 ESTIMATED SEASONAL HIGH GROUNDWATER TABLE DEPTH
GW V. GROUNDWATER TABLE NOT ENCOUNTERED

NOTES
1. Subsurface conditions between borings should be anticipated as indicated in Section 2-4 of the Standard Specifications.
2. Borings locations are approximate (estimated from plans provided by client).

CORRELATION OF STANDARD PENETRATION RESISTANCE WITH RELATIVE DENSITY AND CONSISTENCY OF SOIL

<table>
<thead>
<tr>
<th>DRAINABLE MATERIALS (SANDS &amp; GRAVELS)</th>
<th>COMPRESSIBLE MATERIALS (SILT &amp; CLAY)</th>
<th>RELATIVE DENSITY</th>
<th>CONSISTENCY</th>
<th>SPT N (BLOWS/FT.)</th>
<th>GSF N (BLOWS/FT.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Loose</td>
<td>0-4</td>
<td>Very Silt</td>
<td>0-2</td>
<td>5-10</td>
<td>Soft</td>
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<tr>
<td>Loose</td>
<td>5-10</td>
<td>Silt</td>
<td>3-4</td>
<td>Firm</td>
<td>5-6</td>
</tr>
<tr>
<td>Medium Dense</td>
<td>11-30</td>
<td>Silt</td>
<td>5-16</td>
<td>Very Silt</td>
<td>17-30</td>
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<tr>
<td>Dense</td>
<td>31-50</td>
<td>Hard</td>
<td>9-16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Dense</td>
<td>50+</td>
<td>Very Silt</td>
<td>17-30</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PROPOSED GLADIOLUS DRIVE
WIDENING

REPORT OF SOIL BORINGS
KEY TO BORING LOGS

- SHELL
- CLAY
- Sandy CLAY
- ROCK
- SAND
- Silty SAND
- SAND with clay
- Clay
- SAND with clay
- Drassy SAND
- HARD ROCK

- STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT (18 INCH STOKE - ASTM D 1586)
- ASHDO SOIL CLASSIFICATION SYSTEM GROUP SYMBOLS BASED ON VISUAI OBSERVATION AND LABORATORY TESTS

>200 PERCENT PASSING NO. 200 U.S. STANDARD SIEVE
- MOE - NATURAL MOISTURE CONTENT
- LL - LIQUID LIMIT
- PI - PLASTICITY INDEX
- NW - GROUNDWATER TABLE DEPTH (DATE)
- b.h. - ESTIMATED SEASONAL HIGH GROUNDWATER TABLE DEPTH
- GNE - GROUNDWATER TABLE NOT ENCOUNTERED

NOTES
1. Subsurface variations between borings should be anticipated as indicated in Section 2-4 of the Standard Specifications.
2. Boring locations are approximate (estimated from plans provided by clients).

CORRELATION OF STANDARD PENETRATION RESISTANCE WITH RELATIVE DENSITY AND CONSISTENCY OF SOIL

<table>
<thead>
<tr>
<th>GRAIN SERIES</th>
<th>CONSISTENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Loose</td>
<td>0-4</td>
</tr>
<tr>
<td>Loose</td>
<td>5-10</td>
</tr>
<tr>
<td>Firm</td>
<td>11-20</td>
</tr>
<tr>
<td>Dense</td>
<td>31-100</td>
</tr>
<tr>
<td>Very Dense</td>
<td>50+</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GRAIN SERIES</th>
<th>DENSITY</th>
</tr>
</thead>
<tbody>
<tr>
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<td>0-4</td>
</tr>
<tr>
<td>Loose</td>
<td>5-10</td>
</tr>
<tr>
<td>Firm</td>
<td>11-20</td>
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(GRANULAR MATERIALS) (SANDS & GRAVELS)

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Phase 2

Gladiolus Drive Widening
Fine Ridge Road to Winkler Road
Cross Sections - Gladiolus Drive
GENERAL NOTES:

2. The traffic control plans are intended as a guide. The contractor has the option to submit alternative plans for review and approval by Lee County Department of Transportation for implementation.

3. The contractor shall be responsible for maintaining safe and efficient operation of all signals and the signalized movement of traffic within the project. This will include aligning signal heads and determining traffic signal timing during each construction phase.

4. The contractor shall maintain access for businesses, pedestrians, pedestrian crosswalks, adjacent property and bus operations during construction.

5. Variable Message Signs are to be placed at the beginning and end of project or at the direction of the Engineer.

PERMITTED HOURS FOR LANE CLOSURE:
Maintain one lane each direction at all times. Gladiolus Drive between 10 am and 4 pm. Bass Road and A & W Bulb Road between 10 am and 6 pm. Hage Drive may be closed for the construction of the storm sewer and the new typical sections.

PHASE NOTES
Prior to implementing the proposed construction phases, the contractor shall perform all work that does not require traffic flow interruption. This work includes, but is not limited to:
1. Construction of all the control structures.
2. Proposed drainage and pavement along Hage Dr. and A & W Bulb Rd.

Stage 1:
1. While maintaining existing traffic conditions and by closing lanes during non-peak day/night hours, prepare existing road for Stage 1 traffic shift.
   a. Temporary Pavement
   b. Paving overbuild to redirect drainage away from the construction zone.
   c. Temporary marking (paint), barricades and other traffic control devices.
2. Shift traffic as depicted on Stage 1 plans and typical sections.
3. Construct proposed items within the work zone.
4. Construct the storm sewer main trunk line for all drainage basins.
5. Prepare road for Stage 2 traffic shift.

Stage 2:
1. Shift traffic as depicted on Stage 2 plans and typical sections.
2. Construct proposed items within the work zone.
3. Prepare road for Stage 3 traffic shift.

Stage 3:
1. Shift traffic as depicted on Stage 3 typical sections.
2. Construct median and other items not constructed in stages 1 and 2.
The following narrative of the Stormwater Pollution Prevention Plan contains references to the Standard Specifications for Road and Bridge Construction, the Design Standards, and other sheets of these construction plans. The first sheet of the construction plans (called the Key Sheet) contains an index to the other sheets. The complete Stormwater Pollution Prevention Plan includes several items: this narrative description, the documents referenced in this narrative, the contractor's approved Erosion Control Plan required by the Specification Section 104, and reports of inspections made during construction.

1.0 SITE DESCRIPTION:

1.a Nature of Construction Activity:
The project is the reconstruction of CR 865 (Gladiolus Drive) and Bass Road to major urban roadways. This involves construction roadway surface, curb and gutter, sidewalk, underground storm sewer systems, and stormwater management facilities. The project extends from Pine Ridge Road to Winkler Road on Gladiolus Drive, and from Health Park to Gladiolus Drive on Bass Road, a distance of approximately 3 miles.

1.b. Sequence of Major Soil Disturbing Activities:
In the Section 104 Erosion Control Plan, the contractor shall provide a detailed sequence of construction for all construction activities. The contractor shall follow the sequence of major activities described below, unless the contractor proposes a different sequence that is equal or better at controlling erosion and trapping sediment and is approved by the Engineer.

For each construction phase, install perimeter controls after clearing and grubbing necessary for installation of controls but before beginning other work for the construction phase. Remove perimeter controls only after all upstream areas are stabilized.

1. Clearing and grubbing, earthwork, and storm sewer construction for the outfall from the ponds.
2. Clearing and grubbing, earthwork for pond construction.
3. Storm sewer construction. Construct the storm drain pipe in the upstream direction.
4. Earthwork associated with roadway and construction of gravity wall, curb, subgrade, base, pavement and sidewalk.

1.c. Area Estimates:

Total site area (on and offsite): 89.53 acres.
Total area to be disturbed: 52 acres

1.d. Runoff Data:

Before CN = 93
After CN = 93

Runoff Coefficients:

Soils Data: The results of the soil borings along the roadway are shown in the Roadway Soils Survey Sheet(s). The results of soil borings are shown in a separate soils report and will be included with the specifications package. In general, the soils are clayey sands.

Outfall Information: There are 5 outfalls.

#1 Description: A drop structure connected to former IDD Canal C - 7 to Big Sew Canal.
Location: Existing Lake in Harlem Heights
Drainage Area: 49.20 Acres
Receiving Water body: Deep Lagoon

#2 Description: A drop structure connected to former IDD Canal C - 2 to Big Sew Canal.
Location: Proposed linear detention west of A&W Bulb Road.
Drainage Area: 9.32 Acres
Receiving Water body: Deep Lagoon

#3 Description: A drop structure connected to a wetland preserve to Big Sew Canal.
Location: Existing Lake in Gladolus Preserve. See drainage map.
Drainage Area: 14.29 Acres
Receiving Water body: Deep Lagoon

#4 Description: A drop structure connected to former IDD Canal B - 1 to Hendry Creek.
Location: Existing lake in Laguna Lakes Subdivision. See drainage map.
Drainage Area: 9.08 Acres
Receiving Water body: Hendry Creek

#5 Description: A drop structure connected to former IDD Canal B - 1 to Hendry Creek.
Location: An existing detention pond near the existing FP&L easement.
Drainage Area: 7.64 Acres
Receiving Water body: Hendry Creek

1.e. Site Map:
The construction plans are being used as the site maps. The location of the required information is described below. The sheet numbers for the plan sheets referenced are identified on the Key Sheet of these construction plans.

* Approximate Slopes: The slopes of the site can be seen in the Cross Section Sheets and the Plan and Profile Sheets.

* Areas of Soil Disturbance: The areas to be disturbed are indicated on the Plan & Profile Sheets, the cross Section Sheets. Any areas where permanent features are shown to be constructed above or below ground will be disturbed.

* Areas Not To Be Disturbed: Essentially the whole project will be disturbed during construction.

* Locations of Temporary Controls: These are shown on the Erosion Control Sheets.

* Locations of Permanent Controls: The stormwater ponds are the primary permanent stormwater management controls. These are shown on the Drainage Maps.

* Areas To Be Stabilized: Temporary stabilization practices are shown in the same location as the temporary controls mentioned above. Permanent stabilization is shown on the Typical Section Sheets and the Plan & Profile Sheets.

* Surfaces Waters: Former IDD Canals C - 2, C - 5, C - 7 and B - 1. Also the Big Sew Canal. These are all shown on the Drainage Maps.

* Discharge Points To Surface Waters: the drainage Map shows the discharge points to all existing surface water bodies.

1.f Receiving Waters:
See item 1.d for the outfall locations and receiving water names. There are wetland areas on the project site. Impacts are limited to the areas described in the approved permits for the project.

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Phase 2
2.0 CONTROLS:

2.a. Erosion and Sediment Controls:

In the Section 104 Erosion Control Plan, the contractor shall describe the proposed stabilization and structural practices based on the contractor's proposed Traffic control plan. The following recommended guidelines are based on the Traffic Control Plan (TCP) outlined in the construction plans. Where following the Traffic Control Plan (TCP) outlined in these construction plans, the contractor may choose to accept the following guidelines or modify the plan to adapt to seasonal variation, changes in construction activities, and for better practices.

For each construction phase, install perimeter controls after clearing and grubbing necessary for installation of controls but before beginning other work for the construction phase. Remove perimeter controls only after all upstream areas are stabilized.

Phase I of Traffic Control Plans.

Please refer to Traffic Control Plans for sequence of construction.

2.a.1 Stabilization Practices:

In the Section 104 Erosion Control Plan, the contractor shall describe the stabilization practices proposed to control erosion. The contractor shall initiate all stabilization measures as soon as practical, but in no case more than 14 days, in portions of the site where construction activities have temporarily or permanently ceased. The stabilization practices shall include at least the following, unless otherwise approved by the Engineer.

Temporary:

- Artificial coverings in accordance with Specification Section 104.
- Seed and mulch and sod in accordance with Specification Section 104.

Permanent:

- Asphalt or concrete surface.
- Sod in accordance with Specification Section 575.

2.a.2 Structural Practices:

In the Section 104 Erosion Control Plan, the contractor shall describe the proposed structural practices to control or trap sediment and otherwise prevent the discharge of pollutants from exposed areas of the site. Sediment controls shall be in place before disturbing soil upstream of the control. The structural practices shall include at least the following, unless otherwise approved by the Engineer.

Temporary:

- Silt fence in accordance with Design Standard 102 and Specification Section 104.
- Bale hay or straw in accordance with Design Standard 102 and Specification Section 104.
- Sodbags to control erosion and trap soil.

2.b Stormwater Management:

Several storm sewer systems will be constructed to convey runoff to five (5) stormwater retention/detention ponds. The facilities have been permitted by the Florida Department of Environmental Protection (FDEP) and comply with applicable design standards.

2.c Other Controls:

2.c.1 Waste Disposal:

In the Section 104 Erosion control Plan, the contractor shall describe the proposed methods to prevent the discharge of solid materials, including building materials, to waters of the United States. The proposed methods shall include at least the following, unless otherwise approved by the Engineer.

- Providing litter control and collection within the project during construction activities.
- Disposing of all fertilizer or other chemical containers according to EPA's standard practices as detailed by the manufacturer.
- Disposing of solid materials including building and construction materials off the project site but not in surface waters or wetlands.
2.6.3 State and Local Regulations For Waste Disposal, Sanitary Sewer or Septic Tank Regulations:

In the Section 104 Erosion Control Plan, the contractor shall describe the proposed procedures to comply with applicable state and local regulations for waste disposal and sanitary sewer or septic systems.

2.6.4 Fertilizers and Pesticides:

In the Section 104 Erosion Control Plan, the contractor shall describe the procedures for applying fertilizers and pesticides. The proposed procedures shall comply with applicable subsections of either Section 570 or 577 of the specifications.

2.6.5 Toxic Substances:

In the Section 104 Erosion Control Plan, the contractor shall provide a list of toxic substances that are likely to be used on the job and provide a plan addressing the generation, application, migration, storage and disposal of these substances.

2.6.6 Approved State and Local Plans and Permits:

- FDEP Rule Chapter 62-25 F.A.C.
- Lee County Environmental Management Ordinance Number

3.0 MAINTENANCE:

In the Section 104 Erosion Control Plan, the contractor shall provide a plan for maintaining all erosion and sediment controls throughout construction. The maintenance plan shall at a minimum comply with the following.

- Storm Fence: Maintain per Section 104. The contractor should anticipate replacing storm fence on 12 month intervals.
- Beaded Hay or Straw: Remove sediment when it reaches 1 height of bales or when water ponds in unacceptable amounts or areas. The contractor should anticipate replacing straw bases on 3-month intervals.

4.0 Inspections:

Qualified personnel shall inspect the following items at least once every seven calendar days and within 24 hours of the end of a storm that is 0.25 inches or greater. To comply, the contractor shall install and maintain gages and record the daily rainfall. Where sites have been permanently stabilized, inspections shall be conducted at least once every month. The contractor shall also inspect that controls installed in the field agree with the latest Stormwater Pollution Prevention Plan.

- Points of discharge to waters of the United States.
- Points of discharge to municipal separate storm sewer systems.

* Disturbed areas of the site that have not been finally stabilized.
* Areas used for storage of materials that are exposed to precipitation.
* Structural controls.
* Stormwater management systems.
* Locations where vehicles enter or exit the site.

The contractor shall initiate repairs within 24 hours of inspections that indicate items are not in good working order.

If inspections indicate that the installed stabilization and structural practices are not sufficient to minimize erosion, retain sediment and prevent discharging pollutants, the contractor shall provide additional measures, as approved by the Engineer.

5.0 NON-STORMWATER DISCHARGES:

In the Section 104 Erosion Control Plan, the contractor shall identify all anticipated non-stormwater discharges (except flows from fire fighting activities). The contractor shall describe the proposed measures to prevent pollution of these non-stormwater discharges. If the contractor encounters contaminated soil or ground water, contact the Project Engineer.