



January 11, 2005

T. Y. Lin International/H. J. Ross & Associates, Inc.  
201 Alhambra Circle, Suite 900  
Coral Gables, FL 33325  
Attn: Mr. Polidoro Africano, P.E.

RE:

Subsurface Investigation Report  
**Fairlawn Storm Sewer Improvements Phase III (B-50704)**  
Miami, Florida  
IL Project # 84064

Dear Mr. Africano:

Intercounty Laboratories-USL, Inc. (IL) a Division of U. S. Laboratories, Inc. is pleased to submit this report of our subsurface investigation for the referenced project. This report contains data obtained during the field testing as well as our conclusions and recommendations.

**LOCATION AND STRUCTURE DATA**

The project site is a residential neighborhood located between W. Flagler and SW 8<sup>th</sup> Streets and SW 48<sup>th</sup> and SW 58<sup>th</sup> Avenues in Miami, Florida. Specific boring and percolation test locations are shown on the individual test reports and logs. These locations were spotted in the field in general areas specified by T.Y. Lin International/H.J. Ross, modified as necessary to provide for overhead and underground utilities.

**SUBSURFACE INVESTIGATION**

Ten Standard Penetration Test Borings and ten South Florida Water Management District Constant Head Usual Open Hole Percolation Tests were performed. The fieldwork was performed on December 16, 17 and 20, 2004. The borings were drilled to depths of 15 feet below existing ground elevation.

The borings were drilled with a truck-mounted rotary drilling machine. Soil sampling and penetration testing were performed in each boring at intervals of two to five feet. Water level measurements were recorded at the completion of the drilling and the holes were filled immediately thereafter as a safety measure.

**Intercounty Laboratories - USL, Inc.**

10125 NW 116th Way, Suite 18 • Miami, Florida 33178 • (305) 651-8483 • Fax: (305) 651-4460

Offices Nationwide

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Penetration testing and soil sampling are accomplished simultaneously using procedures in general accordance with ASTM D-1586, the Standard Penetration Test (SPT). A 2" O.D./1.4" I.D. split-spoon sampler is driven with a 140 pound hammer falling 30 inches. The number of hammer blows required to drive the sampler is recorded on the borehole logs. Where possible, the sampler is driven a total of 24 inches, with the hammer blows being recorded for each of four 6-inch intervals. We define refusal in a very dense soil stratum as a blow count of 50 blows for an interval of 1" or less, or 100 blows for an interval of 1 foot or less and the distance penetrated at that point is recorded. The "Penetration Resistance" or "N" value is the sum of the blows recorded for the second and third 6-inch intervals. This value is widely accepted by geotechnical engineers as an indication of the relative density and in-situ strength of the soil being sampled.

Representative soil samples were preserved in plastic bags and returned to the laboratory for visual classification. These samples will be stored in our laboratory for three months before being discarded. If you desire a different disposition schedule, please provide us written instructions.

### SUBSURFACE PROFILE

The enclosed boring logs were prepared based on the driller's field logs and visual classification in the laboratory. They represent, to the engineer's best judgment, the subsurface profile at the specific test boring locations. The following discussion is a generalization of what was found in the test borings. If more detailed information is desired, please refer to the boring logs in the appendix.

The generalized soil profile typically found in the test boring consists of some topsoil and brown fine sand overlying inter-bedded layers of fine sand and limestone to the completed depth of the borings. Standard Penetration Test N-values ranged from a low of 2 blows per foot (bpf) to a high of 27 blows per foot.

#### Water Levels

The apparent water levels measured in the borings and percolation tests ranged from 5.8 to 7.7 feet below the existing ground surface. The water level may fluctuate in response to tides and local variations in precipitation and a variety of other factors.

### CONCLUSIONS AND RECOMMENDATIONS

Soil data obtained during this investigation have been used to establish strength and deformation characteristics for the various soil layers encountered at the site. These parameters have been used as guidelines for foundation system design and to estimate potential settlement due to

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anticipated loadings. The engineering analysis based on these parameters was performed in accordance with generally accepted engineering principles and practices.

IL understands that the data obtained from the borings and percolation tests performed during this exploration is to be used for the drainage study that will support the proposed storm sewer improvements in the subject area. Percolation test results are attached and range from  $4.5 \times 10^{-2}$  to  $6.62 \times 10^{-5}$  cfs/ft<sup>2</sup>-ft of head.

Based on the test boring data, it is our opinion that the borings indicate normal subsurface conditions for this area, i.e. no muck or other unsuitable soils were encountered. Any drainage structures such as manholes may be founded on the soils encountered without the need for special foundations such as piling. However, dewatering and shoring of the excavations may be required at the time of foundation construction, depending on the depth of the proposed foundation. Design of any shoring systems required for excavations should be performed in accordance with accepted engineering practices and the Florida Trench Safety Act (F.S. 90-96 which incorporates CFR 29, Part 1926.650 subpart P.)

IL recommends that the following soil parameters be used for the design of any required shoring and foundation slabs.

Allowable Maximum Bearing Value	2,000 psf
Soil Angle of Internal Friction	32°
Effective Soil Unit Weight	
Above Water Table	120 pcf
Below Water Table	60 pcf
Active Pressure Coefficient	0.31
Passive Pressure Coefficient	3.30
Coefficient of Sliding Friction	0.35

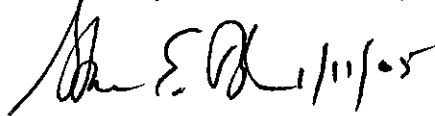
#### REPORT LIMITATIONS

The usual purpose of a geotechnical engineering evaluation of subsurface conditions is to gather data, which limits uncertainty and helps define probable risk. IL performed this evaluation specifically for foundation design purposes; it is not intended for detailed construction estimating or bidding. This report is based on the data collected at the specific boring locations and for the assumed structural characteristics outlined herein. It is possible, due to boring spacing and the passage of time, that variations in reported soil and water level conditions might be encountered during construction. Such variations should be brought to IL's attention immediately for evaluation and appropriate modifications to the conclusions and recommendations presented in this report.

IL recommends that the construction phase be inspected by the Geotechnical Engineer to provide continuity in the implementation and interpretation of the recommendations contained in this report.

If you have any questions concerning this report, please contact us. Thank you for the opportunity to be of service.

Respectfully submitted,  
Intercounty Laboratories-USL, Inc.



Steven E. Black, P.E.  
Regional Vice President  
Florida Professional Engineer No. 39810

Alfredo Budik, P.E.  
Senior Project Engineer  
Florida Professional Engineer No. 43884

Encl: Log of Boreholes 1 through 10  
SPT Correlation Sheet  
Percolation Test Reports 1 through 10

Dist: T. Y. Lin International/H. J. Ross & Associates, Inc. (3)  
File (1)

Client: T.Y. Lin International/H. J. Ross

Project No: 84064

Project: Fairlawn Storm Sewer Improvements Phase III (B-50704)

Boring Number: 1

Site Address: Miami, FL

Boring Location: NEC of SW 56th Ave & SW 55 Ave Road



SUBSURFACE PROFILE			SAMPLE			Remarks
Depth	Symbol	Description	Blows/6"	"N" Value	Recovery	
0		Ground Surface				
		Topsoil				
		Brown fine sand, medium dense to very loose.	10-8-7-7	15	1.5	▲
		Brown silty sand, very loose.	3-2-1-1	3	0.7	▲
5		Tan limestone with sand, loose.	3-2-1-2	3	1.7	▲
			3-3-3-3	6	1.7	▲
			3-4-4-5	8	1.5	▲
10						
			3-2-2-2	4	1.7	▲
15						
						End of Boring at 15 feet
20						

----- Water level at time of drilling

Drilled By: JP & JPS	Water Table: 6.4'
Drill Equipment: B53 with hollow stem augers	Elevation: NA
Drill Date: 12/20/04	Sheet: 1 of 1

Client: T.Y. Lin International/H. J. Ross

Project No: 84064

Project: Fairlawn Storm Sewer Improvements Phase III (B-50704)

Boring Number: 2

Site Address: Miami, FL

Boring Location: NWC of SW 54th Ave & SW 2nd Street



SUBSURFACE PROFILE			SAMPLE				Remarks
Depth	Symbol	Description	Blows/6"	"N" Value	Recovery	Symbol	
0		Ground Surface					
		Light brown sand, medium dense.	8-7-12-12	19	1.5		
		Light brown limestone, medium dense.	9-7-4-5	11	1.7		
5		Tan sand with limestone, medium dense to very loose.	7-6-5-5	11	1.4		
			7-6-5-5	11	0.8		----- Water level at time of drilling
			6-4-3-4	7	1.7		
10							
			6-1-1-1	2	1.8		
15							End of Boring at 15 feet
20							

Drilled By: JP & JPS

Water Table: 6.7'

Drill Equipment: B53 with hollow stem augers

Elevation: NA

Drill Date: 12/20/04

Sheet: 1 of 1

Client: T.Y. Lin International/H. J. Ross

Project No: 84064

Project: Fairlawn Storm Sewer Improvements Phase III (B-50704)

Boring Number: 3

Site Address: Miami, FL

Boring Location: 151 SW 52nd Ave



SUBSURFACE PROFILE			SAMPLE			Remarks
Depth	Symbol	Description	Blows/6"	"N" Value	Recovery	
0		Ground Surface				
		Light brown sand, medium dense.	8-12-10-9	22	1.5	
			7-6-6-6	12	0.7	
5		Light brown limestone, medium dense.	11-6-5-4	11	0.5	
		Tan sand with limestone, loose.	5-4-2-4	6	0.5	
			3-3-2-4	5	1.4	
10		Tan fine sand, loose.				
			4-4-5-6	9	1.5	
15						End of Boring at 15 feet
						----- Water level at time of drilling
20						

Drilled By: JP & JPS

Water Table: 6.7'

Drill Equipment: B53 with hollow stem augers

Elevation: NA

Drill Date: 12/20/04

Sheet: 1 of 1



Client: T.Y. Lin International/H. J. Ross

Project No: 84064

Project: Fairlawn Storm Sewer Improvements Phase III (B-50704)

Boring Number: 4

Site Address: Miami, FL

Boring Location: SWC of SW 51st Ave and W. Flagler St

SUBSURFACE PROFILE			SAMPLE			Remarks	
Depth	Symbol	Description	Blows/6"	"N" Value	Recovery		Symbol
0		Ground Surface					
		Tan Limerock fill, medium dense.	20-10-6-7	16	0.7		
		Light brown fine sand, medium dense to loose.	7-3-4-6	7	1.3		
5		Tan sand with limestone, loose.	9-8-5-9	13	1.5		
			9-8-4-2	12	1.7		----- Water level at time of drilling
10		Tan fine sand, loose.	2-2-3-2	5	1.7		
15			2-4-17-40	21	1.8		End of Boring at 15 feet
20							

Drilled By: JP & JPS

Water Table: 7'

Drill Equipment: B53 with hollow stem augers

Elevation: NA

Drill Date: 12/20/04

Sheet: 1 of 1

Client: T.Y. Lin International/H. J. Ross

Project No: 84064

Project: Fairlawn Storm Sewer Improvements Phase III (B-50704)

Boring Number: 5

Site Address: Miami, FL

Boring Location: 220 SW 49th Ave



SUBSURFACE PROFILE			SAMPLE				Remarks
Depth	Symbol	Description	Blows/6"	"N" Value	Recovery	Symbol	
0		Ground Surface					
		Light brown fine sand, medium dense.	11-11-6-5	27	1.5		
		Light brown limestone with sand, medium dense to loose.	9-5-5-8	10	1.5		
5			6-5-3-3	8	1.7		
		Tan sand with limestone, loose.	2-3-3-3	6	1.8		----- Water level at time of drilling
			2-3-2-2	5	1.7		
10							
			2-3-4-10	7	1.7		
15							End of Boring at 15 feet
20							

Drilled By: JP & JPS

Water Table: 6.8'

Drill Equipment: B53 with hollow stem augers

Elevation: NA

Drill Date: 12/20/04

Sheet: 1 of 1



Client: T.Y. Lin International/H. J. Ross

Project No: 84064

Project: Fairlawn Storm Sewer Improvements Phase III (B-50704)

Boring Number: 6

Site Address: Miami, FL

Boring Location: SEC of SW 51st Court and SW 4th St

SUBSURFACE PROFILE			SAMPLE				Remarks
Depth	Symbol	Description	Blows/6"	"N" Value	Recovery	Symbol	
0		Ground Surface					
		Light brown fine sand, medium dense to loose.	9-9-9-7	18	1.5		
			4-3-2-3	5	1.5		
5			9-8-9-6	17	1.7		
		Tan fine sand, medium dense to loose.	9-8-9-6	17	1.9		----- Water level at time of drilling
			7-5-4-4	9	1.7		
10							
			4-6-6-7	12	1.5		
15							End of Boring at 15 feet
20							

Drilled By: JP & JPS

Water Table: 7.3'

Drill Equipment: B53 with hollow stem augers

Elevation: NA

Drill Date: 12/20/04

Sheet: 1 of 1

Client: T.Y. Lin International/H. J. Ross

Project No: 84064

Project: Fairlawn Storm Sewer Improvements Phase III (B-50704)

Boring Number: 7

Site Address: Miami, FL

Boring Location: NWC of SW 49th Ave and SW 4th St



SUBSURFACE PROFILE			SAMPLE				Remarks
Depth	Symbol	Description	Blows/6"	"N" Value	Recovery	Symbol	
0		Ground Surface					
		Brown fine sand, medium dense.	7-8-5-7	13	1.7		
		Light brown sand with limestone, medium dense to loose.	14-14-7-10	21	1.5		
5		Tan sand with limestone, loose to very loose.	4-3-4-4	7	1.7		
			3-1-2-2	3	1.6		
			4-3-3-6	6	1.9		----- Water level at time of drilling
10							
			3-2-2-4	4	1.7		
15							End of Boring at 15 feet
20							

Drilled By: JP & JPS

Water Table: 7.7'

Drill Equipment: B53 with hollow stem augers

Elevation: NA

Drill Date: 12/17/04

Sheet: 1 of 1

Client: T.Y. Lin International/H. J. Ross

Project No: 84064

Project: Fairlawn Storm Sewer Improvements Phase III (B-50704)

Boring Number: 8

Site Address: Miami, FL

Boring Location: SEC of SW 52nd Ave and SW 6th St



SUBSURFACE PROFILE			SAMPLE			Remarks
Depth	Symbol	Description	Blows/6"	"N" Value	Recovery	
0		Ground Surface				
		Light brown fine sand, medium dense.	10-6-7-7	13	1.3	
		Tan fine sand with limestone, loose.	6-4-3-2	7	1.5	
5		Tan fine sand, medium dense to loose.	9-7-6-6	13	1.7	
			7-8-8-9	16	1.7	
			6-5-5-4	10	1.7	
10						
			4-3-3-2	6	1.8	
15						
						End of Boring at 15 feet
20						

----- Water level at time of drilling

Drilled By: JP & JPS

Water Table: 6.7'

Drill Equipment: B53 with hollow stem augers

Elevation: NA

Drill Date: 12/20/04

Sheet: 1 of 1

Client: T.Y. Lin International/H. J. Ross

Project No: 84064

Project: Fairlawn Storm Sewer Improvements Phase III (B-50704)

Boring Number: 9

Site Address: Miami, FL

Boring Location: SWC of SW 51st Ave and SW 6th St



SUBSURFACE PROFILE			SAMPLE			Remarks
Depth	Symbol	Description	Blows/6"	"N" Value	Recovery	
0		Ground Surface				
		Topsoil				
		Light brown fine sand, medium dense to loose.	8-10-6-5	16	1.8	
			4-4-3-8	7	1.7	
5			4-3-3-4	6	1.5	
		Tan fine sand with limestone, medium dense.	4-6-6-8	12	1.5	
			4-6-6-8	12	1.7	
10		Tan fine sand, loose.				
			3-4-4-3	8	1.8	
15						End of Boring at 15 feet
20						

----- Water level at time of drilling

Drilled By: JP & JPS

Water Table: 7.5'

Drill Equipment: B53 with hollow stem augers

Elevation: NA

Drill Date: 12/17/04

Sheet: 1 of 1

Client: T.Y. Lin International/H. J. Ross

Project No: 84064

Project: Fairlawn Storm Sewer Improvements Phase III (B-50704)

Boring Number: 10

Site Address: Miami, FL

Boring Location: NWC of SW 48th Ave and SW 6th St



SUBSURFACE PROFILE			SAMPLE			Remarks
Depth	Symbol	Description	Blows/6"	"N" Value	Recovery	
0		Ground Surface				
		Topsoil				
		Brown fine sand, medium dense to loose.	6-4-10-4	14	1.5	
		Light brown limestone, medium dense.	8-3-6-8	9	1.6	
5			5-3-1-1	4	1.7	
			2-3-3-4	6	1.8	
			5-4-4-5	8	1.7	
10						
			2-5-5-6	10	1.5	
15						End of Boring at 15 feet
20						

----- Water level at time of drilling

Drilled By: JP & JPS

Water Table: 5.8'

Drill Equipment: B53 with hollow stem augers

Elevation: NA

Drill Date: 12/20/04

Sheet: 1 of 1

CORRELATION  
OF  
STANDARD PENETRATION RESISTANCE  
WITH  
RELATIVE COMPACTNESS AND CONSISTENCY

Sand and Gravel

Standard Penetration Resistance <u>Blows/Foot</u>	<u>Relative Compactness</u>
0-4	Very Loose
5-10	Loose
11-30	Medium Dense
31-50	Dense
Over 50	Very Dense

Silt and Clay

Standard Penetration Residence <u>Blows/Foot</u>	<u>Consistency</u>
0-1	Very Soft
2-4	Soft
5-8	Firm
9-15	Stiff
16-30	Very Stiff
31-51	Hard
Over 50	Very Hard



**HYDRAULIC CONDUCTIVITY**  
by  
South Florida Water Management District  
Usual Open Hole Constant Head

CLIENT: T. Y. Lin International/H. J. Ross  
201 Alhambra Circle, Suite 900  
Coral Gables, FL 33134

TEST NUMBER: P-10  
CREW: JP/JPS  
TEST DATE: 12/20/2004

PROJECT: Fairlawn Storm Sewer Improvements Project  
Phase III (B-50704)

NUMBER: 84064

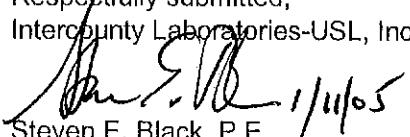
TEST LOCATION: NWC of SW 48th Ave and SW 6th St

Effective Pumping Rate: 55.0 GPM  
Actual Hole (Casing) Diameter: 6.00 inches  
Initial Hole Depth: 15.0 ft  
Final Hole Depth: 15.0 ft  
Height of Stabilized Flow: 3.0 ft above groundwater level  
Depth to Water: 5.8 ft  
Time of Test: 10.0 minutes

Hydraulic Conductivity,  $K = 2.40E-03$  cfs/ft sqd-ft of head

**SOIL LOG** (Based on auger cuttings)

Depth	Layer Description
0'-2'	Topsoil over brown fine sand
2'-15'	Light brown limestone

Respectfully submitted,  
Intercounty Laboratories-USL, Inc.  
  
Steven E. Black, P.E.  
FL. Registration No. 39810



**HYDRAULIC CONDUCTIVITY**  
by  
South Florida Water Management District  
Usual Open Hole Constant Head

CLIENT: T. Y. Lin International/H. J. Ross  
201 Alhambra Circle, Suite 900  
Coral Gables, FL 33134

TEST NUMBER: P-1  
CREW: JP/JPS  
TEST DATE: 12/20/2004

PROJECT: Fairlawn Storm Sewer Improvements Project  
Phase III (B-50704)      NUMBER: 84064

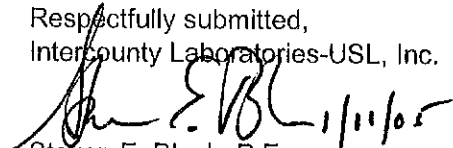
TEST LOCATION: NEC of SW 56th Ave and SW 55th Ave Road

Effective Pumping Rate: 12.4 GPM  
Actual Hole (Casing) Diameter: 6.00 inches  
Initial Hole Depth: 15.0 ft  
Final Hole Depth: 15.0 ft  
Height of Stabilized Flow: 6.4 ft above groundwater level  
Depth to Water: 6.4 ft  
Time of Test: 10.0 minutes

Hydraulic Conductivity,  $K = 2.30E-04$  cfs/ft sqd-ft of head

**SOIL LOG** (Based on auger cuttings)

Depth	Layer Description
0'-3'	Topsoil over Brown fine sand
3'-4'	Brown silty sand
4'-15'	Tan limestone with sand

Respectfully submitted,  
Intercountry Laboratories-USL, Inc.  
  
Steven E. Black, P.E.  
FL. Registration No. 39810



**HYDRAULIC CONDUCTIVITY**  
by  
South Florida Water Management District  
Usual Open Hole Constant Head

CLIENT: T. Y. Lin International/H. J. Ross  
201 Alhambra Circle, Suite 900  
Coral Gables, FL 33134

TEST NUMBER: P-2  
CREW: JP/JPS  
TEST DATE: 12/16/2004

PROJECT: Fairlawn Storm Sewer Improvements Project  
Phase III (B-50704)

NUMBER: 84064

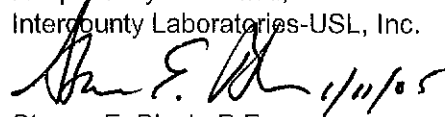
TEST LOCATION: NWC of SW 54th Ave and SW 2nd St

Effective Pumping Rate: 16.0 GPM  
Actual Hole (Casing) Diameter: 6.00 inches  
Initial Hole Depth: 15.0 ft  
Final Hole Depth: 15.0 ft  
Height of Stabilized Flow: 0.1 ft above groundwater level  
Depth to Water: 6.7 ft  
Time of Test: 10.0 minutes

Hydraulic Conductivity, K = 2.68E-02 cfs/ft sqd-ft of head

**SOIL LOG** (Based on auger cuttings)

Depth	Layer Description
0'-1'	Light brown fine sand
1'-4'	Light brown limestone
4'-15'	Tan sand with limestone

Respectfully submitted,  
Intercounty Laboratories-USL, Inc.  
  
Steven E. Black, P.E.  
FL. Registration No. 39810



**HYDRAULIC CONDUCTIVITY**  
by  
South Florida Water Management District  
Usual Open Hole Constant Head

CLIENT: T. Y. Lin International/H. J. Ross  
201 Alhambra Circle, Suite 900  
Coral Gables, FL 33134

TEST NUMBER: P-3  
CREW: JP/JPS  
TEST DATE: 12/16/2004

PROJECT: Fairlawn Storm Sewer Improvements Project  
Phase III (B-50704)

NUMBER: 84064

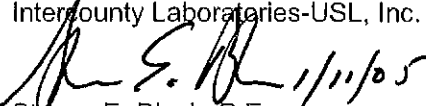
TEST LOCATION: Front of 151 SW 52nd Ave

Effective Pumping Rate:	45.3 GPM
Actual Hole (Casing) Diameter:	10.00 inches
Initial Hole Depth:	15.0 ft
Final Hole Depth:	15.0 ft
Height of Stabilized Flow:	0.1 ft above groundwater level
Depth to Water:	6.7 ft
Time of Test	10.0 minutes

**Hydraulic Conductivity, K = 4.50E-02 cfs/ft sqd-ft of head**

**SOIL LOG** (Based on auger cuttings)

Depth	Layer Description
0'-4'	Light brown fine sand
4'-6'	Light brown limestone
6'-10'	Tan sand with limestone
10'-15'	Tan fine sand

Respectfully submitted,  
Intercounty Laboratories-USL, Inc.  
  
Steven E. Black, P.E.  
FL. Registration No. 39810



**HYDRAULIC CONDUCTIVITY**  
by  
South Florida Water Management District  
Usual Open Hole Constant Head

CLIENT: T. Y. Lin International/H. J. Ross  
201 Alhambra Circle, Suite 900  
Coral Gables, FL 33134

TEST NUMBER: P-4  
CREW: JP/JPS  
TEST DATE: 12/20/2004

PROJECT: Fairlawn Storm Sewer Improvements Project  
Phase III (B-50704)

NUMBER: 84064

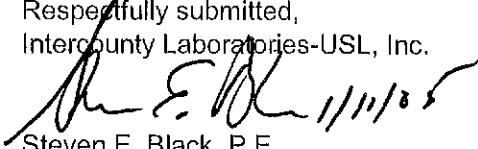
TEST LOCATION: SWC of SW 51st Ave and W. Flagler St

Effective Pumping Rate:	3.8 GPM
Actual Hole (Casing) Diameter:	6.00 inches
Initial Hole Depth:	15.0 ft
Final Hole Depth:	15.0 ft
Height of Stabilized Flow:	7.0 ft above groundwater level
Depth to Water:	7.0 ft
Time of Test	10.0 minutes

**Hydraulic Conductivity, K = 6.62E-05 cfs/ft sqd-ft of head**

**SOIL LOG** (Based on auger cuttings)

Depth	Layer Description
0'-4'	Limerock fill over light brown fine sand
4'-8'	Tan fine sand with limestone
8'-15'	Tan fine sand

Respectfully submitted,  
Intercounty Laboratories-USL, Inc.  
  
Steven E. Black, P.E.  
FL. Registration No. 39810



**HYDRAULIC CONDUCTIVITY**  
by  
South Florida Water Management District  
Usual Open Hole Constant Head

CLIENT: T. Y. Lin International/H. J. Ross  
201 Alhambra Circle, Suite 900  
Coral Gables, FL 33134

TEST NUMBER: P-5  
CREW: JP/JPS  
TEST DATE: 12/16/2004

PROJECT: Fairlawn Storm Sewer Improvements Project  
Phase III (B-50704)

TEST LOCATION: Front of 220 SW 49th Ave

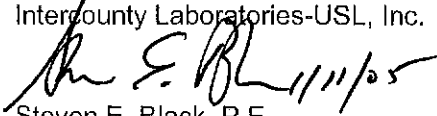
NUMBER: 84064

Effective Pumping Rate: 45.5 GPM  
Actual Hole (Casing) Diameter: 6.00 inches  
Initial Hole Depth: 15.0 ft  
Final Hole Depth: 15.0 ft  
Height of Stabilized Flow: 6.8 ft above groundwater level  
Depth to Water: 6.8 ft  
Time of Test: 10.0 minutes

Hydraulic Conductivity, K = 8.09E-04 cfs/ft sqd-ft of head

**SOIL LOG** (Based on auger cuttings)

Depth	Layer Description
0'-2'	Light brown fine sand
2'-6'	Light brown fine sand with limestone
6'-15'	Tan sand with limestone

Respectfully submitted,  
Intercounty Laboratories-USL, Inc.  
  
Steven E. Black, P.E.  
FL. Registration No. 39810



**HYDRAULIC CONDUCTIVITY**  
by  
South Florida Water Management District  
Usual Open Hole Constant Head

CLIENT: T. Y. Lin International/H. J. Ross  
201 Alhambra Circle, Suite 900  
Coral Gables, FL 33134

TEST NUMBER: P-6  
CREW: JP/JPS  
TEST DATE: 12/17/2004

PROJECT: Fairlawn Storm Sewer Improvements Project  
Phase III (B-50704)      NUMBER: 84064

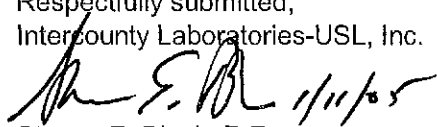
TEST LOCATION: SEC of SW 51st Court and SW 4th St

Effective Pumping Rate: 20.0 GPM  
Actual Hole (Casing) Diameter: 6.00 inches  
Initial Hole Depth: 15.0 ft  
Final Hole Depth: 15.0 ft  
Height of Stabilized Flow: 7.3 ft above groundwater level  
Depth to Water: 7.3 ft  
Time of Test: 10.0 minutes

**Hydraulic Conductivity, K = 3.39E-04 cfs/ft sqd-ft of head**

**SOIL LOG** (Based on auger cuttings)

Depth	Layer Description
0'-6"	Light brown fine sand
6'-15'	Tan fine sand

Respectfully submitted,  
Intercounty Laboratories-USL, Inc.  
  
Steven E. Black, P.E.  
FL. Registration No. 39810



**HYDRAULIC CONDUCTIVITY**  
by  
South Florida Water Management District  
Usual Open Hole Constant Head

CLIENT: T. Y. Lin International/H. J. Ross  
201 Alhambra Circle, Suite 900  
Coral Gables, FL 33134

TEST NUMBER: P-7  
CREW: JP/JPS  
TEST DATE: 12/17/2004

PROJECT: Fairlawn Storm Sewer Improvements Project  
Phase III (B-50704)

TEST LOCATION: NWC of SW 49th Ave and SW 4th St

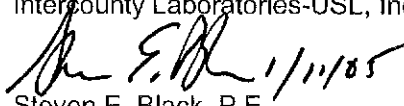
NUMBER: 84064

Effective Pumping Rate: 44.8 GPM  
Actual Hole (Casing) Diameter: 6.00 inches  
Initial Hole Depth: 15.0 ft  
Final Hole Depth: 15.0 ft  
Height of Stabilized Flow: 7.7 ft above groundwater level  
Depth to Water: 7.7 ft  
Time of Test: 10.0 minutes

Hydraulic Conductivity, K = 7.32E-04 cfs/ft sqd-ft of head

**SOIL LOG** (Based on auger cuttings)

Depth	Layer Description
0'-3'	Brown fine sand
3'-6'	Light brown sand with limestone
6'-15'	Tan sand with limestone

Respectfully submitted,  
Intercounty Laboratories-USL, Inc.  
  
Steven E. Black, P.E.  
FL. Registration No. 39810



**HYDRAULIC CONDUCTIVITY**  
by  
South Florida Water Management District  
Usual Open Hole Constant Head

CLIENT: T. Y. Lin International/H. J. Ross  
201 Alhambra Circle, Suite 900  
Coral Gables, FL 33134

TEST NUMBER: P-8  
CREW: JP/JPS  
TEST DATE: 12/17/2004

PROJECT: Fairlawn Storm Sewer Improvements Project  
Phase III (B-50704)

NUMBER: 84064

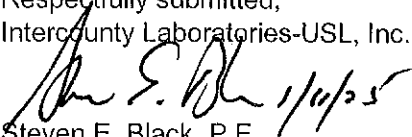
TEST LOCATION: SEC of SW 52nd Ave and SW 6th St

Effective Pumping Rate: 42.6 GPM  
Actual Hole (Casing) Diameter: 10.00 inches  
Initial Hole Depth: 15.0 ft  
Final Hole Depth: 15.0 ft  
Height of Stabilized Flow: 0.1 ft above groundwater level  
Depth to Water: 6.7 ft  
Time of Test 10.0 minutes

Hydraulic Conductivity, K = 4.24E-02 cfs/ft sqd-ft of head

**SOIL LOG** (Based on auger cuttings)

Depth	Layer Description
0'-2'	Light brown fine sand
2'-4'	Tan fine sand with limestone
6'-15'	Tan fine sand

Respectfully submitted,  
Intercountry Laboratories-USL, Inc.  
  
Steven E. Black, P.E.  
FL. Registration No. 39810



**HYDRAULIC CONDUCTIVITY**  
by  
South Florida Water Management District  
Usual Open Hole Constant Head

CLIENT: T. Y. Lin International/H. J. Ross  
201 Alhambra Circle, Suite 900  
Coral Gables, FL 33134

TEST NUMBER: P-9  
CREW: JP/JPS  
TEST DATE: 12/20/2004

PROJECT: Fairlawn Storm Sewer Improvements Project  
Phase III (B-50704)

NUMBER: 84064

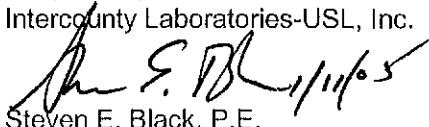
TEST LOCATION: SWC of SW 51st Ave and SW 6th St

Effective Pumping Rate: 55.1 GPM  
Actual Hole (Casing) Diameter: 6.00 inches  
Initial Hole Depth: 15.0 ft  
Final Hole Depth: 15.0 ft  
Height of Stabilized Flow: 7.5 ft above groundwater level  
Depth to Water: 7.5 ft  
Time of Test: 10.0 minutes

Hydraulic Conductivity,  $K = 9.16E-04$  cfs/ft sqd-ft of head

**SOIL LOG** (Based on auger cuttings)

Depth	Layer Description
0'-6'	Topsoil over Light brown fine sand
6'-13'	Tan fine sand with limestone
13'-15'	Tan fine sand

Respectfully submitted,  
Intercounty Laboratories-USL, Inc.  
  
Steven E. Black, P.E.  
FL. Registration No. 39810