



# Bound Reports

## 1720

---

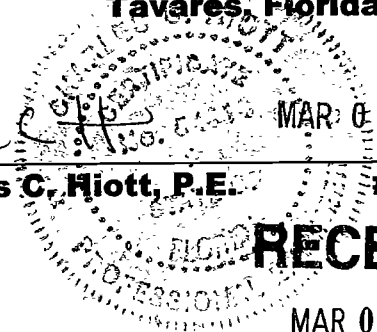
**LEGENDS PHASE III  
STORMWATER CALCULATIONS  
FBA #961504.062**

19941-8

**FARNER, BARLEY & ASSOCIATES, INC.  
350 North Sinclair Avenue  
Tavares, Florida 32778**

*C. C. Hiott*  
MAR 05 2002

**Charles C. Hiott, P.E. #54813**



**RECEIVED**

MAR 07 2002

**PDS  
ALTAMONTE SVC. CTR.**

## Legends Phase III

### Stormwater Summary

Legends Phase III is located in Section 5&8, Township 23S, and Range 26E & 24E of the Legends subdivision. This phase is part of the previously approved drainage basins (10, 11, 18, 19, 21, & 23). Basin 10 consists of 13.60 acres, which includes 3.27 acres of Legends Phase III. Basin 11 consists of 11.52 acres, which includes 2.71 acres of Legends Phase III. Basin 18 consists of 24.03 acres, which includes 3.25 acres of Legends Phase III. Basin 19 consists of 11.26 acres, which includes 0.23 acres of Legends Phase III. Basin 21 consists of 23.79 acres, which includes 2.95 acres of Legends Phase III. Basin 23 consists of 50.90 acres, which includes 4.46 acres of Legends Phase III. These basins were last permitted by SJRWMD under Legends Phase II (Permit # 4-069-19451-6). This Project will consist of 56 lots, roadways and connections to the existing stormwater system.

#### Basin 10:

	Acres	%	CN	Product
Phase I	0	0	0	0
Phase II	4.58	33.7	64	21.57
<b>Phase III</b>	<b>3.27</b>	<b>24</b>	<b>61</b>	<b>14.64</b>
Golf Course/open space	5.75	42.3	39	16.50
<b>Total</b>	<b>13.6</b>	<b>100</b>		<b>52.71</b>

#### Legends Phase III Curve Number Calculation

Homes/Driveways       $12 * 3750 / 43560$       = 1.03 Ac.  
Roads                       $24 * 363 / 43560$       = 0.20 Ac.

Impervious area      = 1.23 Ac.  
Pervious area         = 2.04 Ac.

19941 - 8

$$CN = ((0.98 * 1.23) + (0.39 * 2.04)) / 3.27 = 61$$

Since the curve number of 52.71 is less than the previously approved 53 we are still in compliance.

**RECEIVED**

MAR 07 2002

PDS  
ALTAMONTE SVC. CTR.

**Basin 11:**

	Acres	%	CN	Product
Phase I	0	0	0	0
Phase II	4.38	38.0	57	21.66
<b>Phase III</b>	<b>2.71</b>	<b>23.5</b>	<b>62.3</b>	<b>14.64</b>
Golf Course/open space	4.43	38.5	39	15.02
Total	11.52	100		51.32

Legends Phase III Curve Number Calculation

Homes/Driveways      10\*3750/43560      = 0.86 Ac.  
Roads                    24\*374/43560        = 0.21 Ac.

Impervious area      = 1.07 Ac.  
Pervious area         = 1.64 Ac.

$$CN = ((0.98*1.07)+(0.39*1.64))/2.71 = 62.3$$

Since the curve number of 51.32 is less than the previously approved 52 we are still in compliance.

**Basin 18:**

	Acres	%	CN	Product
Phase I	0	0	0	0
Phase II	13.38	55.7	59.2	32.97
<b>Phase III</b>	<b>3.25</b>	<b>13.5</b>	<b>63.5</b>	<b>8.57</b>
Golf Course/open space	7.40	30.8	39	12.01
Total	24.03	100		53.55

Legends Phase III Curve Number Calculation

Homes/Driveways      10\*4725/43560      = 1.08 Ac.  
Roads                    24\*491/43560        = 0.27 Ac.

Impervious area      = 1.35 Ac.  
Pervious area         = 1.90 Ac.

$$CN = ((0.98*1.35)+(0.39*1.90))/3.25 = 63.5$$

Since the curve number of 53.55 is less than the previously approved 54 we are in compliance.

19941-8

**RECEIVED**

MAR 07 2002

PDS  
ALTAMONTE SVC. CTR.

**Basin 19:**

	Acres	%	CN	Product
Phase I	0	0	0	0
Phase II	5.69	50.5	61.5	31.06
<b>Phase III</b>	<b>0.23</b>	<b>2.1</b>	<b>67.2</b>	<b>1.41</b>
Golf Course/open space	5.34	57.4	39	18.49
Total	11.26	100		50.96

**Legends Phase III Curve Number Calculation**

Homes/Driveways	1*4725/43560	= 0.11 Ac.
Roads	24*0/43560	= 0.00 Ac.

Impervious area = 0.11 Ac.  
Pervious area = 0.12 Ac.

$$CN = ((0.98*0.11)+(0.39*0.12))/0.23 = 67.2$$

Since the curve number of 50.96 is less than the previously approved 51 we are still in compliance.

**Basin 21:**

	Acres	%	CN	Product
Phase I	0	0	0	0
Phase II	0.92	3.9	66.6	2.60
<b>Phase III</b>	<b>2.95</b>	<b>12.4</b>	<b>58.8</b>	<b>7.29</b>
Golf Course/open space	19.92	83.7	39	32.64
Total	23.79	100		42.53

**Legends Phase III Curve Number Calculation**

Homes/Driveways	8*3750/43560	= 0.69 Ac.
Roads	24*542/43560	= 0.30 Ac.

Impervious area = 0.99 Ac.  
Pervious area = 1.96 Ac.

$$CN = ((0.98*0.99)+(0.39*1.96))/2.95 = 58.8$$

Since the curve number of 42.53 is less than the previously approved 57 we are still in compliance.

19941 - 8

**RECEIVED**

MAR 07 2002

PDS  
ALTAMONTE SVC. CTR.

**Basin 23:**

	Acres	%	CN	Product
Phase I	0	0	0	0
Phase II	4.83	9.5	52.2	4.96
<b>Phase III</b>	<b>4.46</b>	<b>8.8</b>	<b>64.5</b>	<b>5.68</b>
Golf Course/open space	41.61	81.7	39	31.86
Total	50.90	100		42.50

**Legends Phase III Curve Number Calculation**

Homes/Driveways       $15 * 4725 / 43560$       = 1.63 Ac.  
Roads                       $24 * 540 / 43560$       = 0.30 Ac.

Impervious area      = 1.93 Ac.  
Pervious area         = 2.53 Ac.

$$CN = ((0.98 * 1.93) + (0.39 * 2.53)) / 13.60 = 64.5$$

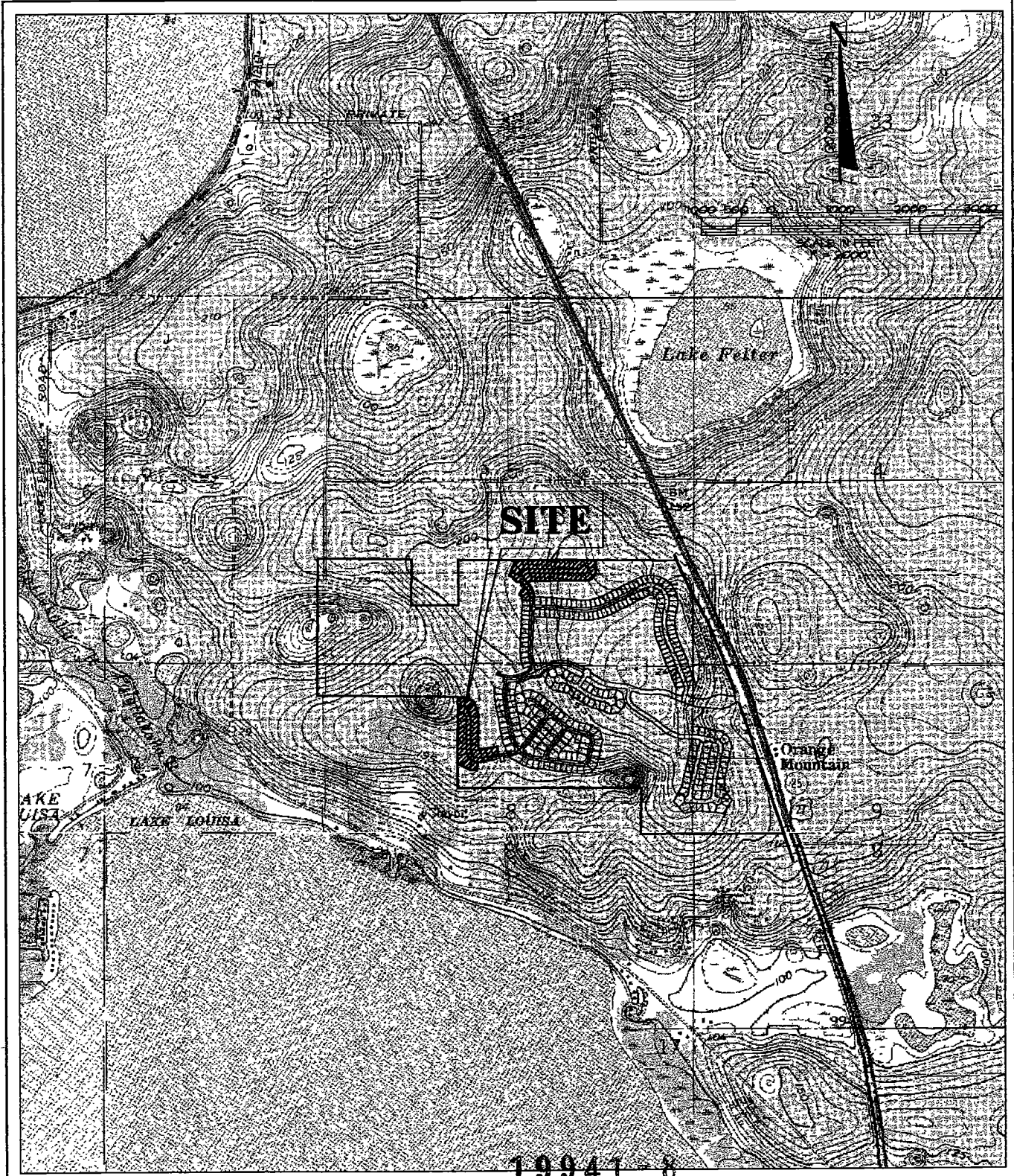
Since the curve number of 42.50 is less than the previously approved 50 we are still in compliance.

19941 - 8

**RECEIVED**


MAR 07 2002

PDS  
ALTAMONTE SVC. CTR.



19941-8

**CLERMONT EAST QUADRANGLE RECEIVED**


**FARNER BARLEY AND ASSOCIATES, INC.**  
 360 North Sholar Avenue • Tavares, Florida 32778 • (352) 343-8481

- ▲ ENGINEERS
- ▲ SURVEYORS
- ▲ PLANNERS

LEGENDS PHASE III

---

USGS Map

MAR 07 2002

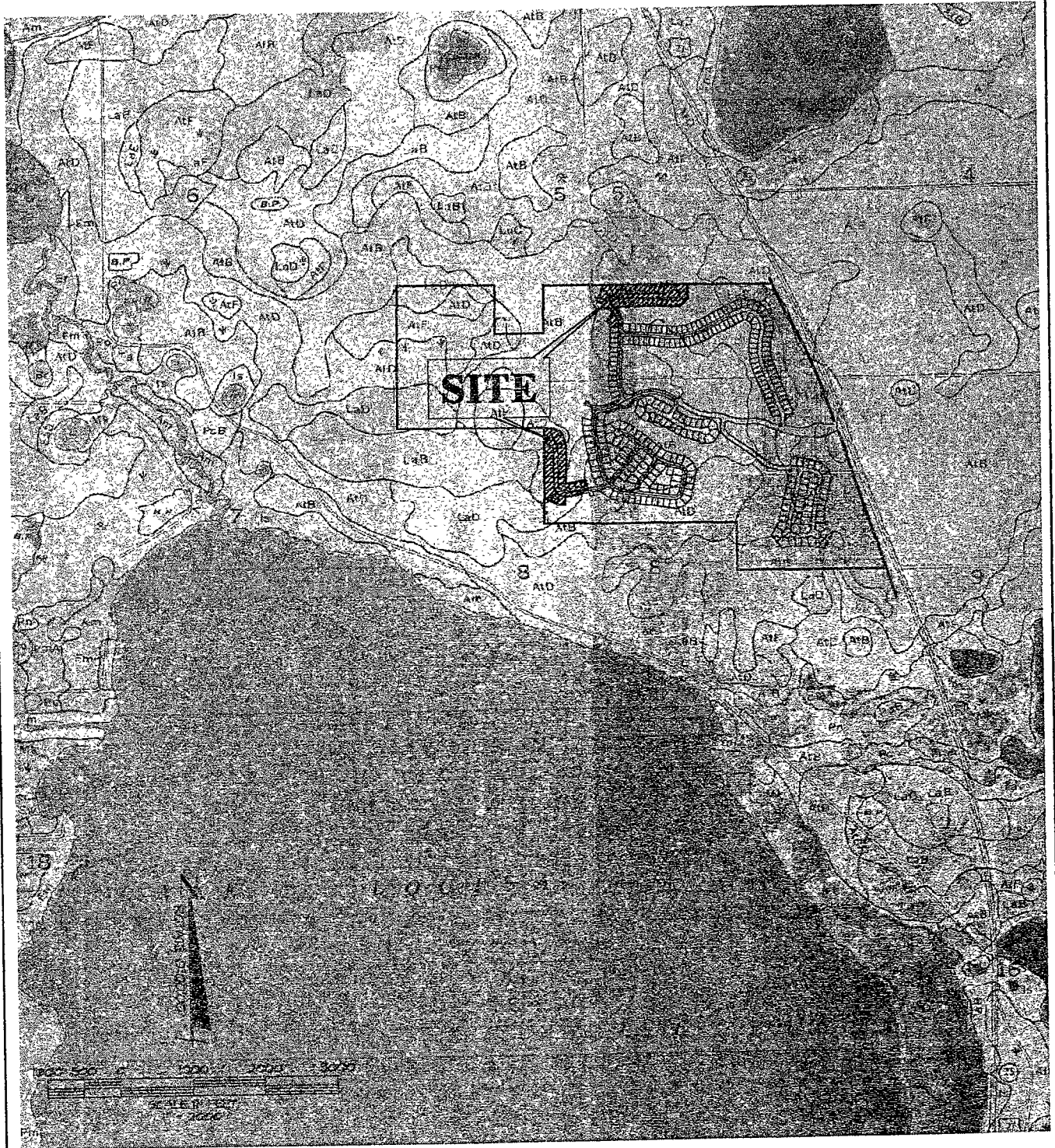
PDS

ALTAMONTE SVC

DATE: February 2002

FIGURE I-2

461504.062



19941-8

LAKE COUNTY, FLORIDA NO. 63 & 64


**FARNER BERLEY AND ASSOCIATES, INC.**  
 360 North Shalick Avenue • Titusville, Florida 32778 • (352) 343-8481

- ▲ ENGINEERS
- ▲ SURVEYORS
- ▲ PLANNERS

LEGENDS PHASE III

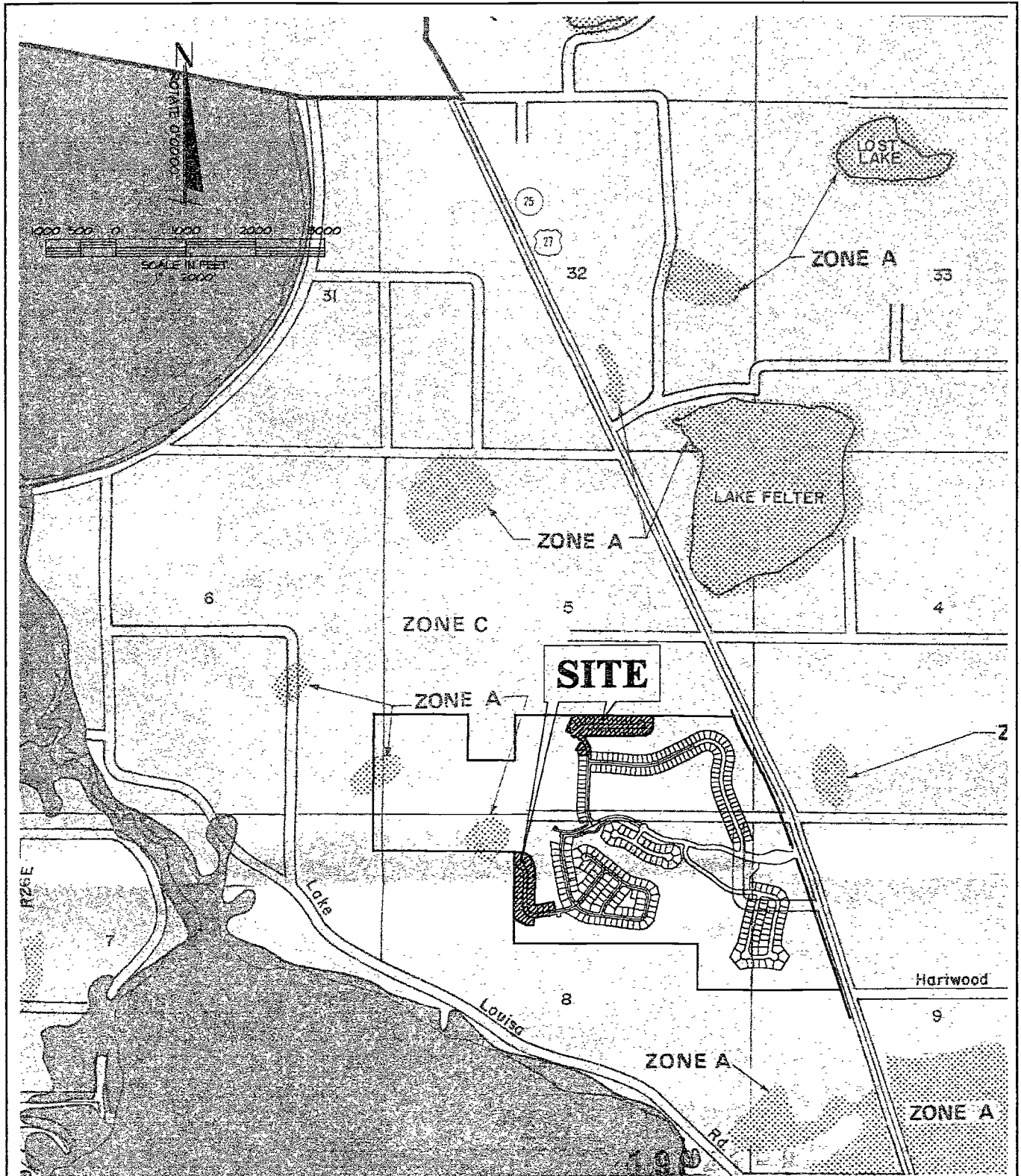
---

Soils Map

DATE: February 2002  
**FIGURE I-3**  
 JOB NO. 961504.062

DATE: February 2002  
**FIGURE I-3**  
 JOB NO. 961504.062





**FIRM PANEL #120421 0375 B, LAKE COUNTY, FLORIDA**



**FERNER  
BARLEY**  
AND ASSOCIATES, INC.

350 North Emerald Avenue • Titusville, Florida 32780 © (352) 343-8487

- ▲ ENGINEERS
- ▲ SURVEYORS
- ▲ PLANNERS

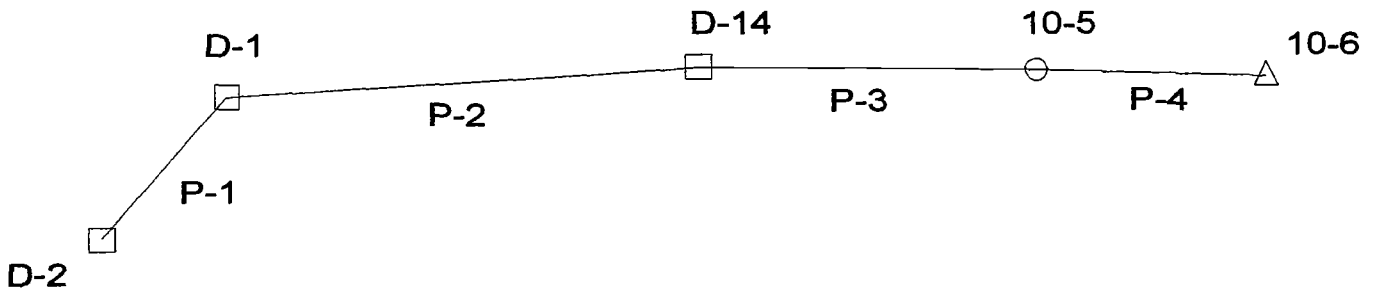
**LEGENDS PHASE III**

**Flood Map**

DATE: February 2002

**FIGURE I-4**

JOB NO. 961504.062



19941-8 =

**RECEIVED**

MAR 07 2002

### DOT Report

-Node- Up Dn	Length (ft)	Inlet A (acres)	C	Tot CA (acres)	TC (min)	Sys Flow Time (min)	Q (cfs)	-Ground- Up Dn (ft)	-HGL- Up Dn (ft)	-Slope- Energy Constructed (ft/ft)	Size	-Section- Discharge Capacity (cfs)	Dn Invert (ft)	Up Invert (ft)	V avg (ft/s)	Description
D-2	43.00	0.69	0.54	0.37	10.00	10.00	2.91	223.21	217.66	0.001005	18 inch	2.91	216.45	216.66	2.13	
D-1								222.45	217.64	0.004884		7.34				
D-1	119.00	0.91	0.45	0.78	10.00	10.34	6.05	222.45	217.40	0.009811	18 inch	6.05	214.88	216.45	4.27	
D-14								220.87	216.46	0.013193		12.06				
D-14	140.00	0.90	0.54	1.27	10.00	10.80	9.66	220.87	216.08	0.020016	18 inch	9.66	211.88	214.88	5.92	
10-5								219.00	213.44	0.021429		15.38				
10-5	37.00	N/A	N/A	1.27	N/A	11.20	9.52	219.00	213.07	0.025941	18 inch	9.52	210.83	211.88	5.89	
10-6								215.00	212.27	0.028378		17.69				

19941 - 8

**RECEIVED**

MAR 07 2002

PDS

ALTA MONTE SVC. CTR.

### Combined Pipe/Node Report

Pipe	Upstream Node	Downstream Node	Length (ft)	Inlet Area (acres)	Inlet C	Inlet CA (acres)	Total CA (acres)	Inlet Discharge (cfs)	Section Size	Capacity (cfs)	Average Velocity (ft/s)	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Constructed Slope (ft/ft)	Inlet TC (min)	Section Material
P-1	D-2	D-1	43.00	0.69	0.54	0.37	0.37	2.91	18 inch	7.34	2.13	216.66	216.45	0.004884	10.00	Concrete
P-2	D-1	D-14	119.00	0.91	0.45	0.41	0.78	3.20	18 inch	12.06	4.27	216.45	214.88	0.013193	10.00	Concrete
P-3	D-14	10-5	140.00	0.90	0.54	0.49	1.27	3.82	18 inch	15.38	5.92	214.88	211.88	0.021429	10.00	Concrete
P-4	10-5	10-6	37.00	N/A	N/A	N/A	1.27	N/A	18 inch	17.69	5.89	211.88	210.83	0.028378	N/A	Concrete

19941 - 8

**RECEIVED**

MAR 07 2002

PDS

ALTAMONTE SVC. CTR.

DOT Report

-Node- Up Dn	Length (ft)	Inlet A (acres)	C	Tot CA (acres)	TC (min)	Sys Flow Time (min)	Q (cfs)	-Ground- Up Dn (ft)	-HGL- Up Dn (ft)	-Slope- Energy Constructed (ft/ft)	Size	-Section- Discharge Capacity (cfs)	Dn Invert (ft)	Up Invert (ft)	V avg (ft/s)	Description
D-2	43.00	0.69	0.54	0.37	10.00	10.00	1.50	223.21	217.29	0.000968	18 inch	1.50	216.45	216.66	1.82	
D-1								222.45	217.28	0.004884		7.34				
D-1	119.00	0.91	0.45	0.78	10.00	10.39	3.15	222.45	217.13	0.011223	18 inch	3.15	214.88	216.45	3.19	
D-14								220.87	215.97	0.013193		12.06				
D-14	140.00	0.90	0.54	1.27	10.00	11.01	5.12	220.87	215.75	0.020908	18 inch	5.12	211.88	214.88	4.27	
10-5								219.00	212.97	0.021429		15.38				
10-5	37.00	N/A	N/A	1.27	N/A	11.56	5.12	219.00	212.75	0.019102	18 inch	5.12	210.83	211.88	3.87	
10-6								215.00	212.27	0.028378		17.69				

*FDOT 4" INTENSITY LANE SPREAD*

19941-8

RECEIVED

MAR 07 2002

PDS

### Combined Pipe/Node Report

Pipe	Upstream Node	Downstream Node	Length (ft)	Inlet Area (acres)	Inlet C	Inlet CA (acres)	Total CA (acres)	Inlet Discharge (cfs)	Section Size	Capacity (cfs)	Average Velocity (ft/s)	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Constructed Slope (ft/ft)	Inlet TC (min)	Section Material
P-1	D-2	D-1	43.00	0.69	0.54	0.37	0.37	1.50	18 inch	7.34	1.82	216.66	216.45	0.004884	10.00	Concrete
P-2	D-1	D-14	119.00	0.91	0.45	0.41	0.78	1.65	18 inch	12.06	3.19	216.45	214.88	0.013193	10.00	Concrete
P-3	D-14	10-5	140.00	0.90	0.54	0.49	1.27	1.97	18 inch	15.38	4.27	214.88	211.88	0.021429	10.00	Concrete
P-4	10-5	10-6	37.00	N/A	N/A	N/A	1.27	N/A	18 inch	17.69	3.87	211.88	210.83	0.028378	N/A	Concrete

*FDOT 4" INTENSITY LANE SPREAD*

19941-8

**RECEIVED**

MAR 07 2002

PDS

ALAMONTE SVC. CT

D-3



P-1



D-4

P-2



11-5

P-3

11-6



19941-8

**RECEIVED**

Project Engineer: FARNER BARLEY & ASSOC.

StormCAD v1.0

MAR 07 2002

Page 1 of 1

### DOT Report

-Node- Up Dn	Length (ft)	Inlet A (acres)	C	Tot CA (acres)	TC (min)	Sys Flow Time (min)	Q (cfs)	-Ground- Up Dn (ft)	-HGL- Up Dn (ft)	-Slope- Energy Constructed (ft/ft)	Size	-Section- Discharge Capacity (cfs)	Dn Invert (ft)	Up Invert (ft)	V avg (ft/s)	Description
D-3	34.00	0.70	0.45	0.32	10.00	10.00	2.46	221.80	216.72	0.000887	18 inch	2.46	215.62	215.79	1.96	
D-4								221.42	216.71	0.005000		7.43				
D-4	137.00	0.74	0.45	0.65	10.00	10.29	5.02	221.42	216.52	0.004587	18 inch	5.02	214.93	215.62	4.14	
11-5								221.00	215.99	0.005036		7.45				
11-5	14.00	N/A	N/A	0.65	N/A	10.84	4.92	221.00	215.78	0.007329	18 inch	4.92	214.81	214.93	5.06	
11-6								218.00	215.58	0.008571		9.72				

**RECEIVED**  
 MAR 07 2002  
 PDS  
 ALTAMONTE SVC. CTR

19941-8



### Combined Pipe/Node Report

Pipe	Upstream Node	Downstream Node	Length (ft)	Inlet Area (acres)	Inlet C	Inlet CA (acres)	Total CA (acres)	Inlet Discharge (cfs)	Section Size	Capacity (cfs)	Average Velocity (ft/s)	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Constructed Slope (ft/ft)	Inlet TC (min)	Section Material
P-1	D-3	D-4	34.00	0.70	0.45	0.32	0.32	2.46	18 inch	7.43	1.96	215.79	215.62	0.005000	10.00	Concrete
P-2	D-4	11-5	137.00	0.74	0.45	0.33	0.65	2.60	18 inch	7.45	4.14	215.62	214.93	0.005036	10.00	Concrete
P-3	11-5	11-6	14.00	N/A	N/A	N/A	0.65	N/A	18 inch	9.72	5.06	214.93	214.81	0.008571	N/A	Concrete

**RECEIVED**  
 MAR 07 2002  
 PDS  
 ALTAMONTE SVC. CTR.

19941-8

### DOT Report

-Node- Up Dn	Length (ft)	Inlet A (acres)	C	Tot CA (acres)	TC (min)	Sys Flow Time (min)	Q (cfs)	-Ground- Up Dn (ft)	-HGL- Up Dn (ft)	-Slope- Energy Constructed (ft/ft)	Size	-Section- Discharge Capacity (cfs)	Dn Invert (ft)	Up Invert (ft)	V avg (ft/s)	Description
D-3	34.00	0.70	0.45	0.32	10.00	10.00	1.27	221.80	216.37	0.000932	18 Inch	1.27	215.62	215.79	1.72	
D-4								221.42	216.37	0.005000		7.43				
D-4	137.00	0.74	0.45	0.65	10.00	10.33	2.61	221.42	216.23	0.004719	18 Inch	2.61	214.93	215.62	3.40	
11-5								221.00	215.68	0.005036		7.45				
11-5	14.00	N/A	N/A	0.65	N/A	11.00	2.61	221.00	215.54	0.007174	18 Inch	2.61	214.81	214.93	4.20	
11-6								218.00	215.35	0.008571		9.72				

*FOOT 4" INTENSITY LANE SPREAD*

**RECEIVED**  
 MAR 07 2002  
 PDS  
 ALTAMONTE SVC. CTR.

19941-8

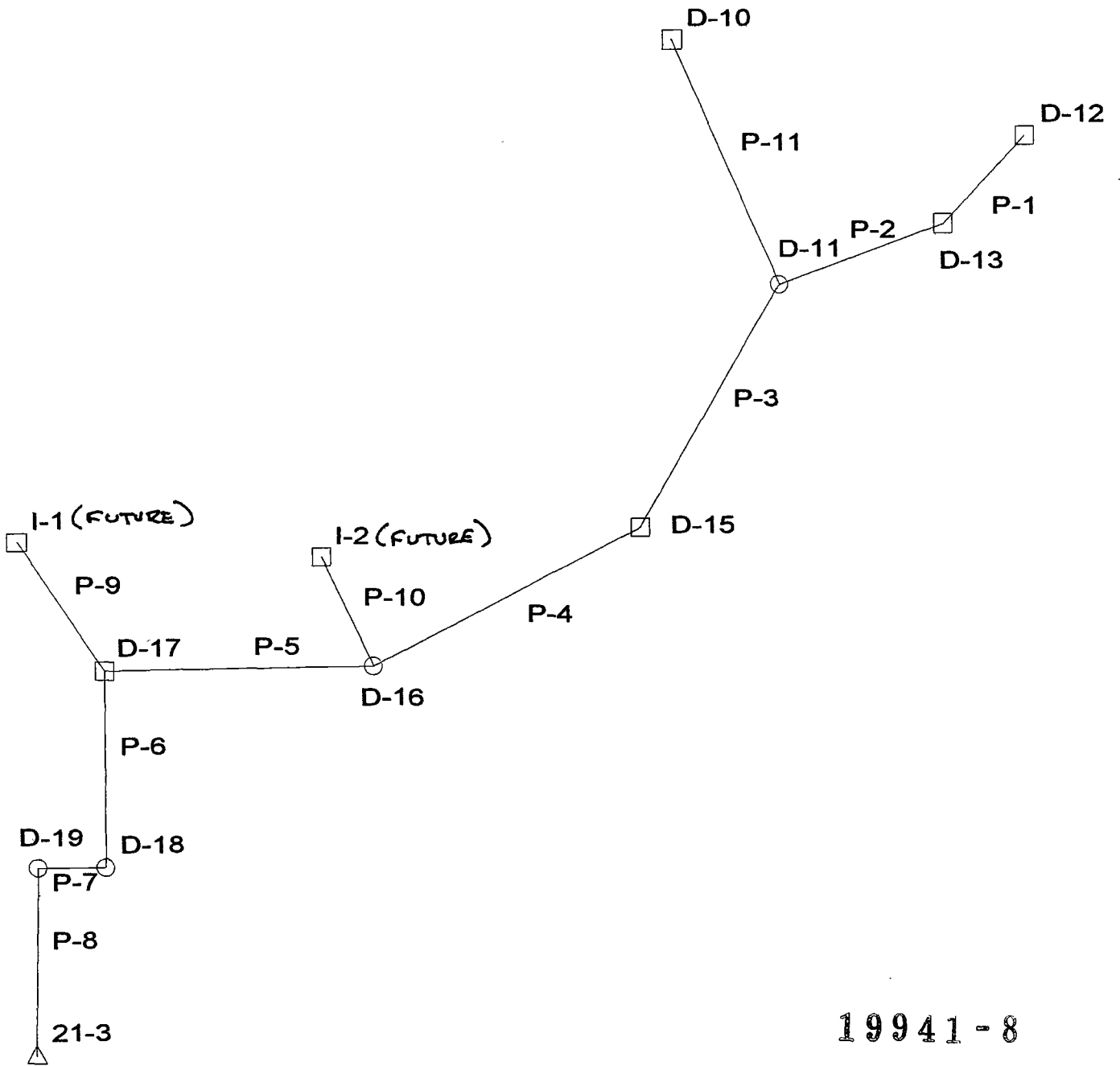
### Combined Pipe/Node Report

Pipe	Upstream Node	Downstream Node	Length (ft)	Inlet Area (acres)	Inlet C	Inlet CA (acres)	Total CA (acres)	Inlet Discharge (cfs)	Section Size	Capacity (cfs)	Average Velocity (ft/s)	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Constructed Slope (ft/ft)	Inlet TC (min)	Section Material
P-1	D-3	D-4	34.00	0.70	0.45	0.32	0.32	1.27	18 inch	7.43	1.72	215.79	215.62	0.005000	10.00	Concrete
P-2	D-4	11-5	137.00	0.74	0.45	0.33	0.65	1.34	18 inch	7.45	3.40	215.62	214.93	0.005036	10.00	Concrete
P-3	11-5	11-6	14.00	N/A	N/A	N/A	0.65	N/A	18 inch	9.72	4.20	214.93	214.81	0.008571	N/A	Concrete

*FOOT 4" INTENSITY LANE SPREAD*

**RECEIVED**  
 MAR 07 2002  
 PDS  
 ALTAMONTE SVC. CTR.

19941-8



19941-8

**RECEIVED**

MAR 07 2002

Project Title: LEGENDS PHASE III

c:\dwg\legends\legends ph.3\pipecalcs\beacon3.stm

03/01/02 09:54:40 AM

FARNER BARLEY & ASSOC.

Haestad Methods, Inc. 37 Brookside Road Waterbury, CT 06708

Project Engineer: FARNER BARLEY & ASSOC.

StormCAD v1.0

Page 1 of 1

PDS  
ALTAMONTE SVC. CTR.

### DOT Report

-Node- Up Dn	Length (ft)	Inlet A (acres)	C	Tot CA (acres)	TC (min)	Sys Flow Time (min)	Q (cfs)	-Ground- Up Dn (ft)	-HGL- Up Dn (ft)	-Slope- Energy Constructed (ft/ft)	Size	-Section- Discharge Capacity (cfs)	Dn Invert (ft)	Up Invert (ft)	V avg (ft/s)	Description
I-1	31.00	1.48	0.54	0.80	10.00	10.00	6.26	200.67	195.83	0.003547	18 inch	6.26	191.21	191.37	3.54	
D-17								201.09	195.72	0.005161		7.55				
I-2	37.00	1.13	0.54	0.61	10.00	10.00	4.77	204.02	197.49	0.002061	18 inch	4.77	194.66	195.03	2.70	
D-16								204.84	197.41	0.010000		10.50				
D-10	97.00	0.78	0.45	0.35	10.00	10.00	2.75	213.32	205.64	0.002075	18 inch	2.75	204.51	205.00	2.89	
D-11								213.50	205.60	0.005052		7.47				
D-12	24.00	0.27	0.54	0.15	10.00	10.00	1.14	214.82	205.64	0.001190	18 inch	1.14	205.00	205.12	1.82	
D-13								214.93	205.64	0.005000		7.43				
D-13	49.00	0.20	0.54	0.25	10.00	10.22	1.96	214.93	205.53	0.001764	18 inch	1.96	204.51	205.00	2.48	
D-11								213.50	205.60	0.010000		10.50				
D-11	266.00	N/A	N/A	0.60	N/A	10.56	4.63	213.50	205.34	0.018756	18 inch	4.63	199.19	204.51	3.68	
D-15								206.90	200.57	0.020000		14.85				
D-15	115.00	0.99	0.45	1.05	10.00	11.76	7.70	206.90	200.27	0.026634	18 inch	7.70	195.74	199.19	5.02	
D-16								204.84	197.41	0.030000		18.19				
D-16	176.00	N/A	N/A	1.66	N/A	12.14	12.01	204.84	196.98	0.008885	24 inch	12.01	191.21	195.74	4.83	
D-17								201.09	195.72	0.025739		36.29				
D-17	138.00	0.64	0.54	2.81	10.00	12.75	19.85	201.09	195.23	0.007700	24 inch	19.85	187.73	191.21	6.32	
D-18								195.00	194.17	0.025217		35.92				
D-18	13.00	N/A	N/A	2.81	N/A	13.12	19.57	195.00	193.68	0.007486	24 inch	19.57	187.60	187.73	6.23	
D-19								195.00	193.59	0.010000		22.62				
D-19	45.00	N/A	N/A	2.81	N/A	13.15	19.55	195.00	193.11	0.007465	24 inch	19.55	184.41	187.60	6.22	
21-3								196.00	192.77	0.070889		60.23				

19941-8

**RECEIVED**

MAR 07 2002

PDS  
ALAMONTE SVC. CTR.

### Combined Pipe/Node Report

Pipe	Upstream Node	Downstream Node	Length (ft)	Inlet Area (acres)	Inlet C	Inlet CA (acres)	Total CA (acres)	Inlet Discharge (cfs)	Section Size	Capacity (cfs)	Average Velocity (ft/s)	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Constructed Slope (ft/ft)	Inlet TC (min)	Section Material
P-9	I-1	D-17	31.00	1.48	0.54	0.80	0.80	6.26	18 inch	7.55	3.54	191.37	191.21	0.005161	10.00	Concrete
P-10	I-2	D-16	37.00	1.13	0.54	0.61	0.61	4.77	18 inch	10.50	2.70	195.03	194.66	0.010000	10.00	Concrete
P-11	D-10	D-11	97.00	0.78	0.45	0.35	0.35	2.75	18 inch	7.47	2.89	205.00	204.51	0.005052	10.00	Concrete
P-1	D-12	D-13	24.00	0.27	0.54	0.15	0.15	1.14	18 inch	7.43	1.82	205.12	205.00	0.005000	10.00	Concrete
P-2	D-13	D-11	49.00	0.20	0.54	0.11	0.25	0.84	18 inch	10.50	2.48	205.00	204.51	0.010000	10.00	Concrete
P-3	D-11	D-15	266.00	N/A	N/A	N/A	0.60	N/A	18 inch	14.85	3.68	204.51	199.19	0.020000	N/A	Concrete
P-4	D-15	D-16	115.00	0.99	0.45	0.45	1.05	3.48	18 inch	18.19	5.02	199.19	195.74	0.030000	10.00	Concrete
P-5	D-16	D-17	176.00	N/A	N/A	N/A	1.66	N/A	24 inch	36.29	4.83	195.74	191.21	0.025739	N/A	Concrete
P-6	D-17	D-18	138.00	0.64	0.54	0.35	2.81	2.72	24 inch	35.92	6.32	191.21	187.73	0.025217	10.00	Concrete
P-7	D-18	D-19	13.00	N/A	N/A	N/A	2.81	N/A	24 inch	22.62	6.23	187.73	187.60	0.010000	N/A	Concrete
P-8	D-19	21-3	45.00	N/A	N/A	N/A	2.81	N/A	24 inch	60.23	6.22	187.60	184.41	0.070889	N/A	Concrete

19941 - 8

**RECEIVED**

MAR 07 2002

PDS  
ALTA MONTE SVC. CTR.

DOT Report

-Node- Up Dn	Length (ft)	Inlet A (acres)	C	Tot CA (acres)	TC (min)	Sys Flow Time (min)	Q (cfs)	-Ground- Up Dn (ft)	-HGL- Up Dn (ft)	-Slope- Energy Constructed (ft/ft)	Size	-Section- Discharge Capacity (cfs)	Dn Invert (ft)	Up Invert (ft)	V avg (ft/s)	Description
I-1	31.00	1.48	0.54	0.80	10.00	10.00	3.22	200.67	193.77	0.000942	18 inch	3.22	191.21	191.37	1.82	
D-17								201.09	193.74	0.005161		7.55				
I-2	37.00	1.13	0.54	0.61	10.00	10.00	2.46	204.02	196.96	0.000548	18 Inch	2.46	194.66	195.03	1.39	
D-16								204.84	196.94	0.010000		10.50				
D-10	97.00	0.78	0.45	0.35	10.00	10.00	1.42	213.32	205.45	0.003009	18 inch	1.42	204.51	205.00	2.38	
D-11								213.50	205.28	0.005052		7.47				
D-12	24.00	0.27	0.54	0.15	10.00	10.00	0.59	214.82	205.46	0.001459	18 inch	0.59	205.00	205.12	1.64	
D-13								214.93	205.46	0.005000		7.43				
D-13	49.00	0.20	0.54	0.25	10.00	10.24	1.02	214.93	205.38	0.004361	18 inch	1.02	204.51	205.00	2.03	
D-11								213.50	205.28	0.010000		10.50				
D-11	266.00	N/A	N/A	0.60	N/A	10.69	2.43	213.50	205.10	0.019144	18 inch	2.43	199.19	204.51	2.88	
D-15								206.90	200.17	0.020000		14.85				
D-15	115.00	0.99	0.45	1.05	10.00	12.23	4.23	206.90	199.98	0.028107	18 inch	4.23	195.74	199.19	3.64	
D-16								204.84	196.94	0.030000		18.19				
D-16	176.00	N/A	N/A	1.66	N/A	12.76	6.69	204.84	196.66	0.018151	24 inch	6.69	191.21	195.74	3.44	
D-17								201.09	193.74	0.025739		36.29				
D-17	138.00	0.64	0.54	2.81	10.00	13.61	11.32	201.09	193.58	0.002502	24 inch	11.32	187.73	191.21	3.60	
D-18								195.00	193.24	0.025217		35.92				
D-18	13.00	N/A	N/A	2.81	N/A	14.25	11.32	195.00	193.04	0.002502	24 inch	11.32	187.60	187.73	3.60	
D-19								195.00	193.04	0.010000		22.62				
D-19	45.00	N/A	N/A	2.81	N/A	14.31	11.32	195.00	192.88	0.002502	24 inch	11.32	184.41	187.60	3.60	
21-3								196.00	192.77	0.070889		60.23				

FOOT 4" INTENSITY LAKE SPREAD

19941-8

RECEIVED

MAR 07 2002

PDS

ALTAMONTE SVC. CTR

### Combined Pipe/Node Report

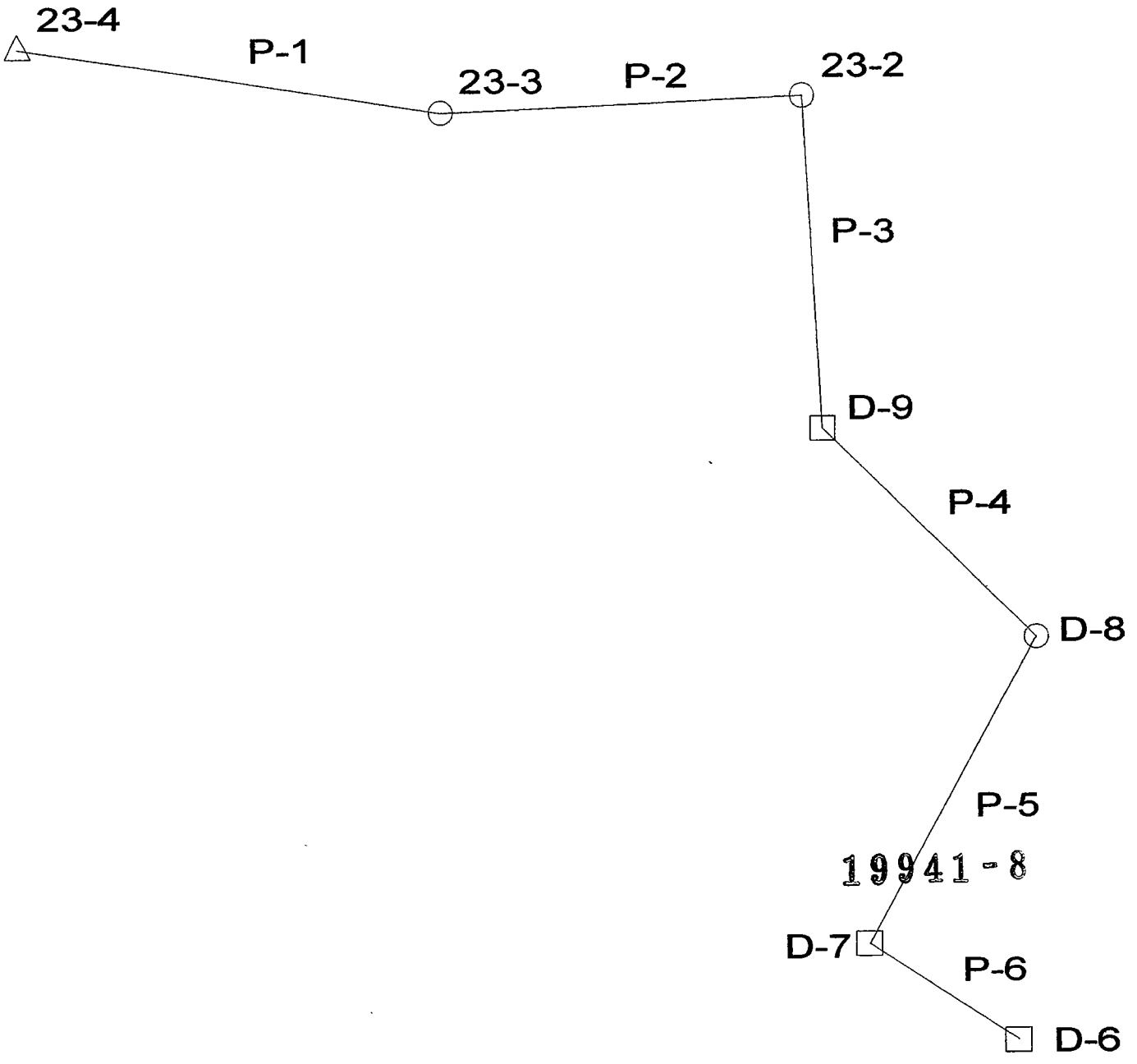
Pipe	Upstream Node	Downstream Node	Length (ft)	Inlet Area (acres)	Inlet C	Inlet CA (acres)	Total CA (acres)	Inlet Discharge (cfs)	Section Size	Capacity (cfs)	Average Velocity (ft/s)	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Constructed Slope (ft/ft)	Inlet TC (min)	Section Material
P-9	I-1	D-17	31.00	1.48	0.54	0.80	0.80	3.22	18 inch	7.55	1.82	191.37	191.21	0.005161	10.00	Concrete
P-10	I-2	D-16	37.00	1.13	0.54	0.61	0.61	2.46	18 inch	10.50	1.39	195.03	194.66	0.010000	10.00	Concrete
P-11	D-10	D-11	97.00	0.78	0.45	0.35	0.35	1.42	18 inch	7.47	2.38	205.00	204.51	0.005052	10.00	Concrete
P-1	D-12	D-13	24.00	0.27	0.54	0.15	0.15	0.59	18 inch	7.43	1.64	205.12	205.00	0.005000	10.00	Concrete
P-2	D-13	D-11	49.00	0.20	0.54	0.11	0.25	0.43	18 inch	10.50	2.03	205.00	204.51	0.010000	10.00	Concrete
P-3	D-11	D-15	266.00	N/A	N/A	N/A	0.60	N/A	18 inch	14.85	2.88	204.51	199.19	0.020000	N/A	Concrete
P-4	D-15	D-16	115.00	0.99	0.45	0.45	1.05	1.80	18 inch	18.19	3.64	199.19	195.74	0.030000	10.00	Concrete
P-5	D-16	D-17	176.00	N/A	N/A	N/A	1.66	N/A	24 inch	36.29	3.44	195.74	191.21	0.025739	N/A	Concrete
P-6	D-17	D-18	138.00	0.64	0.54	0.35	2.81	1.40	24 inch	35.92	3.60	191.21	187.73	0.025217	10.00	Concrete
P-7	D-18	D-19	13.00	N/A	N/A	N/A	2.81	N/A	24 inch	22.62	3.60	187.73	187.60	0.010000	N/A	Concrete
P-8	D-19	21-3	45.00	N/A	N/A	N/A	2.81	N/A	24 inch	60.23	3.60	187.60	184.41	0.070889	N/A	Concrete

*FOOT 4" INTERSTITY LANE SPREAD*

**RECEIVED**  
 MAR 07 2002  
 PDS  
 ALTAMONTE SVC. CTR

19941-8





**RECEIVED**

MAR 07 2002

**PDS**  
**ALTAMONTE SVC. CO.**

## DOT Report

-Node- Up Dn	Length (ft)	Inlet A (acres)	C	Tot CA (acres)	TC (min)	Sys Flow Time (min)	Q (cfs)	-Ground- Up Dn (ft)	-HGL- Up Dn (ft)	-Slope- Energy Constructed (ft/ft)	Size	-Section- Discharge Capacity (cfs)	Dn Invert (ft)	Up Invert (ft)	V avg (ft/s)	Description
D-6	29.00	0.67	0.54	0.36	10.00	10.00	2.83	185.63	180.95	0.000793	18 inch	2.83	179.69	179.84	1.90	
D-7								185.18	180.94	0.005172		7.55				
D-7	141.00	0.97	0.45	0.80	10.00	10.25	6.19	185.18	180.74	0.004488	18 inch	6.19	178.99	179.69	4.39	
D-8								184.13	180.19	0.004965		7.40				
D-8	179.00	N/A	N/A	0.80	N/A	10.79	6.07	184.13	179.94	0.016864	18 inch	6.07	175.41	178.99	4.28	
D-9								180.20	177.15	0.020000		14.85				
D-9	138.00	1.60	0.45	1.52	10.00	11.49	11.26	180.20	176.69	0.035055	18 inch	11.26	170.26	175.41	6.69	
23-2								177.70	171.99	0.037319		20.29				
23-2	150.00	N/A	N/A	1.52	N/A	11.83	11.12	177.70	171.54	0.013265	18 inch	11.12	167.97	170.26	6.62	
23-3								172.50	169.68	0.015267		12.98				
23-3	103.00	N/A	N/A	1.52	N/A	12.21	10.96	172.50	169.24	0.018083	18 inch	10.96	165.80	167.97	8.13	
23-4								170.00	166.74	0.021068		15.25				

**RECEIVED**  
 MAR 07 2002  
 PDS  
 ALTAMONTE SVC. CT

19941-8

### Combined Pipe/Node Report

Pipe	Upstream Node	Downstream Node	Length (ft)	Inlet Area (acres)	Inlet C	Inlet CA (acres)	Total CA (acres)	Inlet Discharge (cfs)	Section Size	Capacity (cfs)	Average Velocity (ft/s)	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Constructed Slope (ft/ft)	Inlet TC (min)	Section Material
P-6	D-6	D-7	29.00	0.67	0.54	0.36	0.36	2.83	18 inch	7.55	1.90	179.84	179.69	0.005172	10.00	Concrete
P-5	D-7	D-8	141.00	0.97	0.45	0.44	0.80	3.41	18 inch	7.40	4.39	179.69	178.99	0.004965	10.00	Concrete
P-4	D-8	D-9	179.00	N/A	N/A	N/A	0.80	N/A	18 inch	14.85	4.28	178.99	175.41	0.020000	N/A	Concrete
P-3	D-9	23-2	138.00	1.60	0.45	0.72	1.52	5.63	18 inch	20.29	6.69	175.41	170.26	0.037319	10.00	Concrete
P-2	23-2	23-3	150.00	N/A	N/A	N/A	1.52	N/A	18 inch	12.98	6.62	170.26	167.97	0.015267	N/A	Concrete
P-1	23-3	23-4	103.00	N/A	N/A	N/A	1.52	N/A	18 inch	15.25	8.13	167.97	165.80	0.021068	N/A	Concrete

19941-8

**RECEIVED**

MAR 07 2002

PDS

ALTAMONTE SVC. CTR.

Project Title: LEGENDS PHASE III  
 c:\shared\from scott\pipe\calcs\lbridge1.stm  
 03/05/02 03:55:53 AM

**FARNER BARLEY & ASSOC.**  
 Haestad Methods, Inc. 37 Brookside Road Waterbury, CT 06708 (203) 755-1666

Project Engineer: FARNER BARLEY & ASSOC.  
 StormCAD v1.0  
 Page 1 of 1

## DOT Report

-Node- Up Dn	Length (ft)	Inlet A (acres)	C	Tot CA (acres)	TC (min)	Sys Flow Time (min)	Q (cfs)	-Ground- Up Dn (ft)	-HGL- Up Dn (ft)	-Slope- Energy Constructed (ft/ft)	Size	-Section- Discharge Capacity (cfs)	Dn Invert (ft)	Up Invert (ft)	V avg (ft/s)	Description
D-6	29.00	0.67	0.54	0.36	10.00	10.00	1.46	185.63	180.54	0.000734	18 Inch	1.46	179.69	179.84	1.62	
D-7								185.18	180.53	0.005172		7.55				
D-7	141.00	0.97	0.45	0.80	10.00	10.30	3.22	185.18	180.38	0.004610	18 Inch	3.22	178.99	179.69	3.60	
D-8								184.13	179.83	0.004965		7.40				
D-8	179.00	N/A	N/A	0.80	N/A	10.95	3.22	184.13	179.67	0.018169	18 Inch	3.22	175.41	178.99	3.11	
D-9								180.20	176.61	0.020000		14.85				
D-9	138.00	1.60	0.45	1.52	10.00	11.91	6.12	180.20	176.37	0.036685	18 Inch	6.12	170.26	175.41	4.59	
23-2								177.70	171.46	0.037319		20.29				
23-2	150.00	N/A	N/A	1.52	N/A	12.41	6.12	177.70	171.22	0.014684	18 Inch	6.12	167.97	170.26	4.59	
23-3								172.50	169.17	0.015267		12.98				
23-3	103.00	N/A	N/A	1.52	N/A	12.96	6.12	172.50	168.93	0.017898	18 Inch	6.12	165.80	167.97	6.65	
23-4								170.00	166.46	0.021068		15.25				

*FOOT 4" LANE SPREAD*

**RECEIVED**  
MAR 07 2002  
PDS  
ALTAMONTE SVC. CTR.

19941-8

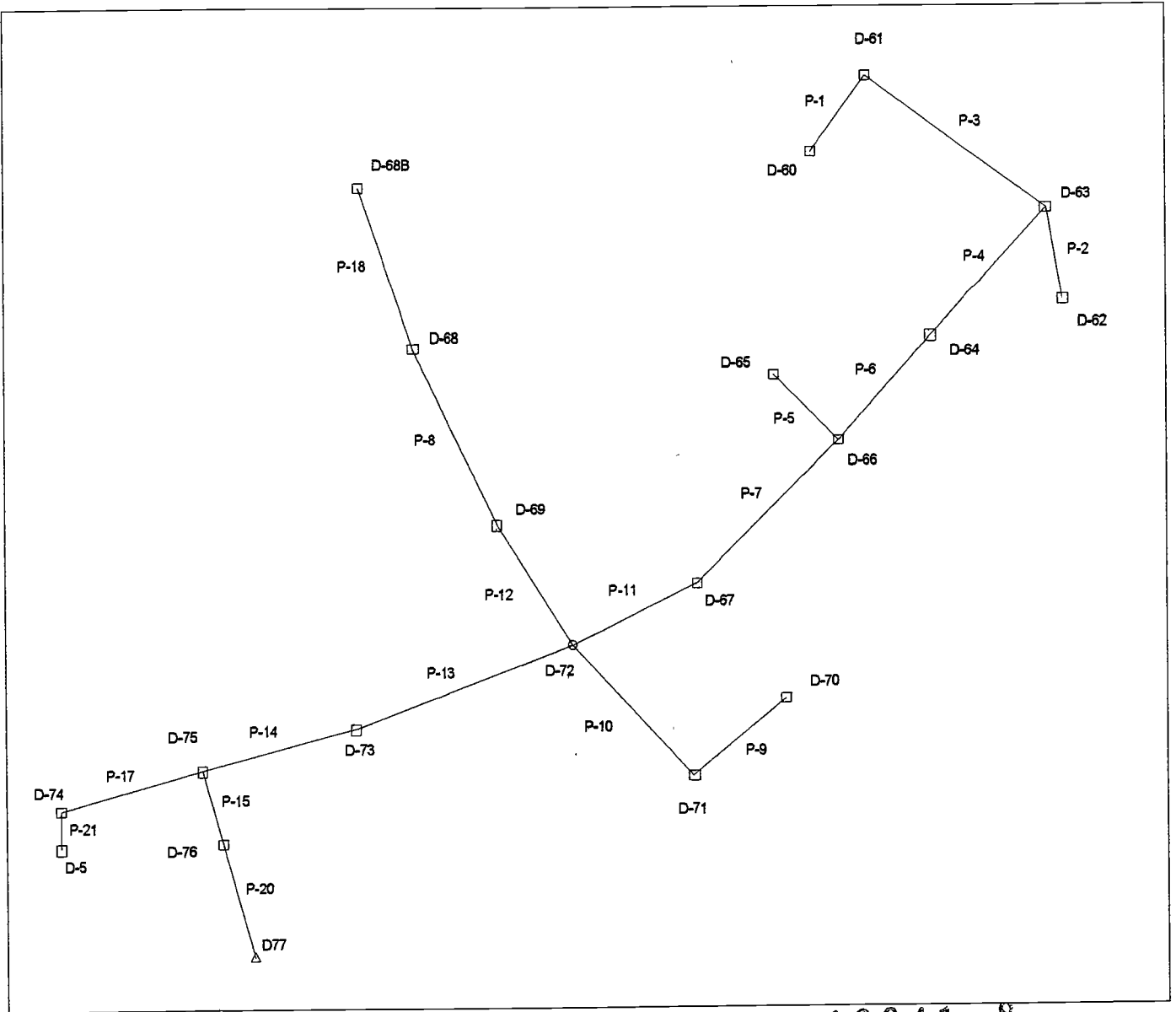
### Combined Pipe/Node Report

Pipe	Upstream Node	Downstream Node	Length (ft)	Inlet Area (acres)	Inlet C	Inlet CA (acres)	Total CA (acres)	Inlet Discharge (cfs)	Section Size	Capacity (cfs)	Average Velocity (ft/s)	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Constructed Slope (ft/ft)	Inlet TC (min)	Section Material
P-6	D-6	D-7	29.00	0.67	0.54	0.36	0.36	1.46	18 inch	7.55	1.62	179.84	179.69	0.005172	10.00	Concrete
P-5	D-7	D-8	141.00	0.97	0.45	0.44	0.80	1.76	18 inch	7.40	3.60	179.69	178.99	0.004965	10.00	Concrete
P-4	D-8	D-9	179.00	N/A	N/A	N/A	0.80	N/A	18 inch	14.85	3.11	178.99	175.41	0.020000	N/A	Concrete
P-3	D-9	23-2	138.00	1.60	0.45	0.72	1.52	2.90	18 inch	20.29	4.59	175.41	170.26	0.037319	10.00	Concrete
P-2	23-2	23-3	150.00	N/A	N/A	N/A	1.52	N/A	18 inch	12.98	4.59	170.26	167.97	0.015267	N/A	Concrete
P-1	23-3	23-4	103.00	N/A	N/A	N/A	1.52	N/A	18 inch	15.25	6.65	167.97	165.80	0.021068	N/A	Concrete

*FDOT 4" INTENSITY LAKE SPREAD*

**RECEIVED**  
 MAR 07 2002  
 PDS  
 ALTAMONTE SVC. CTR.

19941-8



\* DS IS THE ONLY PROPOSED INLET. ALL OTHER STRUCTURES ARE EXISTING. 19941-8

MAR 07 2002

PDS  
 ALTAMONTE SVC. CTR.

### DOT Report

-Node- Up Dn	Length (ft)	Inlet A (acres)	C	Tot CA (acres)	TC (min)	Sys Flow Time (min)	Q (cfs)	-Ground- Up Dn (ft)	-HGL- Up Dn (ft)	-Slope- Energy Constructed (ft/ft)	Size	-Section- Discharge Capacity (cfs)	Dn Invert (ft)	Up Invert (ft)	V avg (ft/s)	Description
D-5	22.00	0.88	0.45	0.40	10.00	10.00	3.10	183.03	177.72	0.000989	18 inch	3.10	176.50	176.61	2.12	
D-74								183.39	177.71	0.005000		7.43				
D-74	160.00	0.83	0.48	0.79	10.00	10.17	6.18	183.39	177.46	0.014381	18 inch	6.18	173.00	176.50	4.33	
D-75								180.52	175.38	0.021875		15.54				
D-68B	86.00	0.99	0.38	0.38	10.00	10.00	2.94	185.79	181.38	0.000962	18 inch	2.94	179.80	180.50	2.19	
D-68								184.51	181.37	0.008140		9.48				
D-68	163.00	0.94	0.52	0.87	10.00	10.64	6.62	184.51	181.26	0.003961	18 inch	6.62	177.80	179.80	3.76	
D-69								183.03	180.62	0.012270		11.63				
D-69	49.00	0.22	0.51	0.98	10.00	11.36	7.28	183.03	180.49	0.004805	18 inch	7.28	175.82	177.80	4.12	
D-72								182.14	180.25	0.040408		21.11				
D-60	23.00	0.36	0.51	0.18	10.00	10.00	1.44	198.76	196.57	0.000187	18 inch	1.44	193.50	194.00	0.81	
D-61								198.76	196.57	0.021739		15.49				
D-61	240.00	1.77	0.55	1.16	10.00	10.47	8.90	198.76	196.25	0.007183	18 inch	8.90	192.30	193.50	5.04	
D-63								200.12	194.53	0.005000		7.43				
D-62	34.00	0.18	0.49	0.09	10.00	10.00	0.69	200.45	195.81	0.017378	18 inch	0.69	194.82	195.50	3.46	
D-63								200.12	195.04	0.020000		14.85				
D-63	219.00	0.80	0.57	1.70	10.00	11.27	12.72	200.12	193.89	0.014669	18 inch	12.72	188.90	192.30	7.20	
D-64								194.12	190.67	0.015525		13.09				
D-64	160.00	0.91	0.51	2.17	10.00	11.77	15.89	194.12	190.34	0.029278	24 inch	15.89	183.94	188.90	5.82	
D-66								189.65	185.93	0.031000		39.83				
D-65	23.00	0.73	0.53	0.39	10.00	10.00	3.03	189.65	185.95	0.000830	18 inch	3.03	183.94	184.40	1.71	
D-66								189.65	185.93	0.020000		14.85				
D-66	160.00	0.80	0.55	2.99	10.00	12.23	21.59	189.65	185.52	0.024122	30 inch	21.59	179.90	183.94	5.81	
D-67								185.18	181.95	0.025250		65.17				
D-67	178.00	0.82	0.51	3.41	10.00	12.69	24.18	185.18	181.58	0.009491	30 inch	24.18	175.82	179.90	5.92	
D-72								182.14	180.25	0.022921		62.10				
D-70	22.00	1.88	0.47	0.88	10.00	10.00	6.91	182.29	180.96	0.004330	18 inch	6.91	177.06	177.50	3.91	
D-71								182.29	180.86	0.020000		14.85				
D-71	62.00	0.27	0.51	1.02	10.00	10.09	7.96	182.29	180.61	0.005747	18 inch	7.96	175.82	177.06	4.51	
D-71								182.14	180.25	0.020000		14.85				
D-71	189.00	N/A	N/A	5.41	N/A	13.19	37.61	182.14	179.34	0.008410	30 inch	37.61	174.13	175.82	7.66	
D-71								181.44	177.92	0.010000		41.01				
D-71	194.00	1.33	0.48	6.05	10.00	13.56	41.45	181.44	177.37	0.010212	30 inch	41.45	172.19	174.13	8.44	
D-71								180.52	175.38	0.010000		41.01				
D-75	23.00	1.52	0.41	7.47	10.00	13.94	50.38	180.52	173.91	0.015091	30 inch	50.38	170.30	171.02	10.26	
D-78								180.52	173.56	0.031304		72.57				
D-78	268.00	0.58	0.51	7.76	10.00	13.98	52.30	180.52	172.63	0.016499	30 inch	52.30	165.66	170.30	11.76	

19941-8

RECEIVED  
 MAR 07 2002

PDS  
 ALTAMONTE SVC CTR

## DOT Report

-Node- Up Dn	Length (ft)	Inlet A (acres)	C	Tot CA (acres)	TC (min)	Sys Flow Time (min)	Q (cfs)	-Ground- Up Dn (ft)	-HGL- Up Dn (ft)	-Slope- Energy Constructed (ft/ft)	Size	-Section- Discharge Capacity (cfs)	Dn Invert (ft)	Up Invert (ft)	V avg (ft/s)	Description
D77								172.00	167.64	0.017313		53.97				

19941-8

**RECEIVED**

MAR 07 2002

PDS  
ALTAMONTE SVC. CTF



### Combined Pipe/Node Report

Pipe	Upstream Node	Downstream Node	Length (ft)	Inlet Area (acres)	Inlet C	Inlet CA (acres)	Total CA (acres)	Inlet Discharge (cfs)	Section Size	Capacity (cfs)	Average Velocity (ft/s)	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Constructed Slope (ft/ft)	Inlet TC (min)	Section Material
P-21	D-5	D-74	22.00	0.88	0.45	0.40	0.40	3.10	18 inch	7.43	2.12	176.61	176.50	0.005000	10.00	Concrete
P-17	D-74	D-75	160.00	0.83	0.48	0.40	0.79	3.12	18 inch	15.54	4.33	176.50	173.00	0.021875	10.00	Concrete
P-18	D-68B	D-68	86.00	0.99	0.38	0.38	0.38	2.94	18 inch	9.48	2.19	180.50	179.80	0.008140	10.00	Concrete
P-8	D-68	D-69	163.00	0.94	0.52	0.49	0.87	3.82	18 inch	11.63	3.76	179.80	177.80	0.012270	10.00	Concrete
P-12	D-69	D-72	49.00	0.22	0.51	0.11	0.98	0.88	18 inch	21.11	4.12	177.80	175.82	0.040408	10.00	Concrete
P-1	D-60	D-61	23.00	0.36	0.51	0.18	0.18	1.44	18 inch	15.49	0.81	194.00	193.50	0.021739	10.00	Concrete
P-3	D-61	D-63	240.00	1.77	0.55	0.97	1.16	7.61	18 inch	7.43	5.04	193.50	192.30	0.005000	10.00	Concrete
P-2	D-62	D-63	34.00	0.18	0.49	0.09	0.09	0.69	18 inch	14.85	3.46	195.50	194.82	0.020000	10.00	Concrete
P-4	D-63	D-64	219.00	0.80	0.57	0.46	1.70	3.57	18 inch	13.09	7.20	192.30	188.90	0.015525	10.00	Concrete
P-6	D-64	D-66	160.00	0.91	0.51	0.46	2.17	3.63	24 inch	39.83	5.82	188.90	183.94	0.031000	10.00	Concrete
P-5	D-65	D-66	23.00	0.73	0.53	0.39	0.39	3.03	18 inch	14.85	1.71	184.40	183.94	0.020000	10.00	Concrete
P-7	D-66	D-67	160.00	0.80	0.55	0.44	2.99	3.44	30 inch	65.17	5.81	183.94	179.90	0.025250	10.00	Concrete
P-11	D-67	D-72	178.00	0.82	0.51	0.42	3.41	3.27	30 inch	62.10	5.92	179.90	175.82	0.022921	10.00	Concrete
P-9	D-70	D-71	22.00	1.88	0.47	0.88	0.88	6.91	18 inch	14.85	3.91	177.50	177.06	0.020000	10.00	Concrete
P-10	D-71	D-72	62.00	0.27	0.51	0.14	1.02	1.08	18 inch	14.85	4.51	177.06	175.82	0.020000	10.00	Concrete
P-13	D-72	D-73	169.00	N/A	N/A	N/A	5.41	N/A	30 inch	41.01	7.66	175.82	174.13	0.010000	N/A	Concrete
P-14	D-73	D-75	194.00	1.33	0.48	0.64	6.05	4.99	30 inch	41.01	8.44	174.13	172.19	0.010000	10.00	Concrete
P-15	D-75	D-76	23.00	1.52	0.41	0.62	7.47	4.87	30 inch	72.57	10.26	171.02	170.30	0.031304	10.00	Concrete
P-20	D-76	D-77	268.00	0.58	0.51	0.30	7.76	2.31	30 inch	53.97	11.76	170.30	165.66	0.017313	10.00	Concrete

19941-8

**RECEIVED**  
 MAR 07 2003  
 PDS  
 ALTAMONTE SVC. CTR.

Project File: Kings Ridge North  
 c:\shared\from\pds\pipe\calcs\bridge2.stm  
 03/05/02 03:58:27 AM

**FARNER BARLEY & ASSOC.**  
 Haestad Methods, Inc. 37 Brookside Road Waterbury, CT 06708 (203) 755-1666

Project Engineer: FARNER BARLEY & ASSOC.  
 StormCAD v1.0  
 Page 1 of 1

DOT Report

FDOT 4" INTENSITY LAKE SPREAD

-Node- Up Dn	Length (ft)	Inlet A (acres)	C	Tot CA (acres)	TC (min)	Sys Flow Time (min)	Q (cfs)	-Ground- Up Dn (ft)	-HGL- Up Dn (ft)	-Slope- Energy Constructed (ft/ft)	Size	-Section- Discharge Capacity (cfs)	Dn Invert (ft)	Up Invert (ft)	V avg (ft/s)	Description
D-5	22.00	0.88	0.45	0.40	10.00	10.00	1.60	183.03	177.34	0.000812	18 inch	1.60	176.50	176.61	1.72	
D-74								183.39	177.34	0.005000		7.43				
D-74	160.00	0.83	0.48	0.79	10.00	10.21	3.20	183.39	177.18	0.021864	18 inch	3.20	173.00	176.50	4.01	
D-75								180.52	173.71	0.021875		15.54				
D-68B	86.00	0.99	0.38	0.38	10.00	10.00	1.52	185.79	180.96	0.005177	18 inch	1.52	179.80	180.50	2.37	
D-68								184.51	180.65	0.008140		9.48				
D-68	163.00	0.94	0.52	0.87	10.00	10.60	3.49	184.51	180.51	0.011834	18 inch	3.49	177.80	179.80	3.66	
D-69								183.03	178.71	0.012270		11.63				
D-69	49.00	0.22	0.51	0.98	10.00	11.35	3.94	183.03	178.56	0.014086	18 inch	3.94	175.82	177.80	3.31	
D-72								182.14	178.09	0.040408		21.11				
D-60	23.00	0.36	0.51	0.18	10.00	10.00	0.74	198.76	194.60	0.000174	18 inch	0.74	193.50	194.00	0.83	
D-61								198.76	194.61	0.021739		15.49				
D-61	240.00	1.77	0.55	1.16	10.00	10.46	4.67	198.76	194.36	0.003646	18 inch	4.67	192.30	193.50	3.59	
D-63								200.12	193.68	0.005000		7.43				
D-62	34.00	0.18	0.49	0.09	10.00	10.00	0.36	200.45	195.72	0.018351	18 inch	0.36	194.82	195.50	2.86	
D-63								200.12	194.98	0.020000		14.85				
D-63	219.00	0.80	0.57	1.70	10.00	11.57	6.86	200.12	193.31	0.015127	18 inch	6.86	188.90	192.30	4.86	
D-64								194.12	190.16	0.015525		13.09				
D-64	160.00	0.91	0.51	2.17	10.00	12.33	8.73	194.12	189.95	0.029973	24 inch	8.73	183.94	188.90	4.41	
D-66								189.65	185.38	0.031000		39.83				
D-65	23.00	0.73	0.53	0.39	10.00	10.00	1.56	189.65	185.37	0.000255	18 inch	1.56	183.94	184.40	1.10	
D-66								189.65	185.38	0.020000		14.85				
D-66	160.00	0.80	0.55	2.99	10.00	12.93	12.06	189.65	185.11	0.024501	30 inch	12.06	179.90	183.94	4.66	
D-67								185.18	181.39	0.025250		65.17				
D-67	178.00	0.82	0.51	3.41	10.00	13.50	13.75	185.18	181.15	0.019172	30 inch	13.75	175.82	179.90	4.27	
D-72								182.14	178.09	0.022921		62.10				
D-70	22.00	1.88	0.47	0.88	10.00	10.00	3.56	182.29	178.22	0.007713	18 inch	3.56	177.06	177.50	3.31	
D-71								182.29	178.24	0.020000		14.85				
D-71	62.00	0.27	0.51	1.02	10.00	10.11	4.12	182.29	178.13	0.001549	18 inch	4.12	175.82	177.06	2.70	
D-72								182.14	178.09	0.020000		14.85				
D-72	69.00	N/A	N/A	5.41	N/A	14.20	21.81	182.14	177.41	0.008928	30 inch	21.81	174.13	175.82	5.84	
D-73								181.44	176.19	0.010000		41.01				
D-73	24.00	1.33	0.48	6.05	10.00	14.68	24.38	181.44	175.81	0.009294	30 inch	24.38	172.19	174.13	7.83	
D-75								180.52	173.58	0.010000		41.01				
D-75	23.00	1.52	0.41	7.47	10.00	15.09	30.10	180.52	172.89	0.022344	30 inch	30.10	170.30	171.02	6.94	
D-76								180.52	172.68	0.031304		72.57				
D-76	253.00	0.58	0.51	7.76	10.00	15.15	31.29	180.52	172.21	0.015313	30 inch	31.29	165.66	170.30	9.60	

ALTA MONTI SVC. CTR.

MAR 07 2002

RECEIVED

Project File: Kings Ridge North  
 c:\shared\from stony\pipe\calcs\lbridge2.stm  
 03/05/02 03:58:08 AM

FARNER BARLEY & ASSOC.

Haestad Methods, Inc. 37 Brookside Road Waterbury, CT 06708 (203) 755-1666

Project Engineer: FARNER BARLEY & ASSOC.

StormCAD v1.0

Page 1 of 2

19941-8

DOT Report

-Node- Up Dn	Length (ft)	Inlet A (acres)	C	Tot CA (acres)	TC (min)	Sys Flow Time (min)	Q (cfs)	-Ground- Up Dn (ft)	-HGL- Up Dn (ft)	-Slope- Energy Constructed (ft/ft)	Size	-Section- Discharge Capacity (cfs)	Dn Invert (ft)	Up Invert (ft)	V avg (ft/s)	Description
D77								172.00	167.03	0.017313		53.97				

*FOOT 4" INTENSITY LANE SPREAD*

19941-8

**RECEIVED**

MAR 07 2002

PDS

ALTAMONTE SVC. CTR.

### Combined Pipe/Node Report

Pipe	Upstream Node	Downstream Node	Length (ft)	Inlet Area (acres)	Inlet C	Inlet CA (acres)	Total CA (acres)	Inlet Discharge (cfs)	Section Size	Capacity (cfs)	Average Velocity (ft/s)	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Constructed Slope (ft/ft)	Inlet TC (min)	Section Material
P-21	D-5	D-74	22.00	0.88	0.45	0.40	0.40	1.60	18 inch	7.43	1.72	176.61	176.50	0.005000	10.00	Concrete
P-17	D-74	D-75	160.00	0.83	0.48	0.40	0.79	1.61	18 inch	15.54	4.01	176.50	173.00	0.021875	10.00	Concrete
P-18	D-68B	D-68	86.00	0.99	0.38	0.38	0.38	1.52	18 inch	9.48	2.37	180.50	179.80	0.008140	10.00	Concrete
P-8	D-68	D-69	163.00	0.94	0.52	0.49	0.87	1.97	18 inch	11.63	3.66	179.80	177.80	0.012270	10.00	Concrete
P-12	D-69	D-72	49.00	0.22	0.51	0.11	0.98	0.45	18 inch	21.11	3.31	177.80	175.82	0.040408	10.00	Concrete
P-1	D-60	D-61	23.00	0.36	0.51	0.18	0.18	0.74	18 inch	15.49	0.83	194.00	193.50	0.021739	10.00	Concrete
P-3	D-61	D-63	240.00	1.77	0.55	0.97	1.16	3.93	18 inch	7.43	3.59	193.50	192.30	0.005000	10.00	Concrete
P-2	D-62	D-63	34.00	0.18	0.49	0.09	0.09	0.36	18 inch	14.85	2.86	195.50	194.82	0.020000	10.00	Concrete
P-4	D-63	D-64	219.00	0.80	0.57	0.46	1.70	1.84	18 inch	13.09	4.86	192.30	188.90	0.015525	10.00	Concrete
P-6	D-64	D-66	160.00	0.91	0.51	0.46	2.17	1.87	24 inch	39.83	4.41	188.90	183.94	0.031000	10.00	Concrete
P-5	D-65	D-66	23.00	0.73	0.53	0.39	0.39	1.56	18 inch	14.85	1.10	184.40	183.94	0.020000	10.00	Concrete
P-7	D-66	D-67	160.00	0.80	0.55	0.44	2.99	1.77	30 inch	65.17	4.66	183.94	179.90	0.025250	10.00	Concrete
P-11	D-67	D-72	178.00	0.82	0.51	0.42	3.41	1.69	30 inch	62.10	4.27	179.90	175.82	0.022921	10.00	Concrete
P-9	D-70	D-71	22.00	1.88	0.47	0.88	0.88	3.56	18 inch	14.85	3.31	177.50	177.06	0.020000	10.00	Concrete
P-10	D-71	D-72	62.00	0.27	0.51	0.14	1.02	0.56	18 inch	14.85	2.70	177.06	175.82	0.020000	10.00	Concrete
P-13	D-72	D-73	169.00	N/A	N/A	N/A	5.41	N/A	30 inch	41.01	5.84	175.82	174.13	0.010000	N/A	Concrete
P-14	D-73	D-75	194.00	1.33	0.48	0.64	6.05	2.57	30 inch	41.01	7.83	174.13	172.19	0.010000	10.00	Concrete
P-15	D-75	D-76	23.00	1.52	0.41	0.62	7.47	2.51	30 inch	72.57	6.94	171.02	170.30	0.031304	10.00	Concrete
P-20	D-76	D77	268.00	0.58	0.51	0.30	7.76	1.19	30 inch	53.97	9.60	170.30	165.66	0.017313	10.00	Concrete

*FOOT 4" INTENSITY LAKE SPREAD*

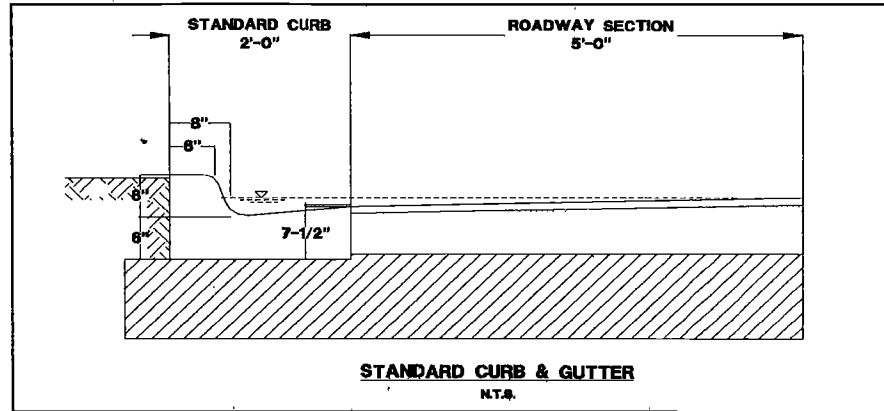
**RECEIVED**  
 MAR 07 2002  
 PDS  
 ALTAMONTE SVC. CTR.

19941-8

**TOTAL DISCHARGE, CFS  
STANDARD CURB & GUTTER**

**Manning's Equation:**  
 $Q = 1.486 \times A \times R^{2/3} \times S^{1/2} / n$

Where; **S** = Roadway Slope, %  
**A** = Section Area, sf  
**Q** = Gutter flow rate, in ft<sup>3</sup>/sec  
**R** = Hydraulic Radius, ft  
**n** = Manning's roughness coefficient



Section	Width (ft)	Area (sf)	R (ft)	Manning's n Values	Type of Gutter Pavement
Gutter	1.50	0.250	0.144	0.012	Concrete, trowled
Roadway	5.00	0.260	0.052	0.016	Asphalt Pavement - Rough texture

Slope %	Gutter (cfs)	Roadway (cfs)	Total (cfs)
0.50%	0.601	0.238	0.840
0.60%	0.659	0.261	0.920
0.70%	0.712	0.282	0.994
0.80%	0.761	0.302	1.062
0.90%	0.807	0.320	1.127
1.00%	0.851	0.337	1.188
1.10%	0.892	0.354	1.246
1.20%	0.932	0.369	1.301
1.30%	0.970	0.384	1.354
1.40%	1.006	0.399	1.405
1.50%	1.042	0.413	1.455
1.60%	1.076	0.427	1.502
1.70%	1.109	0.440	1.549
1.80%	1.141	0.452	1.594
1.90%	1.172	0.465	1.637
2.00%	1.203	0.477	1.680
2.10%	1.233	0.489	1.721

Slope %	Gutter (cfs)	Roadway (cfs)	Total (cfs)
2.20%	1.262	0.500	1.762
2.30%	1.290	0.511	1.801
2.40%	1.318	0.522	1.840
2.50%	1.345	0.533	1.878
2.60%	1.371	0.544	1.915
2.60%	1.371	0.544	1.915
2.80%	1.423	0.564	1.987
2.90%	1.448	0.574	2.023
3.00%	1.473	0.584	2.057
3.10%	1.497	0.594	2.091
3.20%	1.521	0.603	2.125
3.30%	1.545	0.613	2.158
3.40%	1.568	0.622	2.190
3.50%	1.591	0.631	2.222
3.60%	1.614	0.640	2.254
3.70%	1.636	0.649	2.285
3.80%	1.658	0.657	2.315

Slope %	Gutter (cfs)	Roadway (cfs)	Total (cfs)
3.90%	1.680	0.666	2.346
4.00%	1.701	0.674	2.375
4.10%	1.722	0.683	2.405
4.20%	1.743	0.691	2.434
4.30%	1.764	0.699	2.463
4.40%	1.784	0.707	2.491
4.50%	1.804	0.715	2.520
4.60%	1.824	0.723	2.547
4.70%	1.844	0.731	2.575
4.80%	1.863	0.739	2.602
4.90%	1.883	0.746	2.629
5.00%	1.902	0.754	2.656
5.10%	1.921	0.762	2.682
5.20%	1.939	0.769	2.708
5.30%	1.958	0.776	2.734
5.40%	1.976	0.784	2.760
5.50%	1.995	0.791	2.786

19941-8

PDS  
ALTA MONTE SVC. CTR.

RECEIVED