England-Thims & Miller, Inc.
ENGINEERS • PLANNERS • SURVEYORS • LANDSCAPE ARCHITECTS

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N. Hugh Mathews, P.E., Exec., V.P.
Joseph A. Tarver, Exec., V.P.
Juanitta Bader Clem, P.E., V.P.
Scott A. Wild, P.E., PSM, V.P.
Samuel R. Crissinger, CPA, V.P
Robert A. Mizell, Jr., P.E., V.P
Bryan R. Stewart, V.P.

January 30, 2004

Ms. Mary Nogas
Florida Department of Environmental Protection
Northeast District
7825 Baymeadows Way, Suite 200B
Jacksonville, Florida 32256-7590

Reference: Trail Ridge Landfill – Management & Storage of Surface Waters
DEP Permit No.0013493-010-SC
ETM Project No. 03-154

Dear Ms. Nogas:

On behalf of Trail Ridge Landfill, Inc. and the City of Jacksonville, we hereby request that approximately one-half an acre of the drainage area of the existing ancillary facilities detention pond be removed from that drainage area. The area to be removed will be modified to include a roadway and fuel station, which will have a separate stormwater management system that will be constructed, operated and maintained by the City of Jacksonville. On January 30, 2004, we applied for an Environmental Resource Permit for this area. Please see the attached revised site plan (Drawing No. 4 of the approved Trail Ridge Landfill Permit Documents) which shows the location of the proposed fuel station as well as the Site Plan for the fuel station area. We request that the Department respond in writing that they agree with this request.

If you have any questions, please give me a call at 265-3181. Thank you for your assistance.

Sincerely,

ENGLAND-THIMS & MILLER, INC.

Juanitta B. Clem, P.E.
Vice President

RECEIVED
JAN 30 2004
STATE OF FLORIDA
DEP ENV. PROTECTION
NE FAX

Attachments

cc: Chris Pearson: Solid Waste & Resource Management
Greg Mathes: Trail Ridge Landfill, Inc.
Ken Kohn, FDEP

14775 ST. AUGUSTINE RD. • JACKSONVILLE, FL 32258 • TEL: (904) 642-8990 • FAX: (904) 646-9485

Boesch, Julia

From: Boesch, Julia
Sent: Monday, February 23, 2004 10:45 AM
To: Jarvis, Katheryn
Cc: Kohn, Kenneth
Subject: Tail Ridge Fuel Station proposal received January 30, 2004

Katheryn,
The solid waste section has no comments concerning the proposed Fuel station at the Trail Ridge Landfill. However, since they are proposing fuel tanks I was thinking that you may want to contact the tanks section, if you haven't already, to make sure they have no comments as well.
Thanks,
Julia

APPLICATION FOR ENVIRONMENTAL RESOURCE PERMIT

TRAIL RIDGE FUEL STATION

FOR

CITY OF JACKSONVILLE

CITY DEV. NO.

SUBMITTED BY

England-Thims & Miller, Inc.
ENGINEERS • PLANNERS • SURVEYORS • LANDSCAPE ARCHITECTS

14775 St. Augustine Road
Jacksonville, FL 32258
Certification of Authorization No. 2584
Phone: 904.642-8990
Fax: 904.646.9485

January 30, 2004

This report was prepared by me
or under my direct supervision.

Scott A. Knowles, P.E. #55391

England-Thims & Miller, Inc.
ENGINEERS • PLANNERS • SURVEYORS • GIS • LANDSCAPE ARCHITECTS
14775 St. Augustine Road, Jacksonville, FL. 32258
(904) 642-8990 Fax: (904) 646-9485 http://www.etminc.com

LETTER OF TRANSMITTAL

To:	Florida DEP	**Date:**	January 30, 2004
ATTN:	Mary Nogas	**Job No:**	03-154
Address:	7785 Baymeadows Way, Suite 200B	**Reference:**	Trail Ridge Fuel Site
	Jacksonville, Florida 32256		
		VIA:	**HAND DELIVERY**

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via _____ the following items:

☐ Shop Drawings ☒ Prints ☐ Plans ☐ Samples ☐ Specifications

☒ Copy of Letter ☐ Change Order ☐ _____

RECEIVED
JAN 30 2004
STATE OF FLORIDA
DEPT. OF ENV. PROTECTION
NORTHEAST DISTRICT-JAX

COPIES	DATE	NO.	DESCRIPTION
2			Set of Site Plans
1			Copy of ERP Applications
1			Hydrology Study
1			Cover Letter

THESE ARE TRANSMITTED AS CHECKED BELOW:

☐ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval

☐ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution

☐ As requested ☐ Returned for corrections ☐ Return _____ for corrected prints

☒ Review and comment ☐ _____

☐ FOR BIDS DUE _____, 2003 ☐ PRINTS RETURNED AFTER LOAN TO US

Remarks _____

COPY TO: File

SIGNED: _____
Scott A. Knowles, P.E.

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
NORTHEAST DISTRICT
7825 Baymeadows Way, Suite B200
Jacksonville, FL 32256-7590

Interoffice Memorandum

TO: Mary Nogas
Solid Waste Permitting

THROUGH: Ken Kohn KK
NPDES / Stormwater Section Supervisor

FROM: Katheryn Jarvis
Engineering Support

DATE: February 4, 2004

SUBJECT: Duval County – ERP Application Review
Trail Ridge Fuel Station
Application No. 16-0226914-001-SI

Attached is a copy of the application for the subject facility. Please review the application and if additional information needs to be requested, please provide those comments by no later than February 23, 2004, in order to meet the 30-day review period, which ends February 29, 2004. Your assistance in this matter is appreciated.

SECTION A

FOR AGENCY USE ONLY	
ACOE Application #	DEP/WMD Application # 4602694-001-SI
Date Application Received	Date Application Received
Proposed Project Lat.	Fee Received $
Proposed Project Long.	Fee Receipt #

PART 1:

Are any of the activities described in this application proposed to occur in, on, or over wetlands or other surface waters?
☐ yes ☒ no

Is this application being filed by or on behalf of a government entity or drainage district? ☒ yes ☐ no

A. Type of Environmental Resource Permit Requested (check at least one). See Attachment 2 for thresholds and descriptions.

- ☐ Noticed General - include information requested in Section B.
- ☐ Standard General (Single Family Dwelling) - include information requested in Sections C and D.
- ☐ Standard General (all other Standard General projects) - include information requested in Sections C and E.
- ☐ Individual (Single Family Dwelling) - include information requested in Sections C and D.
- ☒ Individual (all other Individual projects) - include information requested in Sections C and E.
- ☐ Conceptual - include information requested in Sections C and E.
- ☐ Mitigation Bank Permit (construction) - include information requested in Sections C and F. (If the proposed mitigation bank involves the construction of a surface water management system requiring another permit defined above, check the appropriate box and submit the information requested by the applicable section.)
- ☐ Mitigation Bank (conceptual) - include information requested in Sections C and F.

B. Type of activity for which you are applying (check at least one)

- ☒ Construction or operation of a new system, other than a solid waste facility, including dredging or filling in, on or over wetlands and other surface waters.
- ☐ Construction, expansion or modification of a solid waste facility.
- ☐ Alteration or operation of an existing system which was not previously permitted by a WMD or DEP.
- ☐ Modification of a system previously permitted by a WMD or DEP.

  Provide previous permit numbers:_____

  - ☐ Alteration of a system
  - ☐ Abandonment of a system
  - ☐ Removal of a system
  - ☐ Extension of permit duration
  - ☐ Construction of additional phases of a system

C. Are you requesting authorization to use Sovereign Submerged Lands?
☐ yes ☒ no
(See Section G and Attachment 5 for more information before answering this question.)

D. For activities in, on,or over wetlands or other surface waters, check type of federal dredge and fill permit requested:
☐ Individual ☐ Programmatic General ☐ General
☐ Nationwide ☒ Not Applicable

E. Are you claiming to qualify for an exemption? ☐ yes ☒ no
If yes, provide rule number if known. _____

PART 3: A. OWNER(S) OF LAND	B. ENTITY TO RECEIVE PERMIT (IF OTHER THAN OWNER)
Name Chris Pearson	Name
Title and Company City of Jacksonville, Solid Waste Div.	Title and Company
Address 444 E. Duval St., Suite 200	Address
City, State, Zip Jacksonville, FL 32202	City, State, Zip
Telephone and Fax (P)904-630-4593	Telephone and Fax
C. AGENT AUTHORIZED TO SECURE PERMIT	**D. CONSULTANT (IF DIFFERENT FROM AGENT)**
Name	Name Scott A Knowles, P.E.
Title and Company	Title and Company Project Engineer, England-Thims & Miller, Inc.
Address	Address 14475 St. Augustine Rd
City, State, Zip	City, State, Zip Jacksonville, FL 32258
Telephone and Fax	Telephone and Fax (P)904-642-8990, (F)904-646-9455

PART 4: (Please provide metric equivalent for federally funded projects):

A. Name of Project, including phase if applicable: Trail Ridge Fuel Station

B. Is this application for part of a multi-phase project?
☐yes ☒no

C. Total applicant-owned area contiguous to the project?
148 ac.; _____ ha.

D. Total area served by the system: 0.48 ac.; _____ ha.

E. Impervious area for which a permit is sought: 0.23 ac.; _____ ha.

F. Volume of water that the system is capable of impounding:
0.16 ac. ft.; _____ m

G. What is the total area of work in, on, or over wetlands or other surface waters?
0 ac.; _____ ha. _____ sq. ft.; _____ sq. m.

H. Total volume of material to be dredged: 0 yd; _____ m

I. Number of new boat slips proposed: 0 wet slips; 0 dry slips

PART 5:

Project location (use additional sheets if needed):

County(ies)Duval		
Section(s) 19	Township 3S	Range 23E
Section(s)	Township	Range
Section(s)	Township	Range

Land Grant name, if applicable:

Tax Parcel Identification Number: _____

Street Address Road or other location:5110 U.S. Hwy 301

City, Zip Code, if applicable: Baldwin, 32234

PART 6: Describe in general terms the proposed project, system, or activity.

Construction of 0.23 acres of paved drive for a fuel station and construction of a wet detention pond.

PART 7:

A. If there have been any pre-application meetings, including on-site meetings, with regulatory staff, please list the date(s), location(s), and names of key staff and project representatives.
N/A

B. Please identify by number any MSSW/Wetland Resource/ERP/ACOE Permits pending, issued or denied for projects at the location, and any related enforcement actions.

Agency	Date	No.\Type of Application	Action Taken
DEP, Solid Waste Permit	_____	184444, 184445, 184447	_____
_____	_____	_____	_____
_____	_____	_____	_____

C. Note: The following information is required for projects proposed to occur in, on or over wetlands that need a federal dredge and fill permit or an authorization to use state owned submerged lands. Please provide the names, addresses and zip codes of property owners whose property directly adjoins the project (excluding application) and/or (for proprietary authorizations) is located within a 500 ft. radius of the applicant's land. Please attach a plan view showing the owner's names and adjoining property lines. Attach additional sheets if necessary.

1. 2.

3. 4.

5. 6.
trt

7. 8.

PART 8:

A. By signing this application form, I am applying, or I am applying on behalf of the applicant, for the permit and any proprietary authorizations identified above, according to the supporting data and other incidental information filed with this application. I am familiar with the information contained in this application and represent that such information is true, complete and accurate. I understand this is an application and not a permit, and that work prior to approval is a violation. I understand that this application and any permit issued or proprietary authorization issued pursuant thereto, does not relive me of any obligation for obtaining any other required federal, state, water management district or local permit prior to commencement of construction. I agree, or I agree on behalf of the applicant, to operate and maintain the permitted system unless the permitting agency authorizes transfer of the permit to a responsible operation entity. I understand that knowingly making any false statement or representation in this application is a violation of Section 373.430, F.S. and 18 U.S.C. Section 1001.

Chris Pearson
Typed/Printed Name of Applicant (If no Agent is used) or Agent (If one is so authorized below)

Signature of Applicant/Agent — Date: 1/15/04

Operations Manager
(Corporate Title if applicable)

AN AGENT MAY SIGN ABOVE ONLY IF THE APPLICANT COMPLETES THE FOLLOWING:

B. I hereby designate and authorize the agent listed above to act on my behalf, or on behalf of my corporation, as the agent in the processing of this application for the permit and/or proprietary authorization indicated above; and to furnish, on request, supplemental information in support of the application. In addition, I authorize the above-listed agent to bind me, or my corporation, to perform any requirements which may be necessary to procure the permit or authorization indicated above. I understand that knowingly making any false statement or representation in this application is a violation of Section 373.430, F.S. and 18 U.S.C. Section 1001.

Typed/Printed Name of Applicant	Signature of Applicant	Date

(Corporate Title if applicable)

Please note: The applicant's original signature (not a copy) is required above.

PERSON AUTHORIZING ACCESS TO THE PROPERTY MUST COMPLETE THE FOLLOWING:

C. I either own the property described in this application or I have legal authority to allow access to the property, and I consent, after receiving prior notification, to any site visit on the property by agents or personnel from the Department of Environmental Protection, the Water Management District and the U.S. Army Corps of Engineers necessary for the review and inspection of the proposed project specified in this application. I authorize these agents or personnel to enter the property as many times as may be necessary to make such review and inspection. Further, I agree to provide entry to the project site for such agents or personnel to monitor permitted work if a permit is granted.

Chris Pearson Typed/Printed Name of Applicant	Signature of Applicant	1/15/04 Date

Operations Manager
(Corporate Title if applicable)

SECTION C

Environmental Resource Permit Notice of Receipt of Application

Note: this form does not need to be submitted for noticed general permits.
This information is required in addition to that required in other sections of the application. Please submit five copies of this notice of receipt of application and all attachments with the other required information. Please submit all information on 8 1/2" x 11" paper.

Project Name	Trail Ridge Fuel Station
County	Duval
Owner	City of Jacksonville
Applicant:	City of Jacksonville, Environmental Resource Dept., Solid Waste Division
Applicant's Address:	444 E. Duval St., Suite 200, Jacksonville, FL 32202

1. Indicate the project boundaries on a USGS quadrangle map. Attach a location map showing the boundary of the proposed activity. The map should also contain a north arrow and a graphic scale; show Section(s), Township(s), and Range(s); and must be of sufficient detail to allow a person unfamiliar with the site to find it.

2. Provide the names of all wetlands, or other surface waters that would be dredged, filled, impounded, diverted, drained, or would receive discharge (either directly or indirectly), or would otherwise be impacted by the proposed activity, and specify if they are in an Outstanding Florida Water or Aquatic Preserve:
Headwaters of Deep Creek – Class III Water Body

3. Attach a depiction (plan and section views), which clearly shows the works or other facilities proposed to be constructed. Use multiple sheets, if necessary. Use a scale sufficient to show the location and type of works.

4. Briefly describe the proposed project (such as "construct dock with boat shelter", "replace two existing culverts", "construct surface water management system to serve 150 acre residential development"):
Construct a wet detention pond to serve 0.23acres of pavement for a fuel station

5. Specify the acreage of wetlands or other surface waters, if any, that are proposed to be filled, excavated, or otherwise disturbed or impacted by the proposed activity:

filled 0 ac.; 0 excavated ac.;

other impacts 0 ac.

6. Provide a brief statement describing any proposed mitigation for impacts to wetlands and other surface waters (attach additional sheets if necessary):
N/A

FOR AGENCY USE ONLY

Application Name:
Application Number:
Office where the application can be inspected:

Note to Notice recipient: The information in this notice has been submitted by the applicant, and has not been verified by the agency. It may be incorrect, incomplete or may be subject to change.

APPLICATION FOR ENVIRONMENTAL RESOURCE PERMIT

TRAIL RIDGE FUEL STATION

FOR

CITY OF JACKSONVILLE

CITY DEV. NO.

SUBMITTED BY

England-Thims & Miller, Inc.
ENGINEERS • PLANNERS • SURVEYORS • LANDSCAPE ARCHITECTS

14775 St. Augustine Road
Jacksonville, FL 32258
Certification of Authorization No. 2584
Phone: 904.642-8990
Fax: 904.646.9485

January 30, 2004

This report was prepared by me
or under my direct supervision.

30 JAN 04

Scott A. Knowles, P.E. #55391

England-Thims & Miller, Inc
Trail Ridge Fuel Site

CONTENTS

ATTACHMENTS

JOTANOY

PROJECT DESCRIPTION
Trail Ridge Fuel Site

This submittal is an application for an Environmental Resource Permit for the proposed Trail Ridge Landfill fuel station facility. The project site is located at 5110 U.S. Hwy 301 in Baldwin, FL. Construction will include a wet detention pond system, and a 0.23 acre paved fueling area.

Runoff from the proposed fuel station site will be treated with a wet detention pond. The pond is designed to detain the first 2.5 inches of runoff from the impervious area as well as provide attenuation of the increased runoff due to development. The pond is equipped with a 2.75" diameter bleed down orifice set at the normal pool elevation. A 9" wide rectangular weir is situated above the required treatment volume to provide attenuation of the runoff to below the predeveloped condition. The weir will be fitted with a skimmer to prevent oil and floating debris from discharging to the adjacent wetland. The water level in the pond was estimated from the NRCS Soil Survey for Duval County. Based on the soils map, the soil type at the site is Pottsburg fine sand, and the seasonal high water elevation is typically 1'-2' below natural grade. Based on this, a normal water elevation of 100 was used throughout the hydrologic models.

A pre/post discharge analysis has been performed for the 25 year/ 24 hour, and the Mean Annual storm events using the SCS Method in ICPR. Runoff curve numbers for pre- and post-developed conditions were estimated using recommended values from the NRCS Tr-55. Times of concentration were determined using the Velocities for Upland method outlined in the NRCS National Engineering Handbook. Based on the calculations presented, the post-development discharge rates do not exceed the pre-development discharge for any of the modeled design storms.

No wetland impacts are proposed for this development.

MSSW Operation and Maintenance

The stormwater collection and treatment system will be operated and maintained by the City of Jacksonville. Following is a suggested maintenance schedule for the stormwater management system:

Frequency	**Task**
Weekly	Mow around basins
Weekly	Remove trash from storm structures
Monthly	Inspect outlet control structures and catch basins
Bi-annually	Remove nuisance plants within detention pond

BASIS OF DESIGN CALCULATIONS
Trail Ridge Fuel Site

Pond routing was modeled using the SCS Method in ICPR. Total rainfall values used in the calculations were derived from the FDOT rainfall curves for Zone 4

Required Treatment Volume

Wet detention systems must provide treatment of runoff from the greater of 1" over the project area or 2.5" over the impervious area. The treatment volumes required for each basin are:

Basin 1

Basin Area (ac)	0.48
Impervious Area	0.23

One inch of runoff	=	0.04 ac-ft
2.5 inches times impervious area	=	0.05 ac-ft
Treatment Volume Required	=	**0.05 ac-ft**

Pond 1

	Stage	Area (ac)	Storage (ac-ft)
Top of Bank	102.00	0.21	0.34
N.W.L.	100.00	0.13	0.00

Weir Elevation =	100.50
Treatment Provided =	0.08 ac-ft

Curve Numbers

The SCS curve numbers used in the calculations were estimated based on the type of use and amount of impervious area in the basin. A predevelopment curve number of 61 (Open space, good condition) was used for the basin. The postdeveloped curve number used for the basin was:

Basin 1

Use	Area (ac)	CN	CN x A
Impervious	0.23	98	22.54
Pond	0.18	100	18.00
Grass	0.07	61	4.27
Total =	**0.48**		**44.81**

CN = 44.81 / 0.48 = **93**

Times of Concentration

Times of concentration for the basin were estimated using the Velocities for Upland Method. The longest flow path for the basin was separated into segments based on length of flow and on type of ground cover. The travel times for each segment were then summed to establish the time of concentration:

Predeveloped

Segment #	1
Length (ft)	310
Cover Type	grass
Slope (%)	0.9
Velocity (fps)	0.3
Travel Time (min)	20.67

Time of Concentraction (min)= 20.7

Basin 1

Segment #	1	2
Length (ft)	150	15
Cover Type	pave	pipe
Slope (%)	1.0	0.5
Velocity (fps)	2.0	1.4
Travel Time (min)	1.25	0.18

Time of Concentraction (min)= 1.4

Use 5 min. minimum

PREDEVELOPMENT MODEL OUTPUT

Name:	PRE	PRE
Group:	PRE	PRE
Simulation:	HYD25	HYDMEAN
Node:	PRE	PRE
Type:	SCS	SCS
Unit Hydrograph:	Uh323	Uh323
Peaking Factor:	323.0	323.0
Spec Time Inc(min):	2.67	2.67
Comp Time Inc(min):	2.67	2.67
Rain File:	Scsii-24	Scsii-24
Rain Amount(in):	9.500	4.950
Duration(hrs):	24.00	24.00
Status:	Onsite	Onsite
TC(min):	20.00	20.00
Time Shift(hrs):	0.00	0.00
Area(ac):	0.480	0.480
Vol of Unit Hyd(in):	1.001	1.001
Curve Num:	61.000	61.000
DCIA(%):	0.000	0.000
Time Max(hrs):	12.13	12.13
Flow Max(cfs):	1.746	0.455
Runoff Volume(in):	4.627	1.340
Runoff Volume(ft3):	8061.628	2334.373

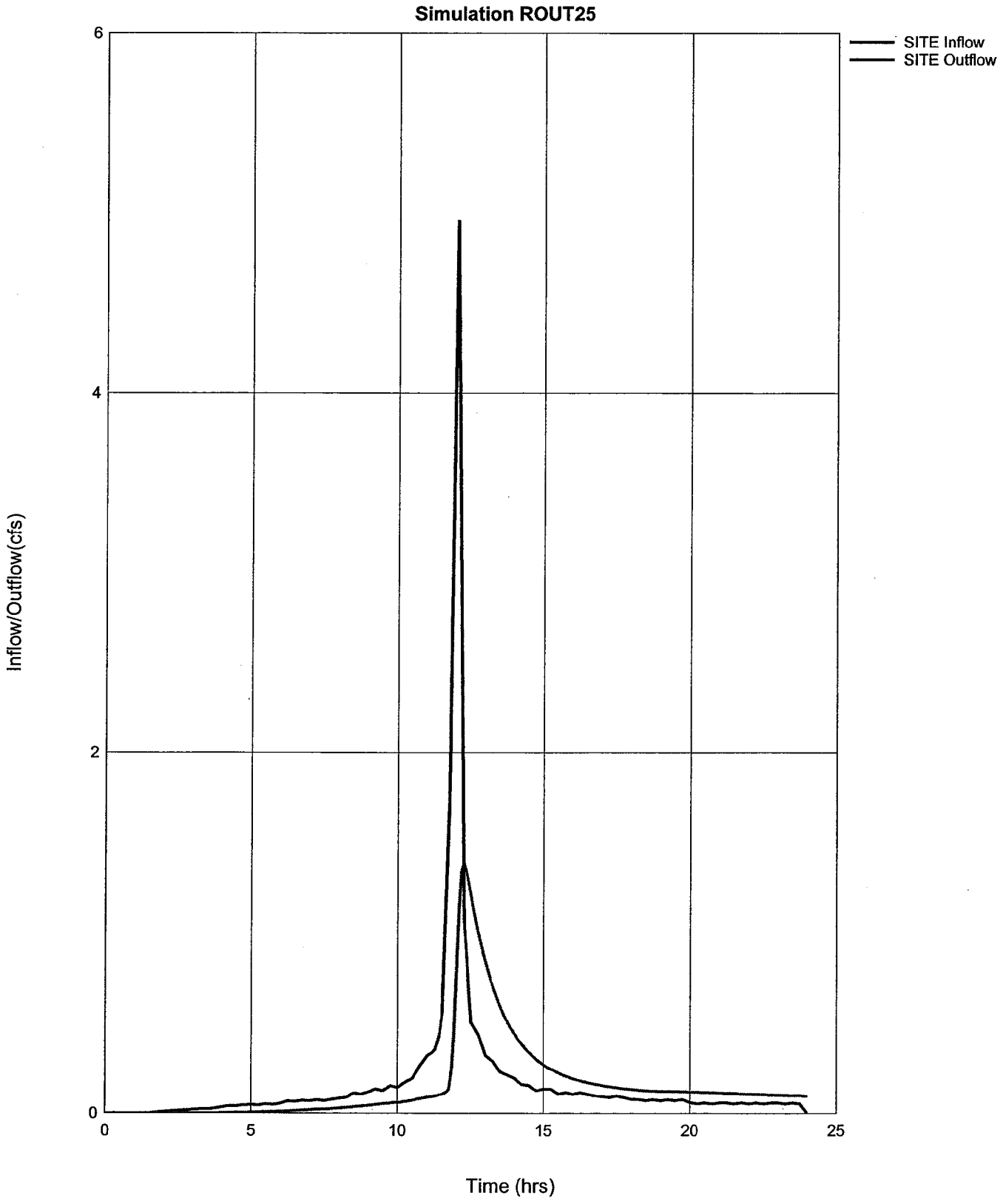
POSTDEVELOPMENT MODEL OUTPUT

Name:	SITE	SITE
Group:	POST	POST
Simulation:	HYD25	HYDMEAN
Node:	SITE	SITE
Type:	SCS	SCS
Unit Hydrograph:	Uh323	Uh323
Peaking Factor:	323.0	323.0
Spec Time Inc(min):	0.67	0.67
Comp Time Inc(min):	0.67	0.67
Rain File:	Scsii-24	Scsii-24
Rain Amount(in):	9.500	4.950
Duration(hrs):	24.00	24.00
Status:	Onsite	Onsite
TC(min):	5.00	5.00
Time Shift(hrs):	0.00	0.00
Area(ac):	0.480	0.480
Vol of Unit Hyd(in):	1.000	1.000
Curve Num:	93.000	93.000
DCIA(%):	0.000	0.000
Time Max(hrs):	12.00	12.00
Flow Max(cfs):	4.968	2.496
Runoff Volume(in):	8.657	4.151
Runoff Volume(ft3):	15083.174	7231.978

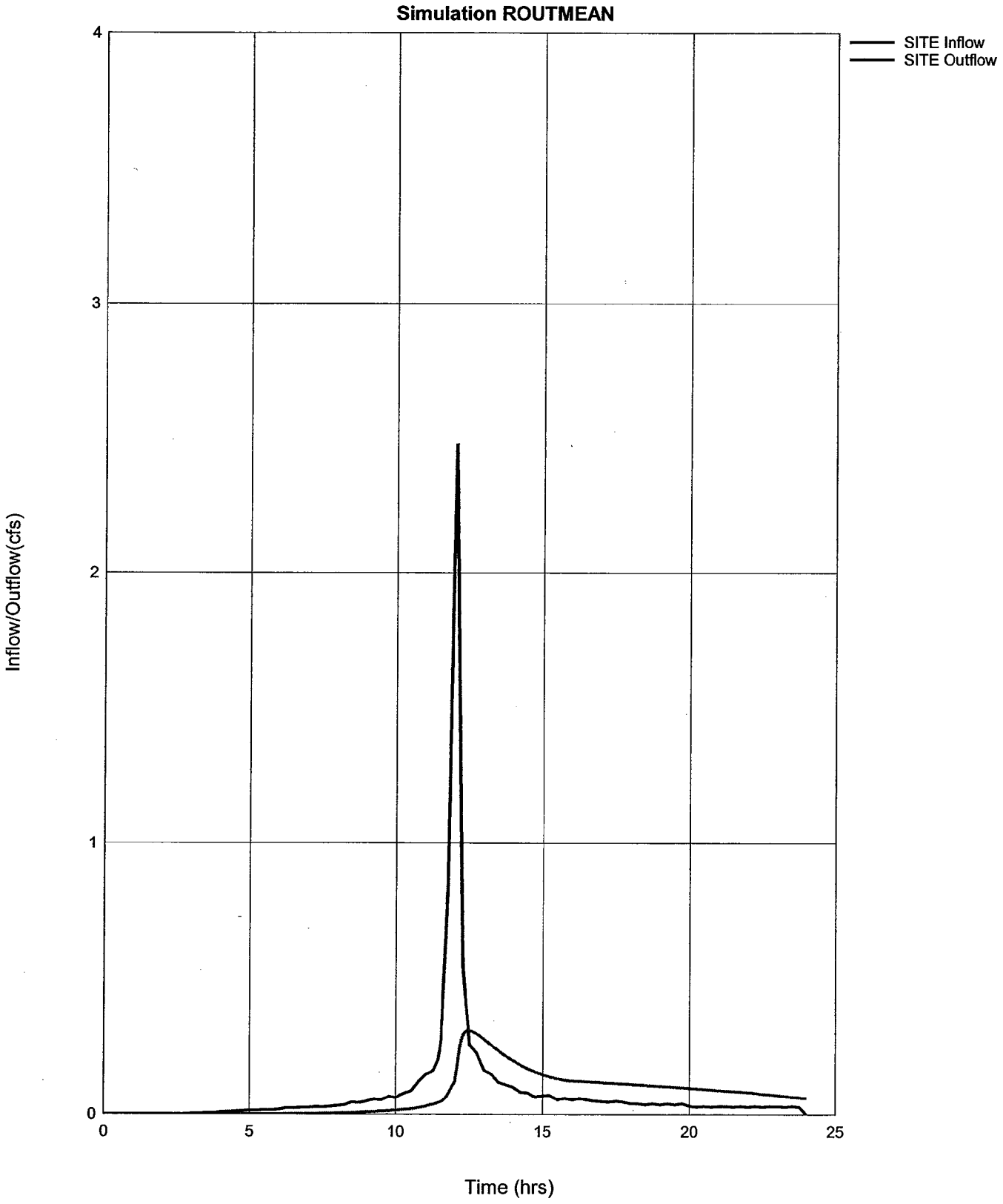
Postdeveloped Node Min/Max Report

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
OUT	POST	ROUT25	0.00	99.600	100.500	0.0000	0	12.23	1.389	0.00	0.000
SITE	POST	ROUT25	12.23	101.126	102.000	0.0050	7625	12.00	4.964	12.23	1.389
OUT	POST	ROUTMEAN	0.00	99.600	100.500	0.0000	0	12.46	0.309	0.00	0.000
SITE	POST	ROUTMEAN	12.46	100.666	102.000	0.0050	6823	12.00	2.485	12.46	0.309

Postdeveloped 25 year Storm Inflow/Outflow Graph



Postdeveloped Mean Annual Storm Inflow/Outflow Graph



Postdeveloped 25 year Time Series Report

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
ROUT25	SITE	POST	0.00	100.000	102.000	5663	0.000	0.000	0.0	0.0
ROUT25	SITE	POST	0.26	100.000	102.000	5663	0.000	0.000	0.0	0.0
ROUT25	SITE	POST	0.50	100.000	102.000	5663	0.000	0.000	0.0	0.0
ROUT25	SITE	POST	0.77	100.000	102.000	5663	0.000	0.000	0.0	0.0
ROUT25	SITE	POST	1.02	100.000	102.000	5663	0.000	0.000	0.0	0.0
ROUT25	SITE	POST	1.27	100.000	102.000	5663	0.000	0.000	0.0	0.0
ROUT25	SITE	POST	1.52	100.000	102.000	5663	0.001	0.000	0.0	0.0
ROUT25	SITE	POST	1.77	100.000	102.000	5663	0.004	0.000	0.0	0.0
ROUT25	SITE	POST	2.02	100.001	102.000	5665	0.008	0.000	0.0	0.0
ROUT25	SITE	POST	2.27	100.003	102.000	5668	0.010	0.000	0.0	0.0
ROUT25	SITE	POST	2.52	100.005	102.000	5671	0.014	0.000	0.0	0.0
ROUT25	SITE	POST	2.77	100.007	102.000	5675	0.016	0.000	0.0	0.0
ROUT25	SITE	POST	3.02	100.010	102.000	5680	0.019	0.000	0.0	0.0
ROUT25	SITE	POST	3.27	100.013	102.000	5686	0.022	0.000	0.0	0.0
ROUT25	SITE	POST	3.52	100.016	102.000	5691	0.022	0.000	0.0	0.0
ROUT25	SITE	POST	3.77	100.020	102.000	5698	0.026	0.001	0.0	0.0
ROUT25	SITE	POST	4.02	100.025	102.000	5706	0.033	0.001	0.0	0.0
ROUT25	SITE	POST	4.27	100.030	102.000	5715	0.039	0.001	0.0	0.0
ROUT25	SITE	POST	4.52	100.036	102.000	5726	0.039	0.002	0.0	0.0
ROUT25	SITE	POST	4.77	100.042	102.000	5736	0.044	0.003	0.0	0.0
ROUT25	SITE	POST	5.02	100.049	102.000	5748	0.046	0.004	0.0	0.0
ROUT25	SITE	POST	5.27	100.055	102.000	5759	0.044	0.005	0.0	0.0
ROUT25	SITE	POST	5.52	100.062	102.000	5770	0.049	0.006	0.0	0.0
ROUT25	SITE	POST	5.77	100.068	102.000	5781	0.047	0.007	0.0	0.0
ROUT25	SITE	POST	6.02	100.075	102.000	5793	0.053	0.009	0.0	0.0
ROUT25	SITE	POST	6.27	100.082	102.000	5806	0.067	0.011	0.0	0.0
ROUT25	SITE	POST	6.52	100.091	102.000	5821	0.064	0.013	0.0	0.0
ROUT25	SITE	POST	6.77	100.099	102.000	5835	0.071	0.015	0.0	0.0
ROUT25	SITE	POST	7.02	100.107	102.000	5849	0.067	0.018	0.0	0.0
ROUT25	SITE	POST	7.27	100.115	102.000	5863	0.073	0.020	0.0	0.0
ROUT25	SITE	POST	7.52	100.122	102.000	5876	0.069	0.023	0.0	0.0
ROUT25	SITE	POST	7.77	100.130	102.000	5889	0.076	0.025	0.0	0.0
ROUT25	SITE	POST	8.02	100.138	102.000	5903	0.078	0.028	0.0	0.0
ROUT25	SITE	POST	8.27	100.146	102.000	5917	0.087	0.031	0.0	0.0
ROUT25	SITE	POST	8.35	100.149	102.000	5922	0.095	0.032	0.0	0.0
ROUT25	SITE	POST	8.43	100.152	102.000	5928	0.103	0.033	0.0	0.0
ROUT25	SITE	POST	8.52	100.156	102.000	5934	0.110	0.035	0.0	0.0
ROUT25	SITE	POST	8.60	100.159	102.000	5941	0.107	0.036	0.0	0.0
ROUT25	SITE	POST	8.68	100.163	102.000	5947	0.105	0.038	0.0	0.0
ROUT25	SITE	POST	8.77	100.166	102.000	5953	0.104	0.039	0.0	0.0
ROUT25	SITE	POST	8.85	100.170	102.000	5958	0.108	0.040	0.0	0.0
ROUT25	SITE	POST	8.93	100.173	102.000	5964	0.111	0.041	0.0	0.0
ROUT25	SITE	POST	9.02	100.177	102.000	5971	0.115	0.043	0.0	0.0
ROUT25	SITE	POST	9.10	100.180	102.000	5977	0.121	0.044	0.0	0.0
ROUT25	SITE	POST	9.18	100.184	102.000	5984	0.127	0.046	0.0	0.0
ROUT25	SITE	POST	9.27	100.189	102.000	5991	0.131	0.047	0.0	0.0
ROUT25	SITE	POST	9.35	100.193	102.000	5998	0.128	0.049	0.0	0.0
ROUT25	SITE	POST	9.43	100.196	102.000	6005	0.125	0.050	0.0	0.0
ROUT25	SITE	POST	9.52	100.200	102.000	6011	0.124	0.052	0.0	0.0
ROUT25	SITE	POST	9.60	100.204	102.000	6018	0.134	0.053	0.0	0.0
ROUT25	SITE	POST	9.68	100.208	102.000	6025	0.143	0.054	0.0	0.0
ROUT25	SITE	POST	9.77	100.213	102.000	6033	0.150	0.056	0.0	0.0
ROUT25	SITE	POST	9.85	100.217	102.000	6041	0.146	0.057	0.0	0.0
ROUT25	SITE	POST	9.93	100.222	102.000	6049	0.143	0.058	0.0	0.0
ROUT25	SITE	POST	10.02	100.226	102.000	6056	0.142	0.059	0.0	0.0
ROUT25	SITE	POST	10.10	100.230	102.000	6064	0.152	0.060	0.0	0.0
ROUT25	SITE	POST	10.18	100.235	102.000	6072	0.162	0.062	0.0	0.0
ROUT25	SITE	POST	10.27	100.240	102.000	6081	0.172	0.064	0.0	0.0

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
ROUT25	SITE	POST	10.35	100.245	102.000	6090	0.178	0.067	0.0	0.0
ROUT25	SITE	POST	10.43	100.251	102.000	6100	0.184	0.069	0.0	0.0
ROUT25	SITE	POST	10.52	100.257	102.000	6110	0.193	0.072	0.0	0.0
ROUT25	SITE	POST	10.60	100.263	102.000	6121	0.217	0.074	0.0	0.0
ROUT25	SITE	POST	10.68	100.271	102.000	6134	0.240	0.078	0.1	0.0
ROUT25	SITE	POST	10.77	100.279	102.000	6149	0.262	0.081	0.1	0.0
ROUT25	SITE	POST	10.85	100.288	102.000	6165	0.282	0.083	0.1	0.0
ROUT25	SITE	POST	10.93	100.298	102.000	6183	0.301	0.085	0.1	0.0
ROUT25	SITE	POST	11.02	100.309	102.000	6202	0.318	0.088	0.1	0.0
ROUT25	SITE	POST	11.10	100.321	102.000	6221	0.326	0.090	0.1	0.0
ROUT25	SITE	POST	11.18	100.332	102.000	6242	0.335	0.093	0.1	0.0
ROUT25	SITE	POST	11.27	100.344	102.000	6262	0.350	0.095	0.1	0.0
ROUT25	SITE	POST	11.35	100.357	102.000	6285	0.392	0.098	0.1	0.0
ROUT25	SITE	POST	11.43	100.372	102.000	6311	0.434	0.101	0.1	0.0
ROUT25	SITE	POST	11.52	100.389	102.000	6341	0.547	0.104	0.1	0.0
ROUT25	SITE	POST	11.59	100.416	102.000	6387	0.910	0.109	0.1	0.0
ROUT25	SITE	POST	11.67	100.460	102.000	6465	1.299	0.117	0.1	0.0
ROUT25	SITE	POST	11.75	100.523	102.000	6574	1.729	0.135	0.1	0.0
ROUT25	SITE	POST	11.84	100.616	102.000	6736	2.814	0.236	0.1	0.0
ROUT25	SITE	POST	11.92	100.744	102.000	6958	3.873	0.446	0.1	0.0
ROUT25	SITE	POST	12.00	100.905	102.000	7239	4.964	0.795	0.2	0.0
ROUT25	SITE	POST	12.09	101.043	102.000	7480	3.643	1.151	0.2	0.0
ROUT25	SITE	POST	12.17	101.111	102.000	7599	2.372	1.345	0.2	0.0
ROUT25	SITE	POST	12.25	101.125	102.000	7622	1.077	1.384	0.2	0.1
ROUT25	SITE	POST	12.34	101.109	102.000	7595	0.880	1.339	0.2	0.1
ROUT25	SITE	POST	12.42	101.088	102.000	7558	0.681	1.277	0.2	0.1
ROUT25	SITE	POST	12.51	101.061	102.000	7511	0.498	1.201	0.2	0.1
ROUT25	SITE	POST	12.58	101.036	102.000	7467	0.479	1.132	0.2	0.1
ROUT25	SITE	POST	12.67	101.010	102.000	7422	0.458	1.061	0.3	0.1
ROUT25	SITE	POST	12.76	100.985	102.000	7379	0.435	0.996	0.3	0.1
ROUT25	SITE	POST	12.84	100.962	102.000	7339	0.394	0.936	0.3	0.1
ROUT25	SITE	POST	12.92	100.942	102.000	7305	0.358	0.886	0.3	0.1
ROUT25	SITE	POST	13.00	100.920	102.000	7266	0.317	0.832	0.3	0.1
ROUT25	SITE	POST	13.09	100.899	102.000	7229	0.307	0.781	0.3	0.1
ROUT25	SITE	POST	13.17	100.880	102.000	7195	0.296	0.735	0.3	0.1
ROUT25	SITE	POST	13.26	100.862	102.000	7165	0.285	0.694	0.3	0.1
ROUT25	SITE	POST	13.34	100.846	102.000	7137	0.266	0.658	0.3	0.1
ROUT25	SITE	POST	13.43	100.828	102.000	7105	0.245	0.618	0.3	0.1
ROUT25	SITE	POST	13.51	100.813	102.000	7079	0.227	0.586	0.3	0.2
ROUT25	SITE	POST	13.59	100.799	102.000	7054	0.222	0.556	0.3	0.2
ROUT25	SITE	POST	13.67	100.785	102.000	7031	0.216	0.528	0.3	0.2
ROUT25	SITE	POST	13.75	100.772	102.000	7009	0.210	0.502	0.3	0.2
ROUT25	SITE	POST	13.84	100.760	102.000	6987	0.204	0.478	0.3	0.2
ROUT25	SITE	POST	13.92	100.749	102.000	6967	0.197	0.456	0.3	0.2
ROUT25	SITE	POST	14.00	100.738	102.000	6948	0.191	0.435	0.3	0.2
ROUT25	SITE	POST	14.09	100.727	102.000	6930	0.179	0.416	0.3	0.2
ROUT25	SITE	POST	14.17	100.717	102.000	6913	0.168	0.397	0.3	0.2
ROUT25	SITE	POST	14.25	100.707	102.000	6895	0.157	0.380	0.3	0.2
ROUT25	SITE	POST	14.34	100.698	102.000	6879	0.156	0.363	0.3	0.2
ROUT25	SITE	POST	14.42	100.689	102.000	6864	0.154	0.348	0.3	0.2
ROUT25	SITE	POST	14.50	100.681	102.000	6849	0.152	0.334	0.3	0.2
ROUT25	SITE	POST	14.59	100.673	102.000	6836	0.142	0.321	0.3	0.2
ROUT25	SITE	POST	14.67	100.665	102.000	6822	0.132	0.308	0.3	0.2
ROUT25	SITE	POST	14.75	100.658	102.000	6808	0.123	0.296	0.3	0.2
ROUT25	SITE	POST	14.84	100.650	102.000	6796	0.126	0.285	0.3	0.2
ROUT25	SITE	POST	14.92	100.643	102.000	6784	0.129	0.275	0.3	0.2
ROUT25	SITE	POST	15.00	100.637	102.000	6773	0.132	0.266	0.3	0.2
ROUT25	SITE	POST	15.09	100.632	102.000	6763	0.132	0.257	0.3	0.2

Postdeveloped 25 year Time Series Report

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
ROUT25	SITE	POST	15.17	100.626	102.000	6754	0.133	0.249	0.3	0.2
ROUT25	SITE	POST	15.25	100.621	102.000	6745	0.132	0.242	0.3	0.2
ROUT25	SITE	POST	15.34	100.616	102.000	6736	0.123	0.236	0.3	0.2
ROUT25	SITE	POST	15.42	100.611	102.000	6728	0.114	0.229	0.3	0.2
ROUT25	SITE	POST	15.50	100.606	102.000	6718	0.105	0.222	0.3	0.2
ROUT25	SITE	POST	15.59	100.601	102.000	6710	0.108	0.215	0.3	0.2
ROUT25	SITE	POST	15.67	100.596	102.000	6702	0.111	0.209	0.3	0.2
ROUT25	SITE	POST	15.75	100.592	102.000	6694	0.113	0.204	0.3	0.2
ROUT25	SITE	POST	15.84	100.588	102.000	6687	0.110	0.199	0.3	0.2
ROUT25	SITE	POST	15.92	100.584	102.000	6680	0.107	0.194	0.3	0.2
ROUT25	SITE	POST	16.00	100.580	102.000	6674	0.104	0.190	0.3	0.2
ROUT25	SITE	POST	16.25	100.570	102.000	6656	0.113	0.178	0.3	0.2
ROUT25	SITE	POST	16.50	100.561	102.000	6641	0.104	0.169	0.3	0.2
ROUT25	SITE	POST	16.75	100.552	102.000	6625	0.096	0.160	0.3	0.2
ROUT25	SITE	POST	17.00	100.544	102.000	6611	0.095	0.152	0.3	0.2
ROUT25	SITE	POST	17.25	100.536	102.000	6597	0.087	0.145	0.3	0.2
ROUT25	SITE	POST	17.50	100.529	102.000	6585	0.095	0.140	0.3	0.2
ROUT25	SITE	POST	17.75	100.523	102.000	6574	0.087	0.135	0.3	0.2
ROUT25	SITE	POST	18.00	100.516	102.000	6562	0.077	0.130	0.3	0.2
ROUT25	SITE	POST	18.25	100.509	102.000	6549	0.076	0.127	0.3	0.2
ROUT25	SITE	POST	18.50	100.501	102.000	6537	0.070	0.124	0.3	0.3
ROUT25	SITE	POST	18.75	100.495	102.000	6525	0.076	0.122	0.3	0.3
ROUT25	SITE	POST	19.00	100.488	102.000	6513	0.070	0.121	0.3	0.3
ROUT25	SITE	POST	19.25	100.481	102.000	6501	0.076	0.120	0.3	0.3
ROUT25	SITE	POST	19.50	100.475	102.000	6490	0.070	0.119	0.3	0.3
ROUT25	SITE	POST	19.75	100.468	102.000	6479	0.075	0.118	0.3	0.3
ROUT25	SITE	POST	20.00	100.461	102.000	6466	0.058	0.117	0.3	0.3
ROUT25	SITE	POST	20.25	100.453	102.000	6452	0.052	0.115	0.3	0.3
ROUT25	SITE	POST	20.50	100.444	102.000	6437	0.057	0.114	0.3	0.3
ROUT25	SITE	POST	20.75	100.436	102.000	6423	0.052	0.113	0.3	0.3
ROUT25	SITE	POST	21.00	100.428	102.000	6409	0.057	0.111	0.3	0.3
ROUT25	SITE	POST	21.25	100.421	102.000	6395	0.057	0.110	0.3	0.3
ROUT25	SITE	POST	21.50	100.413	102.000	6382	0.052	0.108	0.3	0.3
ROUT25	SITE	POST	21.75	100.405	102.000	6369	0.057	0.107	0.3	0.3
ROUT25	SITE	POST	22.00	100.398	102.000	6356	0.052	0.106	0.3	0.3
ROUT25	SITE	POST	22.25	100.391	102.000	6344	0.057	0.104	0.3	0.3
ROUT25	SITE	POST	22.50	100.384	102.000	6332	0.052	0.103	0.3	0.3
ROUT25	SITE	POST	22.75	100.377	102.000	6320	0.057	0.102	0.3	0.3
ROUT25	SITE	POST	23.00	100.371	102.000	6309	0.057	0.100	0.3	0.3
ROUT25	SITE	POST	23.25	100.364	102.000	6298	0.052	0.099	0.3	0.3
ROUT25	SITE	POST	23.50	100.358	102.000	6287	0.057	0.098	0.3	0.3
ROUT25	SITE	POST	23.75	100.352	102.000	6276	0.052	0.097	0.3	0.3
ROUT25	SITE	POST	24.00	100.344	102.000	6263	0.000	0.095	0.3	0.3
ROUT25	SITE	POST	24.01	100.344	102.000	6263	0.000	0.095	0.3	0.3

Postdeveloped Mean Annual Storm Time Series Report

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
ROUTMEAN	SITE	POST	0.00	100.000	102.000	5663	0.000	0.000	0.0	0.0
ROUTMEAN	SITE	POST	0.26	100.000	102.000	5663	0.000	0.000	0.0	0.0
ROUTMEAN	SITE	POST	0.50	100.000	102.000	5663	0.000	0.000	0.0	0.0
ROUTMEAN	SITE	POST	0.77	100.000	102.000	5663	0.000	0.000	0.0	0.0
ROUTMEAN	SITE	POST	1.02	100.000	102.000	5663	0.000	0.000	0.0	0.0
ROUTMEAN	SITE	POST	1.27	100.000	102.000	5663	0.000	0.000	0.0	0.0
ROUTMEAN	SITE	POST	1.52	100.000	102.000	5663	0.000	0.000	0.0	0.0
ROUTMEAN	SITE	POST	1.77	100.000	102.000	5663	0.000	0.000	0.0	0.0
ROUTMEAN	SITE	POST	2.02	100.000	102.000	5663	0.000	0.000	0.0	0.0
ROUTMEAN	SITE	POST	2.27	100.000	102.000	5663	0.000	0.000	0.0	0.0
ROUTMEAN	SITE	POST	2.52	100.000	102.000	5663	0.000	0.000	0.0	0.0
ROUTMEAN	SITE	POST	2.77	100.000	102.000	5663	0.000	0.000	0.0	0.0
ROUTMEAN	SITE	POST	3.02	100.000	102.000	5663	0.001	0.000	0.0	0.0
ROUTMEAN	SITE	POST	3.27	100.000	102.000	5664	0.002	0.000	0.0	0.0
ROUTMEAN	SITE	POST	3.52	100.001	102.000	5664	0.003	0.000	0.0	0.0
ROUTMEAN	SITE	POST	3.77	100.001	102.000	5665	0.004	0.000	0.0	0.0
ROUTMEAN	SITE	POST	4.02	100.002	102.000	5667	0.007	0.000	0.0	0.0
ROUTMEAN	SITE	POST	4.27	100.004	102.000	5669	0.009	0.000	0.0	0.0
ROUTMEAN	SITE	POST	4.52	100.005	102.000	5672	0.009	0.000	0.0	0.0
ROUTMEAN	SITE	POST	4.77	100.007	102.000	5674	0.011	0.000	0.0	0.0
ROUTMEAN	SITE	POST	5.02	100.009	102.000	5678	0.013	0.000	0.0	0.0
ROUTMEAN	SITE	POST	5.27	100.011	102.000	5681	0.013	0.000	0.0	0.0
ROUTMEAN	SITE	POST	5.52	100.013	102.000	5685	0.015	0.000	0.0	0.0
ROUTMEAN	SITE	POST	5.77	100.015	102.000	5689	0.015	0.000	0.0	0.0
ROUTMEAN	SITE	POST	6.02	100.017	102.000	5693	0.017	0.000	0.0	0.0
ROUTMEAN	SITE	POST	6.27	100.021	102.000	5699	0.022	0.001	0.0	0.0
ROUTMEAN	SITE	POST	6.52	100.024	102.000	5704	0.022	0.001	0.0	0.0
ROUTMEAN	SITE	POST	6.77	100.027	102.000	5710	0.025	0.001	0.0	0.0
ROUTMEAN	SITE	POST	7.02	100.031	102.000	5717	0.024	0.001	0.0	0.0
ROUTMEAN	SITE	POST	7.27	100.035	102.000	5723	0.027	0.002	0.0	0.0
ROUTMEAN	SITE	POST	7.52	100.038	102.000	5730	0.026	0.002	0.0	0.0
ROUTMEAN	SITE	POST	7.77	100.042	102.000	5737	0.029	0.003	0.0	0.0
ROUTMEAN	SITE	POST	8.02	100.046	102.000	5744	0.030	0.003	0.0	0.0
ROUTMEAN	SITE	POST	8.27	100.051	102.000	5751	0.034	0.004	0.0	0.0
ROUTMEAN	SITE	POST	8.35	100.053	102.000	5754	0.038	0.004	0.0	0.0
ROUTMEAN	SITE	POST	8.43	100.054	102.000	5757	0.041	0.005	0.0	0.0
ROUTMEAN	SITE	POST	8.52	100.056	102.000	5761	0.044	0.005	0.0	0.0
ROUTMEAN	SITE	POST	8.60	100.058	102.000	5764	0.043	0.005	0.0	0.0
ROUTMEAN	SITE	POST	8.68	100.060	102.000	5768	0.042	0.006	0.0	0.0
ROUTMEAN	SITE	POST	8.77	100.062	102.000	5771	0.042	0.006	0.0	0.0
ROUTMEAN	SITE	POST	8.85	100.064	102.000	5774	0.044	0.007	0.0	0.0
ROUTMEAN	SITE	POST	8.93	100.066	102.000	5778	0.045	0.007	0.0	0.0
ROUTMEAN	SITE	POST	9.02	100.068	102.000	5781	0.047	0.007	0.0	0.0
ROUTMEAN	SITE	POST	9.10	100.070	102.000	5785	0.050	0.008	0.0	0.0
ROUTMEAN	SITE	POST	9.18	100.072	102.000	5789	0.053	0.008	0.0	0.0
ROUTMEAN	SITE	POST	9.27	100.075	102.000	5793	0.055	0.009	0.0	0.0
ROUTMEAN	SITE	POST	9.35	100.077	102.000	5797	0.054	0.009	0.0	0.0
ROUTMEAN	SITE	POST	9.43	100.079	102.000	5801	0.052	0.010	0.0	0.0
ROUTMEAN	SITE	POST	9.52	100.081	102.000	5805	0.052	0.011	0.0	0.0
ROUTMEAN	SITE	POST	9.60	100.084	102.000	5809	0.057	0.011	0.0	0.0
ROUTMEAN	SITE	POST	9.68	100.086	102.000	5813	0.061	0.012	0.0	0.0
ROUTMEAN	SITE	POST	9.77	100.089	102.000	5817	0.064	0.012	0.0	0.0
ROUTMEAN	SITE	POST	9.85	100.091	102.000	5822	0.063	0.013	0.0	0.0
ROUTMEAN	SITE	POST	9.93	100.094	102.000	5826	0.062	0.014	0.0	0.0
ROUTMEAN	SITE	POST	10.02	100.096	102.000	5831	0.062	0.015	0.0	0.0
ROUTMEAN	SITE	POST	10.10	100.099	102.000	5835	0.066	0.015	0.0	0.0
ROUTMEAN	SITE	POST	10.18	100.102	102.000	5840	0.071	0.016	0.0	0.0
ROUTMEAN	SITE	POST	10.27	100.105	102.000	5845	0.075	0.017	0.0	0.0

Postdeveloped Mean Annual Storm Time Series Report

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
ROUTMEAN	SITE	POST	10.35	100.108	102.000	5850	0.078	0.018	0.0	0.0
ROUTMEAN	SITE	POST	10.43	100.111	102.000	5856	0.081	0.019	0.0	0.0
ROUTMEAN	SITE	POST	10.52	100.114	102.000	5861	0.086	0.020	0.0	0.0
ROUTMEAN	SITE	POST	10.60	100.118	102.000	5868	0.097	0.021	0.0	0.0
ROUTMEAN	SITE	POST	10.68	100.122	102.000	5875	0.108	0.022	0.0	0.0
ROUTMEAN	SITE	POST	10.77	100.126	102.000	5883	0.118	0.024	0.0	0.0
ROUTMEAN	SITE	POST	10.85	100.131	102.000	5892	0.128	0.026	0.0	0.0
ROUTMEAN	SITE	POST	10.93	100.137	102.000	5901	0.137	0.028	0.0	0.0
ROUTMEAN	SITE	POST	11.02	100.142	102.000	5911	0.145	0.030	0.0	0.0
ROUTMEAN	SITE	POST	11.10	100.148	102.000	5921	0.150	0.032	0.0	0.0
ROUTMEAN	SITE	POST	11.18	100.154	102.000	5932	0.154	0.034	0.0	0.0
ROUTMEAN	SITE	POST	11.27	100.161	102.000	5943	0.162	0.037	0.0	0.0
ROUTMEAN	SITE	POST	11.35	100.167	102.000	5954	0.183	0.039	0.0	0.0
ROUTMEAN	SITE	POST	11.43	100.175	102.000	5968	0.203	0.042	0.0	0.0
ROUTMEAN	SITE	POST	11.52	100.184	102.000	5983	0.258	0.045	0.0	0.0
ROUTMEAN	SITE	POST	11.60	100.199	102.000	6010	0.455	0.051	0.0	0.0
ROUTMEAN	SITE	POST	11.68	100.222	102.000	6049	0.636	0.058	0.0	0.0
ROUTMEAN	SITE	POST	11.76	100.253	102.000	6104	0.852	0.070	0.0	0.0
ROUTMEAN	SITE	POST	11.84	100.303	102.000	6190	1.395	0.086	0.0	0.0
ROUTMEAN	SITE	POST	11.92	100.378	102.000	6322	1.955	0.102	0.1	0.0
ROUTMEAN	SITE	POST	12.00	100.476	102.000	6493	2.480	0.119	0.1	0.0
ROUTMEAN	SITE	POST	12.09	100.569	102.000	6654	1.827	0.177	0.1	0.0
ROUTMEAN	SITE	POST	12.17	100.626	102.000	6753	1.188	0.249	0.1	0.0
ROUTMEAN	SITE	POST	12.25	100.652	102.000	6799	0.548	0.288	0.1	0.0
ROUTMEAN	SITE	POST	12.34	100.661	102.000	6815	0.449	0.302	0.1	0.0
ROUTMEAN	SITE	POST	12.42	100.665	102.000	6822	0.350	0.308	0.1	0.0
ROUTMEAN	SITE	POST	12.50	100.665	102.000	6821	0.255	0.308	0.1	0.0
ROUTMEAN	SITE	POST	12.59	100.662	102.000	6817	0.243	0.304	0.1	0.0
ROUTMEAN	SITE	POST	12.67	100.659	102.000	6812	0.233	0.299	0.1	0.0
ROUTMEAN	SITE	POST	12.75	100.657	102.000	6807	0.224	0.295	0.1	0.0
ROUTMEAN	SITE	POST	12.83	100.653	102.000	6801	0.203	0.290	0.1	0.0
ROUTMEAN	SITE	POST	12.92	100.649	102.000	6794	0.183	0.283	0.1	0.0
ROUTMEAN	SITE	POST	13.00	100.644	102.000	6785	0.162	0.276	0.1	0.0
ROUTMEAN	SITE	POST	13.08	100.639	102.000	6777	0.157	0.268	0.1	0.0
ROUTMEAN	SITE	POST	13.17	100.634	102.000	6768	0.152	0.261	0.1	0.0
ROUTMEAN	SITE	POST	13.25	100.630	102.000	6760	0.146	0.254	0.1	0.0
ROUTMEAN	SITE	POST	13.33	100.625	102.000	6751	0.136	0.247	0.1	0.0
ROUTMEAN	SITE	POST	13.42	100.620	102.000	6742	0.126	0.240	0.1	0.0
ROUTMEAN	SITE	POST	13.50	100.614	102.000	6733	0.117	0.233	0.1	0.0
ROUTMEAN	SITE	POST	13.58	100.609	102.000	6724	0.113	0.226	0.1	0.0
ROUTMEAN	SITE	POST	13.67	100.604	102.000	6716	0.110	0.220	0.1	0.0
ROUTMEAN	SITE	POST	13.75	100.600	102.000	6707	0.107	0.214	0.1	0.0
ROUTMEAN	SITE	POST	13.83	100.595	102.000	6699	0.104	0.208	0.1	0.0
ROUTMEAN	SITE	POST	13.92	100.590	102.000	6691	0.101	0.202	0.1	0.0
ROUTMEAN	SITE	POST	14.00	100.586	102.000	6683	0.098	0.196	0.1	0.0
ROUTMEAN	SITE	POST	14.08	100.581	102.000	6676	0.092	0.191	0.1	0.1
ROUTMEAN	SITE	POST	14.17	100.577	102.000	6668	0.086	0.186	0.1	0.1
ROUTMEAN	SITE	POST	14.25	100.572	102.000	6660	0.081	0.181	0.1	0.1
ROUTMEAN	SITE	POST	14.33	100.568	102.000	6652	0.080	0.176	0.1	0.1
ROUTMEAN	SITE	POST	14.42	100.564	102.000	6645	0.079	0.171	0.1	0.1
ROUTMEAN	SITE	POST	14.50	100.559	102.000	6638	0.078	0.167	0.1	0.1
ROUTMEAN	SITE	POST	14.58	100.555	102.000	6630	0.073	0.163	0.1	0.1
ROUTMEAN	SITE	POST	14.67	100.551	102.000	6623	0.068	0.159	0.1	0.1
ROUTMEAN	SITE	POST	14.75	100.547	102.000	6616	0.063	0.155	0.1	0.1
ROUTMEAN	SITE	POST	14.83	100.543	102.000	6609	0.065	0.151	0.1	0.1
ROUTMEAN	SITE	POST	14.92	100.539	102.000	6602	0.066	0.148	0.1	0.1
ROUTMEAN	SITE	POST	15.00	100.536	102.000	6596	0.068	0.145	0.1	0.1
ROUTMEAN	SITE	POST	15.08	100.532	102.000	6590	0.068	0.142	0.1	0.1

Postdeveloped Mean Annual Storm Time Series Report

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
ROUTMEAN	SITE	POST	15.17	100.529	102.000	6584	0.068	0.139	0.1	0.1
ROUTMEAN	SITE	POST	15.25	100.526	102.000	6579	0.068	0.137	0.1	0.1
ROUTMEAN	SITE	POST	15.33	100.522	102.000	6573	0.063	0.135	0.1	0.1
ROUTMEAN	SITE	POST	15.42	100.519	102.000	6567	0.059	0.133	0.1	0.1
ROUTMEAN	SITE	POST	15.50	100.516	102.000	6561	0.054	0.130	0.1	0.1
ROUTMEAN	SITE	POST	15.58	100.512	102.000	6555	0.055	0.128	0.1	0.1
ROUTMEAN	SITE	POST	15.67	100.509	102.000	6550	0.057	0.127	0.1	0.1
ROUTMEAN	SITE	POST	15.75	100.506	102.000	6544	0.058	0.125	0.1	0.1
ROUTMEAN	SITE	POST	15.83	100.503	102.000	6539	0.057	0.124	0.1	0.1
ROUTMEAN	SITE	POST	15.92	100.500	102.000	6533	0.055	0.123	0.1	0.1
ROUTMEAN	SITE	POST	16.00	100.496	102.000	6528	0.054	0.123	0.1	0.1
ROUTMEAN	SITE	POST	16.25	100.487	102.000	6512	0.058	0.121	0.1	0.1
ROUTMEAN	SITE	POST	16.50	100.478	102.000	6496	0.054	0.120	0.1	0.1
ROUTMEAN	SITE	POST	16.75	100.469	102.000	6480	0.049	0.118	0.1	0.1
ROUTMEAN	SITE	POST	17.00	100.459	102.000	6463	0.049	0.117	0.1	0.1
ROUTMEAN	SITE	POST	17.25	100.450	102.000	6447	0.045	0.115	0.1	0.1
ROUTMEAN	SITE	POST	17.50	100.440	102.000	6430	0.049	0.113	0.2	0.1
ROUTMEAN	SITE	POST	17.75	100.431	102.000	6414	0.045	0.112	0.2	0.1
ROUTMEAN	SITE	POST	18.00	100.421	102.000	6397	0.039	0.110	0.2	0.1
ROUTMEAN	SITE	POST	18.25	100.412	102.000	6380	0.039	0.108	0.2	0.1
ROUTMEAN	SITE	POST	18.50	100.402	102.000	6363	0.036	0.106	0.2	0.1
ROUTMEAN	SITE	POST	18.75	100.392	102.000	6346	0.039	0.105	0.2	0.1
ROUTMEAN	SITE	POST	19.00	100.383	102.000	6330	0.036	0.103	0.2	0.1
ROUTMEAN	SITE	POST	19.25	100.374	102.000	6314	0.039	0.101	0.2	0.1
ROUTMEAN	SITE	POST	19.50	100.365	102.000	6298	0.036	0.099	0.2	0.1
ROUTMEAN	SITE	POST	19.75	100.356	102.000	6283	0.039	0.097	0.2	0.1
ROUTMEAN	SITE	POST	20.00	100.347	102.000	6267	0.030	0.096	0.2	0.1
ROUTMEAN	SITE	POST	20.25	100.337	102.000	6251	0.027	0.094	0.2	0.1
ROUTMEAN	SITE	POST	20.50	100.328	102.000	6234	0.029	0.092	0.2	0.1
ROUTMEAN	SITE	POST	20.75	100.319	102.000	6219	0.027	0.090	0.2	0.1
ROUTMEAN	SITE	POST	21.00	100.310	102.000	6203	0.029	0.088	0.2	0.1
ROUTMEAN	SITE	POST	21.25	100.302	102.000	6189	0.029	0.086	0.2	0.1
ROUTMEAN	SITE	POST	21.50	100.293	102.000	6174	0.027	0.084	0.2	0.1
ROUTMEAN	SITE	POST	21.75	100.285	102.000	6160	0.029	0.082	0.2	0.1
ROUTMEAN	SITE	POST	22.00	100.278	102.000	6147	0.027	0.080	0.2	0.1
ROUTMEAN	SITE	POST	22.25	100.270	102.000	6134	0.029	0.077	0.2	0.1
ROUTMEAN	SITE	POST	22.50	100.263	102.000	6121	0.027	0.074	0.2	0.1
ROUTMEAN	SITE	POST	22.75	100.257	102.000	6110	0.029	0.072	0.2	0.1
ROUTMEAN	SITE	POST	23.00	100.251	102.000	6099	0.029	0.069	0.2	0.1
ROUTMEAN	SITE	POST	23.25	100.245	102.000	6089	0.027	0.066	0.2	0.1
ROUTMEAN	SITE	POST	23.50	100.239	102.000	6080	0.029	0.064	0.2	0.1
ROUTMEAN	SITE	POST	23.75	100.234	102.000	6071	0.027	0.062	0.2	0.1
ROUTMEAN	SITE	POST	24.00	100.228	102.000	6061	0.000	0.060	0.2	0.1
ROUTMEAN	SITE	POST	24.01	100.228	102.000	6061	0.000	0.060	0.2	0.1

PRE/POST DISCHARGE ANALYSIS
Trail Ridge Fuel Site

Following is the Pre/Post Analysis for the Trail Ridge Fuel Site. Results for the 25 yr/24 hr and Mean Annual storm events are shown.

Predeveloped Basin

25 Year Storm

Q25pre = 1.76 cfs

Mean Annual

Qmean-pre = 0.46 cfs

Postdeveloped Basin

25 Year Storm

Q25 = 1.39 cfs

Mean Annual

Qmean = 0.31 cfs

The postdevelopment discharges do not exceed predevelopment discharges. Therefore, required attenuation of the stormwater runoff has been met.

POND PERMANENT POOL VOLUME

To meet the design requirements for a wet detention pond, the pond must be designed to maintain a permanent pool for 21 days during the wet season. The permanent pool volume required is:

$$\text{Permanent pool volume required} = \frac{(\text{Area ac})(\text{Runoff Coeff.})(30 \text{ in})(21 \text{ days})}{(153 \text{ days})(12 \text{ in/ft})}$$

= **0.14 ac-ft**

	Stage	Area (ac)	Storage (ac-ft)
N.W.L.	100.00	0.13	0.28
Bot of Pond	96.00	0.01	0.00

The pond volume below N.W.L. = 0.28 ac-ft

Therefore adequate storage is provided

POND BLEED-DOWN ANALYSIS
Trail Ridge Fuel Site

Outflow from the pond will be routed through a circular orifice and a rectangular weir. The orifice will serve as the bleed down device for the pond and will discharge at the normal water level. The rectangular weir will discharge above the required treatment volume and will attenuate runoff from the system to below the predeveloped discharge rate. Discharge from the orifice was estimated using the orifice flow equation:

$$q = aC\sqrt{2gh}$$

where: a = Flow area of orifice (ft^2)
C = Orifice coefficient
g = Gravity constant (ft/s^2)
h = Head above orifice center (ft)

The pond was modeled to determine the estimated times for ½ and for the full treatment volume to recover. The results of the model are on the following page.

ENGLAND, THIMS & MILLER, INC.

PROJECT: **Trail Ridge Fuel Station**

DATE **12/19/2003**
ETM No. **03-154**

Pond Bleed Down Analysis

		Area (sq ft)	Area (ac)	Vol (cu ft)	Vol (ac-ft)
Treatment El	100.50	5,205	0.12	2,389	0.055
NWL El	100.00	4,350	0.10	0	0
Reqd Treatmnt	2,087 cuft				

1/2 Volume	1,044	cu ft
1/2 V El	100.28	
Full V El	100.06	
Orifice D	2.75	in
Orifice A	0.0412	sq ft
1/2 Recover	2.1	hr
Full Recover	4.9	hr

Stage	Storage (cu ft)	Qout (cfs)	/\t (hr)	t total (hr)
100.50	2,389	0.16	0.00	0.00
100.45	2,150	0.15	0.44	0.44
100.40	1,911	0.14	0.46	0.89
100.35	1,672	0.14	0.48	1.37
100.30	1,433	0.13	0.51	1.88
100.25	1,194	0.12	0.54	2.41
100.20	956	0.11	0.58	2.99
100.15	717	0.10	0.62	3.61
100.10	478	0.09	0.69	4.30
100.05	239	0.08	0.77	5.08
100.00	0	0.07	0.91	5.98

$$Q = A \times C \times \sqrt{2gh}$$

ATTACHMENTS

==========
==== Basins ====
==========

Name: PRE
Group: PRE
Node: PRE
Type: SCS Unit Hydrograph
Status: Onsite

Unit Hydrograph: Uh323
Rainfall File: Scsii-24
Rainfall Amount(in): 9.500
Area(ac): 0.480
Curve Number: 61.00
DCIA(%): 0.00
Peaking Factor: 323.0
Storm Duration(hrs): 24.00
Time of Conc(min): 20.00
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

Predeveloped Condition

Name: SITE
Group: POST
Node: SITE
Type: SCS Unit Hydrograph
Status: Onsite

Unit Hydrograph: Uh323
Rainfall File: Scsii-24
Rainfall Amount(in): 9.500
Area(ac): 0.480
Curve Number: 93.00
DCIA(%): 0.00
Peaking Factor: 323.0
Storm Duration(hrs): 24.00
Time of Conc(min): 5.00
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

Postdeveloped Condition

==========
==== Nodes ====
==========

Name: OUT
Group: POST
Type: Time/Stage
Base Flow(cfs): 0.000
Init Stage(ft): 99.600
Warn Stage(ft): 100.500

Discharge

Time(hrs)	Stage(ft)
0.00	99.600
24.00	99.600

Name: SITE
Group: POST
Type: Stage/Area
Base Flow(cfs): 0.000
Init Stage(ft): 100.000
Warn Stage(ft): 102.000

Site Pond

Stage(ft)	Area(ac)
100.000	0.1300
102.000	0.2100

==========
==== Weirs ====
==========

Name: ORIFICE
Group: POST
Flow: Both
Type: Vertical: Mavis
From Node: SITE
To Node: OUT
Count: 1
Geometry: Circular

Span(in): 2.75
Rise(in): 2.75
Invert(ft): 100.000
Control Elevation(ft): 100.000
TABLE
Bottom Clip(in): 0.000
Top Clip(in): 0.000
Weir Discharge Coef: 3.200
Orifice Discharge Coef: 0.600

Bleed Down Orifice

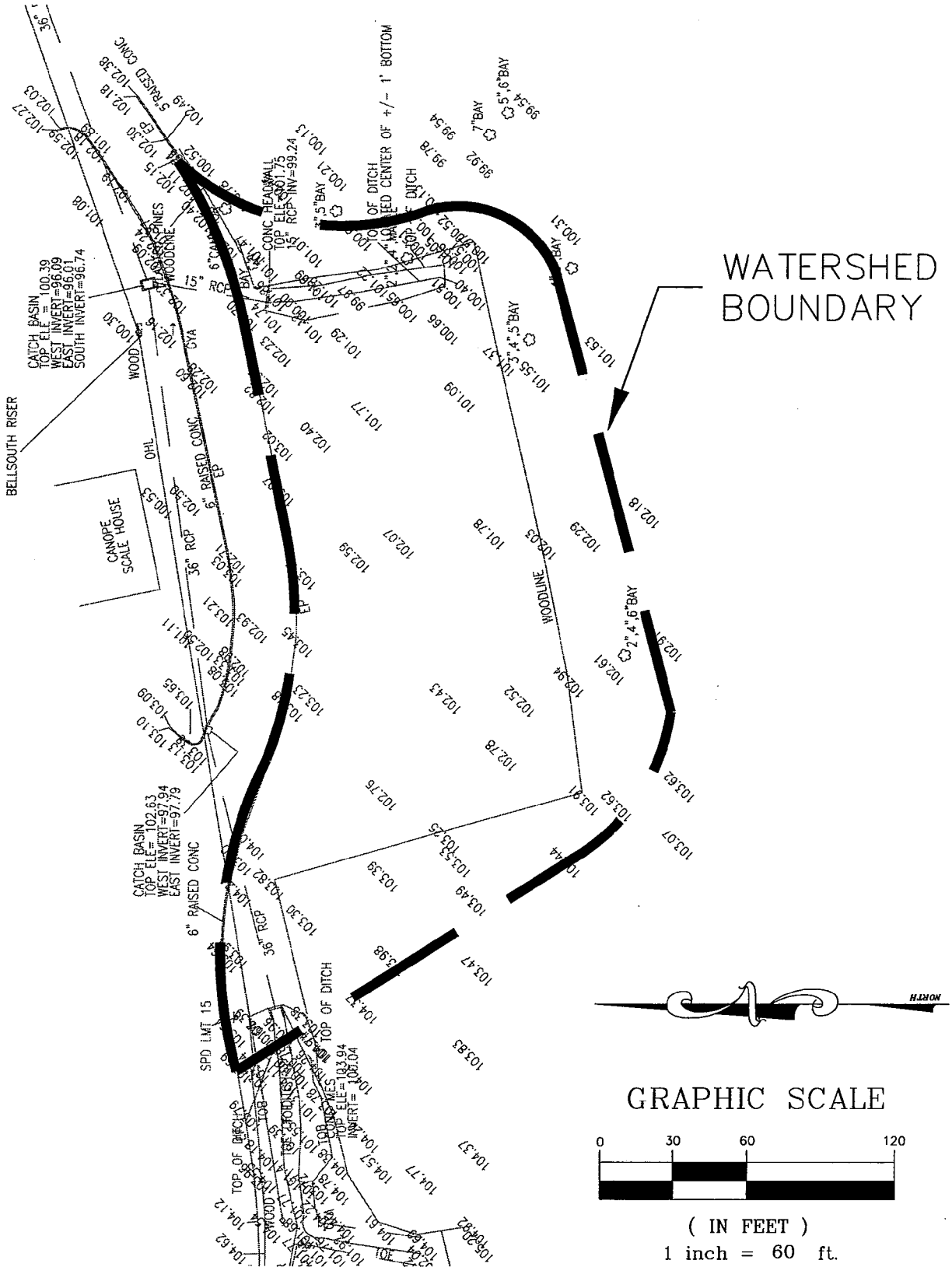
Name: WEIR
Group: POST
Flow: Both
Type: Vertical: Mavis
From Node: SITE
To Node: OUT
Count: 1
Geometry: Rectangular

```
                  Span(in): 9.00
                  Rise(in): 24.00
                Invert(ft): 100.500
       Control Elevation(ft): 100.500
                                        TABLE
            Bottom Clip(in): 0.000
               Top Clip(in): 0.000
          Weir Discharge Coef: 3.200
      Orifice Discharge Coef: 0.600

Weir

================================================================================
==== Hydrology Simulations =====================================================
================================================================================

         Name: HYD25
     Filename: G:\03-154\Admin\Calcs\ICPR\Output\Hyd25.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Scsii-24
    Rainfall Amount(in): 9.50

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          15.00

--------------------------------------------------------------------------------
         Name: HYDMEAN
     Filename: G:\03-154\Admin\Calcs\ICPR\Output\Hydmean.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Scsii-24
    Rainfall Amount(in): 4.95

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          15.00

================================================================================
==== Routing Simulations =======================================================
================================================================================

         Name: ROUT25              Hydrology Sim: HYD25
     Filename: G:\03-154\Admin\Calcs\ICPR\Output\ROUT25.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                     Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                     End Time(hrs): 24.00
    Min Calc Time(sec): 0.5000                Max Calc Time(sec): 60.0000
       Boundary Stages:                           Boundary Flows:

25 year, 24 hour design storm routing

Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           15.000
16.000          5.000
24.000          15.000

Group           Run
--------------- -----
POST            Yes


--------------------------------------------------------------------------------
         Name: ROUTMEAN            Hydrology Sim: HYDMEAN
     Filename: G:\03-154\Admin\Calcs\ICPR\Output\ROUTMEAN.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                     Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                     End Time(hrs): 24.00
    Min Calc Time(sec): 0.5000                Max Calc Time(sec): 60.0000
       Boundary Stages:                           Boundary Flows:

Mean Annual design storm routing
```

Time(hrs)	Print Inc(min)
8.000	15.000
16.000	5.000
24.000	15.000

Group	Run
POST	Yes

==========
==== Boundary Conditions ====
==========



England-Thims & Miller, Inc.
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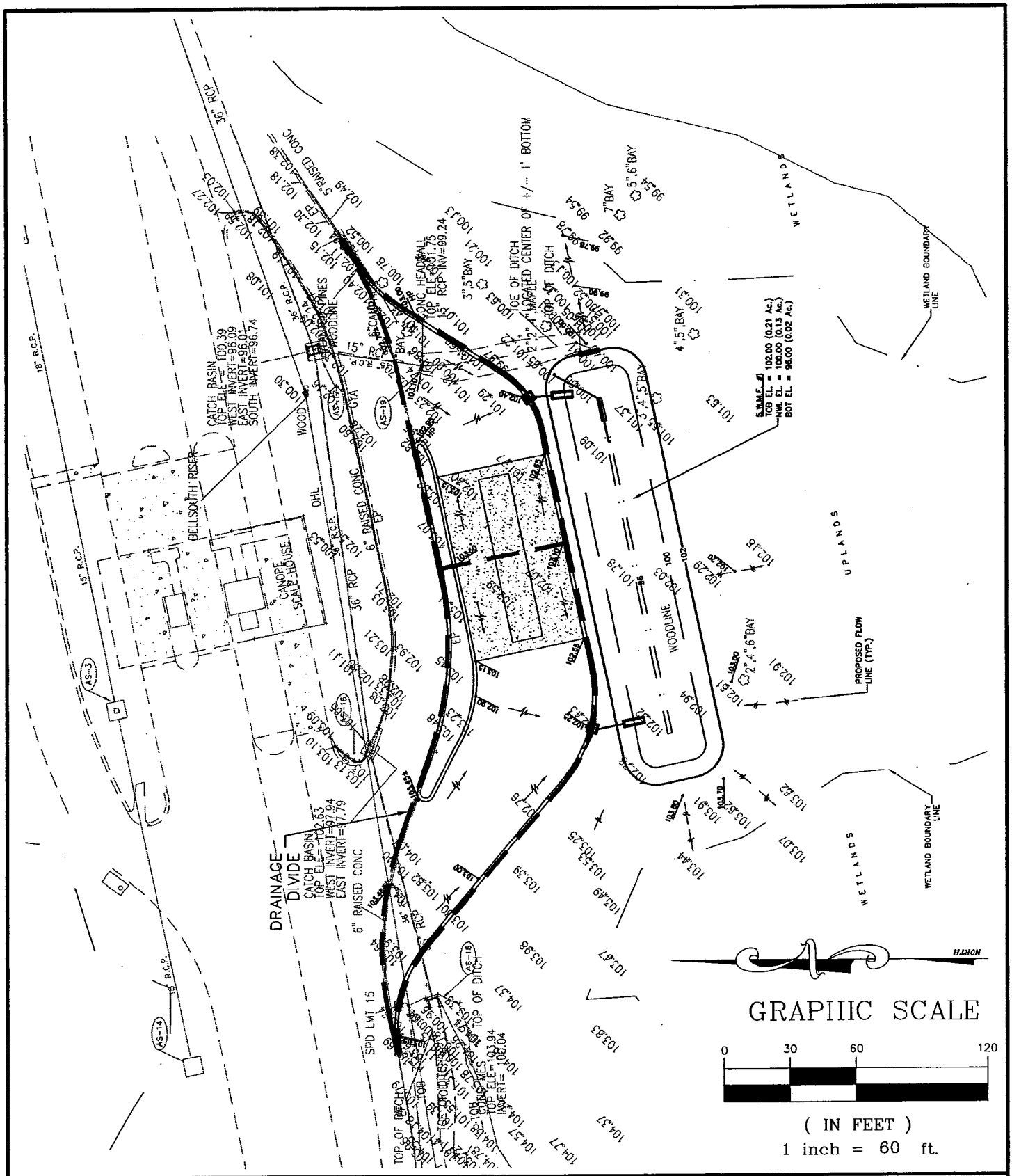
Fax No. (904) 646-9485

PRE DEVELOPMENT CONDITION

TRAIL RIDGE FUEL SITE
FOR
CITY OF JACKSONVILLE

ETM NO.	E03-154
DATE:	JAN., 2004
DRAWN BY:	R.A.E.
DRAWING NO.	

DEP003827



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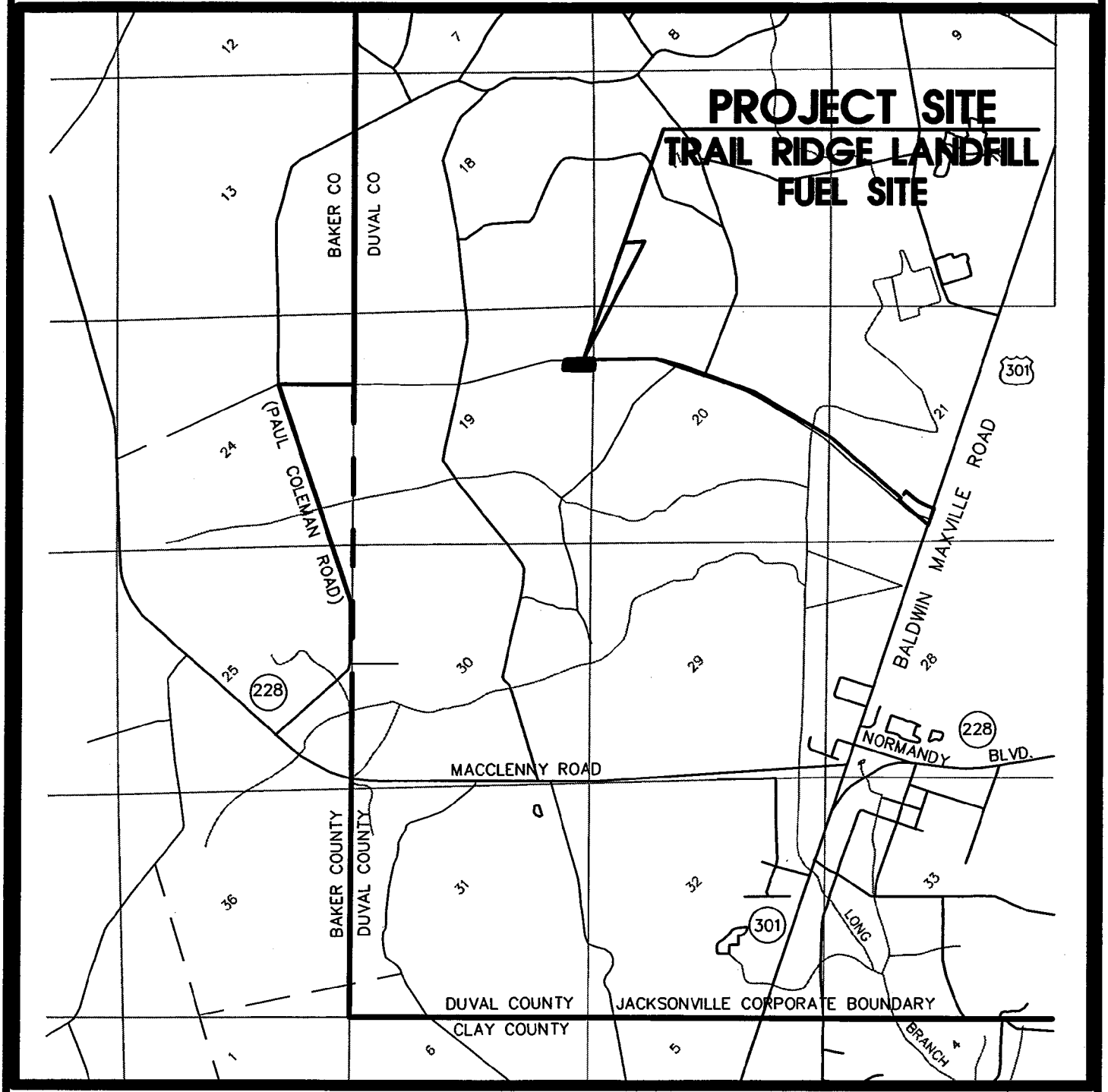
POST DEVELOPMENT CONDITION

TRAIL RIDGE FUEL SITE
FOR
CITY OF JACKSONVILLE

ETM NO.	E03-154
DATE:	JAN., 2004
DRAWN BY:	R.A.E.
DRAWING NO.	



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VICINITY MAP

TRAIL RIDGE FUEL SITE
FOR
CITY OF JACKSONVILLE

ETM NO.	E03-154
DATE:	JAN., 2004
DRAWN BY:	R.A.E.
DRAWING NO.	

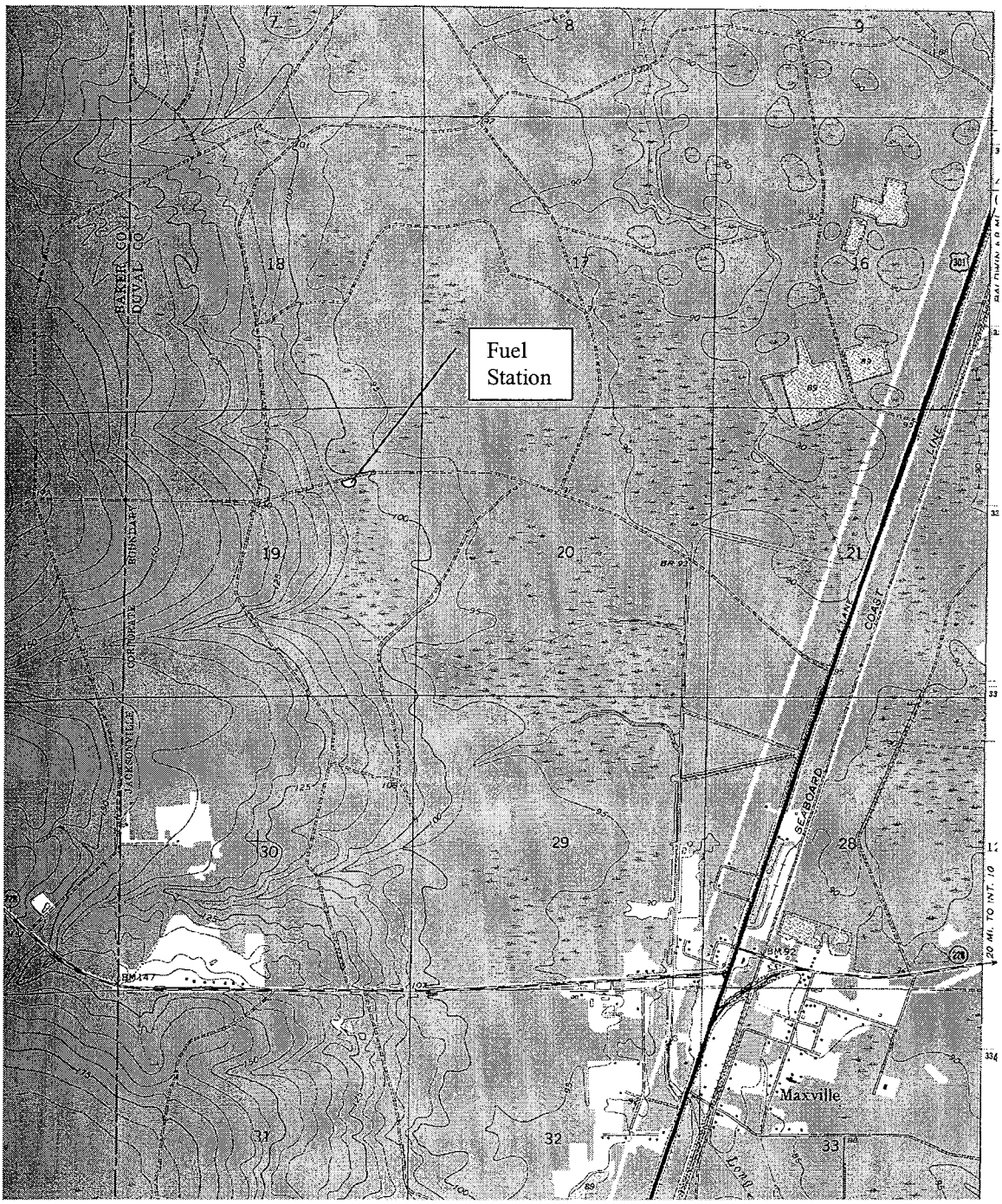
G:\03-154\Design\Support\VICINITY.dwg, 01/30/2004 01:03:15 PM, knowless

Scale: 1" = 400'

Trail Ridge Fuel Station
Aerial Photo
March 15, 2002

N

England-Thims & Miller, Inc.
Engineers • Planners • Surveyors • Landscape Architects



Trail Ridge Fuel Station
USGS Quadrangle Map

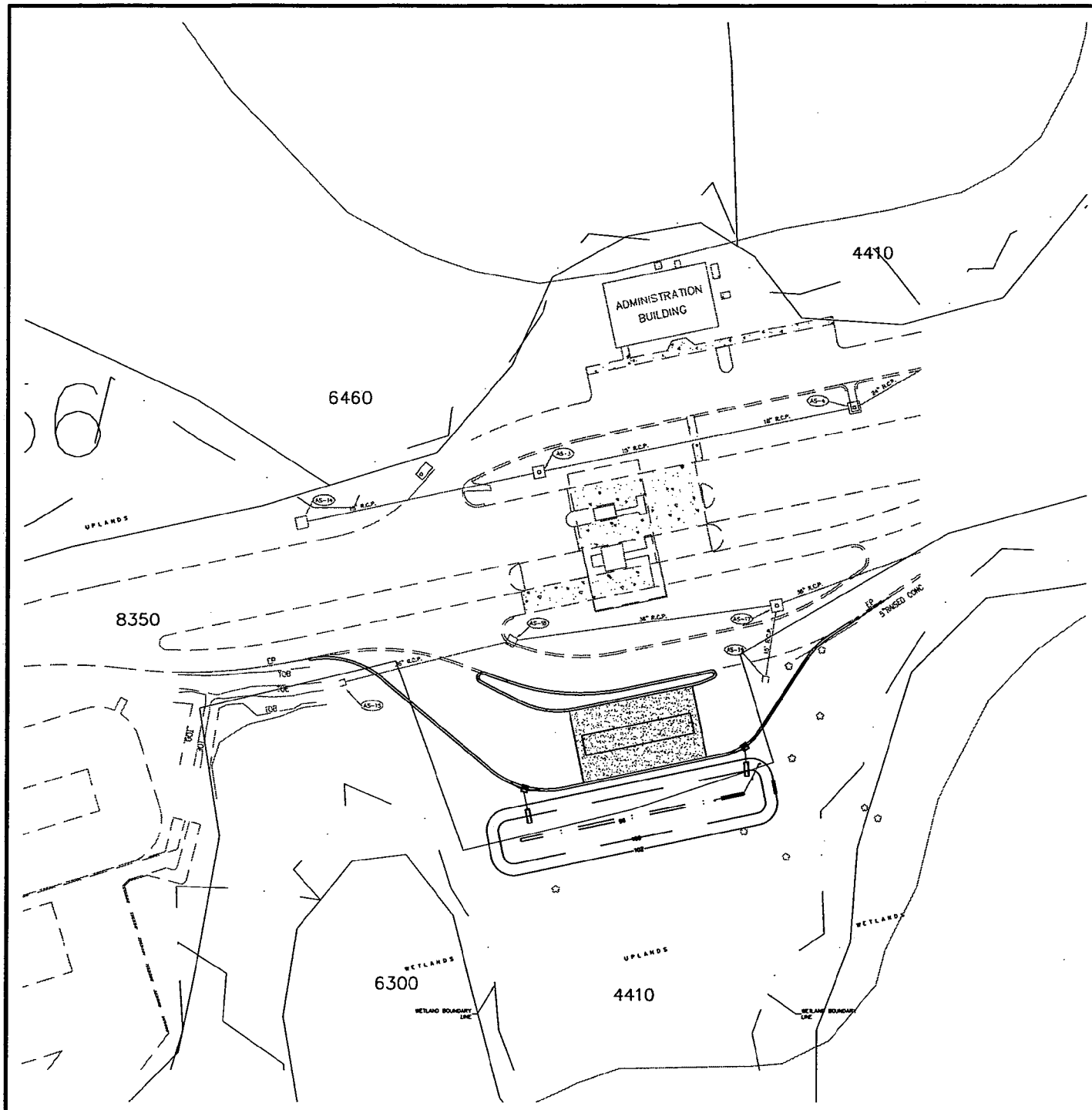
Maxville, FL Quad

Scale: 1" = 3000'

N

England-Thims & Miller, Inc.
Engineers - Planners - Surveyors - Landscape Architects

DEP003831



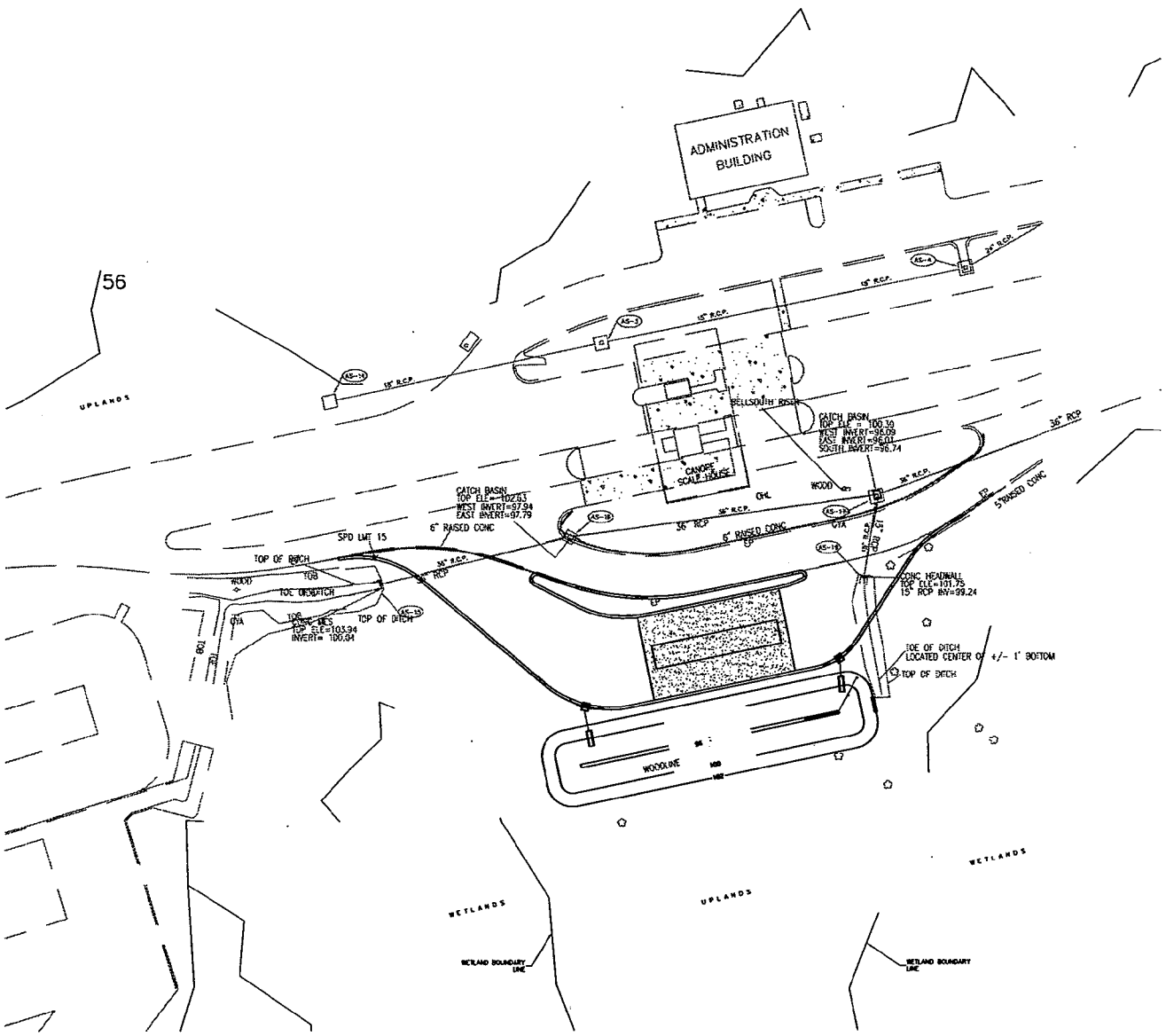
4410 – CONIFEROUS FOREST
6300 – WETLAND
6460 – WETLAND
8350 – SOLID WASTE DISPOSAL

England·Thims & Miller, Inc.
ENGINEERS - PLANNERS
SURVEYORS - LANDSCAPE ARCHITECTS
14775 St. Augustine Road
Jacksonville, Florida 32258
Certificate of Authorization No.:2584
Phone No. (904) 642-8990
Fax No. (904) 646-9485

LANDUSE MAP

TRAIL RIDGE FUEL SITE
FOR
CITY OF JACKSONVILLE

ETM NO.	E03-154
DATE:	JAN., 2004
DRAWN BY:	R.A.E.
DRAWING NO.	



56 = POTTSBURG FINE SAND

England-Thims & Miller, Inc.
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SOILS MAP

TRAIL RIDGE FUEL SITE
FOR
CITY OF JACKSONVILLE

ETM NO.	E03-154
DATE:	JAN., 2004
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DRAINAGE CALCULATIONS

Trail Ridge Fuel Site

PROJECT Trail Ridge Fuel Site
PROJECT # 03-154
DATE 1/19/04
PAGE 1 OF 1

Up Struct	Type of Struct	Down Struct	Length (Ft)	Type of Line	Drainage Area (Ac) C= 0.95 / C= 0.7 / C= 0.3 — Incr.	Drainage Area (Ac) — C*A	Sum	Tc (min.)	TL (min.)	Time Accum (min.)	i	Total (CA)	Top or Grate Elev.	Elev. of H.G. — Crown El. / Invert El. — Up End	Dn End	Fall	Pipe Diam (in.)	n	Slope (%)	Vel. (fps)	Q (cfs)	Head Loss — Entrance Losses / Bend Losses / Total (ft)	Remarks
S-1	DWCB Single Inlet	S-2	24	RCP	0.24	0.23	0.23	5.00	0.08	5.08	7.27	0.23	102.25	100.02	100.00	0.02	15	0.013	0.07%	1.35	1.66	0.014	K= 0.5
					0.00	0.00								98.25	98.05							0.000	K= 0
					0.00	0.00								97.00	96.80	0.20			0.83%	4.81	5.90	0.014	
S-2	MES																						
S-3	DWCB Single Inlet	S-4	20	RCP	0.14	0.13	0.13	5.00	0.06	5.06	7.27	0.13	102.40	100.00	100.00	0.00	15	0.013	0.02%	0.79	0.97	0.005	K= 0.5
					0.00	0.00								98.25	98.05							0.000	K= 0
					0.00	0.00								97.00	96.80	0.20			1.00%	5.26	6.46	0.005	
S-4	MES																						

DEVELOPMENT MANAGEMENT GROUP

NO OBJECTION

Date: _____ OFFICE OF THE CITY ENGINEER, JACKSONVILLE FLORIDA

Date: _____ DEPARTMENT OF PUBLIC WORKS

Approval of Plans Void After Two Year. Plans Must Be Resubmitted

NOTICE

All work performed within a Public Right-of-Way or Easement dedicated to the City will require bonding and a separate permit issued by the Department of Public Works, Development Management Group. For information call 630-1053.

State Health Department permit approval must be obtained for any newly constructed Water and Sewer Systems.

City approval is contingent upon any required State or Federal permit approvals such as those of the Department of Environmental Protection and St. John's Water Management District.

All construction will be performed in accordance with the approved plans and comply with all standard City policies and practices.

All work performed within this Right-of-Way requires a separate permit issued by the Florida D.O.T.

Revocable permit and indemnification agreement required, is/is not Contact the Development Management Group at (904)630-1105.
☐ Yes ☐ No

TRAFFIC ENGINEERING DIVISION

	Date:	Signed By:
NO OBJECTION	_____	_____
NO OBJECTION AS NOTED	_____	_____

SUBDIVISION SIGN REQUIREMENTS

Metro Name	_____	@$75.00 ea.	_____
Standard Signs	_____	@$70.00 ea.	_____
Stop/Yield Sign	_____	@$50.00 ea.	_____
Sign Design	_____	@$45.00	_____
Sign Installation	_____	@$45.00/hr.	_____
Amount Paid to Tax Collector			$ _____

Send the following information to the Traffic Engineering Division, 1007 Superior St., Jacksonville Fl. 32254; tax receipts, JEA plat map, Subd. master plan (show roads, s/w, & utilities), and a contact person with their phone & fax numbers.

STREETLIGHTS REQUIRED. ☐ Yes ☐ No

NO LANE CLOSURES: 7 A.M.- 9 A.M. and 4 P.M.- 6 P.M.

PLANNING & DEVELOPMENT DEPARTMENT LAND USE DIVISION

NO OBJECTION

Date: _____ Signed By: _____

LANDSCAPE SECTION

	Date:	Signed By:
NO OBJECTION	_____	_____
NO OBJECTION AS NOTED	_____	_____

DRAINAGE SECTION

NO OBJECTION

Based on the information submitted, the Drainage Activity has no objection. Drainage appears to be adequate.

Date: _____ Reviewed By: _____

City approval is conditional upon any and all required State or Federal approvals.

Annual reports in compliance with the SJRWMD stormwater permits, are required from the maintenance entity of all storm-water treatment facilities. Send reports to the office of the City Engineer, City of Jacksonville, City Hall Annex, Room 901, 220 East Bay St., Jacksonville, Florida 32202.

The owner of any project one (1) acre or larger is required to provide a notice of intent in accordance with criteria set forth in the N.P.D.E.S. permit 48 hours to beginning construction.
NOTICE TO: U.S. Environmental Protection Agency, Region 4
Atlanta Federal Center
Surface Water Permits & Facilities Branch
100 Alabama Street, SW
Atlanta Georgia 30303-3104

PUD Ordinance Numbers	
Zoning Designation	
CCAS Number	
Development Number	
PSD-	
Real Estate Appraiser No.	
Flood Panel No.	
Flood Zone	
Total Site Area	0.48 ACRES±
Total Impervious Area	0.23 ACRES±
Standard Industrial Code	
Inspection By:	CITY OF JACKSONVILLE

TRAIL RIDGE FUEL SITE

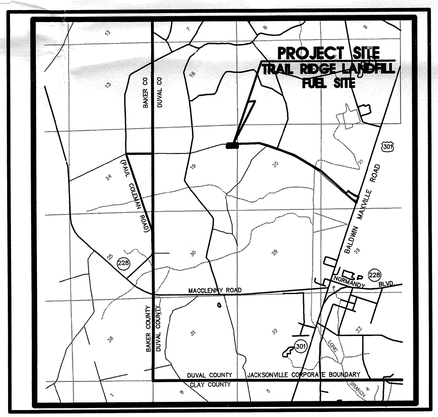
FOR

CITY OF JACKSONVILLE

JACKSONVILLE, FLORIDA

TRAIL RIDGE FUEL SITE E03-154

INDEX OF DRAWINGS



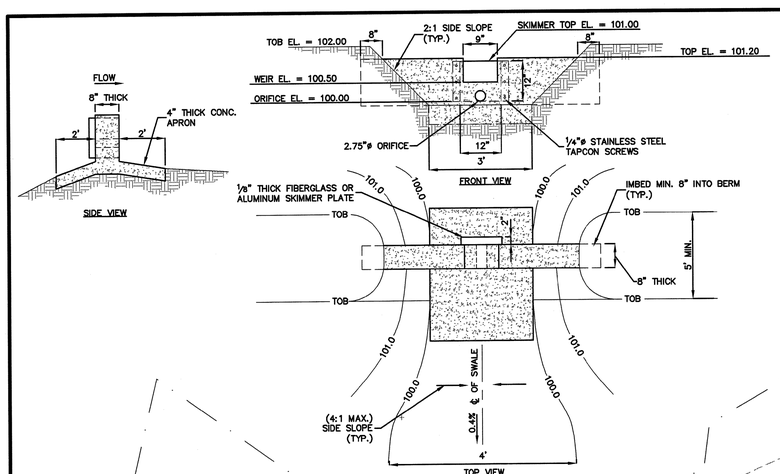
VICINITY MAP

England · Thims & Miller, Inc.

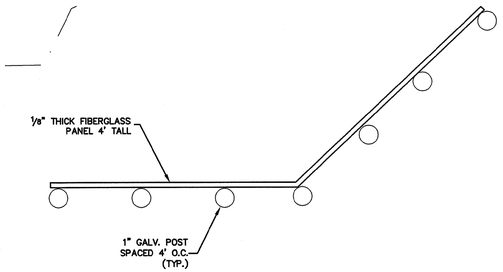
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS
14775 ST. AUGUSTINE ROAD - JACKSONVILLE, FLORIDA 32258
CERTIFICATE OF AUTHORIZATION NUMBER: 2584
PHONE NUMBER (904) 642-8990
FAX NUMBER (904) 646-9485

PROJECT NUMBER E03-154

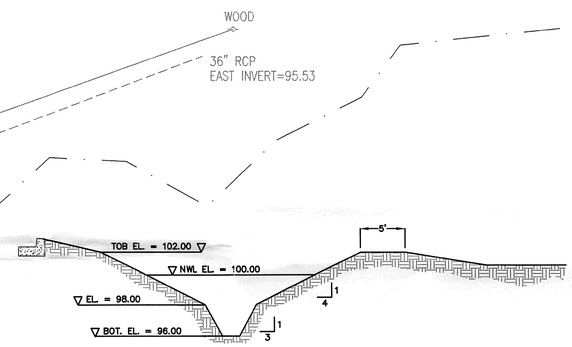
DATE: JAN. 2004



(CS-1) SECTION - CONCRETE WEIR
N.T.S.



DIVERSION BARRIER DETAIL
N.T.S.



SECTION "A-A" - S.W.M.F. #1
N.T.S.

DRAINAGE STRUCTURE TABLE & SCHEDULE OF PIPES

STRUCT. No.	STRUCT. TYPE	TOP ELEV.	E.O.P. ELEV.	THROAT ELEV.	INV. IN	INV. OUT	PIPE TYPE	PIPE SIZE	PIPE LENGTH	PIPE SLOPE (%)
S-1	C.I.	–	102.25	102.15	–	97.00 (S)	RCP	15"	24'	0.83
S-2	M.E.S.	–	–	–	96.80	–	–	–	–	–
S-3	DBL. C.I.	–	102.40	102.30	–	97.00	RCP	15"	20'	1.00
S-4	M.E.S.	–	–	–	96.80	–	–	–	–	–
CS-1	SEE DETAIL THIS SHEET									

REVISIONS:

ETM NO. 03-154
DRAWN BY: R.A.E.
DESIGNED BY: S.A.K.
CHECKED BY: S.A.K.
DATE: JAN. 2004

SITE PLAN

TRAIL RIDGE FUEL SITE FOR CITY OF JACKSONVILLE, FLORIDA

England-Thims & Miller, Inc.
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS
14775 ST. AUGUSTINE ROAD JACKSONVILLE, FLORIDA 32258
CERTIFICATE OF AUTHORIZATION NUMBER 2584
PHONE NUMBER (904) 642-8990 FAX NUMBER (904) 646-9485

C-2

GRAPHIC SCALE
300 0 150 300 600
(IN FEET)
1 INCH = 300 FT.

EXISTING GATE
SECTION 24
SECTION 19
EXISTING GATE
BAKER COUNTY
DUVAL COUNTY
PROPERTY BOUNDARY
200.0'
200.0'
EXISTING FENCE
JURISDICTIONAL WETLANDS LINE
EXISTING PERMITTED CLASS I LANDFILL
C.O.E./S.J.R.W.M.D.
D.E.R.
FUTURE CLASS I LANDFILL EXPANSION (NOT INCLUDED IN THIS PERMIT)
EXISTING CONTAINMENT AREA
EXISTING FLARE STATION
EXISTING OPERATIONS BUILDING
FUTURE LEACHATE MANAGEMENT AREA
FUTURE STORMWATER BASIN
EXISTING STORMWATER POND
EXISTING WASTE TIRE STORAGE AND PROCESSING AREA
EXISTING CONTAINMENT STORAGE AREA
EXISTING WHITE GOODS STORAGE CONTAINER AREA
EXISTING SCALES AND SCALE HOUSE
EXISTING ADMINISTATION BUILDING
EXISTING DISPERSION POND
PROPOSED FUEL STATION
EXISTING ANCILLARY FACILITIES DETENTION POND
EXISTING MITIGATION AREA
EXISTING ENTRANCE ROAD
EXISTING GATE
EXISTING FENCE
PROPERTY BOUNDARY
24" C.M.P.
48"X 36" C.M.P.
UPLANDS
WETLANDS
WET
UP

LEGEND
- JURISDICTIONAL WETLANDS
- LIMITS OF FUTURE EXPANSION
- EXISTING MITIGATION AREA
- EXISTING FENCE

PERMIT DOCUMENT

SUBMITTED TO DEP: 9-25-02
1-30-04

REVISIONS:
8-16-02 REVISED TO SHOW EXISTING FLARE STATION.
2-14-03 ADDED CONTAINMENT STORAGE AND WHITE GOODS STORAGE AREAS.
1-26-04 ADDED PROPOSED FUEL STATION.

ETM NO. 02-025
DRAWN BY: S.J.L.
DESIGNED BY: J.B.C.
CHECKED BY: J.B.C.
DATE: SEPTEMBER 25, 2002

SITE PLAN

TRAIL RIDGE LANDFILL PERMIT RENEWAL FOR TRAIL RIDGE LANDFILL, INC.

England-Thims & Miller, Inc.
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS
14775 ST. AUGUSTINE ROAD JACKSONVILLE, FLORIDA 32258
CERTIFICATE OF AUTHORIZATION NUMBER: 2584
PHONE NUMBER (904) 642-8990 FAX NUMBER (904) 646-9485

DRAWING NO.
4

G:\LANDFILL\TRAIL\RENEWAL\02-025\Dwg\Plots\Site Plan.dwg, 01/30/2004 10:39:30 AM, dayaof