City of
DEKALB
Established 1856

DEPARTMENT OF PUBLIC WORKS
www.cityofdekalb.com

Received 6/12/07
E1-2974
AB-33 (Sub-No. 243X)

June 11, 2007

Ms. Diana F. Wood
Section of Environmental Analysis
Surface Transportation Board
395 E Street S.W. Room 1110
Washington, DC 20423

Re: Watershed Study – AB-33 (Sub-No. 243X)

Dear Ms. Wood,

On behalf of the City of DeKalb, please accept our thanks in following up on our concerns with the flooding issues in the Pleasant Street area of DeKalb. This situation has been ongoing for years and until 2005, a solution had not been identified (please see the enclosed report from RHA&A). We would very much appreciate a copy of any final conclusions regarding the Union Pacific spur abandonment and/or opportunities to resolve our drainage issues.

The following information is being provided in response to your request for information:

- ✓ Correspondence from Mr. Harrel of UPRR date October 14, 2004, inclusive of a site plan highlighting land involving reversionary clause.
- ✓ Correspondence from Mr. Harrel of UPRR dated December 28, 2004.
- ✓ Copy of a fax 01-03-2006 from ENCAP, INC., advising of the results of a Jurisdictional Determination from the USACE.
- ✓ Copy of the ENCAP Wetland Determination report dated December 13, 2005.
- ✓ Copy of the RHA&A engineering study results for the area in question.
- ✓ A site plan of the project area under review.

I hope the information provided will be acceptable. Should you have any further questions or require additional information please do not hesitate to contact me at your earliest convenience.

Sincerely,

The City of DeKalb

Rick Monas
Director of Public Works

C: Mark Biernacki, City Manager
Norma Guess, City Attorney
Mark Espy, ADPW Street Operations
Director File

Administration Division
223 S. 4th Street, Ste B
DeKalb, IL 60115
(815) 748-2030
Fax: (815) 748-2025

Airport Division
3232 Pleasant Street
DeKalb, IL 60115
(815) 748-2020
Fax: (815) 748-2022

Water Resources Division
1216 Market Street
DeKalb, IL 60115
(815) 748-2050
Fax: (815) 748-8145

Street Operations Division
1316 Market Street
DeKalb, IL 60115
(815) 748-2040
Fax: (815) 748-8146

October 14, 2004

1835-33

RICK MONAS
CITY OF DEKALB
223 S. 4TH STREET
DEKALB, IL 60115

SUBJECT: Sale of Property in DeKalb, Illinois.

Dear Mr. Breese:

Please refer to our conversation regarding the abandoned right of way in DeKalb, Illinois that the City may be interested in purchasing.

Attached for your information is a map that illustrates the abandoned right of way for which I have approval to sell. After reviewing our acquisition deeds, I found that some of the property is reversionary. The portion of the property that I have highlighted in yellow is the property for which we have fee title and contains roughly 3.50 acres.

The balance of the property that is not shaded in yellow was either condemned or acquired by deed that reverts upon abandonment. Union Pacific would not claim ownership to the remainder of these properties and would be willing to Dislclaim our interest to that property and the City could clear it out via condemnation.

As information, Union Pacific conveys its property by Quitclaim Deed, with all mineral rights reserved without right of surface entry. Any cost related to survey, title insurance, environmental audit, transfer tax, etc., are the responsibility of the purchaser.

Attached is our standard letter of understanding which would be used to describe the terms and conditions of the sale once approval has been obtained and price has been negotiated. Included within the letter is a right of entry that allows you to enter onto the property for feasibility studies. If the City wants to perform feasibility tests prior to entering into an agreement, please contact this office and arrange for a right of entry.

Based on sales of similar property to the north, I believe that the property is worth $12,500 per acre or $43,750.00. I would be willing to submit to Union Pacific management, sale of the property on this basis. Call me on (402) 997-3557 if you have any questions.

Sincerely,

Jim Harrel

J. L. Harrel
Senior Manager - Real Estate

Real Estate

UNION PACIFIC RAILROAD
1400 Douglas Street, Stop 1690
Omaha, Nebraska 68179-1690
fx. (402) 501-0540

402- 544-2557

December 28, 2004

1835-33

RICK MONAS
CITY OF DEKALB
223 S. 4TH STREET
SUITE B
DEKALB, IL 60115

SUBJECT: Sale of Property in DeKalb, Illinois.

Dear Mr. Monas:

Please refer to your letter of December 16, 2004 regarding the City of DeKalb's efforts to resolve drainage problems near Pleasant Street in DeKalb, Illinois.

Union Pacific has ceased its operations north of Pleasant Street and as you know, we are now trying to sell the property. Because of this, we have no interest in participating in a joint effort to pursue rehabilitation of the area. We would prefer to not allow easements to install or construct storm water runoff facilities as this would further encumber the property and make it more difficult to sell. If the City or one of the adjoining private property owners were to acquire the property, you would be in a better position to plan your park and solve the drainage problems. Due to current business conditions, we are not able to donate the property.

Union Pacific would allow the City access to our property for a Phase I Environmental Study provided that they would sign our standard Right of Entry Agreement. Please call Connie Alvis at (402) 544-8553 for the process of obtaining the right of entry.

We have installed barricades in the past to try to prohibit dumping but to no avail. They either go around or access through adjoining properties. We would be willing to allow access to our property for installation of barriers but do not have the funds to install them or remove the debris.

Please call me on (402 544-8557 if you have any questions or would like to discuss further.

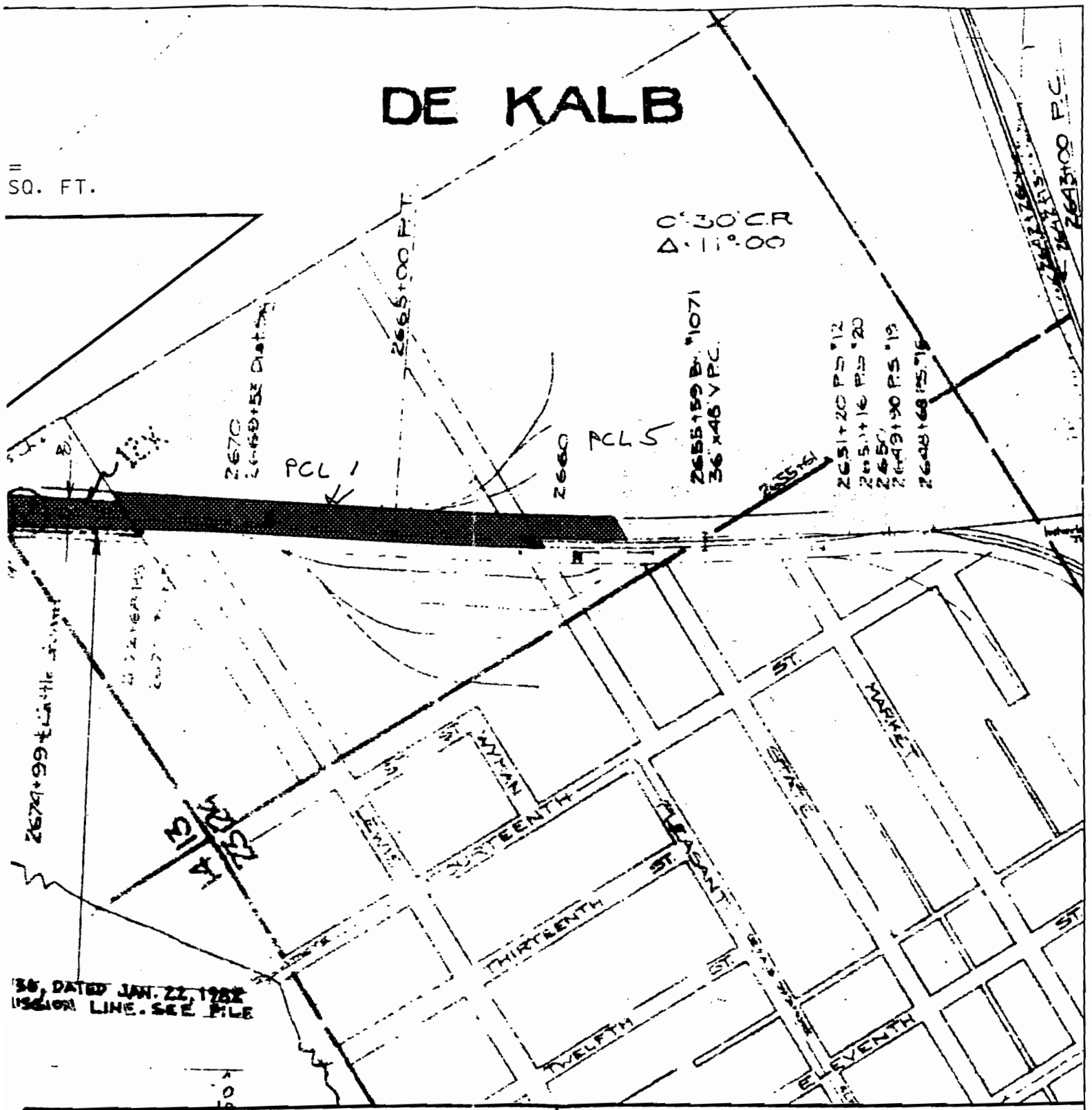
Sincerely,

Jim Harrel

J. L. Harrel
Senior Manager - Real Estate

Real Estate

UNION PACIFIC RAILROAD
1400 Douglas Street, Stop 1690
Omaha, Nebraska 68179-1690
fx. (402) 501-0340



LEGEND:

SALE AREA SHOWN ----------

UPRRCO. R/W OUTLINED ----------

CADD FILENAME	h:/maps/cnw/il/183533.dgn
SCAN FILENAME	I:/cnw/il/cnw/6/il1600s7.cit (DX=22805.2,10389.2)

NOTE: BEFORE YOU BEGIN ANY WORK, SEE AGREEMENT FOR FIBER OPTIC PROVISIONS.

EXHIBIT "A"

UNION PACIFIC RAILROAD COMPANY

DEKALB, DEKALB COUNTY, ILLINOIS

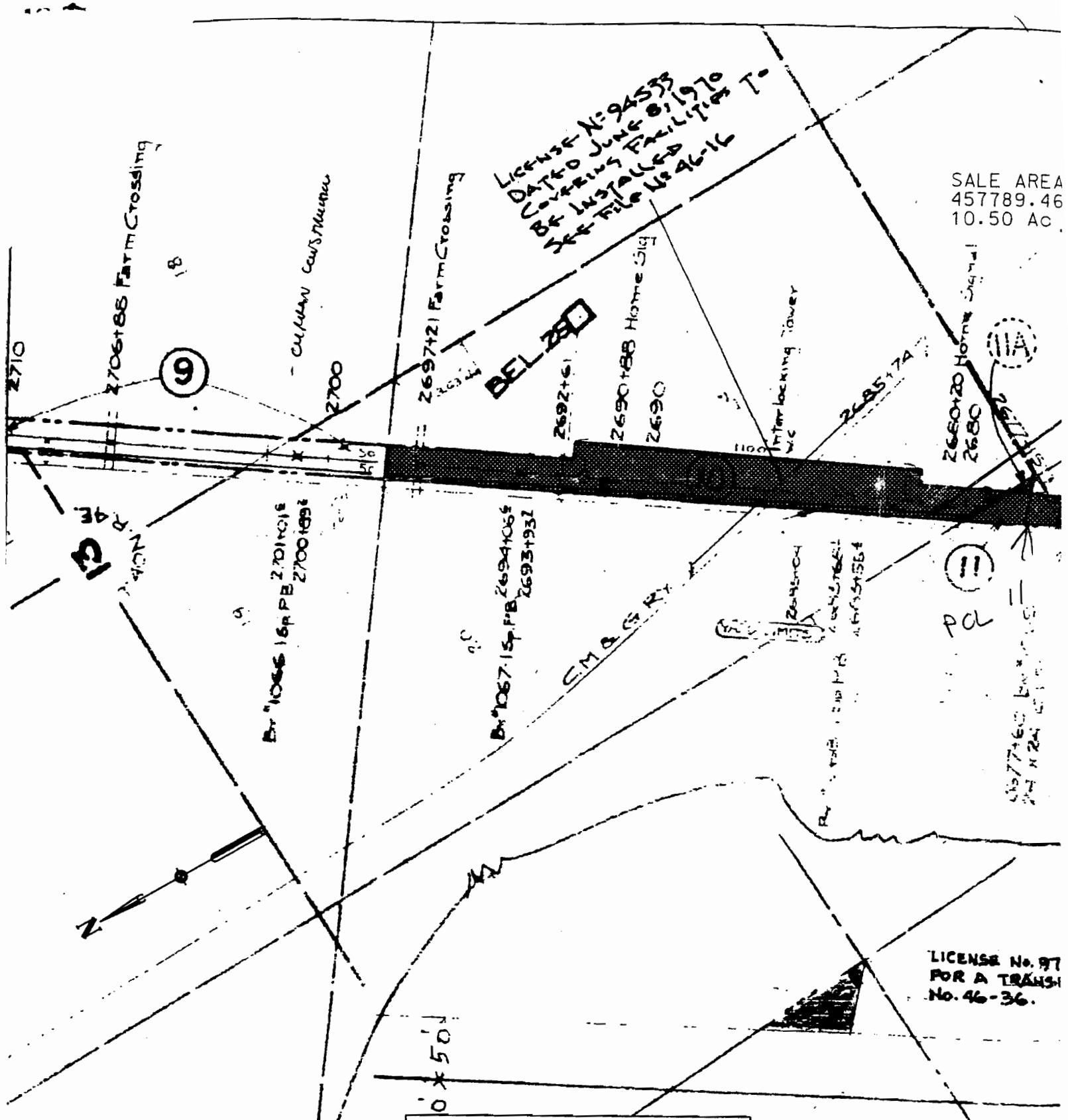
M.P. 24.32 TO M.P. 25.05 - TROY GROVE SUB

TO ACCOMPANY AGREEMENT WITH (MARKETING PARCEL)

SCALE: 1" = 400'

OFFICE OF REAL ESTATE
OMAHA, NEBRASKA DATE: 3/9/2004

CAA FILE: 1835-33



CHICAGO AND NORTH-WESTERN RAILWAY			
VAL/SEC & MAP #	PARCEL No.	AREA S.F.	AREA AC.
V-6 MAP S-7	1	117263.25	2.692
	4	8319.96	0.191
	5	26136.0	0.60
V-6 MAP 7	10	243936.0	5.6
	11	12039.98	0.2764
	12	50094.00	1.15
	TOTAL	457789.19	10.50

2.69
.60
.27
3.56

Fee owned

UNION PACIFIC

V-6 / 7

V-6 / S-7

ENCAP, Inc.

Environmental Consultants and Prairie Landscape Specialists

SATELLITE OFFICE:
224 S. MAIN ST.
WHEATON, ILLINOIS 60187

MAIN OFFICE:
12961 STATE ROUTE 38
CORTLAND, ILLINOIS 60112
TELEPHONE: 815-758-1621
FAX: 815-758-6821

December 13, 2005

Mr. Jeff Sniadach
U.S. Army Corps of Engineers
Clock Tower Building
Rock Island, Illinois 61201

Re: Request for Jurisdictional Determination
Illinois, DeKalb County, DeKalb Township, City of DeKalb, T40N R4E, SE ¼ of SW ¼ of Section 13
ENCAP, Inc. Project Number: C-05-0803B

Dear Mr. Sniadach:

The project area is located north of the intersection of Peace Road and Pleasant Street, City of DeKalb, DeKalb Township, DeKalb County, Illinois (See Location Map: Exhibit A). It consists of an intersection of railroad right-of-ways surrounded by industrial and residential developments. Generally, the project area is at a lower elevation than the surrounding developments. Based on a personal communication from you on October 5, 2005, it was determined that ENCAP, Inc. did not have to perform a comprehensive wetland delineation unless there was a connection to Waters of the U.S.

The site visit occurred on October 19, 2005 and November 11, 2005 to determine if the on-site wetlands were connected to Waters of the U.S. During the field investigation four wetland areas were identified. None of the wetlands identified appeared to have any connection to navigable waters of the U.S. Thus, ENCAP, Inc. does not believe that a comprehensive wetland delineation is necessary in order for the U.S. Army Corps of Engineers to accurately determine jurisdiction. Please review the attached wetland determination letter. We request a written determination that you concur that the wetlands on-site are not connected to regulatory waters of the U.S.

If you should have any questions regarding this request, please do not hesitate to contact me at 815-758-1621.

Sincerely,
ENCAP, Inc.

Matt Bivins

Matt Bivins
Field Consultant

Attachment: Wetland Determination Letter

cc: Mr. Rick Monas
City of DeKalb, Department of Public Works
223 South Fourth Street, Suite B
DeKalb, Illinois 60115

WETLAND DETERMINATION

UNION PACIFIC RAILROAD DRAINAGE

DEKALB TOWNSHIP, DEKALB COUNTY, ILLINOIS

Project No.:	C-05-0803B
Submitted to:	U.S. Army Corps of Engineers Clock Tower Building Rock Island, Illinois 61201 Attn: Mr. Jeff Sniadach
Submitted For:	City of DeKalb 223 South Fourth Street, Suite B DeKalb, Illinois 60115
Date Submitted:	November 12, 2003

ENCAP, Inc.
Environmental Consultants and Prairie Landscape Specialists

12961 STATE ROUTE 38
CORTLAND, IL 60112

TELEPHONE: 815-758-1621
FAX: 815-758-6821

ENCAP, Inc.

Environmental Consultants and Prairie Landscape Specialists

SATELLITE OFFICE:
224 S. MAIN ST.
WHEATON, ILLINOIS 60187

MAIN OFFICE:
12961 STATE ROUTE 38
CORTLAND, ILLINOIS 60112
TELEPHONE: 815-758-1621
FAX: 815-758-6821

December 13, 2005

Mr. Rick Monas
City of DeKalb, Department of Public Works
223 S. Fourth Street, Suite B
DeKalb, Illinois 60115

Subject: Wetland Determination for Union Pacific Railroad Drainage, ENCAP, Inc. Project No. C-05-0803B

Location: Illinois, DeKalb County, DeKalb Township, City of DeKalb, T40N R4E, SE ¼ of SW ¼ of Section 13

Dear Mr. Monas:

ENCAP, Inc. conducted a field investigation on the above-mentioned site on October 19, 2005 and November 11, 2005 to determine if the on-site wetlands were connected to Waters of the U.S. The project area is located north of the intersection of Peace Road and Pleasant Street, City of DeKalb, DeKalb Township, DeKalb County, Illinois (See Location Map: Exhibit A). The project area consists of an intersection of railroad right-of-ways surrounded by industrial and residential developments. Generally, the project area is at a lower elevation than the surrounding developments. Potential wetland areas observed in the field and on available wetland resource mapping were investigated. The approximate size and location of wetland areas were identified and displayed on the attached exhibit (Exhibit I). Based on an October 5, 2005 personal communication from Mr. Jeff Sniadach of the U.S. Army Corps of Engineers (USACE), and the results of the site visit, ENCAP, Inc. is presenting this determination as sufficient evidence to request a jurisdictional determination.

Four wetlands (approximately 8.01 acres in size) were identified within the project area. No connections to navigable waters of the U.S. were observed in association with any of these wetlands. The USACE regulates all Waters of the United States that are currently or historically navigable and all wetlands that are connected to or associated with these waterways. For this reason, a jurisdictional determination from the USACE is required to establish the regulatory status of the on-site wetlands.

Reviewed Mapping

- The **National Wetlands Inventory** (Exhibit B) identifies a **palustrine forested, broad-leaved deciduous** wetland with a **seasonally flooded (PFO1C)** water regime in the northern portion of project area; a **palustrine unconsolidated bottom** wetland with an **intermittently flooded (PUBG)** water regime in the southern portion of the project area; a **palustrine emergent wetland** with a **seasonally flooded** water regime that is **partially drained/ditched (PEMCd)** in the western portion of the project area; a **palustrine scrub-shrub, broad-leaved deciduous** wetland with a **seasonally flooded (PSS1C)** water regime in the eastern portion of the project area.

- The **Soil Map** identifies the following soils within the project area:

  Drummer silty clay (152A)
  Elpaso silty clay loam (356A)
  Herbert silt loam (62A)
  Octagon silt loam (656B)
  Water (W)

  Of these soils, only Drummer silty clay and Elpaso silty clay loam are considered hydric in DeKalb County. However, Herbert silt loam and Octagon silt loam are known to sometimes contain inclusions of hydric soils. These units are usually too small to be mapped by the NRCS (Exhibit C).

- The **1988 USGS Topographic Map** (Exhibit D) identifies three open water areas, two with associated wetlands, and one wetland within the project area.

- The **Flood Insurance Rate Map** (Exhibit E) identifies the project area as Zone X, which corresponds to areas that are outside the 500-year floodplain.

Description of Identified Areas

Wetland 1 (approximately 0.70 acre in total size) is located in the northern portion of the project area. Wetland 1 consists of an area of lower elevation associated with drainage from two intersecting railways. Wetland 1 is composed of a forested plant community dominated by Common Reed (*Phragmites australis*) and Reed Canary Grass (*Phalaris arundinacea*). Evidence of persistent hydrology was observed in the form of drainage patterns. The mapped soil series is Drummer silty clay loam (152A), a hydric soil. Due to the nature of the determination, soil properties were not field investigated at this time; however, hydric soils are presumed to be present based on soil mapping, existing vegetation, and hydrology. Wetland 1 appears to be isolated, as no connection to navigable waters of the U.S. was observed. Therefore, Wetland 1 would not be regulated by the USACE and a permit would not be required to perform the proposed improvements.

Wetland 2 (approximately 0.86 acre in total size) is located within the western portion of the project area. Wetland 2 consists of an area of lower elevation associated with drainage from two intersecting railways. Wetland 2 is composed of a scrub-shrub plant

community dominated by Crack Willow (*Salix fragilis)* and Reed Canary Grass. Evidence of persistent hydrology was observed in the form of drainage patterns. The mapped soil series is Drummer silty clay loam (152A), a hydric soil. Due to the nature of the determination, soil properties were not field investigated at this time; however, hydric soils are presumed to be present based on soil mapping, existing vegetation, and hydrology. Wetland 2 appears to be isolated, as no connection to navigable waters of the U.S. was observed. Therefore, Wetland 2 would not be regulated by the USACE and a permit would not be required to perform the proposed improvements.

Wetland 3 (approximately 3.79 acres in total size) is located within the eastern portion of the project area. Wetland 3 consists of an area of lower elevation associated with drainage from two intersecting railways. Wetland 3 is composed of a scrub-shrub plant community dominated by Reed Canary Grass, Common Reed, and Sandbar Willow (*Salix interior*). Evidence of persistent hydrology was observed in the form of drainage patterns and sediment deposits. The mapped soil series are Drummer silty clay loam (152A) and Elpaso silty clay loam (356A), both of which are hydric soils, and Octagon silt loam (656B), which is known to sometimes contain inclusions of hydric soils. Due to the nature of the determination, soil properties were not field investigated at this time; however, hydric soils are presumed to be present based on soil mapping, existing vegetation, and hydrology. Wetland 3 appears to be hydrologically connected to Wetland 4 by an upland drainageway. No connection of Wetland 3 to navigable waters of the U.S. was observed. Therefore, Wetland 3 would not be regulated by the USACE and a permit would not be required to perform the proposed improvements.

Wetland 4 (approximately 2.66 acres in total size) is located within the southern portion of the project area. Wetland 4 consists of an open water pond with associated wetland vegetation. Wetland 4 consists of a detention area associated with a ComEd power station and drainage from two intersecting railways. Wetland 4 consists of a scrub-shrub plant community dominated by Reed Canary Grass, Sandbar Willow, and Pinkweed (*Polygonum pensylvanicum*). Evidence of persistent hydrology was observed in the form of drainage patterns, sediment deposits, and bare, cracked clay soil. The mapped soil series is Drummer silty clay loam (152A), a hydric soil. Due to the nature of the determination, soil properties were not field investigated at this time; however, hydric soils are presumed to be present based on soil mapping, existing vegetation, and hydrology. Wetland 4 appears to be connected to Wetland 3 as described above. No connection of Wetland 4 to navigable waters of the U.S. was observed. Therefore, Wetland 4 would not be regulated by the USACE and a permit would not be required to perform the proposed improvements.

Conclusions

Four wetland areas totaling approximately 8.01 acres were identified on the project area. The reported acreage and wetland boundaries presented in this report are approximations based on field observation and available mapping. A comprehensive wetland delineation is not necessary as determined from personal communications with the USACE Rock Island District. The site investigation was sufficient to determine that none of the wetlands on-site are connected to navigable waters of the U.S. However, the USACE has final authority in these matters. Thus, a copy of this letter, along with a request for jurisdictional determination is being sent to Mr. Jeff Sniadach of the USACE.

If you should have any questions regarding this information please do not hesitate to contact me at (815) 758-1621.

Sincerely,
ENCAP, Inc.

Matt Bivins
Field Consultant

MB/bak

Attachments:
Location Map
National Wetlands Inventory
Soil Map
1988 USGS Topographic Map
Flood Insurance Rate Map
Aerial Photograph
Site Photographs

ENCAP, Inc.

LEGEND:

Approximate Site Location

Location Map

Source: Rand McNally

Union Pacific Railroad Drainage

Project Number: C-05-0803B

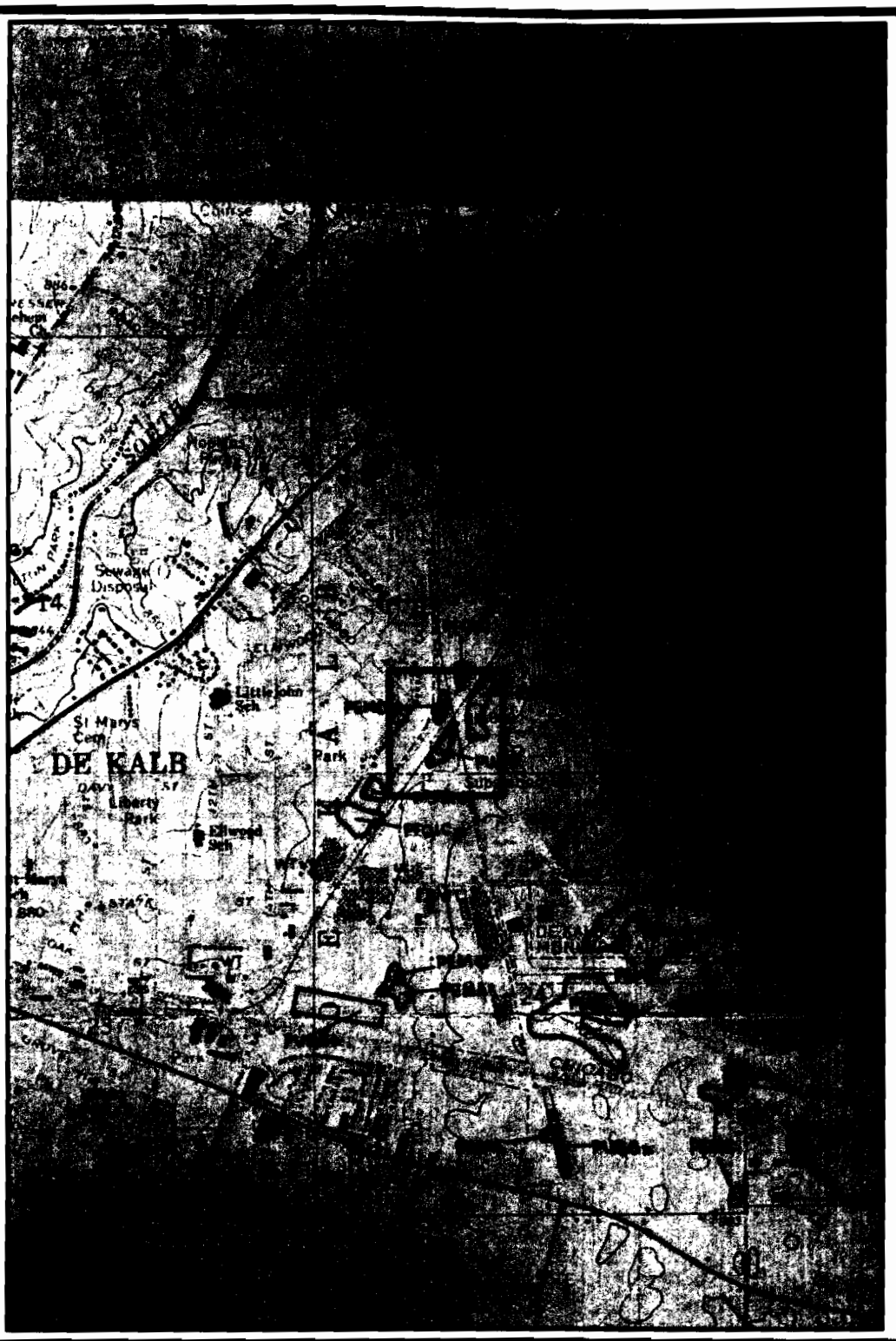
City of DeKalb

0 2500 5000 10000

SCALE: 1"=5000'

NORTH

Exhibit A



ENCAP, Inc.

LEGEND:

Approximate Site Location

National Wetlands Inventory

Source: U.S. Fish & Wildlife Service

Sycamore Quadrangle

Union Pacific Railroad Drainage

Project Number: C-05-0803B

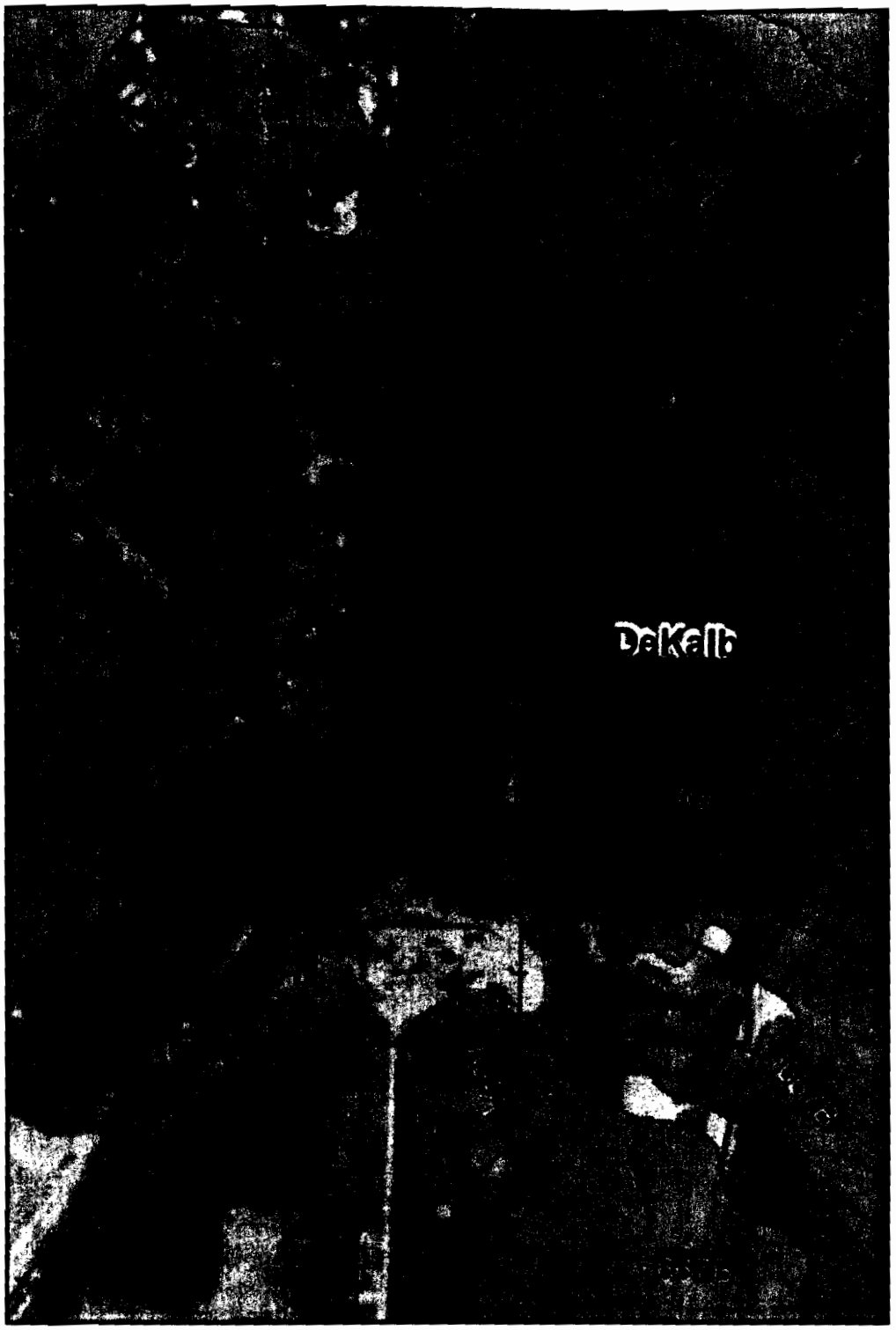
City of DeKalb

0 1000 2000 4000

SCALE: 1"=2000'

NORTH

Exhibit B



ENCAP, Inc.

LEGEND:

Approximate Site Location

Hydric Soil

Potential Hydric Inclusions

Water Body

Soil Map

Source: U.S. Department of Agriculture
Natural Resource Conservation Service
Soil Conservation Service
DeKalb Township

Union Pacific Railroad Drainage

Project Number: C-05-0803B

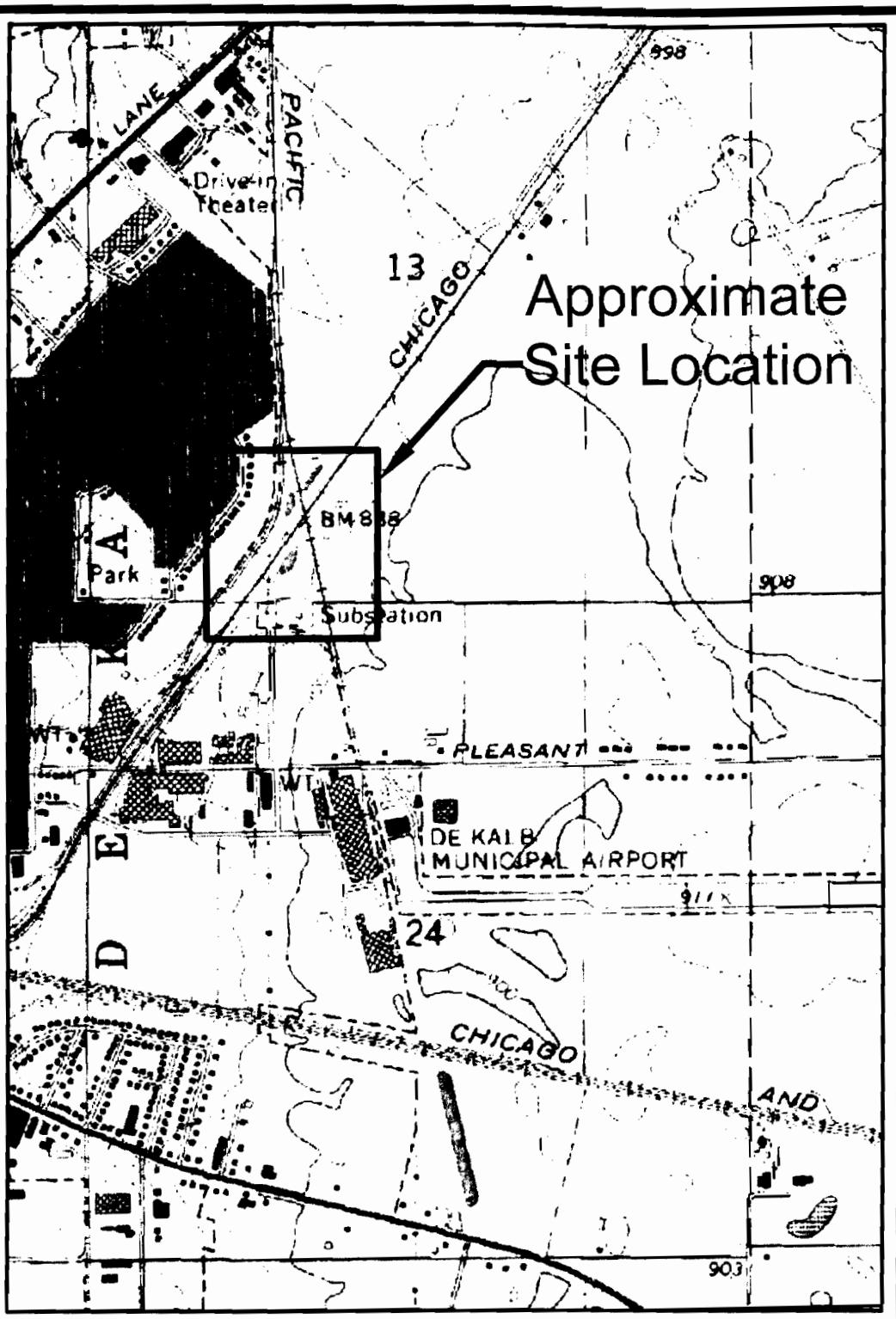
City of DeKalb

0 200 400 800

SCALE: 1"=400'

NORTH

Exhibit C



ENCAP, Inc.

LEGEND:

Approximate Site Location

1988 USGS Topographic Map

Courtesy of the USGS

Sycamore Quadrangle

Union Pacific Railroad Drainage

Project Number: C-05-0803B

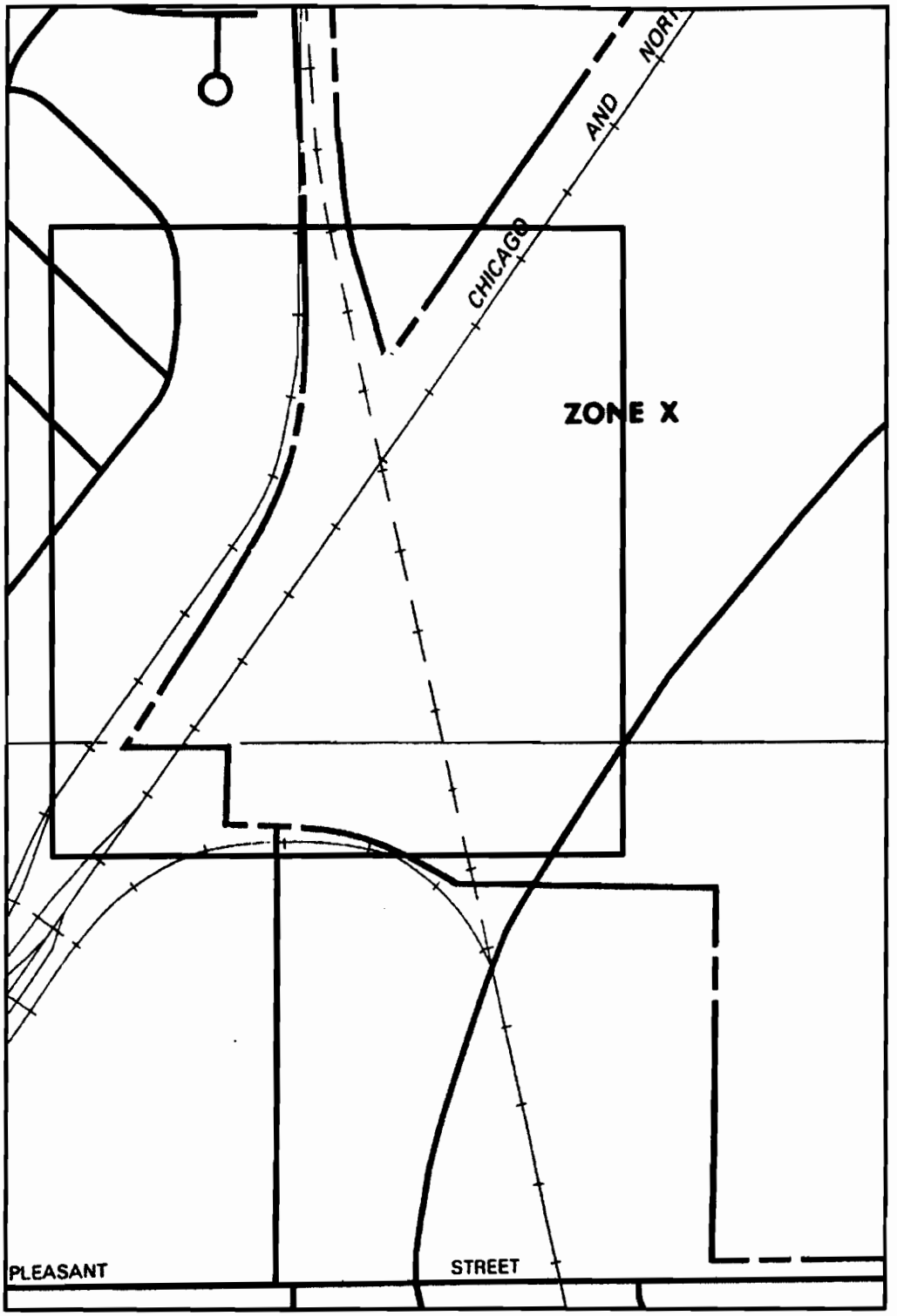
City of DeKalb

0 660 1320 2640

SCALE: 1"=1320'

NORTH

Exhibit D



ENCAP, Inc.

LEGEND:

Approximate Site Location

SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD

- ZONE A — No base flood elevations determined.
- ZONE AE — Base flood elevations determined.
- ZONE AH — Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined.
- ZONE AO — Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR/A99 — To be protected from 100-year flood by Federal flood protection system under construction; no base flood elevations determined.
- ZONE V — Coastal flood with velocity hazard (wave action); no base flood elevations determined.
- ZONE VE — Coastal flood with velocity hazard (wave action); base flood elevations determined.

FLOODWAY AREAS IN ZONE AE

OTHER FLOOD AREAS

- ZONE X — Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.

OTHER AREAS

- ZONE X — Areas determined to be outside 500-year floodplain
- ZONE D — Areas in which flood hazards are undetermined, but possible

Flood Insurance Rate Map

Source: Federal Emergency Management Agency

Panel Number: 17037C0067D

Effective Date: September 21, 2000

Union Pacific Railroad Drainage

Project Number: C-05-0803B

City of DeKalb

0 200 400 800

SCALE: 1"=400'

NORTH

Exhibit E

ENCAP, Inc.

LEGEND:

Approximate Site Location

Approximate Location of Wetland Boundary

Location of Upland Drainageway

Aerial Photograph

September 21, 2004

Source: AirPhoto USA

Union Pacific Railroad Drainage

Project Number: C-05-0803B

City of DeKalb

0 150 300 600

SCALE: 1"=300'

NORTH

Exhibit F

Aerial Exhibit prepared by GRWA

PHOTOGRAPH 1	
DESCRIPTION: Union Pacific RR Drainage / City of DeKalb Wetland 1 Facing North	
DATE PHOTO TAKEN: November 11, 2005	

PHOTOGRAPH 2	
DESCRIPTION: Union Pacific RR Drainage / City of DeKalb Wetland 2 Facing South	
DATE PHOTO TAKEN: November 11, 2005	

PHOTOGRAPH 3	
DESCRIPTION: Union Pacific RR Drainage / City of DeKalb Wetland 3 Facing North	
DATE PHOTO TAKEN: October 19, 2005	

PHOTOGRAPH 4	
DESCRIPTION: Union Pacific RR Drainage / City of DeKalb Wetland 4 Facing North	
DATE PHOTO TAKEN: October 19, 2005	

PHOTOGRAPH 5	
DESCRIPTION: Union Pacific RR Drainage / City of DeKalb Wetland 4 Facing South	
DATE PHOTO TAKEN: October 19, 2005	

PHOTOGRAPH 6	
DESCRIPTION: Union Pacific RR Drainage / City of DeKalb Stormwater Detention Basin east of Wetland 3 Facing North	
DATE PHOTO TAKEN: October 19, 2005	

DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
CLOCK TOWER BUILDING - P.O. BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004

REPLY TO
ATTENTION OF

http://www.mvr.usace.army.mil

December 27, 2005

Operations Division

SUBJECT: CEMVR-OD-P-2005-1809

Mr. Matt Bivens
ENCAP, Inc.
12961 State Route 38
Cortland, Illinois 60112

Dear Mr. Bivens:

Our office reviewed your letter and Wetland Delineation Report dated December 14, 2005, concerning a request for a jurisdictional determination of a proposed development site (City of DeKalb), located in Section 13, Township 40 North, Range 4 East, DeKalb County, Illinois.

We determined your project site contains wetlands not regulated under Section 404 of the Clean Water Act, and does not require a Department of the Army (DA) Section 404 permit. The decision regarding this action is based on information found in the administrative record, which documents the District's decision-making process, the basis for the decision, and the final decision.

You are advised that this determination is valid for five years from the date of this letter unless new information warrants revision of it before the expiration date.

You may accept or appeal the attached Approved Jurisdiction Determination or provide new information for our consideration. If you decide to appeal this decision, please carefully consider the information contained in the enclosed Notification of Administrative Appeal Options and Process and Request for Appeal. Please note that your appeal of this decision must be received within 60 days of the date of this letter. This documentation is to be signed and returned <u>only if you wish to file an appeal.</u> If you do not wish to appeal, this document should not be signed and returned.

Although an individual Department of Army (DA) permit and individual Illinois Environmental Protection Agency 401 certification may not be required for the project, this does not eliminate the requirement that you must still acquire other applicable Federal, state, and local permits. If you have not already coordinated your project with the Illinois Department of Natural Resources – Office of Water Resources, please contact them at 217/782-3863 to determine if a floodplain development permit is required for your project.

Should you have any questions, please contact our Regulatory Branch by letter, or telephone me at 309/794-5369.

Sincerely,

Jeffrey W. Sniadach
Project Manager
Enforcement Section

Copies Furnished:

Mr. Mike Diedrichsen, P.E.
Office of Water Resources
IL Department of Natural Resources
One Natural Resources Way
Springfield, Illinois 62701-1271

Mr. Bruce Yurdin
Illinois Environmental Protection Agency
Watershed Management Section, Permit Sec. 15
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

U.S. Army Corps of Engineers
Illinois Waterway Project Office
257 Grant Street
Peoria, Illinois 61603

JURISDICTIONAL DETERMINATION Revised 8/13/04
U.S. Army Corps of Engineers

DISTRICT OFFICE: Rock Island
FILE NUMBER: 2005-1809

PROJECT LOCATION INFORMATION:
State: IL
County: DeKalb
Center coordinates of site (latitude/longitude): UTM N- 4645321 E- 357606
Approximate size of area (parcel) reviewed, including uplands: unknown acres.
Name of nearest waterway: None
Name of watershed: Rock River

JURISDICTIONAL DETERMINATION
Completed: Desktop determination ☒ Date: 12/21/05
Site visit(s) ☐ Date(s):

Jurisdictional Determination (JD):

☐ Preliminary JD - Based on available information, ☐ *there appear to be* (or) ☐ *there appear to be no* "waters of the United States" and/or "navigable waters of the United States" on the project site. A preliminary JD is not appealable (Reference 33 CFR part 331).

☒ Approved JD – An approved JD is an appealable action (Reference 33 CFR part 331).
Check all that apply:

☐ *There are* "navigable waters of the United States" (as defined by 33 CFR part 329 and associated guidance) within the reviewed area. Approximate size of jurisdictional area: acres.

☐ *There are* "waters of the United States" (as defined by 33 CFR part 328 and associated guidance) within the reviewed area. Approximate size of jurisdictional area: acres.

☒ *There are "isolated, non-navigable, intra-state* waters or wetlands" within the reviewed area.
☒ Decision supported by SWANCC/Migratory Bird Rule Information Sheet for Determination of No Jurisdiction.

BASIS OF JURISDICTIONAL DETERMINATION:

A. Waters defined under 33 CFR part 329 as "navigable waters of the United States":
☐ The presence of waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

B. Waters defined under 33 CFR part 328.3(a) as "waters of the United States":
☐ (1) The presence of waters, which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.
☐ (2) The presence of interstate waters including interstate wetlands[1].
☐ (3) The presence of other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate commerce including any such waters (check all that apply):
☐ (i) which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ (ii) from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ (iii) which are or could be used for industrial purposes by industries in interstate commerce.
☐ (4) Impoundments of waters otherwise defined as waters of the US.
☐ (5) The presence of a tributary to a water identified in (1) – (4) above.
☐ (6) The presence of territorial seas.
☐ (7) The presence of wetlands adjacent[2] to other waters of the US, except for those wetlands adjacent to other wetlands.

Rationale for the Basis of Jurisdictional Determination (applies to any boxes checked above). *If the jurisdictional water or wetland is not itself a navigable water of the United States, describe connection(s) to the downstream navigable waters. If B(1) or B(3) is used as the Basis of Jurisdiction, document navigability and/or interstate commerce connection (i.e., discuss site conditions, including why the waterbody is navigable and/or how the destruction of the waterbody could affect interstate or foreign commerce). If B(2, 4, 5 or 6) is used as the Basis of Jurisdiction, document the rationale used to make the determination. If B(7) is used as the Basis of Jurisdiction, document the rationale used to make adjacency determination:*

Lateral Extent of Jurisdiction: (Reference: 33 CFR parts 328 and 329)

☐ Ordinary High Water Mark indicated by:
- ☐ clear, natural line impressed on the bank
- ☐ the presence of litter and debris
- ☐ changes in the character of soil
- ☐ destruction of terrestrial vegetation
- ☐ shelving
- ☐ other:

☐ High Tide Line indicated by:
- ☐ oil or scum line along shore objects
- ☐ fine shell or debris deposits (foreshore)
- ☐ physical markings/characteristics
- ☐ tidal gages
- ☐ other:

☐ Mean High Water Mark indicated by:
☐ survey to available datum; ☐ physical markings; ☐ vegetation lines/changes in vegetation types.

☐ Wetland boundaries, as shown on the attached wetland delineation map and/or in a delineation report prepared by:

Basis For Not Asserting Jurisdiction:

☐ The reviewed area consists entirely of uplands.
☐ Unable to confirm the presence of waters in 33 CFR part 328(a)(1, 2, or 4-7).
☐ Headquarters declined to approve jurisdiction on the basis of 33 CFR part 328.3(a)(3).
☒ The Corps has made a case-specific determination that the following waters present on the site are not Waters of the United States:
- ☐ Waste treatment systems, including treatment ponds or lagoons, pursuant to 33 CFR part 328.3.
- ☐ Artificially irrigated areas, which would revert to upland if the irrigation ceased.
- ☐ Artificial lakes and ponds created by excavating and/or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing.
- ☐ Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating and/or diking dry land to retain water for primarily aesthetic reasons.
- ☐ Water-filled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States found at 33 CFR 328.3(a).
- ☒ Isolated, intrastate wetland with no nexus to interstate commerce.
- ☐ Prior converted cropland, as determined by the Natural Resources Conservation Service. Explain rationale:
- ☐ Non-tidal drainage or irrigation ditches excavated on dry land. Explain rationale:
- ☐ Other (explain):

DATA REVIEWED FOR JURISDICTIONAL DETERMINATION (mark all that apply):

☒ Maps, plans, plots or plat submitted by or on behalf of the applicant.
☒ Data sheets prepared/submitted by or on behalf of the applicant.
- ☒ This office concurs with the delineation report, dated 12/14/05, prepared by (company): ENCAP, Inc.
- ☐ This office does not concur with the delineation report, dated , prepared by (company):

☐ Data sheets prepared by the Corps.
☐ Corps' navigable waters' studies:
☐ U.S. Geological Survey Hydrologic Atlas:
☒ U.S. Geological Survey 7.5 Minute Topographic maps:
☐ U.S. Geological Survey 7.5 Minute Historic quadrangles:
☐ U.S. Geological Survey 15 Minute Historic quadrangles:
☒ USDA Natural Resources Conservation Service Soil Survey:
☒ National wetlands inventory maps:
☐ State/Local wetland inventory maps:
☐ FEMA/FIRM maps (Map Name & Date):
☐ 100-year Floodplain Elevation is: (NGVD)
☒ Aerial Photographs (Name & Date): GIS DOQ
☐ Other photographs (Date):
☐ Advanced Identification Wetland maps:
☐ Site visit/determination conducted on:
☐ Applicable/supporting case law:
☐ Other information (please specify):

[1]Wetlands are identified and delineated using the methods and criteria established in the Corps Wetland Delineation Manual (87 Manual) (i.e., occurrence of hydrophytic vegetation, hydric soils and wetland hydrology).

[2]The term "adjacent" means bordering, contiguous, or neighboring. Wetlands separated from other waters of the U.S. by man-made dikes or barriers, natural river berms, beach dunes, and the like are also adjacent.

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: ENCAP, Inc.	File Number: CEMVR-OD-P-2005-1809	Date: 12/27/05
Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of Permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of Permission)	B
	PERMIT DENIAL	C
X	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://usace.army.mil/inet/functions/cw/cecwo/reg or Corps regulations at 33 CFR Part 331.

A: **INITIAL PROFFERED PERMIT**: You may accept or object to the permit.

- **ACCEPT**: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- **OBJECT**: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: **PROFFERED PERMIT**: You may accept or appeal the permit.

- **ACCEPT**: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- **APPEAL**: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: **PERMIT DENIAL**: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: **APPROVED JURISDICTIONAL DETERMINATION**: You may accept or appeal the approved JD or provide new information.

- **ACCEPT**: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice means that you accept the approved JD in its entirety and waive all rights to appeal the approved JD.

- **APPEAL**: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: **PRELIMINARY JURISDICTIONAL DETERMINATION**: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:	If you only have questions regarding the appeal process you may also contact:
Jeff Sniadach U.S. Army Corps of Engineers District, Rock Island ATTN: OD-P Clock Tower Building Post Office Box 2004 Rock Island, Illinois 61204-2004 Telephone: 309/794-5369	Martha S. Chieply U.S. Army Corps of Engineers Division, Mississippi Valley Post Office Box 80 ATTN: CEMVD-PD-KM Vicksburg, Mississippi 39181-0080 Telephone: 601/634-5820 Fax : 601/634-7073

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15-day notice of any site investigation, and will have the opportunity to participate in all site investigations.

	Date:	Telephone number:
_____ Signature of appellant or agent		

Watershed Feasibility Study

City of DeKalb, Illinois

July 1, 2005

Prepared By

Robert H. Anderson & Associates, Inc.
220 West River Drive
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60174

RHA&A
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July 1, 2005

Mr. Rick Monas
Director of Public Works
City of DeKalb
223 South 4th Street
Suite B
DeKalb, Illinios 60115

Re: Watershed Feasibility Study
DeKalb, Illinois

Dear Mr. Monas:

At the request of the City of DeKalb, we have completed a study for the drainage improvements in areas identified as the Northerly and Southerly watersheds. (The Northerly watershed is defined as west of Peace Road, south of Summit Enclave and east of the Kelley Addition properties. The Southerly watershed is defined as east of Alloyd/SCA at 1401 Pleasant Street, approximately 30 acres.)

The City of DeKalb has previously defined goals for the study as follows:

- Find an adequate outlet for the entrapped drainage area of approximately 140 acres tributary in the Northerly watershed.

- Improve overland flow to eliminate truck dock flooding and flooding at nearby industries in the Southerly watershed.

The following summary identifies the source data which was used in the study, describes the existing conditions, provides the results of computer models, and describes the recommended improvements. For the purpose of the initial analysis, we will be treating the Northerly and Southerly watersheds as one because they are clearly connected hydraulically.

SOURCE DATA

Due to the size of the study area, data from a large number of sources was assembled and reviewed in order to understand the drainage patterns and to quantify the storm water runoff. The following is a list of the documents that were utilized:

1. Summit Enclave Stormwater Management Report, Plans and Calculations – Robert H. Anderson & Associates
2. 2' Contour Maps of Study area provided by the City of DeKalb
3. City of DeKalb Storm Sewer Atlas provided by the City of DeKalb
4. USGS Quadrangle Maps
5. Site Layout for Mini-Warehouse – Warner Engineering – July 16, 1999
6. Site Plan for Encoat Services, Inc – Farnsworth Group – September 2000
7. Site Plan for Alloyd Addition – Heritage Surveying & Engineering 1996
8. Master Drainage Study – Hanson Engineering – January 2004
9. Agricultural Existing Drain Tile Investigation for Summit Homes – Huddleston & McBride July 8, 2002
10. Ground Survey by Robert H. Anderson & Assoc, May 2005
11. Telephone Interview with Rod Kyler of Kyler Excavating
12. Telephone Interview with Ron Breese
13. Telephone Interview with Bruce Olsen at SCA (Alloyd)

EXISTING CONDITIONS

The subject drainage area was previously described as follows in the Summit report:

> "The drainage area tributary to the offsite south culvert includes 140 acres. Based on available information and field observation, 74 acres are estimated to discharge runoff to stormwater detention facilities with a controlled release rate of 0.25 cubic feet per second per acre (cfs/acre) before discharging to the culvert. The remaining 66 acres are assumed to discharge runoff directly to an existing wetland immediately upstream of the culvert. The estimated peak discharge from the offsite south culvert is 100.2 cfs during a 100 year two hour storm. The calculated peak discharge is provided on page 8 of the TR20 Series Three calculations. Discharge from the offsite south culvert enters the residential part of the development (Summit) on the southeast property line about 1800 feet south of the extension of Greenwood Acres Road along the west line of the Com Ed easement. A 36 inch flared end section and storm sewer will receive and transport discharge from the culvert up to a flow rate of 35.0 cfs. The storm sewer calculations are given in the Line Three Storm Sewer calculations. Discharge in excess of the 35.0 cfs flow rate will travel overland about 450 feet to the northeast along the property line to a swale. At the swale, this flow will combine with any excess flow from the offsite center culvert. The swale will direct the combined flows to the west toward the roadway loop. At the roadway, if

> the flow is large enough, it will overtop the roadway curb on both sides of the street and then flow down a swale into the South Basin."[1].

The initial step in the study is to confirm that the 140 acres watershed in the study area is accurate. To do so, we researched the design of the Illinois Department of Transportation box culvert under Sycamore Road and the tributary area upstream, which was referenced in a 1990 drainage study by Ciorba Group. The exhibit that accompanied the study identified a watershed area approximately the same as the area which is the subject of this report. This confirms that the box culvert and other improvements to Sycamore Road were designed for the run-off from the subject area.

The drainage patterns shown in the "Master Drainage Study"[2] for the airport property, which encompasses the watershed south-east of the study area, were also reviewed. The overland flow routes for the airport property were confirmed to ensure the property did not drain to the study area.

The 2' contour topographic maps and the City of DeKalb Storm Sewer Atlas were utilized to verify flow routes. These documents all confirmed that the delineation of the 140 acres in the Summit drainage report was accurate.

The detention areas were reviewed as well and compared with site plans provided by the City.

The Summit Report description of the drainage area also discusses the culvert data for the existing "South Railroad Culvert" in the report section titled "Offsite Stormwater Calculations". The culvert is described as a 24" corrugated metal pipe. The field survey data on this culvert shown on Page 8 of the Summit Report indicates that the invert on the eastern side of the culvert was never located during the survey that was performed for the Summit project. Instead, using the found invert elevation (881.70), a slope was assumed and a discharge calculated with weir flow beginning at an elevation of 885.5. Water levels in the wetland increased from an elevation of 881.7 to 886.0 with a total storage volume of 2.94 acre-ft. The combination of the pipe and weir flow resulted in the 100.2 cfs reported in the Summit Report as the peak rate of flow.

The Summit improvements included a 36" storm sewer and swale capable of handling the 100.2 cfs.

The TR-20 modeling for Series Three, included in the Summit Report, indicates that the wetland area west of Encoat discharges through the 24" culvert. (Due to the heavy brush on the Encoat side of the tracks, this was not an unreasonable assumption to make). More detailed field investigation during the course of this study indicated, however, that this is not the case. We were able to uncover the east end of the 24" CMP and determine that the east end is located

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[1] [1]Summit Enclave Stormwater Management Report, Plans and Calculations – Robert H. Anderson & Associates
[2] [8]Master Drainage Study – Hanson Engineering – January 2004

between the two sets of Chicago and Northwestern railroad embankments, not on the east side of the embankment adjacent to the wetland as originally assumed. In addition, the east embankment is slightly higher than the west embankment. This finding changes the hydraulics from the Encoat wetland and significantly increases the hydraulic grade line on the east side of the embankment from the findings in the Summit report.

The following are our conclusions based on our investigation of the existing watershed:

1. The 140 acre tributary area is correctly delineated.
2. The stormwater facilities in Summit Enclave and through to the IDOT culvert at Sycamore Road were sized to handle the flow from the full 140 acre tributary area with a calculated peak flow of 100.2 cfs.
3. The 24" culvert and weir flow over the westerly railroad embankment does not function as the outlet for the 140 acre tributary area due to existing site conditions.
4. The full 140 acre tributary area is entrapped and must overtop the easterly embankment in order to discharge at an elevation of 887.6.

At an elevation of 887.6, water moves between the Encoat wetland and the wetland north of the ComEd facility across the CM ST P&P railroad right of way. The weir flow over the Chicago and Northwestern embankment occurs south of Summit due to the elevation of the railroad grade at this location. The overflow point lines up the wetland north of ComEd and with the homes along Vienna Boulevard, whose residents described water flowing like a river in the wooded area behind their homes. Overtopping of the embankment would create a significant volume of water at this location. At the elevation necessary to overtop the railroad embankments, water also backs up along the embankments to the south impacting Breeze's Self Storage and the adjacent woods. The self storage units were constructed at an elevation several feet below adjoining properties. The rim elevations of the drainage structures on the site are well below the elevation of the rims on Pleasant Street which results in the storm sewer backing up onto the Self Storage site during large rain events. Additional runoff from the adjacent woods that are included in the entrapped 140 acres also creates major drainage issues for the site[12].

Upon investigation of the drainage improvements completed by Breeze in an attempt to reduce flooding, we found that a channel had been excavated and a low point created on the north side of their property across the embankment to the west[11]. The creation of this low point has resulted in an additional overflow location for the 140 acres at an inappropriate location. This manipulation of the drainage in this area has served to move the problem further south and has resulted in the flooding of the truck docks at SCA Alloyd. SCA confirmed that they did not have any drainage problems until May of 2004. This time frame coincides with the time frame in which the low point was created across the embankment. SCA also confirmed that they walked

[11]Telephone Interview with Rod Kyler of Kyler Excavating
[12]Telephone Interview with Ron Breese

along the railroad embankment during the Memorial Day flooding and noted water running across the embankment from the wetland north of ComEd. As the truck docks and other adjacent storm structures are connected to the Pleasant Street storm sewer, the additional flow would have easily overwhelmed the system. The number and intensity of the storms in May of 2004 would have filled the wetland areas and any potential storage that existed and additional storm events would have easily overtopped the wetland areas and flooded into the neighborhood and industrial area.

MODEL DEVELOPMENT

The previously developed TR-20 model from the *Summit - Series Three* calculations of the unrestricted offsite flow was used for the initial modeling of the storm water run-off in the study area. The model was revised to reflect the correct location, length and elevation of the existing 24" CMP under the railroad embankment, the revised stage-storage data and addition of a 200 foot long overflow weir. For this run, labeled smmittry.t20 in the Appendix to this Report, the flow remained routed through the Summit development. The revisions decreased the flow rate into Summit from a peak flow of 100.2 cfs at elevation 885.74 during the 2 hour event to 62.18 cfs at an elevation of 887.76 during the 18 hour storm event. The decrease in flow is a result of the greater storage volume available at the higher elevations. The increase in elevation is a result of the increase in elevation of the discharge structure. This computation verifies that the flow from the wetland area can be handled by the Summit Enclave development.

The second model (titled smmityds.t20 in the Appendix to this Report) routes the discharge from the wetland areas to the rear yards along Vienna Boulevard to determine if the water elevations observed by residents correlate with the model. The model shows a high water elevation of 885.05, which is slightly below the elevation of the resident's patio at 1100 Vienna Boulevard as surveyed in the field. The overflow from the yards occurs just above 885.0 over a broad area. For this reason, most storm events that overtop the railroad embankment and fill the storage in the rear yards will have similar high water elevation due to the length of the overflow from the yards.

The models of the existing conditions confirmed the observations in the field and accounts of the Memorial Day 2004 storms even though the storm that was observed over Memorial Day 2004 could not be reproduced exactly in the model because the overflow flow rate at the railroad embankment is dependant on the water elevation in the wetlands prior to the beginning of the storm.

This exercise to calibrate the model by comparing the results with actual storm events makes it possible to move on to modeling of various alternatives and to developing possible solutions to the flooding problems in the Study Area.

RECOMMENDED IMPROVEMENTS

The initial discussions with city staff members regarding the flooding problems in the 140 acre Study Area suggested detention as a possible solution. The field investigation revealed that the majority of the 140 acre drainage area flows to the existing wetlands east of the railroad embankment, which acts as a detention facility. The wetlands could potentially be increased in size and volume to store more water. The outlet through Summit Enclave is sized to handle the flow from the drainage area, therefore additional detention storage is not required unless it is desirable to decrease the overland flows through Summit Enclave. Our modeling and subsequent analysis of the various alternative improvements to the drainage system leads to the conclusion that the most effective means to reduce flooding in the Study Area is to direct the runoff to the appropriate outlet and away from the homes and businesses. This can be accomplished with strategic grade changes and a properly sized outfall to the Summit development.

The 24" CMP that is not presently functional has an invert of 881.7 on the west side of the railroad embankment. This is several feet below the normal water elevation in the wetlands east of the embankment. By constructing a new outfall to Summit from the wetlands, a discharge from the wetlands can be established that will maintain the water elevation during smaller rain events and allow the wetlands to drain back to normal after larger events, resulting in designed detention in the wetlands. This detention is not effective in certain circumstances now, when all the storage has been filled by a previous rainfall event. That is what occurred during the Memorial Day 2004 storms. Larger rainfall events will still result in flow over the railroad embankment, however the overflow location will be relocated onto the Summit property from the present location east of Vienna Boulevard.

The following is a summary of the recommended changes:

1. Eliminate the low point created at the south end of the railroad embankment by Breeze.
2. Regrade the embankment to raise the segment that runs east of Vienna Boulevard and lower the section that runs adjacent to Summit. As this may be a future bike path, it is suggested that this segment be paved now to withstand overtopping events and maintain the correct elevation for the future.
3. Construct a culvert or culverts between Summit Enclave and the Encoat wetland. The east invert should be as low as possible, while maintaining the wetlands.
4. Construct an overflow weir to handle the larger events across both railroad embankments.
5. Improve the flow across the CM St P&P between the wetland behind Encoat and the wetland north of ComEd by lowering the railroad embankment grade through that area.
6. Catch and transport runoff between the ComEd property and the rear of Breeze with an open channel and direct the flow north to the wetlands. The exact location will need to be determined after a more detailed topographic survey is completed of the area.
7. Strategically place berms to protect businesses along Pleasant Street from design high water in the wetlands and channel. Currently several businesses are too low to utilize the

new channel for their own drainage so runoff from businesses will continue to be directed to Pleasant Street.

We are including the TR-20 run of a potential version of the option described above in the Appendix to this letter report. Two 24" diameter culverts through the railroad embankments have been set at elevation 885.0, which was determined to be the normal water elevation in the wetlands and would likely be required to preserve the wetlands. A 30 foot long weir for high flows is set at elevation 885.5. The model results show a high water elevation of 886.26 and a peak flow rate of 81.23 cfs. This is approximately a foot and a half below the elevation of the existing 100 year peak event.

In order to finalize a preliminary design, a wetland delineation and determination of the normal allowable water level in the wetlands will be required. At that point, further analyses will be required to finalize the water elevation on the east side of the railroad embankment, while not exceeding the 100.2 cfs downstream capacity. The culvert sizes and locations as well as weir elevation may change slightly during final design.

Two year storm and ten year storm models for both the existing and proposed conditions are included in the Appendix of this report for reference.

ADDITIONAL NECESSARY STEPS TO PROCEED

It is necessary to confirm that the tile drain identified by Huddleston-McBride on the south end of Summit Enclave is connected and functioning properly. During the Encoat survey, there was no standing water on the site at the time of the survey. During our site visit, there was a significant volume of standing water on the site. This may be a result of the tile being obstructed or damaged. The repair of this tile in a timely manner could help reduce the standing water elevation in the wetlands and justify the lowering of the new culverts. This may help provide temporary relief for the problem by providing an outlet for the water in the wetland.

A wetland delineation must be performed and a report generated that discusses the impacts of various normal water elevations in the wetlands. An assessment can be made regarding the cost of mitigation verses the decrease in 100-year water elevation. This assessment would be preformed in conjunction with revised scenarios of the TR-20 model. A detailed delineation and topographic survey will aid in determining the mitigation area, if any. The delineation should be completed during the growing season, which typically runs from March 15 to October.

A detailed topographic survey of the east and west railroad embankments should be completed to ensure all low areas are raised and the weir location for the overflow is properly located. Additional topographic survey will be necessary north of Breeze's and the adjacent Donald G. Jones and Associates properties to properly grade the swale along the tracks and design any berms necessary to protect these properties from the design high water.

Please let us know if there are any additonal scenarios that you would like us to consider at this point. We look forward to meeting with you to review and discuss the data and recommendations contained in this report.

Very Truly Yours,
Robert H. Anderson & Assoc.

Douglas P. Breunlin, P.E.
Vice President

Jodie Wollnik, P.E.
Project Engineer

Resource Data:

[1]Summit Enclave Stormwater Management Report, Plans and Calculations – Robert H. Anderson & Associates
[2]2' Contour Maps of Study area provided by the City of DeKalb
[3]City of DeKalb Storm Sewer Atlas provided by the City of DeKalb
[4]USGS Quadrangle Maps
[5]Site Layout for Mini-Warehouse – Warner Engineering – July 16, 1999
[6]Site Plan for Encoat Services, Inc – Farnsworth Group – September 2000
[7]Site Plan for Alloyd Addition – Heritage Surveying & Engineering 1996
[8]Master Drainage Study – Hanson Engineering – January 2004
[9]Agricultural Existing Drain Tile Investigation for Summit Homes – Huddleston & McBride July 8, 2002
[10]Ground Survey by Robert H. Anderson & Assoc, May 2005
[11]Telephone Interview with Rod Kyler of Kyler Excavating
[12]Telephone Interview with Ron Breese
[13]Telephone Interview with Bruce Olsen at SCA (Alloyd)

Appendix

2 YEAR - EXISTING CONDITIONS

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*                                   * TR 20 S/N     :                       *
*                                   * HMVersion     :  3.40                 *
*              TR 20                * Date          :  6/23/**              *
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37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

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******************80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY******************

JOB TR-20                                          SUMMARY   NOPLOTS
TITLE     SUMMIT ENCLAVE, DEKALB  OFFSITE AND ONSITE            09/11/02
TITLE     BULLET.70 N.E.ILL. 02 YR: 15,30MIN,1,2,3,6,12,18,24 HR STORMS
 5 RAINFL 1                    0.05                                  HUFFS1ST
 8                 0.00        0.16        0.33        0.43        0.52
 8                 0.60        0.66        0.71        0.75        0.79
 8                 0.82        0.84        0.86        0.88        0.90
 8                 0.92        0.94        0.96        0.97        0.98
 8                 1.00        1.00        1.00        1.00        1.00
 9 ENDTBL
 5 RAINFL 2                    0.05                                  HUFFS2ND
 8                 0.00        0.03        0.08        0.12        0.16
 8                 0.22        0.29        0.39        0.51        0.62
 8                 0.70        0.76        0.81        0.85        0.88
 8                 0.91        0.93        0.95        0.97        0.98
 8                 1.00        1.00        1.00        1.00        1.00
 9 ENDTBL
 5 RAINFL 3                    0.05                                  HUFFS3RD
 8                 0.00        0.03        0.06        0.09        0.12
 8                 0.15        0.19        0.23        0.27        0.32
 8                 0.38        0.45        0.57        0.70        0.79
 8                 0.85        0.89        0.92        0.95        0.97
 8                 1.00        1.00        1.00        1.00        1.00
 9 ENDTBL
 3 STRUCT       1                                                   57ACRES
 8                            900.0         0.0        0.00              TRIB
 8                            901.0         3.6        3.55                TO
 8                            902.0         7.2        7.10            24INCH
 8                            903.0        10.7       10.65          ST.SEWER
 8                            904.0        14.3       14.20           OFFSITE
 8                            905.0        59.9       17.75             SOUTH
 9 ENDTBL
 3 STRUCT       2                                                    ENCOAT
 8                            888.0         0.0        0.00             BASIN
 8                            889.0         0.6        1.17               FOR
 8                            890.0         1.3        2.35           17ACRES
 8                            891.0         1.9        3.52           OFFSITE
 8                            892.0         2.6        4.70             SOUTH
 8                            893.0        17.9        6.05
 8                            894.0        45.8        7.40
 9 ENDTBL
 3 STRUCT       3                                                   66ACRES
 8                            886.0         0.0        0.00              TRIB
 8                            887.0        0.01        6.25                TO
 8                            887.6        0.01       11.45           WETLAND
 8                            888.0       156.0       14.45           OFFSITE
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**********80-80 LIST OF INPUT DATA (CONTINUED)**********

```
9 ENDTBL
3 STRUCT       4                                                        SOUTH
8                          876.0       0.00       0.00                  BASIN
8                          877.0        2.2       1.08
8                          878.0        3.4       2.26
8                          879.0        4.3       3.54
8                          880.0        5.0       4.92
8                          881.0        5.7       6.40
8                          882.0        6.3       8.14
8                          882.5       14.9       9.19
8                          883.0       45.5      10.41
8                          883.5      149.5      11.83
9 ENDTBL
3 STRUCT       5                                                        BASIN
8                          900.0        0.0       0.00                    FOR
8                          901.0       12.8      12.81                    205
8                          902.0       25.6      25.63                  ACRES
8                          903.0       38.4      38.44                OFFSITE
8                          904.0       51.3      51.25                  NORTH
8                          905.0      136.0      64.06
9 ENDTBL
3 STRUCT       6                                                        BASIN
8                          890.0        0.0       0.00                     AT
8                          891.0        7.9       0.06                     RR
8                          892.0       22.0       0.24                CULVERT
8                          893.0       34.4       0.59                OFFSITE
8                          894.0       49.0       1.16                  NORTH
8                          895.0       63.0       1.95
8                          896.0      200.0       2.96
9 ENDTBL
3 STRUCT       7                                                        NORTH
8                          873.0        0.0       0.00                  BASIN
8                          874.0        4.4       1.74
8                          875.0       11.6       3.64
8                          876.0       13.6       5.68
8                          877.0       15.8       7.86
8                          878.0       17.7      10.20
8                          879.0      139.5      12.70
9 ENDTBL
3 STRUCT       8                                                     RESIDENT
8                          884.0        0.0       0.00
8                          885.0       0.01       2.80
8                          885.1      200.0       3.30
9 ENDTBL
6 RUNOFF 1   1       1    0.0797         75       1.01     1     OFFCENTR
6 RUNOFF 1     1     2    0.0891         88       1.11     1     OFFSOUTH
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**********************80-80 LIST OF INPUT DATA (CONTINUED)*********************

 6 RESVOR 2     1 2   3        900.0                        1     1       24INCH
 6 RUNOFF 1     2     4       0.0266          88        0.21     1     OFFSOUTH
 6 RESVOR 2     2 4   2        888.0                        1     1       ENCOAT
 6 ADDHYD 4     3 2 3 4                                     1     1     OFFSOUTH
 6 RUNOFF 1     3     2       0.1031          75        0.51     1     OFFSOUTH
 6 ADDHYD 4     3 2 4 3                                     1     1     OFFSOUTH
 6 RESVOR 2     3 3   2        886.0                        1     1      WETLAND
 6 RESVOR 2     8 2   5        884.0                        1     1      YARDSTO
 6 RUNOFF 1     4     6       0.0438          81        0.31     1        SOUTH
 6 ADDHYD 4     4 1 6 7                                     1     1     OFFANDON
 6 RESVOR 2     4 7   6        876.0                        1     1      S.BASIN
 6 RUNOFF 1     5     1       0.3203          88        2.31     1     OFFNORTH
 6 RESVOR 2     5 1   2        900.0                        1     1     205ACRES
 6 RUNOFF 1     6     3       0.2141          75        1.51     1     137ACRES
 6 ADDHYD 4     6 2 3 1                                     1     1     OFFNORTH
 6 RESVOR 2     6 1   2        890.0                        1     1     RRCULVRT
 6 ADDHYD 4     7 2 6 7                                     1     1     OFFANDS0
 6 RUNOFF 1     7     6       0.0558          87        0.31     1        NORTH
 6 ADDHYD 4     7 6 7 4                                     1     1      N.AND.S
 6 RUNOFF 1     7     6       0.0039          96        0.21     1       OUTLOT
 6 ADDHYD 4     7 4 6 7                                     1     1
 6 RESVOR 2     7 7   6        873.0                        1     1      N.BASIN
   ENDATA
 7 INCREM 6                     0.05
 7 COMPUT 7   1       7         0.0        0.82       0.251 2            15MIN
   ENDCMP 1
 7 COMPUT 7   1       7         0.0        1.12        .501 2            30MIN
   ENDCMP 1
 7 INCREM 6                     0.1
 7 COMPUT 7   1       7         0.0        1.43       1.001 2              1HR
   ENDCMP 1
 7 COMPUT 7   1       7         0.0        1.79       2.001 2              2HR
   ENDCMP 1
 7 COMPUT 7   1       7         0.0        1.94       3.001 2              3HR
   ENDCMP 1
 7 INCREM 6                     0.2
 7 COMPUT 7   1       7         0.0        2.28       6.001 2              6HR
   ENDCMP 1
 7 COMPUT 7   1       7         0.0        2.64      12.002 2             12HR
   ENDCMP 1
 7 INCREM 6                     0.3
 7 COMPUT 7   1       7         0.0        2.79      18.003 2             18HR
   ENDCMP 1
 7 COMPUT 7   1       7         0.0        3.04      24.003 2             24HR
   ENDCMP 1
   ENDJOB 2
```

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
XSECTION 1	RUNOFF	.08	1	2	.05	.0	.82	.25	.01	---	.85?	.39?	4.9
STRUCTURE 1	RUNOFF	.09	1	2	.05	.0	.82	.25	.16	---	.85	9.11	102.2
STRUCTURE 1	RESVOR	.09	1	2	.05	.0	.82	.25	.11	900.18	2.20?	.66?	7.4
STRUCTURE 2	RUNOFF	.03	1	2	.05	.0	.82	.25	.16	---	.26	10.42	391.8
STRUCTURE 2	RESVOR	.03	1	2	.05	.0	.82	.25	.07	888.19	.70?	.11?	4.2
STRUCTURE 3	ADDHYD	.12	1	2	.05	.0	.82	.25	.10	887.60	2.15?	.77?	6.6
STRUCTURE 3	RUNOFF	.10	1	2	.05	.0	.82	.25	.01	---	.55?	.99?	9.6
STRUCTURE 3	ADDHYD	.22	1	2	.05	.0	.82	.25	.06	887.60	.55	1.18	5.4
STRUCTURE 3	RESVOR	.22	1	2	.05	.0	.82	.25	.00	---	.00	.00	.0
STRUCTURE 8	RESVOR	.22	1	2	.05	.0	.82	.25	.00	---	.00	.00	.0
STRUCTURE 4	RUNOFF	.04	1	2	.05	.0	.82	.25	.05	---	.36	4.25	97.0
STRUCTURE 4	ADDHYD	.12	1	2	.05	.0	.82	.25	.02	879.01	.36	4.30	34.8
STRUCTURE 4	RESVOR	.12	1	2	.05	.0	.82	.25	.02	876.10	1.25?	.23?	1.9
STRUCTURE 5	RUNOFF	.32	1	2	.05	.0	.82	.25	.20	---	1.65	15.77	49.2
STRUCTURE 5	RESVOR	.32	1	2	.05	.0	.82	.25	.12	900.18	7.90?	2.26?	7.0
STRUCTURE 6	RUNOFF	.21	1	2	.05	.0	.82	.25	.01	---	1.20?	.70?	3.3
STRUCTURE 6	ADDHYD	.53	1	2	.05	.0	.82	.25	.08	890.29	7.90?	2.26?	4.2
STRUCTURE 6	RESVOR	.53	1	2	.05	.0	.82	.25	.08	890.29	7.95?	2.25?	4.2
STRUCTURE 7	ADDHYD	.66	1	2	.05	.0	.82	.25	.07	873.53	7.90*	2.33*	3.5
STRUCTURE 7	RUNOFF	.06	1	2	.05	.0	.82	.25	.13	---	.33	15.23	272.9
STRUCTURE 7	ADDHYD	.71	1	2	.05	.0	.82	.25	.07	876.78	.33	15.32	21.5
STRUCTURE 7	RUNOFF	.00	1	2	.05	.0	.82	.25	.47	---	.21	4.70	1204.5
STRUCTURE 7	ADDHYD	.72	1	2	.05	.0	.82	.25	.07	878.00	.31	18.27	25.5
STRUCTURE 7	RESVOR	.72	1	2	.05	.0	.82	.25	.06	873.46	9.55?	2.05?	2.9
XSECTION 1	RUNOFF	.08	1	2	.05	.0	1.12	.50	.05	---	.98	3.00	37.6
STRUCTURE 1	RUNOFF	.09	1	2	.05	.0	1.12	.50	.32	---	.96	18.02	202.2
STRUCTURE 1	RESVOR	.09	1	2	.05	.0	1.12	.50	.22	900.38	2.30?	1.37?	15.4
STRUCTURE 2	RUNOFF	.03	1	2	.05	.0	1.12	.50	.32	---	.29	14.62	549.6
STRUCTURE 2	RESVOR	.03	1	2	.05	.0	1.12	.50	.15	888.38	.85?	.23?	8.7
STRUCTURE 3	ADDHYD	.12	1	2	.05	.0	1.12	.50	.21	887.60	2.30?	1.59?	13.7
STRUCTURE 3	RUNOFF	.10	1	2	.05	.0	1.12	.50	.05	---	.66	6.79	65.8
STRUCTURE 3	ADDHYD	.22	1	2	.05	.0	1.12	.50	.13	887.62	.67	7.22	33.0

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 3	RESVOR	.22	1	2	.05	.0	1.12	.50	.00	---	.00	.00	.0
STRUCTURE 8	RESVOR	.22	1	2	.05	.0	1.12	.50	.00	---	.00	.00	.0
STRUCTURE 4	RUNOFF	.04	1	2	.05	.0	1.12	.50	.14	---	.46	8.68	198.1
STRUCTURE 4	ADDHYD	.12	1	2	.05	.0	1.12	.50	.09	882.17	.49	9.23	74.8
STRUCTURE 4	RESVOR	.12	1	2	.05	.0	1.12	.50	.08	876.42	1.65?	.92?	7.5
STRUCTURE 5	RUNOFF	.32	1	2	.05	.0	1.12	.50	.32	---	1.75	32.45	101.3
STRUCTURE 5	RESVOR	.32	1	2	.05	.0	1.12	.50	.21	900.35	4.00*	4.43*	13.8
STRUCTURE 6	RUNOFF	.21	1	2	.05	.0	1.12	.50	.05	---	1.31	5.52	25.8
STRUCTURE 6	ADDHYD	.53	1	2	.05	.0	1.12	.50	.15	890.84	1.44	6.60	12.3
STRUCTURE 6	RESVOR	.53	1	2	.05	.0	1.12	.50	.15	890.83	1.55	6.54	12.2
STRUCTURE 7	ADDHYD	.66	1	2	.05	.0	1.12	.50	.13	874.42	1.55	7.46	11.3
STRUCTURE 7	RUNOFF	.06	1	2	.05	.0	1.12	.50	.29	---	.38	22.98	411.8
STRUCTURE 7	ADDHYD	.71	1	2	.05	.0	1.12	.50	.15	878.05	.38	23.26	32.6
STRUCTURE 7	RUNOFF	.00	1	2	.05	.0	1.12	.50	.74	---	.24	5.32	1365.1
STRUCTURE 7	ADDHYD	.72	1	2	.05	.0	1.12	.50	.15	878.08	.36	26.92	37.5
STRUCTURE 7	RESVOR	.72	1	2	.05	.0	1.12	.50	.12	873.99	6.40*	4.37*	6.1
XSECTION 1	RUNOFF	.08	1	2	.10	.0	1.43	1.00	.14	---	1.25	6.56	82.3
STRUCTURE 1	RUNOFF	.09	1	2	.10	.0	1.43	1.00	.53	---	1.15	24.84	278.8
STRUCTURE 1	RESVOR	.09	1	2	.10	.0	1.43	1.00	.48	900.62	2.57	2.23	25.0
STRUCTURE 2	RUNOFF	.03	1	2	.10	.0	1.43	1.00	.53	---	.39	15.21	571.9
STRUCTURE 2	RESVOR	.03	1	2	.10	.0	1.43	1.00	.38	888.62	1.30?	.37?	14.0
STRUCTURE 3	ADDHYD	.12	1	2	.10	.0	1.43	1.00	.46	887.61	2.53	2.58	22.3
STRUCTURE 3	RUNOFF	.10	1	2	.10	.0	1.43	1.00	.14	---	.87	10.89	105.6
STRUCTURE 3	ADDHYD	.22	1	2	.10	.0	1.43	1.00	.31	887.63	.95	11.80	53.9
STRUCTURE 3	RESVOR	.22	1	2	.10	.0	1.43	1.00	.00	886.58	29.90?	.01?	.0
STRUCTURE 8	RESVOR	.22	1	2	.10	.0	1.43	1.00	.00	---	.00?	.00?	.0
STRUCTURE 4	RUNOFF	.04	1	2	.10	.0	1.43	1.00	.28	---	.54	11.20	255.8
STRUCTURE 4	ADDHYD	.12	1	2	.10	.0	1.43	1.00	.19	882.35	.96	12.27	99.4
STRUCTURE 4	RESVOR	.12	1	2	.10	.0	1.43	1.00	.19	876.93	2.00	2.04	16.5
STRUCTURE 5	RUNOFF	.32	1	2	.10	.0	1.43	1.00	.53	---	1.95	50.87	158.8
STRUCTURE 5	RESVOR	.32	1	2	.10	.0	1.43	1.00	.48	900.57	4.20	7.24	22.6
STRUCTURE 6	RUNOFF	.21	1	2	.10	.0	1.43	1.00	.14	---	1.58	13.33	62.3
STRUCTURE 6	ADDHYD	.53	1	2	.10	.0	1.43	1.00	.34	891.53	1.67	15.42	28.9
STRUCTURE 6	RESVOR	.53	1	2	.10	.0	1.43	1.00	.34	891.50	1.82	14.97	28.0
STRUCTURE 7	ADDHYD	.66	1	2	.10	.0	1.43	1.00	.31	877.63	1.83	17.00	25.8
STRUCTURE 7	RUNOFF	.06	1	2	.10	.0	1.43	1.00	.49	---	.48	25.87	463.6

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 7	ADDHYD	.71	1	2	.10	.0	1.43	1.00	.33	878.07	.49	26.46	37.1
STRUCTURE 7	RUNOFF	.00	1	2	.10	.0	1.43	1.00	1.02	---	.31	4.92	1261.0
STRUCTURE 7	ADDHYD	.72	1	2	.10	.0	1.43	1.00	.33	878.10	.46	29.89	41.7
STRUCTURE 7	RESVOR	.72	1	2	.10	.0	1.43	1.00	.31	874.63	4.40*	8.91*	12.4
XSECTION 1	RUNOFF	.08	1	2	.10	.0	1.79	2.00	.28	---	1.47	8.41	105.6
STRUCTURE 1	RUNOFF	.09	1	2	.10	.0	1.79	2.00	.80	---	1.29	27.25	305.8
STRUCTURE 1	RESVOR	.09	1	2	.10	.0	1.79	2.00	.72	900.91	3.18	3.28	36.8
STRUCTURE 2	RUNOFF	.03	1	2	.10	.0	1.79	2.00	.80	---	.54	13.53	508.6
STRUCTURE 2	RESVOR	.03	1	2	.10	.0	1.79	2.00	.56	888.91	2.30?	.55?	20.6
STRUCTURE 3	ADDHYD	.12	1	2	.10	.0	1.79	2.00	.69	887.61	3.14	3.81	32.9
STRUCTURE 3	RUNOFF	.10	1	2	.10	.0	1.79	2.00	.28	---	1.04	13.84	134.2
STRUCTURE 3	ADDHYD	.22	1	2	.10	.0	1.79	2.00	.50	887.64	1.07	14.91	68.1
STRUCTURE 3	RESVOR	.22	1	2	.10	.0	1.79	2.00	.00	886.92	29.90?	.01?	.0
STRUCTURE 8	RESVOR	.22	1	2	.10	.0	1.79	2.00	.00	---	.00?	.00?	.0
STRUCTURE 4	RUNOFF	.04	1	2	.10	.0	1.79	2.00	.48	---	.72	11.56	264.0
STRUCTURE 4	ADDHYD	.12	1	2	.10	.0	1.79	2.00	.35	882.51	1.06	15.25	123.5
STRUCTURE 4	RESVOR	.12	1	2	.10	.0	1.79	2.00	.35	877.63	2.79	2.96	23.9
STRUCTURE 5	RUNOFF	.32	1	2	.10	.0	1.79	2.00	.80	---	2.32	65.29	203.8
STRUCTURE 5	RESVOR	.32	1	2	.10	.0	1.79	2.00	.71	900.84	4.68	10.77	33.6
STRUCTURE 6	RUNOFF	.21	1	2	.10	.0	1.79	2.00	.28	---	2.00	19.56	91.3
STRUCTURE 6	ADDHYD	.53	1	2	.10	.0	1.79	2.00	.54	892.14	2.23	23.79	44.5
STRUCTURE 6	RESVOR	.53	1	2	.10	.0	1.79	2.00	.54	892.10	2.49	23.18	43.4
STRUCTURE 7	ADDHYD	.66	1	2	.10	.0	1.79	2.00	.50	878.07	2.50	26.11	39.7
STRUCTURE 7	RUNOFF	.06	1	2	.10	.0	1.79	2.00	.74	---	.63	24.73	443.1
STRUCTURE 7	ADDHYD	.71	1	2	.10	.0	1.79	2.00	.52	878.11	2.07	31.59	44.3
STRUCTURE 7	RUNOFF	.00	1	2	.10	.0	1.79	2.00	1.37	---	.34	4.15	1062.9
STRUCTURE 7	ADDHYD	.72	1	2	.10	.0	1.79	2.00	.53	878.12	2.07	32.17	44.8
STRUCTURE 7	RESVOR	.72	1	2	.10	.0	1.79	2.00	.50	875.73	5.70*	13.07*	18.2
XSECTION 1	RUNOFF	.08	1	2	.10	.0	1.94	3.00	.35	---	1.72	8.23	103.3
STRUCTURE 1	RUNOFF	.09	1	2	.10	.0	1.94	3.00	.92	---	1.47	25.18	282.6
STRUCTURE 1	RESVOR	.09	1	2	.10	.0	1.94	3.00	.83	901.01	3.96	3.64	40.9
STRUCTURE 2	RUNOFF	.03	1	2	.10	.0	1.94	3.00	.92	---	.75	10.74	403.8
STRUCTURE 2	RESVOR	.03	1	2	.10	.0	1.94	3.00	.64	889.02	3.20?	.62?	23.1
STRUCTURE 3	ADDHYD	.12	1	2	.10	.0	1.94	3.00	.78	887.61	3.92	4.24	36.7
STRUCTURE 3	RUNOFF	.10	1	2	.10	.0	1.94	3.00	.35	---	1.24	12.47	121.0
STRUCTURE 3	ADDHYD	.22	1	2	.10	.0	1.94	3.00	.58	887.64	1.41	13.80	63.1

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 3	RESVOR	.22	1	2	.10	.0	1.94	3.00	.00	887.00	22.50?	.01?	.0
STRUCTURE 8	RESVOR	.22	1	2	.10	.0	1.94	3.00	.00	---	.00?	.00?	.0
STRUCTURE 4	RUNOFF	.04	1	2	.10	.0	1.94	3.00	.57	---	.90	9.96	227.4
STRUCTURE 4	ADDHYD	.12	1	2	.10	.0	1.94	3.00	.43	882.50	1.46	14.94	121.0
STRUCTURE 4	RESVOR	.12	1	2	.10	.0	1.94	3.00	.42	877.90	3.60	3.28	26.5
STRUCTURE 5	RUNOFF	.32	1	2	.10	.0	1.94	3.00	.92	---	2.50	63.37	197.8
STRUCTURE 5	RESVOR	.32	1	2	.10	.0	1.94	3.00	.82	900.95	5.28	12.16	38.0
STRUCTURE 6	RUNOFF	.21	1	2	.10	.0	1.94	3.00	.35	---	2.14	18.98	88.7
STRUCTURE 6	ADDHYD	.53	1	2	.10	.0	1.94	3.00	.63	892.15	3.06	23.81	44.5
STRUCTURE 6	RESVOR	.53	1	2	.10	.0	1.94	3.00	.63	892.13	3.26	23.60	44.2
STRUCTURE 7	ADDHYD	.66	1	2	.10	.0	1.94	3.00	.59	878.08	3.30	26.84	40.8
STRUCTURE 7	RUNOFF	.06	1	2	.10	.0	1.94	3.00	.86	---	.81	20.42	365.9
STRUCTURE 7	ADDHYD	.71	1	2	.10	.0	1.94	3.00	.61	878.12	2.58	32.73	45.9
STRUCTURE 7	RUNOFF	.00	1	2	.10	.0	1.94	3.00	1.51	---	.41	3.41	874.4
STRUCTURE 7	ADDHYD	.72	1	2	.10	.0	1.94	3.00	.62	878.13	2.57	33.35	46.5
STRUCTURE 7	RESVOR	.72	1	2	.10	.0	1.94	3.00	.59	876.33	6.70*	14.33*	20.0
XSECTION 1	RUNOFF	.08	1	2	.20	.0	2.28	6.00	.53	---	2.32	7.42	93.1
STRUCTURE 1	RUNOFF	.09	1	2	.20	.0	2.28	6.00	1.19	---	1.93	20.83	233.8
STRUCTURE 1	RESVOR	.09	1	2	.20	.0	2.28	6.00	1.18	901.16	6.53	4.18	46.9
STRUCTURE 2	RUNOFF	.03	1	2	.20	.0	2.28	6.00	1.20	---	1.20	7.13	268.0
STRUCTURE 2	RESVOR	.03	1	2	.20	.0	2.28	6.00	1.09	889.23	6.20?	.76?	28.5
STRUCTURE 3	ADDHYD	.12	1	2	.20	.0	2.28	6.00	1.16	887.61	6.42	4.93	42.6
STRUCTURE 3	RUNOFF	.10	1	2	.20	.0	2.28	6.00	.53	---	1.82	10.69	103.7
STRUCTURE 3	ADDHYD	.22	1	2	.20	.0	2.28	6.00	.86	887.63	2.00	12.39	56.6
STRUCTURE 3	RESVOR	.22	1	2	.20	.0	2.28	6.00	.00	887.00	11.60?	.01?	.0
STRUCTURE 8	RESVOR	.22	1	2	.20	.0	2.28	6.00	.00	---	.00?	.00?	.0
STRUCTURE 4	RUNOFF	.04	1	2	.20	.0	2.28	6.00	.78	---	1.54	7.59	173.4
STRUCTURE 4	ADDHYD	.12	1	2	.20	.0	2.28	6.00	.62	882.40	2.04	13.25	107.3
STRUCTURE 4	RESVOR	.12	1	2	.20	.0	2.28	6.00	.62	878.33	6.30	3.70	30.0
STRUCTURE 5	RUNOFF	.32	1	2	.20	.0	2.28	6.00	1.19	---	2.96	58.77	183.5
STRUCTURE 5	RESVOR	.32	1	2	.20	.0	2.28	6.00	1.18	901.13	7.39	14.52	45.3
STRUCTURE 6	RUNOFF	.21	1	2	.20	.0	2.28	6.00	.53	---	2.84	18.25	85.2
STRUCTURE 6	ADDHYD	.53	1	2	.20	.0	2.28	6.00	.92	892.22	3.36	24.67	46.2
STRUCTURE 6	RESVOR	.53	1	2	.20	.0	2.28	6.00	.92	892.18	3.68	24.28	45.4
STRUCTURE 7	ADDHYD	.66	1	2	.20	.0	2.28	6.00	.86	878.08	3.80	27.53	41.8
STRUCTURE 7	RUNOFF	.06	1	2	.20	.0	2.28	6.00	1.13	---	1.38	13.96	250.1

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 7	ADDHYD	.71	1	2	.20	.0	2.28	6.00	.88	878.13	2.85	32.97	46.2
STRUCTURE 7	RUNOFF	.00	1	2	.20	.0	2.28	6.00	1.84	---	.62	2.47	632.1
STRUCTURE 7	ADDHYD	.72	1	2	.20	.0	2.28	6.00	.89	878.13	2.84	33.63	46.9
STRUCTURE 7	RESVOR	.72	1	2	.20	.0	2.28	6.00	.88	877.69	9.06	17.11	23.8
XSECTION 1	RUNOFF	.08	2	2	.20	.0	2.64	12.00	.73	---	5.99	8.07	101.2
STRUCTURE 1	RUNOFF	.09	2	2	.20	.0	2.64	12.00	1.50	---	5.70	18.71	210.0
STRUCTURE 1	RESVOR	.09	2	2	.20	.0	2.64	12.00	1.48	901.30	10.20*	4.68*	52.5
STRUCTURE 2	RUNOFF	.03	2	2	.20	.0	2.64	12.00	1.50	---	5.32	6.19	232.7
STRUCTURE 2	RESVOR	.03	2	2	.20	.0	2.64	12.00	1.35	889.41	12.00?	.89?	33.3
STRUCTURE 3	ADDHYD	.12	2	2	.20	.0	2.64	12.00	1.45	887.61	10.73	5.55	48.0
STRUCTURE 3	RUNOFF	.10	2	2	.20	.0	2.64	12.00	.73	---	5.56	11.42	110.8
STRUCTURE 3	ADDHYD	.22	2	2	.20	.0	2.64	12.00	1.11	887.64	5.62	13.91	63.6
STRUCTURE 3	RESVOR	.22	2	2	.20	.0	2.64	12.00	.13	887.60	31.06	1.37	6.3
STRUCTURE 8	RESVOR	.22	2	2	.20	.0	2.64	12.00	.00	884.54	59.80?	.01?	.0
STRUCTURE 4	RUNOFF	.04	2	2	.20	.0	2.64	12.00	1.04	---	5.37	7.17	163.7
STRUCTURE 4	ADDHYD	.12	2	2	.20	.0	2.64	12.00	.84	882.46	5.60	14.17	114.7
STRUCTURE 4	RESVOR	.12	2	2	.20	.0	2.64	12.00	.84	878.79	10.95	4.11	33.3
STRUCTURE 5	RUNOFF	.32	2	2	.20	.0	2.64	12.00	1.50	---	6.65	57.12	178.3
STRUCTURE 5	RESVOR	.32	2	2	.20	.0	2.64	12.00	1.48	901.29	11.73	16.49	51.5
STRUCTURE 6	RUNOFF	.21	2	2	.20	.0	2.64	12.00	.73	---	6.43	20.21	94.4
STRUCTURE 6	ADDHYD	.53	2	2	.20	.0	2.64	12.00	1.18	892.50	7.41	28.22	52.8
STRUCTURE 6	RESVOR	.53	2	2	.20	.0	2.64	12.00	1.18	892.49	7.83	28.11	52.6
STRUCTURE 7	ADDHYD	.66	2	2	.20	.0	2.64	12.00	1.12	878.12	7.95	31.90	48.5
STRUCTURE 7	RUNOFF	.06	2	2	.20	.0	2.64	12.00	1.43	---	5.34	12.23	219.1
STRUCTURE 7	ADDHYD	.71	2	2	.20	.0	2.64	12.00	1.14	878.16	7.20	37.53	52.6
STRUCTURE 7	RUNOFF	.00	2	2	.20	.0	2.64	12.00	2.19	---	4.80	1.24	317.2
STRUCTURE 7	ADDHYD	.72	2	2	.20	.0	2.64	12.00	1.15	878.17	7.20	38.07	53.1
STRUCTURE 7	RESVOR	.72	2	2	.20	.0	2.64	12.00	1.14	878.11	10.78	31.24	43.5
XSECTION 1	RUNOFF	.08	3	2	.30	.0	2.79	18.00	.83	---	12.05	8.52	106.9
STRUCTURE 1	RUNOFF	.09	3	2	.30	.0	2.79	18.00	1.63	---	11.96	16.83	188.9
STRUCTURE 1	RESVOR	.09	3	2	.30	.0	2.79	18.00	1.63	901.34	15.84	4.84	54.3
STRUCTURE 2	RUNOFF	.03	3	2	.30	.0	2.79	18.00	1.63	---	11.57	5.60	210.7
STRUCTURE 2	RESVOR	.03	3	2	.30	.0	2.79	18.00	1.57	889.49	18.00?	.94?	35.5
STRUCTURE 3	ADDHYD	.12	3	2	.30	.0	2.79	18.00	1.62	887.61	16.26	5.76	49.8
STRUCTURE 3	RUNOFF	.10	3	2	.30	.0	2.79	18.00	.83	---	11.72	11.77	114.2
STRUCTURE 3	ADDHYD	.22	3	2	.30	.0	2.79	18.00	1.24	887.64	11.79	15.15	69.2

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 3	RESVOR	.22	3	2	.30	.0	2.79	18.00	.26	887.61	29.63	2.47	11.3
STRUCTURE 8	RESVOR	.22	3	2	.30	.0	2.79	18.00	.02	885.00	65.40	.29	1.3
STRUCTURE 4	RUNOFF	.04	3	2	.30	.0	2.79	18.00	1.15	---	11.60	6.96	159.0
STRUCTURE 4	ADDHYD	.12	3	2	.30	.0	2.79	18.00	.94	882.50	11.73	14.87	120.4
STRUCTURE 4	RESVOR	.12	3	2	.30	.0	2.79	18.00	.94	878.98	16.50	4.28	34.7
STRUCTURE 5	RUNOFF	.32	3	2	.30	.0	2.79	18.00	1.63	---	12.76	52.62	164.3
STRUCTURE 5	RESVOR	.32	3	2	.30	.0	2.79	18.00	1.63	901.33	17.26	17.06	53.3
STRUCTURE 6	RUNOFF	.21	3	2	.30	.0	2.79	18.00	.83	---	12.47	21.24	99.2
STRUCTURE 6	ADDHYD	.53	3	2	.30	.0	2.79	18.00	1.31	892.76	12.99	31.37	58.7
STRUCTURE 6	RESVOR	.53	3	2	.30	.0	2.79	18.00	1.31	892.73	13.37	31.00	58.0
STRUCTURE 7	ADDHYD	.66	3	2	.30	.0	2.79	18.00	1.24	878.14	13.45	34.94	53.1
STRUCTURE 7	RUNOFF	.06	3	2	.30	.0	2.79	18.00	1.55	---	11.58	11.21	200.9
STRUCTURE 7	ADDHYD	.71	3	2	.30	.0	2.79	18.00	1.26	878.19	12.60	40.81	57.2
STRUCTURE 7	RUNOFF	.00	3	2	.30	.0	2.79	18.00	2.34	---	11.70	.98	250.5
STRUCTURE 7	ADDHYD	.72	3	2	.30	.0	2.79	18.00	1.27	878.20	12.60	41.49	57.8
STRUCTURE 7	RESVOR	.72	3	2	.30	.0	2.79	18.00	1.27	878.13	15.56	33.84	47.2
XSECTION 1	RUNOFF	.08	3	2	.30	.0	3.04	24.00	.99	---	15.84	7.87	98.7
STRUCTURE 1	RUNOFF	.09	3	2	.30	.0	3.04	24.00	1.85	---	15.77	14.63	164.2
STRUCTURE 1	RESVOR	.09	3	2	.30	.0	3.04	24.00	1.85	901.39	19.67	4.99	56.0
STRUCTURE 2	RUNOFF	.03	3	2	.30	.0	3.04	24.00	1.85	---	15.47	4.74	178.0
STRUCTURE 2	RESVOR	.03	3	2	.30	.0	3.04	24.00	1.78	889.54	21.60	.98	36.8
STRUCTURE 3	ADDHYD	.12	3	2	.30	.0	3.04	24.00	1.83	887.62	19.74	5.96	51.5
STRUCTURE 3	RUNOFF	.10	3	2	.30	.0	3.04	24.00	.99	---	15.56	10.71	103.9
STRUCTURE 3	ADDHYD	.22	3	2	.30	.0	3.04	24.00	1.43	887.64	15.63	14.62	66.8
STRUCTURE 3	RESVOR	.22	3	2	.30	.0	3.04	24.00	.45	887.61	27.74	4.42	20.2
STRUCTURE 8	RESVOR	.22	3	2	.30	.0	3.04	24.00	.21	885.00	37.84	3.15	14.4
STRUCTURE 4	RUNOFF	.04	3	2	.30	.0	3.04	24.00	1.34	---	15.49	6.08	138.9
STRUCTURE 4	ADDHYD	.12	3	2	.30	.0	3.04	24.00	1.11	882.43	15.57	13.65	110.5
STRUCTURE 4	RESVOR	.12	3	2	.30	.0	3.04	24.00	1.11	879.14	19.97	4.40	35.6
STRUCTURE 5	RUNOFF	.32	3	2	.30	.0	3.04	24.00	1.85	---	16.46	47.31	147.7
STRUCTURE 5	RESVOR	.32	3	2	.30	.0	3.04	24.00	1.85	901.37	20.92	17.57	54.9
STRUCTURE 6	RUNOFF	.21	3	2	.30	.0	3.04	24.00	.99	---	16.16	19.97	93.3
STRUCTURE 6	ADDHYD	.53	3	2	.30	.0	3.04	24.00	1.50	892.73	17.05	31.08	58.2
STRUCTURE 6	RESVOR	.53	3	2	.30	.0	3.04	24.00	1.50	892.72	17.34	30.94	57.9
STRUCTURE 7	ADDHYD	.66	3	2	.30	.0	3.04	24.00	1.43	878.14	17.43	35.06	53.3
STRUCTURE 7	RUNOFF	.06	3	2	.30	.0	3.04	24.00	1.77	---	15.47	9.54	170.9

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 7	ADDHYD	.71	3	2	.30	.0	3.04	24.00	1.46	878.19	16.76	41.23	57.8
STRUCTURE 7	RUNOFF	.00	3	2	.30	.0	3.04	24.00	2.59	---	15.60	.80	206.0
STRUCTURE 7	ADDHYD	.72	3	2	.30	.0	3.04	24.00	1.46	878.20	16.76	41.80	58.3
STRUCTURE 7	RESVOR	.72	3	2	.30	.0	3.04	24.00	1.46	878.16	18.74	37.02	51.6

SUMMARY TABLE 3 - DISCHARGE (CFS) AT XSECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 0
STRUCTURE 8	.22	
ALTERNATE 0		3.15
STRUCTURE 7	.72	
ALTERNATE 0		37.02
STRUCTURE 6	.53	
ALTERNATE 0		30.94
STRUCTURE 5	.32	
ALTERNATE 0		17.57
STRUCTURE 4	.12	
ALTERNATE 0		4.40
STRUCTURE 3	.22	
ALTERNATE 0		4.42
STRUCTURE 2	.03	
ALTERNATE 0		.98
STRUCTURE 1	.09	
ALTERNATE 0		4.99
XSECTION 1	.08	
ALTERNATE 0		7.87

10 YEAR - EXISTING CONDITIONS

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*****************************************************************************
*                                   * TR 20 S/N    :                        *
*                                   * HMVersion    :  3.40                  *
*              TR 20                * Date         :  6/23/**               *
*                                   * Time         : 16:29:17               *
*   Project Formulation Hydrology   * Input file   : smmtyd10.t20           *
*                                   * Output file  : smmtyd10.out           *
*                                   *                                       *
*                                   *                                       *
*****************************************************************************
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xxxxxxx  xxxxxx    xxxxx    xxxxx
   x     x     x  x     x  x    xx
   x     x     x       x   x   x x
   x     xxxxxx      x     x  x  x
   x     x   x     x       x x   x
   x     x    x   x        xx    x
   x     x     x  xxxxxxx   xxxxx
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:::  Full Microcomputer Implementation   :::
:::                 by                   :::
:::        Haestad Methods, Inc.         :::
:::                                      :::
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37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

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******************80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY******************

JOB TR-20                                          SUMMARY   NOPLOTS
TITLE     SUMMIT ENCLAVE, DEKALB  OFFSITE AND ONSITE            09/11/02
TITLE     BULLET.70 N.E.ILL. 10 YR: 15,30MIN,1,2,3,6,12,18,24 HR STORMS
 5 RAINFL 1                    0.05                                  HUFFS1ST
 8                 0.00        0.16        0.33        0.43        0.52
 8                 0.60        0.66        0.71        0.75        0.79
 8                 0.82        0.84        0.86        0.88        0.90
 8                 0.92        0.94        0.96        0.97        0.98
 8                 1.00        1.00        1.00        1.00        1.00
 9 ENDTBL
 5 RAINFL 2                    0.05                                  HUFFS2ND
 8                 0.00        0.03        0.08        0.12        0.16
 8                 0.22        0.29        0.39        0.51        0.62
 8                 0.70        0.76        0.81        0.85        0.88
 8                 0.91        0.93        0.95        0.97        0.98
 8                 1.00        1.00        1.00        1.00        1.00
 9 ENDTBL
 5 RAINFL 3                    0.05                                  HUFFS3RD
 8                 0.00        0.03        0.06        0.09        0.12
 8                 0.15        0.19        0.23        0.27        0.32
 8                 0.38        0.45        0.57        0.70        0.79
 8                 0.85        0.89        0.92        0.95        0.97
 8                 1.00        1.00        1.00        1.00        1.00
 9 ENDTBL
 3 STRUCT       1                                                    57ACRES
 8                            900.0         0.0        0.00              TRIB
 8                            901.0         3.6        3.55                TO
 8                            902.0         7.2        7.10            24INCH
 8                            903.0        10.7       10.65          ST.SEWER
 8                            904.0        14.3       14.20           OFFSITE
 8                            905.0        59.9       17.75             SOUTH
 9 ENDTBL
 3 STRUCT       2                                                    ENCOAT
 8                            888.0         0.0        0.00             BASIN
 8                            889.0         0.6        1.17               FOR
 8                            890.0         1.3        2.35           17ACRES
 8                            891.0         1.9        3.52           OFFSITE
 8                            892.0         2.6        4.70             SOUTH
 8                            893.0        17.9        6.05
 8                            894.0        45.8        7.40
 9 ENDTBL
 3 STRUCT       3                                                    66ACRES
 8                            886.0         0.0        0.00              TRIB
 8                            887.0        0.01        6.25                TO
 8                            887.6        0.01       11.45           WETLAND
 8                            888.0       156.0       14.45           OFFSITE
```

**********80-80 LIST OF INPUT DATA (CONTINUED)**********

```
9 ENDTBL
3 STRUCT        4                                                       SOUTH
8                              876.0        0.00        0.00            BASIN
8                              877.0         2.2        1.08
8                              878.0         3.4        2.26
8                              879.0         4.3        3.54
8                              880.0         5.0        4.92
8                              881.0         5.7        6.40
8                              882.0         6.3        8.14
8                              882.5        14.9        9.19
8                              883.0        45.5       10.41
8                              883.5       149.5       11.83
9 ENDTBL
3 STRUCT        5                                                       BASIN
8                              900.0         0.0        0.00              FOR
8                              901.0        12.8       12.81              205
8                              902.0        25.6       25.63            ACRES
8                              903.0        38.4       38.44          OFFSITE
8                              904.0        51.3       51.25            NORTH
8                              905.0       136.0       64.06
9 ENDTBL
3 STRUCT        6                                                       BASIN
8                              890.0         0.0        0.00               AT
8                              891.0         7.9        0.06               RR
8                              892.0        22.0        0.24          CULVERT
8                              893.0        34.4        0.59          OFFSITE
8                              894.0        49.0        1.16            NORTH
8                              895.0        63.0        1.95
8                              896.0       200.0        2.96
9 ENDTBL
3 STRUCT        7                                                       NORTH
8                              873.0         0.0        0.00            BASIN
8                              874.0         4.4        1.74
8                              875.0        11.6        3.64
8                              876.0        13.6        5.68
8                              877.0        15.8        7.86
8                              878.0        17.7       10.20
8                              879.0       139.5       12.70
9 ENDTBL
3 STRUCT        8                                                    RESIDENT
8                              884.0         0.0        0.00
8                              885.0        0.01        2.80
8                              885.1       200.0        3.30
9 ENDTBL
6 RUNOFF 1   1       1       0.0797          75        1.01     1    OFFCENTR
6 RUNOFF 1     1     2       0.0891          88        1.11     1    OFFSOUTH
```

**********80-80 LIST OF INPUT DATA (CONTINUED)**********

```
 6 RESVOR 2      1 2   3        900.0                        1     1       24INCH
 6 RUNOFF 1      2     4       0.0266          88         0.21     1     OFFSOUTH
 6 RESVOR 2      2 4   2        888.0                        1     1       ENCOAT
 6 ADDHYD 4      3 2 3 4                                     1     1     OFFSOUTH
 6 RUNOFF 1      3     2       0.1031          75         0.51     1     OFFSOUTH
 6 ADDHYD 4      3 2 4 3                                     1     1     OFFSOUTH
 6 RESVOR 2      3 3   2        886.0                        1     1      WETLAND
 6 RESVOR 2      8 2   5        884.0                        1     1      YARDSTO
 6 RUNOFF 1      4     6       0.0438          81         0.31     1        SOUTH
 6 ADDHYD 4      4 1 6 7                                     1     1     OFFANDON
 6 RESVOR 2      4 7   6        876.0                        1     1      S.BASIN
 6 RUNOFF 1      5     1       0.3203          88         2.31     1     OFFNORTH
 6 RESVOR 2      5 1   2        900.0                        1     1     205ACRES
 6 RUNOFF 1      6     3       0.2141          75         1.51     1     137ACRES
 6 ADDHYD 4      6 2 3 1                                     1     1     OFFNORTH
 6 RESVOR 2      6 1   2        890.0                        1     1     RRCULVRT
 6 ADDHYD 4      7 2 6 7                                     1     1     OFFANDS0
 6 RUNOFF 1      7     6       0.0558          87         0.31     1        NORTH
 6 ADDHYD 4      7 6 7 4                                     1     1      N.AND.S
 6 RUNOFF 1      7     6       0.0039          96         0.21     1       OUTLOT
 6 ADDHYD 4      7 4 6 7                                     1     1
 6 RESVOR 2      7 7   6        873.0                        1     1      N.BASIN
   ENDATA
 7 INCREM 6                      0.05
 7 COMPUT 7   1        7         0.0        1.21        0.251 2            15MIN
   ENDCMP 1
 7 COMPUT 7   1        7         0.0        1.65         .501 2            30MIN
   ENDCMP 1
 7 INCREM 6                      0.1
 7 COMPUT 7   1        7         0.0        2.10        1.001 2              1HR
   ENDCMP 1
 7 COMPUT 7   1        7         0.0        2.64        2.001 2              2HR
   ENDCMP 1
 7 COMPUT 7   1        7         0.0        2.86        3.001 2              3HR
   ENDCMP 1
 7 INCREM 6                      0.2
 7 COMPUT 7   1        7         0.0        3.35        6.001 2              6HR
   ENDCMP 1
 7 COMPUT 7   1        7         0.0        3.89       12.002 2             12HR
   ENDCMP 1
 7 INCREM 6                      0.3
 7 COMPUT 7   1        7         0.0        4.11       18.003 2             18HR
   ENDCMP 1
 7 COMPUT 7   1        7         0.0        4.47       24.003 2             24HR
   ENDCMP 1
   ENDJOB 2
```

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
XSECTION 1	RUNOFF	.08	1	2	.05	.0	1.21	.25	.08	---	.81	4.36	54.6
STRUCTURE 1	RUNOFF	.09	1	2	.05	.0	1.21	.25	.38	---	.84	22.16	248.8
STRUCTURE 1	RESVOR	.09	1	2	.05	.0	1.21	.25	.26	900.45	2.20*	1.61*	18.1
STRUCTURE 2	RUNOFF	.03	1	2	.05	.0	1.21	.25	.38	---	.23	25.07	942.6
STRUCTURE 2	RESVOR	.03	1	2	.05	.0	1.21	.25	.18	888.45	.70?	.27?	10.2
STRUCTURE 3	ADDHYD	.12	1	2	.05	.0	1.21	.25	.24	887.60	2.15*	1.87*	16.2
STRUCTURE 3	RUNOFF	.10	1	2	.05	.0	1.21	.25	.08	---	.49	10.83	105.1
STRUCTURE 3	ADDHYD	.22	1	2	.05	.0	1.21	.25	.16	887.63	.49	11.24	51.4
STRUCTURE 3	RESVOR	.22	1	2	.05	.0	1.21	.25	.00	---	.00	.00	.0
STRUCTURE 8	RESVOR	.22	1	2	.05	.0	1.21	.25	.00	---	.00	.00	.0
STRUCTURE 4	RUNOFF	.04	1	2	.05	.0	1.21	.25	.18	---	.34	15.84	361.7
STRUCTURE 4	ADDHYD	.12	1	2	.05	.0	1.21	.25	.11	882.53	.34	16.69	135.1
STRUCTURE 4	RESVOR	.12	1	2	.05	.0	1.21	.25	.10	876.56	1.50*	1.22*	9.9
STRUCTURE 5	RUNOFF	.32	1	2	.05	.0	1.21	.25	.48	---	1.63	38.42	119.9
STRUCTURE 5	RESVOR	.32	1	2	.05	.0	1.21	.25	.30	900.43	7.89	5.47	17.1
STRUCTURE 6	RUNOFF	.21	1	2	.05	.0	1.21	.25	.08	---	1.15	7.85	36.6
STRUCTURE 6	ADDHYD	.53	1	2	.05	.0	1.21	.25	.21	891.07	1.24	8.93	16.7
STRUCTURE 6	RESVOR	.53	1	2	.05	.0	1.21	.25	.21	891.06	1.39	8.72	16.3
STRUCTURE 7	ADDHYD	.66	1	2	.05	.0	1.21	.25	.19	874.77	1.39	9.93	15.1
STRUCTURE 7	RUNOFF	.06	1	2	.05	.0	1.21	.25	.35	---	.31	38.44	688.8
STRUCTURE 7	ADDHYD	.71	1	2	.05	.0	1.21	.25	.20	878.18	.32	39.07	54.7
STRUCTURE 7	RUNOFF	.00	1	2	.05	.0	1.21	.25	.82	---	.20	8.29	2125.2
STRUCTURE 7	ADDHYD	.72	1	2	.05	.0	1.21	.25	.20	878.22	.30	44.44	61.9
STRUCTURE 7	RESVOR	.72	1	2	.05	.0	1.21	.25	.16	874.20	8.15*	5.82*	8.1
XSECTION 1	RUNOFF	.08	1	2	.05	.0	1.65	.50	.22	---	.93	12.18	152.9
STRUCTURE 1	RUNOFF	.09	1	2	.05	.0	1.65	.50	.69	---	.94	38.31	430.0
STRUCTURE 1	RESVOR	.09	1	2	.05	.0	1.65	.50	.47	900.81	2.30*	2.92*	32.8
STRUCTURE 2	RUNOFF	.03	1	2	.05	.0	1.65	.50	.69	---	.27	32.44	1219.4
STRUCTURE 2	RESVOR	.03	1	2	.05	.0	1.65	.50	.32	888.82	.85?	.49?	18.4
STRUCTURE 3	ADDHYD	.12	1	2	.05	.0	1.65	.50	.44	887.61	2.25*	3.38*	29.2
STRUCTURE 3	RUNOFF	.10	1	2	.05	.0	1.65	.50	.22	---	.61	26.30	255.1
STRUCTURE 3	ADDHYD	.22	1	2	.05	.0	1.65	.50	.34	887.67	.61	27.13	124.0

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 3	RESVOR	.22	1	2	.05	.0	1.65	.50	.00	886.63	14.95?	.01?	.0
STRUCTURE 8	RESVOR	.22	1	2	.05	.0	1.65	.50	.00	---	.00?	.00?	.0
STRUCTURE 4	RUNOFF	.04	1	2	.05	.0	1.65	.50	.40	---	.39	24.41	557.4
STRUCTURE 4	ADDHYD	.12	1	2	.05	.0	1.65	.50	.28	882.69	.42	26.58	215.2
STRUCTURE 4	RESVOR	.12	1	2	.05	.0	1.65	.50	.26	877.39	1.75*	2.66*	21.6
STRUCTURE 5	RUNOFF	.32	1	2	.05	.0	1.65	.50	.69	---	1.73	69.13	215.8
STRUCTURE 5	RESVOR	.32	1	2	.05	.0	1.65	.50	.45	900.74	3.95*	9.45*	29.5
STRUCTURE 6	RUNOFF	.21	1	2	.05	.0	1.65	.50	.22	---	1.26	22.63	105.7
STRUCTURE 6	ADDHYD	.53	1	2	.05	.0	1.65	.50	.36	892.21	1.31	24.63	46.1
STRUCTURE 6	RESVOR	.53	1	2	.05	.0	1.65	.50	.36	892.10	1.54	23.19	43.4
STRUCTURE 7	ADDHYD	.66	1	2	.05	.0	1.65	.50	.34	878.07	1.54	25.84	39.3
STRUCTURE 7	RUNOFF	.06	1	2	.05	.0	1.65	.50	.64	---	.35	52.16	934.7
STRUCTURE 7	ADDHYD	.71	1	2	.05	.0	1.65	.50	.36	878.29	.36	53.43	74.9
STRUCTURE 7	RUNOFF	.00	1	2	.05	.0	1.65	.50	1.23	---	.23	9.07	2325.8
STRUCTURE 7	ADDHYD	.72	1	2	.05	.0	1.65	.50	.37	878.34	.35	59.53	83.0
STRUCTURE 7	RESVOR	.72	1	2	.05	.0	1.65	.50	.31	875.19	4.30*	11.98*	16.7
XSECTION 1	RUNOFF	.08	1	2	.10	.0	2.10	1.00	.43	---	1.16	19.24	241.4
STRUCTURE 1	RUNOFF	.09	1	2	.10	.0	2.10	1.00	1.05	---	1.11	48.94	549.2
STRUCTURE 1	RESVOR	.09	1	2	.10	.0	2.10	1.00	.95	901.22	2.54	4.39	49.3
STRUCTURE 2	RUNOFF	.03	1	2	.10	.0	2.10	1.00	1.04	---	.34	32.07	1205.8
STRUCTURE 2	RESVOR	.03	1	2	.10	.0	2.10	1.00	.74	889.22	1.30?	.75?	28.4
STRUCTURE 3	ADDHYD	.12	1	2	.10	.0	2.10	1.00	.90	887.61	2.50	5.10	44.1
STRUCTURE 3	RUNOFF	.10	1	2	.10	.0	2.10	1.00	.43	---	.71	33.65	326.4
STRUCTURE 3	ADDHYD	.22	1	2	.10	.0	2.10	1.00	.68	887.69	.72	34.79	159.0
STRUCTURE 3	RESVOR	.22	1	2	.10	.0	2.10	1.00	.00	887.00	14.00?	.01?	.0
STRUCTURE 8	RESVOR	.22	1	2	.10	.0	2.10	1.00	.00	---	.00?	.00?	.0
STRUCTURE 4	RUNOFF	.04	1	2	.10	.0	2.10	1.00	.67	---	.49	27.72	632.8
STRUCTURE 4	ADDHYD	.12	1	2	.10	.0	2.10	1.00	.52	882.78	.56	31.82	257.7
STRUCTURE 4	RESVOR	.12	1	2	.10	.0	2.10	1.00	.51	878.45	2.13	3.80	30.8
STRUCTURE 5	RUNOFF	.32	1	2	.10	.0	2.10	1.00	1.05	---	1.92	100.10	312.5
STRUCTURE 5	RESVOR	.32	1	2	.10	.0	2.10	1.00	.94	901.11	4.17	14.25	44.5
STRUCTURE 6	RUNOFF	.21	1	2	.10	.0	2.10	1.00	.43	---	1.51	39.70	185.4
STRUCTURE 6	ADDHYD	.53	1	2	.10	.0	2.10	1.00	.74	893.62	1.56	43.44	81.3
STRUCTURE 6	RESVOR	.53	1	2	.10	.0	2.10	1.00	.73	893.27	1.88	38.35	71.8
STRUCTURE 7	ADDHYD	.66	1	2	.10	.0	2.10	1.00	.69	878.20	1.88	42.13	64.0
STRUCTURE 7	RUNOFF	.06	1	2	.10	.0	2.10	1.00	.98	---	.44	55.24	990.0

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 7	ADDHYD	.71	1	2	.10	.0	2.10	1.00	.72	878.33	.45	57.33	80.3
STRUCTURE 7	RUNOFF	.00	1	2	.10	.0	2.10	1.00	1.66	---	.29	8.13	2085.9
STRUCTURE 7	ADDHYD	.72	1	2	.10	.0	2.10	1.00	.72	878.37	.44	63.32	88.2
STRUCTURE 7	RESVOR	.72	1	2	.10	.0	2.10	1.00	.69	877.01	6.40*	15.82*	22.0
XSECTION 1	RUNOFF	.08	1	2	.10	.0	2.64	2.00	.73	---	1.32	22.60	283.5
STRUCTURE 1	RUNOFF	.09	1	2	.10	.0	2.64	2.00	1.50	---	1.23	52.47	588.8
STRUCTURE 1	RESVOR	.09	1	2	.10	.0	2.64	2.00	1.36	901.71	3.14	6.16	69.1
STRUCTURE 2	RUNOFF	.03	1	2	.10	.0	2.64	2.00	1.50	---	.48	26.33	989.9
STRUCTURE 2	RESVOR	.03	1	2	.10	.0	2.64	2.00	1.07	889.70	2.30?	1.09?	41.0
STRUCTURE 3	ADDHYD	.12	1	2	.10	.0	2.64	2.00	1.29	887.62	3.10	7.21	62.3
STRUCTURE 3	RUNOFF	.10	1	2	.10	.0	2.64	2.00	.73	---	.90	37.31	361.9
STRUCTURE 3	ADDHYD	.22	1	2	.10	.0	2.64	2.00	1.03	887.70	.93	39.02	178.3
STRUCTURE 3	RESVOR	.22	1	2	.10	.0	2.64	2.00	.05	887.60	25.40?	1.36?	6.2
STRUCTURE 8	RESVOR	.22	1	2	.10	.0	2.64	2.00	.00	---	.00?	.00?	.0
STRUCTURE 4	RUNOFF	.04	1	2	.10	.0	2.64	2.00	1.04	---	.64	26.99	616.2
STRUCTURE 4	ADDHYD	.12	1	2	.10	.0	2.64	2.00	.84	882.88	1.03	37.98	307.6
STRUCTURE 4	RESVOR	.12	1	2	.10	.0	2.64	2.00	.83	879.80	2.90	4.86	39.3
STRUCTURE 5	RUNOFF	.32	1	2	.10	.0	2.64	2.00	1.50	---	2.25	122.87	383.6
STRUCTURE 5	RESVOR	.32	1	2	.10	.0	2.64	2.00	1.34	901.58	4.62	20.24	63.2
STRUCTURE 6	RUNOFF	.21	1	2	.10	.0	2.64	2.00	.73	---	1.78	50.47	235.7
STRUCTURE 6	ADDHYD	.53	1	2	.10	.0	2.64	2.00	1.10	894.53	1.92	56.47	105.7
STRUCTURE 6	RESVOR	.53	1	2	.10	.0	2.64	2.00	1.10	894.18	2.48	51.50	96.4
STRUCTURE 7	ADDHYD	.66	1	2	.10	.0	2.64	2.00	1.05	878.32	2.49	56.30	85.6
STRUCTURE 7	RUNOFF	.06	1	2	.10	.0	2.64	2.00	1.43	---	.59	49.32	883.8
STRUCTURE 7	ADDHYD	.71	1	2	.10	.0	2.64	2.00	1.08	878.39	2.08	65.14	91.3
STRUCTURE 7	RUNOFF	.00	1	2	.10	.0	2.64	2.00	2.19	---	.33	7.01	1797.3
STRUCTURE 7	ADDHYD	.72	1	2	.10	.0	2.64	2.00	1.08	878.40	2.07	66.00	92.0
STRUCTURE 7	RESVOR	.72	1	2	.10	.0	2.64	2.00	1.03	878.20	3.53	42.61	59.4
XSECTION 1	RUNOFF	.08	1	2	.10	.0	2.86	3.00	.87	---	1.55	21.19	265.9
STRUCTURE 1	RUNOFF	.09	1	2	.10	.0	2.86	3.00	1.69	---	1.38	47.97	538.4
STRUCTURE 1	RESVOR	.09	1	2	.10	.0	2.86	3.00	1.53	901.86	3.91	6.71	75.3
STRUCTURE 2	RUNOFF	.03	1	2	.10	.0	2.86	3.00	1.69	---	.52	20.36	765.5
STRUCTURE 2	RESVOR	.03	1	2	.10	.0	2.86	3.00	1.20	889.87	3.20?	1.21?	45.4
STRUCTURE 3	ADDHYD	.12	1	2	.10	.0	2.86	3.00	1.45	887.62	3.86	7.88	68.1
STRUCTURE 3	RUNOFF	.10	1	2	.10	.0	2.86	3.00	.87	---	1.07	33.04	320.4
STRUCTURE 3	ADDHYD	.22	1	2	.10	.0	2.86	3.00	1.18	887.69	1.11	34.96	159.8

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 3	RESVOR	.22	1	2	.10	.0	2.86	3.00	.20	887.61	16.87	2.97	13.6
STRUCTURE 8	RESVOR	.22	1	2	.10	.0	2.86	3.00	.00	884.81	29.90?	.01?	.0
STRUCTURE 4	RUNOFF	.04	1	2	.10	.0	2.86	3.00	1.21	---	.82	22.38	510.9
STRUCTURE 4	ADDHYD	.12	1	2	.10	.0	2.86	3.00	.99	882.84	1.38	35.46	287.1
STRUCTURE 4	RESVOR	.12	1	2	.10	.0	2.86	3.00	.97	880.26	3.73	5.18	41.9
STRUCTURE 5	RUNOFF	.32	1	2	.10	.0	2.86	3.00	1.69	---	2.40	118.78	370.8
STRUCTURE 5	RESVOR	.32	1	2	.10	.0	2.86	3.00	1.51	901.75	5.21	22.43	70.0
STRUCTURE 6	RUNOFF	.21	1	2	.10	.0	2.86	3.00	.87	---	1.96	48.61	227.1
STRUCTURE 6	ADDHYD	.53	1	2	.10	.0	2.86	3.00	1.25	894.43	2.10	54.98	102.9
STRUCTURE 6	RESVOR	.53	1	2	.10	.0	2.86	3.00	1.25	894.13	2.87	50.88	95.2
STRUCTURE 7	ADDHYD	.66	1	2	.10	.0	2.86	3.00	1.20	878.31	2.94	55.85	84.9
STRUCTURE 7	RUNOFF	.06	1	2	.10	.0	2.86	3.00	1.62	---	.75	39.58	709.3
STRUCTURE 7	ADDHYD	.71	1	2	.10	.0	2.86	3.00	1.23	878.40	2.57	66.93	93.8
STRUCTURE 7	RUNOFF	.00	1	2	.10	.0	2.86	3.00	2.41	---	.39	5.72	1467.6
STRUCTURE 7	ADDHYD	.72	1	2	.10	.0	2.86	3.00	1.24	878.41	2.57	67.87	94.6
STRUCTURE 7	RESVOR	.72	1	2	.10	.0	2.86	3.00	1.18	878.29	3.71	53.16	74.1
XSECTION 1	RUNOFF	.08	1	2	.20	.0	3.35	6.00	1.20	---	2.06	18.04	226.3
STRUCTURE 1	RUNOFF	.09	1	2	.20	.0	3.35	6.00	2.13	---	1.78	38.58	433.0
STRUCTURE 1	RESVOR	.09	1	2	.20	.0	3.35	6.00	2.11	902.06	6.39	7.39	83.0
STRUCTURE 2	RUNOFF	.03	1	2	.20	.0	3.35	6.00	2.13	---	.67	15.88	596.9
STRUCTURE 2	RESVOR	.03	1	2	.20	.0	3.35	6.00	1.95	890.15	6.19	1.39	52.3
STRUCTURE 3	ADDHYD	.12	1	2	.20	.0	3.35	6.00	2.07	887.62	6.29	8.78	75.9
STRUCTURE 3	RUNOFF	.10	1	2	.20	.0	3.35	6.00	1.19	---	1.64	26.12	253.4
STRUCTURE 3	ADDHYD	.22	1	2	.20	.0	3.35	6.00	1.66	887.67	1.70	29.08	132.9
STRUCTURE 3	RESVOR	.22	1	2	.20	.0	3.35	6.00	.68	887.62	10.20	6.85	31.3
STRUCTURE 8	RESVOR	.22	1	2	.20	.0	3.35	6.00	.44	885.00	15.43	6.86	31.4
STRUCTURE 4	RUNOFF	.04	1	2	.20	.0	3.35	6.00	1.58	---	1.41	15.37	350.8
STRUCTURE 4	ADDHYD	.12	1	2	.20	.0	3.35	6.00	1.33	882.76	1.68	30.88	250.1
STRUCTURE 4	RESVOR	.12	1	2	.20	.0	3.35	6.00	1.33	881.04	6.41	5.72	46.3
STRUCTURE 5	RUNOFF	.32	1	2	.20	.0	3.35	6.00	2.13	---	2.80	107.88	336.8
STRUCTURE 5	RESVOR	.32	1	2	.20	.0	3.35	6.00	2.11	902.01	7.26	25.78	80.5
STRUCTURE 6	RUNOFF	.21	1	2	.20	.0	3.35	6.00	1.20	---	2.49	43.54	203.4
STRUCTURE 6	ADDHYD	.53	1	2	.20	.0	3.35	6.00	1.74	894.27	2.94	52.75	98.7
STRUCTURE 6	RESVOR	.53	1	2	.20	.0	3.35	6.00	1.74	894.12	3.53	50.62	94.7
STRUCTURE 7	ADDHYD	.66	1	2	.20	.0	3.35	6.00	1.67	878.31	3.57	55.68	84.6
STRUCTURE 7	RUNOFF	.06	1	2	.20	.0	3.35	6.00	2.04	---	.85	28.40	509.0

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 7	ADDHYD	.71	1	2	.20	.0	3.35	6.00	1.70	878.39	2.88	65.52	91.8
STRUCTURE 7	RUNOFF	.00	1	2	.20	.0	3.35	6.00	2.89	---	.60	4.05	1037.6
STRUCTURE 7	ADDHYD	.72	1	2	.20	.0	3.35	6.00	1.70	878.40	2.87	66.49	92.7
STRUCTURE 7	RESVOR	.72	1	2	.20	.0	3.35	6.00	1.69	878.35	4.36	60.67	84.5
XSECTION 1	RUNOFF	.08	2	2	.20	.0	3.89	12.00	1.58	---	5.78	17.86	224.1
STRUCTURE 1	RUNOFF	.09	2	2	.20	.0	3.89	12.00	2.62	---	5.62	32.38	363.4
STRUCTURE 1	RESVOR	.09	2	2	.20	.0	3.89	12.00	2.59	902.27	9.95	8.14	91.4
STRUCTURE 2	RUNOFF	.03	2	2	.20	.0	3.89	12.00	2.62	---	4.80	10.49	394.3
STRUCTURE 2	RESVOR	.03	2	2	.20	.0	3.89	12.00	2.37	890.42	11.00	1.55	58.4
STRUCTURE 3	ADDHYD	.12	2	2	.20	.0	3.89	12.00	2.54	887.62	10.05	9.68	83.7
STRUCTURE 3	RUNOFF	.10	2	2	.20	.0	3.89	12.00	1.58	---	5.49	24.78	240.4
STRUCTURE 3	ADDHYD	.22	2	2	.20	.0	3.89	12.00	2.09	887.68	5.55	29.69	135.7
STRUCTURE 3	RESVOR	.22	2	2	.20	.0	3.89	12.00	1.11	887.64	11.04	15.24	69.7
STRUCTURE 8	RESVOR	.22	2	2	.20	.0	3.89	12.00	.87	885.01	13.05	12.82	58.6
STRUCTURE 4	RUNOFF	.04	2	2	.20	.0	3.89	12.00	2.03	---	5.34	13.69	312.5
STRUCTURE 4	ADDHYD	.12	2	2	.20	.0	3.89	12.00	1.74	882.75	5.46	30.44	246.5
STRUCTURE 4	RESVOR	.12	2	2	.20	.0	3.89	12.00	1.74	881.76	11.20	6.15	49.8
STRUCTURE 5	RUNOFF	.32	2	2	.20	.0	3.89	12.00	2.63	---	6.52	99.45	310.5
STRUCTURE 5	RESVOR	.32	2	2	.20	.0	3.89	12.00	2.59	902.24	11.37	28.72	89.7
STRUCTURE 6	RUNOFF	.21	2	2	.20	.0	3.89	12.00	1.58	---	6.18	44.70	208.8
STRUCTURE 6	ADDHYD	.53	2	2	.20	.0	3.89	12.00	2.19	894.61	6.56	57.58	107.7
STRUCTURE 6	RESVOR	.53	2	2	.20	.0	3.89	12.00	2.19	894.45	7.44	55.32	103.5
STRUCTURE 7	ADDHYD	.66	2	2	.20	.0	3.89	12.00	2.10	878.35	7.53	60.92	92.6
STRUCTURE 7	RUNOFF	.06	2	2	.20	.0	3.89	12.00	2.53	---	5.32	21.03	376.9
STRUCTURE 7	ADDHYD	.71	2	2	.20	.0	3.89	12.00	2.14	878.44	7.17	70.91	99.4
STRUCTURE 7	RUNOFF	.00	2	2	.20	.0	3.89	12.00	3.43	---	4.80	1.89	483.5
STRUCTURE 7	ADDHYD	.72	2	2	.20	.0	3.89	12.00	2.14	878.44	7.17	71.72	99.9
STRUCTURE 7	RESVOR	.72	2	2	.20	.0	3.89	12.00	2.13	878.43	7.65	70.15	97.8
XSECTION 1	RUNOFF	.08	3	2	.30	.0	4.11	18.00	1.75	---	11.98	17.35	217.7
STRUCTURE 1	RUNOFF	.09	3	2	.30	.0	4.11	18.00	2.83	---	11.93	27.88	312.9
STRUCTURE 1	RESVOR	.09	3	2	.30	.0	4.11	18.00	2.82	902.31	15.40	8.29	93.1
STRUCTURE 2	RUNOFF	.03	3	2	.30	.0	4.11	18.00	2.82	---	11.56	9.18	345.1
STRUCTURE 2	RESVOR	.03	3	2	.30	.0	4.11	18.00	2.73	890.53	18.02	1.62	60.8
STRUCTURE 3	ADDHYD	.12	3	2	.30	.0	4.11	18.00	2.80	887.63	15.57	9.88	85.4
STRUCTURE 3	RUNOFF	.10	3	2	.30	.0	4.11	18.00	1.75	---	11.67	23.80	230.9
STRUCTURE 3	ADDHYD	.22	3	2	.30	.0	4.11	18.00	2.31	887.68	11.73	30.03	137.3

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 3	RESVOR	.22	3	2	.30	.0	4.11	18.00	1.33	887.64	16.14	16.55	75.6
STRUCTURE 8	RESVOR	.22	3	2	.30	.0	4.11	18.00	1.09	885.01	17.74	19.73	90.2
STRUCTURE 4	RUNOFF	.04	3	2	.30	.0	4.11	18.00	2.21	---	11.59	12.63	288.3
STRUCTURE 4	ADDHYD	.12	3	2	.30	.0	4.11	18.00	1.91	882.73	11.69	29.11	235.7
STRUCTURE 4	RESVOR	.12	3	2	.30	.0	4.11	18.00	1.91	882.01	18.28	6.39	51.7
STRUCTURE 5	RUNOFF	.32	3	2	.30	.0	4.11	18.00	2.83	---	12.68	87.69	273.8
STRUCTURE 5	RESVOR	.32	3	2	.30	.0	4.11	18.00	2.82	902.29	16.90	29.26	91.4
STRUCTURE 6	RUNOFF	.21	3	2	.30	.0	4.11	18.00	1.75	---	12.32	43.44	202.9
STRUCTURE 6	ADDHYD	.53	3	2	.30	.0	4.11	18.00	2.39	894.85	12.69	60.88	113.9
STRUCTURE 6	RESVOR	.53	3	2	.30	.0	4.11	18.00	2.39	894.67	13.40	58.39	109.3
STRUCTURE 7	ADDHYD	.66	3	2	.30	.0	4.11	18.00	2.30	878.38	13.44	64.24	97.6
STRUCTURE 7	RUNOFF	.06	3	2	.30	.0	4.11	18.00	2.73	---	11.57	18.64	334.1
STRUCTURE 7	ADDHYD	.71	3	2	.30	.0	4.11	18.00	2.34	878.46	12.67	73.88	103.5
STRUCTURE 7	RUNOFF	.00	3	2	.30	.0	4.11	18.00	3.63	---	11.55	1.52	388.7
STRUCTURE 7	ADDHYD	.72	3	2	.30	.0	4.11	18.00	2.34	878.47	12.66	74.86	104.3
STRUCTURE 7	RESVOR	.72	3	2	.30	.0	4.11	18.00	2.34	878.46	13.40	73.65	102.6
XSECTION 1	RUNOFF	.08	3	2	.30	.0	4.47	24.00	2.03	---	15.79	15.44	193.7
STRUCTURE 1	RUNOFF	.09	3	2	.30	.0	4.47	24.00	3.16	---	15.72	23.76	266.7
STRUCTURE 1	RESVOR	.09	3	2	.30	.0	4.47	24.00	3.16	902.35	19.39	8.42	94.5
STRUCTURE 2	RUNOFF	.03	3	2	.30	.0	4.47	24.00	3.16	---	15.46	7.64	287.2
STRUCTURE 2	RESVOR	.03	3	2	.30	.0	4.47	24.00	3.04	890.59	21.60	1.66	62.3
STRUCTURE 3	ADDHYD	.12	3	2	.30	.0	4.47	24.00	3.13	887.63	19.47	10.06	87.0
STRUCTURE 3	RUNOFF	.10	3	2	.30	.0	4.47	24.00	2.02	---	15.53	20.86	202.3
STRUCTURE 3	ADDHYD	.22	3	2	.30	.0	4.47	24.00	2.61	887.67	15.59	27.89	127.5
STRUCTURE 3	RESVOR	.22	3	2	.30	.0	4.47	24.00	1.63	887.65	18.63	18.37	84.0
STRUCTURE 8	RESVOR	.22	3	2	.30	.0	4.47	24.00	1.39	885.01	20.42	17.02	77.8
STRUCTURE 4	RUNOFF	.04	3	2	.30	.0	4.47	24.00	2.51	---	15.47	10.75	245.4
STRUCTURE 4	ADDHYD	.12	3	2	.30	.0	4.47	24.00	2.20	882.68	15.54	25.80	208.9
STRUCTURE 4	RESVOR	.12	3	2	.30	.0	4.47	24.00	2.20	882.07	20.16	7.47	60.5
STRUCTURE 5	RUNOFF	.32	3	2	.30	.0	4.47	24.00	3.17	---	16.38	77.54	242.1
STRUCTURE 5	RESVOR	.32	3	2	.30	.0	4.47	24.00	3.16	902.32	20.61	29.71	92.8
STRUCTURE 6	RUNOFF	.21	3	2	.30	.0	4.47	24.00	2.03	---	16.06	39.43	184.2
STRUCTURE 6	ADDHYD	.53	3	2	.30	.0	4.47	24.00	2.70	894.68	16.32	58.58	109.6
STRUCTURE 6	RESVOR	.53	3	2	.30	.0	4.47	24.00	2.70	894.55	17.29	56.77	106.2
STRUCTURE 7	ADDHYD	.66	3	2	.30	.0	4.47	24.00	2.61	878.37	17.35	62.74	95.4
STRUCTURE 7	RUNOFF	.06	3	2	.30	.0	4.47	24.00	3.06	---	15.46	15.59	279.5

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 7	ADDHYD	.71	3	2	.30	.0	4.47	24.00	2.64	878.45	16.76	72.84	102.1
STRUCTURE 7	RUNOFF	.00	3	2	.30	.0	4.47	24.00	4.00	---	15.60	1.20	307.5
STRUCTURE 7	ADDHYD	.72	3	2	.30	.0	4.47	24.00	2.65	878.46	16.75	73.68	102.7
STRUCTURE 7	RESVOR	.72	3	2	.30	.0	4.47	24.00	2.65	878.45	16.95	72.70	101.3

SUMMARY TABLE 3 - DISCHARGE (CFS) AT XSECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 0
STRUCTURE 8	.22	
ALTERNATE 0		17.02
STRUCTURE 7	.72	
ALTERNATE 0		72.70
STRUCTURE 6	.53	
ALTERNATE 0		56.77
STRUCTURE 5	.32	
ALTERNATE 0		29.71
STRUCTURE 4	.12	
ALTERNATE 0		7.47
STRUCTURE 3	.22	
ALTERNATE 0		18.37
STRUCTURE 2	.03	
ALTERNATE 0		1.66
STRUCTURE 1	.09	
ALTERNATE 0		8.42
XSECTION 1	.08	
ALTERNATE 0		15.44

100 YEAR - EXISTING CONDITIONS

```
*****************************************************************************
*                                   * TR 20 S/N     :                       *
*                                   * HMVersion     :  3.40                 *
*              TR 20                * Date          :  6/20/**              *
*                                   * Time          : 10:09:44              *
*    Project Formulation Hydrology  * Input file    : smmityds.t20          *
*                                   * Output file   : smmityds.out          *
*                                   *                                       *
*                                   *                                       *
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xxxxxxx  xxxxxx    xxxxx    xxxxx
   x     x     x  x     x  x    xx
   x     x     x       x   x   x x
   x     xxxxxx      x     x  x  x
   x     x   x     x       x x   x
   x     x    x   x        xx    x
   x     x     x  xxxxxxx   xxxxx
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::::::::::::::::::::::::::::::::::::::::::
:::                                    :::
:::  Full Microcomputer Implementation :::
:::                 by                 :::
:::        Haestad Methods, Inc.       :::
:::                                    :::
::::::::::::::::::::::::::::::::::::::::::
::::::::::::::::::::::::::::::::::::::::::
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37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

```
******************80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY******************

JOB TR-20                                          SUMMARY   NOPLOTS
TITLE     SUMMIT ENCLAVE, DEKALB  OFFSITE AND ONSITE            09/11/02
TITLE     BULLET.70 N.E.ILL. 100 YR: 15,30MIN,1,2,3,6,12,18,24 HR STORMS
 5 RAINFL 1                    0.05                                   HUFFS1ST
 8                 0.00        0.16        0.33        0.43        0.52
 8                 0.60        0.66        0.71        0.75        0.79
 8                 0.82        0.84        0.86        0.88        0.90
 8                 0.92        0.94        0.96        0.97        0.98
 8                 1.00        1.00        1.00        1.00        1.00
 9 ENDTBL
 5 RAINFL 2                    0.05                                   HUFFS2ND
 8                 0.00        0.03        0.08        0.12        0.16
 8                 0.22        0.29        0.39        0.51        0.62
 8                 0.70        0.76        0.81        0.85        0.88
 8                 0.91        0.93        0.95        0.97        0.98
 8                 1.00        1.00        1.00        1.00        1.00
 9 ENDTBL
 5 RAINFL 3                    0.05                                   HUFFS3RD
 8                 0.00        0.03        0.06        0.09        0.12
 8                 0.15        0.19        0.23        0.27        0.32
 8                 0.38        0.45        0.57        0.70        0.79
 8                 0.85        0.89        0.92        0.95        0.97
 8                 1.00        1.00        1.00        1.00        1.00
 9 ENDTBL
 3 STRUCT       1                                                    57ACRES
 8                            900.0         0.0        0.00              TRIB
 8                            901.0         3.6        3.55                TO
 8                            902.0         7.2        7.10            24INCH
 8                            903.0        10.7       10.65          ST.SEWER
 8                            904.0        14.3       14.20           OFFSITE
 8                            905.0        59.9       17.75             SOUTH
 9 ENDTBL
 3 STRUCT       2                                                    ENCOAT
 8                            888.0         0.0        0.00             BASIN
 8                            889.0         0.6        1.17               FOR
 8                            890.0         1.3        2.35           17ACRES
 8                            891.0         1.9        3.52           OFFSITE
 8                            892.0         2.6        4.70             SOUTH
 8                            893.0        17.9        6.05
 8                            894.0        45.8        7.40
 9 ENDTBL
 3 STRUCT       3                                                    66ACRES
 8                            886.0         0.0        0.00              TRIB
 8                            887.0        0.01        6.25                TO
 8                            887.6        0.01       11.45           WETLAND
 8                            888.0       156.0       14.45           OFFSITE
```

**********80-80 LIST OF INPUT DATA (CONTINUED)**********

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9 ENDTBL
3 STRUCT       4                                                          SOUTH
8                              876.0        0.00        0.00              BASIN
8                              877.0         2.2        1.08
8                              878.0         3.4        2.26
8                              879.0         4.3        3.54
8                              880.0         5.0        4.92
8                              881.0         5.7        6.40
8                              882.0         6.3        8.14
8                              882.5        14.9        9.19
8                              883.0        45.5       10.41
8                              883.5       149.5       11.83
9 ENDTBL
3 STRUCT       5                                                          BASIN
8                              900.0         0.0        0.00                FOR
8                              901.0        12.8       12.81                205
8                              902.0        25.6       25.63              ACRES
8                              903.0        38.4       38.44            OFFSITE
8                              904.0        51.3       51.25              NORTH
8                              905.0       136.0       64.06
9 ENDTBL
3 STRUCT       6                                                          BASIN
8                              890.0         0.0        0.00                 AT
8                              891.0         7.9        0.06                 RR
8                              892.0        22.0        0.24            CULVERT
8                              893.0        34.4        0.59            OFFSITE
8                              894.0        49.0        1.16              NORTH
8                              895.0        63.0        1.95
8                              896.0       200.0        2.96
9 ENDTBL
3 STRUCT       7                                                          NORTH
8                              873.0         0.0        0.00              BASIN
8                              874.0         4.4        1.74
8                              875.0        11.6        3.64
8                              876.0        13.6        5.68
8                              877.0        15.8        7.86
8                              878.0        17.7       10.20
8                              879.0       139.5       12.70
9 ENDTBL
3 STRUCT       8                                                       RESIDENT
8                              884.0         0.0        0.00
8                              885.0        0.01        2.80
8                              885.1       200.0        3.30
9 ENDTBL
6 RUNOFF 1   1       1       0.0797          75        1.01     1     OFFCENTR
6 RUNOFF 1     1     2       0.0891          88        1.11     1     OFFSOUTH
```

**********80-80 LIST OF INPUT DATA (CONTINUED)**********

```
 6 RESVOR 2     1 2   3        900.0                        1     1       24INCH
 6 RUNOFF 1     2     4       0.0266          88         0.21     1     OFFSOUTH
 6 RESVOR 2     2 4   2        888.0                        1     1       ENCOAT
 6 ADDHYD 4     3 2 3 4                                     1     1     OFFSOUTH
 6 RUNOFF 1     3     2       0.1031          75         0.51     1     OFFSOUTH
 6 ADDHYD 4     3 2 4 3                                     1     1     OFFSOUTH
 6 RESVOR 2     3 3   2        886.0                        1     1      WETLAND
 6 RESVOR 2     8 2   5        884.0                        1     1      YARDSTO
 6 RUNOFF 1     4     6       0.0438          81         0.31     1        SOUTH
 6 ADDHYD 4     4 1 6 7                                     1     1     OFFANDON
 6 RESVOR 2     4 7   6        876.0                        1     1      S.BASIN
 6 RUNOFF 1     5     1       0.3203          88         2.31     1     OFFNORTH
 6 RESVOR 2     5 1   2        900.0                        1     1     205ACRES
 6 RUNOFF 1     6     3       0.2141          75         1.51     1     137ACRES
 6 ADDHYD 4     6 2 3 1                                     1     1     OFFNORTH
 6 RESVOR 2     6 1   2        890.0                        1     1     RRCULVRT
 6 ADDHYD 4     7 2 6 7                                     1     1     OFFANDS0
 6 RUNOFF 1     7     6       0.0558          87         0.31     1        NORTH
 6 ADDHYD 4     7 6 7 4                                     1     1      N.AND.S
 6 RUNOFF 1     7     6       0.0039          96         0.21     1       OUTLOT
 6 ADDHYD 4     7 4 6 7                                     1     1
 6 RESVOR 2     7 7   6        873.0                        1     1      N.BASIN
   ENDATA
 7 INCREM 6                     0.05
 7 COMPUT 7   1       7          0.0        2.05       0.251 2            15MIN
   ENDCMP 1
 7 COMPUT 7   1       7          0.0        2.80        .501 2            30MIN
   ENDCMP 1
 7 INCREM 6                     0.1
 7 COMPUT 7   1       7          0.0        3.56       1.001 2              1HR
   ENDCMP 1
 7 COMPUT 7   1       7          0.0        2.06       2.001 2              2HR
   ENDCMP 1
 7 COMPUT 7   1       7          0.0        4.85       3.001 2              3HR
   ENDCMP 1
 7 INCREM 6                     0.2
 7 COMPUT 7   1       7          0.0        5.68       6.001 2              6HR
   ENDCMP 1
 7 COMPUT 7   1       7          0.0        6.59      12.002 2             12HR
   ENDCMP 1
 7 INCREM 6                     0.3
 7 COMPUT 7   1       7          0.0        6.97      18.003 2             18HR
   ENDCMP 1
 7 COMPUT 7   1       7          0.0        7.58      24.003 2             24HR
   ENDCMP 1
   ENDJOB 2
```

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
XSECTION 1	RUNOFF	.08	1	2	.05	.0	2.05	.25	.41	---	.79	23.12	290.1
STRUCTURE 1	RUNOFF	.09	1	2	.05	.0	2.05	.25	1.01	---	.83	58.35	654.8
STRUCTURE 1	RESVOR	.09	1	2	.05	.0	2.05	.25	.69	901.18	2.18	4.25	47.7
STRUCTURE 2	RUNOFF	.03	1	2	.05	.0	2.05	.25	1.01	---	.22	67.96	2554.7
STRUCTURE 2	RESVOR	.03	1	2	.05	.0	2.05	.25	.47	889.19	.70?	.73?	27.6
STRUCTURE 3	ADDHYD	.12	1	2	.05	.0	2.05	.25	.64	887.61	2.15*	4.93*	42.6
STRUCTURE 3	RUNOFF	.10	1	2	.05	.0	2.05	.25	.41	---	.46	56.84	551.3
STRUCTURE 3	ADDHYD	.22	1	2	.05	.0	2.05	.25	.53	887.75	.46	57.88	264.5
STRUCTURE 3	RESVOR	.22	1	2	.05	.0	2.05	.25	.00	886.99	14.95?	.01?	.0
STRUCTURE 8	RESVOR	.22	1	2	.05	.0	2.05	.25	.00	---	.00?	.00?	.0
STRUCTURE 4	RUNOFF	.04	1	2	.05	.0	2.05	.25	.64	---	.31	55.56	1268.6
STRUCTURE 4	ADDHYD	.12	1	2	.05	.0	2.05	.25	.49	883.07	.32	60.44	489.4
STRUCTURE 4	RESVOR	.12	1	2	.05	.0	2.05	.25	.43	878.35	1.70*	3.72*	30.1
STRUCTURE 5	RUNOFF	.32	1	2	.05	.0	2.05	.25	1.25	---	1.62	101.22	316.0
STRUCTURE 5	RESVOR	.32	1	2	.05	.0	2.05	.25	.79	901.12	7.88	14.34	44.8
STRUCTURE 6	RUNOFF	.21	1	2	.05	.0	2.05	.25	.41	---	1.12	41.75	195.0
STRUCTURE 6	ADDHYD	.53	1	2	.05	.0	2.05	.25	.64	893.68	1.16	44.36	83.0
STRUCTURE 6	RESVOR	.53	1	2	.05	.0	2.05	.25	.63	893.28	1.50	38.46	72.0
STRUCTURE 7	ADDHYD	.66	1	2	.05	.0	2.05	.25	.60	878.20	1.50	42.16	64.1
STRUCTURE 7	RUNOFF	.06	1	2	.05	.0	2.05	.25	.94	---	.30	104.78	1877.8
STRUCTURE 7	ADDHYD	.71	1	2	.05	.0	2.05	.25	.62	878.74	.30	108.05	151.4
STRUCTURE 7	RUNOFF	.00	1	2	.05	.0	2.05	.25	1.62	---	.20	16.51	4232.5
STRUCTURE 7	ADDHYD	.72	1	2	.05	.0	2.05	.25	.63	878.83	.29	118.91	165.7
STRUCTURE 7	RESVOR	.72	1	2	.05	.0	2.05	.25	.47	876.96	8.80*	15.72*	21.9
XSECTION 1	RUNOFF	.08	1	2	.05	.0	2.80	.50	.83	---	.89	44.86	562.9
STRUCTURE 1	RUNOFF	.09	1	2	.05	.0	2.80	.50	1.64	---	.92	90.80	1019.1
STRUCTURE 1	RESVOR	.09	1	2	.05	.0	2.80	.50	1.13	901.92	2.28	6.92	77.7
STRUCTURE 2	RUNOFF	.03	1	2	.05	.0	2.80	.50	1.64	---	.25	79.53	2989.7
STRUCTURE 2	RESVOR	.03	1	2	.05	.0	2.80	.50	.78	889.93	.85?	1.25?	47.0
STRUCTURE 3	ADDHYD	.12	1	2	.05	.0	2.80	.50	1.05	887.62	2.23	8.09	70.0
STRUCTURE 3	RUNOFF	.10	1	2	.05	.0	2.80	.50	.83	---	.55	95.36	924.9
STRUCTURE 3	ADDHYD	.22	1	2	.05	.0	2.80	.50	.95	887.85	.55	97.19	444.2

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 3	RESVOR	.22	1	2	.05	.0	2.80	.50	.00	887.00	3.45?	.01?	.0
STRUCTURE 8	RESVOR	.22	1	2	.05	.0	2.80	.50	.00	---	.00?	.00?	.0
STRUCTURE 4	RUNOFF	.04	1	2	.05	.0	2.80	.50	1.16	---	.35	74.44	1699.6
STRUCTURE 4	ADDHYD	.12	1	2	.05	.0	2.80	.50	.95	883.18	.37	82.85	670.8
STRUCTURE 4	RESVOR	.12	1	2	.05	.0	2.80	.50	.74	880.37	1.95*	5.26*	42.6
STRUCTURE 5	RUNOFF	.32	1	2	.05	.0	2.80	.50	1.64	---	1.72	163.94	511.8
STRUCTURE 5	RESVOR	.32	1	2	.05	.0	2.80	.50	1.07	901.75	3.95	22.40	69.9
STRUCTURE 6	RUNOFF	.21	1	2	.05	.0	2.80	.50	.83	---	1.22	83.79	391.4
STRUCTURE 6	ADDHYD	.53	1	2	.05	.0	2.80	.50	.97	895.18	1.25	88.20	165.0
STRUCTURE 6	RESVOR	.53	1	2	.05	.0	2.80	.50	.97	895.12	1.55	78.85	147.5
STRUCTURE 7	ADDHYD	.66	1	2	.05	.0	2.80	.50	.93	878.54	1.55	84.04	127.7
STRUCTURE 7	RUNOFF	.06	1	2	.05	.0	2.80	.50	1.57	---	.33	130.72	2342.7
STRUCTURE 7	ADDHYD	.71	1	2	.05	.0	2.80	.50	.98	878.97	.34	135.88	190.4
STRUCTURE 7	RUNOFF	.00	1	2	.05	.0	2.80	.50	2.35	---	.22	17.91	4591.4
STRUCTURE 7	ADDHYD	.72	1	2	.05	.0	2.80	.50	.99	879.07	.33	148.15	206.5
STRUCTURE 7	RESVOR	.72	1	2	.05	.0	2.80	.50	.74	878.30	2.52	54.59	76.1
XSECTION 1	RUNOFF	.08	1	2	.10	.0	3.56	1.00	1.34	---	1.07	59.41	745.4
STRUCTURE 1	RUNOFF	.09	1	2	.10	.0	3.56	1.00	2.32	---	1.06	109.12	1224.7
STRUCTURE 1	RESVOR	.09	1	2	.10	.0	3.56	1.00	2.11	902.71	2.51	9.68	108.6
STRUCTURE 2	RUNOFF	.03	1	2	.10	.0	3.56	1.00	2.31	---	.32	74.56	2802.8
STRUCTURE 2	RESVOR	.03	1	2	.10	.0	3.56	1.00	1.68	890.70	1.31	1.72	64.6
STRUCTURE 3	ADDHYD	.12	1	2	.10	.0	3.56	1.00	2.01	887.63	2.47	11.32	97.8
STRUCTURE 3	RUNOFF	.10	1	2	.10	.0	3.56	1.00	1.34	---	.63	109.81	1065.1
STRUCTURE 3	ADDHYD	.22	1	2	.10	.0	3.56	1.00	1.70	887.89	.63	112.10	512.3
STRUCTURE 3	RESVOR	.22	1	2	.10	.0	3.56	1.00	.71	887.62	6.63	8.54	39.1
STRUCTURE 8	RESVOR	.22	1	2	.10	.0	3.56	1.00	.47	885.00	10.40	7.09	32.4
STRUCTURE 4	RUNOFF	.04	1	2	.10	.0	3.56	1.00	1.76	---	.43	77.91	1778.8
STRUCTURE 4	ADDHYD	.12	1	2	.10	.0	3.56	1.00	1.49	883.22	.53	91.65	742.1
STRUCTURE 4	RESVOR	.12	1	2	.10	.0	3.56	1.00	1.44	882.21	2.14	9.97	80.7
STRUCTURE 5	RUNOFF	.32	1	2	.10	.0	3.56	1.00	2.32	---	1.88	222.12	693.5
STRUCTURE 5	RESVOR	.32	1	2	.10	.0	3.56	1.00	2.08	902.47	4.14	31.63	98.8
STRUCTURE 6	RUNOFF	.21	1	2	.10	.0	3.56	1.00	1.34	---	1.43	122.53	572.3
STRUCTURE 6	ADDHYD	.53	1	2	.10	.0	3.56	1.00	1.79	895.49	1.48	130.25	243.7
STRUCTURE 6	RESVOR	.53	1	2	.10	.0	3.56	1.00	1.79	895.48	1.58	128.41	240.3
STRUCTURE 7	ADDHYD	.66	1	2	.10	.0	3.56	1.00	1.72	878.96	1.60	134.63	204.6
STRUCTURE 7	RUNOFF	.06	1	2	.10	.0	3.56	1.00	2.23	---	.41	130.29	2335.0

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 7	ADDHYD	.71	1	2	.10	.0	3.56	1.00	1.76	878.99	.42	138.11	193.5
STRUCTURE 7	RUNOFF	.00	1	2	.10	.0	3.56	1.00	3.07	---	.27	15.41	3950.2
STRUCTURE 7	ADDHYD	.72	1	2	.10	.0	3.56	1.00	1.77	879.08	.41	149.57	208.4
STRUCTURE 7	RESVOR	.72	1	2	.10	.0	3.56	1.00	1.67	878.81	1.98	115.94	161.6
XSECTION 1	RUNOFF	.08	1	2	.10	.0	2.06	2.00	.41	---	1.40	12.37	155.2
STRUCTURE 1	RUNOFF	.09	1	2	.10	.0	2.06	2.00	1.01	---	1.26	34.87	391.3
STRUCTURE 1	RESVOR	.09	1	2	.10	.0	2.06	2.00	.92	901.16	3.16	4.16	46.7
STRUCTURE 2	RUNOFF	.03	1	2	.10	.0	2.06	2.00	1.02	---	.52	17.38	653.6
STRUCTURE 2	RESVOR	.03	1	2	.10	.0	2.06	2.00	.72	889.15	2.30?	.71?	26.6
STRUCTURE 3	ADDHYD	.12	1	2	.10	.0	2.06	2.00	.87	887.61	3.12	4.84	41.8
STRUCTURE 3	RUNOFF	.10	1	2	.10	.0	2.06	2.00	.41	---	.99	20.36	197.4
STRUCTURE 3	ADDHYD	.22	1	2	.10	.0	2.06	2.00	.65	887.66	1.02	21.66	99.0
STRUCTURE 3	RESVOR	.22	1	2	.10	.0	2.06	2.00	.00	887.00	15.80?	.01?	.0
STRUCTURE 8	RESVOR	.22	1	2	.10	.0	2.06	2.00	.00	---	.00?	.00?	.0
STRUCTURE 4	RUNOFF	.04	1	2	.10	.0	2.06	2.00	.64	---	.69	15.95	364.2
STRUCTURE 4	ADDHYD	.12	1	2	.10	.0	2.06	2.00	.49	882.61	1.05	21.73	175.9
STRUCTURE 4	RESVOR	.12	1	2	.10	.0	2.06	2.00	.49	878.28	2.83	3.65	29.5
STRUCTURE 5	RUNOFF	.32	1	2	.10	.0	2.06	2.00	1.01	---	2.29	82.84	258.6
STRUCTURE 5	RESVOR	.32	1	2	.10	.0	2.06	2.00	.91	901.07	4.66	13.67	42.7
STRUCTURE 6	RUNOFF	.21	1	2	.10	.0	2.06	2.00	.41	---	1.90	28.21	131.7
STRUCTURE 6	ADDHYD	.53	1	2	.10	.0	2.06	2.00	.71	892.89	2.13	33.03	61.8
STRUCTURE 6	RESVOR	.53	1	2	.10	.0	2.06	2.00	.71	892.78	2.47	31.70	59.3
STRUCTURE 7	ADDHYD	.66	1	2	.10	.0	2.06	2.00	.67	878.14	2.48	35.31	53.7
STRUCTURE 7	RUNOFF	.06	1	2	.10	.0	2.06	2.00	.95	---	.62	32.12	575.6
STRUCTURE 7	ADDHYD	.71	1	2	.10	.0	2.06	2.00	.69	878.19	2.08	41.40	58.0
STRUCTURE 7	RUNOFF	.00	1	2	.10	.0	2.06	2.00	1.63	---	.34	5.04	1293.1
STRUCTURE 7	ADDHYD	.72	1	2	.10	.0	2.06	2.00	.69	878.20	2.08	42.06	58.6
STRUCTURE 7	RESVOR	.72	1	2	.10	.0	2.06	2.00	.66	876.84	6.60*	15.45*	21.5
XSECTION 1	RUNOFF	.08	1	2	.10	.0	4.85	3.00	2.33	---	1.38	59.42	745.6
STRUCTURE 1	RUNOFF	.09	1	2	.10	.0	4.85	3.00	3.52	---	1.29	103.49	1161.5
STRUCTURE 1	RESVOR	.09	1	2	.10	.0	4.85	3.00	3.18	903.87	3.85	13.84	155.4
STRUCTURE 2	RUNOFF	.03	1	2	.10	.0	4.85	3.00	3.52	---	.42	51.39	1932.0
STRUCTURE 2	RESVOR	.03	1	2	.10	.0	4.85	3.00	2.55	891.87	3.22	2.51	94.3
STRUCTURE 3	ADDHYD	.12	1	2	.10	.0	4.85	3.00	3.04	887.64	3.80	16.29	140.8
STRUCTURE 3	RUNOFF	.10	1	2	.10	.0	4.85	3.00	2.33	---	.95	94.81	919.6
STRUCTURE 3	ADDHYD	.22	1	2	.10	.0	4.85	3.00	2.70	887.85	.97	98.48	450.1

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 3	RESVOR	.22	1	2	.10	.0	4.85	3.00	1.72	887.70	2.93	40.93	187.1
STRUCTURE 8	RESVOR	.22	1	2	.10	.0	4.85	3.00	1.48	885.02	3.52	38.03	173.8
STRUCTURE 4	RUNOFF	.04	1	2	.10	.0	4.85	3.00	2.85	---	.72	55.14	1258.8
STRUCTURE 4	ADDHYD	.12	1	2	.10	.0	4.85	3.00	2.51	883.24	1.12	94.52	765.3
STRUCTURE 4	RESVOR	.12	1	2	.10	.0	4.85	3.00	2.44	883.00	2.62	45.31	366.9
STRUCTURE 5	RUNOFF	.32	1	2	.10	.0	4.85	3.00	3.53	---	2.31	251.37	784.8
STRUCTURE 5	RESVOR	.32	1	2	.10	.0	4.85	3.00	3.14	903.65	5.13	46.72	145.9
STRUCTURE 6	RUNOFF	.21	1	2	.10	.0	4.85	3.00	2.33	---	1.80	135.18	631.4
STRUCTURE 6	ADDHYD	.53	1	2	.10	.0	4.85	3.00	2.82	895.61	1.89	146.71	274.5
STRUCTURE 6	RESVOR	.53	1	2	.10	.0	4.85	3.00	2.82	895.61	1.99	145.94	273.1
STRUCTURE 7	ADDHYD	.66	1	2	.10	.0	4.85	3.00	2.74	879.36	2.21	183.12	278.3
STRUCTURE 7	RUNOFF	.06	1	2	.10	.0	4.85	3.00	3.42	---	.54	91.36	1637.3
STRUCTURE 7	ADDHYD	.71	1	2	.10	.0	4.85	3.00	2.80	879.54	2.20	204.75	286.9
STRUCTURE 7	RUNOFF	.00	1	2	.10	.0	4.85	3.00	4.37	---	.37	10.86	2783.7
STRUCTURE 7	ADDHYD	.72	1	2	.10	.0	4.85	3.00	2.81	879.55	2.20	206.36	287.6
STRUCTURE 7	RESVOR	.72	1	2	.10	.0	4.85	3.00	2.63	879.49	2.56	199.02	277.3
XSECTION 1	RUNOFF	.08	1	2	.20	.0	5.68	6.00	3.01	---	1.84	48.19	604.6
STRUCTURE 1	RUNOFF	.09	1	2	.20	.0	5.68	6.00	4.31	---	1.60	81.89	919.1
STRUCTURE 1	RESVOR	.09	1	2	.20	.0	5.68	6.00	4.28	904.08	5.67	17.99	201.9
STRUCTURE 2	RUNOFF	.03	1	2	.20	.0	5.68	6.00	4.30	---	.63	37.46	1408.2
STRUCTURE 2	RESVOR	.03	1	2	.20	.0	5.68	6.00	3.98	892.14	5.20	4.68	175.8
STRUCTURE 3	ADDHYD	.12	1	2	.20	.0	5.68	6.00	4.21	887.66	5.57	22.36	193.2
STRUCTURE 3	RUNOFF	.10	1	2	.20	.0	5.68	6.00	3.01	---	1.47	68.34	662.9
STRUCTURE 3	ADDHYD	.22	1	2	.20	.0	5.68	6.00	3.64	887.79	1.55	74.57	340.8
STRUCTURE 3	RESVOR	.22	1	2	.20	.0	5.68	6.00	2.67	887.71	3.36	42.30	193.3
STRUCTURE 8	RESVOR	.22	1	2	.20	.0	5.68	6.00	2.41	885.03	4.03	51.47	235.2
STRUCTURE 4	RUNOFF	.04	1	2	.20	.0	5.68	6.00	3.59	---	.83	39.98	912.8
STRUCTURE 4	ADDHYD	.12	1	2	.20	.0	5.68	6.00	3.21	883.17	1.58	79.84	646.5
STRUCTURE 4	RESVOR	.12	1	2	.20	.0	5.68	6.00	3.21	883.00	3.06	46.31	375.0
STRUCTURE 5	RUNOFF	.32	1	2	.20	.0	5.68	6.00	4.31	---	2.64	225.63	704.4
STRUCTURE 5	RESVOR	.32	1	2	.20	.0	5.68	6.00	4.27	904.05	7.00	55.57	173.5
STRUCTURE 6	RUNOFF	.21	1	2	.20	.0	5.68	6.00	3.01	---	2.24	115.93	541.5
STRUCTURE 6	ADDHYD	.53	1	2	.20	.0	5.68	6.00	3.77	895.50	2.46	131.41	245.9
STRUCTURE 6	RESVOR	.53	1	2	.20	.0	5.68	6.00	3.76	895.50	2.55	131.09	245.3
STRUCTURE 7	ADDHYD	.66	1	2	.20	.0	5.68	6.00	3.66	879.28	2.91	173.42	263.6
STRUCTURE 7	RUNOFF	.06	1	2	.20	.0	5.68	6.00	4.20	---	.75	66.42	1190.3

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 7	ADDHYD	.71	1	2	.20	.0	5.68	6.00	3.70	879.48	2.80	197.40	276.6
STRUCTURE 7	RUNOFF	.00	1	2	.20	.0	5.68	6.00	5.21	---	.58	7.51	1925.7
STRUCTURE 7	ADDHYD	.72	1	2	.20	.0	5.68	6.00	3.71	879.49	2.80	199.17	277.5
STRUCTURE 7	RESVOR	.72	1	2	.20	.0	5.68	6.00	3.70	879.44	3.06	193.62	269.8
XSECTION 1	RUNOFF	.08	2	2	.20	.0	6.59	12.00	3.79	---	5.63	42.84	537.5
STRUCTURE 1	RUNOFF	.09	2	2	.20	.0	6.59	12.00	5.19	---	5.54	62.44	700.8
STRUCTURE 1	RESVOR	.09	2	2	.20	.0	6.59	12.00	5.13	904.21	8.41	24.02	269.6
STRUCTURE 2	RUNOFF	.03	2	2	.20	.0	6.59	12.00	5.19	---	4.75	20.30	763.1
STRUCTURE 2	RESVOR	.03	2	2	.20	.0	6.59	12.00	4.77	892.23	7.99	6.18	232.4
STRUCTURE 3	ADDHYD	.12	2	2	.20	.0	6.59	12.00	5.05	887.68	8.36	30.01	259.4
STRUCTURE 3	RUNOFF	.10	2	2	.20	.0	6.59	12.00	3.79	---	5.37	58.17	564.2
STRUCTURE 3	ADDHYD	.22	2	2	.20	.0	6.59	12.00	4.46	887.77	5.46	68.20	311.7
STRUCTURE 3	RESVOR	.22	2	2	.20	.0	6.59	12.00	3.48	887.73	8.03	52.47	239.8
STRUCTURE 8	RESVOR	.22	2	2	.20	.0	6.59	12.00	3.25	885.03	7.03	68.46	312.9
STRUCTURE 4	RUNOFF	.04	2	2	.20	.0	6.59	12.00	4.42	---	4.80	28.65	654.2
STRUCTURE 4	ADDHYD	.12	2	2	.20	.0	6.59	12.00	4.01	883.12	5.40	70.15	568.0
STRUCTURE 4	RESVOR	.12	2	2	.20	.0	6.59	12.00	4.01	883.04	6.39	54.73	443.2
STRUCTURE 5	RUNOFF	.32	2	2	.20	.0	6.59	12.00	5.19	---	6.40	193.64	604.6
STRUCTURE 5	RESVOR	.32	2	2	.20	.0	6.59	12.00	5.13	904.26	10.13	72.91	227.6
STRUCTURE 6	RUNOFF	.21	2	2	.20	.0	6.59	12.00	3.79	---	5.98	107.75	503.3
STRUCTURE 6	ADDHYD	.53	2	2	.20	.0	6.59	12.00	4.59	895.51	6.25	132.91	248.7
STRUCTURE 6	RESVOR	.53	2	2	.20	.0	6.59	12.00	4.59	895.51	6.34	132.74	248.4
STRUCTURE 7	ADDHYD	.66	2	2	.20	.0	6.59	12.00	4.48	879.39	6.38	187.43	284.9
STRUCTURE 7	RUNOFF	.06	2	2	.20	.0	6.59	12.00	5.08	---	4.83	41.39	741.8
STRUCTURE 7	ADDHYD	.71	2	2	.20	.0	6.59	12.00	4.53	879.60	6.28	212.15	297.3
STRUCTURE 7	RUNOFF	.00	2	2	.20	.0	6.59	12.00	6.11	---	4.72	3.28	842.3
STRUCTURE 7	ADDHYD	.72	2	2	.20	.0	6.59	12.00	4.53	879.61	6.28	213.85	298.0
STRUCTURE 7	RESVOR	.72	2	2	.20	.0	6.59	12.00	4.51	879.57	6.59	208.48	290.5
XSECTION 1	RUNOFF	.08	3	2	.30	.0	6.97	18.00	4.12	---	11.92	38.42	482.1
STRUCTURE 1	RUNOFF	.09	3	2	.30	.0	6.97	18.00	5.56	---	11.90	51.68	580.1
STRUCTURE 1	RESVOR	.09	3	2	.30	.0	6.97	18.00	5.55	904.23	14.08	24.99	280.4
STRUCTURE 2	RUNOFF	.03	3	2	.30	.0	6.97	18.00	5.54	---	11.56	16.84	633.1
STRUCTURE 2	RESVOR	.03	3	2	.30	.0	6.97	18.00	5.41	892.28	13.55	6.94	260.8
STRUCTURE 3	ADDHYD	.12	3	2	.30	.0	6.97	18.00	5.52	887.68	13.97	31.50	272.2
STRUCTURE 3	RUNOFF	.10	3	2	.30	.0	6.97	18.00	4.12	---	11.63	52.33	507.6
STRUCTURE 3	ADDHYD	.22	3	2	.30	.0	6.97	18.00	4.86	887.77	11.68	65.04	297.3

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 3	RESVOR	.22	3	2	.30	.0	6.97	18.00	3.87	887.76	12.02	62.18	284.2
STRUCTURE 8	RESVOR	.22	3	2	.30	.0	6.97	18.00	3.69	885.04	12.32	81.90	374.3
STRUCTURE 4	RUNOFF	.04	3	2	.30	.0	6.97	18.00	4.76	---	11.57	25.27	576.9
STRUCTURE 4	ADDHYD	.12	3	2	.30	.0	6.97	18.00	4.35	883.08	11.66	62.37	505.1
STRUCTURE 4	RESVOR	.12	3	2	.30	.0	6.97	18.00	4.34	883.06	12.11	58.57	474.3
STRUCTURE 5	RUNOFF	.32	3	2	.30	.0	6.97	18.00	5.56	---	12.62	163.44	510.3
STRUCTURE 5	RESVOR	.32	3	2	.30	.0	6.97	18.00	5.55	904.27	15.63	73.85	230.6
STRUCTURE 6	RUNOFF	.21	3	2	.30	.0	6.97	18.00	4.12	---	12.20	96.72	451.7
STRUCTURE 6	ADDHYD	.53	3	2	.30	.0	6.97	18.00	4.98	895.50	12.45	131.69	246.4
STRUCTURE 6	RESVOR	.53	3	2	.30	.0	6.97	18.00	4.98	895.50	12.55	131.45	246.0
STRUCTURE 7	ADDHYD	.66	3	2	.30	.0	6.97	18.00	4.86	879.38	12.32	186.10	282.9
STRUCTURE 7	RUNOFF	.06	3	2	.30	.0	6.97	18.00	5.43	---	11.56	34.65	621.0
STRUCTURE 7	ADDHYD	.71	3	2	.30	.0	6.97	18.00	4.91	879.58	12.24	210.06	294.3
STRUCTURE 7	RUNOFF	.00	3	2	.30	.0	6.97	18.00	6.47	---	11.55	2.60	667.1
STRUCTURE 7	ADDHYD	.72	3	2	.30	.0	6.97	18.00	4.91	879.59	12.24	211.81	295.2
STRUCTURE 7	RESVOR	.72	3	2	.30	.0	6.97	18.00	4.91	879.58	12.54	209.81	292.4
XSECTION 1	RUNOFF	.08	3	2	.30	.0	7.58	24.00	4.66	---	15.72	33.05	414.6
STRUCTURE 1	RUNOFF	.09	3	2	.30	.0	7.58	24.00	6.15	---	15.67	43.53	488.5
STRUCTURE 1	RESVOR	.09	3	2	.30	.0	7.58	24.00	6.14	904.22	17.88	24.28	272.5
STRUCTURE 2	RUNOFF	.03	3	2	.30	.0	7.58	24.00	6.15	---	15.45	13.87	521.4
STRUCTURE 2	RESVOR	.03	3	2	.30	.0	7.58	24.00	5.96	892.30	17.11	7.23	271.6
STRUCTURE 3	ADDHYD	.12	3	2	.30	.0	7.58	24.00	6.10	887.68	17.83	31.10	268.8
STRUCTURE 3	RUNOFF	.10	3	2	.30	.0	7.58	24.00	4.66	---	15.49	44.51	431.7
STRUCTURE 3	ADDHYD	.22	3	2	.30	.0	7.58	24.00	5.42	887.75	15.57	58.48	267.3
STRUCTURE 3	RESVOR	.22	3	2	.30	.0	7.58	24.00	4.43	887.75	15.77	57.41	262.4
STRUCTURE 8	RESVOR	.22	3	2	.30	.0	7.58	24.00	4.28	885.04	15.34	86.13	393.7
STRUCTURE 4	RUNOFF	.04	3	2	.30	.0	7.58	24.00	5.33	---	15.46	21.08	481.3
STRUCTURE 4	ADDHYD	.12	3	2	.30	.0	7.58	24.00	4.90	883.04	15.52	53.77	435.4
STRUCTURE 4	RESVOR	.12	3	2	.30	.0	7.58	24.00	4.90	883.03	15.80	51.39	416.1
STRUCTURE 5	RUNOFF	.32	3	2	.30	.0	7.58	24.00	6.15	---	16.32	142.87	446.0
STRUCTURE 5	RESVOR	.32	3	2	.30	.0	7.58	24.00	6.14	904.27	19.45	73.91	230.8
STRUCTURE 6	RUNOFF	.21	3	2	.30	.0	7.58	24.00	4.66	---	15.96	85.34	398.6
STRUCTURE 6	ADDHYD	.53	3	2	.30	.0	7.58	24.00	5.55	895.44	16.19	123.55	231.2
STRUCTURE 6	RESVOR	.53	3	2	.30	.0	7.58	24.00	5.54	895.44	16.28	123.40	230.9
STRUCTURE 7	ADDHYD	.66	3	2	.30	.0	7.58	24.00	5.42	879.27	15.99	172.15	261.7
STRUCTURE 7	RUNOFF	.06	3	2	.30	.0	7.58	24.00	6.03	---	15.46	28.63	513.0

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 7	ADDHYD	.71	3	2	.30	.0	7.58	24.00	5.47	879.46	15.75	195.18	273.5
STRUCTURE 7	RUNOFF	.00	3	2	.30	.0	7.58	24.00	7.09	---	15.60	2.05	526.4
STRUCTURE 7	ADDHYD	.72	3	2	.30	.0	7.58	24.00	5.48	879.47	15.73	197.04	274.6
STRUCTURE 7	RESVOR	.72	3	2	.30	.0	7.58	24.00	5.48	879.44	16.11	193.04	269.0

SUMMARY TABLE 3 - DISCHARGE (CFS) AT XSECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 0
STRUCTURE 8	.22	
ALTERNATE 0		86.13
STRUCTURE 7	.72	
ALTERNATE 0		193.04
STRUCTURE 6	.53	
ALTERNATE 0		123.40
STRUCTURE 5	.32	
ALTERNATE 0		73.91
STRUCTURE 4	.12	
ALTERNATE 0		51.39
STRUCTURE 3	.22	
ALTERNATE 0		57.41
STRUCTURE 2	.03	
ALTERNATE 0		7.23
STRUCTURE 1	.09	
ALTERNATE 0		24.28
XSECTION 1	.08	
ALTERNATE 0		33.05

2 YEAR - PROPOSED CONDITIONS

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*****************************************************************************
*                                   * TR 20 S/N     :                       *
*                                   * HMVersion     :  3.40                 *
*              TR 20                * Date          :  6/23/**              *
*                                   * Time          : 16:28:16              *
*    Project Formulation Hydrology  * Input file    : smmtwe02.t20          *
*                                   * Output file   : smmtwe02.out          *
*                                   *                                       *
*                                   *                                       *
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xxxxxxx  xxxxxx    xxxxx    xxxxx
   x     x     x  x     x  x    xx
   x     x     x       x   x   x x
   x     xxxxxx      x     x  x  x
   x     x   x     x       x x   x
   x     x    x   x        xx    x
   x     x     x  xxxxxxx   xxxxx
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:::                                    :::
:::  Full Microcomputer Implementation :::
:::                 by                 :::
:::        Haestad Methods, Inc.       :::
:::                                    :::
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37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

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******************80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY******************

JOB TR-20                                        SUMMARY   NOPLOTS
TITLE     SUMMIT ENCLAVE, DEKALB  OFFSITE AND ONSITE            09/11/02
TITLE     BULLET.70 N.E.ILL. 02 YR: 15,30MIN,1,2,3,6,12,18,24 HR STORMS
 5 RAINFL 1                    0.05                                   HUFFS1ST
 8                 0.00        0.16        0.33        0.43        0.52
 8                 0.60        0.66        0.71        0.75        0.79
 8                 0.82        0.84        0.86        0.88        0.90
 8                 0.92        0.94        0.96        0.97        0.98
 8                 1.00        1.00        1.00        1.00        1.00
 9 ENDTBL
 5 RAINFL 2                    0.05                                   HUFFS2ND
 8                 0.00        0.03        0.08        0.12        0.16
 8                 0.22        0.29        0.39        0.51        0.62
 8                 0.70        0.76        0.81        0.85        0.88
 8                 0.91        0.93        0.95        0.97        0.98
 8                 1.00        1.00        1.00        1.00        1.00
 9 ENDTBL
 5 RAINFL 3                    0.05                                   HUFFS3RD
 8                 0.00        0.03        0.06        0.09        0.12
 8                 0.15        0.19        0.23        0.27        0.32
 8                 0.38        0.45        0.57        0.70        0.79
 8                 0.85        0.89        0.92        0.95        0.97
 8                 1.00        1.00        1.00        1.00        1.00
 9 ENDTBL
 3 STRUCT       1                                                    57ACRES
 8                            900.0        0.0        0.00              TRIB
 8                            901.0        3.6        3.55               TO
 8                            902.0        7.2        7.10            24INCH
 8                            903.0       10.7       10.65          ST.SEWER
 8                            904.0       14.3       14.20           OFFSITE
 8                            905.0       59.9       17.75             SOUTH
 9 ENDTBL
 3 STRUCT       2                                                    ENCOAT
 8                            888.0        0.0        0.00             BASIN
 8                            889.0        0.6        1.17               FOR
 8                            890.0        1.3        2.35           17ACRES
 8                            891.0        1.9        3.52           OFFSITE
 8                            892.0        2.6        4.70             SOUTH
 8                            893.0       17.9        6.05
 8                            894.0       45.8        7.40
 9 ENDTBL
 3 STRUCT       3                                                   66ACRES
 8                            885.0        0.0        0.0               TRIB
 8                            885.5        2.0        0.1                TO
 8                            886.0       40.7        1.54
 8                            887.0      194.3        7.79
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**********************80-80 LIST OF INPUT DATA (CONTINUED)**********************

 8                              887.6       318.0       12.99            WETLAND
 8                              888.0       406.0       15.99            OFFSITE
 9 ENDTBL
 3 STRUCT       4                                                         SOUTH
 8                              876.0        0.00        0.00             BASIN
 8                              877.0         2.2        1.08
 8                              878.0         3.4        2.26
 8                              879.0         4.3        3.54
 8                              880.0         5.0        4.92
 8                              881.0         5.7        6.40
 8                              882.0         6.3        8.14
 8                              882.5        14.9        9.19
 8                              883.0        45.5       10.41
 8                              883.5       149.5       11.83
 9 ENDTBL
 3 STRUCT       5                                                         BASIN
 8                              900.0         0.0        0.00               FOR
 8                              901.0        12.8       12.81               205
 8                              902.0        25.6       25.63             ACRES
 8                              903.0        38.4       38.44           OFFSITE
 8                              904.0        51.3       51.25             NORTH
 8                              905.0       136.0       64.06
 9 ENDTBL
 3 STRUCT       6                                                         BASIN
 8                              890.0         0.0        0.00                AT
 8                              891.0         7.9        0.06                RR
 8                              892.0        22.0        0.24           CULVERT
 8                              893.0        34.4        0.59           OFFSITE
 8                              894.0        49.0        1.16             NORTH
 8                              895.0        63.0        1.95
 8                              896.0       200.0        2.96
 9 ENDTBL
 3 STRUCT       7                                                         NORTH
 8                              873.0         0.0        0.00             BASIN
 8                              874.0         4.4        1.74
 8                              875.0        11.6        3.64
 8                              876.0        13.6        5.68
 8                              877.0        15.8        7.86
 8                              878.0        17.7       10.20
 8                              879.0       139.5       12.70
 9 ENDTBL
 6 RUNOFF 1   1       1       0.0797          75        1.01     1    OFFCENTR
 6 RUNOFF 1     1     2       0.0891          88        1.11     1    OFFSOUTH
 6 RESVOR 2     1 2   3        900.0                       1     1      24INCH
 6 RUNOFF 1     2     4       0.0266          88        0.21     1    OFFSOUTH
 6 RESVOR 2     2 4   2        888.0                       1     1      ENCOAT
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**********************80-80 LIST OF INPUT DATA (CONTINUED)**********************

 6 ADDHYD 4     3 2 3 4                                    1     1     OFFSOUTH
 6 RUNOFF 1     3     2       0.1031          75        0.51     1     OFFSOUTH
 6 ADDHYD 4     3 2 4 3                                    1     1     OFFSOUTH
 6 RESVOR 2     3 3   2        885.0                       1     1      WETLAND
 6 ADDHYD 4     4 1 2 5                                    1     1     ADD-OFFS
 6 RUNOFF 1     4     6       0.0438          81        0.31     1        SOUTH
 6 ADDHYD 4     4 5 6 7                                    1     1     OFFANDON
 6 RESVOR 2     4 7   6        876.0                       1     1      S.BASIN
 6 RUNOFF 1     5     1       0.3203          88        2.31     1     OFFNORTH
 6 RESVOR 2     5 1   2        900.0                       1     1     205ACRES
 6 RUNOFF 1     6     3       0.2141          75        1.51     1     137ACRES
 6 ADDHYD 4     6 2 3 1                                    1     1     OFFNORTH
 6 RESVOR 2     6 1   2        890.0                       1     1     RRCULVRT
 6 ADDHYD 4     7 2 6 7                                    1     1     OFFANDS0
 6 RUNOFF 1     7     6       0.0558          87        0.31     1        NORTH
 6 ADDHYD 4     7 6 7 5                                    1     1      N.AND.S
 6 RUNOFF 1     7     6       0.0039          96        0.21     1       OUTLOT
 6 ADDHYD 4     7 5 6 7                                    1     1
 6 RESVOR 2     7 7   6        873.0                       1     1      N.BASIN
   ENDATA
 7 INCREM 6                     0.05
 7 COMPUT 7   1       7          0.0        0.82       0.251 2           15MIN
   ENDCMP 1
 7 COMPUT 7   1       7          0.0        1.12        .501 2           30MIN
   ENDCMP 1
 7 INCREM 6                     0.1
 7 COMPUT 7   1       7          0.0        1.43       1.001 2             1HR
   ENDCMP 1
 7 COMPUT 7   1       7          0.0        1.79       2.001 2             2HR
   ENDCMP 1
 7 COMPUT 7   1       7          0.0        1.94       3.001 2             3HR
   ENDCMP 1
 7 INCREM 6                     0.2
 7 COMPUT 7   1       7          0.0        2.28       6.001 2             6HR
   ENDCMP 1
 7 COMPUT 7   1       7          0.0        2.64      12.002 2            12HR
   ENDCMP 1
 7 INCREM 6                     0.3
 7 COMPUT 7   1       7          0.0        2.79      18.003 2            18HR
   ENDCMP 1
 7 COMPUT 7   1       7          0.0        3.04      24.003 2            24HR
   ENDCMP 1
   ENDJOB 2

*******************************END OF 80-80 LIST*******************************
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SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
XSECTION 1	RUNOFF	.08	1	2	.05	.0	.82	.25	.01	---	.85?	.39?	4.9
STRUCTURE 1	RUNOFF	.09	1	2	.05	.0	.82	.25	.16	---	.85	9.11	102.2
STRUCTURE 1	RESVOR	.09	1	2	.05	.0	.82	.25	.11	900.18	2.20?	.66?	7.4
STRUCTURE 2	RUNOFF	.03	1	2	.05	.0	.82	.25	.16	---	.26	10.42	391.8
STRUCTURE 2	RESVOR	.03	1	2	.05	.0	.82	.25	.07	888.19	.70?	.11?	4.2
STRUCTURE 3	ADDHYD	.12	1	2	.05	.0	.82	.25	.10	885.19	2.15?	.77?	6.6
STRUCTURE 3	RUNOFF	.10	1	2	.05	.0	.82	.25	.01	---	.55?	.99?	9.6
STRUCTURE 3	ADDHYD	.22	1	2	.05	.0	.82	.25	.06	885.29	.55	1.18	5.4
STRUCTURE 3	RESVOR	.22	1	2	.05	.0	.82	.25	.05	885.19	2.90?	.75?	3.4
STRUCTURE 4	ADDHYD	.30	1	2	.05	.0	.82	.25	.04	876.43	.90	.95	3.2
STRUCTURE 4	RUNOFF	.04	1	2	.05	.0	.82	.25	.05	---	.36	4.25	97.0
STRUCTURE 4	ADDHYD	.34	1	2	.05	.0	.82	.25	.04	879.10	.37	4.37	12.8
STRUCTURE 4	RESVOR	.34	1	2	.05	.0	.82	.25	.03	876.24	7.90?	.53?	1.6
STRUCTURE 5	RUNOFF	.32	1	2	.05	.0	.82	.25	.20	---	1.65	15.77	49.2
STRUCTURE 5	RESVOR	.32	1	2	.05	.0	.82	.25	.12	900.18	7.90?	2.26?	7.0
STRUCTURE 6	RUNOFF	.21	1	2	.05	.0	.82	.25	.01	---	1.20?	.70?	3.3
STRUCTURE 6	ADDHYD	.53	1	2	.05	.0	.82	.25	.08	890.29	7.90?	2.26?	4.2
STRUCTURE 6	RESVOR	.53	1	2	.05	.0	.82	.25	.08	890.29	7.95?	2.25?	4.2
STRUCTURE 7	ADDHYD	.88	1	2	.05	.0	.82	.25	.06	873.63	7.93	2.79	3.2
STRUCTURE 7	RUNOFF	.06	1	2	.05	.0	.82	.25	.13	---	.33	15.23	272.9
STRUCTURE 7	ADDHYD	.93	1	2	.05	.0	.82	.25	.06	876.78	.33	15.32	16.4
STRUCTURE 7	RUNOFF	.00	1	2	.05	.0	.82	.25	.47	---	.21	4.70	1204.5
STRUCTURE 7	ADDHYD	.94	1	2	.05	.0	.82	.25	.06	878.00	.31	18.27	19.5
STRUCTURE 7	RESVOR	.94	1	2	.05	.0	.82	.25	.05	873.54	10.35?	2.38?	2.5
XSECTION 1	RUNOFF	.08	1	2	.05	.0	1.12	.50	.05	---	.98	3.00	37.6
STRUCTURE 1	RUNOFF	.09	1	2	.05	.0	1.12	.50	.32	---	.96	18.02	202.2
STRUCTURE 1	RESVOR	.09	1	2	.05	.0	1.12	.50	.22	900.38	2.30?	1.37?	15.4
STRUCTURE 2	RUNOFF	.03	1	2	.05	.0	1.12	.50	.32	---	.29	14.62	549.6
STRUCTURE 2	RESVOR	.03	1	2	.05	.0	1.12	.50	.15	888.38	.85?	.23?	8.7
STRUCTURE 3	ADDHYD	.12	1	2	.05	.0	1.12	.50	.21	885.40	2.30?	1.59?	13.7
STRUCTURE 3	RUNOFF	.10	1	2	.05	.0	1.12	.50	.05	---	.66	6.79	65.8
STRUCTURE 3	ADDHYD	.22	1	2	.05	.0	1.12	.50	.13	885.57	.67	7.22	33.0

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 3	RESVOR	.22	1	2	.05	.0	1.12	.50	.13	885.52	.95	3.81	17.4
STRUCTURE 4	ADDHYD	.30	1	2	.05	.0	1.12	.50	.11	882.03	.97	6.80	22.8
STRUCTURE 4	RUNOFF	.04	1	2	.05	.0	1.12	.50	.14	---	.46	8.68	198.1
STRUCTURE 4	ADDHYD	.34	1	2	.05	.0	1.12	.50	.11	882.23	.56	10.31	30.1
STRUCTURE 4	RESVOR	.34	1	2	.05	.0	1.12	.50	.09	876.72	3.50?	1.57?	4.6
STRUCTURE 5	RUNOFF	.32	1	2	.05	.0	1.12	.50	.32	---	1.75	32.45	101.3
STRUCTURE 5	RESVOR	.32	1	2	.05	.0	1.12	.50	.21	900.35	4.00*	4.43*	13.8
STRUCTURE 6	RUNOFF	.21	1	2	.05	.0	1.12	.50	.05	---	1.31	5.52	25.8
STRUCTURE 6	ADDHYD	.53	1	2	.05	.0	1.12	.50	.15	890.84	1.44	6.60	12.3
STRUCTURE 6	RESVOR	.53	1	2	.05	.0	1.12	.50	.15	890.83	1.55	6.54	12.2
STRUCTURE 7	ADDHYD	.88	1	2	.05	.0	1.12	.50	.12	874.49	1.57	7.95	9.1
STRUCTURE 7	RUNOFF	.06	1	2	.05	.0	1.12	.50	.29	---	.38	22.98	411.8
STRUCTURE 7	ADDHYD	.93	1	2	.05	.0	1.12	.50	.13	878.05	.38	23.27	25.0
STRUCTURE 7	RUNOFF	.00	1	2	.05	.0	1.12	.50	.74	---	.24	5.32	1365.1
STRUCTURE 7	ADDHYD	.94	1	2	.05	.0	1.12	.50	.14	878.08	.36	26.92	28.7
STRUCTURE 7	RESVOR	.94	1	2	.05	.0	1.12	.50	.11	874.11	7.15*	5.18*	5.5
XSECTION 1	RUNOFF	.08	1	2	.10	.0	1.43	1.00	.14	---	1.25	6.56	82.3
STRUCTURE 1	RUNOFF	.09	1	2	.10	.0	1.43	1.00	.53	---	1.15	24.84	278.8
STRUCTURE 1	RESVOR	.09	1	2	.10	.0	1.43	1.00	.48	900.62	2.57	2.23	25.0
STRUCTURE 2	RUNOFF	.03	1	2	.10	.0	1.43	1.00	.53	---	.39	15.21	571.9
STRUCTURE 2	RESVOR	.03	1	2	.10	.0	1.43	1.00	.38	888.62	1.30?	.37?	14.0
STRUCTURE 3	ADDHYD	.12	1	2	.10	.0	1.43	1.00	.46	885.51	2.53	2.58	22.3
STRUCTURE 3	RUNOFF	.10	1	2	.10	.0	1.43	1.00	.14	---	.87	10.89	105.6
STRUCTURE 3	ADDHYD	.22	1	2	.10	.0	1.43	1.00	.31	885.63	.95	11.80	53.9
STRUCTURE 3	RESVOR	.22	1	2	.10	.0	1.43	1.00	.31	885.59	1.27	8.75	40.0
STRUCTURE 4	ADDHYD	.30	1	2	.10	.0	1.43	1.00	.26	882.51	1.26	15.30	51.3
STRUCTURE 4	RUNOFF	.04	1	2	.10	.0	1.43	1.00	.28	---	.54	11.20	255.8
STRUCTURE 4	ADDHYD	.34	1	2	.10	.0	1.43	1.00	.27	882.58	1.07	19.88	58.1
STRUCTURE 4	RESVOR	.34	1	2	.10	.0	1.43	1.00	.25	877.62	3.00*	2.95*	8.6
STRUCTURE 5	RUNOFF	.32	1	2	.10	.0	1.43	1.00	.53	---	1.95	50.87	158.8
STRUCTURE 5	RESVOR	.32	1	2	.10	.0	1.43	1.00	.48	900.57	4.20	7.24	22.6
STRUCTURE 6	RUNOFF	.21	1	2	.10	.0	1.43	1.00	.14	---	1.58	13.33	62.3
STRUCTURE 6	ADDHYD	.53	1	2	.10	.0	1.43	1.00	.34	891.53	1.67	15.42	28.9
STRUCTURE 6	RESVOR	.53	1	2	.10	.0	1.43	1.00	.34	891.50	1.82	14.97	28.0
STRUCTURE 7	ADDHYD	.88	1	2	.10	.0	1.43	1.00	.31	878.00	1.84	17.75	20.2
STRUCTURE 7	RUNOFF	.06	1	2	.10	.0	1.43	1.00	.49	---	.48	25.87	463.6

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 7	ADDHYD	.93	1	2	.10	.0	1.43	1.00	.32	878.07	.49	26.47	28.4
STRUCTURE 7	RUNOFF	.00	1	2	.10	.0	1.43	1.00	1.02	---	.31	4.92	1261.0
STRUCTURE 7	ADDHYD	.94	1	2	.10	.0	1.43	1.00	.32	878.10	.46	29.90	31.9
STRUCTURE 7	RESVOR	.94	1	2	.10	.0	1.43	1.00	.30	874.75	5.60*	9.77*	10.4
XSECTION 1	RUNOFF	.08	1	2	.10	.0	1.79	2.00	.28	---	1.47	8.41	105.6
STRUCTURE 1	RUNOFF	.09	1	2	.10	.0	1.79	2.00	.80	---	1.29	27.25	305.8
STRUCTURE 1	RESVOR	.09	1	2	.10	.0	1.79	2.00	.72	900.91	3.18	3.28	36.8
STRUCTURE 2	RUNOFF	.03	1	2	.10	.0	1.79	2.00	.80	---	.54	13.53	508.6
STRUCTURE 2	RESVOR	.03	1	2	.10	.0	1.79	2.00	.56	888.91	2.30?	.55?	20.6
STRUCTURE 3	ADDHYD	.12	1	2	.10	.0	1.79	2.00	.69	885.52	3.14	3.81	32.9
STRUCTURE 3	RUNOFF	.10	1	2	.10	.0	1.79	2.00	.28	---	1.04	13.84	134.2
STRUCTURE 3	ADDHYD	.22	1	2	.10	.0	1.79	2.00	.50	885.67	1.07	14.91	68.1
STRUCTURE 3	RESVOR	.22	1	2	.10	.0	1.79	2.00	.49	885.63	1.89	11.83	54.0
STRUCTURE 4	ADDHYD	.30	1	2	.10	.0	1.79	2.00	.44	882.58	1.58	19.85	66.5
STRUCTURE 4	RUNOFF	.04	1	2	.10	.0	1.79	2.00	.48	---	.72	11.56	264.0
STRUCTURE 4	ADDHYD	.34	1	2	.10	.0	1.79	2.00	.44	882.67	1.59	25.42	74.3
STRUCTURE 4	RESVOR	.34	1	2	.10	.0	1.79	2.00	.41	879.01	3.90*	4.30*	12.6
STRUCTURE 5	RUNOFF	.32	1	2	.10	.0	1.79	2.00	.80	---	2.32	65.29	203.8
STRUCTURE 5	RESVOR	.32	1	2	.10	.0	1.79	2.00	.71	900.84	4.68	10.77	33.6
STRUCTURE 6	RUNOFF	.21	1	2	.10	.0	1.79	2.00	.28	---	2.00	19.56	91.3
STRUCTURE 6	ADDHYD	.53	1	2	.10	.0	1.79	2.00	.54	892.14	2.23	23.79	44.5
STRUCTURE 6	RESVOR	.53	1	2	.10	.0	1.79	2.00	.54	892.10	2.49	23.18	43.4
STRUCTURE 7	ADDHYD	.88	1	2	.10	.0	1.79	2.00	.49	878.08	2.53	27.24	31.1
STRUCTURE 7	RUNOFF	.06	1	2	.10	.0	1.79	2.00	.74	---	.63	24.73	443.1
STRUCTURE 7	ADDHYD	.93	1	2	.10	.0	1.79	2.00	.50	878.12	2.07	32.52	34.9
STRUCTURE 7	RUNOFF	.00	1	2	.10	.0	1.79	2.00	1.37	---	.34	4.15	1062.9
STRUCTURE 7	ADDHYD	.94	1	2	.10	.0	1.79	2.00	.51	878.13	2.07	33.10	35.4
STRUCTURE 7	RESVOR	.94	1	2	.10	.0	1.79	2.00	.48	875.99	7.30*	13.58*	14.5
XSECTION 1	RUNOFF	.08	1	2	.10	.0	1.94	3.00	.35	---	1.72	8.23	103.3
STRUCTURE 1	RUNOFF	.09	1	2	.10	.0	1.94	3.00	.92	---	1.47	25.18	282.6
STRUCTURE 1	RESVOR	.09	1	2	.10	.0	1.94	3.00	.83	901.01	3.96	3.64	40.9
STRUCTURE 2	RUNOFF	.03	1	2	.10	.0	1.94	3.00	.92	---	.75	10.74	403.8
STRUCTURE 2	RESVOR	.03	1	2	.10	.0	1.94	3.00	.64	889.02	3.20?	.62?	23.1
STRUCTURE 3	ADDHYD	.12	1	2	.10	.0	1.94	3.00	.78	885.53	3.92	4.24	36.7
STRUCTURE 3	RUNOFF	.10	1	2	.10	.0	1.94	3.00	.35	---	1.24	12.47	121.0
STRUCTURE 3	ADDHYD	.22	1	2	.10	.0	1.94	3.00	.58	885.65	1.41	13.80	63.1

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 3	RESVOR	.22	1	2	.10	.0	1.94	3.00	.58	885.62	1.80	11.65	53.2
STRUCTURE 4	ADDHYD	.30	1	2	.10	.0	1.94	3.00	.52	882.58	1.78	19.82	66.4
STRUCTURE 4	RUNOFF	.04	1	2	.10	.0	1.94	3.00	.57	---	.90	9.96	227.4
STRUCTURE 4	ADDHYD	.34	1	2	.10	.0	1.94	3.00	.52	882.67	1.57	25.53	74.6
STRUCTURE 4	RESVOR	.34	1	2	.10	.0	1.94	3.00	.47	879.62	4.80*	4.73*	13.8
STRUCTURE 5	RUNOFF	.32	1	2	.10	.0	1.94	3.00	.92	---	2.50	63.37	197.8
STRUCTURE 5	RESVOR	.32	1	2	.10	.0	1.94	3.00	.82	900.95	5.28	12.16	38.0
STRUCTURE 6	RUNOFF	.21	1	2	.10	.0	1.94	3.00	.35	---	2.14	18.98	88.7
STRUCTURE 6	ADDHYD	.53	1	2	.10	.0	1.94	3.00	.63	892.15	3.06	23.81	44.5
STRUCTURE 6	RESVOR	.53	1	2	.10	.0	1.94	3.00	.63	892.13	3.26	23.60	44.2
STRUCTURE 7	ADDHYD	.88	1	2	.10	.0	1.94	3.00	.57	878.09	3.33	28.11	32.1
STRUCTURE 7	RUNOFF	.06	1	2	.10	.0	1.94	3.00	.86	---	.81	20.42	365.9
STRUCTURE 7	ADDHYD	.93	1	2	.10	.0	1.94	3.00	.59	878.13	2.58	33.79	36.2
STRUCTURE 7	RUNOFF	.00	1	2	.10	.0	1.94	3.00	1.51	---	.41	3.41	874.4
STRUCTURE 7	ADDHYD	.94	1	2	.10	.0	1.94	3.00	.59	878.14	2.58	34.41	36.7
STRUCTURE 7	RESVOR	.94	1	2	.10	.0	1.94	3.00	.55	876.62	8.30*	14.96*	16.0
XSECTION 1	RUNOFF	.08	1	2	.20	.0	2.28	6.00	.53	---	2.32	7.42	93.1
STRUCTURE 1	RUNOFF	.09	1	2	.20	.0	2.28	6.00	1.19	---	1.93	20.83	233.8
STRUCTURE 1	RESVOR	.09	1	2	.20	.0	2.28	6.00	1.18	901.16	6.53	4.18	46.9
STRUCTURE 2	RUNOFF	.03	1	2	.20	.0	2.28	6.00	1.20	---	1.20	7.13	268.0
STRUCTURE 2	RESVOR	.03	1	2	.20	.0	2.28	6.00	1.09	889.23	6.20?	.76?	28.5
STRUCTURE 3	ADDHYD	.12	1	2	.20	.0	2.28	6.00	1.16	885.54	6.42	4.93	42.6
STRUCTURE 3	RUNOFF	.10	1	2	.20	.0	2.28	6.00	.53	---	1.82	10.69	103.7
STRUCTURE 3	ADDHYD	.22	1	2	.20	.0	2.28	6.00	.86	885.63	2.00	12.39	56.6
STRUCTURE 3	RESVOR	.22	1	2	.20	.0	2.28	6.00	.86	885.62	2.93	11.62	53.1
STRUCTURE 4	ADDHYD	.30	1	2	.20	.0	2.28	6.00	.77	882.56	2.52	18.69	62.6
STRUCTURE 4	RUNOFF	.04	1	2	.20	.0	2.28	6.00	.78	---	1.54	7.59	173.4
STRUCTURE 4	ADDHYD	.34	1	2	.20	.0	2.28	6.00	.77	882.65	2.26	23.96	70.0
STRUCTURE 4	RESVOR	.34	1	2	.20	.0	2.28	6.00	.77	881.03	7.40*	5.72*	16.7
STRUCTURE 5	RUNOFF	.32	1	2	.20	.0	2.28	6.00	1.19	---	2.96	58.77	183.5
STRUCTURE 5	RESVOR	.32	1	2	.20	.0	2.28	6.00	1.18	901.13	7.39	14.52	45.3
STRUCTURE 6	RUNOFF	.21	1	2	.20	.0	2.28	6.00	.53	---	2.84	18.25	85.2
STRUCTURE 6	ADDHYD	.53	1	2	.20	.0	2.28	6.00	.92	892.22	3.36	24.67	46.2
STRUCTURE 6	RESVOR	.53	1	2	.20	.0	2.28	6.00	.92	892.18	3.68	24.28	45.4
STRUCTURE 7	ADDHYD	.88	1	2	.20	.0	2.28	6.00	.86	878.09	5.71	28.91	33.0
STRUCTURE 7	RUNOFF	.06	1	2	.20	.0	2.28	6.00	1.13	---	1.38	13.96	250.1

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 7	ADDHYD	.93	1	2	.20	.0	2.28	6.00	.88	878.13	2.86	33.96	36.4
STRUCTURE 7	RUNOFF	.00	1	2	.20	.0	2.28	6.00	1.84	---	.62	2.47	632.1
STRUCTURE 7	ADDHYD	.94	1	2	.20	.0	2.28	6.00	.88	878.14	2.85	34.62	37.0
STRUCTURE 7	RESVOR	.94	1	2	.20	.0	2.28	6.00	.87	878.02	9.11	19.56	20.9
XSECTION 1	RUNOFF	.08	2	2	.20	.0	2.64	12.00	.73	---	5.99	8.07	101.2
STRUCTURE 1	RUNOFF	.09	2	2	.20	.0	2.64	12.00	1.50	---	5.70	18.71	210.0
STRUCTURE 1	RESVOR	.09	2	2	.20	.0	2.64	12.00	1.48	901.30	10.20*	4.68*	52.5
STRUCTURE 2	RUNOFF	.03	2	2	.20	.0	2.64	12.00	1.50	---	5.32	6.19	232.7
STRUCTURE 2	RESVOR	.03	2	2	.20	.0	2.64	12.00	1.35	889.41	12.00?	.89?	33.3
STRUCTURE 3	ADDHYD	.12	2	2	.20	.0	2.64	12.00	1.45	885.55	10.73	5.55	48.0
STRUCTURE 3	RUNOFF	.10	2	2	.20	.0	2.64	12.00	.73	---	5.56	11.42	110.8
STRUCTURE 3	ADDHYD	.22	2	2	.20	.0	2.64	12.00	1.11	885.65	5.62	13.91	63.6
STRUCTURE 3	RESVOR	.22	2	2	.20	.0	2.64	12.00	1.11	885.64	6.35	12.98	59.3
STRUCTURE 4	ADDHYD	.30	2	2	.20	.0	2.64	12.00	1.01	882.60	6.19	20.88	70.0
STRUCTURE 4	RUNOFF	.04	2	2	.20	.0	2.64	12.00	1.04	---	5.37	7.17	163.7
STRUCTURE 4	ADDHYD	.34	2	2	.20	.0	2.64	12.00	1.01	882.69	6.01	26.58	77.7
STRUCTURE 4	RESVOR	.34	2	2	.20	.0	2.64	12.00	1.00	882.20	12.49	9.74	28.5
STRUCTURE 5	RUNOFF	.32	2	2	.20	.0	2.64	12.00	1.50	---	6.65	57.12	178.3
STRUCTURE 5	RESVOR	.32	2	2	.20	.0	2.64	12.00	1.48	901.29	11.73	16.49	51.5
STRUCTURE 6	RUNOFF	.21	2	2	.20	.0	2.64	12.00	.73	---	6.43	20.21	94.4
STRUCTURE 6	ADDHYD	.53	2	2	.20	.0	2.64	12.00	1.18	892.50	7.41	28.22	52.8
STRUCTURE 6	RESVOR	.53	2	2	.20	.0	2.64	12.00	1.18	892.49	7.83	28.11	52.6
STRUCTURE 7	ADDHYD	.88	2	2	.20	.0	2.64	12.00	1.11	878.13	8.09	33.50	38.2
STRUCTURE 7	RUNOFF	.06	2	2	.20	.0	2.64	12.00	1.43	---	5.34	12.23	219.1
STRUCTURE 7	ADDHYD	.93	2	2	.20	.0	2.64	12.00	1.13	878.17	7.20	38.87	41.7
STRUCTURE 7	RUNOFF	.00	2	2	.20	.0	2.64	12.00	2.19	---	4.80	1.24	317.2
STRUCTURE 7	ADDHYD	.94	2	2	.20	.0	2.64	12.00	1.13	878.18	7.20	39.41	42.1
STRUCTURE 7	RESVOR	.94	2	2	.20	.0	2.64	12.00	1.12	878.14	12.06	34.37	36.7
XSECTION 1	RUNOFF	.08	3	2	.30	.0	2.79	18.00	.83	---	12.05	8.52	106.9
STRUCTURE 1	RUNOFF	.09	3	2	.30	.0	2.79	18.00	1.63	---	11.96	16.83	188.9
STRUCTURE 1	RESVOR	.09	3	2	.30	.0	2.79	18.00	1.63	901.34	15.84	4.84	54.3
STRUCTURE 2	RUNOFF	.03	3	2	.30	.0	2.79	18.00	1.63	---	11.57	5.60	210.7
STRUCTURE 2	RESVOR	.03	3	2	.30	.0	2.79	18.00	1.57	889.49	18.00?	.94?	35.5
STRUCTURE 3	ADDHYD	.12	3	2	.30	.0	2.79	18.00	1.62	885.55	16.26	5.76	49.8
STRUCTURE 3	RUNOFF	.10	3	2	.30	.0	2.79	18.00	.83	---	11.72	11.77	114.2
STRUCTURE 3	ADDHYD	.22	3	2	.30	.0	2.79	18.00	1.24	885.67	11.79	15.15	69.2

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 3	RESVOR	.22	3	2	.30	.0	2.79	18.00	1.24	885.66	12.35	14.09	64.4
STRUCTURE 4	ADDHYD	.30	3	2	.30	.0	2.79	18.00	1.13	882.63	12.13	22.57	75.6
STRUCTURE 4	RUNOFF	.04	3	2	.30	.0	2.79	18.00	1.15	---	11.60	6.96	159.0
STRUCTURE 4	ADDHYD	.34	3	2	.30	.0	2.79	18.00	1.13	882.71	11.92	27.91	81.5
STRUCTURE 4	RESVOR	.34	3	2	.30	.0	2.79	18.00	1.13	882.35	18.26	12.24	35.8
STRUCTURE 5	RUNOFF	.32	3	2	.30	.0	2.79	18.00	1.63	---	12.76	52.62	164.3
STRUCTURE 5	RESVOR	.32	3	2	.30	.0	2.79	18.00	1.63	901.33	17.26	17.06	53.3
STRUCTURE 6	RUNOFF	.21	3	2	.30	.0	2.79	18.00	.83	---	12.47	21.24	99.2
STRUCTURE 6	ADDHYD	.53	3	2	.30	.0	2.79	18.00	1.31	892.76	12.99	31.37	58.7
STRUCTURE 6	RESVOR	.53	3	2	.30	.0	2.79	18.00	1.31	892.73	13.37	31.00	58.0
STRUCTURE 7	ADDHYD	.88	3	2	.30	.0	2.79	18.00	1.24	878.16	13.51	36.63	41.8
STRUCTURE 7	RUNOFF	.06	3	2	.30	.0	2.79	18.00	1.55	---	11.58	11.21	200.9
STRUCTURE 7	ADDHYD	.93	3	2	.30	.0	2.79	18.00	1.26	878.20	13.39	42.24	45.3
STRUCTURE 7	RUNOFF	.00	3	2	.30	.0	2.79	18.00	2.34	---	11.70	.98	250.5
STRUCTURE 7	ADDHYD	.94	3	2	.30	.0	2.79	18.00	1.26	878.21	12.60	42.89	45.8
STRUCTURE 7	RESVOR	.94	3	2	.30	.0	2.79	18.00	1.26	878.17	17.92	38.60	41.2
XSECTION 1	RUNOFF	.08	3	2	.30	.0	3.04	24.00	.99	---	15.84	7.87	98.7
STRUCTURE 1	RUNOFF	.09	3	2	.30	.0	3.04	24.00	1.85	---	15.77	14.63	164.2
STRUCTURE 1	RESVOR	.09	3	2	.30	.0	3.04	24.00	1.85	901.39	19.67	4.99	56.0
STRUCTURE 2	RUNOFF	.03	3	2	.30	.0	3.04	24.00	1.85	---	15.47	4.74	178.0
STRUCTURE 2	RESVOR	.03	3	2	.30	.0	3.04	24.00	1.78	889.54	21.60	.98	36.8
STRUCTURE 3	ADDHYD	.12	3	2	.30	.0	3.04	24.00	1.83	885.55	19.74	5.96	51.5
STRUCTURE 3	RUNOFF	.10	3	2	.30	.0	3.04	24.00	.99	---	15.56	10.71	103.9
STRUCTURE 3	ADDHYD	.22	3	2	.30	.0	3.04	24.00	1.43	885.66	15.63	14.62	66.8
STRUCTURE 3	RESVOR	.22	3	2	.30	.0	3.04	24.00	1.43	885.65	16.00	13.82	63.1
STRUCTURE 4	ADDHYD	.30	3	2	.30	.0	3.04	24.00	1.31	882.61	15.92	21.64	72.5
STRUCTURE 4	RUNOFF	.04	3	2	.30	.0	3.04	24.00	1.34	---	15.49	6.08	138.9
STRUCTURE 4	ADDHYD	.34	3	2	.30	.0	3.04	24.00	1.32	882.70	15.68	26.93	78.7
STRUCTURE 4	RESVOR	.34	3	2	.30	.0	3.04	24.00	1.31	882.40	21.50	13.14	38.4
STRUCTURE 5	RUNOFF	.32	3	2	.30	.0	3.04	24.00	1.85	---	16.46	47.31	147.7
STRUCTURE 5	RESVOR	.32	3	2	.30	.0	3.04	24.00	1.85	901.37	20.92	17.57	54.9
STRUCTURE 6	RUNOFF	.21	3	2	.30	.0	3.04	24.00	.99	---	16.16	19.97	93.3
STRUCTURE 6	ADDHYD	.53	3	2	.30	.0	3.04	24.00	1.50	892.73	17.05	31.08	58.2
STRUCTURE 6	RESVOR	.53	3	2	.30	.0	3.04	24.00	1.50	892.72	17.34	30.94	57.9
STRUCTURE 7	ADDHYD	.88	3	2	.30	.0	3.04	24.00	1.43	878.18	19.48	39.54	45.1
STRUCTURE 7	RUNOFF	.06	3	2	.30	.0	3.04	24.00	1.77	---	15.47	9.54	170.9

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
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A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 7	ADDHYD	.93	3	2	.30	.0	3.04	24.00	1.45	878.21	16.78	42.97	46.1
STRUCTURE 7	RUNOFF	.00	3	2	.30	.0	3.04	24.00	2.59	---	15.60	.80	206.0
STRUCTURE 7	ADDHYD	.94	3	2	.30	.0	3.04	24.00	1.45	878.21	16.77	43.54	46.5
STRUCTURE 7	RESVOR	.94	3	2	.30	.0	3.04	24.00	1.45	878.20	19.44	42.51	45.4

SUMMARY TABLE 3 - DISCHARGE (CFS) AT XSECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 0
STRUCTURE 7	.94	
ALTERNATE 0		42.51
STRUCTURE 6	.53	
ALTERNATE 0		30.94
STRUCTURE 5	.32	
ALTERNATE 0		17.57
STRUCTURE 4	.34	
ALTERNATE 0		13.14
STRUCTURE 3	.22	
ALTERNATE 0		13.82
STRUCTURE 2	.03	
ALTERNATE 0		.98
STRUCTURE 1	.09	
ALTERNATE 0		4.99
XSECTION 1	.08	
ALTERNATE 0		7.87

10 YEAR - PROPOSED CONDITIONS

```
*****************************************************************************
*                                    * TR 20 S/N     :                      *
*                                    * HMVersion     :  3.40                *
*              TR 20                 * Date          :  6/23/**             *
*                                    * Time          : 16:28:32             *
*    Project Formulation Hydrology   * Input file    : smmtwel0.t20         *
*                                    * Output file   : smmtwel0.out         *
*                                    *                                      *
*                                    *                                      *
*****************************************************************************
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```
xxxxxxx  xxxxxx    xxxxx    xxxxx
   x     x     x  x     x  x    xx
   x     x     x       x   x   x x
   x     xxxxxx      x     x  x  x
   x     x   x     x       x x   x
   x     x    x   x        xx    x
   x     x     x  xxxxxxx   xxxxx
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::::::::::::::::::::::::::::::::::::::::::
:::                                    :::
:::  Full Microcomputer Implementation :::
:::                by                  :::
:::        Haestad Methods, Inc.       :::
:::                                    :::
::::::::::::::::::::::::::::::::::::::::::
::::::::::::::::::::::::::::::::::::::::::
```

37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

```
******************80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY******************

JOB TR-20                                                SUMMARY   NOPLOTS
TITLE     SUMMIT ENCLAVE, DEKALB  OFFSITE AND ONSITE              09/11/02
TITLE     BULLET.70 N.E.ILL. 10 YR: 15,30MIN,1,2,3,6,12,18,24 HR STORMS
 5 RAINFL 1                    0.05                                   HUFFS1ST
 8                 0.00        0.16        0.33        0.43        0.52
 8                 0.60        0.66        0.71        0.75        0.79
 8                 0.82        0.84        0.86        0.88        0.90
 8                 0.92        0.94        0.96        0.97        0.98
 8                 1.00        1.00        1.00        1.00        1.00
 9 ENDTBL
 5 RAINFL 2                    0.05                                   HUFFS2ND
 8                 0.00        0.03        0.08        0.12        0.16
 8                 0.22        0.29        0.39        0.51        0.62
 8                 0.70        0.76        0.81        0.85        0.88
 8                 0.91        0.93        0.95        0.97        0.98
 8                 1.00        1.00        1.00        1.00        1.00
 9 ENDTBL
 5 RAINFL 3                    0.05                                   HUFFS3RD
 8                 0.00        0.03        0.06        0.09        0.12
 8                 0.15        0.19        0.23        0.27        0.32
 8                 0.38        0.45        0.57        0.70        0.79
 8                 0.85        0.89        0.92        0.95        0.97
 8                 1.00        1.00        1.00        1.00        1.00
 9 ENDTBL
 3 STRUCT       1                                                    57ACRES
 8                            900.0         0.0        0.00              TRIB
 8                            901.0         3.6        3.55                TO
 8                            902.0         7.2        7.10            24INCH
 8                            903.0        10.7       10.65          ST.SEWER
 8                            904.0        14.3       14.20           OFFSITE
 8                            905.0        59.9       17.75             SOUTH
 9 ENDTBL
 3 STRUCT       2                                                     ENCOAT
 8                            888.0         0.0        0.00             BASIN
 8                            889.0         0.6        1.17               FOR
 8                            890.0         1.3        2.35           17ACRES
 8                            891.0         1.9        3.52           OFFSITE
 8                            892.0         2.6        4.70             SOUTH
 8                            893.0        17.9        6.05
 8                            894.0        45.8        7.40
 9 ENDTBL
 3 STRUCT       3                                                    66ACRES
 8                            885.0         0.0         0.0              TRIB
 8                            885.5         2.0         0.1                TO
 8                            886.0        40.7        1.54
 8                            887.0       194.3        7.79
```

**********80-80 LIST OF INPUT DATA (CONTINUED)**********

```
8                                  887.6       318.0       12.99            WETLAND
8                                  886.0       406.0       15.99            OFFSITE
9 ENDTBL
3 STRUCT        4                                                            SOUTH
8                                  876.0        0.00        0.00              BASIN
8                                  877.0         2.2        1.08
8                                  878.0         3.4        2.26
8                                  879.0         4.3        3.54
8                                  880.0         5.0        4.92
8                                  881.0         5.7        6.40
8                                  882.0         6.3        8.14
8                                  882.5        14.9        9.19
8                                  883.0        45.5       10.41
8                                  883.5       149.5       11.83
9 ENDTBL
3 STRUCT        5                                                            BASIN
8                                  900.0         0.0        0.00                FOR
8                                  901.0        12.8       12.81                205
8                                  902.0        25.6       25.63              ACRES
8                                  903.0        38.4       38.44            OFFSITE
8                                  904.0        51.3       51.25              NORTH
8                                  905.0       136.0       64.06
9 ENDTBL
3 STRUCT        6                                                            BASIN
8                                  890.0         0.0        0.00                 AT
8                                  891.0         7.9        0.06                 RR
8                                  892.0        22.0        0.24            CULVERT
8                                  893.0        34.4        0.59            OFFSITE
8                                  894.0        49.0        1.16              NORTH
8                                  895.0        63.0        1.95
8                                  896.0       200.0        2.96
9 ENDTBL
3 STRUCT        7                                                            NORTH
8                                  873.0         0.0        0.00              BASIN
8                                  874.0         4.4        1.74
8                                  875.0        11.6        3.64
8                                  876.0        13.6        5.68
8                                  877.0        15.8        7.86
8                                  878.0        17.7       10.20
8                                  879.0       139.5       12.70
9 ENDTBL
6 RUNOFF 1    1        1         0.0797          75         1.01     1    OFFCENTR
6 RUNOFF 1      1      2         0.0891          88         1.11     1    OFFSOUTH
6 RESVOR 2      1 2    3          900.0                        1     1      24INCH
6 RUNOFF 1      2      4         0.0266          88         0.21     1    OFFSOUTH
6 RESVOR 2      2 4    2          888.0                        1     1      ENCOAT
```

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**********************80-80 LIST OF INPUT DATA (CONTINUED)*********************

 6 ADDHYD 4     3 2 3 4                                   1     1     OFFSOUTH
 6 RUNOFF 1     3     2       0.1031          75        0.51     1     OFFSOUTH
 6 ADDHYD 4     3 2 4 3                                   1     1     OFFSOUTH
 6 RESVOR 2     3 3   2        885.0                      1     1      WETLAND
 6 ADDHYD 4     4 1 2 5                                   1     1     ADD-OFFS
 6 RUNOFF 1     4     6       0.0438          81        0.31     1        SOUTH
 6 ADDHYD 4     4 5 6 7                                   1     1     OFFANDON
 6 RESVOR 2     4 7   6        876.0                      1     1      S.BASIN
 6 RUNOFF 1     5     1       0.3203          88        2.31     1     OFFNORTH
 6 RESVOR 2     5 1   2        900.0                      1     1     205ACRES
 6 RUNOFF 1     6     3       0.2141          75        1.51     1     137ACRES
 6 ADDHYD 4     6 2 3 1                                   1     1     OFFNORTH
 6 RESVOR 2     6 1   2        890.0                      1     1     RRCULVRT
 6 ADDHYD 4     7 2 6 7                                   1     1     OFFANDS0
 6 RUNOFF 1     7     6       0.0558          87        0.31     1        NORTH
 6 ADDHYD 4     7 6 7 5                                   1     1      N.AND.S
 6 RUNOFF 1     7     6       0.0039          96        0.21     1       OUTLOT
 6 ADDHYD 4     7 5 6 7                                   1     1
 6 RESVOR 2     7 7   6        873.0                      1     1      N.BASIN
   ENDATA
 7 INCREM 6                     0.05
 7 COMPUT 7   1       7          0.0        1.21       0.251 2           15MIN
   ENDCMP 1
 7 COMPUT 7   1       7          0.0        1.65        .501 2           30MIN
   ENDCMP 1
 7 INCREM 6                     0.1
 7 COMPUT 7   1       7          0.0        2.10       1.001 2             1HR
   ENDCMP 1
 7 COMPUT 7   1       7          0.0        2.64       2.001 2             2HR
   ENDCMP 1
 7 COMPUT 7   1       7          0.0        2.86       3.001 2             3HR
   ENDCMP 1
 7 INCREM 6                     0.2
 7 COMPUT 7   1       7          0.0        3.35       6.001 2             6HR
   ENDCMP 1
 7 COMPUT 7   1       7          0.0        3.89      12.002 2            12HR
   ENDCMP 1
 7 INCREM 6                     0.3
 7 COMPUT 7   1       7          0.0        4.11      18.003 2            18HR
   ENDCMP 1
 7 COMPUT 7   1       7          0.0        4.47      24.003 2            24HR
   ENDCMP 1
   ENDJOB 2

*******************************END OF 80-80 LIST*******************************
```

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
XSECTION 1	RUNOFF	.08	1	2	.05	.0	1.21	.25	.08	---	.81	4.36	54.6
STRUCTURE 1	RUNOFF	.09	1	2	.05	.0	1.21	.25	.38	---	.84	22.16	248.8
STRUCTURE 1	RESVOR	.09	1	2	.05	.0	1.21	.25	.26	900.45	2.20*	1.61*	18.1
STRUCTURE 2	RUNOFF	.03	1	2	.05	.0	1.21	.25	.38	---	.23	25.07	942.6
STRUCTURE 2	RESVOR	.03	1	2	.05	.0	1.21	.25	.18	888.45	.70?	.27?	10.2
STRUCTURE 3	ADDHYD	.12	1	2	.05	.0	1.21	.25	.24	885.47	2.15*	1.87*	16.2
STRUCTURE 3	RUNOFF	.10	1	2	.05	.0	1.21	.25	.08	---	.49	10.83	105.1
STRUCTURE 3	ADDHYD	.22	1	2	.05	.0	1.21	.25	.16	885.62	.49	11.24	51.4
STRUCTURE 3	RESVOR	.22	1	2	.05	.0	1.21	.25	.16	885.55	.75	5.49	25.1
STRUCTURE 4	ADDHYD	.30	1	2	.05	.0	1.21	.25	.14	882.20	.78	9.80	32.8
STRUCTURE 4	RUNOFF	.04	1	2	.05	.0	1.21	.25	.18	---	.34	15.84	361.7
STRUCTURE 4	ADDHYD	.34	1	2	.05	.0	1.21	.25	.14	882.55	.35	17.69	51.7
STRUCTURE 4	RESVOR	.34	1	2	.05	.0	1.21	.25	.11	876.93	2.55?	2.06?	6.0
STRUCTURE 5	RUNOFF	.32	1	2	.05	.0	1.21	.25	.48	---	1.63	38.42	119.9
STRUCTURE 5	RESVOR	.32	1	2	.05	.0	1.21	.25	.30	900.43	7.89	5.47	17.1
STRUCTURE 6	RUNOFF	.21	1	2	.05	.0	1.21	.25	.08	---	1.15	7.85	36.6
STRUCTURE 6	ADDHYD	.53	1	2	.05	.0	1.21	.25	.21	891.07	1.24	8.93	16.7
STRUCTURE 6	RESVOR	.53	1	2	.05	.0	1.21	.25	.21	891.06	1.39	8.72	16.3
STRUCTURE 7	ADDHYD	.88	1	2	.05	.0	1.21	.25	.17	874.86	1.41	10.61	12.1
STRUCTURE 7	RUNOFF	.06	1	2	.05	.0	1.21	.25	.35	---	.31	38.44	688.8
STRUCTURE 7	ADDHYD	.93	1	2	.05	.0	1.21	.25	.18	878.18	.32	39.08	41.9
STRUCTURE 7	RUNOFF	.00	1	2	.05	.0	1.21	.25	.82	---	.20	8.29	2125.2
STRUCTURE 7	ADDHYD	.94	1	2	.05	.0	1.21	.25	.18	878.22	.30	44.44	47.5
STRUCTURE 7	RESVOR	.94	1	2	.05	.0	1.21	.25	.14	874.35	8.55*	6.94*	7.4
XSECTION 1	RUNOFF	.08	1	2	.05	.0	1.65	.50	.22	---	.93	12.18	152.9
STRUCTURE 1	RUNOFF	.09	1	2	.05	.0	1.65	.50	.69	---	.94	38.31	430.0
STRUCTURE 1	RESVOR	.09	1	2	.05	.0	1.65	.50	.47	900.81	2.30*	2.92*	32.8
STRUCTURE 2	RUNOFF	.03	1	2	.05	.0	1.65	.50	.69	---	.27	32.44	1219.4
STRUCTURE 2	RESVOR	.03	1	2	.05	.0	1.65	.50	.32	888.82	.85?	.49?	18.4
STRUCTURE 3	ADDHYD	.12	1	2	.05	.0	1.65	.50	.44	885.52	2.25*	3.38*	29.2
STRUCTURE 3	RUNOFF	.10	1	2	.05	.0	1.65	.50	.22	---	.61	26.30	255.1
STRUCTURE 3	ADDHYD	.22	1	2	.05	.0	1.65	.50	.34	885.82	.61	27.13	124.0

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 3	RESVOR	.22	1	2	.05	.0	1.65	.50	.33	885.67	.87	15.54	71.0
STRUCTURE 4	ADDHYD	.30	1	2	.05	.0	1.65	.50	.30	882.71	.90	27.62	92.5
STRUCTURE 4	RUNOFF	.04	1	2	.05	.0	1.65	.50	.40	---	.39	24.41	557.4
STRUCTURE 4	ADDHYD	.34	1	2	.05	.0	1.65	.50	.31	882.82	.61	34.37	100.4
STRUCTURE 4	RESVOR	.34	1	2	.05	.0	1.65	.50	.22	878.43	2.85?	3.79?	11.1
STRUCTURE 5	RUNOFF	.32	1	2	.05	.0	1.65	.50	.69	---	1.73	69.13	215.8
STRUCTURE 5	RESVOR	.32	1	2	.05	.0	1.65	.50	.45	900.74	3.95*	9.45*	29.5
STRUCTURE 6	RUNOFF	.21	1	2	.05	.0	1.65	.50	.22	---	1.26	22.63	105.7
STRUCTURE 6	ADDHYD	.53	1	2	.05	.0	1.65	.50	.36	892.21	1.31	24.63	46.1
STRUCTURE 6	RESVOR	.53	1	2	.05	.0	1.65	.50	.36	892.10	1.54	23.19	43.4
STRUCTURE 7	ADDHYD	.88	1	2	.05	.0	1.65	.50	.31	878.07	1.55	26.80	30.6
STRUCTURE 7	RUNOFF	.06	1	2	.05	.0	1.65	.50	.64	---	.35	52.16	934.7
STRUCTURE 7	ADDHYD	.93	1	2	.05	.0	1.65	.50	.33	878.29	.36	53.45	57.3
STRUCTURE 7	RUNOFF	.00	1	2	.05	.0	1.65	.50	1.23	---	.23	9.07	2325.8
STRUCTURE 7	ADDHYD	.94	1	2	.05	.0	1.65	.50	.33	878.34	.35	59.55	63.6
STRUCTURE 7	RESVOR	.94	1	2	.05	.0	1.65	.50	.27	875.37	6.00*	12.35*	13.2
XSECTION 1	RUNOFF	.08	1	2	.10	.0	2.10	1.00	.43	---	1.16	19.24	241.4
STRUCTURE 1	RUNOFF	.09	1	2	.10	.0	2.10	1.00	1.05	---	1.11	48.94	549.2
STRUCTURE 1	RESVOR	.09	1	2	.10	.0	2.10	1.00	.95	901.22	2.54	4.39	49.3
STRUCTURE 2	RUNOFF	.03	1	2	.10	.0	2.10	1.00	1.04	---	.34	32.07	1205.8
STRUCTURE 2	RESVOR	.03	1	2	.10	.0	2.10	1.00	.74	889.22	1.30?	.75?	28.4
STRUCTURE 3	ADDHYD	.12	1	2	.10	.0	2.10	1.00	.90	885.54	2.50	5.10	44.1
STRUCTURE 3	RUNOFF	.10	1	2	.10	.0	2.10	1.00	.43	---	.71	33.65	326.4
STRUCTURE 3	ADDHYD	.22	1	2	.10	.0	2.10	1.00	.68	885.92	.72	34.79	159.0
STRUCTURE 3	RESVOR	.22	1	2	.10	.0	2.10	1.00	.68	885.79	1.18	24.72	113.0
STRUCTURE 4	ADDHYD	.30	1	2	.10	.0	2.10	1.00	.61	882.97	1.17	43.95	147.2
STRUCTURE 4	RUNOFF	.04	1	2	.10	.0	2.10	1.00	.67	---	.49	27.72	632.8
STRUCTURE 4	ADDHYD	.34	1	2	.10	.0	2.10	1.00	.62	883.05	1.03	55.03	160.8
STRUCTURE 4	RESVOR	.34	1	2	.10	.0	2.10	1.00	.55	880.33	3.60*	5.23*	15.3
STRUCTURE 5	RUNOFF	.32	1	2	.10	.0	2.10	1.00	1.05	---	1.92	100.10	312.5
STRUCTURE 5	RESVOR	.32	1	2	.10	.0	2.10	1.00	.94	901.11	4.17	14.25	44.5
STRUCTURE 6	RUNOFF	.21	1	2	.10	.0	2.10	1.00	.43	---	1.51	39.70	185.4
STRUCTURE 6	ADDHYD	.53	1	2	.10	.0	2.10	1.00	.74	893.62	1.56	43.44	81.3
STRUCTURE 6	RESVOR	.53	1	2	.10	.0	2.10	1.00	.73	893.27	1.88	38.35	71.8
STRUCTURE 7	ADDHYD	.88	1	2	.10	.0	2.10	1.00	.66	878.21	1.89	43.34	49.4
STRUCTURE 7	RUNOFF	.06	1	2	.10	.0	2.10	1.00	.98	---	.44	55.24	990.0

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 7	ADDHYD	.93	1	2	.10	.0	2.10	1.00	.68	878.33	.45	57.38	61.5
STRUCTURE 7	RUNOFF	.00	1	2	.10	.0	2.10	1.00	1.66	---	.29	8.13	2085.9
STRUCTURE 7	ADDHYD	.94	1	2	.10	.0	2.10	1.00	.69	878.37	.44	63.36	67.7
STRUCTURE 7	RESVOR	.94	1	2	.10	.0	2.10	1.00	.64	877.33	8.00*	16.42*	17.5
XSECTION 1	RUNOFF	.08	1	2	.10	.0	2.64	2.00	.73	---	1.32	22.60	283.5
STRUCTURE 1	RUNOFF	.09	1	2	.10	.0	2.64	2.00	1.50	---	1.23	52.47	588.8
STRUCTURE 1	RESVOR	.09	1	2	.10	.0	2.64	2.00	1.36	901.71	3.14	6.16	69.1
STRUCTURE 2	RUNOFF	.03	1	2	.10	.0	2.64	2.00	1.50	---	.48	26.33	989.9
STRUCTURE 2	RESVOR	.03	1	2	.10	.0	2.64	2.00	1.07	889.70	2.30?	1.09?	41.0
STRUCTURE 3	ADDHYD	.12	1	2	.10	.0	2.64	2.00	1.29	885.57	3.10	7.21	62.3
STRUCTURE 3	RUNOFF	.10	1	2	.10	.0	2.64	2.00	.73	---	.90	37.31	361.9
STRUCTURE 3	ADDHYD	.22	1	2	.10	.0	2.64	2.00	1.03	885.98	.93	39.02	178.3
STRUCTURE 3	RESVOR	.22	1	2	.10	.0	2.64	2.00	1.02	885.86	1.37	29.48	134.8
STRUCTURE 4	ADDHYD	.30	1	2	.10	.0	2.64	2.00	.95	883.03	1.34	52.08	174.5
STRUCTURE 4	RUNOFF	.04	1	2	.10	.0	2.64	2.00	1.04	---	.64	26.99	616.2
STRUCTURE 4	ADDHYD	.34	1	2	.10	.0	2.64	2.00	.96	883.09	1.16	64.54	188.6
STRUCTURE 4	RESVOR	.34	1	2	.10	.0	2.64	2.00	.79	882.33	3.28	11.92	34.8
STRUCTURE 5	RUNOFF	.32	1	2	.10	.0	2.64	2.00	1.50	---	2.25	122.87	383.6
STRUCTURE 5	RESVOR	.32	1	2	.10	.0	2.64	2.00	1.34	901.58	4.62	20.24	63.2
STRUCTURE 6	RUNOFF	.21	1	2	.10	.0	2.64	2.00	.73	---	1.78	50.47	235.7
STRUCTURE 6	ADDHYD	.53	1	2	.10	.0	2.64	2.00	1.10	894.53	1.92	56.47	105.7
STRUCTURE 6	RESVOR	.53	1	2	.10	.0	2.64	2.00	1.10	894.18	2.48	51.50	96.4
STRUCTURE 7	ADDHYD	.88	1	2	.10	.0	2.64	2.00	.98	878.35	2.78	60.80	69.4
STRUCTURE 7	RUNOFF	.06	1	2	.10	.0	2.64	2.00	1.43	---	.59	49.32	883.8
STRUCTURE 7	ADDHYD	.93	1	2	.10	.0	2.64	2.00	1.01	878.40	2.08	66.47	71.3
STRUCTURE 7	RUNOFF	.00	1	2	.10	.0	2.64	2.00	2.19	---	.33	7.01	1797.3
STRUCTURE 7	ADDHYD	.94	1	2	.10	.0	2.64	2.00	1.01	878.41	2.07	67.33	71.9
STRUCTURE 7	RESVOR	.94	1	2	.10	.0	2.64	2.00	.93	878.27	3.48	50.54	54.0
XSECTION 1	RUNOFF	.08	1	2	.10	.0	2.86	3.00	.87	---	1.55	21.19	265.9
STRUCTURE 1	RUNOFF	.09	1	2	.10	.0	2.86	3.00	1.69	---	1.38	47.97	538.4
STRUCTURE 1	RESVOR	.09	1	2	.10	.0	2.86	3.00	1.53	901.86	3.91	6.71	75.3
STRUCTURE 2	RUNOFF	.03	1	2	.10	.0	2.86	3.00	1.69	---	.52	20.36	765.5
STRUCTURE 2	RESVOR	.03	1	2	.10	.0	2.86	3.00	1.20	889.87	3.20?	1.21?	45.4
STRUCTURE 3	ADDHYD	.12	1	2	.10	.0	2.86	3.00	1.45	885.58	3.86	7.88	68.1
STRUCTURE 3	RUNOFF	.10	1	2	.10	.0	2.86	3.00	.87	---	1.07	33.04	320.4
STRUCTURE 3	ADDHYD	.22	1	2	.10	.0	2.86	3.00	1.18	885.93	1.11	34.96	159.8

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 3	RESVOR	.22	1	2	.10	.0	2.86	3.00	1.17	885.84	1.66	28.69	131.1
STRUCTURE 4	ADDHYD	.30	1	2	.10	.0	2.86	3.00	1.09	883.02	1.61	49.72	166.6
STRUCTURE 4	RUNOFF	.04	1	2	.10	.0	2.86	3.00	1.21	---	.82	22.38	510.9
STRUCTURE 4	ADDHYD	.34	1	2	.10	.0	2.86	3.00	1.11	883.08	1.47	62.96	183.9
STRUCTURE 4	RESVOR	.34	1	2	.10	.0	2.86	3.00	.91	882.65	3.53	24.36	71.2
STRUCTURE 5	RUNOFF	.32	1	2	.10	.0	2.86	3.00	1.69	---	2.40	118.78	370.8
STRUCTURE 5	RESVOR	.32	1	2	.10	.0	2.86	3.00	1.51	901.75	5.21	22.43	70.0
STRUCTURE 6	RUNOFF	.21	1	2	.10	.0	2.86	3.00	.87	---	1.96	48.61	227.1
STRUCTURE 6	ADDHYD	.53	1	2	.10	.0	2.86	3.00	1.25	894.43	2.10	54.98	102.9
STRUCTURE 6	RESVOR	.53	1	2	.10	.0	2.86	3.00	1.25	894.13	2.87	50.88	95.2
STRUCTURE 7	ADDHYD	.88	1	2	.10	.0	2.86	3.00	1.12	878.46	3.46	73.90	84.3
STRUCTURE 7	RUNOFF	.06	1	2	.10	.0	2.86	3.00	1.62	---	.75	39.58	709.3
STRUCTURE 7	ADDHYD	.93	1	2	.10	.0	2.86	3.00	1.15	878.48	3.19	76.46	82.0
STRUCTURE 7	RUNOFF	.00	1	2	.10	.0	2.86	3.00	2.41	---	.39	5.72	1467.6
STRUCTURE 7	ADDHYD	.94	1	2	.10	.0	2.86	3.00	1.15	878.48	3.16	76.76	82.0
STRUCTURE 7	RESVOR	.94	1	2	.10	.0	2.86	3.00	1.06	878.44	3.73	71.16	76.0
XSECTION 1	RUNOFF	.08	1	2	.20	.0	3.35	6.00	1.20	---	2.06	18.04	226.3
STRUCTURE 1	RUNOFF	.09	1	2	.20	.0	3.35	6.00	2.13	---	1.78	38.58	433.0
STRUCTURE 1	RESVOR	.09	1	2	.20	.0	3.35	6.00	2.11	902.06	6.39	7.39	83.0
STRUCTURE 2	RUNOFF	.03	1	2	.20	.0	3.35	6.00	2.13	---	.67	15.88	596.9
STRUCTURE 2	RESVOR	.03	1	2	.20	.0	3.35	6.00	1.95	890.15	6.19	1.39	52.3
STRUCTURE 3	ADDHYD	.12	1	2	.20	.0	3.35	6.00	2.07	885.59	6.29	8.78	75.9
STRUCTURE 3	RUNOFF	.10	1	2	.20	.0	3.35	6.00	1.19	---	1.64	26.12	253.4
STRUCTURE 3	ADDHYD	.22	1	2	.20	.0	3.35	6.00	1.66	885.85	1.70	29.08	132.9
STRUCTURE 3	RESVOR	.22	1	2	.20	.0	3.35	6.00	1.66	885.81	2.28	25.92	118.5
STRUCTURE 4	ADDHYD	.30	1	2	.20	.0	3.35	6.00	1.54	882.97	2.18	43.66	146.3
STRUCTURE 4	RUNOFF	.04	1	2	.20	.0	3.35	6.00	1.58	---	1.41	15.37	350.8
STRUCTURE 4	ADDHYD	.34	1	2	.20	.0	3.35	6.00	1.54	883.05	2.04	55.04	160.8
STRUCTURE 4	RESVOR	.34	1	2	.20	.0	3.35	6.00	1.53	882.75	5.14	30.45	89.0
STRUCTURE 5	RUNOFF	.32	1	2	.20	.0	3.35	6.00	2.13	---	2.80	107.88	336.8
STRUCTURE 5	RESVOR	.32	1	2	.20	.0	3.35	6.00	2.11	902.01	7.26	25.78	80.5
STRUCTURE 6	RUNOFF	.21	1	2	.20	.0	3.35	6.00	1.20	---	2.49	43.54	203.4
STRUCTURE 6	ADDHYD	.53	1	2	.20	.0	3.35	6.00	1.74	894.27	2.94	52.75	98.7
STRUCTURE 6	RESVOR	.53	1	2	.20	.0	3.35	6.00	1.74	894.12	3.53	50.62	94.7
STRUCTURE 7	ADDHYD	.88	1	2	.20	.0	3.35	6.00	1.66	878.49	4.20	77.43	88.3
STRUCTURE 7	RUNOFF	.06	1	2	.20	.0	3.35	6.00	2.04	---	.85	28.40	509.0

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 7	ADDHYD	.93	1	2	.20	.0	3.35	6.00	1.68	878.55	4.21	84.42	90.5
STRUCTURE 7	RUNOFF	.00	1	2	.20	.0	3.35	6.00	2.89	---	.60	4.05	1037.6
STRUCTURE 7	ADDHYD	.94	1	2	.20	.0	3.35	6.00	1.69	878.55	4.21	84.98	90.7
STRUCTURE 7	RESVOR	.94	1	2	.20	.0	3.35	6.00	1.67	878.54	4.67	83.87	89.6
XSECTION 1	RUNOFF	.08	2	2	.20	.0	3.89	12.00	1.58	---	5.78	17.86	224.1
STRUCTURE 1	RUNOFF	.09	2	2	.20	.0	3.89	12.00	2.62	---	5.62	32.38	363.4
STRUCTURE 1	RESVOR	.09	2	2	.20	.0	3.89	12.00	2.59	902.27	9.95	8.14	91.4
STRUCTURE 2	RUNOFF	.03	2	2	.20	.0	3.89	12.00	2.62	---	4.80	10.49	394.3
STRUCTURE 2	RESVOR	.03	2	2	.20	.0	3.89	12.00	2.37	890.42	11.00	1.55	58.4
STRUCTURE 3	ADDHYD	.12	2	2	.20	.0	3.89	12.00	2.54	885.60	10.05	9.68	83.7
STRUCTURE 3	RUNOFF	.10	2	2	.20	.0	3.89	12.00	1.58	---	5.49	24.78	240.4
STRUCTURE 3	ADDHYD	.22	2	2	.20	.0	3.89	12.00	2.09	885.86	5.55	29.69	135.7
STRUCTURE 3	RESVOR	.22	2	2	.20	.0	3.89	12.00	2.09	885.83	6.03	27.31	124.8
STRUCTURE 4	ADDHYD	.30	2	2	.20	.0	3.89	12.00	1.95	882.99	5.88	45.09	151.1
STRUCTURE 4	RUNOFF	.04	2	2	.20	.0	3.89	12.00	2.03	---	5.34	13.69	312.5
STRUCTURE 4	ADDHYD	.34	2	2	.20	.0	3.89	12.00	1.96	883.05	5.67	56.19	164.2
STRUCTURE 4	RESVOR	.34	2	2	.20	.0	3.89	12.00	1.94	882.91	7.66	40.10	117.1
STRUCTURE 5	RUNOFF	.32	2	2	.20	.0	3.89	12.00	2.63	---	6.52	99.45	310.5
STRUCTURE 5	RESVOR	.32	2	2	.20	.0	3.89	12.00	2.59	902.24	11.37	28.72	89.7
STRUCTURE 6	RUNOFF	.21	2	2	.20	.0	3.89	12.00	1.58	---	6.18	44.70	208.8
STRUCTURE 6	ADDHYD	.53	2	2	.20	.0	3.89	12.00	2.19	894.61	6.56	57.58	107.7
STRUCTURE 6	RESVOR	.53	2	2	.20	.0	3.89	12.00	2.19	894.45	7.44	55.32	103.5
STRUCTURE 7	ADDHYD	.88	2	2	.20	.0	3.89	12.00	2.09	878.64	7.61	95.32	108.7
STRUCTURE 7	RUNOFF	.06	2	2	.20	.0	3.89	12.00	2.53	---	5.32	21.03	376.9
STRUCTURE 7	ADDHYD	.93	2	2	.20	.0	3.89	12.00	2.11	878.71	7.45	104.20	111.7
STRUCTURE 7	RUNOFF	.00	2	2	.20	.0	3.89	12.00	3.43	---	4.80	1.89	483.5
STRUCTURE 7	ADDHYD	.94	2	2	.20	.0	3.89	12.00	2.12	878.72	7.44	104.87	112.0
STRUCTURE 7	RESVOR	.94	2	2	.20	.0	3.89	12.00	2.10	878.70	7.84	103.53	110.6
XSECTION 1	RUNOFF	.08	3	2	.30	.0	4.11	18.00	1.75	---	11.98	17.35	217.7
STRUCTURE 1	RUNOFF	.09	3	2	.30	.0	4.11	18.00	2.83	---	11.93	27.88	312.9
STRUCTURE 1	RESVOR	.09	3	2	.30	.0	4.11	18.00	2.82	902.31	15.40	8.29	93.1
STRUCTURE 2	RUNOFF	.03	3	2	.30	.0	4.11	18.00	2.82	---	11.56	9.18	345.1
STRUCTURE 2	RESVOR	.03	3	2	.30	.0	4.11	18.00	2.73	890.53	18.02	1.62	60.8
STRUCTURE 3	ADDHYD	.12	3	2	.30	.0	4.11	18.00	2.80	885.60	15.57	9.88	85.4
STRUCTURE 3	RUNOFF	.10	3	2	.30	.0	4.11	18.00	1.75	---	11.67	23.80	230.9
STRUCTURE 3	ADDHYD	.22	3	2	.30	.0	4.11	18.00	2.31	885.86	11.73	30.03	137.3

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 3	RESVOR	.22	3	2	.30	.0	4.11	18.00	2.31	885.84	12.11	28.08	128.4
STRUCTURE 4	ADDHYD	.30	3	2	.30	.0	4.11	18.00	2.16	883.00	12.05	45.36	151.9
STRUCTURE 4	RUNOFF	.04	3	2	.30	.0	4.11	18.00	2.21	---	11.59	12.63	288.3
STRUCTURE 4	ADDHYD	.34	3	2	.30	.0	4.11	18.00	2.16	883.05	11.82	56.01	163.6
STRUCTURE 4	RESVOR	.34	3	2	.30	.0	4.11	18.00	2.16	883.00	13.02	46.46	135.7
STRUCTURE 5	RUNOFF	.32	3	2	.30	.0	4.11	18.00	2.83	---	12.68	87.69	273.8
STRUCTURE 5	RESVOR	.32	3	2	.30	.0	4.11	18.00	2.82	902.29	16.90	29.26	91.4
STRUCTURE 6	RUNOFF	.21	3	2	.30	.0	4.11	18.00	1.75	---	12.32	43.44	202.9
STRUCTURE 6	ADDHYD	.53	3	2	.30	.0	4.11	18.00	2.39	894.85	12.69	60.88	113.9
STRUCTURE 6	RESVOR	.53	3	2	.30	.0	4.11	18.00	2.39	894.67	13.40	58.39	109.3
STRUCTURE 7	ADDHYD	.88	3	2	.30	.0	4.11	18.00	2.30	878.71	13.13	104.00	118.6
STRUCTURE 7	RUNOFF	.06	3	2	.30	.0	4.11	18.00	2.73	---	11.57	18.64	334.1
STRUCTURE 7	ADDHYD	.93	3	2	.30	.0	4.11	18.00	2.33	878.79	13.01	113.41	121.6
STRUCTURE 7	RUNOFF	.00	3	2	.30	.0	4.11	18.00	3.63	---	11.55	1.52	388.7
STRUCTURE 7	ADDHYD	.94	3	2	.30	.0	4.11	18.00	2.33	878.79	13.00	114.07	121.8
STRUCTURE 7	RESVOR	.94	3	2	.30	.0	4.11	18.00	2.33	878.78	13.35	113.03	120.7
XSECTION 1	RUNOFF	.08	3	2	.30	.0	4.47	24.00	2.03	---	15.79	15.44	193.7
STRUCTURE 1	RUNOFF	.09	3	2	.30	.0	4.47	24.00	3.16	---	15.72	23.76	266.7
STRUCTURE 1	RESVOR	.09	3	2	.30	.0	4.47	24.00	3.16	902.35	19.39	8.42	94.5
STRUCTURE 2	RUNOFF	.03	3	2	.30	.0	4.47	24.00	3.16	---	15.46	7.64	287.2
STRUCTURE 2	RESVOR	.03	3	2	.30	.0	4.47	24.00	3.04	890.59	21.60	1.66	62.3
STRUCTURE 3	ADDHYD	.12	3	2	.30	.0	4.47	24.00	3.13	885.60	19.47	10.06	87.0
STRUCTURE 3	RUNOFF	.10	3	2	.30	.0	4.47	24.00	2.02	---	15.53	20.86	202.3
STRUCTURE 3	ADDHYD	.22	3	2	.30	.0	4.47	24.00	2.61	885.83	15.59	27.89	127.5
STRUCTURE 3	RESVOR	.22	3	2	.30	.0	4.47	24.00	2.61	885.82	15.91	26.49	121.1
STRUCTURE 4	ADDHYD	.30	3	2	.30	.0	4.47	24.00	2.45	882.94	15.85	41.87	140.3
STRUCTURE 4	RUNOFF	.04	3	2	.30	.0	4.47	24.00	2.51	---	15.47	10.75	245.4
STRUCTURE 4	ADDHYD	.34	3	2	.30	.0	4.47	24.00	2.46	883.03	15.64	51.57	150.7
STRUCTURE 4	RESVOR	.34	3	2	.30	.0	4.47	24.00	2.46	883.00	16.61	45.63	133.3
STRUCTURE 5	RUNOFF	.32	3	2	.30	.0	4.47	24.00	3.17	---	16.38	77.54	242.1
STRUCTURE 5	RESVOR	.32	3	2	.30	.0	4.47	24.00	3.16	902.32	20.61	29.71	92.8
STRUCTURE 6	RUNOFF	.21	3	2	.30	.0	4.47	24.00	2.03	---	16.06	39.43	184.2
STRUCTURE 6	ADDHYD	.53	3	2	.30	.0	4.47	24.00	2.70	894.68	16.32	58.58	109.6
STRUCTURE 6	RESVOR	.53	3	2	.30	.0	4.47	24.00	2.70	894.55	17.29	56.77	106.2
STRUCTURE 7	ADDHYD	.88	3	2	.30	.0	4.47	24.00	2.61	878.69	16.84	101.58	115.9
STRUCTURE 7	RUNOFF	.06	3	2	.30	.0	4.47	24.00	3.06	---	15.46	15.59	279.5

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 7	ADDHYD	.93	3	2	.30	.0	4.47	24.00	2.63	878.78	16.72	112.54	120.7
STRUCTURE 7	RUNOFF	.00	3	2	.30	.0	4.47	24.00	4.00	---	15.60	1.20	307.5
STRUCTURE 7	ADDHYD	.94	3	2	.30	.0	4.47	24.00	2.64	878.79	16.71	113.39	121.1
STRUCTURE 7	RESVOR	.94	3	2	.30	.0	4.47	24.00	2.64	878.78	16.92	112.11	119.7

SUMMARY TABLE 3 - DISCHARGE (CFS) AT XSECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 0
STRUCTURE 7	.94	
ALTERNATE 0		112.11
STRUCTURE 6	.53	
ALTERNATE 0		56.77
STRUCTURE 5	.32	
ALTERNATE 0		29.71
STRUCTURE 4	.34	
ALTERNATE 0		45.63
STRUCTURE 3	.22	
ALTERNATE 0		26.49
STRUCTURE 2	.03	
ALTERNATE 0		1.66
STRUCTURE 1	.09	
ALTERNATE 0		8.42
XSECTION 1	.08	
ALTERNATE 0		15.44

100 YEAR - PROPOSED CONDITIONS

```
*****************************************************************************
*                                   * TR 20 S/N     :                       *
*                                   * HMVersion     :  3.40                 *
*              TR 20                * Date          :  6/23/**              *
*                                   * Time          : 14:27:52              *
*    Project Formulation Hydrology  * Input file    : smmtweir.t20          *
*                                   * Output file   : smmtweir.out          *
*                                   *                                       *
*                                   *                                       *
*****************************************************************************
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```
xxxxxxx  xxxxxx    xxxxx    xxxxx
   x     x     x  x     x  x    xx
   x     x     x       x   x   x x
   x     xxxxxx      x     x  x  x
   x     x   x     x       x x   x
   x     x    x   x        xx    x
   x     x     x  xxxxxxx   xxxxx
```

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::::::::::::::::::::::::::::::::::::::::::
::::::::::::::::::::::::::::::::::::::::::
:::                                    :::
:::  Full Microcomputer Implementation :::
:::                 by                 :::
:::        Haestad Methods, Inc.       :::
:::                                    :::
::::::::::::::::::::::::::::::::::::::::::
::::::::::::::::::::::::::::::::::::::::::
```

37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666

```
******************80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY******************

JOB TR-20                                          SUMMARY   NOPLOTS
TITLE     SUMMIT ENCLAVE, DEKALB  OFFSITE AND ONSITE            09/11/02
TITLE     BULLET.70 N.E.ILL. 100 YR: 15,30MIN,1,2,3,6,12,18,24 HR STORMS
 5 RAINFL 1                    0.05                                   HUFFS1ST
 8                 0.00        0.16        0.33        0.43        0.52
 8                 0.60        0.66        0.71        0.75        0.79
 8                 0.82        0.84        0.86        0.88        0.90
 8                 0.92        0.94        0.96        0.97        0.98
 8                 1.00        1.00        1.00        1.00        1.00
 9 ENDTBL
 5 RAINFL 2                    0.05                                   HUFFS2ND
 8                 0.00        0.03        0.08        0.12        0.16
 8                 0.22        0.29        0.39        0.51        0.62
 8                 0.70        0.76        0.81        0.85        0.88
 8                 0.91        0.93        0.95        0.97        0.98
 8                 1.00        1.00        1.00        1.00        1.00
 9 ENDTBL
 5 RAINFL 3                    0.05                                   HUFFS3RD
 8                 0.00        0.03        0.06        0.09        0.12
 8                 0.15        0.19        0.23        0.27        0.32
 8                 0.38        0.45        0.57        0.70        0.79
 8                 0.85        0.89        0.92        0.95        0.97
 8                 1.00        1.00        1.00        1.00        1.00
 9 ENDTBL
 3 STRUCT       1                                                    57ACRES
 8                            900.0         0.0        0.00              TRIB
 8                            901.0         3.6        3.55                TO
 8                            902.0         7.2        7.10            24INCH
 8                            903.0        10.7       10.65          ST.SEWER
 8                            904.0        14.3       14.20           OFFSITE
 8                            905.0        59.9       17.75             SOUTH
 9 ENDTBL
 3 STRUCT       2                                                     ENCOAT
 8                            888.0         0.0        0.00             BASIN
 8                            889.0         0.6        1.17               FOR
 8                            890.0         1.3        2.35           17ACRES
 8                            891.0         1.9        3.52           OFFSITE
 8                            892.0         2.6        4.70             SOUTH
 8                            893.0        17.9        6.05
 8                            894.0        45.8        7.40
 9 ENDTBL
 3 STRUCT       3                                                    66ACRES
 8                            885.0         0.0         0.0              TRIB
 8                            885.5         2.0         0.1                TO
 8                            886.0        40.7        1.54
 8                            887.0       194.3        7.79
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**********************80-80 LIST OF INPUT DATA (CONTINUED)**********************

8                                  887.6       318.0       12.99            WETLAND
8                                  888.0       406.0       15.99            OFFSITE
9 ENDTBL
3 STRUCT       4                                                             SOUTH
8                                  876.0        0.00        0.00             BASIN
8                                  877.0         2.2        1.08
8                                  878.0         3.4        2.26
8                                  879.0         4.3        3.54
8                                  880.0         5.0        4.92
8                                  881.0         5.7        6.40
8                                  882.0         6.3        8.14
8                                  882.5        14.9        9.19
8                                  883.0        45.5       10.41
8                                  883.5       149.5       11.83
9 ENDTBL
3 STRUCT       5                                                             BASIN
8                                  900.0         0.0        0.00               FOR
8                                  901.0        12.8       12.81               205
8                                  902.0        25.6       25.63             ACRES
8                                  903.0        38.4       38.44           OFFSITE
8                                  904.0        51.3       51.25             NORTH
8                                  905.0       136.0       64.06
9 ENDTBL
3 STRUCT       6                                                             BASIN
8                                  890.0         0.0        0.00                AT
8                                  891.0         7.9        0.06                RR
8                                  892.0        22.0        0.24           CULVERT
8                                  893.0        34.4        0.59           OFFSITE
8                                  894.0        49.0        1.16             NORTH
8                                  895.0        63.0        1.95
8                                  896.0       200.0        2.96
9 ENDTBL
3 STRUCT       7                                                             NORTH
8                                  873.0         0.0        0.00             BASIN
8                                  874.0         4.4        1.74
8                                  875.0        11.6        3.64
8                                  876.0        13.6        5.68
8                                  877.0        15.8        7.86
8                                  878.0        17.7       10.20
8                                  879.0       139.5       12.70
9 ENDTBL
6 RUNOFF 1   1       1        0.0797          75        1.01     1    OFFCENTR
6 RUNOFF 1     1     2        0.0891          88        1.11     1    OFFSOUTH
6 RESVOR 2     1 2   3         900.0                       1     1      24INCH
6 RUNOFF 1     2     4        0.0266          88        0.21     1    OFFSOUTH
6 RESVOR 2     2 4   2         888.0                       1     1      ENCOAT
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**********************80-80 LIST OF INPUT DATA (CONTINUED)**********************

 6 ADDHYD 4     3 2 3 4                                   1     1     OFFSOUTH
 6 RUNOFF 1     3     2       0.1031          75        0.51     1     OFFSOUTH
 6 ADDHYD 4     3 2 4 3                                   1     1     OFFSOUTH
 6 RESVOR 2     3 3   2        885.0                      1     1      WETLAND
 6 ADDHYD 4     4 1 2 5                                   1     1     ADD-OFFS
 6 RUNOFF 1     4     6       0.0438          81        0.31     1        SOUTH
 6 ADDHYD 4     4 5 6 7                                   1     1     OFFANDON
 6 RESVOR 2     4 7   6        876.0                      1     1      S.BASIN
 6 RUNOFF 1     5     1       0.3203          88        2.31     1     OFFNORTH
 6 RESVOR 2     5 1   2        900.0                      1     1     205ACRES
 6 RUNOFF 1     6     3       0.2141          75        1.51     1     137ACRES
 6 ADDHYD 4     6 2 3 1                                   1     1     OFFNORTH
 6 RESVOR 2     6 1   2        890.0                      1     1     RRCULVRT
 6 ADDHYD 4     7 2 6 7                                   1     1     OFFANDS0
 6 RUNOFF 1     7     6       0.0558          87        0.31     1        NORTH
 6 ADDHYD 4     7 6 7 5                                   1     1      N.AND.S
 6 RUNOFF 1     7     6       0.0039          96        0.21     1       OUTLOT
 6 ADDHYD 4     7 5 6 7                                   1     1
 6 RESVOR 2     7 7   6        873.0                      1     1      N.BASIN
   ENDATA
 7 INCREM 6                     0.05
 7 COMPUT 7   1       7         0.0        2.05       0.251 2            15MIN
   ENDCMP 1
 7 COMPUT 7   1       7         0.0        2.80        .501 2            30MIN
   ENDCMP 1
 7 INCREM 6                     0.1
 7 COMPUT 7   1       7         0.0        3.56       1.001 2              1HR
   ENDCMP 1
 7 COMPUT 7   1       7         0.0        4.47       2.001 2              2HR
   ENDCMP 1
 7 COMPUT 7   1       7         0.0        4.85       3.001 2              3HR
   ENDCMP 1
 7 INCREM 6                     0.2
 7 COMPUT 7   1       7         0.0        5.68       6.001 2              6HR
   ENDCMP 1
 7 COMPUT 7   1       7         0.0        6.59      12.002 2             12HR
   ENDCMP 1
 7 INCREM 6                     0.3
 7 COMPUT 7   1       7         0.0        6.97      18.003 2             18HR
   ENDCMP 1
 7 COMPUT 7   1       7         0.0        7.58      24.003 2             24HR
   ENDCMP 1
   ENDJOB 2

*****************************END OF 80-80 LIST*****************************
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SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
XSECTION 1	RUNOFF	.08	1	2	.05	.0	2.05	.25	.41	---	.79	23.12	290.1
STRUCTURE 1	RUNOFF	.09	1	2	.05	.0	2.05	.25	1.01	---	.83	58.35	654.8
STRUCTURE 1	RESVOR	.09	1	2	.05	.0	2.05	.25	.69	901.18	2.18	4.25	47.7
STRUCTURE 2	RUNOFF	.03	1	2	.05	.0	2.05	.25	1.01	---	.22	67.96	2554.7
STRUCTURE 2	RESVOR	.03	1	2	.05	.0	2.05	.25	.47	889.19	.70?	.73?	27.6
STRUCTURE 3	ADDHYD	.12	1	2	.05	.0	2.05	.25	.64	885.54	2.15*	4.93*	42.6
STRUCTURE 3	RUNOFF	.10	1	2	.05	.0	2.05	.25	.41	---	.46	56.84	551.3
STRUCTURE 3	ADDHYD	.22	1	2	.05	.0	2.05	.25	.53	886.11	.46	57.88	264.5
STRUCTURE 3	RESVOR	.22	1	2	.05	.0	2.05	.25	.52	885.85	.70	29.47	134.7
STRUCTURE 4	ADDHYD	.30	1	2	.05	.0	2.05	.25	.49	883.03	.74	52.16	174.7
STRUCTURE 4	RUNOFF	.04	1	2	.05	.0	2.05	.25	.64	---	.31	55.56	1268.6
STRUCTURE 4	ADDHYD	.34	1	2	.05	.0	2.05	.25	.51	883.11	.35	68.31	199.6
STRUCTURE 4	RESVOR	.34	1	2	.05	.0	2.05	.25	.31	880.12	3.15?	5.08?	14.8
STRUCTURE 5	RUNOFF	.32	1	2	.05	.0	2.05	.25	1.25	---	1.62	101.22	316.0
STRUCTURE 5	RESVOR	.32	1	2	.05	.0	2.05	.25	.79	901.12	7.88	14.34	44.8
STRUCTURE 6	RUNOFF	.21	1	2	.05	.0	2.05	.25	.41	---	1.12	41.75	195.0
STRUCTURE 6	ADDHYD	.53	1	2	.05	.0	2.05	.25	.64	893.68	1.16	44.36	83.0
STRUCTURE 6	RESVOR	.53	1	2	.05	.0	2.05	.25	.63	893.28	1.50	38.46	72.0
STRUCTURE 7	ADDHYD	.88	1	2	.05	.0	2.05	.25	.51	878.21	1.50	43.33	49.4
STRUCTURE 7	RUNOFF	.06	1	2	.05	.0	2.05	.25	.94	---	.30	104.78	1877.8
STRUCTURE 7	ADDHYD	.93	1	2	.05	.0	2.05	.25	.54	878.74	.30	108.10	115.9
STRUCTURE 7	RUNOFF	.00	1	2	.05	.0	2.05	.25	1.62	---	.20	16.51	4232.5
STRUCTURE 7	ADDHYD	.94	1	2	.05	.0	2.05	.25	.54	878.83	.29	118.96	127.0
STRUCTURE 7	RESVOR	.94	1	2	.05	.0	2.05	.25	.38	877.44	10.35?	16.64?	17.8
XSECTION 1	RUNOFF	.08	1	2	.05	.0	2.80	.50	.83	---	.89	44.86	562.9
STRUCTURE 1	RUNOFF	.09	1	2	.05	.0	2.80	.50	1.64	---	.92	90.80	1019.1
STRUCTURE 1	RESVOR	.09	1	2	.05	.0	2.80	.50	1.13	901.92	2.28	6.92	77.7
STRUCTURE 2	RUNOFF	.03	1	2	.05	.0	2.80	.50	1.64	---	.25	79.53	2989.7
STRUCTURE 2	RESVOR	.03	1	2	.05	.0	2.80	.50	.78	889.93	.85?	1.25?	47.0
STRUCTURE 3	ADDHYD	.12	1	2	.05	.0	2.80	.50	1.05	885.58	2.23	8.09	70.0
STRUCTURE 3	RUNOFF	.10	1	2	.05	.0	2.80	.50	.83	---	.55	95.36	924.9
STRUCTURE 3	ADDHYD	.22	1	2	.05	.0	2.80	.50	.95	886.37	.55	97.19	444.2

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 3	RESVOR	.22	1	2	.05	.0	2.80	.50	.93	886.10	.83	55.64	254.3
STRUCTURE 4	ADDHYD	.30	1	2	.05	.0	2.80	.50	.91	883.26	.86	100.19	335.6
STRUCTURE 4	RUNOFF	.04	1	2	.05	.0	2.80	.50	1.16	---	.35	74.44	1699.6
STRUCTURE 4	ADDHYD	.34	1	2	.05	.0	2.80	.50	.94	883.34	.63	117.22	342.4
STRUCTURE 4	RESVOR	.34	1	2	.05	.0	2.80	.50	.55	882.61	1.91	21.70	63.4
STRUCTURE 5	RUNOFF	.32	1	2	.05	.0	2.80	.50	1.64	---	1.72	163.94	511.8
STRUCTURE 5	RESVOR	.32	1	2	.05	.0	2.80	.50	1.07	901.75	3.95	22.40	69.9
STRUCTURE 6	RUNOFF	.21	1	2	.05	.0	2.80	.50	.83	---	1.22	83.79	391.4
STRUCTURE 6	ADDHYD	.53	1	2	.05	.0	2.80	.50	.97	895.18	1.25	88.20	165.0
STRUCTURE 6	RESVOR	.53	1	2	.05	.0	2.80	.50	.97	895.12	1.55	78.85	147.5
STRUCTURE 7	ADDHYD	.88	1	2	.05	.0	2.80	.50	.81	878.63	1.62	95.00	108.4
STRUCTURE 7	RUNOFF	.06	1	2	.05	.0	2.80	.50	1.57	---	.33	130.72	2342.7
STRUCTURE 7	ADDHYD	.93	1	2	.05	.0	2.80	.50	.85	878.97	.34	136.00	145.8
STRUCTURE 7	RUNOFF	.00	1	2	.05	.0	2.80	.50	2.35	---	.22	17.91	4591.4
STRUCTURE 7	ADDHYD	.94	1	2	.05	.0	2.80	.50	.86	879.07	.33	148.26	158.3
STRUCTURE 7	RESVOR	.94	1	2	.05	.0	2.80	.50	.66	878.43	2.40	69.97	74.7
XSECTION 1	RUNOFF	.08	1	2	.10	.0	3.56	1.00	1.34	---	1.07	59.41	745.4
STRUCTURE 1	RUNOFF	.09	1	2	.10	.0	3.56	1.00	2.32	---	1.06	109.12	1224.7
STRUCTURE 1	RESVOR	.09	1	2	.10	.0	3.56	1.00	2.11	902.71	2.51	9.68	108.6
STRUCTURE 2	RUNOFF	.03	1	2	.10	.0	3.56	1.00	2.31	---	.32	74.56	2802.8
STRUCTURE 2	RESVOR	.03	1	2	.10	.0	3.56	1.00	1.68	890.70	1.31	1.72	64.6
STRUCTURE 3	ADDHYD	.12	1	2	.10	.0	3.56	1.00	2.01	885.62	2.47	11.32	97.8
STRUCTURE 3	RUNOFF	.10	1	2	.10	.0	3.56	1.00	1.34	---	.63	109.81	1065.1
STRUCTURE 3	ADDHYD	.22	1	2	.10	.0	3.56	1.00	1.70	886.46	.63	112.10	512.3
STRUCTURE 3	RESVOR	.22	1	2	.10	.0	3.56	1.00	1.69	886.21	1.08	72.64	332.0
STRUCTURE 4	ADDHYD	.30	1	2	.10	.0	3.56	1.00	1.60	883.42	1.07	132.03	442.3
STRUCTURE 4	RUNOFF	.04	1	2	.10	.0	3.56	1.00	1.76	---	.43	77.91	1778.8
STRUCTURE 4	ADDHYD	.34	1	2	.10	.0	3.56	1.00	1.62	883.55	.97	160.58	469.1
STRUCTURE 4	RESVOR	.34	1	2	.10	.0	3.56	1.00	1.38	883.26	1.51	99.85	291.7
STRUCTURE 5	RUNOFF	.32	1	2	.10	.0	3.56	1.00	2.32	---	1.88	222.12	693.5
STRUCTURE 5	RESVOR	.32	1	2	.10	.0	3.56	1.00	2.08	902.47	4.14	31.63	98.8
STRUCTURE 6	RUNOFF	.21	1	2	.10	.0	3.56	1.00	1.34	---	1.43	122.53	572.3
STRUCTURE 6	ADDHYD	.53	1	2	.10	.0	3.56	1.00	1.79	895.49	1.48	130.25	243.7
STRUCTURE 6	RESVOR	.53	1	2	.10	.0	3.56	1.00	1.79	895.48	1.58	128.41	240.3
STRUCTURE 7	ADDHYD	.88	1	2	.10	.0	3.56	1.00	1.63	879.72	1.54	227.70	259.7
STRUCTURE 7	RUNOFF	.06	1	2	.10	.0	3.56	1.00	2.23	---	.41	130.29	2335.0

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 7	ADDHYD	.93	1	2	.10	.0	3.56	1.00	1.66	879.74	1.53	229.03	245.6
STRUCTURE 7	RUNOFF	.00	1	2	.10	.0	3.56	1.00	3.07	---	.27	15.41	3950.2
STRUCTURE 7	ADDHYD	.94	1	2	.10	.0	3.56	1.00	1.67	879.74	1.53	229.04	244.6
STRUCTURE 7	RESVOR	.94	1	2	.10	.0	3.56	1.00	1.54	879.40	1.86	188.49	201.3
XSECTION 1	RUNOFF	.08	1	2	.10	.0	4.47	2.00	2.02	---	1.21	64.89	814.2
STRUCTURE 1	RUNOFF	.09	1	2	.10	.0	4.47	2.00	3.16	---	1.17	113.46	1273.4
STRUCTURE 1	RESVOR	.09	1	2	.10	.0	4.47	2.00	2.87	903.61	3.09	12.88	144.6
STRUCTURE 2	RUNOFF	.03	1	2	.10	.0	4.47	2.00	3.17	---	.38	59.11	2222.3
STRUCTURE 2	RESVOR	.03	1	2	.10	.0	4.47	2.00	2.30	891.58	2.24	2.30	86.6
STRUCTURE 3	ADDHYD	.12	1	2	.10	.0	4.47	2.00	2.74	885.67	3.05	15.10	130.5
STRUCTURE 3	RUNOFF	.10	1	2	.10	.0	4.47	2.00	2.03	---	.79	109.86	1065.5
STRUCTURE 3	ADDHYD	.22	1	2	.10	.0	4.47	2.00	2.40	886.47	.80	113.02	516.6
STRUCTURE 3	RESVOR	.22	1	2	.10	.0	4.47	2.00	2.39	886.26	1.25	81.23	371.2
STRUCTURE 4	ADDHYD	.30	1	2	.10	.0	4.47	2.00	2.29	883.48	1.23	146.02	489.2
STRUCTURE 4	RUNOFF	.04	1	2	.10	.0	4.47	2.00	2.52	---	.58	68.77	1570.2
STRUCTURE 4	ADDHYD	.34	1	2	.10	.0	4.47	2.00	2.32	883.64	1.09	179.16	523.4
STRUCTURE 4	RESVOR	.34	1	2	.10	.0	4.47	2.00	2.01	883.48	1.67	145.59	425.3
STRUCTURE 5	RUNOFF	.32	1	2	.10	.0	4.47	2.00	3.17	---	2.17	260.12	812.1
STRUCTURE 5	RESVOR	.32	1	2	.10	.0	4.47	2.00	2.83	903.33	4.57	42.71	133.3
STRUCTURE 6	RUNOFF	.21	1	2	.10	.0	4.47	2.00	2.03	---	1.63	142.10	663.7
STRUCTURE 6	ADDHYD	.53	1	2	.10	.0	4.47	2.00	2.51	895.65	1.70	152.58	285.5
STRUCTURE 6	RESVOR	.53	1	2	.10	.0	4.47	2.00	2.51	895.65	1.80	151.54	283.6
STRUCTURE 7	ADDHYD	.88	1	2	.10	.0	4.47	2.00	2.32	880.29	1.72	296.02	337.6
STRUCTURE 7	RUNOFF	.06	1	2	.10	.0	4.47	2.00	3.07	---	.51	110.98	1988.9
STRUCTURE 7	ADDHYD	.93	1	2	.10	.0	4.47	2.00	2.36	880.53	1.71	325.54	349.1
STRUCTURE 7	RUNOFF	.00	1	2	.10	.0	4.47	2.00	3.99	---	.32	13.34	3419.9
STRUCTURE 7	ADDHYD	.94	1	2	.10	.0	4.47	2.00	2.37	880.55	1.71	327.76	350.0
STRUCTURE 7	RESVOR	.94	1	2	.10	.0	4.47	2.00	2.20	880.28	2.05	295.86	316.0
XSECTION 1	RUNOFF	.08	1	2	.10	.0	4.85	3.00	2.33	---	1.38	59.42	745.6
STRUCTURE 1	RUNOFF	.09	1	2	.10	.0	4.85	3.00	3.52	---	1.29	103.49	1161.5
STRUCTURE 1	RESVOR	.09	1	2	.10	.0	4.85	3.00	3.18	903.87	3.85	13.84	155.4
STRUCTURE 2	RUNOFF	.03	1	2	.10	.0	4.85	3.00	3.52	---	.42	51.39	1932.0
STRUCTURE 2	RESVOR	.03	1	2	.10	.0	4.85	3.00	2.55	891.87	3.22	2.51	94.3
STRUCTURE 3	ADDHYD	.12	1	2	.10	.0	4.85	3.00	3.04	885.68	3.80	16.29	140.8
STRUCTURE 3	RUNOFF	.10	1	2	.10	.0	4.85	3.00	2.33	---	.95	94.81	919.6
STRUCTURE 3	ADDHYD	.22	1	2	.10	.0	4.85	3.00	2.70	886.38	.97	98.48	450.1

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 3	RESVOR	.22	1	2	.10	.0	4.85	3.00	2.69	886.23	1.49	76.25	348.5
STRUCTURE 4	ADDHYD	.30	1	2	.10	.0	4.85	3.00	2.59	883.43	1.43	135.36	453.5
STRUCTURE 4	RUNOFF	.04	1	2	.10	.0	4.85	3.00	2.85	---	.72	55.14	1258.8
STRUCTURE 4	ADDHYD	.34	1	2	.10	.0	4.85	3.00	2.63	883.58	1.34	166.82	487.4
STRUCTURE 4	RESVOR	.34	1	2	.10	.0	4.85	3.00	2.29	883.46	1.81	142.20	415.4
STRUCTURE 5	RUNOFF	.32	1	2	.10	.0	4.85	3.00	3.53	---	2.31	251.37	784.8
STRUCTURE 5	RESVOR	.32	1	2	.10	.0	4.85	3.00	3.14	903.65	5.13	46.72	145.9
STRUCTURE 6	RUNOFF	.21	1	2	.10	.0	4.85	3.00	2.33	---	1.80	135.18	631.4
STRUCTURE 6	ADDHYD	.53	1	2	.10	.0	4.85	3.00	2.82	895.61	1.89	146.71	274.5
STRUCTURE 6	RESVOR	.53	1	2	.10	.0	4.85	3.00	2.82	895.61	1.99	145.94	273.1
STRUCTURE 7	ADDHYD	.88	1	2	.10	.0	4.85	3.00	2.61	880.20	1.86	285.56	325.7
STRUCTURE 7	RUNOFF	.06	1	2	.10	.0	4.85	3.00	3.42	---	.54	91.36	1637.3
STRUCTURE 7	ADDHYD	.93	1	2	.10	.0	4.85	3.00	2.66	880.40	1.83	309.66	332.1
STRUCTURE 7	RUNOFF	.00	1	2	.10	.0	4.85	3.00	4.37	---	.37	10.86	2783.7
STRUCTURE 7	ADDHYD	.94	1	2	.10	.0	4.85	3.00	2.67	880.41	1.83	311.31	332.5
STRUCTURE 7	RESVOR	.94	1	2	.10	.0	4.85	3.00	2.49	880.20	2.25	285.97	305.4
XSECTION 1	RUNOFF	.08	1	2	.20	.0	5.68	6.00	3.01	---	1.84	48.19	604.6
STRUCTURE 1	RUNOFF	.09	1	2	.20	.0	5.68	6.00	4.31	---	1.60	81.89	919.1
STRUCTURE 1	RESVOR	.09	1	2	.20	.0	5.68	6.00	4.28	904.08	5.67	17.99	201.9
STRUCTURE 2	RUNOFF	.03	1	2	.20	.0	5.68	6.00	4.30	---	.63	37.46	1408.2
STRUCTURE 2	RESVOR	.03	1	2	.20	.0	5.68	6.00	3.98	892.14	5.20	4.68	175.8
STRUCTURE 3	ADDHYD	.12	1	2	.20	.0	5.68	6.00	4.21	885.76	5.57	22.36	193.2
STRUCTURE 3	RUNOFF	.10	1	2	.20	.0	5.68	6.00	3.01	---	1.47	68.34	662.9
STRUCTURE 3	ADDHYD	.22	1	2	.20	.0	5.68	6.00	3.64	886.22	1.55	74.57	340.8
STRUCTURE 3	RESVOR	.22	1	2	.20	.0	5.68	6.00	3.64	886.16	2.02	66.00	301.6
STRUCTURE 4	ADDHYD	.30	1	2	.20	.0	5.68	6.00	3.47	883.33	1.93	113.74	381.0
STRUCTURE 4	RUNOFF	.04	1	2	.20	.0	5.68	6.00	3.59	---	.83	39.98	912.8
STRUCTURE 4	ADDHYD	.34	1	2	.20	.0	5.68	6.00	3.49	883.46	1.73	141.12	412.3
STRUCTURE 4	RESVOR	.34	1	2	.20	.0	5.68	6.00	3.45	883.42	2.28	131.90	385.3
STRUCTURE 5	RUNOFF	.32	1	2	.20	.0	5.68	6.00	4.31	---	2.64	225.63	704.4
STRUCTURE 5	RESVOR	.32	1	2	.20	.0	5.68	6.00	4.27	904.05	7.00	55.57	173.5
STRUCTURE 6	RUNOFF	.21	1	2	.20	.0	5.68	6.00	3.01	---	2.24	115.93	541.5
STRUCTURE 6	ADDHYD	.53	1	2	.20	.0	5.68	6.00	3.77	895.50	2.46	131.41	245.9
STRUCTURE 6	RESVOR	.53	1	2	.20	.0	5.68	6.00	3.76	895.50	2.55	131.09	245.3
STRUCTURE 7	ADDHYD	.88	1	2	.20	.0	5.68	6.00	3.64	879.99	2.36	259.60	296.1
STRUCTURE 7	RUNOFF	.06	1	2	.20	.0	5.68	6.00	4.20	---	.75	66.42	1190.3

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 7	ADDHYD	.93	1	2	.20	.0	5.68	6.00	3.67	880.24	2.28	289.96	310.9
STRUCTURE 7	RUNOFF	.00	1	2	.20	.0	5.68	6.00	5.21	---	.58	7.51	1925.7
STRUCTURE 7	ADDHYD	.94	1	2	.20	.0	5.68	6.00	3.68	880.25	2.28	292.08	311.9
STRUCTURE 7	RESVOR	.94	1	2	.20	.0	5.68	6.00	3.65	880.12	2.75	275.82	294.5
XSECTION 1	RUNOFF	.08	2	2	.20	.0	6.59	12.00	3.79	---	5.63	42.84	537.5
STRUCTURE 1	RUNOFF	.09	2	2	.20	.0	6.59	12.00	5.19	---	5.54	62.44	700.8
STRUCTURE 1	RESVOR	.09	2	2	.20	.0	6.59	12.00	5.13	904.21	8.41	24.02	269.6
STRUCTURE 2	RUNOFF	.03	2	2	.20	.0	6.59	12.00	5.19	---	4.75	20.30	763.1
STRUCTURE 2	RESVOR	.03	2	2	.20	.0	6.59	12.00	4.77	892.23	7.99	6.18	232.4
STRUCTURE 3	ADDHYD	.12	2	2	.20	.0	6.59	12.00	5.05	885.86	8.36	30.01	259.4
STRUCTURE 3	RUNOFF	.10	2	2	.20	.0	6.59	12.00	3.79	---	5.37	58.17	564.2
STRUCTURE 3	ADDHYD	.22	2	2	.20	.0	6.59	12.00	4.46	886.18	5.46	68.20	311.7
STRUCTURE 3	RESVOR	.22	2	2	.20	.0	6.59	12.00	4.45	886.15	5.81	63.52	290.3
STRUCTURE 4	ADDHYD	.30	2	2	.20	.0	6.59	12.00	4.28	883.29	5.72	106.00	355.1
STRUCTURE 4	RUNOFF	.04	2	2	.20	.0	6.59	12.00	4.42	---	4.80	28.65	654.2
STRUCTURE 4	ADDHYD	.34	2	2	.20	.0	6.59	12.00	4.29	883.41	5.53	130.89	382.4
STRUCTURE 4	RESVOR	.34	2	2	.20	.0	6.59	12.00	4.22	883.40	5.78	128.83	376.4
STRUCTURE 5	RUNOFF	.32	2	2	.20	.0	6.59	12.00	5.19	---	6.40	193.64	604.6
STRUCTURE 5	RESVOR	.32	2	2	.20	.0	6.59	12.00	5.13	904.26	10.13	72.91	227.6
STRUCTURE 6	RUNOFF	.21	2	2	.20	.0	6.59	12.00	3.79	---	5.98	107.75	503.3
STRUCTURE 6	ADDHYD	.53	2	2	.20	.0	6.59	12.00	4.59	895.51	6.25	132.91	248.7
STRUCTURE 6	RESVOR	.53	2	2	.20	.0	6.59	12.00	4.59	895.51	6.34	132.74	248.4
STRUCTURE 7	ADDHYD	.88	2	2	.20	.0	6.59	12.00	4.45	879.97	6.04	257.17	293.3
STRUCTURE 7	RUNOFF	.06	2	2	.20	.0	6.59	12.00	5.08	---	4.83	41.39	741.8
STRUCTURE 7	ADDHYD	.93	2	2	.20	.0	6.59	12.00	4.48	880.21	5.97	286.77	307.5
STRUCTURE 7	RUNOFF	.00	2	2	.20	.0	6.59	12.00	6.11	---	4.72	3.28	842.3
STRUCTURE 7	ADDHYD	.94	2	2	.20	.0	6.59	12.00	4.49	880.23	5.96	288.99	308.6
STRUCTURE 7	RESVOR	.94	2	2	.20	.0	6.59	12.00	4.45	880.18	6.24	283.13	302.4
XSECTION 1	RUNOFF	.08	3	2	.30	.0	6.97	18.00	4.12	---	11.92	38.42	482.1
STRUCTURE 1	RUNOFF	.09	3	2	.30	.0	6.97	18.00	5.56	---	11.90	51.68	580.1
STRUCTURE 1	RESVOR	.09	3	2	.30	.0	6.97	18.00	5.55	904.23	14.08	24.99	280.4
STRUCTURE 2	RUNOFF	.03	3	2	.30	.0	6.97	18.00	5.54	---	11.56	16.84	633.1
STRUCTURE 2	RESVOR	.03	3	2	.30	.0	6.97	18.00	5.41	892.28	13.55	6.94	260.8
STRUCTURE 3	ADDHYD	.12	3	2	.30	.0	6.97	18.00	5.52	885.88	13.97	31.50	272.2
STRUCTURE 3	RUNOFF	.10	3	2	.30	.0	6.97	18.00	4.12	---	11.63	52.33	507.6
STRUCTURE 3	ADDHYD	.22	3	2	.30	.0	6.97	18.00	4.86	886.16	11.68	65.04	297.3

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 3	RESVOR	.22	3	2	.30	.0	6.97	18.00	4.86	886.13	12.05	60.78	277.8
STRUCTURE 4	ADDHYD	.30	3	2	.30	.0	6.97	18.00	4.66	883.26	11.98	99.03	331.8
STRUCTURE 4	RUNOFF	.04	3	2	.30	.0	6.97	18.00	4.76	---	11.57	25.27	576.9
STRUCTURE 4	ADDHYD	.34	3	2	.30	.0	6.97	18.00	4.67	883.36	11.77	121.20	354.1
STRUCTURE 4	RESVOR	.34	3	2	.30	.0	6.97	18.00	4.67	883.36	11.97	119.50	349.1
STRUCTURE 5	RUNOFF	.32	3	2	.30	.0	6.97	18.00	5.56	---	12.62	163.44	510.3
STRUCTURE 5	RESVOR	.32	3	2	.30	.0	6.97	18.00	5.55	904.27	15.63	73.85	230.6
STRUCTURE 6	RUNOFF	.21	3	2	.30	.0	6.97	18.00	4.12	---	12.20	96.72	451.7
STRUCTURE 6	ADDHYD	.53	3	2	.30	.0	6.97	18.00	4.98	895.50	12.45	131.69	246.4
STRUCTURE 6	RESVOR	.53	3	2	.30	.0	6.97	18.00	4.98	895.50	12.55	131.45	246.0
STRUCTURE 7	ADDHYD	.88	3	2	.30	.0	6.97	18.00	4.86	879.88	12.24	246.49	281.2
STRUCTURE 7	RUNOFF	.06	3	2	.30	.0	6.97	18.00	5.43	---	11.56	34.65	621.0
STRUCTURE 7	ADDHYD	.93	3	2	.30	.0	6.97	18.00	4.89	880.08	12.11	271.16	290.8
STRUCTURE 7	RUNOFF	.00	3	2	.30	.0	6.97	18.00	6.47	---	11.55	2.60	667.1
STRUCTURE 7	ADDHYD	.94	3	2	.30	.0	6.97	18.00	4.90	880.09	12.10	272.86	291.4
STRUCTURE 7	RESVOR	.94	3	2	.30	.0	6.97	18.00	4.89	880.08	12.41	271.22	289.6
XSECTION 1	RUNOFF	.08	3	2	.30	.0	7.58	24.00	4.66	---	15.72	33.05	414.6
STRUCTURE 1	RUNOFF	.09	3	2	.30	.0	7.58	24.00	6.15	---	15.67	43.53	488.5
STRUCTURE 1	RESVOR	.09	3	2	.30	.0	7.58	24.00	6.14	904.22	17.88	24.28	272.5
STRUCTURE 2	RUNOFF	.03	3	2	.30	.0	7.58	24.00	6.15	---	15.45	13.87	521.4
STRUCTURE 2	RESVOR	.03	3	2	.30	.0	7.58	24.00	5.96	892.30	17.11	7.23	271.6
STRUCTURE 3	ADDHYD	.12	3	2	.30	.0	7.58	24.00	6.10	885.88	17.83	31.10	268.8
STRUCTURE 3	RUNOFF	.10	3	2	.30	.0	7.58	24.00	4.66	---	15.49	44.51	431.7
STRUCTURE 3	ADDHYD	.22	3	2	.30	.0	7.58	24.00	5.42	886.12	15.57	58.48	267.3
STRUCTURE 3	RESVOR	.22	3	2	.30	.0	7.58	24.00	5.42	886.10	15.91	55.92	255.6
STRUCTURE 4	ADDHYD	.30	3	2	.30	.0	7.58	24.00	5.22	883.21	15.82	88.90	297.8
STRUCTURE 4	RUNOFF	.04	3	2	.30	.0	7.58	24.00	5.33	---	15.46	21.08	481.3
STRUCTURE 4	ADDHYD	.34	3	2	.30	.0	7.58	24.00	5.23	883.30	15.60	108.32	316.5
STRUCTURE 4	RESVOR	.34	3	2	.30	.0	7.58	24.00	5.22	883.30	15.77	106.90	312.3
STRUCTURE 5	RUNOFF	.32	3	2	.30	.0	7.58	24.00	6.15	---	16.32	142.87	446.0
STRUCTURE 5	RESVOR	.32	3	2	.30	.0	7.58	24.00	6.14	904.27	19.45	73.91	230.8
STRUCTURE 6	RUNOFF	.21	3	2	.30	.0	7.58	24.00	4.66	---	15.96	85.34	398.6
STRUCTURE 6	ADDHYD	.53	3	2	.30	.0	7.58	24.00	5.55	895.44	16.19	123.55	231.2
STRUCTURE 6	RESVOR	.53	3	2	.30	.0	7.58	24.00	5.54	895.44	16.28	123.40	230.9
STRUCTURE 7	ADDHYD	.88	3	2	.30	.0	7.58	24.00	5.42	879.72	15.99	227.49	259.5
STRUCTURE 7	RUNOFF	.06	3	2	.30	.0	7.58	24.00	6.03	---	15.46	28.63	513.0

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION BEGIN (HR)	PRECIPITATION AMOUNT (IN)	PRECIPITATION DURATION (HR)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	PEAK DISCHARGE TIME (HR)	PEAK DISCHARGE RATE (CFS)	PEAK DISCHARGE RATE (CSM)
ALTERNATE 0 STORM 0													
STRUCTURE 7	ADDHYD	.93	3	2	.30	.0	7.58	24.00	5.45	879.91	15.73	250.58	268.7
STRUCTURE 7	RUNOFF	.00	3	2	.30	.0	7.58	24.00	7.09	---	15.60	2.05	526.4
STRUCTURE 7	ADDHYD	.94	3	2	.30	.0	7.58	24.00	5.46	879.93	15.72	252.45	269.6
STRUCTURE 7	RESVOR	.94	3	2	.30	.0	7.58	24.00	5.46	879.90	16.05	249.40	266.3

SUMMARY TABLE 3 - DISCHARGE (CFS) AT XSECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 0
STRUCTURE 7	.94	
ALTERNATE 0		249.40
STRUCTURE 6	.53	
ALTERNATE 0		123.40
STRUCTURE 5	.32	
ALTERNATE 0		73.91
STRUCTURE 4	.34	
ALTERNATE 0		106.90
STRUCTURE 3	.22	
ALTERNATE 0		55.92
STRUCTURE 2	.03	
ALTERNATE 0		7.23
STRUCTURE 1	.09	
ALTERNATE 0		24.28
XSECTION 1	.08	
ALTERNATE 0		33.05