06-09-BF52R

Clark County Regional Flood Control District

FEMA CLOMR Application

Lower Blue Diamond Detention Basin Project

August 2006

MWH

CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

NATIONAL FLOOD INSURANCE PROGRAM

FEMA NATIONAL SERVICE PROVIDER

October 24, 2006

Mr. Kevin Eubanks, P.E., CFM
Assistant General Manager
Clark County Regional Flood Control District
600 South Grand Central Parkway, Suite 300
Las Vegas, NV 89106-4511

IN REPLY REFER TO:
Case No.: 06-09-BF52R
Community: Clark County, NV
Community No.: 320003

316-ACK

Dear Mr. Eubanks:

This responds to your submittal dated October 11, 2006, concerning an August 28, 2006, request that the Department of Homeland Security's Federal Emergency Management Agency (FEMA) issue a conditional revision to the Flood Insurance Rate Map (FIRM) for Clark County, Nevada and Incorporated Areas. Pertinent information about the request is listed below.

Identifier:	Lower Blue Diamond Detention Basin
Flooding Source:	Blue Diamond Wash, North, and Middle Branches
FIRM Panel(s) Affected:	32003C2562 E, 2566 E, and 2567 E

We have completed an inventory of the items you submitted. Our review of the submitted data indicates we have the minimum data required to perform a detailed technical review of your request. We have also received the required review and processing fee ($5,000). If additional data are required or if delays are encountered, we will inform you within 60 days of the date of this letter.

Please direct questions concerning your request to us at the address shown at the bottom of this page. For identification purposes, please include the case number referenced above on all correspondence.

If you have general questions about your request, FEMA policy, or the National Flood Insurance Program, please call the FEMA Map Assistance Center, toll free, at 1-877-FEMA MAP (1-877-336-2627). If you

3601 Eisenhower Avenue, Alexandria, VA 22304-6425 PH:1-877-FEMA MAP FX: 703.960.9125

have specific questions concerning your request, please call the Revisions Coordinator for your State, Mr. Sacha Tohme, CFM, who may be reached at (703) 960-8800, ext. 3028.

Sincerely,

Sheila M. Norlin, CFM
National LOMC Manager
Michael Baker Jr., Inc.

cc: Mr. Robert Thompson, P.E.
Principal Engineer
Civil Engineering Division
Clark County Department of Development Services

Mr. Dave Betley, P.E.
Senior Civil Engineer
Civil Engineering Division
Clark County Department of Development Services

Mr. Jason Jager, P.E.
MWH

NATIONAL FLOOD INSURANCE PROGRAM

FEMA NATIONAL SERVICE PROVIDER

September 14, 2006

Mr. Kevin Eubanks, P.E., CFM
Assistant General Manager
Clark County Regional Flood Control District
600 South Grand Central Parkway, Suite 300
Las Vegas, NV 89106-4511

IN REPLY REFER TO:
Case No.: 06-09-BF52R
Community: Clark County, NV
Community No.: 320003

316-AD

Dear Mr. Eubanks:

This responds to your request dated August 28, 2006, that the Department of Homeland Security's Federal Emergency Management Agency (FEMA) issue a conditional revision to the Flood Insurance Rate Map (FIRM) for Clark County, Nevada and Incorporated Areas. Pertinent information about the request is listed below.

Identifier:	Lower Blue Diamond Detention Basin
Flooding Source:	Blue Diamond Wash North and Middle Branch
FIRM Panel(s) Affected:	32003C2562 E, 2566 E, and 2567 E

The data required to complete our review, which must be submitted within 90 days of the date of this letter, are listed on the enclosed summary.

If we do not receive the required data within 90 days, we will suspend our processing of your request. Any data submitted after 90 days will be treated as an original submittal and will be subject to all submittal/payment procedures, including the flat review and processing fee for requests of this type established by the current fee schedule. A copy of the notice summarizing the current fee schedule, which was published in the *Federal Register,* is enclosed for your information.

FEMA receives a very large volume of requests and cannot maintain inactive requests for an indefinite period of time. Therefore, we are unable to grant extensions for the submission of required data/fees for revision requests. If a requester is informed by letter that additional data are required to complete our review of a request, the data/fee **must** be submitted within 90 days of the date of the letter. Any fees already paid will be forfeited for any request for which the requested data are not received within 90 days.

If you have general questions about your request, FEMA policy, or the National Flood Insurance Program, please call the FEMA Map Assistance Center, toll free, at 1-877-FEMA MAP (1-877-336-2627). If you have specific questions concerning your request, please call the Revisions Coordinator for your State, Mr. Sacha Tohme, CFM, who may be reached at (703) 960-8800, ext. 3028.

Sincerely,

Sheila M. Norlin, CFM
National LOMC Manager
Michael Baker Jr., Inc.

Enclosures

cc: Mr. Dave Betley, P.E.
Senior Civil Engineer
Civil Engineering Division
Department of Development Services
Clark County

Mr. Jason Jager, P.E.
MWH

bcc: Regional Director R9-MT
State Coordinator
MBJ Case File/ST/EKH/06-09-BF52R-320003-AD
MBJ Project File

NATIONAL FLOOD INSURANCE PROGRAM

FEMA NATIONAL SERVICE PROVIDER

Summary of Additional Data Required to Support a
Conditional Letter of Map Revision (CLOMR)

Case No.: 06-09-BF52R

Requester: Mr. Kevin Eubanks, P.E., CFM

Community: Clark County, NV

Community No.: 320003

The issues listed below must be addressed before we can continue the review of your request.

1. The submitted copy of Application/Certification Form 1, entitled "Overview & Concurrence Form," did not contain the signature of a Clark County official. Please provide community acknowledgment in the form of a letter stating that a Clark County official has reviewed the revision request and understands the effects of the revision on flooding conditions in the community, or a completed copy of Form 1, signed by a county official.

2. The scale and topographic definition of the submitted hydrologic subbasin map entitled "Lower Blue Diamond Detention Basin CLOMR Application: Hydrology Flows," prepared by MWH Consulting, dated June 15, 2006, are not sufficient to provide reasonable accuracy for the proposed area of revision. Please provide a topographic subbasin map, at a reasonable scale, that includes topographic information for the entire area of revision. Please provide all backup information used in the submitted HEC-1 hydrologic model.

3. The undated submitted design plans entitled "UPRR Channel Drainage Plan," prepared by VTN Nevada, do not identify the scale. Please provide design plans for the Union Pacific Railroad (UPRR) Channel, certified by a registered professional engineer or licensed land surveyor, at an accurate scale.

Please send the required data directly to us at the address shown at the bottom of this page. For identification purposes, please include the case number referenced above on all correspondence.

Effective October 30, 2005, the Federal Emergency Management Agency (FEMA) revised the fee schedule for reviewing and processing requests for conditional and final modifications to published flood information and maps. In accordance with this schedule, the fee for your request is $5,000 and must be submitted before we can continue processing your request. Payment of this fee must be made in the form of a check or money order, payable in U.S. funds to the National Flood Insurance Program, or a credit card payment. For identification purposes, the case number referenced above must be included on the check or money order. We will not perform a detailed technical review of your request until we receive this payment.

Payment must be forwarded to one of the addresses listed below.

Using U.S. Postal Service:
Federal Emergency Management Agency
Fee-Charge System Administrator
P.O. Box 22787

Using overnight service:
FEMA Fee-Charge System Administrator
c/o Michael Baker Jr., Inc.
3601 Eisenhower Avenue

Alexandria, VA 22304

Alexandria, VA 22304

FEMA FORMS

U.S. DEPARTMENT OF HOMELAND SECURITY - FEDERAL EMERGENCY MANAGEMENT AGENCY

OVERVIEW & CONCURRENCE FORM

O.M.B No. 1660-0016
Expires: August 31, 2007

PAPERWORK BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 1 hour per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing, reviewing, and submitting the form. You are not required to respond to this collection of information unless a valid OMB control number appears in the upper right corner of this form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, U.S. Department of Homeland Security, Federal Emergency Management Agency, 500 C Street, SW, Washington DC 20472, Paperwork Reduction Project (1660-0016). Submission of the form is required to obtain or retain benefits under the National Flood Insurance Program. **Please do not send your completed survey to the above address.**

A. REQUESTED RESPONSE FROM DHS-FEMA

This request is for a (check one):

☒ CLOMR: A letter from DHS-FEMA commenting on whether a proposed project, if built as proposed, would justify a map revision, or proposed hydrology changes (See 44 CFR Ch. 1, Parts 60, 65 & 72).

☐ LOMR: A letter from DHS-FEMA officially revising the current NFIP map to show the changes to floodplains, regulatory floodway or flood elevations. (See Parts 60 & 65 of the NFIP Regulations.)

B. OVERVIEW

1. The NFIP map panel(s) affected for all impacted communities is (are):

Community No.	Community Name	State	Map No.	Panel No.	Effective Date
Ex: 480301	City of Katy	TX	480301	0005D	02/08/83
480287	Harris County	TX	48201C	0220G	09/28/90
320003	Clark County	NV	32003C	2562E	09/27/02
320003	Clark County	NV	32003C	2566E	09/27/02
320003	Clark County	NV	32003C	2567E	09/27/02

2. Flooding Source: Blue Diamond Wash North and Middle Branches

3. Project Name/Identifier: Lower Blue Diamond Detention Basin

4. FEMA zone designations affected: A, AE, and X (choices: A, AH, AO, A1-A30, A99, AE, AR, V, V1-V30, VE, B, C, D, X)

5. Basis for Request and Type of Revision:

a. The basis for this revision request is (check all that apply)

☒ Physical Change ☐ Improved Methodology/Data

☐ Regulatory Floodway Revision ☐ Other (Attach Description)

Note: A photograph and narrative description of the area of concern is not required, but is very helpful during review.

b. The area of revision encompasses the following types of flooding and structures (check all that apply)

Types of Flooding:	☒ Riverine	☐ Coastal	☐ Shallow Flooding (e.g., Zones AO and AH)
	☐ Alluvial fan	☐ Lakes	☐ Other (Attach Description)
Structures:	☐ Channelization	☐ Levee/Floodwall	☐ Bridge/Culvert
	☐ Dam	☐ Fill	☒ Other, Attach Description

C. REVIEW FEE

Has the review fee for the appropriate request category been included?	☒ Yes	Fee amount: $4,000
	☐ No, Attach Explanation	

Please see the DHS-FEMA Web site at http://www.fema.gov/fhm/frm_fees.shtm for Fee Amounts and Exemptions.

D. SIGNATURE

All documents submitted in support of this request are correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

Name: Kevin Eubanks, P.E.	Company: Clark County Regional Flood Control District	
Mailing Address: 600 Grand Central Parkway Las Vegas, NV 89106-4511	Daytime Telephone No.: 702-455-3139	Fax No.: 702-455-3870
	E-Mail Address: KevinEubanks@ccrfcd.org	
Signature of Requester (required): Kevin Eubanks		Date: 9/29/06

As the community official responsible for floodplain management, I hereby acknowledge that we have received and reviewed this Letter of Map Revision (LOMR) or conditional LOMR request. Based upon the community's review, we find the completed or proposed project meets or is designed to meet all of the community floodplain management requirements, including the requirement that no fill be placed in the regulatory floodway, and that all necessary Federal, State, and local permits have been, or in the case of a conditional LOMR, will be obtained. In addition, we have determined that the land and any existing or proposed structures to be removed from the SFHA are or will be reasonably safe from flooding as defined in 44CFR 65.2(c), and that we have available upon request by FEMA, all analyses and documentation used to make this determination.

Community Official's Name and Title: Dave Betley, P.E., Senior Civil Engineer		Telephone No.: 702-455-4808
Community Name: Clark County Department of Public Works	Community Official's Signature (required): Dave Betley	Date: 10/9/06

CERTIFICATION BY REGISTERED PROFESSIONAL ENGINEER AND/OR LAND SURVEYOR

This certification is to be signed and sealed by a licensed land surveyor, registered professional engineer, or architect authorized by law to certify elevation information. All documents submitted in support of this request are correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

Certifier's Name: Jason Jager, P.E.	License No.: 017488	Expiration Date: 06/30/09
Company Name: MWH	Telephone No.: 702-878-8010	Fax No.: 702-878-7833
Signature: Jason Jager		Date: 8/18/06

Ensure the forms that are appropriate to your revision request are included in your submittal.

Form Name and (Number)	Required if ...
☒ Riverine Hydrology and Hydraulics Form (Form 2)	New or revised discharges or water-surface elevations
☒ Riverine Structures Form (Form 3)	Channel is modified, addition/revision of bridge/culverts, addition/revision of levee/floodwall, addition/revision of dam
☐ Coastal Analysis Form (Form 4)	New or revised coastal elevations
☐ Coastal Structures Form (Form 5)	Addition/revision of coastal structure
☐ Alluvial Fan Flooding Form (Form 6)	Flood control measures on alluvial fans

Seal (Optional)

U.S. DEPARTMENT OF HOMELAND SECURITY - FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERINE HYDROLOGY & HYDRAULICS FORM

O.M.B No. 1660-0016
Expires: August 31, 2007

PAPERWORK REDUCTION ACT

Public reporting burden for this form is estimated to average 3.25 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing, reviewing, and submitting the form. You are not required to respond to this collection of information unless a valid OMB control number appears in the upper right corner of this form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, U.S. Department of Homeland Security, Federal Emergency Management Agency, 500 C Street, SW, Washington DC 20472, Paperwork Reduction Project (1660-0016). Submission of the form is required to obtain or retain benefits under the National Flood Insurance Program. **Please do not send your completed survey to the above address.**

Flooding Source: Blue Diamond Wash North Branch
Note: Fill out one form for each flooding source studied

A. HYDROLOGY

1. Reason for New Hydrologic Analysis (check all that apply)

☐ Not revised (skip to section 2) ☐ No existing analysis ☐ Improved data
☐ Alternative methodology ☒ Proposed Conditions (CLOMR) ☒ Changed physical condition of watershed

2. Comparison of Representative 1%-Annual-Chance Discharges

Location	Drainage Area (Sq. Mi.)	FIS (cfs)	Revised (cfs)
N. Branch @ Duck Creek	8.71	1290	566
M. Branch @ Duck Creek	92.9	1462	886

3. Methodology for New Hydrologic Analysis (check all that apply)

☐ Statistical Analysis of Gage Records ☒ Precipitation/Runoff Model HEC-1 [TR-20, HEC-1, HEC-HMS etc.]
☐ Regional Regression Equations ☐ Other (please attach description)

Please enclose all relevant models in digital format, maps, computations (including computation of parameters) and documentation to support the new analysis. The document, "Numerical Models Accepted by FEMA for NFIP Usage" lists the models accepted by DHS-FEMA. This document can be found at: http://www.fema.gov/fhm/en_modl.shtm.

4. Review/Approval of Analysis

If your community requires a regional, state, or federal agency to review the hydrologic analysis, please attach evidence of approval/review.

5. Impacts of Sediment Transport on Hydrology

Was sediment transport considered? ☐ Yes ☒ No If yes, then fill out Section F (Sediment Transport) of Form 3. If No, then attach your explanation for why sediment transport was not considered.

B. HYDRAULICS

1. Reach to be Revised

	Description	Cross Section	Water-Surface Elevations (ft.)	
			Effective	Proposed/Revised
Downstream Limit	Entrance to Improved Channel	330+00	2134.8	2128.8
Upstream Limit	Outlet of Moberly Channel	389+00	2313.1	2313.2

2. Hydraulic Method Used

Hydraulic Analysis HEC-2 [HEC-2 , HEC-RAS, Other (Attach description)]

B. HYDRAULICS (CONTINUED)

3. Pre-Submittal Review of Hydraulic Models

DHS-FEMA has developed two review programs, CHECK-2 and CHECK-RAS, to aid in the review of HEC-2 and HEC-RAS hydraulic models, respectively. These review programs verify that the hydraulic estimates and assumptions in the model data are in accordance with NFIP requirements, and that the data are comparable with the assumptions and limitations of HEC-2/HEC-RAS. CHECK-2 and CHECK-RAS identify areas of potential error or concern. These tools do not replace engineering judgment. CHECK-2 and CHECK-RAS can be downloaded from http://www.fema.gov/fhm/frm_soft.shtm. We recommend that you review your HEC-2 and HEC-RAS models with CHECK-2 and CHECK-RAS. If you disagree with a message, please attach an explanation of why the message is not valid in this case. Review of your submittal and resolution of valid modeling discrepancies will result in reduced review time.

HEC-2/HEC-RAS models reviewed with CHECK-2/CHECK-RAS? ☐ Yes ☒ No

4. Models Submitted ☐ Diskette Submitted

	Natural Run		Floodway Run		Datum
Duplicate Effective Model*	File Name: See Disc	Plan Name:	File Name:	Plan Name:	
Corrected Effective Model*	File Name:	Plan Name:	File Name:	Plan Name:	
Existing or Pre-Project Conditions Model	File Name:	Plan Name:	File Name:	Plan Name:	
Revised or Post-Project Conditions Model	File Name:	Plan Name:	File Name:	Plan Name:	
Other - (attach description)	File Name:	Plan Name:	File Name:	Plan Name:	

*Not required for revisions to approximate 1%-annual-chance floodplains (Zone A) – for details, refer to the corresponding section of the instructions.

The document "Numerical Models Accepted by FEMA for NFIP Usage" lists the models accepted by DHS-FEMA. This document can be found at: http://www.fema.gov/fhm/en_modl.shtm.

C. MAPPING REQUIREMENTS

A **certified topographic map** must be submitted showing the following information (where applicable): the boundaries of the effective, existing, and proposed conditions 1%-annual-chance floodplain (for approximate Zone A revisions) or the boundaries of the 1%- and 0.2%-annual-chance floodplains and regulatory floodway (for detailed Zone AE, AO, and AH revisions); location and alignment of all cross sections with stationing control indicated; stream, road, and other alignments (e.g., dams, levees, etc.); current community easements and boundaries; boundaries of the requester's property; certification of a registered professional engineer registered in the subject State; location and description of reference marks; and the referenced vertical datum (NGVD, NAVD, etc.).

Note that the boundaries of the existing or proposed conditions floodplains and regulatory floodway to be shown on the revised FIRM and/or FBFM must tie-in with the effective floodplain and regulatory floodway boundaries. Please attach **a copy of the effective FIRM and/or FBFM,** annotated to show the boundaries of the revised 1%- and 0.2%-annual-chance floodplains and regulatory floodway that tie-in with the boundaries of the effective 1%- and 0.2%-annual-chance floodplain and regulatory floodway at the upstream and downstream limits of the area of revision.

☐ Annotated FIRM and/or FBFM Included ☒ Digital Mapping (GIS/CADD) Data Submitted (Recommended)

D. COMMON REGULATORY REQUIREMENTS*

1. For CLOMR requests, do Base Flood Elevations (BFEs) increase? ☐ Yes ☒ No

For CLOMR requests, if either of the following is true, please submit evidence of compliance with Section 65.12 of the NFIP regulations:
- The proposed project encroaches upon a regulatory floodway and would result in increases above 0.00 foot.
- The proposed project encroaches upon a SFHA with or without BFEs established and would result in increases above 1.00 foot.

2. Does the request involve the placement or proposed placement of fill? ☐ Yes ☒ No

If Yes, the community must be able to certify that the area to be removed from the special flood hazard area, to include any structures or proposed structures, meets all of the standards of the local floodplain ordinances, and is reasonably safe from flooding in accordance with the NFIP regulations set forth at 44 CFR 60.3(a)(3), 65.5(a)(4), and 65.6(a)(14). Please see the MT-2 instructions for more information.

3. For LOMR/CLOMR requests, is the regulatory floodway being revised? ☐ Yes ☒ No

If Yes, attach evidence of regulatory floodway revision notification. As per Paragraph 65.7(b)(1) of the NFIP Regulations, notification is required for requests involving revisions to the regulatory floodway. (Not required for revisions to approximate 1%-annual-chance floodplains [studied Zone A designation] unless a regulatory floodway is being added. Elements and examples of regulatory floodway revision notification can be found in the MT-2 Form 2 Instructions.)

4. For LOMR/CLOMR requests, does this request have the potential to impact an endangered species? ☐ Yes ☒ No

If Yes, please submit documentation from the community to show that they have complied with Sections 9 and 10 of the Endangered Species Act (ESA). Section 9 of the ESA prohibits anyone from "taking" or harming an endangered species. If an action might harm an endangered species, a permit is required from U.S. Fish and Wildlife Service or National Marine Fisheries Service under Section 10 of the ESA.

For actions authorized, funded, or being carried out by Federal or State agencies, please submit documentation from the agency showing its compliance with Section 7(a)(2) of the ESA.

5. For LOMR requests, does this request require property owner notification and acceptance of BFE increases? ☐ Yes ☒ No

If Yes, please attach proof of property owner notification and acceptance (if available). Elements of and examples of property owner notification can be found in the MT-2 Form 2 Instructions.

* Not inclusive of all applicable regulatory requirements. For details, see 44 CFR parts 60 and 65.

U.S. DEPARTMENT OF HOMELAND SECURITY - FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERINE HYDROLOGY & HYDRAULICS FORM

O.M.B No. 1660-0016
Expires: August 31, 2007

PAPERWORK REDUCTION ACT

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Flooding Source: Blue Diamond Wash Middle Branch
Note: Fill out one form for each flooding source studied

A. HYDROLOGY

1. Reason for New Hydrologic Analysis (check all that apply)

☐ Not revised (skip to section 2) ☐ No existing analysis ☐ Improved data
☐ Alternative methodology ☒ Proposed Conditions (CLOMR) ☒ Changed physical condition of watershed

2. Comparison of Representative 1%-Annual-Chance Discharges

Location	Drainage Area (Sq. Mi.)	FIS (cfs)	Revised (cfs)
N. Branch @ Duck Creek	8.71	1290	566
M. Branch @ Duck Creek	92.9	1462	886

3. Methodology for New Hydrologic Analysis (check all that apply)

☐ Statistical Analysis of Gage Records ☒ Precipitation/Runoff Model HEC-1 [TR-20, HEC-1, HEC-HMS etc.]
☐ Regional Regression Equations ☐ Other (please attach description)

Please enclose all relevant models in digital format, maps, computations (including computation of parameters) and documentation to support the new analysis. The document, "Numerical Models Accepted by FEMA for NFIP Usage" lists the models accepted by DHS-FEMA. This document can be found at: http://www.fema.gov/fhm/en_modl.shtm.

4. Review/Approval of Analysis

If your community requires a regional, state, or federal agency to review the hydrologic analysis, please attach evidence of approval/review.

5. Impacts of Sediment Transport on Hydrology

Was sediment transport considered? ☐ Yes ☒ No If yes, then fill out Section F (Sediment Transport) of Form 3. If No, then attach your explanation for why sediment transport was not considered.

B. HYDRAULICS

1. Reach to be Revised

	Description	Cross Section	Water-Surface Elevations (ft.)	
			Effective	Proposed/Revised
Downstream Limit	Entrance to Improved Channel	420+00	2169.0	2166.8
Upstream Limit	East side of I-15	452+00	2261.7	2160.7

2. Hydraulic Method Used

Hydraulic Analysis HEC-2 [HEC-2 , HEC-RAS, Other (Attach description)]

B. HYDRAULICS (CONTINUED)

3. Pre-Submittal Review of Hydraulic Models

DHS-FEMA has developed two review programs, CHECK-2 and CHECK-RAS, to aid in the review of HEC-2 and HEC-RAS hydraulic models, respectively. These review programs verify that the hydraulic estimates and assumptions in the model data are in accordance with NFIP requirements, and that the data are comparable with the assumptions and limitations of HEC-2/HEC-RAS. CHECK-2 and CHECK-RAS identify areas of potential error or concern. These tools do not replace engineering judgment. CHECK-2 and CHECK-RAS can be downloaded from http://www.fema.gov/fhm/frm_soft.shtm. We recommend that you review your HEC-2 and HEC-RAS models with CHECK-2 and CHECK-RAS. If you disagree with a message, please attach an explanation of why the message is not valid in this case. Review of your submittal and resolution of valid modeling discrepancies will result in reduced review time.

HEC-2/HEC-RAS models reviewed with CHECK-2/CHECK-RAS? ☐ Yes ☒ No

4. Models Submitted ☐ Diskette Submitted

	Natural Run		Floodway Run		Datum
Duplicate Effective Model*	File Name: See Disc	Plan Name:	File Name:	Plan Name:	
Corrected Effective Model*	File Name:	Plan Name:	File Name:	Plan Name:	
Existing or Pre-Project Conditions Model	File Name:	Plan Name:	File Name:	Plan Name:	
Revised or Post-Project Conditions Model	File Name:	Plan Name:	File Name:	Plan Name:	
Other - (attach description)	File Name:	Plan Name:	File Name:	Plan Name:	

*Not required for revisions to approximate 1%-annual-chance floodplains (Zone A) – for details, refer to the corresponding section of the instructions.

The document "Numerical Models Accepted by FEMA for NFIP Usage" lists the models accepted by DHS-FEMA. This document can be found at: http://www.fema.gov/fhm/en_modl.shtm.

C. MAPPING REQUIREMENTS

A **certified topographic map** must be submitted showing the following information (where applicable): the boundaries of the effective, existing, and proposed conditions 1%-annual-chance floodplain (for approximate Zone A revisions) or the boundaries of the 1%- and 0.2%-annual-chance floodplains and regulatory floodway (for detailed Zone AE, AO, and AH revisions); location and alignment of all cross sections with stationing control indicated; stream, road, and other alignments (e.g., dams, levees, etc.); current community easements and boundaries; boundaries of the requester's property; certification of a registered professional engineer registered in the subject State; location and description of reference marks; and the referenced vertical datum (NGVD, NAVD, etc.).

Note that the boundaries of the existing or proposed conditions floodplains and regulatory floodway to be shown on the revised FIRM and/or FBFM must tie-in with the effective floodplain and regulatory floodway boundaries. Please attach **a copy of the effective FIRM and/or FBFM,** annotated to show the boundaries of the revised 1%- and 0.2%-annual-chance floodplains and regulatory floodway that tie-in with the boundaries of the effective 1%- and 0.2%-annual-chance floodplain and regulatory floodway at the upstream and downstream limits of the area of revision.

☐ Annotated FIRM and/or FBFM Included ☒ Digital Mapping (GIS/CADD) Data Submitted (Recommended)

D. COMMON REGULATORY REQUIREMENTS*

1. For CLOMR requests, do Base Flood Elevations (BFEs) increase? ☐ Yes ☒ No

For CLOMR requests, if either of the following is true, please submit evidence of compliance with Section 65.12 of the NFIP regulations:
- The proposed project encroaches upon a regulatory floodway and would result in increases above 0.00 foot.
- The proposed project encroaches upon a SFHA with or without BFEs established and would result in increases above 1.00 foot.

2. Does the request involve the placement or proposed placement of fill? ☐ Yes ☒ No

If Yes, the community must be able to certify that the area to be removed from the special flood hazard area, to include any structures or proposed structures, meets all of the standards of the local floodplain ordinances, and is reasonably safe from flooding in accordance with the NFIP regulations set forth at 44 CFR 60.3(a)(3), 65.5(a)(4), and 65.6(a)(14). Please see the MT-2 instructions for more information.

3. For LOMR/CLOMR requests, is the regulatory floodway being revised? ☐ Yes ☒ No

If Yes, attach evidence of regulatory floodway revision notification. As per Paragraph 65.7(b)(1) of the NFIP Regulations, notification is required for requests involving revisions to the regulatory floodway. (Not required for revisions to approximate 1%-annual-chance floodplains [studied Zone A designation] unless a regulatory floodway is being added. Elements and examples of regulatory floodway revision notification can be found in the MT-2 Form 2 Instructions.)

4. For LOMR/CLOMR requests, does this request have the potential to impact an endangered species? ☐ Yes ☒ No

If Yes, please submit documentation from the community to show that they have complied with Sections 9 and 10 of the Endangered Species Act (ESA). Section 9 of the ESA prohibits anyone from "taking" or harming an endangered species. If an action might harm an endangered species, a permit is required from U.S. Fish and Wildlife Service or National Marine Fisheries Service under Section 10 of the ESA.

For actions authorized, funded, or being carried out by Federal or State agencies, please submit documentation from the agency showing its compliance with Section 7(a)(2) of the ESA.

5. For LOMR requests, does this request require property owner notification and acceptance of BFE increases? ☐ Yes ☒ No

If Yes, please attach proof of property owner notification and acceptance (if available). Elements of and examples of property owner notification can be found in the MT-2 Form 2 Instructions.

* Not inclusive of all applicable regulatory requirements. For details, see 44 CFR parts 60 and 65.

U.S. DEPARTMENT OF HOMELAND SECURITY - FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERINE STRUCTURES FORM

O.M.B No. 1660-0016
Expires: August 31, 2007

PAPERWORK REDUCTION ACT

Public reporting burden for this form is estimated to average 7 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing, reviewing, and submitting the form. You are not required to respond to this collection of information unless a valid OMB control number appears in the upper right corner of this form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, U.S. Department of Homeland Security, Federal Emergency Management Agency, 500 C Street, SW, Washington DC 20472, Paperwork Reduction Project (1660-0016). Submission of the form is required to obtain or retain benefits under the National Flood Insurance Program. **Please do not send your completed survey to the above address.**

Flooding Source: Blue Diamond Wash North and Middle Branches
Note: Fill out one form for each flooding source studied

A. GENERAL

Complete the appropriate section(s) for each Structure listed below:

Channelization..... complete Section B
Bridge/Culvert..... complete Section C
Dam..... complete Section D
Levee/Floodwall..... complete Section E
Sediment Transport ..... complete Section F (if required)

Description Of Structure

1. **Name of Structure: Lower Blue Diamond Detention Basin Outlet Channel**

   Type (check one): ☒ Channelization ☐ Bridge/Culvert ☐ Levee/Floodwall ☐ Dam

   Location of Structure: Downstream of Lower Blue Diamond Detention Basin

   Downstream Limit/Cross Section: 389+00

   Upstream Limit/Cross Section: 407+00

2. **Name of Structure:**

   Type (check one): ☐ Channelization ☐ Bridge/Culvert ☐ Levee/Floodwall ☐ Dam

   Location of Structure:

   Downstream Limit/Cross Section:

   Upstream Limit/Cross Section:

3. **Name of Structure:**

   Type (check one) ☐ Channelization ☐ Bridge/Culvert ☐ Levee/Floodwall ☐ Dam

   Location of Structure:

   Downstream Limit/Cross Section:

   Upstream Limit/Cross Section:

NOTE: For more structures, attach additional pages as needed.

B. CHANNELIZATION

Flooding Source: North Branch Blue Diamond Wash

Name of Structure: Lower Blue Diamond Detention Basin

1. Accessory Structures

The channelization includes (check one):

- ☐ Levees [Attach Section E (Levee/Floodwall)]
- ☐ Superelevated sections
- ☒ Debris basin/detention basin
- ☐ Other (Describe):
- ☐ Drop structures
- ☐ Transitions in cross sectional geometry
- ☐ Energy dissipator

2. Drawing Checklist

Attach the plans of the channelization certified by a registered professional engineer, as described in the instructions.

3. Hydraulic Considerations

The channel was designed to carry (cfs) and/or the 100-year flood.

The design elevation in the channel is based on (check one):

☐ Subcritical flow ☐ Critical flow ☒ Supercritical flow ☐ Energy grade line

If there is the potential for a hydraulic jump at the following locations, check all that apply and attach an explanation of how the hydraulic jump is controlled without affecting the stability of the channel.

☐ Inlet to channel ☐ Outlet of channel ☐ At Drop Structures ☐ At Transitions
☐ Other locations (specify):

4. Sediment Transport Considerations

Was sediment transport considered? ☐ Yes ☒ No If Yes, then fill out Section F (Sediment Transport).
If No, then attach your explanation for why sediment transport was not considered.

C. BRIDGE/CULVERT

Flooding Source:

Name of Structure:

1. This revision reflects (check one):

- ☐ New bridge/culvert not modeled in the FIS
- ☐ Modified bridge/culvert previously modeled in the FIS
- ☐ New analysis of bridge/culvert previously modeled in the FIS

2. Hydraulic model used to analyze the structure (e.g., HEC-2 with special bridge routine, WSPRO, HY8):
If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structures. Attach justification.

3. Attach plans of the structures certified by a registered professional engineer. The plan detail and information should include the following (check the information that has been provided):

- ☐ Dimensions (height, width, span, radius, length)
- ☐ Shape (culverts only)
- ☐ Material
- ☐ Beveling or Rounding
- ☐ Wing Wall Angle
- ☐ Skew Angle
- ☐ Distances Between Cross Sections
- ☐ Erosion Protection
- ☐ Low Chord Elevations – Upstream and Downstream
- ☐ Top of Road Elevations – Upstream and Downstream
- ☐ Structure Invert Elevations – Upstream and Downstream
- ☐ Stream Invert Elevations – Upstream and Downstream
- ☐ Cross-Section Locations

4. Sediment Transport Considerations

Was sediment transport considered? ☐ Yes ☐ No If yes, then fill out Section F (Sediment Transport).
If No, then attach your explanation for why sediment transport was not considered.

FEDERAL EMERGENCY MANAGEMENT AGENCY

PAYMENT INFORMATION FORM

Community Name:

Project Identifier:

THIS FORM MUST BE MAILED, ALONG WITH THE APPROPRIATE FEE, TO THE ADDRESS BELOW OR FAXED TO THE FAX NUMBER BELOW.

Type of Request:

☐ MT-1 application
☐ MT-2 application

FEMA
Fee Charge System Administrator
P.O. Box 22787
Alexandria, VA 22304
FAX (703) 317-3076

☐ EDR application

FEMA Project Library
3601 Eisenhower Avenue
Alexandria, VA 22304
FAX (703) 751-7391

Request No.: _____ (if known)

Amount: _____

☐ INITIAL FEE* ☐ FINAL FEE ☐ FEE BALANCE** ☐ MASTER CARD ☐ VISA ☐ CHECK ☐ MONEY ORDER

*Note: Check only for EDR and/or Alluvial Fan requests (as appropriate).

**Note: Check only if submitting a corrected fee for an ongoing request.

COMPLETE THIS SECTION ONLY IF PAYING BY CREDIT CARD

CARD NUMBER

☐☐☐☐ — ☐☐☐☐ — ☐☐☐☐ — ☐☐☐☐
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

EXP. DATE

☐☐ — ☐☐
Month Year

_____ _____
Date Signature

NAME *(AS IT APPEARS ON CARD)*: _____
(please print or type)

ADDRESS: _____
(for your credit card receipt-please print or type) _____

DAYTIME PHONE: _____

TECHNICAL MEMORANDUM

Engineering Analysis Technical Memorandum
Lower Blue Diamond Detention Basin

INTRODUCTION

The proposed Lower Blue Diamond Detention Basin (LBDDB), Union Pacific Railroad (UPRR) Channel and outfall will be a Clark County Regional Flood Control District (CCRFCD) flood control detention facility located in the Duck Creek watershed. It is located near Windmill Lane and the Union Pacific Railroad, approximately 1.5 miles west of the Interstate Highway 15 (I-15)/Blue Diamond Road interchange as shown on **Figure 1**. The location of the proposed detention basin is shown on the effective Flood Insurance Rate Map (FIRM) on **Figure 2**.

The project is identified as facility number BDWA 0430-0625 in the CCRFCD Las Vegas Valley Flood Control Master Plan Update (MPU) dated September 2002 and amended on October 14, 2004. The proposed facility, as shown in amended MPU Figure F-20 on the following page, will control runoff from a 7.6-square-mile watershed based on MPU conditions. The outflow from the facility will be conveyed in a 54-inch diameter pipe and discharged into the existing Moberly Channel as shown on the attached design drawings.

Once the basin is in place, flow quantities and flow patterns in the project vicinity will change. This memorandum summarizes floodplain hydrologic and hydraulic analyses performed to reflect these proposed changes.

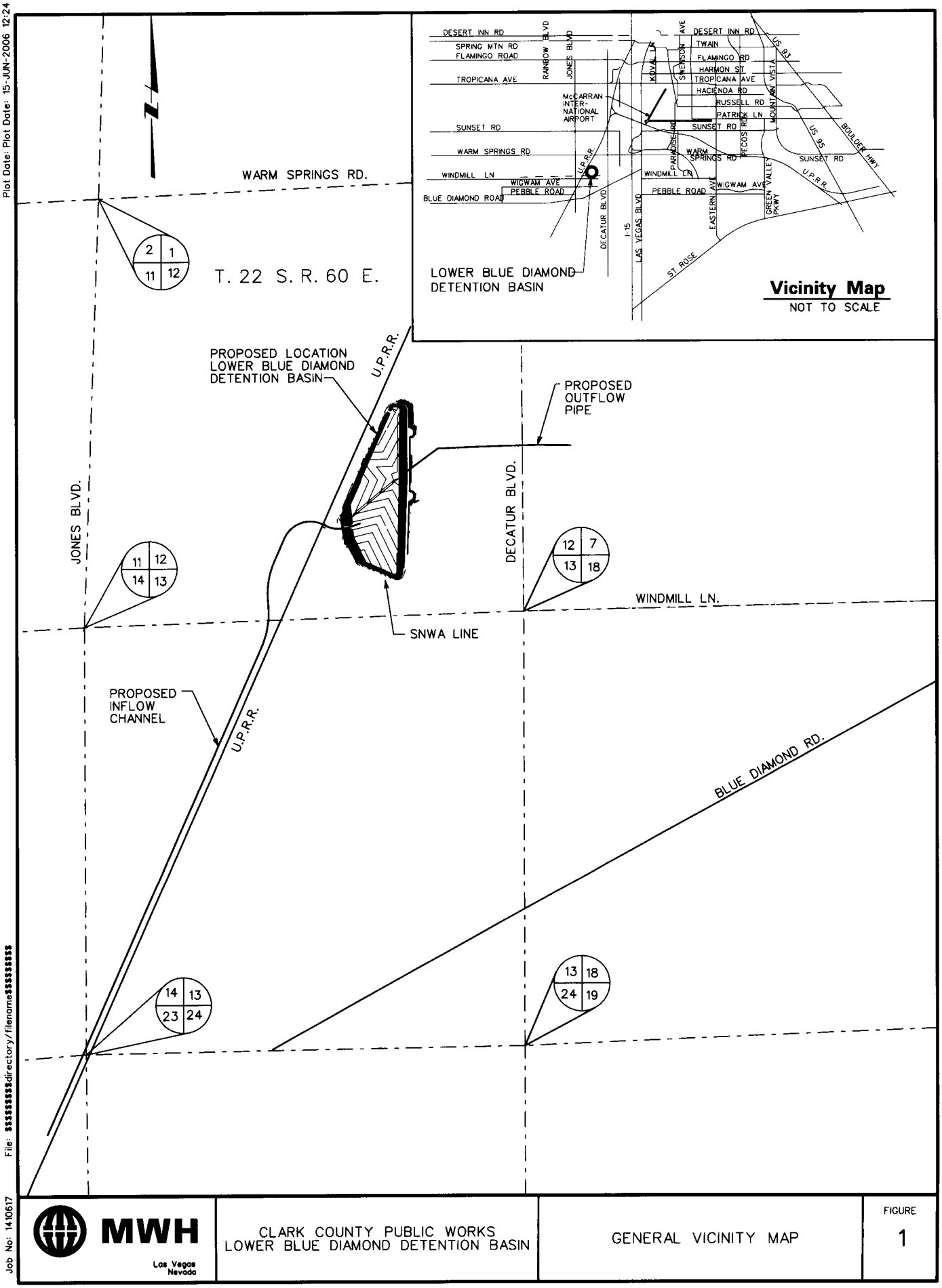
HYDROLOGIC MODELING

The HEC-1 model developed for the 2002 Blue Diamond/Duck Creek Flood Insurance Restudy FEMA Case No. 03-09-0980X was used as the base model for the current analysis. The section of the HEC-1 model directly affecting the study area was identified and broken out into its own model for this CLOMR application. This model was revised as explained below.

- The LBDDB along with its Area-Elevation-Outflow rating table was added to the model.

- Currently, there are three locations along the UPRR where runoff flows underneath the tracks from the west to the east. In the Restudy HEC-1 model these locations are identified as DVBD2, DVBD3, and DVBD4. As part of the proposed LBDDB project, the UPRR Channel, which will run parallel with the UPRR, will intercept and convey all runoff to the north along the railroad tracks and into the proposed detention basin. Runoff will no longer flow under the tracks to the east at the points mentioned above. This new flow routing scenario has been added to the current HEC-1 model.

- CLOMR Case No. 06-09-B230R formerly Case No. 05-09-0544R was issued on July 19, 2006. This CLOMR revises flows and flow routes in the Duck Creek watershed located to the south of the Blue Diamond watershed. Runoff from the Duck Creek watershed flows north into the Blue Diamond watershed along I-15. The limits of the hydrologic analysis of the referenced CLOMR is at concentration point PT19 where runoff flows both north along I-15 into the Blue Diamond Wash Middle Branch and east through a set of culverts underneath I-15. The resultant hydrograph of the runoff flowing north into Blue Diamond



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Job No: 1410617

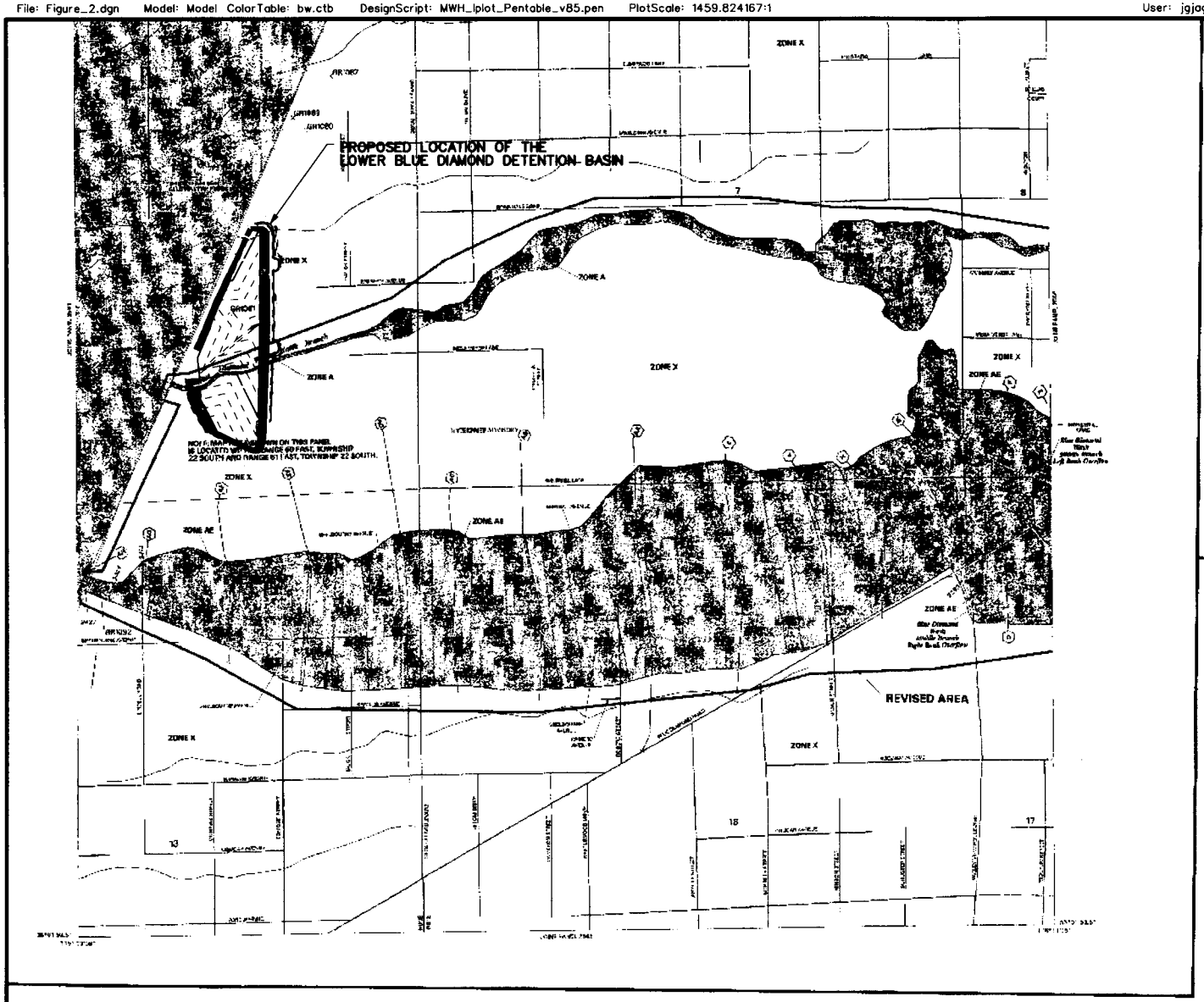
MWH
Las Vegas
Nevada

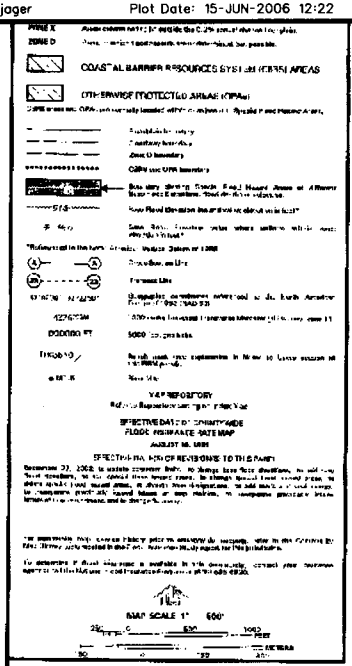
CLARK COUNTY PUBLIC WORKS
LOWER BLUE DIAMOND DETENTION BASIN

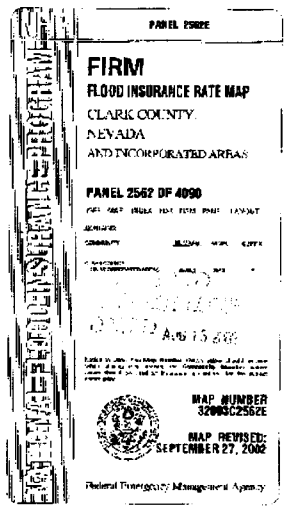
GENERAL VICINITY MAP

FIGURE
1

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MWH Las Vegas Nevada	LOWER BLUE DIAMOND DETENTION BASIN CLOMR APPLICATION	PROJECT LOCATION MAP	FIGURE 2

REGIONAL FLOOD CONTROL DISTRICT

2002 LAS VEGAS VALLEY FLOOD CONTROL MASTER PLAN UPDATE

LEGEND

- Ultimate Development Boundary
- Existing Facilities
- Category A Proposed Facilities
- Category B Proposed Facilities
- Local Existing Facilities
- Local Proposed Facilities
- Detention Basin
- Culvert
- Bridge
- Pipeline
- Lined Channel
- Unlined Channel
- Dike
- Natural Wash
- ID-Mile Separator

N W E S

0 1,000 2,000 3,000 4,000 5,000 Feet

SCALE: 1 inch = 3000 feet

FLOOD CONTROL FACILITIES
FIGURE F-20

PBS&J

G.C. WALLACE, INC.

Wash Middle Branch was obtained from the CLOMR HEC-1 model and entered directly into the current HEC-1 model. This input hydrograph is identified as HYDRO3 in the current HEC-1 model. The current CLOMR application utilizes the results from the CLOMR Case No. 06-09-B230R analysis because it is expected that the ensuing LOMR will be approved before a LOMR application for the LBDDB project is submitted.

Other than the modifications mentioned above, all other hydrologic parameters have been kept the same as in the Restudy model. There have not been substantial changes in this area of the Las Vegas Valley since the Restudy to warrant revisions of hydrologic parameters at a basin wide scale. **Table 1** shows the Restudy flow rates and the currently revised flow rates for various concentration points in the HEC-1 models. **Figure 3** displays the locations of the concentration points used in the HEC-1 models. The HEC-1 output is located in **Appendix A** and the electronic HEC-1 models are included on the disk located in **Appendix B**.

Table 1

LBDDB CLOMR
Revised Discharges

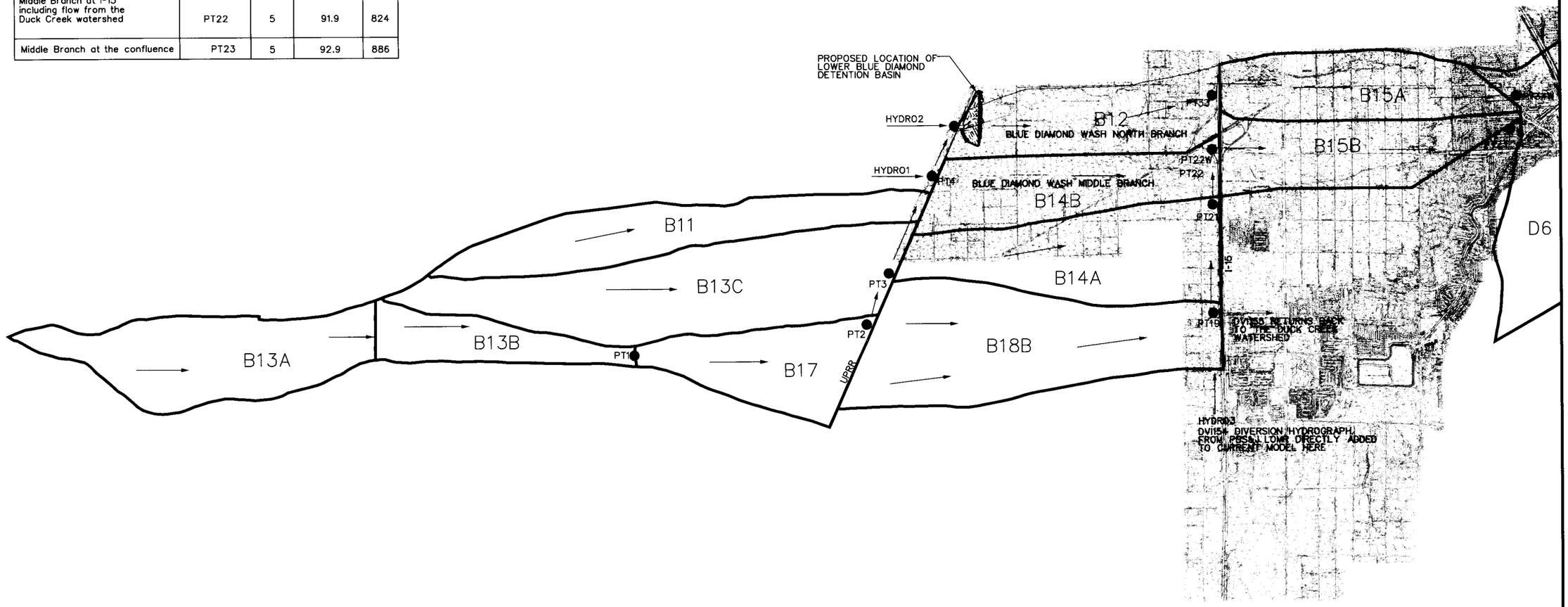
Location	HEC Point	2002 Restudy			LBDDB CLOMR		
		SDN	Drainage Area mi^2	Flow cfs	SDN	Drainage Area mi^2	Flow cfs
North Branch at LBDDB	LBDDB	N/A	N/A	N/A	3	6.8	217
North Branch at Upstream End of Moberly Channel	N/A	N/A	N/A	N/A	3	7.1	235
North Branch at I-15	PT33W/PT33	3	7.8	1,286	3	7.8	278
Flow Under Railroad Bridge to Blue Diamond Middle Branch	DVBD7	3	6.4	1,260	All flow to be diverted north into LBDDB		0
North Branch at the Confluence	PT34W	4	8.7	1,290	4	8.7	566
Middle Branch at I-15	PT22W	3	7.4	764	3	1.0	440
Middle Branch at I-15 Including Flow From the Duck Creek	PT22	5	100.3	1,462	5	91.9	824
Middle Branch at the Confluence	PT23	5	101.2	1,462	5	92.9	886

HYDRAULIC MODELING

Hydraulic analyses were carried out to determine the impacts of the proposed Lower Blue Diamond Detention Basin project on 100-year flood profiles in the Blue Diamond Wash North and Middle Branches. The HEC-2 computer software was used for the analyses.

Topography used for the current work map was obtained from the 2002 Restudy. The hydraulic analyses utilize the hydraulic models created for the Restudy. All cross-sections and hydraulic parameters within the models have been kept the same. Only the flow rates have been adjusted to reflect the revised hydrology.

Location	HEC-1 Point	SDN	Drainage Area mi^2	Flow cfs
North Branch at LBDDB	LBDDB	3	6.8	217
North Branch at I-15	PT33W/PT33	3	7.8	278
North Branch at the confluence	PT34W	4	8.7	566
Middle Branch at I-15	PT22W	3	1.0	440
Middle Branch at I-15 including flow from the Duck Creek watershed	PT22	5	91.9	824
Middle Branch at the confluence	PT23	5	92.9	886



SCALE			FIGURE
1" = 4,000'	MWH Las Vegas Nevada	LOWER BLUE DIAMOND DETENTION BASIN CLOMR APPLICATION — HYDROLOGY FLOWS	3

File: hydrology_figure.dgn Model: Model ColorTable: bw.ctb DesignScript: MWH_Iplot_Pentable_v85.pen PlotScale: 3996.717045:1 User: jgiager Plot Date: 15-JUN-2006 12:24

For a CLOMR analysis, four different models are required and are described below.

Duplicate Effective Model – The effective HEC-2 models were obtained from the 2002 Restudy and are included with this submittal as the duplicate effective models.

Corrected Effective Model – After a review of the Duplicate Effective Model, it was determined that no corrections were necessary to the Duplicate Effective Model for this CLOMR analysis. All input data relating to the physical conditions of the washes, such as channel cross-section geometry, locations, reach lengths and Manning's n values remain unchanged. Therefore, the Corrected Effective Model is identical to the Duplicate Effective Model. As such, no Corrected Effective Model is included with this CLOMR application.

Existing Conditions Model – An existing conditions model is created when there are man-made modifications in the study area that have occurred since the date of the effective model that have not been approved by FEMA. There have been no man-made modifications through the project reach since the time of the effective model that have not been analyzed by FEMA. As such, an existing conditions model is not warranted for this CLOMR application.

Proposed Conditions Model – The proposed conditions model was created using the Duplicate Effective Model with revised discharges at appropriate cross-sections to reflect the proposed change of flows due to the effect of flood routing through the UPRR Channel and Lower Blue Diamond Detention Basin. For the North Branch, the proposed model will end downstream of the Moberly Channel. Upstream of this location the 1 percent annual chance flood discharge of the post project is essentially the same as the existing conditions and will be completely contained within the LBDDB, the 54-inch outflow pipe, and the Moberly Channel. The Moberly Channel has been approved by FEMA through LOMR Case No. 03-09-0763P.

In the upstream reach of the Middle Branch, the flows increased from zero at the railway to 440 cfs at I-15. In the HEC-2 modeling, a flow of 220 cfs was assumed to prevail for over half the length of the reach beginning at the railway followed by a flow of 440 cfs to I-15.

The HEC-2 output is located in **Appendix C** and the electronic HEC-2 models are included on the CD located in **Appendix B.**

RESULTS

A summary of the HEC-2 modeling for the effective and proposed conditions is shown in **Table 2.**

100-year floodplain limits for the proposed conditions are plotted with the effective floodplain limits on **Figure 4** and **Figure 5**. Floodplain limits are not presented at reaches where the average flow depth is less than one foot. **Table 3** summarizes the locations of the proposed conditions where the average flow depth is less than one foot. The 100-year flood profile for the proposed conditions is plotted along with FEMA's effective 100-year flood profile on **Figures 6** through **11**.

Table 2

HEC-2 Summary Table

GENERAL					FIS				CLOMR			
					Floodplain		Floodway		Floodplain		Floodway	
HEC-2 XSEC	Stream Name	HEC-2 Model	Flow Regime	Ground Elevation	Q (cfs)	WSE (ft)	Q (cfs)	WSE (ft)	Q (cfs)	WSE (ft)	Q (cfs)	WSE (ft)
32900	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2124.89	1290	2129.8	1290	2129.8	566	2127.7	566	2127.7
33000	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2125.25	1290	2134.8	1290	2134.8	566	2128.8	566	2128.8
33100	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2144.00	1290	2144.5	1290	2145.5	566	2144.3	566	2144.9
33200	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2146.00	1290	2150.3	1290	2151.2	566	2149.5	566	2150.0
33300	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2151.00	1290	2154.4	1290	2155.4	566	2153.3	566	2153.5
33400	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2158.47	1290	2160.3	1290	2160.5	566	2159.7	566	2159.7
33500	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2158.70	1290	2160.8	1290	2161.2	566	2160.1	566	2160.2
33600	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2160.00	1290	2160.9	1290	2161.7	566	2160.4	566	2160.8
33700	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2161.50	1290	2164.3	1290	2165.1	566	2163.6	566	2164.3
33800	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2164.00	1290	2169.7	1290	2169.7	566	2168.0	566	2168.0
33900	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2168.00	1290	2174.8	1290	2174.8	566	2173.5	566	2173.5
34000	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2175.80	1290	2177.5	1290	2177.8	566	2176.7	566	2177.0
34100	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2175.80	1290	2178.1	1290	2179.0	566	2177.4	566	2177.9
34200	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2176.00	1290	2181.1	1290	2181.1	566	2178.9	566	2178.9
34300	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2180.00	1290	2184.1	1290	2184.3	566	2182.7	566	2183.0
34400	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2184.90	1290	2189.6	1290	2189.7	566	2188.2	566	2188.2
34500	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2192.00	1290	2194.1	1290	2194.5	566	2193.4	566	2193.9
34600	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2193.00	1290	2196.6	1290	2197.5	566	2195.8	566	2196.5
34700	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2200.00	1290	2201.7	1290	2202.3	566	2201.0	566	2201.7
34800	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2204.00	1290	2206.0	1290	2206.2	566	2205.1	566	2205.8
34900	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2204.00	1290	2206.3	1290	2207.0	566	2205.9	566	2207.0
35000	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2206.00	1290	2209.5	1290	2210.3	566	2208.8	566	2209.3
35100	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2208.00	1290	2210.7	1290	2211.1	566	2210.0	566	2210.6
35200	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2206.80	1290	2212.1	1290	2212.1	566	2210.8	566	2211.0
35300	NORTH BRANCH BLUE DIAMOND	BDN1SPC1	SUPER	2207.20	1290	2209.1	1290	2209.1	566	2208.3	566	2208.3
35400	NORTH BRANCH BLUE DIAMOND	BDN1SPC1	SUPER	2209.60	1290	2213.0	1290	2213.0	566	2211.7	566	2211.7
35500	NORTH BRANCH BLUE DIAMOND	BDN1SPC1	SUPER	2211.30	1290	2214.7	1290	2214.7	566	2213.4	566	2213.4
35600	NORTH BRANCH BLUE DIAMOND	BDN1SPC1	SUPER	2212.35	1290	2215.8	1290	2215.8	566	2214.6	566	2214.6
35700	NORTH BRANCH BLUE DIAMOND	BDN1SPC1	SUPER	2212.75	1290	2216.1	1290	2216.1	566	2214.8	566	2214.8
35800	NORTH BRANCH BLUE DIAMOND	BDN1SPC1	SUPER	2215.54	1290	2218.9	1290	2218.9	566	2217.9	566	2217.9
35900	NORTH BRANCH BLUE DIAMOND	BDN1SPC1	SUPER	2215.83	1290	2218.5	1290	2218.5	566	2221.4	566	2221.4
36000	NORTH BRANCH BLUE DIAMOND	BDN1SPC1	SUPER	2220.40	1290	2223.3	1290	2223.3	566	2221.9	566	2221.9
36100	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2224.94	1290	2232.1	1290	2233.1	566	2231.3	566	2231.3
36200	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2226.50	1290	2232.3	1290	2233.2	566	2231.4	566	2231.4
36300	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2228.00	1290	2232.6	1290	2233.4	566	2231.5	566	2231.4
36400	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2236.00	1290	2238.2	1290	2238.8	566	2237.4	566	2237.8

Table 2 (Continued)

HEC-2 Summary Table

GENERAL					FIS				CLOMR			
					Floodplain		Floodway		Floodplain		Floodway	
HEC-2 XSEC	Stream Name	HEC-2 Model	Flow Regime	Ground Elevation	Q (cfs)	WSE (ft)	Q (cfs)	WSE (ft)	Q (cfs)	WSE (ft)	Q (cfs)	WSE (ft)
36500	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2240.00	1290	2242.3	1290	2243.2	566	2241.6	566	2242.1
36600	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2244.00	1290	2245.4	1290	2246.0	566	2244.8	566	2245.2
36700	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2248.00	1290	2250.8	1290	2251.4	566	2249.9	566	2250.3
36800	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2252.00	1290	2255.3	1290	2256.1	566	2254.2	566	2254.8
36900	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2256.00	1290	2259.9	1290	2260.5	566	2258.8	566	2259.1
37000	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2257.92	1290	2265.0	1290	2265.0	566	2262.2	566	2262.6
37100	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2260.22	1290	2267.7	--	--	566	2266.9	--	--
37200	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2264.00	1290	2271.3	--	--	566	2267.8	--	--
37300	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2264.00	244	2271.3	--	--	278	2267.9	--	--
37400	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2268.00	244	2271.3	--	--	278	2269.1	--	--
37500	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2266.00	244	2271.3	--	--	278	2270.6	--	--
37600	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2272.00	244	2273.0	--	--	278	2273.1	--	--
37700	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2270.00	244	2273.2	--	--	278	2273.3	--	--
37800	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2272.22	244	2275.2	--	--	278	2275.4	--	--
37900	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2274.00	244	2277.4	--	--	278	2277.6	--	--
38000	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2280.00	244	2282.8	--	--	278	2282.9	--	--
38100	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2284.00	244	2287.8	--	--	278	2288.0	--	--
38200	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2288.58	244	2290.0	--	--	278	2290.1	--	--
38300	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2290.00	244	2293.0	--	--	278	2293.1	--	--
38400	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2295.00	244	2296.5	--	--	278	2296.7	--	--
38500	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2296.00	244	2297.2	--	--	278	2297.3	--	--
38600	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2295.57	244	2297.6	--	--	278	2297.7	--	--
38700	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2299.03	244	2299.6	--	--	278	2299.6	--	--
38800	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2303.10	244	2303.8	--	--	278	2303.8	--	--
38900	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2310.00	244	2313.1	--	--	278	2313.2	--	--
39000	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2316.79	244	2320.4	--	--	278	2320.5	--	--
42000	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2161.29	1462	2169.0	1462	2169.0	886	2166.8	886	2166.8
42100	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2168.00	1462	2175.0	1462	2175.0	886	2173.1	886	2173.1
42200	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2183.63	1462	2185.4	1462	2185.9	886	2185.0	886	2185.2
42300	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2183.63	1462	2186.0	1462	2186.9	886	2185.5	886	2186.0
42400	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2184.30	1462	2189.5	1462	2189.5	886	2188.9	886	2189.2
42500	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2190.47	1462	2193.3	1462	2194.4	886	2192.9	886	2193.8
42600	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2191.32	1462	2193.9	1462	2194.2	886	2193.3	886	2193.8
42700	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2194.00	1462	2197.8	1462	2197.8	886	2197.3	886	2197.3
42800	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2199.24	1462	2201.5	1462	2201.7	886	2201.1	886	2201.2
42900	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2196.10	1462	2201.7	1462	2202.1	886	2201.3	886	2201.4
43000	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2200.00	1462	2206.8	1462	2206.7	886	2206.2	886	2206.2

Table 2 (Continued)

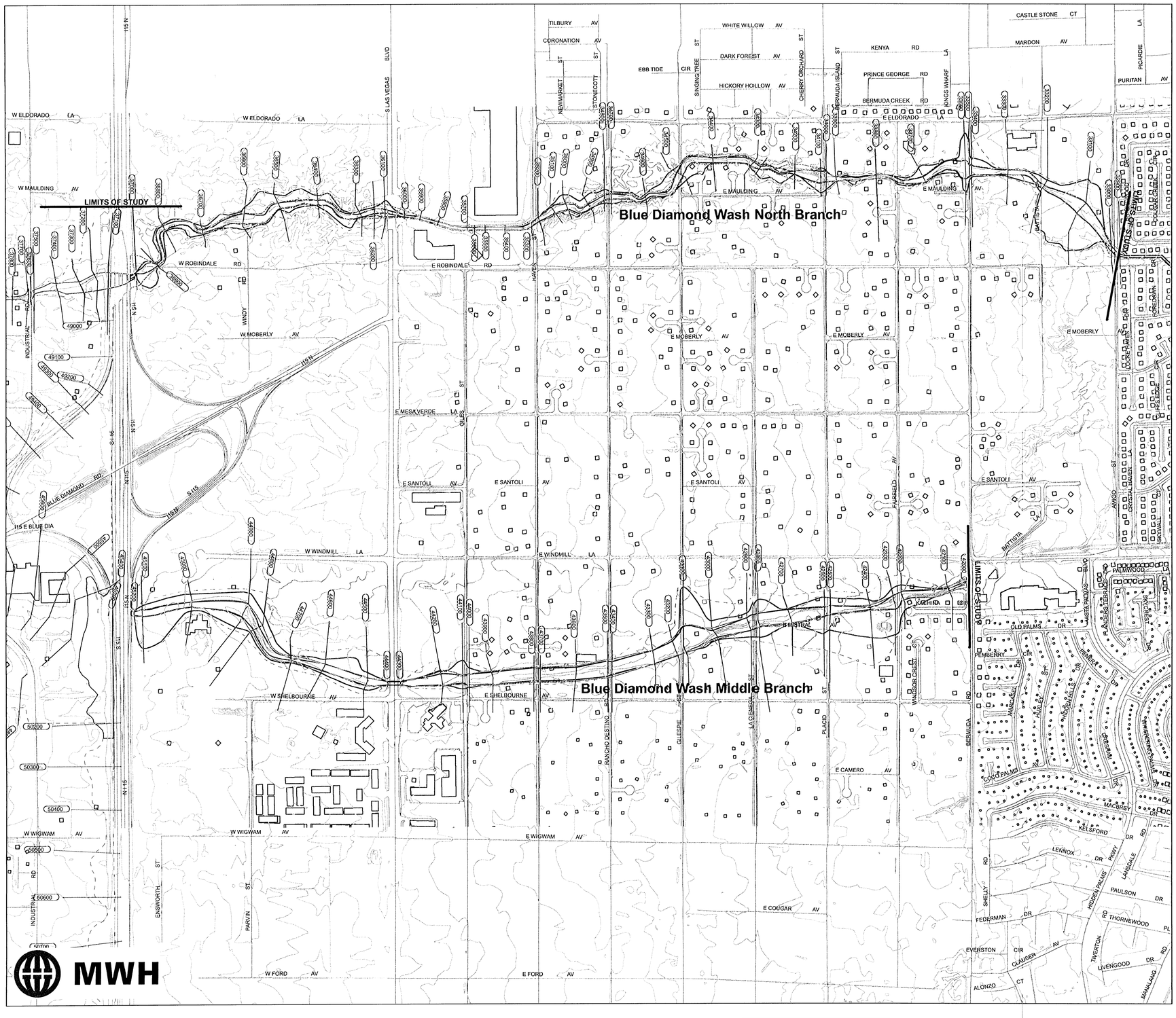
HEC-2 Summary Table

GENERAL					FIS				CLOMR			
					Floodplain		Floodway		Floodplain		Floodway	
HEC-2 XSEC	Stream Name	HEC-2 Model	Flow Regime	Ground Elevation	Q (cfs)	WSE (ft)	Q (cfs)	WSE (ft)	Q (cfs)	WSE (ft)	Q (cfs)	WSE (ft)
43100	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2207.20	1462	2209.0	1462	2209.6	886	2208.6	886	2209.2
43200	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2207.21	1462	2210.6	1462	2210.6	886	2210.0	886	2210.0
43300	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2208.50	1462	2212.5	1462	2212.5	886	2211.9	886	2211.9
43400	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2212.00	1462	2214.9	1462	2215.0	886	2214.3	886	2214.3
43500	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2212.00	1462	2215.6	1462	2215.6	886	2214.9	886	2214.9
43600	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2216.00	1462	2218.6	1462	2218.6	886	2218.0	886	2218.0
43700	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2216.00	1462	2221.4	1462	2221.5	886	2220.6	886	2220.6
43800	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2220.00	1462	2222.3	1462	2222.3	886	2221.7	886	2221.7
43900	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2222.76	1462	2226.4	1462	2226.4	886	2225.7	886	2225.7
44000	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2227.20	1462	2229.4	1462	2229.4	886	2228.9	886	2228.9
44100	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2227.20	1462	2230.8	1462	2231.3	886	2230.2	886	2230.5
44200	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2228.00	1462	2232.0	1462	2232.7	886	2231.4	886	2231.8
44300	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2231.57	1462	2235.7	1462	2235.7	886	2234.5	886	2234.5
44400	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2233.10	1462	2238.1	1462	2238.1	886	2236.7	886	2236.7
44500	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2234.00	1462	2239.7	1462	2239.6	886	2237.9	886	2238.4
44600	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2238.00	1462	2241.8	1462	2241.9	886	2241.1	886	2242.1
44700	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2240.00	1462	2245.0	1462	2245.8	886	2244.4	886	2244.7
44800	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2244.00	1462	2249.2	1462	2249.4	886	2248.6	886	2249.6
44900	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2247.00	1462	2250.3	1462	2251.0	886	2249.8	886	2250.3
45000	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2252.00	1462	2254.3	1462	2255.1	886	2253.7	886	2254.2
45100	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2258.00	1462	2261.1	1462	2261.7	886	2260.8	886	2260.9
45200	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2258.04	1462	2261.7	1462	2261.9	886	2260.7	886	2261.6
45300	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2260.12	1462	2264.7	--	--	886	2263.4		
45400	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2264.00	391	2266.3	--	--	241	2265.1		
45500	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2268.00	391	2268.4	--	--	241	2268.7		
45600	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2268.00	391	2270.4	--	--	241	2269.9		
45700	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2270.40	391	2271.5	--	--	241	2271.3		
45800	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2272.00	391	2273.0	--	--	241	2272.8		
45900	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2276.00	391	2276.5	--	--	241	2276.4		
46000	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2280.00	391	2281.1	--	--	241	2280.8		
46100	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2284.00	391	2284.7	--	--	241	2284.5		
46200	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2288.00	391	2288.6	--	--	241	2288.4		
46300	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2290.20	391	2291.9	--	--	241	2291.6		
46400	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2294.95	391	2295.9	--	--	241	2295.7		
46500	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2296.00	589	2297.0	--	--	343	2296.7		
46600	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2298.89	764	2299.3	--	--	440	2299.2		
46700	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2306.97	1961	2308.4	--	--	440	2308.1	--	--
46800	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2312.00	1961	2313.1	--	--	440	2312.4	--	--

Table 2 (Continued)

HEC-2 Summary Table

GENERAL					FIS				CLOMR			
					Floodplain		Floodway		Floodplain		Floodway	
HEC-2 XSEC	Stream Name	HEC-2 Model	Flow Regime	Ground Elevation	Q (cfs)	WSE (ft)	Q (cfs)	WSE (ft)	Q (cfs)	WSE (ft)	Q (cfs)	WSE (ft)
46900	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2316.00	1961	2316.8	--	--	440	2316.4	--	--
47000	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2323.68	1961	2324.3	--	--	440	2324.1	--	--
47100	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2327.80	1961	2328.6	--	--	440	2328.3	--	--
47200	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2332.00	1961	2332.7	--	--	440	2332.3	--	--
47300	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2339.00	1961	2340.6	--	--	440	2340.2	--	--
47400	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2348.00	1961	2348.9	--	--	440	2348.4	--	--
47500	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2356.00	1961	2358.0	--	--	220	2357.2	--	--
47600	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2364.80	1961	2366.3	--	--	220	2365.3	--	--
47700	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2368.00	1961	2369.5	--	--	220	2368.7	--	--
47800	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2375.80	1961	2376.8	--	--	220	2376.3	--	--
47900	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2384.00	1961	2385.3	--	--	220	2384.5	--	--
48000	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2390.00	1961	2392.4	--	--	220	2390.8	--	--
48100	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2400.00	1961	2401.4	--	--	220	2400.7	--	--
48200	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2407.00	1961	2408.5	--	--	220	2407.8	--	--
48300	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2413.50	1961	2416.4	--	--	220	2414.4	--	--
48400	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2417.00	1961	2421.2	--	--	220	2418.8	--	--
48500	MIDDLE BRANCH BLUE DIAMOND	BDM2SUB1	SUB	2272.00	373	2273.6	--	--	199	2273.6	--	--
48600	MIDDLE BRANCH BLUE DIAMOND	BDM2SUB1	SUB	2276.00	373	2277.2	--	--	199	2276.6	--	--
48700	MIDDLE BRANCH BLUE DIAMOND	BDM2SUB1	SUB	2280.00	373	2281.1	--	--	199	2281.0	--	--
48800	MIDDLE BRANCH BLUE DIAMOND	BDM2SUB1	SUB	2284.00	373	2284.5	--	--	199	2284.3	--	--
48900	MIDDLE BRANCH BLUE DIAMOND	BDM2SUB1	SUB	2288.00	373	2289.0	--	--	199	2288.9	--	--



Legend

- Proposed_Floodway
- Effective_Floodway
- Proposed 100-Year Floodplain
- Effective 100-Year Floodplain
- Floodplain_changes
- Floodway_chages

N
W E
S

0 240 480 960 1,440 1,920 Feet

1 inch equals 450 feet

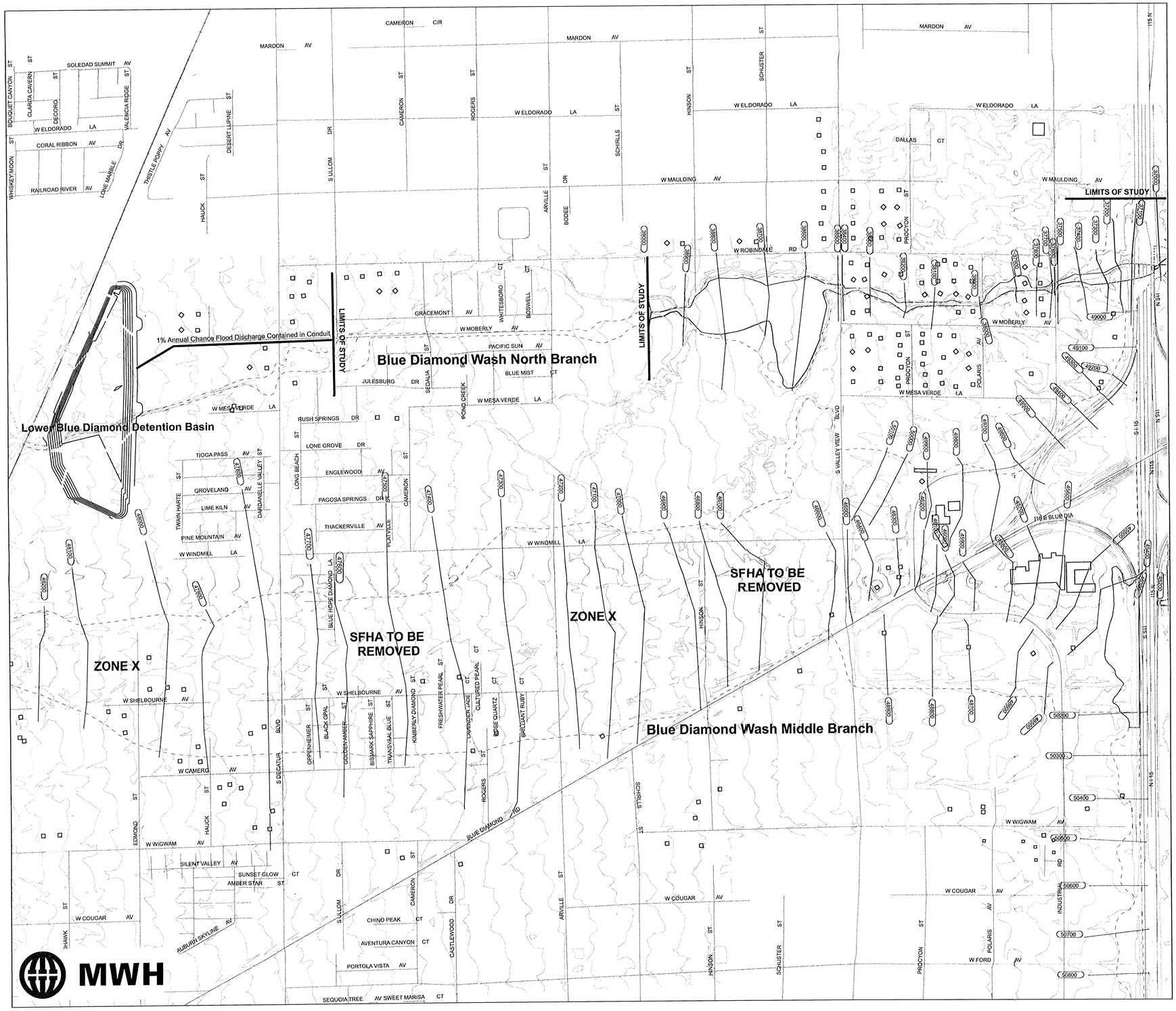
CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

LBDDB CLOMR Floodplain Delineation

Figure 4

MWH

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Legend

- Proposed_Floodway
- Effective_Floodway
- Proposed 100-Year Floodplain
- Effective 100-Year Floodplain
- Floodplain_changes
- Floodway_chages

N

W E

S

0 240 480 960 1,440 1,920 Feet

1 inch equals 450 feet

CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

LBDDB CLOMR Floodplain Delineation

Figure 5

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Table 3

Calculations of Average Depths Less Than 1 Foot

GENERAL					FLOODPLAIN			
HEC-2 XSEC	Stream Name	HEC-2 Model	Flow Regime	Ground Elevation	Q (cfs)	Area (ft^2)	Top Width (ft)	Avg Depth (ft)
38700	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2299.58	278	94.7	330.3	0.3
38800	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2303.10	278	199.0	517.8	0.4
38900	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2310.00	278	73.7	93.0	0.8
39000	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2316.79	278	92.1	184.0	0.5
39100	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2323.50	278	62.2	82.0	0.8
39200	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2326.50	278	79.1	137.6	0.6
39300	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2336.00	278	77.8	110.7	0.7
39400	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2340.00	278	74.3	87.7	0.8
39500	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2347.00	278	65.0	113.7	0.6
39600	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2351.00	278	154.6	420.3	0.4
39700	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2356.00	278	71.7	152.9	0.5
39800	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2362.00	278	80.8	93.2	0.9
39900	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2366.00	278	85.0	163.2	0.5
40000	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2373.00	278	83.3	183.1	0.5
40100	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2375.00	278	132.3	183.1	0.7
40200	NORTH BRANCH BLUE DIAMOND	BDN1SUB1	SUB	2379.00	278	84.2	156.1	0.5
45700	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2270.40	241	149.8	321.7	0.5
45800	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2272.00	241	307.4	426.4	0.7
45900	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2276.00	241	68.3	182.2	0.4
46000	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2280.00	241	172.2	238.0	0.7
46100	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2284.00	241	71.7	203.7	0.4
46200	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2288.00	241	224.7	540.6	0.4
46300	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2290.20	241	165.0	277.1	0.6
46400	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2294.95	241	205.7	370.5	0.6
46500	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2296.00	343	422.2	784.0	0.5
46600	MIDDLE BRANCH BLUE DIAMOND	BDM3SUB1	SUB	2298.89	440	156.7	655.4	0.2
46700	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2306.97	440	314.1	1452.0	0.2
46800	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2312.00	440	141.3	466.9	0.3
46900	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2316.00	440	343.4	1071.9	0.3
47000	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2323.68	440	239.9	1728.4	0.1
47100	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2327.80	440	390.6	1548.4	0.3
47200	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2332.00	440	207.1	814.5	0.3
47300	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2339.00	440	333.4	1486.0	0.2
47400	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2348.00	440	156.8	504.8	0.3
47500	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2356.00	220	95.0	236.0	0.4
47600	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2364.80	220	64.0	175.1	0.4
47700	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2368.00	220	161.2	429.9	0.4

Table 3 (Continued)

Calculations of Average Depths Less Than 1 Foot

GENERAL					FLOODPLAIN			
HEC-2 XSEC	Stream Name	HEC-2 Model	Flow Regime	Ground Elevation	Q (cfs)	Area (ft^2)	Top Width (ft)	Avg Depth (ft)
47800	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2375.80	220	108.3	676.7	0.2
47900	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2384.00	220	152.0	454.5	0.3
48000	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2390.00	220	51.1	89.6	0.6
48100	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2400.00	220	151.9	426.3	0.4
48200	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2407.00	220	87.7	330.0	0.3
48300	MIDDLE BRANCH BLUE DIAMOND	BDM1SUB1	SUB	2413.50	220	61.4	90.6	0.7
48500	MIDDLE BRANCH BLUE DIAMOND	BDM2SUB1	SUB	2272.00	199	168.5	177.8	0.9
48600	MIDDLE BRANCH BLUE DIAMOND	BDM2SUB1	SUB	2276.00	199	84.9	224.7	0.4
48700	MIDDLE BRANCH BLUE DIAMOND	BDM2SUB1	SUB	2280.00	199	194.0	252.9	0.8
48800	MIDDLE BRANCH BLUE DIAMOND	BDM2SUB1	SUB	2284.00	199	149.5	607.1	0.2
48900	MIDDLE BRANCH BLUE DIAMOND	BDM2SUB1	SUB	2288.00	199	181.6	269.4	0.7

HEC-2 CROSS SECTION ID

31000 31100 31200 31300 31400 31500 31600 31700 31800 31900 32000 32100 32200 32300 32400 32500 32600 32700 32800 32900 33000

ELEVATION (FEET, NGVD 29)

2206 2202 2198 2194 2190 2186 2182 2178 2174 2170 2166 2162 2158 2154 2150 2146 2142 2138 2134 2130 2126 2122 2118 2114 2110 2106 2102 2098 2094 2090 2086 2082 2078 2074 2070

1% ANNUAL CHANCE FLOOD CONTAINED IN CHANNEL

DUCK CREEK CONFLUENCE

PARADISE RD.

ROBINDALE RD.

AMIGO ST.

0+00 2+00 4+00 6+00 8+00 10+00 12+00 14+00 16+00 18+00 20+00 22+00 24+00 26+00 28+00 30+00 32+00 34+00 36+00 38+00 40+00 42+00 44+00 46+00 48+00 50+00 52+00

DISTANCE (FEET)

LEGEND

NEW WATER SURFACE ELEVATION (100-YR)

EXISTING WATER SURFACE ELEVATION (100-YR)

CHANNEL INVERT ELEVATION

CLARK COUNTY, NEVADA

MWH

MWH
3014 WEST CHARLESTON BLVD
LAS VEGAS, NV 89102
(702) 878-8010

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FLOOD PROFILES

NORTH BRANCH BLUE DIAMOND WASH

SCALE AS SHOWN

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FIG-6

LEGEND

- NEW WATER SURFACE ELEVATION (100-YR)
- EXISTING WATER SURFACE ELEVATION (100-YR)
- CHANNEL INVERT ELEVATION

CLARK COUNTY, NEVADA

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FLOOD PROFILES

NORTH BRANCH BLUE DIAMOND WASH

SCALE: AS SHOWN

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FIG-7

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MWH
Las Vegas

MWH
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FLOOD PROFILES

NORTH BRANCH BLUE DIAMOND WASH

SCALE
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FIG-8

CLARK COUNTY, NEVADA

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FLOOD PROFILES

NORTH BRANCH BLUE DIAMOND WASH

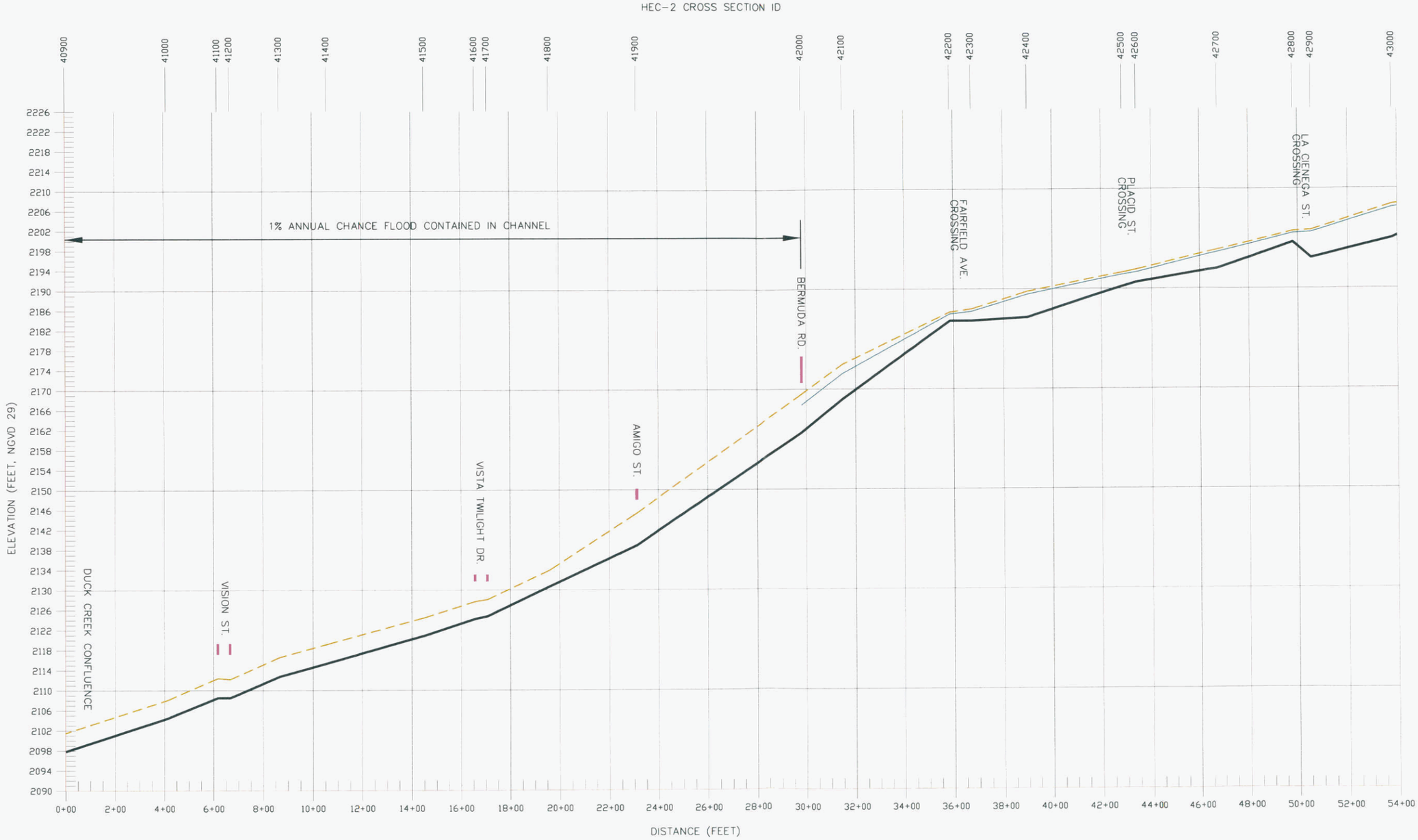
SCALE
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\\Usals1602\Design Files\ccw\bdd_BDD\CLOMR\Profiles

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FIG-9



CLARK COUNTY, NEVADA

MWH
Las Vegas

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FLOOD PROFILES

MIDDLE BRANCH BLUE DIAMOND WASH

SCALE
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FIG-10

CLARK COUNTY, NEVADA

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MIDDLE BRANCH BLUE DIAMOND WASH

SCALE
AS SHOWN

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DRAWING NUMBER

FIG-11

On the Blue Diamond Wash Middle Branch, flow that once crossed underneath the UPRR will now be routed north along the tracks and into the LBDDB. Because of the greatly reduced flow in the middle branch, the average depth from the UPRR to I-15 is less than 1 foot. Therefore, this area shall be designated as FEMA Zone X. In addition, because of the reduced flow, there will no longer be a flow split from the Middle Branch to the North Branch near the I-15 Interchange.

It is anticipated that the FIRM will be revised as shown on the work maps. On the Blue Diamond Wash North Branch, the LBDDB will completely contain the 100-year flow and the flood waters will be slowly discharged to the Moberly Channel via a 54-inch pipe.

An ArcGIS file containing the proposed 100-year floodplain and floodway limits is included on the CD in **Appendix B**. Seventy percent design drawings for the LBDDB project are included in **Appendix D**.

RELATED DATA AND INFORMATION

The following related data and information are included in **Appendix E**:

- Analysis of 54-inch outlet pipe using WSPG model. WSPG model for the 54-inch outlet pipe is included in the attached CD.
- Analysis of UPRR Channel using WSPG model. WSPG model for the channel is included in the attached CD
- Design calculations of UPRR Channel
- Plans and profiles of UPPR Channel

APPENDIX A

HEC-1 SDN 5

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             JAN  1997                 *
*           VERSION 4.1                 *
*                                       *
*  RUN DATE   20MAR06  TIME  14:21:43   *
*                                       *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*            (916) 756-1104             *
*                                       *
*****************************************
```

```
X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX         XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM


```
          LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10
                        *DIAGRAM
 *** FREE ***
              1         ID   LBDDB CLOMR ANALYSIS
              2         ID   MODEL BASED FROM GCW
              3         ID   DESIGN STORM = 100-YEAR 6-HOUR STORM
              4         ID   STORM DISTRIBUTION = SDN3
                        *
              5         ID     JR CARDS CONTAIN DARFS BASED ON THE FOLLOWING VALUES:
              6         ID
              7         ID     AREA (SQUARE MILES)    DARF
              8         ID    0.5 - 1    0.975
              9         ID    1 - 2    0.950
             10         ID    2 - 3    0.925
             11         ID    3 - 4    0.915
             12         ID    4 - 5    0.908
             13         ID    6 - 7    0.895
             14         ID    7 - 8    0.885
             15         ID    8 - 9    0.875
             16         ID    50 -100    0.640
             17         ID
             18         IT       5       0       0     120
             19         IO       5       0       0
             20         JR    PREC   0.975   0.950   0.925   0.915   0.908   0.895   0.885   0.875   0.640
                        *
             21         KK    B13A
             22         BA   1.290
             23         PB    3.14
             24         PC   0.000   0.020   0.057   0.070   0.087   0.108   0.124   0.130   0.130   0.130
             25         PC   0.130   0.130   0.130   0.133   0.140   0.142   0.148   0.158   0.172   0.181
             26         PC   0.190   0.197   0.199   0.200   0.201   0.204   0.214   0.229   0.241   0.249
             27         PC   0.251   0.256   0.270   0.278   0.281   0.283   0.295   0.322   0.352   0.409
             28         PC   0.499   0.590   0.710   0.744   0.781   0.812   0.819   0.835   0.851   0.856
             29         PC   0.860   0.868   0.876   0.888   0.910   0.926   0.937   0.950   0.970   0.976
             30         PC   0.982   0.985   0.987   0.989   0.990   0.993   0.993   0.994   0.995   0.998
             31         PC   0.998   0.999   1.000
             32         LS       0    88.0
             33         UD   0.680
                        *
             34         KK    RB13A
             35         KM    ROUTE B13A TO PT1
             36         RM       7    0.64     0.1
                        *
             37         KK    B13B
             38         BA   0.538
             39         PB    2.96
             40         LS       0    88.0
             41         UD   1.440
                        *
```



```
          LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10
             42         KK     PT1
             43         KM    COMBINE BASINS B13A AND B13B
             44         HC       2
                        *
             45         KK    RPT1
             46         KM    ROUTE PT1 TO PT2
             47         RM       3    0.28    0.15
                        *
             48         KK     B17
             49         BA   0.816
             50         PB    2.80
             51         LS       0    88.0
             52         UD   0.940
                        *
             53         KK     PT2
             54         KM    COMBINE PT1 AND BASIN B17
             55         HC       2
                        *
             56         KK    RPT2
             57         KM    ROUTE PT2 TO PT3
             58         RD    2000   0.008    0.03       0    TRAP      35       3
                        *
             59         KK    B13C
             60         BA   2.005
             61         PB    2.82
             62         LS       0    88.1
             63         UD   0.510
                        *
             64         KK     PT3
```

```
 65          KM   COMBINE PT2 AND BASIN B13C
 66          HC       2
             *

 67          KK   RPT3A
 68          KM   OLD DIVERSIONS WILL BE CUT OFF AND ALL FLOW WILL GO TO LBDDB
 69          KM   ROUTE PT3 NORTH ALONG WEST SIDE OF UPRR TO UPPR CULVERT BD4
 70          KM   MUSKINGUM ROUTING UNSTABLE
 71          RD    1200   0.008    0.03       0    TRAP      35       3
             *

 72          KK   RPT3B
 73          KM   OLD DIVERSIONS WILL BE CUT OFF AND ALL FLOW WILL GO TO LBDDB
 74          KM   ROUTE PT3 NORTH ALONG WEST SIDE OF UPRR TO UPPR BRIDGE
 75          RM       1   0.119    0.15
             *
1                                          HEC-1 INPUT                                          PAGE  3

          LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 76          KK    B11S
 77          KM   SOUTHERN PORTION OF BASIN B11 TIES INTO HYDRO1 BOUNDARY AREA
 78          BA   1.121
 79          PB    2.82
 80          LS       0    78.0
 81          UD   0.580
             *

 82          KK  HYDRO1
 83          KM   INFLOW HYDROGRAPH
 84          KM   "REFERENCED FROM ""LOMR FOR AREA DOWNSTREAM OF UPPER BLUE DIAMOND D.B."""
 85          KM   "SEE COMBINATION POINT C-5, DARF RATIO 0.98, OF HEC-1 FROM REFERENCED LOMR"
 86          BA   0.630
 87          QI       0       0       0       0       0       0       0       0       0       0
 88          QI       0       0       0       0       0       0       0       0       0       0
 89          QI       0       0       1       7      14      29      45      58      69      76
 90          QI      82      86      90      94      99     100     101     100     100     100
 91          QI     102     109     126     161     223     318     430     538     604     623
 92          QI     607     569     525     480     437     397     363     335     316     306
 93          QI     304     310     321     333     339     332     314     289     264     239
 94          QI     217     198     182     169     159     150     143     137     131     127
 95          QI     122     118     114     110     107     104     102     101     100      99
 96          QI      98      98      97      97      97      97      97      96      96      96
 97          QI      96      96      96      97      96      96      96      96      96      96
 98          QI      96      96      96      96      96      96      96      96      96      96
 99          QI      96      96      96      96      96      96      96      96      96      96
100          QI      96      96      96      96      96      96      96      96      96      96
101          QI      96      96      96      96      96      96      96      96      96      96
102          QI      96      96      96      96      96      95      95      95      95      95
103          QI      95      95      95      95      95      95      95      95      95      95
104          QI      95      95      95      95      95      95      95      95      95      95
105          QI      95      95      95      95      95      95      95      95      95      95
106          QI      95      95      95      95      95      95      95      95      95      95
107          QI      95      95      95      95      95      95      95      95      95      95
108          QI      95      95      95      95      95      95      95      95      95      95
109          QI      95      95      95      95      95      95      95      95      95      95
110          QI      95      95      94      94      94      94      94      94      94      94
111          QI      94      94      94      94      94      94      94      94      94      94
112          QI      94      94      94      94      94      94      94      94      94      94
113          QI      94      94      94      94      94      94      94      94      94      94
114          QI      94      94      94      94      94      94      94      94      94      94
115          QI      94      94      94      94      94      94      94      94      94      94
116          QI      94      94      94      94      94      94      94      94      94      94
             *

117          KK     PT4
118          KM   "COMBINE BASIN B11S, HYDRO2, AND PT3"
119          KM   SEE COMBINATION POINT C-5 OF HEC-1 FROM REFERENCED LOMR
120          KM   "PT C-5 REFERENCED FROM ""LOMR FOR AREA DOWNSTREAM OF UPPER BLUE DIAMOND D.B.
121          HC       3
             *
1                                          HEC-1 INPUT                                          PAGE  4

          LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

122          KK  HYDRO2
123          KM   INFLOW HYDROGRAPH
124          KM   "PT C-11 REFERENCED FROM ""LOMR FOR AREA DOWNSTREAM OF UPPER BLUE DIAMOND D.B
125          KM   "SEE COMBINATION POINT C-11, DARF RATIO 0.98 OF HEC-1 FROM REFERENCED LOMR"
126          BA   0.380
127          QI       0       0       0       0       0       0       0       0       0       0
128          QI       0       0       0       0       0       0       0       0       0       0
129          QI       0       0       0       0       0       0       0       0       0       0
130          QI       0       0       0       0       0       0       0       0       0       0
131          QI       0       0       1       3       5       9      14      19      23      27
132          QI      30      32      33      33      32      31      29      28      27      27
133          QI      27      27      32      36      36      35      33      31      29      26
134          QI      24      22      20      19      17      16      15      14      13      12
135          QI      11      10       9       8       8       7       6       6       5       5
136          QI       4       4       4       3       3       3       3       3       2       2
137          QI       2       2       2       2       2       2       1       1       1       1
138          QI       1       1       1       1       1       1       1       1       1       1
139          QI       1       1       1       1       1       1       1       0       0       0
140          QI       0       0       0       0       0       0       0       0       0       0
141          QI       0       0       0       0       0       0       0       0       0       0
142          QI       0       0       0       0       0       0       0       0       0       0
143          QI       0       0       0       0       0       0       0       0       0       0
144          QI       0       0       0       0       0       0       0       0       0       0
145          QI       0       0       0       0       0       0       0       0       0       0
146          QI       0       0       0       0       0       0       0       0       0       0
147          QI       0       0       0       0       0       0       0       0       0       0
148          QI       0       0       0       0       0       0       0       0       0       0
149          QI       0       0       0       0       0       0       0       0       0       0
150          QI       0       0       0       0       0       0       0       0       0       0
151          QI       0       0       0       0       0       0       0       0       0       0
152          QI       0       0       0       0       0       0       0       0       0       0
153          QI       0       0       0       0       0       0       0       0       0       0
154          QI       0       0       0       0       0       0       0       0       0       0
155          QI       0       0       0       0       0       0       0       0       0       0
156          QI       0       0       0       0       0       0       0       0       0       0
             *

157          KK   LBDDB
158          KM   COMBINE HYDRO2 AND PT4
159          HC       2
             *

160          KK   LBDDB
161          KM   FACILITY # = DCBD 0398
162          KM   PROPOSED 70% LOWER BLUE DIAMOND DETENTION BASIN GRADING
163          KM   WITH 54" OUTLET PIPE
164          KO       1
165          RS       1    STOR       0
             * SV 0 .83 10.2 34.0 66.9 104.8 206.4 315.5 432.8 482.0
166          SA  0.0204   1.782   8.254  14.617  18.097  19.605  21.323  23.067  24.837  25.553
167          SE    2370    2372    2374    2376    2378    2380    2385    2390    2395    2397
168          SQ       0      26      80     127     139     150     175     197     216     224
```

```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
  169     KK  RLBDDB
  170     KM   ROUTE LBDDB TO PT33W
  171     RM       8    0.76   0.150
          *
  172     KK    B12
  173     BA   0.969
  174     PB    2.77
  175     LS       0    68.4     1.0
  176     UD   0.390
          *
  177     KK   PT33W
  178     KM   COMBINE LBDDB AND BASIN B12
  179     HC       2
          *
  180     KK  RPT33W
  181     KM   ROUTE PT33W TO PT34W
  182     RM       4     0.3   0.100
          *
  183     KK    B15A
  184     BA   0.959
  185     PB    2.77
  186     LS       0    77.6    14.0
  187     UD   0.500
          *
  188     KK   PT34W
  189     KM   THIS IS THE FINAL FLOW FOR THE BLUE DIAMOND UPPER BRANCH LBDDB CLOMR
  190     KM   COMBINE PT33 AND BASIN B15A
  191     HC       2
          *
  192     KK  HYDRO3
  193     KM   INFLOW HYDROGRAPH
  194     KM   REFERENCED FROM PBS&J LOMR
  195     BA   87.68
  196     QI       0       0       0       0       0       1       1       2       3       5
  197     QI       9      15      22      28      34      38      40      40      40      39
  198     QI      39      39      41      45      50      56      63      70      77      84
  199     QI      90      95      98      98      95      91      87      85      87      94
  200     QI     110     136     174     226     294     378     476     581     679     885
  201     QI    1084    1246    1427    1566    1647    1683    1684    1663    1635    1612
  202     QI    1605    1620    1655    1701    1742    1763    1749    1694    1600    1475
  203     QI    1328    1211    1110    1008     907     806     708     612     519     428
  204     QI     340     254     172      94      28      22      17      13      10       7
  205     QI       6       4       3       3       2       1       1       1       1       0
  206     QI       0       0       0       0       0       0       0       0       0       0
  207     QI       0       0       0       0       0       0       0       0       0       0
  208     QI       0       0       0       0       0       0       0       0       0       0
  209     QI       0       0       0       0       0       0       0       0       0       0
  210     QI       0       0       0       0       0       0       0       0       0       0
```



```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
  211     QI       0       0       0       0       0       0       0       0       0       0
  212     QI       0       0       0       0       0       0       0       0       0       0
  213     QI       0       0       0       0       0       0       0       0       0       0
  214     QI       0       0       0       0       0       0       0       0       0       0
  215     QI       0       0       0       0       0       0       0       0       0       0
  216     QI       0       0       0       0       0       0       0       0       0       0
  217     QI       0       0       0       0       0       0       0       0       0       0
  218     QI       0       0       0       0       0       0       0       0       0       0
  219     QI       0       0       0       0       0       0       0       0       0       0
  220     QI       0       0       0       0       0       0       0       0       0       0
  221     QI       0       0       0       0       0       0       0       0       0       0
  222     QI       0       0       0       0       0       0       0       0       0       0
  223     QI       0       0       0       0       0       0       0       0       0       0
  224     QI       0       0       0       0       0       0       0       0       0       0
  225     QI       0       0       0       0       0       0       0       0       0       0
          *
  226     KK   RPT18
  227     KM   ROUTE HYDRO3 FROM I15 BRIDGE 24'x4' TO I15 BRIDGE 36'x5' (IS15 0359)
  228     RM       1   0.113   0.150
          *
  229     KK    B18B
  230     BA   1.916
  231     PB    2.77
  232     LS       0    86.4
  233     UD   0.640
          *
  234     KK    PT19
  235     KM   "COMBINE BASIN B18B AND HYDRO3"
  236     HC       2
          *
  237     KK  DVI155
  238     KM   DIVERSION EAST THRU I15 BRIDGE 36'x5' (IS15 0359)
  239     DT  DVI155
  240     DI       0    2716    3378    4083    4548    4960    5791    6843
  241     DQ       0    1980    2192    2367    2531    2651    3141    3890
          *
  242     KK   RPT19
  243     KM   ROUTE BYPASS AT PT19 TO PT21
  244     RM       8   0.641   0.150
          *
  245     KK    B14A
  246     BA   1.351
  247     PB    2.77
  248     LS       0    88.0     5.0
  249     UD   0.400
          *
```



```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
  250     KK    PT21
  251     KM   "COMBINE PT20 AND BASIN B14A"
  252     HC       2
          *
  253     KK    B14B
  254     BA   0.992
  255     PB    2.77
```

```
256           LS       0    73.4     9.0
257           UD    0.42
              *

258           KK    PT22
259           KM   COMBINE PT21 AND B14B
260           HC       2
              *

261           KK   RPT22
262           KM   ROUTE PT22 TO PT23
263           RM       4     0.3   0.100
              *

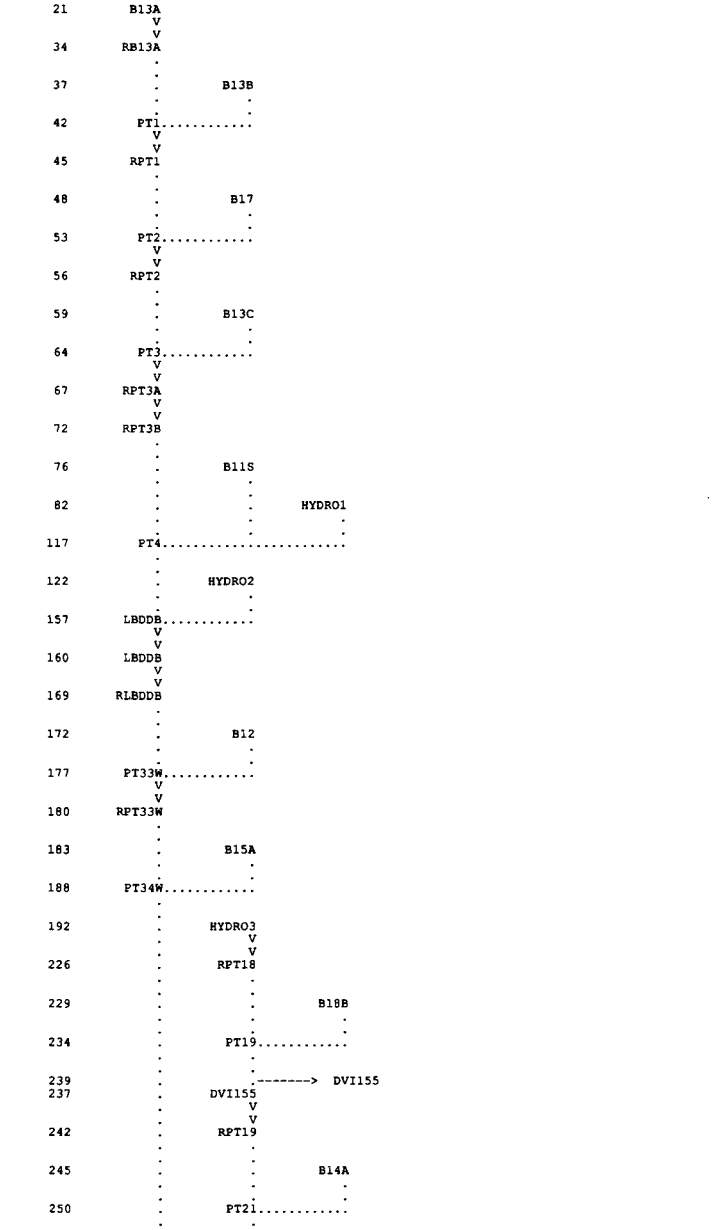
264           KK    B15B
265           BA   0.954
266           PB    2.77
267           LS       0    75.0    13.0
268           UD    0.71
              *

269           KK    PT23
270           KM   THIS IS FINAL BLUE DIAMOND MIDDLE BRANCH FLOW FOR LBDDB CLOMR
271           KM   COMBINE PT22 AND BASIN B15B
272           HC       2
273           ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

INPUT LINE NO. — (V) ROUTING (---->) DIVERSION OR PUMP FLOW — (.) CONNECTOR (<----) RETURN OF DIVERTED OR PUMPED FLOW



```
                .           .
 253            .           .        B14B
                .           .          .
                .           .          .
 258            .        PT22.....     .
                .           V          .
                .           V
 261            .        RPT22
                .           .
                .           .
 264            .           .        B15B
                .           .          .
                .           .          .
 269            .        PT23.....     .

 (***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*             JAN  1997                *
*          VERSION 4.1                 *
*                                      *
*  RUN DATE   20MAR06  TIME  14:21:43  *
*                                      *
****************************************

****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104             *
*                                      *
****************************************
```

LBDDB CLOMR ANALYSIS
MODEL BASED FROM GCW
DESIGN STORM = 100-YEAR 6-HOUR STORM
STORM DISTRIBUTION = SDN3
JR CARDS CONTAIN DARFS BASED ON THE FOLLOWING VALUES:

AREA (SQUARE MILES)	DARF
0.5 - 1	0.975
1 - 2	0.950
2 - 3	0.925
3 - 4	0.915
4 - 5	0.908
6 - 7	0.895
7 - 8	0.885
8 - 9	0.875
50 -100	0.640

```
 19 IO          OUTPUT CONTROL VARIABLES
                     IPRNT          5  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE

    IT          HYDROGRAPH TIME DATA
                     NMIN           5  MINUTES IN COMPUTATION INTERVAL
                     IDATE      1   0  STARTING DATE
                     ITIME        0000  STARTING TIME
                     NQ           120  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE     1   0  ENDING DATE
                     NDTIME       0955  ENDING TIME
                     ICENT          19  CENTURY MARK

                   COMPUTATION INTERVAL      .08 HOURS
                      TOTAL TIME BASE    9.92 HOURS

         ENGLISH UNITS
              DRAINAGE AREA         SQUARE MILES
              PRECIPITATION DEPTH   INCHES
              LENGTH, ELEVATION     FEET
              FLOW                  CUBIC FEET PER SECOND
              STORAGE VOLUME        ACRE-FEET
              SURFACE AREA          ACRES
              TEMPERATURE           DEGREES FAHRENHEIT

    JP          MULTI-PLAN OPTION
                     NPLAN          1  NUMBER OF PLANS

    JR          MULTI-RATIO OPTION
                    RATIOS OF PRECIPITATION
                    .98       .95       .93       .92       .91       .89       .88       .88       .64


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

           **************
           *            *
160 KK     *    LBDDB   *
           *            *
           **************

164 KO          OUTPUT CONTROL VARIABLES
                     IPRNT          1  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE

                HYDROGRAPH ROUTING DATA

165 RS          STORAGE ROUTING
                     NSTPS          1  NUMBER OF SUBREACHES
                      ITYP       STOR  TYPE OF INITIAL CONDITION
                     RSVRIC        .00  INITIAL CONDITION
                         X         .00 WORKING R AND D COEFFICIENT

166 SA               AREA          .0       1.8       8.3      14.6      18.1      19.6      21.3      23.1      24.8      25.6

167 SE          ELEVATION     2370.00   2372.00   2374.00   2376.00   2378.00   2380.00   2385.00   2390.00   2395.00   2397.00

168 SQ          DISCHARGE          0.       26.       80.      127.      139.      150.      175.      197.      216.      224.

                                                      ***

                                              COMPUTED STORAGE-ELEVATION DATA

          STORAGE        .00      1.33     10.58     33.15     65.80    103.49    205.78    316.73    436.46    486.85
        ELEVATION    2370.00   2372.00   2374.00   2376.00   2378.00   2380.00   2385.00   2390.00   2395.00   2397.00

WARNING --- ROUTED OUTFLOW (    224.) IS GREATER THAN MAXIMUM OUTFLOW (    224.) IN STORAGE-OUTFLOW TABLE

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HYDROGRAPH AT STATION LBDDB
PLAN 1, RATIO = .98

****

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2370.0	1		0320	41	96.	18.3	2374.7	1		0640	81	223.	482.3	2396.8
1		0005	2	0.	.0	2370.0	1		0325	42	101.	20.6	2374.9	1		0645	82	224.	485.4	2396.9
1		0010	3	0.	.0	2370.0	1		0330	43	107.	23.6	2375.2	1		0650	83	224.	488.1	2397.1
1		0015	4	0.	.0	2370.0	1		0335	44	116.	28.0	2375.5	1		0655	84	225.	490.5	2397.1
1		0020	5	0.	.0	2370.0	1		0340	45	127.	34.4	2376.1	1		0700	85	225.	492.5	2397.2
1		0025	6	0.	.0	2370.0	1		0345	46	131.	43.5	2376.6	1		0705	86	225.	494.1	2397.3
1		0030	7	0.	.0	2370.0	1		0350	47	135.	55.8	2377.4	1		0710	87	225.	495.5	2397.3
1		0035	8	0.	.0	2370.0	1		0355	48	141.	71.1	2378.3	1		0715	88	226.	496.7	2397.4
1		0040	9	0.	.0	2370.0	1		0400	49	146.	88.8	2379.2	1		0720	89	226.	497.6	2397.4
1		0045	10	0.	.0	2370.0	1		0405	50	151.	107.9	2380.2	1		0725	90	226.	498.4	2397.5
1		0050	11	0.	.0	2370.0	1		0410	51	156.	127.6	2381.2	1		0730	91	226.	498.9	2397.5
1		0055	12	1.	.0	2370.1	1		0415	52	161.	147.0	2382.1	1		0735	92	226.	499.3	2397.5
1		0100	13	2.	.1	2370.1	1		0420	53	165.	165.7	2383.0	1		0740	93	226.	499.6	2397.5
1		0105	14	2.	.1	2370.2	1		0425	54	170.	183.3	2383.9	1		0745	94	226.	499.7	2397.5
1		0110	15	3.	.2	2370.2	1		0430	55	174.	199.9	2384.7	1		0750	95	226.	499.7	2397.5
1		0115	16	4.	.2	2370.3	1		0435	56	177.	215.7	2385.4	1		0755	96	226.	499.6	2397.5
1		0120	17	5.	.2	2370.4	1		0440	57	180.	230.8	2386.1	1		0800	97	226.	499.4	2397.5
1		0125	18	5.	.3	2370.4	1		0445	58	183.	245.5	2386.8	1		0805	98	226.	499.2	2397.5
1		0130	19	6.	.3	2370.5	1		0450	59	186.	260.2	2387.5	1		0810	99	226.	498.9	2397.5
1		0135	20	7.	.4	2370.5	1		0455	60	189.	274.9	2388.1	1		0815	100	226.	498.4	2397.5
1		0140	21	8.	.4	2370.6	1		0500	61	192.	289.9	2388.8	1		0820	101	226.	498.0	2397.4
1		0145	22	10.	.5	2370.8	1		0505	62	195.	305.0	2389.5	1		0825	102	226.	497.5	2397.4
1		0150	23	12.	.6	2371.0	1		0510	63	198.	320.4	2390.2	1		0830	103	226.	496.9	2397.4
1		0155	24	16.	.8	2371.3	1		0515	64	200.	335.7	2390.8	1		0835	104	226.	496.3	2397.4
1		0200	25	22.	1.1	2371.7	1		0520	65	202.	350.8	2391.4	1		0840	105	225.	495.7	2397.4
1		0205	26	27.	1.5	2372.0	1		0525	66	205.	365.3	2392.0	1		0845	106	225.	495.0	2397.3
1		0210	27	30.	2.1	2372.2	1		0530	67	207.	379.1	2392.6	1		0850	107	225.	494.4	2397.3
1		0215	28	34.	2.7	2372.3	1		0535	68	209.	391.9	2393.1	1		0855	108	225.	493.6	2397.3
1		0220	29	39.	3.5	2372.5	1		0540	69	211.	403.6	2393.6	1		0900	109	225.	492.9	2397.2
1		0225	30	43.	4.3	2372.6	1		0545	70	212.	414.3	2394.1	1		0905	110	225.	492.2	2397.2
1		0230	31	48.	5.2	2372.8	1		0550	71	214.	424.0	2394.5	1		0910	111	225.	491.4	2397.2
1		0235	32	54.	6.1	2373.0	1		0555	72	215.	432.7	2394.8	1		0915	112	225.	490.6	2397.2
1		0240	33	59.	7.1	2373.2	1		0600	73	217.	440.6	2395.2	1		0920	113	224.	489.9	2397.1
1		0245	34	66.	8.1	2373.5	1		0605	74	218.	447.8	2395.4	1		0925	114	224.	489.1	2397.1
1		0250	35	73.	9.3	2373.7	1		0610	75	219.	454.3	2395.7	1		0930	115	224.	488.3	2397.1
1		0255	36	80.	10.6	2374.0	1		0615	76	220.	460.2	2395.9	1		0935	116	224.	487.5	2397.0
1		0300	37	83.	11.9	2374.1	1		0620	77	221.	465.6	2396.2	1		0940	117	224.	486.7	2397.0
1		0305	38	86.	13.4	2374.2	1		0625	78	221.	470.5	2396.4	1		0945	118	224.	485.8	2397.0
1		0310	39	89.	14.9	2374.4	1		0630	79	222.	474.9	2396.5	1		0950	119	224.	485.0	2396.9
1		0315	40	92.	16.5	2374.5	1		0635	80	223.	478.8	2396.7	1		0955	120	224.	484.2	2396.9

****

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	9.92-HR
		(CFS)				
226.	7.83		211.	144.	144.	144.
		(INCHES)	.290	.326	.326	.326
		(AC-FT)	105.	118.	118.	118.

PEAK STORAGE (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	9.92-HR
500.	7.83	415.	254.	254.	254.

PEAK STAGE (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	9.92-HR

2397.51	7.83	2393.93	2385.33	2385.33	2385.33

CUMULATIVE AREA = 6.78 SQ MI

HYDROGRAPH AT STATION LBDDB
PLAN 1, RATIO = .95

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2370.0	1		0320	41	94.	17.3	2374.6	1		0640	81	221.	465.5	2396.2
1		0005	2	0.	.0	2370.0	1		0325	42	98.	19.4	2374.8	1		0645	82	221.	468.5	2396.3
1		0010	3	0.	.0	2370.0	1		0330	43	104.	22.3	2375.0	1		0650	83	222.	471.1	2396.4
1		0015	4	0.	.0	2370.0	1		0335	44	113.	26.4	2375.4	1		0655	84	222.	473.4	2396.5
1		0020	5	0.	.0	2370.0	1		0340	45	126.	32.6	2375.9	1		0700	85	222.	475.3	2396.5
1		0025	6	0.	.0	2370.0	1		0345	46	130.	41.3	2376.5	1		0705	86	222.	477.0	2396.6
1		0030	7	0.	.0	2370.0	1		0350	47	134.	53.1	2377.2	1		0710	87	223.	478.3	2396.7
1		0035	8	0.	.0	2370.0	1		0355	48	140.	67.8	2378.1	1		0715	88	223.	479.4	2396.7
1		0040	9	0.	.0	2370.0	1		0400	49	145.	84.8	2379.0	1		0720	89	223.	480.3	2396.7
1		0045	10	0.	.0	2370.0	1		0405	50	150.	103.3	2380.0	1		0725	90	223.	481.0	2396.8
1		0050	11	0.	.0	2370.0	1		0410	51	155.	122.3	2380.9	1		0730	91	223.	481.6	2396.8
1		0055	12	1.	.0	2370.1	1		0415	52	159.	141.1	2381.8	1		0735	92	223.	481.9	2396.8
1		0100	13	1.	.1	2370.1	1		0420	53	164.	159.2	2382.7	1		0740	93	223.	482.2	2396.8
1		0105	14	2.	.1	2370.1	1		0425	54	168.	176.2	2383.6	1		0745	94	223.	482.3	2396.8
1		0110	15	2.	.1	2370.2	1		0430	55	172.	192.3	2384.3	1		0750	95	223.	482.3	2396.8
1		0115	16	3.	.2	2370.2	1		0435	56	175.	207.5	2385.1	1		0755	96	223.	482.2	2396.8
1		0120	17	4.	.2	2370.3	1		0440	57	178.	222.1	2385.7	1		0800	97	223.	482.0	2396.8
1		0125	18	4.	.2	2370.3	1		0445	58	181.	236.3	2386.4	1		0805	98	223.	481.8	2396.8
1		0130	19	5.	.2	2370.4	1		0450	59	184.	250.5	2387.0	1		0810	99	223.	481.4	2396.8
1		0135	20	6.	.3	2370.4	1		0455	60	187.	264.7	2387.7	1		0815	100	223.	481.0	2396.8
1		0140	21	7.	.3	2370.5	1		0500	61	190.	279.2	2388.3	1		0820	101	223.	480.6	2396.8
1		0145	22	8.	.4	2370.6	1		0505	62	192.	293.8	2389.0	1		0825	102	223.	480.1	2396.7
1		0150	23	11.	.5	2370.8	1		0510	63	195.	308.6	2389.6	1		0830	103	223.	479.5	2396.7
1		0155	24	14.	.7	2371.1	1		0515	64	198.	323.5	2390.3	1		0835	104	223.	478.9	2396.7
1		0200	25	20.	1.0	2371.5	1		0520	65	200.	338.1	2390.9	1		0840	105	223.	478.3	2396.7
1		0205	26	26.	1.4	2372.0	1		0525	66	203.	352.2	2391.5	1		0845	106	223.	477.7	2396.6
1		0210	27	29.	1.9	2372.1	1		0530	67	205.	365.5	2392.0	1		0850	107	222.	477.0	2396.6
1		0215	28	33.	2.5	2372.3	1		0535	68	207.	377.9	2392.6	1		0855	108	222.	476.3	2396.6
1		0220	29	37.	3.2	2372.4	1		0540	69	209.	389.3	2393.0	1		0900	109	222.	475.6	2396.6
1		0225	30	41.	4.0	2372.6	1		0545	70	210.	399.7	2393.5	1		0905	110	222.	474.9	2396.5
1		0230	31	46.	4.8	2372.7	1		0550	71	212.	409.0	2393.9	1		0910	111	222.	474.1	2396.5
1		0235	32	51.	5.7	2372.9	1		0555	72	213.	417.5	2394.2	1		0915	112	222.	473.4	2396.5
1		0240	33	57.	6.6	2373.1	1		0600	73	214.	425.1	2394.5	1		0920	113	222.	472.6	2396.4
1		0245	34	63.	7.6	2373.4	1		0605	74	215.	432.1	2394.8	1		0925	114	222.	471.8	2396.4
1		0250	35	69.	8.8	2373.6	1		0610	75	216.	438.4	2395.1	1		0930	115	221.	471.1	2396.4
1		0255	36	77.	10.0	2373.9	1		0615	76	217.	444.1	2395.3	1		0935	116	221.	470.3	2396.3
1		0300	37	81.	11.3	2374.1	1		0620	77	218.	449.3	2395.5	1		0940	117	221.	469.5	2396.3
1		0305	38	84.	12.6	2374.2	1		0625	78	219.	454.1	2395.7	1		0945	118	221.	468.7	2396.3
1		0310	39	87.	14.0	2374.3	1		0630	79	219.	458.3	2395.9	1		0950	119	221.	467.9	2396.2
1		0315	40	90.	15.6	2374.4	1		0635	80	220.	462.1	2396.0	1		0955	120	221.	467.1	2396.2

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	9.92-HR
(CFS)	(HR)	(CFS)				
223.	7.75		209.	142.	142.	142.
		(INCHES)	.286	.321	.321	.321
		(AC-FT)	104.	116.	116.	116.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	9.92-HR
(AC-FT)	(HR)				
482.	7.83	400.	245.	245.	245.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	9.92-HR
(FEET)	(HR)				
2396.82	7.83	2393.33	2384.94	2384.94	2384.94

CUMULATIVE AREA = 6.78 SQ MI

HYDROGRAPH AT STATION LBDDB
PLAN 1, RATIO = .93

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2370.0	1		0320	41	92.	16.3	2374.5	1		0640	81	218.	448.8	2395.5
1		0005	2	0.	.0	2370.0	1		0325	42	96.	18.3	2374.7	1		0645	82	218.	451.7	2395.6
1		0010	3	0.	.0	2370.0	1		0330	43	102.	21.0	2374.9	1		0650	83	219.	454.3	2395.7
1		0015	4	0.	.0	2370.0	1		0335	44	110.	24.9	2375.3	1		0655	84	219.	456.4	2395.8
1		0020	5	0.	.0	2370.0	1		0340	45	122.	30.8	2375.8	1		0700	85	219.	458.3	2395.9
1		0025	6	0.	.0	2370.0	1		0345	46	129.	39.1	2376.4	1		0705	86	220.	459.9	2395.9
1		0030	7	0.	.0	2370.0	1		0350	47	133.	50.4	2377.1	1		0710	87	220.	461.2	2396.0
1		0035	8	0.	.0	2370.0	1		0355	48	139.	64.6	2377.9	1		0715	88	220.	462.3	2396.0
1		0040	9	0.	.0	2370.0	1		0400	49	143.	81.0	2378.8	1		0720	89	220.	463.1	2396.1
1		0045	10	0.	.0	2370.0	1		0405	50	149.	98.8	2379.8	1		0725	90	220.	463.8	2396.1
1		0050	11	0.	.0	2370.0	1		0410	51	153.	117.2	2380.7	1		0730	91	220.	464.3	2396.1
1		0055	12	1.	.0	2370.0	1		0415	52	158.	135.3	2381.6	1		0735	92	220.	464.7	2396.1
1		0100	13	1.	.0	2370.1	1		0420	53	162.	152.7	2382.4	1		0740	93	221.	464.9	2396.1
1		0105	14	1.	.1	2370.1	1		0425	54	166.	169.2	2383.2	1		0745	94	221.	465.0	2396.1
1		0110	15	2.	.1	2370.1	1		0430	55	170.	184.7	2384.0	1		0750	95	221.	465.0	2396.1
1		0115	16	2.	.1	2370.2	1		0435	56	173.	199.4	2384.7	1		0755	96	221.	464.9	2396.1
1		0120	17	3.	.1	2370.2	1		0440	57	177.	213.5	2385.3	1		0800	97	220.	464.7	2396.1
1		0125	18	3.	.2	2370.3	1		0445	58	179.	227.2	2386.0	1		0805	98	220.	464.5	2396.1
1		0130	19	4.	.2	2370.3	1		0450	59	182.	240.9	2386.6	1		0810	99	220.	464.1	2396.1
1		0135	20	4.	.2	2370.3	1		0455	60	185.	254.6	2387.2	1		0815	100	220.	463.7	2396.1
1		0140	21	5.	.3	2370.4	1		0500	61	187.	268.6	2387.8	1		0820	101	220.	463.3	2396.1
1		0145	22	7.	.3	2370.5	1		0505	62	190.	282.7	2388.5	1		0825	102	220.	462.8	2396.0
1		0150	23	9.	.5	2370.7	1		0510	63	193.	297.1	2389.1	1		0830	103	220.	462.2	2396.0
1		0155	24	12.	.6	2370.9	1		0515	64	196.	311.4	2389.8	1		0835	104	220.	461.7	2396.0
1		0200	25	17.	.9	2371.3	1		0520	65	198.	325.5	2390.4	1		0840	105	220.	461.1	2396.0
1		0205	26	24.	1.2	2371.9	1		0525	66	201.	339.2	2390.9	1		0845	106	220.	460.4	2396.0
1		0210	27	28.	1.7	2372.1	1		0530	67	203.	352.1	2391.5	1		0850	107	220.	459.8	2395.9
1		0215	28	32.	2.3	2372.2	1		0535	68	205.	364.1	2392.0	1		0855	108	220.	459.1	2395.9
1		0220	29	36.	3.0	2372.4	1		0540	69	206.	375.1	2392.4	1		0900	109	219.	458.4	2395.9
1		0225	30	40.	3.7	2372.5	1		0545	70	208.	385.1	2392.9	1		0905	110	219.	457.7	2395.8
1		0230	31	44.	4.5	2372.7	1		0550	71	209.	394.2	2393.2	1		0910	111	219.	457.0	2395.8
1		0235	32	49.	5.3	2372.9	1		0555	72	211.	402.4	2393.6	1		0915	112	219.	456.2	2395.8
1		0240	33	54.	6.2	2373.1	1		0600	73	212.	409.8	2393.9	1		0920	113	219.	455.5	2395.8
1		0245	34	60.	7.2	2373.3	1		0605	74	213.	416.5	2394.2	1		0925	114	219.	454.7	2395.7
1		0250	35	66.	8.2	2373.5	1		0610	75	214.	422.6	2394.4	1		0930	115	219.	453.9	2395.7
1		0255	36	73.	9.4	2373.7	1		0615	76	215.	428.1	2394.7	1		0935	116	219.	453.2	2395.7
1		0300	37	80.	10.6	2374.0	1		0620	77	215.	433.2	2394.9	1		0940	117	219.	452.4	2395.6
1		0305	38	83.	11.9	2374.1	1		0625	78	216.	437.8	2395.1	1		0945	118	218.	451.6	2395.6
1		0310	39	86.	13.2	2374.2	1		0630	79	217.	441.9	2395.2	1		0950	119	218.	450.8	2395.6
1		0315	40	88.	14.7	2374.4	1		0635	80	217.	445.6	2395.4	1		0955	120	218.	450.0	2395.5

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	9.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 221.	7.75		206.	140.	140.	140.
		(INCHES)	.283	.317	.317	.317
		(AC-FT)	102.	115.	115.	115.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	9.92-HR
+ (AC-FT)	(HR)					
465.	7.75		386.	236.	236.	236.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	9.92-HR
+ (FEET)	(HR)					
2396.13	7.75		2392.74	2384.56	2384.56	2384.56

CUMULATIVE AREA = 6.78 SQ MI

HYDROGRAPH AT STATION LBDDB
PLAN 1, RATIO = .92

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2370.0	1		0320	41	91.	15.9	2374.5	1		0640	81	217.	442.2	2395.2
1		0005	2	0.	.0	2370.0	1		0325	42	95.	17.8	2374.6	1		0645	82	217.	445.1	2395.3
1		0010	3	0.	.0	2370.0	1		0330	43	101.	20.5	2374.9	1		0650	83	218.	447.6	2395.4
1		0015	4	0.	.0	2370.0	1		0335	44	109.	24.3	2375.2	1		0655	84	218.	449.7	2395.5
1		0020	5	0.	.0	2370.0	1		0340	45	121.	30.1	2375.7	1		0700	85	218.	451.5	2395.6
1		0025	6	0.	.0	2370.0	1		0345	46	129.	38.3	2376.3	1		0705	86	219.	453.1	2395.7
1		0030	7	0.	.0	2370.0	1		0350	47	133.	49.4	2377.0	1		0710	87	219.	454.4	2395.7
1		0035	8	0.	.0	2370.0	1		0355	48	138.	63.3	2377.8	1		0715	88	219.	455.4	2395.8
1		0040	9	0.	.0	2370.0	1		0400	49	143.	79.5	2378.7	1		0720	89	219.	456.3	2395.8
1		0045	10	0.	.0	2370.0	1		0405	50	148.	97.1	2379.7	1		0725	90	219.	457.0	2395.8
1		0050	11	0.	.0	2370.0	1		0410	51	153.	115.2	2380.6	1		0730	91	219.	457.5	2395.8
1		0055	12	0.	.0	2370.0	1		0415	52	157.	133.0	2381.4	1		0735	92	219.	457.8	2395.8
1		0100	13	1.	.0	2370.1	1		0420	53	161.	150.2	2382.3	1		0740	93	219.	458.0	2395.9
1		0105	14	1.	.1	2370.1	1		0425	54	165.	166.5	2383.1	1		0745	94	219.	458.1	2395.9
1		0110	15	2.	.1	2370.1	1		0430	55	169.	181.8	2383.8	1		0750	95	219.	458.1	2395.9
1		0115	16	2.	.1	2370.2	1		0435	56	173.	196.2	2384.5	1		0755	96	219.	458.0	2395.9
1		0120	17	3.	.1	2370.2	1		0440	57	176.	210.1	2385.2	1		0800	97	219.	457.8	2395.8
1		0125	18	3.	.2	2370.2	1		0445	58	179.	223.6	2385.8	1		0805	98	219.	457.6	2395.8
1		0130	19	3.	.2	2370.3	1		0450	59	181.	237.1	2386.4	1		0810	99	219.	457.2	2395.8
1		0135	20	4.	.2	2370.3	1		0455	60	184.	250.6	2387.0	1		0815	100	219.	456.8	2395.8
1		0140	21	5.	.3	2370.4	1		0500	61	187.	264.4	2387.6	1		0820	101	219.	456.4	2395.8
1		0145	22	6.	.3	2370.5	1		0505	62	189.	278.3	2388.3	1		0825	102	219.	455.9	2395.8
1		0150	23	8.	.4	2370.6	1		0510	63	192.	292.5	2388.9	1		0830	103	219.	455.4	2395.8
1		0155	24	12.	.6	2370.9	1		0515	64	195.	306.6	2389.5	1		0835	104	219.	454.8	2395.7
1		0200	25	16.	.8	2371.3	1		0520	65	198.	320.5	2390.2	1		0840	105	219.	454.2	2395.7
1		0205	26	23.	1.2	2371.8	1		0525	66	200.	334.0	2390.7	1		0845	106	219.	453.6	2395.7
1		0210	27	28.	1.6	2372.1	1		0530	67	202.	346.7	2391.3	1		0850	107	219.	452.9	2395.7
1		0215	28	31.	2.2	2372.2	1		0535	68	204.	358.6	2391.7	1		0855	108	219.	452.3	2395.6
1		0220	29	35.	2.9	2372.3	1		0540	69	205.	369.5	2392.2	1		0900	109	218.	451.6	2395.6
1		0225	30	39.	3.6	2372.5	1		0545	70	207.	379.3	2392.6	1		0905	110	218.	450.9	2395.6
1		0230	31	44.	4.3	2372.7	1		0550	71	208.	388.3	2393.0	1		0910	111	218.	450.1	2395.5
1		0235	32	48.	5.1	2372.8	1		0555	72	210.	396.4	2393.3	1		0915	112	218.	449.4	2395.5
1		0240	33	53.	6.0	2373.0	1		0600	73	211.	403.7	2393.6	1		0920	113	218.	448.7	2395.5
1		0245	34	59.	7.0	2373.2	1		0605	74	212.	410.3	2393.9	1		0925	114	218.	447.9	2395.5
1		0250	35	65.	8.0	2373.5	1		0610	75	213.	416.3	2394.2	1		0930	115	218.	447.1	2395.4
1		0255	36	72.	9.2	2373.7	1		0615	76	214.	421.8	2394.4	1		0935	116	218.	446.4	2395.4
1		0300	37	79.	10.4	2374.0	1		0620	77	214.	426.8	2394.6	1		0940	117	217.	445.6	2395.4
1		0305	38	82.	11.6	2374.1	1		0625	78	215.	431.3	2394.8	1		0945	118	217.	444.8	2395.3
1		0310	39	85.	12.9	2374.2	1		0630	79	216.	435.3	2395.0	1		0950	119	217.	444.0	2395.3
1		0315	40	88.	14.3	2374.3	1		0635	80	216.	439.0	2395.1	1		0955	120	217.	443.3	2395.3

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	9.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 219.	7.75		206.	139.	139.	139.
		(INCHES)	.282	.315	.315	.315
		(AC-FT)	102.	114.	114.	114.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	9.92-HR
+ (AC-FT)	(HR)					
458.	7.75		380.	233.	233.	233.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	9.92-HR
+ (FEET)	(HR)					
2395.86	7.75		2392.50	2384.40	2384.40	2384.40

CUMULATIVE AREA = 6.78 SQ MI

HYDROGRAPH AT STATION LBDDB
PLAN 1, RATIO = .91

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2370.0	1		0320	41	90.	15.6	2374.4	1		0640	81	216.	437.6	2395.0
1		0005	2	0.	.0	2370.0	1		0325	42	94.	17.5	2374.6	1		0645	82	217.	440.4	2395.2
1		0010	3	0.	.0	2370.0	1		0330	43	100.	20.1	2374.8	1		0650	83	217.	442.9	2395.3
1		0015	4	0.	.0	2370.0	1		0335	44	108.	23.9	2375.2	1		0655	84	217.	445.0	2395.3
1		0020	5	0.	.0	2370.0	1		0340	45	120.	29.6	2375.7	1		0700	85	218.	446.8	2395.4
1		0025	6	0.	.0	2370.0	1		0345	46	129.	37.7	2376.3	1		0705	86	218.	448.4	2395.5
1		0030	7	0.	.0	2370.0	1		0350	47	133.	48.7	2377.0	1		0710	87	218.	449.6	2395.5
1		0035	8	0.	.0	2370.0	1		0355	48	138.	62.5	2377.8	1		0715	88	218.	450.7	2395.6
1		0040	9	0.	.0	2370.0	1		0400	49	143.	78.5	2378.7	1		0720	89	218.	451.5	2395.6
1		0045	10	0.	.0	2370.0	1		0405	50	148.	95.9	2379.6	1		0725	90	218.	452.2	2395.6
1		0050	11	0.	.0	2370.0	1		0410	51	153.	113.8	2380.5	1		0730	91	219.	452.7	2395.6
1		0055	12	0.	.0	2370.0	1		0415	52	157.	131.4	2381.4	1		0735	92	219.	453.0	2395.7
1		0100	13	1.	.0	2370.1	1		0420	53	161.	148.4	2382.2	1		0740	93	219.	453.2	2395.7
1		0105	14	1.	.1	2370.1	1		0425	54	165.	164.5	2383.0	1		0745	94	219.	453.3	2395.7
1		0110	15	2.	.1	2370.1	1		0430	55	169.	179.7	2383.7	1		0750	95	219.	453.3	2395.7
1		0115	16	2.	.1	2370.2	1		0435	56	172.	194.0	2384.4	1		0755	96	219.	453.2	2395.7
1		0120	17	2.	.1	2370.2	1		0440	57	175.	207.7	2385.1	1		0800	97	219.	453.0	2395.7
1		0125	18	3.	.1	2370.2	1		0445	58	178.	221.1	2385.7	1		0805	98	219.	452.8	2395.6
1		0130	19	3.	.2	2370.2	1		0450	59	181.	234.4	2386.3	1		0810	99	219.	452.4	2395.6
1		0135	20	4.	.2	2370.3	1		0455	60	183.	247.9	2386.9	1		0815	100	218.	452.1	2395.6
1		0140	21	5.	.2	2370.4	1		0500	61	186.	261.5	2387.5	1		0820	101	218.	451.6	2395.6
1		0145	22	6.	.3	2370.5	1		0505	62	189.	275.3	2388.1	1		0825	102	218.	451.1	2395.6
1		0150	23	8.	.4	2370.6	1		0510	63	192.	289.3	2388.8	1		0830	103	218.	450.6	2395.6
1		0155	24	11.	.6	2370.8	1		0515	64	194.	303.3	2389.4	1		0835	104	218.	450.0	2395.5
1		0200	25	16.	.8	2371.2	1		0520	65	197.	317.1	2390.0	1		0840	105	218.	449.4	2395.5

1	0205	26	22.	1.1	2371.7	*	1	0525	66	199.	330.4	2390.6	*	1	0845	106	218.	448.8	2395.5
1	0210	27	28.	1.6	2372.1	*	1	0530	67	201.	343.0	2391.1	*	1	0850	107	218.	448.2	2395.5
1	0215	28	31.	2.2	2372.2	*	1	0535	68	203.	354.8	2391.6	*	1	0855	108	218.	447.5	2395.4
1	0220	29	35.	2.8	2372.3	*	1	0540	69	205.	365.5	2392.0	*	1	0900	109	218.	446.8	2395.4
1	0225	30	39.	3.5	2372.5	*	1	0545	70	206.	375.3	2392.4	*	1	0905	110	218.	446.1	2395.4
1	0230	31	43.	4.2	2372.6	*	1	0550	71	208.	384.2	2392.8	*	1	0910	111	217.	445.4	2395.4
1	0235	32	48.	5.0	2372.8	*	1	0555	72	209.	392.2	2393.2	*	1	0915	112	217.	444.6	2395.3
1	0240	33	53.	5.9	2373.0	*	1	0600	73	210.	399.4	2393.5	*	1	0920	113	217.	443.9	2395.3
1	0245	34	58.	6.9	2373.2	*	1	0605	74	211.	406.0	2393.7	*	1	0925	114	217.	443.2	2395.3
1	0250	35	64.	7.9	2373.4	*	1	0610	75	212.	412.0	2394.0	*	1	0930	115	217.	442.4	2395.2
1	0255	36	71.	9.0	2373.7	*	1	0615	76	213.	417.4	2394.2	*	1	0935	116	217.	441.6	2395.2
1	0300	37	78.	10.2	2373.9	*	1	0620	77	214.	422.3	2394.4	*	1	0940	117	217.	440.9	2395.2
1	0305	38	82.	11.4	2374.1	*	1	0625	78	214.	426.8	2394.6	*	1	0945	118	217.	440.1	2395.1
1	0310	39	84.	12.7	2374.2	*	1	0630	79	215.	430.8	2394.8	*	1	0950	119	216.	439.3	2395.1
1	0315	40	87.	14.1	2374.3	*	1	0635	80	216.	434.4	2394.9	*	1	0955	120	216.	438.5	2395.1

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	9.92-HR	
(CFS)	(HR)					
		(CFS)				
219.	7.75	205.	138.	138.	138.	
		(INCHES)	.281	.314	.314	.314
		(AC-FT)	102.	113.	113.	113.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	9.92-HR
(AC-FT)	(HR)				
453.	7.75	376.	230.	230.	230.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	9.92-HR
(FEET)	(HR)				
2395.67	7.75	2392.33	2384.29	2384.29	2384.29

CUMULATIVE AREA = 6.78 SQ MI

HYDROGRAPH AT STATION LBDDB
PLAN 1, RATIO = .89

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE		DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE		DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2370.0	*	1		0320	41	89.	15.1	2374.4	*	1		0640	81	215.	429.0	2394.7
1		0005	2	0.	.0	2370.0	*	1		0325	42	93.	17.0	2374.6	*	1		0645	82	215.	431.8	2394.8
1		0010	3	0.	.0	2370.0	*	1		0330	43	99.	19.5	2374.8	*	1		0650	83	216.	434.2	2394.9
1		0015	4	0.	.0	2370.0	*	1		0335	44	106.	23.2	2375.1	*	1		0655	84	216.	436.3	2395.0
1		0020	5	0.	.0	2370.0	*	1		0340	45	118.	28.7	2375.6	*	1		0700	85	216.	438.1	2395.1
1		0025	6	0.	.0	2370.0	*	1		0345	46	128.	36.6	2376.2	*	1		0705	86	216.	439.6	2395.1
1		0030	7	0.	.0	2370.0	*	1		0350	47	132.	47.4	2376.9	*	1		0710	87	217.	440.8	2395.2
1		0035	8	0.	.0	2370.0	*	1		0355	48	137.	60.8	2377.7	*	1		0715	88	217.	441.8	2395.2
1		0040	9	0.	.0	2370.0	*	1		0400	49	142.	76.5	2378.6	*	1		0720	89	217.	442.7	2395.2
1		0045	10	0.	.0	2370.0	*	1		0405	50	147.	93.6	2379.5	*	1		0725	90	217.	443.3	2395.3
1		0050	11	0.	.0	2370.0	*	1		0410	51	152.	111.1	2380.4	*	1		0730	91	217.	443.8	2395.3
1		0055	12	0.	.0	2370.0	*	1		0415	52	156.	128.5	2381.2	*	1		0735	92	217.	444.1	2395.3
1		0100	13	1.	.0	2370.0	*	1		0420	53	160.	145.2	2382.0	*	1		0740	93	217.	444.3	2395.3
1		0105	14	1.	.0	2370.1	*	1		0425	54	164.	161.0	2382.8	*	1		0745	94	217.	444.4	2395.3
1		0110	15	1.	.1	2370.1	*	1		0430	55	168.	175.8	2383.5	*	1		0750	95	217.	444.4	2395.3
1		0115	16	2.	.1	2370.1	*	1		0435	56	171.	189.9	2384.2	*	1		0755	96	217.	444.3	2395.3
1		0120	17	2.	.1	2370.2	*	1		0440	57	174.	203.4	2384.9	*	1		0800	97	217.	444.1	2395.3
1		0125	18	2.	.1	2370.2	*	1		0445	58	177.	216.5	2385.5	*	1		0805	98	217.	443.9	2395.3
1		0130	19	3.	.1	2370.2	*	1		0450	59	180.	229.5	2386.1	*	1		0810	99	217.	443.5	2395.3
1		0135	20	3.	.2	2370.3	*	1		0455	60	182.	242.7	2386.7	*	1		0815	100	217.	443.1	2395.3
1		0140	21	4.	.2	2370.3	*	1		0500	61	185.	256.0	2387.3	*	1		0820	101	217.	442.7	2395.2
1		0145	22	5.	.3	2370.4	*	1		0505	62	188.	269.6	2387.9	*	1		0825	102	217.	442.2	2395.2
1		0150	23	7.	.4	2370.5	*	1		0510	63	190.	283.3	2388.5	*	1		0830	103	217.	441.7	2395.2
1		0155	24	10.	.5	2370.8	*	1		0515	64	193.	297.1	2389.1	*	1		0835	104	217.	441.1	2395.2
1		0200	25	15.	.7	2371.1	*	1		0520	65	196.	310.6	2389.7	*	1		0840	105	217.	440.5	2395.2
1		0205	26	21.	1.1	2371.6	*	1		0525	66	198.	323.7	2390.3	*	1		0845	106	217.	439.9	2395.1
1		0210	27	27.	1.5	2372.0	*	1		0530	67	200.	336.1	2390.8	*	1		0850	107	216.	439.3	2395.1
1		0215	28	30.	2.1	2372.2	*	1		0535	68	202.	347.6	2391.3	*	1		0855	108	216.	438.6	2395.1
1		0220	29	34.	2.7	2372.3	*	1		0540	69	204.	358.2	2391.7	*	1		0900	109	216.	437.9	2395.1
1		0225	30	38.	3.4	2372.4	*	1		0545	70	205.	367.8	2392.1	*	1		0905	110	216.	437.2	2395.0
1		0230	31	42.	4.1	2372.6	*	1		0550	71	206.	376.5	2392.5	*	1		0910	111	216.	436.5	2395.0
1		0235	32	47.	4.9	2372.8	*	1		0555	72	208.	384.4	2392.8	*	1		0915	112	216.	435.8	2395.0
1		0240	33	52.	5.7	2372.9	*	1		0600	73	209.	391.5	2393.1	*	1		0920	113	216.	435.1	2394.9
1		0245	34	57.	6.6	2373.1	*	1		0605	74	210.	398.0	2393.4	*	1		0925	114	216.	434.3	2394.9
1		0250	35	63.	7.6	2373.4	*	1		0610	75	211.	403.8	2393.6	*	1		0930	115	216.	433.6	2394.9
1		0255	36	69.	8.7	2373.6	*	1		0615	76	212.	409.2	2393.9	*	1		0935	116	215.	432.8	2394.8
1		0300	37	76.	9.9	2373.8	*	1		0620	77	212.	414.0	2394.1	*	1		0940	117	215.	432.1	2394.8
1		0305	38	81.	11.1	2374.0	*	1		0625	78	213.	418.4	2394.2	*	1		0945	118	215.	431.3	2394.8
1		0310	39	84.	12.3	2374.2	*	1		0630	79	214.	422.3	2394.4	*	1		0950	119	215.	430.5	2394.8
1		0315	40	86.	13.6	2374.3	*	1		0635	80	214.	425.9	2394.6	*	1		0955	120	215.	429.8	2394.7

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	9.92-HR	
(CFS)	(HR)					
		(CFS)				
217.	7.75	204.	137.	137.	137.	
		(INCHES)	.279	.312	.312	.312
		(AC-FT)	101.	113.	113.	113.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	9.92-HR
(AC-FT)	(HR)				
444.	7.75	369.	226.	226.	226.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	9.92-HR
(FEET)	(HR)				
2395.32	7.75	2392.02	2384.09	2384.09	2384.09

CUMULATIVE AREA = 6.78 SQ MI

HYDROGRAPH AT STATION LBDDB
PLAN 1, RATIO = .88

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE		DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE		DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2370.0	*	1		0320	41	89.	14.8	2374.4	*	1		0640	81	214.	422.4	2394.4
1		0005	2	0.	.0	2370.0	*	1		0325	42	92.	16.5	2374.5	*	1		0645	82	214.	425.2	2394.5
1		0010	3	0.	.0	2370.0	*	1		0330	43	98.	19.0	2374.7	*	1		0650	83	215.	427.5	2394.6
1		0015	4	0.	.0	2370.0	*	1		0335	44	105.	22.6	2375.1	*	1		0655	84	215.	429.6	2394.7
1		0020	5	0.	.0	2370.0	*	1		0340	45	116.	28.0	2375.5	*	1		0700	85	215.	431.4	2394.8
1		0025	6	0.	.0	2370.0	*	1		0345	46	128.	35.8	2376.2	*	1		0705	86	215.	432.8	2394.8
1		0030	7	0.	.0	2370.0	*	1		0350	47	132.	46.3	2376.8	*	1		0710	87	216.	434.1	2394.9
1		0035	8	0.	.0	2370.0	*	1		0355	48	137.	59.6	2377.6	*	1		0715	88	216.	435.1	2394.9

1	0040	9	0.	.0	2370.0	*	1	0400	49	142.	75.1	2378.5	*	1	0720	89	216.	435.9	2395.0
1	0045	10	0.	.0	2370.0	*	1	0405	50	147.	91.9	2379.4	*	1	0725	90	216.	436.5	2395.0
1	0050	11	0.	.0	2370.0	*	1	0410	51	151.	109.1	2380.3	*	1	0730	91	216.	437.0	2395.0
1	0055	12	0.	.0	2370.0	*	1	0415	52	156.	126.2	2381.1	*	1	0735	92	216.	437.3	2395.0
1	0100	13	1.	.0	2370.0	*	1	0420	53	160.	142.7	2381.9	*	1	0740	93	216.	437.5	2395.0
1	0105	14	1.	.0	2370.1	*	1	0425	54	163.	158.2	2382.7	*	1	0745	94	216.	437.6	2395.0
1	0110	15	1.	.1	2370.1	*	1	0430	55	167.	172.9	2383.4	*	1	0750	95	216.	437.6	2395.0
1	0115	16	1.	.1	2370.1	*	1	0435	56	170.	186.7	2384.1	*	1	0755	96	216.	437.5	2395.0
1	0120	17	2.	.1	2370.1	*	1	0440	57	174.	200.0	2384.7	*	1	0800	97	216.	437.3	2395.0
1	0125	18	2.	.1	2370.2	*	1	0445	58	176.	212.9	2385.3	*	1	0805	98	216.	437.0	2395.0
1	0130	19	2.	.1	2370.2	*	1	0450	59	179.	225.8	2385.9	*	1	0810	99	216.	436.7	2395.0
1	0135	20	3.	.1	2370.2	*	1	0455	60	182.	238.7	2386.5	*	1	0815	100	216.	436.3	2395.0
1	0140	21	4.	.2	2370.3	*	1	0500	61	184.	251.9	2387.1	*	1	0820	101	216.	435.9	2395.0
1	0145	22	5.	.2	2370.4	*	1	0505	62	187.	265.2	2387.7	*	1	0825	102	216.	435.4	2395.0
1	0150	23	7.	.3	2370.5	*	1	0510	63	189.	278.8	2388.3	*	1	0830	103	216.	434.9	2394.9
1	0155	24	9.	.5	2370.7	*	1	0515	64	192.	292.3	2388.9	*	1	0835	104	216.	434.3	2394.9
1	0200	25	14.	.7	2371.1	*	1	0520	65	195.	305.7	2389.5	*	1	0840	105	216.	433.7	2394.9
1	0205	26	20.	1.0	2371.5	*	1	0525	66	197.	318.6	2390.1	*	1	0845	106	215.	433.1	2394.9
1	0210	27	27.	1.4	2372.0	*	1	0530	67	199.	330.8	2390.6	*	1	0850	107	215.	432.5	2394.8
1	0215	28	30.	2.0	2372.1	*	1	0535	68	201.	342.2	2391.1	*	1	0855	108	215.	431.8	2394.8
1	0220	29	33.	2.6	2372.3	*	1	0540	69	203.	352.6	2391.5	*	1	0900	109	215.	431.1	2394.8
1	0225	30	37.	3.3	2372.4	*	1	0545	70	204.	362.1	2391.9	*	1	0905	110	215.	430.5	2394.7
1	0230	31	41.	4.0	2372.6	*	1	0550	71	206.	370.7	2392.3	*	1	0910	111	215.	429.8	2394.7
1	0235	32	46.	4.7	2372.7	*	1	0555	72	207.	378.5	2392.6	*	1	0915	112	215.	429.0	2394.7
1	0240	33	51.	5.6	2372.9	*	1	0600	73	208.	385.5	2392.9	*	1	0920	113	215.	428.3	2394.7
1	0245	34	56.	6.5	2373.1	*	1	0605	74	209.	391.8	2393.1	*	1	0925	114	215.	427.6	2394.6
1	0250	35	62.	7.5	2373.3	*	1	0610	75	210.	397.6	2393.4	*	1	0930	115	214.	426.8	2394.6
1	0255	36	68.	8.5	2373.6	*	1	0615	76	211.	402.9	2393.6	*	1	0935	116	214.	426.1	2394.6
1	0300	37	74.	9.6	2373.8	*	1	0620	77	211.	407.6	2393.8	*	1	0940	117	214.	425.3	2394.5
1	0305	38	80.	10.8	2374.0	*	1	0625	78	212.	411.9	2394.0	*	1	0945	118	214.	424.6	2394.5
1	0310	39	83.	12.0	2374.1	*	1	0630	79	213.	415.8	2394.1	*	1	0950	119	214.	423.8	2394.5
1	0315	40	86.	13.3	2374.2	*	1	0635	80	213.	419.3	2394.3	*	1	0955	120	214.	423.1	2394.4

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	9.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 216.	7.75		203.	137.	137.	137.
		(INCHES)	.278	.310	.310	.310
		(AC-FT)	100.	112.	112.	112.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	9.92-HR
+ (AC-FT)	(HR)					
438.	7.75		363.	222.	222.	222.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	9.92-HR
+ (FEET)	(HR)					
2395.04	7.75		2391.78	2383.94	2383.94	2383.94

CUMULATIVE AREA = 6.78 SQ MI

HYDROGRAPH AT STATION LBDDB
PLAN 1, RATIO = .88

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE		DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE		DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2370.0	*	1		0320	41	88.	14.4	2374.3	*	1		0640	81	213.	415.9	2394.1
1		0005	2	0.	.0	2370.0	*	1		0325	42	92.	16.1	2374.5	*	1		0645	82	213.	418.6	2394.3
1		0010	3	0.	.0	2370.0	*	1		0330	43	97.	18.5	2374.7	*	1		0650	83	214.	420.9	2394.4
1		0015	4	0.	.0	2370.0	*	1		0335	44	104.	22.1	2375.0	*	1		0655	84	214.	422.9	2394.4
1		0020	5	0.	.0	2370.0	*	1		0340	45	115.	27.4	2375.5	*	1		0700	85	214.	424.7	2394.5
1		0025	6	0.	.0	2370.0	*	1		0345	46	128.	35.0	2376.1	*	1		0705	86	214.	426.1	2394.6
1		0030	7	0.	.0	2370.0	*	1		0350	47	131.	45.3	2376.7	*	1		0710	87	215.	427.3	2394.6
1		0035	8	0.	.0	2370.0	*	1		0355	48	136.	58.4	2377.5	*	1		0715	88	215.	428.3	2394.7
1		0040	9	0.	.0	2370.0	*	1		0400	49	141.	73.6	2378.4	*	1		0720	89	215.	429.1	2394.7
1		0045	10	0.	.0	2370.0	*	1		0405	50	146.	90.1	2379.3	*	1		0725	90	215.	429.7	2394.7
1		0050	11	0.	.0	2370.0	*	1		0410	51	151.	107.2	2380.2	*	1		0730	91	215.	430.2	2394.7
1		0055	12	0.	.0	2370.0	*	1		0415	52	155.	124.0	2381.0	*	1		0735	92	215.	430.5	2394.8
1		0100	13	0.	.0	2370.0	*	1		0420	53	159.	140.2	2381.8	*	1		0740	93	215.	430.7	2394.8
1		0105	14	1.	.0	2370.1	*	1		0425	54	163.	155.5	2382.5	*	1		0745	94	215.	430.8	2394.8
1		0110	15	1.	.0	2370.1	*	1		0430	55	166.	169.9	2383.2	*	1		0750	95	215.	430.8	2394.8
1		0115	16	1.	.1	2370.1	*	1		0435	56	170.	183.6	2383.9	*	1		0755	96	215.	430.7	2394.8
1		0120	17	2.	.1	2370.1	*	1		0440	57	173.	196.7	2384.6	*	1		0800	97	215.	430.5	2394.8
1		0125	18	2.	.1	2370.1	*	1		0445	58	176.	209.4	2385.2	*	1		0805	98	215.	430.2	2394.7
1		0130	19	2.	.1	2370.2	*	1		0450	59	178.	222.1	2385.7	*	1		0810	99	215.	429.9	2394.7
1		0135	20	3.	.1	2370.2	*	1		0455	60	181.	234.8	2386.3	*	1		0815	100	215.	429.5	2394.7
1		0140	21	3.	.2	2370.3	*	1		0500	61	183.	247.8	2386.9	*	1		0820	101	215.	429.1	2394.7
1		0145	22	4.	.2	2370.3	*	1		0505	62	186.	260.9	2387.5	*	1		0825	102	215.	428.6	2394.7
1		0150	23	6.	.3	2370.5	*	1		0510	63	189.	274.2	2388.1	*	1		0830	103	215.	428.1	2394.6
1		0155	24	9.	.4	2370.7	*	1		0515	64	191.	287.6	2388.7	*	1		0835	104	215.	427.5	2394.6
1		0200	25	13.	.7	2371.0	*	1		0520	65	194.	300.8	2389.3	*	1		0840	105	214.	426.9	2394.6
1		0205	26	19.	1.0	2371.5	*	1		0525	66	196.	313.5	2389.9	*	1		0845	106	214.	426.3	2394.6
1		0210	27	26.	1.4	2372.0	*	1		0530	67	198.	325.6	2390.4	*	1		0850	107	214.	425.7	2394.6
1		0215	28	29.	1.9	2372.1	*	1		0535	68	200.	336.8	2390.8	*	1		0855	108	214.	425.1	2394.5
1		0220	29	33.	2.5	2372.3	*	1		0540	69	202.	347.1	2391.3	*	1		0900	109	214.	424.4	2394.5
1		0225	30	37.	3.2	2372.4	*	1		0545	70	203.	356.4	2391.7	*	1		0905	110	214.	423.7	2394.5
1		0230	31	41.	3.9	2372.5	*	1		0550	71	205.	364.9	2392.0	*	1		0910	111	214.	423.0	2394.4
1		0235	32	45.	4.6	2372.7	*	1		0555	72	206.	372.5	2392.3	*	1		0915	112	214.	422.3	2394.4
1		0240	33	50.	5.4	2372.9	*	1		0600	73	207.	379.4	2392.6	*	1		0920	113	214.	421.6	2394.4
1		0245	34	55.	6.3	2373.1	*	1		0605	74	208.	385.7	2392.9	*	1		0925	114	214.	420.8	2394.3
1		0250	35	61.	7.3	2373.3	*	1		0610	75	209.	391.4	2393.1	*	1		0930	115	213.	420.1	2394.3
1		0255	36	67.	8.3	2373.5	*	1		0615	76	210.	396.6	2393.3	*	1		0935	116	213.	419.4	2394.3
1		0300	37	73.	9.4	2373.7	*	1		0620	77	210.	401.3	2393.5	*	1		0940	117	213.	418.6	2394.3
1		0305	38	80.	10.5	2374.0	*	1		0625	78	211.	405.5	2393.7	*	1		0945	118	213.	417.9	2394.2
1		0310	39	82.	11.7	2374.1	*	1		0630	79	212.	409.4	2393.9	*	1		0950	119	213.	417.1	2394.2
1		0315	40	85.	13.0	2374.2	*	1		0635	80	212.	412.8	2394.0	*	1		0955	120	213.	416.4	2394.2

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	9.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 215.	7.75		202.	136.	136.	136.
		(INCHES)	.277	.308	.308	.308
		(AC-FT)	100.	111.	111.	111.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	9.92-HR
+ (AC-FT)	(HR)					
431.	7.75		357.	219.	219.	219.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	9.92-HR
+ (FEET)	(HR)					
2394.76	7.75		2391.54	2383.78	2383.78	2383.78

CUMULATIVE AREA = 6.78 SQ MI

HYDROGRAPH AT STATION LBDDB
PLAN 1, RATIO = .64

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2370.0	1		0320	41	66.	8.1	2373.5	1		0640	81	188.	269.5	2387.9
1		0005	2	0.	.0	2370.0	1		0325	42	71.	9.0	2373.7	1		0645	82	188.	271.3	2388.0
1		0010	3	0.	.0	2370.0	1		0330	43	78.	10.2	2373.9	1		0650	83	188.	272.8	2388.0
1		0015	4	0.	.0	2370.0	1		0335	44	83.	12.0	2374.1	1		0655	84	189.	274.1	2388.1
1		0020	5	0.	.0	2370.0	1		0340	45	89.	14.9	2374.4	1		0700	85	189.	275.2	2388.1
1		0025	6	0.	.0	2370.0	1		0345	46	98.	19.4	2374.8	1		0705	86	189.	276.1	2388.2
1		0030	7	0.	.0	2370.0	1		0350	47	112.	25.7	2375.3	1		0710	87	189.	276.8	2388.2
1		0035	8	0.	.0	2370.0	1		0355	48	127.	33.9	2376.0	1		0715	88	189.	277.4	2388.2
1		0040	9	0.	.0	2370.0	1		0400	49	131.	43.7	2376.6	1		0720	89	189.	277.9	2388.3
1		0045	10	0.	.0	2370.0	1		0405	50	135.	54.5	2377.3	1		0725	90	189.	278.2	2388.3
1		0050	11	0.	.0	2370.0	1		0410	51	139.	65.7	2378.0	1		0730	91	189.	278.5	2388.3
1		0055	12	0.	.0	2370.0	1		0415	52	142.	76.7	2378.6	1		0735	92	189.	278.6	2388.3
1		0100	13	0.	.0	2370.0	1		0420	53	145.	87.4	2379.1	1		0740	93	189.	278.7	2388.3
1		0105	14	0.	.0	2370.0	1		0425	54	148.	97.5	2379.7	1		0745	94	189.	278.6	2388.3
1		0110	15	0.	.0	2370.0	1		0430	55	151.	107.0	2380.2	1		0750	95	189.	278.6	2388.3
1		0115	16	0.	.0	2370.0	1		0435	56	153.	115.9	2380.6	1		0755	96	189.	278.4	2388.3
1		0120	17	0.	.0	2370.0	1		0440	57	155.	124.4	2381.0	1		0800	97	189.	278.2	2388.3
1		0125	18	0.	.0	2370.0	1		0445	58	157.	132.7	2381.4	1		0805	98	189.	278.0	2388.3
1		0130	19	0.	.0	2370.0	1		0450	59	159.	140.8	2381.8	1		0810	99	189.	277.7	2388.2
1		0135	20	0.	.0	2370.0	1		0455	60	161.	149.1	2382.2	1		0815	100	189.	277.3	2388.2
1		0140	21	0.	.0	2370.0	1		0500	61	163.	157.5	2382.6	1		0820	101	189.	276.9	2388.2
1		0145	22	0.	.0	2370.0	1		0505	62	165.	166.0	2383.1	1		0825	102	189.	276.5	2388.2
1		0150	23	0.	.0	2370.0	1		0510	63	167.	174.8	2383.5	1		0830	103	189.	276.1	2388.2
1		0155	24	1.	.0	2370.1	1		0515	64	170.	183.6	2383.9	1		0835	104	189.	275.7	2388.1
1		0200	25	3.	.1	2370.2	1		0520	65	172.	192.4	2384.3	1		0840	105	189.	275.2	2388.1
1		0205	26	6.	.3	2370.4	1		0525	66	174.	201.0	2384.8	1		0845	106	189.	274.7	2388.1
1		0210	27	10.	.5	2370.8	1		0530	67	176.	209.2	2385.2	1		0850	107	189.	274.2	2388.1
1		0215	28	17.	.8	2371.3	1		0535	68	177.	216.7	2385.5	1		0855	108	188.	273.7	2388.1
1		0220	29	24.	1.2	2371.8	1		0540	69	179.	223.7	2385.8	1		0900	109	188.	273.1	2388.0
1		0225	30	28.	1.6	2372.1	1		0545	70	180.	230.0	2386.1	1		0905	110	188.	272.6	2388.0
1		0230	31	30.	2.0	2372.2	1		0550	71	181.	235.7	2386.3	1		0910	111	188.	272.0	2388.0
1		0235	32	33.	2.5	2372.3	1		0555	72	182.	240.8	2386.6	1		0915	112	188.	271.5	2388.0
1		0240	33	36.	3.0	2372.4	1		0600	73	183.	245.4	2386.8	1		0920	113	188.	270.9	2387.9
1		0245	34	39.	3.6	2372.5	1		0605	74	184.	249.6	2387.0	1		0925	114	188.	270.3	2387.9
1		0250	35	42.	4.1	2372.6	1		0610	75	184.	253.3	2387.1	1		0930	115	188.	269.7	2387.9
1		0255	36	46.	4.8	2372.7	1		0615	76	185.	256.8	2387.3	1		0935	116	188.	269.2	2387.9
1		0300	37	50.	5.4	2372.9	1		0620	77	186.	259.9	2387.4	1		0940	117	187.	268.6	2387.8
1		0305	38	54.	6.1	2373.0	1		0625	78	186.	262.7	2387.6	1		0945	118	187.	268.0	2387.8
1		0310	39	57.	6.7	2373.2	1		0630	79	187.	265.2	2387.7	1		0950	119	187.	267.4	2387.8
1		0315	40	61.	7.4	2373.3	1		0635	80	187.	267.5	2387.8	1		0955	120	187.	266.8	2387.7

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	9.92-HR
(CFS)	(HR)					
		(CFS)				
189.	7.67		179.	118.	118.	118.
		(INCHES)	.245	.268	.268	.268
		(AC-FT)	89.	97.	97.	97.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	9.92-HR
(AC-FT)	(HR)				
279.	7.67	230.	140.	140.	140.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	9.92-HR
(FEET)	(HR)				
2388.28	7.67	2385.98	2380.23	2380.23	2380.23

CUMULATIVE AREA = 6.78 SQ MI

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PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
TIME TO PEAK IN HOURS

OPERATION	STATION	AREA	PLAN		RATIOS APPLIED TO PRECIPITATION RATIO 1 .98	RATIO 2 .95	RATIO 3 .93	RATIO 4 .92	RATIO 5 .91	RATIO 6 .89	RATIO 7 .88	RATIO 8 .88	RATIO 9 .64
HYDROGRAPH AT	B13A	1.29	1	FLOW	967.	933.	898.	884.	875.	857.	843.	829.	513.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17
ROUTED TO	RB13A	1.29	1	FLOW	870.	839.	807.	795.	786.	770.	757.	745.	461.
				TIME	4.75	4.75	4.75	4.75	4.75	4.83	4.83	4.83	4.83
HYDROGRAPH AT	B13B	.54	1	FLOW	223.	215.	207.	204.	201.	197.	194.	191.	116.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.08
2 COMBINED AT	PT1	1.83	1	FLOW	1089.	1050.	1011.	995.	984.	964.	948.	932.	574.
				TIME	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
ROUTED TO	RPT1	1.83	1	FLOW	1059.	1021.	982.	967.	956.	937.	921.	906.	556.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT	B17	.82	1	FLOW	418.	402.	387.	381.	376.	368.	362.	356.	214.
				TIME	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42
2 COMBINED AT	PT2	2.64	1	FLOW	1350.	1301.	1252.	1232.	1219.	1193.	1174.	1155.	711.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.08
ROUTED TO	RPT2	2.64	1	FLOW	1348.	1299.	1250.	1231.	1217.	1192.	1172.	1154.	708.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT	B13C	2.01	1	FLOW	1548.	1490.	1432.	1409.	1393.	1363.	1340.	1318.	801.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	4.00
2 COMBINED AT	PT3	4.65	1	FLOW	1965.	1888.	1813.	1782.	1761.	1722.	1692.	1662.	1008.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	5.08
ROUTED TO	RPT3A	4.65	1	FLOW	1957.	1881.	1807.	1777.	1756.	1717.	1687.	1658.	1006.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08	5.08
ROUTED TO	RPT3B	4.65	1	FLOW	1912.	1838.	1764.	1735.	1714.	1676.	1646.	1617.	996.

				TIME	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	5.17
HYDROGRAPH AT													
+	B11S	1.12	1	FLOW	484.	459.	435.	425.	419.	406.	397.	387.	182.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08
HYDROGRAPH AT													
+	HYDRO1	.63	1	FLOW	623.	623.	623.	623.	623.	623.	623.	623.	623.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08
3 COMBINED AT													
+	PT4	6.40	1	FLOW	2988.	2890.	2793.	2755.	2728.	2678.	2639.	2601.	1741.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17
HYDROGRAPH AT													
+	HYDRO2	.38	1	FLOW	36.	36.	36.	36.	36.	36.	36.	36.	36.
				TIME	5.25	5.25	5.25	5.25	5.25	5.25	5.25	5.25	5.25
2 COMBINED AT													
+	LBDDB	6.78	1	FLOW	3018.	2920.	2823.	2785.	2758.	2708.	2669.	2631.	1771.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17
ROUTED TO													
+	LBDDB	6.78	1	FLOW	226.	223.	221.	219.	219.	217.	216.	215.	189.
				TIME	7.83	7.75	7.75	7.75	7.75	7.75	7.75	7.75	7.67
			** PEAK STAGES IN FEET **										
			1	STAGE	2397.51	2396.82	2396.13	2395.86	2395.67	2395.32	2395.04	2394.76	2388.28
				TIME	7.83	7.83	7.75	7.75	7.75	7.75	7.75	7.75	7.67
ROUTED TO													
+	RLBDDB	6.78	1	FLOW	226.	223.	220.	219.	219.	217.	216.	215.	189.
				TIME	8.58	8.58	8.58	8.58	8.58	8.58	8.58	8.58	8.50
HYDROGRAPH AT													
+	B12	.97	1	FLOW	262.	244.	225.	218.	213.	204.	197.	190.	59.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	4.00
2 COMBINED AT													
+	PT33W	7.75	1	FLOW	351.	330.	310.	302.	296.	286.	278.	270.	189.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	8.50
ROUTED TO													
+	RPT33W	7.75	1	FLOW	329.	310.	291.	284.	279.	269.	262.	255.	189.
				TIME	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	8.75
HYDROGRAPH AT													
+	B15A	.96	1	FLOW	509.	486.	464.	455.	448.	437.	428.	419.	227.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
2 COMBINED AT													
+	PT34W	8.71	1	FLOW	781.	741.	701.	686.	675.	655.	640.	624.	313.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08
HYDROGRAPH AT													
+	HYDRO3	87.68	1	FLOW	1763.	1763.	1763.	1763.	1763.	1763.	1763.	1763.	1763.
				TIME	5.42	5.42	5.42	5.42	5.42	5.42	5.42	5.42	5.42
ROUTED TO													
+	RPT18	87.68	1	FLOW	1745.	1745.	1745.	1745.	1745.	1745.	1745.	1745.	1745.
				TIME	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
HYDROGRAPH AT													
+	B18B	1.92	1	FLOW	1167.	1121.	1075.	1056.	1044.	1020.	1002.	983.	571.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08
2 COMBINED AT													
+	PT19	89.60	1	FLOW	2321.	2294.	2267.	2257.	2249.	2235.	2224.	2214.	1989.
				TIME	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.67
DIVERSION TO													
+	DVI155	89.60	1	FLOW	1692.	1673.	1653.	1645.	1640.	1629.	1622.	1614.	1450.
				TIME	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.67
HYDROGRAPH AT													
+	DVI155	89.60	1	FLOW	629.	622.	614.	612.	609.	606.	603.	600.	539.
				TIME	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.67
ROUTED TO													
+	RPT19	89.60	1	FLOW	613.	605.	598.	595.	593.	589.	587.	584.	525.
				TIME	5.25	5.25	5.25	5.25	5.25	5.33	5.33	5.33	5.42
HYDROGRAPH AT													
+	B14A	1.35	1	FLOW	1189.	1145.	1102.	1085.	1072.	1050.	1033.	1016.	621.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
2 COMBINED AT													
+	PT21	90.95	1	FLOW	1249.	1204.	1159.	1140.	1128.	1104.	1086.	1068.	680.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	5.17
HYDROGRAPH AT													
+	B14B	.99	1	FLOW	440.	417.	395.	385.	379.	368.	359.	350.	166.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
2 COMBINED AT													
+	PT22	91.94	1	FLOW	1682.	1613.	1545.	1518.	1499.	1464.	1437.	1410.	817.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.92
ROUTED TO													
+	RPT22	91.94	1	FLOW	1556.	1493.	1430.	1405.	1388.	1356.	1331.	1306.	761.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17
HYDROGRAPH AT													
+	B15B	.95	1	FLOW	356.	339.	322.	315.	311.	302.	295.	289.	150.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.25
2 COMBINED AT													
+	PT23	92.89	1	FLOW	1913.	1832.	1752.	1721.	1698.	1657.	1626.	1595.	910.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17

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SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	INTERPOLATED TO COMPUTATION INTERVAL DT	PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR PLAN = 1 RATIO= .00									
	RPT2 MANE	3.28	1348.06	304.71	1.75	5.00	1347.69	305.00	1.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2467E+03 EXCESS= .0000E+00 OUTFLOW= .2466E+03 BASIN STORAGE= .1810E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00								
RPT2 MANE	3.32	1298.88	305.29	1.68	5.00	1298.79	305.00	1.68

```
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2374E+03 EXCESS= .0000E+00 OUTFLOW= .2373E+03 BASIN STORAGE= .1750E+00 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              RPT2  MANE          3.36   1250.34    302.62       1.62       5.00   1249.94    305.00         1.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2281E+03 EXCESS= .0000E+00 OUTFLOW= .2280E+03 BASIN STORAGE= .1758E+00 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              RPT2  MANE          3.38   1231.81    304.26       1.59       5.00   1231.10    305.00         1.59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2244E+03 EXCESS= .0000E+00 OUTFLOW= .2243E+03 BASIN STORAGE= .1746E+00 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              RPT2  MANE          3.39   1217.18    305.43       1.57       5.00   1217.00    305.00         1.57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2218E+03 EXCESS= .0000E+00 OUTFLOW= .2218E+03 BASIN STORAGE= .1688E+00 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              RPT2  MANE          3.42   1193.07    304.23       1.54       5.00   1192.38    305.00         1.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2170E+03 EXCESS= .0000E+00 OUTFLOW= .2170E+03 BASIN STORAGE= .1652E+00 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              RPT2  MANE          3.44   1172.37    305.95       1.51       5.00   1172.28    305.00         1.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2134E+03 EXCESS= .0000E+00 OUTFLOW= .2133E+03 BASIN STORAGE= .1638E+00 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              RPT2  MANE          3.46   1154.36    304.26       1.49       5.00   1153.75    305.00         1.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2097E+03 EXCESS= .0000E+00 OUTFLOW= .2096E+03 BASIN STORAGE= .1623E+00 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              RPT2  MANE          4.09    709.58    306.45        .90       5.00    707.97    305.00          .90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1269E+03 EXCESS= .0000E+00 OUTFLOW= .1269E+03 BASIN STORAGE= .1266E+00 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              RPT3A  MANE         1.73   1963.34    241.87       1.69       5.00   1956.55    245.00         1.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4183E+03 EXCESS= .0000E+00 OUTFLOW= .4182E+03 BASIN STORAGE= .1163E+00 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RPT3A  MANE         1.75   1886.69    243.43       1.62       5.00   1881.34    245.00         1.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4023E+03 EXCESS= .0000E+00 OUTFLOW= .4023E+03 BASIN STORAGE= .1142E+00 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RPT3A  MANE         1.78   1811.28    243.34       1.56       5.00   1806.58    245.00         1.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3865E+03 EXCESS= .0000E+00 OUTFLOW= .3865E+03 BASIN STORAGE= .1130E+00 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RPT3A  MANE         1.79   1781.32    242.96       1.53       5.00   1776.81    245.00         1.53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3802E+03 EXCESS= .0000E+00 OUTFLOW= .3802E+03 BASIN STORAGE= .1109E+00 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RPT3A  MANE         1.79   1760.41    242.17       1.52       5.00   1755.65    245.00         1.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3758E+03 EXCESS= .0000E+00 OUTFLOW= .3758E+03 BASIN STORAGE= .1101E+00 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RPT3A  MANE         1.81   1721.30    242.25       1.48       5.00   1716.95    245.00         1.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3677E+03 EXCESS= .0000E+00 OUTFLOW= .3676E+03 BASIN STORAGE= .1074E+00 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RPT3A  MANE         1.82   1691.10    243.72       1.46       5.00   1687.04    245.00         1.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3614E+03 EXCESS= .0000E+00 OUTFLOW= .3614E+03 BASIN STORAGE= .1066E+00 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RPT3A  MANE         1.83   1661.38    243.40       1.43       5.00   1657.55    245.00         1.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3552E+03 EXCESS= .0000E+00 OUTFLOW= .3551E+03 BASIN STORAGE= .1056E+00 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RPT3A  MANE         2.17   1006.40    306.48        .86       5.00   1006.39    305.00          .86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2142E+03 EXCESS= .0000E+00 OUTFLOW= .2141E+03 BASIN STORAGE= .8323E-01 PERCENT ERROR=    .0

1                                                  HEC-1 INPUT                                                  PAGE  1

          LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
                        *


*** NORMAL END OF HEC-1 ***
```

APPENDIX A

HEC-1 SDN 4

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*         JAN  1997                     *
*         VERSION 4.1                   *
*                                       *
*  RUN DATE   17MAR06  TIME  14:54:57   *
*                                       *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*            (916) 756-1104             *
*                                       *
*****************************************
```

```
X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX         XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM


```
          LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
                    *DIAGRAM
 *** FREE ***
               1    ID   LBDDB CLOMR ANALYSIS
               2    ID   MODEL BASED FROM GCW
               3    ID   DESIGN STORM = 100-YEAR 6-HOUR STORM
               4    ID   STORM DISTRIBUTION = SDN4
                    *
               5    ID     JR CARDS CONTAIN DARFS BASED ON THE FOLLOWING VALUES:
               6    ID
               7    ID     AREA (SQUARE MILES)    DARF
               8    ID    1 - 2    0.950
               9    ID    2 - 3    0.925
              10    ID    3 - 4    0.915
              11    ID    4 - 5    0.908
              12    ID    6 - 7    0.895
              13    ID    7 - 8    0.885
              14    ID    8 - 9    0.875
              15    ID    50 -100    0.640
              16    ID
              17    IT       5       0       0     120
              18    IO       5       0       0
              19    JR    PREC   0.950   0.925   0.915   0.908   0.895   0.885   0.875   0.640
                    *
              20    KK    B13A
              21    BA   1.290
              22    PB    3.14
              23    PC   0.000   0.020   0.058   0.075   0.099   0.126   0.137   0.145   0.149   0.151
              24    PC   0.155   0.156   0.159   0.162   0.169   0.172   0.179   0.189   0.201   0.211
              25    PC   0.220   0.228   0.232   0.240   0.246   0.252   0.260   0.269   0.276   0.283
              26    PC   0.286   0.292   0.302   0.312   0.321   0.332   0.352   0.376   0.415   0.462
              27    PC   0.530   0.610   0.710   0.732   0.756   0.782   0.799   0.813   0.823   0.830
              28    PC   0.835   0.844   0.851   0.864   0.885   0.908   0.924   0.944   0.968   0.973
              29    PC   0.978   0.982   0.984   0.986   0.988   0.991   0.992   0.993   0.994   0.997
              30    PC   0.998   0.999   1.000
              31    LS       0    88.0
              32    UD   0.680
                    *
              33    KK   RB13A
              34    KM   ROUTE B13A TO PT1
              35    RM       7    0.64     0.1
                    *
              36    KK    B13B
              37    BA   0.538
              38    PB    2.96
              39    LS       0    88.0
              40    UD   1.440
                    *
```



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          LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
              41    KK     PT1
              42    KM   COMBINE BASINS B13A AND B13B
              43    HC       2
                    *
              44    KK    RPT1
              45    KM   ROUTE PT1 TO PT2
              46    RM       3    0.28    0.15
                    *
              47    KK     B17
              48    BA   0.816
              49    PB    2.80
              50    LS       0    88.0
              51    UD   0.940
                    *
              52    KK     PT2
              53    KM   COMBINE PT1 AND BASIN B17
              54    HC       2
                    *
              55    KK    RPT2
              56    KM   ROUTE PT2 TO PT3
              57    RD    2000   0.008    0.03       0    TRAP      35       3
                    *
              58    KK    B13C
              59    BA   2.005
              60    PB    2.82
              61    LS       0    88.1
              62    UD   0.510
                    *
              63    KK     PT3
              64    KM   COMBINE PT2 AND BASIN B13C
```

```
 65          HC       2
             *

 66          KK   RPT3A
 67          KM   OLD DIVERSIONS WILL BE CUT OFF AND ALL FLOW WILL GO TO LBDDB
 68          KM   ROUTE PT3 NORTH ALONG WEST SIDE OF UPRR TO UPPR CULVERT BD4
 69          KM   MUSKINGUM ROUTING UNSTABLE
 70          RD    1200   0.008    0.03       0    TRAP      35       3
             *

 71          KK   RPT3B
 72          KM   OLD DIVERSIONS WILL BE CUT OFF AND ALL FLOW WILL GO TO LBDDB
 73          KM   ROUTE PT3 NORTH ALONG WEST SIDE OF UPRR TO UPPR BRIDGE
 74          RM       1   0.119    0.15
             *
1                                        HEC-1 INPUT                                        PAGE  3

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 75          KK    B11S
 76          KM   SOUTHERN PORTION OF BASIN B11 TIES INTO HYDRO1 BOUNDARY AREA
 77          BA   1.121
 78          PB    2.82
 79          LS       0    78.0
 80          UD   0.580
             *

 81          KK  HYDRO1
 82          KM   INFLOW HYDROGRAPH
 83          KM   "REFERENCED FROM ""LOMR FOR AREA DOWNSTREAM OF UPPER BLUE DIAMOND D.B."""
 84          KM   "SEE COMBINATION POINT C-5, DARF RATIO 0.98, OF HEC-1 FROM REFERENCED LOMR"
 85          BA   0.630
 86          QI       0       0       0       0       0       0       0       0       0       0
 87          QI       0       0       0       0       0       0       0       0       0       0
 88          QI       0       0       1       7      14      29      45      58      69      76
 89          QI      82      86      90      94      99     100     101     100     100     100
 90          QI     102     109     126     161     223     318     430     538     604     623
 91          QI     607     569     525     480     437     397     363     335     316     306
 92          QI     304     310     321     333     339     332     314     289     264     239
 93          QI     217     198     182     169     159     150     143     137     131     127
 94          QI     122     118     114     110     107     104     102     101     100      99
 95          QI      98      98      97      97      97      97      97      96      96      96
 96          QI      96      96      96      96      96      96      96      96      96      96
 97          QI      96      96      96      96      96      96      96      96      96      96
 98          QI      96      96      96      96      96      96      96      96      96      96
 99          QI      96      96      96      96      96      96      96      96      96      96
100          QI      96      96      96      96      96      96      96      96      96      96
101          QI      96      96      96      96      96      95      95      95      95      95
102          QI      95      95      95      95      95      95      95      95      95      95
103          QI      95      95      95      95      95      95      95      95      95      95
104          QI      95      95      95      95      95      95      95      95      95      95
105          QI      95      95      95      95      95      95      95      95      95      95
106          QI      95      95      95      95      95      95      95      95      95      95
107          QI      95      95      95      95      95      95      95      95      95      95
108          QI      95      95      95      95      95      95      95      95      95      95
109          QI      95      95      94      94      94      94      94      94      94      94
110          QI      94      94      94      94      94      94      94      94      94      94
111          QI      94      94      94      94      94      94      94      94      94      94
112          QI      94      94      94      94      94      94      94      94      94      94
113          QI      94      94      94      94      94      94      94      94      94      94
114          QI      94      94      94      94      94      94      94      94      94      94
115          QI      94      94      94      94      94      94      94      94      94      94
             *

116          KK     PT4
117          KM   "COMBINE BASIN B11S, HYDRO2, AND PT3"
118          KM   SEE COMBINATION POINT C-5 OF HEC-1 FROM REFERENCED LOMR
119          KM   "PT C-5 REFERENCED FROM ""LOMR FOR AREA DOWNSTREAM OF UPPER BLUE DIAMOND D.B.
120          HC       3
             *
1                                        HEC-1 INPUT                                        PAGE  4

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

121          KK  HYDRO2
122          KM   INFLOW HYDROGRAPH
123          KM   "PT C-11 REFERENCED FROM ""LOMR FOR AREA DOWNSTREAM OF UPPER BLUE DIAMOND D.B
124          KM   "SEE COMBINATION POINT C-11, DARF RATIO 0.98 OF HEC-1 FROM REFERENCED LOMR"
125          BA   0.380
126          QI       0       0       0       0       0       0       0       0       0       0
127          QI       0       0       0       0       0       0       0       0       0       0
128          QI       0       0       0       0       0       0       0       0       0       0
129          QI       0       0       0       0       0       0       0       0       0       0
130          QI       0       0       1       3       5       9      14      19      23      27
131          QI      30      32      33      33      32      31      29      28      27      27
132          QI      27      27      32      36      36      35      33      31      29      26
133          QI      24      22      20      19      17      16      15      14      13      12
134          QI      11      10       9       8       8       7       6       6       5       5
135          QI       4       4       4       3       3       3       3       3       2       2
136          QI       2       2       2       2       2       2       1       1       1       1
137          QI       1       1       1       1       1       1       1       1       1       1
138          QI       1       1       1       1       1       1       1       0       0       0
139          QI       0       0       0       0       0       0       0       0       0       0
140          QI       0       0       0       0       0       0       0       0       0       0
141          QI       0       0       0       0       0       0       0       0       0       0
142          QI       0       0       0       0       0       0       0       0       0       0
143          QI       0       0       0       0       0       0       0       0       0       0
144          QI       0       0       0       0       0       0       0       0       0       0
145          QI       0       0       0       0       0       0       0       0       0       0
146          QI       0       0       0       0       0       0       0       0       0       0
147          QI       0       0       0       0       0       0       0       0       0       0
148          QI       0       0       0       0       0       0       0       0       0       0
149          QI       0       0       0       0       0       0       0       0       0       0
150          QI       0       0       0       0       0       0       0       0       0       0
151          QI       0       0       0       0       0       0       0       0       0       0
152          QI       0       0       0       0       0       0       0       0       0       0
153          QI       0       0       0       0       0       0       0       0       0       0
154          QI       0       0       0       0       0       0       0       0       0       0
155          QI       0       0       0       0       0       0       0       0       0       0
             *

156          KK   LBDDB
157          KM   COMBINE HYDRO2 AND PT4
158          HC       2
             *

159          KK   LBDDB
160          KM   FACILITY # = DCBD 0398
161          KM   PROPOSED 70% LOWER BLUE DIAMOND DETENTION BASIN GRADING
162          KM   WITH 54" OUTLET PIPE
163          KO       1
164          RS       1    STOR       0
             * SV 0 .83 10.2 34.0 66.9 104.8 206.4 315.5 432.8 482.0
165          SA  0.0204   1.782   8.254  14.617  18.097  19.605  21.323  23.067  24.837  25.553
166          SE    2370    2372    2374    2376    2378    2380    2385    2390    2395    2397
167          SQ       0      26      80     127     139     150     175     197     216     224
             *
```

```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  168     KK  RLBDDB
  169     KM   ROUTE LBDDB TO PT33W
  170     RM       8    0.76   0.150
          *

  171     KK     B12
  172     BA   0.969
  173     PB    2.77
  174     LS       0    68.4     1.0
  175     UD   0.390
          *

  176     KK   PT33W
  177     KM   COMBINE LBDDB AND BASIN B12
  178     HC       2
          *

  179     KK  RPT33W
  180     KM   ROUTE PT33W TO PT34W
  181     RM       4     0.3   0.100
          *

  182     KK    B15A
  183     BA   0.959
  184     PB    2.77
  185     LS       0    77.6    14.0
  186     UD   0.500
          *

  187     KK   PT34W
  188     KM   THIS IS THE FINAL FLOW FOR THE BLUE DIAMOND UPPER BRANCH LBDDB CLOMR
  189     KM   COMBINE PT33 AND BASIN B15A
  190     HC       2
          *

  191     KK  HYDRO3
  192     KM   INFLOW HYDROGRAPH
  193     KM   REFERENCED FROM PBS&J LOMR
  194     BA   87.68
  195     QI       0       0       0       0       0       1       1       2       3       5
  196     QI       9      15      22      28      34      38      40      40      40      39
  197     QI      39      39      41      45      50      56      63      70      77      84
  198     QI      90      95      98      98      95      91      87      85      87      94
  199     QI     110     136     174     226     294     378     476     581     679     885
  200     QI    1084    1246    1427    1566    1647    1683    1684    1663    1635    1612
  201     QI    1605    1620    1655    1701    1742    1763    1749    1694    1600    1475
  202     QI    1328    1211    1110    1008     907     806     708     612     519     428
  203     QI     340     254     172      94      28      22      17      13      10       7
  204     QI       6       4       3       3       2       1       1       1       1       0
  205     QI       0       0       0       0       0       0       0       0       0       0
  206     QI       0       0       0       0       0       0       0       0       0       0
  207     QI       0       0       0       0       0       0       0       0       0       0
  208     QI       0       0       0       0       0       0       0       0       0       0
  209     QI       0       0       0       0       0       0       0       0       0       0
```



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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  210     QI       0       0       0       0       0       0       0       0       0       0
  211     QI       0       0       0       0       0       0       0       0       0       0
  212     QI       0       0       0       0       0       0       0       0       0       0
  213     QI       0       0       0       0       0       0       0       0       0       0
  214     QI       0       0       0       0       0       0       0       0       0       0
  215     QI       0       0       0       0       0       0       0       0       0       0
  216     QI       0       0       0       0       0       0       0       0       0       0
  217     QI       0       0       0       0       0       0       0       0       0       0
  218     QI       0       0       0       0       0       0       0       0       0       0
  219     QI       0       0       0       0       0       0       0       0       0       0
  220     QI       0       0       0       0       0       0       0       0       0       0
  221     QI       0       0       0       0       0       0       0       0       0       0
  222     QI       0       0       0       0       0       0       0       0       0       0
  223     QI       0       0       0       0       0       0       0       0       0       0
  224     QI       0       0       0       0       0       0       0       0       0       0
          *

  225     KK   RPT18
  226     KM   ROUTE HYDRO3 FROM I15 BRIDGE 24'x4' TO I15 BRIDGE 36'x5' (IS15 0359)
  227     RM       1   0.113   0.150
          *

  228     KK    B18B
  229     BA   1.916
  230     PB    2.77
  231     LS       0    86.4
  232     UD   0.640
          *

  233     KK    PT19
  234     KM   "COMBINE BASIN B18B AND HYDRO3"
  235     HC       2
          *

  236     KK  DVI155
  237     KM   DIVERSION EAST THRU I15 BRIDGE 36'x5' (IS15 0359)
  238     DT  DVI155
  239     DI       0    2716    3378    4083    4548    4960    5791    6843
  240     DQ       0    1980    2192    2367    2531    2651    3141    3890
          *

  241     KK   RPT19
  242     KM   ROUTE BYPASS AT PT19 TO PT21
  243     RM       8   0.641   0.150
          *

  244     KK    B14A
  245     BA   1.351
  246     PB    2.77
  247     LS       0    88.0     5.0
  248     UD   0.400
          *
```



```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  249     KK    PT21
  250     KM   "COMBINE PT20 AND BASIN B14A"
  251     HC       2
          *

  252     KK    B14B
  253     BA   0.992
  254     PB    2.77
  255     LS       0    73.4     9.0
```

```
256           UD    0.42
              *

257           KK    PT22
258           KM    COMBINE PT21 AND B14B
259           HC       2
              *

260           KK    RPT22
261           KM    ROUTE PT22 TO PT23
262           RM       4     0.3   0.100
              *

263           KK    B15B
264           BA   0.954
265           PB    2.77
266           LS       0    75.0    13.0
267           UD    0.71
              *

268           KK    PT23
269           KM    THIS IS FINAL BLUE DIAMOND MIDDLE BRANCH FLOW FOR LBDDB CLOMR
270           KM    COMBINE PT22 AND BASIN B15B
271           HC       2
272           ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE      (V) ROUTING           (--->) DIVERSION OR PUMP FLOW

  NO.      (.) CONNECTOR         (<---) RETURN OF DIVERTED OR PUMPED FLOW

   20        B13A
               V
               V
   33       RB13A
               .
               .
   36          .          B13B
               .            .
               .            .
   41         PT1............
               V
               V
   44        RPT1
               .
               .
   47          .           B17
               .            .
               .            .
   52         PT2............
               V
               V
   55        RPT2
               .
               .
   58          .          B13C
               .            .
               .            .
   63         PT3............
               V
               V
   66       RPT3A
               V
               V
   71       RPT3B
               .
               .
   75          .          B11S
               .            .
               .            .
   81          .          .       HYDRO1
               .          .           .
               .          .           .
  116         PT4.........................
               .
               .
  121          .       HYDRO2
               .          .
               .          .
  156       LBDDB............
               V
               V
  159       LBDDB
               V
               V
  168      RLBDDB
               .
               .
  171          .           B12
               .            .
               .            .
  176       PT33W............
               V
               V
  179      RPT33W
               .
               .
  182          .          B15A
               .            .
               .            .
  187       PT34W............
               .
               .
  191          .       HYDRO3
               .          V
               .          V
  225          .        RPT18
               .          .
               .          .
  228          .          .         B18B
               .          .           .
               .          .           .
  233          .         PT19............
               .          .
               .          .
  238          .          .--------->  DVI155
  236          .       DVI155
               .          V
               .          V
  241          .        RPT19
               .          .
               .          .
  244          .          .         B14A
               .          .           .
               .          .           .
  249          .         PT21............
               .          .
               .          .
```

```
  252          .           .        B14B
               .           .           .
               .           .           .
  257          .        PT22.............
               .           V
               .           V
  260          .        RPT22
               .           .
               .           .
  263          .           .        B15B
               .           .           .
               .           .           .
  268          .        PT23.............

 (***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JAN  1997               *
*            VERSION 4.1               *
*                                      *
*  RUN DATE   17MAR06  TIME  14:54:57  *
*                                      *
****************************************

****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104             *
*                                      *
****************************************

                        LBDDB CLOMR ANALYSIS
                        MODEL BASED FROM GCW
                        DESIGN STORM = 100-YEAR 6-HOUR STORM
                        STORM DISTRIBUTION = SDN5
                          JR CARDS CONTAIN DARFS BASED ON THE FOLLOWING VALUES:

                           AREA (SQUARE MILES)    DARF
                           1 - 2   0.950
                           2 - 3   0.925
                           3 - 4   0.915
                           4 - 5   0.908
                           6 - 7   0.895
                           7 - 8   0.885
                           8 - 9   0.875
                           50 -100   0.640

  18 IO          OUTPUT CONTROL VARIABLES
                       IPRNT          5  PRINT CONTROL
                       IPLOT          0  PLOT CONTROL
                       QSCAL         0.  HYDROGRAPH PLOT SCALE

     IT          HYDROGRAPH TIME DATA
                       NMIN           5  MINUTES IN COMPUTATION INTERVAL
                       IDATE      1   0  STARTING DATE
                       ITIME       0000  STARTING TIME
                         NQ         120  NUMBER OF HYDROGRAPH ORDINATES
                      NDDATE      1   0  ENDING DATE
                      NDTIME       0955  ENDING TIME
                      ICENT          19  CENTURY MARK

                    COMPUTATION INTERVAL     .08 HOURS
                       TOTAL TIME BASE    9.92 HOURS

           ENGLISH UNITS
                DRAINAGE AREA          SQUARE MILES
                PRECIPITATION DEPTH    INCHES
                LENGTH, ELEVATION      FEET
                FLOW                   CUBIC FEET PER SECOND
                STORAGE VOLUME         ACRE-FEET
                SURFACE AREA           ACRES
                TEMPERATURE            DEGREES FAHRENHEIT

     JP           MULTI-PLAN OPTION
                       NPLAN          1  NUMBER OF PLANS

     JR           MULTI-RATIO OPTION
                      RATIOS OF PRECIPITATION
                      .95       .93       .92       .91       .89       .88       .88       .64


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


             **************
             *            *
 159 KK      *     LBDDB  *
             *            *
             **************

 163 KO          OUTPUT CONTROL VARIABLES
                       IPRNT          1  PRINT CONTROL
                       IPLOT          0  PLOT CONTROL
                       QSCAL         0.  HYDROGRAPH PLOT SCALE

                 HYDROGRAPH ROUTING DATA

 164 RS          STORAGE ROUTING
                       NSTPS          1  NUMBER OF SUBREACHES
                         ITYP      STOR  TYPE OF INITIAL CONDITION
                       RSVRIC        .00  INITIAL CONDITION
                            X        .00 WORKING R AND D COEFFICIENT

 165 SA               AREA          .0       1.8       8.3       14.6      18.1      19.6      21.3      23.1      24.8      25.6

 166 SE          ELEVATION     2370.00   2372.00   2374.00   2376.00   2378.00   2380.00   2385.00   2390.00   2395.00   2397.00

 167 SQ          DISCHARGE          0.       26.       80.       127.      139.      150.      175.      197.      216.      224.

                                                      ***

                                                COMPUTED STORAGE-ELEVATION DATA

                  STORAGE        .00      1.33     10.58     33.15     65.80    103.49    205.78    316.73    436.46    486.85
                ELEVATION    2370.00   2372.00   2374.00   2376.00   2378.00   2380.00   2385.00   2390.00   2395.00   2397.00


*****************************************************************************************************************************************

                                                HYDROGRAPH AT STATION    LBDDB
                                                    PLAN 1,   RATIO =   .95

*****************************************************************************************************************************************

                                                      *                                                      *
 DA MON HRMN ORD  OUTFLOW  STORAGE   STAGE * DA MON HRMN ORD  OUTFLOW  STORAGE   STAGE * DA MON HRMN ORD  OUTFLOW  STORAGE   STAGE
                                           *                                                      *
```

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2370.0	1		0320	41	108.	24.2	2375.2	1		0640	81	220.	459.8	2395.9
1		0005	2	0.	.0	2370.0	1		0325	42	114.	27.0	2375.5	1		0645	82	220.	463.0	2396.1
1		0010	3	0.	.0	2370.0	1		0330	43	122.	30.7	2375.8	1		0650	83	221.	465.9	2396.2
1		0015	4	0.	.0	2370.0	1		0335	44	128.	35.6	2376.2	1		0655	84	221.	468.5	2396.3
1		0020	5	0.	.0	2370.0	1		0340	45	130.	42.4	2376.6	1		0700	85	221.	470.6	2396.4
1		0025	6	0.	.0	2370.0	1		0345	46	134.	51.5	2377.1	1		0705	86	222.	472.5	2396.4
1		0030	7	0.	.0	2370.0	1		0350	47	138.	63.2	2377.8	1		0710	87	222.	474.0	2396.5
1		0035	8	0.	.0	2370.0	1		0355	48	142.	77.3	2378.6	1		0715	88	222.	475.3	2396.5
1		0040	9	0.	.0	2370.0	1		0400	49	147.	93.3	2379.5	1		0720	89	222.	476.4	2396.6
1		0045	10	0.	.0	2370.0	1		0405	50	152.	110.3	2380.3	1		0725	90	222.	477.3	2396.6
1		0050	11	1.	.1	2370.1	1		0410	51	156.	127.8	2381.2	1		0730	91	223.	477.9	2396.6
1		0055	12	2.	.1	2370.2	1		0415	52	160.	144.9	2382.0	1		0735	92	223.	478.4	2396.7
1		0100	13	3.	.2	2370.3	1		0420	53	164.	161.4	2382.8	1		0740	93	223.	478.8	2396.7
1		0105	14	5.	.3	2370.4	1		0425	54	168.	177.1	2383.6	1		0745	94	223.	479.0	2396.7
1		0110	15	7.	.4	2370.5	1		0430	55	172.	191.8	2384.3	1		0750	95	223.	479.0	2396.7
1		0115	16	9.	.5	2370.7	1		0435	56	175.	205.9	2385.0	1		0755	96	223.	479.0	2396.7
1		0120	17	11.	.6	2370.9	1		0440	57	178.	219.5	2385.6	1		0800	97	223.	478.9	2396.7
1		0125	18	13.	.7	2371.0	1		0445	58	180.	232.8	2386.2	1		0805	98	223.	478.7	2396.7
1		0130	19	15.	.8	2371.2	1		0450	59	183.	246.1	2386.8	1		0810	99	223.	478.4	2396.7
1		0135	20	17.	.9	2371.3	1		0455	60	186.	259.6	2387.4	1		0815	100	223.	478.1	2396.7
1		0140	21	20.	1.0	2371.5	1		0500	61	188.	273.5	2388.0	1		0820	101	223.	477.7	2396.6
1		0145	22	23.	1.2	2371.8	1		0505	62	191.	287.6	2388.7	1		0825	102	222.	477.2	2396.6
1		0150	23	26.	1.4	2372.0	1		0510	63	194.	302.1	2389.3	1		0830	103	222.	476.7	2396.6
1		0155	24	28.	1.7	2372.1	1		0515	64	197.	316.7	2390.0	1		0835	104	222.	476.1	2396.6
1		0200	25	31.	2.1	2372.2	1		0520	65	199.	331.1	2390.6	1		0840	105	222.	475.6	2396.6
1		0205	26	34.	2.7	2372.3	1		0525	66	201.	345.0	2391.2	1		0845	106	222.	474.9	2396.5
1		0210	27	39.	3.5	2372.5	1		0530	67	204.	358.2	2391.7	1		0850	107	222.	474.3	2396.5
1		0215	28	44.	4.4	2372.7	1		0535	68	206.	370.4	2392.2	1		0855	108	222.	473.6	2396.5
1		0220	29	50.	5.4	2372.9	1		0540	69	207.	381.7	2392.7	1		0900	109	222.	472.9	2396.4
1		0225	30	56.	6.5	2373.1	1		0545	70	209.	391.9	2393.1	1		0905	110	222.	472.2	2396.4
1		0230	31	63.	7.7	2373.4	1		0550	71	210.	401.2	2393.5	1		0910	111	222.	471.5	2396.4
1		0235	32	71.	9.0	2373.7	1		0555	72	212.	409.7	2393.9	1		0915	112	221.	470.7	2396.4
1		0240	33	78.	10.3	2373.9	1		0600	73	213.	417.4	2394.2	1		0920	113	221.	470.0	2396.3
1		0245	34	82.	11.6	2374.1	1		0605	74	214.	424.4	2394.5	1		0925	114	221.	469.2	2396.3
1		0250	35	85.	13.1	2374.2	1		0610	75	215.	430.9	2394.8	1		0930	115	221.	468.4	2396.3
1		0255	36	88.	14.6	2374.4	1		0615	76	216.	436.9	2395.0	1		0935	116	221.	467.7	2396.2
1		0300	37	92.	16.2	2374.5	1		0620	77	217.	442.3	2395.2	1		0940	117	221.	466.9	2396.2
1		0305	38	95.	17.9	2374.7	1		0625	78	218.	447.4	2395.4	1		0945	118	221.	466.1	2396.2
1		0310	39	99.	19.8	2374.8	1		0630	79	218.	451.9	2395.6	1		0950	119	221.	465.3	2396.1
1		0315	40	103.	21.8	2375.0	1		0635	80	219.	456.1	2395.8	1		0955	120	220.	464.5	2396.1

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	9.92-HR
(CFS)	(HR)				
		(CFS)			
223.	7.83	208.	145.	145.	145.
		(INCHES)	.286	.328	.328	.328
		(AC-FT)	103.	119.	119.	119.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	9.92-HR
(AC-FT)	(HR)				
479.	7.83	397.	244.	244.	244.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	9.92-HR
(FEET)	(HR)				
2396.69	7.83	2393.19	2385.04	2385.04	2385.04

CUMULATIVE AREA = 6.78 SQ MI

HYDROGRAPH AT STATION LBDDB
PLAN 1, RATIO = .93

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2370.0	1		0320	41	105.	22.7	2375.1	1		0640	81	217.	443.3	2395.3
1		0005	2	0.	.0	2370.0	1		0325	42	111.	25.4	2375.3	1		0645	82	218.	446.5	2395.4
1		0010	3	0.	.0	2370.0	1		0330	43	118.	28.9	2375.6	1		0650	83	218.	449.3	2395.5
1		0015	4	0.	.0	2370.0	1		0335	44	127.	33.6	2376.0	1		0655	84	218.	451.7	2395.6
1		0020	5	0.	.0	2370.0	1		0340	45	130.	40.0	2376.4	1		0700	85	219.	453.8	2395.7
1		0025	6	0.	.0	2370.0	1		0345	46	133.	48.7	2377.0	1		0705	86	219.	455.6	2395.8
1		0030	7	0.	.0	2370.0	1		0350	47	137.	59.9	2377.6	1		0710	87	219.	457.1	2395.8
1		0035	8	0.	.0	2370.0	1		0355	48	141.	73.5	2378.4	1		0715	88	219.	458.3	2395.9
1		0040	9	0.	.0	2370.0	1		0400	49	146.	88.9	2379.2	1		0720	89	220.	459.4	2395.9
1		0045	10	0.	.0	2370.0	1		0405	50	150.	105.4	2380.1	1		0725	90	220.	460.2	2395.9
1		0050	11	1.	.0	2370.1	1		0410	51	155.	122.3	2380.9	1		0730	91	220.	460.8	2396.0
1		0055	12	2.	.1	2370.1	1		0415	52	159.	138.8	2381.7	1		0735	92	220.	461.3	2396.0
1		0100	13	3.	.1	2370.2	1		0420	53	163.	154.8	2382.5	1		0740	93	220.	461.6	2396.0
1		0105	14	4.	.2	2370.3	1		0425	54	166.	169.9	2383.2	1		0745	94	220.	461.8	2396.0
1		0110	15	6.	.3	2370.5	1		0430	55	170.	184.2	2383.9	1		0750	95	220.	461.9	2396.0
1		0115	16	8.	.4	2370.6	1		0435	56	173.	197.8	2384.6	1		0755	96	220.	461.8	2396.0
1		0120	17	9.	.5	2370.7	1		0440	57	176.	210.9	2385.2	1		0800	97	220.	461.7	2396.0
1		0125	18	11.	.6	2370.9	1		0445	58	179.	223.8	2385.8	1		0805	98	220.	461.5	2396.0
1		0130	19	13.	.7	2371.0	1		0450	59	181.	236.6	2386.4	1		0810	99	220.	461.3	2396.0
1		0135	20	15.	.8	2371.2	1		0455	60	184.	249.7	2387.0	1		0815	100	220.	460.9	2396.0
1		0140	21	17.	.9	2371.3	1		0500	61	186.	263.0	2387.6	1		0820	101	220.	460.5	2396.0
1		0145	22	20.	1.0	2371.6	1		0505	62	189.	276.7	2388.2	1		0825	102	220.	460.0	2395.9
1		0150	23	24.	1.2	2371.9	1		0510	63	192.	290.7	2388.8	1		0830	103	220.	459.5	2395.9
1		0155	24	27.	1.5	2372.0	1		0515	64	195.	304.8	2389.5	1		0835	104	220.	459.0	2395.9
1		0200	25	29.	1.9	2372.1	1		0520	65	197.	318.7	2390.1	1		0840	105	219.	458.4	2395.9
1		0205	26	32.	2.4	2372.2	1		0525	66	199.	332.2	2390.6	1		0845	106	219.	457.8	2395.8
1		0210	27	37.	3.1	2372.4	1		0530	67	201.	345.0	2391.2	1		0850	107	219.	457.2	2395.8
1		0215	28	42.	4.0	2372.6	1		0535	68	203.	356.8	2391.7	1		0855	108	219.	456.5	2395.8
1		0220	29	47.	5.0	2372.8	1		0540	69	205.	367.7	2392.1	1		0900	109	219.	455.8	2395.8
1		0225	30	53.	6.0	2373.0	1		0545	70	207.	377.6	2392.5	1		0905	110	219.	455.1	2395.7
1		0230	31	60.	7.1	2373.3	1		0550	71	208.	386.6	2392.9	1		0910	111	219.	454.4	2395.7
1		0235	32	67.	8.3	2373.5	1		0555	72	209.	394.8	2393.3	1		0915	112	219.	453.7	2395.7
1		0240	33	74.	9.6	2373.8	1		0600	73	211.	402.3	2393.6	1		0920	113	219.	453.0	2395.7
1		0245	34	81.	10.8	2374.0	1		0605	74	212.	409.1	2393.9	1		0925	114	218.	452.2	2395.6
1		0250	35	83.	12.2	2374.1	1		0610	75	213.	415.4	2394.1	1		0930	115	218.	451.4	2395.6
1		0255	36	86.	13.7	2374.3	1		0615	76	214.	421.1	2394.4	1		0935	116	218.	450.7	2395.6
1		0300	37	90.	15.2	2374.4	1		0620	77	214.	426.4	2394.6	1		0940	117	218.	449.9	2395.5
1		0305	38	93.	16.8	2374.6	1		0625	78	215.	431.3	2394.8	1		0945	118	218.	449.1	2395.5
1		0310	39	97.	18.5	2374.7	1		0630	79	216.	435.7	2395.0	1		0950	119	218.	448.4	2395.5
1		0315	40	101.	20.5	2374.9	1		0635	80	217.	439.7	2395.1	1		0955	120	218.	447.6	2395.4

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	9.92-HR
(CFS)	(HR)				
		(CFS)			
220.	7.83	206.	143.	143.	143.
		(INCHES)	.282	.324	.324	.324
		(AC-FT)	102.	117.	117.	117.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	9.92-HR
(AC-FT)	(HR)				
462.	7.83	382.	235.	235.	235.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	9.92-HR
+ (FEET)	(HR)				
2396.01	7.83	2392.60	2384.65	2384.65	2384.65

CUMULATIVE AREA = 6.78 SQ MI

HYDROGRAPH AT STATION LBDDB
PLAN 1, RATIO = .92

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2370.0	1		0320	41	104.	22.1	2375.0	1		0640	81	216.	436.7	2395.0
1		0005	2	0.	.0	2370.0	1		0325	42	109.	24.7	2375.3	1		0645	82	217.	439.9	2395.1
1		0010	3	0.	.0	2370.0	1		0330	43	117.	28.2	2375.6	1		0650	83	217.	442.6	2395.2
1		0015	4	0.	.0	2370.0	1		0335	44	126.	32.8	2376.0	1		0655	84	217.	445.0	2395.3
1		0020	5	0.	.0	2370.0	1		0340	45	129.	39.1	2376.4	1		0700	85	218.	447.1	2395.4
1		0025	6	0.	.0	2370.0	1		0345	46	132.	47.6	2376.9	1		0705	86	218.	448.8	2395.5
1		0030	7	0.	.0	2370.0	1		0350	47	136.	58.7	2377.6	1		0710	87	218.	450.3	2395.6
1		0035	8	0.	.0	2370.0	1		0355	48	141.	72.0	2378.3	1		0715	88	218.	451.6	2395.6
1		0040	9	0.	.0	2370.0	1		0400	49	145.	87.2	2379.1	1		0720	89	219.	452.6	2395.6
1		0045	10	0.	.0	2370.0	1		0405	50	150.	103.5	2380.0	1		0725	90	219.	453.4	2395.7
1		0050	11	1.	.0	2370.1	1		0410	51	154.	120.1	2380.8	1		0730	91	219.	454.0	2395.7
1		0055	12	1.	.1	2370.1	1		0415	52	158.	136.4	2381.6	1		0735	92	219.	454.5	2395.7
1		0100	13	3.	.1	2370.2	1		0420	53	162.	152.2	2382.4	1		0740	93	219.	454.8	2395.7
1		0105	14	4.	.2	2370.3	1		0425	54	166.	167.1	2383.1	1		0745	94	219.	455.0	2395.7
1		0110	15	5.	.3	2370.4	1		0430	55	169.	181.2	2383.8	1		0750	95	219.	455.0	2395.7
1		0115	16	7.	.4	2370.5	1		0435	56	172.	194.6	2384.5	1		0755	96	219.	455.0	2395.7
1		0120	17	9.	.4	2370.7	1		0440	57	175.	207.5	2385.1	1		0800	97	219.	454.9	2395.7
1		0125	18	10.	.5	2370.8	1		0445	58	178.	220.2	2385.7	1		0805	98	219.	454.7	2395.7
1		0130	19	12.	.6	2370.9	1		0450	59	180.	232.9	2386.2	1		0810	99	219.	454.4	2395.7
1		0135	20	14.	.7	2371.1	1		0455	60	183.	245.7	2386.8	1		0815	100	219.	454.1	2395.7
1		0140	21	16.	.8	2371.3	1		0500	61	186.	258.9	2387.4	1		0820	101	219.	453.7	2395.7
1		0145	22	19.	1.0	2371.5	1		0505	62	188.	272.4	2388.0	1		0825	102	219.	453.2	2395.7
1		0150	23	23.	1.2	2371.8	1		0510	63	191.	286.2	2388.6	1		0830	103	219.	452.7	2395.6
1		0155	24	27.	1.4	2372.0	1		0515	64	194.	300.1	2389.2	1		0835	104	218.	452.2	2395.6
1		0200	25	29.	1.8	2372.1	1		0520	65	196.	313.8	2389.9	1		0840	105	218.	451.6	2395.6
1		0205	26	32.	2.3	2372.2	1		0525	66	199.	327.1	2390.4	1		0845	106	218.	451.0	2395.6
1		0210	27	36.	3.0	2372.4	1		0530	67	201.	339.7	2391.0	1		0850	107	218.	450.4	2395.6
1		0215	28	41.	3.8	2372.5	1		0535	68	203.	351.4	2391.4	1		0855	108	218.	449.7	2395.5
1		0220	29	46.	4.8	2372.7	1		0540	69	204.	362.2	2391.9	1		0900	109	218.	449.0	2395.5
1		0225	30	52.	5.8	2373.0	1		0545	70	206.	372.0	2392.3	1		0905	110	218.	448.3	2395.5
1		0230	31	59.	6.9	2373.2	1		0550	71	207.	380.8	2392.7	1		0910	111	218.	447.6	2395.4
1		0235	32	65.	8.1	2373.5	1		0555	72	208.	388.9	2393.0	1		0915	112	218.	446.9	2395.4
1		0240	33	72.	9.3	2373.7	1		0600	73	210.	396.3	2393.3	1		0920	113	218.	446.2	2395.4
1		0245	34	80.	10.5	2374.0	1		0605	74	211.	403.0	2393.6	1		0925	114	217.	445.4	2395.4
1		0250	35	83.	11.9	2374.1	1		0610	75	212.	409.2	2393.9	1		0930	115	217.	444.7	2395.3
1		0255	36	86.	13.3	2374.2	1		0615	76	213.	414.9	2394.1	1		0935	116	217.	443.9	2395.3
1		0300	37	89.	14.8	2374.4	1		0620	77	213.	420.1	2394.3	1		0940	117	217.	443.2	2395.3
1		0305	38	92.	16.3	2374.5	1		0625	78	214.	424.9	2394.5	1		0945	118	217.	442.4	2395.2
1		0310	39	96.	18.0	2374.7	1		0630	79	215.	429.2	2394.7	1		0950	119	217.	441.6	2395.2
1		0315	40	99.	19.9	2374.8	1		0635	80	215.	433.2	2394.9	1		0955	120	217.	440.8	2395.2

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	9.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 219.	7.83		205.	142.	142.	142.
		(INCHES)	.281	.322	.322	.322
		(AC-FT)	102.	116.	116.	116.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	9.92-HR
+ (AC-FT)	(HR)				
455.	7.83	377.	232.	232.	232.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	9.92-HR
+ (FEET)	(HR)				
2395.74	7.83	2392.36	2384.49	2384.49	2384.49

CUMULATIVE AREA = 6.78 SQ MI

HYDROGRAPH AT STATION LBDDB
PLAN 1, RATIO = .91

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2370.0	1		0320	41	103.	21.7	2375.0	1		0640	81	215.	432.2	2394.8
1		0005	2	0.	.0	2370.0	1		0325	42	109.	24.3	2375.2	1		0645	82	216.	435.3	2394.9
1		0010	3	0.	.0	2370.0	1		0330	43	116.	27.7	2375.5	1		0650	83	216.	438.0	2395.1
1		0015	4	0.	.0	2370.0	1		0335	44	125.	32.2	2375.9	1		0655	84	217.	440.4	2395.2
1		0020	5	0.	.0	2370.0	1		0340	45	129.	38.5	2376.3	1		0700	85	217.	442.4	2395.2
1		0025	6	0.	.0	2370.0	1		0345	46	132.	46.9	2376.8	1		0705	86	217.	444.2	2395.3
1		0030	7	0.	.0	2370.0	1		0350	47	136.	57.8	2377.5	1		0710	87	217.	445.6	2395.4
1		0035	8	0.	.0	2370.0	1		0355	48	141.	71.0	2378.3	1		0715	88	218.	446.8	2395.4
1		0040	9	0.	.0	2370.0	1		0400	49	145.	86.1	2379.1	1		0720	89	218.	447.8	2395.5
1		0045	10	0.	.0	2370.0	1		0405	50	150.	102.2	2379.9	1		0725	90	218.	448.6	2395.5
1		0050	11	1.	.0	2370.1	1		0410	51	154.	118.6	2380.7	1		0730	91	218.	449.3	2395.5
1		0055	12	1.	.1	2370.1	1		0415	52	158.	134.8	2381.5	1		0735	92	218.	449.7	2395.5
1		0100	13	2.	.1	2370.2	1		0420	53	161.	150.4	2382.3	1		0740	93	218.	450.0	2395.5
1		0105	14	4.	.2	2370.3	1		0425	54	165.	165.1	2383.0	1		0745	94	218.	450.2	2395.5
1		0110	15	5.	.3	2370.4	1		0430	55	168.	179.1	2383.7	1		0750	95	218.	450.3	2395.5
1		0115	16	7.	.3	2370.5	1		0435	56	172.	192.4	2384.3	1		0755	96	218.	450.2	2395.5
1		0120	17	8.	.4	2370.6	1		0440	57	175.	205.2	2385.0	1		0800	97	218.	450.1	2395.5
1		0125	18	10.	.5	2370.8	1		0445	58	177.	217.7	2385.5	1		0805	98	218.	449.9	2395.5
1		0130	19	12.	.6	2370.9	1		0450	59	180.	230.3	2386.1	1		0810	99	218.	449.6	2395.5
1		0135	20	13.	.7	2371.0	1		0455	60	182.	243.0	2386.7	1		0815	100	218.	449.3	2395.5
1		0140	21	16.	.8	2371.2	1		0500	61	185.	256.0	2387.3	1		0820	101	218.	448.9	2395.5
1		0145	22	18.	.9	2371.4	1		0505	62	188.	269.4	2387.9	1		0825	102	218.	448.4	2395.5
1		0150	23	22.	1.1	2371.7	1		0510	63	190.	283.0	2388.5	1		0830	103	218.	447.9	2395.5
1		0155	24	26.	1.4	2372.0	1		0515	64	193.	296.8	2389.1	1		0835	104	218.	447.4	2395.4
1		0200	25	28.	1.7	2372.1	1		0520	65	196.	310.4	2389.7	1		0840	105	218.	446.8	2395.4
1		0205	26	31.	2.2	2372.2	1		0525	66	198.	323.6	2390.3	1		0845	106	218.	446.2	2395.4
1		0210	27	35.	2.9	2372.3	1		0530	67	200.	336.1	2390.8	1		0850	107	217.	445.6	2395.4
1		0215	28	40.	3.7	2372.5	1		0535	68	202.	347.7	2391.3	1		0855	108	217.	445.0	2395.3
1		0220	29	45.	4.7	2372.7	1		0540	69	204.	358.3	2391.7	1		0900	109	217.	444.3	2395.3
1		0225	30	51.	5.7	2372.9	1		0545	70	205.	368.0	2392.1	1		0905	110	217.	443.6	2395.3
1		0230	31	58.	6.8	2373.2	1		0550	71	207.	376.8	2392.5	1		0910	111	217.	442.9	2395.3
1		0235	32	64.	7.9	2373.4	1		0555	72	208.	384.8	2392.8	1		0915	112	217.	442.2	2395.2
1		0240	33	71.	9.1	2373.7	1		0600	73	209.	392.1	2393.1	1		0920	113	217.	441.5	2395.2
1		0245	34	79.	10.3	2373.9	1		0605	74	210.	398.8	2393.4	1		0925	114	217.	440.7	2395.2
1		0250	35	82.	11.6	2374.1	1		0610	75	211.	404.9	2393.7	1		0930	115	217.	440.0	2395.1
1		0255	36	85.	13.0	2374.2	1		0615	76	212.	410.5	2393.9	1		0935	116	216.	439.2	2395.1
1		0300	37	88.	14.5	2374.3	1		0620	77	213.	415.7	2394.1	1		0940	117	216.	438.5	2395.1
1		0305	38	91.	16.0	2374.5	1		0625	78	213.	420.4	2394.3	1		0945	118	216.	437.7	2395.0
1		0310	39	95.	17.7	2374.6	1		0630	79	214.	424.8	2394.5	1		0950	119	216.	436.9	2395.0

1	0315	40	99.	19.6	2374.8	*	1	0635	80	215.	428.7	2394.7	*	1	0955	120	216.	436.1	2395.0

PEAK FLOW	TIME		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	9.92-HR
(CFS)	(HR)					
218.	7.83	(CFS)	204.	141.	141.	141.
		(INCHES)	.280	.320	.320	.320
		(AC-FT)	101.	116.	116.	116.

PEAK STORAGE	TIME	6-HR	MAXIMUM AVERAGE STORAGE 24-HR	72-HR	9.92-HR
(AC-FT)	(HR)				
450.	7.83	373.	229.	229.	229.

PEAK STAGE	TIME	6-HR	MAXIMUM AVERAGE STAGE 24-HR	72-HR	9.92-HR
(FEET)	(HR)				
2395.55	7.83	2392.20	2384.38	2384.38	2384.38

CUMULATIVE AREA = 6.78 SQ MI

HYDROGRAPH AT STATION LBDDB
PLAN 1, RATIO = .89

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2370.0	*	1		0320	41	102.	21.0	2374.9	*	1		0640	81	214.	423.7	2394.5
1		0005	2	0.	.0	2370.0	*	1		0325	42	107.	23.5	2375.1	*	1		0645	82	214.	426.7	2394.6
1		0010	3	0.	.0	2370.0	*	1		0330	43	114.	26.8	2375.4	*	1		0650	83	215.	429.4	2394.7
1		0015	4	0.	.0	2370.0	*	1		0335	44	123.	31.2	2375.8	*	1		0655	84	215.	431.7	2394.8
1		0020	5	0.	.0	2370.0	*	1		0340	45	129.	37.3	2376.3	*	1		0700	85	216.	433.8	2394.9
1		0025	6	0.	.0	2370.0	*	1		0345	46	132.	45.5	2376.8	*	1		0705	86	216.	435.5	2395.0
1		0030	7	0.	.0	2370.0	*	1		0350	47	135.	56.2	2377.4	*	1		0710	87	216.	436.9	2395.0
1		0035	8	0.	.0	2370.0	*	1		0355	48	140.	69.1	2378.2	*	1		0715	88	216.	438.1	2395.1
1		0040	9	0.	.0	2370.0	*	1		0400	49	144.	83.9	2379.0	*	1		0720	89	216.	439.1	2395.1
1		0045	10	0.	.0	2370.0	*	1		0405	50	149.	99.7	2379.8	*	1		0725	90	217.	439.9	2395.1
1		0050	11	1.	.0	2370.0	*	1		0410	51	153.	115.8	2380.6	*	1		0730	91	217.	440.5	2395.2
1		0055	12	1.	.1	2370.1	*	1		0415	52	157.	131.7	2381.4	*	1		0735	92	217.	440.9	2395.2
1		0100	13	2.	.1	2370.2	*	1		0420	53	161.	147.0	2382.1	*	1		0740	93	217.	441.2	2395.2
1		0105	14	3.	.2	2370.3	*	1		0425	54	164.	161.5	2382.8	*	1		0745	94	217.	441.4	2395.2
1		0110	15	5.	.2	2370.4	*	1		0430	55	168.	175.2	2383.5	*	1		0750	95	217.	441.4	2395.2
1		0115	16	6.	.3	2370.5	*	1		0435	56	171.	188.3	2384.1	*	1		0755	96	217.	441.4	2395.2
1		0120	17	8.	.4	2370.6	*	1		0440	57	174.	200.8	2384.8	*	1		0800	97	217.	441.3	2395.2
1		0125	18	9.	.5	2370.7	*	1		0445	58	176.	213.1	2385.3	*	1		0805	98	217.	441.1	2395.2
1		0130	19	11.	.5	2370.8	*	1		0450	59	179.	225.4	2385.9	*	1		0810	99	217.	440.8	2395.2
1		0135	20	12.	.6	2371.0	*	1		0455	60	181.	237.9	2386.4	*	1		0815	100	217.	440.5	2395.2
1		0140	21	14.	.7	2371.1	*	1		0500	61	184.	250.7	2387.0	*	1		0820	101	217.	440.1	2395.1
1		0145	22	17.	.9	2371.3	*	1		0505	62	187.	263.8	2387.6	*	1		0825	102	217.	439.6	2395.1
1		0150	23	20.	1.0	2371.6	*	1		0510	63	189.	277.2	2388.2	*	1		0830	103	216.	439.1	2395.1
1		0155	24	25.	1.3	2371.9	*	1		0515	64	192.	290.7	2388.8	*	1		0835	104	216.	438.6	2395.1
1		0200	25	28.	1.6	2372.1	*	1		0520	65	194.	304.1	2389.4	*	1		0840	105	216.	438.0	2395.1
1		0205	26	31.	2.1	2372.2	*	1		0525	66	197.	317.0	2390.0	*	1		0845	106	216.	437.4	2395.0
1		0210	27	34.	2.8	2372.3	*	1		0530	67	199.	329.3	2390.5	*	1		0850	107	216.	436.8	2395.0
1		0215	28	39.	3.5	2372.5	*	1		0535	68	201.	340.7	2391.0	*	1		0855	108	216.	436.2	2395.0
1		0220	29	44.	4.4	2372.7	*	1		0540	69	202.	351.2	2391.4	*	1		0900	109	216.	435.5	2395.0
1		0225	30	50.	5.4	2372.9	*	1		0545	70	204.	360.7	2391.8	*	1		0905	110	216.	434.8	2394.9
1		0230	31	56.	6.5	2373.1	*	1		0550	71	205.	369.3	2392.2	*	1		0910	111	216.	434.1	2394.9
1		0235	32	63.	7.6	2373.4	*	1		0555	72	207.	377.2	2392.5	*	1		0915	112	216.	433.4	2394.9
1		0240	33	69.	8.8	2373.6	*	1		0600	73	208.	384.3	2392.8	*	1		0920	113	215.	432.7	2394.8
1		0245	34	76.	10.0	2373.9	*	1		0605	74	209.	390.9	2393.1	*	1		0925	114	215.	432.0	2394.8
1		0250	35	81.	11.2	2374.1	*	1		0610	75	210.	396.9	2393.3	*	1		0930	115	215.	431.2	2394.8
1		0255	36	84.	12.6	2374.2	*	1		0615	76	211.	402.4	2393.6	*	1		0935	116	215.	430.5	2394.8
1		0300	37	87.	14.0	2374.3	*	1		0620	77	211.	407.5	2393.8	*	1		0940	117	215.	429.7	2394.7
1		0305	38	90.	15.5	2374.4	*	1		0625	78	212.	412.2	2394.0	*	1		0945	118	215.	429.0	2394.7
1		0310	39	94.	17.1	2374.6	*	1		0630	79	213.	416.4	2394.2	*	1		0950	119	215.	428.2	2394.7
1		0315	40	97.	18.9	2374.7	*	1		0635	80	213.	420.3	2394.3	*	1		0955	120	215.	427.4	2394.6

PEAK FLOW	TIME		6-HR	MAXIMUM AVERAGE FLOW 24-HR	72-HR	9.92-HR
(CFS)	(HR)					
217.	7.83	(CFS)	203.	140.	140.	140.
		(INCHES)	.279	.318	.318	.318
		(AC-FT)	101.	115.	115.	115.

PEAK STORAGE	TIME	6-HR	MAXIMUM AVERAGE STORAGE 24-HR	72-HR	9.92-HR
(AC-FT)	(HR)				
441.	7.83	365.	225.	225.	225.

PEAK STAGE	TIME	6-HR	MAXIMUM AVERAGE STAGE 24-HR	72-HR	9.92-HR
(FEET)	(HR)				
2395.20	7.83	2391.89	2384.18	2384.18	2384.18

CUMULATIVE AREA = 6.78 SQ MI

HYDROGRAPH AT STATION LBDDB
PLAN 1, RATIO = .88

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2370.0	*	1		0320	41	100.	20.4	2374.9	*	1		0640	81	213.	417.2	2394.2
1		0005	2	0.	.0	2370.0	*	1		0325	42	106.	22.9	2375.1	*	1		0645	82	213.	420.2	2394.3
1		0010	3	0.	.0	2370.0	*	1		0330	43	112.	26.1	2375.4	*	1		0650	83	214.	422.8	2394.4
1		0015	4	0.	.0	2370.0	*	1		0335	44	121.	30.4	2375.8	*	1		0655	84	214.	425.1	2394.5
1		0020	5	0.	.0	2370.0	*	1		0340	45	128.	36.4	2376.2	*	1		0700	85	215.	427.1	2394.6
1		0025	6	0.	.0	2370.0	*	1		0345	46	131.	44.5	2376.7	*	1		0705	86	215.	428.8	2394.7
1		0030	7	0.	.0	2370.0	*	1		0350	47	135.	54.9	2377.3	*	1		0710	87	215.	430.2	2394.7
1		0035	8	0.	.0	2370.0	*	1		0355	48	140.	67.7	2378.1	*	1		0715	88	215.	431.4	2394.8
1		0040	9	0.	.0	2370.0	*	1		0400	49	144.	82.2	2378.9	*	1		0720	89	215.	432.4	2394.8
1		0045	10	0.	.0	2370.0	*	1		0405	50	148.	97.8	2379.7	*	1		0725	90	215.	433.1	2394.9
1		0050	11	1.	.0	2370.0	*	1		0410	51	152.	113.7	2380.5	*	1		0730	91	216.	433.7	2394.9
1		0055	12	1.	.1	2370.1	*	1		0415	52	156.	129.4	2381.3	*	1		0735	92	216.	434.1	2394.9
1		0100	13	2.	.1	2370.1	*	1		0420	53	160.	144.4	2382.0	*	1		0740	93	216.	434.4	2394.9
1		0105	14	3.	.2	2370.2	*	1		0425	54	164.	158.7	2382.7	*	1		0745	94	216.	434.6	2394.9
1		0110	15	4.	.2	2370.3	*	1		0430	55	167.	172.3	2383.4	*	1		0750	95	216.	434.7	2394.9
1		0115	16	6.	.3	2370.4	*	1		0435	56	170.	185.1	2384.0	*	1		0755	96	216.	434.6	2394.9
1		0120	17	7.	.4	2370.5	*	1		0440	57	173.	197.5	2384.6	*	1		0800	97	216.	434.5	2394.9
1		0125	18	8.	.4	2370.6	*	1		0445	58	176.	209.6	2385.2	*	1		0805	98	216.	434.3	2394.9
1		0130	19	10.	.5	2370.8	*	1		0450	59	178.	221.7	2385.7	*	1		0810	99	216.	434.0	2394.9
1		0135	20	12.	.6	2370.9	*	1		0455	60	181.	234.0	2386.3	*	1		0815	100	216.	433.7	2394.9
1		0140	21	14.	.7	2371.0	*	1		0500	61	183.	246.6	2386.8	*	1		0820	101	215.	433.3	2394.9
1		0145	22	16.	.8	2371.2	*	1		0505	62	186.	259.5	2387.4	*	1		0825	102	215.	432.8	2394.8

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0150	23	19.	1.0	2371.5	1		0510	63	188.	272.7	2388.0	1		0830	103	215.	432.4	2394.8
1		0155	24	24.	1.2	2371.8	1		0515	64	191.	286.1	2388.6	1		0835	104	215.	431.8	2394.8
1		0200	25	27.	1.5	2372.0	1		0520	65	194.	299.3	2389.2	1		0840	105	215.	431.3	2394.8
1		0205	26	30.	2.0	2372.1	1		0525	66	196.	312.0	2389.8	1		0845	106	215.	430.7	2394.8
1		0210	27	34.	2.6	2372.3	1		0530	67	198.	324.1	2390.3	1		0850	107	215.	430.1	2394.7
1		0215	28	38.	3.4	2372.4	1		0535	68	200.	335.4	2390.8	1		0855	108	215.	429.4	2394.7
1		0220	29	43.	4.3	2372.6	1		0540	69	202.	345.7	2391.2	1		0900	109	215.	428.8	2394.7
1		0225	30	49.	5.2	2372.8	1		0545	70	203.	355.1	2391.6	1		0905	110	215.	428.1	2394.7
1		0230	31	55.	6.3	2373.1	1		0550	71	204.	363.6	2392.0	1		0910	111	215.	427.4	2394.6
1		0235	32	61.	7.4	2373.3	1		0555	72	206.	371.3	2392.3	1		0915	112	214.	426.7	2394.6
1		0240	33	68.	8.5	2373.6	1		0600	73	207.	378.4	2392.6	1		0920	113	214.	426.0	2394.6
1		0245	34	75.	9.7	2373.8	1		0605	74	208.	384.9	2392.8	1		0925	114	214.	425.3	2394.5
1		0250	35	81.	10.9	2374.0	1		0610	75	209.	390.8	2393.1	1		0930	115	214.	424.5	2394.5
1		0255	36	83.	12.2	2374.1	1		0615	76	210.	396.3	2393.3	1		0935	116	214.	423.8	2394.5
1		0300	37	86.	13.6	2374.3	1		0620	77	210.	401.3	2393.5	1		0940	117	214.	423.0	2394.4
1		0305	38	89.	15.1	2374.4	1		0625	78	211.	405.9	2393.7	1		0945	118	214.	422.3	2394.4
1		0310	39	93.	16.7	2374.5	1		0630	79	212.	410.0	2393.9	1		0950	119	214.	421.5	2394.4
1		0315	40	96.	18.4	2374.7	1		0635	80	212.	413.8	2394.1	1		0955	120	214.	420.8	2394.3

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	9.92-HR
(CFS)	(HR)					
		(CFS)				
216.	7.83		202.	139.	139.	139.
		(INCHES)	.277	.316	.316	.316
		(AC-FT)	100.	114.	114.	114.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	9.92-HR
(AC-FT)	(HR)				
435.	7.83	359.	221.	221.	221.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	9.92-HR
(FEET)	(HR)				
2394.93	7.83	2391.65	2384.02	2384.02	2384.02

CUMULATIVE AREA = 6.78 SQ MI

HYDROGRAPH AT STATION LBDDB
PLAN 1, RATIO = .88

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2370.0	1		0320	41	99.	19.9	2374.8	1		0640	81	212.	410.7	2393.9
1		0005	2	0.	.0	2370.0	1		0325	42	104.	22.3	2375.0	1		0645	82	212.	413.7	2394.0
1		0010	3	0.	.0	2370.0	1		0330	43	111.	25.4	2375.3	1		0650	83	213.	416.3	2394.2
1		0015	4	0.	.0	2370.0	1		0335	44	120.	29.7	2375.7	1		0655	84	213.	418.5	2394.3
1		0020	5	0.	.0	2370.0	1		0340	45	128.	35.5	2376.1	1		0700	85	213.	420.5	2394.3
1		0025	6	0.	.0	2370.0	1		0345	46	131.	43.4	2376.6	1		0705	86	214.	422.2	2394.4
1		0030	7	0.	.0	2370.0	1		0350	47	135.	53.7	2377.3	1		0710	87	214.	423.5	2394.5
1		0035	8	0.	.0	2370.0	1		0355	48	139.	66.3	2378.0	1		0715	88	214.	424.7	2394.5
1		0040	9	0.	.0	2370.0	1		0400	49	143.	80.6	2378.8	1		0720	89	214.	425.7	2394.5
1		0045	10	0.	.0	2370.0	1		0405	50	148.	95.9	2379.6	1		0725	90	214.	426.4	2394.6
1		0050	11	0.	.0	2370.0	1		0410	51	152.	111.6	2380.4	1		0730	91	214.	427.0	2394.6
1		0055	12	1.	.1	2370.1	1		0415	52	156.	127.0	2381.2	1		0735	92	215.	427.4	2394.6
1		0100	13	2.	.1	2370.1	1		0420	53	159.	141.9	2381.9	1		0740	93	215.	427.7	2394.6
1		0105	14	3.	.1	2370.2	1		0425	54	163.	156.0	2382.6	1		0745	94	215.	427.9	2394.6
1		0110	15	4.	.2	2370.3	1		0430	55	166.	169.3	2383.2	1		0750	95	215.	427.9	2394.6
1		0115	16	5.	.3	2370.4	1		0435	56	169.	182.0	2383.8	1		0755	96	215.	427.9	2394.6
1		0120	17	6.	.3	2370.5	1		0440	57	172.	194.2	2384.4	1		0800	97	215.	427.8	2394.6
1		0125	18	8.	.4	2370.6	1		0445	58	175.	206.1	2385.0	1		0805	98	215.	427.6	2394.6
1		0130	19	9.	.5	2370.7	1		0450	59	177.	218.0	2385.6	1		0810	99	215.	427.3	2394.6
1		0135	20	11.	.6	2370.8	1		0455	60	180.	230.1	2386.1	1		0815	100	214.	426.9	2394.6
1		0140	21	13.	.6	2371.0	1		0500	61	182.	242.5	2386.7	1		0820	101	214.	426.5	2394.6
1		0145	22	15.	.8	2371.2	1		0505	62	185.	255.3	2387.2	1		0825	102	214.	426.1	2394.6
1		0150	23	18.	.9	2371.4	1		0510	63	187.	268.3	2387.8	1		0830	103	214.	425.6	2394.5
1		0155	24	23.	1.2	2371.7	1		0515	64	190.	281.4	2388.4	1		0835	104	214.	425.1	2394.5
1		0200	25	27.	1.5	2372.0	1		0520	65	193.	294.4	2389.0	1		0840	105	214.	424.5	2394.5
1		0205	26	29.	1.9	2372.1	1		0525	66	195.	307.0	2389.6	1		0845	106	214.	423.9	2394.5
1		0210	27	33.	2.5	2372.3	1		0530	67	197.	319.0	2390.1	1		0850	107	214.	423.3	2394.5
1		0215	28	37.	3.3	2372.4	1		0535	68	199.	330.1	2390.6	1		0855	108	214.	422.7	2394.4
1		0220	29	42.	4.1	2372.6	1		0540	69	201.	340.2	2391.0	1		0900	109	214.	422.0	2394.4
1		0225	30	48.	5.1	2372.8	1		0545	70	202.	349.5	2391.4	1		0905	110	214.	421.4	2394.4
1		0230	31	54.	6.1	2373.0	1		0550	71	204.	357.9	2391.7	1		0910	111	213.	420.7	2394.3
1		0235	32	60.	7.1	2373.3	1		0555	72	205.	365.5	2392.0	1		0915	112	213.	420.0	2394.3
1		0240	33	66.	8.2	2373.5	1		0600	73	206.	372.5	2392.3	1		0920	113	213.	419.3	2394.3
1		0245	34	73.	9.4	2373.7	1		0605	74	207.	378.9	2392.6	1		0925	114	213.	418.6	2394.3
1		0250	35	80.	10.6	2374.0	1		0610	75	208.	384.7	2392.8	1		0930	115	213.	417.8	2394.2
1		0255	36	83.	11.9	2374.1	1		0615	76	209.	390.1	2393.1	1		0935	116	213.	417.1	2394.2
1		0300	37	86.	13.2	2374.2	1		0620	77	209.	395.0	2393.3	1		0940	117	213.	416.4	2394.2
1		0305	38	89.	14.7	2374.4	1		0625	78	210.	399.5	2393.5	1		0945	118	213.	415.6	2394.1
1		0310	39	92.	16.2	2374.5	1		0630	79	211.	403.7	2393.6	1		0950	119	213.	414.9	2394.1
1		0315	40	95.	17.9	2374.6	1		0635	80	211.	407.4	2393.8	1		0955	120	212.	414.1	2394.1

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	9.92-HR
(CFS)	(HR)					
		(CFS)				
215.	7.83		201.	139.	139.	139.
		(INCHES)	.276	.314	.314	.314
		(AC-FT)	100.	114.	114.	114.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	9.92-HR
(AC-FT)	(HR)				
428.	7.83	354.	217.	217.	217.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	9.92-HR
(FEET)	(HR)				
2394.64	7.83	2391.41	2383.86	2383.86	2383.86

CUMULATIVE AREA = 6.78 SQ MI

HYDROGRAPH AT STATION LBDDB
PLAN 1, RATIO = .64

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2370.0	1		0320	41	78.	10.2	2373.9	1		0640	81	187.	266.5	2387.7
1		0005	2	0.	.0	2370.0	1		0325	42	82.	11.4	2374.1	1		0645	82	187.	268.5	2387.8
1		0010	3	0.	.0	2370.0	1		0330	43	85.	13.0	2374.2	1		0650	83	188.	270.2	2387.9
1		0015	4	0.	.0	2370.0	1		0335	44	90.	15.2	2374.4	1		0655	84	188.	271.6	2388.0
1		0020	5	0.	.0	2370.0	1		0340	45	97.	18.5	2374.7	1		0700	85	188.	272.9	2388.0

1	0025	6	0.	.0	2370.0	*	1	0345	46	106.	23.2	2375.1	*	1	0705	86	189.	273.9	2388.1
1	0030	7	0.	.0	2370.0	*	1	0350	47	120.	29.6	2375.7	*	1	0710	87	189.	274.8	2388.1
1	0035	8	0.	.0	2370.0	*	1	0355	48	129.	37.6	2376.3	*	1	0715	88	189.	275.5	2388.1
1	0040	9	0.	.0	2370.0	*	1	0400	49	132.	47.0	2376.8	*	1	0720	89	189.	276.1	2388.2
1	0045	10	0.	.0	2370.0	*	1	0405	50	136.	57.2	2377.5	*	1	0725	90	189.	276.5	2388.2
1	0050	11	0.	.0	2370.0	*	1	0410	51	140.	67.6	2378.1	*	1	0730	91	189.	276.8	2388.2
1	0055	12	0.	.0	2370.0	*	1	0415	52	143.	78.0	2378.6	*	1	0735	92	189.	277.0	2388.2
1	0100	13	0.	.0	2370.0	*	1	0420	53	145.	87.9	2379.2	*	1	0740	93	189.	277.2	2388.2
1	0105	14	0.	.0	2370.0	*	1	0425	54	148.	97.3	2379.7	*	1	0745	94	189.	277.2	2388.2
1	0110	15	0.	.0	2370.0	*	1	0430	55	151.	106.1	2380.1	*	1	0750	95	189.	277.2	2388.2
1	0115	16	0.	.0	2370.0	*	1	0435	56	153.	114.5	2380.5	*	1	0755	96	189.	277.1	2388.2
1	0120	17	0.	.0	2370.0	*	1	0440	57	155.	122.5	2380.9	*	1	0800	97	189.	276.9	2388.2
1	0125	18	0.	.0	2370.0	*	1	0445	58	157.	130.3	2381.3	*	1	0805	98	189.	276.7	2388.2
1	0130	19	0.	.0	2370.0	*	1	0450	59	158.	138.1	2381.7	*	1	0810	99	189.	276.4	2388.2
1	0135	20	0.	.0	2370.0	*	1	0455	60	160.	146.0	2382.1	*	1	0815	100	189.	276.1	2388.2
1	0140	21	1.	.0	2370.0	*	1	0500	61	162.	154.1	2382.5	*	1	0820	101	189.	275.8	2388.2
1	0145	22	1.	.0	2370.1	*	1	0505	62	164.	162.4	2382.9	*	1	0825	102	189.	275.4	2388.1
1	0150	23	2.	.1	2370.1	*	1	0510	63	166.	171.0	2383.3	*	1	0830	103	189.	275.0	2388.1
1	0155	24	3.	.2	2370.2	*	1	0515	64	169.	179.7	2383.7	*	1	0835	104	189.	274.5	2388.1
1	0200	25	6.	.3	2370.4	*	1	0520	65	171.	188.5	2384.2	*	1	0840	105	189.	274.1	2388.1
1	0205	26	10.	.5	2370.7	*	1	0525	66	173.	197.0	2384.6	*	1	0845	106	188.	273.6	2388.1
1	0210	27	16.	.8	2371.2	*	1	0530	67	175.	205.1	2385.0	*	1	0850	107	188.	273.1	2388.0
1	0215	28	23.	1.2	2371.8	*	1	0535	68	176.	212.6	2385.3	*	1	0855	108	188.	272.6	2388.0
1	0220	29	28.	1.6	2372.1	*	1	0540	69	178.	219.5	2385.6	*	1	0900	109	188.	272.1	2388.0
1	0225	30	31.	2.2	2372.2	*	1	0545	70	179.	225.7	2385.9	*	1	0905	110	188.	271.5	2388.0
1	0230	31	34.	2.7	2372.3	*	1	0550	71	180.	231.4	2386.2	*	1	0910	111	188.	271.0	2387.9
1	0235	32	38.	3.3	2372.4	*	1	0555	72	181.	236.5	2386.4	*	1	0915	112	188.	270.4	2387.9
1	0240	33	41.	4.0	2372.6	*	1	0600	73	182.	241.2	2386.6	*	1	0920	113	188.	269.9	2387.9
1	0245	34	45.	4.6	2372.7	*	1	0605	74	183.	245.4	2386.8	*	1	0925	114	188.	269.3	2387.9
1	0250	35	49.	5.4	2372.9	*	1	0610	75	184.	249.3	2387.0	*	1	0930	115	187.	268.7	2387.8
1	0255	36	54.	6.1	2373.0	*	1	0615	76	184.	252.9	2387.1	*	1	0935	116	187.	268.2	2387.8
1	0300	37	58.	6.8	2373.2	*	1	0620	77	185.	256.2	2387.3	*	1	0940	117	187.	267.6	2387.8
1	0305	38	63.	7.6	2373.4	*	1	0625	78	186.	259.2	2387.4	*	1	0945	118	187.	267.0	2387.8
1	0310	39	67.	8.4	2373.5	*	1	0630	79	186.	261.9	2387.5	*	1	0950	119	187.	266.4	2387.7
1	0315	40	72.	9.3	2373.7	*	1	0635	80	187.	264.3	2387.6	*	1	0955	120	187.	265.8	2387.7
						*							*						

****

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	9.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 189.	7.75		178.	119.	119.	119.
		(INCHES)	.244	.270	.270	.270
		(AC-FT)	88.	98.	98.	98.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	9.92-HR
+ (AC-FT)	(HR)				
277.	7.75	228.	140.	140.	140.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	9.92-HR
+ (FEET)	(HR)				
2388.22	7.75	2385.90	2380.24	2380.24	2380.24

CUMULATIVE AREA = 6.78 SQ MI

1

PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
TIME TO PEAK IN HOURS

OPERATION	STATION	AREA	PLAN		RATIOS APPLIED TO PRECIPITATION RATIO 1 .95	RATIO 2 .93	RATIO 3 .92	RATIO 4 .91	RATIO 5 .89	RATIO 6 .88	RATIO 7 .88	RATIO 8 .64
HYDROGRAPH AT												
+	B13A	1.29	1	FLOW	820.	789.	777.	769.	753.	741.	729.	450.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.17
ROUTED TO												
+	RB13A	1.29	1	FLOW	744.	716.	705.	698.	683.	672.	661.	409.
				TIME	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75
HYDROGRAPH AT												
+	B13B	.54	1	FLOW	198.	190.	187.	185.	181.	178.	175.	108.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.08
2 COMBINED AT												
+	PT1	1.83	1	FLOW	935.	900.	886.	876.	858.	844.	830.	512.
				TIME	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.83
ROUTED TO												
+	RPT1	1.83	1	FLOW	912.	878.	864.	855.	837.	823.	810.	499.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT												
+	B17	.82	1	FLOW	359.	345.	340.	336.	329.	323.	318.	192.
				TIME	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42
2 COMBINED AT												
+	PT2	2.64	1	FLOW	1177.	1133.	1115.	1103.	1081.	1063.	1046.	646.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.08
ROUTED TO												
+	RPT2	2.64	1	FLOW	1175.	1131.	1114.	1101.	1080.	1061.	1045.	645.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT												
+	B13C	2.01	1	FLOW	1293.	1244.	1224.	1210.	1185.	1165.	1145.	695.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
2 COMBINED AT												
+	PT3	4.65	1	FLOW	1750.	1687.	1662.	1644.	1612.	1587.	1562.	983.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08	5.08
ROUTED TO												
+	RPT3A	4.65	1	FLOW	1746.	1684.	1659.	1641.	1609.	1584.	1559.	980.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08	5.08
ROUTED TO												
+	RPT3B	4.65	1	FLOW	1727.	1664.	1639.	1622.	1590.	1565.	1540.	968.
				TIME	5.17	5.17	5.17	5.17	5.17	5.17	5.17	5.25
HYDROGRAPH AT												
+	B11S	1.12	1	FLOW	402.	381.	373.	367.	356.	348.	340.	161.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08
HYDROGRAPH AT												
+	HYDRO1	.63	1	FLOW	623.	623.	623.	623.	623.	623.	623.	623.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08
3 COMBINED AT												
+	PT4	6.40	1	FLOW	2655.	2568.	2534.	2510.	2466.	2432.	2398.	1632.
				TIME	4.08	4.17	4.17	4.17	4.17	4.17	4.17	4.17

HYDROGRAPH AT													
+	HYDRO2	.38	1	FLOW	36.	36.	36.	36.	36.	36.	36.	36.
				TIME	5.25	5.25	5.25	5.25	5.25	5.25	5.25	5.25
2 COMBINED AT													
+	LBDDB	6.78	1	FLOW	2684.	2598.	2564.	2540.	2496.	2462.	2428.	1662.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17
ROUTED TO													
+	LBDDB	6.78	1	FLOW	223.	220.	219.	218.	217.	216.	215.	189.
				TIME	7.83	7.83	7.83	7.83	7.83	7.83	7.83	7.75
			** PEAK STAGES IN FEET **									
			1	STAGE	2396.69	2396.01	2395.74	2395.55	2395.20	2394.93	2394.64	2388.22
				TIME	7.83	7.83	7.83	7.83	7.83	7.83	7.83	7.75
ROUTED TO													
+	RLBDDB	6.78	1	FLOW	223.	220.	219.	218.	217.	216.	215.	189.
				TIME	8.67	8.67	8.67	8.67	8.67	8.67	8.67	8.50
HYDROGRAPH AT													
+	B12	.97	1	FLOW	209.	194.	188.	183.	175.	169.	163.	53.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	5.00
2 COMBINED AT													
+	PT33W	7.75	1	FLOW	309.	291.	287.	285.	280.	277.	273.	197.
				TIME	3.92	3.92	5.08	5.08	5.08	5.08	5.08	5.08
ROUTED TO													
+	RPT33W	7.75	1	FLOW	294.	282.	278.	276.	272.	268.	265.	193.
				TIME	4.25	5.33	5.33	5.33	5.33	5.33	5.33	5.42
HYDROGRAPH AT													
+	B15A	.96	1	FLOW	422.	402.	394.	389.	379.	371.	363.	196.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	4.00
2 COMBINED AT													
+	PT34W	8.71	1	FLOW	670.	635.	621.	611.	594.	580.	566.	288.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.08	5.25
HYDROGRAPH AT													
+	HYDRO3	87.68	1	FLOW	1763.	1763.	1763.	1763.	1763.	1763.	1763.	1763.
				TIME	5.42	5.42	5.42	5.42	5.42	5.42	5.42	5.42
ROUTED TO													
+	RPT18	87.68	1	FLOW	1745.	1745.	1745.	1745.	1745.	1745.	1745.	1745.
				TIME	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
HYDROGRAPH AT													
+	B18B	1.92	1	FLOW	982.	942.	926.	915.	894.	878.	863.	504.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08
2 COMBINED AT													
+	PT19	89.60	1	FLOW	2220.	2198.	2189.	2183.	2172.	2163.	2155.	1974.
				TIME	4.67	4.67	4.67	4.67	4.67	4.67	4.67	5.42
DIVERSION TO													
+	DVI155	89.60	1	FLOW	1618.	1602.	1596.	1592.	1583.	1577.	1571.	1439.
				TIME	4.67	4.67	4.67	4.67	4.67	4.67	4.67	5.42
HYDROGRAPH AT													
+	DVI155	89.60	1	FLOW	601.	596.	593.	592.	589.	586.	584.	535.
				TIME	4.67	4.67	4.67	4.67	4.67	4.67	4.67	5.42
ROUTED TO													
+	RPT19	89.60	1	FLOW	589.	583.	581.	579.	576.	574.	572.	526.
				TIME	5.33	5.42	5.42	5.42	5.42	5.42	5.42	6.00
HYDROGRAPH AT													
+	B14A	1.35	1	FLOW	976.	939.	925.	915.	896.	881.	867.	533.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
2 COMBINED AT													
+	PT21	90.95	1	FLOW	1044.	1005.	989.	978.	958.	943.	928.	702.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	5.17
HYDROGRAPH AT													
+	B14B	.99	1	FLOW	359.	339.	331.	325.	316.	308.	301.	142.
				TIME	3.83	3.83	3.83	3.83	3.92	3.92	3.92	3.92
2 COMBINED AT													
+	PT22	91.94	1	FLOW	1402.	1344.	1320.	1304.	1274.	1251.	1227.	789.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	5.08
ROUTED TO													
+	RPT22	91.94	1	FLOW	1306.	1252.	1230.	1215.	1187.	1166.	1144.	764.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17	4.17	5.42
HYDROGRAPH AT													
+	B15B	.95	1	FLOW	300.	285.	279.	275.	268.	262.	256.	132.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.25
2 COMBINED AT													
+	PT23	92.89	1	FLOW	1607.	1537.	1510.	1490.	1455.	1427.	1400.	850.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17	4.17	5.42

1

SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	DT	INTERPOLATED TO COMPUTATION INTERVAL PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR PLAN = 1 RATIO= .00									
RPT2	MANE	3.43	1174.97	302.26	1.68	5.00	1174.50	305.00	1.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2373E+03 EXCESS= .0000E+00 OUTFLOW= .2373E+03 BASIN STORAGE= .1813E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
RPT2	MANE	3.48	1131.83	302.76	1.62	5.00	1130.93	305.00	1.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2280E+03 EXCESS= .0000E+00 OUTFLOW= .2280E+03 BASIN STORAGE= .1832E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
RPT2	MANE	3.50	1114.86	304.38	1.59	5.00	1114.23	305.00	1.59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2244E+03 EXCESS= .0000E+00 OUTFLOW= .2243E+03 BASIN STORAGE= .1748E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
RPT2	MANE	3.51	1101.35	305.54	1.57	5.00	1101.30	305.00	1.57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2218E+03 EXCESS= .0000E+00 OUTFLOW= .2217E+03 BASIN STORAGE= .1761E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RPT2	MANE	3.54	1080.25	304.20	1.54	5.00	1079.50	305.00	1.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2170E+03 EXCESS= .0000E+00 OUTFLOW= .2170E+03 BASIN STORAGE= .1727E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RPT2	MANE	3.56	1061.31	302.35	1.51	5.00	1061.24	305.00	1.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2133E+03 EXCESS= .0000E+00 OUTFLOW= .2133E+03 BASIN STORAGE= .1715E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RPT2	MANE	3.58	1045.53	304.08	1.49	5.00	1044.78	305.00	1.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2097E+03 EXCESS= .0000E+00 OUTFLOW= .2096E+03 BASIN STORAGE= .1703E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RPT2	MANE	4.22	645.42	308.20	.90	5.00	644.91	305.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1269E+03 EXCESS= .0000E+00 OUTFLOW= .1269E+03 BASIN STORAGE= .1348E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RPT3A	MANE	1.80	1746.83	305.66	1.62	5.00	1746.41	305.00	1.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4023E+03 EXCESS= .0000E+00 OUTFLOW= .4023E+03 BASIN STORAGE= .1192E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RPT3A	MANE	1.82	1684.19	305.88	1.56	5.00	1683.64	305.00	1.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3865E+03 EXCESS= .0000E+00 OUTFLOW= .3865E+03 BASIN STORAGE= .1175E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RPT3A	MANE	1.83	1659.33	305.58	1.53	5.00	1658.72	305.00	1.53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3802E+03 EXCESS= .0000E+00 OUTFLOW= .3802E+03 BASIN STORAGE= .1140E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RPT3A	MANE	1.84	1642.07	306.75	1.52	5.00	1641.38	305.00	1.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3758E+03 EXCESS= .0000E+00 OUTFLOW= .3758E+03 BASIN STORAGE= .1154E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RPT3A	MANE	1.85	1609.85	306.97	1.48	5.00	1609.00	305.00	1.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3676E+03 EXCESS= .0000E+00 OUTFLOW= .3676E+03 BASIN STORAGE= .1135E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RPT3A	MANE	1.86	1584.53	306.82	1.46	5.00	1583.72	305.00	1.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3614E+03 EXCESS= .0000E+00 OUTFLOW= .3613E+03 BASIN STORAGE= .1131E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RPT3A	MANE	1.87	1560.04	306.58	1.43	5.00	1558.89	305.00	1.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3551E+03 EXCESS= .0000E+00 OUTFLOW= .3551E+03 BASIN STORAGE= .1108E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RPT3A	MANE	2.19	981.69	306.91	.86	5.00	979.73	305.00	.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2142E+03 EXCESS= .0000E+00 OUTFLOW= .2141E+03 BASIN STORAGE= .8697E-01 PERCENT ERROR= .0


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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
                *
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*** NORMAL END OF HEC-1 ***

APPENDIX A

HEC-1 SDN 5

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1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             JAN  1997                 *
*           VERSION 4.1                 *
*                                       *
*  RUN DATE   17MAR06  TIME  14:17:31   *
*                                       *
*****************************************
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*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*            (916) 756-1104             *
*                                       *
*****************************************
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X     X  XXXXXXX   XXXXX          X
X     X  X       X     X        XX
X     X  X       X              X
XXXXXXX  XXXX    X       XXXXX  X
X     X  X       X              X
X     X  X       X     X        X
X     X  XXXXXXX   XXXXX        XXX
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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM


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          LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
                        *DIAGRAM
 *** FREE ***
               1        ID   LBDDB CLOMR ANALYSIS
               2        ID   MODEL BASED FROM GCW
               3        ID   DESIGN STORM = 100-YEAR 6-HOUR STORM
               4        ID   STORM DISTRIBUTION = SDN5
                        *
               5        ID     JR CARDS CONTAIN DARFS BASED ON THE FOLLOWING VALUES:
               6        ID
               7        ID     AREA (SQUARE MILES)     DARF
               8        ID    1 - 2    0.950
               9        ID    2 - 3    0.925
              10        ID    3 - 4    0.915
              11        ID    4 - 5    0.908
              12        ID    6 - 7    0.895
              13        ID    7 - 8    0.885
              14        ID    8 - 9    0.875
              15        ID    50 -100    0.640
              16        ID
              17        IT       5       0       0     120
              18        IO       5       0       0
              19        JR    PREC   0.950   0.925   0.915   0.908   0.895   0.885   0.875   0.640
                        *
              20        KK    B13A
              21        BA   1.290
              22        PB    3.14
              23        PC   0.000   0.020   0.059   0.080   0.110   0.144   0.150   0.160   0.168   0.171
              24        PC   0.180   0.182   0.187   0.190   0.197   0.202   0.210   0.220   0.230   0.241
              25        PC   0.250   0.259   0.265   0.280   0.290   0.300   0.305   0.309   0.310   0.317
              26        PC   0.321   0.327   0.333   0.346   0.361   0.381   0.408   0.430   0.477   0.514
              27        PC   0.561   0.630   0.710   0.720   0.731   0.752   0.779   0.790   0.795   0.804
              28        PC   0.810   0.820   0.826   0.840   0.859   0.889   0.910   0.938   0.966   0.970
              29        PC   0.974   0.979   0.981   0.983   0.985   0.989   0.990   0.992   0.993   0.996
              30        PC   0.997   0.999   1.000
              31        LS       0    88.0
              32        UD   0.680
                        *
              33        KK   RB13A
              34        KM   ROUTE B13A TO PT1
              35        RM       7    0.64     0.1
                        *
              36        KK    B13B
              37        BA   0.538
              38        PB    2.96
              39        LS       0    88.0
              40        UD   1.440
                        *
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          LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
              41        KK     PT1
              42        KM   COMBINE BASINS B13A AND B13B
              43        HC       2
                        *
              44        KK    RPT1
              45        KM   ROUTE PT1 TO PT2
              46        RM       3    0.28    0.15
                        *
              47        KK     B17
              48        BA   0.816
              49        PB    2.80
              50        LS       0    88.0
              51        UD   0.940
                        *
              52        KK     PT2
              53        KM   COMBINE PT1 AND BASIN B17
              54        HC       2
                        *
              55        KK    RPT2
              56        KM   ROUTE PT2 TO PT3
              57        RD    2000   0.008    0.03       0    TRAP      35       3
                        *
              58        KK    B13C
              59        BA   2.005
              60        PB    2.82
              61        LS       0    88.1
              62        UD   0.510
                        *
              63        KK     PT3
              64        KM   COMBINE PT2 AND BASIN B13C
```

```
 65          HC       2
             *

 66          KK   RPT3A
 67          KM   OLD DIVERSIONS WILL BE CUT OFF AND ALL FLOW WILL GO TO LBDDB
 68          KM   ROUTE PT3 NORTH ALONG WEST SIDE OF UPRR TO UPPR CULVERT BD4
 69          KM   MUSKINGUM ROUTING UNSTABLE
 70          RD    1200    0.008     0.03        0     TRAP       35        3
             *

 71          KK   RPT3B
 72          KM   OLD DIVERSIONS WILL BE CUT OFF AND ALL FLOW WILL GO TO LBDDB
 73          KM   ROUTE PT3 NORTH ALONG WEST SIDE OF UPRR TO UPPR BRIDGE
 74          RM        1    0.119     0.15
             *
1                                        HEC-1 INPUT                                                    PAGE  3

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 75          KK    B11S
 76          KM   SOUTHERN PORTION OF BASIN B11 TIES INTO HYDRO1 BOUNDARY AREA
 77          BA   1.121
 78          PB    2.82
 79          LS       0     78.0
 80          UD   0.580
             *

 81          KK  HYDRO1
 82          KM   INFLOW HYDROGRAPH
 83          KM   "REFERENCED FROM ""LOMR FOR AREA DOWNSTREAM OF UPPER BLUE DIAMOND D.B."""
 84          KM   "SEE COMBINATION POINT C-5, DARF RATIO 0.98, OF HEC-1 FROM REFERENCED LOMR"
 85          BA   0.630
 86          QI       0        0        0        0        0        0        0        0        0        0
 87          QI       0        0        0        0        0        0        0        0        0        0
 88          QI       0        0        1        7       14       29       45       58       69       76
 89          QI      82       86       90       94       99      100      101      100      100      100
 90          QI     102      109      126      161      223      318      430      538      604      623
 91          QI     607      569      525      480      437      397      363      335      316      306
 92          QI     304      310      321      333      339      332      314      289      264      239
 93          QI     217      198      182      169      159      150      143      137      131      127
 94          QI     122      118      114      110      107      104      102      101      100       99
 95          QI      98       98       97       97       97       97       97       96       96       96
 96          QI      96       96       96       97       96       96       96       96       96       96
 97          QI      96       96       96       96       96       96       96       96       96       96
 98          QI      96       96       96       96       96       96       96       96       96       96
 99          QI      96       96       96       96       96       96       96       96       96       96
100          QI      96       96       96       96       96       96       96       96       96       96
101          QI      96       96       96       96       96       95       95       95       95       95
102          QI      95       95       95       95       95       95       95       95       95       95
103          QI      95       95       95       95       95       95       95       95       95       95
104          QI      95       95       95       95       95       95       95       95       95       95
105          QI      95       95       95       95       95       95       95       95       95       95
106          QI      95       95       95       95       95       95       95       95       95       95
107          QI      95       95       95       95       95       95       95       95       95       95
108          QI      95       95       95       95       95       95       95       95       95       95
109          QI      95       95       94       94       94       94       94       94       94       94
110          QI      94       94       94       94       94       94       94       94       94       94
111          QI      94       94       94       94       94       94       94       94       94       94
112          QI      94       94       94       94       94       94       94       94       94       94
113          QI      94       94       94       94       94       94       94       94       94       94
114          QI      94       94       94       94       94       94       94       94       94       94
115          QI      94       94       94       94       94       94       94       94       94       94
             *

116          KK     PT4
117          KM   "COMBINE BASIN B11S, HYDRO2, AND PT3"
118          KM   SEE COMBINATION POINT C-5 OF HEC-1 FROM REFERENCED LOMR
119          KM   "PT C-5 REFERENCED FROM ""LOMR FOR AREA DOWNSTREAM OF UPPER BLUE DIAMOND D.B.
120          HC       3
             *
1                                        HEC-1 INPUT                                                    PAGE  4

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

121          KK  HYDRO2
122          KM   INFLOW HYDROGRAPH
123          KM   "PT C-11 REFERENCED FROM ""LOMR FOR AREA DOWNSTREAM OF UPPER BLUE DIAMOND D.B
124          KM   "SEE COMBINATION POINT C-11, DARF RATIO 0.98 OF HEC-1 FROM REFERENCED LOMR"
125          BA   0.380
126          QI       0        0        0        0        0        0        0        0        0        0
127          QI       0        0        0        0        0        0        0        0        0        0
128          QI       0        0        0        0        0        0        0        0        0        0
129          QI       0        0        0        0        0        0        0        0        0        0
130          QI       0        0        1        3        5        9       14       19       23       27
131          QI      30       32       33       33       32       31       29       28       27       27
132          QI      27       27       32       36       36       35       33       31       29       26
133          QI      24       22       20       19       17       16       15       14       13       12
134          QI      11       10        9        8        8        7        6        6        5        5
135          QI       4        4        4        3        3        3        3        3        2        2
136          QI       2        2        2        2        2        2        1        1        1        1
137          QI       1        1        1        1        1        1        1        1        1        1
138          QI       1        1        1        1        1        1        1        0        0        0
139          QI       0        0        0        0        0        0        0        0        0        0
140          QI       0        0        0        0        0        0        0        0        0        0
141          QI       0        0        0        0        0        0        0        0        0        0
142          QI       0        0        0        0        0        0        0        0        0        0
143          QI       0        0        0        0        0        0        0        0        0        0
144          QI       0        0        0        0        0        0        0        0        0        0
145          QI       0        0        0        0        0        0        0        0        0        0
146          QI       0        0        0        0        0        0        0        0        0        0
147          QI       0        0        0        0        0        0        0        0        0        0
148          QI       0        0        0        0        0        0        0        0        0        0
149          QI       0        0        0        0        0        0        0        0        0        0
150          QI       0        0        0        0        0        0        0        0        0        0
151          QI       0        0        0        0        0        0        0        0        0        0
152          QI       0        0        0        0        0        0        0        0        0        0
153          QI       0        0        0        0        0        0        0        0        0        0
154          QI       0        0        0        0        0        0        0        0        0        0
155          QI       0        0        0        0        0        0        0        0        0        0
             *

156          KK   LBDDB
157          KM   COMBINE HYDRO2 AND PT4
158          HC       2
             *

159          KK   LBDDB
160          KM   FACILITY # = DCBD 0398
161          KM   PROPOSED 70% LOWER BLUE DIAMOND DETENTION BASIN GRADING
162          KM   WITH 54" OUTLET PIPE
163          KO       1
164          RS       1    STOR       0
             * SV 0 .83 10.2 34.0 66.9 104.8 206.4 315.5 432.8 482.0
165          SA  0.0204   1.782   8.254  14.617  18.097  19.605  21.323  23.067  24.837  25.553
166          SE    2370    2372    2374    2376    2378    2380    2385    2390    2395    2397
167          SQ       0      26      80     127     139     150     175     197     216     224
             *
```

```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  168     KK  RLBDDB
  169     KM   ROUTE LBDDB TO PT33W
  170     RM       8    0.76   0.150
          *
  171     KK    B12
  172     BA   0.969
  173     PB    2.77
  174     LS       0    68.4     1.0
  175     UD   0.390
          *
  176     KK   PT33W
  177     KM   COMBINE LBDDB AND BASIN B12
  178     HC       2
          *
  179     KK  RPT33W
  180     KM   ROUTE PT33W TO PT34W
  181     RM       4     0.3   0.100
          *
  182     KK    B15A
  183     BA   0.959
  184     PB    2.77
  185     LS       0    77.6    14.0
  186     UD   0.500
          *
  187     KK   PT34W
  188     KM   THIS IS THE FINAL FLOW FOR THE BLUE DIAMOND UPPER BRANCH LBDDB CLOMR
  189     KM   COMBINE PT33 AND BASIN B15A
  190     HC       2
          *
  191     KK  HYDRO3
  192     KM   INFLOW HYDROGRAPH
  193     KM   REFERENCED FROM PBS&J LOMR
  194     BA   87.68
  195     QI       0       0       0       0       0       1       1       2       3       5
  196     QI       9      15      22      28      34      38      40      40      40      39
  197     QI      39      39      41      45      50      56      63      70      77      84
  198     QI      90      95      98      98      95      91      87      85      87      94
  199     QI     110     136     174     226     294     378     476     581     679     885
  200     QI    1084    1246    1427    1566    1647    1683    1684    1663    1635    1612
  201     QI    1605    1620    1655    1701    1742    1763    1749    1694    1600    1475
  202     QI    1328    1211    1110    1008     907     806     708     612     519     428
  203     QI     340     254     172      94      28      22      17      13      10       7
  204     QI       6       4       3       3       2       1       1       1       1       0
  205     QI       0       0       0       0       0       0       0       0       0       0
  206     QI       0       0       0       0       0       0       0       0       0       0
  207     QI       0       0       0       0       0       0       0       0       0       0
  208     QI       0       0       0       0       0       0       0       0       0       0
  209     QI       0       0       0       0       0       0       0       0       0       0
```



```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  210     QI       0       0       0       0       0       0       0       0       0       0
  211     QI       0       0       0       0       0       0       0       0       0       0
  212     QI       0       0       0       0       0       0       0       0       0       0
  213     QI       0       0       0       0       0       0       0       0       0       0
  214     QI       0       0       0       0       0       0       0       0       0       0
  215     QI       0       0       0       0       0       0       0       0       0       0
  216     QI       0       0       0       0       0       0       0       0       0       0
  217     QI       0       0       0       0       0       0       0       0       0       0
  218     QI       0       0       0       0       0       0       0       0       0       0
  219     QI       0       0       0       0       0       0       0       0       0       0
  220     QI       0       0       0       0       0       0       0       0       0       0
  221     QI       0       0       0       0       0       0       0       0       0       0
  222     QI       0       0       0       0       0       0       0       0       0       0
  223     QI       0       0       0       0       0       0       0       0       0       0
  224     QI       0       0       0       0       0       0       0       0       0       0
          *
  225     KK   RPT18
  226     KM   ROUTE HYDRO3 FROM I15 BRIDGE 24'x4' TO I15 BRIDGE 36'x5' (IS15 0359)
  227     RM       1   0.113   0.150
          *
  228     KK    B18B
  229     BA   1.916
  230     PB    2.77
  231     LS       0    86.4
  232     UD   0.640
          *
  233     KK    PT19
  234     KM   "COMBINE BASIN B18B AND HYDRO3"
  235     HC       2
          *
  236     KK  DVI155
  237     KM   DIVERSION EAST THRU I15 BRIDGE 36'x5' (IS15 0359)
  238     DT  DVI155
  239     DI       0    2716    3378    4083    4548    4960    5791    6843
  240     DQ       0    1980    2192    2367    2531    2651    3141    3890
          *
  241     KK   RPT19
  242     KM   ROUTE BYPASS AT PT19 TO PT21
  243     RM       8   0.641   0.150
          *
  244     KK    B14A
  245     BA   1.351
  246     PB    2.77
  247     LS       0    88.0     5.0
  248     UD   0.400
          *
```



```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  249     KK    PT21
  250     KM   "COMBINE PT20 AND BASIN B14A"
  251     HC       2
          *
  252     KK    B14B
  253     BA   0.992
  254     PB    2.77
  255     LS       0    73.4     9.0
```

```
256          UD    0.42
             *

257          KK     PT22
258          KM   COMBINE PT21 AND B14B
259          HC       2
             *

260          KK   RPT22
261          KM   ROUTE PT22 TO PT23
262          RM       4     0.3   0.100
             *

263          KK     B15B
264          BA   0.954
265          PB    2.77
266          LS       0    75.0    13.0
267          UD    0.71
             *

268          KK     PT23
269          KM   THIS IS FINAL BLUE DIAMOND MIDDLE BRANCH FLOW FOR LBDDB CLOMR
270          KM   COMBINE PT22 AND BASIN B15B
271          HC       2
272          ZZ
```

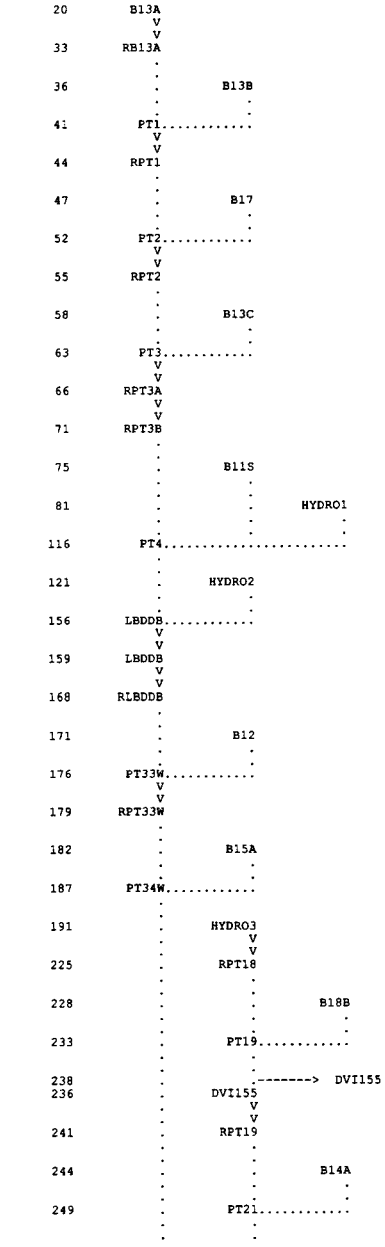
1

SCHEMATIC DIAGRAM OF STREAM NETWORK

INPUT LINE NO.

(V) ROUTING (---->) DIVERSION OR PUMP FLOW

(.) CONNECTOR (<----) RETURN OF DIVERTED OR PUMPED FLOW



```
252           .           .        B14B
              .           .          .
              .           .          .
257           .        PT22.....     .
              .           V          .
              .           V          .
260           .        RPT22         .
              .           .          .
              .           .          .
263           .           .        B15B
              .           .          .
              .           .          .
268           .        PT23.....     .
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             JAN  1997                 *
*          VERSION 4.1                  *
*                                       *
*  RUN DATE   17MAR06  TIME  14:17:31   *
*                                       *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*         609 SECOND STREET             *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 756-1104              *
*                                       *
*****************************************
```

LBDDB CLOMR ANALYSIS
MODEL BASED FROM GCW
DESIGN STORM = 100-YEAR 6-HOUR STORM
STORM DISTRIBUTION = SDN5
JR CARDS CONTAIN DARFS BASED ON THE FOLLOWING VALUES:

AREA (SQUARE MILES)	DARF
1 - 2	0.950
2 - 3	0.925
3 - 4	0.915
4 - 5	0.908
6 - 7	0.895
7 - 8	0.885
8 - 9	0.875
50 -100	0.640

```
 18 IO          OUTPUT CONTROL VARIABLES
                     IPRNT          5  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE

    IT           HYDROGRAPH TIME DATA
                     NMIN           5  MINUTES IN COMPUTATION INTERVAL
                     IDATE      1   0  STARTING DATE
                     ITIME         0000  STARTING TIME
                       NQ          120  NUMBER OF HYDROGRAPH ORDINATES
                    NDDATE      1   0  ENDING DATE
                    NDTIME         0955  ENDING TIME
                     ICENT          19  CENTURY MARK

                  COMPUTATION INTERVAL     .08 HOURS
                      TOTAL TIME BASE    9.92 HOURS

         ENGLISH UNITS
              DRAINAGE AREA          SQUARE MILES
              PRECIPITATION DEPTH    INCHES
              LENGTH, ELEVATION      FEET
              FLOW                   CUBIC FEET PER SECOND
              STORAGE VOLUME         ACRE-FEET
              SURFACE AREA           ACRES
              TEMPERATURE            DEGREES FAHRENHEIT

    JP           MULTI-PLAN OPTION
                     NPLAN          1  NUMBER OF PLANS

    JR           MULTI-RATIO OPTION
                    RATIOS OF PRECIPITATION
                    .95      .93      .92      .91      .89      .88      .88      .64
```

*** *** *** *

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2370.0	1		0320	41	126.	32.7	2376.0	1		0640	81	219.	453.9	2395.7
1		0005	2	0.	.0	2370.0	1		0325	42	128.	36.4	2376.2	1		0645	82	219.	457.5	2395.8
1		0010	3	0.	.0	2370.0	1		0330	43	130.	40.9	2376.5	1		0650	83	220.	460.6	2396.0
1		0015	4	0.	.0	2370.0	1		0335	44	132.	46.8	2376.8	1		0655	84	220.	463.4	2396.1
1		0020	5	0.	.0	2370.0	1		0340	45	135.	54.2	2377.3	1		0700	85	221.	465.8	2396.2
1		0025	6	0.	.0	2370.0	1		0345	46	138.	63.5	2377.9	1		0705	86	221.	467.9	2396.2
1		0030	7	0.	.0	2370.0	1		0350	47	142.	75.0	2378.5	1		0710	87	221.	469.7	2396.3
1		0035	8	0.	.0	2370.0	1		0355	48	146.	88.4	2379.2	1		0715	88	222.	471.1	2396.4
1		0040	9	0.	.0	2370.0	1		0400	49	150.	103.2	2380.0	1		0720	89	222.	472.4	2396.4
1		0045	10	1.	.1	2370.1	1		0405	50	154.	118.7	2380.7	1		0725	90	222.	473.4	2396.5
1		0050	11	2.	.1	2370.2	1		0410	51	158.	134.4	2381.5	1		0730	91	222.	474.2	2396.5
1		0055	12	4.	.2	2370.3	1		0415	52	161.	149.9	2382.3	1		0735	92	222.	474.8	2396.5
1		0100	13	7.	.4	2370.5	1		0420	53	165.	164.7	2383.0	1		0740	93	222.	475.3	2396.5
1		0105	14	10.	.5	2370.8	1		0425	54	168.	178.9	2383.7	1		0745	94	222.	475.6	2396.6
1		0110	15	14.	.7	2371.1	1		0430	55	172.	192.3	2384.3	1		0750	95	222.	475.7	2396.6
1		0115	16	18.	.9	2371.4	1		0435	56	175.	205.2	2385.0	1		0755	96	222.	475.8	2396.6
1		0120	17	22.	1.1	2371.7	1		0440	57	177.	217.8	2385.5	1		0800	97	222.	475.7	2396.6
1		0125	18	26.	1.3	2372.0	1		0445	58	180.	230.1	2386.1	1		0805	98	222.	475.6	2396.6
1		0130	19	27.	1.6	2372.0	1		0450	59	182.	242.5	2386.7	1		0810	99	222.	475.4	2396.5
1		0135	20	29.	1.8	2372.1	1		0455	60	185.	255.2	2387.2	1		0815	100	222.	475.1	2396.5
1		0140	21	30.	2.1	2372.2	1		0500	61	187.	268.3	2387.8	1		0820	101	222.	474.7	2396.5
1		0145	22	32.	2.4	2372.2	1		0505	62	190.	281.9	2388.4	1		0825	102	222.	474.3	2396.5
1		0150	23	35.	2.8	2372.3	1		0510	63	193.	295.9	2389.1	1		0830	103	222.	473.8	2396.5
1		0155	24	38.	3.4	2372.4	1		0515	64	196.	310.1	2389.7	1		0835	104	222.	473.3	2396.5
1		0200	25	42.	4.1	2372.6	1		0520	65	198.	324.3	2390.3	1		0840	105	222.	472.7	2396.4
1		0205	26	47.	4.9	2372.8	1		0525	66	200.	338.0	2390.9	1		0845	106	222.	472.1	2396.4
1		0210	27	53.	6.0	2373.0	1		0530	67	202.	351.0	2391.4	1		0850	107	222.	471.5	2396.4
1		0215	28	61.	7.3	2373.3	1		0535	68	204.	363.1	2391.9	1		0855	108	221.	470.9	2396.4
1		0220	29	69.	8.7	2373.6	1		0540	69	206.	374.2	2392.4	1		0900	109	221.	470.2	2396.3
1		0225	30	78.	10.2	2373.9	1		0545	70	208.	384.2	2392.8	1		0905	110	221.	469.5	2396.3
1		0230	31	83.	11.9	2374.1	1		0550	71	209.	393.4	2393.2	1		0910	111	221.	468.8	2396.3
1		0235	32	86.	13.6	2374.3	1		0555	72	211.	401.8	2393.6	1		0915	112	221.	468.0	2396.3
1		0240	33	90.	15.4	2374.4	1		0600	73	212.	409.5	2393.9	1		0920	113	221.	467.3	2396.2
1		0245	34	94.	17.2	2374.6	1		0605	74	213.	416.7	2394.2	1		0925	114	221.	466.5	2396.2
1		0250	35	98.	19.1	2374.8	1		0610	75	214.	423.3	2394.5	1		0930	115	221.	465.8	2396.2
1		0255	36	102.	20.9	2374.9	1		0615	76	215.	429.5	2394.7	1		0935	116	221.	465.0	2396.1
1		0300	37	106.	22.9	2375.1	1		0620	77	216.	435.2	2394.9	1		0940	117	220.	464.2	2396.1
1		0305	38	110.	24.9	2375.3	1		0625	78	217.	440.5	2395.2	1		0945	118	220.	463.4	2396.1
1		0310	39	115.	27.2	2375.5	1		0630	79	217.	445.4	2395.4	1		0950	119	220.	462.6	2396.0
1		0315	40	120.	29.7	2375.7	1		0635	80	218.	449.9	2395.5	1		0955	120	220.	461.9	2396.0

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	9.92-HR
(CFS)	(HR)	(CFS)				
222.	7.92		208.	148.	148.	148.
		(INCHES)	.285	.336	.336	.336
		(AC-FT)	103.	121.	121.	121.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	9.92-HR
(AC-FT)	(HR)				
476.	7.92	393.	244.	244.	244.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	9.92-HR
(FEET)	(HR)				
2396.56	7.92	2393.06	2385.15	2385.15	2385.15

CUMULATIVE AREA = 6.78 SQ MI

HYDROGRAPH AT STATION LBDDB
PLAN 1, RATIO = .93

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2370.0	1		0320	41	122.	30.7	2375.8	1		0640	81	216.	437.5	2395.0
1		0005	2	0.	.0	2370.0	1		0325	42	127.	34.1	2376.1	1		0645	82	217.	441.0	2395.2
1		0010	3	0.	.0	2370.0	1		0330	43	129.	38.5	2376.3	1		0650	83	217.	444.1	2395.3
1		0015	4	0.	.0	2370.0	1		0335	44	131.	44.0	2376.7	1		0655	84	218.	446.8	2395.4
1		0020	5	0.	.0	2370.0	1		0340	45	134.	51.1	2377.1	1		0700	85	218.	449.1	2395.5
1		0025	6	0.	.0	2370.0	1		0345	46	137.	60.1	2377.6	1		0705	86	218.	451.1	2395.6
1		0030	7	0.	.0	2370.0	1		0350	47	141.	71.1	2378.3	1		0710	87	219.	452.8	2395.6
1		0035	8	0.	.0	2370.0	1		0355	48	144.	84.0	2379.0	1		0715	88	219.	454.2	2395.7
1		0040	9	0.	.0	2370.0	1		0400	49	148.	98.3	2379.7	1		0720	89	219.	455.4	2395.8
1		0045	10	1.	.0	2370.1	1		0405	50	152.	113.3	2380.5	1		0725	90	219.	456.4	2395.8
1		0050	11	2.	.1	2370.1	1		0410	51	156.	128.5	2381.2	1		0730	91	219.	457.2	2395.8
1		0055	12	4.	.2	2370.3	1		0415	52	160.	143.5	2382.0	1		0735	92	219.	457.8	2395.8
1		0100	13	6.	.3	2370.5	1		0420	53	163.	157.9	2382.7	1		0740	93	219.	458.2	2395.9
1		0105	14	9.	.4	2370.7	1		0425	54	167.	171.5	2383.3	1		0745	94	219.	458.5	2395.9
1		0110	15	12.	.6	2370.9	1		0430	55	170.	184.6	2384.0	1		0750	95	220.	458.6	2395.9
1		0115	16	16.	.8	2371.2	1		0435	56	173.	197.0	2384.6	1		0755	96	220.	458.7	2395.9
1		0120	17	19.	1.0	2371.5	1		0440	57	176.	209.1	2385.2	1		0800	97	220.	458.6	2395.9
1		0125	18	23.	1.2	2371.8	1		0445	58	178.	221.1	2385.7	1		0805	98	219.	458.5	2395.9
1		0130	19	26.	1.4	2372.0	1		0450	59	180.	233.0	2386.2	1		0810	99	219.	458.3	2395.9
1		0135	20	27.	1.6	2372.1	1		0455	60	183.	245.3	2386.8	1		0815	100	219.	458.0	2395.9
1		0140	21	29.	1.8	2372.1	1		0500	61	185.	257.9	2387.4	1		0820	101	219.	457.6	2395.8
1		0145	22	31.	2.1	2372.2	1		0505	62	188.	271.1	2387.9	1		0825	102	219.	457.2	2395.8
1		0150	23	33.	2.5	2372.3	1		0510	63	191.	284.6	2388.6	1		0830	103	219.	456.7	2395.8
1		0155	24	36.	3.0	2372.4	1		0515	64	193.	298.4	2389.2	1		0835	104	219.	456.2	2395.8
1		0200	25	39.	3.6	2372.5	1		0520	65	196.	312.1	2389.8	1		0840	105	219.	455.7	2395.8
1		0205	26	44.	4.4	2372.7	1		0525	66	198.	325.4	2390.4	1		0845	106	219.	455.1	2395.7
1		0210	27	50.	5.4	2372.9	1		0530	67	200.	338.0	2390.9	1		0850	107	219.	454.5	2395.7
1		0215	28	57.	6.6	2373.1	1		0535	68	202.	349.7	2391.4	1		0855	108	219.	453.8	2395.7
1		0220	29	65.	7.9	2373.4	1		0540	69	204.	360.4	2391.8	1		0900	109	219.	453.2	2395.7
1		0225	30	73.	9.4	2373.7	1		0545	70	205.	370.2	2392.2	1		0905	110	219.	452.5	2395.6
1		0230	31	81.	11.0	2374.0	1		0550	71	207.	379.1	2392.6	1		0910	111	218.	451.8	2395.6
1		0235	32	84.	12.6	2374.2	1		0555	72	208.	387.2	2392.9	1		0915	112	218.	451.1	2395.6
1		0240	33	88.	14.3	2374.3	1		0600	73	209.	394.7	2393.3	1		0920	113	218.	450.3	2395.6
1		0245	34	91.	16.0	2374.5	1		0605	74	210.	401.6	2393.5	1		0925	114	218.	449.6	2395.5
1		0250	35	95.	17.7	2374.6	1		0610	75	211.	408.0	2393.8	1		0930	115	218.	448.8	2395.5
1		0255	36	99.	19.5	2374.8	1		0615	76	212.	414.0	2394.1	1		0935	116	218.	448.1	2395.5
1		0300	37	102.	21.3	2375.0	1		0620	77	213.	419.5	2394.3	1		0940	117	218.	447.3	2395.4
1		0305	38	106.	23.3	2375.1	1		0625	78	214.	424.6	2394.5	1		0945	118	218.	446.6	2395.4
1		0310	39	111.	25.4	2375.3	1		0630	79	215.	429.4	2394.7	1		0950	119	217.	445.8	2395.4
1		0315	40	116.	27.8	2375.5	1		0635	80	216.	433.7	2394.9	1		0955	120	217.	445.0	2395.3

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	9.92-HR
(CFS)	(HR)	(CFS)				
220.	7.92		205.	146.	146.	146.
		(INCHES)	.282	.331	.331	.331
		(AC-FT)	102.	120.	120.	120.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	9.92-HR
(AC-FT)	(HR)				
459.	7.92	379.	234.	234.	234.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	9.92-HR
+ (FEET)	(HR)				
2395.88	7.92	2392.46	2384.75	2384.75	2384.75

CUMULATIVE AREA = 6.78 SQ MI

HYDROGRAPH AT STATION LBDDB
PLAN 1, RATIO = .92

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2370.0	1		0320	41	120.	29.9	2375.7	1		0640	81	215.	431.1	2394.8
1		0005	2	0.	.0	2370.0	1		0325	42	127.	33.3	2376.0	1		0645	82	216.	434.5	2394.9
1		0010	3	0.	.0	2370.0	1		0330	43	129.	37.5	2376.3	1		0650	83	216.	437.5	2395.0
1		0015	4	0.	.0	2370.0	1		0335	44	131.	42.9	2376.6	1		0655	84	217.	440.2	2395.1
1		0020	5	0.	.0	2370.0	1		0340	45	133.	49.9	2377.0	1		0700	85	217.	442.5	2395.2
1		0025	6	0.	.0	2370.0	1		0345	46	136.	58.7	2377.6	1		0705	86	217.	444.4	2395.3
1		0030	7	0.	.0	2370.0	1		0350	47	140.	69.6	2378.2	1		0710	87	218.	446.1	2395.4
1		0035	8	0.	.0	2370.0	1		0355	48	144.	82.3	2378.9	1		0715	88	218.	447.5	2395.4
1		0040	9	0.	.0	2370.0	1		0400	49	148.	96.4	2379.6	1		0720	89	218.	448.7	2395.5
1		0045	10	1.	.0	2370.1	1		0405	50	152.	111.2	2380.4	1		0725	90	218.	449.6	2395.5
1		0050	11	2.	.1	2370.1	1		0410	51	156.	126.2	2381.1	1		0730	91	218.	450.4	2395.6
1		0055	12	3.	.2	2370.3	1		0415	52	159.	140.9	2381.8	1		0735	92	218.	451.0	2395.6
1		0100	13	5.	.3	2370.4	1		0420	53	163.	155.1	2382.5	1		0740	93	218.	451.4	2395.6
1		0105	14	8.	.4	2370.6	1		0425	54	166.	168.6	2383.2	1		0745	94	218.	451.7	2395.6
1		0110	15	11.	.6	2370.9	1		0430	55	169.	181.5	2383.8	1		0750	95	218.	451.8	2395.6
1		0115	16	15.	.8	2371.1	1		0435	56	172.	193.8	2384.4	1		0755	96	218.	451.9	2395.6
1		0120	17	18.	.9	2371.4	1		0440	57	175.	205.7	2385.0	1		0800	97	218.	451.8	2395.6
1		0125	18	22.	1.1	2371.7	1		0445	58	177.	217.5	2385.5	1		0805	98	218.	451.7	2395.6
1		0130	19	25.	1.3	2372.0	1		0450	59	180.	229.3	2386.1	1		0810	99	218.	451.4	2395.6
1		0135	20	27.	1.5	2372.0	1		0455	60	182.	241.3	2386.6	1		0815	100	218.	451.1	2395.6
1		0140	21	28.	1.7	2372.1	1		0500	61	185.	253.8	2387.2	1		0820	101	218.	450.8	2395.6
1		0145	22	30.	2.0	2372.2	1		0505	62	187.	266.8	2387.8	1		0825	102	218.	450.4	2395.6
1		0150	23	32.	2.4	2372.2	1		0510	63	190.	280.2	2388.4	1		0830	103	218.	449.9	2395.5
1		0155	24	35.	2.8	2372.3	1		0515	64	192.	293.8	2389.0	1		0835	104	218.	449.4	2395.5
1		0200	25	38.	3.4	2372.5	1		0520	65	195.	307.3	2389.6	1		0840	105	218.	448.9	2395.5
1		0205	26	43.	4.2	2372.6	1		0525	66	198.	320.4	2390.2	1		0845	106	218.	448.3	2395.5
1		0210	27	49.	5.2	2372.8	1		0530	67	200.	332.8	2390.7	1		0850	107	218.	447.7	2395.4
1		0215	28	55.	6.3	2373.1	1		0535	68	201.	344.4	2391.2	1		0855	108	218.	447.0	2395.4
1		0220	29	63.	7.7	2373.4	1		0540	69	203.	354.9	2391.6	1		0900	109	218.	446.4	2395.4
1		0225	30	71.	9.1	2373.7	1		0545	70	205.	364.6	2392.0	1		0905	110	217.	445.7	2395.4
1		0230	31	80.	10.6	2374.0	1		0550	71	206.	373.4	2392.4	1		0910	111	217.	445.0	2395.3
1		0235	32	83.	12.2	2374.1	1		0555	72	207.	381.4	2392.7	1		0915	112	217.	444.3	2395.3
1		0240	33	87.	13.8	2374.3	1		0600	73	208.	388.7	2393.0	1		0920	113	217.	443.6	2395.3
1		0245	34	90.	15.5	2374.4	1		0605	74	210.	395.6	2393.3	1		0925	114	217.	442.8	2395.3
1		0250	35	94.	17.2	2374.6	1		0610	75	211.	401.9	2393.6	1		0930	115	217.	442.1	2395.2
1		0255	36	97.	18.9	2374.7	1		0615	76	211.	407.8	2393.8	1		0935	116	217.	441.4	2395.2
1		0300	37	101.	20.7	2374.9	1		0620	77	212.	413.3	2394.0	1		0940	117	217.	440.6	2395.2
1		0305	38	105.	22.6	2375.1	1		0625	78	213.	418.3	2394.2	1		0945	118	217.	439.8	2395.1
1		0310	39	109.	24.7	2375.3	1		0630	79	214.	423.0	2394.4	1		0950	119	216.	439.1	2395.1
1		0315	40	114.	27.1	2375.5	1		0635	80	215.	427.2	2394.6	1		0955	120	216.	438.3	2395.1

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW		
		6-HR	24-HR	72-HR	9.92-HR
+ (CFS)	(HR)	(CFS)			
+ 218.	7.92	205.	145.	145.	145.
		(INCHES) .280	.329	.329	.329
		(AC-FT) 101.	119.	119.	119.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	9.92-HR
+ (AC-FT)	(HR)				
452.	7.92	373.	231.	231.	231.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	9.92-HR
+ (FEET)	(HR)				
2395.61	7.92	2392.23	2384.59	2384.59	2384.59

CUMULATIVE AREA = 6.78 SQ MI

HYDROGRAPH AT STATION LBDDB
PLAN 1, RATIO = .91

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2370.0	1		0320	41	119.	29.3	2375.7	1		0640	81	214.	426.5	2394.6
1		0005	2	0.	.0	2370.0	1		0325	42	126.	32.7	2376.0	1		0645	82	215.	429.9	2394.7
1		0010	3	0.	.0	2370.0	1		0330	43	128.	36.8	2376.2	1		0650	83	215.	432.9	2394.9
1		0015	4	0.	.0	2370.0	1		0335	44	130.	42.2	2376.6	1		0655	84	216.	435.5	2395.0
1		0020	5	0.	.0	2370.0	1		0340	45	133.	49.1	2377.0	1		0700	85	216.	437.8	2395.1
1		0025	6	0.	.0	2370.0	1		0345	46	136.	57.8	2377.5	1		0705	86	217.	439.8	2395.1
1		0030	7	0.	.0	2370.0	1		0350	47	140.	68.5	2378.1	1		0710	87	217.	441.4	2395.2
1		0035	8	0.	.0	2370.0	1		0355	48	143.	81.1	2378.8	1		0715	88	217.	442.8	2395.3
1		0040	9	0.	.0	2370.0	1		0400	49	148.	95.0	2379.6	1		0720	89	217.	444.0	2395.3
1		0045	10	1.	.0	2370.1	1		0405	50	152.	109.7	2380.3	1		0725	90	217.	444.9	2395.3
1		**0050**	11	2.	.1	**2370.1**	1		**0410**	51	**155.**	**124.6**	**2381.0**	1		**0730**	91	**217.**	**445.7**	**2395.4**
1		0055	12	3.	.2	2370.2	1		0415	52	159.	139.2	2381.7	1		0735	92	218.	446.2	2395.4
1		0100	13	5.	.3	2370.4	1		0420	53	162.	153.2	2382.4	1		0740	93	218.	446.7	2395.4
1		0105	14	8.	.4	2370.6	1		0425	54	165.	166.6	2383.1	1		0745	94	218.	446.9	2395.4
1		0110	15	11.	.6	2370.8	1		0430	55	169.	179.3	2383.7	1		0750	95	218.	447.1	2395.4
1		0115	16	14.	.7	2371.1	1		0435	56	172.	191.5	2384.3	1		0755	96	218.	447.1	2395.4
1		0120	17	18.	.9	2371.4	1		0440	57	174.	203.3	2384.9	1		0800	97	218.	447.1	2395.4
1		0125	18	21.	1.1	2371.6	1		0445	58	177.	215.0	2385.4	1		0805	98	218.	446.9	2395.4
1		0130	19	25.	1.3	2371.9	1		0450	59	179.	226.7	2385.9	1		0810	99	218.	446.7	2395.4
1		0135	20	27.	1.5	2372.0	1		0455	60	182.	238.6	2386.5	1		0815	100	218.	446.4	2395.4
1		0140	21	28.	1.7	2372.1	1		0500	61	184.	251.0	2387.0	1		0820	101	218.	446.0	2395.4
1		0145	22	30.	2.0	2372.1	1		0505	62	187.	263.8	2387.6	1		0825	102	217.	445.6	2395.4
1		0150	23	32.	2.3	2372.2	1		0510	63	189.	277.1	2388.2	1		0830	103	217.	445.2	2395.3
1		0155	24	34.	2.7	2372.3	1		0515	64	192.	290.5	2388.8	1		0835	104	217.	444.7	2395.3
1		0200	25	38.	3.3	2372.4	1		0520	65	194.	303.9	2389.4	1		0840	105	217.	444.1	2395.3
1		0205	26	42.	4.1	2372.6	1		0525	66	197.	316.9	2390.0	1		0845	106	217.	443.5	2395.3
1		0210	27	48.	5.0	2372.8	1		0530	67	199.	329.2	2390.5	1		0850	107	217.	442.9	2395.3
1		0215	28	54.	6.2	2373.0	1		0535	68	201.	340.7	2391.0	1		0855	108	217.	442.3	2395.2
1		0220	29	62.	7.5	2373.3	1		0540	69	202.	351.1	2391.4	1		0900	109	217.	441.7	2395.2
1		0225	30	70.	8.9	2373.6	1		0545	70	204.	360.7	2391.8	1		0905	110	217.	441.0	2395.2
1		0230	31	79.	10.4	2374.0	1		0550	71	205.	369.4	2392.2	1		0910	111	217.	440.3	2395.2
1		0235	32	83.	11.9	2374.1	1		0555	72	207.	377.3	2392.5	1		0915	112	216.	439.6	2395.1
1		0240	33	86.	13.5	2374.3	1		0600	73	208.	384.6	2392.8	1		0920	113	216.	438.9	2395.1
1		0245	34	90.	15.2	2374.4	1		0605	74	209.	391.4	2393.1	1		0925	114	216.	438.1	2395.1
1		0250	35	93.	16.9	2374.6	1		0610	75	210.	397.7	2393.4	1		0930	115	216.	437.4	2395.0
1		0255	36	97.	18.6	2374.7	1		0615	76	211.	403.5	2393.6	1		0935	116	216.	436.7	2395.0
1		0300	37	100.	20.3	2374.9	1		0620	77	212.	408.9	2393.8	1		0940	117	216.	435.9	2395.0
1		0305	38	104.	22.2	2375.0	1		0625	78	212.	413.9	2394.1	1		0945	118	216.	435.1	2394.9
1		0310	39	108.	24.2	2375.2	1		0630	79	213.	418.5	2394.3	1		0950	119	216.	434.4	2394.9

1	0315	40	113.	26.6	2375.4	*	1	0635	80	214.	422.7	2394.4	*	1	0955	120	216.	433.6	2394.9

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	9.92-HR
(CFS)	(HR)					
		(CFS)				
218.	7.92		204.	144.	144.	144.
		(INCHES)	.280	.327	.327	.327
		(AC-FT)	101.	118.	118.	118.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	9.92-HR
(AC-FT)	(HR)				
447.	7.92	369.	228.	228.	228.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	9.92-HR
(FEET)	(HR)				
2395.42	7.92	2392.06	2384.48	2384.48	2384.48

CUMULATIVE AREA = 6.78 SQ MI

HYDROGRAPH AT STATION LBDDB
PLAN 1, RATIO = .89

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2370.0	*	1		0320	41	117.	28.3	2375.6	*	1		0640	81	213.	418.1	2394.2
1		0005	2	0.	.0	2370.0	*	1		0325	42	124.	31.6	2375.9	*	1		0645	82	214.	421.5	2394.4
1		0010	3	0.	.0	2370.0	*	1		0330	43	128.	35.6	2376.2	*	1		0650	83	214.	424.4	2394.5
1		0015	4	0.	.0	2370.0	*	1		0335	44	130.	40.8	2376.5	*	1		0655	84	214.	427.0	2394.6
1		0020	5	0.	.0	2370.0	*	1		0340	45	132.	47.5	2376.9	*	1		0700	85	215.	429.2	2394.7
1		0025	6	0.	.0	2370.0	*	1		0345	46	135.	56.1	2377.4	*	1		0705	86	215.	431.1	2394.8
1		0030	7	0.	.0	2370.0	*	1		0350	47	139.	66.5	2378.0	*	1		0710	87	215.	432.8	2394.8
1		0035	8	0.	.0	2370.0	*	1		0355	48	143.	78.9	2378.7	*	1		0715	88	216.	434.1	2394.9
1		0040	9	0.	.0	2370.0	*	1		0400	49	147.	92.6	2379.4	*	1		0720	89	216.	435.3	2395.0
1		0045	10	1.	.0	2370.1	*	1		0405	50	151.	107.0	2380.2	*	1		0725	90	216.	436.2	2395.0
1		0050	11	2.	.1	2370.1	*	1		0410	51	154.	121.6	2380.9	*	1		0730	91	216.	436.9	2395.0
1		0055	12	3.	.1	2370.2	*	1		0415	52	158.	136.0	2381.6	*	1		0735	92	216.	437.5	2395.0
1		0100	13	5.	.2	2370.4	*	1		0420	53	161.	149.8	2382.3	*	1		0740	93	216.	437.9	2395.1
1		0105	14	7.	.4	2370.6	*	1		0425	54	165.	162.9	2382.9	*	1		0745	94	216.	438.1	2395.1
1		0110	15	10.	.5	2370.8	*	1		0430	55	168.	175.4	2383.5	*	1		0750	95	216.	438.3	2395.1
1		0115	16	13.	.7	2371.0	*	1		0435	56	170.	187.4	2384.1	*	1		0755	96	216.	438.3	2395.1
1		0120	17	16.	.8	2371.3	*	1		0440	57	173.	199.0	2384.7	*	1		0800	97	216.	438.3	2395.1
1		0125	18	20.	1.0	2371.5	*	1		0445	58	176.	210.4	2385.2	*	1		0805	98	216.	438.1	2395.1
1		0130	19	23.	1.2	2371.8	*	1		0450	59	178.	221.8	2385.7	*	1		0810	99	216.	437.9	2395.1
1		0135	20	26.	1.4	2372.0	*	1		0455	60	181.	233.6	2386.3	*	1		0815	100	216.	437.6	2395.0
1		0140	21	27.	1.6	2372.1	*	1		0500	61	183.	245.7	2386.8	*	1		0820	101	216.	437.2	2395.0
1		0145	22	29.	1.8	2372.1	*	1		0505	62	185.	258.3	2387.4	*	1		0825	102	216.	436.8	2395.0
1		0150	23	31.	2.1	2372.2	*	1		0510	63	188.	271.3	2388.0	*	1		0830	103	216.	436.4	2395.0
1		0155	24	33.	2.6	2372.3	*	1		0515	64	191.	284.5	2388.5	*	1		0835	104	216.	435.9	2395.0
1		0200	25	36.	3.1	2372.4	*	1		0520	65	193.	297.7	2389.1	*	1		0840	105	216.	435.4	2395.0
1		0205	26	41.	3.8	2372.5	*	1		0525	66	196.	310.5	2389.7	*	1		0845	106	216.	434.8	2394.9
1		0210	27	46.	4.8	2372.7	*	1		0530	67	198.	322.6	2390.2	*	1		0850	107	216.	434.2	2394.9
1		0215	28	52.	5.9	2373.0	*	1		0535	68	200.	333.8	2390.7	*	1		0855	108	216.	433.6	2394.9
1		0220	29	60.	7.1	2373.2	*	1		0540	69	201.	344.1	2391.1	*	1		0900	109	215.	432.9	2394.9
1		0225	30	68.	8.5	2373.5	*	1		0545	70	203.	353.5	2391.5	*	1		0905	110	215.	432.2	2394.8
1		0230	31	76.	9.9	2373.9	*	1		0550	71	204.	362.0	2391.9	*	1		0910	111	215.	431.6	2394.8
1		0235	32	82.	11.4	2374.1	*	1		0555	72	205.	369.8	2392.2	*	1		0915	112	215.	430.9	2394.8
1		0240	33	85.	13.0	2374.2	*	1		0600	73	207.	377.0	2392.5	*	1		0920	113	215.	430.2	2394.7
1		0245	34	88.	14.6	2374.4	*	1		0605	74	208.	383.6	2392.8	*	1		0925	114	215.	429.4	2394.7
1		0250	35	92.	16.2	2374.5	*	1		0610	75	209.	389.8	2393.1	*	1		0930	115	215.	428.7	2394.7
1		0255	36	95.	17.9	2374.6	*	1		0615	76	210.	395.5	2393.3	*	1		0935	116	215.	428.0	2394.6
1		0300	37	99.	19.6	2374.8	*	1		0620	77	210.	400.8	2393.5	*	1		0940	117	215.	427.2	2394.6
1		0305	38	103.	21.4	2375.0	*	1		0625	78	211.	405.8	2393.7	*	1		0945	118	214.	426.5	2394.6
1		0310	39	107.	23.4	2375.1	*	1		0630	79	212.	410.3	2393.9	*	1		0950	119	214.	425.7	2394.6
1		0315	40	111.	25.7	2375.3	*	1		0635	80	213.	414.4	2394.1	*	1		0955	120	214.	425.0	2394.5

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	9.92-HR
(CFS)	(HR)					
		(CFS)				
216.	7.92		203.	143.	143.	143.
		(INCHES)	.278	.325	.325	.325
		(AC-FT)	100.	117.	117.	117.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	9.92-HR
(AC-FT)	(HR)				
438.	7.92	362.	224.	224.	224.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	9.92-HR
(FEET)	(HR)				
2395.07	7.92	2391.75	2384.27	2384.27	2384.27

CUMULATIVE AREA = 6.78 SQ MI

HYDROGRAPH AT STATION LBDDB
PLAN 1, RATIO = .88

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2370.0	*	1		0320	41	115.	27.6	2375.5	*	1		0640	81	212.	411.7	2394.0
1		0005	2	0.	.0	2370.0	*	1		0325	42	122.	30.7	2375.8	*	1		0645	82	213.	415.0	2394.1
1		0010	3	0.	.0	2370.0	*	1		0330	43	128.	34.7	2376.1	*	1		0650	83	213.	417.9	2394.2
1		0015	4	0.	.0	2370.0	*	1		0335	44	129.	39.8	2376.4	*	1		0655	84	213.	420.4	2394.3
1		0020	5	0.	.0	2370.0	*	1		0340	45	132.	46.4	2376.8	*	1		0700	85	214.	422.6	2394.4
1		0025	6	0.	.0	2370.0	*	1		0345	46	135.	54.7	2377.3	*	1		0705	86	214.	424.5	2394.5
1		0030	7	0.	.0	2370.0	*	1		0350	47	139.	65.1	2378.0	*	1		0710	87	214.	426.1	2394.6
1		0035	8	0.	.0	2370.0	*	1		0355	48	142.	77.2	2378.6	*	1		0715	88	215.	427.5	2394.6
1		0040	9	0.	.0	2370.0	*	1		0400	49	146.	90.7	2379.3	*	1		0720	89	215.	428.6	2394.7
1		0045	10	1.	.0	2370.0	*	1		0405	50	150.	104.9	2380.1	*	1		0725	90	215.	429.5	2394.7
1		0050	11	1.	.1	2370.1	*	1		0410	51	154.	119.3	2380.8	*	1		0730	91	215.	430.2	2394.7
1		0055	12	3.	.1	2370.2	*	1		0415	52	157.	133.5	2381.5	*	1		0735	92	215.	430.8	2394.8
1		0100	13	4.	.2	2370.3	*	1		0420	53	161.	147.1	2382.1	*	1		0740	93	215.	431.2	2394.8
1		0105	14	7.	.3	2370.5	*	1		0425	54	164.	160.1	2382.8	*	1		0745	94	215.	431.4	2394.8
1		0110	15	9.	.5	2370.7	*	1		0430	55	167.	172.4	2383.4	*	1		0750	95	215.	431.6	2394.8
1		0115	16	12.	.6	2370.9	*	1		0435	56	170.	184.2	2383.9	*	1		0755	96	215.	431.6	2394.8
1		0120	17	15.	.8	2371.2	*	1		0440	57	173.	195.6	2384.5	*	1		0800	97	215.	431.5	2394.8
1		0125	18	19.	.9	2371.4	*	1		0445	58	175.	206.9	2385.0	*	1		0805	98	215.	431.4	2394.8
1		0130	19	22.	1.1	2371.7	*	1		0450	59	177.	218.2	2385.6	*	1		0810	99	215.	431.2	2394.8
1		0135	20	25.	1.3	2371.9	*	1		0455	60	180.	229.7	2386.1	*	1		0815	100	215.	430.9	2394.8
1		0140	21	27.	1.5	2372.0	*	1		0500	61	182.	241.7	2386.6	*	1		0820	101	215.	430.5	2394.8
1		0145	22	28.	1.7	2372.1	*	1		0505	62	185.	254.1	2387.2	*	1		0825	102	215.	430.1	2394.7

1	0150	23	30.	2.0	2372.2	*	1	0510	63	187.	266.9	2387.8	*	1	0830	103	215.	429.6	2394.7
1	0155	24	32.	2.4	2372.2	*	1	0515	64	190.	280.0	2388.3	*	1	0835	104	215.	429.2	2394.7
1	0200	25	36.	3.0	2372.4	*	1	0520	65	192.	292.9	2388.9	*	1	0840	105	215.	428.6	2394.7
1	0205	26	40.	3.7	2372.5	*	1	0525	66	195.	305.5	2389.5	*	1	0845	106	215.	428.1	2394.6
1	0210	27	45.	4.5	2372.7	*	1	0530	67	197.	317.5	2390.0	*	1	0850	107	215.	427.5	2394.6
1	0215	28	51.	5.6	2372.9	*	1	0535	68	199.	328.5	2390.5	*	1	0855	108	214.	426.8	2394.6
1	0220	29	58.	6.8	2373.2	*	1	0540	69	200.	338.7	2390.9	*	1	0900	109	214.	426.2	2394.6
1	0225	30	66.	8.2	2373.5	*	1	0545	70	202.	348.0	2391.3	*	1	0905	110	214.	425.5	2394.5
1	0230	31	74.	9.6	2373.8	*	1	0550	71	203.	356.4	2391.7	*	1	0910	111	214.	424.9	2394.5
1	0235	32	81.	11.1	2374.0	*	1	0555	72	205.	364.1	2392.0	*	1	0915	112	214.	424.2	2394.5
1	0240	33	84.	12.6	2374.2	*	1	0600	73	206.	371.2	2392.3	*	1	0920	113	214.	423.5	2394.5
1	0245	34	87.	14.1	2374.3	*	1	0605	74	207.	377.7	2392.5	*	1	0925	114	214.	422.8	2394.4
1	0250	35	91.	15.7	2374.5	*	1	0610	75	208.	383.8	2392.8	*	1	0930	115	214.	422.0	2394.4
1	0255	36	94.	17.3	2374.6	*	1	0615	76	209.	389.4	2393.0	*	1	0935	116	214.	421.3	2394.4
1	0300	37	98.	19.0	2374.7	*	1	0620	77	209.	394.7	2393.3	*	1	0940	117	213.	420.6	2394.3
1	0305	38	101.	20.8	2374.9	*	1	0625	78	210.	399.5	2393.5	*	1	0945	118	213.	419.8	2394.3
1	0310	39	105.	22.7	2375.1	*	1	0630	79	211.	404.0	2393.6	*	1	0950	119	213.	419.1	2394.3
1	0315	40	110.	25.0	2375.3	*	1	0635	80	211.	408.1	2393.8	*	1	0955	120	213.	418.3	2394.2

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	9.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 215.	7.92		202.	142.	142.	142.
		(INCHES)	.277	.323	.323	.323
		(AC-FT)	100.	117.	117.	117.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	9.92-HR
+ (AC-FT)	(HR)				
432.	7.92	356.	220.	220.	220.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	9.92-HR
+ (FEET)	(HR)				
2394.80	7.92	2391.51	2384.11	2384.11	2384.11

CUMULATIVE AREA = 6.78 SQ MI

HYDROGRAPH AT STATION LBDDB
PLAN 1, RATIO = .88

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2370.0	*	1		0320	41	114.	26.8	2375.4	*	1		0640	81	211.	405.3	2393.7
1		0005	2	0.	.0	2370.0	*	1		0325	42	120.	29.9	2375.7	*	1		0645	82	212.	408.6	2393.8
1		0010	3	0.	.0	2370.0	*	1		0330	43	127.	33.8	2376.0	*	1		0650	83	212.	411.4	2394.0
1		0015	4	0.	.0	2370.0	*	1		0335	44	129.	38.8	2376.3	*	1		0655	84	212.	413.9	2394.1
1		0020	5	0.	.0	2370.0	*	1		0340	45	131.	45.2	2376.7	*	1		0700	85	213.	416.1	2394.1
1		0025	6	0.	.0	2370.0	*	1		0345	46	134.	53.4	2377.2	*	1		0705	86	213.	417.9	2394.2
1		0030	7	0.	.0	2370.0	*	1		0350	47	138.	63.6	2377.9	*	1		0710	87	213.	419.5	2394.3
1		0035	8	0.	.0	2370.0	*	1		0355	48	142.	75.5	2378.5	*	1		0715	88	214.	420.8	2394.3
1		0040	9	0.	.0	2370.0	*	1		0400	49	146.	88.8	2379.2	*	1		0720	89	214.	421.9	2394.4
1		0045	10	1.	.0	2370.0	*	1		0405	50	150.	102.9	2380.0	*	1		0725	90	214.	422.8	2394.4
1		0050	11	1.	.1	2370.1	*	1		0410	51	153.	117.1	2380.7	*	1		0730	91	214.	423.5	2394.5
1		0055	12	2.	.1	2370.2	*	1		0415	52	157.	131.0	2381.3	*	1		0735	92	214.	424.1	2394.5
1		0100	13	4.	.2	2370.3	*	1		0420	53	160.	144.4	2382.0	*	1		0740	93	214.	424.5	2394.5
1		0105	14	6.	.3	2370.5	*	1		0425	54	163.	157.2	2382.6	*	1		0745	94	214.	424.7	2394.5
1		0110	15	9.	.4	2370.7	*	1		0430	55	166.	169.4	2383.2	*	1		0750	95	214.	424.8	2394.5
1		0115	16	11.	.6	2370.9	*	1		0435	56	169.	181.0	2383.8	*	1		0755	96	214.	424.9	2394.5
1		0120	17	14.	.7	2371.1	*	1		0440	57	172.	192.3	2384.3	*	1		0800	97	214.	424.8	2394.5
1		0125	18	17.	.9	2371.3	*	1		0445	58	174.	203.4	2384.9	*	1		0805	98	214.	424.7	2394.5
1		0130	19	21.	1.1	2371.6	*	1		0450	59	177.	214.5	2385.4	*	1		0810	99	214.	424.4	2394.5
1		0135	20	24.	1.2	2371.8	*	1		0455	60	179.	225.9	2385.9	*	1		0815	100	214.	424.1	2394.5
1		0140	21	26.	1.4	2372.0	*	1		0500	61	181.	237.7	2386.4	*	1		0820	101	214.	423.8	2394.5
1		0145	22	28.	1.6	2372.1	*	1		0505	62	184.	249.9	2387.0	*	1		0825	102	214.	423.4	2394.5
1		0150	23	29.	1.9	2372.1	*	1		0510	63	186.	262.5	2387.6	*	1		0830	103	214.	422.9	2394.4
1		0155	24	32.	2.3	2372.2	*	1		0515	64	189.	275.4	2388.1	*	1		0835	104	214.	422.4	2394.4
1		0200	25	35.	2.8	2372.3	*	1		0520	65	191.	288.2	2388.7	*	1		0840	105	214.	421.9	2394.4
1		0205	26	39.	3.5	2372.5	*	1		0525	66	194.	300.6	2389.3	*	1		0845	106	214.	421.4	2394.4
1		0210	27	44.	4.3	2372.7	*	1		0530	67	196.	312.4	2389.8	*	1		0850	107	214.	420.8	2394.3
1		0215	28	50.	5.4	2372.9	*	1		0535	68	198.	323.3	2390.3	*	1		0855	108	213.	420.1	2394.3
1		0220	29	57.	6.6	2373.1	*	1		0540	69	200.	333.3	2390.7	*	1		0900	109	213.	419.5	2394.3
1		0225	30	64.	7.9	2373.4	*	1		0545	70	201.	342.5	2391.1	*	1		0905	110	213.	418.9	2394.3
1		0230	31	72.	9.3	2373.7	*	1		0550	71	202.	350.8	2391.4	*	1		0910	111	213.	418.2	2394.2
1		0235	32	80.	10.7	2374.0	*	1		0555	72	204.	358.4	2391.7	*	1		0915	112	213.	417.5	2394.2
1		0240	33	83.	12.2	2374.1	*	1		0600	73	205.	365.3	2392.0	*	1		0920	113	213.	416.8	2394.2
1		0245	34	87.	13.7	2374.3	*	1		0605	74	206.	371.8	2392.3	*	1		0925	114	213.	416.1	2394.1
1		0250	35	90.	15.2	2374.4	*	1		0610	75	207.	377.8	2392.5	*	1		0930	115	213.	415.4	2394.1
1		0255	36	93.	16.8	2374.6	*	1		0615	76	208.	383.3	2392.8	*	1		0935	116	213.	414.7	2394.1
1		0300	37	96.	18.5	2374.7	*	1		0620	77	208.	388.5	2393.0	*	1		0940	117	212.	413.9	2394.1
1		0305	38	100.	20.2	2374.9	*	1		0625	78	209.	393.3	2393.2	*	1		0945	118	212.	413.2	2394.0
1		0310	39	104.	22.1	2375.0	*	1		0630	79	210.	397.7	2393.4	*	1		0950	119	212.	412.4	2394.0
1		0315	40	108.	24.3	2375.2	*	1		0635	80	210.	401.7	2393.5	*	1		0955	120	212.	411.7	2394.0

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	9.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 214.	7.92		201.	142.	142.	142.
		(INCHES)	.275	.321	.321	.321
		(AC-FT)	100.	116.	116.	116.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	9.92-HR
+ (AC-FT)	(HR)				
425.	7.92	351.	217.	217.	217.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	9.92-HR
+ (FEET)	(HR)				
2394.52	7.92	2391.27	2383.95	2383.95	2383.95

CUMULATIVE AREA = 6.78 SQ MI

HYDROGRAPH AT STATION LBDDB
PLAN 1, RATIO = .64

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2370.0	*	1		0320	41	85.	13.0	2374.2	*	1		0640	81	186.	263.1	2387.6
1		0005	2	0.	.0	2370.0	*	1		0325	42	88.	14.6	2374.4	*	1		0645	82	187.	265.3	2387.7
1		0010	3	0.	.0	2370.0	*	1		0330	43	93.	16.6	2374.5	*	1		0650	83	187.	267.1	2387.8
1		0015	4	0.	.0	2370.0	*	1		0335	44	98.	19.4	2374.8	*	1		0655	84	187.	268.8	2387.8
1		0020	5	0.	.0	2370.0	*	1		0340	45	106.	23.1	2375.1	*	1		0700	85	188.	270.2	2387.9

1	0025	6	0.	.0	2370.0	*	1	0345	46	116.	28.0	2375.5	*	1	0705	86	188.	271.4	2388.0
1	0030	7	0.	.0	2370.0	*	1	0350	47	127.	34.3	2376.1	*	1	0710	87	188.	272.4	2388.0
1	0035	8	0.	.0	2370.0	*	1	0355	48	130.	42.1	2376.5	*	1	0715	88	188.	273.2	2388.0
1	0040	9	0.	.0	2370.0	*	1	0400	49	134.	51.0	2377.1	*	1	0720	89	188.	273.8	2388.1
1	0045	10	0.	.0	2370.0	*	1	0405	50	137.	60.5	2377.7	*	1	0725	90	189.	274.4	2388.1
1	0050	11	0.	.0	2370.0	*	1	0410	51	140.	70.1	2378.2	*	1	0730	91	189.	274.8	2388.1
1	0055	12	0.	.0	2370.0	*	1	0415	52	143.	79.6	2378.7	*	1	0735	92	189.	275.1	2388.1
1	0100	13	0.	.0	2370.0	*	1	0420	53	146.	88.8	2379.2	*	1	0740	93	189.	275.2	2388.1
1	0105	14	0.	.0	2370.0	*	1	0425	54	148.	97.4	2379.7	*	1	0745	94	189.	275.3	2388.1
1	0110	15	0.	.0	2370.0	*	1	0430	55	151.	105.6	2380.1	*	1	0750	95	189.	275.4	2388.1
1	0115	16	1.	.0	2370.1	*	1	0435	56	152.	113.4	2380.5	*	1	0755	96	189.	275.3	2388.1
1	0120	17	1.	.1	2370.1	*	1	0440	57	154.	120.9	2380.9	*	1	0800	97	189.	275.2	2388.1
1	0125	18	2.	.1	2370.1	*	1	0445	58	156.	128.2	2381.2	*	1	0805	98	189.	275.0	2388.1
1	0130	19	2.	.1	2370.2	*	1	0450	59	158.	135.5	2381.6	*	1	0810	99	189.	274.8	2388.1
1	0135	20	3.	.1	2370.2	*	1	0455	60	160.	143.0	2381.9	*	1	0815	100	189.	274.5	2388.1
1	0140	21	4.	.2	2370.3	*	1	0500	61	162.	150.7	2382.3	*	1	0820	101	189.	274.2	2388.1
1	0145	22	5.	.3	2370.4	*	1	0505	62	164.	158.8	2382.7	*	1	0825	102	188.	273.8	2388.1
1	0150	23	7.	.3	2370.5	*	1	0510	63	166.	167.2	2383.1	*	1	0830	103	188.	273.4	2388.0
1	0155	24	9.	.5	2370.7	*	1	0515	64	168.	175.8	2383.5	*	1	0835	104	188.	273.0	2388.0
1	0200	25	13.	.6	2371.0	*	1	0520	65	170.	184.4	2384.0	*	1	0840	105	188.	272.6	2388.0
1	0205	26	18.	.9	2371.4	*	1	0525	66	172.	192.8	2384.4	*	1	0845	106	188.	272.1	2388.0
1	0210	27	25.	1.3	2371.9	*	1	0530	67	174.	200.8	2384.8	*	1	0850	107	188.	271.7	2388.0
1	0215	28	29.	1.8	2372.1	*	1	0535	68	175.	208.3	2385.1	*	1	0855	108	188.	271.2	2387.9
1	0220	29	32.	2.4	2372.2	*	1	0540	69	177.	215.1	2385.4	*	1	0900	109	188.	270.7	2387.9
1	0225	30	36.	3.1	2372.4	*	1	0545	70	178.	221.2	2385.7	*	1	0905	110	188.	270.1	2387.9
1	0230	31	40.	3.8	2372.5	*	1	0550	71	179.	226.8	2385.9	*	1	0910	111	188.	269.6	2387.9
1	0235	32	45.	4.6	2372.7	*	1	0555	72	180.	232.0	2386.2	*	1	0915	112	188.	269.0	2387.9
1	0240	33	50.	5.4	2372.9	*	1	0600	73	181.	236.6	2386.4	*	1	0920	113	187.	268.5	2387.8
1	0245	34	55.	6.2	2373.1	*	1	0605	74	182.	240.9	2386.6	*	1	0925	114	187.	267.9	2387.8
1	0250	35	60.	7.1	2373.2	*	1	0610	75	183.	244.9	2386.8	*	1	0930	115	187.	267.4	2387.8
1	0255	36	65.	7.9	2373.4	*	1	0615	76	183.	248.6	2386.9	*	1	0935	116	187.	266.8	2387.7
1	0300	37	70.	8.8	2373.6	*	1	0620	77	184.	252.0	2387.1	*	1	0940	117	187.	266.2	2387.7
1	0305	38	75.	9.7	2373.8	*	1	0625	78	185.	255.2	2387.2	*	1	0945	118	187.	265.6	2387.7
1	0310	39	80.	10.6	2374.0	*	1	0630	79	185.	258.1	2387.4	*	1	0950	119	187.	265.1	2387.7
1	0315	40	82.	11.7	2374.1	*	1	0635	80	186.	260.8	2387.5	*	1	0955	120	187.	264.5	2387.6
						*							*						

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	9.92-HR
(CFS)	(HR)	(CFS)				
189.	7.83		178.	121.	121.	121.
		(INCHES)	.244	.274	.274	.274
		(AC-FT)	88.	99.	99.	99.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	9.92-HR
(AC-FT)	(HR)				
275.	7.83	226.	139.	139.	139.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	9.92-HR
(FEET)	(HR)				
2388.14	7.83	2385.80	2380.27	2380.27	2380.27

CUMULATIVE AREA = 6.78 SQ MI

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PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
TIME TO PEAK IN HOURS

OPERATION	STATION	AREA	PLAN		RATIOS APPLIED TO PRECIPITATION RATIO 1 .95	RATIO 2 .93	RATIO 3 .92	RATIO 4 .91	RATIO 5 .89	RATIO 6 .88	RATIO 7 .88	RATIO 8 .64
HYDROGRAPH AT	B13A	1.29	1	FLOW	701.	675.	665.	658.	644.	634.	624.	387.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08
ROUTED TO	RB13A	1.29	1	FLOW	644.	620.	611.	604.	592.	583.	573.	356.
				TIME	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75
HYDROGRAPH AT	B13B	.54	1	FLOW	179.	173.	170.	168.	165.	162.	159.	98.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08	5.25
2 COMBINED AT	PT1	1.83	1	FLOW	817.	787.	775.	766.	751.	739.	726.	448.
				TIME	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75
ROUTED TO	RPT1	1.83	1	FLOW	797.	767.	756.	747.	732.	720.	709.	439.
				TIME	5.00	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT	B17	.82	1	FLOW	314.	302.	297.	294.	288.	283.	278.	168.
				TIME	4.33	4.33	4.33	4.33	4.33	4.33	4.33	4.42
2 COMBINED AT	PT2	2.64	1	FLOW	1046.	1007.	992.	981.	961.	946.	930.	577.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.08
ROUTED TO	RPT2	2.64	1	FLOW	1044.	1006.	990.	980.	959.	944.	929.	575.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT	B13C	2.01	1	FLOW	1086.	1045.	1028.	1017.	996.	979.	963.	588.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
2 COMBINED AT	PT3	4.65	1	FLOW	1683.	1623.	1598.	1582.	1551.	1528.	1504.	951.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08	5.08
ROUTED TO	RPT3A	4.65	1	FLOW	1675.	1616.	1591.	1575.	1544.	1521.	1497.	949.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08	5.17
ROUTED TO	RPT3B	4.65	1	FLOW	1655.	1596.	1573.	1556.	1526.	1503.	1479.	936.
				TIME	5.25	5.25	5.25	5.25	5.25	5.25	5.25	5.25
HYDROGRAPH AT	B11S	1.12	1	FLOW	343.	325.	317.	312.	303.	296.	289.	138.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.08
HYDROGRAPH AT	HYDRO1	.63	1	FLOW	623.	623.	623.	623.	623.	623.	623.	623.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08
3 COMBINED AT	PT4	6.40	1	FLOW	2416.	2341.	2310.	2289.	2250.	2220.	2190.	1516.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08

HYDROGRAPH AT												
+	HYDRO2	.38	1	FLOW	36.	36.	36.	36.	36.	36.	36.	36.
				TIME	5.25	5.25	5.25	5.25	5.25	5.25	5.25	5.25
2 COMBINED AT												
+	LBDDB	6.78	1	FLOW	2443.	2368.	2337.	2316.	2277.	2247.	2217.	1543.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08
ROUTED TO												
+	LBDDB	6.78	1	FLOW	222.	220.	218.	218.	216.	215.	214.	189.
				TIME	7.92	7.92	7.92	7.92	7.92	7.92	7.92	7.83
			** PEAK STAGES IN FEET **									
			1	STAGE	2396.56	2395.88	2395.61	2395.42	2395.07	2394.80	2394.52	2388.14
				TIME	7.92	7.92	7.92	7.92	7.92	7.92	7.92	7.83
ROUTED TO												
+	RLBDDB	6.78	1	FLOW	222.	219.	218.	218.	216.	215.	214.	189.
				TIME	8.75	8.67	8.67	8.67	8.67	8.67	8.67	8.58
HYDROGRAPH AT												
+	B12	.97	1	FLOW	175.	161.	156.	152.	146.	140.	135.	61.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	5.08
2 COMBINED AT												
+	PT33W	7.75	1	FLOW	323.	312.	308.	306.	300.	296.	292.	206.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08	5.08
ROUTED TO												
+	RPT33W	7.75	1	FLOW	310.	300.	296.	293.	289.	285.	281.	200.
				TIME	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.42
HYDROGRAPH AT												
+	B15A	.96	1	FLOW	355.	339.	332.	328.	319.	313.	307.	166.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
2 COMBINED AT												
+	PT34W	8.71	1	FLOW	594.	563.	551.	542.	527.	515.	503.	309.
				TIME	4.00	4.08	4.08	4.08	4.08	4.08	4.08	5.25
HYDROGRAPH AT												
+	HYDRO3	87.68	1	FLOW	1763.	1763.	1763.	1763.	1763.	1763.	1763.	1763.
				TIME	5.42	5.42	5.42	5.42	5.42	5.42	5.42	5.42
ROUTED TO												
+	RPT18	87.68	1	FLOW	1745.	1745.	1745.	1745.	1745.	1745.	1745.	1745.
				TIME	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
HYDROGRAPH AT												
+	B18B	1.92	1	FLOW	834.	801.	787.	778.	760.	747.	734.	431.
				TIME	4.00	4.08	4.08	4.08	4.08	4.08	4.08	4.08
2 COMBINED AT												
+	PT19	89.60	1	FLOW	2208.	2191.	2184.	2179.	2171.	2164.	2157.	2001.
				TIME	5.42	5.42	5.42	5.42	5.42	5.42	5.42	5.42
DIVERSION TO												
+	DVI155	89.60	1	FLOW	1609.	1597.	1592.	1589.	1582.	1578.	1573.	1459.
				TIME	5.42	5.42	5.42	5.42	5.42	5.42	5.42	5.42
HYDROGRAPH AT												
+	DVI155	89.60	1	FLOW	598.	594.	592.	591.	588.	586.	585.	542.
				TIME	5.42	5.42	5.42	5.42	5.42	5.42	5.42	5.42
ROUTED TO												
+	RPT19	89.60	1	FLOW	590.	585.	583.	582.	579.	577.	575.	532.
				TIME	5.92	5.92	5.92	5.92	5.92	5.92	5.92	6.00
HYDROGRAPH AT												
+	B14A	1.35	1	FLOW	814.	783.	771.	763.	747.	735.	722.	443.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT												
+	PT21	90.95	1	FLOW	983.	961.	953.	947.	936.	927.	919.	724.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08	5.17
HYDROGRAPH AT												
+	B14B	.99	1	FLOW	302.	285.	279.	274.	266.	259.	253.	118.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
2 COMBINED AT												
+	PT22	91.94	1	FLOW	1198.	1167.	1155.	1146.	1130.	1118.	1106.	824.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08	5.08
ROUTED TO												
+	RPT22	91.94	1	FLOW	1139.	1111.	1099.	1091.	1076.	1065.	1054.	794.
				TIME	5.42	5.42	5.42	5.42	5.42	5.42	5.42	5.42
HYDROGRAPH AT												
+	B15B	.95	1	FLOW	258.	246.	240.	237.	230.	225.	220.	113.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17
2 COMBINED AT												
+	PT23	92.89	1	FLOW	1367.	1308.	1285.	1269.	1249.	1234.	1218.	886.
				TIME	4.17	4.17	4.17	4.17	5.33	5.33	5.33	5.42

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SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	DT	INTERPOLATED TO COMPUTATION INTERVAL PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR PLAN = 1 RATIO= .00									
RPT2	MANE	3.58	1045.36	304.05	1.68	5.00	1044.35	305.00	1.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2373E+03 EXCESS= .0000E+00 OUTFLOW= .2373E+03 BASIN STORAGE= .1893E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
RPT2	MANE	3.62	1006.61	304.39	1.62	5.00	1005.99	305.00	1.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2280E+03 EXCESS= .0000E+00 OUTFLOW= .2280E+03 BASIN STORAGE= .1843E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
RPT2	MANE	3.64	990.74	302.37	1.59	5.00	989.81	305.00	1.59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2244E+03 EXCESS= .0000E+00 OUTFLOW= .2243E+03 BASIN STORAGE= .1836E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
RPT2	MANE	3.66	980.70	303.51	1.57	5.00	979.60	305.00	1.57

```
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2218E+03 EXCESS= .0000E+00 OUTFLOW= .2217E+03 BASIN STORAGE= .1859E+00 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              RPT2  MANE          3.68    959.40    302.00      1.54      5.00    959.29    305.00        1.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2170E+03 EXCESS= .0000E+00 OUTFLOW= .2169E+03 BASIN STORAGE= .1826E+00 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              RPT2  MANE          3.70    945.39    303.68      1.51      5.00    944.46    305.00        1.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2133E+03 EXCESS= .0000E+00 OUTFLOW= .2133E+03 BASIN STORAGE= .1818E+00 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              RPT2  MANE          3.72    929.07    305.40      1.49      5.00    928.96    305.00        1.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2097E+03 EXCESS= .0000E+00 OUTFLOW= .2096E+03 BASIN STORAGE= .1809E+00 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              RPT2  MANE          4.39    576.21    307.32       .90      5.00    575.24    305.00         .90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1269E+03 EXCESS= .0000E+00 OUTFLOW= .1269E+03 BASIN STORAGE= .1377E+00 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
             RPT3A  MANE          1.82   1678.94    306.14      1.62      5.00   1675.31    305.00        1.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4023E+03 EXCESS= .0000E+00 OUTFLOW= .4022E+03 BASIN STORAGE= .1235E+00 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RPT3A  MANE          1.84   1619.72    306.27      1.56      5.00   1615.71    305.00        1.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3865E+03 EXCESS= .0000E+00 OUTFLOW= .3864E+03 BASIN STORAGE= .1207E+00 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RPT3A  MANE          1.85   1595.28    307.89      1.53      5.00   1591.46    305.00        1.53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3802E+03 EXCESS= .0000E+00 OUTFLOW= .3801E+03 BASIN STORAGE= .1206E+00 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RPT3A  MANE          1.86   1580.37    307.10      1.52      5.00   1575.36    305.00        1.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3758E+03 EXCESS= .0000E+00 OUTFLOW= .3757E+03 BASIN STORAGE= .1202E+00 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RPT3A  MANE          1.87   1548.88    307.35      1.48      5.00   1543.75    305.00        1.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3676E+03 EXCESS= .0000E+00 OUTFLOW= .3676E+03 BASIN STORAGE= .1183E+00 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RPT3A  MANE          1.88   1525.85    307.07      1.46      5.00   1520.78    305.00        1.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3614E+03 EXCESS= .0000E+00 OUTFLOW= .3613E+03 BASIN STORAGE= .1181E+00 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RPT3A  MANE          1.89   1502.13    306.86      1.43      5.00   1496.88    305.00        1.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3551E+03 EXCESS= .0000E+00 OUTFLOW= .3551E+03 BASIN STORAGE= .1160E+00 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RPT3A  MANE          2.22    950.37    308.24       .86      5.00    948.57    310.00         .86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2141E+03 EXCESS= .0000E+00 OUTFLOW= .2141E+03 BASIN STORAGE= .9028E-01 PERCENT ERROR=    .0

1                                                HEC-1 INPUT                                                PAGE  1

          LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
                        *


*** NORMAL END OF HEC-1 ***
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APPENDIX B

ELECTRONIC FILES (CD)

APPENDIX C

HEC-2 OUTPUT

HEC-2 Model BDN1SPC1

Subcritical Flow Calculations
For North Branch Blue Diamond Wash
Section No: 31000 ~ 40700

```
1*********************************************
*  HEC-2 WATER SURFACE PROFILES             *
*                                           *
*  Version   4.6.2;  May 1991               *
*                                           *
*  RUN DATE    11AUG06    TIME   10:17:38   *
*********************************************
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*****************************************
*  U.S. ARMY CORPS OF ENGINEERS         *
*  HYDROLOGIC ENGINEERING CENTER        *
*  609 SECOND STREET, SUITE D           *
*  DAVIS, CALIFORNIA 95616-4687         *
*           (916) 756-1104              *
*****************************************
```


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X     X  XXXXXXX   XXXXX              XXXXX
X     X  X        X     X            X     X
X     X  X        X                  X     X
XXXXXXX  XXXX     X          XXXXX    XXXXX
X     X  X        X                  X
X     X  X        X     X            X
X     X  XXXXXXX   XXXXX              XXXXXXX
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THIS RUN EXECUTED 11AUG06 10:17:38

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*************************************
 HEC-2 WATER SURFACE PROFILES

 Version   4.6.2;  May 1991
*************************************
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T1      LOW BLUE DIAMOND DETENTION BASIN IN OPERATION
T2      LBDDB - CLOMR
T3      NORTH BRANCH HEC-2 STUDY
T4      FLOODPLAIN AND FLOODWAY MODEL
T4      SUPERCRITICAL:BDN1SPC1
T4      STREAM NAME: NORTH BRANCH BLUE DIAMOND WASH
T4      UPSTREAM LIMIT: LOW BLUE DIAMOND DETENTION BASIN
T4      DOWNSTREAM LIMIT: CONFLUENCE WITH DUCK CREEK

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

                2                   1                                       278   2320.49

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

      1                 -1                                      -1        -6

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    115       101       100       150

J5  LPRNT     NUMSEC                        ********REQUESTED SECTION NUMBERS********

    -10       -10

NC    0.045     0.045     0.04      0.1       0.3
X1    39000       7     1003.41   1028.87   369.09    316.16    382.74
GR     2324    641.58   2320.12   1003.41    2320     1006.96   2316.79   1018.32     2320     1028.87
GR   2320.4    1144.02     2324    1344.92

NC    0.045     0.045     0.04      0.1       0.3
X1    38900       10      1305.3    1317.33   359.74    504.55    345.54
GR     2316     1000       2316    1007.48    2316     1157.51     2316    1194.44     2316     1296.36
GR     2312    1305.3      2310    1309.23    2312     1317.33     2316    1584.11     2316      1654.3

NC    0.045     0.045     0.04      0.1       0.3

X1    38800       8       1303.98   1324.45   436.89    274.3     433.91
GR   2313.6    855.93       2312      1000     2308     1020.6      2304    1058.52    2303.11    1303.98
GR   2303.1    1324.45      2304    1681.38    2308     2113.19

NC    0.045     0.045     0.04      0.1       0.3
NH        2     0.045     1158.67   0.04      1712.01

X1    38700       10      1355.63   1368.48   378.88    390.2     319.18
GR     2308     939.66       2308      1000     2308     1022.47     2308     1112.8     2308     1112.92
GR     2304    1140.97       2300    1158.67    2299.03  1355.63   2299.08   1368.48     2300     1712.01

NC    0.045     0.045     0.04      0.1       0.3
NH        3     0.045     1255.89   0.04      2229.66   0.045     2276.44
X1    38600       12      1293.65   1330.76   295.49    814.29    324.15
GR     2304      1000       2304    1045.04     2304    1141.03     2304    1144.05     2304     1158.41
GR     2300    1182.33      2296    1255.89    2295.57  1293.65   2295.57   1330.76    2295.57    1386.9
GR     2296    2229.66      2300    2276.44

NC    0.045     0.045     0.04      0.3       0.5
NH        3     0.045     1160.83   0.04      1395.93   0.045     1578.89        •
  UPSTREAM SIDE VALLEY VIEW BOULEVARD CROSSING
X1    38500       7       1255.44   1265.25   43.05     48.84     42.51
GR     2300     977.33       2300      1000     2300    1160.83     2296    1255.44     2296     1265.25
GR     2300    1395.93      2300    1578.89

NC     0.11     0.045     0.04      0.3       0.5
NH        3     0.11      1216.03   0.04      1448.42   0.045     1600.21
  DOWNSTREAM SIDE VALLEY VIEW BOULEVARD CROSSING
X1    38400       10      1307.12   1327.5    257.39    260.28    254.63
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GR     2300      1000      2300     1213.74     2300     1216.03      2296     1289.97     2295.5     1307.12
GR     2295   1317.76      2295.5    1327.5     2296     1348.39      2300     1448.42       2300     1600.21

NC     0.11      0.11       0.04       0.1      0.3
X1    38300         7    1280.96    1298.31   290.36       338.9    384.73
GR     2296      1000      2296     1278.8     2292     1280.96      2290     1289.19       2292     1298.31
GR     2296   1491.97    2296.51    1538.75

NC     0.08      0.08       0.04       0.1      0.3
NH        2      0.08    1630.86       0.04  1822.04
X1    38200         5    1709.56    1730.51      308      298.02    265.43
GR     2296    1505.8      2292     1630.86  2288.58     1709.56   2288.58     1730.51       2292     1822.04

NC     0.11      0.11       0.04       0.1      0.3
NH        3      0.11    1421.08       0.04  1449.43        0.11   1665.61
X1    38100         6    1432.04     1432.7   384.72      461.59    425.67
GR   2290.5   1281.77      2288     1421.08     2284     1432.04      2284      1432.7       2288     1449.43
GR     2292   1665.61

NC     0.08      0.08       0.04       0.1      0.3
NH        3      0.08    1393.95       0.04  1423.18        0.08   1560.82
X1    38000         7    1393.95    1423.18   407.38      317.46    401.16
GR   2284.5   1338.95      2284     1393.95     2280     1404.51      2280      1407.9       2284     1423.18
GR     2284   1538.49      2285     1560.82


NC     0.11      0.11       0.04       0.1      0.3
X1    37900         7    1366.14    1386.22   174.59      201.97    187.27
GR     2280   1131.54      2276     1366.14     2276     1371.18      2274     1378.63       2276     1386.22
GR     2280   1440.91      2280     1503.61

NC     0.11      0.11       0.04       0.1      0.3
NH        3      0.11    1395.25       0.04  1422.26        0.11   1651.97
X1    37800         9    1405.5       1406   130.33      127.14    150.06
GR     2276   1203.71      2276     1203.72     2276     1318.35      2276     1395.25    2272.22       1405
GR   2272.2      1406   2272.22       1407     2276     1422.26      2280     1651.97

NC     0.11      0.11       0.04        0.3      0.5
   UPSTREAM SIDE INDUSTRIAL ROAD CROSSING
X1    37700         7    1297.95     1310.1    40.26         40       40
GR     2276      1000      2276     1006.61     2272     1297.95      2270     1309.46       2272     1310.1
GR     2276   1353.14      2280     1593.41

NC    0.016     0.016      0.016        0.3      0.5
   DOWNSTREAM SIDE INDUSTRIAL ROAD CROSSING
X1    37600         8       1160        1164       34         34       34
GR     2276      1000     2274.4     1097.78     2272     1145.68      2272      1160       2272     1164
GR     2272   1174.91     2274.4     1229.43     2276     1256.03

NC     0.11      0.11       0.04        0.3      0.5
NH        3      0.11    1319.45       0.04  1372.09        0.11   1714.93
X1    37500        10    1349.24    1350.56   291.36      258.88    214.02
GR     2276      1000      2276     1008.03     2272     1319.45      2266     1349.24       2266     1350.56
GR     2272   1371.98      2272     1372.09     2276     1520.63      2276     1520.81     2276.2     1714.93

NC    0.045     0.045      0.04        0.1      0.3
NH        3     0.045    1532.04       0.04  1733.17       0.045   1960.34
X1    37400        11    1606.6     1640.05   169.95      206.32    216.47
GR     2273   1327.71      2272     1379.15     2272     1395.47      2272      1420.6       2272     1532.04
GR     2268    1606.6      2268     1630.39     2268     1640.05      2272     1711.73    2272.85     1733.17
GR   2274.2   1960.34

NC    0.045     0.045      0.04        0.1      0.3
QT        2       278       278
X1    37300        14    1510.9    1623.33     170.7      129.98    158.16
GR     2272   1356.16      2268     1417.09     2268     1446.73      2268     1446.76       2268     1449.07
GR     2268    1510.9      2264     1605.83     2264     1608.43      2268     1623.33       2268     1709.85
GR     2268   1711.26      2268     1725.37     2272     1876.63      2272      1947.7

NC    0.045     0.045      0.04        0.1      0.3
QT        2       566       566
X1    37200        11    1367.67    1446.26   167.72       107.1    178.92
GR     2272    976.59      2271.25  1004.55     2268     1283.99      2268        1284    2265.03     1367.67
GR     2264   1423.18      2264     1438.75     2268     1446.26   2268.34     1482.01     2269.4     1718.33
GR     2272   1841.91

NC     0.08      0.08      0.015        0.3      0.5
ET                            7.1                                    835.45     1954.09
   UPSTREAM FACE OF I-15
X1    37100         6    1306.83    1318.83      250         250      250
X3       10
GR   2270.1    835.45      2270.1   1306.83  2260.22     1306.83   2260.22     1318.83       2270.1   1318.83
GR   2270.1   1954.09

NC    0.045     0.045      0.04        0.3      0.5
SB                  1.5         3         800       12                  60           0    2260.22    2257.92
   DOWNSTREAM FACE OF I-15
X1    37000         7    1572.07    1584.07   137.55      218.96    204.16
X2                            1    2265.22   2270.1
X3       10
GR   2270.1      1000      2270.1   1028.66   2270.1     1572.07   2257.92     1572.07       2257.92  1584.07
GR   2270.1   1584.07      2270.1     1806.6

NC    0.045     0.045      0.04        0.1      0.3
NH        3     0.045    1504.34       0.04  1588.74       0.045   1675.1


X1    36900         7    1564.44    1568.29   160.65      140.23    394.68
GR     2264   1339.37      2260     1504.34     2256     1564.44      2256     1568.29       2260     1588.59
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GR     2260     1588.74       2264      1675.1

NC    0.045       0.045       0.04         0.1         0.3
NH        3       0.045    1197.01        0.04     1284.66       0.045     1485.69
X1    36800          12    1230.18     1250.02      518.31       274.4      398.79
GR     2260     1033.83       2256     1131.33        2256     1134.04     2256.14      1136.5        2256     1197.01
GR     2252     1222.02       2252     1230.18        2252     1250.02        2252      1263.7        2256     1284.66
GR     2260     1469.28       2260     1485.69

NC    0.045       0.045       0.04         0.1         0.3
NH        2        0.04    1606.58       0.045     1702.03
X1    36700           9    1545.74     1566.11      305.53       458.06      397.16
GR     2252     1453.28    2251.09     1474.82        2248     1545.74        2248     1566.11        2252     1606.58
GR     2252      1606.6       2256      1645.5     2256.37     1650.93        2260     1702.03

NC    0.045       0.045       0.04         0.1         0.3
NH        3       0.045    1302.97        0.04     1687.74       0.045     1766.03
X1    36600          14    1571.61     1605.6       284.54       325.8      398.14
GR     2256     1195.81       2252     1242.31        2249.35  1279.51        2248     1302.97        2244     1470.23
GR     2244     1472.42       2244     1571.61        2244     1605.6         2244     1635.79        2244     1639.03
GR     2248     1687.74       2252     1709.36        2256     1761.8         2256     1766.03


NC    0.045       0.045       0.04         0.1         0.3
NH        3       0.045    1598.98        0.04     1868.55       0.045     2064.85
X1    36500          12    1694.69     1728.22      246.88       318.79      368.86
GR     2248     1504.72       2244     1518.77        2244     1545.73        2244     1547.66        2242.53  1598.98
GR     2240     1694.69       2240     1728.22        2240     1732.35        2240     1737.36        2243.92  1867.36
GR     2244     1868.55       2248     2064.85

NC     0.04        0.04        0.04         0.1         0.3
X1    36400           7     1481.5      1514.4      509.27       408.27      450.51
GR     2244     1371.45       2240     1395.29        2236     1481.5         2236      1514.4        2236     1525.44
GR     2240     1613.08       2244     1639.56

NC    0.045       0.045       0.04         0.1         0.3
NH        3       0.045    1617.59        0.04     1687.81       0.045     1855.12
X1    36300          15    1646.35     1659.41      167.58       119.92      136.88
GR     2240     1362.06       2236     1415.14        2232     1548.93        2232     1549.65        2232     1549.86
GR     2232     1617.59       2228     1646.35        2228     1659.41        2230.8   1681.03        2232     1687.81
GR     2232     1749.56       2232     1756.17        2236     1827.25        2236     1827.29        2240     1855.12

NC    0.045       0.045       0.04         0.1         0.3
NH        3       0.045    1225.36        0.04     1307.23       0.045     1524.21
X1    36200          10    1243.89     1266.18      100.22       112.32      119.17
GR     2236        1000       2232     1225.36        2226.5   1243.89        2226.5   1266.18        2231.88  1307.23
GR     2232     1308.39       2232     1376.88        2232     1427.08        2236     1496.47        2236     1524.21

NC    0.016       0.016       0.015        0.3         0.5
QT        1         566
  UPSTREAM FACE OF LAS VEGAS BOULEVARD
  WATER SURFACE ELEVATION SET AT 2231.3 FEET NGVD
  BASED ON RATING CURVE OF MULTIPLE OPENINGS
X1    36100           7    1349.84     1371.44      189.04       170.86      178.09
X5        1      2231.3      2231.3
GR     2236        1000       2229.94  1349.84      2224.94  1349.84        2224.94  1371.44        2229.94  1371.44
GR     2232     1439.33       2236      1567.5

NC     0.08        0.11       0.015        0.3         0.5
  DOWNSTREAM FACE OF LAS VEGAS BOULEVARD
X1    36000           4    1352.08     1373.68      141.57       120.73      146.7
GR   2229.9     1352.08      2220.4     1352.08      2220.4   1373.68        2229.9   1373.68

NC     0.08        0.11       0.015        0.1         0.3
X1    35900           4        1813     1856.5       185.27       158.53      170.39
GR   2222.8        1813     2215.83        1827     2215.83  1842.5         2222.8   1856.5

NC     0.08        0.11       0.015        0.1         0.3
X1    35800           4        1870     1913.5       229.07       324.61      277.14
GR   2222.5        1870     2215.54        1884     2215.54  1899.5         2222.5   1913.5

NC     0.08        0.11       0.015        0.1         0.3
X1    35700           4        1278     1321.5        70.67        59.07       64.09
GR   2219.7        1278     2212.75        1292     2212.75  1307.5         2219.7   1321.5

NC     0.11        0.08       0.015        0.1         0.3
X1    35600           4        1053     1096.5       106.97       100.66      102.05
GR   2219.3        1053     2212.35        1067     2212.35  1082.5         2219.3   1096.5

NC     0.11        0.08       0.015        0.1         0.3
X1    35500           4        1399     1442.5       182.19       175.56      182.08
GR   2218.1        1399     2211.3         1413     2211.3   1428.5         2218.1   1442.5

NC     0.11        0.08       0.015        0.1         0.3

X1    35400           4        1029     1072.5       259.5        253.83      254.15
GR   2216.6        1029     2209.6         1043     2209.6   1058.5         2216.6   1072.5

NC     0.11        0.08       0.015        0.3         0.5
  UPSTREAM FACE OF HAVEN ROAD
X1    35300           4    1656.545    1693.545      52.69        108         73.35
GR   2212.2    1656.545     2207.2    1656.545      2207.2   1693.545       2212.2   1693.545

NC    0.045       0.045       0.04         0.3         0.5
SB      0.9         1.5          3          51          37       1.34         181           0        2207.2   2206.8
  DOWNSTREAM FACE OF HAVEN ROAD
X1    35200           7        1306     1343         153.05       185.92      159.34
X2                              1        2212.2       2214.24                           1.33
GR   2212.2        1051     2212.2         1306     2206.8   1306           2206.8   1343          2212.2   1343
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GR   2212.2      1472       2216       1576

NC     0.045     0.045      0.04        0.1        0.3
X1     35100         7    1525.46    1569.18      92.75     134.15     128.06
GR      2212   1279.66    2210.55    1481.55       2208    1525.46       2208    1569.18       2212    1579.55
GR      2216   1643.62       2216    1681.54

NC     0.045      0.08      0.04        0.1        0.3
NH         3     0.045    1457.64        0.04    1557.14       0.08    1604.27
X1     35000        12    1482.85    1493.28     241.08     170.45     230.88
GR      2210   1237.03     2208.6    1393.78       2208    1419.53       2208    1430.96       2208    1457.64
GR      2208   1482.85       2206    1487.54       2208    1493.28       2208    1557.14       2212    1578.22
GR      2216   1598.43       2216    1604.27

NC      0.08      0.08      0.04        0.1        0.3
NH         3      0.08    1605.58        0.04    1800.65       0.08    1926.69
X1     34900        13    1726.44     1767.5     126.24      78.22     162.28
GR      2208   1486.73       2208    1559.43       2208    1573.52       2208    1605.58    2206.71    1644.77
GR      2204   1726.44       2204     1767.5       2208    1800.65       2208    1825.65       2208     1836.4
GR      2208   1842.41       2212    1860.17       2212    1926.69

NC     0.016     0.016     0.016        0.1        0.3
   UPSTREAM FACE OF RANCHO DESTINO ROAD
X1     34800        10    1036.85    1055.91      63.71      67.19      65.75
GR      2208    480.33       2206     702.68     2205.7     948.47       2204    1000.01       2204    1015.44
GR      2204   1036.85       2204    1055.91       2204    1069.59       2208    1133.33       2212    1181.46

NC     0.045      0.08      0.04        0.1        0.3
NH         3     0.045    1306.39        0.04    1512.65       0.08    1564.46
   DOWNSTREAM FACE OF RANCHO DESTINO ROAD
X1     34700        10    1389.69    1404.48     237.38        333     332.71
GR      2206    813.52       2204    1012.57       2204    1306.39       2200    1320.72       2200    1389.69
GR      2200   1404.48       2200    1415.35       2204    1448.64       2208    1512.65       2212    1564.46

NC     0.045      0.08      0.04        0.1        0.3
NH         3     0.045    1520.01        0.04     1667.2       0.08    1776.93
X1     34600        10    1570.99    1587.02     245.83     417.47     429.06
GR     2200.2   1410.05       2200    1520.01       2196    1548.01       2193    1570.99       2193    1587.02
GR      2196   1624.86       2200    1648.37       2204     1667.2       2204    1686.95       2204    1776.93

NC     0.045      0.08      0.04        0.1        0.3
NH         3     0.045    1240.15        0.04    1416.64       0.08    1582.96
X1     34500         9    1342.27    1370.35     502.82     269.08     390.01
GR      2196   1085.59    2194.17    1240.15       2192    1308.42       2192    1342.27       2192    1370.35
GR      2192   1392.85       2192    1392.98    2193.21    1416.64    2195.85    1582.96

NC      0.08      0.08      0.04        0.1        0.3
NH         3      0.08    1070.71        0.04    1141.49       0.08    1424.41


X1     34400         9    1098.78    1141.49     424.52     239.74     374.06
GR      2192      1000       2192    1000.21       2192    1025.09       2192    1070.71       2188    1098.78
GR    2184.9   1131.02       2188    1141.49       2192    1237.56       2192    1424.41

NC      0.08      0.08      0.04        0.1        0.3
NH         3      0.08    1377.14        0.04    1454.36       0.08    1678.69
ET                           6.4
X1     34300        10    1387.12    1426.77     339.85     525.49     409.15
GR      2190   1182.23       2188    1309.82    2185.95    1346.64       2184    1377.14       2180    1387.12
GR      2180    1405.6       2180    1426.77       2184    1454.36       2188    1534.83       2188    1678.69

NC      0.08      0.08      0.04        0.1        0.3
NH         3      0.08    1110.8        0.04    1146.94       0.08    1301.17
ET                           7.1                            1110.8    1146.94
X1     34200         7    1120.37    1136.68     227.71     174.83     247.27
GR      2184      1000       2184    1000.09       2180     1110.8       2176    1120.37       2176    1136.68
GR      2180   1146.94    2181.93    1301.17

NC      0.04      0.04      0.04        0.1        0.3
ET                           7.1                            1470       1570
X1     34100        11    1483.75    1524.91      58.87      75.15      53.36
GR      2180   1357.43       2176    1483.74       2176    1483.75    2175.84    1509.03    2175.84    1511.82
GR    2175.8   1513.97       2176    1524.87       2176    1524.91       2176    1613.63       2176    1646.15
GR      2180   1694.07

NC      0.08      0.08      0.04        0.3        0.5
NH         3      0.08    1242.38        0.04    1561.11       0.08    1577.75
ET                           7.1                            1363       1453
X1     34000         9    1383.05    1414.07      75.04     120.88      94.08
GR      2180   1116.08       2180    1242.32       2180    1242.38       2176    1383.05    2175.84    1414.07
GR    2175.8   1451.26       2176    1519.23       2180    1561.11    2180.31    1577.75

NC      0.08      0.08      0.04        0.1        0.3
NH         3      0.08    1371.75        0.04    1427.5       0.08    1540.99
ET                           7.1                            1375       1425
X1     33900        11    1398.05    1414.24     378.93     329.83     374.74
GR      2180   1036.31    2176.76    1338.62       2176    1371.75       2172    1385.42       2172    1398.05
GR      2168   1402.89       2172    1414.24       2176     1427.5       2180    1539.82       2180    1540.95
GR      2180   1540.99

NC      0.08      0.08      0.04        0.1        0.3
NH         3      0.08    1273.01        0.04    1330.04       0.08    1582.07
ET                           8.4
X1     33800        12    1287.55    1319.32      360.6     599.96     450.79
GR      2176   1061.88       2176    1111.53       2176    1125.31       2172    1273.01       2168    1287.55
GR      2164    1307.2       2164    1308.08       2164    1308.58       2168    1319.32       2172    1330.04
GR      2176   1486.56       2176    1582.07

NC      0.08      0.08      0.04        0.1        0.3
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NH        3       0.08     1089.24       0.04     1244.7       0.08     1265.51
ET                           8.4
X1    33700         10     1209.87     1232.89     512.57     243.29      417.95
GR     2168     966.62        2168        1000       2164    1089.24      2161.5    1174.71     2161.5     1209.87
GR   2161.5    1232.89        2164      1244.7       2164    1244.73        2168    1261.94       2168     1265.51

NC    0.045       0.08        0.04         0.1        0.3
ET                           7.1                                  880       1040
X1    33600          8      941.27      982.53         35         35          35
GR     2161     508.85        2160      884.55       2160     941.27        2160     982.53       2160       1000
GR     2160    1067.39        2160     1212.63       2164    1467.98

NC    0.045       0.04        0.04         0.1        0.3
ET                           7.1                                 1200       1300
  BERMUDA ROAD CROSSING
X1    33500         10     1214.68     1255.19         20         20          20
GR     2161     784.83        2160        1000       2160    1011.42      2158.7    1161.59     2158.7     1214.68
GR   2158.7    1224.73      2158.7     1255.19      2159.5    1286.56        2160    1347.06       2162      1502.8

NC     0.08      0.045        0.04         0.1        0.3
NH        3       0.08        1000         0.04       1209.49     0.045     1608.41
ET                           7.1                                 1050       1140
X1    33400          8     1070.82        1108     348.25     312.97      336.11
GR     2161     638.66        2160        1000       2158.47  1070.82      2158.47   1078       2158.47      1108
GR     2160    1209.49        2161     1357.07       2162.68  1608.41

NC    0.045      0.045        0.04         0.1        0.3
NH        3      0.045     1448.97         0.04    1575.06      0.045     1767.59
ET                           7.1                                 1456       1502
X1    33300         11     1468.48      1486.2     355.94     293.02      369.24
GR     2156       1000        2156     1448.97       2152    1466.88        2151    1468.48       2151     1478.01
GR     2151     1486.2        2152     1501.04       2156    1575.06        2156    1575.14       2156     1626.77
GR     2156    1767.59

NC    0.045      0.045        0.04         0.1        0.3
NH        3      0.045        1000         0.04    1164.78      0.045     1516.15
ET                           7.1                                 1064       1096
X1    33200          7     1064.91     1090.67     405.48      293.6      404.84
GR   2150.2     436.72      2149.83        1000       2148    1064.91        2146    1080.81       2148     1090.67
GR   2150.6    1164.78        2152     1516.15

NC    0.045      0.045        0.04         0.1        0.3
NH        3      0.045     1382.37         0.04    1497.79      0.045     1992.12
ET                           7.1                                 1377       1503
X1    33100         13     1382.37     1497.79     366.23      465.9      491.53
GR   2145.2       1000        2144     1219.64       2144    1244.07        2144    1382.37       2144     1412.69
GR     2144     1454.39        2144     1457.77    2144.31    1497.79        2144    1675.05       2144     1693.74
GR     2144     1841.71      2144.1     1844.27       2148    1992.12

NC     0.11       0.11       0.015          0.3        0.5
  UPSTREAM FACE OF AMIGO STREET
X1    33000         14     1304.135     1324.935      88.18      85.33      92.78
X3        0                  1304.13      2130.94    1324.94    2130.94
GR   2140.2     956.15        2140        1000       2140    1052.8        2140    1071.2        2136     1270.82
GR   2130.9    1304.135      2125.25     1304.135    2125.25  1324.935      2130.94 1324.935      2136     1415.65
GR     2136    1415.94      2135.74     1456.68       2136    1494.85      2137.32   1607.51

NC     0.11       0.11       0.015          0.1        0.3
SB      0.9        1.5           3           40       20.8        0.8        83.2         0     2125.25     2124.89
  DOWNSTREAM FACE OF AMIGO STREET
X1    32900          6     1465.545     1486.345        200        200        200
X2                               1       2149.25    2133.84                            1.33
X3        0                  1465.54      2130.94    1486.34    2130.94
GR     2136       1000        2130.94     1465.545    2124.89  1465.545      2124.89 1486.345      2130.94  1486.345
GR     2136    1796.06

NC     0.11       0.11       0.015          0.1        0.3
X1    32800          4        1000         1020        200        200        200
GR   2128.3       1000        2120.37        1000       2120.37  1020        2128.3    1020

NC     0.11       0.11       0.015          0.3        0.5
  UPSTREAM FACE OF ROBINDALE ROAD
X1    32700          4     1251.25     1273.86        145        145        145
GR   2124.6    1251.25      2115.84     1251.255    2115.84  1273.855      2124.6    1273.86

NC     0.11       0.11       0.015          0.1        0.3
SB      0.9        1.5           3           50       22.6        1.6        90.4         0     2115.84     2113.09
  DOWNSTREAM FACE OF ROBINDALE ROAD
X1    32600          4        1000       1022.6        300        300        300
X2                               1       2139.84    2124.63                            1.33
GR   2124.6       1000        2113.09        1000       2113.09  1022.6      2124.63   1022.6

NC     0.11       0.11       0.015          0.1        0.3


X1    32500          4        1584         1594        400        400        400
GR   2116.6       1584        2108.63        1584       2108.63  1594        2116.6    1594

NC     0.11       0.11       0.015          0.3        0.5

X1    32400          4        1507         1517        100        100        100
GR   2113.2       1507        2105.27        1507       2105.27  1517        2113.2    1517

NC     0.11       0.11       0.015          0.1        0.3

X1    32300          4        1000         1010        100        100        100
GR   2112.4       1000        2104.43        1000       2104.43  1010        2112.4    1010

NC     0.11       0.11       0.015          0.1        0.3
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X1    32200         4       1000       1010        400        400        400
GR   2111.6      1000    2103.59       1000    2103.59       1010     2111.6       1010

NC     0.11      0.11      0.015        0.3        0.5
X1    32100         4       1035       1045        100        100        100
GR   2108.2      1035    2100.23       1035    2100.23       1045     2108.2       1045

NC     0.11      0.11      0.015        0.3        0.5

X1    32000         4       1061       1071         70         70         70
GR   2107.4      1061    2099.39       1061    2099.39       1071     2107.4       1071

NC     0.11      0.11      0.015        0.1        0.3

X1    31900         4       1045       1055        405        405        405
GR   2106.8      1045     2098.8       1045     2098.8       1055     2106.8       1055

NC     0.11      0.11      0.015        0.1        0.3


X1    31800         4       1592       1602        388        388        388
GR   2103.4      1592    2095.4        1592    2095.4        1602     2103.4       1602

NC     0.11      0.11      0.015        0.1        0.3

X1    31700         4       1130       1140        388        388        388
GR   2100.1      1130    2092.14       1130    2092.14       1140     2100.1       1140

NC     0.11      0.11      0.015        0.3        0.5
  UPSTREAM FACE OF PARADISE ROAD
X1    31600         8       1489       1519      310.59     189.36     261.42
GR     2096   1428.35       2096    1445.52        2096    1479.75     2093.9       1489     2088.9       1489
GR   2088.9      1519    2093.9        1519        2100    1602.61

NC     0.11     0.016      0.015        0.3        0.5
SB      0.9       1.5          3         72         30          4        170          0     2088.87     2087.58
  DOWNSTREAM FACE OF PARADISE ROAD
X1    31500         6       1005       1035        150        150        150
X2                            1    2113.87     2195.9                             1.33
GR     2093    942.82     2093.9       1005     2087.6       1005     2087.6       1035     2093.9       1035
GR   2099.1    1140.3

NC     0.11      0.11      0.015        0.1        0.3


X1    31400         4       1130       1140        100        100        100
GR   2094.8      1130    2086.8        1130    2086.8        1140     2094.8       1140

NC     0.11      0.11      0.015        0.1        0.3
X1    31300         4       1126       1136        400        400        400
GR   2094.2      1126    2086.2        1126    2086.2        1136     2094.2       1136

NC     0.11      0.11      0.015        0.1        0.3


X1    31200         4       1038       1048        400        400        400
GR   2089.4      1038    2081.4        1038    2081.4        1048     2089.4       1048

NC     0.11      0.11      0.015        0.1        0.3


X1    31100         4       1337       1347        400        400        400
GR   2084.8      1337    2076.85       1337    2076.85       1347     2084.8       1347


NC     0.025     0.025      0.015        0.1        0.3
ET                            8.4
  CONFLUENCE WITH DUCK CREEK
       CONFLUENCE WITH DUCK CREEK
X1    31000         7    1062.75    1103.47
GR     2080   1045.89    2077.61    1062.75        2072    1070.38        2072     1086.4        2072     1094.76
GR     2072   1094.77    2077.25    1103.47

T1LOW BLUE DIAMOND DETENTION BASIN IN OPERATION
T2 CLOMR
T3HEC-2 STUDY SUPERCRITICAL FLOW

J1  ICHECK     INQ        NINV       IDIR       STRT       METRIC     HVINS      Q          WSEL       FQ

                 3                     1                                          278     2404.6

J2  NPROF      IPLOT      PRFVS      XSECV      XSECH      FN         ALLDC      IBW        CHNIM      ITRACE

     15                    -1                                          -1         -6
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THIS RUN EXECUTED 11AUG06 10:17:38

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**************************************
 HEC-2 WATER SURFACE PROFILES

 Version   4.6.2;  May 1991
**************************************

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

NORTH BRANCH HEC-2 STUDY
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SUMMARY PRINTOUT TABLE 100

	SECNO	EGLWC	ELLC	EGPRS	ELTRD	QPR	QWEIR	CLASS	H3	DEPTH	CWSEL	VCH	EG
*	37000.000	2265.16	2265.22	.00	2270.10	566.00	.00	59.00	.00	3.93	2261.85	11.97	2264.08
•	37000.000	2265.16	2265.22	.00	2270.10	566.00	.00	59.00	.00	3.93	2261.85	11.97	2264.08
*	35200.000	2210.68	2212.20	.00	2214.24	566.00	.00	3.00	.00	1.16	2207.96	13.24	2210.68
•	35200.000	2210.68	2212.20	.00	2214.24	566.00	.00	3.00	.00	1.16	2207.96	13.24	2210.68
	32900.000	2130.61	2149.25	.00	2133.84	566.00	.00	3.00	.00	1.69	2126.58	16.11	2130.61
	32900.000	2131.30	2149.25	.00	2133.84	566.00	.00	3.00	.00	1.54	2126.43	17.72	2131.30
	32600.000	2119.04	2139.84	.00	2124.63	566.00	.00	3.00	.00	1.48	2114.57	16.98	2119.04
	32600.000	2119.04	2139.84	.00	2124.63	566.00	.00	3.00	.00	1.47	2114.56	16.99	2119.04
	31500.000	2092.09	2113.87	.00	2195.90	566.00	.00	3.00	.00	1.32	2088.92	14.29	2092.09
	31500.000	2092.09	2113.87	.00	2195.90	566.00	.00	3.00	.00	1.32	2088.92	14.30	2092.09

NORTH BRANCH HEC-2 STUDY

SUMMARY PRINTOUT TABLE 101

SECNO	EGOC	ELLC	EGIC	ELTRD	QCULV	QWEIR	CLASS	H4	DEPTH	CWSEL	VCH	EG

NORTH BRANCH HEC-2 STUDY

SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
*	39000.000	.00	.00	.00	2316.79	278.00	2320.49	2320.49	2320.79	78.20	4.85	86.99	31.44
*	39000.000	.00	.00	.00	2316.79	278.00	2320.51	2320.51	2320.79	72.06	4.70	91.16	32.75
*	38900.000	382.74	.00	.00	2310.00	278.00	2312.61	2313.17	2314.44	573.59	11.81	32.74	11.61
*	38900.000	382.74	.00	.00	2310.00	278.00	2312.58	2313.16	2314.60	642.20	12.31	30.85	10.97
•	38800.000	345.54	.00	.00	2303.10	278.00	2303.62	2303.62	2303.76	355.98	4.52	101.30	14.73
•	38800.000	345.54	.00	.00	2303.10	278.00	2303.62	2303.62	2303.76	355.98	4.52	101.30	14.73
*	38700.000	433.91	.00	.00	2299.03	278.00	2299.61	2299.61	2299.76	314.72	4.47	95.04	15.67
*	38700.000	433.91	.00	.00	2299.03	278.00	2299.61	2299.61	2299.76	314.72	4.47	95.04	15.67
*	38600.000	319.18	.00	.00	2295.57	278.00	2295.87	2295.87	2295.96	376.46	3.23	120.17	14.33
*	38600.000	319.18	.00	.00	2295.57	278.00	2295.87	2295.87	2295.96	376.46	3.23	120.17	14.33
*	38500.000	324.15	.00	.00	2296.00	278.00	2297.31	2297.31	2297.68	209.05	6.43	61.12	19.23
•	38500.000	324.15	.00	.00	2296.00	278.00	2297.31	2297.31	2297.68	209.05	6.43	61.12	19.23
*	38400.000	42.51	.00	.00	2295.00	278.00	2296.51	2296.51	2296.89	174.90	5.74	60.48	21.02
•	38400.000	42.51	.00	.00	2295.00	278.00	2296.51	2296.51	2296.89	174.90	5.74	60.48	21.02
•	38300.000	254.63	.00	.00	2290.00	278.00	2293.06	2293.06	2293.74	140.54	7.00	62.94	23.45
*	38300.000	254.63	.00	.00	2290.00	278.00	2293.06	2293.06	2293.74	140.54	7.00	62.94	23.45
*	38200.000	384.73	.00	.00	2288.58	278.00	2289.77	2289.77	2290.16	200.04	5.90	60.17	19.66
•	38200.000	384.73	.00	.00	2288.58	278.00	2289.77	2289.77	2290.16	200.04	5.90	60.17	19.66
*	38100.000	265.43	.00	.00	2284.00	278.00	2287.27	2287.27	2288.11	186.64	11.18	39.20	20.35
*	38100.000	265.43	.00	.00	2284.00	278.00	2287.27	2287.27	2288.11	186.64	11.18	39.20	20.35
•	38000.000	425.67	.00	.00	2280.00	278.00	2282.92	2282.92	2283.78	209.82	7.41	37.49	19.19
•	38000.000	425.67	.00	.00	2280.00	278.00	2282.92	2282.92	2283.78	209.82	7.41	37.49	19.19
*	37900.000	401.16	.00	.00	2274.00	278.00	2277.04	2277.04	2277.61	148.13	6.56	75.36	22.84
*	37900.000	401.16	.00	.00	2274.00	278.00	2277.04	2277.04	2277.61	148.13	6.56	75.36	22.84
•	37800.000	187.27	.00	.00	2272.20	278.00	2275.35	2275.35	2276.21	180.09	10.68	38.64	20.72
•	37800.000	187.27	.00	.00	2272.20	278.00	2275.35	2275.35	2276.21	180.09	10.68	38.64	20.72
	37700.000	150.06	.00	.00	2270.00	278.00	2273.27	2273.31	2273.84	146.70	7.14	94.80	22.95
	37700.000	150.06	.00	.00	2270.00	278.00	2273.27	2273.31	2273.84	146.70	7.14	94.80	22.95
*	37600.000	40.00	.00	.00	2272.00	278.00	2273.03	2273.08	2273.47	45.42	6.34	52.05	41.25
*	37600.000	40.00	.00	.00	2272.00	278.00	2273.03	2273.08	2273.47	45.42	6.34	52.05	41.25
*	37500.000	34.00	.00	.00	2266.00	278.00	2267.93	2268.97	2271.95	1534.83	22.53	18.38	7.10
•	37500.000	34.00	.00	.00	2266.00	278.00	2267.93	2268.97	2271.95	1534.83	22.53	18.38	7.10

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
•	37400.000	214.02	.00	.00	2268.00	278.00	2269.08	2269.08	2269.49	203.67	5.59	57.67	19.48
•	37400.000	214.02	.00	.00	2268.00	278.00	2269.08	2269.08	2269.49	203.67	5.59	57.67	19.48
*	37300.000	216.47	.00	.00	2264.00	278.00	2265.81	2265.81	2266.30	242.26	5.58	49.86	17.86
•	37300.000	216.47	.00	.00	2264.00	278.00	2265.81	2265.81	2266.30	242.26	5.58	49.86	17.86
*	37200.000	158.16	.00	.00	2264.00	566.00	2265.65	2265.65	2266.21	205.28	6.08	96.52	39.50
*	37200.000	158.16	.00	.00	2264.00	566.00	2265.65	2265.65	2266.21	205.28	6.08	96.52	39.50
•	37100.000	178.92	.00	.00	2260.22	566.00	2264.31	2264.31	2266.38	41.37	11.53	49.10	88.00
•	37100.000	178.92	.00	.00	2260.22	566.00	2264.31	2264.31	2266.38	41.37	11.53	49.10	88.00

•	37000.000	250.00	2270.10	2265.22	2257.92	566.00	2261.85	2262.01	2264.08	326.92	11.97	47.29	31.30
*	37000.000	250.00	2270.10	2265.22	2257.92	566.00	2261.85	2262.01	2264.08	326.92	11.97	47.29	31.30
*	36900.000	204.16	.00	.00	2256.00	566.00	2258.75	2258.75	2259.49	177.88	9.72	86.52	42.44
*	36900.000	204.16	.00	.00	2256.00	566.00	2258.75	2258.75	2259.49	177.88	9.72	86.52	42.44
	36800.000	394.68	.00	.00	2252.00	566.00	2253.47	2253.65	2254.40	292.63	8.21	73.60	33.09
	36800.000	394.68	.00	.00	2252.00	566.00	2253.47	2253.65	2254.40	292.63	8.21	73.60	33.09
•	36700.000	398.79	.00	.00	2248.00	566.00	2249.90	2249.90	2250.50	170.06	7.43	98.30	43.40
•	36700.000	398.79	.00	.00	2248.00	566.00	2249.90	2249.90	2250.50	170.06	7.43	98.30	43.40
*	36600.000	397.16	.00	.00	2244.00	566.00	2244.68	2244.68	2244.99	263.38	4.64	126.45	34.88
*	36600.000	397.16	.00	.00	2244.00	566.00	2244.68	2244.68	2244.99	263.38	4.64	126.45	34.88
*	36500.000	398.14	.00	.00	2240.00	566.00	2241.29	2241.29	2241.72	197.14	6.17	113.50	40.31
•	36500.000	398.14	.00	.00	2240.00	566.00	2241.29	2241.29	2241.72	197.14	6.17	113.50	40.31
•	36400.000	368.86	.00	.00	2236.00	566.00	2237.39	2237.39	2237.90	194.92	6.46	103.15	40.54
*	36400.000	368.86	.00	.00	2236.00	566.00	2237.39	2237.39	2237.90	194.92	6.46	103.15	40.54
*	36300.000	450.51	.00	.00	2228.00	566.00	2230.60	2230.60	2231.42	151.71	8.65	84.26	45.95
*	36300.000	450.51	.00	.00	2228.00	566.00	2230.60	2230.60	2231.42	151.71	8.65	84.26	45.95
*	36200.000	136.88	.00	.00	2226.50	566.00	2228.80	2228.80	2229.67	159.98	8.18	80.17	44.75
•	36200.000	136.88	.00	.00	2226.50	566.00	2228.80	2228.80	2229.67	159.98	8.18	80.17	44.75
*	36100.000	119.17	.00	.00	2224.94	566.00	2227.68	2227.70	2229.10	33.03	9.58	59.08	98.49
•	36100.000	119.17	.00	.00	2224.94	566.00	2227.68	2227.70	2229.10	33.03	9.58	59.08	98.49
*	36000.000	178.09	.00	.00	2220.40	566.00	2221.87	2223.17	2226.81	230.01	17.83	31.74	37.32
*	36000.000	178.09	.00	.00	2220.40	566.00	2221.87	2223.17	2226.81	230.01	17.83	31.74	37.32
	35900.000	146.70	.00	.00	2215.83	566.00	2217.42	2218.83	2223.13	262.46	19.18	29.51	34.94
	35900.000	146.70	.00	.00	2215.83	566.00	2217.42	2218.83	2223.13	262.46	19.18	29.51	34.94
*	35800.000	170.39	.00	.00	2215.54	566.00	2217.89	2218.55	2220.10	65.24	11.93	47.43	70.07
•	35800.000	170.39	.00	.00	2215.54	566.00	2217.89	2218.55	2220.10	65.24	11.93	47.43	70.07

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
	35700.000	277.14	.00	.00	2212.75	566.00	2214.83	2215.75	2217.81	100.56	13.85	40.88	56.44
	35700.000	277.14	.00	.00	2212.75	566.00	2214.83	2215.75	2217.81	100.56	13.85	40.88	56.44
	35600.000	64.09	.00	.00	2212.35	566.00	2214.57	2215.36	2217.10	79.45	12.77	44.32	63.50
	35600.000	64.09	.00	.00	2212.35	566.00	2214.57	2215.36	2217.10	79.45	12.77	44.32	63.50
	35500.000	102.05	.00	.00	2211.30	566.00	2213.42	2214.30	2216.20	92.02	13.40	42.24	59.00
	35500.000	102.05	.00	.00	2211.30	566.00	2213.42	2214.30	2216.20	92.02	13.40	42.24	59.00
	35400.000	182.08	.00	.00	2209.60	566.00	2211.74	2212.61	2214.54	91.29	13.41	42.22	59.24
	35400.000	182.08	.00	.00	2209.60	566.00	2211.74	2212.61	2214.54	91.29	13.41	42.22	59.24
•	35300.000	254.15	.00	.00	2207.20	566.00	2208.30	2209.13	2211.28	184.69	13.84	40.88	41.65
*	35300.000	254.15	.00	.00	2207.20	566.00	2208.30	2209.13	2211.28	184.69	13.84	40.88	41.65
•	35200.000	73.35	2214.24	2212.20	2206.80	566.00	2207.96	999999.00	2210.68	1135.36	13.24	42.75	16.80
*	35200.000	73.35	2214.24	2212.20	2206.80	566.00	2207.96	999999.00	2210.68	1135.36	13.24	42.75	16.80
•	35100.000	159.34	.00	.00	2208.00	566.00	2209.57	2209.57	2210.22	188.36	6.89	93.03	41.24
*	35100.000	159.34	.00	.00	2208.00	566.00	2209.57	2209.57	2210.22	188.36	6.89	93.03	41.24
*	35000.000	128.06	.00	.00	2206.00	566.00	2208.75	2208.75	2209.13	198.81	7.26	127.96	40.14
*	35000.000	128.06	.00	.00	2206.00	566.00	2208.75	2208.75	2209.13	198.81	7.26	127.96	40.14
*	34900.000	230.88	.00	.00	2204.00	566.00	2205.47	2205.47	2206.01	184.27	6.53	102.16	41.70
•	34900.000	230.88	.00	.00	2204.00	566.00	2205.47	2205.47	2206.01	184.27	6.53	102.16	41.70
*	34800.000	162.28	.00	.00	2204.00	566.00	2205.11	2205.11	2205.56	35.17	5.92	106.24	95.43
*	34800.000	162.28	.00	.00	2204.00	566.00	2205.11	2205.11	2205.56	35.17	5.92	106.24	95.43
•	34700.000	65.75	.00	.00	2200.00	566.00	2200.36	2201.01	2204.40	7416.43	16.27	35.09	6.57
•	34700.000	65.75	.00	.00	2200.00	566.00	2200.36	2201.01	2204.40	7416.43	16.27	35.09	6.57
*	34600.000	332.71	.00	.00	2193.00	566.00	2195.29	2195.29	2196.01	157.71	8.10	89.62	45.07
•	34600.000	332.71	.00	.00	2193.00	566.00	2195.29	2195.29	2196.01	157.71	8.10	89.62	45.07
•	34500.000	429.06	.00	.00	2192.00	566.00	2193.00	2193.00	2193.41	227.44	5.61	110.37	37.53
*	34500.000	429.06	.00	.00	2192.00	566.00	2193.00	2193.00	2193.41	227.44	5.61	110.37	37.53
*	34400.000	390.01	.00	.00	2184.90	566.00	2188.22	2188.22	2189.09	194.58	7.50	76.12	40.58
*	34400.000	390.01	.00	.00	2184.90	566.00	2188.22	2188.22	2189.09	194.58	7.50	76.12	40.58
*	34300.000	374.06	.00	.00	2180.00	566.00	2181.74	2181.74	2182.50	184.12	7.29	83.09	41.71
*	34300.000	374.06	.00	.00	2180.00	566.00	2181.84	2181.84	2182.77	215.83	7.74	73.15	38.53
*	34200.000	409.15	.00	.00	2176.00	566.00	2178.94	2178.94	2180.10	149.95	9.33	69.25	46.22
•	34200.000	409.15	.00	.00	2176.00	566.00	2178.93	2178.93	2180.10	150.38	9.34	69.18	46.16
•	34100.000	247.27	.00	.00	2175.80	566.00	2176.68	2176.68	2177.01	256.13	5.01	124.11	35.37
*	34100.000	247.27	.00	.00	2175.80	566.00	2176.99	2176.99	2177.50	232.99	5.99	100.08	37.08

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
•	34000.000	53.36	.00	.00	2175.80	566.00	2176.68	2176.68	2177.04	238.80	4.78	119.11	36.63
•	34000.000	53.36	.00	.00	2175.80	566.00	2177.04	2177.04	2177.58	218.55	5.92	97.23	38.29

	33900.000	94.08	.00	.00	2168.00	566.00	2172.90	2173.28	2174.49	234.14	10.63	60.79	36.99
	33900.000	94.08	.00	.00	2168.00	566.00	2172.65	2173.29	2174.75	339.27	12.08	52.65	30.73
*	33800.000	374.74	.00	.00	2164.00	566.00	2168.02	2168.02	2169.13	200.05	8.45	67.02	40.02
*	33800.000	374.74	.00	.00	2164.00	566.00	2168.03	2168.03	2169.13	198.59	8.42	67.22	40.16
*	33700.000	450.79	.00	.00	2161.50	566.00	2162.74	2162.74	2163.23	212.83	6.24	101.69	38.80
*	33700.000	450.79	.00	.00	2161.50	566.00	2163.59	2163.59	2164.66	215.85	8.43	68.56	38.52
*	33600.000	417.95	.00	.00	2160.00	566.00	2160.43	2160.43	2160.62	566.22	5.07	184.08	23.79
*	33600.000	417.95	.00	.00	2160.00	566.00	2160.78	2160.78	2161.17	347.28	5.87	124.74	30.37
*	33500.000	35.00	.00	.00	2158.70	566.00	2159.55	2159.55	2159.84	254.75	5.31	134.85	35.46
*	33500.000	35.00	.00	.00	2158.70	566.00	2159.96	2159.96	2160.47	210.48	6.29	101.95	39.01
*	33400.000	20.00	.00	.00	2158.47	566.00	2159.67	2159.67	2160.04	198.47	5.91	125.78	40.18
*	33400.000	20.00	.00	.00	2158.47	566.00	2159.69	2159.69	2160.22	221.92	6.32	97.35	37.99
	33300.000	336.11	.00	.00	2151.00	566.00	2153.20	2153.28	2153.99	167.99	8.16	83.76	43.67
*	33300.000	336.11	.00	.00	2151.00	566.00	2153.30	2153.30	2154.23	166.18	8.35	75.47	43.91
*	33200.000	369.24	.00	.00	2146.00	566.00	2149.30	2149.30	2149.86	114.48	6.86	112.94	52.90
*	33200.000	369.24	.00	.00	2146.00	566.00	2149.36	2149.36	2150.48	175.89	8.67	68.87	42.68
*	33100.000	404.84	.00	.00	2144.00	566.00	2144.34	2144.34	2144.48	400.03	3.24	190.97	28.30
*	33100.000	404.84	.00	.00	2144.00	566.00	2144.92	2144.92	2145.35	251.46	5.34	107.84	35.69
*	33000.000	491.53	.00	.00	2125.25	566.00	2126.89	2128.09	2131.23	180.81	16.73	33.84	42.09
	33000.000	491.53	.00	.00	2125.25	566.00	2126.74	2128.08	2131.93	239.47	18.28	30.96	36.58
	32900.000	92.78	2133.84	2149.25	2124.89	566.00	2126.58	999999.00	2130.61	160.59	16.11	35.14	44.66
	32900.000	92.78	2133.84	2149.25	2124.89	566.00	2126.43	999999.00	2131.30	216.79	17.72	31.95	38.44
	32800.000	200.00	.00	.00	2120.37	566.00	2121.96	2123.28	2126.86	210.39	17.76	31.87	39.02
	32800.000	200.00	.00	.00	2120.37	566.00	2121.95	2123.29	2126.95	217.24	17.94	31.54	38.40
	32700.000	200.00	.00	.00	2115.84	566.00	2117.23	2118.52	2122.26	247.95	18.00	31.45	35.94
	32700.000	200.00	.00	.00	2115.84	566.00	2117.23	2118.52	2122.28	249.48	18.03	31.39	35.83
	32600.000	145.00	2124.63	2139.84	2113.09	566.00	2114.57	999999.00	2119.04	206.00	16.98	33.34	39.44
	32600.000	145.00	2124.63	2139.84	2113.09	566.00	2114.56	999999.00	2119.04	206.32	16.99	33.32	39.40
*	32500.000	300.00	.00	.00	2108.63	566.00	2113.01	2113.25	2115.61	55.09	12.94	43.75	76.26
*	32500.000	300.00	.00	.00	2108.63	566.00	2113.01	2113.25	2115.61	55.13	12.94	43.74	76.23
	32400.000	400.00	.00	.00	2105.27	566.00	2108.98	2109.89	2112.58	86.17	15.23	37.16	60.97
	32400.000	400.00	.00	.00	2105.27	566.00	2108.98	2109.89	2112.58	86.15	15.23	37.16	60.98

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
	32300.000	100.00	.00	.00	2104.43	566.00	2108.19	2109.05	2111.71	83.54	15.06	37.58	61.93
	32300.000	100.00	.00	.00	2104.43	566.00	2108.19	2109.05	2111.71	83.58	15.06	37.57	61.91
	32200.000	100.00	.00	.00	2103.59	566.00	2107.34	2108.21	2110.87	83.75	15.08	37.54	61.85
	32200.000	100.00	.00	.00	2103.59	566.00	2107.34	2108.21	2110.87	83.75	15.08	37.54	61.85
	32100.000	400.00	.00	.00	2100.23	566.00	2103.99	2104.85	2107.52	83.85	15.08	37.53	61.81
	32100.000	400.00	.00	.00	2100.23	566.00	2103.99	2104.85	2107.52	83.85	15.08	37.53	61.81
*	32000.000	100.00	.00	.00	2099.39	566.00	2103.86	2104.01	2106.35	51.99	12.66	44.70	78.50
*	32000.000	100.00	.00	.00	2099.39	566.00	2103.86	2104.00	2106.35	51.87	12.65	44.74	78.59
	31900.000	70.00	.00	.00	2098.80	566.00	2102.85	2103.42	2105.88	67.96	13.97	40.51	68.66
	31900.000	70.00	.00	.00	2098.80	566.00	2102.85	2103.41	2105.88	67.77	13.96	40.55	68.75
	31800.000	405.00	.00	.00	2095.40	566.00	2099.11	2100.03	2102.73	86.61	15.26	37.09	60.82
	31800.000	405.00	.00	.00	2095.40	566.00	2099.10	2100.03	2102.73	86.80	15.27	37.06	60.75
	31700.000	388.00	.00	.00	2092.14	566.00	2095.92	2096.75	2099.41	82.47	14.99	37.75	62.33
	31700.000	388.00	.00	.00	2092.14	566.00	2095.92	2096.76	2099.41	82.28	14.98	37.79	62.40
*	31600.000	388.00	.00	.00	2088.90	566.00	2090.07	2091.13	2094.14	240.83	16.19	34.95	36.47
*	31600.000	388.00	.00	.00	2088.90	566.00	2090.07	2091.13	2094.14	240.99	16.20	34.94	36.46
	31500.000	261.42	2195.90	2113.87	2087.60	566.00	2088.92	999999.00	2092.09	160.93	14.29	39.59	44.62
	31500.000	261.42	2195.90	2113.87	2087.60	566.00	2088.92	999999.00	2092.09	161.03	14.30	39.59	44.60
*	31400.000	150.00	.00	.00	2086.80	566.00	2091.42	2091.42	2093.75	47.43	12.24	46.25	82.18
*	31400.000	150.00	.00	.00	2086.80	566.00	2091.42	2091.42	2093.75	47.53	12.25	46.21	82.09
	31300.000	100.00	.00	.00	2086.20	566.00	2090.50	2090.82	2093.19	57.80	13.17	42.99	74.45
	31300.000	100.00	.00	.00	2086.20	566.00	2090.50	2090.82	2093.19	57.78	13.17	42.99	74.46
*	31200.000	400.00	.00	.00	2081.40	566.00	2084.55	2086.01	2089.56	136.61	17.97	31.50	48.43
*	31200.000	400.00	.00	.00	2081.40	566.00	2084.55	2086.02	2089.56	136.61	17.97	31.50	48.43
	31100.000	400.00	.00	.00	2076.85	566.00	2080.28	2081.48	2084.50	107.25	16.48	34.34	54.65
	31100.000	400.00	.00	.00	2076.85	566.00	2080.28	2081.48	2084.50	107.25	16.48	34.34	54.65
*	31000.000	400.00	.00	.00	2072.00	566.00	2073.22	2074.42	2078.00	269.42	17.53	32.29	34.48
*	31000.000	400.00	.00	.00	2072.00	566.00	2073.22	2074.42	2078.00	269.42	17.53	32.29	34.48

NORTH BRANCH HEC-2 STUDY

SUMMARY PRINTOUT TABLE 150

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
•	39000.000	278.00	2320.49	.00	.00	.00	179.77	.00
*	39000.000	278.00	2320.51	.02	.00	-84.09	183.19	.00
*	38900.000	278.00	2312.61	.00	-7.88	.00	54.77	382.74
*	38900.000	278.00	2312.58	-.03	-7.93	.00	52.33	382.74
•	38800.000	278.00	2303.62	.00	-8.99	.00	369.70	345.54
•	38800.000	278.00	2303.62	.00	-8.96	.00	369.70	345.54
•	38700.000	278.00	2299.61	.00	-4.01	.00	330.82	433.91
*	38700.000	278.00	2299.61	.00	-4.01	.00	330.82	433.91
•	38600.000	278.00	2295.87	.00	-3.74	.00	707.76	319.18
*	38600.000	278.00	2295.87	.00	-3.74	.00	707.76	319.18
*	38500.000	278.00	2297.31	.00	1.44	.00	83.55	324.15
•	38500.000	278.00	2297.31	.00	1.44	.00	83.55	324.15
•	38400.000	278.00	2296.51	.00	-.80	.00	80.73	42.51
•	38400.000	278.00	2296.51	.00	-.80	.00	80.73	42.51
*	38300.000	278.00	2293.06	.00	-3.46	.00	69.03	254.63
*	38300.000	278.00	2293.06	.00	-3.46	.00	69.03	254.63
*	38200.000	278.00	2289.77	.00	-3.29	.00	80.18	384.73
*	38200.000	278.00	2289.77	.00	-3.29	.00	80.18	384.73
*	38100.000	278.00	2287.27	.00	-2.50	.00	23.31	265.43
*	38100.000	278.00	2287.27	.00	-2.50	.00	23.31	265.43
•	38000.000	278.00	2282.92	.00	-4.35	.00	22.27	425.67
*	38000.000	278.00	2282.92	.00	-4.35	.00	22.27	425.67
*	37900.000	278.00	2277.04	.00	-5.88	.00	95.55	401.16
*	37900.000	278.00	2277.04	.00	-5.88	.00	95.55	401.16
*	37800.000	278.00	2275.35	.00	-1.70	.00	22.70	187.27
•	37800.000	278.00	2275.35	.00	-1.70	.00	22.70	187.27
	37700.000	278.00	2273.27	.00	-2.08	.00	118.17	150.06
	37700.000	278.00	2273.27	.00	-2.08	.00	118.17	150.06
•	37600.000	278.00	2273.03	.00	-.24	.00	72.78	40.00
*	37600.000	278.00	2273.03	.00	-.24	.00	72.78	40.00
*	37500.000	278.00	2267.93	.00	-5.09	.00	17.76	34.00
•	37500.000	278.00	2267.93	.00	-5.09	.00	17.76	34.00
*	37400.000	278.00	2269.08	.00	1.15	.00	73.04	214.02
•	37400.000	278.00	2269.08	.00	1.15	.00	73.04	214.02
*	37300.000	278.00	2265.81	.00	-3.27	.00	52.39	216.47
•	37300.000	278.00	2265.81	.00	-3.27	.00	52.39	216.47
•	37200.000	566.00	2265.65	.00	-.17	.00	91.60	158.16
•	37200.000	566.00	2265.65	.00	-.17	.00	91.60	158.16
•	37100.000	566.00	2264.31	.00	-1.34	.00	12.00	178.92
*	37100.000	566.00	2264.31	.00	-1.34	.00	12.00	178.92
*	37000.000	566.00	2261.85	.00	-2.46	.00	12.00	250.00
•	37000.000	566.00	2261.85	.00	-2.46	.00	12.00	250.00
*	36900.000	566.00	2258.75	.00	-3.10	.00	59.10	204.16
•	36900.000	566.00	2258.75	.00	-3.10	.00	59.10	204.16
	36800.000	566.00	2253.47	.00	-5.28	.00	58.56	394.68
	36800.000	566.00	2253.47	.00	-5.28	.00	58.56	394.68
•	36700.000	566.00	2249.90	.00	-3.57	.00	83.16	398.79
*	36700.000	566.00	2249.90	.00	-3.57	.00	83.16	398.79
*	36600.000	566.00	2244.68	.00	-5.22	.00	205.30	397.16
*	36600.000	566.00	2244.68	.00	-5.22	.00	205.30	397.16
*	36500.000	566.00	2241.29	.00	-3.39	.00	133.93	398.14
•	36500.000	566.00	2241.29	.00	-3.39	.00	133.93	398.14
*	36400.000	566.00	2237.39	.00	-3.89	.00	104.39	368.86
•	36400.000	566.00	2237.39	.00	-3.89	.00	104.39	368.86
•	36300.000	566.00	2230.60	.00	-6.79	.00	51.80	450.51
*	36300.000	566.00	2230.60	.00	-6.79	.00	51.80	450.51
•	36200.000	566.00	2228.80	.00	-1.80	.00	47.54	136.88
•	36200.000	566.00	2228.80	.00	-1.80	.00	47.54	136.88
*	36100.000	566.00	2227.68	.00	-1.12	.00	21.60	119.17
*	36100.000	566.00	2227.68	.00	-1.12	.00	21.60	119.17
*	36000.000	566.00	2221.87	.00	-5.81	.00	21.60	178.09
*	36000.000	566.00	2221.87	.00	-5.81	.00	21.60	178.09
	35900.000	566.00	2217.42	.00	-4.45	.00	21.85	146.70
	35900.000	566.00	2217.42	.00	-4.45	.00	21.85	146.70
•	35800.000	566.00	2217.89	.00	.47	.00	24.94	170.39

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	35800.000	566.00	2217.89	.00	.47	.00	24.94	170.39
	35700.000	566.00	2214.83	.00	-3.06	.00	23.87	277.14
	35700.000	566.00	2214.83	.00	-3.06	.00	23.87	277.14
	35600.000	566.00	2214.57	.00	-.26	.00	24.44	64.09
	35600.000	566.00	2214.57	.00	-.26	.00	24.44	64.09
	35500.000	566.00	2213.42	.00	-1.15	.00	24.25	102.05
	35500.000	566.00	2213.42	.00	-1.15	.00	24.25	102.05
	35400.000	566.00	2211.74	.00	-1.67	.00	24.04	182.08
	35400.000	566.00	2211.74	.00	-1.67	.00	24.04	182.08
*	35300.000	566.00	2208.30	.00	-3.44	.00	37.00	254.15
*	35300.000	566.00	2208.30	.00	-3.44	.00	37.00	254.15
*	35200.000	566.00	2207.96	.00	-.35	.00	37.00	73.35
*	35200.000	566.00	2207.96	.00	-.35	.00	37.00	73.35
*	35100.000	566.00	2209.57	.00	1.61	.00	74.82	159.34
*	35100.000	566.00	2209.57	.00	1.61	.00	74.82	159.34
*	35000.000	566.00	2208.75	.00	-.82	.00	184.10	128.06
*	35000.000	566.00	2208.75	.00	-.82	.00	184.10	128.06
*	34900.000	566.00	2205.47	.00	-3.28	.00	97.66	230.88
*	34900.000	566.00	2205.47	.00	-3.28	.00	97.66	230.88
*	34800.000	566.00	2205.11	.00	-.36	.00	121.12	162.28
*	34800.000	566.00	2205.11	.00	-.36	.00	121.12	162.28
*	34700.000	566.00	2200.36	.00	-4.75	.00	98.95	65.75
*	34700.000	566.00	2200.36	.00	-4.75	.00	98.95	65.75
*	34600.000	566.00	2195.29	.00	-5.07	.00	62.38	332.71
*	34600.000	566.00	2195.29	.00	-5.07	.00	62.38	332.71
*	34500.000	566.00	2193.00	.00	-2.28	.00	135.69	429.06
*	34500.000	566.00	2193.00	.00	-2.28	.00	135.69	429.06
*	34400.000	566.00	2188.22	.00	-4.79	.00	49.39	390.01
*	34400.000	566.00	2188.22	.00	-4.79	.00	49.39	390.01
*	34300.000	566.00	2181.74	.00	-6.48	.00	55.97	374.06
*	34300.000	566.00	2181.84	.11	-6.37	.11	39.65	374.06
*	34200.000	566.00	2178.94	.00	-2.80	.00	30.86	409.15
*	34200.000	566.00	2178.93	.00	-2.91	.00	30.85	409.15
*	34100.000	566.00	2176.68	.00	-2.26	.00	191.95	247.27
*	34100.000	566.00	2176.99	.31	-1.94	.31	100.00	247.27

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	34000.000	566.00	2176.68	.00	.00	.00	167.21	53.36
*	34000.000	566.00	2177.04	.36	.05	.36	90.00	53.36
	33900.000	566.00	2172.90	.00	-3.78	.00	34.83	94.08
	33900.000	566.00	2172.65	-.25	-4.39	-.25	33.22	94.08
*	33800.000	566.00	2168.02	.00	-4.87	.00	31.91	374.74
*	33800.000	566.00	2168.03	.01	-4.62	.01	31.77	374.74
*	33700.000	566.00	2162.74	.00	-5.29	.00	106.30	450.79
*	33700.000	566.00	2163.59	.86	-4.44	.86	32.75	450.79
*	33600.000	566.00	2160.43	.00	-2.30	.00	519.09	417.95
*	33600.000	566.00	2160.78	.35	-2.81	.35	160.00	417.95
*	33500.000	566.00	2159.55	.00	-.89	.00	228.47	35.00
*	33500.000	566.00	2159.96	.41	-.82	.41	100.00	35.00
*	33400.000	566.00	2159.67	.00	.12	.00	172.37	20.00
*	33400.000	566.00	2159.69	.02	-.27	.02	90.00	20.00
	33300.000	566.00	2153.20	.00	-6.47	.00	61.84	336.11
*	33300.000	566.00	2153.30	.11	-6.39	.11	40.95	336.11
*	33200.000	566.00	2149.30	.00	-3.90	.00	108.71	369.24
*	33200.000	566.00	2149.36	.07	-3.94	.07	32.00	369.24
*	33100.000	566.00	2144.34	.00	-4.96	.00	696.19	404.84
*	33100.000	566.00	2144.92	.58	-4.45	.58	126.00	404.84
*	33000.000	566.00	2126.89	.00	-17.45	.00	20.80	491.53
	33000.000	566.00	2126.74	-.15	-18.18	-.15	20.80	491.53
	32900.000	566.00	2126.58	.00	-.31	.00	20.79	92.78
	32900.000	566.00	2126.43	-.15	-.31	-.15	20.79	92.78
	32800.000	566.00	2121.96	.00	-4.62	.00	20.00	200.00
	32800.000	566.00	2121.95	-.02	-4.48	-.02	20.00	200.00
	32700.000	566.00	2117.23	.00	-4.73	.00	22.60	200.00
	32700.000	566.00	2117.23	.00	-4.71	.00	22.60	200.00

	32600.000	566.00	2114.57	.00	-2.67	.00	22.60	145.00
	32600.000	566.00	2114.56	.00	-2.67	.00	22.60	145.00
*	32500.000	566.00	2113.01	.00	-1.56	.00	10.00	300.00
*	32500.000	566.00	2113.01	.00	-1.56	.00	10.00	300.00
	32400.000	566.00	2108.98	.00	-4.03	.00	10.00	400.00
	32400.000	566.00	2108.98	.00	-4.03	.00	10.00	400.00

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	32300.000	566.00	2108.19	.00	-.79	.00	10.00	100.00
	32300.000	566.00	2108.19	.00	-.79	.00	10.00	100.00
	32200.000	566.00	2107.34	.00	-.84	.00	10.00	100.00
	32200.000	566.00	2107.34	.00	-.84	.00	10.00	100.00
	32100.000	566.00	2103.99	.00	-3.36	.00	10.00	400.00
	32100.000	566.00	2103.99	.00	-3.36	.00	10.00	400.00
*	32000.000	566.00	2103.86	.00	-.13	.00	10.00	100.00
*	32000.000	566.00	2103.86	.00	-.13	.00	10.00	100.00
	31900.000	566.00	2102.85	.00	-1.01	.00	10.00	70.00
	31900.000	566.00	2102.85	.01	-1.01	.01	10.00	70.00
	31800.000	566.00	2099.11	.00	-3.74	.00	10.00	405.00
	31800.000	566.00	2099.10	-.01	-3.75	-.01	10.00	405.00
	31700.000	566.00	2095.92	.00	-3.19	.00	10.00	388.00
	31700.000	566.00	2095.92	.00	-3.18	.00	10.00	388.00
*	31600.000	566.00	2090.07	.00	-5.85	.00	30.00	388.00
*	31600.000	566.00	2090.07	.00	-5.85	.00	30.00	388.00
	31500.000	566.00	2088.92	.00	-1.15	.00	30.00	261.42
	31500.000	566.00	2088.92	.00	-1.15	.00	30.00	261.42
*	31400.000	566.00	2091.42	.00	2.50	.00	10.00	150.00
*	31400.000	566.00	2091.42	.00	2.50	.00	10.00	150.00
	31300.000	566.00	2090.50	.00	-.93	.00	10.00	100.00
	31300.000	566.00	2090.50	.00	-.92	.00	10.00	100.00
*	31200.000	566.00	2084.55	.00	-5.95	.00	10.00	400.00
*	31200.000	566.00	2084.55	.00	-5.95	.00	10.00	400.00
	31100.000	566.00	2080.28	.00	-4.27	.00	10.00	400.00
	31100.000	566.00	2080.28	.00	-4.27	.00	10.00	400.00
*	31000.000	566.00	2073.22	.00	-7.06	.00	28.10	400.00
*	31000.000	566.00	2073.22	.00	-7.06	.00	28.10	400.00

SUMMARY OF ERRORS AND SPECIAL NOTES

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CAUTION SECNO=  39000.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  39000.000  PROFILE=  2  CRITICAL DEPTH ASSUMED

WARNING SECNO=  38900.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  38900.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  38800.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  38800.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  38800.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  38800.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  38800.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  38800.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=  38700.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  38700.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  38700.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  38700.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  38700.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  38700.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=  38600.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  38600.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  38600.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  38600.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  38600.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  38600.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=  38500.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  38500.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  38500.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  38500.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  38500.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  38500.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=  38400.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  38400.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  38400.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  38400.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  38400.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  38400.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL
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 CAUTION SECNO=  38300.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=  38300.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=  38300.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
 CAUTION SECNO=  38300.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=  38300.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=  38300.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

 CAUTION SECNO=  38200.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
 CAUTION SECNO=  38200.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
 CAUTION SECNO=  38200.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
1
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 CAUTION SECNO=  38100.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
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 CAUTION SECNO=  38000.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
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 CAUTION SECNO=  38000.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
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 WARNING SECNO=  37600.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

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 WARNING SECNO=  37000.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

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CAUTION SECNO=  36200.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
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NOTE    SECNO=  36100.000  PROFILE=  1  WSEL BASED ON X5 CARD
CAUTION SECNO=  36100.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
WARNING SECNO=  36100.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
NOTE    SECNO=  36100.000  PROFILE=  2  WSEL BASED ON X5 CARD
CAUTION SECNO=  36100.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY
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WARNING SECNO=  34700.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO=  34700.000  PROFILE=  2  SLOPE TOO STEEP
WARNING SECNO=  34700.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

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CAUTION SECNO=  34500.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
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CAUTION SECNO=  34100.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
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CAUTION SECNO=  34000.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
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CAUTION SECNO=  33200.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
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CAUTION SECNO=  33100.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY

CAUTION SECNO=  33100.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

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WARNING SECNO=  32500.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

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Floodway width summary: NORTH BRANCH HEC-2 STUDY
Profile No. 2

Section Number	Elevation Increase	Top Width	Left Encroach Station	Left Sta Distance From Center	Center Station	Right Sta Distance From Center	Right Encroach Station
39000.000	*** Encroachments not set ***						
38900.000	*** Encroachments not set ***						
38800.000	*** Encroachments not set ***						
38700.000	*** Encroachments not set ***						
38600.000	*** Encroachments not set ***						
38500.000	*** Encroachments not set ***						
38400.000	*** Encroachments not set ***						
38300.000	*** Encroachments not set ***						
38200.000	*** Encroachments not set ***						
38100.000	*** Encroachments not set ***						
38000.000	*** Encroachments not set ***						
37900.000	*** Encroachments not set ***						
37800.000	*** Encroachments not set ***						
37700.000	*** Encroachments not set ***						
37600.000	*** Encroachments not set ***						
37500.000	*** Encroachments not set ***						
37400.000	*** Encroachments not set ***						
37300.000	*** Encroachments not set ***						
37200.000	*** Encroachments not set ***						
37100.000	.00	1118.64	835.45	477.38	1312.83	641.26	1954.09
37000.000	*** Encroachments not set ***						
36900.000	*** Encroachments not set ***						
36800.000	*** Encroachments not set ***						
36700.000	*** Encroachments not set ***						
36600.000	*** Encroachments not set ***						
36500.000	*** Encroachments not set ***						
36400.000	*** Encroachments not set ***						
36300.000	*** Encroachments not set ***						
36200.000	*** Encroachments not set ***						
36100.000	*** Encroachments not set ***						
36000.000	*** Encroachments not set ***						
35900.000	*** Encroachments not set ***						
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35100.000	*** Encroachments not set ***						
35000.000	*** Encroachments not set ***						
34900.000	*** Encroachments not set ***						
34800.000	*** Encroachments not set ***						
34700.000	*** Encroachments not set ***						
34600.000	*** Encroachments not set ***						
34500.000	*** Encroachments not set ***						
34400.000	*** Encroachments not set ***						
34300.000	.11	39.65	1387.12	19.83	1406.95	19.83	1426.77
34200.000	.00	36.14	1110.80	17.72	1128.53	18.41	1146.94
34100.000	.31	100.00	1470.00	34.33	1504.33	65.67	1570.00
34000.000	.36	90.00	1363.00	35.56	1398.56	54.44	1453.00
33900.000	-.25	50.00	1375.00	31.15	1406.15	18.85	1425.00
33800.000	.01	31.77	1287.55	15.88	1303.44	15.89	1319.32
33700.000	.86	32.75	1200.14	21.24	1221.38	11.51	1232.89
33600.000	.35	160.00	880.00	81.90	961.90	78.10	1040.00
33500.000	.41	100.00	1200.00	34.93	1234.94	65.06	1300.00
33400.000	.02	90.00	1050.00	39.41	1089.41	50.59	1140.00
33300.000	.11	46.00	1456.00	21.34	1477.34	24.66	1502.00
33200.000	.07	32.00	1064.00	13.79	1077.79	18.21	1096.00
33100.000	.58	126.00	1377.00	63.08	1440.08	62.92	1503.00
33000.000	-.15	20.81	1304.13	10.41	1314.54	10.40	1324.94
32900.000	-.15	20.80	1465.54	10.40	1475.95	10.39	1486.34
32800.000	*** Encroachments not set ***						
32700.000	*** Encroachments not set ***						
32600.000	*** Encroachments not set ***						
32500.000	*** Encroachments not set ***						
32400.000	*** Encroachments not set ***						
32300.000	*** Encroachments not set ***						
32200.000	*** Encroachments not set ***						
32100.000	*** Encroachments not set ***						
32000.000	*** Encroachments not set ***						
31900.000	*** Encroachments not set ***						
31800.000	*** Encroachments not set ***						

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31700.000      *** Encroachments not set ***
31600.000      *** Encroachments not set ***
31500.000      *** Encroachments not set ***
31400.000      *** Encroachments not set ***
31300.000      *** Encroachments not set ***
31200.000      *** Encroachments not set ***
31100.000      *** Encroachments not set ***
31000.000       .00     40.72   1062.75     20.36   1083.11     20.36   1103.47
```

HEC-2 Model BDN1SUB1

Subcritical Flow Calculations
For North Branch Blue Diamond Wash
Section No: 31000 ~ 40700

```
1*******************************************
*  HEC-2 WATER SURFACE PROFILES           *
*                                         *
*  Version   4.6.2;  May 1991             *
*                                         *
*  RUN DATE    11AUG06    TIME   09:01:29  *
*******************************************
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****************************************
*  U.S. ARMY CORPS OF ENGINEERS        *
*  HYDROLOGIC ENGINEERING CENTER       *
*  609 SECOND STREET, SUITE D          *
*  DAVIS, CALIFORNIA 95616-4687        *
*          (916) 756-1104              *
****************************************
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```
X     X  XXXXXXX   XXXXX              XXXXX
X     X  X        X     X            X     X
X     X  X        X                  X     X
XXXXXXX  XXXX     X          XXXXX    XXXXX
X     X  X        X                  X
X     X  X        X     X            X
X     X  XXXXXXX  XXXXX              XXXXXXX
```

THIS RUN EXECUTED 11AUG06 09:01:29

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************************************
 HEC-2 WATER SURFACE PROFILES

 Version   4.6.2;  May 1991
************************************

T1      LOW BLUE DIAMOND DETENTION BASIN IN OPERATION
T2      DUCK CREEK/ BLUE DIAMOND CLOMR
T3      BDN1SUB1
T4      FLOODPLAIN AND FLOODWAY MODEL
T4      SUBCRITICAL
T4      STREAM NAME: NORTH BRANCH BLUE DIAMOND WASH
T4      UPSTREAM LIMIT: UNION PACIFIC RAILROAD
T4      DOWNSTREAM LIMIT: CONFLUENCE WITH DUCK CREEK

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

                2                                                          566    2077.1

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

      1                 -1                                      -1        -6


J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    115       110       101       100       150

J5  LPRNT     NUMSEC                    ********REQUESTED SECTION NUMBERS********

    -10       -10

NC    0.025     0.025     0.015     0.1       0.3
ET                        8.4
  CONFLUENCE WITH DUCK CREEK
        CONFLUENCE WITH DUCK CREEK
X1    31000         7   1062.75   1103.47
GR     2080   1045.89   2077.61   1062.75      2072   1070.38      2072    1086.4      2072   1094.76
GR     2072   1094.77   2077.25   1103.47

NC     0.11      0.11     0.015       0.1       0.3

X1    31100         4      1337      1347       400       400       400
GR   2084.8      1337   2076.85      1337   2076.85      1347    2084.8      1347

NC     0.11      0.11     0.015       0.1       0.3

X1    31200         4      1038      1048       400       400       400
GR   2089.4      1038    2081.4      1038    2081.4      1048    2089.4      1048

NC     0.11      0.11     0.015       0.1       0.3
X1    31300         4      1126      1136       400       400       400
GR   2094.2      1126    2086.2      1126    2086.2      1136    2094.2      1136

NC     0.11      0.11     0.015       0.1       0.3

X1    31400         4      1130      1140       100       100       100
GR   2094.8      1130    2086.8      1130    2086.8      1140    2094.8      1140

NC     0.11     0.016     0.015       0.3       0.5
  DOWNSTREAM FACE OF PARADISE ROAD
X1    31500         6      1005      1035       150       150       150
GR     2093    942.82    2093.9      1005    2087.6      1005    2087.6      1035    2093.9      1035
GR   2099.1    1140.3

NC     0.11      0.11     0.015       0.3       0.5
SB      0.9       1.5         3        72        30         4       170         0   2088.87   2087.58
  UPSTREAM FACE OF PARADISE ROAD
X1    31600         8      1489      1519    310.59    189.36    261.42
X2                          1   2113.87   2195.9                          1.33
GR     2096   1428.35      2096   1445.52      2096   1479.75    2093.9      1489    2088.9      1489
GR   2088.9      1519    2093.9      1519      2100   1602.61


NC     0.11      0.11     0.015       0.1       0.3
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X1    31700         4       1130       1140        388        388        388
GR    2100.1      1130    2092.14       1130    2092.14       1140     2100.1       1140

NC      0.11      0.11      0.015        0.1        0.3

X1    31800         4       1592       1602        388        388        388
GR    2103.4      1592     2095.4       1592     2095.4       1602     2103.4       1602

NC      0.11      0.11      0.015        0.1        0.3

X1    31900         4       1045       1055        405        405        405
GR    2106.8      1045     2098.8       1045     2098.8       1055     2106.8       1055

NC      0.11      0.11      0.015         0.3        0.5

X1    32000         4       1061       1071         70         70         70
GR    2107.4      1061    2099.39       1061    2099.39       1071     2107.4       1071

NC      0.11      0.11      0.015         0.3        0.5
X1    32100         4       1035       1045        100        100        100
GR    2108.2      1035    2100.23       1035    2100.23       1045     2108.2       1045

NC      0.11      0.11      0.015        0.1        0.3
X1    32200         4        1000       1010        400        400        400
GR    2111.6      1000    2103.59       1000    2103.59       1010     2111.6       1010

NC      0.11      0.11      0.015        0.1        0.3

X1    32300         4        1000       1010        100        100        100
GR    2112.4      1000    2104.43       1000    2104.43       1010     2112.4       1010

NC      0.11      0.11      0.015         0.3        0.5

X1    32400         4        1507       1517        100        100        100
GR    2113.2      1507    2105.27       1507    2105.27       1517     2113.2       1517

NC      0.11      0.11      0.015        0.1        0.3

X1    32500         4        1584       1594        400        400        400
GR    2116.6      1584    2108.63       1584    2108.63       1594     2116.6       1594

NC      0.11      0.11      0.015        0.1        0.3
   DOWNSTREAM FACE OF ROBINDALE ROAD
X1    32600         4        1000     1022.6        300        300        300
GR    2124.6      1000    2113.09       1000    2113.09     1022.6     2124.6     1022.6

NC      0.11      0.11      0.015         0.3        0.5
SB       0.9       1.5           3          50       22.6        1.6       90.4          0    2115.84    2113.09
   UPSTREAM FACE OF ROBINDALE ROAD
X1    32700         4     1251.25     1273.86        145        145        145
X2                              1     2139.84    2124.63                             1.33
GR    2124.6   1251.25    2115.84    1251.255    2115.84    1273.855    2124.63    1273.86

NC      0.11      0.11      0.015        0.1        0.3
X1    32800         4        1000       1020        200        200        200
GR    2128.3      1000    2120.37       1000    2120.37       1020     2128.3       1020

NC      0.11      0.11      0.015        0.1        0.3
   DOWNSTREAM FACE OF AMIGO STREET
X1    32900         6     1465.545    1486.345        200        200        200
X3        0                           1465.54    2130.94    1486.34    2130.94
GR     2136      1000    2130.94    1465.545    2124.89    1465.545    2124.89    1486.345    2130.94    1486.345
GR     2136   1796.06

NC      0.11      0.11      0.015         0.3        0.5
ET                              7.1                                      1271       1415
SB       0.9       1.5           3          40       20.8         0.8       83.2          0    2125.25    2124.89
   UPSTREAM FACE OF AMIGO STREET
X1    33000        14     1304.135    1324.935      88.18      85.33      92.78
X2                              1     2149.25    2133.84                             1.33
X3        0                           1304.13    2130.94    1324.94    2130.94
GR    2140.2    956.15        2140        1000       2140     1052.8       2140     1071.2       2136    1270.82
GR    2130.9  1304.135     2125.25    1304.135    2125.25    1324.935    2130.94    1324.935       2136    1415.65
GR      2136   1415.94     2135.74    1456.68       2136    1494.85    2137.32    1607.51

NC     0.045     0.045        0.04         0.1        0.3
NH         3     0.045     1382.37        0.04    1497.79      0.045    1992.12
ET                              7.1                                      1376       1504
X1    33100        13     1382.37    1497.79      366.23      465.9      491.53
GR    2145.2      1000        2144    1219.64        2144    1244.07       2144    1382.37       2144    1412.69
GR      2144   1454.39        2144    1457.77     2144.31    1497.79       2144    1675.05       2144    1693.74
GR      2144   1841.71      2144.1    1844.27        2148    1992.12

NC     0.045     0.045        0.04         0.1        0.3
NH         3     0.045        1000        0.04    1164.78      0.045    1516.15
ET                              7.1                                      1064       1096
X1    33200         7     1064.91    1090.67      405.48      293.6      404.84
GR    2150.2    436.72     2149.83        1000        2148    1064.91       2146    1080.81       2148    1090.67
GR    2150.6   1164.78        2152    1516.15

NC     0.045     0.045        0.04         0.1        0.3
NH         3     0.045     1448.97        0.04    1575.06      0.045    1767.59
ET                              7.1                                      1456       1502
X1    33300        11     1468.48      1486.2      355.94      293.02      369.24
GR      2156      1000        2156    1448.97        2152    1466.88       2151    1468.48       2151    1478.01
GR      2151    1486.2        2152    1501.04        2156    1575.06       2156    1575.14       2156    1626.77
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GR     2156     1767.59

NC     0.08      0.045      0.04       0.1        0.3
NH        3       0.08      1000      0.04    1209.49      0.045    1608.41
ET                             7.1                            1050       1140
X1     33400          8   1070.82      1108     348.25     312.97    336.11
GR      2161     638.66      2160      1000    2158.47    1070.82   2158.47      1078   2158.47      1108
GR      2160    1209.49      2161   1357.07    2162.68    1608.41

NC     0.045      0.04      0.04       0.1        0.3
ET                             7.1                            1200       1300
   BERMUDA ROAD CROSSING
X1     33500         10   1214.68    1255.19         20         20         20
GR      2161     784.83      2160      1000       2160    1011.42     2158.7   1161.59    2158.7    1214.68
GR    2158.7    1224.73    2158.7    1255.19     2159.5    1286.56       2160   1347.06      2162    1502.8

NC     0.045      0.08      0.04       0.1        0.3
ET                             7.1                             880       1040
X1     33600          8    941.27     982.53         35         35         35
GR      2161     508.85      2160     884.55       2160     941.27       2160    982.53      2160      1000
GR      2160    1067.39      2160   1212.63       2164    1467.98

NC      0.08       0.08      0.04       0.1        0.3
NH         3       0.08   1089.24       0.04     1244.7       0.08    1265.51
ET                             8.4
X1     33700         10   1209.87    1232.89     512.57     243.29     417.95
GR      2168     966.62      2168      1000       2164    1089.24     2161.5   1174.71    2161.5    1209.87
GR    2161.5    1232.89      2164    1244.7       2164    1244.73       2168   1261.94      2168    1265.51

NC      0.08       0.08      0.04       0.1        0.3
NH         3       0.08   1273.01       0.04    1330.04       0.08    1582.07
X1     33800         12   1287.55    1319.32      360.6     599.96     450.79
GR      2176    1061.88      2176   1111.53       2176    1125.31       2172   1273.01      2168    1287.55
GR      2164     1307.2      2164   1308.08       2164    1308.58       2168   1319.32      2172    1330.04
GR      2176    1486.56      2176   1582.07

NC      0.08       0.08      0.04       0.1        0.3
NH         3       0.08   1371.75       0.04    1427.5       0.08    1540.99
ET                             7.1                            1375       1425
X1     33900         11   1398.05    1414.24     378.93     329.83     374.74
GR      2180    1036.31   2176.76    1338.62       2176    1371.75       2172   1385.42      2172    1398.05
GR      2168    1402.89      2172    1414.24       2176     1427.5       2180   1539.82      2180    1540.95
GR      2180    1540.99

NC      0.08       0.08      0.04        0.3        0.5
NH         3       0.08   1242.38       0.04    1561.11       0.08    1577.75
ET                             7.1                            1363       1453
X1     34000          9   1383.05    1414.07      75.04     120.88      94.08
GR      2180    1116.08      2180    1242.32       2180    1242.38       2176   1383.05   2175.84    1414.07
GR    2175.8    1451.26      2176    1519.23       2180    1561.11    2180.31   1577.75


NC      0.04       0.04      0.04        0.1        0.3
ET                             7.1                            1470       1570
X1     34100         11   1483.75    1524.91      58.87      75.15      53.36
GR      2180    1357.43      2176    1483.74       2176    1483.75    2175.84   1509.03   2175.84    1511.82
GR    2175.8    1513.97      2176    1524.87       2176    1524.91       2176   1613.63      2176    1646.15
GR      2180    1694.07

NC      0.08       0.08      0.04        0.1        0.3
NH         3       0.08   1110.8         0.04    1146.94       0.08    1301.17
ET                             7.1                           1110.8       1146.94
X1     34200          7   1120.37    1136.68      227.71     174.83     247.27
GR      2184       1000      2184    1000.09       2180     1110.8       2176   1120.37      2176    1136.68
GR      2180    1146.94   2181.93    1301.17

NC      0.08       0.08      0.04        0.1        0.3
NH         3       0.08   1377.14       0.04    1454.36       0.08    1678.69
ET                             6.4
X1     34300         10   1387.12    1426.77      339.85     525.49     409.15
GR      2190    1182.23      2188    1309.82     2185.95    1346.64       2184   1377.14      2180    1387.12
GR      2180     1405.6      2180    1426.77       2184    1454.36       2188   1534.83      2188    1678.69

NC      0.08       0.08      0.04        0.1        0.3
NH         3       0.08   1070.71       0.04    1141.49       0.08    1424.41


X1     34400          9   1098.78    1141.49      424.52     239.74     374.06
GR      2192       1000      2192    1000.21       2192    1025.09       2192   1070.71      2188    1098.78
GR    2184.9    1131.02      2188    1141.49       2192    1237.56       2192   1424.41

NC     0.045       0.08      0.04        0.1        0.3
NH         3      0.045   1240.15       0.04    1416.64       0.08    1582.96
X1     34500          9   1342.27    1370.35      502.82     269.08     390.01
GR      2196    1085.59   2194.17    1240.15       2192    1308.42       2192   1342.27      2192    1370.35
GR      2192    1392.85      2192    1392.98     2193.21    1416.64    2195.85   1582.96

NC     0.045       0.08      0.04        0.1        0.3
NH         3      0.045   1520.01       0.04     1667.2       0.08    1776.93
X1     34600         10   1570.99    1587.02      245.83     417.47     429.06
GR    2200.2    1410.05      2200    1520.01       2196    1548.01       2193   1570.99      2193    1587.02
GR      2196    1624.86      2200    1648.37       2204     1667.2       2204   1686.95      2204    1776.93

NC     0.045       0.08      0.04        0.1        0.3
NH         3      0.045   1306.39       0.04    1512.65       0.08    1564.46
   DOWNSTREAM FACE OF RANCHO DESTINO ROAD
X1     34700         10   1389.69    1404.48      237.38        333     332.71
GR      2206     813.52      2204    1012.57       2204    1306.39       2200   1320.72      2200    1389.69
GR      2200    1404.48      2200    1415.35       2204    1448.64       2208   1512.65      2212    1564.46
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NC     0.016      0.016      0.016        0.1        0.3
  UPSTREAM FACE OF RANCHO DESTINO ROAD
X1     34800         10    1036.85    1055.91      63.71      67.19      65.75
GR      2208     480.33       2206     702.68     2205.7     948.47       2204    1000.01       2204    1015.44
GR      2204    1036.85       2204    1055.91       2204    1069.59       2208    1133.33       2212    1181.46

NC      0.08       0.08       0.04        0.1        0.3
NH         3       0.08    1605.58       0.04    1800.65       0.08    1926.69
X1     34900         13    1726.44     1767.5     126.24      78.22     162.28
GR      2208    1486.73       2208    1559.43       2208    1573.52       2208    1605.58    2206.71    1644.77
GR      2204    1726.44       2204     1767.5       2208    1800.65       2208    1825.65       2208     1836.4
GR      2208    1842.41       2212    1860.17       2212    1926.69

NC     0.045      0.08       0.04        0.1        0.3
NH         3     0.045    1457.64       0.04    1557.14       0.08    1604.27
X1     35000         12    1482.85    1493.28     241.08     170.45     230.88
GR      2210    1237.03     2208.6    1393.78       2208    1419.53       2208    1430.96       2208    1457.64
GR      2208    1482.85       2206    1487.54       2208    1493.28       2208    1557.14       2212    1578.22
GR      2216    1598.43       2216    1604.27

NC     0.045      0.045      0.04        0.1        0.3
ET                              7.1                              1500       1570
X1     35100          7    1525.46    1569.18      92.75     134.15     128.06
GR      2212    1279.66    2210.55    1481.55       2208    1525.46       2208    1569.18       2212    1579.55
GR      2216    1643.62       2216    1681.54

NC     0.045      0.045      0.04        0.3        0.5
ET                              7.1                              1281       1393
  DOWNSTREAM FACE OF HAVEN ROAD
X1     35200          7       1306       1343     153.05     185.92     159.34
GR    2212.2       1051     2212.2       1306     2206.8       1306     2206.8       1343     2212.2       1343
GR    2212.2       1472       2216       1576

NC      0.11       0.08      0.015        0.3        0.5
ET                              4.4
SB       0.9        1.5          3         51         37       1.34        181          0     2207.2     2206.8
  UPSTREAM FACE OF HAVEN ROAD
X1     35300          4    1656.545    1693.545      52.69        108      73.35
X2                              1.5     2212.2    2214.24                        1.33
GR    2212.2    1656.545     2207.2    1656.545     2207.2    1693.545     2212.2    1693.545


NC      0.11       0.08      0.015        0.1        0.3

X1     35400          4       1029     1072.5      259.5     253.83     254.15
GR    2216.6       1029     2209.6       1043     2209.6       1058.5     2216.6       1072.5

NC      0.11       0.08      0.015        0.1        0.3
X1     35500          4       1399     1442.5     182.19     175.56     182.08
GR    2218.1       1399     2211.3       1413     2211.3       1428.5     2218.1       1442.5

NC      0.11       0.08      0.015        0.1        0.3
X1     35600          4       1053     1096.5     106.97     100.66     102.05
GR    2219.3       1053    2212.35       1067    2212.35       1082.5     2219.3       1096.5

NC      0.08       0.11      0.015        0.1        0.3
X1     35700          4       1278     1321.5      70.67      59.07      64.09
GR    2219.7       1278    2212.75       1292    2212.75       1307.5     2219.7       1321.5

NC      0.08       0.11      0.015        0.1        0.3
X1     35800          4       1870     1913.5     229.07     324.61     277.14
GR    2222.5       1870    2215.54       1884    2215.54       1899.5     2222.5       1913.5

NC      0.08       0.11      0.015        0.1        0.3
X1     35900          4       1813     1856.5     185.27     158.53     170.39
GR    2222.8       1813    2215.83       1827    2215.83       1842.5     2222.8       1856.5

NC      0.08       0.11      0.015        0.3        0.5
  DOWNSTREAM FACE OF LAS VEGAS BOULEVARD
X1     36000          4    1352.08    1373.68     141.57     120.73      146.7
GR    2229.9    1352.08     2220.4    1352.08     2220.4    1373.68     2229.9    1373.68

NC     0.016      0.016      0.015        0.3        0.5
QT         1        566
  UPSTREAM FACE OF LAS VEGAS BOULEVARD
  WATER SURFACE ELEVATION SET AT 2231.3 FEET NGVD
  BASED ON RATING CURVE OF MULTIPLE OPENINGS
X1     36100          7    1349.84    1371.44     189.04     170.86     178.09
X5         2     2231.3     2231.3
GR      2236       1000    2229.94    1349.84    2224.94    1349.84    2224.94    1371.44    2229.94    1371.44
GR      2232    1439.33       2236     1567.5


NC     0.045      0.045      0.04        0.1        0.3
NH         3     0.045    1225.36       0.04    1307.23       0.045    1524.21
X1     36200         10    1243.89    1266.18     100.22     112.32     119.17
GR      2236       1000       2232    1225.36     2226.5    1243.89     2226.5    1266.18    2231.88    1307.23
GR      2232    1308.39       2232    1376.88       2232    1427.08       2236    1496.47       2236    1524.21

NC     0.045      0.045      0.04        0.1        0.3
NH         3     0.045    1617.59       0.04    1687.81       0.045    1855.12
X1     36300         15    1646.35    1659.41     167.58     119.92     136.88
GR      2240    1362.06       2236    1415.14       2232    1548.93       2232    1549.65       2232    1549.86
GR      2232    1617.59       2228    1646.35       2228    1659.41    2230.8     1681.03       2232    1687.81
GR      2232    1749.56       2232    1756.17       2236    1827.25       2236    1827.29       2240    1855.12

NC      0.04       0.04       0.04        0.1        0.3
ET                              4.4
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X1    36400        7    1481.5    1514.4    509.27    408.27    450.51
GR     2244  1371.45      2240   1395.29      2236    1481.5      2236    1514.4      2236   1525.44
GR     2240  1613.08      2244   1639.56

NC    0.045    0.045      0.04       0.1       0.3
NH        3    0.045    1598.98      0.04   1868.55     0.045   2064.85
X1    36500       12    1694.69    1728.22    246.88    318.79    368.86
GR     2248  1504.72      2244   1518.77      2244   1545.73      2244   1547.66   2242.53   1598.98
GR     2240  1694.69      2240   1728.22      2240   1732.35      2240   1737.36   2243.92   1867.36
GR     2244  1868.55      2248   2064.85

NC    0.045    0.045      0.04       0.1       0.3
NH        3    0.045    1302.97      0.04   1687.74     0.045   1766.03
X1    36600       14    1571.61     1605.6    284.54    325.8     398.14
GR     2256  1195.81      2252   1242.31    2249.35   1279.51      2248   1302.97      2244   1470.23
GR     2244  1472.42      2244   1571.61      2244    1605.6      2244   1635.79      2244   1639.03
GR     2248  1687.74      2252   1709.36      2256   1761.8       2256   1766.03

NC    0.045    0.045      0.04       0.1       0.3
NH        2     0.04    1606.58     0.045   1702.03
X1    36700        9    1545.74    1566.11    305.53    458.06    397.16
GR     2252  1453.28    2251.09   1474.82      2248   1545.74      2248   1566.11      2252   1606.58
GR     2252   1606.6      2256    1645.5    2256.37   1650.93      2260   1702.03

NC    0.045    0.045      0.04       0.1       0.3
NH        3    0.045    1197.01      0.04   1284.66     0.045   1485.69
X1    36800       12    1230.18    1250.02    518.31    274.4     398.79
GR     2260  1033.83      2256   1131.33      2256   1134.04    2256.14   1136.5       2256   1197.01
GR     2252  1222.02      2252   1230.18      2252   1250.02      2252   1263.7       2256   1284.66
GR     2260  1469.28      2260   1485.69

NC    0.045    0.045      0.04       0.1       0.3
NH        3    0.045    1504.34      0.04   1588.74     0.045   1675.1

X1    36900        7    1564.44    1568.29    160.65    140.23    394.68
GR     2264  1339.37      2260   1504.34      2256   1564.44      2256   1568.29      2260   1588.59
GR     2260  1588.74      2264   1675.1

NC    0.045    0.045      0.04       0.3       0.5
  DOWNSTREAM FACE OF I-15
X1    37000        7    1572.07    1584.07    137.55    218.96    204.16
X3       10
GR   2270.1     1000     2270.1    1028.66     2270.1   1572.07     2257.92   1572.07     2257.92   1584.07
GR   2270.1  1584.07     2270.1     1806.6

NC     0.08     0.08      0.015       0.3       0.5
ET                          7.1                             835.45    1954.09
SC    1.015      0.4          3       800         5        12       250       8.1     2260.22   2257.92
  UPSTREAM FACE OF I-15
X1    37100        6    1306.83    1318.83       250       250       250
X2                          2                  2270.1
X3       10
GR   2270.1   835.45     2270.1    1306.83     2260.22   1306.83     2260.22   1318.83     2270.1   1318.83
GR   2270.1  1954.09

NC    0.045    0.045      0.04       0.1       0.3
QT        1      566
X1    37200       11    1367.67    1446.26    167.72    107.1     178.92
GR     2272   976.59      2271.25   1004.55      2268   1283.99      2268   1284      2265.03   1367.67
GR     2264  1423.18      2264    1438.75      2268   1446.26      2268.34   1482.01     2269.4   1718.33
GR     2272  1841.91

NC    0.045    0.045      0.04       0.1       0.3
QT        2      278       278
X1    37300       14    1510.9     1623.33    170.7     129.98    158.16
GR     2272  1356.16      2268   1417.09      2268   1446.73      2268   1446.76      2268   1449.07
GR     2268   1510.9      2264   1605.83      2264   1608.43      2268   1623.33      2268   1709.85
GR     2268  1711.26      2268   1725.37      2272   1876.63      2272    1947.7

NC    0.045    0.045      0.04       0.1       0.3
NH        3    0.045    1532.04      0.04   1733.17     0.045   1960.34
X1    37400       11    1606.6     1640.05    169.95    206.32    216.47
GR     2273  1327.71      2272   1379.15      2272   1395.47      2272   1420.6       2272   1532.04
GR     2268   1606.6      2268   1630.39      2268   1640.05      2272   1711.73   2272.85   1733.17
GR   2274.2  1960.34

NC     0.11     0.11      0.04       0.3       0.5
NH        3     0.11    1319.45      0.04   1372.09      0.11   1714.93
X1    37500       10    1349.24    1350.56    291.36    258.88    214.02
GR     2276     1000      2276    1008.03      2272   1319.45      2266   1349.24      2266   1350.56
GR     2272  1371.98      2272    1372.09      2276   1520.63      2276   1520.81    2276.2   1714.93


NC    0.016    0.016      0.016      0.3       0.5
  DOWNSTREAM SIDE INDUSTRIAL ROAD CROSSING
X1    37600        8       1160     1164        34        34        34
GR     2276     1000      2274.4    1097.78     2272   1145.68      2272   1160      2272   1164
GR     2272  1174.91      2274.4    1229.43     2276   1256.03

NC     0.11     0.11      0.04       0.3       0.5
  UPSTREAM SIDE INDUSTRIAL ROAD CROSSING
X1    37700        7    1297.95     1310.1    40.26        40        40
GR     2276     1000      2276    1006.61      2272   1297.95      2270   1309.46      2272   1310.1
GR     2276  1353.14      2280    1593.41

NC     0.11     0.11      0.04       0.1       0.3
NH        3     0.11    1395.25      0.04   1422.26      0.11   1651.97
X1    37800        9       1405     1406     130.33    127.14    150.06
GR     2276  1203.71      2276    1203.72     2276   1318.35      2276   1395.25   2272.22   1405
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GR   2272.2      1406    2272.22      1407      2276    1422.26      2280    1651.97

NC      0.11      0.11      0.04       0.1       0.3
X1     37900         7   1366.14   1386.22    174.59    201.97    187.27
GR      2280   1131.54      2276   1366.14      2276   1371.18      2274   1378.63      2276   1386.22
GR      2280   1440.91      2280   1503.61

NC      0.08      0.08      0.04       0.1       0.3
NH         3      0.08   1393.95       0.04   1423.18      0.08   1560.82
X1     38000         7   1393.95   1423.18    407.38    317.46    401.16
GR    2284.5   1338.95      2284   1393.95      2280   1404.51      2280    1407.9      2284   1423.18
GR      2284   1538.49      2285   1560.82

NC      0.11      0.11      0.04       0.1       0.3
NH         3      0.11   1421.08       0.04   1449.43      0.11   1665.61
X1     38100         6   1432.04    1432.7    384.72    461.59    425.67
GR    2290.5   1281.77      2288   1421.08      2284   1432.04      2284    1432.7      2288   1449.43
GR      2292   1665.61

NC      0.08      0.08      0.04       0.1       0.3
NH         2      0.08   1630.86       0.04   1822.04
X1     38200         5   1709.56   1730.51       308    298.02    265.43
GR      2296    1505.8      2292   1630.86   2288.58   1709.56   2288.58   1730.51      2292   1822.04

NC      0.11      0.11      0.04       0.1       0.3
X1     38300         7   1280.96   1298.31    290.36     338.9    384.73
GR      2296      1000      2296    1278.8      2292   1280.96      2290   1289.19      2292   1298.31
GR      2296   1491.97   2296.51   1538.75

NC      0.11     0.045      0.04       0.3       0.5
NH         3      0.11   1216.03       0.04   1448.42     0.045   1600.21
  DOWNSTREAM SIDE VALLEY VIEW BOULEVARD CROSSING
X1     38400        10   1307.12    1327.5    257.39    260.28    254.63
GR      2300      1000      2300   1213.74      2300   1216.03      2296   1289.97    2295.5   1307.12
GR      2295   1317.76    2295.5    1327.5      2296   1348.39      2300   1448.42      2300   1600.21


NC     0.045     0.045      0.04       0.3       0.5
NH         3     0.045   1160.83       0.04   1395.93     0.045   1578.89
  UPSTREAM SIDE VALLEY VIEW BOULEVARD CROSSING
X1     38500         7   1255.44   1265.25     43.05     48.84     42.51
GR      2300    977.33      2300      1000      2300   1160.83      2296   1255.44      2296   1265.25
GR      2300   1395.93      2300   1578.89

NC     0.045     0.045      0.04       0.1       0.3
NH         3     0.045   1255.89       0.04   2229.66     0.045   2276.44
X1     38600        12   1293.65   1330.76    295.49    814.29    324.15
GR      2304      1000      2304   1045.04      2304   1141.03      2304   1144.05      2304   1158.41
GR      2300   1182.33      2296   1255.89   2295.57   1293.65   2295.57   1330.76   2295.57    1386.9
GR      2296   2229.66      2300   2276.44

NC     0.045     0.045      0.04       0.1       0.3
NH         2     0.045   1158.67       0.04   1712.01


X1     38700        10   1355.63   1368.48    378.88     390.2    319.18
GR      2308    939.66      2308      1000      2308   1022.47      2308    1112.8      2308   1112.92
GR      2304   1140.97      2300   1158.67   2299.03   1355.63   2299.08   1368.48      2300   1712.01

NC     0.045     0.045      0.04       0.1       0.3


X1     38800         8   1303.98   1324.45    436.89     274.3    433.91
GR    2313.6    855.93      2312      1000      2308    1020.6      2304   1058.52   2303.11   1303.98
GR    2303.1   1324.45      2304   1681.38      2308   2113.19

NC     0.045     0.045      0.04       0.1       0.3
X1     38900        10   1305.3    1317.33    359.74    504.55    345.54
GR      2316      1000      2316   1007.48      2316   1157.51      2316   1194.44      2316   1296.36
GR      2312    1305.3      2310   1309.23      2312   1317.33      2316   1584.11      2316    1654.3

NC     0.045     0.045      0.04       0.1       0.3
X1     39000         7   1003.41   1028.87    369.09    316.16    382.74
GR      2324    641.58   2320.12   1003.41      2320   1006.96   2316.79   1018.32      2320   1028.87
GR    2320.4   1144.02      2324   1344.92

T1LOW BLUE DIAMOND DETENTION BASIN IN OPERATION
T2DUCK CREEK/ BLUE DIAMOND CLOMR
T3BDN1SUB

J1   ICHECK      INQ      NINV      IDIR      STRT    METRIC     HVINS         Q      WSEL        FQ

                   3                                                          566   2077.1

J2   NPROF     IPLOT     PRFVS     XSECV     XSECH        FN     ALLDC      IBW     CHNIM     ITRACE

       15                  -1                                       -1       -6


                                                                  THIS RUN EXECUTED 11AUG06     09:01:29

**************************************
 HEC-2 WATER SURFACE PROFILES

 Version   4.6.2;  May 1991
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST
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BDN1SUB1

SUMMARY PRINTOUT TABLE 100

	SECNO	EGLWC	ELLC	EGPRS	ELTRD	QPR	QWEIR	CLASS	H3	DEPTH	CWSEL	VCH	EG
	31600.000	2094.54	2113.87	.00	2195.90	566.00	.00	1.00	.01	5.46	2094.36	3.46	2094.54
	31600.000	2095.30	2113.87	.00	2195.90	566.00	.00	1.00	.01	6.26	2095.16	3.01	2095.30
•	32700.000	2120.18	2139.84	.00	2124.63	566.00	.00	2.00	.00	3.58	2119.42	7.00	2120.18
*	32700.000	2120.73	2139.84	.00	2124.63	566.00	.00	2.00	.00	4.38	2120.22	5.72	2120.73
•	33000.000	2129.69	2149.25	.00	2133.84	566.00	.00	2.00	.00	3.50	2128.75	7.78	2129.69
•	33000.000	2129.69	2149.25	.00	2133.84	566.00	.00	2.00	.00	3.50	2128.75	7.78	2129.69
*	35300.000	2211.06	2212.20	.00	2214.24	566.00	.00	1.00	.01	3.57	2210.77	4.28	2211.06
•	35300.000	2211.40	2212.20	.00	2214.24	566.00	.00	1.00	.01	3.97	2211.17	3.85	2211.40

BDN1SUB1

SUMMARY PRINTOUT TABLE 101

	SECNO	EGOC	ELLC	EGIC	ELTRD	QCULV	QWEIR	CLASS	H4	DEPTH	CWSEL	VCH	EG
•	37100.000	2267.17	.00	2267.67	2270.10	566.00	.00	6.00	3.59	6.68	2266.90	7.06	2267.67
•	37100.000	2267.12	.00	2267.67	2270.10	566.00	.00	6.00	3.49	6.68	2266.90	7.06	2267.67

BDN1SUB1

SUMMARY PRINTOUT TABLE 110

	SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
	31000.000	2077.10	.00	2077.29	39.78	.00	566.00	.00	.00	.00	1062.75	1103.47	.00
	31000.000	2077.10	.00	2077.29	39.78	.00	566.00	.00	.00	1062.75	1062.75	1103.47	1103.47
*	31100.000	2081.47	.00	2083.80	10.00	.00	566.00	.00	.00	.00	1337.00	1347.00	.00
•	31100.000	2081.47	.00	2083.80	10.00	.00	566.00	.00	.00	1337.00	1337.00	1347.00	1347.00
*	31200.000	2086.02	.00	2088.35	10.00	.00	566.00	.00	.00	.00	1038.00	1048.00	.00
*	31200.000	2086.02	.00	2088.35	10.00	.00	566.00	.00	.00	1038.00	1038.00	1048.00	1048.00
•	31300.000	2090.82	.00	2093.15	10.00	.00	566.00	.00	.00	.00	1126.00	1136.00	.00
•	31300.000	2090.82	.00	2093.15	10.00	.00	566.00	.00	.00	1126.00	1126.00	1136.00	1136.00
•	31400.000	2091.42	.00	2093.75	10.00	.00	566.00	.00	.00	.00	1130.00	1140.00	.00
*	31400.000	2091.42	.00	2093.75	10.00	.00	566.00	.00	.00	1130.00	1130.00	1140.00	1140.00
•	31500.000	2094.34	.00	2094.46	101.14	6.76	558.58	.66	.00	.00	1005.00	1035.00	.00
*	31500.000	2094.34	.00	2094.46	30.00	.00	566.00	.00	.04	1005.00	1005.00	1035.00	1035.00
	31600.000	2094.36	.00	2094.54	38.26	.03	565.87	.10	.00	.00	1489.00	1519.00	.00
	31600.000	2095.16	.80	2095.30	52.75	.37	564.48	1.16	.00	.00	1489.00	1519.00	.00
*	31700.000	2096.77	.00	2099.09	10.00	.00	566.00	.00	.00	.00	1130.00	1140.00	.00
•	31700.000	2096.76	-.01	2099.09	10.00	.00	566.00	.00	.00	1130.00	1130.00	1140.00	1140.00
*	31800.000	2100.02	.00	2102.35	10.00	.00	566.00	.00	.00	.00	1592.00	1602.00	.00
•	31800.000	2100.02	.00	2102.35	10.00	.00	566.00	.00	.00	1592.00	1592.00	1602.00	1602.00
*	31900.000	2103.42	.00	2105.75	10.00	.00	566.00	.00	.00	.00	1045.00	1055.00	.00
*	31900.000	2103.42	.00	2105.75	10.00	.00	566.00	.00	.00	1045.00	1045.00	1055.00	1055.00
*	32000.000	2104.01	.00	2106.34	10.00	.00	566.00	.00	.00	.00	1061.00	1071.00	.00
*	32000.000	2104.01	.00	2106.34	10.00	.00	566.00	.00	.00	1061.00	1061.00	1071.00	1071.00
•	32100.000	2104.85	.00	2107.18	10.00	.00	566.00	.00	.00	.00	1035.00	1045.00	.00
•	32100.000	2104.85	.00	2107.18	10.00	.00	566.00	.00	.00	1035.00	1035.00	1045.00	1045.00
•	32200.000	2108.21	.00	2110.54	10.00	.00	566.00	.00	.00	.00	1000.00	1010.00	.00
*	32200.000	2108.21	.00	2110.54	10.00	.00	566.00	.00	.00	1000.00	1000.00	1010.00	1010.00
•	32300.000	2109.05	.00	2111.38	10.00	.00	566.00	.00	.00	.00	1000.00	1010.00	.00
*	32300.000	2109.05	.00	2111.38	10.00	.00	566.00	.00	.00	1000.00	1000.00	1010.00	1010.00
*	32400.000	2109.89	.00	2112.22	10.00	.00	566.00	.00	.00	.00	1507.00	1517.00	.00
•	32400.000	2109.89	.00	2112.22	10.00	.00	566.00	.00	.00	1507.00	1507.00	1517.00	1517.00
•	32500.000	2113.25	.00	2115.58	10.00	.00	566.00	.00	.00	.00	1584.00	1594.00	.00
*	32500.000	2113.25	.00	2115.58	10.00	.00	566.00	.00	.00	1584.00	1584.00	1594.00	1594.00

	SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
*	32600.000	2115.78	.00	2117.13	22.60	.00	566.00	.00	.00	.00	1000.00	1022.60	.00
*	32600.000	2115.78	.00	2117.13	22.60	.00	566.00	.00	.00	1000.00	1000.00	1022.60	1022.60
*	32700.000	2119.42	.00	2120.18	22.60	.00	566.00	.00	.00	.00	1251.25	1273.86	.00
•	32700.000	2120.22	.80	2120.73	22.60	.00	566.00	.00	.00	.00	1251.25	1273.86	.00
*	32800.000	2123.28	.00	2124.75	20.00	.00	566.00	.00	.00	.00	1000.00	1020.00	.00
*	32800.000	2123.28	.00	2124.75	20.00	.00	566.00	.00	.00	1000.00	1000.00	1020.00	1020.00
*	32900.000	2127.73	.00	2129.16	20.79	.00	566.00	.00	20.80	1465.54	1465.55	1486.34	1486.34

*	32900.000	2127.73	.00	2129.16	20.79	.00	566.00	.00	20.80	1465.54	1465.55	1486.34	1486.34
*	33000.000	2128.75	.00	2129.69	20.80	.00	566.00	.00	20.81	1304.13	1304.14	1324.94	1324.94
*	33000.000	2128.75	.00	2129.69	20.80	.00	566.00	.00	20.81	1304.13	1304.14	1324.94	1324.94
*	33100.000	2144.34	.00	2144.48	695.38	200.93	107.24	257.83	.00	.00	1382.37	1497.79	.00
*	33100.000	2144.91	.57	2145.34	128.00	26.15	526.57	13.28	128.00	1376.00	1382.37	1497.79	1504.00
*	33200.000	2149.51	.00	2149.89	122.54	106.29	374.31	85.40	.00	.00	1064.91	1090.67	.00
*	33200.000	2149.97	.45	2150.65	32.00	4.31	520.09	41.60	32.00	1064.00	1064.91	1090.67	1096.00
*	33300.000	2153.27	.00	2153.99	63.43	28.69	313.84	223.46	.00	.00	1468.48	1486.20	.00
	33300.000	2153.45	.17	2154.24	41.61	34.44	335.69	195.87	46.00	1456.00	1468.48	1486.20	1502.00
*	33400.000	2159.67	.00	2160.04	171.99	124.01	264.25	177.73	.00	.00	1070.82	1108.00	.00
*	33400.000	2159.68	.02	2160.22	90.00	111.34	286.73	167.93	90.00	1050.00	1070.82	1108.00	1140.00
*	33500.000	2160.13	.00	2160.19	384.91	336.90	142.04	87.06	.00	.00	1214.68	1255.19	.00
*	33500.000	2160.22	.09	2160.54	100.00	92.27	305.98	167.75	100.00	1200.00	1214.68	1255.19	1300.00
*	33600.000	2160.43	.00	2160.62	519.09	211.87	90.94	263.20	.00	.00	941.27	982.53	.00
*	33600.000	2160.78	.35	2161.17	160.00	247.04	188.71	130.25	160.00	880.00	941.27	982.53	1040.00
*	33700.000	2163.61	.00	2163.73	140.35	390.04	155.10	20.86	.00	.00	1209.87	1232.89	.00
*	33700.000	2164.32	.70	2164.56	51.08	312.78	253.22	.00	.49	1181.81	1209.87	1232.89	1232.89
*	33800.000	2168.02	.00	2169.13	31.91	.00	566.00	.00	.00	.00	1287.55	1319.32	.00
*	33800.000	2168.03	.01	2169.13	31.77	.00	566.00	.00	.01	1287.55	1287.55	1319.32	1319.32
*	33900.000	2173.50	.00	2174.34	38.93	104.54	450.25	11.21	.00	.00	1398.05	1414.24	.00
	33900.000	2173.49	-.01	2174.33	38.89	104.23	450.63	11.14	50.00	1375.00	1398.05	1414.24	1425.00
*	34000.000	2176.68	.00	2177.04	167.19	22.71	112.68	430.61	.00	.00	1383.05	1414.07	.00
*	34000.000	2177.04	.36	2177.58	90.00	67.59	205.18	293.23	90.00	1363.00	1383.05	1414.07	1453.00
*	34100.000	2177.37	.00	2177.45	222.27	41.55	140.04	384.41	.00	.00	1483.75	1524.91	.00
*	34100.000	2177.88	.51	2178.02	100.00	59.82	255.48	250.70	100.00	1470.00	1483.75	1524.91	1570.00
*	34200.000	2178.94	.00	2180.10	30.89	57.50	446.46	62.05	.00	.00	1120.37	1136.68	.00
*	34200.000	2178.94	.00	2180.10	30.89	57.49	446.48	62.03	36.14	1110.80	1120.37	1136.68	1146.94

	SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
*	34300.000	2182.70	.00	2182.97	65.02	24.07	472.49	69.44	.00	.00	1387.12	1426.77	.00
*	34300.000	2182.98	.29	2183.34	39.65	.00	566.00	.00	.19	1387.12	1387.12	1426.77	1426.77
*	34400.000	2188.20	.00	2189.09	49.00	.16	565.56	.28	.00	.00	1098.78	1141.49	.00
*	34400.000	2188.20	-.01	2189.09	42.71	.00	566.00	.00	.02	1098.78	1098.78	1141.49	1141.49
*	34500.000	2193.37	.00	2193.56	161.62	250.57	148.30	167.14	.00	.00	1342.27	1370.35	.00
*	34500.000	2193.86	.49	2194.25	60.91	228.06	270.73	67.21	.51	1317.45	1342.27	1370.35	1378.36
	34600.000	2195.77	.00	2196.16	72.24	111.81	269.43	184.76	.00	.00	1570.99	1587.02	.00
	34600.000	2196.53	.75	2197.16	27.11	19.24	388.48	158.28	.37	1569.27	1570.99	1587.02	1596.39
*	34700.000	2201.01	.00	2201.49	106.64	403.22	85.10	77.68	.00	.00	1389.69	1404.48	.00
*	34700.000	2201.67	.66	2202.51	46.17	389.18	176.82	.00	.55	1358.31	1389.69	1404.48	1404.48
*	34800.000	2205.11	.00	2205.56	121.11	313.18	125.74	127.08	.00	.00	1036.85	1055.91	.00
*	34800.000	2205.77	.66	2206.67	42.12	314.25	251.75	.00	.56	1013.79	1036.85	1055.91	1055.91
	34900.000	2205.94	.00	2206.19	115.70	161.64	360.10	44.25	.00	.00	1726.44	1767.50	.00
	34900.000	2206.95	1.00	2207.29	41.19	.23	565.77	.00	.43	1726.31	1726.44	1767.50	1767.50
*	35000.000	2208.80	.00	2209.12	189.79	229.20	125.96	210.84	.00	.00	1482.85	1493.28	.00
*	35000.000	2209.34	.55	2210.10	55.83	259.12	208.80	98.08	.61	1450.09	1482.85	1493.28	1505.92
*	35100.000	2210.03	.00	2210.37	83.99	100.88	450.61	14.52	.00	.00	1525.46	1569.18	.00
*	35100.000	2210.64	.61	2210.84	70.00	126.84	436.52	2.64	70.00	1500.00	1525.46	1569.18	1570.00
*	35200.000	2210.76	.00	2210.99	37.00	.00	566.00	.00	.00	.00	1306.00	1343.00	.00
	35200.000	2211.00	.24	2211.20	37.00	.00	566.00	.00	112.00	1281.00	1306.00	1343.00	1393.00
*	35300.000	2210.77	.00	2211.06	37.00	.00	566.00	.00	.00	.00	1656.55	1693.55	.00
*	35300.000	2211.17	.40	2211.40	37.00	.00	566.00	.00	4.00	.00	1656.55	1693.55	.00
*	35400.000	2212.60	.00	2213.80	27.52	.00	566.00	.00	.00	.00	1029.00	1072.50	.00
*	35400.000	2212.61	.00	2213.80	27.52	.00	566.00	.00	.00	1029.00	1029.00	1072.50	1072.50
*	35500.000	2214.30	.00	2215.48	27.83	.00	566.00	.00	.00	.00	1399.00	1442.50	.00
*	35500.000	2214.30	.00	2215.48	27.83	.00	566.00	.00	.00	1399.00	1399.00	1442.50	1442.50
*	35600.000	2215.36	.00	2216.54	27.62	.00	566.00	.00	.00	.00	1053.00	1096.50	.00
*	35600.000	2215.36	.00	2216.54	27.61	.00	566.00	.00	.00	1053.00	1053.00	1096.50	1096.50
*	35700.000	2215.76	.00	2216.94	27.61	.00	566.00	.00	.00	.00	1278.00	1321.50	.00
*	35700.000	2215.76	.00	2216.94	27.62	.00	566.00	.00	.00	1278.00	1278.00	1321.50	1321.50
*	35800.000	2218.55	.00	2219.73	27.60	.00	566.00	.00	.00	.00	1870.00	1913.50	.00
*	35800.000	2218.55	.00	2219.73	27.59	.00	566.00	.00	.00	1870.00	1870.00	1913.50	1913.50
	35900.000	2219.28	.00	2220.11	29.35	.00	566.00	.00	.00	.00	1813.00	1856.50	.00
	35900.000	2219.28	.00	2220.11	29.37	.00	566.00	.00	.00	1813.00	1813.00	1856.50	1856.50

	SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
*	36000.000	2223.16	.00	2224.56	21.60	.00	566.00	.00	.00	.00	1352.08	1373.68	.00
*	36000.000	2223.16	.00	2224.56	21.60	.00	566.00	.00	.00	1352.08	1352.08	1373.68	1373.68

*	36100.000	2231.30	.00	2231.47	144.94	51.34	485.36	29.30	.00	.00	1349.84	1371.44	.00
*	36100.000	2231.30	.00	2231.54	32.23	21.13	544.87	.00	.19	1339.21	1349.84	1371.44	1371.44
*	36200.000	2231.41	.00	2231.51	76.34	73.38	322.65	169.97	.00	.00	1243.89	1266.18	.00
*	36200.000	2231.44	.03	2231.60	41.42	33.08	376.38	156.53	.15	1240.04	1243.89	1266.18	1281.45
*	36300.000	2231.47	.00	2231.78	63.46	147.21	245.96	172.82	.00	.00	1646.35	1659.41	.00
*	36300.000	2231.44	-.03	2231.99	31.87	110.86	300.62	154.52	.22	1638.68	1646.35	1659.41	1670.55
*	36400.000	2237.39	.00	2237.90	104.24	84.66	295.95	185.38	.00	.00	1481.50	1514.40	.00
*	36400.000	2237.76	.37	2238.66	42.36	.00	447.22	118.78	.40	1481.50	1481.50	1514.40	1523.86
*	36500.000	2241.60	.00	2241.82	156.16	137.47	242.04	186.49	.00	.00	1694.69	1728.22	.00
*	36500.000	2242.14	.54	2242.50	56.17	72.75	356.62	136.63	.38	1686.12	1694.69	1728.22	1742.29
	36600.000	2244.84	.00	2245.03	214.29	347.65	105.06	113.29	.00	.00	1571.61	1605.60	.00
	36600.000	2245.22	.38	2245.58	96.68	368.38	197.62	.00	.50	1508.92	1571.61	1605.60	1605.60
*	36700.000	2249.90	.00	2250.50	83.12	193.47	287.46	85.07	.00	.00	1545.74	1566.11	.00
	36700.000	2250.30	.40	2251.31	31.90	176.94	389.06	.00	.34	1534.21	1545.74	1566.11	1566.11
*	36800.000	2254.22	.00	2254.57	67.21	142.50	226.21	197.28	.00	.00	1230.18	1250.02	.00
*	36800.000	2254.77	.55	2255.17	40.63	98.40	298.45	169.15	.26	1222.20	1230.18	1250.02	1262.83
*	36900.000	2258.75	.00	2259.49	59.10	347.15	102.90	115.95	.00	.00	1564.44	1568.29	.00
*	36900.000	2259.12	.37	2260.48	23.21	393.54	133.14	39.32	.29	1547.28	1564.44	1568.29	1570.49
	37000.000	2262.15	.00	2264.08	12.00	.00	566.00	.00	.00	.00	1572.07	1584.07	.00
	37000.000	2262.61	.46	2264.18	12.00	.00	566.00	.00	.00	1572.07	1572.07	1584.07	1584.07
*	37100.000	2266.90	.00	2267.67	12.00	.00	566.00	.00	.00	.00	1306.83	1318.83	.00
*	37100.000	2266.90	.00	2267.67	12.00	.00	566.00	.00	1118.64	835.45	1306.83	1318.83	1954.09
*	37200.000	2267.83	.00	2267.87	156.91	100.79	465.21	.00	.00	.00	1367.67	1446.26	.00
*	37200.000	2267.83	.00	2267.87	157.02	100.93	465.07	.00	.00	.00	1367.67	1446.26	.00
*	37300.000	2267.93	.00	2267.95	110.41	.00	278.00	.00	.00	.00	1510.90	1623.33	.00
*	37300.000	2267.93	.00	2267.95	110.39	.00	278.00	.00	.00	.00	1510.90	1623.33	.00
*	37400.000	2269.08	.00	2269.49	73.04	38.46	202.57	36.97	.00	.00	1606.60	1640.05	.00
*	37400.000	2269.08	.00	2269.49	73.03	38.45	202.58	36.97	.00	.00	1606.60	1640.05	.00
*	37500.000	2270.57	.00	2270.72	40.37	146.51	27.39	104.10	.00	.00	1349.24	1350.56	.00
*	37500.000	2270.58	.00	2270.72	40.37	146.51	27.39	104.10	.00	.00	1349.24	1350.56	.00
*	37600.000	2273.08	.00	2273.46	75.20	134.14	25.45	118.41	.00	.00	1160.00	1164.00	.00
*	37600.000	2273.08	.00	2273.46	75.20	134.14	25.45	118.41	.00	.00	1160.00	1164.00	.00

	SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
*	37700.000	2273.31	.00	2273.83	121.40	73.37	193.82	10.81	.00	.00	1297.95	1310.10	.00
*	37700.000	2273.31	.00	2273.83	121.40	73.37	193.82	10.81	.00	.00	1297.95	1310.10	.00
*	37800.000	2275.35	.00	2276.21	22.70	80.90	33.52	163.58	.00	.00	1405.00	1406.00	.00
*	37800.000	2275.35	.00	2276.21	22.70	80.90	33.52	163.58	.00	.00	1405.00	1406.00	.00
*	37900.000	2277.59	.00	2277.81	135.29	58.66	205.69	13.65	.00	.00	1366.14	1386.22	.00
*	37900.000	2277.59	.00	2277.81	135.29	58.66	205.69	13.65	.00	.00	1366.14	1386.22	.00
*	38000.000	2282.92	.00	2283.78	22.23	.00	278.00	.00	.00	.00	1393.95	1423.18	.00
*	38000.000	2282.92	.00	2283.78	22.23	.00	278.00	.00	.00	.00	1393.95	1423.18	.00
*	38100.000	2288.02	.00	2288.39	30.47	100.73	19.92	157.36	.00	.00	1432.04	1432.70	.00
*	38100.000	2288.02	.00	2288.39	30.47	100.73	19.92	157.36	.00	.00	1432.04	1432.70	.00
	38200.000	2290.12	.00	2290.29	97.75	68.85	129.06	80.09	.00	.00	1709.56	1730.51	.00
	38200.000	2290.12	.00	2290.29	97.75	68.85	129.06	80.09	.00	.00	1709.56	1730.51	.00
*	38300.000	2293.07	.00	2293.74	69.87	.20	248.85	28.96	.00	.00	1280.96	1298.31	.00
*	38300.000	2293.07	.00	2293.74	69.87	.20	248.85	28.96	.00	.00	1280.96	1298.31	.00
	38400.000	2296.66	.00	2296.91	87.05	62.95	137.37	77.67	.00	.00	1307.12	1327.50	.00
	38400.000	2296.66	.00	2296.91	87.05	62.95	137.37	77.67	.00	.00	1307.12	1327.50	.00
*	38500.000	2297.31	.00	2297.68	83.55	82.06	82.57	113.37	.00	.00	1255.44	1265.25	.00
*	38500.000	2297.31	.00	2297.68	83.55	82.06	82.57	113.37	.00	.00	1255.44	1265.25	.00
*	38600.000	2297.73	.00	2297.73	1025.84	12.49	12.24	253.27	.00	.00	1293.65	1330.76	.00
*	38600.000	2297.73	.00	2297.73	1025.84	12.49	12.24	253.27	.00	.00	1293.65	1330.76	.00
*	38700.000	2299.61	.00	2299.76	330.26	100.44	32.17	145.39	.00	.00	1355.63	1368.48	.00
*	38700.000	2299.61	.00	2299.76	330.26	100.44	32.17	145.39	.00	.00	1355.63	1368.48	.00
*	38800.000	2303.84	.00	2303.87	517.79	97.33	35.57	145.10	.00	.00	1303.98	1324.45	.00
*	38800.000	2303.84	.00	2303.87	517.79	97.33	35.57	145.10	.00	.00	1303.98	1324.45	.00
*	38900.000	2313.17	.00	2313.57	92.99	3.50	163.49	111.01	.00	.00	1305.30	1317.33	.00
*	38900.000	2313.17	.00	2313.57	92.99	3.50	163.49	111.01	.00	.00	1305.30	1317.33	.00
*	39000.000	2320.52	.00	2320.79	183.95	6.88	224.16	46.96	.00	.00	1003.41	1028.87	.00
*	39000.000	2320.52	.00	2320.79	183.95	6.88	224.16	46.96	.00	.00	1003.41	1028.87	.00

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SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
	31000.000	.00	.00	.00	2072.00	566.00	2077.10	2074.43	2077.29	2.04	3.46	163.63	395.93
	31000.000	.00	.00	.00	2072.00	566.00	2077.10	2074.43	2077.29	2.04	3.46	163.63	395.93
*	31100.000	400.00	.00	.00	2076.85	566.00	2081.47	2081.47	2083.80	47.68	12.26	46.15	81.97
*	31100.000	400.00	.00	.00	2076.85	566.00	2081.47	2081.47	2083.80	47.68	12.26	46.15	81.97
•	31200.000	400.00	.00	.00	2081.40	566.00	2086.02	2086.02	2088.35	47.52	12.25	46.21	82.11
•	31200.000	400.00	.00	.00	2081.40	566.00	2086.02	2086.02	2088.35	47.52	12.25	46.21	82.11
•	31300.000	400.00	.00	.00	2086.20	566.00	2090.82	2090.82	2093.15	47.52	12.25	46.21	82.11
•	31300.000	400.00	.00	.00	2086.20	566.00	2090.82	2090.82	2093.15	47.52	12.25	46.21	82.11
*	31400.000	100.00	.00	.00	2086.80	566.00	2091.42	2091.42	2093.75	47.52	12.25	46.21	82.11
•	31400.000	100.00	.00	.00	2086.80	566.00	2091.42	2091.42	2093.75	47.52	12.25	46.21	82.11
•	31500.000	150.00	.00	.00	2087.60	566.00	2094.34	2089.83	2094.46	.97	2.76	259.73	573.61
•	31500.000	150.00	.00	.00	2087.60	566.00	2094.34	2089.83	2094.46	1.03	2.80	202.13	557.82
	31600.000	261.42	2195.90	2113.87	2088.90	566.00	2094.36	.00	2094.54	1.86	3.46	165.57	414.96
	31600.000	261.42	2195.90	2113.87	2088.90	566.00	2095.16	.00	2095.30	1.17	3.01	201.97	522.55
•	31700.000	388.00	.00	.00	2092.14	566.00	2096.77	2096.77	2099.09	47.37	12.23	46.27	82.23
•	31700.000	388.00	.00	.00	2092.14	566.00	2096.76	2096.76	2099.09	47.53	12.25	46.21	82.10
•	31800.000	388.00	.00	.00	2095.40	566.00	2100.02	2100.02	2102.35	47.59	12.25	46.19	82.05
•	31800.000	388.00	.00	.00	2095.40	566.00	2100.02	2100.02	2102.35	47.53	12.25	46.21	82.10
•	31900.000	405.00	.00	.00	2098.80	566.00	2103.42	2103.42	2105.75	47.53	12.25	46.21	82.09
•	31900.000	405.00	.00	.00	2098.80	566.00	2103.42	2103.42	2105.75	47.53	12.25	46.21	82.10
•	32000.000	70.00	.00	.00	2099.39	566.00	2104.01	2104.01	2106.34	47.53	12.25	46.21	82.09
*	32000.000	70.00	.00	.00	2099.39	566.00	2104.01	2104.01	2106.34	47.53	12.25	46.21	82.10
•	32100.000	100.00	.00	.00	2100.23	566.00	2104.85	2104.85	2107.18	47.53	12.25	46.21	82.09
•	32100.000	100.00	.00	.00	2100.23	566.00	2104.85	2104.85	2107.18	47.53	12.25	46.21	82.10
•	32200.000	400.00	.00	.00	2103.59	566.00	2108.21	2108.21	2110.54	47.53	12.25	46.21	82.09
•	32200.000	400.00	.00	.00	2103.59	566.00	2108.21	2108.21	2110.54	47.53	12.25	46.21	82.10
*	32300.000	100.00	.00	.00	2104.43	566.00	2109.05	2109.05	2111.38	47.53	12.25	46.21	82.09
•	32300.000	100.00	.00	.00	2104.43	566.00	2109.05	2109.05	2111.38	47.53	12.25	46.21	82.10
•	32400.000	100.00	.00	.00	2105.27	566.00	2109.89	2109.89	2112.22	47.53	12.25	46.21	82.09
•	32400.000	100.00	.00	.00	2105.27	566.00	2109.89	2109.89	2112.22	47.53	12.25	46.21	82.10
*	32500.000	400.00	.00	.00	2108.63	566.00	2113.25	2113.25	2115.58	47.53	12.25	46.21	82.09
*	32500.000	400.00	.00	.00	2108.63	566.00	2113.25	2113.25	2115.58	47.53	12.25	46.21	82.10

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
*	32600.000	300.00	.00	.00	2113.09	566.00	2115.78	2115.78	2117.13	31.40	9.31	60.78	101.00
*	32600.000	300.00	.00	.00	2113.09	566.00	2115.78	2115.78	2117.13	31.40	9.31	60.78	101.00
*	32700.000	145.00	2124.63	2139.84	2115.84	566.00	2119.42	.00	2120.18	13.15	7.00	80.90	156.10
•	32700.000	145.00	2124.63	2139.84	2115.84	566.00	2120.22	.00	2120.73	7.20	5.72	98.98	211.00
•	32800.000	200.00	.00	.00	2120.37	566.00	2123.28	2123.28	2124.75	32.63	9.73	58.18	99.08
*	32800.000	200.00	.00	.00	2120.37	566.00	2123.28	2123.28	2124.75	32.55	9.72	58.23	99.21
*	32900.000	200.00	.00	.00	2124.89	566.00	2127.73	2127.73	2129.16	32.12	9.59	59.05	99.86
•	32900.000	200.00	.00	.00	2124.89	566.00	2127.73	2127.73	2129.16	32.13	9.59	59.04	99.85
•	33000.000	92.78	2133.84	2149.25	2125.25	566.00	2128.75	.00	2129.69	17.11	7.78	72.74	136.85
*	33000.000	92.78	2133.84	2149.25	2125.25	566.00	2128.75	.00	2129.69	17.11	7.78	72.74	136.85
*	33100.000	491.53	.00	.00	2144.00	566.00	2144.34	2144.34	2144.48	417.20	3.28	188.42	27.71
•	33100.000	491.53	.00	.00	2144.00	566.00	2144.91	2144.91	2145.34	252.12	5.32	108.50	35.65
*	33200.000	404.84	.00	.00	2146.00	566.00	2149.51	2149.30	2149.89	72.11	5.78	137.95	66.65
*	33200.000	404.84	.00	.00	2146.00	566.00	2149.97	2149.36	2150.65	80.02	6.80	88.19	63.27
•	33300.000	369.24	.00	.00	2151.00	566.00	2153.27	2153.27	2153.99	147.10	7.79	88.08	46.67
	33300.000	369.24	.00	.00	2151.00	566.00	2153.45	2153.30	2154.24	131.38	7.74	81.49	49.38
*	33400.000	336.11	.00	.00	2158.47	566.00	2159.67	2159.67	2160.04	200.98	5.94	125.19	39.92
•	33400.000	336.11	.00	.00	2158.47	566.00	2159.68	2159.68	2160.22	226.92	6.36	96.69	37.57
•	33500.000	20.00	.00	.00	2158.70	566.00	2160.13	2159.54	2160.19	27.09	2.45	309.92	108.74
*	33500.000	20.00	.00	.00	2158.70	566.00	2160.22	2159.96	2160.54	101.01	4.95	128.56	56.32
•	33600.000	35.00	.00	.00	2160.00	566.00	2160.43	2160.43	2160.62	566.22	5.07	184.08	23.79
*	33600.000	35.00	.00	.00	2160.00	566.00	2160.78	2160.78	2161.17	345.48	5.86	124.93	30.45
•	33700.000	417.95	.00	.00	2161.50	566.00	2163.61	2162.74	2163.73	27.23	3.19	209.60	108.47
*	33700.000	417.95	.00	.00	2161.50	566.00	2164.32	2163.06	2164.56	32.36	3.90	143.94	99.50
•	33800.000	450.79	.00	.00	2164.00	566.00	2168.02	2168.02	2169.13	200.36	8.45	66.99	39.99
•	33800.000	450.79	.00	.00	2164.00	566.00	2168.03	2168.03	2169.13	197.73	8.41	67.31	40.25
•	33900.000	374.74	.00	.00	2168.00	566.00	2173.50	2173.28	2174.34	101.34	7.94	83.23	56.23
	33900.000	374.74	.00	.00	2168.00	566.00	2173.49	2173.28	2174.33	102.03	7.96	83.02	56.03
*	34000.000	94.08	.00	.00	2175.80	566.00	2176.68	2176.68	2177.04	239.31	4.78	119.03	36.59
*	34000.000	94.08	.00	.00	2175.80	566.00	2177.04	2177.04	2177.58	218.23	5.91	97.27	38.31

•	34100.000	53.36	.00	.00	2175.80	566.00	2177.37	2176.68	2177.45	23.22	2.31	268.27	117.46
•	34100.000	53.36	.00	.00	2175.80	566.00	2177.88	2177.00	2178.02	28.85	3.14	188.94	105.38
•	34200.000	247.27	.00	.00	2176.00	566.00	2178.94	2178.94	2180.10	148.92	9.31	69.41	46.38
•	34200.000	247.27	.00	.00	2176.00	566.00	2178.94	2178.94	2180.10	149.07	9.31	69.39	46.36

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	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
•	34300.000	409.15	.00	.00	2180.00	566.00	2182.70	2181.74	2182.97	37.50	4.41	141.35	92.43
•	34300.000	409.15	.00	.00	2180.00	566.00	2182.98	2181.84	2183.34	46.50	4.78	118.34	83.00
•	34400.000	374.06	.00	.00	2184.90	566.00	2188.20	2188.20	2189.09	199.37	7.56	75.49	40.09
•	34400.000	374.06	.00	.00	2184.90	566.00	2188.20	2188.20	2189.09	204.75	7.59	74.57	39.56
*	34500.000	390.01	.00	.00	2192.00	566.00	2193.37	2193.00	2193.56	70.37	3.85	164.65	67.47
*	34500.000	390.01	.00	.00	2192.00	566.00	2193.86	2193.39	2194.25	85.20	5.19	113.26	61.32
	34600.000	429.06	.00	.00	2193.00	566.00	2195.77	2195.28	2196.16	68.35	6.06	122.38	68.46
	34600.000	429.06	.00	.00	2193.00	566.00	2196.53	2195.54	2197.16	63.86	6.88	91.89	70.83
•	34700.000	332.71	.00	.00	2200.00	566.00	2201.01	2201.01	2201.49	232.97	5.70	101.52	37.08
*	34700.000	332.71	.00	.00	2200.00	566.00	2201.67	2201.67	2202.51	215.39	7.15	77.18	38.57
*	34800.000	65.75	.00	.00	2204.00	566.00	2205.11	2205.11	2205.56	35.20	5.92	106.21	95.40
*	34800.000	65.75	.00	.00	2204.00	566.00	2205.77	2205.77	2206.67	33.80	7.45	74.64	97.35
	34900.000	162.28	.00	.00	2204.00	566.00	2205.94	2205.47	2206.19	60.95	4.52	152.24	72.50
	34900.000	162.28	.00	.00	2204.00	566.00	2206.95	2205.81	2207.29	41.14	4.68	121.37	88.24
•	35000.000	230.88	.00	.00	2206.00	566.00	2208.80	2208.80	2209.12	163.78	6.71	137.05	44.23
*	35000.000	230.88	.00	.00	2206.00	566.00	2209.34	2209.34	2210.10	186.01	8.54	85.50	41.50
•	35100.000	128.06	.00	.00	2208.00	566.00	2210.03	2209.57	2210.37	72.37	5.07	129.78	66.53
•	35100.000	128.06	.00	.00	2208.00	566.00	2210.64	2209.60	2210.84	28.25	3.78	166.15	106.49
•	35200.000	159.34	.00	.00	2206.80	566.00	2210.76	2208.74	2210.99	22.33	3.86	146.57	119.79
	35200.000	159.34	.00	.00	2206.80	566.00	2211.00	2208.73	2211.20	18.81	3.65	154.92	130.50
•	35300.000	73.35	2214.24	2212.20	2207.20	566.00	2210.77	.00	2211.06	4.32	4.28	132.26	272.31
•	35300.000	73.35	2214.24	2212.20	2207.20	566.00	2211.17	.00	2211.40	3.11	3.85	147.06	321.09
*	35400.000	254.15	.00	.00	2209.60	566.00	2212.60	2212.60	2213.80	26.76	8.76	64.63	109.41
•	35400.000	254.15	.00	.00	2209.60	566.00	2212.61	2212.61	2213.80	26.75	8.76	64.64	109.43
*	35500.000	182.08	.00	.00	2211.30	566.00	2214.30	2214.30	2215.48	26.74	8.72	64.89	109.46
•	35500.000	182.08	.00	.00	2211.30	566.00	2214.30	2214.30	2215.48	26.73	8.72	64.90	109.47
•	35600.000	102.05	.00	.00	2212.35	566.00	2215.36	2215.36	2216.54	26.57	8.73	64.85	109.79
•	35600.000	102.05	.00	.00	2212.35	566.00	2215.36	2215.36	2216.54	26.67	8.74	64.77	109.60
•	35700.000	64.09	.00	.00	2212.75	566.00	2215.76	2215.76	2216.94	26.61	8.73	64.83	109.73
•	35700.000	64.09	.00	.00	2212.75	566.00	2215.76	2215.76	2216.94	26.58	8.73	64.85	109.78
•	35800.000	277.14	.00	.00	2215.54	566.00	2218.55	2218.55	2219.73	26.59	8.73	64.83	109.76
•	35800.000	277.14	.00	.00	2215.54	566.00	2218.55	2218.55	2219.73	26.65	8.74	64.77	109.63
	35900.000	170.39	.00	.00	2215.83	566.00	2219.28	2218.84	2220.11	16.13	7.32	77.30	140.92
	35900.000	170.39	.00	.00	2215.83	566.00	2219.28	2218.84	2220.11	16.06	7.31	77.43	141.25

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
•	36000.000	146.70	.00	.00	2220.40	566.00	2223.16	2223.16	2224.56	32.04	9.48	59.67	100.00
*	36000.000	146.70	.00	.00	2220.40	566.00	2223.16	2223.16	2224.56	32.02	9.48	59.69	100.03
•	36100.000	178.09	.00	.00	2224.94	566.00	2231.30	2227.70	2231.47	1.79	3.53	221.26	422.77
*	36100.000	178.09	.00	.00	2224.94	566.00	2231.30	2227.71	2231.54	2.39	3.97	150.86	366.17
•	36200.000	119.17	.00	.00	2226.50	566.00	2231.41	2228.80	2231.51	7.53	2.95	242.30	206.30
*	36200.000	119.17	.00	.00	2226.50	566.00	2231.44	2228.78	2231.60	10.04	3.42	187.22	178.60
*	36300.000	136.88	.00	.00	2228.00	566.00	2231.47	2230.57	2231.78	40.48	5.42	134.86	88.96
*	36300.000	136.88	.00	.00	2228.00	566.00	2231.44	2230.56	2231.99	62.27	6.68	97.62	71.73
*	36400.000	450.51	.00	.00	2236.00	566.00	2237.39	2237.39	2237.90	196.82	6.48	102.80	40.34
•	36400.000	450.51	.00	.00	2236.00	566.00	2237.76	2237.76	2238.66	217.14	7.71	74.64	38.41
*	36500.000	368.86	.00	.00	2240.00	566.00	2241.60	2241.28	2241.82	79.04	4.52	158.93	63.67
•	36500.000	368.86	.00	.00	2240.00	566.00	2242.14	2241.49	2242.50	64.64	4.96	119.01	70.40
	36600.000	398.14	.00	.00	2244.00	566.00	2244.84	2244.68	2245.03	122.55	3.67	161.38	51.13
	36600.000	398.14	.00	.00	2244.00	566.00	2245.22	2245.02	2245.58	131.37	4.76	118.20	49.38
•	36700.000	397.16	.00	.00	2248.00	566.00	2249.90	2249.90	2250.50	170.54	7.44	98.20	43.34
	36700.000	397.16	.00	.00	2248.00	566.00	2250.30	2250.23	2251.31	190.05	8.31	70.44	41.06
*	36800.000	398.79	.00	.00	2252.00	566.00	2254.22	2253.65	2254.57	65.85	5.13	120.95	69.75
*	36800.000	398.79	.00	.00	2252.00	566.00	2254.77	2253.81	2255.17	54.93	5.43	112.55	76.37
*	36900.000	394.68	.00	.00	2256.00	566.00	2258.75	2258.75	2259.49	177.88	9.72	86.52	42.44
*	36900.000	394.68	.00	.00	2256.00	566.00	2259.12	2259.12	2260.48	195.16	11.08	62.15	40.52
	37000.000	204.16	.00	.00	2257.92	566.00	2262.15	2262.02	2264.08	267.49	11.14	50.81	34.61
	37000.000	204.16	.00	.00	2257.92	566.00	2262.61	2262.01	2264.18	201.22	10.05	56.32	39.90

*	37100.000	250.00	2270.10	.00	2260.22	566.00	2266.90	.00	2267.67	10.95	7.06	80.15	171.01
*	37100.000	250.00	2270.10	.00	2260.22	566.00	2266.90	.00	2267.67	10.95	7.06	80.15	171.01
•	37200.000	178.92	.00	.00	2264.00	566.00	2267.83	2265.64	2267.87	4.96	1.81	366.60	254.23
•	37200.000	178.92	.00	.00	2264.00	566.00	2267.83	2265.64	2267.87	4.94	1.81	367.17	254.77
*	37300.000	158.16	.00	.00	2264.00	278.00	2267.93	2265.81	2267.95	4.52	1.25	221.85	130.76
*	37300.000	158.16	.00	.00	2264.00	278.00	2267.93	2265.81	2267.95	4.52	1.25	221.76	130.70
*	37400.000	216.47	.00	.00	2268.00	278.00	2269.08	2269.08	2269.49	203.85	5.59	57.65	19.47
•	37400.000	216.47	.00	.00	2268.00	278.00	2269.08	2269.08	2269.49	204.03	5.59	57.63	19.46
*	37500.000	214.02	.00	.00	2266.00	278.00	2270.57	2268.96	2270.72	19.63	4.54	95.35	62.74
•	37500.000	214.02	.00	.00	2266.00	278.00	2270.58	2268.96	2270.72	19.63	4.54	95.35	62.74
*	37600.000	34.00	.00	.00	2272.00	278.00	2273.08	2273.08	2273.46	36.62	5.91	56.24	45.94
•	37600.000	34.00	.00	.00	2272.00	278.00	2273.08	2273.08	2273.46	36.62	5.91	56.24	45.94

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
•	37700.000	40.00	.00	.00	2270.00	278.00	2273.31	2273.31	2273.83	134.47	6.92	99.42	23.97
•	37700.000	40.00	.00	.00	2270.00	278.00	2273.31	2273.31	2273.83	134.47	6.92	99.42	23.97
*	37800.000	150.06	.00	.00	2272.20	278.00	2275.35	2275.35	2276.21	179.75	10.68	38.67	20.74
•	37800.000	150.06	.00	.00	2272.20	278.00	2275.35	2275.35	2276.21	179.75	10.68	38.67	20.74
•	37900.000	187.27	.00	.00	2274.00	278.00	2277.59	2277.07	2277.81	46.12	4.37	138.79	40.94
•	37900.000	187.27	.00	.00	2274.00	278.00	2277.59	2277.07	2277.81	46.12	4.37	138.79	40.94
*	38000.000	401.16	.00	.00	2280.00	278.00	2282.92	2282.92	2283.78	211.78	7.44	37.36	19.10
•	38000.000	401.16	.00	.00	2280.00	278.00	2282.92	2282.92	2283.78	211.78	7.44	37.36	19.10
*	38100.000	425.67	.00	.00	2284.00	278.00	2288.02	2287.27	2288.39	63.92	7.51	58.59	34.77
•	38100.000	425.67	.00	.00	2284.00	278.00	2288.02	2287.27	2288.39	63.92	7.51	58.59	34.77
	38200.000	265.43	.00	.00	2288.58	278.00	2290.12	2289.77	2290.29	64.78	3.99	91.58	34.54
	38200.000	265.43	.00	.00	2288.58	278.00	2290.12	2289.77	2290.29	64.78	3.99	91.58	34.54
•	38300.000	384.73	.00	.00	2290.00	278.00	2293.07	2293.05	2293.74	135.89	6.92	64.13	23.85
•	38300.000	384.73	.00	.00	2290.00	278.00	2293.07	2293.05	2293.74	135.89	6.92	64.13	23.85
	38400.000	254.63	.00	.00	2295.00	278.00	2296.66	2296.50	2296.91	105.35	4.79	72.67	27.09
	38400.000	254.63	.00	.00	2295.00	278.00	2296.66	2296.50	2296.91	105.35	4.79	72.67	27.09
•	38500.000	42.51	.00	.00	2296.00	278.00	2297.31	2297.31	2297.68	209.05	6.43	61.12	19.23
•	38500.000	42.51	.00	.00	2296.00	278.00	2297.31	2297.31	2297.68	209.05	6.43	61.12	19.23
*	38600.000	324.15	.00	.00	2295.57	278.00	2297.73	2295.87	2297.73	.06	.15	1959.75	1130.55
*	38600.000	324.15	.00	.00	2295.57	278.00	2297.73	2295.87	2297.73	.06	.15	1959.75	1130.55
•	38700.000	319.18	.00	.00	2299.03	278.00	2299.61	2299.61	2299.76	317.57	4.49	94.72	15.60
*	38700.000	319.18	.00	.00	2299.03	278.00	2299.61	2299.61	2299.76	317.57	4.49	94.72	15.60
*	38800.000	433.91	.00	.00	2303.10	278.00	2303.84	2303.62	2303.87	60.04	2.35	199.02	35.88
*	38800.000	433.91	.00	.00	2303.10	278.00	2303.84	2303.62	2303.87	60.04	2.35	199.02	35.88
*	38900.000	345.54	.00	.00	2310.00	278.00	2313.17	2313.17	2313.57	108.58	6.25	73.71	26.68
*	38900.000	345.54	.00	.00	2310.00	278.00	2313.17	2313.17	2313.57	108.58	6.25	73.71	26.68
•	39000.000	382.74	.00	.00	2316.79	278.00	2320.52	2320.52	2320.79	70.76	4.66	92.10	33.05
*	39000.000	382.74	.00	.00	2316.79	278.00	2320.52	2320.52	2320.79	70.76	4.66	92.10	33.05

BDN1SUB1

SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	31000.000	566.00	2077.10	.00	.00	.00	39.78	.00
	31000.000	566.00	2077.10	.00	.00	.00	39.78	.00
•	31100.000	566.00	2081.47	.00	4.37	.00	10.00	400.00
*	31100.000	566.00	2081.47	.00	4.37	.00	10.00	400.00
*	31200.000	566.00	2086.02	.00	4.56	.00	10.00	400.00
*	31200.000	566.00	2086.02	.00	4.56	.00	10.00	400.00
•	31300.000	566.00	2090.82	.00	4.80	.00	10.00	400.00
•	31300.000	566.00	2090.82	.00	4.80	.00	10.00	400.00
*	31400.000	566.00	2091.42	.00	.60	.00	10.00	100.00
*	31400.000	566.00	2091.42	.00	.60	.00	10.00	100.00
*	31500.000	566.00	2094.34	.00	2.92	.00	101.14	150.00
•	31500.000	566.00	2094.34	.00	2.92	.00	30.00	150.00
	31600.000	566.00	2094.36	.00	.01	.00	38.26	261.42
	31600.000	566.00	2095.16	.80	.82	.80	52.75	261.42
*	31700.000	566.00	2096.77	.00	2.41	.00	10.00	388.00
*	31700.000	566.00	2096.76	-.01	1.60	-.01	10.00	388.00
*	31800.000	566.00	2100.02	.00	3.25	.00	10.00	388.00
*	31800.000	566.00	2100.02	.00	3.26	.00	10.00	388.00
*	31900.000	566.00	2103.42	.00	3.40	.00	10.00	405.00

*	31900.000	566.00	2103.42	.00	3.40	.00	10.00	405.00
*	32000.000	566.00	2104.01	.00	.59	.00	10.00	70.00
•	32000.000	566.00	2104.01	.00	.59	.00	10.00	70.00
•	32100.000	566.00	2104.85	.00	.84	.00	10.00	100.00
*	32100.000	566.00	2104.85	.00	.84	.00	10.00	100.00
*	32200.000	566.00	2108.21	.00	3.36	.00	10.00	400.00
*	32200.000	566.00	2108.21	.00	3.36	.00	10.00	400.00
•	32300.000	566.00	2109.05	.00	.84	.00	10.00	100.00
•	32300.000	566.00	2109.05	.00	.84	.00	10.00	100.00
*	32400.000	566.00	2109.89	.00	.84	.00	10.00	100.00
*	32400.000	566.00	2109.89	.00	.84	.00	10.00	100.00
•	32500.000	566.00	2113.25	.00	3.36	.00	10.00	400.00
•	32500.000	566.00	2113.25	.00	3.36	.00	10.00	400.00

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	32600.000	566.00	2115.78	.00	2.53	.00	22.60	300.00
*	32600.000	566.00	2115.78	.00	2.53	.00	22.60	300.00
•	32700.000	566.00	2119.42	.00	3.64	.00	22.60	145.00
*	32700.000	566.00	2120.22	.80	4.44	.80	22.60	145.00
•	32800.000	566.00	2123.28	.00	3.86	.00	20.00	200.00
*	32800.000	566.00	2123.28	.00	3.06	.00	20.00	200.00
*	32900.000	566.00	2127.73	.00	4.45	.00	20.79	200.00
•	32900.000	566.00	2127.73	.00	4.45	.00	20.79	200.00
*	33000.000	566.00	2128.75	.00	1.02	.00	20.80	92.78
•	33000.000	566.00	2128.75	.00	1.02	.00	20.80	92.78
*	33100.000	566.00	2144.34	.00	15.59	.00	695.38	491.53
*	33100.000	566.00	2144.91	.57	16.16	.57	128.00	491.53
•	33200.000	566.00	2149.51	.00	5.18	.00	122.54	404.84
•	33200.000	566.00	2149.97	.45	5.05	.45	32.00	404.84
•	33300.000	566.00	2153.27	.00	3.76	.00	63.43	369.24
	33300.000	566.00	2153.45	.17	3.48	.17	41.61	369.24
•	33400.000	566.00	2159.67	.00	6.39	.00	171.99	336.11
•	33400.000	566.00	2159.68	.02	6.23	.02	90.00	336.11
•	33500.000	566.00	2160.13	.00	.46	.00	384.91	20.00
*	33500.000	566.00	2160.22	.09	.54	.09	100.00	20.00
*	33600.000	566.00	2160.43	.00	.31	.00	519.09	35.00
•	33600.000	566.00	2160.78	.35	.56	.35	160.00	35.00
•	33700.000	566.00	2163.61	.00	3.18	.00	140.35	417.95
*	33700.000	566.00	2164.32	.70	3.54	.70	51.08	417.95
•	33800.000	566.00	2168.02	.00	4.41	.00	31.91	450.79
*	33800.000	566.00	2168.03	.01	3.71	.01	31.77	450.79
•	33900.000	566.00	2173.50	.00	5.48	.00	38.93	374.74
	33900.000	566.00	2173.49	-.01	5.46	-.01	38.89	374.74
•	34000.000	566.00	2176.68	.00	3.18	.00	167.19	94.08
*	34000.000	566.00	2177.04	.36	3.55	.36	90.00	94.08
*	34100.000	566.00	2177.37	.00	.69	.00	222.27	53.36
*	34100.000	566.00	2177.88	.51	.84	.51	100.00	53.36
•	34200.000	566.00	2178.94	.00	1.57	.00	30.89	247.27
*	34200.000	566.00	2178.94	.00	1.06	.00	30.89	247.27

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	34300.000	566.00	2182.70	.00	3.76	.00	65.02	409.15
•	34300.000	566.00	2182.98	.29	4.04	.29	39.65	409.15
•	34400.000	566.00	2188.20	.00	5.50	.00	49.00	374.06
•	34400.000	566.00	2188.20	-.01	5.21	-.01	42.71	374.06
*	34500.000	566.00	2193.37	.00	5.17	.00	161.62	390.01
*	34500.000	566.00	2193.86	.49	5.66	.49	60.91	390.01
	34600.000	566.00	2195.77	.00	2.40	.00	72.24	429.06
	34600.000	566.00	2196.53	.75	2.67	.75	27.11	429.06
•	34700.000	566.00	2201.01	.00	5.24	.00	106.64	332.71
•	34700.000	566.00	2201.67	.66	5.15	.66	46.17	332.71
*	34800.000	566.00	2205.11	.00	4.11	.00	121.11	65.75
•	34800.000	566.00	2205.77	.66	4.10	.66	42.12	65.75
	34900.000	566.00	2205.94	.00	.83	.00	115.70	162.28
	34900.000	566.00	2206.95	1.00	1.18	1.00	41.19	162.28
•	35000.000	566.00	2208.80	.00	2.86	.00	189.79	230.88

•	35000.000	566.00	2209.34	.55	2.40	.55	55.83	230.88
•	35100.000	566.00	2210.03	.00	1.23	.00	83.99	128.06
•	35100.000	566.00	2210.64	.61	1.30	.61	70.00	128.06
•	35200.000	566.00	2210.76	.00	.73	.00	37.00	159.34
	35200.000	566.00	2211.00	.24	.36	.24	37.00	159.34
*	35300.000	566.00	2210.77	.00	.01	.00	37.00	73.35
•	35300.000	566.00	2211.17	.40	.18	.40	37.00	73.35
•	35400.000	566.00	2212.60	.00	1.83	.00	27.52	254.15
•	35400.000	566.00	2212.61	.00	1.43	.00	27.52	254.15
*	35500.000	566.00	2214.30	.00	1.69	.00	27.83	182.08
•	35500.000	566.00	2214.30	.00	1.69	.00	27.83	182.08
•	35600.000	566.00	2215.36	.00	1.06	.00	27.62	102.05
*	35600.000	566.00	2215.36	.00	1.06	.00	27.61	102.05
*	35700.000	566.00	2215.76	.00	.40	.00	27.61	64.09
•	35700.000	566.00	2215.76	.00	.40	.00	27.62	64.09
•	35800.000	566.00	2218.55	.00	2.79	.00	27.60	277.14
•	35800.000	566.00	2218.55	.00	2.79	.00	27.59	277.14
	35900.000	566.00	2219.28	.00	.73	.00	29.35	170.39
	35900.000	566.00	2219.28	.00	.74	.00	29.37	170.39

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
•	36000.000	566.00	2223.16	.00	3.88	.00	21.60	146.70
*	36000.000	566.00	2223.16	.00	3.88	.00	21.60	146.70
•	36100.000	566.00	2231.30	.00	8.14	.00	144.94	178.09
•	36100.000	566.00	2231.30	.00	8.14	.00	32.23	178.09
•	36200.000	566.00	2231.41	.00	.11	.00	76.34	119.17
*	36200.000	566.00	2231.44	.03	.14	.03	41.42	119.17
•	36300.000	566.00	2231.47	.00	.05	.00	63.46	136.88
•	36300.000	566.00	2231.44	-.03	.00	-.03	31.87	136.88
*	36400.000	566.00	2237.39	.00	5.92	.00	104.24	450.51
•	36400.000	566.00	2237.76	.37	6.32	.37	42.36	450.51
*	36500.000	566.00	2241.60	.00	4.21	.00	156.16	368.86
*	36500.000	566.00	2242.14	.54	4.38	.54	56.17	368.86
	36600.000	566.00	2244.84	.00	3.24	.00	214.29	398.14
	36600.000	566.00	2245.22	.38	3.08	.38	96.68	398.14
*	36700.000	566.00	2249.90	.00	5.05	.00	83.12	397.16
	36700.000	566.00	2250.30	.40	5.07	.40	31.90	397.16
•	36800.000	566.00	2254.22	.00	4.32	.00	67.21	398.79
*	36800.000	566.00	2254.77	.55	4.47	.55	40.63	398.79
*	36900.000	566.00	2258.75	.00	4.53	.00	59.10	394.68
*	36900.000	566.00	2259.12	.37	4.35	.37	23.21	394.68
	37000.000	566.00	2262.15	.00	3.41	.00	12.00	204.16
	37000.000	566.00	2262.61	.46	3.49	.46	12.00	204.16
•	37100.000	566.00	2266.90	.00	4.74	.00	12.00	250.00
•	37100.000	566.00	2266.90	.00	4.28	.00	12.00	250.00
*	37200.000	566.00	2267.83	.00	.93	.00	156.91	178.92
*	37200.000	566.00	2267.83	.00	.93	.00	157.02	178.92
•	37300.000	278.00	2267.93	.00	.10	.00	110.41	158.16
*	37300.000	278.00	2267.93	.00	.10	.00	110.39	158.16
*	37400.000	278.00	2269.08	.00	1.16	.00	73.04	216.47
•	37400.000	278.00	2269.08	.00	1.16	.00	73.03	216.47
*	37500.000	278.00	2270.57	.00	1.49	.00	40.37	214.02
*	37500.000	278.00	2270.58	.00	1.49	.00	40.37	214.02
*	37600.000	278.00	2273.08	.00	2.50	.00	75.20	34.00
•	37600.000	278.00	2273.08	.00	2.50	.00	75.20	34.00

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	37700.000	278.00	2273.31	.00	.23	.00	121.40	40.00
*	37700.000	278.00	2273.31	.00	.23	.00	121.40	40.00
*	37800.000	278.00	2275.35	.00	2.04	.00	22.70	150.06
*	37800.000	278.00	2275.35	.00	2.04	.00	22.70	150.06
•	37900.000	278.00	2277.59	.00	2.24	.00	135.29	187.27
*	37900.000	278.00	2277.59	.00	2.24	.00	135.29	187.27
•	38000.000	278.00	2282.92	.00	5.33	.00	22.23	401.16
•	38000.000	278.00	2282.92	.00	5.33	.00	22.23	401.16

*	38100.000	278.00	2288.02	.00	5.10	.00	30.47	425.67
*	38100.000	278.00	2288.02	.00	5.10	.00	30.47	425.67
	38200.000	278.00	2290.12	.00	2.10	.00	97.75	265.43
	38200.000	278.00	2290.12	.00	2.10	.00	97.75	265.43
*	38300.000	278.00	2293.07	.00	2.95	.00	69.87	384.73
*	38300.000	278.00	2293.07	.00	2.95	.00	69.87	384.73
	38400.000	278.00	2296.66	.00	3.59	.00	87.05	254.63
	38400.000	278.00	2296.66	.00	3.59	.00	87.05	254.63
*	38500.000	278.00	2297.31	.00	.65	.00	83.55	42.51
*	38500.000	278.00	2297.31	.00	.65	.00	83.55	42.51
*	38600.000	278.00	2297.73	.00	.42	.00	1025.84	324.15
*	38600.000	278.00	2297.73	.00	.42	.00	1025.84	324.15
*	38700.000	278.00	2299.61	.00	1.88	.00	330.26	319.18
*	38700.000	278.00	2299.61	.00	1.88	.00	330.26	319.18
*	38800.000	278.00	2303.84	.00	4.22	.00	517.79	433.91
*	38800.000	278.00	2303.84	.00	4.22	.00	517.79	433.91
*	38900.000	278.00	2313.17	.00	9.34	.00	92.99	345.54
*	38900.000	278.00	2313.17	.00	9.34	.00	92.99	345.54
*	39000.000	278.00	2320.52	.00	7.34	.00	183.95	382.74
*	39000.000	278.00	2320.52	.00	7.34	.00	183.95	382.74

SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION SECNO= 31100.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 31100.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 31100.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 31100.000 PROFILE= 2 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 31200.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
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CAUTION SECNO= 31400.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 31400.000 PROFILE= 2 MINIMUM SPECIFIC ENERGY

WARNING SECNO= 31500.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO= 31500.000 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO= 31700.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 31700.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 31700.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
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CAUTION SECNO= 32300.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 32300.000 PROFILE= 2 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 32400.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 32400.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 32400.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 32400.000 PROFILE= 2 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 32500.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 32500.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY

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CAUTION SECNO=  32500.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  32500.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=  32600.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  32600.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  32600.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  32600.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=  32700.000  PROFILE=  1  HYDRAULIC JUMP D.S.
WARNING SECNO=  32700.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO=  32700.000  PROFILE=  2  HYDRAULIC JUMP D.S.
WARNING SECNO=  32700.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  32800.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  32800.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  32800.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  32800.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=  32900.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  32900.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  32900.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  32900.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=  33000.000  PROFILE=  1  HYDRAULIC JUMP D.S.
CAUTION SECNO=  33000.000  PROFILE=  2  HYDRAULIC JUMP D.S.

CAUTION SECNO=  33100.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  33100.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  33100.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  33100.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  33200.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  33200.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  33300.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  33300.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=  33400.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  33400.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  33400.000  PROFILE=  2  CRITICAL DEPTH ASSUMED

CAUTION SECNO=  33400.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  33500.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  33500.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  33600.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  33600.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  33600.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  33600.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  33700.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  33700.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  33800.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  33800.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  33800.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  33800.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  33900.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  34000.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  34000.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  34000.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  34000.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  34100.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  34100.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  34200.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  34200.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  34200.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  34200.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  34300.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  34300.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  34400.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  34400.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  34400.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  34400.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  34500.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  34500.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  34700.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  34700.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  34700.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  34700.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=  34800.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  34800.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  34800.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  34800.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=  35000.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  35000.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  35000.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  35000.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY
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WARNING SECNO=  35100.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  35100.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  35200.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  35300.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  35300.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  35400.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  35400.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  35400.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  35400.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=  35500.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  35500.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  35500.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  35500.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=  35600.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  35600.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  35600.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  35600.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=  35700.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  35700.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  35700.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  35700.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=  35800.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  35800.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  35800.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  35800.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=  36000.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  36000.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  36000.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  36000.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

NOTE    SECNO=  36100.000  PROFILE=  1  WSEL BASED ON X5 CARD
NOTE    SECNO=  36100.000  PROFILE=  2  WSEL BASED ON X5 CARD

WARNING SECNO=  36200.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  36200.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  36300.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  36300.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  36400.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  36400.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=  36400.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  36400.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  36500.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  36500.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  36700.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  36700.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  36800.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  36800.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  36900.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  36900.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  36900.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  36900.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  37100.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  37100.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  37200.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  37200.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  37300.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  37300.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  37400.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  37400.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  37400.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  37400.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  37500.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  37500.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  37600.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  37600.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  37600.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  37600.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=  37700.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  37700.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  37700.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  37700.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=  37800.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  37800.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  37800.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  37800.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY
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WARNING SECNO=  37900.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  37900.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  38000.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  38000.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=  38000.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  38000.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  38100.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  38100.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  38300.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  38300.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  38500.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  38500.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  38500.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  38500.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  38600.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  38600.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  38700.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  38700.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  38700.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  38700.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  38800.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  38800.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  38900.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  38900.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  38900.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  38900.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=  39000.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  39000.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  39000.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  39000.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY
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Floodway width summary: BDN1SUB1
Profile No. 2

Section Number	Elevation Increase	Top Width	Left Encroach Station	Left Sta Distance From Center	Center Station	Right Sta Distance From Center	Right Encroach Station
31000.000	.00	40.72	1062.75	20.36	1083.11	20.36	1103.47
31100.000	.00	10.00	1337.00	5.00	1342.00	5.00	1347.00
31200.000	.00	10.00	1038.00	5.00	1043.00	5.00	1048.00
31300.000	.00	10.00	1126.00	5.00	1131.00	5.00	1136.00
31400.000	.00	10.00	1130.00	5.00	1135.00	5.00	1140.00
31500.000	.00	30.00	1005.00	15.00	1020.00	15.00	1035.00
31600.000	*** Encroachments not set ***						
31700.000	-.01	10.00	1130.00	5.00	1135.00	5.00	1140.00
31800.000	.00	10.00	1592.00	5.00	1597.00	5.00	1602.00
31900.000	.00	10.00	1045.00	5.00	1050.00	5.00	1055.00
32000.000	.00	10.00	1061.00	5.00	1066.00	5.00	1071.00
32100.000	.00	10.00	1035.00	5.00	1040.00	5.00	1045.00
32200.000	.00	10.00	1000.00	5.00	1005.00	5.00	1010.00
32300.000	.00	10.00	1000.00	5.00	1005.00	5.00	1010.00
32400.000	.00	10.00	1507.00	5.00	1512.00	5.00	1517.00
32500.000	.00	10.00	1584.00	5.00	1589.00	5.00	1594.00
32600.000	.00	22.60	1000.00	11.30	1011.30	11.30	1022.60
32700.000	*** Encroachments not set ***						
32800.000	.00	20.00	1000.00	10.00	1010.00	10.00	1020.00
32900.000	.00	20.80	1465.54	10.40	1475.95	10.39	1486.34
33000.000	.00	20.81	1304.13	10.41	1314.54	10.40	1324.94
33100.000	.57	128.00	1376.00	64.08	1440.08	63.92	1504.00
33200.000	.45	32.00	1064.00	13.79	1077.79	18.21	1096.00
33300.000	.17	46.00	1456.00	21.34	1477.34	24.66	1502.00
33400.000	.02	90.00	1050.00	39.41	1089.41	50.59	1140.00
33500.000	.09	100.00	1200.00	34.93	1234.94	65.06	1300.00
33600.000	.35	160.00	880.00	81.90	961.90	78.10	1040.00
33700.000	.70	51.08	1181.81	39.57	1221.38	11.51	1232.89
33800.000	.01	31.77	1287.55	15.88	1303.44	15.89	1319.32
33900.000	-.01	50.00	1375.00	31.15	1406.15	18.85	1425.00
34000.000	.36	90.00	1363.00	35.56	1398.56	54.44	1453.00
34100.000	.51	100.00	1470.00	34.33	1504.33	65.67	1570.00
34200.000	.00	36.14	1110.80	17.72	1128.53	18.41	1146.94
34300.000	.29	39.65	1387.12	19.83	1406.95	19.83	1426.77
34400.000	-.01	42.71	1098.78	21.35	1120.14	21.36	1141.49
34500.000	.49	60.91	1317.45	38.86	1356.31	22.05	1378.36
34600.000	.75	27.11	1569.27	9.73	1579.01	17.38	1596.39
34700.000	.66	46.17	1358.31	38.77	1397.08	7.40	1404.48
34800.000	.66	42.12	1013.79	32.59	1046.38	9.53	1055.91
34900.000	1.00	41.19	1726.31	20.66	1746.97	20.53	1767.50
35000.000	.55	55.83	1450.09	37.97	1488.06	17.86	1505.92
35100.000	.61	70.00	1500.00	47.32	1547.32	22.68	1570.00
35200.000	.24	112.00	1281.00	43.50	1324.50	68.50	1393.00
35300.000	*** Encroachments not set ***						
35400.000	.00	43.50	1029.00	21.75	1050.75	21.75	1072.50
35500.000	.00	43.50	1399.00	21.75	1420.75	21.75	1442.50
35600.000	.00	43.50	1053.00	21.75	1074.75	21.75	1096.50

35700.000	.00	43.50	1278.00	21.75	1299.75	21.75	1321.50
35800.000	.00	43.50	1870.00	21.75	1891.75	21.75	1913.50
35900.000	.00	43.50	1813.00	21.75	1834.75	21.75	1856.50
36000.000	.00	21.60	1352.08	10.80	1362.88	10.80	1373.68
36100.000	.00	32.23	1339.21	21.43	1360.64	10.80	1371.44
36200.000	.03	41.42	1240.04	15.00	1255.04	26.42	1281.45
36300.000	-.03	31.87	1638.68	14.20	1652.88	17.67	1670.55
36400.000	.37	42.36	1481.50	16.45	1497.95	25.91	1523.86
36500.000	.54	56.17	1686.12	25.33	1711.45	30.84	1742.29
36600.000	.38	96.68	1508.92	79.68	1588.60	17.00	1605.60
36700.000	.40	31.90	1534.21	21.71	1555.93	10.19	1566.11
36800.000	.55	40.63	1222.20	17.90	1240.10	22.73	1262.83
36900.000	.37	23.21	1547.28	19.09	1566.36	4.12	1570.49
37000.000	.46	12.00	1572.07	6.00	1578.07	6.00	1584.07
37100.000	.00	1118.64	835.45	477.38	1312.83	641.26	1954.09
37200.000	*** Encroachments not set ***						
37300.000	*** Encroachments not set ***						
37400.000	*** Encroachments not set ***						
37500.000	*** Encroachments not set ***						
37600.000	*** Encroachments not set ***						
37700.000	*** Encroachments not set ***						
37800.000	*** Encroachments not set ***						
37900.000	*** Encroachments not set ***						
38000.000	*** Encroachments not set ***						
38100.000	*** Encroachments not set ***						
38200.000	*** Encroachments not set ***						
38300.000	*** Encroachments not set ***						
38400.000	*** Encroachments not set ***						
38500.000	*** Encroachments not set ***						
38600.000	*** Encroachments not set ***						
38700.000	*** Encroachments not set ***						
38800.000	*** Encroachments not set ***						
38900.000	*** Encroachments not set ***						
39000.000	*** Encroachments not set ***						

HEC-2 Model BDM1SUB1

Subcritical Flow Calculations
For Middle Branch Blue Diamond Wash
Section No: 46600 ~ 48400

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1*****************************************
*  HEC-2 WATER SURFACE PROFILES           *
*                                         *
*  Version   4.6.2;  May 1991             *
*                                         *
*  RUN DATE    18JUN06    TIME   11:33:41  *
*****************************************
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*****************************************
*  U.S. ARMY CORPS OF ENGINEERS           *
*  HYDROLOGIC ENGINEERING CENTER          *
*  609 SECOND STREET, SUITE D             *
*  DAVIS, CALIFORNIA 95616-4687           *
*        (916) 756-1104                   *
*****************************************
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X     X  XXXXXXX   XXXXX              XXXXX
X     X  X        X     X            X     X
X     X  X        X                        X
XXXXXXX  XXXX     X          XXXXX    XXXXX
X     X  X        X                   X
X     X  X        X     X             X
X     X  XXXXXXX   XXXXX              XXXXXXX
```

THIS RUN EXECUTED 18JUN06 11:33:41

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*************************************
 HEC-2 WATER SURFACE PROFILES

 Version   4.6.2;  May 1991
*************************************


T1      550.039
T2      DUCK CREEK/ BLUE DIAMOND FIS RESTUDY
T3      BDM1SUB1
T4      FLOODPLAIN MODEL
T4      SUBCRITICAL
T4      STREAM NAME: MIDDLE BRANCH BLUE DIAMOND WASH
T4      UPSTREAM LIMIT: UNION PACIFIC RAILROAD
T4      DOWNSTREAM LIMIT: 1000 FEET WEST OF VALLEY VIEW BOULEVARD

J1  ICHECK     INQ        NINV       IDIR       STRT       METRIC     HVINS      Q          WSEL       FQ

                 2                                                                 440   2299.22

J2  NPROF      IPLOT      PRFVS      XSECV      XSECH      FN         ALLDC      IBW        CHNIM      ITRACE

     -1                    -1                                          -1         -6


J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    150

J5  LPRNT     NUMSEC                    ********REQUESTED SECTION NUMBERS********

    -10       -10

NC    0.045      0.045      0.04       0.1        0.3
ET
X1    46600          6      1000    2014.27
GR     2300       1000   2298.89    1190.09    2298.89    1539.24     2299.1    1656.23    2299.31    1897.19
GR     2300    2014.27

X1    46700         19   2130.77    2664.43        800        750        800
GR     2312    2130.77      2308    2191.65    2307.18    2503.87    2306.97    2573.28       2308    2596.65
GR     2308    2596.74      2308    2664.43       2308    2684.64       2308    2714.85       2308    2853.99
GR     2308    2884.25      2308    2912.65       2308    2918.21       2308    3003.43       2308    3004.88
GR     2308    3155.34      2308    3626.15       2308     3642.1       2312     3662.7

NC    0.045      0.045      0.04       0.1        0.3

X1    46800         15   2145.24     2348.3     364.93     340.92     426.82
GR   2313.6    1743.55      2312    1800.03       2312    1813.89    2313.88    2145.24       2312    2271.53
GR     2312    2276.66      2312    2278.67    2314.47     2348.3    2313.51    2595.75       2312    3082.05
GR     2312    3128.84      2312     3215.9       2312    3254.27       2316    3294.55       2316    3304.08

NC    0.045      0.045      0.04       0.1        0.3
X1    46900         15   2263.35    2575.27     289.47     329.75     286.48
GR   2318.4    1846.25      2316    1968.49       2316    2175.69    2316.32    2263.35    2316.37    2355.71
GR   2316.1    2432.88      2316    2437.51       2316    2448.64       2320    2534.47       2320    2557.29
GR   2319.7    2575.27   2318.11    2716.34       2316    3015.08       2316    3427.76     2316.9     3623.4

NC    0.045      0.045      0.04       0.1        0.3
X1    47000         14   2386.45     2482.8     394.28     465.83     430.48
GR     2328    1675.38      2324    1835.96       2324    2325.16       2324    2386.45    2323.68    2435.61
GR     2324     2482.8      2324    2557.79       2324    2656.17       2324    3327.37       2324    3393.99
GR     2324       3394      2324    3529.86       2324    3545.31    2326.32    3790.37

NC    0.045      0.045      0.04       0.1        0.3
X1    47100         20   2173.31    2323.83     318.03     269.55     396.27
GR     2330    1155.05      2328    1306.11       2328    1313.36       2328    1313.37       2328     1439.9
GR   2327.8    1502.35      2328    1514.01       2328    1861.82       2328    1881.43    2328.79    2173.31
GR     2328    2224.43      2328    2243.95    2328.72    2323.83       2328    2479.07       2328     2499.3
GR     2328    2622.54      2328    2630.99       2328    3122.05       2328    3174.16     2330.5    3476.83

NC    0.045      0.045      0.04       0.1        0.3
X1    47200         14   2569.41    2786.78     305.46      383.4     416.14
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GR     2334     1631.46     2332.6     1889.71       2332     2382.54     2333.33     2491.65     2333.14     2569.41
GR   2333.5     2628.63      2332     2677.62    2332.97     2729.35     2333.67     2786.78     2333.85      2864.4
GR   2334.3     2963.36      2332     3359.77       2332     3764.81        2335     3897.46

NC    0.045       0.045      0.04         0.1        0.3
X1    47300          16   2620.79     2653.99     536.26      540.17      578.28
GR   2342.5     1487.06      2340     1847.85       2340     1856.8        2340     2215.39        2340     2239.56
GR    2340     2259.06      2340     2262.11       2340     2262.21     2342.47     2399.24        2340     2620.79
GR    2339     2634.02      2340     2653.99       2340     3041.5        2340     3575.78     2342.98     4279.08
GR   2343.8     4439.49

NC    0.045       0.045      0.04         0.1        0.3
X1    47400          12   2408.86     2781.98     553.77      528.79      554.86
GR    2351     1455.46      2348     2408.86       2348     2473.18        2348     2616.97        2348     2632.17
GR   2348.3     2638.17   2350.08     2781.98       2352     2930.52        2352     2993.36        2348     3424.91
GR    2352     4160.54   2352.03     4174.49

NC    0.045       0.045      0.04         0.1        0.3
QT        1         220
X1    47500           9   2853.59     3095.02     540.17      524.07      532.26
GR   2358.5     1400.45      2358     2307.73       2358     2853.59     2356.55     2956.47        2356     2979.43
GR    2356     2989.95      2357.8     3095.02    2357.09     3442.86     2358.34     3849.25

NC    0.045       0.045      0.04         0.1        0.3


X1    47600          10   2884.59     3164.11     469.38      470.15       527.3
GR    2367     2038.23      2366     2301.76       2366     2707.4        2366     2884.59        2364.8     2940.05
GR   2364.8     3016.08    2365.8     3164.11     2365.8     3427.12     2366.89     3896.89        2368     4084.04

NC    0.045       0.045      0.04         0.1        0.3
X1    47700          12   2842.44     3148.49     222.68      321.97      286.02
GR    2372     1923.95      2368     2327.23       2368     2345.69     2369.8      2500.1     2369.66     2627.69
GR    2370     2842.44   2368.97     2977.94       2368     3018.99        2368     3027.01        2370     3148.49
GR    2368     3432.54      2370     3711.05

NC    0.045       0.045      0.04         0.1        0.3
X1    47800          12   2616.74     2722.41     532.67      482.61      453.82
GR    2380        1000      2380      1008.7    2379.97     1013.8        2376     2212.28     2376.45     2616.74
GR    2376     2653.73      2375.8     2660.22       2376     2672.09     2377.23     2722.41        2376     2889.08
GR    2376     2905.82   2378.08     4332.15

NC    0.045       0.045      0.04         0.1        0.3

X1    47900           9    826.96     1310.47     499.23      601.55      604.98
GR    2386      826.96      2385.2     997.44       2385     1108.51        2384     1219.21        2384     1242.32
GR    2386     1310.47      2384     1849.95       2384     1974.6        2386     2361.05

NC    0.045       0.045      0.04         0.1        0.3


X1    48000          13   2290.7     2562.16     494.31      367.53      401.96
GR   2393.8     1672.77      2392.9     2290.7       2392     2356.72        2390     2471.61        2390     2503.08
GR    2392     2525.86      2392     2562.16       2392     2813.52        2392     2874.41        2392     3031.52
GR    2392     3059.27      2392     3598.58    2392.75     3692.94

NC    0.045       0.045      0.04         0.1        0.3
X1    48100           9   2271.94     2520.01     618.65      714.39      784.87
GR    2406     1820.63   2403.09     2271.94       2400     2423.83        2400     2434.61        2400     2441.27
GR   2401.3     2520.01      2400     3060.67       2400     3063.45     2403.38     3304.94

NC    0.045       0.045      0.04         0.1        0.3
X1    48200          19    1941.9     2047.27     308.95      478.24      433.55
GR   2409.2     1670.57      2408     1720.08       2408     1728.01        2408     1728.03        2408     1755.79
GR    2408     1768.13      2408      1864.2       2408     1891.94        2408     1897.01        2408      1941.9
GR   2407.5     1977.02      2407     1999.93       2407     2021.71        2407     2022.57      2407.5     2047.01
GR   2407.5     2047.27      2408      2414.8       2408     2424.61     2410.92     2729.58

NC    0.045       0.045      0.04         0.1        0.3


X1    48300          15   1528.27     1663.79     416.71      257.08      397.45
X3       10
GR   2416.9     1341.93      2416     1376.19       2416     1473.17        2416     1524.08        2416     1528.27
GR    2416     1528.35    2413.5     1574.12     2413.5     1620.08     2414.29     1647.62        2416     1663.79
GR    2416     1690.48      2416     1707.34       2416     1832.65        2416     1912.97     2417.56     1957.87

NC    0.045       0.045      0.04         0.1        0.3
X1    48400           7   1642.22     1841.72     259.76       407.5       364.6
X3       10
GR    2422     1642.22      2420     1698.46       2417     1713.01        2417        1731        2420     1751.51
GR    2420     1809.57      2422     1841.72
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THIS RUN EXECUTED 18JUN06 11:33:41

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**************************************
 HEC-2 WATER SURFACE PROFILES

 Version   4.6.2;  May 1991
**************************************
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

BDM1SUB1

SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
	46600.000	.00	.00	.00	2298.89	440.00	2299.22	2299.22	2299.34	369.28	2.76	159.14	22.90
*	46700.000	800.00	.00	.00	2306.97	440.00	2308.08	2307.77	2308.12	51.95	1.70	314.10	61.05
*	46800.000	426.82	.00	.00	2312.00	440.00	2312.43	2312.43	2312.58	380.37	2.84	141.33	22.56
•	46900.000	286.48	.00	.00	2316.00	440.00	2316.42	2316.23	2316.45	59.03	.79	343.44	57.27
*	47000.000	430.48	.00	.00	2323.68	440.00	2324.13	2324.13	2324.20	381.07	3.18	239.93	22.54
•	47100.000	396.27	.00	.00	2327.80	440.00	2328.27	2328.15	2328.29	68.77	.96	390.61	53.06
•	47200.000	416.14	.00	.00	2332.00	440.00	2332.34	2332.29	2332.42	226.87	1.72	207.08	29.21
•	47300.000	578.28	.00	.00	2339.00	440.00	2340.21	2340.18	2340.25	99.86	2.98	333.43	44.03
•	47400.000	554.86	.00	.00	2348.00	440.00	2348.44	2348.42	2348.58	258.90	3.32	156.80	27.35
	47500.000	532.26	.00	.00	2356.00	220.00	2357.21	2356.93	2357.30	82.36	2.41	94.97	24.24
*	47600.000	527.30	.00	.00	2364.80	220.00	2365.31	2365.31	2365.49	326.99	3.44	64.04	12.17
*	47700.000	286.02	.00	.00	2368.00	220.00	2368.71	2368.47	2368.74	57.97	1.51	161.22	28.89
•	47800.000	453.82	.00	.00	2375.80	220.00	2376.30	2376.30	2376.37	403.35	2.82	108.27	10.95
*	47900.000	604.98	.00	.00	2384.00	220.00	2384.50	2384.33	2384.54	71.09	1.44	151.95	26.09
•	48000.000	401.96	.00	.00	2390.00	220.00	2390.84	2390.84	2391.13	284.11	4.31	51.10	13.05
•	48100.000	784.87	.00	.00	2400.00	220.00	2400.68	2400.48	2400.71	70.59	1.71	151.86	26.19
•	48200.000	433.55	.00	.00	2407.00	220.00	2407.82	2407.82	2407.97	193.61	3.40	87.69	15.81
	48300.000	397.45	.00	.00	2413.50	220.00	2414.39	2414.26	2414.59	156.35	3.58	61.40	17.59
	48400.000	364.60	.00	.00	2417.00	220.00	2418.78	2418.42	2419.07	98.10	4.36	50.43	22.21

BDM1SUB1

SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	46600.000	440.00	2299.22	.00	.00	.00	660.23	.00
•	46700.000	440.00	2308.08	.00	8.86	.00	1451.99	800.00
•	46800.000	440.00	2312.43	.00	4.35	.00	466.88	426.82
*	46900.000	440.00	2316.42	.00	3.99	.00	1071.87	286.48
*	47000.000	440.00	2324.13	.00	7.71	.00	1728.39	430.48
•	47100.000	440.00	2328.27	.00	4.14	.00	1548.43	396.27
*	47200.000	440.00	2332.34	.00	4.07	.00	814.54	416.14
•	47300.000	440.00	2340.21	.00	7.87	.00	1485.97	578.28
•	47400.000	440.00	2348.44	.00	8.22	.00	504.75	554.86
	47500.000	220.00	2357.21	.00	8.77	.00	235.95	532.26
•	47600.000	220.00	2365.31	.00	8.10	.00	175.10	527.30
*	47700.000	220.00	2368.71	.00	3.40	.00	429.88	286.02
*	47800.000	220.00	2376.30	.00	7.59	.00	676.65	453.82
*	47900.000	220.00	2384.50	.00	8.21	.00	454.45	604.98
*	48000.000	220.00	2390.84	.00	6.34	.00	89.58	401.96
•	48100.000	220.00	2400.68	.00	9.83	.00	426.32	784.87
*	48200.000	220.00	2407.82	.00	7.14	.00	329.97	433.55
	48300.000	220.00	2414.39	.00	6.57	.00	90.61	397.45
	48400.000	220.00	2418.78	.00	4.39	.00	38.76	364.60

SUMMARY OF ERRORS AND SPECIAL NOTES

WARNING SECNO= 46700.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO= 46800.000 PROFILE= 1 CRITICAL DEPTH ASSUMED

```
CAUTION SECNO=  46800.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  46900.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  47000.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  47000.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  47100.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  47200.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  47300.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  47400.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  47600.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  47600.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  47700.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  47800.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  47800.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  47900.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  48000.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  48000.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  48100.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  48200.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  48200.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
```

HEC-2 Model BDM2SUB1

Subcritical Flow Calculations
For Middle Branch Blue Diamond Wash
Section No: 48500 ~ 48900

```
1*******************************************
*  HEC-2 WATER SURFACE PROFILES           *
*                                         *
*  Version   4.6.2;  May 1991             *
*                                         *
*  RUN DATE    18JUN06    TIME   11:35:59  *
*******************************************
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****************************************
*  U.S. ARMY CORPS OF ENGINEERS        *
*  HYDROLOGIC ENGINEERING CENTER       *
*  609 SECOND STREET, SUITE D          *
*  DAVIS, CALIFORNIA 95616-4687        *
*       (916) 756-1104                 *
****************************************
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X     X  XXXXXXX   XXXXX             XXXXX
X     X  X        X     X           X     X
X     X  X        X                       X
XXXXXXX  XXXX     X          XXXXX    XXXXX
X     X  X        X                  X
X     X  X        X     X            X
X     X  XXXXXXX   XXXXX             XXXXXXX
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THIS RUN EXECUTED 18JUN06 11:35:59

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************************************
 HEC-2 WATER SURFACE PROFILES

 Version   4.6.2;  May 1991
************************************
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```
T1      LOW BLUE DIAMOND DETENTION BASIN IN OPERATION
T2      DUCK CREEK/ BLUE DIAMOND CLOMR
T3      BDM2SUB1
T4      FLOODPLAIN MODEL, BREAKOUT TO SOUTHEAST OVER BLUE DIAMOND ROAD
T4      SUBCRITICAL
T4      STREAM NAME: MIDDLE BRANCH BLUE DIAMOND WASH
T4      UPSTREAM LIMIT: SOUTH SIDE OF BLUE DIAMOND ROAD
T4      DOWNSTREAM LIMIT: WEST SIDE OF INDUSTRIAL ROAD
```

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
		2						199	2273.6	

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	-1		-1				-1	-6		

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

150

J5 LPRNT NUMSEC ********REQUESTED SECTION NUMBERS********

-10 -10

NC	0.08	0.08	0.08	0.1	0.3					
X1	48500	7	1000	1485.24						
GR	2276	1000	2274.62	1059.31	2272	1203.02	2272	1235.85	2276	1378.91
GR	2276	1448.45	2276	1485.24						
NC	0.08	0.08	0.08	0.1	0.3					
X1	48600	7	970.08	1704.1	345.89	347.71	285.2			
GR	2280	970.08	2276	1000	2276	1000.91	2278.22	1281.27	2276	1552.53
GR	2276	1604.56	2280	1704.1						
NC	0.08	0.08	0.08	0.1	0.3					
X1	48700	11	1000	1688.28	586.94	354.03	398.19			
GR	2284	1000	2280	1064.46	2280	1101.33	2284	1203.5	2284	1204.04
GR	2284	1314.97	2280	1497.95	2280	1499.15	2280	1568.43	2280	1611.43
GR	2284	1688.28								
NC	0.08	0.08	0.08	0.1	0.3					
X1	48800	6	942.16	1683.22	256.62	362.5	350.64			
GR	2288	942.16	2284	1000	2284	1091.31	2284	1533.23	2284	1598.29
GR	2288	1683.22								
NC	0.08	0.08	0.08	0.1	0.3					
X1	48900	6	1000	1726.36	490.23	412.37	397.34			
GR	2292	1000	2288	1501.14	2288	1536.93	2288	1597.16	2288	1639.76
GR	2292	1726.36								

THIS RUN EXECUTED 18JUN06 11:35:59

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************************************
 HEC-2 WATER SURFACE PROFILES

 Version   4.6.2;  May 1991
************************************
```

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

BDM2SUB1

SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
	48500.000	.00	.00	.00	2272.00	199.00	2273.60	2272.74	2273.62	43.42	1.18	168.53	30.20
•	48600.000	285.20	.00	.00	2276.00	199.00	2276.61	2276.50	2276.70	583.22	2.34	84.90	8.24
*	48700.000	398.19	.00	.00	2280.00	199.00	2280.96	2280.36	2280.98	43.49	1.03	193.95	30.18
*	48800.000	350.64	.00	.00	2284.00	199.00	2284.25	2284.15	2284.27	332.76	1.33	149.50	10.91
•	48900.000	397.34	.00	.00	2288.00	199.00	2288.89	2288.37	2288.91	58.89	1.10	181.60	25.93

BDM2SUB1

SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	48500.000	199.00	2273.60	.00	.00	.00	177.82	.00
•	48600.000	199.00	2276.61	.00	3.01	.00	224.70	285.20
*	48700.000	199.00	2280.96	.00	4.35	.00	252.90	398.19
•	48800.000	199.00	2284.25	.00	3.28	.00	607.14	350.64
•	48900.000	199.00	2288.89	.00	4.65	.00	269.41	397.34

SUMMARY OF ERRORS AND SPECIAL NOTES

WARNING SECNO= 48600.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 48700.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 48800.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 48900.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

HEC-2 Model BDM3SPC1

Supercritical Flow Calculations
For Middle Branch Blue Diamond Wash
Section No: 40900 ~ 46600

```
1*******************************************
*  HEC-2 WATER SURFACE PROFILES           *
*                                         *
*  Version   4.6.2;  May 1991             *
*                                         *
*  RUN DATE    17JUN06    TIME   11:20:10  *
*******************************************
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****************************************
*  U.S. ARMY CORPS OF ENGINEERS        *
*  HYDROLOGIC ENGINEERING CENTER       *
*  609 SECOND STREET, SUITE D          *
*  DAVIS, CALIFORNIA 95616-4687        *
*        (916) 756-1104                *
****************************************
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X     X  XXXXXXX   XXXXX              XXXXX
X     X  X        X     X            X     X
X     X  X        X                        X
XXXXXXX  XXXX     X          XXXXX    XXXXX
X     X  X        X                   X
X     X  X        X     X             X
X     X  XXXXXXX  XXXXX               XXXXXXX
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THIS RUN EXECUTED 17JUN06 11:20:10

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************************************
 HEC-2 WATER SURFACE PROFILES

 Version   4.6.2;  May 1991
************************************

T1      LOW BLUE DIAMOND DETENTION BASIN IN OPERATION
T2      DUCK CREEK/ BLUE DIAMOND CLOMR
T3      BDM3SPC1
T4      FLOODPLAIN AND FLOODWAY MODEL
T4      SUPERCRITICAL
T4      STREAM NAME: MIDDLE BRANCH BLUE DIAMOND WASH
T4      UPSTREAM LIMIT: 200 FEET WEST OF VALLEY VIEW BOULEVARD
T4      DOWNSTREAM LIMIT: CONFLUENCE WITH DUCK CREEK

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

                2                   1                                     440   2299.34

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     1                   -1                                      -1        -6

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    200       150       115       110       101       100

J5  LPRNT     NUMSEC                        ********REQUESTED SECTION NUMBERS********

    -10       -10

NC    0.045     0.045     0.045       0.1       0.3
X1    46600         6      1000   2014.27    175.43     180.9    119.08
GR     2300      1000   2298.89   1190.09   2298.89   1539.24    2299.1   1656.23   2299.31   1897.19
GR     2300   2014.27

NC     0.08      0.08      0.08       0.1       0.3
QT        2       343       343
X1    46500         5   1388.38   2250.03    186.04    176.17     182.9
GR     2297   1388.38   2296.59   1506.64      2296   1927.04      2296   2130.94      2296   2250.03

NC                                    0.1       0.3
NH        2      0.08   1499.69      0.11   1854.98
QT        2       241       241

X1    46400         6   1282.92   1854.98    276.38    253.49     298.04
GR     2296   1282.92      2295   1289.23   2294.95   1499.69      2296   1724.81      2296   1825.39
GR     2296   1854.98

NC     0.08      0.08      0.08       0.1       0.3
NH        2      0.08   1142.87      0.11   1557.92
X1    46300         7      1000   1557.92    238.29    148.02     207.97
GR     2292      1000      2292   1142.87      2292   1189.3    2290.89   1226.15   2291.95   1321.79
GR   2290.2   1435.62      2292   1557.92

NC     0.08      0.08      0.08       0.1       0.3
X1    46200         4      1000   1610.18    126.43    199.71     145.54
GR     2288      1000      2288   1193.15      2288   1486.43      2289   1610.18

NC     0.08      0.08      0.08       0.1       0.3
X1    46100         5    611.41   1242.91    102.35    113.35     169.17
GR   2286.5    611.41   2285.61    696.03      2284    988.82      2284   1088.05      2288   1242.91

NC     0.08      0.08      0.08       0.1       0.3
X1    46000         4      1000   1632.74    149.82    249.49     191.28
GR   2285.6      1000      2280   1213.54      2280   1396.09      2288   1632.74

NC     0.08      0.08      0.08       0.1       0.3
X1    45900         8      1000   1490.86    331.72    304.14     345.06
GR     2284      1000      2280   1091.76      2276   1118.33      2276   1205.78      2276   1233.22
GR     2276   1286.06      2280   1408.28      2280   1490.86

NC     0.08      0.08      0.08       0.1       0.3
X1    45800         9      1000   1838.51    342.88    175.03     232.78
GR     2280      1000      2280   1130.66      2276   1147.24      2272   1171.67      2272    1277.7
GR     2272   1567.92      2276   1705.06      2280   1838.51      2280   1840.82

NC     0.08      0.08      0.08       0.1       0.3
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X1    45700       12       1000     1971.11     353.97     181.06     208.33
GR     2277     1000       2276     1053.75       2276    1053.78       2276    1070.94       2276    1105.77
GR     2272  1126.46     2270.4     1316.81       2272    1679.19       2272    1713.57       2272    1755.23
GR     2276   1844.8       2280     1971.11

NC     0.08     0.08       0.08         0.1        0.3
X1    45600       12       1000     1993.56     443.26     124.22     220.43
GR     2272     1000       2272     1060.15       2272    1075.96       2272    1146.47    2268.92    1195.4
GR   2269.1  1257.73     2271.24     1358.84       2272    1728.72       2268    1816.42       2268    1853.7
GR     2272  1941.58       2276     1993.56

NC     0.08     0.08       0.08         0.1        0.3
X1    45500       11     1076.09     2025.58     334.7     245.83     195.42
GR     2272  1076.09       2272     1121.62       2268    1138.02       2268    1216.48       2272    1317.72
GR     2272  1650.45       2268     1756.03       2268    1905.39       2268    1908.11       2268    1909.17
GR     2272  2025.58

NC    0.045    0.045      0.045         0.1        0.3
X1    45400        6     871.93     2045.56     186.36        500     264.63
GR     2268   871.93     2265.75      974.75       2264       1000       2268    1328.88       2268    1688.74
GR     2272  2045.56

NC    0.045    0.045      0.015         0.3        0.5
QT        2      886        886
  UPSTREAM FACE OF I-15 CULVERT
X1    45300        4       1243      1280.5        250        250        250
GR   2269.9     1243     2260.12        1243    2260.12     1280.5     2269.9     1280.5

NC    0.045    0.045       0.04         0.3        0.5
SB     1.25      1.5          3        1000       37.5        1.5        150          0    2260.12    2258.04
  DOWNSTREAM FACE OF I-15 CULVERT
X1    45200        4       1408      1445.5          75         75         75
X2                             1     2264.12      2269.9                    2
GR   2269.9     1408     2258.04        1408    2258.04     1445.5     2269.9     1445.5

NC    0.045    0.045      0.015         0.1        0.3
X1    45100       10     1261.06     1320.33        445        445        445
GR     2264   934.03       2264        1000       2260    1261.06       2258    1296.99       2260    1320.33
GR     2260  1330.71       2260     1397.64       2260    1480.03       2260     1530.5    2262.49    1740.84

NC    0.045     0.11       0.04         0.1        0.3
X1    45000        6     1196.23     1243.13     554.8     414.03     497.09
GR     2260     1000       2256     1031.75       2252    1196.23       2252    1243.13       2256    1336.16
GR     2260  1602.91

NC    0.045    0.045       0.04         0.3        0.5
X1    44900       12     1529.66     1556.24     164.88     165.19     136.15
GR     2256     1000       2256     1000.13       2256    1023.92       2252    1297.38       2248    1529.66
GR     2248  1535.78       2247     1545.05       2248    1556.24       2248    1627.72       2248    1702.68
GR     2252  1865.85       2256      2168.7

NC    0.045    0.045       0.04         0.1        0.3
X1    44800       11     1736.49     1777.01     309.91     615.87     481.65
GR     2252   1253.1       2248     1456.77       2248    1471.29    2249.44    1681.57       2248    1736.49
GR     2244  1749.15       2244     1756.29       2248    1777.01    2248.82    1807.01       2252    1944.79
GR   2254.9     2425

NC    0.045     0.11       0.04         0.1        0.3
X1    44700       12     1822.86     1872.15     306.55      250.9     320.05
GR     2252  1584.69       2248     1608.01       2247    1658.77       2244    1822.86       2240    1845.28
GR     2240  1860.52       2244     1868.07    2244.23    1872.15       2248    1944.47       2248    2167.12
GR     2248  2315.41       2252     2328.44

NC    0.045     0.11       0.04         0.1        0.3
X1    44600       11     1861.52     1913.16     320.74     528.55     417.25
GR     2248  1463.18       2248     1620.21       2244    1651.58     2240.1    1856.15       2240    1861.52
GR     2238  1884.12       2240     1913.16       2244    1995.44       2244    2159.17       2244     2159.9
GR   2244.3  2198.22

NC    0.045     0.11       0.04         0.1        0.3
X1    44500       14     1898.95     1979.51     162.36     187.02     156.33
GR     2244  1445.12       2244     1522.52       2240    1659.96       2240    1659.97       2240     1682.7
GR     2240  1714.97       2236     1898.95       2234    1925.31       2234    1927.66       2234    1933.79
GR     2236  1961.23       2240     1979.51    2240.64    2027.15       2244    2263.36

NC    0.016    0.016      0.015         0.3        0.5
  UPSTREAM FACE OF LAS VEGAS BOULEVARD CULVERT

X1    44400        6       2478        2509     165.74     170.28     169.47
GR   2242.8  2270.87     2242.8        2478     2233.1       2478     2233.1       2509    2242.8       2509
GR   2242.8  2602.87

NC    0.045    0.045       0.04         0.3        0.5
SB     1.25      1.5          3         250         31          1      254.2          0    2233.1    2231.57
  DOWNSTREAM FACE OF LAS VEGAS BOULEVARD CULVERT
X1    44300        6       2454        2485     247.81     358.22     362.68
X2                             1      2241.3     2242.8                    2
GR   2242.8  2267.29     2242.8        2454    2231.57       2454    2231.57       2485    2242.8       2485
GR   2242.8  2593.43

NC    0.045     0.08       0.04         0.3        0.5
X1    44200        7     1828.7     1971.83     299.43     193.83     188.71
GR   2235.2  1323.63       2232      1828.7       2228    1947.96       2228    1959.48    2231.15    1971.83
GR     2232     1975       2236     2128.37

NC     0.08     0.08       0.08         0.3        0.5
X1    44100        7     2253.24     2319.51     61.67      63.88      62.57
GR     2232  1781.41       2232     2002.58       2228    2253.24     2227.2    2292.65       2228    2319.51
GR     2232  2412.38     2233.67     2597.05
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NC	0.045	0.08	0.04	0.3	0.5					
X1	44000	10	2152.48	2247.71	149.23	220.84	224.48			
GR	2232	1729.04	2232	1899.65	2228	2152.48	2227.2	2204.02	2227.2	2226.5
GR	2228	2247.71	2232	2330.6	2232	2377.34	2232	2449.43	2232.86	2504.64
NC	0.045	0.08	0.04	0.1	0.3					
X1	43900	8	1948.09	2092.22	457.65	373.98	379.58			
GR	2232	1705.65	2230.25	1812.8	2228	1948.09	2224	1993.02	2222.76	2016.58
GR	2224	2072.94	2228	2092.22	2229.61	2340.58				
NC	0.045	0.08	0.04	0.3	0.5					
X1	43800	7	1895.63	2096.68	57.22	61.25	57.9			
GR	2227.6	1833.54	2224	1895.63	2220	1984.22	2220	2031.12	2224	2096.68
GR	2224	2098.2	2225.43	2337.11						
NC	0.045	0.08	0.04	0.3	0.5					
X1	43700	7	1974.51	2158.37	320.17	301.95	333.04			
GR	2224	1862.59	2220	1974.51	2216	2031.6	2220	2070.88	2220	2070.92
GR	2224	2158.37	2225.07	2377.75						
NC	0.045	0.08	0.04	0.1	0.3					
X1	43600	9	1761.56	1952.68	297.2	321.52	291.91			
GR	2220	1540.07	2220	1761.56	2216.19	1823.45	2216	1826.72	2216	1854.42
GR	2220	1952.68	2220	1983.67	2220	2001.28	2221.4	2202.93		
NC	0.045	0.08	0.04	0.3	0.5					
X1	43500	6	1625.81	1801.16	44.52	33.92	40.18			
GR	2218.1	1392.15	2216	1625.81	2212	1711.64	2212	1723.1	2216	1801.16
GR	2218.3	2114.62								
NC	0.045	0.08	0.04	0.3	0.5					
X1	43400	10	1644.1	1817.06	322.24	409.36	398.38			
GR	2216	1424.58	2216	1572.94	2216	1599.98	2216	1627.89	2216	1644.1
GR	2212	1723.52	2212	1751.25	2216	1817.03	2216	1817.06	2217.12	2142.18
NC	0.045	0.08	0.04	0.1	0.3					
X1	43300	12	2098.24	2226.57	187.72	224.23	217.64			
GR	2214.6	1899.31	2212	1974.8	2212	2050.74	2212	2098.24	2208.5	2186.1
GR	2208.5	2207.57	2212	2226.57	2216	2235.81	2216	2280.18	2216	2283.32
GR	2216	2330.54	2216	2486.08						
NC	0.045	0.08	0.04	0.3	0.5					
X1	43200	13	1355.46	1376.21	153.85	85.76	77.95			
GR	2212	1095.38	2212	1149.5	2210.37	1228.78	2208	1355.46	2207.21	1362.26
GR	2208	1376.21	2212	1397.52	2212	1420.08	2212	1437.42	2212	1437.67
GR	2212	1437.69	2212	1641.74	2212	1850.68				
NC	0.045	0.08	0.04	0.3	0.5					
X1	43100	14	1942.72	1977.08	238.82	343.28	323.51			
GR	2210.6	1305.15	2208	1407.75	2208	1596.75	2208	1886.97	2207.21	1942.72
GR	2207.2	1956.01	2207.21	1977.08	2208	1986.24	2212	1994.89	2212	1994.93
GR	2212	2027.77	2211.76	2041.01	2212	2095.62	2212	2296.02		
NC	0.045	0.08	0.04	0.1	0.3					
X1	43000	14	2255.05	2272.66	347.25	254.11	323.34			
GR	2208	1755.61	2208	1794.81	2205.74	2211.16	2204	2255.05	2200	2263.26
GR	2200	2264.97	2204	2272.66	2205.84	2313.81	2208	2396.59	2208	2440.73
GR	2208	2511.2	2208	2535.72	2208	2707.82	2208	2784.68		
NC	0.045	0.08	0.016	0.1	0.3					
X1	42900	8	2203.63	2324.42	87.34	95.99	74.05			
GR	2204	1784.4	2200.94	2203.63	2196.1	2241.02	2196.1	2293.29	2199.24	2324.42
GR	2199.2	2325.03	2204	2465.42	2204.58	3064.13				
NC	0.08	0.08	0.04	0.1	0.3					
X1	42800	7	1993.97	2117.83	241.88	384.66	306.6			
GR	2202.5	1618.32	2200	1993.97	2199.24	2061.13	2199.24	2102.93	2200	2117.83
GR	2203.5	2323.85	2202.81	2904.44						
NC	0.08	0.08	0.04	0.1	0.3					
X1	42700	9	1943.55	2085.75	402.3	201.76	334.99			
GR	2200	1713.64	2198.4	1817.89	2197.28	1943.55	2196	2000.99	2194	2022.71
GR	2196	2036.55	2197.8	2085.75	2198.23	2295.08	2198.66	2379.19		
NC	0.016	0.016	0.016	0.1	0.3					
	PLACID STREET									
X1	42600	5	1998.73	2023.28	56.71	78.23	55.77			
GR	2194.1	1830.03	2192	1998.73	2191.32	2006.66	2192	2023.28	2196	2621.7
NC	0.08	0.08	0.04	0.1	0.3					
X1	42500	6	1269.87	1352.4	296.92	382.7	383.89			
GR	2194.1	1112.95	2192	1269.87	2190.47	1290.91	2192	1352.4	2193.31	1577.65
GR	2196	1963.04								
NC	0.08	0.08	0.04	0.1	0.3					
X1	42400	5	1739.06	1780	296.9	201.45	226.59			
GR	2190.7	1576.96	2188	1739.06	2184.3	1757.04	2188	1780	2189.9	2314.27
NC	0.016	0.016	0.016	0.1	0.3					
X1	42300	7	1771.79	1899.93	70.18	85.12	86.52			
GR	2187	1514.44	2184	1771.79	2184	1830.1	2183.63	1839.03	2183.63	1868.18

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GR     2184     1899.93       2188     2341.76

NC    0.045        0.08       0.04        0.1        0.3
X1    42200           8    1803.55    1884.26      408.5     448.01     437.67
GR   2185.9     1628.25       2184    1803.55    2183.63     1820.2    2183.63    1873.83       2184    1884.26
GR     2184     1919.75       2188    2049.87       2188    2157.09

NC    0.045        0.08       0.04        0.1        0.3
X1    42100          14    1778.15    1822.27      167.5     131.4      167.2
GR   2182.9     1653.37       2180    1738.37    2179.25    1745.87       2176    1778.15       2172    1790.13
GR     2168     1799.11       2168     1806.6       2172    1812.32       2176    1822.27       2180    1842.28
GR     2180     1898.54       2180    1980.23       2180    2036.08       2180    2183.14

NC    0.045        0.08       0.04         0.3        0.5


X1    42000           4    1998.39    2010.39     600.45     677.28      669.8
GR   2171.3     1998.39    2161.29    1998.39    2161.29    2010.39     2171.3    2010.39

NC     0.11        0.11      0.015         0.1        0.3
ET                            8.4
SB                 1.5          3         200         12          0        120          0    2161.29    2138.84


X1    41900           4    1511.25    1523.25        352        352        352
X2                    1    2171.29     2176.6
GR   2171.3     1511.25    2138.84    1511.25    2138.84    1523.25    2171.29    1523.25

NC     0.11        0.11      0.015         0.1        0.3
X1    41800           4       1000       1038        252        252        252
GR   2137.6        1000    2130.66       1014    2130.66       1024     2137.6       1038

NC     0.11        0.11      0.015         0.1        0.3
X1    41700           4    2141.62    2179.61         50         50         50
GR   2131.7     2141.62    2124.75    2155.615    2124.75    2165.615     2131.7    2179.61

NC     0.11        0.11      0.015         0.1        0.3
SB                 1.5          3          50         10          0        208          2    2124.75    2124.23
X1    41600           4       1000       1038        206        206        206
X2                    1    2131.75     2133.1
GR   2131.2        1000    2124.23       1014    2124.23       1024     2131.2       1038

NC     0.11        0.11      0.015         0.1        0.3


X1    41500           4       1307       1345        394        394        394
GR   2127.9        1307    2120.91       1321    2120.91       1331     2127.9       1345

NC     0.11        0.11      0.015         0.1        0.3


X1    41400           4       1264       1302        190        190        190
GR   2122.4        1264    2115.41       1278    2115.41       1288     2122.4       1302

NC     0.11        0.11      0.015         0.1        0.3


X1    41300           4       1303       1341        200        200        200
GR   2119.7        1303    2112.78       1317    2112.78       1327     2119.7       1341

NC     0.11        0.11      0.015         0.1        0.3
X1    41200           4    1720.61    1768.52         50         50         50
GR     2118     1720.61    2108.52    1739.565    2108.52    1749.565       2118    1768.52

NC     0.11        0.11      0.015         0.1        0.3
SB                 1.5          3          50         10          0        208          2    2110.01    2108.52


X1    41100           4    1627.326    1672.05        208        208        208
X2                    1     2117.2    2119.36
GR   2117.2     1627.326    2108.52    1644.686    2108.52    1654.686     2117.2    1672.05

NC     0.11        0.11      0.015         0.1        0.3
X1    41000           4       1062       1100        410        410        410
GR   2111.3        1062    2104.38       1076    2104.38       1086     2111.3       1100

NC     0.11        0.11      0.015         0.1        0.3


X1    40900           4       1541       1579
GR   2104.8        1541    2097.83       1555    2097.83       1565     2104.8       1579

T1LOW BLUE DIAMOND DETENTION BASIN IN OPERATION
T2       DUCK CREEK/ BLUE DIAMOND CLOMR
T3       BDM3SPC

J1  ICHECK      INQ       NINV       IDIR       STRT     METRIC      HVINS          Q       WSEL         FQ

                  3                    1                                            440    2299.34

J2  NPROF     IPLOT      PRFVS      XSECV      XSECH         FN      ALLDC        IBW      CHNIM     ITRACE

      15                   -1                                            -1         -6
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THIS RUN EXECUTED 17JUN06 11:20:10

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************************************
 HEC-2 WATER SURFACE PROFILES

 Version  4.6.2;  May 1991
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

BDM3SPC1

SUMMARY PRINTOUT TABLE 100

	SECNO	EGLWC	ELLC	EGPRS	ELTRD	QPR	QWEIR	CLASS	H3	DEPTH	CWSEL	VCH	EG
•	45200.000	2262.02	2264.12	.00	2269.90	886.00	.00	2.00	.00	2.21	2260.25	10.69	2262.02
•	45200.000	2262.02	2264.12	.00	2269.90	886.00	.00	2.00	.00	2.21	2260.25	10.69	2262.02
*	44300.000	2236.07	2241.30	.00	2242.80	886.00	.00	2.00	.00	2.56	2234.13	11.17	2236.07
•	44300.000	2236.07	2241.30	.00	2242.80	886.00	.00	2.00	.00	2.56	2234.13	11.17	2236.07
	41900.000	2166.91	2171.29	.00	2176.60	886.00	.00	59.00	.00	3.07	2141.91	24.10	2150.93
	41900.000	2148.37	.00	.00	999999.00	886.00	.00	67.00	.00	3.07	2141.91	24.07	2150.90
	41600.000	2132.16	2131.75	2127.75	2133.10	886.00	.00	59.00	.00	2.70	2126.93	21.25	2133.94
	41600.000	2131.16	.00	.00	999999.00	886.00	.00	67.00	.00	2.70	2126.93	21.25	2133.94
	41100.000	2114.74	2117.20	.00	2119.36	886.00	.00	59.00	.00	3.04	2111.56	18.19	2116.69
	41100.000	2115.01	.00	.00	999999.00	886.00	.00	67.00	.00	3.04	2111.56	18.16	2116.68

BDM3SPC1

SUMMARY PRINTOUT TABLE 101

	SECNO	EGOC	ELLC	EGIC	ELTRD	QCULV	QWEIR	CLASS	H4	DEPTH	CWSEL	VCH	EG

BDM3SPC1

SUMMARY PRINTOUT TABLE 110

	SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
*	46600.000	2299.22	-.12	2299.34	657.98	.00	440.00	.00	.00	.00	1000.00	2014.27	.00
*	46600.000	2299.22	-.12	2299.34	657.98	.00	440.00	.00	.00	.00	1000.00	2014.27	.00
*	46500.000	2296.29	.00	2296.41	529.97	.00	343.00	.00	.00	.00	1388.38	2250.03	.00
•	46500.000	2296.29	.00	2296.41	529.97	.00	343.00	.00	.00	.00	1388.38	2250.03	.00
*	46400.000	2295.29	.00	2295.43	286.06	.00	241.00	.00	.00	.00	1282.92	1854.98	.00
•	46400.000	2295.29	.00	2295.43	286.06	.00	241.00	.00	.00	.00	1282.92	1854.98	.00
*	46300.000	2291.16	.00	2291.37	161.61	.00	241.00	.00	.00	.00	1000.00	1557.92	.00
•	46300.000	2291.16	.00	2291.37	161.61	.00	241.00	.00	.00	.00	1000.00	1557.92	.00
•	46200.000	2288.20	.00	2288.29	510.57	.00	241.00	.00	.00	.00	1000.00	1610.18	.00
*	46200.000	2288.20	.00	2288.29	510.57	.00	241.00	.00	.00	.00	1000.00	1610.18	.00
*	46100.000	2284.47	.00	2284.65	203.26	.00	241.00	.00	.00	.00	611.41	1242.91	.00
*	46100.000	2284.47	.00	2284.65	203.26	.00	241.00	.00	.00	.00	611.41	1242.91	.00
*	46000.000	2280.37	.00	2280.54	207.66	.00	241.00	.00	.00	.00	1000.00	1632.74	.00
*	46000.000	2280.37	.00	2280.54	207.66	.00	241.00	.00	.00	.00	1000.00	1632.74	.00
*	45900.000	2276.39	.00	2276.58	182.23	.00	241.00	.00	.00	.00	1000.00	1490.86	.00
*	45900.000	2276.39	.00	2276.58	182.23	.00	241.00	.00	.00	.00	1000.00	1490.86	.00
*	45800.000	2272.23	.00	2272.34	405.37	.00	241.00	.00	.00	.00	1000.00	1838.51	.00
•	45800.000	2272.23	.00	2272.34	405.37	.00	241.00	.00	.00	.00	1000.00	1838.51	.00
*	45700.000	2271.05	.00	2271.22	225.26	.00	241.00	.00	.00	.00	1000.00	1971.11	.00
•	45700.000	2271.05	.00	2271.22	225.26	.00	241.00	.00	.00	.00	1000.00	1971.11	.00
*	45600.000	2268.89	.00	2269.24	76.34	.00	241.00	.00	.00	.00	1000.00	1993.56	.00
•	45600.000	2268.89	.00	2269.24	76.34	.00	241.00	.00	.00	.00	1000.00	1993.56	.00
*	45500.000	2268.32	.00	2268.47	258.55	.00	241.00	.00	.00	.00	1076.09	2025.58	.00
*	45500.000	2268.32	.00	2268.47	258.55	.00	241.00	.00	.00	.00	1076.09	2025.58	.00
•	45400.000	2265.09	.00	2265.36	105.38	.00	241.00	.00	.00	.00	871.93	2045.56	.00
*	45400.000	2265.09	.00	2265.36	105.38	.00	241.00	.00	.00	.00	871.93	2045.56	.00
*	45300.000	2262.69	.00	2263.99	37.50	.00	886.00	.00	.00	.00	1243.00	1280.50	.00
•	45300.000	2262.69	.00	2263.99	37.50	.00	886.00	.00	.00	.00	1243.00	1280.50	.00
*	45200.000	2260.25	.00	2262.02	37.50	.00	886.00	.00	.00	.00	1408.00	1445.50	.00
*	45200.000	2260.25	.00	2262.02	37.50	.00	886.00	.00	.00	.00	1408.00	1445.50	.00
*	45100.000	2260.73	.00	2261.24	378.05	13.25	668.80	203.95	.00	.00	1261.06	1320.33	.00
*	45100.000	2260.73	.00	2261.24	378.05	13.25	668.80	203.95	.00	.00	1261.06	1320.33	.00

	SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
•	45000.000	2252.80	.00	2257.58	98.56	140.44	713.07	32.48	.00	.00	1196.23	1243.13	.00
•	45000.000	2252.80	.00	2257.58	98.56	140.44	713.07	32.48	.00	.00	1196.23	1243.13	.00
*	44900.000	2248.86	.00	2249.23	258.10	61.04	214.19	610.77	.00	.00	1529.66	1556.24	.00
*	44900.000	2248.86	.00	2249.23	258.10	61.04	214.19	610.77	.00	.00	1529.66	1556.24	.00
•	44800.000	2248.63	.00	2249.24	227.16	82.09	794.15	9.75	.00	.00	1736.49	1777.01	.00
•	44800.000	2248.63	.00	2249.24	227.16	82.09	794.15	9.75	.00	.00	1736.49	1777.01	.00
•	44700.000	2243.53	.00	2244.74	41.66	.00	886.00	.00	.00	.00	1822.86	1872.15	.00
•	44700.000	2243.53	.00	2244.74	41.66	.00	886.00	.00	.00	.00	1822.86	1872.15	.00
*	44600.000	2241.12	.00	2241.83	133.88	90.84	781.26	13.90	.00	.00	1861.52	1913.16	.00
•	44600.000	2241.12	.00	2241.83	133.88	90.84	781.26	13.90	.00	.00	1861.52	1913.16	.00
•	44500.000	2236.78	.00	2237.53	101.76	31.50	854.50	.00	.00	.00	1898.95	1979.51	.00
*	44500.000	2236.78	.00	2237.53	101.76	31.50	854.50	.00	.00	.00	1898.95	1979.51	.00
•	44400.000	2236.03	.00	2237.51	31.00	.00	886.00	.00	.00	.00	2478.00	2509.00	.00
•	44400.000	2236.03	.00	2237.51	31.00	.00	886.00	.00	.00	.00	2478.00	2509.00	.00
•	44300.000	2234.13	.00	2236.07	31.00	.00	886.00	.00	.00	.00	2454.00	2485.00	.00
*	44300.000	2234.13	.00	2236.07	31.00	.00	886.00	.00	.00	.00	2454.00	2485.00	.00
*	44200.000	2230.48	.00	2231.18	95.17	.00	886.00	.00	.00	.00	1828.70	1971.83	.00
•	44200.000	2230.48	.00	2231.18	95.17	.00	886.00	.00	.00	.00	1828.70	1971.83	.00
*	44100.000	2229.21	.00	2229.73	169.95	151.43	678.49	56.08	.00	.00	2253.24	2319.51	.00
*	44100.000	2229.21	.00	2229.73	169.95	151.43	678.49	56.08	.00	.00	2253.24	2319.51	.00
•	44000.000	2228.89	.00	2229.43	169.71	63.88	810.34	11.77	.00	.00	2152.48	2247.71	.00
*	44000.000	2228.89	.00	2229.43	169.71	63.88	810.34	11.77	.00	.00	2152.48	2247.71	.00
*	43900.000	2224.94	.00	2225.64	94.96	.00	886.00	.00	.00	.00	1948.09	2092.22	.00
*	43900.000	2224.94	.00	2225.64	94.96	.00	886.00	.00	.00	.00	1948.09	2092.22	.00
•	43800.000	2221.74	.00	2222.36	113.86	.00	886.00	.00	.00	.00	1895.63	2096.68	.00
•	43800.000	2221.74	.00	2222.36	113.86	.00	886.00	.00	.00	.00	1895.63	2096.68	.00
•	43700.000	2218.71	.00	2220.26	65.39	.00	886.00	.00	.00	.00	1974.51	2158.37	.00
*	43700.000	2218.71	.00	2220.26	65.39	.00	886.00	.00	.00	.00	1974.51	2158.37	.00
•	43600.000	2218.01	.00	2218.65	109.95	.00	886.00	.00	.00	.00	1761.56	1952.68	.00
•	43600.000	2218.01	.00	2218.65	109.95	.00	886.00	.00	.00	.00	1761.56	1952.68	.00
*	43500.000	2214.33	.00	2214.97	106.81	.00	886.00	.00	.00	.00	1625.81	1801.16	.00
•	43500.000	2214.33	.00	2214.97	106.81	.00	886.00	.00	.00	.00	1625.81	1801.16	.00
*	43400.000	2214.07	.00	2214.74	102.84	.00	886.00	.00	.00	.00	1644.10	1817.06	.00
•	43400.000	2214.07	.00	2214.74	102.84	.00	886.00	.00	.00	.00	1644.10	1817.06	.00

	SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
•	43300.000	2210.80	.00	2211.52	91.80	.00	886.00	.00	.00	.00	2098.24	2226.57	.00
•	43300.000	2210.80	.00	2211.52	91.80	.00	886.00	.00	.00	.00	2098.24	2226.57	.00
•	43200.000	2210.03	.00	2210.65	139.90	448.86	412.26	24.88	.00	.00	1355.46	1376.21	.00
•	43200.000	2210.03	.00	2210.65	139.90	448.86	412.26	24.88	.00	.00	1355.46	1376.21	.00
*	43100.000	2208.41	.00	2208.61	595.37	640.44	229.86	15.70	.00	.00	1942.72	1977.08	.00
*	43100.000	2208.41	.00	2208.61	595.37	640.44	229.86	15.70	.00	.00	1942.72	1977.08	.00
*	43000.000	2206.17	.00	2206.81	193.68	202.04	591.35	92.61	.00	.00	2255.05	2272.66	.00
*	43000.000	2206.17	.00	2206.81	193.68	202.04	591.35	92.61	.00	.00	2255.05	2272.66	.00
*	42900.000	2196.95	.00	2201.65	67.30	.00	886.00	.00	.00	.00	2203.63	2324.42	.00
•	42900.000	2196.95	.00	2201.65	67.30	.00	886.00	.00	.00	.00	2203.63	2324.42	.00
•	42800.000	2200.67	.00	2201.14	264.82	41.80	827.83	16.37	.00	.00	1993.97	2117.83	.00
*	42800.000	2200.67	.00	2201.14	264.82	41.80	827.83	16.37	.00	.00	1993.97	2117.83	.00
•	42700.000	2197.30	.00	2197.90	130.17	.00	886.00	.00	.00	.00	1943.55	2085.75	.00
*	42700.000	2197.30	.00	2197.90	130.17	.00	886.00	.00	.00	.00	1943.55	2085.75	.00
•	42600.000	2192.98	.00	2193.80	249.15	197.12	321.75	367.13	.00	.00	1998.73	2023.28	.00
*	42600.000	2192.98	.00	2193.80	249.15	197.12	321.75	367.13	.00	.00	1998.73	2023.28	.00
*	42500.000	2192.82	.00	2193.32	283.90	30.40	785.65	69.95	.00	.00	1269.87	1352.40	.00
•	42500.000	2192.82	.00	2193.32	283.90	30.40	785.65	69.95	.00	.00	1269.87	1352.40	.00
*	42400.000	2188.91	.00	2189.48	350.28	24.72	745.49	115.79	.00	.00	1739.06	1780.00	.00
*	42400.000	2188.91	.00	2189.48	350.28	24.72	745.49	115.79	.00	.00	1739.06	1780.00	.00
•	42300.000	2184.42	.00	2186.12	210.55	42.82	788.04	55.14	.00	.00	1771.79	1899.93	.00
•	42300.000	2184.42	.00	2186.12	210.55	42.82	788.04	55.14	.00	.00	1771.79	1899.93	.00
•	42200.000	2185.00	.00	2185.44	241.03	130.85	639.34	115.81	.00	.00	1803.55	1884.26	.00
*	42200.000	2185.00	.00	2185.44	241.03	130.85	639.34	115.81	.00	.00	1803.55	1884.26	.00
	42100.000	2172.50	.00	2174.91	24.92	.00	886.00	.00	.00	.00	1778.15	1822.27	.00
	42100.000	2172.50	.00	2174.91	24.92	.00	886.00	.00	.00	.00	1778.15	1822.27	.00
*	42000.000	2166.80	.00	2169.59	12.00	.00	886.00	.00	.00	.00	1998.39	2010.39	.00
•	42000.000	2166.80	.00	2169.59	12.00	.00	886.00	.00	.00	.00	1998.39	2010.39	.00

41900.000	2141.91	.00	2150.93	12.00	.00	886.00	.00	.00	.00	1511.25	1523.25	.00
41900.000	2141.91	.00	2150.90	12.00	.00	886.00	.00	.00	1511.25	1511.25	1523.25	1523.25
41800.000	2133.14	.00	2142.03	19.97	.00	886.00	.00	.00	.00	1000.00	1038.00	.00
41800.000	2133.13	-.01	2142.03	19.97	.00	886.00	.00	.00	1000.00	1000.00	1038.00	1038.00
41700.000	2127.33	.00	2135.32	20.36	.00	886.00	.00	.00	.00	2141.62	2179.61	.00
41700.000	2127.33	.00	2135.31	20.37	.00	886.00	.00	.00	2141.62	2141.62	2179.61	2179.61

SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
41600.000	2126.93	.00	2133.94	20.86	.00	886.00	.00	.00	.00	1000.00	1038.00	.00
41600.000	2126.93	.00	2133.94	20.86	.00	886.00	.00	.00	1000.00	1000.00	1038.00	1038.00
41500.000	2123.74	.00	2129.97	21.32	.00	886.00	.00	.00	.00	1307.00	1345.00	.00
41500.000	2123.74	.00	2129.97	21.32	.00	886.00	.00	.00	1307.00	1307.00	1345.00	1345.00
41400.000	2118.39	.00	2123.77	21.94	.00	886.00	.00	.00	.00	1264.00	1302.00	.00
41400.000	2118.39	.00	2123.77	21.94	.00	886.00	.00	.00	1264.00	1264.00	1302.00	1302.00
41300.000	2115.75	.00	2121.16	22.00	.00	886.00	.00	.00	.00	1303.00	1341.00	.00
41300.000	2115.75	.00	2121.16	22.00	.00	886.00	.00	.00	1303.00	1303.00	1341.00	1341.00
41200.000	2111.28	.00	2117.89	21.06	.00	886.00	.00	.00	.00	1720.61	1768.52	.00
41200.000	2111.28	.00	2117.89	21.06	.00	886.00	.00	.00	1720.61	1720.61	1768.52	1768.52
41100.000	2111.56	.00	2116.69	22.13	.00	886.00	.00	.00	.00	1627.33	1672.05	.00
41100.000	2111.56	.00	2116.68	22.14	.00	886.00	.00	.00	1627.33	1627.33	1672.05	1672.05
41000.000	2107.18	.00	2113.51	21.34	.00	886.00	.00	.00	.00	1062.00	1100.00	.00
41000.000	2107.18	.00	2113.50	21.34	.00	886.00	.00	.00	1062.00	1062.00	1100.00	1100.00
40900.000	2100.70	.00	2106.66	21.53	.00	886.00	.00	.00	.00	1541.00	1579.00	.00
40900.000	2100.70	.00	2106.66	21.53	.00	886.00	.00	.00	1541.00	1541.00	1579.00	1579.00

BDM3SPC1

SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
•	46600.000	.00	.00	.00	2298.89	440.00	2299.22	2299.22	2299.34	476.39	2.78	158.01	20.16
*	46600.000	.00	.00	.00	2298.89	440.00	2299.22	2299.22	2299.34	476.39	2.78	158.01	20.16
•	46500.000	119.08	.00	.00	2296.00	343.00	2296.29	2296.29	2296.41	1543.34	2.77	123.90	8.73
*	46500.000	119.08	.00	.00	2296.00	343.00	2296.29	2296.29	2296.41	1543.34	2.77	123.90	8.73
*	46400.000	182.90	.00	.00	2294.95	241.00	2295.29	2295.29	2295.43	1437.75	3.01	80.09	6.36
*	46400.000	182.90	.00	.00	2294.95	241.00	2295.29	2295.29	2295.43	1437.75	3.01	80.09	6.36
•	46300.000	298.04	.00	.00	2290.20	241.00	2291.16	2291.16	2291.37	2391.41	3.64	66.17	4.93
*	46300.000	298.04	.00	.00	2290.20	241.00	2291.16	2291.16	2291.37	2391.41	3.64	66.17	4.93
*	46200.000	207.97	.00	.00	2288.00	241.00	2288.20	2288.20	2288.29	1625.55	2.48	97.24	5.98
•	46200.000	207.97	.00	.00	2288.00	241.00	2288.20	2288.20	2288.29	1625.55	2.48	97.24	5.98
•	46100.000	145.54	.00	.00	2284.00	241.00	2284.47	2284.47	2284.65	1336.13	3.38	71.34	6.59
*	46100.000	145.54	.00	.00	2284.00	241.00	2284.47	2284.47	2284.65	1336.13	3.38	71.34	6.59
*	46000.000	169.17	.00	.00	2280.00	241.00	2280.37	2280.37	2280.54	1311.62	3.33	72.35	6.65
•	46000.000	169.17	.00	.00	2280.00	241.00	2280.37	2280.37	2280.54	1311.62	3.33	72.35	6.65
*	45900.000	191.28	.00	.00	2276.00	241.00	2276.39	2276.39	2276.58	1340.76	3.53	68.22	6.58
*	45900.000	191.28	.00	.00	2276.00	241.00	2276.39	2276.39	2276.58	1340.76	3.53	68.22	6.58
•	45800.000	345.06	.00	.00	2272.00	241.00	2272.23	2272.23	2272.34	1516.95	2.66	90.52	6.19
•	45800.000	345.06	.00	.00	2272.00	241.00	2272.23	2272.23	2272.34	1516.95	2.66	90.52	6.19
•	45700.000	232.78	.00	.00	2270.40	241.00	2271.05	2271.05	2271.22	1390.69	3.28	73.45	6.46
•	45700.000	232.78	.00	.00	2270.40	241.00	2271.05	2271.05	2271.22	1390.69	3.28	73.45	6.46
•	45600.000	208.33	.00	.00	2268.00	241.00	2268.89	2268.89	2269.24	1141.84	4.77	50.56	7.13
*	45600.000	208.33	.00	.00	2268.00	241.00	2268.89	2268.89	2269.24	1141.84	4.77	50.56	7.13
•	45500.000	220.43	.00	.00	2268.00	241.00	2268.32	2268.32	2268.47	1380.73	3.10	77.78	6.49
*	45500.000	220.43	.00	.00	2268.00	241.00	2268.32	2268.32	2268.47	1380.73	3.10	77.78	6.49
•	45400.000	195.42	.00	.00	2264.00	241.00	2265.09	2265.09	2265.36	362.58	4.19	57.45	12.66
*	45400.000	195.42	.00	.00	2264.00	241.00	2265.09	2265.09	2265.36	362.58	4.19	57.45	12.66
•	45300.000	264.63	.00	.00	2260.12	886.00	2262.69	2262.70	2263.99	28.70	9.16	96.73	165.39
•	45300.000	264.63	.00	.00	2260.12	886.00	2262.69	2262.70	2263.99	28.70	9.16	96.73	165.39
•	45200.000	250.00	2269.90	2264.12	2258.04	886.00	2260.25	999999.00	2262.02	333.17	10.69	82.92	48.54
•	45200.000	250.00	2269.90	2264.12	2258.04	886.00	2260.25	999999.00	2262.02	333.17	10.69	82.92	48.54
*	45100.000	75.00	.00	.00	2258.00	886.00	2260.73	2260.75	2261.24	21.13	6.54	294.10	192.76
•	45100.000	75.00	.00	.00	2258.00	886.00	2260.73	2260.75	2261.24	21.13	6.54	294.10	192.76

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
*	45000.000	445.00	.00	.00	2252.00	886.00	2252.80	2253.72	2257.58	3487.75	18.95	58.37	15.00
•	45000.000	445.00	.00	.00	2252.00	886.00	2252.80	2253.72	2257.58	3487.75	18.95	58.37	15.00

*	44900.000	497.09	.00	.00	2247.00	886.00	2248.86	2248.86	2249.23	227.48	6.47	195.74	58.74
•	44900.000	497.09	.00	.00	2247.00	886.00	2248.86	2248.86	2249.23	227.48	6.47	195.74	58.74
•	44800.000	136.15	.00	.00	2244.00	886.00	2248.63	2248.63	2249.24	74.99	6.56	184.71	102.31
*	44800.000	136.15	.00	.00	2244.00	886.00	2248.63	2248.63	2249.24	74.99	6.56	184.71	102.31
•	44700.000	481.65	.00	.00	2240.00	886.00	2243.53	2243.53	2244.74	181.79	8.83	100.32	65.71
*	44700.000	481.65	.00	.00	2240.00	886.00	2243.53	2243.53	2244.74	181.79	8.83	100.32	65.71
*	44600.000	320.05	.00	.00	2238.00	886.00	2241.12	2241.12	2241.83	135.07	7.12	156.01	76.23
*	44600.000	320.05	.00	.00	2238.00	886.00	2241.12	2241.12	2241.83	135.07	7.12	156.01	76.23
•	44500.000	417.25	.00	.00	2234.00	886.00	2236.78	2236.78	2237.53	162.29	7.07	134.80	69.55
•	44500.000	417.25	.00	.00	2234.00	886.00	2236.78	2236.78	2237.53	162.29	7.07	134.80	69.55
•	44400.000	156.33	.00	.00	2233.10	886.00	2236.03	2236.03	2237.51	29.24	9.77	90.72	163.86
*	44400.000	156.33	.00	.00	2233.10	886.00	2236.03	2236.03	2237.51	29.24	9.77	90.72	163.86
•	44300.000	169.47	2242.80	2241.30	2231.57	886.00	2234.13	999999.00	2236.07	316.43	11.17	79.34	49.81
*	44300.000	169.47	2242.80	2241.30	2231.57	886.00	2234.13	999999.00	2236.07	316.43	11.17	79.34	49.81
•	44200.000	362.68	.00	.00	2228.00	886.00	2230.48	2230.48	2231.18	210.66	6.70	132.27	61.04
•	44200.000	362.68	.00	.00	2228.00	886.00	2230.48	2230.48	2231.18	210.66	6.70	132.27	61.04
*	44100.000	188.71	.00	.00	2227.20	886.00	2229.21	2229.21	2229.73	624.83	6.37	169.10	35.44
•	44100.000	188.71	.00	.00	2227.20	886.00	2229.21	2229.21	2229.73	624.83	6.37	169.10	35.44
*	44000.000	62.57	.00	.00	2227.20	886.00	2228.89	2228.89	2229.43	178.54	6.16	164.65	66.31
•	44000.000	62.57	.00	.00	2227.20	886.00	2228.89	2228.89	2229.43	178.54	6.16	164.65	66.31
•	43900.000	224.48	.00	.00	2222.76	886.00	2224.94	2224.94	2225.64	213.74	6.74	131.48	60.60
*	43900.000	224.48	.00	.00	2222.76	886.00	2224.94	2224.94	2225.64	213.74	6.74	131.48	60.60
*	43800.000	379.58	.00	.00	2220.00	886.00	2221.74	2221.74	2222.36	222.31	6.34	139.66	59.42
•	43800.000	379.58	.00	.00	2220.00	886.00	2221.74	2221.74	2222.36	222.31	6.34	139.66	59.42
*	43700.000	57.90	.00	.00	2216.00	886.00	2218.71	2219.18	2220.26	483.04	9.98	88.74	40.31
•	43700.000	57.90	.00	.00	2216.00	886.00	2218.71	2219.18	2220.26	483.04	9.98	88.74	40.31
•	43600.000	333.04	.00	.00	2216.00	886.00	2218.01	2218.01	2218.65	217.84	6.39	138.58	60.03
•	43600.000	333.04	.00	.00	2216.00	886.00	2218.01	2218.01	2218.65	217.84	6.39	138.58	60.03
*	43500.000	291.91	.00	.00	2212.00	886.00	2214.33	2214.33	2214.97	214.53	6.44	137.61	60.49
*	43500.000	291.91	.00	.00	2212.00	886.00	2214.33	2214.33	2214.97	214.53	6.44	137.61	60.49
•	43400.000	40.18	.00	.00	2212.00	886.00	2214.07	2214.07	2214.74	217.02	6.56	135.08	60.14
•	43400.000	40.18	.00	.00	2212.00	886.00	2214.07	2214.07	2214.74	217.02	6.56	135.08	60.14

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
•	43300.000	398.38	.00	.00	2208.50	886.00	2210.80	2210.80	2211.52	209.96	6.79	130.45	61.15
*	43300.000	398.38	.00	.00	2208.50	886.00	2210.80	2210.80	2211.52	209.96	6.79	130.45	61.15
*	43200.000	217.64	.00	.00	2207.21	886.00	2210.03	2210.03	2210.65	150.52	8.20	171.02	72.22
•	43200.000	217.64	.00	.00	2207.21	886.00	2210.03	2210.03	2210.65	150.52	8.20	171.02	72.22
•	43100.000	77.95	.00	.00	2207.20	886.00	2208.41	2208.41	2208.61	176.31	5.57	290.97	66.73
•	43100.000	77.95	.00	.00	2207.20	886.00	2208.41	2208.41	2208.61	176.31	5.57	290.97	66.73
•	43000.000	323.51	.00	.00	2200.00	886.00	2206.17	2206.17	2206.81	69.15	7.70	203.74	106.55
•	43000.000	323.51	.00	.00	2200.00	886.00	2206.17	2206.17	2206.81	69.15	7.70	203.74	106.55
*	42900.000	323.34	.00	.00	2196.10	886.00	2196.95	2197.95	2201.65	508.92	17.39	50.96	39.27
*	42900.000	323.34	.00	.00	2196.10	886.00	2196.95	2197.95	2201.65	508.92	17.39	50.96	39.27
*	42800.000	74.05	.00	.00	2199.24	886.00	2200.67	2200.67	2201.14	185.25	5.65	193.95	65.10
•	42800.000	74.05	.00	.00	2199.24	886.00	2200.67	2200.67	2201.14	185.25	5.65	193.95	65.10
•	42700.000	306.60	.00	.00	2194.00	886.00	2197.30	2197.30	2197.90	246.02	6.23	142.25	56.49
•	42700.000	306.60	.00	.00	2194.00	886.00	2197.30	2197.30	2197.90	246.02	6.23	142.25	56.49
*	42600.000	334.99	.00	.00	2191.32	886.00	2192.98	2193.23	2193.80	79.76	9.95	142.02	99.21
*	42600.000	334.99	.00	.00	2191.32	886.00	2192.98	2193.23	2193.80	79.76	9.95	142.02	99.21
*	42500.000	55.77	.00	.00	2190.47	886.00	2192.82	2192.82	2193.32	142.67	6.02	212.72	74.18
•	42500.000	55.77	.00	.00	2190.47	886.00	2192.82	2192.82	2193.32	142.67	6.02	212.72	74.18
*	42400.000	383.89	.00	.00	2184.30	886.00	2188.91	2188.91	2189.48	83.61	6.61	253.06	96.90
•	42400.000	383.89	.00	.00	2184.30	886.00	2188.91	2188.91	2189.48	83.61	6.61	253.06	96.90
•	42300.000	226.59	.00	.00	2183.63	886.00	2184.42	2184.86	2186.12	297.83	10.93	89.43	51.34
*	42300.000	226.59	.00	.00	2183.63	886.00	2184.42	2184.86	2186.12	297.83	10.93	89.43	51.34
*	42200.000	86.52	.00	.00	2183.63	886.00	2185.00	2185.00	2185.44	185.68	6.05	203.52	65.02
*	42200.000	86.52	.00	.00	2183.63	886.00	2185.00	2185.00	2185.44	185.68	6.05	203.52	65.02
	42100.000	437.67	.00	.00	2168.00	886.00	2172.50	2173.13	2174.91	312.57	12.46	71.10	50.11
	42100.000	437.67	.00	.00	2168.00	886.00	2172.50	2173.13	2174.91	312.57	12.46	71.10	50.11
•	42000.000	167.20	.00	.00	2161.29	886.00	2166.80	2166.80	2169.59	318.55	13.40	66.13	49.64
•	42000.000	167.20	.00	.00	2161.29	886.00	2166.80	2166.80	2169.59	318.55	13.40	66.13	49.64
	41900.000	669.80	2176.60	2171.29	2138.84	886.00	2141.91	2144.36	2150.93	230.61	24.10	36.76	58.34
	41900.000	669.80	999999.00	.00	2138.84	886.00	2141.91	2144.36	2150.90	229.60	24.07	36.81	58.47
	41800.000	352.00	.00	.00	2130.66	886.00	2133.14	2135.24	2142.03	275.91	23.92	37.04	53.34
	41800.000	352.00	.00	.00	2130.66	886.00	2133.13	2135.24	2142.03	276.32	23.94	37.02	53.30

41700.000	252.00	.00	.00	2124.75	886.00	2127.33	2129.34	2135.32	237.57	22.69	39.06	57.48
41700.000	252.00	.00	.00	2124.75	886.00	2127.33	2129.34	2135.31	237.23	22.67	39.08	57.52

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
41600.000	50.00	2133.10	2131.75	2124.23	886.00	2126.93	2128.82	2133.94	197.57	21.25	41.70	63.03
41600.000	50.00	999999.00	.00	2124.23	886.00	2126.93	2128.82	2133.94	197.64	21.25	41.70	63.02
41500.000	206.00	.00	.00	2120.91	886.00	2123.74	2125.49	2129.97	167.28	20.02	44.25	68.50
41500.000	206.00	.00	.00	2120.91	886.00	2123.74	2125.50	2129.97	167.34	20.03	44.24	68.49
41400.000	394.00	.00	.00	2115.41	886.00	2118.39	2120.00	2123.77	136.60	18.62	47.59	75.81
41400.000	394.00	.00	.00	2115.41	886.00	2118.39	2120.00	2123.77	136.60	18.62	47.59	75.81
41300.000	190.00	.00	.00	2112.78	886.00	2115.75	2117.36	2121.16	138.22	18.67	47.46	75.36
41300.000	190.00	.00	.00	2112.78	886.00	2115.75	2117.36	2121.16	138.22	18.67	47.46	75.36
41200.000	200.00	.00	.00	2108.52	886.00	2111.28	2113.11	2117.89	181.47	20.62	42.96	65.77
41200.000	200.00	.00	.00	2108.52	886.00	2111.28	2113.11	2117.89	181.47	20.62	42.96	65.77
41100.000	50.00	2119.36	2117.20	2108.52	886.00	2111.56	2113.13	2116.69	127.93	18.19	48.72	78.33
41100.000	50.00	999999.00	.00	2108.52	886.00	2111.56	2113.10	2116.68	127.42	18.16	48.79	78.49
41000.000	208.00	.00	.00	2104.38	886.00	2107.18	2108.96	2113.51	171.71	20.18	43.90	67.61
41000.000	208.00	.00	.00	2104.38	886.00	2107.18	2108.96	2113.50	171.43	20.17	43.92	67.67
40900.000	410.00	.00	.00	2097.83	886.00	2100.70	2102.41	2106.66	157.43	19.58	45.24	70.61
40900.000	410.00	.00	.00	2097.83	886.00	2100.70	2102.41	2106.66	157.43	19.58	45.24	70.61

BDM3SPC1

SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
•	46600.000	440.00	2299.22	.00	.00	-.12	657.98	.00
*	46600.000	440.00	2299.22	.00	.00	-.12	657.98	.00
•	46500.000	343.00	2296.29	.00	-2.93	.00	529.97	119.08
*	46500.000	343.00	2296.29	.00	-2.93	.00	529.97	119.08
•	46400.000	241.00	2295.29	.00	-1.00	.00	286.06	182.90
*	46400.000	241.00	2295.29	.00	-1.00	.00	286.06	182.90
*	46300.000	241.00	2291.16	.00	-4.13	.00	161.61	298.04
•	46300.000	241.00	2291.16	.00	-4.13	.00	161.61	298.04
*	46200.000	241.00	2288.20	.00	-2.97	.00	510.57	207.97
*	46200.000	241.00	2288.20	.00	-2.97	.00	510.57	207.97
•	46100.000	241.00	2284.47	.00	-3.72	.00	203.26	145.54
*	46100.000	241.00	2284.47	.00	-3.72	.00	203.26	145.54
*	46000.000	241.00	2280.37	.00	-4.10	.00	207.66	169.17
*	46000.000	241.00	2280.37	.00	-4.10	.00	207.66	169.17
•	45900.000	241.00	2276.39	.00	-3.98	.00	182.23	191.28
*	45900.000	241.00	2276.39	.00	-3.98	.00	182.23	191.28
•	45800.000	241.00	2272.23	.00	-4.16	.00	405.37	345.06
*	45800.000	241.00	2272.23	.00	-4.16	.00	405.37	345.06
•	45700.000	241.00	2271.05	.00	-1.17	.00	225.26	232.78
•	45700.000	241.00	2271.05	.00	-1.17	.00	225.26	232.78
•	45600.000	241.00	2268.89	.00	-2.16	.00	76.34	208.33
•	45600.000	241.00	2268.89	.00	-2.16	.00	76.34	208.33
*	45500.000	241.00	2268.32	.00	-.57	.00	258.55	220.43
•	45500.000	241.00	2268.32	.00	-.57	.00	258.55	220.43
*	45400.000	241.00	2265.09	.00	-3.23	.00	105.38	195.42
*	45400.000	241.00	2265.09	.00	-3.23	.00	105.38	195.42
•	45300.000	886.00	2262.69	.00	-2.40	.00	37.50	264.63
*	45300.000	886.00	2262.69	.00	-2.40	.00	37.50	264.63
•	45200.000	886.00	2260.25	.00	-2.44	.00	37.50	250.00
•	45200.000	886.00	2260.25	.00	-2.44	.00	37.50	250.00
*	45100.000	886.00	2260.73	.00	.48	.00	378.05	75.00
*	45100.000	886.00	2260.73	.00	.48	.00	378.05	75.00

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
•	45000.000	886.00	2252.80	.00	-7.93	.00	98.56	445.00
*	45000.000	886.00	2252.80	.00	-7.93	.00	98.56	445.00
•	44900.000	886.00	2248.86	.00	-3.94	.00	258.10	497.09
*	44900.000	886.00	2248.86	.00	-3.94	.00	258.10	497.09
•	44800.000	886.00	2248.63	.00	-.23	.00	227.16	136.15
*	44800.000	886.00	2248.63	.00	-.23	.00	227.16	136.15
*	44700.000	886.00	2243.53	.00	-5.11	.00	41.66	481.65
*	44700.000	886.00	2243.53	.00	-5.11	.00	41.66	481.65

*	44600.000	886.00	2241.12	.00	-2.40	.00	133.88	320.05
*	44600.000	886.00	2241.12	.00	-2.40	.00	133.88	320.05
*	44500.000	886.00	2236.78	.00	-4.34	.00	101.76	417.25
*	44500.000	886.00	2236.78	.00	-4.34	.00	101.76	417.25
*	44400.000	886.00	2236.03	.00	-.75	.00	31.00	156.33
*	44400.000	886.00	2236.03	.00	-.75	.00	31.00	156.33
*	44300.000	886.00	2234.13	.00	-1.90	.00	31.00	169.47
*	44300.000	886.00	2234.13	.00	-1.90	.00	31.00	169.47
*	44200.000	886.00	2230.48	.00	-3.65	.00	95.17	362.68
*	44200.000	886.00	2230.48	.00	-3.65	.00	95.17	362.68
*	44100.000	886.00	2229.21	.00	-1.27	.00	169.95	188.71
*	44100.000	886.00	2229.21	.00	-1.27	.00	169.95	188.71
*	44000.000	886.00	2228.89	.00	-.32	.00	169.71	62.57
*	44000.000	886.00	2228.89	.00	-.32	.00	169.71	62.57
*	43900.000	886.00	2224.94	.00	-3.95	.00	94.96	224.48
*	43900.000	886.00	2224.94	.00	-3.95	.00	94.96	224.48
*	43800.000	886.00	2221.74	.00	-3.20	.00	113.86	379.58
*	43800.000	886.00	2221.74	.00	-3.20	.00	113.86	379.58
*	43700.000	886.00	2218.71	.00	-3.03	.00	65.39	57.90
*	43700.000	886.00	2218.71	.00	-3.03	.00	65.39	57.90
*	43600.000	886.00	2218.01	.00	-.70	.00	109.95	333.04
*	43600.000	886.00	2218.01	.00	-.70	.00	109.95	333.04
*	43500.000	886.00	2214.33	.00	-3.68	.00	106.81	291.91
*	43500.000	886.00	2214.33	.00	-3.68	.00	106.81	291.91
*	43400.000	886.00	2214.07	.00	-.26	.00	102.84	40.18
*	43400.000	886.00	2214.07	.00	-.26	.00	102.84	40.18

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	43300.000	886.00	2210.80	.00	-3.27	.00	91.80	398.38
*	43300.000	886.00	2210.80	.00	-3.27	.00	91.80	398.38
*	43200.000	886.00	2210.03	.00	-.78	.00	139.90	217.64
*	43200.000	886.00	2210.03	.00	-.78	.00	139.90	217.64
*	43100.000	886.00	2208.41	.00	-1.62	.00	595.37	77.95
*	43100.000	886.00	2208.41	.00	-1.62	.00	595.37	77.95
*	43000.000	886.00	2206.17	.00	-2.24	.00	193.68	323.51
*	43000.000	886.00	2206.17	.00	-2.24	.00	193.68	323.51
*	42900.000	886.00	2196.95	.00	-9.21	.00	67.30	323.34
*	42900.000	886.00	2196.95	.00	-9.21	.00	67.30	323.34
*	42800.000	886.00	2200.67	.00	3.72	.00	264.82	74.05
*	42800.000	886.00	2200.67	.00	3.72	.00	264.82	74.05
*	42700.000	886.00	2197.30	.00	-3.38	.00	130.17	306.60
*	42700.000	886.00	2197.30	.00	-3.38	.00	130.17	306.60
*	42600.000	886.00	2192.98	.00	-4.32	.00	249.15	334.99
*	42600.000	886.00	2192.98	.00	-4.32	.00	249.15	334.99
*	42500.000	886.00	2192.82	.00	-.16	.00	283.90	55.77
*	42500.000	886.00	2192.82	.00	-.16	.00	283.90	55.77
*	42400.000	886.00	2188.91	.00	-3.91	.00	350.28	383.89
*	42400.000	886.00	2188.91	.00	-3.91	.00	350.28	383.89
*	42300.000	886.00	2184.42	.00	-4.49	.00	210.55	226.59
*	42300.000	886.00	2184.42	.00	-4.49	.00	210.55	226.59
*	42200.000	886.00	2185.00	.00	.58	.00	241.03	86.52
*	42200.000	886.00	2185.00	.00	.58	.00	241.03	86.52
	42100.000	886.00	2172.50	.00	-12.50	.00	24.92	437.67
	42100.000	886.00	2172.50	.00	-12.50	.00	24.92	437.67
*	42000.000	886.00	2166.80	.00	-5.70	.00	12.00	167.20
*	42000.000	886.00	2166.80	.00	-5.70	.00	12.00	167.20
	41900.000	886.00	2141.91	.00	-24.89	.00	12.00	669.80
	41900.000	886.00	2141.91	.00	-24.89	.00	12.00	669.80
	41800.000	886.00	2133.14	.00	-8.77	.00	19.97	352.00
	41800.000	886.00	2133.13	-.01	-8.78	-.01	19.97	352.00
	41700.000	886.00	2127.33	.00	-5.82	.00	20.36	252.00
	41700.000	886.00	2127.33	.00	-5.80	.00	20.37	252.00

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	41600.000	886.00	2126.93	.00	-.39	.00	20.86	50.00
	41600.000	886.00	2126.93	.00	-.39	.00	20.86	50.00

41500.000	886.00	2123.74	.00	-3.19	.00	21.32	206.00
41500.000	886.00	2123.74	.00	-3.19	.00	21.32	206.00
41400.000	886.00	2118.39	.00	-5.35	.00	21.94	394.00
41400.000	886.00	2118.39	.00	-5.35	.00	21.94	394.00
41300.000	886.00	2115.75	.00	-2.64	.00	22.00	190.00
41300.000	886.00	2115.75	.00	-2.64	.00	22.00	190.00
41200.000	886.00	2111.28	.00	-4.46	.00	21.06	200.00
41200.000	886.00	2111.28	.00	-4.46	.00	21.06	200.00
41100.000	886.00	2111.56	.00	.27	.00	22.13	50.00
41100.000	886.00	2111.56	.00	.27	.00	22.14	50.00
41000.000	886.00	2107.18	.00	-4.38	.00	21.34	208.00
41000.000	886.00	2107.18	.00	-4.37	.00	21.34	208.00
40900.000	886.00	2100.70	.00	-6.48	.00	21.53	410.00
40900.000	886.00	2100.70	.00	-6.48	.00	21.53	410.00

SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION SECNO= 46600.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 46600.000 PROFILE= 2 CRITICAL DEPTH ASSUMED

CAUTION SECNO= 46500.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 46500.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 46500.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 46500.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 46500.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 46500.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 46400.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 46400.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 46400.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 46400.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 46400.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 46400.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 46300.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 46300.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 46300.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 46300.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 46300.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 46300.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 46200.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 46200.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 46200.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 46200.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 46200.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 46200.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 46100.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 46100.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 46100.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 46100.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 46100.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 46100.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 46000.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 46000.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 46000.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 46000.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 46000.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 46000.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 45900.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 45900.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 45900.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 45900.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 45900.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 45900.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 45800.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 45800.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 45800.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 45800.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 45800.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 45800.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 45700.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 45700.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 45700.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 45700.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 45700.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 45700.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 45600.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 45600.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 45600.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 45600.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 45600.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 45600.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 45500.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 45500.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY

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CAUTION SECNO=  45500.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  45500.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  45500.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  45500.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=  45400.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  45400.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  45400.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  45400.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  45400.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  45400.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=  45300.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
WARNING SECNO=  45300.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO=  45300.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY
WARNING SECNO=  45300.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  45200.000  PROFILE=  1  BRIDGE DROWNS U.S. PROFILE
                                        NEW BACKWATER REQUIRED
WARNING SECNO=  45200.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO=  45200.000  PROFILE=  2  BRIDGE DROWNS U.S. PROFILE
                                        NEW BACKWATER REQUIRED
WARNING SECNO=  45200.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  45100.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  45100.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  45000.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  45000.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  44900.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  44900.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY

CAUTION SECNO=  44900.000  PROFILE=  1  WSEL ASSUMED BASED ON MIN DIFF
CAUTION SECNO=  44900.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  44900.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  44900.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  44900.000  PROFILE=  2  WSEL ASSUMED BASED ON MIN DIFF
CAUTION SECNO=  44900.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=  44800.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  44800.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  44800.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  44800.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  44800.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  44800.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=  44700.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  44700.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  44700.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  44700.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  44700.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  44700.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=  44600.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  44600.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  44600.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  44600.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  44600.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  44600.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=  44500.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  44500.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  44500.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  44500.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  44500.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  44500.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=  44400.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  44400.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  44400.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  44400.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  44400.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  44400.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=  44300.000  PROFILE=  1  BRIDGE DROWNS U.S. PROFILE
                                        NEW BACKWATER REQUIRED
WARNING SECNO=  44300.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO=  44300.000  PROFILE=  2  BRIDGE DROWNS U.S. PROFILE
                                        NEW BACKWATER REQUIRED
WARNING SECNO=  44300.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  44200.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  44200.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  44200.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  44200.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  44200.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  44200.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  44100.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  44100.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  44100.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  44100.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  44100.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  44100.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=  44000.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  44000.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  44000.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  44000.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
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CAUTION SECNO=  44000.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  44000.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=  43900.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  43900.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  43900.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  43900.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  43900.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  43900.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=  43800.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  43800.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  43800.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  43800.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  43800.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  43800.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

WARNING SECNO=  43700.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  43700.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  43600.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  43600.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  43600.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  43600.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  43600.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  43600.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=  43500.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  43500.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  43500.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  43500.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  43500.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  43500.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=  43400.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  43400.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  43400.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  43400.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  43400.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  43400.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=  43300.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  43300.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY


CAUTION SECNO=  43300.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  43300.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  43300.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  43300.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=  43200.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  43200.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  43200.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  43200.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  43200.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  43200.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=  43100.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  43100.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  43100.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  43100.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  43100.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  43100.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=  43000.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  43000.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  43000.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  43000.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  43000.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  43000.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

WARNING SECNO=  42900.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  42900.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  42800.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  42800.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  42800.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  42800.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  42800.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  42800.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=  42700.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  42700.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  42700.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  42700.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  42700.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  42700.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

WARNING SECNO=  42600.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  42600.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  42500.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  42500.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  42500.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  42500.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  42500.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  42500.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=  42400.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
```

```
CAUTION SECNO=  42400.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  42400.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  42400.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  42400.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  42400.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

WARNING SECNO=  42300.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  42300.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  42200.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  42200.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  42200.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  42200.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  42200.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  42200.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=  42000.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  42000.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  42000.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  42000.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  42000.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  42000.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL
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Floodway width summary: BDM3SPC1
Profile No. 2

Section Number	Elevation Increase	Top Width	Left Encroach Station	Left Sta Distance From Center	Center Station	Right Sta Distance From Center	Right Encroach Station
46600.000	*** Encroachments not set ***						
46500.000	*** Encroachments not set ***						
46400.000	*** Encroachments not set ***						
46300.000	*** Encroachments not set ***						
46200.000	*** Encroachments not set ***						
46100.000	*** Encroachments not set ***						
46000.000	*** Encroachments not set ***						
45900.000	*** Encroachments not set ***						
45800.000	*** Encroachments not set ***						
45700.000	*** Encroachments not set ***						
45600.000	*** Encroachments not set ***						
45500.000	*** Encroachments not set ***						
45400.000	*** Encroachments not set ***						
45300.000	*** Encroachments not set ***						
45200.000	*** Encroachments not set ***						
45100.000	*** Encroachments not set ***						
45000.000	*** Encroachments not set ***						
44900.000	*** Encroachments not set ***						
44800.000	*** Encroachments not set ***						
44700.000	*** Encroachments not set ***						
44600.000	*** Encroachments not set ***						
44500.000	*** Encroachments not set ***						
44400.000	*** Encroachments not set ***						
44300.000	*** Encroachments not set ***						
44200.000	*** Encroachments not set ***						
44100.000	*** Encroachments not set ***						
44000.000	*** Encroachments not set ***						
43900.000	*** Encroachments not set ***						
43800.000	*** Encroachments not set ***						
43700.000	*** Encroachments not set ***						
43600.000	*** Encroachments not set ***						
43500.000	*** Encroachments not set ***						
43400.000	*** Encroachments not set ***						
43300.000	*** Encroachments not set ***						
43200.000	*** Encroachments not set ***						
43100.000	*** Encroachments not set ***						
43000.000	*** Encroachments not set ***						
42900.000	*** Encroachments not set ***						
42800.000	*** Encroachments not set ***						
42700.000	*** Encroachments not set ***						
42600.000	*** Encroachments not set ***						
42500.000	*** Encroachments not set ***						
42400.000	*** Encroachments not set ***						
42300.000	*** Encroachments not set ***						
42200.000	*** Encroachments not set ***						
42100.000	*** Encroachments not set ***						
42000.000	*** Encroachments not set ***						
41900.000	.00	12.00	1511.25	6.00	1517.25	6.00	1523.25
41800.000	-.01	38.00	1000.00	19.00	1019.00	19.00	1038.00
41700.000	.00	37.99	2141.62	18.99	2160.62	19.00	2179.61
41600.000	.00	38.00	1000.00	19.00	1019.00	19.00	1038.00
41500.000	.00	38.00	1307.00	19.00	1326.00	19.00	1345.00
41400.000	.00	38.00	1264.00	19.00	1283.00	19.00	1302.00
41300.000	.00	38.00	1303.00	19.00	1322.00	19.00	1341.00
41200.000	.00	47.91	1720.61	23.96	1744.56	23.96	1768.52
41100.000	.00	44.73	1627.33	22.36	1649.69	22.36	1672.05
41000.000	.00	38.00	1062.00	19.00	1081.00	19.00	1100.00
40900.000	.00	38.00	1541.00	19.00	1560.00	19.00	1579.00

FLOODWAY DATA, BDM3SPC1
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
46600.000	658.	158.	2.8	2299.2	2299.2	.0
46500.000	530.	124.	2.8	2296.3	2296.3	.0
46400.000	286.	80.	3.0	2295.3	2295.3	.0
46300.000	284.	66.	3.6	2291.2	2291.2	.0
46200.000	511.	97.	2.5	2288.2	2288.2	.0
46100.000	203.	71.	3.4	2284.5	2284.5	.0
46000.000	208.	72.	3.3	2280.4	2280.4	.0
45900.000	182.	68.	3.5	2276.4	2276.4	.0
45800.000	405.	91.	2.7	2272.2	2272.2	.0
45700.000	225.	73.	3.3	2271.1	2271.1	.0
45600.000	76.	51.	4.8	2268.9	2268.9	.0
45500.000	782.	78.	3.1	2268.3	2268.3	.0
45400.000	105.	57.	4.2	2265.1	2265.1	.0
45300.000	38.	97.	9.2	2262.7	2262.7	.0
45200.000	38.	83.	10.7	2260.3	2260.3	.0
45100.000	378.	294.	3.0	2260.7	2260.7	.0
45000.000	99.	58.	15.2	2252.8	2252.8	.0
44900.000	258.	196.	4.5	2248.9	2248.9	.0
44800.000	376.	185.	4.8	2248.6	2248.6	.0
44700.000	42.	100.	8.8	2243.5	2243.5	.0
44600.000	134.	156.	5.7	2241.1	2241.1	.0
44500.000	102.	135.	6.6	2236.8	2236.8	.0
44400.000	31.	91.	9.8	2236.0	2236.0	.0
44300.000	31.	79.	11.2	2234.1	2234.1	.0
44200.000	95.	132.	6.7	2230.5	2230.5	.0
44100.000	170.	169.	5.2	2229.2	2229.2	.0
44000.000	170.	165.	5.4	2228.9	2228.9	.0
43900.000	95.	131.	6.7	2224.9	2224.9	.0
43800.000	114.	140.	6.3	2221.7	2221.7	.0
43700.000	65.	89.	10.0	2218.7	2218.7	.0
43600.000	110.	139.	6.4	2218.0	2218.0	.0
43500.000	107.	138.	6.4	2214.3	2214.3	.0
43400.000	103.	135.	6.6	2214.1	2214.1	.0
43300.000	92.	130.	6.8	2210.8	2210.8	.0
43200.000	140.	171.	5.2	2210.0	2210.0	.0
43100.000	595.	291.	3.0	2208.4	2208.4	.0
43000.000	194.	204.	4.3	2206.2	2206.2	.0
42900.000	67.	51.	17.4	2197.0	2197.0	.0
42800.000	265.	194.	4.6	2200.7	2200.7	.0
42700.000	130.	142.	6.2	2197.3	2197.3	.0
42600.000	249.	142.	6.2	2193.0	2193.0	.0
42500.000	284.	213.	4.2	2192.8	2192.8	.0

FLOODWAY DATA, BDM3SPC1
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
42400.000	350.	253.	3.5	2188.9	2188.9	.0
42300.000	211.	89.	9.9	2184.4	2184.4	.0
42200.000	241.	204.	4.4	2185.0	2185.0	.0
42100.000	25.	71.	12.5	2172.5	2172.5	.0
42000.000	12.	66.	13.4	2166.8	2166.8	.0
41900.000	12.	37.	24.1	2141.9	2141.9	.0
41800.000	20.	37.	23.9	2133.1	2133.1	.0
41700.000	20.	39.	22.7	2127.3	2127.3	.0
41600.000	21.	42.	21.2	2126.9	2126.9	.0
41500.000	21.	44.	20.0	2123.7	2123.7	.0
41400.000	22.	48.	18.6	2118.4	2118.4	.0
41300.000	22.	47.	18.7	2115.7	2115.7	.0
41200.000	21.	43.	20.6	2111.3	2111.3	.0
41100.000	22.	49.	18.2	2111.6	2111.6	.0
41000.000	21.	44.	20.2	2107.2	2107.2	.0
40900.000	22.	45.	19.6	2100.7	2100.7	.0

HEC-2 Model BDM3SUB1

Subcritical Flow Calculations
For Middle Branch Blue Diamond Wash
Section No: 40900 ~ 46600

```
1*******************************************
*  HEC-2 WATER SURFACE PROFILES           *
*                                         *
*  Version   4.6.2;  May 1991             *
*                                         *
*  RUN DATE    18JUN06    TIME   16:41:48  *
*******************************************
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****************************************
*  U.S. ARMY CORPS OF ENGINEERS        *
*  HYDROLOGIC ENGINEERING CENTER       *
*  609 SECOND STREET, SUITE D          *
*  DAVIS, CALIFORNIA 95616-4687        *
*           (916) 756-1104             *
****************************************
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```
X     X  XXXXXXX   XXXXX              XXXXX
X     X  X        X     X            X     X
X     X  X        X                        X
XXXXXXX  XXXX     X          XXXXX    XXXXX
X     X  X        X                   X
X     X  X        X     X             X
X     X  XXXXXXX  XXXXX               XXXXXXX
```

THIS RUN EXECUTED 18JUN06   16:41:48

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************************************
 HEC-2 WATER SURFACE PROFILES

 Version   4.6.2;  May 1991
************************************
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SPLIT FLOW BEING PERFORMED

SF

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TWSPLIT FROM 46500 TO 46600
WS      2   46500    46600    45300        3
WC      0    2296      270     2300

TWSPLIT FROM 46400 TO 46500
WS      2   46400    46500    45300        3
WC      0    2296      200     2296

TWSPLIT FROM 46300 TO 46400
WS      2   46300    46400    45300        3
WC      0    2292      250     2296

T1      LOW BLUE DIAMOND DETENTION BASIN IN OPERATION
T2       CLOMR
T3       BDM3SUB1
T4       FLOODPLAIN AND FLOODWAY MODEL
T4       SUBCRITICAL
T4       STREAM NAME: MIDDLE BRANCH BLUE DIAMOND WASH
T4       UPSTREAM LIMIT: 200 FEET WEST OF VALLEY VIEW BOULEVARD
T4       DOWNSTREAM LIMIT: CONFLUENCE WITH DUCK CREEK

J1  ICHECK     INQ        NINV       IDIR       STRT       METRIC     HVINS      Q          WSEL       FQ

                 2                                                                 886     2101.5

J2  NPROF      IPLOT      PRFVS      XSECV      XSECH      FN         ALLDC      IBW        CHNIM      ITRACE

      1                    -1                                          -1         -6

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    200         150         115         110         101         100

J5  LPRNT     NUMSEC                        ********REQUESTED SECTION NUMBERS********

    -10        -10

NC      0.11        0.11        0.015         0.1          0.3
ET                                4.4


X1    40900           4        1541        1579
GR   2104.8        1541     2097.83        1555     2097.83        1565      2104.8        1579

NC      0.11        0.11        0.015         0.1          0.3
X1    41000           4        1062        1100          410         410         410
GR   2111.3        1062     2104.38        1076     2104.38        1086      2111.3        1100


NC      0.11        0.11        0.015         0.1          0.3


X1    41100           4     1627.326     1672.05          208         208         208
GR   2117.2     1627.326     2108.52     1644.686     2108.52     1654.686      2117.2     1672.05

NC      0.11        0.11        0.015         0.1          0.3
SB                   1.5           3          50           10           0         208           2     2110.01     2108.52
X1    41200           4     1720.61     1768.52           50          50
X2                                1        2117.2      2119.36
GR     2118     1720.61     2108.52     1739.565     2108.52     1749.565        2118     1768.52

NC      0.11        0.11        0.015         0.1          0.3
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X1    41300        4      1303      1341       200       200       200
GR    2119.7     1303    2112.78     1317    2112.78      1327    2119.7      1341

NC     0.11      0.11     0.015       0.1       0.3

X1    41400        4      1264      1302       190       190       190
GR    2122.4     1264    2115.41     1278    2115.41      1288    2122.4      1302

NC     0.11      0.11     0.015       0.1       0.3


X1    41500        4      1307      1345       394       394       394
GR    2127.9     1307    2120.91     1321    2120.91      1331    2127.9      1345

NC     0.11      0.11     0.015       0.1       0.3
X1    41600        4      1000      1038       206       206       206
GR    2131.2     1000    2124.23     1014    2124.23      1024    2131.2      1038

NC     0.11      0.11     0.015       0.1       0.3
SB                1.5         3        50         10         0       208         2    2124.75    2124.23
X1    41700        4    2141.62   2179.61         50        50        50
X2                             1   2131.75    2133.1
GR    2131.7  2141.62    2124.75  2155.615    2124.75  2165.615   2131.75   2179.61

NC     0.11      0.11     0.015       0.1       0.3
X1    41800        4      1000      1038       252       252       252
GR    2137.6     1000    2130.66     1014    2130.66      1024    2137.6      1038

NC     0.11      0.11     0.015       0.1       0.3

X1    41900        4    1511.25   1523.25       352       352       352
GR    2171.3  1511.25    2138.84  1511.25    2138.84   1523.25    2171.3   1523.25

NC     0.045     0.08       0.04       0.3       0.5
SB                1.5          3       200        12         0       120         0    2161.29    2138.84


X1    42000        4    1998.39   2010.39    600.45    677.28    669.8
X2                             1   2171.29    2176.6
GR    2171.3  1998.39    2161.29  1998.39    2161.29   2010.39   2171.29   2010.39

NC     0.045     0.08       0.04       0.1       0.3
X1    42100       14    1778.15   1822.27     167.5     131.4     167.2
GR    2182.9  1653.37       2180  1738.37    2179.25   1745.87      2176   1778.15       2172    1790.13
GR      2168  1799.11       2168   1806.6      2172   1812.32      2176   1822.27       2180    1842.28
GR      2180  1898.54       2180  1980.23      2180   2036.08      2180   2183.14

NC     0.045     0.08       0.04       0.1       0.3
X1    42200        8    1803.55   1884.26     408.5    448.01    437.67
GR    2185.9  1628.25       2184  1803.55    2183.63   1820.2   2183.63   1873.83       2184    1884.26
GR      2184  1919.75       2188  2049.87      2188   2157.09

NC     0.016     0.016      0.016       0.1       0.3


X1    42300        7    1771.79   1899.93     70.18     85.12     86.52
GR      2187  1514.44       2184  1771.79      2184   1830.1   2183.63   1839.03       2183.63    1868.18
GR      2184  1899.93       2188  2341.76

NC      0.08      0.08       0.04       0.1       0.3
ET                              7.1                                1750      1770
X1    42400        5    1739.06      1780     296.9    201.45    226.59
GR    2190.7  1576.96       2188  1739.06      2184.3   1757.04      2188   1780       2189.9    2314.27

NC      0.08      0.08       0.04       0.1       0.3
ET                              4.4
X1    42500        6    1269.87    1352.4     296.92    382.7    383.89
GR    2194.1  1112.95       2192  1269.87    2190.47   1290.91      2192   1352.4      2193.31    1577.65
GR      2196  1963.04

NC     0.016     0.016      0.016       0.1       0.3
ET                              7.1                              1998.53      2080
  PLACID STREET
X1    42600        5    1998.73   2023.28     56.71     78.23     55.77
GR    2194.1  1830.03       2192  1998.73    2191.32   2006.66      2192   2023.28       2196     2621.7

NC      0.08      0.08       0.04       0.1       0.3
ET                              4.4

X1    42700        9    1943.55   2085.75     402.3    201.76    334.99
GR      2200  1713.64       2198.4  1817.89    2197.28   1943.55      2196   2000.99       2194    2022.71
GR      2196  2036.55       2197.8  2085.75    2198.23   2295.08   2198.66   2379.19

NC      0.08      0.08       0.04       0.1       0.3

X1    42800        7    1993.97   2117.83     241.88    384.66     306.6
GR    2202.5  1618.32       2200  1993.97    2199.24   2061.13   2199.24   2102.93       2200    2117.83
GR    2203.5  2323.85    2202.81  2904.44

NC     0.045     0.08      0.016       0.1       0.3
X1    42900        8    2203.63   2324.42     87.34     95.99     74.05
GR      2204  1784.4    2200.94   2203.63    2196.1   2241.02    2196.1   2293.29    2199.24    2324.42
GR    2199.2  2325.03       2204  2465.42    2204.58   3064.13

NC     0.045     0.08       0.04       0.1       0.3
ET                              7.1                              2250      2325
X1    43000       14    2255.05   2272.66     347.25    254.11    323.34
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GR     2208     1755.61     2208     1794.81     2205.74     2211.16     2204     2255.05     2200     2263.26
GR     2200     2264.97     2204     2272.66     2205.84     2313.81     2208     2396.59     2208     2440.73
GR     2208      2511.2     2208     2535.72        2208     2707.82     2208     2784.68

NC    0.045       0.08     0.04         0.3         0.5
ET                           7.1                              1755     1995.55
X1    43100         14     1942.72     1977.08     238.82     343.28     323.51
GR    2210.6     1305.15     2208     1407.75        2208     1596.75     2208     1886.97     2207.21     1942.72
GR    2207.2     1956.01     2207.21     1977.08     2208     1986.24     2212     1994.89     2212     1994.93
GR     2212      2027.77     2211.76     2041.01     2212     2095.62     2212     2296.02

NC    0.045       0.08     0.04         0.3         0.5
ET                           7.1                          1230.29     1400
X1    43200         13     1355.46     1376.21     153.85     85.76     77.95
GR     2212     1095.38     2212     1149.5     2210.37     1228.78     2208     1355.46     2207.21     1362.26
GR     2208     1376.21     2212     1397.52     2212     1420.08     2212     1437.42     2212     1437.67
GR     2212     1437.69     2212     1641.74     2212     1850.68

NC    0.045       0.08     0.04         0.1         0.3
ET                           4.4
X1    43300         12     2098.24     2226.57     187.72     224.23     217.64
GR    2214.6     1899.31     2212     1974.8     2212     2050.74     2212     2098.24     2208.5     2186.1
GR    2208.5     2207.57     2212     2226.57     2216     2235.81     2216     2280.18     2216     2283.32
GR     2216      2330.54     2216     2486.08

NC    0.045       0.08     0.04         0.3         0.5
X1    43400         10     1644.1     1817.06     322.24     409.36     398.38
GR     2216     1424.58     2216     1572.94     2216     1599.98     2216     1627.89     2216     1644.1
GR     2212     1723.52     2212     1751.25     2216     1817.03     2216     1817.06     2217.12     2142.18

NC    0.045       0.08     0.04         0.3         0.5
X1    43500          6     1625.81     1801.16     44.52     33.92     40.18
GR    2218.1     1392.15     2216     1625.81     2212     1711.64     2212     1723.1     2216     1801.16
GR    2218.3     2114.62

NC    0.045       0.08     0.04         0.1         0.3
X1    43600          9     1761.56     1952.68     297.2     321.52     291.91
GR     2220     1540.07     2220     1761.56     2216.19     1823.45     2216     1826.72     2216     1854.42
GR     2220     1952.68     2220     1983.67        2220     2001.28     2221.4     2202.93

NC    0.045       0.08     0.04         0.3         0.5
X1    43700          7     1974.51     2158.37     320.17     301.95     333.04
GR     2224     1862.59     2220     1974.51     2216     2031.6     2220     2070.88     2220     2070.92
GR     2224     2158.37     2225.07     2377.75

NC    0.045       0.08     0.04         0.3         0.5
X1    43800          7     1895.63     2096.68     57.22     61.25     57.9
GR    2227.6     1833.54     2224     1895.63     2220     1984.22     2220     2031.12     2224     2096.68
GR     2224      2098.2     2225.43     2337.11

NC    0.045       0.08     0.04         0.1         0.3
X1    43900          8     1948.09     2092.22     457.65     373.98     379.58
GR     2232     1705.65     2230.25     1812.8     2228     1948.09     2224     1993.02     2222.76     2016.58
GR     2224     2072.94     2228     2092.22     2229.61     2340.58

NC    0.045       0.08     0.04         0.3         0.5
X1    44000         10     2152.48     2247.71     149.23     220.84     224.48
GR     2232     1729.04     2232     1899.65     2228     2152.48     2227.2     2204.02     2227.2     2226.5
GR     2228     2247.71     2232     2330.6     2232     2377.34     2232     2449.43     2232.86     2504.64

NC     0.08       0.08     0.08         0.3         0.5
X1    44100          7     2253.24     2319.51     61.67     63.88     62.57
GR     2232     1781.41     2232     2002.58     2228     2253.24     2227.2     2292.65     2228     2319.51
GR     2232     2412.38     2233.67     2597.05

NC    0.045       0.08     0.04         0.3         0.5
X1    44200          7     1828.7     1971.83     299.43     193.83     188.71
GR    2235.2     1323.63     2232     1828.7     2228     1947.96     2228     1959.48     2231.15     1971.83
GR     2232        1975     2236     2128.37

NC    0.045       0.045     0.04         0.3         0.5
   DOWNSTREAM FACE OF LAS VEGAS BOULEVARD CULVERT

X1    44300          6     2454     2485     247.81     358.22     362.68
GR    2242.8     2267.29     2242.8     2454     2231.57     2454     2231.57     2485     2242.8     2485
GR    2242.8     2593.43

NC    0.016       0.016     0.015         0.3         0.5
ET                           7.1                          2270.87     2602.87
SB     1.25         1.5         3         250          31          1     254.2          0     2233.1     2231.57
   UPSTREAM FACE OF LAS VEGAS BOULEVARD CULVERT

X1    44400          6     2478     2509     165.74     170.28     169.47
X2                           1     2241.3     2242.8                                2
GR    2242.8     2270.87     2242.8     2478     2233.1     2478     2233.1     2509     2242.8     2509
GR    2242.8     2602.87

NC    0.045       0.11     0.04         0.1         0.3
ET                           7.1                              1830     1900
X1    44500         14     1898.95     1979.51     162.36     187.02     156.33
GR     2244     1445.12     2244     1522.52     2240     1659.96     2240     1659.97     2240     1682.7
GR     2240     1714.97     2236     1898.95     2234     1925.31     2234     1927.66     2234     1933.79
GR     2236     1961.23     2240     1979.51     2240.64     2027.15     2244     2263.36

NC    0.045       0.11     0.04         0.1         0.3
ET                           7.1                              1848     1913
X1    44600         11     1861.52     1913.16     320.74     528.55     417.25
GR     2248     1463.18     2248     1620.21     2244     1651.58     2240.1     1856.15     2240     1861.52
GR     2238     1884.12     2240     1913.16     2244     1995.44     2244     2159.17     2244     2159.9
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GR   2244.3    2198.22

NC   0.045      0.11       0.04       0.1        0.3
ET                            7.1                          1848       1868
X1     44700      12    1822.86    1872.15     306.55      250.9     320.05
GR      2252  1584.69       2248    1608.01       2247    1658.77       2244    1822.86       2240    1845.28
GR      2240  1860.52       2244    1868.07    2244.23    1872.15       2248    1944.47       2248    2167.12
GR      2248  2315.41       2252    2328.44

NC   0.045     0.045       0.04        0.1        0.3
ET                            7.1                          1735       1794
X1     44800      11    1736.49    1777.01     309.91      615.87     481.65
GR      2252   1253.1       2248    1456.77       2248    1471.29    2249.44    1681.57       2248    1736.49
GR      2244  1749.15       2244    1756.29       2248    1777.01    2248.82    1807.01       2252    1944.79
GR    2254.9     2425

NC   0.045     0.045       0.04         0.3        0.5
ET                            7.1                          1515       1650
X1     44900      12    1529.66    1556.24     164.88      165.19     136.15
GR      2256    1000       2256    1000.13       2256    1023.92       2252    1297.38       2248    1529.66
GR      2248  1535.78       2247    1545.05       2248    1556.24       2248    1627.72       2248    1702.68
GR      2252  1865.85       2256     2168.7

NC   0.045      0.11       0.04        0.1        0.3
ET                            4.4
X1     45000       6    1196.23    1243.13      554.8      414.03     497.09
GR      2260    1000       2256    1031.75       2252    1196.23       2252    1243.13       2256    1336.16
GR      2260  1602.91

NC   0.045     0.045      0.015        0.1        0.3
X1     45100      10    1261.06    1320.33        445         445        445
GR      2264  934.03       2264       1000       2260    1261.06       2258    1296.99       2260    1320.33
GR      2260  1330.71       2260    1397.64       2260    1480.03       2260     1530.5    2262.49    1740.84

NC   0.045     0.045       0.04         0.3        0.5
ET                            7.1                          1400       1450
   DOWNSTREAM FACE OF I-15 CULVERT
X1     45200       4       1408     1445.5         75          75         75
GR    2269.9    1408    2258.04       1408    2258.04    1445.5     2269.9    1445.5

NC   0.045     0.045      0.015        0.3        0.5
SB    1.25       1.5          3       1000       37.5         1.5        150         0    2260.12    2258.04
   UPSTREAM FACE OF I-15 CULVERT
X1     45300       4       1243     1280.5        250         250        250
X2                            1    2264.12    2269.9                                2
GR    2269.9    1243    2260.12       1243    2260.12    1280.5     2269.9    1280.5

NC   0.045     0.045      0.045        0.1        0.3
QT       2       440        440
X1     45400       6     871.93    2045.56     186.36         500     264.63
GR      2268  871.93       2265.75    974.75       2264       1000       2268    1328.88       2268    1688.74
GR      2272  2045.56

NC    0.08      0.08       0.08        0.1        0.3
X1     45500      11    1076.09    2025.58     334.7      245.83     195.42
GR      2272  1076.09       2272    1121.62       2268    1138.02       2268    1216.48       2272    1317.72
GR      2272  1650.45       2268    1756.03       2268    1905.39       2268    1908.11       2268    1909.17
GR      2272  2025.58

NC    0.08      0.08       0.08        0.1        0.3
X1     45600      12       1000     1993.56     443.26      124.22     220.43
GR      2272    1000       2272    1060.15       2272    1075.96       2272    1146.47    2268.92     1195.4
GR    2269.1  1257.73       2271.24    1358.84       2272    1728.72       2268    1816.42       2268     1853.7
GR      2272  1941.58       2276    1993.56


NC    0.08      0.08       0.08        0.1        0.3
X1     45700      12       1000     1971.11     353.97      181.06     208.33
GR      2277    1000       2276    1053.75       2276    1053.78       2276    1070.94       2276    1105.77
GR      2272  1126.46       2270.4    1316.81       2272    1679.19       2272    1713.57       2272    1755.23
GR      2276   1844.8       2280    1971.11

NC    0.08      0.08       0.08        0.1        0.3
X1     45800       9       1000     1838.51     342.88      175.03     232.78
GR      2280    1000       2280    1130.66       2276    1147.24       2272    1171.67       2272     1277.7
GR      2272  1567.92       2276    1705.06       2280    1838.51       2280    1840.82

NC    0.08      0.08       0.08        0.1        0.3
X1     45900       8       1000     1490.86     331.72      304.14     345.06
GR      2284    1000       2280    1091.76       2276    1118.33       2276    1205.78       2276    1233.22
GR      2276  1286.06       2280    1408.28       2280    1490.86

NC    0.08      0.08       0.08        0.1        0.3
X1     46000       4       1000     1632.74     149.82      249.49     191.28
GR    2285.6    1000       2280    1213.54       2280    1396.09       2288    1632.74

NC    0.08      0.08       0.08        0.1        0.3
X1     46100       5     611.41    1242.91     102.35      113.35     169.17
GR    2286.5  611.41       2285.61    696.03       2284     988.82       2284    1088.05       2288    1242.91

NC    0.08      0.08       0.08        0.1        0.3
X1     46200       4       1000     1610.18     126.43      199.71     145.54
GR      2288    1000       2288    1193.15       2288    1486.43       2289    1610.18

NC    0.08      0.08       0.08        0.1        0.3
NH       2      0.08    1142.87        0.11    1557.92
X1     46300       7       1000     1557.92     238.29      148.02     207.97
GR      2292    1000       2292    1142.87       2292     1189.3    2290.89    1226.15    2291.95    1321.79
GR    2290.2  1435.62       2292    1557.92
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NC                                        0.1         0.3
NH        2        0.08     1499.69       0.11     1854.98


X1    46400           6     1282.92     1854.98      276.38      253.49      298.04
GR     2296     1282.92        2295     1289.23     2294.95     1499.69        2296     1724.81        2296     1825.39
GR     2296     1854.98

NC     0.08        0.08        0.08         0.1         0.3
X1    46500           5     1388.38     2250.03      186.04      176.17       182.9
GR     2297     1388.38     2296.59     1506.64        2296     1927.04        2296     2130.94        2296     2250.03

NC    0.045       0.045       0.045         0.1         0.3
X1    46600           6        1000     2014.27      175.43       180.9      119.08
GR     2300        1000     2298.89     1190.09     2298.89     1539.24      2299.1     1656.23     2299.31     1897.19
GR     2300     2014.27

T1LOW BLUE DIAMOND DETENTION BASIN IN OPERATION
T2 CLOMR
T3BDM3SUB

J1  ICHECK     INQ        NINV       IDIR       STRT       METRIC     HVINS      Q          WSEL       FQ

                 3                                                                 886     2101.5

J2  NPROF      IPLOT      PRFVS      XSECV      XSECH      FN         ALLDC      IBW        CHNIM      ITRACE

     15                    -1                                          -1         -6

                                                                                    THIS RUN EXECUTED 18JUN06     16:41:48

************************************
 HEC-2 WATER SURFACE PROFILES

 Version   4.6.2;  May 1991
************************************

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

BDM3SUB1

SUMMARY PRINTOUT TABLE  100

      SECNO      EGLWC      ELLC      EGPRS      ELTRD       QPR      QWEIR      CLASS       H3       DEPTH      CWSEL       VCH        EG

   41200.000    2115.28    2117.20        .00    2119.36     886.00       .00      59.00       .00       5.27    2113.79       8.20    2114.83
   41200.000    2115.02        .00        .00  999999.00     886.00       .00      67.00       .00       5.27    2113.79       8.20    2114.83

*  41700.000    2130.91    2131.75        .00    2133.10     886.00       .00      59.00       .00       4.58    2129.33      10.08    2130.91
*  41700.000    2130.96        .00        .00  999999.00     886.00       .00      67.00       .00       4.59    2129.34      10.05    2130.91

*  42000.000    2169.59    2171.29        .00    2176.60     886.00       .00      59.00       .00       5.51    2166.80      13.39    2169.59
*  42000.000    2169.63        .00        .00  999999.00     886.00       .00      67.00       .00       5.52    2166.81      13.38    2169.59

*  44400.000    2237.68    2241.30        .00    2242.80     886.00       .00       2.00       .00       3.60    2236.70       7.94    2237.68
*  44400.000    2237.68    2241.30        .00    2242.80     886.00       .00       2.00       .00       3.60    2236.70       7.94    2237.68

*  45300.000    2264.19    2264.12    2261.53    2269.90     886.00       .00       2.00       .00       3.25    2263.37       7.28    2264.19
   45300.000    2264.99    2264.12    2262.39    2269.90     886.00       .00       1.00       .18       1.64    2261.76      14.44    2264.99

BDM3SUB1

SUMMARY PRINTOUT TABLE  101

      SECNO       EGOC       ELLC       EGIC       ELTRD      QCULV      QWEIR      CLASS       H4       DEPTH      CWSEL       VCH        EG

BDM3SUB1

SUMMARY PRINTOUT TABLE  110

      SECNO      CWSEL     DIFKWS         EG      TOPWID       QLOB        QCH       QROB     PERENC     STENCL      STCHL      STCHR     STENCR

*  40900.000    2102.41        .91    2103.99       28.41        .00     886.00        .00        .00        .00    1541.00    1579.00        .00
*  40900.000    2102.41        .00    2103.99       28.41        .00     886.00        .00        .00    1541.00    1541.00    1579.00    1579.00

*  41000.000    2108.96        .00    2110.53       28.53        .00     886.00        .00        .00        .00    1062.00    1100.00        .00
*  41000.000    2108.96        .00    2110.53       28.53        .00     886.00        .00        .00    1062.00    1062.00    1100.00    1100.00

*  41100.000    2113.12        .00    2114.68       28.38        .00     886.00        .00        .00        .00    1627.33    1672.05        .00
*  41100.000    2113.12        .00    2114.68       28.38        .00     886.00        .00        .00    1627.33    1627.33    1672.05    1672.05

   41200.000    2113.79        .00    2114.83       31.06        .00     886.00        .00        .00        .00    1720.61    1768.52        .00
   41200.000    2113.79        .00    2114.83       31.06        .00     886.00        .00        .00    1720.61    1720.61    1768.52    1768.52

*  41300.000    2117.36        .00    2118.93       28.55        .00     886.00        .00        .00        .00    1303.00    1341.00        .00
*  41300.000    2117.36        .00    2118.93       28.55        .00     886.00        .00        .00    1303.00    1303.00    1341.00    1341.00

*  41400.000    2120.00        .00    2121.57       28.39        .00     886.00        .00        .00        .00    1264.00    1302.00        .00
*  41400.000    2120.00        .00    2121.57       28.39        .00     886.00        .00        .00    1264.00    1264.00    1302.00    1302.00

*  41500.000    2125.50        .00    2127.07       28.39        .00     886.00        .00        .00        .00    1307.00    1345.00        .00
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•	41500.000	2125.50	.00	2127.07	28.39	.00	886.00	.00	.00	1307.00	1307.00	1345.00	1345.00
•	41600.000	2128.82	.00	2130.39	28.42	.00	886.00	.00	.00	.00	1000.00	1038.00	.00
*	41600.000	2128.82	.00	2130.39	28.42	.00	886.00	.00	.00	1000.00	1000.00	1038.00	1038.00
•	41700.000	2129.33	.00	2130.91	28.38	.00	886.00	.00	.00	.00	2141.62	2179.61	.00
•	41700.000	2129.34	.00	2130.91	28.41	.00	886.00	.00	.00	2141.62	2141.62	2179.61	2179.61
•	41800.000	2135.24	.00	2136.81	28.49	.00	886.00	.00	.00	.00	1000.00	1038.00	.00
•	41800.000	2135.24	.00	2136.81	28.49	.00	886.00	.00	.00	1000.00	1000.00	1038.00	1038.00
*	41900.000	2144.35	.00	2147.14	12.00	.00	886.00	.00	.00	.00	1511.25	1523.25	.00
*	41900.000	2144.35	.00	2147.14	12.00	.00	886.00	.00	.00	1511.25	1511.25	1523.25	1523.25
*	42000.000	2166.80	.00	2169.59	12.00	.00	886.00	.00	.00	.00	1998.39	2010.39	.00
*	42000.000	2166.81	.00	2169.59	12.00	.00	886.00	.00	.00	1998.39	1998.39	2010.39	2010.39
•	42100.000	2173.13	.00	2174.71	28.40	.00	886.00	.00	.00	.00	1778.15	1822.27	.00
•	42100.000	2173.13	.00	2174.71	28.40	.00	886.00	.00	.00	1778.15	1778.15	1822.27	1822.27
•	42200.000	2185.00	.00	2185.44	241.00	130.82	639.38	115.80	.00	.00	1803.55	1884.26	.00
•	42200.000	2185.24	.00	2186.02	80.71	.00	886.00	.00	.39	1803.55	1803.55	1884.26	1884.26
*	42300.000	2185.50	.00	2185.58	422.36	148.43	546.45	191.12	.00	.00	1771.79	1899.93	.00
•	42300.000	2186.04	.00	2186.20	128.14	.00	886.00	.00	.52	1771.79	1771.79	1899.93	1899.93
•	42400.000	2188.91	.00	2189.48	350.20	24.71	745.56	115.73	.00	.00	1739.06	1780.00	.00
•	42400.000	2189.15	.00	2191.14	20.00	.00	886.00	.00	20.00	1750.00	1739.06	1780.00	1770.00

	SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
	42500.000	2192.87	.00	2193.32	298.06	33.84	774.29	77.87	.00	.00	1269.87	1352.40	.00
*	42500.000	2193.84	.00	2194.10	82.53	.00	886.00	.00	.42	1269.87	1269.87	1352.40	1352.40
•	42600.000	2193.34	.00	2193.59	331.95	226.02	239.03	420.95	.00	.00	1998.73	2023.28	.00
	42600.000	2193.75	.00	2194.39	81.47	.49	368.59	516.92	81.47	1998.53	1998.73	2023.28	2080.00
•	42700.000	2197.30	.00	2197.90	130.37	.00	886.00	.00	.00	.00	1943.55	2085.75	.00
*	42700.000	2197.33	.00	2197.90	129.40	.00	886.00	.00	.01	1943.55	1943.55	2085.75	2085.75
•	42800.000	2201.07	.00	2201.28	346.97	82.17	771.64	32.19	.00	.00	1993.97	2117.83	.00
*	42800.000	2201.16	.00	2201.44	123.86	.00	886.00	.00	.21	1993.97	1993.97	2117.83	2117.83
•	42900.000	2201.26	.00	2201.31	225.66	.53	876.07	9.40	.00	.00	2203.63	2324.42	.00
*	42900.000	2201.43	.00	2201.48	120.79	.00	886.00	.00	.02	2203.63	2203.63	2324.42	2324.42
•	43000.000	2206.16	.00	2206.81	192.81	201.33	592.29	92.39	.00	.00	2255.05	2272.66	.00
•	43000.000	2206.16	.00	2207.33	75.00	45.81	726.69	113.50	75.00	2250.00	2255.05	2272.66	2325.00
	43100.000	2208.63	.00	2208.71	604.98	701.44	171.12	13.44	.00	.00	1942.72	1977.08	.00
•	43100.000	2209.22	.00	2209.34	233.88	613.42	248.50	24.08	240.55	1755.00	1942.72	1977.08	1995.55
•	43200.000	2210.04	.00	2210.65	140.40	449.98	411.08	24.94	.00	.00	1355.46	1376.21	.00
*	43200.000	2210.03	.00	2210.65	139.81	448.68	412.45	24.87	169.71	1230.29	1355.46	1376.21	1400.00
•	43300.000	2211.88	.00	2212.08	124.74	.00	886.00	.00	.00	.00	2098.24	2226.57	.00
*	43300.000	2211.89	.00	2212.09	124.90	.00	886.00	.00	.03	2098.24	2098.24	2226.57	2226.57
•	43400.000	2214.31	.00	2214.78	111.59	.00	886.00	.00	.00	.00	1644.10	1817.06	.00
•	43400.000	2214.30	.00	2214.77	111.62	.00	886.00	.00	.00	1644.10	1644.10	1817.06	1817.06
*	43500.000	2214.94	.00	2215.21	132.21	.00	886.00	.00	.00	.00	1625.81	1801.16	.00
	43500.000	2214.93	.00	2215.21	131.83	.00	886.00	.00	.00	1625.81	1625.81	1801.16	1801.16
•	43600.000	2218.00	.00	2218.65	109.68	.00	886.00	.00	.00	.00	1761.56	1952.68	.00
*	43600.000	2218.01	.00	2218.65	109.75	.00	886.00	.00	.00	1761.56	1761.56	1952.68	1952.68
*	43700.000	2220.62	.00	2220.80	127.21	4.25	881.75	.00	.00	.00	1974.51	2158.37	.00
•	43700.000	2220.63	.00	2220.81	110.10	.00	886.00	.00	.01	1974.51	1974.51	2158.37	2158.37
•	43800.000	2221.74	.00	2222.36	113.90	.00	886.00	.00	.00	.00	1895.63	2096.68	.00
*	43800.000	2221.74	.00	2222.36	113.97	.00	886.00	.00	.00	1895.63	1895.63	2096.68	2096.68
*	43900.000	2225.72	.00	2225.99	107.56	.00	886.00	.00	.00	.00	1948.09	2092.22	.00
*	43900.000	2225.72	.00	2225.99	107.54	.00	886.00	.00	.00	1948.09	1948.09	2092.22	2092.22
•	44000.000	2228.90	.00	2229.43	170.47	64.83	809.22	11.95	.00	.00	2152.48	2247.71	.00
•	44000.000	2228.89	.00	2229.59	95.23	.00	886.00	.00	.14	2152.48	2152.48	2247.71	2247.71
*	44100.000	2230.17	.00	2230.28	252.25	258.56	531.69	95.75	.00	.00	2253.24	2319.51	.00
	44100.000	2230.53	.00	2230.85	66.27	.00	886.00	.00	.49	2253.24	2253.24	2319.51	2319.51

	SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
	44200.000	2231.36	.00	2231.59	124.88	.00	886.00	.00	.00	.00	1828.70	1971.83	.00
•	44200.000	2231.78	.00	2231.93	136.43	.00	886.00	.00	.00	1828.70	1828.70	1971.83	1971.83
•	44300.000	2234.50	.00	2235.98	31.00	.00	886.00	.00	.00	.00	2454.00	2485.00	.00
*	44300.000	2234.50	.00	2235.98	31.00	.00	886.00	.00	.00	2454.00	2454.00	2485.00	2485.00
•	44400.000	2236.70	.00	2237.68	31.00	.00	886.00	.00	.00	.00	2478.00	2509.00	.00
*	44400.000	2236.70	.00	2237.68	31.00	.00	886.00	.00	332.00	2270.87	2478.00	2509.00	2602.87
	44500.000	2237.87	.00	2238.07	157.32	135.25	750.75	.00	.00	.00	1898.95	1979.51	.00
•	44500.000	2238.42	.00	2239.31	70.00	873.24	12.76	.00	70.00	1830.00	1898.95	1979.51	1900.00
•	44600.000	2241.13	.00	2241.83	133.91	90.90	781.19	13.91	.00	.00	1861.52	1913.16	.00
•	44600.000	2242.13	.00	2242.49	65.00	84.56	801.44	.00	65.00	1848.00	1861.52	1913.16	1913.00

	44700.000	2244.38	.00	2245.00	72.76	3.69	882.27	.04	.00	.00	1822.86	1872.15	.00
*	44700.000	2244.67	.00	2246.64	20.00	.00	886.00	.00	20.00	1848.00	1822.86	1872.15	1868.00
*	44800.000	2248.64	.00	2249.24	229.48	84.16	791.81	10.03	.00	.00	1736.49	1777.01	.00
*	44800.000	2249.62	.00	2250.01	59.00	3.74	830.06	52.20	59.00	1735.00	1736.49	1777.01	1794.00
*	44900.000	2249.80	.00	2249.86	351.41	119.93	149.62	616.44	.00	.00	1529.66	1556.24	.00
	44900.000	2250.34	.00	2250.46	135.00	75.78	238.16	572.06	135.00	1515.00	1529.66	1556.24	1650.00
*	45000.000	2253.73	.00	2254.33	158.05	246.71	582.23	57.06	.00	.00	1196.23	1243.13	.00
*	45000.000	2254.23	.00	2255.34	46.90	.00	886.00	.00	.44	1196.23	1196.23	1243.13	1243.13
*	45100.000	2260.76	.00	2261.23	383.17	14.32	660.39	211.29	.00	.00	1261.06	1320.33	.00
*	45100.000	2260.90	.00	2261.86	59.27	.00	886.00	.00	.37	1261.06	1261.06	1320.33	1320.33
*	45200.000	2260.72	.00	2261.93	37.50	.00	886.00	.00	.00	.00	1408.00	1445.50	.00
*	45200.000	2261.58	.00	2262.27	37.50	.00	886.00	.00	50.00	1400.00	1408.00	1445.50	1450.00
*	45300.000	2263.37	.00	2264.19	37.50	.00	886.00	.00	.00	.00	1243.00	1280.50	.00
	45300.000	2261.76	.00	2264.99	37.50	.00	886.00	.00	.00	.00	1243.00	1280.50	.00
*	45400.000	2265.08	.00	2265.36	104.86	.00	241.18	.00	.00	.00	871.93	2045.56	.00
	45400.000	2266.36	.00	2266.38	247.65	.00	239.89	.00	.00	.00	871.93	2045.56	.00
*	45500.000	2268.69	.00	2268.72	290.41	.00	241.18	.00	.00	.00	1076.09	2025.58	.00
*	45500.000	2268.31	.00	2268.47	258.34	.00	239.89	.00	.00	.00	1076.09	2025.58	.00
*	45600.000	2269.89	.00	2269.91	235.71	.00	241.18	.00	.00	.00	1000.00	1993.56	.00
*	45600.000	2270.04	.00	2270.06	251.63	.00	239.89	.00	.00	.00	1000.00	1993.56	.00
*	45700.000	2271.33	.00	2271.37	321.74	.00	241.18	.00	.00	.00	1000.00	1971.11	.00
*	45700.000	2271.23	.00	2271.30	286.15	.00	239.89	.00	.00	.00	1000.00	1971.11	.00
*	45800.000	2272.75	.00	2272.76	426.44	.00	241.18	.00	.00	.00	1000.00	1838.51	.00
*	45800.000	2272.77	.00	2272.78	427.27	.00	239.89	.00	.00	.00	1000.00	1838.51	.00

	SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
*	45900.000	2276.39	.00	2276.58	182.24	.00	241.18	.00	.00	.00	1000.00	1490.86	.00
*	45900.000	2276.39	.00	2276.58	182.36	.00	239.89	.00	.00	.00	1000.00	1490.86	.00
*	46000.000	2280.82	.00	2280.85	238.00	.00	241.18	.00	.00	.00	1000.00	1632.74	.00
*	46000.000	2280.81	.00	2280.84	237.68	.00	239.89	.00	.00	.00	1000.00	1632.74	.00
*	46100.000	2284.47	.00	2284.65	203.69	.00	241.18	.00	.00	.00	611.41	1242.91	.00
*	46100.000	2284.48	.00	2284.65	203.75	.00	239.89	.00	.00	.00	611.41	1242.91	.00
*	46200.000	2288.44	.00	2288.46	540.57	.00	241.18	.00	.00	.00	1000.00	1610.18	.00
*	46200.000	2288.44	.00	2288.46	540.36	.00	239.89	.00	.00	.00	1000.00	1610.18	.00
*	46300.000	2291.61	.00	2291.65	277.11	.00	241.18	.00	.00	.00	1000.00	1557.92	.00
*	46300.000	2291.61	.00	2291.64	276.61	.00	239.89	.00	.00	.00	1000.00	1557.92	.00
*	46400.000	2295.68	.00	2295.70	370.50	.00	241.18	.00	.00	.00	1282.92	1854.98	.00
*	46400.000	2295.67	.00	2295.70	370.01	.00	239.89	.00	.00	.00	1282.92	1854.98	.00
*	46500.000	2296.73	.00	2296.74	784.03	.00	343.36	.00	.00	.00	1388.38	2250.03	.00
*	46500.000	2296.73	.00	2296.74	783.82	.00	343.40	.00	.00	.00	1388.38	2250.03	.00
*	46600.000	2299.22	.00	2299.34	655.40	.00	440.00	.00	.00	.00	1000.00	2014.27	.00
*	46600.000	2299.22	.00	2299.34	657.66	.00	440.00	.00	.00	.00	1000.00	2014.27	.00

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SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
*	40900.000	.00	.00	.00	2097.83	886.00	2102.41	2102.41	2103.99	25.20	10.07	88.01	176.48
*	40900.000	.00	.00	.00	2097.83	886.00	2102.41	2102.41	2103.99	25.20	10.07	88.01	176.48
*	41000.000	410.00	.00	.00	2104.38	886.00	2108.96	2108.96	2110.53	25.12	10.04	88.23	176.79
*	41000.000	410.00	.00	.00	2104.38	886.00	2108.96	2108.96	2110.53	25.12	10.04	88.23	176.79
*	41100.000	208.00	.00	.00	2108.52	886.00	2113.12	2113.12	2114.68	25.02	10.05	88.19	177.12
*	41100.000	208.00	.00	.00	2108.52	886.00	2113.12	2113.12	2114.68	25.02	10.05	88.19	177.12
	41200.000	50.00	2119.36	2117.20	2108.52	886.00	2113.79	2113.11	2114.83	14.38	8.20	108.10	233.66
	41200.000	50.00	999999.00	.00	2108.52	886.00	2113.79	2113.11	2114.83	14.39	8.20	108.08	233.60
*	41300.000	200.00	.00	.00	2112.78	886.00	2117.36	2117.36	2118.93	25.02	10.03	88.34	177.12
*	41300.000	200.00	.00	.00	2112.78	886.00	2117.36	2117.36	2118.93	25.02	10.03	88.34	177.12
*	41400.000	190.00	.00	.00	2115.41	886.00	2120.00	2120.00	2121.57	25.11	10.06	88.10	176.83
*	41400.000	190.00	.00	.00	2115.41	886.00	2120.00	2120.00	2121.57	25.11	10.06	88.10	176.83
*	41500.000	394.00	.00	.00	2120.91	886.00	2125.50	2125.50	2127.07	25.09	10.05	88.12	176.88
*	41500.000	394.00	.00	.00	2120.91	886.00	2125.50	2125.50	2127.07	25.09	10.05	88.12	176.88
*	41600.000	206.00	.00	.00	2124.23	886.00	2128.82	2128.82	2130.39	25.15	10.06	88.08	176.67
*	41600.000	206.00	.00	.00	2124.23	886.00	2128.82	2128.82	2130.39	25.15	10.06	88.08	176.67
*	41700.000	50.00	2133.10	2131.75	2124.75	886.00	2129.33	2129.33	2130.91	25.29	10.08	87.89	176.19
*	41700.000	50.00	999999.00	.00	2124.75	886.00	2129.34	2129.34	2130.91	25.10	10.05	88.13	176.83
*	41800.000	252.00	.00	.00	2130.66	886.00	2135.24	2135.24	2136.81	25.10	10.04	88.21	176.85
*	41800.000	252.00	.00	.00	2130.66	886.00	2135.24	2135.24	2136.81	25.13	10.05	88.17	176.75

*	41900.000	352.00	.00	.00	2138.84	886.00	2144.35	2144.35	2147.14	44.70	13.39	66.18	132.52
•	41900.000	352.00	.00	.00	2138.84	886.00	2144.35	2144.35	2147.14	44.75	13.39	66.15	132.44
*	42000.000	669.80	2176.60	2171.29	2161.29	886.00	2166.80	2166.80	2169.59	318.09	13.39	66.16	49.68
•	42000.000	669.80	999999.00	.00	2161.29	886.00	2166.81	2166.81	2169.59	317.34	13.38	66.22	49.74
•	42100.000	167.20	.00	.00	2168.00	886.00	2173.13	2173.13	2174.71	182.06	10.07	87.99	65.66
•	42100.000	167.20	.00	.00	2168.00	886.00	2173.13	2173.13	2174.71	182.02	10.07	88.00	65.67
*	42200.000	437.67	.00	.00	2183.63	886.00	2185.00	2185.00	2185.44	185.82	6.06	203.46	65.00
•	42200.000	437.67	.00	.00	2183.63	886.00	2185.24	2185.24	2186.02	213.87	7.11	124.59	60.58
•	42300.000	86.52	.00	.00	2183.63	886.00	2185.50	2184.86	2185.58	4.04	2.60	430.99	441.06
*	42300.000	86.52	.00	.00	2183.63	886.00	2186.04	2184.99	2186.20	4.27	3.16	279.95	428.69
•	42400.000	226.59	.00	.00	2184.30	886.00	2188.91	2188.91	2189.48	83.65	6.61	252.97	96.87
*	42400.000	226.59	.00	.00	2184.30	886.00	2189.15	2189.15	2191.14	218.69	11.32	78.27	59.91

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
	42500.000	383.89	.00	.00	2190.47	886.00	2192.87	2192.82	2193.32	123.05	5.72	229.41	79.87
*	42500.000	383.89	.00	.00	2190.47	886.00	2193.84	2192.75	2194.10	35.95	4.10	215.87	147.77
•	42600.000	55.77	.00	.00	2191.32	886.00	2193.34	2193.26	2193.59	19.66	5.81	246.65	199.80
	42600.000	55.77	.00	.00	2191.32	886.00	2193.75	2193.59	2194.39	22.09	7.15	140.98	188.53
*	42700.000	334.99	.00	.00	2194.00	886.00	2197.30	2197.30	2197.90	245.04	6.22	142.44	56.60
•	42700.000	334.99	.00	.00	2194.00	886.00	2197.33	2197.33	2197.90	223.35	6.03	146.89	59.28
•	42800.000	306.60	.00	.00	2199.24	886.00	2201.07	2200.68	2201.28	61.86	3.96	314.12	112.65
•	42800.000	306.60	.00	.00	2199.24	886.00	2201.16	2200.65	2201.44	69.68	4.30	206.04	106.14
*	42900.000	74.05	.00	.00	2196.10	886.00	2201.26	2197.96	2201.31	.60	1.81	554.46	1144.09
*	42900.000	74.05	.00	.00	2196.10	886.00	2201.43	2197.96	2201.48	.55	1.76	504.70	1195.35
•	43000.000	323.34	.00	.00	2200.00	886.00	2206.16	2206.16	2206.81	69.58	7.72	202.98	106.22
•	43000.000	323.34	.00	.00	2200.00	886.00	2206.16	2206.16	2207.33	104.68	9.47	140.28	86.60
	43100.000	323.51	.00	.00	2207.20	886.00	2208.63	2208.42	2208.71	54.36	3.48	429.58	120.17
*	43100.000	323.51	.00	.00	2207.20	886.00	2209.22	2208.62	2209.34	36.61	3.59	336.90	146.42
•	43200.000	77.95	.00	.00	2207.21	886.00	2210.04	2210.04	2210.65	147.92	8.15	172.22	72.85
*	43200.000	77.95	.00	.00	2207.21	886.00	2210.03	2210.03	2210.65	150.97	8.21	170.82	72.11
•	43300.000	217.64	.00	.00	2208.50	886.00	2211.88	2210.80	2212.08	37.50	3.58	247.29	144.69
*	43300.000	217.64	.00	.00	2208.50	886.00	2211.89	2210.80	2212.09	37.24	3.57	247.93	145.19
•	43400.000	398.38	.00	.00	2212.00	886.00	2214.31	2214.07	2214.78	135.03	5.51	160.91	76.25
•	43400.000	398.38	.00	.00	2212.00	886.00	2214.30	2214.07	2214.77	134.79	5.50	161.02	76.32
•	43500.000	40.18	.00	.00	2212.00	886.00	2214.94	2214.32	2215.21	67.85	4.19	211.69	107.56
	43500.000	40.18	.00	.00	2212.00	886.00	2214.93	2214.32	2215.21	68.91	4.21	210.47	106.73
•	43600.000	291.91	.00	.00	2216.00	886.00	2218.00	2218.00	2218.65	220.95	6.43	137.85	59.61
•	43600.000	291.91	.00	.00	2216.00	886.00	2218.01	2218.01	2218.65	220.14	6.42	138.04	59.72
*	43700.000	333.04	.00	.00	2216.00	886.00	2220.62	2219.19	2220.80	27.79	3.44	261.83	168.08
*	43700.000	333.04	.00	.00	2216.00	886.00	2220.63	2219.18	2220.81	28.00	3.44	257.37	167.43
*	43800.000	57.90	.00	.00	2220.00	886.00	2221.74	2221.74	2222.36	221.82	6.34	139.78	59.49
•	43800.000	57.90	.00	.00	2220.00	886.00	2221.74	2221.74	2222.36	220.84	6.33	140.00	59.62
*	43900.000	379.58	.00	.00	2222.76	886.00	2225.72	2224.94	2225.99	52.25	4.20	210.96	122.58
•	43900.000	379.58	.00	.00	2222.76	886.00	2225.72	2224.93	2225.99	52.34	4.20	210.83	122.46
*	44000.000	224.48	.00	.00	2227.20	886.00	2228.90	2228.90	2229.43	174.22	6.11	166.19	67.13
•	44000.000	224.48	.00	.00	2227.20	886.00	2228.89	2228.89	2229.59	215.60	6.70	132.18	60.34
*	44100.000	62.57	.00	.00	2227.20	886.00	2230.17	2229.21	2230.28	80.73	3.13	371.39	98.61
	44100.000	62.57	.00	.00	2227.20	886.00	2230.53	2229.36	2230.85	158.72	4.56	194.21	70.33

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
	44200.000	188.71	.00	.00	2228.00	886.00	2231.36	2230.47	2231.59	47.99	3.87	229.30	127.89
•	44200.000	188.71	.00	.00	2228.00	886.00	2231.78	2230.47	2231.93	27.09	3.13	283.12	170.23
*	44300.000	362.68	.00	.00	2231.57	886.00	2234.50	2234.50	2235.98	207.57	9.76	90.77	61.50
*	44300.000	362.68	.00	.00	2231.57	886.00	2234.50	2234.50	2235.98	207.36	9.76	90.80	61.53
*	44400.000	169.47	2242.80	2241.30	2233.10	886.00	2236.70	.00	2237.68	15.38	7.94	111.60	225.93
*	44400.000	169.47	2242.80	2241.30	2233.10	886.00	2236.70	.00	2237.68	15.38	7.94	111.60	225.93
	44500.000	156.33	.00	.00	2234.00	886.00	2237.87	2236.78	2238.07	27.61	3.83	277.15	168.61
*	44500.000	156.33	.00	.00	2234.00	886.00	2238.42	2238.42	2239.31	271.32	4.95	117.69	53.79
*	44600.000	417.25	.00	.00	2238.00	886.00	2241.13	2241.13	2241.83	134.95	7.12	156.07	76.27
*	44600.000	417.25	.00	.00	2238.00	886.00	2242.13	2241.05	2242.49	41.47	4.97	188.20	137.58
	44700.000	320.05	.00	.00	2240.00	886.00	2244.38	2243.52	2245.00	75.90	6.35	143.14	101.70
*	44700.000	320.05	.00	.00	2240.00	886.00	2244.67	2244.67	2246.64	214.94	11.28	78.55	60.43
•	44800.000	481.65	.00	.00	2244.00	886.00	2248.64	2248.64	2249.24	73.84	6.53	186.66	103.10
•	44800.000	481.65	.00	.00	2244.00	886.00	2249.62	2248.09	2250.01	31.59	5.15	187.02	157.63
•	44900.000	136.15	.00	.00	2247.00	886.00	2249.80	2248.88	2249.86	16.93	2.57	483.38	215.31
	44900.000	136.15	.00	.00	2247.00	886.00	2250.34	2249.07	2250.46	20.61	3.28	324.68	195.17

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
•	45000.000	497.09	.00	.00	2252.00	886.00	2253.73	2253.73	2254.33	180.84	7.19	176.93	65.88
*	45000.000	497.09	.00	.00	2252.00	886.00	2254.23	2254.23	2255.34	202.74	8.49	104.38	62.23
•	45100.000	445.00	.00	.00	2258.00	886.00	2260.76	2260.76	2261.23	19.30	6.33	307.11	201.70
*	45100.000	445.00	.00	.00	2258.00	886.00	2260.90	2260.90	2261.86	28.19	7.89	112.35	166.86
•	45200.000	75.00	.00	.00	2258.04	886.00	2260.72	2260.62	2261.93	180.93	8.82	100.47	65.87
*	45200.000	75.00	.00	.00	2258.04	886.00	2261.58	2260.62	2262.27	75.67	6.68	132.56	101.85
*	45300.000	250.00	2269.90	2264.12	2260.12	886.00	2263.37	.00	2264.19	13.91	7.28	121.69	237.58
	45300.000	250.00	2269.90	2264.12	2260.12	886.00	2261.76	.00	2264.99	123.07	14.44	61.38	79.87
*	45400.000	264.63	.00	.00	2264.00	241.18	2265.08	2265.08	2265.36	372.81	4.24	56.88	12.49
	45400.000	264.63	.00	.00	2264.00	239.89	2266.36	2265.08	2266.38	6.01	.87	275.90	97.89
*	45500.000	195.42	.00	.00	2268.00	241.18	2268.69	2268.32	2268.72	97.11	1.33	180.78	24.47
*	45500.000	195.42	.00	.00	2268.00	239.89	2268.31	2268.31	2268.47	1404.19	3.11	77.15	6.40
•	45600.000	220.43	.00	.00	2268.00	241.18	2269.89	2268.89	2269.91	34.52	1.06	226.82	41.05
*	45600.000	220.43	.00	.00	2268.00	239.89	2270.04	2268.89	2270.06	22.74	.91	263.05	50.31
*	45700.000	208.33	.00	.00	2270.40	241.18	2271.33	2271.05	2271.37	208.05	1.61	149.83	16.72
•	45700.000	208.33	.00	.00	2270.40	239.89	2271.23	2271.05	2271.30	384.62	2.02	118.52	12.23
•	45800.000	232.78	.00	.00	2272.00	241.18	2272.75	2272.22	2272.76	27.61	.78	307.40	45.90
•	45800.000	232.78	.00	.00	2272.00	239.89	2272.77	2272.22	2272.78	24.91	.76	316.26	48.06

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	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
•	45900.000	345.06	.00	.00	2276.00	241.18	2276.39	2276.39	2276.58	1339.93	3.53	68.27	6.59
•	45900.000	345.06	.00	.00	2276.00	239.89	2276.39	2276.39	2276.58	1289.98	3.48	68.85	6.68
*	46000.000	191.28	.00	.00	2280.00	241.18	2280.82	2280.37	2280.85	87.57	1.40	172.18	25.77
*	46000.000	191.28	.00	.00	2280.00	239.89	2280.81	2280.37	2280.84	88.36	1.40	171.08	25.52
•	46100.000	169.17	.00	.00	2284.00	241.18	2284.47	2284.47	2284.65	1317.29	3.36	71.74	6.65
*	46100.000	169.17	.00	.00	2284.00	239.89	2284.48	2284.47	2284.65	1300.69	3.34	71.79	6.65
•	46200.000	145.54	.00	.00	2288.00	241.18	2288.44	2288.19	2288.46	107.83	1.07	224.66	23.23
•	46200.000	145.54	.00	.00	2288.00	239.89	2288.44	2288.19	2288.46	108.09	1.07	223.73	23.07
•	46300.000	207.97	.00	.00	2290.20	241.18	2291.61	2291.16	2291.65	233.86	1.46	164.98	15.77
•	46300.000	207.97	.00	.00	2290.20	239.89	2291.61	2291.16	2291.64	233.35	1.46	164.44	15.70
•	46400.000	298.04	.00	.00	2294.95	241.18	2295.68	2295.29	2295.70	88.74	1.17	205.68	25.60
*	46400.000	298.04	.00	.00	2294.95	239.89	2295.67	2295.29	2295.70	88.79	1.17	204.86	25.46
•	46500.000	182.90	.00	.00	2296.00	343.36	2296.73	2296.29	2296.74	43.81	.81	422.21	51.88
*	46500.000	182.90	.00	.00	2296.00	343.40	2296.73	2296.29	2296.74	44.00	.81	421.64	51.77
*	46600.000	119.08	.00	.00	2298.89	440.00	2299.22	2299.22	2299.34	486.95	2.81	156.73	19.94
•	46600.000	119.08	.00	.00	2298.89	440.00	2299.22	2299.22	2299.34	477.69	2.79	157.85	20.13

BDM3SUB1

SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	40900.000	886.00	2102.41	.00	.00	.91	28.41	.00
*	40900.000	886.00	2102.41	.00	.00	.00	28.41	.00
•	41000.000	886.00	2108.96	.00	6.55	.00	28.53	410.00
*	41000.000	886.00	2108.96	.00	6.55	.00	28.53	410.00
•	41100.000	886.00	2113.12	.00	4.16	.00	28.38	208.00
*	41100.000	886.00	2113.12	.00	4.16	.00	28.38	208.00
	41200.000	886.00	2113.79	.00	.67	.00	31.06	50.00
	41200.000	886.00	2113.79	.00	.67	.00	31.06	50.00
•	41300.000	886.00	2117.36	.00	3.58	.00	28.55	200.00
•	41300.000	886.00	2117.36	.00	3.58	.00	28.55	200.00
•	41400.000	886.00	2120.00	.00	2.64	.00	28.39	190.00
*	41400.000	886.00	2120.00	.00	2.64	.00	28.39	190.00
•	41500.000	886.00	2125.50	.00	5.50	.00	28.39	394.00
*	41500.000	886.00	2125.50	.00	5.50	.00	28.39	394.00
•	41600.000	886.00	2128.82	.00	3.31	.00	28.42	206.00
*	41600.000	886.00	2128.82	.00	3.31	.00	28.42	206.00
•	41700.000	886.00	2129.33	.00	.51	.00	28.38	50.00
•	41700.000	886.00	2129.34	.01	.52	.00	28.41	50.00
*	41800.000	886.00	2135.24	.00	5.91	.00	28.49	252.00
*	41800.000	886.00	2135.24	.00	5.90	.00	28.49	252.00
•	41900.000	886.00	2144.35	.00	9.11	.00	12.00	352.00
*	41900.000	886.00	2144.35	.00	9.11	.00	12.00	352.00
•	42000.000	886.00	2166.80	.00	22.45	.00	12.00	669.80
*	42000.000	886.00	2166.81	.00	22.46	.00	12.00	669.80

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	42100.000	886.00	2173.13	.00	6.33	.00	28.40	167.20
*	42100.000	886.00	2173.13	.00	6.32	.00	28.40	167.20
*	42200.000	886.00	2185.00	.00	11.87	.00	241.00	437.67
*	42200.000	886.00	2185.24	.24	12.10	.00	80.71	437.67
*	42300.000	886.00	2185.50	.00	.50	.00	422.36	86.52
*	42300.000	886.00	2186.04	.54	.81	.00	128.14	86.52
*	42400.000	886.00	2188.91	.00	3.41	.00	350.20	226.59
*	42400.000	886.00	2189.15	.24	3.10	.00	20.00	226.59
	42500.000	886.00	2192.87	.00	3.97	.00	298.06	383.89
*	42500.000	886.00	2193.84	.97	4.70	.00	82.53	383.89
*	42600.000	886.00	2193.34	.00	.46	.00	331.95	55.77
	42600.000	886.00	2193.75	.42	-.09	.00	81.47	55.77
*	42700.000	886.00	2197.30	.00	3.96	.00	130.37	334.99
*	42700.000	886.00	2197.33	.03	3.58	.00	129.40	334.99
*	42800.000	886.00	2201.07	.00	3.77	.00	346.97	306.60
*	42800.000	886.00	2201.16	.09	3.82	.00	123.86	306.60
*	42900.000	886.00	2201.26	.00	.19	.00	225.66	74.05
*	42900.000	886.00	2201.43	.17	.28	.00	120.79	74.05
*	43000.000	886.00	2206.16	.00	4.90	.00	192.81	323.34
*	43000.000	886.00	2206.16	.00	4.73	.00	75.00	323.34
	43100.000	886.00	2208.63	.00	2.47	.00	604.98	323.51
*	43100.000	886.00	2209.22	.59	3.06	.00	233.88	323.51
*	43200.000	886.00	2210.04	.00	1.41	.00	140.40	77.95
*	43200.000	886.00	2210.03	-.01	.81	.00	139.81	77.95
*	43300.000	886.00	2211.88	.00	1.85	.00	124.74	217.64
*	43300.000	886.00	2211.89	.01	1.86	.00	124.90	217.64
*	43400.000	886.00	2214.31	.00	2.43	.00	111.59	398.38
*	43400.000	886.00	2214.30	-.01	2.41	.00	111.62	398.38
*	43500.000	886.00	2214.94	.00	.63	.00	132.21	40.18
	43500.000	886.00	2214.93	-.01	.63	.00	131.83	40.18
*	43600.000	886.00	2218.00	.00	3.06	.00	109.68	291.91
*	43600.000	886.00	2218.01	.00	3.07	.00	109.75	291.91
*	43700.000	886.00	2220.62	.00	2.61	.00	127.21	333.04
*	43700.000	886.00	2220.63	.01	2.62	.00	110.10	333.04
*	43800.000	886.00	2221.74	.00	1.12	.00	113.90	57.90
*	43800.000	886.00	2221.74	.00	1.12	.00	113.97	57.90
*	43900.000	886.00	2225.72	.00	3.98	.00	107.56	379.58
*	43900.000	886.00	2225.72	.00	3.98	.00	107.54	379.58
*	44000.000	886.00	2228.90	.00	3.18	.00	170.47	224.48
*	44000.000	886.00	2228.89	.00	3.18	.00	95.23	224.48
*	44100.000	886.00	2230.17	.00	1.27	.00	252.25	62.57
	44100.000	886.00	2230.53	.37	1.64	.00	66.27	62.57
	44200.000	886.00	2231.36	.00	1.19	.00	124.88	188.71
*	44200.000	886.00	2231.78	.42	1.25	.00	136.43	188.71
*	44300.000	886.00	2234.50	.00	3.14	.00	31.00	362.68
*	44300.000	886.00	2234.50	.00	2.72	.00	31.00	362.68
*	44400.000	886.00	2236.70	.00	2.20	.00	31.00	169.47
*	44400.000	886.00	2236.70	.00	2.20	.00	31.00	169.47
	44500.000	886.00	2237.87	.00	1.17	.00	157.32	156.33
*	44500.000	886.00	2238.42	.55	1.72	.00	70.00	156.33
*	44600.000	886.00	2241.13	.00	3.25	.00	133.91	417.25
*	44600.000	886.00	2242.13	1.00	3.71	.00	65.00	417.25
	44700.000	886.00	2244.38	.00	3.25	.00	72.76	320.05
*	44700.000	886.00	2244.67	.29	2.54	.00	20.00	320.05
*	44800.000	886.00	2248.64	.00	4.27	.00	229.48	481.65
*	44800.000	886.00	2249.62	.97	4.95	.00	59.00	481.65
*	44900.000	886.00	2249.80	.00	1.16	.00	351.41	136.15
	44900.000	886.00	2250.34	.54	.72	.00	135.00	136.15
*	45000.000	886.00	2253.73	.00	3.92	.00	158.05	497.09
*	45000.000	886.00	2254.23	.50	3.89	.00	46.90	497.09
*	45100.000	886.00	2260.76	.00	7.03	.00	383.17	445.00
*	45100.000	886.00	2260.90	.14	6.67	.00	59.27	445.00
*	45200.000	886.00	2260.72	.00	-.04	.00	37.50	75.00

*	45200.000	886.00	2261.58	.86	.68	.00	37.50	75.00
*	45300.000	886.00	2263.37	.00	2.65	.00	37.50	250.00
	45300.000	886.00	2261.76	-1.61	.18	.00	37.50	250.00
*	45400.000	241.18	2265.08	.00	1.72	.00	104.86	264.63
	45400.000	239.89	2266.36	1.28	4.61	.00	247.65	264.63
*	45500.000	241.18	2268.69	.00	3.60	.00	290.41	195.42
*	45500.000	239.89	2268.31	-.37	1.95	.00	258.34	195.42
*	45600.000	241.18	2269.89	.00	1.21	.00	235.71	220.43
*	45600.000	239.89	2270.04	.15	1.73	.00	251.63	220.43
*	45700.000	241.18	2271.33	.00	1.44	.00	321.74	208.33
*	45700.000	239.89	2271.23	-.10	1.19	.00	286.15	208.33
*	45800.000	241.18	2272.75	.00	1.42	.00	426.44	232.78
*	45800.000	239.89	2272.77	.02	1.53	.00	427.27	232.78

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	45900.000	241.18	2276.39	.00	3.64	.00	182.24	345.06
*	45900.000	239.89	2276.39	.00	3.63	.00	182.36	345.06
*	46000.000	241.18	2280.82	.00	4.43	.00	238.00	191.28
*	46000.000	239.89	2280.81	-.01	4.42	.00	237.68	191.28
*	46100.000	241.18	2284.47	.00	3.65	.00	203.69	169.17
*	46100.000	239.89	2284.48	.00	3.66	.00	203.75	169.17
*	46200.000	241.18	2288.44	.00	3.97	.00	540.57	145.54
*	46200.000	239.89	2288.44	.00	3.96	.00	540.36	145.54
*	46300.000	241.18	2291.61	.00	3.17	.00	277.11	207.97
*	46300.000	239.89	2291.61	.00	3.17	.00	276.61	207.97
*	46400.000	241.18	2295.68	.00	4.06	.00	370.50	298.04
*	46400.000	239.89	2295.67	.00	4.06	.00	370.01	298.04
*	46500.000	343.36	2296.73	.00	1.05	.00	784.03	182.90
*	46500.000	343.40	2296.73	.00	1.06	.00	783.82	182.90
*	46600.000	440.00	2299.22	.00	2.49	.00	655.40	119.08
*	46600.000	440.00	2299.22	.00	2.49	.00	657.66	119.08

SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION SECNO= 40900.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 40900.000 PROFILE= 2 CRITICAL DEPTH ASSUMED

CAUTION SECNO= 41000.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 41000.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 41000.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 41000.000 PROFILE= 2 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 41100.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
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CAUTION SECNO= 41100.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 41100.000 PROFILE= 2 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 41300.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
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CAUTION SECNO= 41300.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
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CAUTION SECNO= 41400.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
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CAUTION SECNO= 41500.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
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CAUTION SECNO= 41700.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
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CAUTION SECNO= 41800.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
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CAUTION SECNO= 41900.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 41900.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 41900.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 41900.000 PROFILE= 2 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 42000.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 42000.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY

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CAUTION SECNO=  42000.000  PROFILE=  2  CRITICAL DEPTH ASSUMED

CAUTION SECNO=  42000.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=  42100.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  42100.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  42100.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  42100.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=  42200.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  42200.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  42200.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  42200.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  42300.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  42300.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  42400.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  42400.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  42400.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  42400.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  42500.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  42600.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  42700.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  42700.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  42700.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  42700.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  42800.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  42800.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  42900.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  42900.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  43000.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  43000.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  43000.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  43000.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  43100.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  43200.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  43200.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  43200.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  43200.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  43300.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  43300.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  43400.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  43400.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  43500.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  43600.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  43600.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  43600.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  43600.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  43700.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  43700.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  43800.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  43800.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  43800.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  43800.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  43900.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  43900.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  44000.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  44000.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  44000.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  44000.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  44100.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  44200.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

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CAUTION SECNO=  44300.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  44300.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  44300.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=  44400.000  PROFILE=  1  HYDRAULIC JUMP D.S.
WARNING SECNO=  44400.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO=  44400.000  PROFILE=  2  HYDRAULIC JUMP D.S.
WARNING SECNO=  44400.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  44500.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  44500.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=  44600.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  44600.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
WARNING SECNO=  44600.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
```

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CAUTION SECNO=  44700.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  44700.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=  44800.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  44800.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
WARNING SECNO=  44800.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  44900.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  45000.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  45000.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY


CAUTION SECNO=  45000.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  45000.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=  45100.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  45100.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  45100.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  45100.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  45200.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  45200.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  45300.000  PROFILE=  1  HYDRAULIC JUMP D.S.
WARNING SECNO=  45300.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  45400.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  45400.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  45500.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO=  45500.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  45500.000  PROFILE=  2  SLOPE TOO STEEP
CAUTION SECNO=  45500.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  45600.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  45600.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  45700.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  45700.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  45800.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  45800.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  45900.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  45900.000  PROFILE=  1  SLOPE TOO STEEP
CAUTION SECNO=  45900.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  45900.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  45900.000  PROFILE=  2  SLOPE TOO STEEP
CAUTION SECNO=  45900.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  46000.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  46000.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  46100.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  46100.000  PROFILE=  1  SLOPE TOO STEEP
CAUTION SECNO=  46100.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  46100.000  PROFILE=  2  SLOPE TOO STEEP
WARNING SECNO=  46100.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  46200.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  46200.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  46300.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  46300.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  46400.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE


WARNING SECNO=  46400.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  46500.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  46500.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  46600.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  46600.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  46600.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  46600.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY
```

Floodway width summary: BDM3SUB1
Profile No. 2

Section Number	Elevation Increase	Top Width	Left Encroach Station	Left Sta Distance From Center	Center Station	Right Sta Distance From Center	Right Encroach Station
40900.000	.00	38.00	1541.00	19.00	1560.00	19.00	1579.00
41000.000	.00	38.00	1062.00	19.00	1081.00	19.00	1100.00
41100.000	.00	44.73	1627.33	22.36	1649.69	22.36	1672.05
41200.000	.00	47.91	1720.61	23.96	1744.56	23.96	1768.52
41300.000	.00	38.00	1303.00	19.00	1322.00	19.00	1341.00
41400.000	.00	38.00	1264.00	19.00	1283.00	19.00	1302.00
41500.000	.00	38.00	1307.00	19.00	1326.00	19.00	1345.00
41600.000	.00	38.00	1000.00	19.00	1019.00	19.00	1038.00
41700.000	.01	37.99	2141.62	18.99	2160.62	19.00	2179.61
41800.000	.00	38.00	1000.00	19.00	1019.00	19.00	1038.00

41900.000	.00	12.00	1511.25	6.00	1517.25	6.00	1523.25
42000.000	.00	12.00	1998.39	6.00	2004.39	6.00	2010.39
42100.000	.00	44.12	1778.15	22.06	1800.21	22.06	1822.27
42200.000	.24	80.71	1803.55	40.35	1843.91	40.36	1884.26
42300.000	.54	128.14	1771.79	64.07	1835.86	64.07	1899.93
42400.000	.24	20.00	1750.00	9.53	1759.53	10.47	1770.00
42500.000	.97	82.53	1269.87	41.27	1311.14	41.27	1352.40
42600.000	.42	81.47	1998.53	12.47	2011.01	68.99	2080.00
42700.000	.03	142.20	1943.55	71.10	2014.65	71.10	2085.75
42800.000	.09	123.86	1993.97	61.93	2055.90	61.93	2117.83
42900.000	.17	120.79	2203.63	60.40	2264.02	60.40	2324.42
43000.000	.00	75.00	2250.00	13.85	2263.85	61.15	2325.00
43100.000	.59	240.55	1755.00	204.90	1959.90	35.65	1995.55
43200.000	-.01	169.71	1230.29	135.54	1365.83	34.17	1400.00
43300.000	.01	128.33	2098.24	64.17	2162.41	64.17	2226.57
43400.000	-.01	172.96	1644.10	86.48	1730.58	86.48	1817.06
43500.000	-.01	175.35	1625.81	87.67	1713.49	87.68	1801.16
43600.000	.00	191.12	1761.56	95.56	1857.12	95.56	1952.68
43700.000	.01	183.86	1974.51	91.93	2066.44	91.93	2158.37
43800.000	.00	201.05	1895.63	100.52	1996.16	100.53	2096.68
43900.000	.00	144.13	1948.09	72.07	2020.16	72.07	2092.22
44000.000	.00	95.23	2152.48	47.61	2200.09	47.62	2247.71
44100.000	.37	66.27	2253.24	33.14	2286.38	33.14	2319.51
44200.000	.42	143.13	1828.70	71.57	1900.26	71.57	1971.83
44300.000	.00	31.00	2454.00	15.50	2469.50	15.50	2485.00
44400.000	.00	332.00	2270.87	222.63	2493.50	109.37	2602.87
44500.000	.55	70.00	1830.00	109.23	1939.23	-39.23	1900.00
44600.000	1.00	65.00	1848.00	39.34	1887.34	25.66	1913.00
44700.000	.29	20.00	1848.00	-.49	1847.51	20.49	1868.00
44800.000	.97	59.00	1735.00	21.75	1756.75	37.25	1794.00
44900.000	.54	135.00	1515.00	27.95	1542.95	107.05	1650.00
45000.000	.50	46.90	1196.23	23.45	1219.68	23.45	1243.13
45100.000	.14	59.27	1261.06	29.63	1290.70	29.64	1320.33
45200.000	.86	50.00	1400.00	26.75	1426.75	23.25	1450.00
45300.000	*** Encroachments not set ***						
45400.000	*** Encroachments not set ***						
45500.000	*** Encroachments not set ***						
45600.000	*** Encroachments not set ***						
45700.000	*** Encroachments not set ***						
45800.000	*** Encroachments not set ***						
45900.000	*** Encroachments not set ***						
46000.000	*** Encroachments not set ***						
46100.000	*** Encroachments not set ***						
46200.000	*** Encroachments not set ***						
46300.000	*** Encroachments not set ***						
46400.000	*** Encroachments not set ***						
46500.000	*** Encroachments not set ***						
46600.000	*** Encroachments not set ***						

FLOODWAY DATA, BDM3SUB1
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
40900.000	28.	88.	10.1	2102.4	2102.4	.0
41000.000	29.	88.	10.0	2109.0	2109.0	.0
41100.000	28.	88.	10.0	2113.1	2113.1	.0
41200.000	31.	108.	8.2	2113.8	2113.8	.0
41300.000	29.	88.	10.0	2117.4	2117.4	.0
41400.000	28.	88.	10.1	2120.0	2120.0	.0
41500.000	28.	88.	10.1	2125.5	2125.5	.0
41600.000	28.	88.	10.1	2128.8	2128.8	.0
41700.000	28.	88.	10.1	2129.3	2129.3	.0
41800.000	28.	88.	10.0	2135.2	2135.2	.0
41900.000	12.	66.	13.4	2144.4	2144.4	.0
42000.000	12.	66.	13.4	2166.8	2166.8	.0
42100.000	28.	88.	10.1	2173.1	2173.1	.0
42200.000	81.	125.	7.1	2185.2	2185.0	.2
42300.000	128.	280.	3.2	2186.0	2185.5	.5
42400.000	20.	78.	11.3	2189.1	2188.9	.2
42500.000	83.	216.	4.1	2193.9	2192.9	1.0
42600.000	81.	141.	6.3	2193.7	2193.3	.4
42700.000	129.	147.	6.0	2197.3	2197.3	.0
42800.000	124.	206.	4.3	2201.2	2201.1	.1
42900.000	121.	505.	1.8	2201.5	2201.3	.2
43000.000	75.	140.	6.3	2206.2	2206.2	.0
43100.000	234.	337.	2.6	2209.2	2208.6	.6
43200.000	140.	171.	5.2	2210.0	2210.0	.0
43300.000	125.	248.	3.6	2211.9	2211.9	.0
43400.000	112.	161.	5.5	2214.3	2214.3	.0
43500.000	132.	210.	4.2	2214.9	2214.9	.0
43600.000	110.	138.	6.4	2218.0	2218.0	.0
43700.000	110.	257.	3.4	2220.6	2220.6	.0
43800.000	114.	140.	6.3	2221.7	2221.7	.0
43900.000	108.	211.	4.2	2225.7	2225.7	.0
44000.000	95.	132.	6.7	2228.9	2228.9	.0
44100.000	66.	194.	4.6	2230.6	2230.2	.4
44200.000	136.	283.	3.1	2231.8	2231.4	.4
44300.000	31.	91.	9.8	2234.5	2234.5	.0
44400.000	31.	112.	7.9	2236.7	2236.7	.0
44500.000	70.	118.	7.5	2238.4	2237.9	.5
44600.000	65.	188.	4.7	2242.1	2241.1	1.0
44700.000	20.	79.	11.3	2244.7	2244.4	.3
44800.000	59.	187.	4.7	2249.6	2248.6	1.0
44900.000	135.	325.	2.7	2250.3	2249.8	.5

45000.000	47.	104.	8.5	2254.2	2253.7	.5

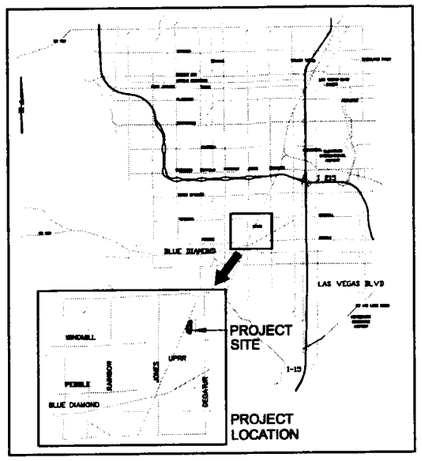
FLOODWAY DATA, BDM3SUB1
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
45100.000	59.	112.	7.9	2260.9	2260.8	.1
45200.000	38.	133.	6.7	2261.6	2260.7	.9
45300.000	38.	61.	14.4	2261.8	2263.4	-1.6
45400.000	248.	276.	.9	2266.4	2265.1	1.3
45500.000	782.	77.	3.1	2268.3	2268.7	-.4
45600.000	721.	263.	.9	2270.0	2269.9	.1
45700.000	286.	119.	2.0	2271.2	2271.3	-.1
45800.000	427.	316.	.8	2272.7	2272.7	.0
45900.000	182.	69.	3.5	2276.4	2276.4	.0
46000.000	238.	171.	1.4	2280.8	2280.8	.0
46100.000	204.	72.	3.3	2284.5	2284.5	.0
46200.000	540.	224.	1.1	2288.4	2288.4	.0
46300.000	329.	164.	1.5	2291.6	2291.6	.0
46400.000	370.	205.	1.2	2295.7	2295.7	.0
46500.000	784.	422.	.8	2296.7	2296.7	.0
46600.000	658.	158.	2.8	2299.2	2299.2	.0

APPENDIX D

DESIGN DRAWINGS

DEPARTMENT OF PUBLIC WORKS



Vicinity Map
NOT TO SCALE

County Commissioners

Rory Reid, Chairman
Myrna Williams, Vice-Chair
Tom Collins
Yvonne Atkinson Gates
Chip Maxfield
Lynette Boggs McDonald
Bruce L Woodbury

CLARK COUNTY NEVADA

"Progress as Promised"

2005

IMPROVEMENT PLANS FOR
LOWER BLUE DIAMOND DETENTION BASIN

FUNDED BY
CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT

MWH
Las Vegas Nevada

MWH
3014 WEST CHARLESTON BLVD
LAS VEGAS, NV. 89102
(702) 878-8010

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See Sheet G1 For Sheet Index

County Manager

Thom Reilly

Director of Public Works

Approved:

M.J. Manning

Clark County Regional Flood Control District

Approved:

Gale Wm. Fraser II, General Manager

AGENCY	PLANS REVIEWED BY	DATE
SPRINT		
LAS VEGAS VALLEY WATER DISTRICT		
SOUTHWEST GAS CORPORATION		
NEVADA POWER COMPANY [TRANSMISSION]		
NEVADA POWER COMPANY [DISTRIBUTION]		
CLARK COUNTY WATER RECLAMATION DISTRICT		
COX COMMUNICATIONS, LAS VEGAS, INC		

DEPARTMENT OF PUBLIC WORKS	BY	DATE
DESIGN ENGINEERING DIVISION		
CONSTRUCTION MANAGEMENT DIVISION		
MAINTENANCE MANAGEMENT DIVISION		
TRAFFIC MANAGEMENT DIVISION		
COUNTY SURVEYOR'S OFFICE		

REVISIONS		
NUMBER	DESCRIPTION	DATE

DESIGN ENGINEERING DIVISION

COVER SHEET

L-1791

BID No.: 20001

SUMMARY OF APPROXIMATE QUANTITIES

ITEM No	DESCRIPTION	UNIT	QUANTITY
105.01	QUALITY CONTROL	1	LS
109.01	CONSTRUCTION CONFLICTS AND ADDITIONAL WORK	1	LS
109.02	HISTORICAL OWNER CAUSED DELAY ALLOWANCE	5	DAY
109.03	HISTORICAL OWNER CAUSED DELAY ALLOWANCE ADDITIONAL AMOUNT OVER $500/DAY	5	DAY
200.01	MOBILIZATION	1	LS
200.01	STRIPPING, CLEARING AND GRUBBING	5	AC
202.01	REMOVE CONCRETE RECTANGULAR CHANNEL	1	LS
202.02	REMOVE EXISTING RIPRAP	1	LS
203.01	EXCAVATION	30,000	CY
203.02	EMBANKMENT	7,000	CY
203.03	DETENTION BASIN SURFACE COMPACTION	121,000	SY
302.01	TYPE II AGGREGATE BASE	510	CY
402.01	CATEGORY II PLANTMIX BITUMINOUS SURFACE PAVEMENT PATCH	400	SY
502.01	MAIN INFLOW STRUCTURE	1	LS
502.02	ROBINDALE INLET STRUCTURE	1	LS
502.03	ROBINDALE INFLOW STRUCTURE	1	LS
502.04	OUTLET STRUCTURE	1	LS
502.05	STILLING WELL	1	LS
502.06	DETENTION BASIN DEPTH GAGE	1	LS
502.07	MAIN CHANNEL INFLOW REINFORCED CONCRETE CHUTE	1	LS
502.08	ROBINDALE INFLOW CHANNEL REINFORCED CONCRETE CHUTE	1	LS
502.09	HEADWALL STRUCTURE 1	1	LS
502.10	HEADWALL STRUCTURE 2	1	LS
502.11	CLSM OVERFLOW CREST CUTOFF	926	CY
502.12	JUNCTION STRUCTURE #1	1	LS
502.13	JUNCTION STRUCTURE #2	1	LS
603.01	CLASS III 30" RCP	40	LF
603.02	CLASS III 36" RCP	40	LF
603.03	CLASS III 54" RCP	772	LF
603.04	CLASS III 60" RCP	96	LF
603.05	CLASS III 72" RCP	394	LF
603.06	54" RCP ASTM C 361 CLASS C-25	1382	LF
609.01	ROBINDALE INLET DM L = 40.5'	2	EA
609.02	TYPE A MH	3	EA
609.03	TYPE B MH	2	EA
610.01	RIPRAP	250	CY
610.02	HEAVY RIPRAP	1700	CY
616.01	6-FOOT CHAIN LINK FENCE	440	LF
639.01	84" DIAMETER STEEL PIPE CASING	52	LF
712.01	SEDIMENT STAFF GAGE	1	EA
712.02	PEDESTRIAN RAIL	60	LF

ADDITIVE/DEDUCTIVE ITEMS

ITEM No	DESCRIPTION	UNIT	QUANTITY

GENERAL NOTES

1 ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE "UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION OFFSITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA" AND "UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFFSITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA", AND APPENDICES, CURRENT EDITION.

2 ALL UTILITIES SHOWN ARE BELIEVED TO BE ACCURATELY LOCATED. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UTILITIES LIKELY TO BE AFFECTED. THE CONTRACTOR SHALL DETERMINE THE LOCATION AND DEPTH OF SUSPECTED UTILITY INTERFERENCES, AND SHALL FURNISH INFORMATION ON THE SAME TO THE ENGINEER, NOT LESS THAN TEN (10) DAYS PRIOR TO THE ANTICIPATED IMPACT OF THESE SUSPECTED INTERFERENCES ON HIS WORK. IF CONFLICTS EXIST, THE CONTRACTOR WILL IMMEDIATELY CONTACT THE ENGINEER AND PROVIDE THE ENGINEER WITH ALL THE NECESSARY DATA SUCH AS ELEVATIONS, HORIZONTAL LOCATIONS, ETC., AND PROVIDE THE ENGINEER WITH SKETCHES INDICATING THE PROPOSED IMPROVEMENT AND THE UTILITY CONFLICT. THE ENGINEER WILL EXAMINE AND REVIEW ALL THE DATA AND SKETCHES PROVIDED, AND WILL PROVIDE THE CONTRACTOR WITH AN ALTERNATIVE DESIGN WITHIN FIVE (5) DAYS AFTER RECEIPT OF DATA AND SKETCHES.

3 CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO BEGINNING CONSTRUCTION

4 SIGNATURES SHOWN ON THE COVER OF THESE PLANS, BY THE LOCAL UTILITY COMPANIES DOES NOT ASSUME OR GUARANTEE THEIR LIABILITY FOR KNOWN OR UNKNOWN CONFLICTS WITH EXISTING OR PROPOSED IMPROVEMENTS. RESOLUTION OF ANY CONFLICTS WILL BE ACCOMPLISHED PURSUANT TO LOCAL ORDINANCES, NEVADA REVISED STATUTES AND/OR PUBLIC UTILITY COMMISSION RULES AND REGULATIONS.

5 THE CONTRACTOR SHALL COORDINATE WITH THE NEVADA POWER COMPANY, SPRINT TELEPHONE COMPANY, LOCAL CABLE COMPANY AND THE SOUTHWEST GAS CORPORATION FOR THE RELOCATION OF UNDERGROUND OR OVERHEAD UTILITIES THAT INTERFERE WITH THE REQUIRED IMPROVEMENTS AS SHOWN ON THE PLANS.

6 THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE VERTICAL ADJUSTMENT OF ALL LAS VEGAS VALLEY WATER DISTRICT FACILITIES AND CLARK COUNTY WATER RECLAIMATION DISTRICT MANHOLES AS INDICATED ON THE PLANS OR IN THE SPECIAL PROVISIONS UNLESS OTHERWISE INDICATED.

7 THE CONTRACTOR SHALL NOT REMOVE TREES, SHRUBS, LAWNS, WALLS, FENCES, SIGNS, STRUCTURE, LIGHTS OR ANY OTHER IMPROVEMENTS OUTSIDE THE RIGHT-OF-WAY EXCEPT WHERE REQUIRED TO DO SO BY THE CONTRACT DRAWINGS OR AS DIRECTED BY THE ENGINEER.

8 EXACT LOCATIONS OF ALL SAWCUT LINES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER. THOSE SAWCUTS THAT ARE LONGITUDINAL TO THE ROADWAY MAY BE WHEEL CUT WITH EQUIPMENT AS APPROVED BY THE ENGINEER. ALL OTHER SAWCUTS SHALL BE MADE BY A ROTARY SAW.

9 IF THE IMPROVEMENTS NECESSITATE THE OBLITERATION, TEMPORARY OBSTRUCTION, TEMPORARY REMOVAL, OR RELOCATION OF ANY EXISTING TRAFFIC PAVEMENT MARKING REQUIRED TO REMAIN, SUCH PAVEMENT MARKING SHALL BE RESTORED OR REPLACED WITH LIKE MATERIALS TO THE SATISFACTION OF THE COUNTY TRAFFIC MANAGER.

10 CONTRACTOR MUST CONTACT CLARK COUNTY TRAFFIC MANAGEMENT DIVISION, OPERATIONS UNIT AT (702) 455-7511 FOR LOCATIONS OF STREET LIGHTING, TRAFFIC SIGNALS, LAS VEGAS AREA COMPUTER TRAFFIC SYSTEM (LVACTS) INTERCONNECT CABLE AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO WORKING IN THE AREA. CLARK COUNTY IS NOT A MEMBER OF CALL BEFORE YOU DIG (UNDERGROUND SERVICE ALERT) AND A CALL TO THAT ORGANIZATION DOES NOT RELIEVE YOU OF LIABILITY FOR CLARK COUNTY FACILITIES.

11 LVACTS INTERCONNECT CABLE POLICY IS IN EFFECT. INTERCONNECT CABLE MUST BE MAINTAINED AT ALL TIMES. CONTRACTOR SHALL PROVIDE TEMPORARY OVERHEAD INTERCONNECT CABLE WHILE PERMANENT CABLE IS BEING RELOCATED. TEMPORARY AERIAL INSTALLATION MUST BE ACCEPTABLE TO THE COUNTY TRAFFIC MANAGER AND TO LVACTS. ANY DAMAGE TO THIS CABLE IS DEEMED AN EMERGENCY BY LVACTS, CITY OF LAS VEGAS, CLARK COUNTY AND NDOT AND MUST BE REPAIRED IMMEDIATELY TO LVACTS' ACCEPTANCE. $25,000 PER DAY DAMAGES WILL BE ASSESSED AFTER TWENTY-FOUR (24) HOURS HAS ELAPSED FROM THE TIME OF BREAK OR DAMAGE.

12 ALL STORM DRAIN MANHOLE ACCESS COVERS SHALL HAVE A MINIMUM DIAMETER OF THIRTY (30") INCHES

NEVADA POWER REVIEW

NEVADA POWER ACKNOWLEDGES THAT WE HAVE RECEIVED YOUR PLANS AND WILL PROVIDE SERVICE TO ALL ELECTRICAL NEEDS ASSOCIATED WITH THIS PROJECT.
NEVADA POWER RESERVES THE RIGHT TO ADDRESS ANY EXISTING OR FUTURE CONFLICTS ONCE THE FINAL DESIGN IS COMPLETED, THE NEW SERVICE AND THE RESOLUTION OF ANY CONFLICTS WILL BE ACCOMPLISHED PURSUANT TO THE NEVADA PUBLIC UTILITY COMMISSION'S RULES AND REGULATIONS.

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.
CALL BEFORE YOU DIG OVERHEAD
1-702-593-6111

Call before you Dig.
1-800-227-2600
UNDERGROUND SERVICE (USA)
CLARK COUNTY ROAD MAINTENANCE MANAGEMENT 702-455-7540
AND
CLARK COUNTY TRAFFIC MANAGEMENT 702-455-7511

ABBREVIATIONS

ACP	ASBESTOS CEMENT PIPE
AGG	AGGREGATE
BC	BACK OF CURB
CC	CLARK COUNTY
C&G	CURB AND GUTTER
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
COMM DWY	COMMERCIAL DRIVEWAY
CONC	CONCRETE
CONST	CONSTRUCTION OR CONSTRUCT
DI	DROP INLET
DIA	DIAMETER
DIAG	DIAGONAL
DWG	DRAWING
DWY	DRIVEWAY
ELEV	ELEVATION
EP	EDGE OF PAVEMENT
EXIST	EXISTING
FG	FINISHED GRADE
FL	FLOW LINE
GB	GRADE BREAK
HPS	HIGH PRESSURE SODIUM
INV	INVERT
LF	LINEAR FEET
LT	LEFT
MAT'L	MATERIAL
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
No	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OHP	OVERHEAD POWER
PVMT	PAVEMENT
PBS	PLANTMIX BITUMINOUS SURFACE
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
PT	POINT OF TANGENCY
PVI	POINT OF VERTICAL INTERSECTION
RCB	REINFORCED CONCRETE BOX
RCP	REINFORCED CONCRETE PIPE
RP	RADIUS POINT
RT	RIGHT
R/W	RIGHT OF WAY
SD	STORM DRAIN
STD	STANDARD
SW	SIDEWALK
TC	TOP OF CURB
TRANS	TRANSITION
(TYP)	TYPICAL
USD	UNIFORM STANDARD DRAWING
UTACS	ULTRA THIN ASPHALT CONCRETE SURFACE
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
VG	VALLEY GUTTER
VPI	VERTICAL POINT OF INTERSECTION
VPC	VERTICAL POINT OF CURVE
VPT	VERTICAL POINT OF TANGENCY

LEGEND

- REMOVAL ITEM, CONSTRUCTION ITEM, TRAFFIC ITEM
- EXISTING/PROPOSED CONDUIT RUN NUMBER
- CENTERLINE W/STATION
- RIGHT-OF-WAY LINE
- PROPERTY LINE
- EXISTING/PROPOSED STREETLIGHT
- EXISTING/PROPOSED/FUTURE DROP INLET
- EXISTING/PROPOSED CURB & GUTTER
- EXISTING/PROPOSED UNDERGROUND UTILITY SHOWN AT WIDTH WHEN > 18"
- EXISTING/PROPOSED/ADJUST MANHOLE
- EXISTING/PROPOSED/ADJUST PULLBOX
- EXISTING/PROPOSED/ADJUST WATER OR GAS VALVE
- EXISTING/PROPOSED EDGE OF PAVEMENT
- EXISTING/PROPOSED DRIVEWAY
- EXISTING BLOCKWALL/FENCE
- EXISTING/PROPOSED ELEVATION
- CURVE DATA NOTATION
- EXISTING TELEPHONE AND/OR POWER POLE
- EXISTING/PROPOSED FIRE HYDRANT
- EXISTING/PROPOSED SERVICE PEDESTAL
- PAVEMENT TRANSITION
- EXISTING MAILBOX
- BENCHMARK
- POTHOLE NUMBER
- EXISTING/ADJUST WATER METER
- SAWCUT LINE
- EXISTING/PROPOSED 1-1/4" PVC STREETLIGHT CONDUIT
- EXISTING/PROPOSED CONTROLLER CABINET
- EXISTING/PROPOSED SIDEWALK RAMP

INDEX OF DRAWINGS

NO.	DWG	TITLE
1	COVER	COVER SHEET
2	G-1	GENERAL NOTES, INDEX OF DRAWINGS, ABBREVIATIONS, LEGEND, BASIS OF BEARING, BENCHMARK, AND QUANTITIES
3	G-2	SURVEY CONTROL SHEET
4	G-3	HYDROLOGIC INFORMATION AND CAPACITY CURVES
5	D-1	DEMOLITION PLAN
6	C-1	DETENTION BASIN PLAN
7	C-2	BASIN GRADING PLAN AREA 1
8	C-3	BASIN GRADING PLAN AREA 2
9	C-4	TYPICAL SECTIONS, CREST PROFILE
10	C-5	BASIN CROSS-SECTIONS 1
11	C-6	BASIN CROSS-SECTIONS 2
12	C-7	BASIN CROSS-SECTIONS 3
13	C-8	ROBINDALE COLLECTOR PLAN AND PROFILE STA 10+00 TO STA 14+75.64
14	C-9	OUTLET PIPE PLAN AND PROFILE STA 10+00 TO STA 21+00
15	C-10	OUTLET PIPE PLAN AND PROFILE STA 21+00 TO STA 31+94.06
16	C-11	CIVIL DETAILS 1
17	C-12	CIVIL DETAILS 2
18	C-13	CIVIL DETAILS 3
19	C-14	CIVIL DETAILS 4
20	C-15	STORM DRAIN LATERAL DETAILS
21	GS-1	STRUCTURAL STANDARD DETAILS 1
22	GS-2	STRUCTURAL STANDARD DETAILS 2
23	GS-3	STRUCTURAL STANDARD DETAILS 3
24	S-1	ROBINDALE INFLOW STRUCTURE
25	S-2	MAIN INFLOW STRUCTURE
26	S-3	OUTLET STRUCTURE
27	S-4	TRASH RACK PANEL DETAILS 1
28	S-5	TRASH RACK PANEL DETAILS 2
29	S-6	INFLOW STRUCTURE
30	S-7	HEADWALL DETAILS
31	S-8	MANHOLE TYPE A AND TYPE B
32	S-9	DROP INLETS AND DETAILS
33	S-10	JUNCTION STURCTURE TYPE 1

BASIS OF BEARING

BEARINGS WERE DERIVED FROM NEVADA STATE PLANE COORDINATES NAD 83/94 DATUM EAST ZONE, WITH A MEAN CONVERGENCY OF 0°14'13". PER NDOT COORDINATES, CONTROL POINTS WERE 423009M AND 423012M, NDOT ALUMINUM CAPS.

BENCHMARKS

CLARK CO. NO. 7C20-12SSE8 RIVET AND ROUND ALUMINUM PLATE IN A CONCRETE MONUMENT, NORTHEAST QUADRANT OF WINDMILL LANE AND EDMOND STREET.
ELEVATION: 730.580 (M) 2396.911 (F)

REV No	DATE	DESCRIPTION	APPROVED

MWH
3014 WEST CHARLESTON BLVD
LAS VEGAS, NV. 89102
(702) 878-8010

CLARK COUNTY DEPARTMENT OF PUBLIC WORKS NEVADA

LOWER BLUE DIAMOND DETENTION BASIN
GENERAL NOTES, INDEX OF DRAWINGS, LEGEND, BASIS OF BEARING, ABBREVIATIONS BENCHMARK, AND QUANTITIES
CLARK COUNTY, NEVADA, DEPARTMENT OF PUBLIC WORKS

PROFESSIONAL ENGINEER - STATE OF NEVADA
DONALD W. DAVIS
CIVIL
No. 9987

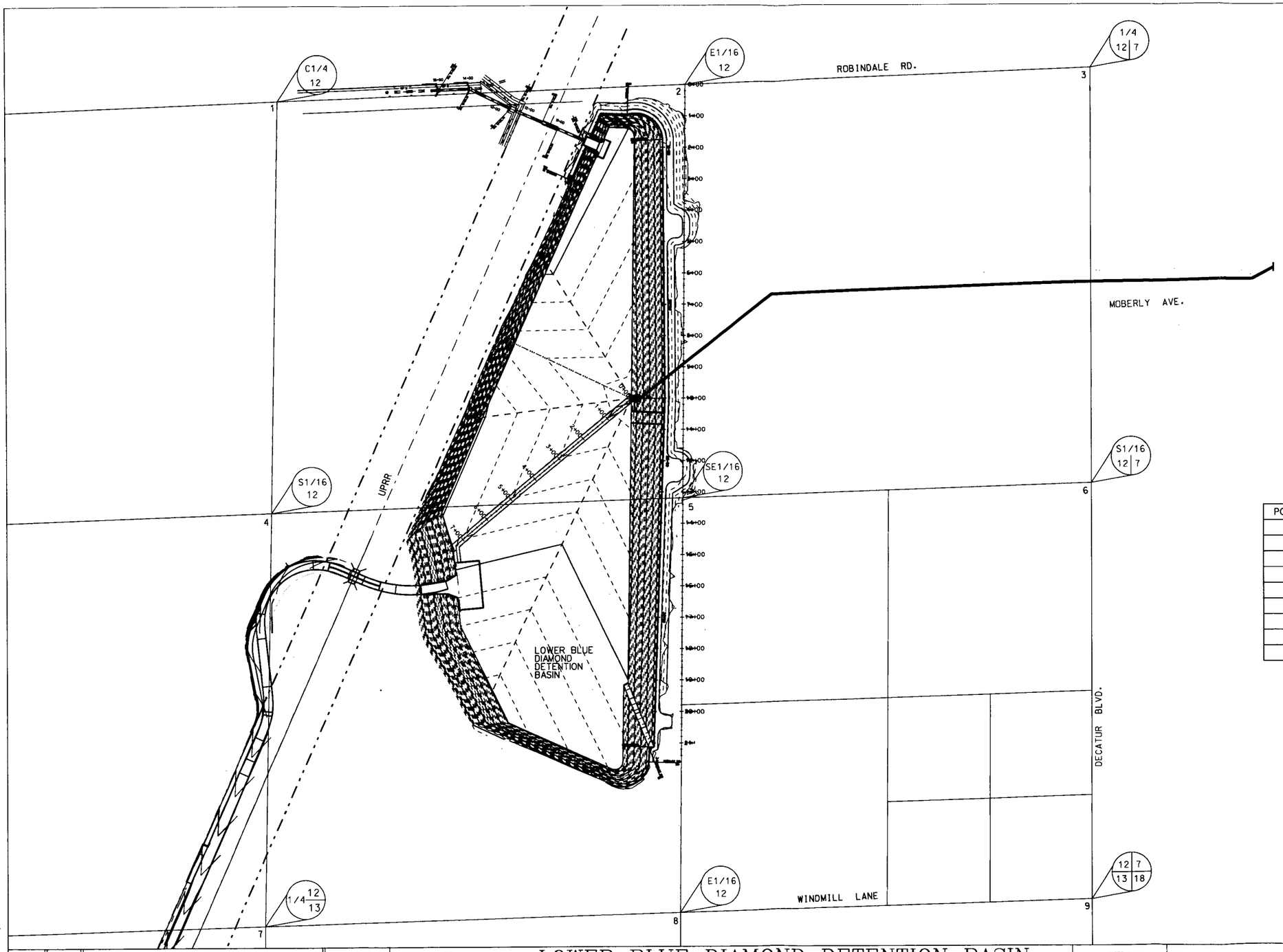
DESIGNED BY:	DWD
DRAWN BY:	JRP
CHECKED BY:	
DATE:	3/24/05

SCALE	
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VERT:	NONE
FIELD BOOK	NONE

SHEET No G-1

27-APR-2005 16:11

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3	26,724,683.1561	767,306.8714
4	26,723,268.1739	764,691.8882
5	26,723,312.9357	765,999.0608
6	26,723,357.6953	767,306.1689
7	26,721,953.3503	764,668.3590
8	26,721,992.4027	765,987.0569
9	26,722,032.2346	767,305.4664

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REV No	DATE	DESCRIPTION	APPROVED

MWH
Las Vegas Nevada

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LAS VEGAS, NV. 89102
(702) 878-8010

CLARK COUNTY NEVADA

LOWER BLUE DIAMOND DETENTION BASIN
SURVEY CONTROL SHEET

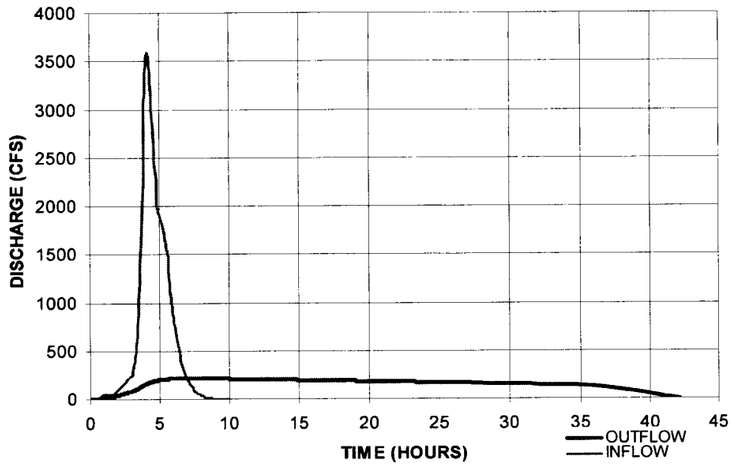
CLARK COUNTY, NEVADA, DEPARTMENT OF PUBLIC WORKS

PROFESSIONAL LAND SURVEYOR STATE OF NEVADA
ESLYN BRENNER
Expires 12/31/06
No. 5088

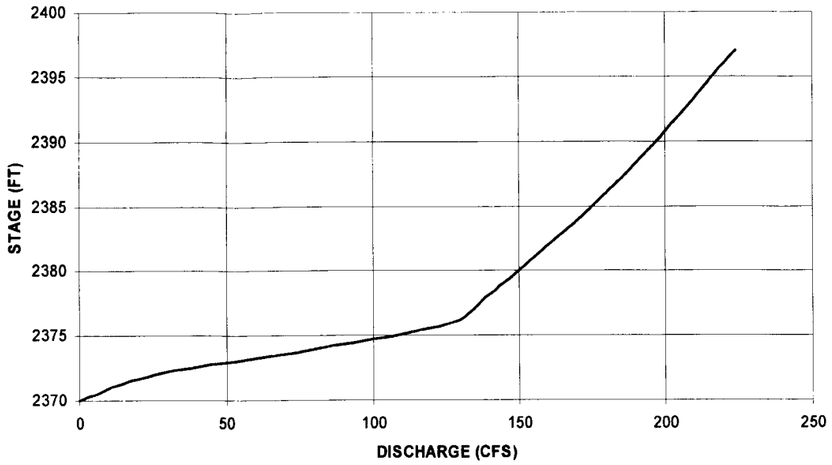
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DRAWN BY: JRP
CHECKED BY:
DATE: 3/24/05

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VERT: -
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SHEET No
G-2



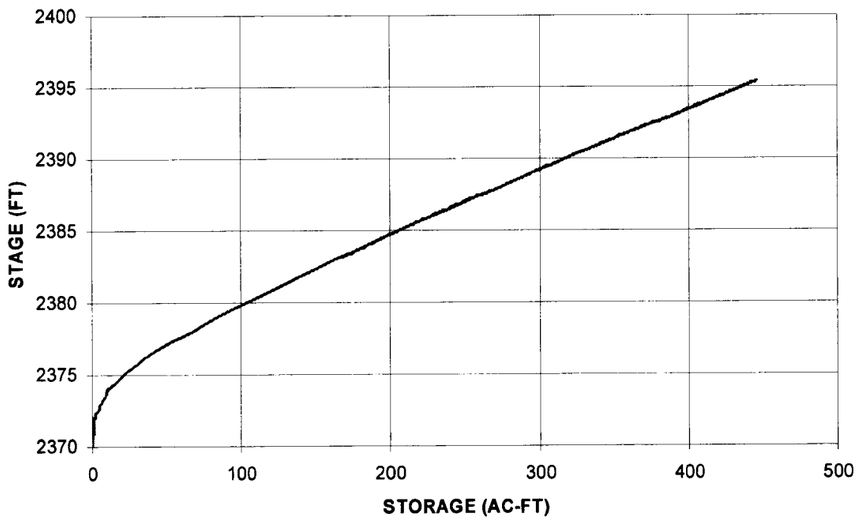
100-YEAR
INFLOW AND OUTFLOW HYDROGRAPHS



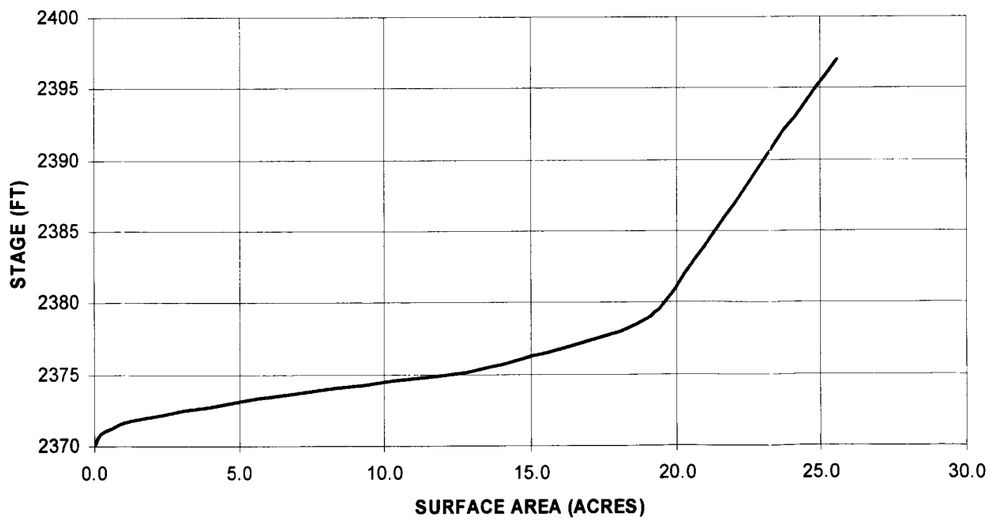
STAGE/DISCHARGE CURVE

DATA TABLE

DRAINAGE AREA	8.32 SQ. MILES
100-YEAR PEAK INFLOW	3,957 CFS
100-YEAR PEAK OUTFLOW	218 CFS
OUTLET PIPE	54-INCH RCP
INVERT ELEVATION AT OUTLET	2370 FEET
100-YEAR PEAK STAGE ELEVATION	2395.5 FEET
100-YEAR PEAK DEPTH	25.5 FEET
100-YEAR PEAK STORAGE	445.8 ACRE-FEET
100-YEAR WATER SURFACE AREA	25.0 ACRES
DRAIN TIME TO 50 PERCENT OF CAPACITY	10 HOURS
DRAIN TIME TO 90 PERCENT OF CAPACITY	20 HOURS
TYPE OF DETENTION BASIN	BELOW GRADE EXCAVATION
EMERGENCY SPILLWAY	AT GRADE OVERFLOW
OVERFLOW CREST ELEVATION	2397.0 FEET
AREA DISTURBED BY CONSTRUCTION	55 ACRES



STAGE/STORAGE CURVE



STAGE/SURFACE AREA CURVE

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REV No	DATE	DESCRIPTION	APPROVED

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LOWER BLUE DIAMOND DETENTION BASIN
HYDROLOGIC INFORMATION AND CAPACITY CURVES

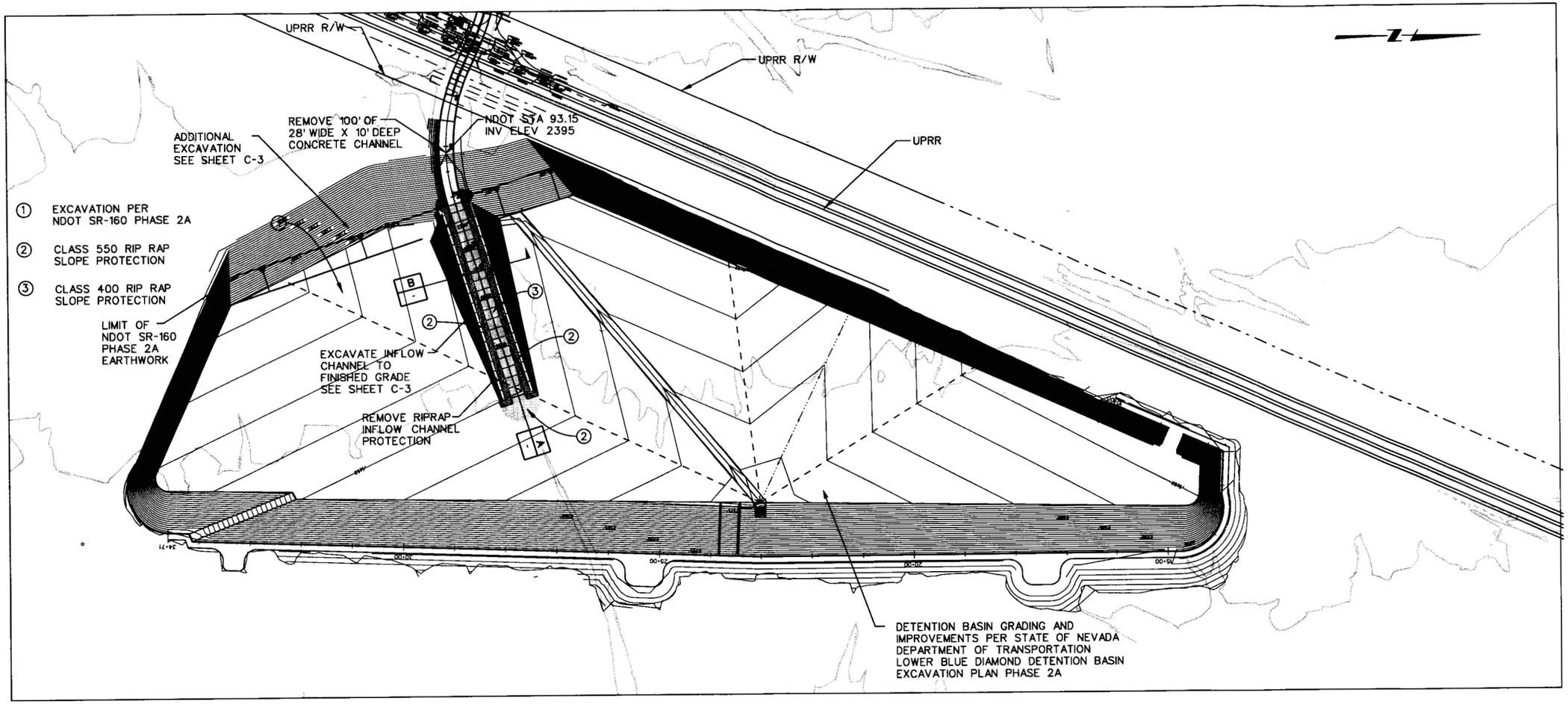
CLARK COUNTY, NEVADA, DEPARTMENT OF PUBLIC WORKS

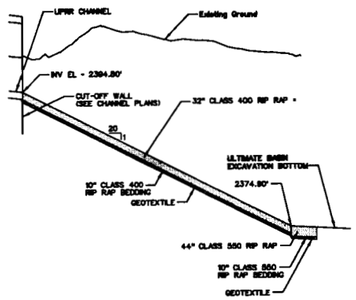
PROFESSIONAL ENGINEER - STATE OF NEVADA
DONALD W. DAVIS
CIVIL
No. 9087

DESIGNED BY:	DWD
DRAWN BY:	JRP
CHECKED BY:	
DATE:	3/24/05

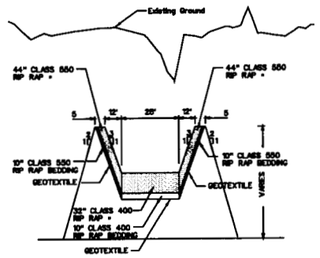
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VERT:	NONE
FIELD BOOK	NONE

SHEET No
G-3





SECTION A
NOT TO SCALE



SECTION B
NOT TO SCALE

REV No	DATE	DESCRIPTION	APPROVED

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(702) 878-8010

CLARK COUNTY NEVADA

LOWER BLUE DIAMOND DETENTION BASIN
DEMOLITION PLAN

CLARK COUNTY, NEVADA, DEPARTMENT OF PUBLIC WORKS

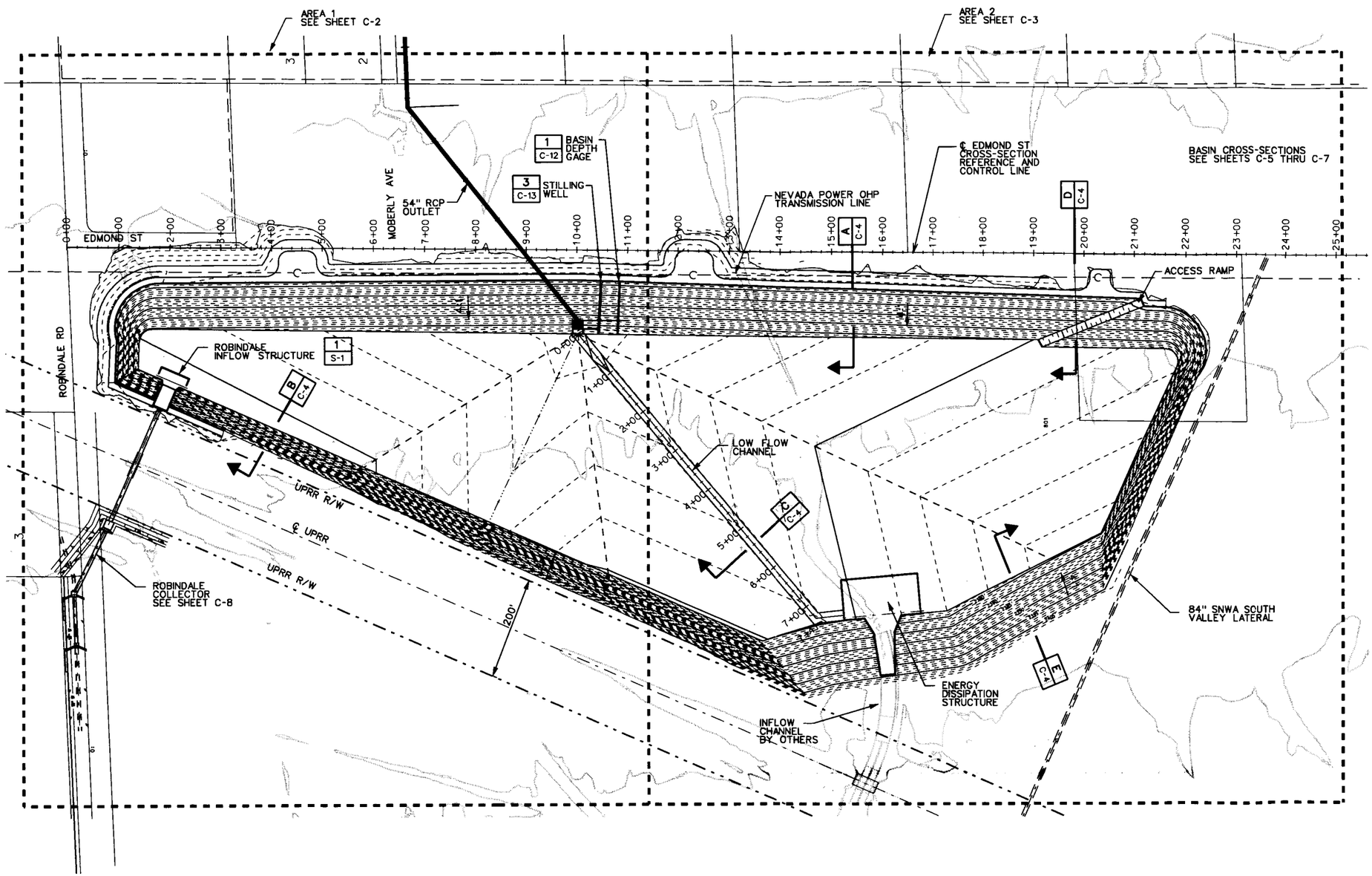
PROFESSIONAL ENGINEER - STATE OF NEVADA
DONALD W. DAVIS
CIVIL
No. 8997

DESIGNED BY: DWD
DRAWN BY: AJM
CHECKED BY:
DATE: 4/26/05

SCALE
HORIZ: 1" = 100'
VERT:
FIELD BOOK NONE

SHEET No
D-1

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REV No	DATE	DESCRIPTION	APPROVED

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CLARK COUNTY NEVADA

LOWER BLUE DIAMOND DETENTION BASIN
DETENTION BASIN PLAN

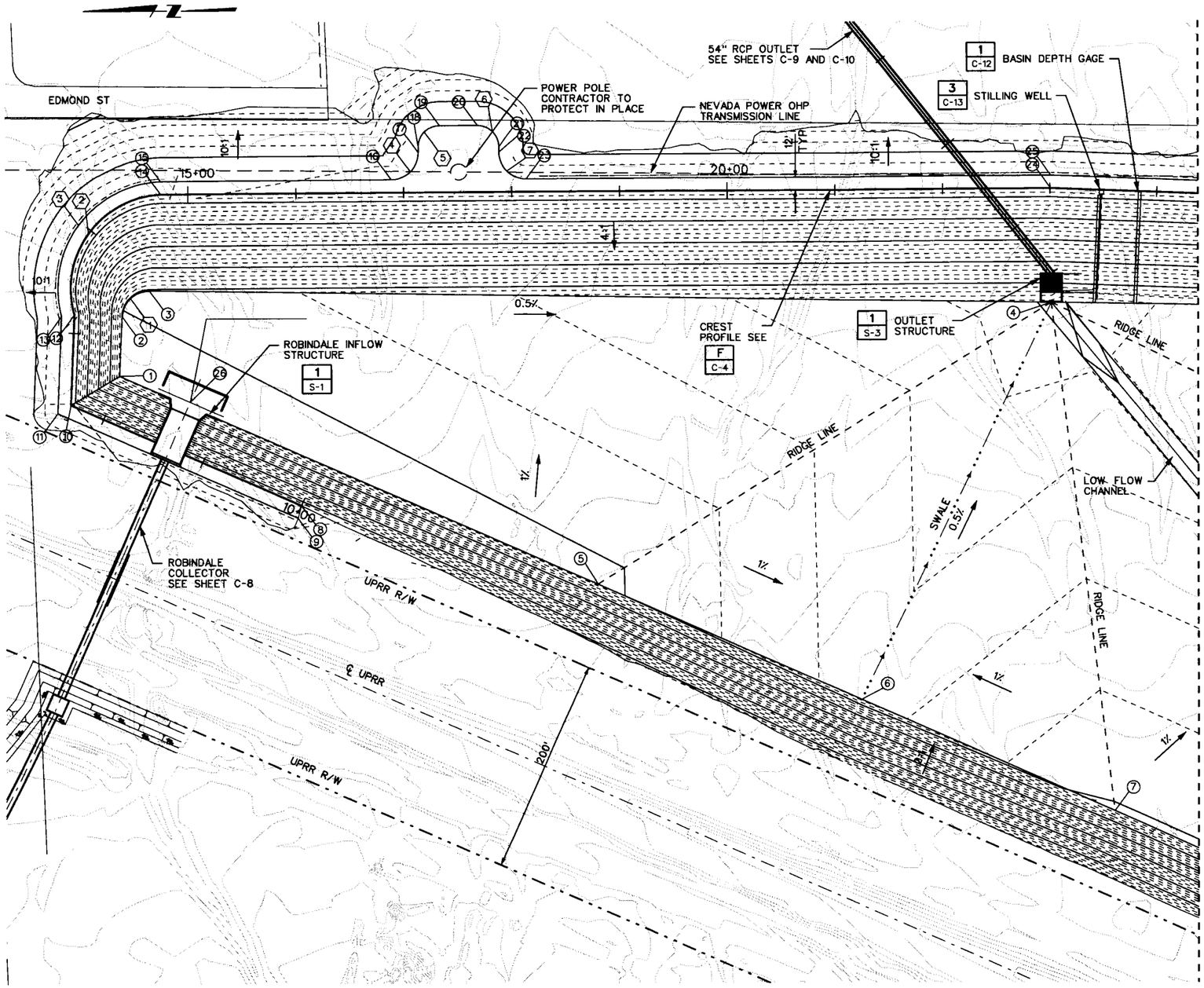
CLARK COUNTY, NEVADA, DEPARTMENT OF PUBLIC WORKS

PROFESSIONAL ENGINEER - STATE OF NEVADA
DONALD W. DAVIS
CIVIL
No. 8087

DESIGNED BY:	DWD
DRAWN BY:	JRP
CHECKED BY:	
DATE:	3/24/05

SCALE	
HORIZ:	1" = 100'
VERT:	-
FIELD BOOK	NONE

SHEET No
C-1



CONTROL POINTS			
PT. NO.	NORTHING	EASTING	ELEVATION
①	N 26,724,495.4119	E 765,769.7094	2375.63
②	N 26,724,493.0285	E 765,825.2241	2375.06
③	N 26,724,467.6792	E 765,849.1466	2374.69
④	N 26,723,630.9008	E 765,836.6333	2370.51
⑤	N 26,724,052.4750	E 765,575.2551	2375.27
⑥	N 26,723,807.2584	E 765,467.6002	2372.55
⑦	N 26,723,571.9407	E 765,364.2951	2375.08
⑧	N 26,724,327.3087	E 765,648.9078	2397.00
⑨	N 26,724,330.6437	E 765,637.2660	2397.24
⑩	N 26,724,540.4808	E 765,742.8620	2397.00
⑪	N 26,724,552.8017	E 765,735.1807	2397.24
⑫	N 26,724,536.8639	E 765,827.1082	2397.00
⑬	N 26,724,548.9148	E 765,825.7130	2397.24
⑭	N 26,724,456.9479	E 765,938.4096	2397.00
⑮	N 26,724,456.9862	E 765,950.4075	2397.24
⑯	N 26,724,243.2527	E 765,951.4852	2397.24
⑰	N 26,724,218.3790	E 765,976.6109	2397.24
⑱	N 26,724,218.4043	E 765,981.6108	2397.24
⑲	N 26,724,198.5053	E 766,001.7114	2397.24
⑳	N 26,724,163.6508	E 766,001.8871	2397.24
㉑	N 26,724,143.5503	E 765,981.9882	2397.24
㉒	N 26,724,143.5250	E 765,976.9883	2397.24
㉓	N 26,724,118.3993	E 765,952.1147	2397.24
㉔	N 26,723,631.1770	E 765,942.5731	2397.24
㉕	N 26,723,630.9980	E 765,954.5721	2397.24
㉘	N 26,724,430.1401	E 765,745.4228	2375.25

CURVE DATA				
CURVE NO.	Δ	R	L	T
⟨1⟩	88° 23'44"	25.000	38.570	24.308
⟨2⟩	103° 21'40"	87.322	177.689	123.772
⟨3⟩	102° 30'54"	99.311	157.529	105.441
⟨4⟩	90° 00'00"	25.000	39.270	25.000
⟨5⟩	90° 00'00"	20.000	31.416	20.000
⟨6⟩	90° 00'00"	20.000	31.416	20.000
⟨7⟩	90° 00'00"	25.000	39.270	25.000

27-APR-2005 16:11

$$$$$$$$$$directory/filename$$$$$$$$$$

REV No.	DATE	DESCRIPTION	APPROVED

MWH
MWH
3014 WEST CHARLESTON BLVD
LAS VEGAS, NV. 89102
(702) 878-8010

LOWER BLUE DIAMOND DETENTION BASIN
BASIN GRADING PLAN AREA 1

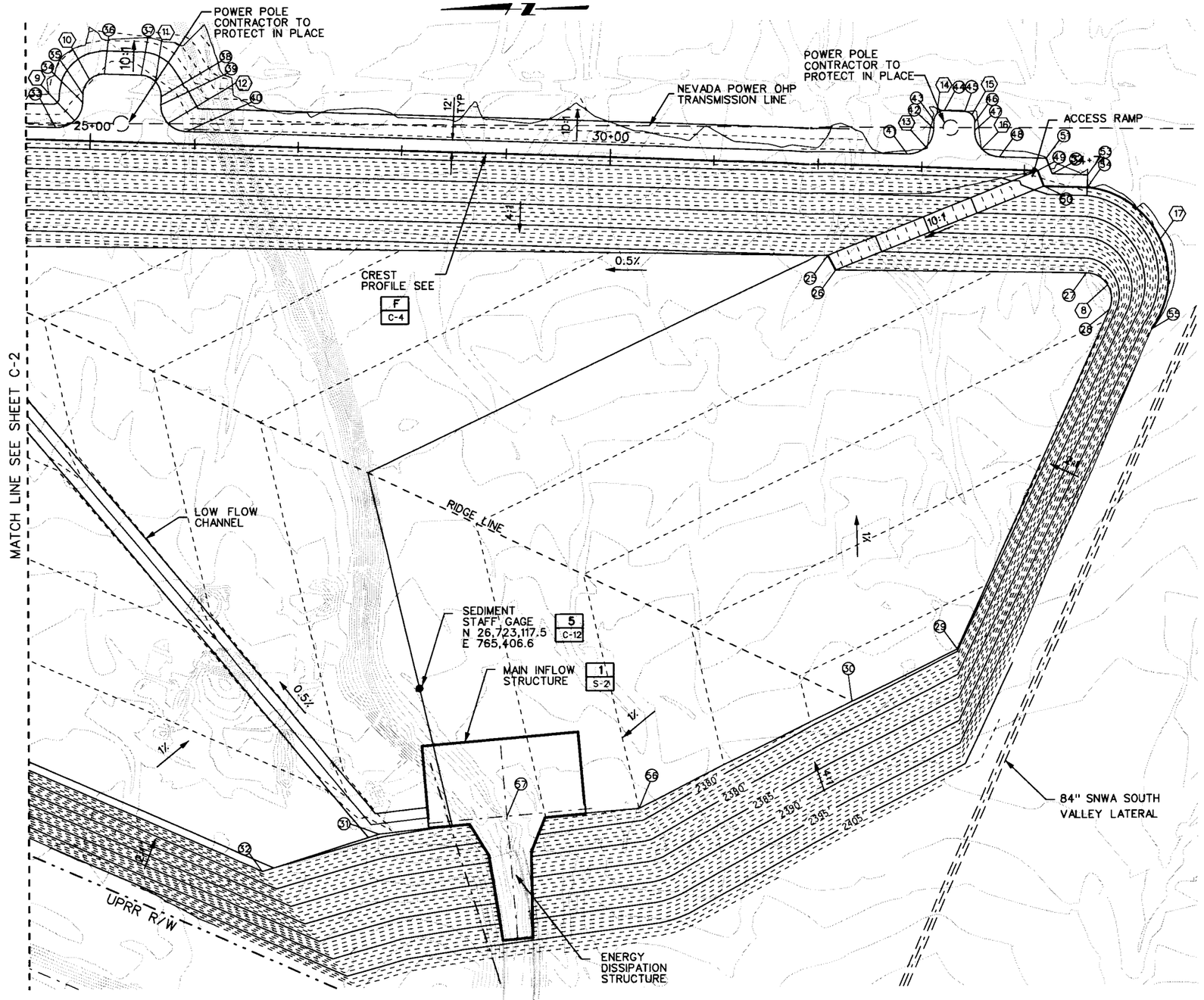
CLARK COUNTY, NEVADA, DEPARTMENT OF PUBLIC WORKS

PROFESSIONAL ENGINEER - STATE OF NEVADA
DONALD W. DAVIS
CIVIL
No. 9097

DESIGNED BY:	DWD
DRAWN BY:	JRP
CHECKED BY:	
DATE:	3/24/05

SCALE	
HORIZ:	1" = 50'
VERT:	-
FIELD BOOK	NONE

SHEET No
C-2



CONTROL POINTS			
PT. NO.	NORTHING	EASTING	ELEVATION
25	N 26,722,723.5236	E 765,823.0642	2375.05
26	N 26,722,715.9672	E 765,808.8469	2375.23
27	N 26,722,473.1906	E 765,805.2164	2376.44
28	N 26,722,450.8022	E 765,769.8869	2376.91
29	N 26,722,599.4129	E 765,442.5730	2379.48
30	N 26,722,701.4072	E 765,392.4309	2379.49
31	N 26,723,156.6453	E 765,266.8294	2374.22
32	N 26,723,269.1240	E 765,231.3552	2375.08
33	N 26,723,464.7186	E 765,948.7697	2397.24
34	N 26,723,438.8619	E 765,972.8827	2397.24
35	N 26,723,438.5829	E 765,980.8778	2397.24
36	N 26,723,417.8976	E 766,000.1682	2397.24
37	N 26,723,383.1103	E 765,998.9542	2397.24
38	N 26,723,363.8200	E 765,978.2689	2397.24
39	N 26,723,364.0990	E 765,970.2738	2397.24
40	N 26,723,339.9860	E 765,944.4171	2397.24
41	N 26,722,646.2562	E 765,920.2091	2397.24
42	N 26,722,620.3996	E 765,944.3221	2397.24
43	N 26,722,620.1206	E 765,952.3172	2397.24
44	N 26,722,609.7779	E 765,961.9624	2397.24
45	N 26,722,589.7901	E 765,961.2649	2397.24
46	N 26,722,580.1449	E 765,950.9222	2397.24
47	N 26,722,580.4239	E 765,942.9271	2397.24
48	N 26,722,556.3110	E 765,917.0705	2397.24
49	N 26,722,519.4498	E 765,903.7789	2397.00
50	N 26,722,513.5651	E 765,888.9003	2397.00
51	N 26,722,511.1816	E 765,915.4956	2397.24
52	N 26,722,505.2969	E 765,900.6171	2397.24
53	N 26,722,471.5382	E 765,899.4391	2397.24
54	N 26,722,471.9566	E 765,887.4484	2397.00
55	N 26,722,409.5786	E 765,751.1733	2397.00
56	N 26,722,906.5000	E 765,290.4040	2377.00
57	N 26,723,033.8355	E 765,283.4102	

CURVE DATA				
CURVE NO.	Δ	R	L	T
8	113° 33'34"	25.000	49.550	38.174
9	90° 00'00"	25.000	39.270	25.000
10	90° 00'00"	20.000	31.416	20.000
11	90° 00'00"	20.000	31.416	20.000
12	90° 00'00"	25.000	39.270	25.000
13	90° 00'00"	25.000	39.270	25.000
14	90° 00'00"	10.000	15.708	10.000
15	90° 00'00"	10.000	15.708	10.000
16	90° 00'00"	25.000	39.270	25.000
17	120° 27'46"	86.341	49.550	181.530

27-APR-2005 16:11

$$$$$$$$$$directory/filename$$$$$$$$$$

REV No	DATE	DESCRIPTION	APPROVED

MWH
3014 WEST CHARLESTON BLVD
LAS VEGAS, NV. 89102
(702) 878-8010

LOWER BLUE DIAMOND DETENTION BASIN
BASIN GRADING PLAN AREA 2

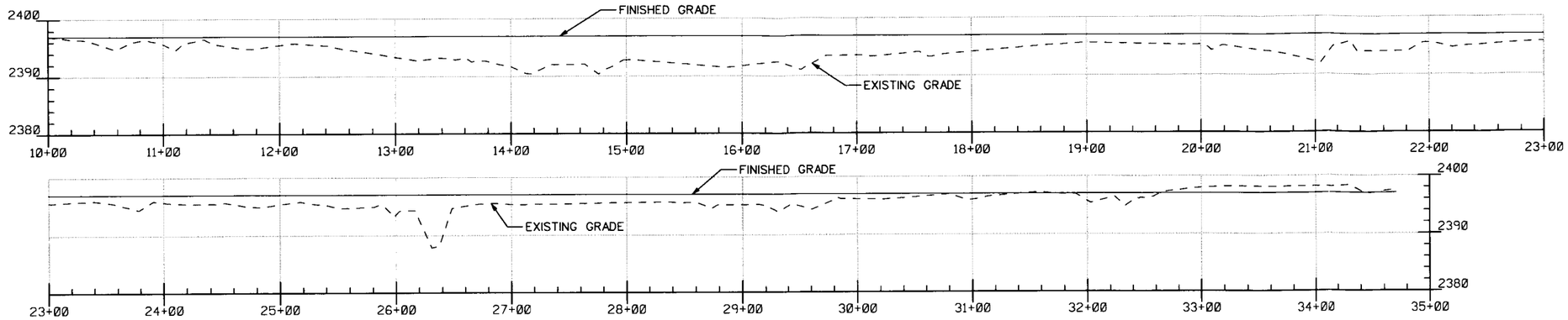
CLARK COUNTY, NEVADA, DEPARTMENT OF PUBLIC WORKS

PROFESSIONAL ENGINEER - STATE OF NEVADA
DONALD W DAVIS
CIVIL
No. 9087

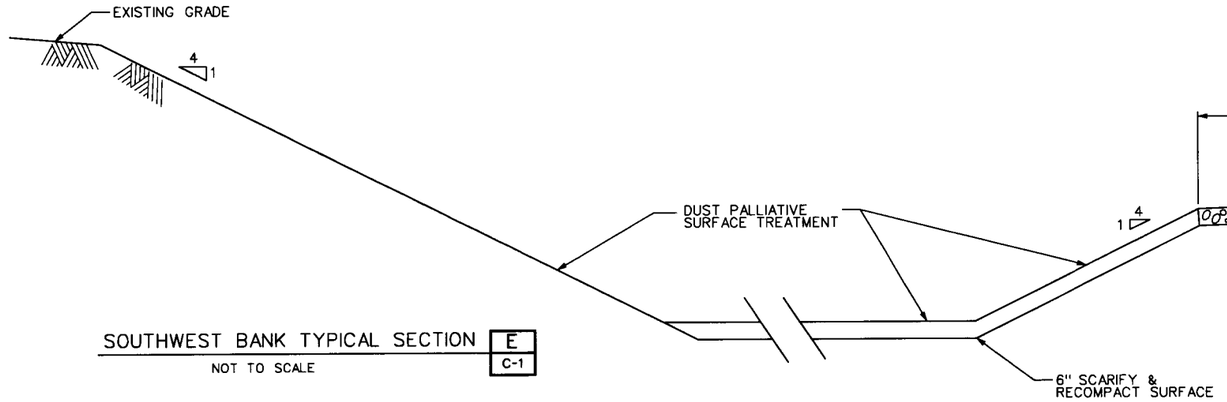
DESIGNED BY: DWD
DRAWN BY: JRP
CHECKED BY:
DATE: 3/24/05

SCALE
HORIZ: 1" = 50'
VERT: -
FIELD BOOK NONE

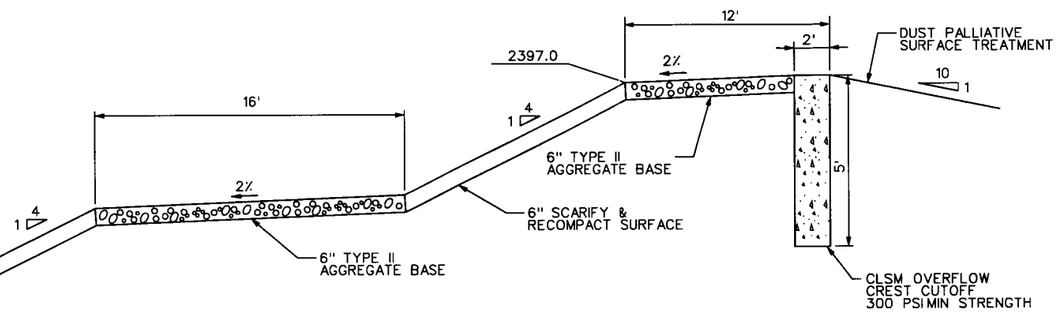
SHEET No
C-3



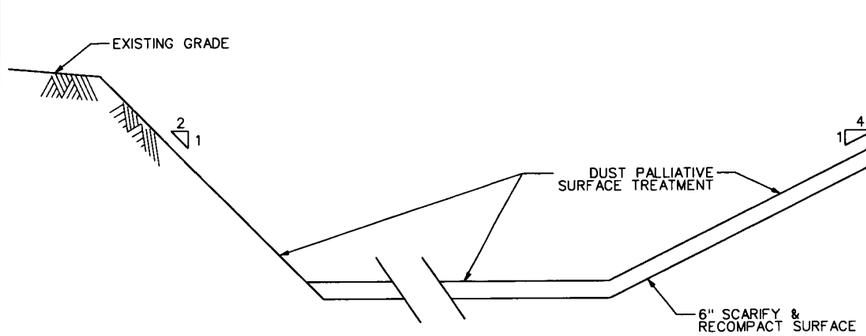
CREST PROFILE — F — C-2 — C-3
NOT TO SCALE



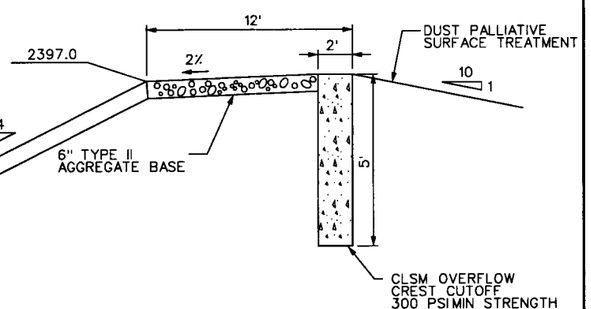
SOUTHWEST BANK TYPICAL SECTION — E — C-1
NOT TO SCALE



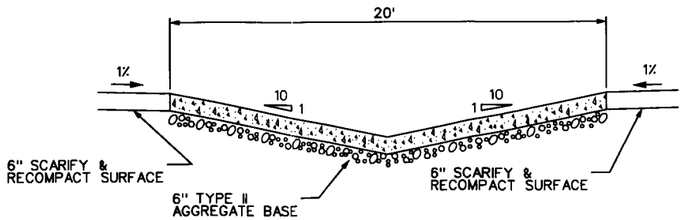
EAST BANK RAMP TYPICAL SECTION — D — C-1
NOT TO SCALE



NORTHWEST BANK TYPICAL SECTION — B — C-1
NOT TO SCALE



EASTBANK TYPICAL SECTION — A — C-1
NOT TO SCALE



LOW FLOW CHANNEL SECTION — C — C-1
NOT TO SCALE

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$$$$directory/filename$$$$

REV. No	DATE	DESCRIPTION	APPROVED

MWH
3014 WEST CHARLESTON BLVD
LAS VEGAS, NV. 89102
(702) 878-8010

LOWER BLUE DIAMOND DETENTION BASIN
TYPICAL SECTIONS, CREST PROFILE

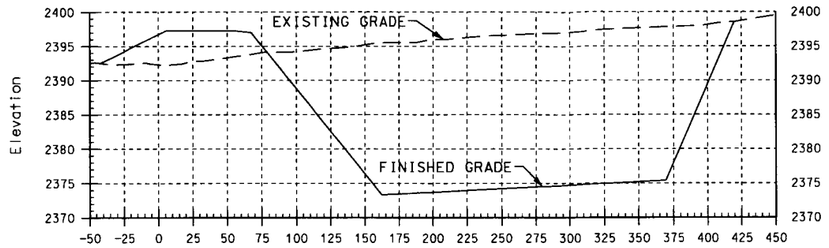
CLARK COUNTY, NEVADA, DEPARTMENT OF PUBLIC WORKS

PROFESSIONAL ENGINEER - STATE OF NEVADA — DONALD W DAVIS — CIVIL — No. 9987

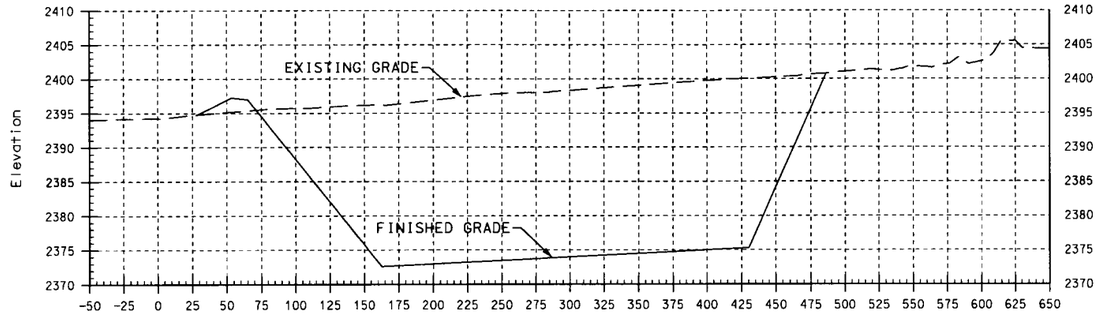
DESIGNED BY:	DWD
DRAWN BY:	JRP
CHECKED BY:	
DATE:	3/24/05

SCALE	
HORIZ:	NONE
VERT:	NONE
FIELD BOOK	NONE

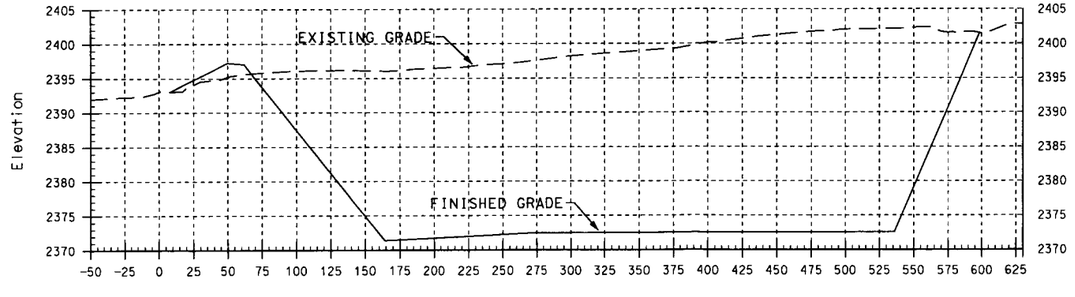
SHEET No C-4



STATION 4+41.00



STATION 5+84.00



STATION 8+30.00

NOTES:

1. ℄ EDMONDS STREET IS STATION 0.
2. CROSS-SECTIONS ARE SHOWN LOOKING SOUTH.
3. CROSS-SECTIONS PER CONTROL LINE SHEET C-1.

27-APR-2005 16:11

$$$$$$$$$$directory/filename$$$$$$$$$$

REV No	DATE	DESCRIPTION	APPROVED

MWH
Las Vegas Nevada

MWH
3014 WEST CHARLESTON BLVD
LAS VEGAS, NV. 89102
(702) 878-8010

CLARK COUNTY NEVADA

LOWER BLUE DIAMOND DETENTION BASIN
BASIN CROSS-SECTIONS 1

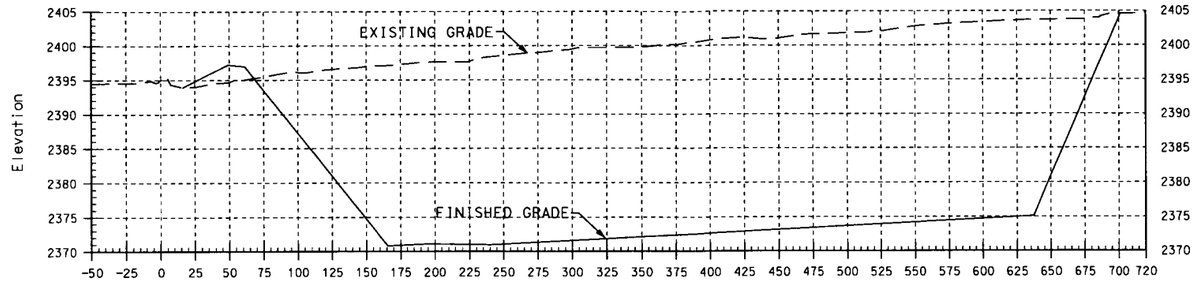
CLARK COUNTY, NEVADA, DEPARTMENT OF PUBLIC WORKS

PROFESSIONAL ENGINEER STATE OF NEVADA
DONALD W. DAVIS
CIVIL
No. 8097

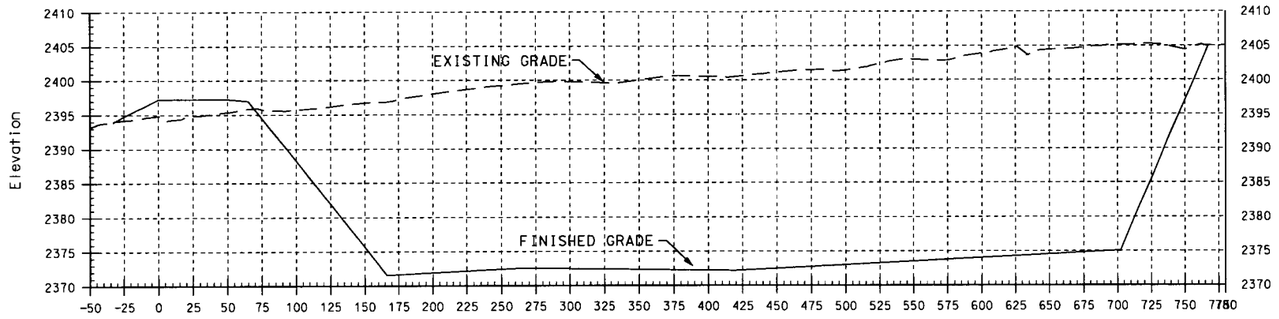
DESIGNED BY:	DWD
DRAWN BY:	JRP
CHECKED BY:	
DATE:	3/24/05

SCALE	
HORIZ:	NONE
VERT:	NONE
FIELD BOOK	NONE

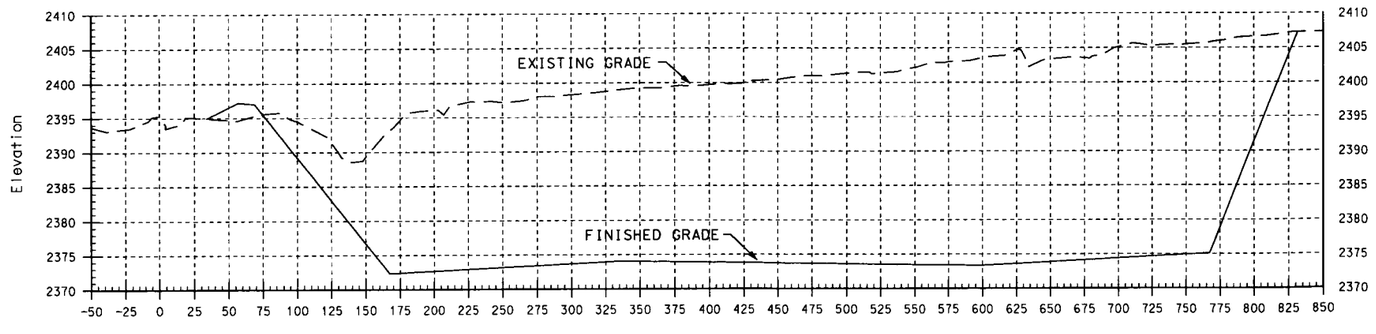
SHEET No
C-5



STATION 10+66.00



STATION 12+18.00



STATION 13+70.00

NOTES:

1. ℄ EDMONDS STREET IS STATION 0.
2. CROSS-SECTIONS ARE SHOWN LOOKING SOUTH.
3. CROSS-SECTIONS PER CONTROL LINE SHEET C-1.

27-APR-2005 16:12

$$$$$$$$$$directory/filename$$$$$$$$$$

REV No	DATE	DESCRIPTION	APPROVED

MWH
Las Vegas Nevada

MWH
3014 WEST CHARLESTON BLVD
LAS VEGAS, NV. 89102
(702) 878-8010

CLARK COUNTY NEVADA

LOWER BLUE DIAMOND DETENTION BASIN
BASIN CROSS-SECTIONS 2

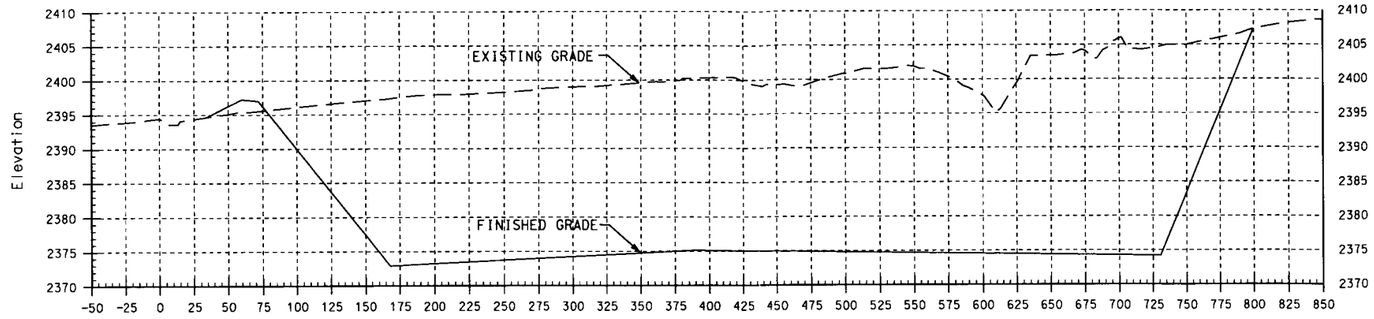
CLARK COUNTY, NEVADA, DEPARTMENT OF PUBLIC WORKS

REGISTERED PROFESSIONAL ENGINEER - STATE OF NEVADA
DONALD W DAVIS
CIVIL
No. 9987

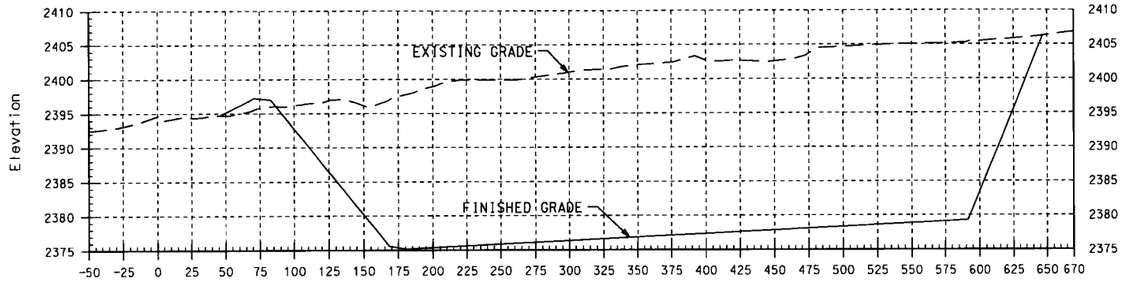
DESIGNED BY:	DWD
DRAWN BY:	JRP
CHECKED BY:	
DATE:	3/24/05

SCALE	
HORIZ:	
VERT:	
FIELD BOOK	NONE

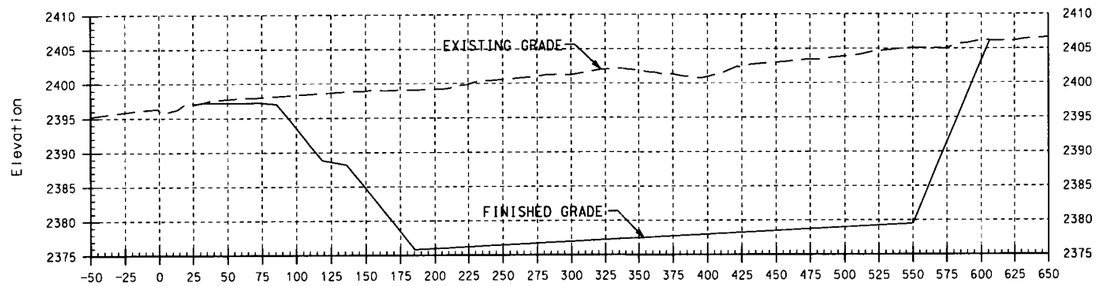
SHEET No
C-6



STATION 14+82.00



STATION 19+16.00



STATION 20+38.00

NOTES:

1. ℄ EDMONDS STREET IS STATION 0.
2. CROSS-SECTIONS ARE SHOWN LOOKING SOUTH.
3. CROSS-SECTIONS PER CONTROL LINE SHEET C-1.

REV No	DATE	DESCRIPTION	APPROVED

MWH
Las Vegas Nevada

MWH
3014 WEST CHARLESTON BLVD
LAS VEGAS, NV. 89102
(702) 878-8010

LOWER BLUE DIAMOND DETENTION BASIN
BASIN CROSS-SECTIONS 3

CLARK COUNTY, NEVADA, DEPARTMENT OF PUBLIC WORKS

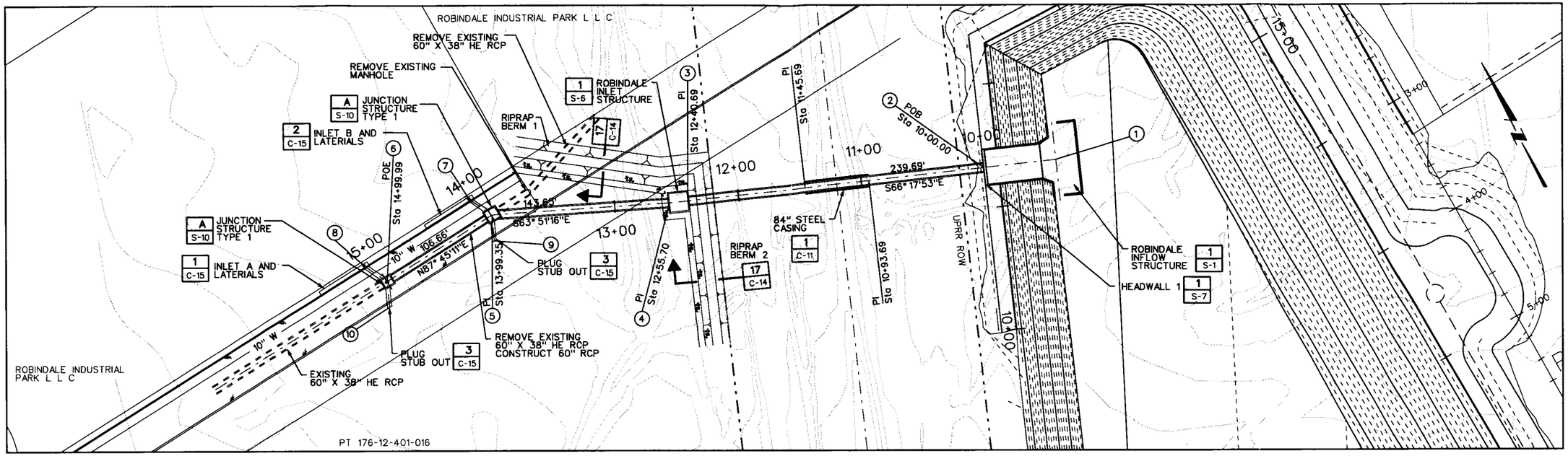
PROFESSIONAL ENGINEER - STATE OF NEVADA
DONALD W. DAVIS
CIVIL
No. 9087

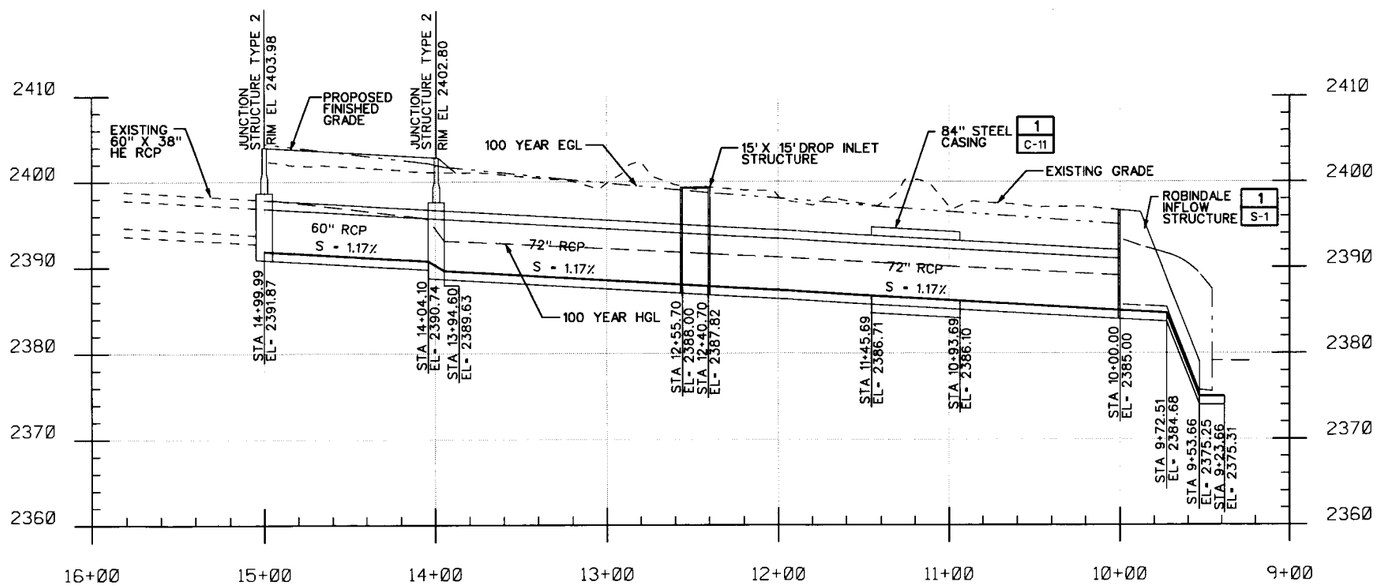
DESIGNED BY:	DWD
DRAWN BY:	JRP
CHECKED BY:	
DATE:	3/24/05

SCALE	SHEET No
HORIZ:	C-7
VERT:	
FIELD BOOK NONE	

27-APR-2005 16:12

$$$$$$$$$$directory/filename$$$$$$$$$$





CONTROL POINTS

POINT NO.	NORTHING	EASTING
1	26,724,430.1	765,745.4
2	26,724,453.8	765,691.5
3	26,724,550.5	765,471.2
4	26,724,556.6	765,457.4
5	26,724,619.9	765,328.5
6	26,724,615.9	765,227.9
7	26,724,640.6	765,318.9
8	26,724,636.5	765,218.4
9	26,724,600.9	765,319.6
10	26,724,597.1	765,219.2

27-APR-2005 16:12

$$$$$$$$$$directory/filename$$$$$$$$$$

REV No	DATE	DESCRIPTION	APPROVED

MWH
Las Vegas Nevada

MWH
3014 WEST CHARLESTON BLVD
LAS VEGAS, NV. 89102
(702) 878-8010

CLARK COUNTY NEVADA

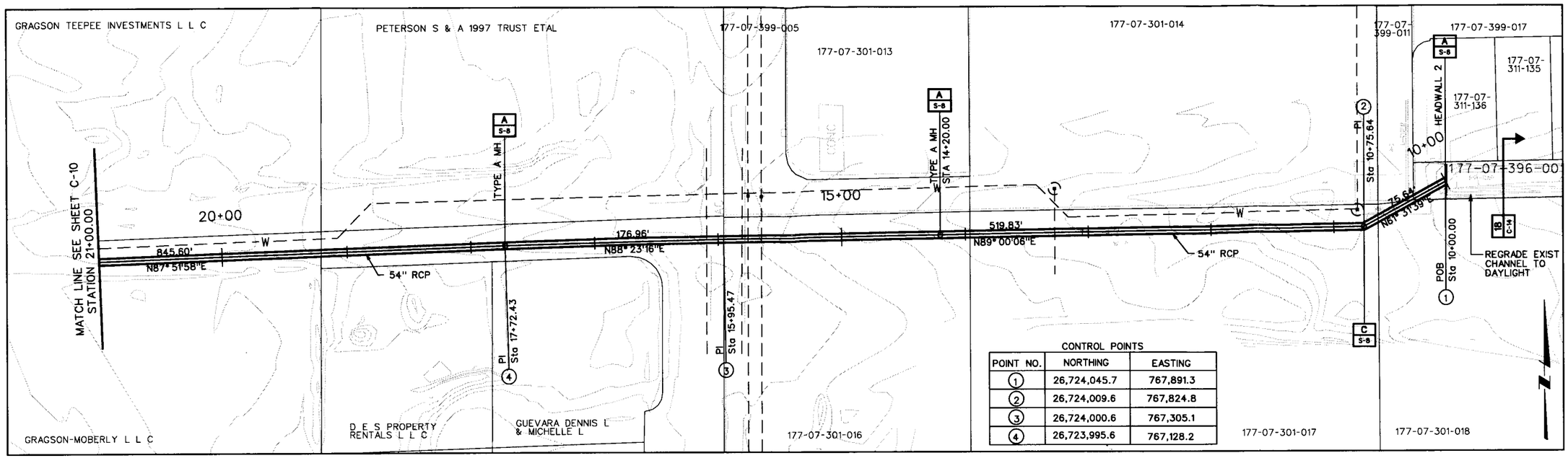
LOWER BLUE DIAMOND DETENTION BASIN
ROBINDALE COLLECTOR PLAN AND PROFILE
STA 10+00 TO STA 14+75.64
CLARK COUNTY, NEVADA, DEPARTMENT OF PUBLIC WORKS

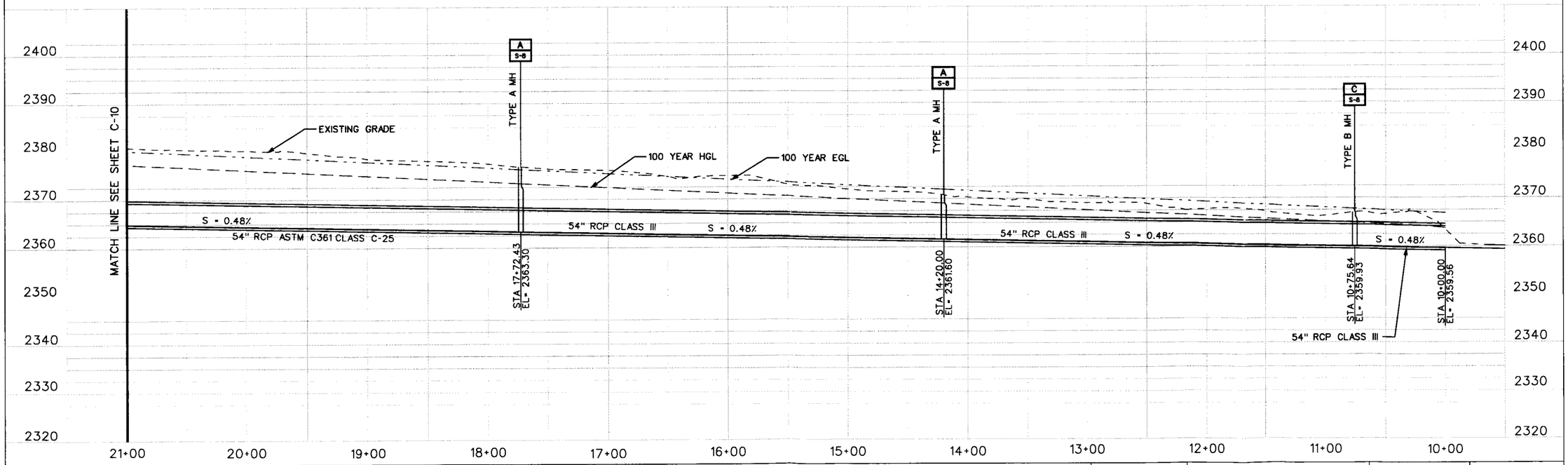
PROFESSIONAL ENGINEER - STATE OF NEVADA
DONALD W DAVIS
CIVIL
No. 9987

DESIGNED BY: DWD
DRAWN BY: JRP
CHECKED BY:
DATE: 3/24/05

SCALE
HORIZ: 1" = 40'
VERT: 1" = 8'
FIELD BOOK NONE

SHEET No
C-8





27-APR-2005 16:12

$$$$$$$$$$directory/filename$$$$$$$$$$

REV No	DATE	DESCRIPTION	APPROVED

MWH
3014 WEST CHARLESTON BLVD
LAS VEGAS, NV. 89102
(702) 878-8010

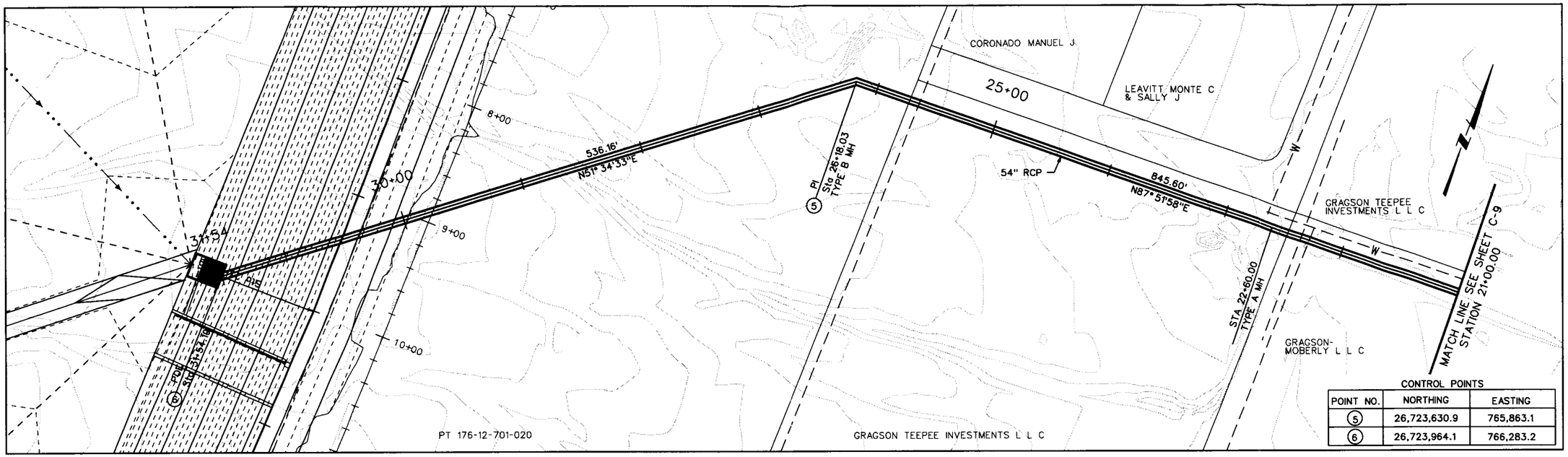
LOWER BLUE DIAMOND DETENTION BASIN
OUTLET PIPE PLAN AND PROFILE
STA 10+00 TO STA 21+00
CLARK COUNTY, NEVADA, DEPARTMENT OF PUBLIC WORKS

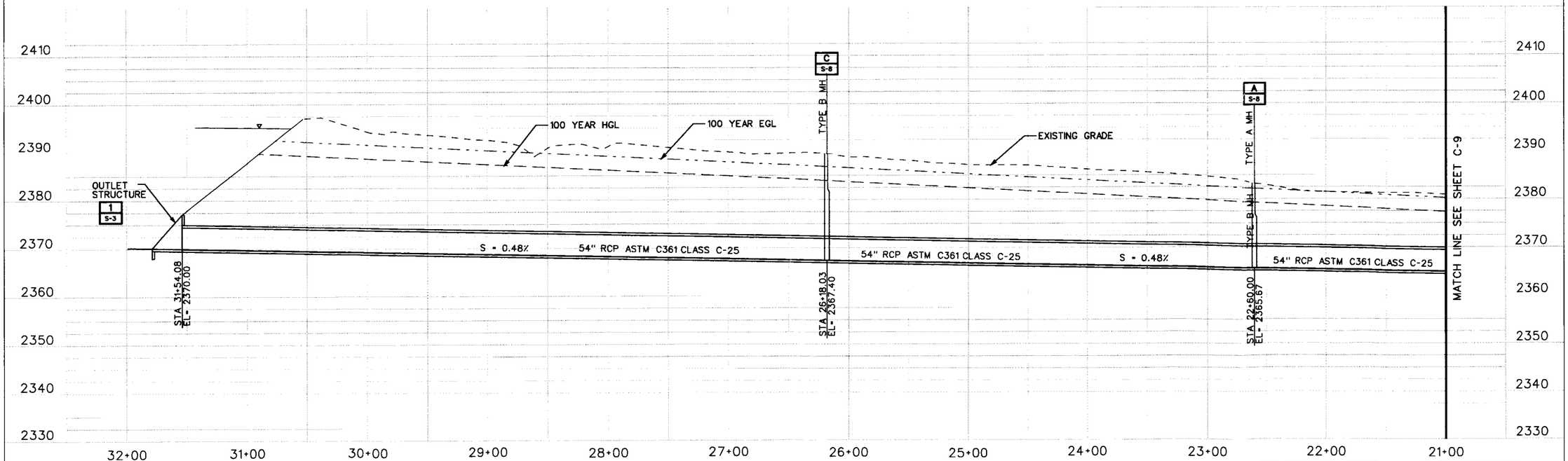
PROFESSIONAL ENGINEER - STATE OF NEVADA
DONALD W. DAVIS
CIVIL
No. 9097

DESIGNED BY:	DWD
DRAWN BY:	JRP
CHECKED BY:	
DATE:	3/24/05

SCALE	
HORIZ:	1" = 40'
VERT:	1" = 10'
FIELD BOOK	NONE

SHEET No
C-9





27-APR-2005 16:12

$$$$$$$$$$directory/filename$$$$$$$$$$

REV No	DATE	DESCRIPTION	APPROVED

MWH
3014 WEST CHARLESTON BLVD
LAS VEGAS, NV. 89102
(702) 878-8010

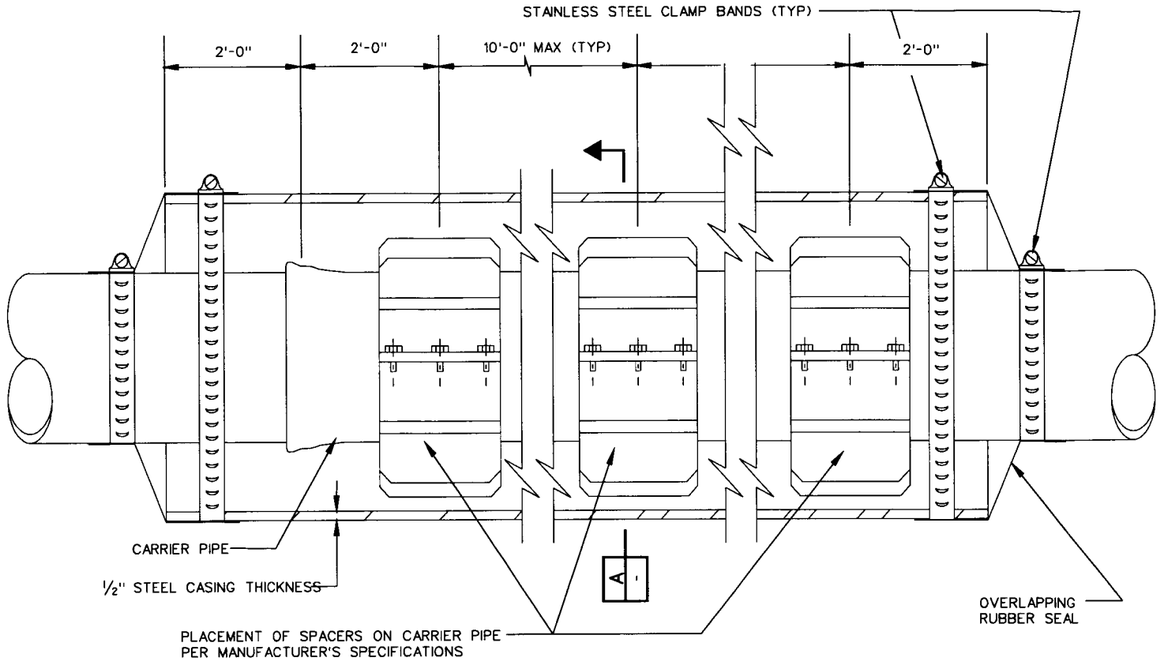
LOWER BLUE DIAMOND DETENTION BASIN
OUTFALL PIPE PLAN AND PROFILE
STA 21+00 TO STA 31+54.08
CLARK COUNTY, NEVADA, DEPARTMENT OF PUBLIC WORKS

PROFESSIONAL ENGINEER - STATE OF NEVADA
DONALD W. DAVIS
CIVIL
No. 8087

DESIGNED BY: DWD
DRAWN BY: JRP
CHECKED BY:
DATE: 3/24/05

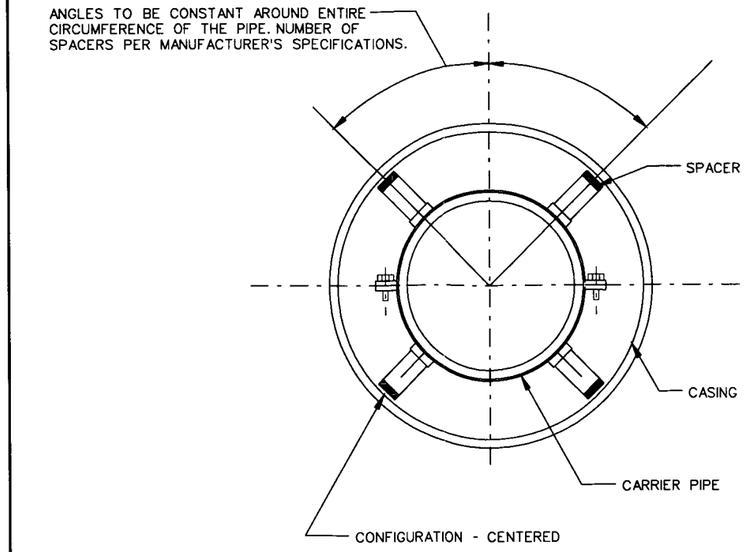
SCALE
HORIZ: 1" = 40'
VERT: 1" = 10'
FIELD BOOK NONE

SHEET No
C-10



CASING INSTALLATION DETAIL 1 / C-8

NOT TO SCALE

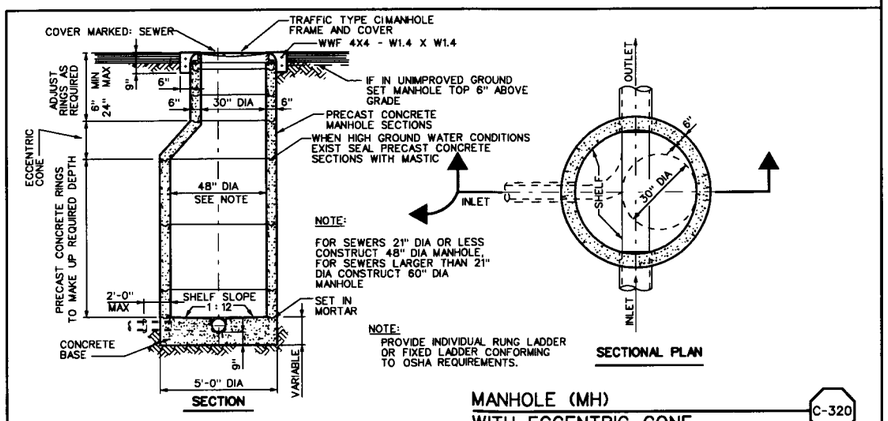


CASING INSTALLATION SECTION A / -

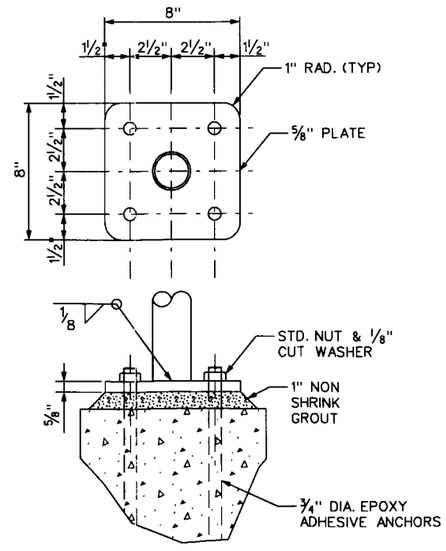
NOT TO SCALE

NOTES

1. STEEL PIPE CASING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A283, GRADE B, C, OR D. ALL JOINTS SHALL BE WELDED. INTERIOR JOINTS SHALL BE GROUND TO A SMOOTH FINISH. ALL WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AWWA C206, "ASSA STANDARD FOR FIELD WELDING OF STEEL WATER PIPE." COATINGS FOR STEEL CASING ARE NOT REQUIRED.
2. STEEL PIPE CASING SHALL BE INSTALLED SYMMETRICAL ABOUT CARRIER PIPE CENTERLINE (TYP). PIPE CASING SHALL BE LAID TRUE TO LINE AND GRADE WITH NO BENDS OR CHANGES IN GRADE FOR THE FULL LENGTH OF THE CASING.
3. CASING SPACERS AND END SEALS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. USE A "CENTERED" CONFIGURATION AND PROVIDE THE MANUFACTURER WITH THE FOLLOWING: (PIPE OD, CASING ID, AND CASING LENGTH).
4. CASING TO BE FILLED WITH SAND OR GROUT.



MANHOLE (MH) WITH ECCENTRIC CONE C-320



POST MOUNTING DETAIL 2 / S-1 S-2

NOT TO SCALE

27-APR-2005 16:12

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REV No	DATE	DESCRIPTION	APPROVED

MWH
3014 WEST CHARLESTON BLVD
LAS VEGAS, NV. 89102
(702) 878-8010

LOWER BLUE DIAMOND DETENTION BASIN
CIVIL DETAILS 1

CLARK COUNTY, NEVADA, DEPARTMENT OF PUBLIC WORKS

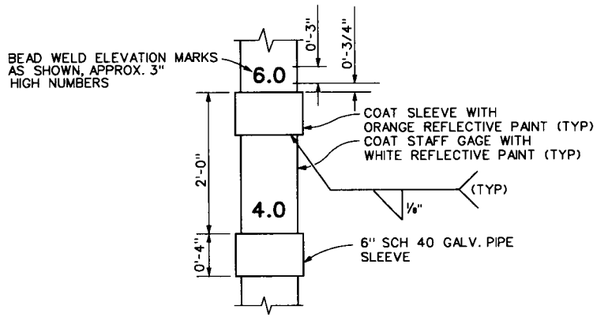
PROFESSIONAL ENGINEER - STATE OF NEVADA
DONALD W DAVIS
CIVIL
No. 9867

DESIGNED BY:	DWD
DRAWN BY:	JRP
CHECKED BY:	
DATE:	3/24/05

SCALE	
HORIZ:	NONE
VERT:	NONE
FIELD BOOK	NONE

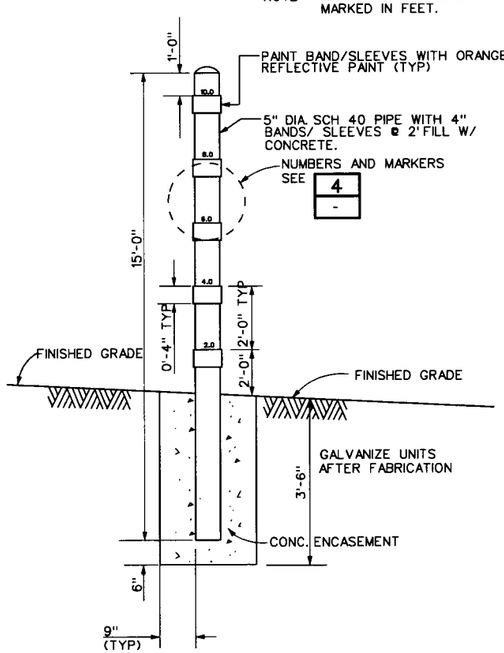
SHEET No C-11

NOTE: NUMBERS ON GAGE ARE IN FEET

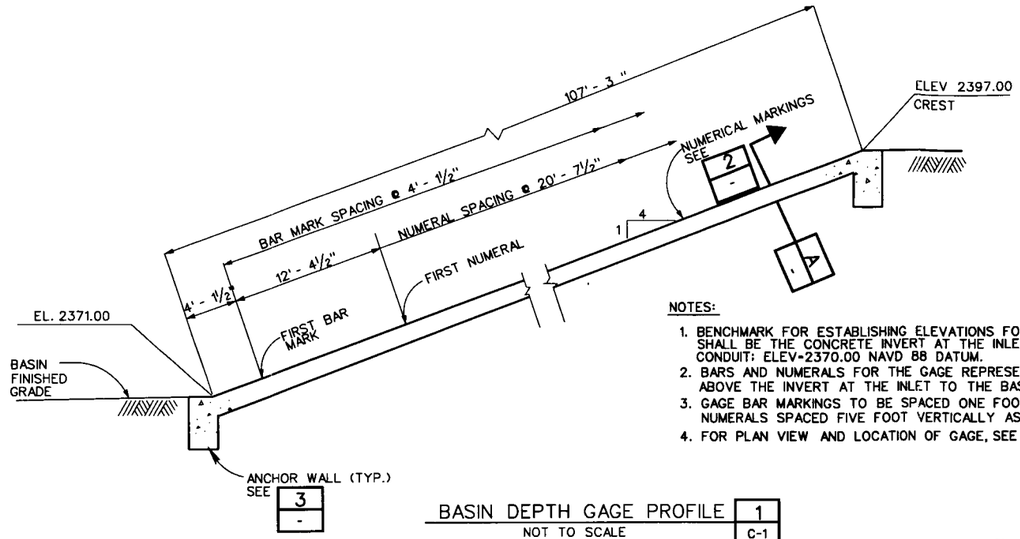


NUMBERS AND MARKERS — 4 / -
NOT TO SCALE

NOTE: SEDIMENT STAFF GAGES ARE MARKED IN FEET.



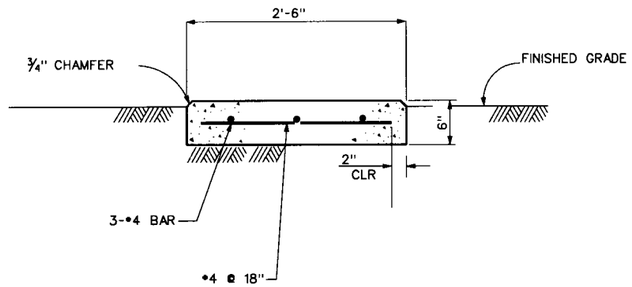
SEDIMENT STAFF GAGE DETAIL — 5 / C-3



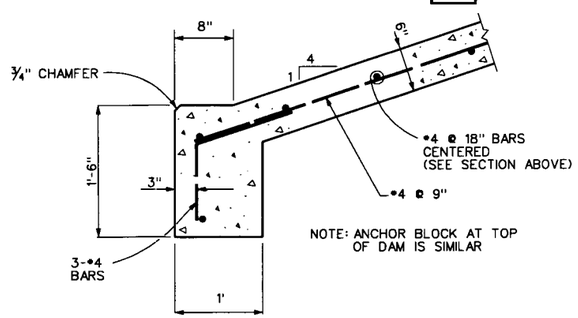
NOTES:

1. BENCHMARK FOR ESTABLISHING ELEVATIONS FOR THE DEPTH GAGE SHALL BE THE CONCRETE INVERT AT THE INLET TO THE BASIN OUTLET CONDUIT: ELEV=2370.00 NAVD 88 DATUM.
2. BARS AND NUMERALS FOR THE GAGE REPRESENT VERTICAL DISTANCE ABOVE THE INVERT AT THE INLET TO THE BASIN OUTLET CONDUIT.
3. GAGE BAR MARKINGS TO BE SPACED ONE FOOT VERTICALLY WITH NUMERALS SPACED FIVE FOOT VERTICALLY AS SHOWN.
4. FOR PLAN VIEW AND LOCATION OF GAGE, SEE SHEET C-2.

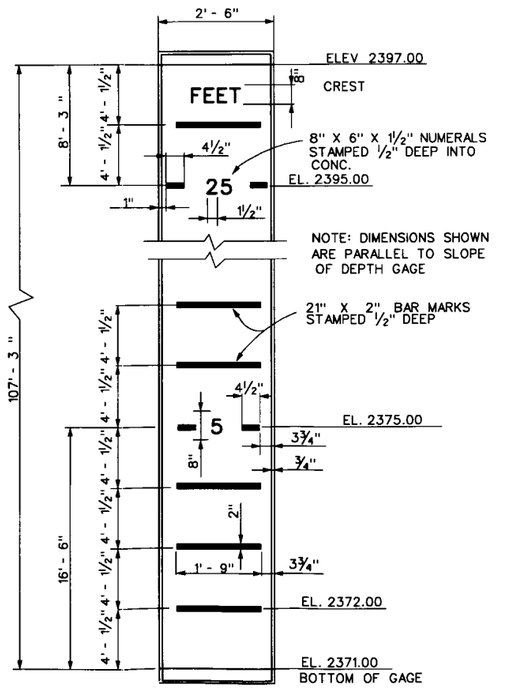
BASIN DEPTH GAGE PROFILE — 1 / C-1, C-2
NOT TO SCALE



BASIN DEPTH GAGE SECTION — A / -
NOT TO SCALE



ANCHOR WALL — 3 / -
NOT TO SCALE



NUMERICAL MARKINGS — 2 / -
NOT TO SCALE

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Las Vegas, Nevada

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3014 WEST CHARLESTON BLVD
LAS VEGAS, NV. 89102
(702) 878-8010

CLARK COUNTY NEVADA

LOWER BLUE DIAMOND DETENTION BASIN
CIVIL DETAILS 2

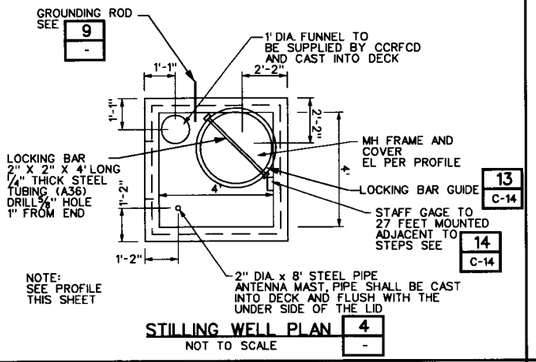
CLARK COUNTY, NEVADA, DEPARTMENT OF PUBLIC WORKS

PROFESSIONAL ENGINEER - STATE OF NEVADA
DONALD W. DAVIS
CIVIL
No. 9987

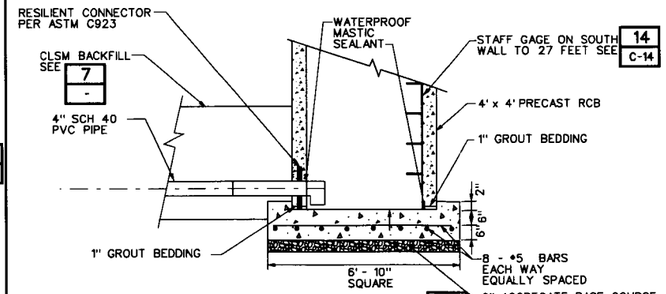
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DRAWN BY:	JRP
CHECKED BY:	
DATE:	3/24/05

SCALE	
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VERT:	NONE
FIELD BOOK	NONE

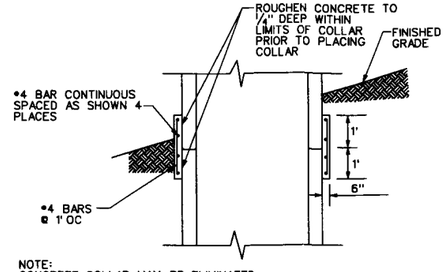
SHEET No C-12



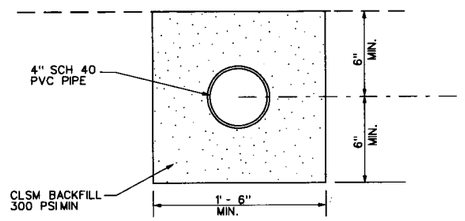
STILLING WELL PLAN 4 -
NOT TO SCALE



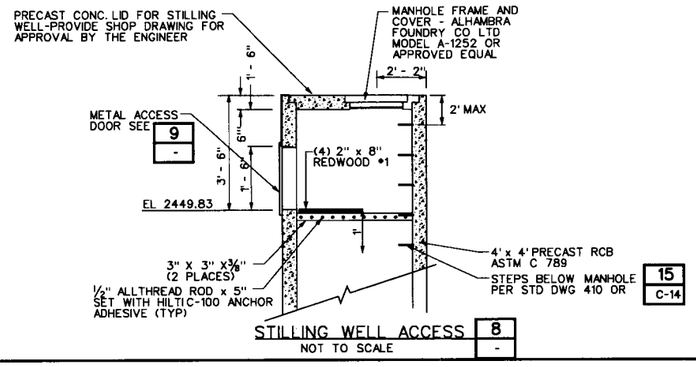
FOOTING 5 -
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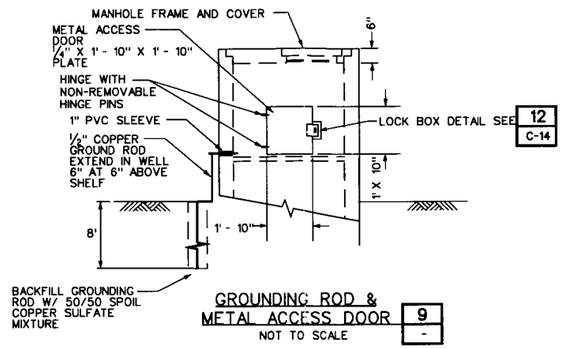
CONCRETE COLLAR 6 -
NOT TO SCALE



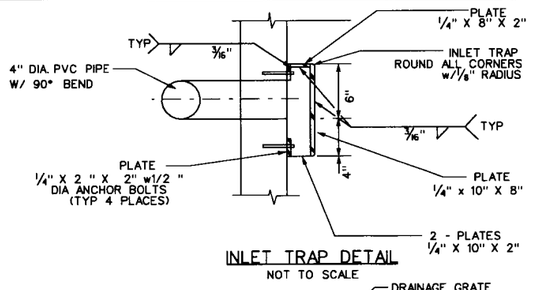
SLURRY BACKFILL 7 -
NOT TO SCALE



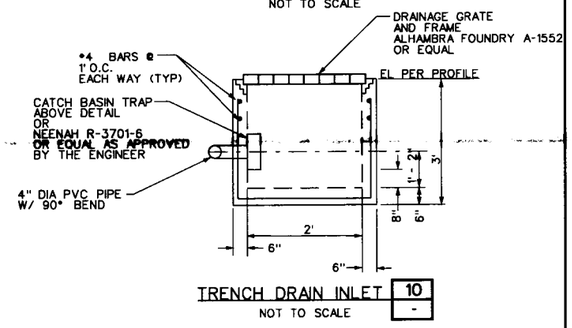
STILLING WELL ACCESS 8 -
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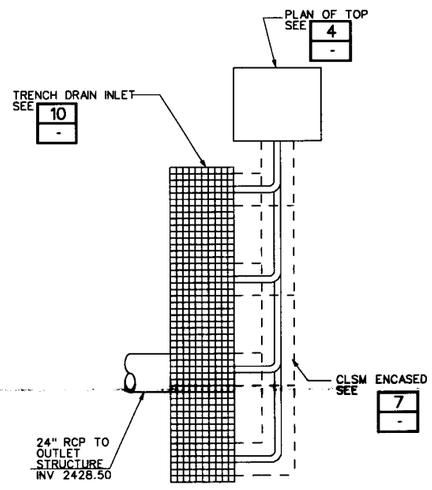
GROUNDING ROD & METAL ACCESS DOOR 9 -
NOT TO SCALE



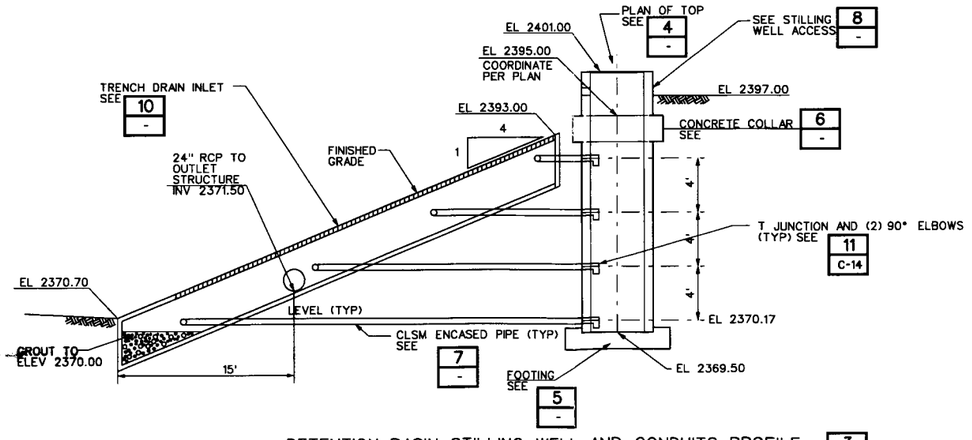
INLET TRAP DETAIL
NOT TO SCALE



TRENCH DRAIN INLET 10 -
NOT TO SCALE



DETENTION BASIN STILLING WELL AND CONDUITS PLAN 3 C-1 C-2
NOT TO SCALE



DETENTION BASIN STILLING WELL AND CONDUITS PROFILE 3 C-2
NOT TO SCALE

NOTE: ALL PVC SECTIONS SHALL BE EPOXIED TOGETHER

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CLARK COUNTY NEVADA

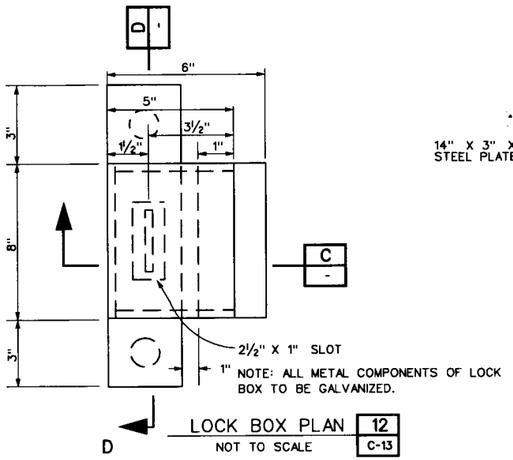
LOWER BLUE DIAMOND DETENTION BASIN
CIVIL DETAILS 3
CLARK COUNTY, NEVADA, DEPARTMENT OF PUBLIC WORKS

PROFESSIONAL ENGINEER - STATE OF NEVADA
DONALD W DAVIS
CIVIL
No. 9087

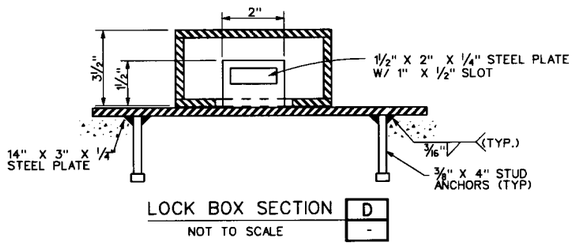
DESIGNED BY:	DWD
DRAWN BY:	JRP
CHECKED BY:	
DATE:	3/24/05

SCALE	
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VERT:	NONE
FIELD BOOK	NONE

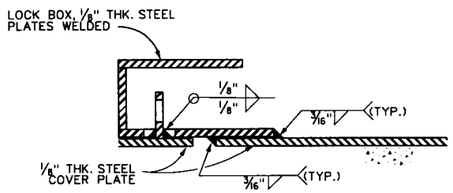
SHEET No
C-13



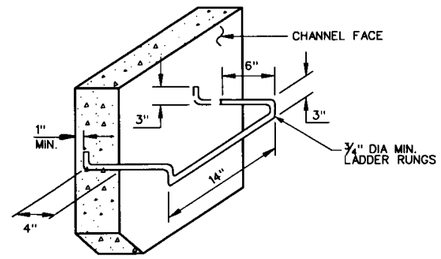
LOCK BOX PLAN 12 / C-13
NOT TO SCALE



LOCK BOX SECTION D / NOT TO SCALE

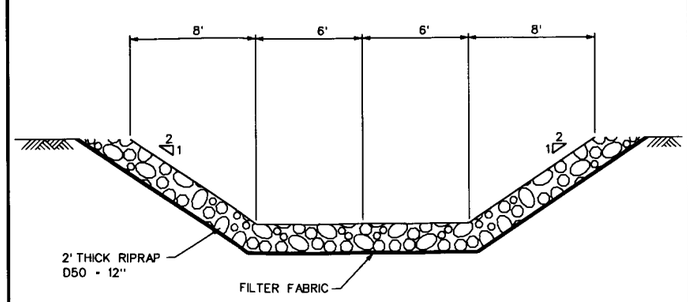


LOCK BOX SECTION C / NOT TO SCALE

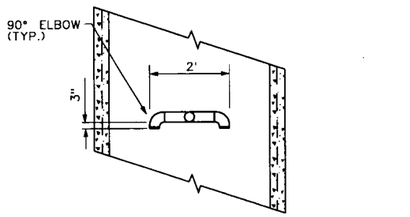


NOTES:
1. LADDER STEPS TO BE CAST-IN-PLACE OR NEENAH FOUNDRY R-1982-F MANHOLE STEP OR EQUAL DRILLED AND EPOXIED IN PLACE WITH 4" EMBEDMENT
2. THE LADDER STEPS SHALL BE MADE OF EITHER GALVANIZED STEEL OR SOME OTHER UV-RESISTANT MATERIAL.
3. STEPS SHALL BE EVENLY SPACED FROM 12" TO 16".

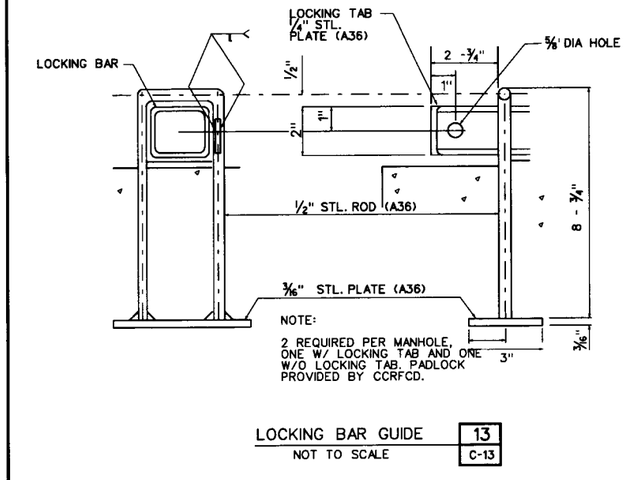
STEP DETAIL 15 / C-13 / S-3 / S-6
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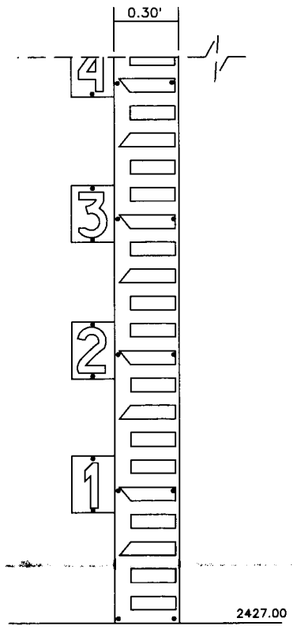
MOBERLY CHANNEL SECTION 18 / C-9
NOT TO SCALE



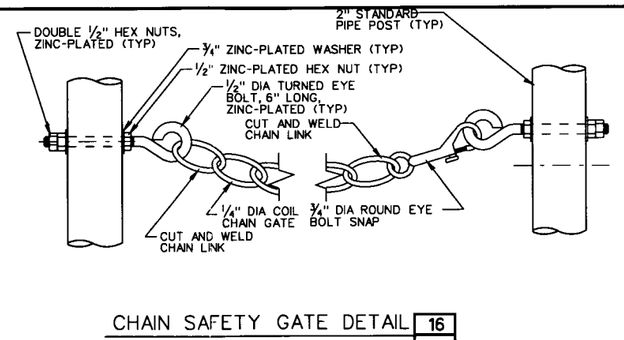
T JUNCTION SECTION A / C-14
NOT TO SCALE



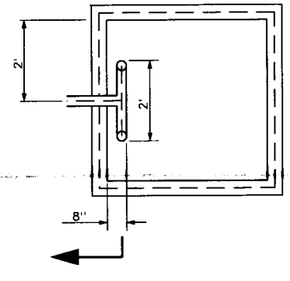
LOCKING BAR GUIDE 13 / C-13
NOT TO SCALE



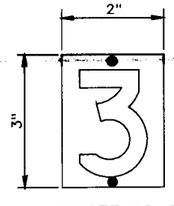
STAFF GAGE 14 / C-13
NOT TO SCALE



CHAIN SAFETY GATE DETAIL 16 / S-6
NOT TO SCALE



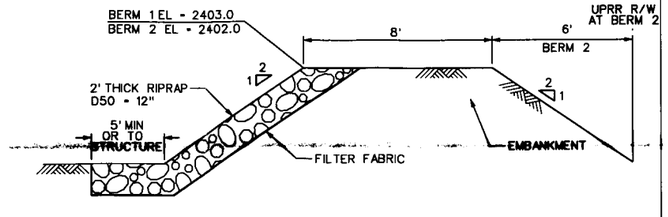
T JUNCTION PLAN 11 / C-13
NOT TO SCALE



BLACK FIGURES
WHITE PORCELAIN ENAMELED PLATES

TYPICAL LETTERING DIMENSIONS
NOT TO SCALE

NOTES:
1. STAFF GAGE SHALL USE UNITS OF FEET AND BE GRADUATED IN TENTHS OF FEET
2. STAFF GAGE SHALL BE PORCELAIN ENAMELED, STEVENS STYLE E OR EQUIVALENT
3. VERIFICATION OF ELEVATION BY THE ENGINEER SHALL BE REQUIRED PRIOR TO STAFF GAGE INSTALLATION



TYPICAL BERM SECTION 17 / C-8
NOT TO SCALE

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LOWER BLUE DIAMOND DETENTION BASIN
CIVIL DETAILS 4

CLARK COUNTY, NEVADA, DEPARTMENT OF PUBLIC WORKS

PROFESSIONAL ENGINEER STATE OF NEVADA DONALD W. DAVIS CIVIL No. 9087

DESIGNED BY:	DWD
DRAWN BY:	JRP
CHECKED BY:	
DATE:	3/24/05

SCALE	
HORIZ:	NONE
VERT:	NONE
FIELD BOOK	NONE

SHEET No C-14

GENERAL NOTES

GENERAL

THESE NOTES ARE GENERAL AND APPLY TO THE ENTIRE PROJECT EXCEPT WHERE SPECIFICALLY INDICATED OTHERWISE.

STRUCTURES HAVE BEEN DESIGNED FOR OPERATIONAL, HYDROSTATIC, AND BACKFILL LOADS ON THE COMPLETED STRUCTURES. THE STRUCTURES HAVE NOT BEEN DESIGNED TO RESIST THESE LOADS WHILE ONLY PARTIALLY CONSTRUCTED. DURING CONSTRUCTION, THE STRUCTURES SHALL BE PROTECTED FROM ALL CONSTRUCTION LOADS BY BRACING AND BALANCING UNTIL ALL STRUCTURAL ELEMENTS ARE IN PLACE, AND ALL CONCRETE HAS REACHED THE SPECIFIED 28 DAY COMPRESSIVE STRENGTH. OVERLOADING OF ANY STRUCTURAL ELEMENT IS PROHIBITED.

UNLESS OTHERWISE SHOWN, ON ALL STRUCTURAL DRAWINGS THE FINISHED GRADE AROUND STRUCTURES IS SHOWN THUS, INDICATING EITHER GROUND SURFACE, TOP OF CONCRETE SLAB, OR AC PAVEMENT. FOR DETAILS OF FINISH SURFACES SEE CIVIL DRAWINGS.

STRUCTURAL STEEL

STEEL CONSTRUCTION SHALL CONFORM TO THE SPECIFICATIONS AND STANDARDS AS CONTAINED IN THE LATEST EDITION OF THE LRFD MANUAL OF STEEL CONSTRUCTION.

OTHER SHAPES, BARS, PLATES AND SHEETS SHALL BE OF STEEL MEETING ASTM A-36 SPECIFICATIONS.

PIPE, PIPE COLUMNS, AND BOLLARDS SHALL BE OF STEEL MEETING ASTM A-53, TYPE E OR S, GRADE B STANDARD WEIGHT, UNO

ALL WELDING SHALL BE BY THE SHIELDED ARC METHOD AND SHALL CONFORM TO AWS CODE FOR ARC AND GAS WELDING IN BUILDING CONSTRUCTION. QUALIFICATIONS OF WELDERS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS FOR STANDARD QUALIFICATION PROCEDURE OF THE AWS.

CONCRETE (EXCEPT PRECAST CONCRETE)

UNLESS OTHERWISE NOTED OR SPECIFIED, ALL STRUCTURAL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI IN 28 DAYS.

REINFORCEMENT STEEL SHALL BE DEFORMED BARS CONFORMING IN QUALITY TO THE REQUIREMENTS OF ASTM A-615, "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", GRADE 60

ALL DETAILING, FABRICATION AND PLACING OF REINFORCING BARS, UNLESS OTHERWISE INDICATED, SHALL BE IN ACCORDANCE WITH ACI-315, "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", LATEST EDITION.

TOLERANCES IN PLACING REINFORCEMENT SHALL BE:

± 3/8 INCH FOR MEMBERS WITH D </= 8 INCHES
± 1/2 INCH FOR MEMBERS WITH D > 8 INCHES

ALL CONSTRUCTION JOINTS, SHALL BE ROUGH AND THOROUGHLY CLEANED FOR BOND.

DOWELS, PIPE, WATERSTOPS AND OTHER INSTALLED MATERIALS AND ACCESSORIES SHALL BE HELD SECURELY IN POSITION WHILE CONCRETE IS BEING PLACED.

UNLESS OTHERWISE INDICATED, ASIDE FROM NORMAL ACCESSORIES USED TO HOLD REINFORCING BARS FIRMLY IN POSITION, THE FOLLOWING SHALL BE ADDED:

A) IN SLABS #5 RISER BARS AT 36 INCHES OC MAXIMUM TO SUPPORT TOP REINFORCING BARS.

B) IN WALLS WITH 2 CURTAINS #3 U OR Z SHAPE SPACERS AT 6 FEET OC EACH WAY.

VERTICAL REINFORCEMENT FOR CONCRETE OR MASONRY SHALL BE SPLICED WITH DOWEL BARS OF THE SAME SIZE AND SPACING FROM THE FOUNDATION USING A STANDARD SPLICE LENGTH UNLESS INDICATED OTHERWISE.

SEALANT SHALL BE PLACED AT THE TOP OF ALL JOINTS RECEIVING EXPANSION JOINT FILLER. SEALANT DEPTH SHALL BE THE JOINT FILL THICKNESS OR 1/2", WHICHEVER IS LESS.

ALL GROUT SHALL BE NON-SHRINK GROUT, UNLESS INDICATED OTHERWISE.

METAL CLIPS OR SUPPORTS SHALL NOT BE PLACED IN CONTACT WITH THE FORMS OR THE SUBGRADE. CONCRETE BLOCKS (OR DOBIES) SUPPORTING BARS ON SUBGRADE SHALL BE IN SUFFICIENT NUMBERS TO SUPPORT THE BARS WITHOUT SETTLEMENT, BUT IN NO CASE SHALL SUCH SUPPORT BE CONTINUOUS.

DOWELS SHALL BE WIRED OR OTHERWISE HELD IN POSITION. THEY SHALL NOT BE SHOVED INTO FRESHLY PLACED CONCRETE.

UNLESS OTHERWISE INDICATED ON THE DRAWINGS, LAPS OF REINFORCEMENT SHALL BE AS SHOWN ON DETAIL S-143.

REINFORCING BARS AND ACCESSORIES SHALL NOT BE IN CONTACT WITH PIPE, PIPE FLANGE OR METAL PARTS EMBEDDED IN CONCRETE. A MINIMUM OF 2 INCHES CLEARANCE SHALL BE PROVIDED AT ALL TIMES.

UNLESS OTHERWISE SHOWN ON THE DRAWINGS CONCRETE COVER FOR REINFORCING BARS SHALL BE AS FOLLOWS:

FOR CONCRETE PLACED AGAINST EARTH SEE CONSTRUCTION JOINT DETAILS FOR THIN SLABS-ON-GRADE. BOTTOM COVER MAY BE LESS THAN 3" IF SO INDICATED ---------- 3"

FOR SURFACES IN CONTACT WITH WATER OR WEATHER AND FORMED SURFACES IN CONTACT WITH EARTH ------- 2"

FOR CONCRETE NOT EXPOSED TO WEATHER, OR IN CONTACT WITH WATER OR EARTH ---------- 1½"

UNLESS OTHERWISE NOTED, WALLS AND SLABS SHOWN WITH A SINGLE LAYER OF REINFORCEMENT SHALL HAVE THAT REINFORCEMENT CENTERED

SLABS WITH SLOPING SURFACES SHALL HAVE THE INDICATED SLAB THICKNESS MAINTAINED AS THE MINIMUM. SLAB BOTTOMS MAY EITHER SLOPE WITH THE TOP SURFACE OR BE LEVEL. REINFORCING IN SLABS WITH SLOPING SURFACES SHALL BE PLACED AT THE REQUIRED CLEARANCE FROM THE SLAB SURFACES.

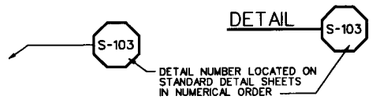
STRUCTURAL STANDARD DETAILS

DETAILS ON GS SHEETS ARE PART OF MWH'S STRUCTURAL STANDARD DETAILS.

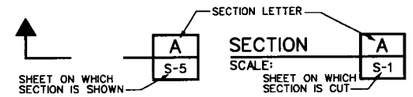
THESE DETAILS ARE TO BE USED WHEN REFERRED TO OR WHEN NO OTHER MORE RESTRICTIVE OR DIFFERENT DETAILS ARE INDICATED ON THE DRAWINGS.

DETAILS NOT PERTAINING TO THE PROJECT ARE MARKED THUS

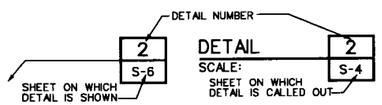
STRUCTURAL STANDARD DETAIL CALLOUT



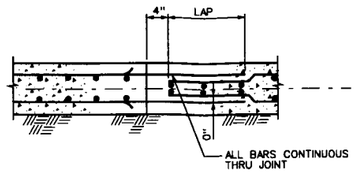
SECTION CALLOUT



DETAIL CALLOUT



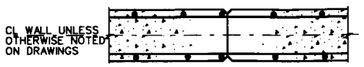
REV 063003



SLAB-ON-GRADE CONSTRUCTION JOINTS S-115



SINGLE CURTAIN REINFORCEMENT S-122

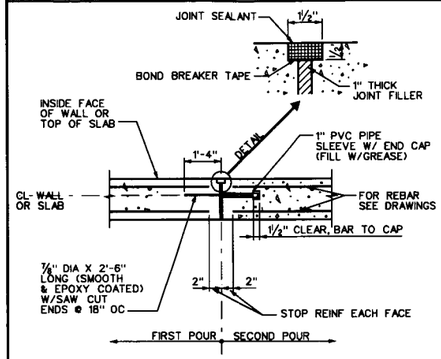


DOUBLE CURTAIN REINFORCEMENT S-124

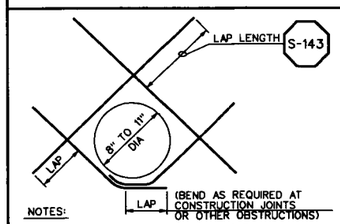
NOTE:

1. ALL BARS CONTINUOUS THROUGH JOINT

VERTICAL WALL CONSTRUCTION JOINT REV 041202



EXPANSION JOINT REV 081899 S-116



NOTES:

1. CUT NORMAL REINFORCEMENT 2" CLEAR OF OPENING
2. DIAGONAL BARS TO BE PLACED:
   A) AT CENTERLINE OF WALL OR SLAB WHERE ONE LAYER OF REINFORCEMENT IS PROVIDED
   B) AT EACH FACE OF WALL OR SLAB WHERE TWO LAYERS OF REINFORCEMENT ARE PROVIDED
3. UNLESS OTHERWISE NOTED, SIZE OF DIAGONAL BARS SHALL BE THE SIZE OF THE LARGEST NORMAL REINFORCING BAR CUT
4. THIS DETAIL TO BE USED WHEN CALLED FOR ON THE DRAWINGS OR WHEN NO OTHER DETAIL IS SPECIFIED

DIAGONAL REINFORCEMENT AT CIRCULAR OPENINGS (8" - 11" DIA) REV 091003 S-142

27-APR-2005 16:12

$$$$$$$$$$directory/filename$$$$$$$$$$

REV No	DATE	DESCRIPTION	APPROVED

MWH
3014 WEST CHARLESTON BLVD
LAS VEGAS, NV. 89102
(702) 878-8010

CLARK COUNTY NEVADA

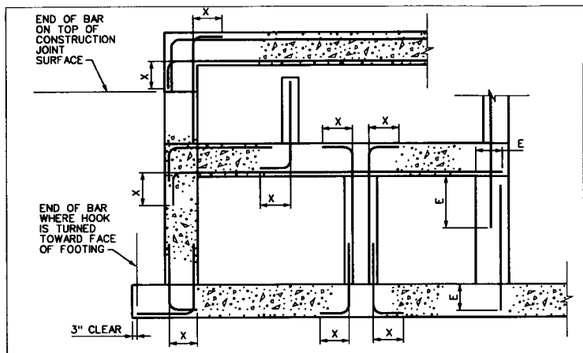
LOWER BLUE DIAMOND DETENTION BASIN
STRUCTURAL STANDARD DETAILS 1

CLARK COUNTY, NEVADA, DEPARTMENT OF PUBLIC WORKS

DESIGNED BY:	GAC
DRAWN BY:	PDH
CHECKED BY:	
DATE:	4/22/05

SCALE	
HORIZ:	NONE
VERT:	NONE
FIELD BOOK	NONE

SHEET No GS-1



SECTION

LENGTH (")			
BAR SIZE	HOOK X	LAP	EMBEDMENT E
#3	6"	16" (21")	12" (16")
#4	8"	16" (21")	12" (16")
#5	10"	20" (26")	15" (20")
#6	12"	28" (37")	22" (28")
#7	14"	48" (62")	37" (48")
#8	16"	62" (81")	48" (62")
#9	19"	79" (102")	61" (79")
#10	22"	100" (130")	77" (100")
#11	24"	123" (160")	95" (123")

* USE LENGTH IN PARENTHESIS FOR WALL HORIZONTAL REBARS AND SLAB BARS WITH 12" OR MORE OF FRESH CONCRETE UNDERNEATH

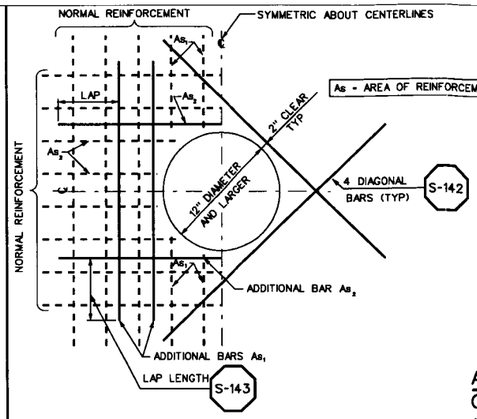
NOTES:

1. USE LAP LENGTHS AS DETERMINED FROM THESE TABLES UNLESS SHOWN OTHERWISE
2. THE TABLES SHOWN ARE FOR f'c-4000psi, fy-60,000psi, 1.5" MIN CONCRETE COVER AND 3" MIN BAR SPACING
3. MULTIPLY THE LAP AND E SHOWN IN THESE TABLES BY 1.5 FOR EPOXY COATED REINFORCING
4. WHEN BARS OF DIFFERENT SIZES ARE LAP SPLICED, LAP LENGTH SHALL BE THE LARGER OF:

   EMBEDMENT LENGTH OF LARGER BAR
   LAP LENGTH OF SMALLER BAR
5. UNLESS NOTED OTHERWISE USE REBAR COUPLERS FOR SPLICES OF #11 AND LARGER BARS
6. ALL DOWEL BARS SHALL EXTEND AN EMBEDMENT LENGTH E INTO ANOTHER MEMBER OR ACROSS A CONSTRUCTION JOINT UNLESS SHOWN TO SPLICE WITH OTHER BARS OR TO EXTEND TO THE FAR FACE OF THE MEMBER AND END WITH A STANDARD HOOK

STANDARD 90° BAR HOOKS, EMBEDMENT LENGTHS AND LAP LENGTHS

REV 091003 S-143

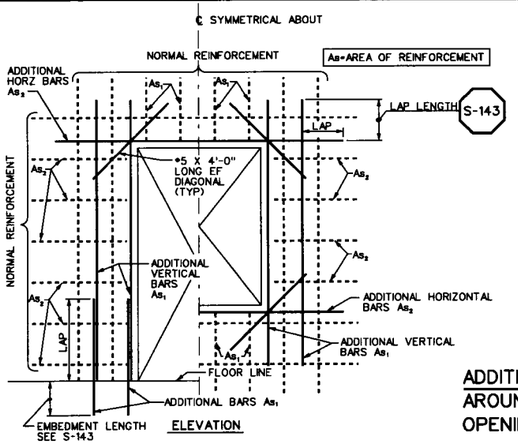


NOTES:

1. CUT NORMAL REINFORCEMENT AT OPENINGS: As_1 AND As_2 = ½ AREA OF CUT BARS TO BE ADDED ON EACH SIDE OF OPENING
2. ADDITIONAL BARS As_1 AND As_2 TO BE PLACED:
   A) AT CENTERLINE OF WALLS OR SLABS WHERE ONE LAYER OF REINFORCEMENT IS PROVIDED
   B) AT EACH FACE OF WALLS OR SLABS WHERE TWO LAYERS OF REINFORCEMENT ARE PROVIDED
3. INCREASE SIZE OF ADDITIONAL BARS AS NEEDED TO FIT WITHIN A DISTANCE OF 2 X WALL/SLAB THICKNESS FROM OPENING, PROVIDE 2" MIN CLEAR BETWEEN BARS
4. THIS DETAIL TO BE USED ONLY WHEN NO OTHER DETAIL IS INDICATED ON THE DRAWINGS
5. WHERE A SLAB OR INTERSECTING WALL CONNECTS WITHIN ONE WALL THICKNESS OF THE OPENING, ADDITIONAL BARS ON THAT SIDE MAY BE OMITTED

ADDITIONAL REINFORCEMENT AT CIRCULAR OPENINGS (12" DIA OR LARGER)

REV 070203 S-144

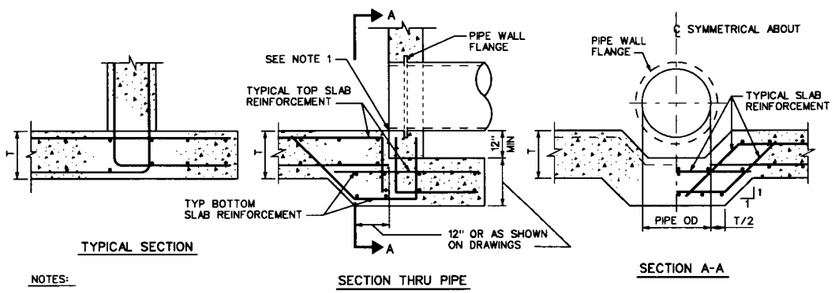


NOTES:

1. CUT NORMAL REINFORCEMENT AT OPENING: As_1 AND As_2 = ½ AREA OF CUT BARS TO BE ADDED ON EACH SIDE OF OPENING.
2. ADDITIONAL BARS As_1 AND As_2 TO BE PLACED:
   A) AT CENTERLINE OF WALLS OR SLABS WHERE ONE LAYER OF REINFORCEMENT IS PROVIDED.
   B) AT EACH FACE OF WALLS OR SLABS WHERE TWO LAYERS OF REINFORCEMENT ARE PROVIDED.
3. INCREASE SIZE OF ADDITIONAL BARS AS NEEDED TO FIT WITHIN A DISTANCE OF 2 X WALL/SLAB THICKNESS FROM OPENING. PROVIDE 2" MIN CLEAR BETWEEN BARS.
4. THIS DETAIL TO BE USED ONLY WHEN NO OTHER DETAIL IS INDICATED ON THE DRAWINGS.
5. WHERE A SLAB OR INTERSECTING WALL CONNECTS WITHIN ONE WALL THICKNESS OF THE OPENINGS, ADDITIONAL BARS ON THAT SIDE MAY BE OMITTED.

ADDITIONAL REINFORCEMENT AROUND RECTANGULAR OPENINGS

REV 091003 S-148

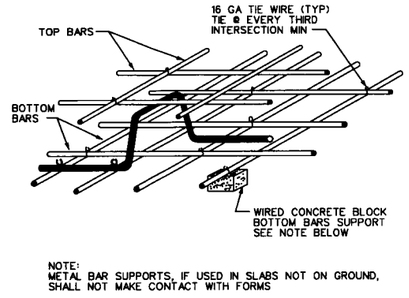


NOTES:

1. SET PIPE INVERT FLUSH WITH SLAB
2. DETAIL IS SIMILAR FOR RCP WITHOUT WALL FLANGE

FOOTING AT WALL PIPE CONNECTION

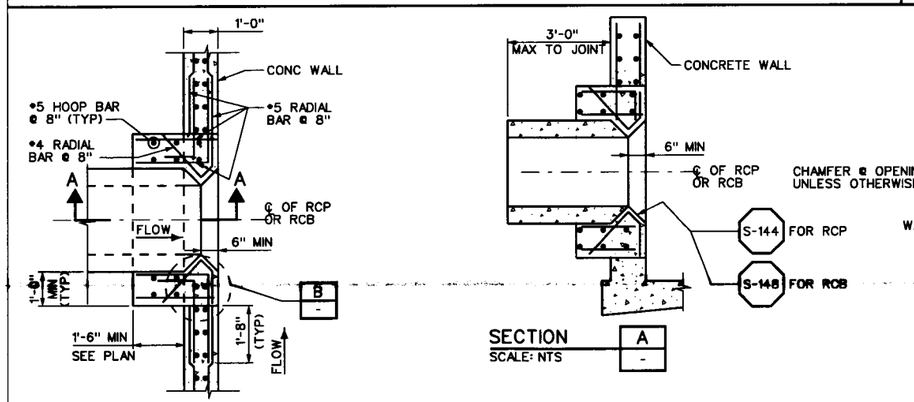
REV 010201 S-150



NOTE:
METAL BAR SUPPORTS, IF USED IN SLABS NOT ON GROUND, SHALL NOT MAKE CONTACT WITH FORMS

REINFORCEMENT SUPPORT

REV 060199 S-204

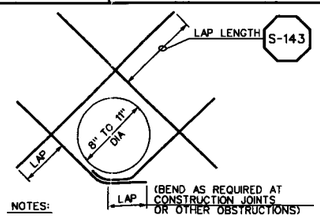


NOTES:

1. OPENINGS IN CHANNEL WALL SHALL BE CHAMFERED ¾" UNLESS OTHERWISE NOTED.
2. CUT REINFORCEMENT 2" FROM OPENING IN CHANNEL WALL EXCEPT WHEN HOOK OR BEND IS REQUIRED
3. "T" = WALL THICKNESS OF PIPE.
4. ALL REINFORCEMENT SHALL HAVE A MINIMUM OF 2" CLEARANCE UNLESS OTHERWISE NOTED.
5. BAR SPLICES SHALL BE IN ACCORDANCE WITH STANDARD DETAIL S-143 ON SHEET GS-2, UNLESS OTHERWISE NOTED.
6. LOCATION OF ALL SPLICES SHALL BE SUBMITTED FOR APPROVAL BY THE ENGINEER.

RCP OR RCB TO WALL CONNECTION DETAIL

S-915



NOTES:

1. CUT NORMAL REINFORCEMENT 2" CLEAR OF OPENING
2. DIAGONAL BARS TO BE PLACED:
   A) AT CENTERLINE OF WALL OR SLAB WHERE ONE LAYER OF REINFORCEMENT IS PROVIDED
   B) AT EACH FACE OF WALL OR SLAB WHERE TWO LAYERS OF REINFORCEMENT ARE PROVIDED
3. UNLESS OTHERWISE NOTED, SIZE OF DIAGONAL BARS SHALL BE THE SIZE OF THE LARGEST NORMAL REINFORCING BAR CUT
4. THIS DETAIL TO BE USED WHEN CALLED FOR ON THE DRAWINGS OR WHEN NO OTHER DETAIL IS SPECIFIED

DIAGONAL REINFORCEMENT AT CIRCULAR OPENINGS

(8" - 11" DIA)

REV 091003 S-142

27-APR-2005 16:16

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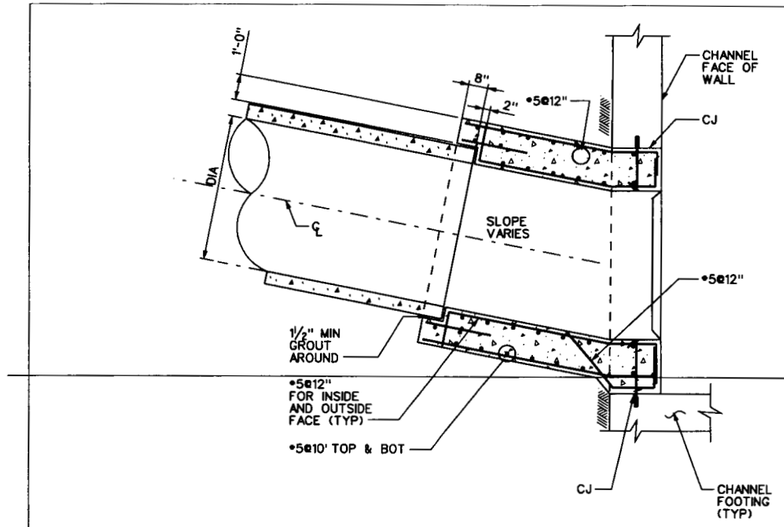
REV No	DATE	DESCRIPTION	APPROVED

MWH
3014 WEST CHARLESTON BLVD
LAS VEGAS, NV. 89102
(702) 878-8010

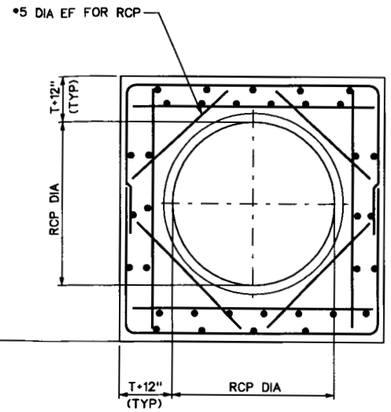
LOWER BLUE DIAMOND DETENTION BASIN
STRUCTURAL STANDARD DETAILS 2

CLARK COUNTY, NEVADA, DEPARTMENT OF PUBLIC WORKS

DESIGNED BY:	GAC
DRAWN BY:	PDH
CHECKED BY:	
DATE:	4/22/05
SCALE	
HORIZ:	NONE
VERT:	NONE
FIELD BOOK	NONE
SHEET No	GS-2



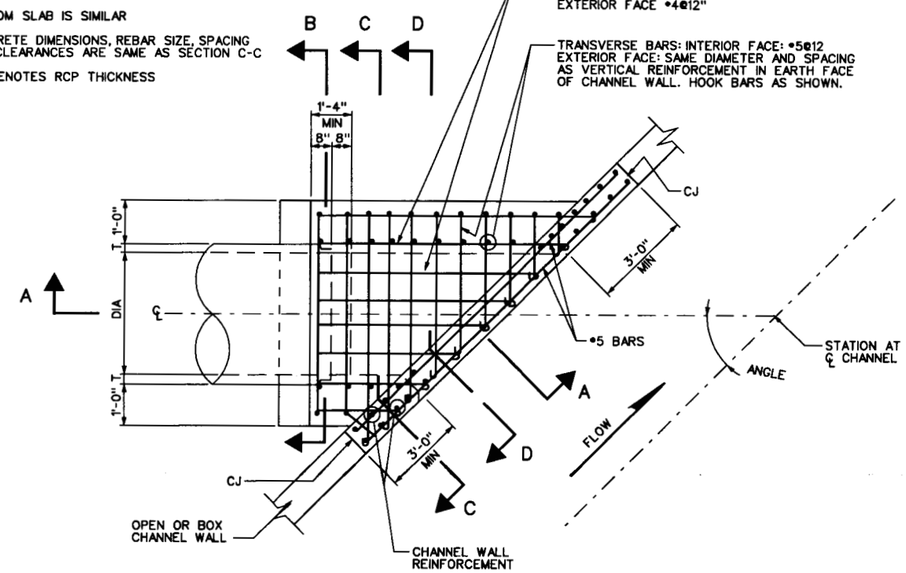
SECTION A
SCALE: NTS



SECTION B
SCALE: NTS

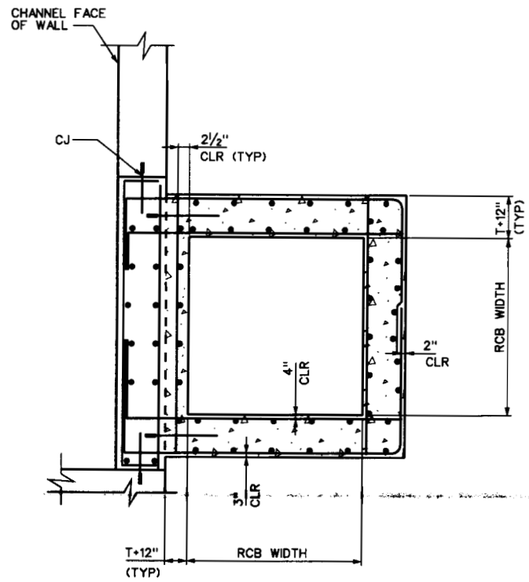
NOTE:

1. BOTTOM SLAB IS SIMILAR
2. CONCRETE DIMENSIONS, REBAR SIZE, SPACING AND CLEARANCES ARE SAME AS SECTION C-C
3. "T" DENOTES RCP THICKNESS

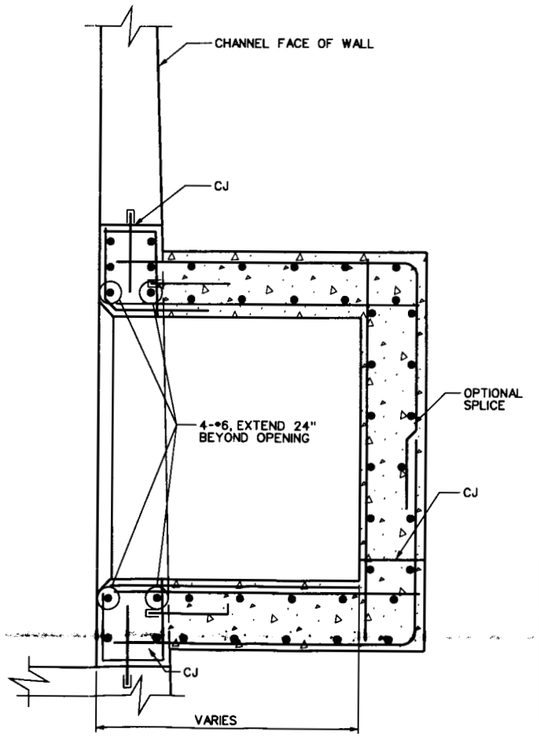


RCP SIDE DRAIN CONNECTION TOP PLAN
SCALE: NTS

RCP TO WALL CONNECTION DETAIL 925 S-2



SECTION C
SCALE: NTS



SECTION D
SCALE: NTS

27-APR-2005 16:16

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REV No.	DATE	DESCRIPTION	APPROVED

MWH
Las Vegas Nevada

MWH
3014 WEST CHARLESTON BLVD
LAS VEGAS, NV. 89102
(702) 878-8010

CLARK COUNTY NEVADA

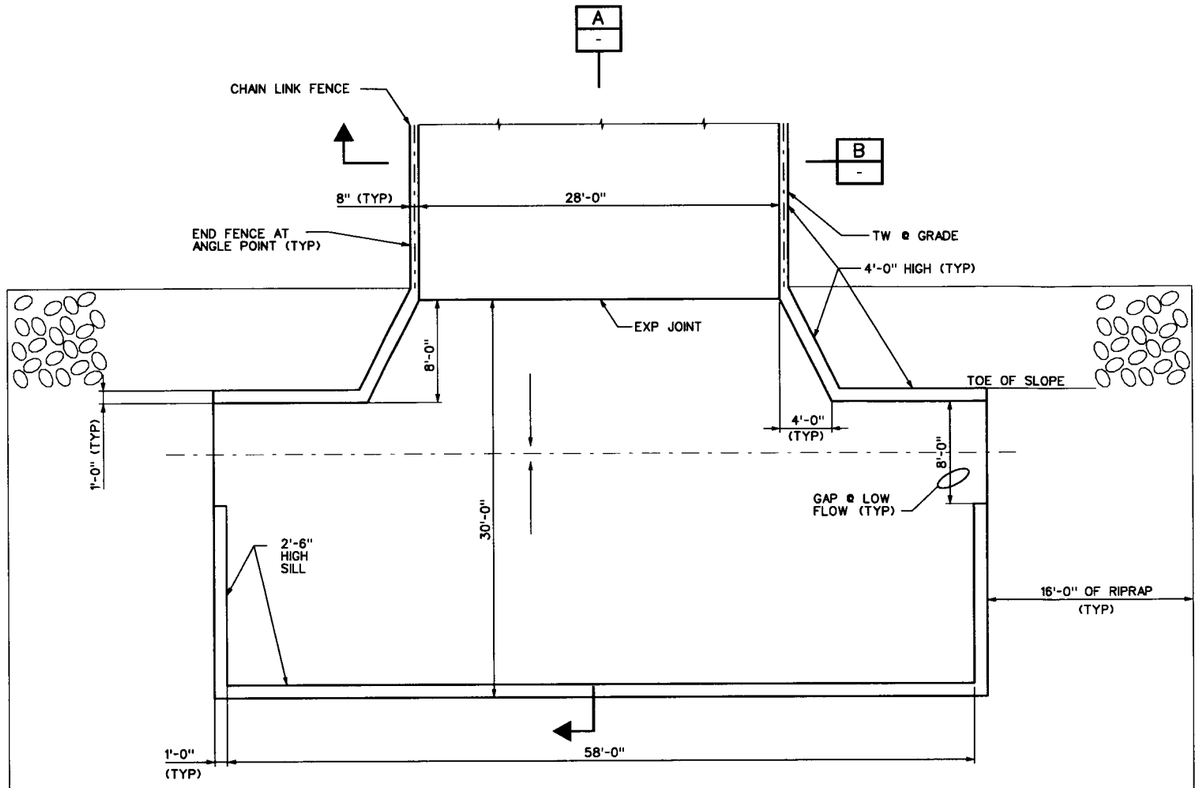
LOWER BLUE DIAMOND DETENTION BASIN
STRUCTURAL STANDARD DETAILS 3

CLARK COUNTY, NEVADA, DEPARTMENT OF PUBLIC WORKS

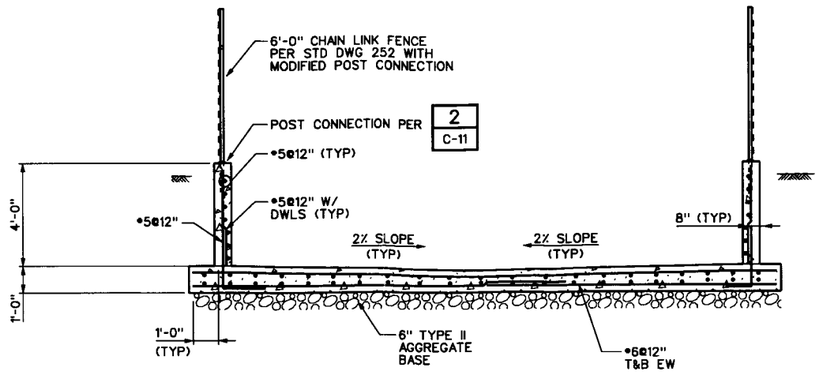
DESIGNED BY:	GAC
DRAWN BY:	PDH
CHECKED BY:	
DATE:	4/22/05

SCALE	
HORIZ:	NONE
VERT:	NONE
FIELD BOOK	NONE

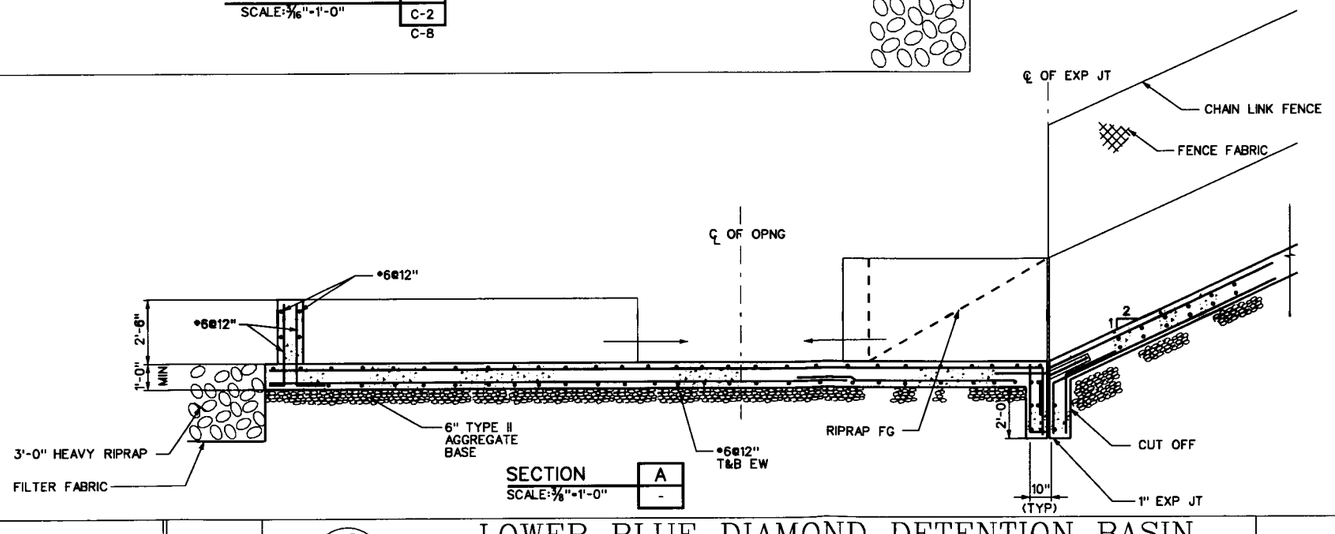
SHEET No
GS-3



CHUTE DETAIL — 1 / C-2 / C-8
SCALE: 3/16"=1'-0"



SECTION B — SCALE: 3/8"=1'-0"



SECTION A — SCALE: 3/16"=1'-0"

27-APR-2005 16:16

$$$$$$$$$$directory/filename$$$$$$$$$$

REV No	DATE	DESCRIPTION	APPROVED

MWH
3014 WEST CHARLESTON BLVD
LAS VEGAS, NV. 89102
(702) 878-8010

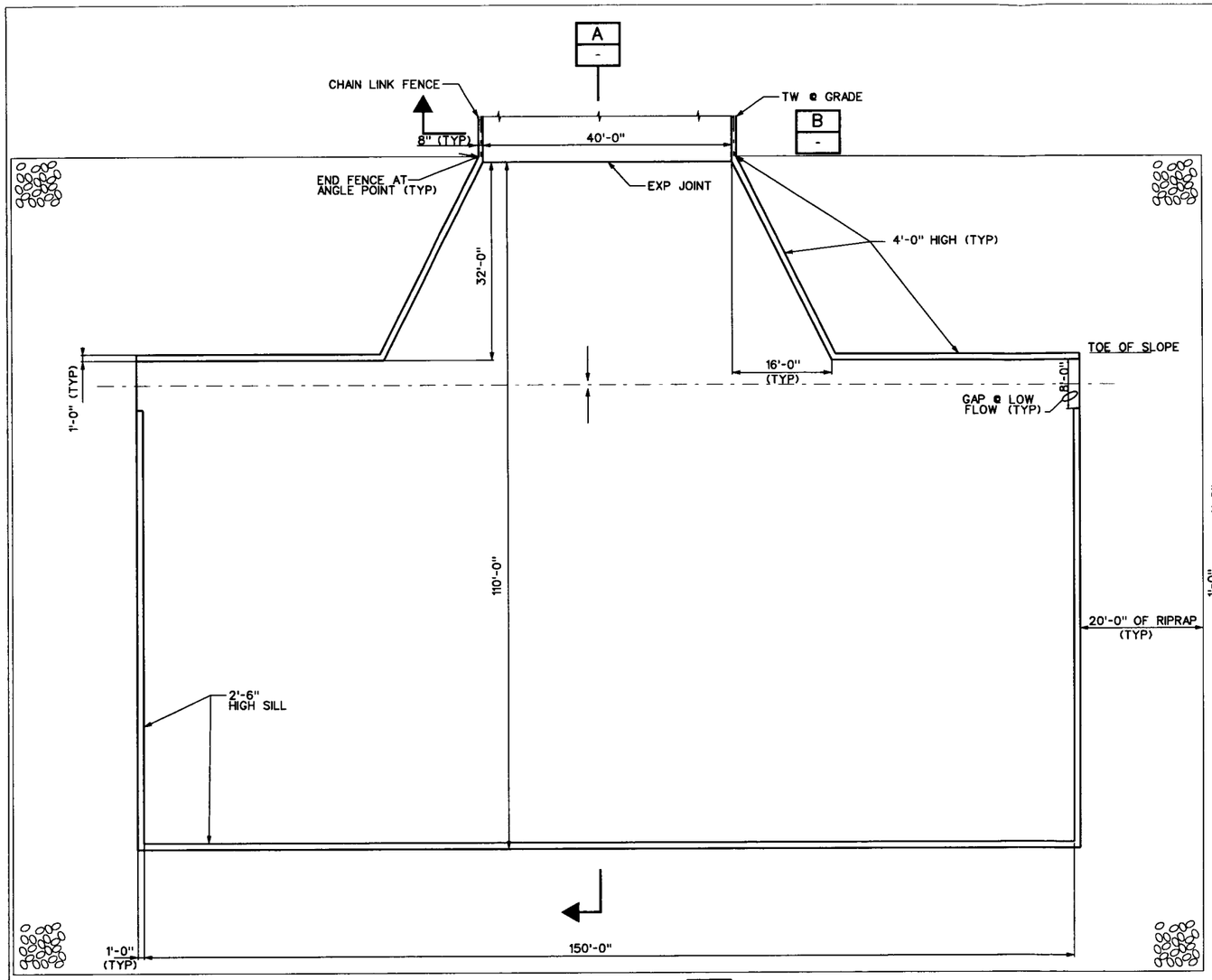
LOWER BLUE DIAMOND DETENTION BASIN
ROBINDALE INFLOW STRUCTURE

CLARK COUNTY, NEVADA, DEPARTMENT OF PUBLIC WORKS

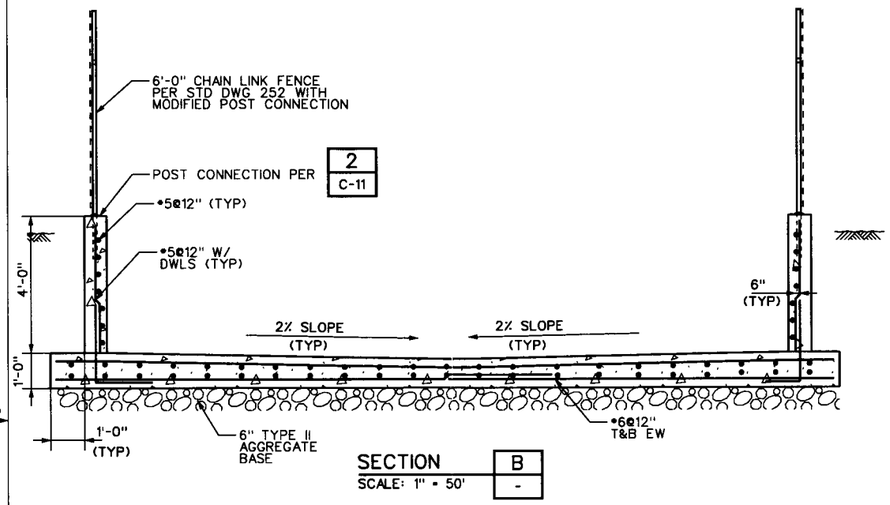
DESIGNED BY:	GAC
DRAWN BY:	PDH
CHECKED BY:	
DATE:	4/22/05

SCALE	
HORIZ:	NONE
VERT:	NONE
FIELD BOOK	NONE

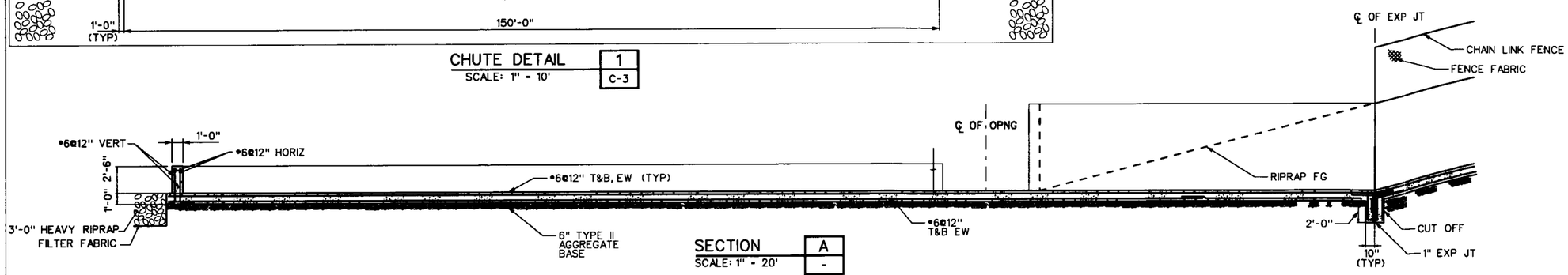
SHEET No S-1



CHUTE DETAIL 1 / C-3
SCALE: 1" = 10'



SECTION B / -
SCALE: 1" = 50'



SECTION A / -
SCALE: 1" = 20'

REV No.	DATE	DESCRIPTION	APPROVED

MWH
3014 WEST CHARLESTON BLVD
LAS VEGAS, NV. 89102
(702) 878-8010

LOWER BLUE DIAMOND DETENTION BASIN
MAIN INFLOW STRUCTURE

CLARK COUNTY, NEVADA, DEPARTMENT OF PUBLIC WORKS

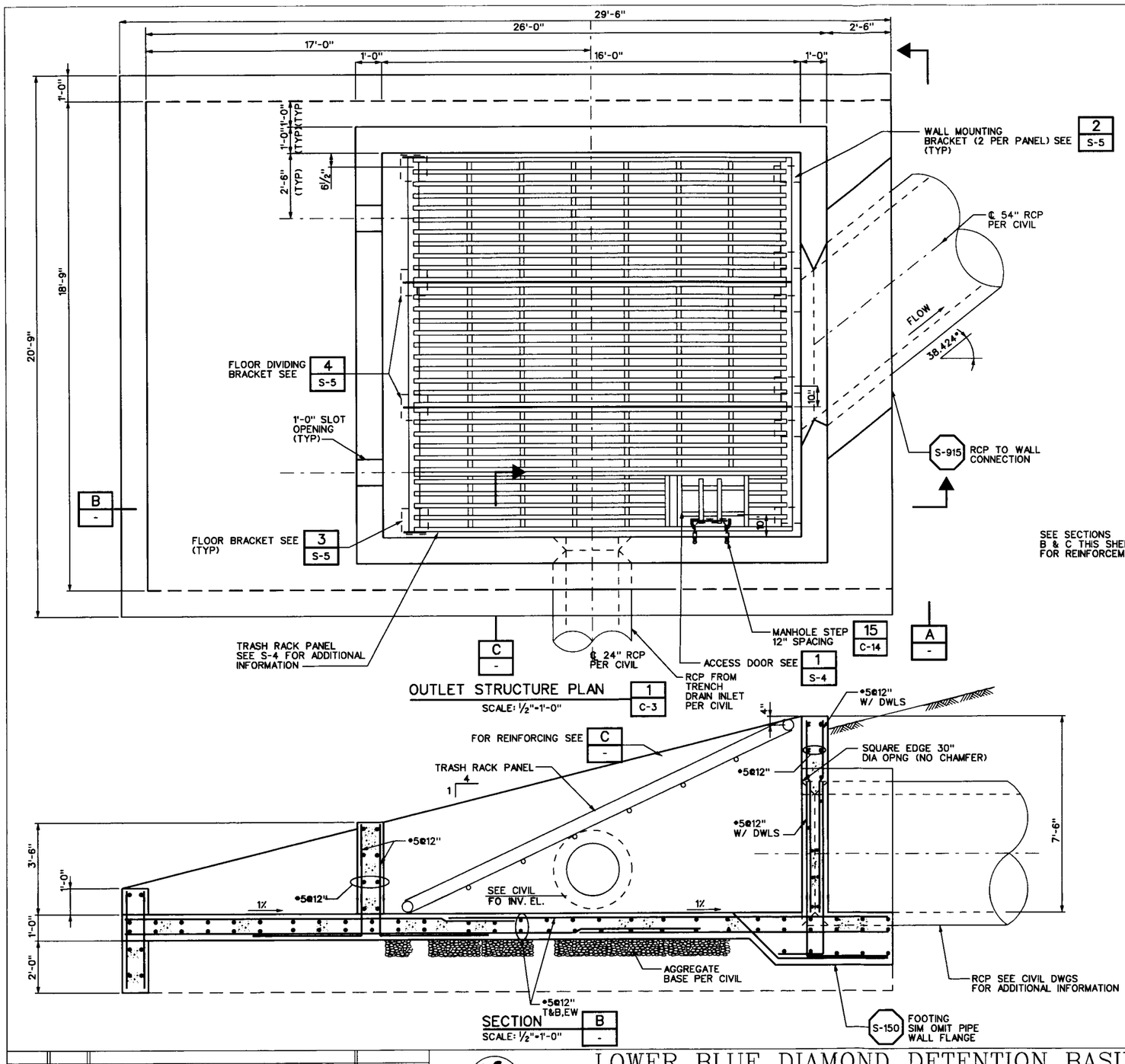
DESIGNED BY:	GAC
DRAWN BY:	PDH
CHECKED BY:	
DATE:	4/22/05

SCALE	
HORIZ:	NONE
VERT:	NONE
FIELD BOOK	NONE

SHEET No S-2

27-APR-2005 16:16

$$$$$$$$$$directory/filename$$$$$$$$$$



27-APR-2005 16:16

$$$$$$$$$$directory/filename$$$$$$$$$$

REV No	DATE	DESCRIPTION	APPROVED

MWH
Las Vegas, Nevada

MWH
3014 WEST CHARLESTON BLVD
LAS VEGAS, NV. 89102
(702) 878-8010

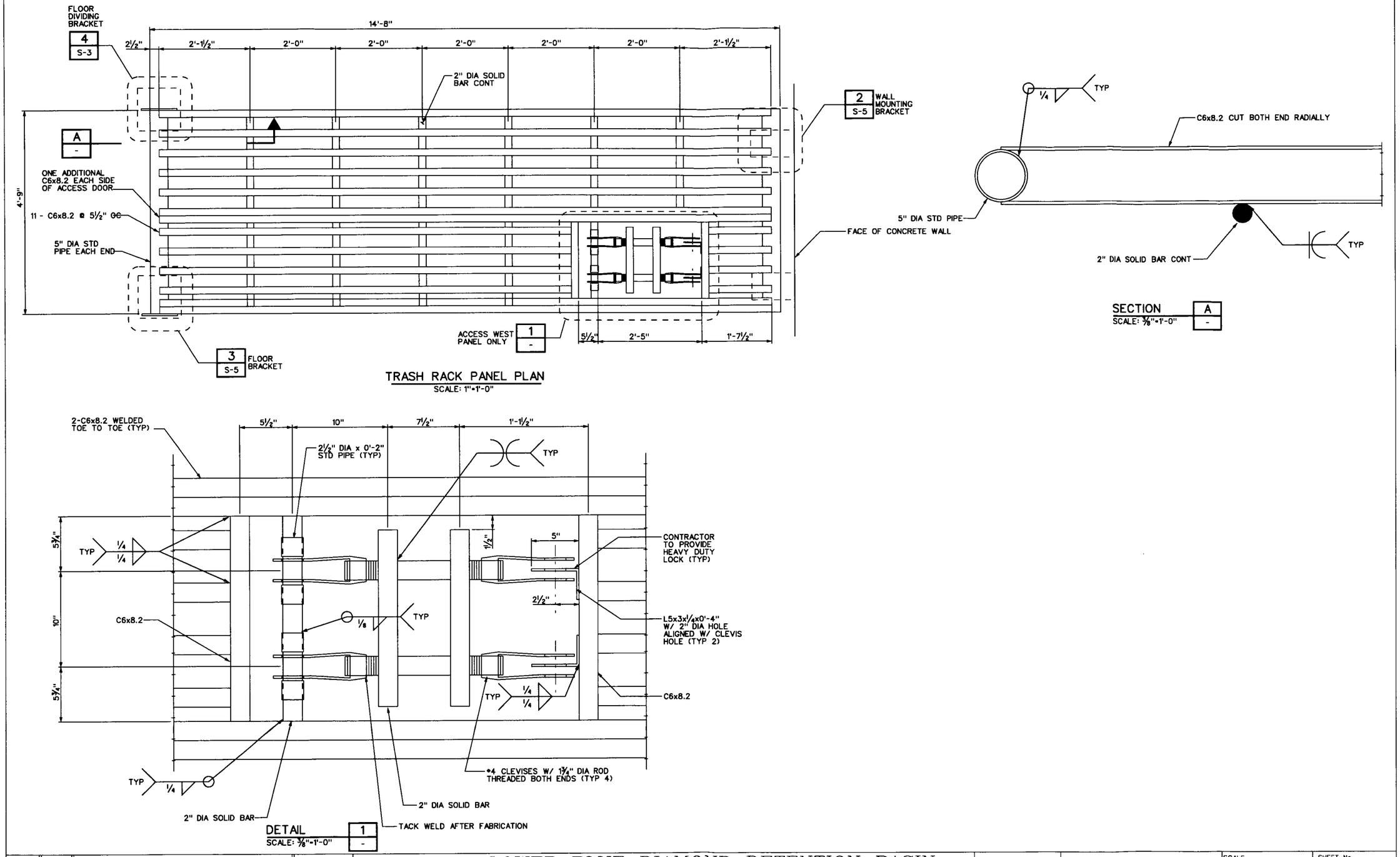
LOWER BLUE DIAMOND DETENTION BASIN
OUTLET STRUCTURE

CLARK COUNTY, NEVADA, DEPARTMENT OF PUBLIC WORKS

DESIGNED BY:	GAC
DRAWN BY:	PDH
CHECKED BY:	
DATE:	4/22/05

SCALE	
HORIZ:	NONE
VERT:	NONE
FIELD BOOK	NONE

SHEET No S-3



27-APR-2005 16:16

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REV No	DATE	DESCRIPTION	APPROVED

MWH
Las Vegas Nevada

MWH
3014 WEST CHARLESTON BLVD
LAS VEGAS, NV. 89102
(702) 878-8010

CLARK COUNTY NEVADA

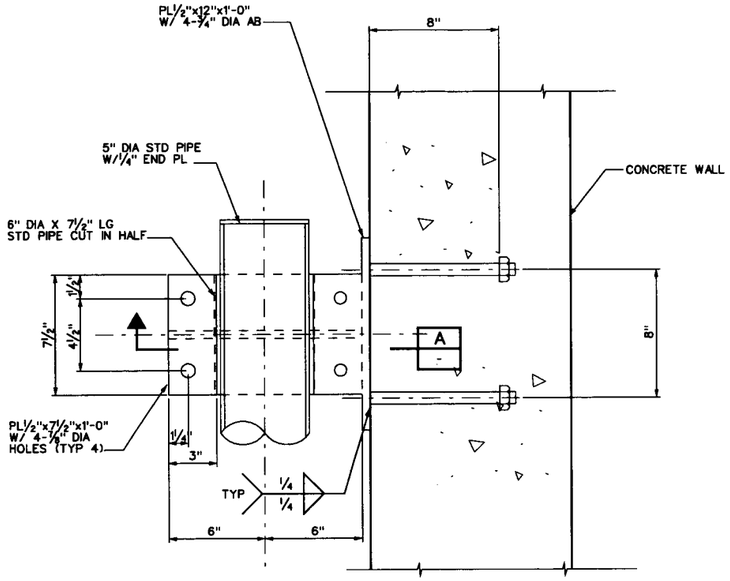
LOWER BLUE DIAMOND DETENTION BASIN
TRASH RACK PANEL DETAILS 1

CLARK COUNTY, NEVADA, DEPARTMENT OF PUBLIC WORKS

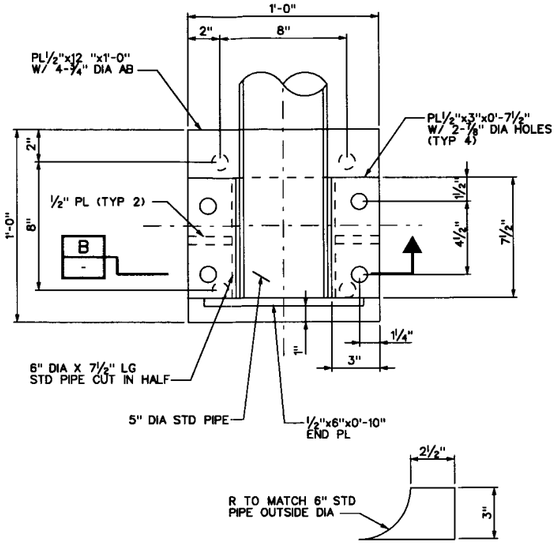
DESIGNED BY:	GAC
DRAWN BY:	PDH
CHECKED BY:	
DATE:	4/22/05

SCALE	
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VERT:	NONE
FIELD BOOK	NONE

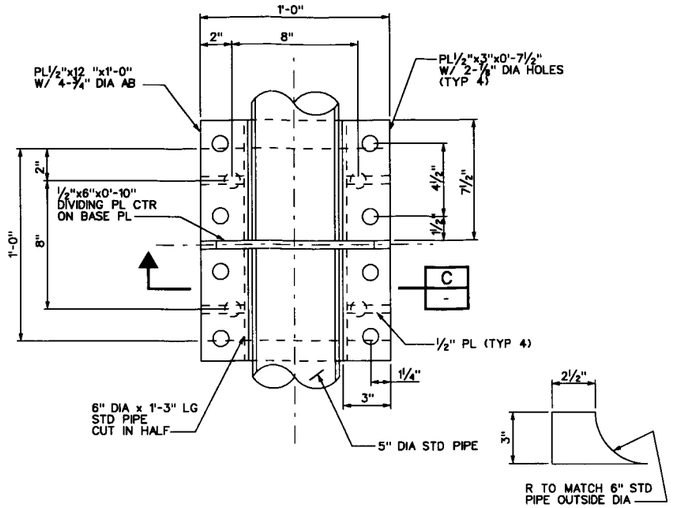
SHEET No
S-4



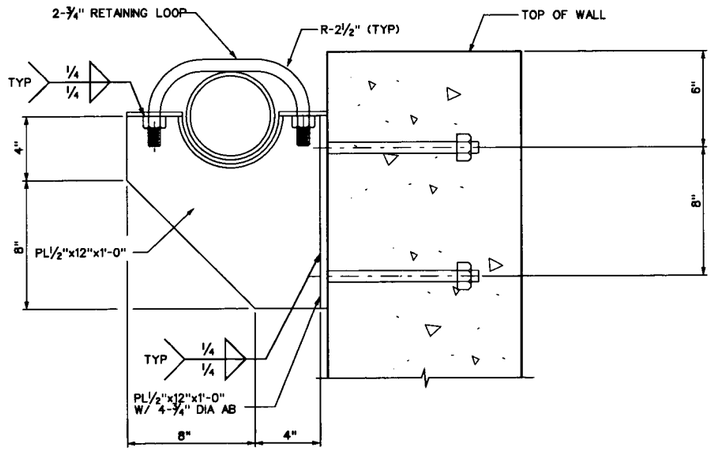
WALL MOUNTING BRACKET 2
SCALE: 3"=1'-0" S-3 S-4



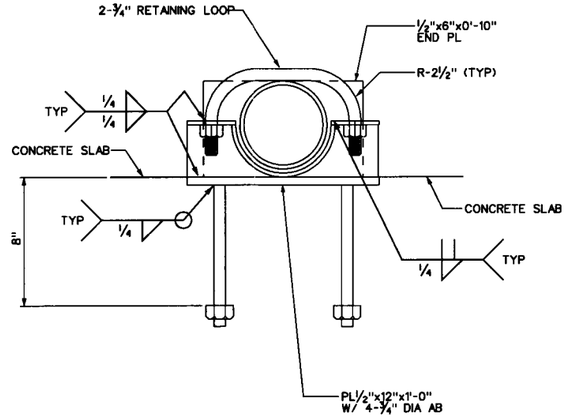
FLOOR BRACKET 3
SCALE: 3"=1'-0" S-3 S-4



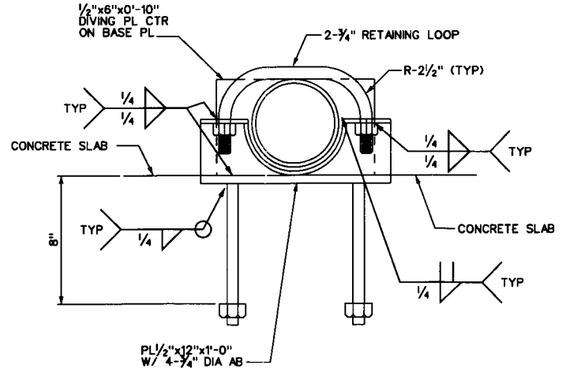
FLOOR DIVIDING BRACKET 4
SCALE: 3"=1'-0" S-3 S-4



SECTION A
SCALE: 3"=1'-0" -



SECTION B
SCALE: 3"=1'-0" -



SECTION C
SCALE: 3"=1'-0" -

27-APR-2005 16:16

$$$$$$$$$$directory/filename$$$$$$$$$$

REV No	DATE	DESCRIPTION	APPROVED
		AS SHOWN	

MWH
Las Vegas Nevada

MWH
3014 WEST CHARLESTON BLVD
LAS VEGAS, NV. 89102
(702) 878-8010

CLARK COUNTY NEVADA

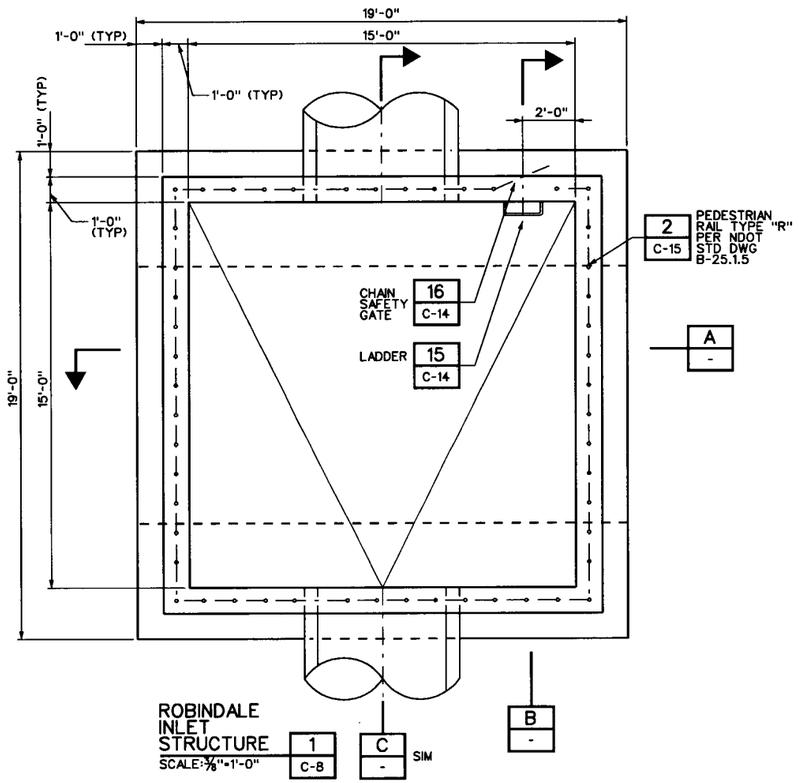
LOWER BLUE DIAMOND DETENTION BASIN
TRASH RACK PANEL DETAILS 2

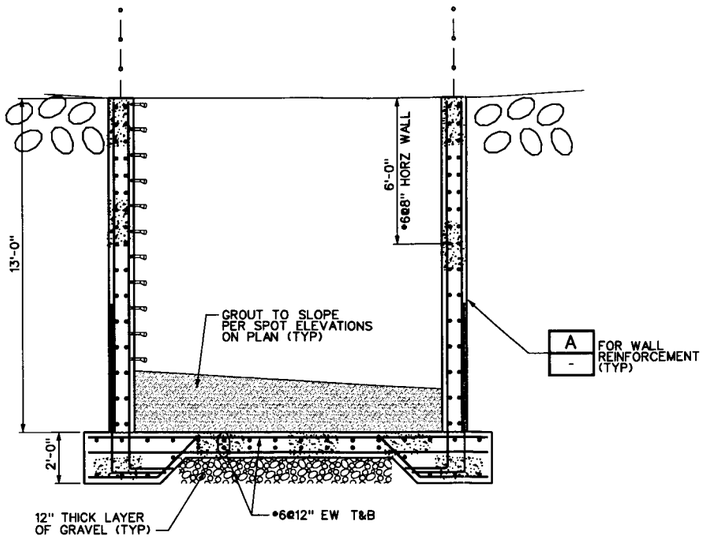
CLARK COUNTY, NEVADA, DEPARTMENT OF PUBLIC WORKS

DESIGNED BY:	GAC
DRAWN BY:	PDH
CHECKED BY:	
DATE:	4/22/05

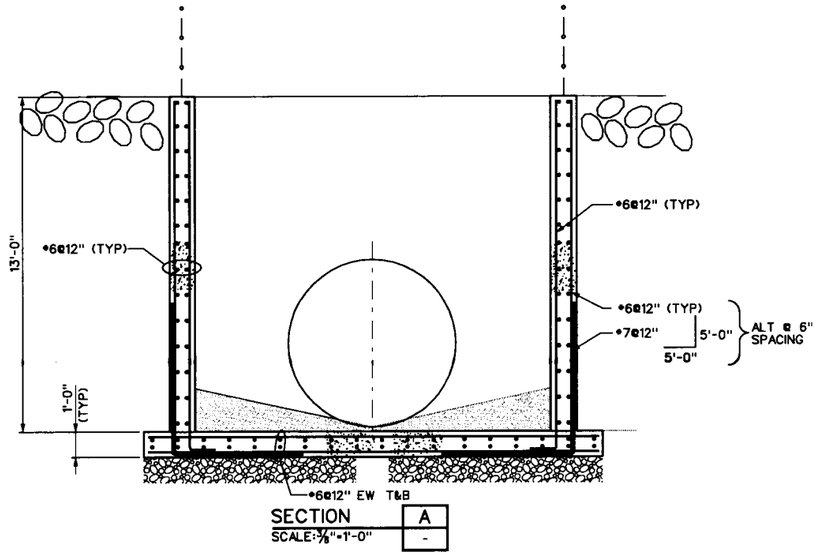
SCALE	
HORIZ:	NONE
VERT:	NONE
FIELD BOOK	NONE

SHEET No
S-5

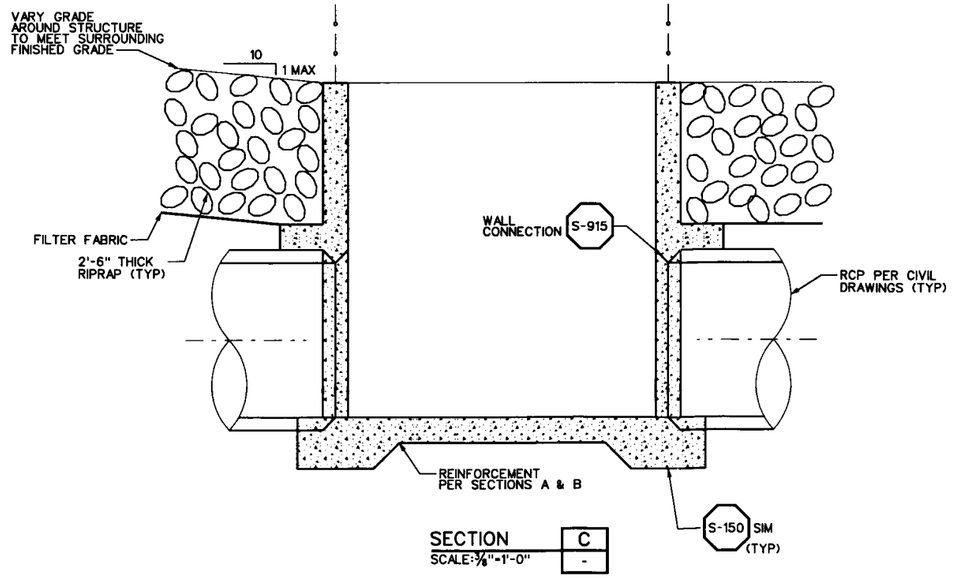




SECTION B
SCALE: 3/8"=1'-0"



SECTION A
SCALE: 3/8"=1'-0"



SECTION C
SCALE: 3/8"=1'-0"

27-APR-2005 16:16

$$$$$$$$$$directory/filename$$$$$$$$$$

REV No	DATE	DESCRIPTION	APPROVED

MWH
3014 WEST CHARLESTON BLVD
LAS VEGAS, NV. 89102
(702) 878-8010

LOWER BLUE DIAMOND DETENTION BASIN
INFLOW STRUCTURE

CLARK COUNTY, NEVADA, DEPARTMENT OF PUBLIC WORKS

DESIGNED BY:	GAC
DRAWN BY:	PDH
CHECKED BY:	
DATE:	4/22/05

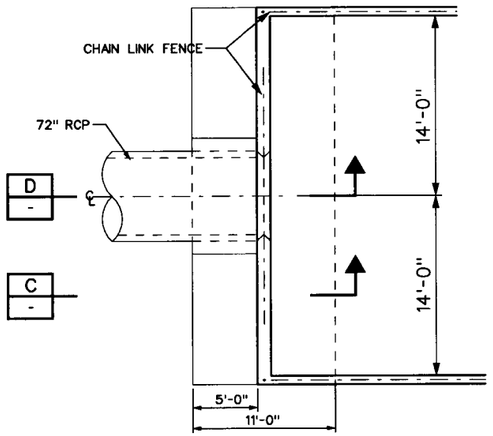
SCALE	
HORIZ:	NONE
VERT:	NONE
FIELD BOOK	NONE

SHEET No S-6

NOTES:

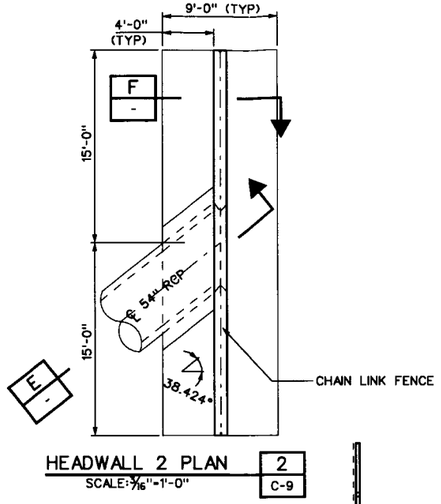
SEE CIVIL DRAWINGS FOR ADDITIONAL INFORMATION

SEE STANDARD DETAIL S-915/GS-2 FOR ADDITIONAL INFORMATION (TYP)



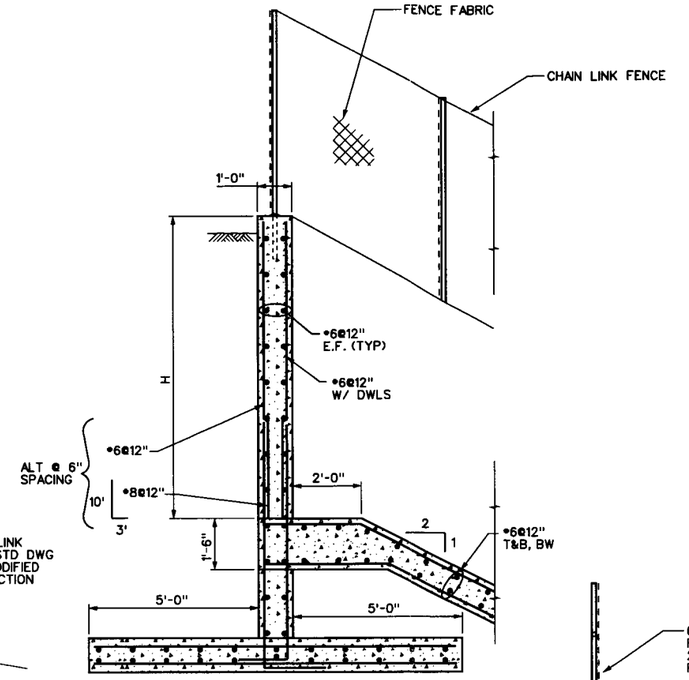
HEADWALL 1 PLAN — 1 / C-8

SCALE: 3/16"=1'-0"



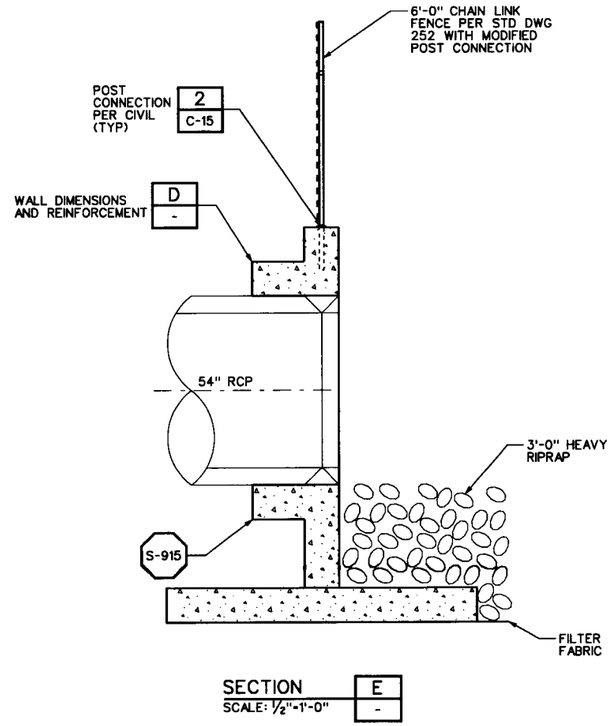
HEADWALL 2 PLAN — 2 / C-9

SCALE: 3/16"=1'-0"



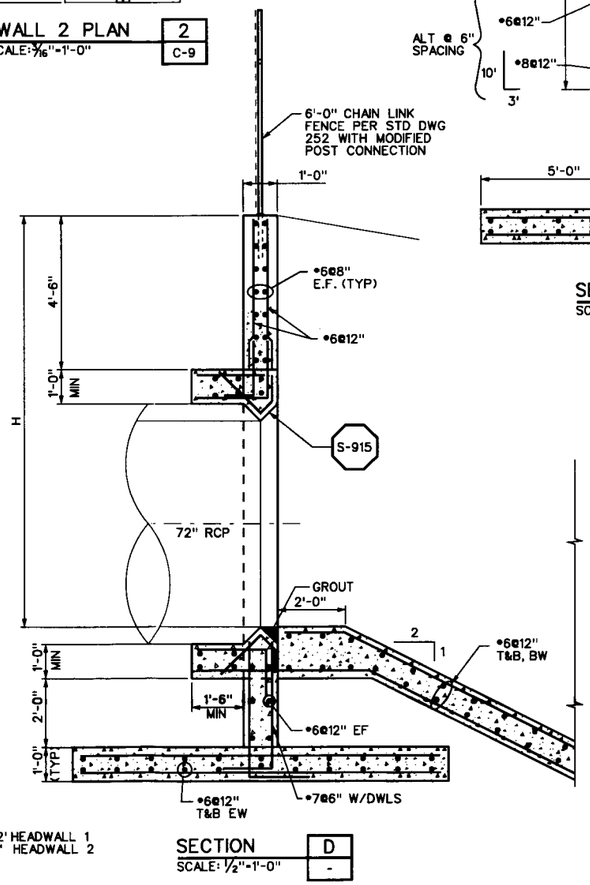
SECTION — C / -

SCALE: 1/2"=1'-0"



SECTION — E / -

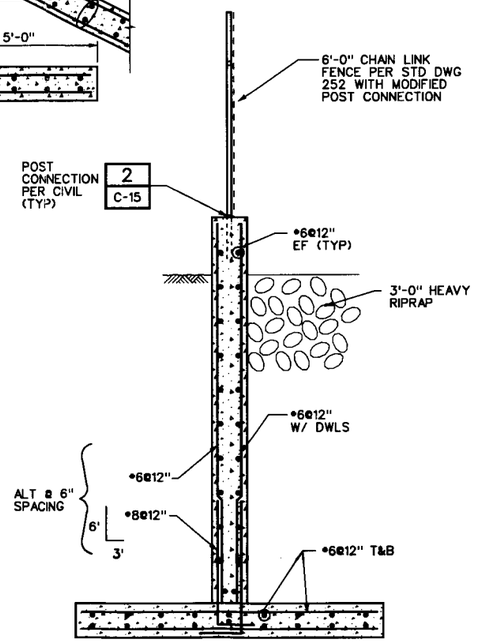
SCALE: 1/2"=1'-0"



H
12' HEADWALL 1
7' HEADWALL 2

SECTION — D / -

SCALE: 1/2"=1'-0"



SECTION — F / -

SCALE: 3/4"=1'-0"

27-APR-2005 16:17

$$$$$$$$$directory/filename$$$$$$$$$

REV No	DATE	DESCRIPTION	APPROVED

MWH
3014 WEST CHARLESTON BLVD
LAS VEGAS, NV. 89102
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LOWER BLUE DIAMOND DETENTION BASIN

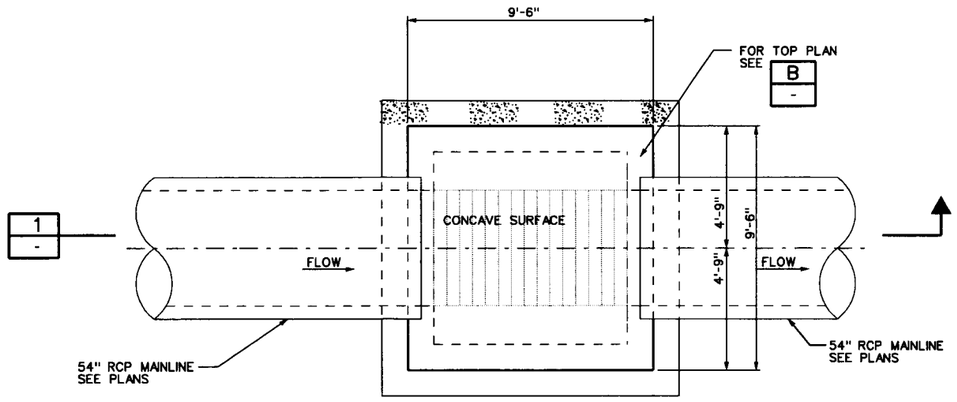
HEADWALL DETAILS

CLARK COUNTY, NEVADA, DEPARTMENT OF PUBLIC WORKS

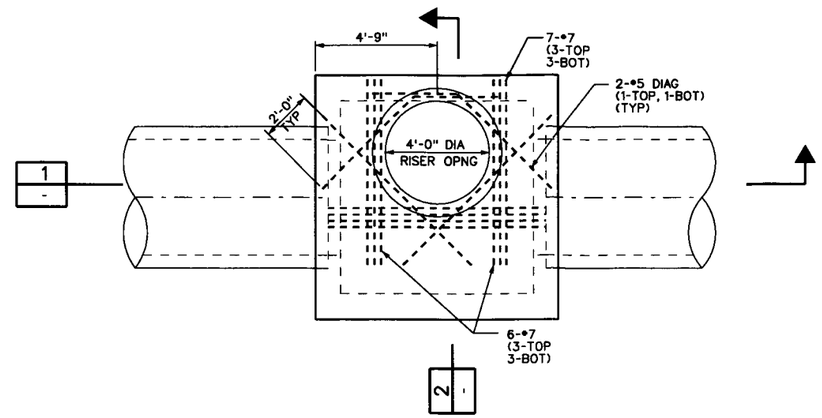
DESIGNED BY:	GAC
DRAWN BY:	PDH
CHECKED BY:	
DATE:	4/22/05

SCALE	
HORIZ:	NONE
VERT:	NONE
FIELD BOOK	NONE

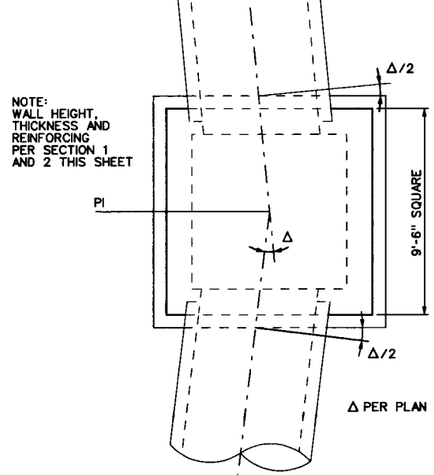
SHEET No S-7



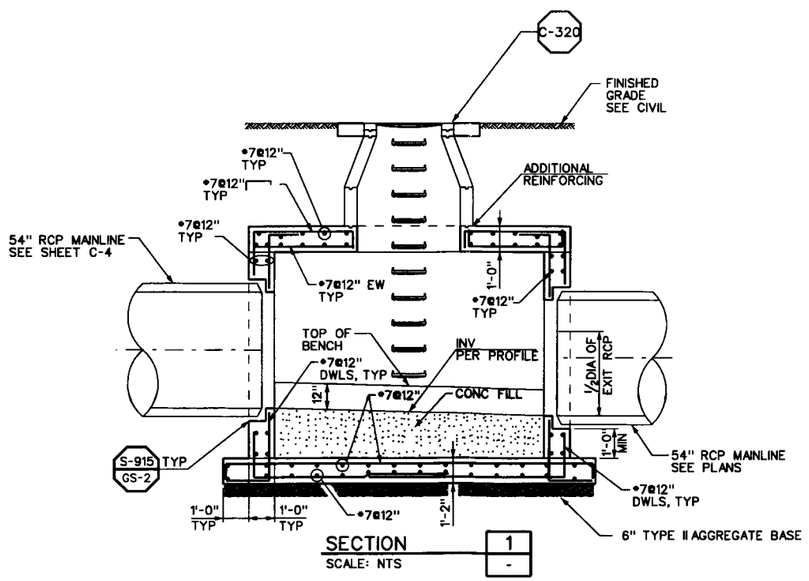
MANHOLE TYPE A FOUNDATION PLAN — A
SCALE: 3/8" = 1'-0" — C-9, C-10



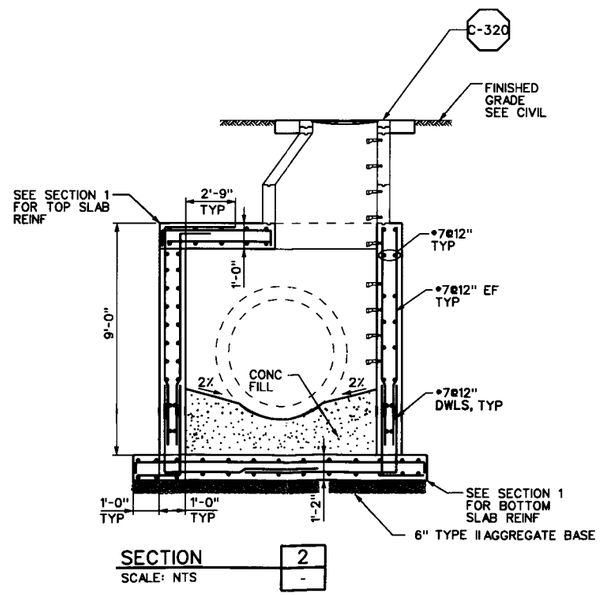
MANHOLE TYPE A TOP PLAN — B
SCALE: 3/8" = 1'-0" — -



MANHOLE TYPE B — C
SCALE: NTS — C-9, C-10



SECTION 1
SCALE: NTS



SECTION 2
SCALE: NTS

27-APR-2005 16:17

$$$$$$$$$$directory/filename$$$$$$$$$$

REV No	DATE	DESCRIPTION	APPROVED

MWH
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LAS VEGAS, NV. 89102
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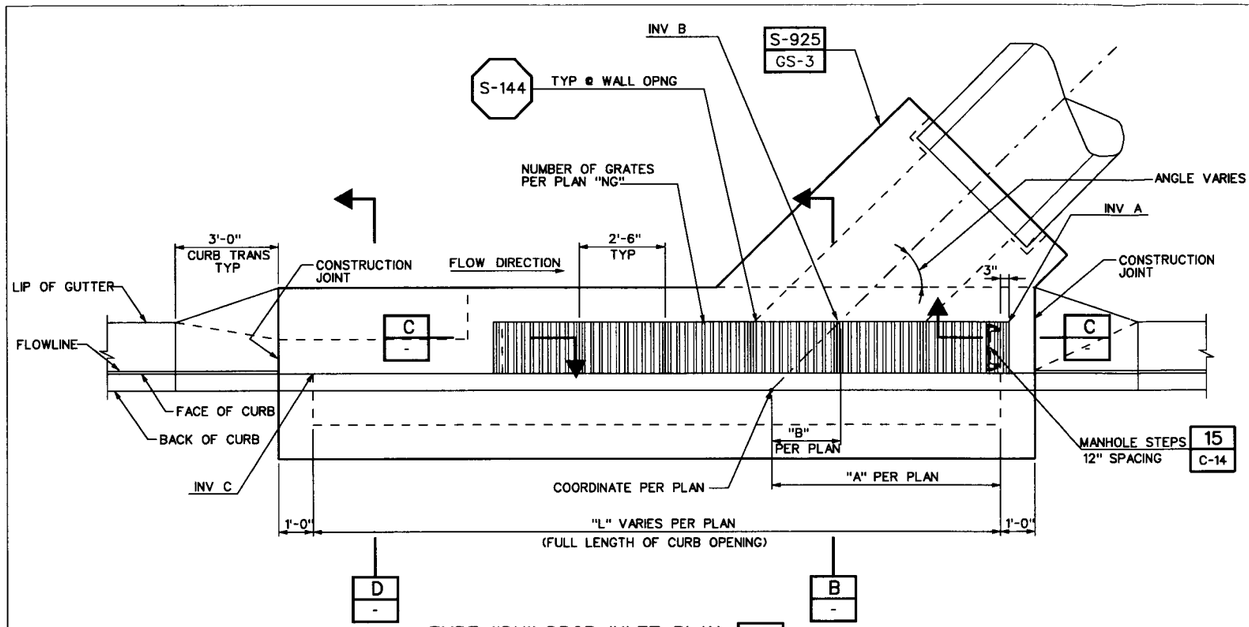
LOWER BLUE DIAMOND DETENTION BASIN
MANHOLE TYPE A AND TYPE B

CLARK COUNTY, NEVADA, DEPARTMENT OF PUBLIC WORKS

DESIGNED BY:	GAC
DRAWN BY:	PDH
CHECKED BY:	
DATE:	4/22/05

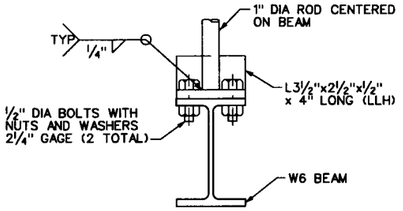
SCALE	
HORIZ:	NONE
VERT:	NONE
FIELD BOOK	NONE

SHEET No S-8



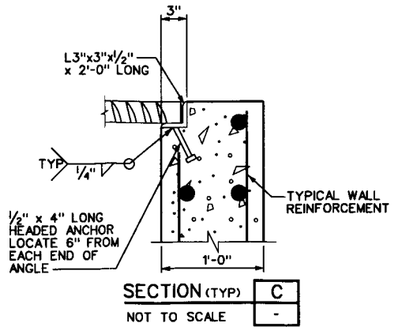
TYPE "DM" DROP INLET PLAN — A

NOT TO SCALE



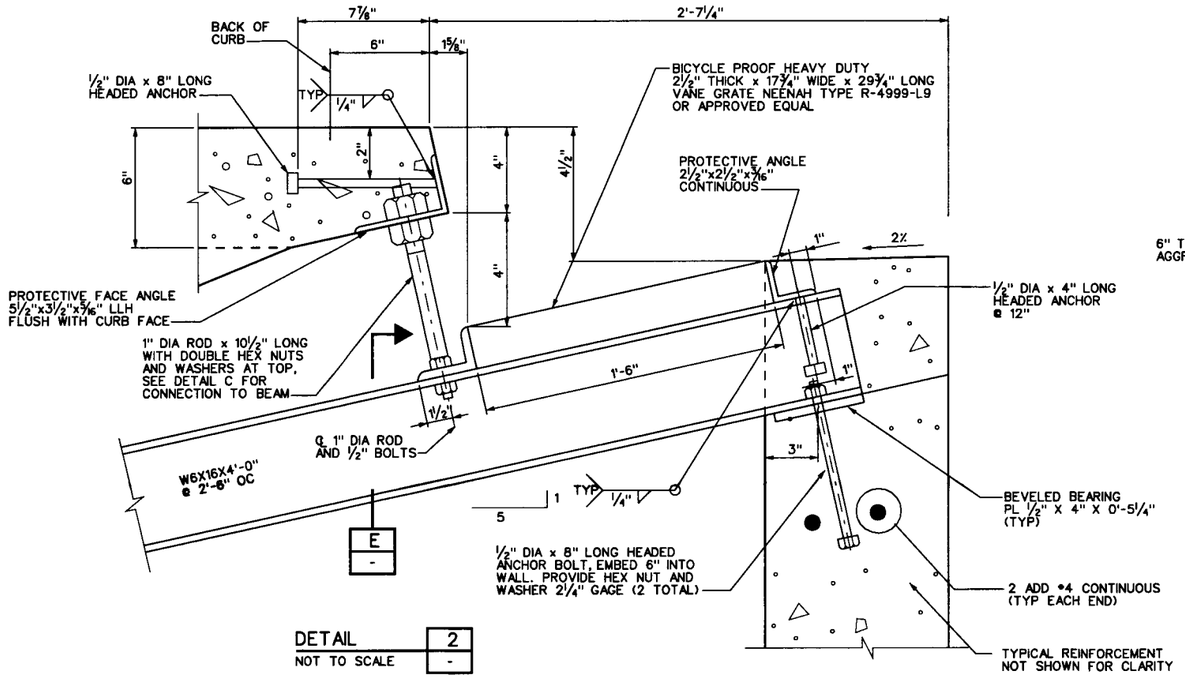
SECTION — E

NOT TO SCALE



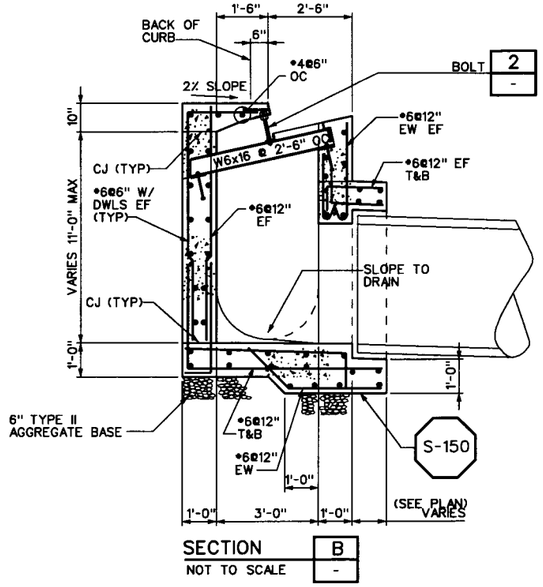
SECTION (TYP) — C

NOT TO SCALE



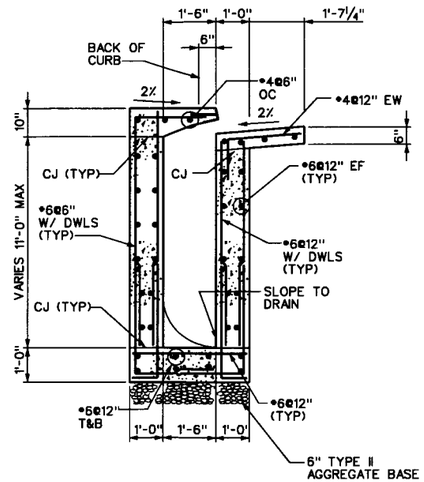
DETAIL — 2

NOT TO SCALE



SECTION — B

NOT TO SCALE



SECTION — D

NOT TO SCALE

27-APR-2005 16:17

$$$$$$$$$$directory/filename$$$$$$$$$$

REV No	DATE	DESCRIPTION	APPROVED

MWH
Las Vegas, Nevada

MWH
3014 WEST CHARLESTON BLVD
LAS VEGAS, NV. 89102
(702) 878-8010

CLARK COUNTY NEVADA

LOWER BLUE DIAMOND DETENTION BASIN

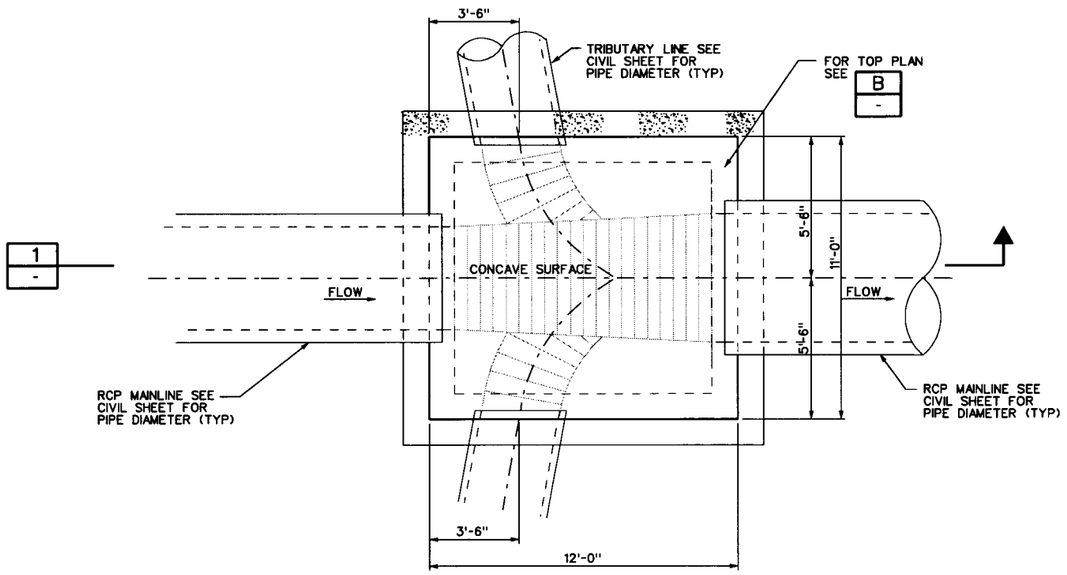
DROP INLETS AND DETAILS

CLARK COUNTY, NEVADA, DEPARTMENT OF PUBLIC WORKS

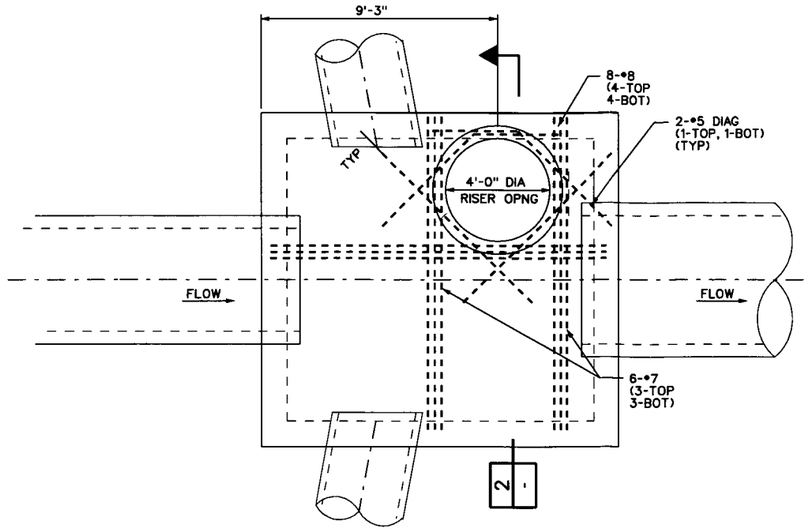
DESIGNED BY:	GAC
DRAWN BY:	PDH
CHECKED BY:	
DATE:	4/22/05

SCALE	
HORIZ:	NONE
VERT:	NONE
FIELD BOOK	NONE

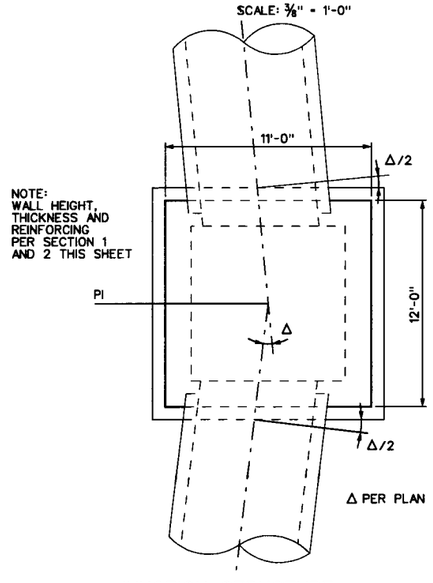
SHEET No S-9



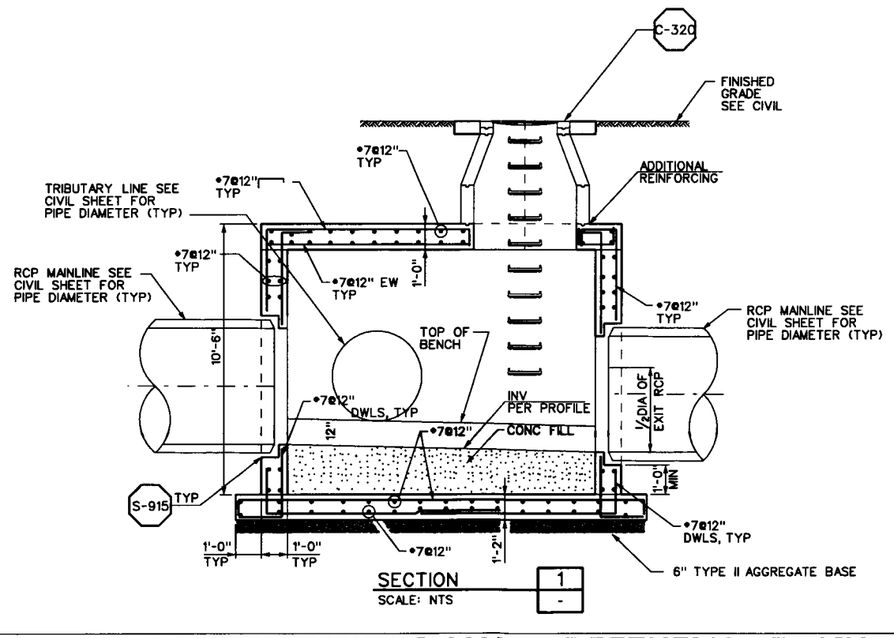
JUNCTION STRUCTURE TYPE 1 FOUNDATION PLAN — A / C-11
SCALE: 3/8" = 1'-0"



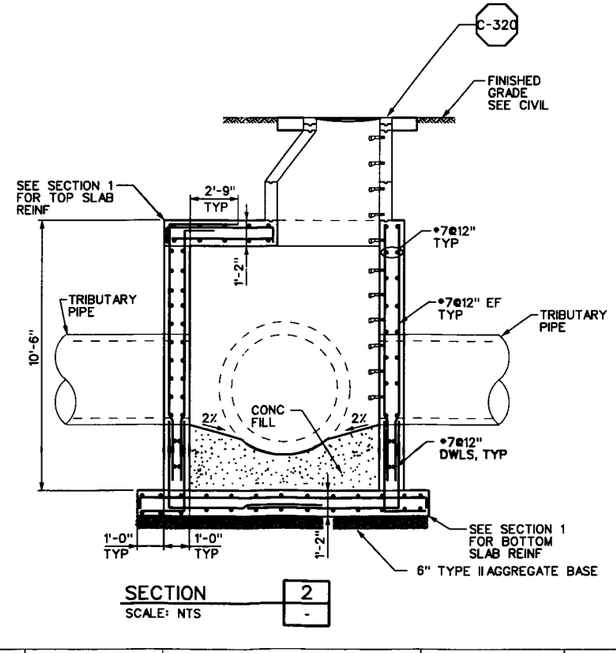
JUNCTION STRUCTURE TYPE 1 TOP PLAN — B / -
SCALE: 3/8" = 1'-0"



JUNCTION STRUCTURE TYPE 1 WITH BEND — C / C-8
SCALE: NTS



SECTION — 1 / -
SCALE: NTS



SECTION — 2 / -
SCALE: NTS

REV No	DATE	DESCRIPTION	APPROVED

MWH
MWH
3014 WEST CHARLESTON BLVD
LAS VEGAS, NV. 89102
(702) 878-8010

LOWER BLUE DIAMOND DETENTION BASIN
JUNCTION STRUCTURE TYPE 1
CLARK COUNTY, NEVADA, DEPARTMENT OF PUBLIC WORKS

PROFESSIONAL ENGINEER - STATE OF NEVADA — DONALD W. DAVIS — CIVIL — No. 9087

DESIGNED BY:	GAC
DRAWN BY:	PDH
CHECKED BY:	
DATE:	4/22/05

SCALE	
HORIZ:	NONE
VERT:	NONE
FIELD BOOK	NONE

SHEET No S-10

27-APR-2005 16:17
$$$$$$$$$$directory/filename$$$$$$$$$$

APPENDIX E

RELATED DATA AND INFORMATION

WSPG MODEL FOR 54-INCH OUTLET PIPE

```
T1 FILE NAME = OUTLET-REV                                                    0
T2 PIPE DIA=4.5',
T3 TRAPEZODIAL CHANNEL WITH A BASE WIDTH OF 10' AND 1:3 SIDE SLOPE
SO    863.7302358.930  1                          2361.780
R     963.7302359.410  1      .013                                .000
TS    973.7302359.458  2      .013                                .000
R     993.7302359.554  2      .013                                .000  27.500 0
R    1100.0002360.064  2      .013                                .000  27.500 1
R    1372.0002361.369  2      .013                                .000  19.500 1
R    1420.0002361.599  2      .013                                .000  19.500 1
R    2618.0302367.400  2      .013                                .000  36.300 4
R    3154.0802370.000  2      .013                                .000    .000 2
WE   3154.0802370.000  3      .500
SH   3154.0802370.000  3                          2370.000
CD   1  1   0    .000  14.000   10.000 3.000 3.000   .00
CD   2  4   1    .000   4.500     .000  .000  .000   .00
CD   3  4   1    .000   4.500     .000  .000  .000   .00
Q           217.000   .0
```

FILE NAME = OUTLET-REV
PIPE DIA=4.5',
TRAPEZODIAL CHANNEL WITH A BASE WIDTH OF 10' AND 1:3 SIDE SLOPE

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
863.730	2358.930	1.149	2360.079	217.00	14.04	3.06	2363.14	.00	1.99	16.90	14.000	10.000	3.00	0 .0
4.026	.0048					.0178	.07	1.15	2.59	1.63	.013	.00	3.00	TRAP
867.756	2358.949	1.140	2360.089	217.00	14.18	3.12	2363.21	.00	1.99	16.84	14.000	10.000	3.00	0 .0
18.550	.0048					.0193	.36	1.14	2.62	1.63	.013	.00	3.00	TRAP
886.305	2359.038	1.097	2360.135	217.00	14.88	3.44	2363.57	.00	1.99	16.58	14.000	10.000	3.00	0 .0
17.372	.0048					.0222	.39	1.10	2.80	1.63	.013	.00	3.00	TRAP
903.678	2359.122	1.056	2360.178	217.00	15.60	3.78	2363.96	.00	1.99	16.34	14.000	10.000	3.00	0 .0
16.331	.0048					.0255	.42	1.06	2.98	1.63	.013	.00	3.00	TRAP
920.009	2359.200	1.016	2360.216	217.00	16.36	4.16	2364.37	.00	1.99	16.10	14.000	10.000	3.00	0 .0
15.398	.0048					.0293	.45	1.02	3.18	1.63	.013	.00	3.00	TRAP
935.406	2359.274	.978	2360.251	217.00	17.16	4.57	2364.83	.00	1.99	15.87	14.000	10.000	3.00	0 .0
14.550	.0048					.0337	.49	.98	3.39	1.63	.013	.00	3.00	TRAP
949.956	2359.344	.940	2360.284	217.00	18.00	5.03	2365.32	.00	1.99	15.64	14.000	10.000	3.00	0 .0
13.774	.0048					.0387	.53	.94	3.61	1.63	.013	.00	3.00	TRAP
963.730	2359.410	.904	2360.314	217.00	18.88	5.53	2365.85	.00	1.99	15.43	14.000	10.000	3.00	0 .0
TRANS STR	.0048					.0260	.26	.90	3.85		.013	.00	3.00	TRAP
973.730	2359.458	4.137	2363.595	217.00	14.18	3.12	2366.72	.00	4.14	2.45	4.500	.000	.00	1 .0
20.000	.0048					.0114	.23	4.14	1.00	4.50	.013	.00	.00	PIPE

FILE NAME = OUTLET-REV
PIPE DIA=4.5',
TRAPEZODIAL CHANNEL WITH A BASE WIDTH OF 10' AND 1:3 SIDE SLOPE

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
993.730	2359.554	4.500	2364.054	217.00	13.64	2.89	2366.94	.00	4.14	.00	4.500	.000	.00	1 .0
106.270	.0048					.0122	1.29	4.50	.00	4.50	.013	.00	.00	PIPE
1100.000	2360.064	5.691	2365.755	217.00	13.64	2.89	2368.65	.00	4.14	.00	4.500	.000	.00	1 .0
272.000	.0048					.0122	3.31	5.69	.00	4.50	.013	.00	.00	PIPE
1372.000	2361.369	8.029	2369.397	217.00	13.64	2.89	2372.29	.00	4.14	.00	4.500	.000	.00	1 .0
48.000	.0048					.0122	.58	8.03	.00	4.50	.013	.00	.00	PIPE
1420.000	2361.599	8.713	2370.313	217.00	13.64	2.89	2373.20	.00	4.14	.00	4.500	.000	.00	1 .0
1198.030	.0048					.0122	14.59	8.71	.00	4.50	.013	.00	.00	PIPE
2618.030	2367.400	18.425	2385.825	217.00	13.64	2.89	2388.72	.00	4.14	.00	4.500	.000	.00	1 .0
536.050	.0049					.0122	6.53	18.43	.00	4.50	.013	.00	.00	PIPE
WALL	ENTRANCE													
3154.080	2370.000	22.642	2392.642	217.00	13.64	2.89	2395.53	.00	4.14	.00	4.500	.000	.00	0 .0

WSPG MODEL FOR UPRR CHANNEL

SR 160 - UPPR CHANNEL

VTN 13 Sept 2004 "Hydraulics summary UPPR.xls"

Values in English Units

HYDRAULICS SUMMARY -UPRR CHANNEL

Main channel peak flow - UPRR-REV.WSW

(n=0.014)

Calculated: RMT
Date 9/24/2004
Checked By: JPL
Date: 9/24/04

CHANNEL STATION	WSPG STATION	REMARKS	DESIGN FLOW Q	DEPTH OF FLOW y	DEPTH W/AIR[1] y'	INVERT ELEV	VELOCITY V	H.G.L.	E.G.L.	CHANNEL TYPE	BASE WIDTH	SIDE SLOPE	FLOW AREA	W.S. WIDTH	FROUDE NUMBER	CURVE RADIUS R	SUPER ELEV	ROLL WAVE[2]	CCRFCD MIN FB[3]	MIN WALL HT	DESIGN WALL HT	ACTUAL FB	FB CKECK	NOTE:
7+60.00	90+40.00	End 2-15'x8' RCB	2,394	5.826	5.826	2465.99	13.70	2471.82	2474.73	RCB	32	0	186.43	32.00	1.00				1.62	7.44	8.00	2.17	OK, RCB	
	240.00					0.50																		
10+00.00	88+00.00	End 2-15'x8' RCB	2,394	5.165	5.165	2464.80	15.45	2469.97	2473.67	RCB	32	0	165.28	32.00	1.20				1.67	6.83	8.00	2.84	OK, RCB	
10+00.00	88+00.00	begin 32'x7' RECT	2,394	4.438	4.438	2464.80	16.86	2469.24	2473.65	RECT	32	0	142.02	32.00	1.41				1.69	6.13	7.00	2.56	OK	
	80.83					0.38																		
10+10.43	87+89.57		2,394	4.479	4.479	2464.79	16.70	2469.27	2473.60	RECT	32	0	143.33	32.00	1.39				1.69	6.17	7.00	2.52	OK	
10+10.43	87+89.57		2,394	4.479	4.479	2464.79	16.70	2469.27	2473.60	RECT	32	0	143.33	32.00	1.39				1.69	6.17	7.00	2.52	OK	
	70.40					0.42																		
10+80.83	87+19.17	est. end of trans....	2,394	4.511	4.511	2464.49	16.59	2469.00	2473.27	RECT	32	0	144.35	32.00	1.38				1.69	6.20	7.00	2.49	OK	
10+80.83	87+19.17		2,394	4.511	4.511	2464.49	16.59	2469.00	2473.27	RECT	32	0	144.35	32.00	1.38				1.69	6.20	7.00	2.49	OK	
	245.23					0.41																		
13+26.06	84+73.94	PI	2,394	4.601	4.601	2463.48	16.26	2468.08	2472.19	RECT	32	0	147.23	32.00	1.34				1.68	6.28	7.00	2.40	OK	
13+26.06	84+73.94		2,394	4.601	4.601	2463.48	16.26	2468.08	2472.19	RECT	32	0	147.23	32.00	1.34				1.68	6.28	7.00	2.40	OK	
	513.94					0.41																		
19+40.00	78+60.00	Grade Break	2,394	4.677	4.677	2460.97	16.00	2465.65	2469.62	RECT	32	0	149.66	32.00	1.30				1.67	6.35	7.00	2.32	OK	
19+40.00	78+60.00		2,394	4.677	4.677	2460.97	16.00	2465.65	2469.62	RECT	32	0	149.66	32.00	1.30				1.67	6.35	7.00	2.32	OK	
	180.00					1.39																		
21+00.00	77+00.00	end 32'x7' RECT	2,394	3.773	3.818	2458.75	19.83	2462.52	2468.63	RECT	22	0	83.01	22.00	1.80				1.77	5.54	8.00	4.23	OK	
21+00.00	77+00.00	Start Transition	2,394	3.773	3.818	2458.75	19.83	2462.52	2468.63	RECT	22	0	83.01	22.00	1.80				1.77	5.54	8.00	4.23	OK	
	250.00					1.24																		
23+50.00	74+50.00	End Transition	2,394	5.889	3.332	2455.66	18.48	2461.55	2466.85	RECT	22	0	129.56	22.00	1.34				1.83	7.72	8.00	2.11	OK	
23+50.00	74+50.00	begin 22'x8' RECT	2,394	5.889	3.332	2455.66	18.48	2461.55	2466.85	RECT	22	0	129.56	22.00	1.34				1.83	7.72	8.00	2.11	OK	
	385.00					1.24																		
26+75.00	71+25.00		2,394	4.797	3.332	2451.65	22.68	2456.45	2464.43	RECT	22	0	105.53	22.00	1.82				1.96	6.75	8.00	3.20	OK	
26+75.00	71+25.00		2,394	4.797	3.332	2451.65	22.68	2456.45	2464.43	RECT	22	0	105.53	22.00	1.82				1.96	6.75	8.00	3.20	OK	
	40.00					1.25																		
27+15.00	70+85.00	End 22'x8' RECT	2,394	4.744	4.818	2451.15	22.94	2455.89	2464.07	RECT	22	0	104.37	22.00	1.86				1.96	6.71	8.00	3.26	OK	
27+15.00	70+85.00	Begin Confluence	2,396	4.744	4.818	2451.15	22.94	2455.89	2464.07	RECT	34	0	161.30	34.00	1.86				1.96	6.71	8.00	3.26	OK	
	68.51					0.76																		
27+83.51	70+16.49	End Confluence	3,496	4.427	4.520	2450.63	23.22	2455.06	2463.43	RECT	34	0	150.52	34.00	1.94				1.95	6.38	8.00	3.57	OK	
27+83.51	70+16.49	Begin Transition	3,496	4.427	4.520	2450.63	23.22	2455.06	2463.43	RECT	34	0	150.52	34.00	1.94				1.95	6.38	8.00	3.57	OK	
	22.50					0.76																		
28+06.01	69+93.99	End Transition	3,496	4.877	4.932	2450.46	22.40	2455.34	2463.13	RECT	32	0	156.06	32.00	1.79				1.95	6.83	7.00	2.12	OK	
28+06.01	69+93.99	begin 32'x7' RECT	3,496	4.877	4.932	2450.46	22.40	2455.34	2463.13	RECT	32	0	156.06	32.00	1.79				1.95	6.83	7.00	2.12	OK	
	983.99					0.79																		
37+90.00	60+10.00	end 32'x7' RECT	3,496	4.834	5.226	2442.70	22.60	2447.53	2455.47	RECT	32	0	154.69	32.00	1.81				1.96	6.79	7.00	2.17	OK	
37+90.00	60+10.00	Start JX - wigwam +150cfs	3,646	4.834	5.345	2442.70	22.60	2447.53	2455.47	RECT	32	0	154.69	32.00	1.81				1.96	6.79	7.50	2.67	OK	JX's are 1'x50' w/ 150cfs
	10.00					0.80																		
38+00.00	60+00.00	End JX - wigwam +150cfs	3,646	4.834	5.226	2442.62	22.60	2447.45	2455.39	RECT	32	0	154.69	32.00	1.81				1.96	6.79	7.50	2.67	OK	
38+00.00	60+00.00	begin 32'x7.5' RECT	3,646	4.834	5.345	2442.62	22.60	2447.45	2455.39	RECT	32	0	154.69	32.00	1.81				1.96	6.79	7.50	2.67	OK	
	4523.42					0.79																		
67+50.00	30+50.00	end 32'x7.5' RECT	3,646	5.084	5.226	2419.35	22.41	2424.43	2432.23	RECT	32	0	162.69	32.00	1.75				1.96	7.05	7.50	2.42	OK	JX's are 1'x50' w/ 324cfs
67+50.00	30+50.00	Start Transition	3,646	5.084	5.345	2419.35	22.41	2424.43	2432.23	RECT	32	0	162.69	32.00	1.75				1.96	7.05	7.50	2.42	OK	
	50.00					0.74																		
68+00.00	30+00.00	End Transition	3,646	5.082	5.226	2418.98	22.42	2424.06	2431.87	RECT	32	0	162.62	32.00	1.75				1.96	7.05	10.00	4.92	OK	
68+00.00	30+00.00	Start 32'x10' RECT	3,646	5.082	5.345	2418.98	22.42	2424.06	2431.87	RECT	32	0	162.62	32.00	1.75				1.96	7.05	10.00	4.92	OK	
	87.50					0.74																		
68+87.50	29+12.50	Start JX - shelborne +324cfs	3,646	5.082	5.226	2418.33	22.42	2423.41	2431.22	RECT	32	0	162.62	32.00	1.75				1.96	7.05	10.00	4.92	OK	
68+87.50	29+12.50		3,646	5.082	5.345	2418.33	22.42	2423.41	2431.22	RECT	32	0	162.62	32.00	1.75				1.96	7.05	10.00	4.92	OK	
	5.00					0.60																		
68+92.50	29+07.50	End JX - shelborne +324cfs	3,970	6.351	5.226	2418.30	19.54	2424.65	2430.58	RECT	32	0	203.23	32.00	1.37				1.90	8.26	10.00	3.65	OK	
68+92.50	29+07.50		3,970	6.351	5.345	2418.30	19.54	2424.65	2430.58	RECT	32	0	203.23	32.00	1.37				1.90	8.26	10.00	3.65	OK	
	1357.50					0.74																		

CHANNEL STATION	WSPG STATION	REMARKS	DESIGN FLOW Q	DEPTH OF FLOW y	DEPTH W/AIR[1] y*	INVERT ELEV	VELOCITY V	H.G.L.	E.G.L.	CHANNEL TYPE	BASE WIDTH	SIDE SLOPE	FLOW AREA	W.S. WIDTH	FROUDE NUMBER	CURVE RADIUS R	SUPER ELEV	ROLL WAVE[2]	CCRFCD MIN FB[2][3]	MIN WALL HT	DESIGN WALL HT	ACTUAL FB	FB CKECK	NOTE:
82+00.00	16+00.00	End 32'x10' RECT	3,970	5.400	5.446	2408.56	22.97	2413.96	2422.15	RECT	32	0	172.80	32.00	1.74				2.01	7.41	10.00	4.60	OK	
82+00.00	16+00.00	Begin Transition	3,970	5.400	5.446	2408.56	22.97	2413.96	2422.15	RECT	32	0	172.80	32.00	1.74				2.01	7.41	10.00	4.60	OK	
	50.00					0.74																		
82+50.00	15+50.00	End Transition	3,970	7.150	7.150	2408.19	19.83	2415.34	2421.45	RECT	28	0	200.20	28.00	1.31				1.96	9.11	11.00	3.85	OK	
82+50.00	15+50.00	Start 28'x11' RECT	3,970	7.150	7.150	2408.19	19.83	2415.34	2421.45	RECT	28	0	200.20	28.00	1.31				1.96	9.11	11.00	3.85	OK	
	73.42					0.74																		
83+23.42	14+76.58		3,970	6.900	6.900	2407.65	20.55	2414.55	2421.11	RECT	28	0	193.20	28.00	1.38				1.98	8.88	11.00	4.10	OK	
83+23.42	14+76.58	TS - Start Curve	3,970	6.900	6.900	2407.65	20.55	2414.55	2421.11	RECT	28	0	193.20	28.00	1.38	175	1.049		1.98	9.93	11.00	3.05	OK	Spiral Transition
	171.91					0.74																		
84+95.33	13+04.67	ST -End Curve	3,970	6.548	5.226	2406.37	21.65	2412.92	2420.20	RECT	28	0	183.34	28.00	1.49	175	1.165		2.01	9.73	11.00	3.29	OK	Spiral Transition
84+95.33	13+04.67		3,970	6.548	5.226	2406.37	21.65	2412.92	2420.20	RECT	28	0	183.34	28.00	1.49				2.01	8.56	11.00	4.45	OK	
	153.16					0.74																		
86+48.49	11+51.51		3,970	6.375	6.375	2405.24	22.24	2411.62	2419.30	RECT	28	0	178.50	28.00	1.55				2.03	8.41	11.00	4.63	OK	
86+48.49	11+51.51	TS - Start Curve	3,970	6.375	6.375	2405.24	22.24	2411.62	2419.30	RECT	28	0	178.50	28.00	1.55	175	1.229		2.03	9.63	11.00	3.40	OK	Spiral Transition
	198.51					0.75																		
88+47.00	9+53.00	Grade Break	3,970	6.223	6.225	2403.75	22.79	2409.97	2418.04	RECT	28	0	174.24	28.00	1.61	175	1.290		2.05	9.56	11.00	3.49	OK	
88+47.00	9+53.00		3,970	6.223	6.225	2403.75	22.79	2409.97	2418.04	RECT	28	0	174.24	28.00	1.61	175	1.290		2.05	9.56	11.00	3.49	OK	
	75.00					4.00																		
89+22.00	8+78.00	Grade Break	3,970	5.236	5.393	2400.75	27.08	2405.99	2417.37	RECT	28	0	146.61	28.00	2.09	175	1.822		2.18	9.23	11.00	3.94	OK	Spiral Transition
89+22.00	8+78.00		3,970	5.236	5.393	2400.75	27.08	2405.99	2417.37	RECT	28	0	146.61	28.00	2.09	175	1.822		2.18	9.23	11.00	3.94	OK	Spiral Transition
	53.00					1.21																		
89+75.00	8+25.00	End 28'x11' RECT	3,970	5.219	5.379	2400.11	27.17	2405.33	2416.79	RECT	28	0	146.13	28.00	2.10	175	1.834		2.18	9.23	11.00	3.95	OK	
89+75.00	8+25.00	Start Transition	3,970	5.219	5.379	2400.11	27.17	2405.33	2416.79	RECT	28	0	146.13	28.00	2.10	175	1.834		2.18	9.23	11.00	3.95	OK	
	50.00					1.20																		
90+25.00	7+75.00	End Transition	3,970	6.529	6.586	2399.51	25.34	2406.04	2416.01	RECT	24	0	156.70	24.00	1.75	175	1.367		2.18	10.08	11.00	3.10	OK	Spiral Transition
90+25.00	7+75.00	Start 24'x11' RCB	3,970	7.484	7.484	2399.51	24.11	2406.99	2416.02	RCB	24	0	179.62	24.00	1.55	175	1.238		2.18	10.90	11.00	2.28	OK, RCB	Spiral Transition
	25.00					1.21																		
90+50.00	7+50.00	End 24'x11' RCB	3,970	7.468	7.468	2399.21	24.16	2406.68	2415.74	RCB	24	0	179.23	24.00	1.56	175	1.243		2.18	10.89	11.00	2.29	OK, RCB	Spiral Transition
90+50.00	7+50.00	Start Transition	3,970	7.468	7.468	2399.21	24.16	2406.68	2415.74	RCB	24	0	179.23	24.00	1.56	175	1.243		2.18	10.89	11.00	2.29	OK, RCB	Spiral Transition
	8.00					1.28																		
90+58.00	7+42.00	End Transition	3,970	7.462	7.462	2399.51	24.18	2406.97	2416.05	RCB	24	0	179.09	24.00	1.56	175	1.245		2.18	10.89	11.00	2.29	OK, RCB	Spiral Transition
90+58.00	7+42.00	Start 24'x11' RCB	3,970	7.462	7.462	2399.51	24.18	2406.97	2416.05	RCB	24	0	179.09	24.00	1.56	175	1.245		2.18	10.89	10.00	1.29	OK, RCB	Spiral Transition
	142.00					1.49																		
90+96.39	7+03.61	ST -End Curve	3,970	7.417	7.417	2398.65	24.33	2406.06	2415.25	RCB	24	0	178.01	24.00	1.57	175	1.261		2.19	10.86	10.00	1.32	OK, RCB	Spiral Transition
90+96.39	7+03.61		3,970	7.417	7.417	2398.65	24.33	2406.06	2415.25	RCB	24	0	178.01	24.00	1.57				2.19	9.60	10.00	2.58	OK, RCB	
	47.24					1.35																		
91+43.63	6+56.37	Start Curve	3,970	7.411	7.411	2398.01	24.35	2405.42	2414.63	RCB	24	0	177.86	24.00	1.58				2.19	9.60	10.00	2.59	OK, RCB	
91+43.63	6+56.37		3,970	7.411	7.411	2398.01	24.35	2405.42	2414.63	RCB	24	0	177.86	24.00	1.58	375	1.178		2.19	10.78	10.00	1.41	OK, RCB	
	56.37					1.08																		
92+00.00	6+00.00	End 24'x10' RCB	3,970	7.392	7.392	2397.40	24.41	2404.79	2414.04	RCB	24	0	177.41	24.00	1.58	375	1.184		2.19	10.77	10.00	1.42	OK, RCB	
92+00.00	6+00.00	Start Transition	3,970	6.475	6.541	2397.40	25.55	2403.88	2414.01	RECT	24	0	155.40	24.00	1.77	375	1.297		2.19	9.96	10.50	2.73	OK	
	50.00					1.20																		
92+50.00	5+50.00	End Transition	3,970	5.243	5.399	2396.80	27.04	2402.04	2413.40	RECT	28	0	146.80	28.00	2.08	375	1.695		2.17	9.11	10.50	3.56	OK	
92+50.00	5+50.00	Start 28'x10.5' RECT	3,970	5.243	5.399	2396.80	27.04	2402.04	2413.40	RECT	28	0	146.80	28.00	2.08	375	1.695		2.17	9.11	10.50	3.56	OK	
	51.44					1.21																		
93+01.44	4+98.56		3,970	5.226	5.385	2396.18	27.13	2401.41	2412.84	RECT	28	0	146.33	28.00	2.09	375	1.707		2.18	9.11	10.50	3.57	OK	
93+01.44	4+98.56		3,970	5.226	5.385	2396.18	27.13	2401.41	2412.84	RECT	28	0	146.33	28.00	2.09				2.18	7.40	10.50	5.27	OK	
	114.24					1.21																		
94+15.68	3+84.32		3,970	5.193	5.357	2394.80	27.30	2399.99	2411.57	RECT	28	0	145.40	28.00	2.11				2.18	7.37	10.50	5.31	OK	
94+15.68	3+84.32	PT-End 32'x 10' RECT	3,970	5.193	5.357	2394.80	27.30	2399.99	2411.57	RECT	28	0	145.40	28.00	2.11				2.18	7.37	10.50	5.31	OK	
		End Curve																						

Note:

(1) Depth with air entrainment, $y^*/y = 0.906(e)^{0.0615}$ (Fr >= 1.60; $y^* = y$, Fr < 1.60). See *WASURO User's Manual (Draft), US Army Corps of Engineers Los Angeles District, July 1985.*

(2) To be calculated in the future.

(3) For supercritical flow, $F_B = 1+0.025V(Y^{1/3})$; for subcritical flow, $FB = 0.5+V^2/2g$. See *Hydraologic Criteria and Drainage Design Manual, CCRFCD, 1999.*

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T1 UPRR Channel Drainage Plan - SR 160                                          0
T2 Q = 2394 cfs - Main Channel Hydraulic check
T3 WSPG file: UPRR-REV.WSW, by: RMT UPDATED 9/24/04
SO    384.32 2394.800 13      .014
R     498.56 2396.180 13      .014
R     550.0002396.800 13      .014                                    7.859    .000 0
TS    600.0002397.400  9      .014                                    7.639
BX    600.0002397.400  8      .014
R     656.37 2398.080  8      .014                                    7.778    .000 0
R     703.6102398.650  8      .014
R     742.0002399.110  8      .014                                   12.569    .000 0
TS    750.0002399.210 14      .014                                    2.619
R     775.0002399.510 14      .014                                    8.185    .000 0
BE    775.0002399.510 14      .014
TS    825.0002400.110  7      .014                                   16.370
R     878.0002400.750  7      .014                                   17.352    .000 0
R     953.0002403.750  7      .014                                   24.555    .000 0
R    1151.5102405.240  7      .014                                   64.993    .000 0
R    1304.67 2406.370  7      .014
R    1476.5802407.650  7      .014                                   56.284
R    1550.00 2408.190  7      .014
TS   1600.00 2408.560 11      .014
R    2907.50 2418.300 11      .014
JX   2912.5002418.330 11 12   .014  324.000          2419.500          45.0          .000
R    3000.00 2418.980 11      .014
TS   3050.00 2419.350 10      .014
JX   6000.0002442.620 10  5   .014  150.000          2442.620          45.0          .000
TS   6010.00 2442.700  1      .014
R    6993.99 2450.460  1      .014
TS   7016.49 2450.630  4      .014
JX   7085.00 2451.150  2  3   .014 1102.000          2451.150           .001
R    7125.00 2451.650  2      .014
R    7450.00 2455.660  2      .014
TS   7700.00 2458.750  1      .014
R    7860.00 2460.970  1      .014
R    8473.9402463.480  1      .014                                   10.000    .000 0
R    8719.17 2464.490  1      .014
R    8789.57 2464.790  1      .014
R    8800.00 2464.800  1      .014
BX   8800.00 2464.800  6      .014
R    9040.00 2465.990  6      .014
SH   9040.0002465.990  6                          2476.170
CD    1  2                7.000   32.000
CD    2  2                8.000   22.000
CD    3  2               10.000   10.000
CD    4  2               10.000   34.000
CD    5  3                8.000    4.000
CD    6  3   1   2.000    8.000   32.000
CD    7  2               11.000   28.000
CD    8  3   1   2.000   10.000   24.000  .000  .000   .00
CD    9  2               10.000   24.000
CD   10  2                7.500   32.000
CD   11  2               10.000   32.000
CD   12  3               12.000    5.000
CD   13  2               10.500   28.000
CD   14  3   1   2.000   11.000   24.000  .000  .000   .00
Q          2394.000   .0
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WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

CARD CODE	SECT NO	CHN TYPE	NO OF PIER/PIP	AVE PIER WIDTH	HEIGHT 1 DIAMETER	BASE WIDTH	ZL	ZR	INV DROP	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CD	1	2	0	.000	7.000	32.000			.00										
CD	2	2	0	.000	8.000	22.000			.00										
CD	3	2	0	.000	10.000	10.000			.00										
CD	4	2	0	.000	10.000	34.000			.00										
CD	5	3	0	.000	8.000	4.000	.000	.000	.00										
CD	6	3	1	2.000	8.000	32.000	.000	.000	.00										
CD	7	2	0	.000	11.000	28.000			.00										
CD	8	3	1	2.000	10.000	24.000	.000	.000	.00										
CD	9	2	0	.000	10.000	24.000			.00										
CD	10	2	0	.000	7.500	32.000			.00										
CD	11	2	0	.000	10.000	32.000			.00										
CD	12	3	0	.000	12.000	5.000	.000	.000	.00										
CD	13	2	0	.000	10.500	28.000			.00										
CD	14	3	1	2.000	11.000	24.000	.000	.000	.00										

W S P G W

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

UPRR Channel Drainage Plan - SR 160

HEADING LINE NO 2 IS -

Q = 2394 cfs - Main Channel Hydraulic check

HEADING LINE NO 3 IS -

WSPG file: UPRR-REV.WSW, by: RMT UPDATED 9/24/04

W S P G W

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET

U/S DATA	STATION	INVERT	SECT	W S ELEV
	384.320	2394.800	13	.000

ELEMENT NO 2 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN
	498.560	2396.180	13	.014	.000	.000	.000	0

ELEMENT NO 3 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN
	550.000	2396.800	13	.014	375.022	7.859	.000	0

ELEMENT NO 4 IS A TRANSITION

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE
	600.000	2397.400	9	.014	375.021	7.639

ELEMENT NO 5 IS A BRIDGE EXIT

U/S DATA	STATION	INVERT	SECT
	600.000	2397.400	8

ELEMENT NO 6 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN
	656.370	2398.080	8	.014	415.243	7.778	.000	0

ELEMENT NO 7 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN
	703.610	2398.650	8	.014	.000	.000	.000	0

ELEMENT NO 8 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN
	742.000	2399.110	8	.014	175.001	12.569	.000	0

ELEMENT NO 9 IS A TRANSITION

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE
	750.000	2399.210	14	.014	175.016	2.619

ELEMENT NO 10 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN
	775.000	2399.510	14	.014	175.002	8.185	.000	0

ELEMENT NO 11 IS A BRIDGE ENTRANCE

U/S DATA	STATION	INVERT	SECT	FF
	775.000	2399.510	14	.014

ELEMENT NO 12 IS A TRANSITION

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE
	825.000	2400.110	7	.014	175.002	16.370

ELEMENT NO 13 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN
	878.000	2400.750	7	.014	175.004	17.352	.000	0

W S P G W

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 14 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN
	953.000	2403.750	7	.014	175.002	24.555	.000	0

ELEMENT NO 15 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN
	1151.510	2405.240	7	.014	175.000	64.993	.000	0

ELEMENT NO 16 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN
	1304.670	2406.370	7	.014	.000	.000	.000	0

ELEMENT NO 17 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN
	1476.580	2407.650	7	.014	175.000	56.284	.000	0

ELEMENT NO 18 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN
	1550.000	2408.190	7	.014	.000	.000	.000	0

ELEMENT NO 19 IS A TRANSITION

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE

```
                                1600.000 2408.560   11                .014                                .000      .000

  ELEMENT NO  20 IS A REACH          *        *      *
                U/S DATA    STATION     INVERT  SECT                 N                                RADIUS     ANGLE      ANG PT  MAN
H
                                2907.500 2418.300   11                .014                                .000      .000       .000    0

  ELEMENT NO  21 IS A JUNCTION       *        *      *      *          *          *                      *                     *
                U/S DATA    STATION     INVERT  SECT LAT-1 LAT-2     N       Q3         Q4       INVERT-3 INVERT-4  PHI 3  PHI 4
                                2912.500 2418.330   11    12     0    .014   324.000       .000  2419.500       .000  45.000
.000
                                                                                                 RADIUS     ANGLE
                                                                                                   .000      .000

  ELEMENT NO  22 IS A REACH          *        *      *
                U/S DATA    STATION     INVERT  SECT                 N                                RADIUS     ANGLE      ANG PT  MAN
H
                                3000.000 2418.980   11                .014                                .000      .000       .000    0

  ELEMENT NO  23 IS A TRANSITION     *        *      *
                U/S DATA    STATION     INVERT  SECT                 N                                RADIUS    ANGLE
                                3050.000 2419.350   10                .014                                .000      .000

  ELEMENT NO  24 IS A JUNCTION       *        *      *      *          *          *                      *                     *
                U/S DATA    STATION     INVERT  SECT LAT-1 LAT-2     N       Q3         Q4       INVERT-3 INVERT-4  PHI 3  PHI 4
                                6000.000 2442.620   10     5     0    .014   150.000       .000  2442.620       .000  45.000
.000
                                                                                                 RADIUS     ANGLE
                                                                                                   .000      .000

                                                                W S P G W                                                 PAGE NO   4
                                WATER SURFACE PROFILE - ELEMENT CARD LISTING
  ELEMENT NO  25 IS A TRANSITION     *        *      *
                U/S DATA    STATION     INVERT  SECT                 N                                RADIUS    ANGLE
                                6010.000 2442.700    1                .014                                .000      .000

  ELEMENT NO  26 IS A REACH          *        *      *
                U/S DATA    STATION     INVERT  SECT                 N                                RADIUS     ANGLE      ANG PT  MAN
H
                                6993.990 2450.460    1                .014                                .000      .000       .000    0

  ELEMENT NO  27 IS A TRANSITION     *        *      *
                U/S DATA    STATION     INVERT  SECT                 N                                RADIUS    ANGLE
                                7016.490 2450.630    4                .014                                .000      .000

  ELEMENT NO  28 IS A JUNCTION       *        *      *      *          *          *                      *                     *
                U/S DATA    STATION     INVERT  SECT LAT-1 LAT-2     N       Q3         Q4       INVERT-3 INVERT-4  PHI 3  PHI 4
                                7085.000 2451.150    2     3     0    .014  1102.000       .000  2451.150       .000  .000
.100
                                                                                                 RADIUS     ANGLE
                                                                                                   .000      .000

  ELEMENT NO  29 IS A REACH          *        *      *
                U/S DATA    STATION     INVERT  SECT                 N                                RADIUS     ANGLE      ANG PT  MAN
H
                                7125.000 2451.650    2                .014                                .000      .000       .000    0

  ELEMENT NO  30 IS A REACH          *        *      *
                U/S DATA    STATION     INVERT  SECT                 N                                RADIUS     ANGLE      ANG PT  MAN
H
                                7450.000 2455.660    2                .014                                .000      .000       .000    0

  ELEMENT NO  31 IS A TRANSITION     *        *      *
                U/S DATA    STATION     INVERT  SECT                 N                                RADIUS    ANGLE
                                7700.000 2458.750    1                .014                                .000      .000

  ELEMENT NO  32 IS A REACH          *        *      *
                U/S DATA    STATION     INVERT  SECT                 N                                RADIUS     ANGLE      ANG PT  MAN
H
                                7860.000 2460.970    1                .014                                .000      .000       .000    0

  ELEMENT NO  33 IS A REACH          *        *      *
                U/S DATA    STATION     INVERT  SECT                 N                                RADIUS     ANGLE      ANG PT  MAN
H
                                8473.940 2463.480    1                .014                             3517.620   10.000       .000    0

  ELEMENT NO  34 IS A REACH          *        *      *
                U/S DATA    STATION     INVERT  SECT                 N                                RADIUS     ANGLE      ANG PT  MAN
H
                                8719.170 2464.490    1                .014                                .000      .000       .000    0

  ELEMENT NO  35 IS A REACH          *        *      *
                U/S DATA    STATION     INVERT  SECT                 N                                RADIUS     ANGLE      ANG PT  MAN
H
                                8789.570 2464.790    1                .014                                .000      .000       .000    0

  ELEMENT NO  36 IS A REACH          *        *      *
                U/S DATA    STATION     INVERT  SECT                 N                                RADIUS     ANGLE      ANG PT  MAN
H
                                8800.000 2464.800    1                .014                                .000      .000       .000    0
                                                                W S P G W                                                 PAGE NO   5
                                WATER SURFACE PROFILE - ELEMENT CARD LISTING
  ELEMENT NO  37 IS A BRIDGE EXIT    *
                U/S DATA    STATION     INVERT  SECT
                                8800.000 2464.800    6

  ELEMENT NO  38 IS A REACH          *        *      *
                U/S DATA    STATION     INVERT  SECT                 N                                RADIUS     ANGLE      ANG PT  MAN
H
                                9040.000 2465.990    6                .014                                .000      .000       .000    0

  ELEMENT NO  39 IS A SYSTEM HEADWORKS                *
                U/S DATA    STATION     INVERT  SECT                                                 W S ELEV
                                9040.000 2465.990    6                                               2476.170
```

Program Package License Serial Number: 1222
WATER SURFACE PROFILE LISTING Date: 9-24-2004 Time: 4:11:
3

UPRR Channel Drainage Plan - SR 160
Q = 2394 cfs - Main Channel Hydraulic check
WSPG file: UPRR-REV.WSW, by: RMT UPDATED 9/24/04

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT or I.D.	Base Wt ZL	No Wth Prs/Pip	L/Elem	Ch Slope	SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
384.320	2394.800	5.193	2399.993	3970.00	27.30	11.57	2411.57	.00	8.55	28.00	10.500	28.000	.00	0	.0									
114.240								.0111	1.27	5.19	2.11	5.06	.014	.00	.00									RECTANG
498.560	2396.180	5.226	2401.406	3970.00	27.12	11.43	2412.84	1.71	8.55	28.00	10.500	28.000	.00	0	.0									
51.440	.0121							.0109	.56	6.93	2.09	5.07	.014	.00	.00									RECTANG
550.000	2396.800	5.243	2402.043	3970.00	27.04	11.36	2413.40	1.70	8.55	28.00	10.500	28.000	.00	0	.0									
TRANS STR	.0120							.0097	.49	6.94	2.08		.014	.00	.00									RECTANG
600.000	2397.400	6.475	2403.875	3970.00	25.55	10.13	2414.01	1.17	9.47	24.00	10.000	24.000	.00	0	.0									
BRIDGE EXIT																								
600.000	2397.400	7.391	2404.791	3970.00	24.41	9.26	2414.05	.98	10.00	24.00	10.000	24.000	.00	1	2.0									
56.370	.0121							.0114	.64	8.37	1.65	7.24	.014	.00	.00	BOX								
656.370	2398.080	7.417	2405.497	3970.00	24.33	9.19	2414.69	.00	10.00	24.00	10.000	24.000	.00	1	2.0									
47.240	.0121							.0113	.53	7.42	1.64	7.24	.014	.00	.00	BOX								
703.610	2398.650	7.441	2406.091	3970.00	24.25	9.13	2415.22	2.30	10.00	24.00	10.000	24.000	.00	1	2.0									
38.390	.0120							.0112	.43	9.74	1.64	7.26	.014	.00	.00	BOX								
742.000	2399.110	7.462	2406.572	3970.00	24.18	9.08	2415.65	2.28	10.00	24.00	10.000	24.000	.00	1	2.0									
TRANS STR	.0125							.0112	.09	9.75	1.63		.014	.00	.00	BOX								
750.000	2399.210	7.468	2406.678	3970.00	24.16	9.07	2415.74	2.28	10.04	24.00	11.000	24.000	.00	1	2.0									
25.000	.0120							.0111	.28	9.75	1.63	7.25	.014	.00	.00	BOX								

Program Package License Serial Number: 1222
WATER SURFACE PROFILE LISTING Date: 9-24-2004 Time: 4:11:
3

UPRR Channel Drainage Plan - SR 160
Q = 2394 cfs - Main Channel Hydraulic check
WSPG file: UPRR-REV.WSW, by: RMT UPDATED 9/24/04

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT or I.D.	Base Wt ZL	No Wth Prs/Pip	L/Elem	Ch Slope	SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
775.000	2399.510	7.484	2406.994	3970.00	24.11	9.03	2416.02	2.27	10.04	24.00	11.000	24.000	.00	1	2.0									
BRIDGE ENTRANCE																								
775.000	2399.510	6.529	2406.039	3970.00	25.34	9.97	2416.01	2.73	9.47	24.00	11.000	24.000	.00	0	.0									
TRANS STR	.0120							.0097	.48	9.26	1.75		.014	.00	.00	BOX								
825.000	2400.110	5.219	2405.329	3970.00	27.17	11.46	2416.79	3.67	8.55	28.00	11.000	28.000	.00	0	.0									
53.000	.0121							.0110	.58	8.89	2.10	5.06	.014	.00	.00									

Program Package License Serial Number: 1222
WATER SURFACE PROFILE LISTING Date: 9-24-2004 Time: 4:11:

UPRR Channel Drainage Plan - SR 160
Q = 2394 cfs - Main Channel Hydraulic check
WSPG file: UPRR-REV.WSW, by: RMT UPDATED 9/24/04

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/Dia.-FT or I.D.	Base Wt ZL	No Wth Prs/Pip	L/Elem	Ch Slope	SF Ave	HF	SE	Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
RECTANG																									
878.000	2400.750	5.236	2405.986	3970.00	27.08	11.39	2417.37	3.64	8.55	28.00	11.000	28.000	.00	0 .0	16.910	.0400			.0105	.18	8.88	2.09	3.41	.014	.00	.00	
RECTANG																									
894.910	2401.427	5.394	2406.820	3970.00	26.29	10.73	2417.55	3.43	8.55	28.00	11.000	28.000	.00	0 .0	23.242	.0400			.0094	.22	8.83	1.99	3.41	.014	.00	.00	
RECTANG																									
918.152	2402.356	5.657	2408.013	3970.00	25.06	9.75	2417.77	3.12	8.55	28.00	11.000	28.000	.00	0 .0	19.161	.0400			.0081	.16	8.78	1.86	3.41	.014	.00	.00	
RECTANG																									
937.314	2403.123	5.933	2409.056	3970.00	23.90	8.87	2417.92	2.84	8.55	28.00	11.000	28.000	.00	0 .0	15.686	.0400			.0071	.11	8.77	1.73	3.41	.014	.00	.00	
RECTANG																									
953.000	2403.750	6.223	2409.973	3970.00	22.79	8.06	2418.03	2.58	8.55	28.00	11.000	28.000	.00	0 .0	198.510	.0075			.0063	1.26	8.80	1.61	5.95	.014	.00	.00	
RECTANG																									
1151.510	2405.240	6.375	2411.615	3970.00	22.24	7.68	2419.30	.00	8.55	28.00	11.000	28.000	.00	0 .0	153.160	.0074			.0059	.90	6.38	1.55	5.98	.014	.00	.00	
RECTANG																									
1304.670	2406.370	6.548	2412.918	3970.00	21.65	7.28	2420.20	2.33	8.55	28.00	11.000	28.000	.00	0 .0	21.045	.0074			.0056	.12	8.80	1.49	5.96	.014	.00	.00	
RECTANG																									
1325.715	2406.527	6.579	2413.106	3970.00	21.55	7.21	2420.32	2.31	8.55	28.00	11.000	28.000	.00	0 .0	150.965	.0074			.0052	.79	8.89	1.48	5.96	.014	.00	.00	
RECTANG																									
1476.580	2407.650	6.900	2414.550	3970.00	20.55	6.56	2421.11	.00	8.55	28.00	11.000	28.000	.00	0 .0	73.420	.0074			.0046	.34	6.90	1.38	5.99	.014	.00	.00	
RECTANG																									
1550.000	2408.190	7.150	2415.340	3970.00	19.83	6.11	2421.45	.00	8.55	28.00	11.000	28.000	.00	0 .0	TRANS STR	.0074			.0056	.29	7.15	1.31		.014	.00	.00	
RECTANG																									
1600.000	2408.560	5.400	2413.960	3970.00	22.97	8.20	2422.16	.00	7.82	32.00	10.000	32.000	.00	0 .0	559.201	.0074			.0071	3.96	5.40	1.74	5.36	.014	.00	.00	
RECTANG																									
2159.200	2412.726	5.505	2418.230	3970.00	22.54	7.89	2426.12	.00	7.82	32.00	10.000	32.000	.00	0 .0	437.263	.0074			.0064	2.81	5.50	1.69	5.36	.014	.00	.00	
RECTANG																									
2596.463	2415.983	5.773	2421.757	3970.00	21.49	7.17	2428.93	.00	7.82	32.00	10.000	32.000	.00	0 .0	197.268	.0074			.0056	1.10	5.77	1.58	5.36	.014	.00	.00	
RECTANG																									
2793.731	2417.453	6.055	2423.508	3970.00	20.49	6.52	2430.03	.00	7.82	32.00	10.000	32.000	.00	0 .0											

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	No Wth ZL	Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
2912.500	2418.330	5.082	2423.412	3646.00	22.42	7.81	2431.22	.00	7.39	32.00	10.000	32.000	.00	0 .0
87.500	.0074					.0074	.65	5.08	1.75	5.07	.014	.00	.00	RECTANG
3000.000	2418.980	5.084	2424.064	3646.00	22.41	7.80	2431.86	.00	7.39	32.00	10.000	32.000	.00	0 .0
TRANS STR	.0074					.0074	.37	5.08	1.75		.014	.00	.00	RECTANG
3050.000	2419.350	5.084	2424.434	3646.00	22.41	7.80	2432.23	.00	7.39	32.00	7.500	32.000	.00	0 .0
JUNCT STR	.0079					.0076	22.50	5.08	1.75		.014	.00	.00	RECTANG
6000.000	2442.620	4.834	2447.454	3496.00	22.60	7.93	2455.38	.00	7.18	32.00	7.500	32.000	.00	0 .0
TRANS STR	.0080					.0079	.08	4.83	1.81		.014	.00	.00	RECTANG
6010.000	2442.700	4.834	2447.534	3496.00	22.60	7.93	2455.46	.00	7.18	32.00	7.000	32.000	.00	0 .0
59.669	.0079					.0079	.47	4.83	1.81	4.83	.014	.00	.00	RECTANG
6069.669	2443.170	4.834	2448.005	3496.00	22.60	7.93	2455.94	.00	7.18	32.00	7.000	32.000	.00	0 .0
924.321	.0079					.0078	7.19	4.83	1.81	4.83	.014	.00	.00	RECTANG
6993.990	2450.460	4.877	2455.337	3496.00	22.40	7.79	2463.13	.00	7.18	32.00	7.000	32.000	.00	0 .0
TRANS STR	.0076					.0083	.19	4.88	1.79		.014	.00	.00	RECTANG
7016.490	2450.630	4.427	2455.057	3496.00	23.22	8.38	2463.43	.00	6.90	34.00	10.000	34.000	.00	0 .0
JUNCT STR	.0076					.0092	.63	4.43	1.95		.014	.00	.00	RECTANG
7085.000	2451.150	4.744	2455.894	2394.00	22.94	8.17	2464.06	.00	7.16	22.00	8.000	22.000	.00	0 .0
40.000	.0125					.0093	.37	4.74	1.86	4.31	.014	.00	.00	RECTANG

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	No Wth ZL	Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch

7125.000	2451.650	4.797	2456.447	2394.00	22.68	7.99	2464.44	.00	7.16	22.00	8.000	22.000	.00	0 .0
46.915	.0123					.0090	.42	4.80	1.83	4.33	.014	.00	.00	
RECTANG														
7171.915	2452.229	4.867	2457.096	2394.00	22.36	7.76	2464.86	.00	7.16	22.00	8.000	22.000	.00	0 .0
113.073	.0123					.0082	.93	4.87	1.79	4.33	.014	.00	.00	
RECTANG														
7284.988	2453.624	5.105	2458.729	2394.00	21.32	7.06	2465.79	.00	7.16	22.00	8.000	22.000	.00	0 .0
75.427	.0123					.0071	.54	5.10	1.66	4.33	.014	.00	.00	
RECTANG														
7360.415	2454.555	5.354	2459.908	2394.00	20.33	6.42	2466.32	.00	7.16	22.00	8.000	22.000	.00	0 .0
52.576	.0123					.0062	.33	5.35	1.55	4.33	.014	.00	.00	
RECTANG														
7412.991	2455.203	5.615	2460.818	2394.00	19.38	5.83	2466.65	.00	7.16	22.00	8.000	22.000	.00	0 .0
37.009	.0123					.0054	.20	5.62	1.44	4.33	.014	.00	.00	
RECTANG														
7450.000	2455.660	5.889	2461.549	2394.00	18.48	5.30	2466.85	.00	7.16	22.00	8.000	22.000	.00	0 .0
TRANS STR	.0124					.0065	1.62	5.89	1.34		.014	.00	.00	
RECTANG														
7700.000	2458.750	3.773	2462.523	2394.00	19.83	6.10	2468.63	.00	5.58	32.00	7.000	32.000	.00	0 .0
31.181	.0139					.0076	.24	3.77	1.80	3.14	.014	.00	.00	
RECTANG														
7731.181	2459.183	3.865	2463.048	2394.00	19.36	5.82	2468.87	.00	5.58	32.00	7.000	32.000	.00	0 .0
48.228	.0139					.0068	.33	3.86	1.74	3.14	.014	.00	.00	
RECTANG														
7779.409	2459.852	4.054	2463.905	2394.00	18.46	5.29	2469.19	.00	5.58	32.00	7.000	32.000	.00	0 .0
35.453	.0139					.0059	.21	4.05	1.62	3.14	.014	.00	.00	
RECTANG														

UPRR Channel Drainage Plan - SR 160
Q = 2394 cfs - Main Channel Hydraulic check
WSPG file: UPRR-REV.WSW, by: RMT UPDATED 9/24/04

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/Dia.-FT or I.D.	Base Wt ZL		No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
7814.862	2460.344	4.251	2464.595	2394.00	17.60	4.81	2469.40	.00	5.58	32.00	7.000	32.000	.00	0 .0
26.152	.0139					.0051	.13	4.25	1.50	3.14	.014	.00	.00	
RECTANG														
7841.015	2460.707	4.459	2465.166	2394.00	16.78	4.37	2469.54	.00	5.58	32.00	7.000	32.000	.00	0 .0
18.985	.0139					.0044	.08	4.46	1.40	3.14	.014	.00	.00	
RECTANG														
7860.000	2460.970	4.677	2465.646	2394.00	16.00	3.97	2469.62	.07	5.58	32.00	7.000	32.000	.00	0 .0
73.303	.0041					.0041	.30	4.75	1.30	4.68	.014	.00	.00	
RECTANG														
7933.303	2461.270	4.677	2465.946	2394.00	16.00	3.97	2469.92	.07	5.58	32.00	7.000	32.000	.00	0 .0
540.638	.0041					.0042	2.27	4.75	1.30	4.68	.014	.00	.00	
RECTANG														
8473.940	2463.480	4.599	2468.079	2394.00	16.27	4.11	2472.19	.00	5.58	32.00	7.000	32.000	.00	0 .0

```
   245.229    .0041                                          .0044     1.09     4.69    1.34     4.67    .014       .00    .00
RECTANG
        |          |        |        |        |        |        |        |        |       |        |       |        |       |
  8719.170  2464.490    4.506  2468.996   2394.00   16.60    4.28  2473.28     .00    5.58    32.00   7.000   32.000    .00   0
.0
        -|-        -|-      -|-      -|-      -|-      -|-      -|-      -|-      -|-     -|-      -|-     -|-      -|-     -|-
    70.400    .0043                                          .0046      .33     4.51    1.38     4.61    .014       .00    .00
RECTANG
        |          |        |        |        |        |        |        |        |       |        |       |        |       |
  8789.570  2464.790    4.479  2469.269   2394.00   16.70    4.33  2473.60     .00    5.58    32.00   7.000   32.000    .00   0
.0
        -|-        -|-      -|-      -|-      -|-      -|-      -|-      -|-      -|-     -|-      -|-     -|-      -|-     -|-
    10.430    .0010                                          .0047      .05     4.48    1.39     7.62    .014       .00    .00
RECTANG
        |          |        |        |        |        |        |        |        |       |        |       |        |       |
  8800.000  2464.800    4.438  2469.238   2394.00   16.86    4.41  2473.65     .00    5.58    32.00   7.000   32.000    .00   0
.0
        -|-        -|-      -|-      -|-      -|-      -|-      -|-      -|-      -|-     -|-      -|-     -|-      -|-     -|-
 BRIDGE EXIT
        |          |        |        |        |        |        |        |        |       |        |       |        |       |
  8800.000  2464.800    5.165  2469.965   2394.00   15.45    3.71  2473.67     .00    5.83    32.00   8.000   32.000    .00   1
2.0
        -|-        -|-      -|-      -|-      -|-      -|-      -|-      -|-      -|-     -|-      -|-     -|-      -|-     -|-
   145.106    .0050                                          .0046      .67     5.16    1.24     5.09    .014       .00    .00  BOX
[ FILE: uprr-rev.WSW                          W S P G W - CIVILDESIGN Version 12.99                                          PAGE
7

                                Program Package License Serial Number:   1222
                                                WATER SURFACE PROFILE LISTING                          Date: 9-24-2004  Time: 4:11:
3

                            UPRR Channel Drainage Plan - SR 160
                              Q = 2394 cfs - Main Channel Hydraulic check
                                WSPG file: UPRR-REV.WSW, by: RMT UPDATED 9/24/04
 ********************************************************************************************************************************
********
         | Invert  |  Depth |  Water  |    Q    |  Vel      Vel  |  Energy | Super |Critical|Flow Top|Height/|Base Wt|       |No
Wth
  Station |  Elev   |  (FT)  |  Elev   |  (CFS)  | (FPS)     Head |  Grd.El.|  Elev | Depth  | Width  |Dia.-FT|or I.D.|  ZL
|Prs/Pip
        -|-        -|-      -|-       -|-       -|-      -|-      -|-      -|-     -|-      -|-     -|-      -|-     -|
  L/Elem  |Ch Slope |        |         |         |          SF Ave|     HF  |SE Dpth|Froude N|Norm Dp |  "N"  | X-Fall|  ZR  |Type
Ch
 *********|*********|********|*********|*********|*******|*******|*********|*******|********|********|*******|*******|*****
|*******
         |          |        |         |         |       |       |         |       |        |        |       |       |      |
  8945.106  2465.520    5.296  2470.815   2394.00   15.07    3.53  2474.34     .00    5.83    32.00   8.000   32.000    .00   1
2.0
        -|-        -|-      -|-      -|-      -|-      -|-      -|-      -|-      -|-     -|-      -|-     -|-      -|-     -|-
    79.270    .0050                                          .0042      .33     5.30    1.19     5.09    .014       .00    .00  BOX
        |          |        |        |        |        |        |        |        |       |        |       |        |       |
  9024.376  2465.913    5.554  2471.467   2394.00   14.37    3.21  2474.67     .00    5.83    32.00   8.000   32.000    .00   1
2.0
        -|-        -|-      -|-      -|-      -|-      -|-      -|-      -|-      -|-     -|-      -|-     -|-      -|-     -|-
    15.624    .0050                                          .0037      .06     5.55    1.11     5.09    .014       .00    .00  BOX
        |          |        |        |        |        |        |        |        |       |        |       |        |       |
  9040.000  2465.990    5.826  2471.816   2394.00   13.70    2.91  2474.73     .00    5.83    32.00   8.000   32.000    .00   1
2.0
        -|-        -|-      -|-      -|-      -|-      -|-      -|-      -|-      -|-     -|-      -|-     -|-      -|-     -|-
[
```

DESIGN CALCULATIONS OF UPRR CHANNEL

Client NDOT	WO No. 6062	Page No. 1	of 4
Subject UPRR Channel	Date 9/24/04	By RMT	
	Checked 9/24/04	By JPL	
Location	Revised	By	

Super Elevation

$$S_e = \frac{CV^2 T_w}{gr}$$

where S_e = superelevation (ft)

V = velocity (ft/sec)

T_w = Base width (ft)

r = curve radius (ft)

g = 32.2 ft/sec^2

C = 0.5 for rectangular channels w/ spiral Transition Curves

1.0 for all other channel sections, with or without spiral transition curves

Freeboard

$$F_b = 1.0 + 0.025 V(d^{1/3})$$

where F_b = freeboard height (ft)

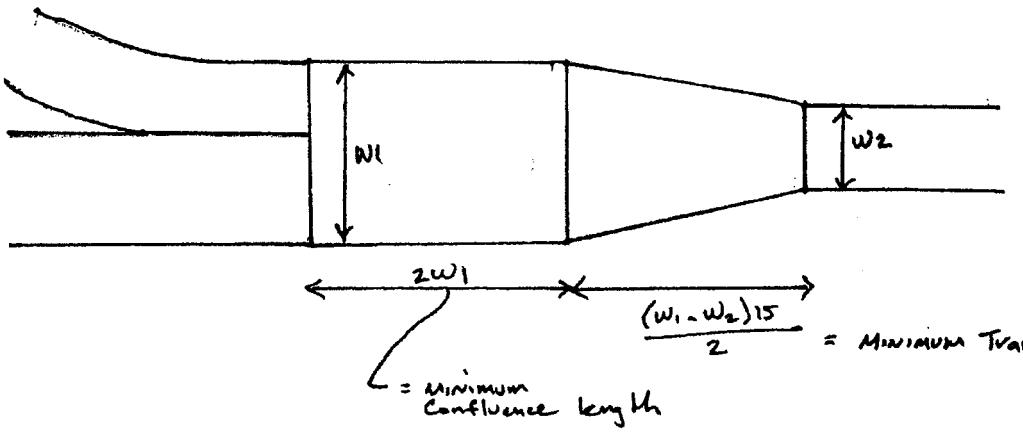
V = Velocity (ft/sec)

d = depth of flow

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Client NDOT	WO No. 6062	Page No. 2	of 4
Subject UPRR Channel	Date 9/24/04	By RMT	
	Checked 9/24/04	By JPL	
Location	Revised	By	

Minimum Transition length & Confluence



See Sheet 4 of 4 for example

Spiral Transition Curves

$L_c = 0.32\ T_w\ V / y^{0.5}$ where

L_c = (Minimum) length of Transition Curve (ft)
T_w = top width of channel (ft)
V = velocity before transition (ft/sec)
y = Depth of design flow (ft)

(1) Example: see sta 83+23.42

$T_w = 28$ ft
$V = 20.55$ ft/sec
$y = 6.9$ ft

$$L_c = 0.32(28')(20.55\ ft/sec) / (6.9)^{0.5}$$

$L_c = 70.09$ ft min

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EXAMPLES

Superelevation: see hydraulic summary sta 88+47.00

$$S_e = \frac{CV^2 T_w}{gr} = \frac{0.5(22.79)^2 * 28}{(32.2)(175)} = 1.29 \text{ ft}$$

where
$C = 0.5$
$V = 22.79$ ft/sec
$T_w = 28$ ft
$g = 32.2$ ft/sec^2
$r = 175$ ft

Freeboard: see hydraulic summary sta 88+47.00

$$F_b = 1.0 + 0.025 V (d^{1/3}) = 1.0 + 0.025(22.79)(6.223)^{1/3}$$
$$= 2.05 \text{ ft}$$

where
$V = 22.79$ ft/sec
$d = 6.223$ ft

Spiral Transition Curves: see sta 86+48.49

See sheet 2

$$L_c = 0.32 T_w V / y^{0.5} = 0.32(28')(22.24 \text{ ft/sec}) / (6.375)^{0.5}$$
$$= 78.92'$$

where
$T_w = 29$ ft
$V = 22.24$ ft/sec
$y = 6.375$ ft

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Client NDOT	WO No. 6062	Page No. 4 of 4
Subject URRR Channel	Date 9/24/04	By RMT
	Checked 9/24/04	By JPL
Location	Revised	By

Minimum Transition length + Confluence

See sta 27+15.00 to 28+06.01 for example

W_1 = 34 ft (32' Reet + 10' RCB + 2' pice)

W_2 = 32 ft (down stream Reet channel)

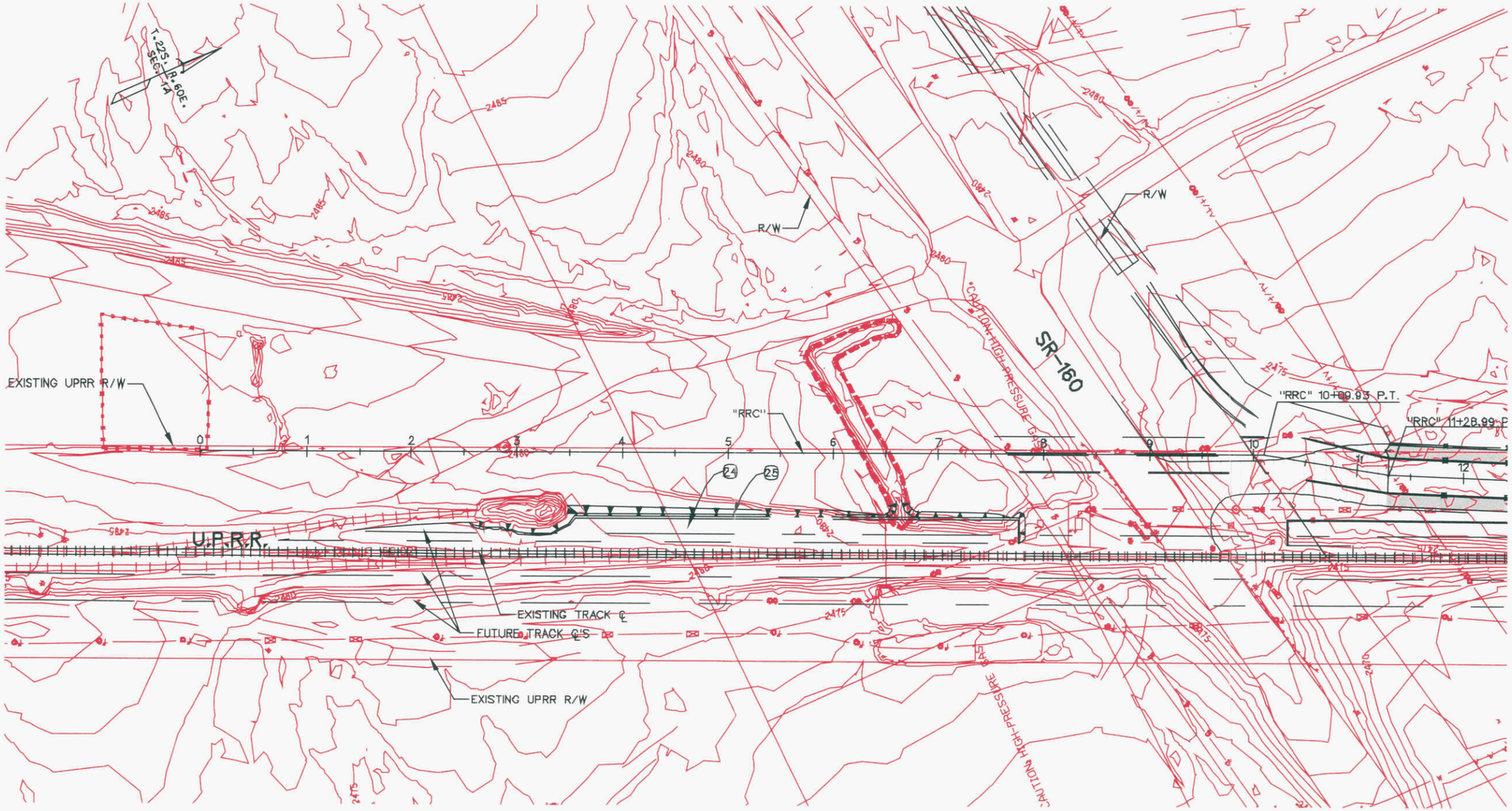
Minimum Confluence length = $2W_1 = 34(2) = 68$ ft - calculated
68.51 ft - actual

Minimum Transition length = $\frac{(W_1 - W_2)15}{2} = \frac{(34-32)15}{2} = 15$ ft - calculated
22.5 ft - actual

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STATE	PROJECT NO.	COUNTY	SHEET NO.
	STP-0160(017)	CLARK	H-101



SEE SHEET H-101B FOR NOTES

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

SR 160 – UPRR CHANNEL

UPRR CHANNEL DRAINAGE PLAN

vtn nevada

DESIGN BY	JPL
DRAWN BY	WRM
CHECKED BY	CM
PM	KDB

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STATE	PROJECT NO.	COUNTY	SHEET NO.
	STP-0160(017)	CLARK	H-101A

FENCING COORDINATE TABLE

POINT NUMBER	STATION	OFFSET	DESCRIPTION
1	"RRC" 11+25.36±	29.78'± LT	ANGLE POINT
2	"RRC" 13+49.98±	30.00'± LT	ANGLE POINT

FOR MAINTENANCE ACCESS ROAD GRADING PLAN SEE SHEET H-110

SR-160

BRONCO

PEBBLE ROAD

T.22S., R.60E., SECT. 14

SECTION 14
SECTION 23

SECTION 14
SECTION 15

R/W

CONTRACTOR TO GRADE MAINTENANCE ACCESS

"RRC" 9+21.80
5.41' RT
ELEV. 2477.14'

"RRC" 10+09.49
5.02' RT
ELEV. 2474.09'

"RRC" 10+56.73
10.17' LT
ELEV. 2472.60'

"RRC" 10+89.93 P.T.

"RRC" 11+24.90
28.72' LT
ELEV. 2473.49'

"RRC" 11+28.99 P.T.

EXISTING UPRR R/W
"RRC" 13+49.44 P.T.

MAINTENANCE ROAD

"RRC"

MAINTENANCE ROAD

"RRC" 8+28.82
7.19' LT
ELEV. 2479.27'

"RRC" 9+63.65
83.75' RT
ELEV. 2478.61'

"RRC" 11+28.99
29.00' RT
ELEV. 2471.15'

200' UPRR R/W

U.P.R.R.

"RRC" 10+87.30
30.19' RT
ELEV. 2472.42'

"RRC" 10+29.73
33.41' RT
ELEV. 2473.07'

"RRC" 9+88.34
35.60' RT
ELEV. 2474.46'

JONES BOULEVARD

SECTION 23
SECTION 24

EXISTING TRACK ℄

FUTURE TRACK ℄'S

TEMPORARY CONSTRUCTION EASEMENT

EXISTING UPRR R/W

SECTION 13
SECTION 24

SEE SHEET H-101

MATCHLINE ~ SEE SHEET H-102

CAUTION HIGH-PRESSURE GAS

SEE SHEET H-101B FOR NOTES

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

SR 160 – UPRR CHANNEL

UPRR CHANNEL DRAINAGE PLAN

vtn nevada

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DRAWN BY	VBW
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PIC	PM

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STATE	PROJECT NO.	COUNTY	SHEET NO.
	STP-0160(017)	CLARK	H-101B

(1)	"RRC" 11+26.99, 16.38' Lt. TO "RRC" 11+25.35, 29.78' Lt.	INSTALL 16' SWING GATE (DOUBLE)
(2)	"RRC" 11+50.00 16.00' LT.	INSTALL CHANNEL ACCESS LADDER (SEE SHEET H-131)
(3)	"RRC" 11+82.00 16.00' RT.	INSTALL CHANNEL ACCESS LADDER (SEE SHEET H-131)
(4)	"RRC" 11+28.99 TO "RRC" 18+44.00	CONSTRUCT 32' x 7' RECTANGULAR CHANNEL (SEE SHEETS H-107, H-108, H-115 & H-116)
(5)	"RRC" 17+00.00 16.00' LT.	INSTALL CHANNEL ACCESS LADDER (SEE SHEET H-131)
(6)	"RRC" 17+32.00 16.00' RT.	INSTALL CHANNEL ACCESS LADDER (SEE SHEET H-131)
(7)	"RRC" 18+58.04+/- 5.32'+/- RT.	RELOCATE WATER BLOW-OFF VALVE (SEE SHEET H-130)
(8)	"RRC" 19+00.80+/- 13.81'+/- LT.	RELOCATE WATER VALVE (SEE SHEET H-130)
(9)	"RRC" 20+50.00 16.00' LT.	INSTALL CHANNEL ACCESS LADDER (SEE SHEET H-131)
(10)	"RRC" 20+82.00 16.00' RT.	INSTALL CHANNEL ACCESS LADDER (SEE SHEET H-131)
(11)	"RRC" 21+00.00 TO "RRC" 21+40.95	CONSTRUCT TRANSITION STRUCTURE (SEE SHEETS H-108 & H-121)
(12)	"RRC" 11+28.99, 17.00'RT TO "RRC" 11+29.99, 29.00' RT	INSTALL 12' SWING GATE (DOUBLE)
(13)	"RRC" 11+41.16+/- 32.15'+/- RT.	REMOVE POWER POLE
(14)	"RRC" 14+29.71+/- 23.88'+/- RT.	REMOVE POWER POLE
(15)	"RRC" 15+77.23+/- 24.09'+/- RT.	REMOVE POWER POLE
(16)	"RRC" 17+24.10+/- 24.26'+/- RT.	REMOVE POWER POLE
(17)	"RRC" 18+70.68+/- 24.04'+/- RT.	REMOVE POWER POLE
(18)	"RRC" 20+17.76+/- 24.02'+/- RT.	REMOVE POWER POLE
(19)	"RRC" 11+25.35, 29.78'+/- TO "RRC" 21+40.95, 30.00'+/-	INSTALL 72" CHAIN LINK FENCE (SEE SHEET H-132)
(20)	"RRC" 18+44.00 TO "RRC 19+68.00	CONSTRUCT 32' x 7' RECTANGULAR CHANNEL UTILIZE WATERTIGHT JOINTS
(21)	"RRC" 19+68.00 TO "RRC" 21+00.00	CONSTRUCT 32' x 7' RECTANGULAR CHANNEL (SEE SHEETS H-107,H-108, H-115, H-116)
(22)	"RRC" 8+99.62+/-, 7.17'+/- LT TO "RRC" 11+28.99+/-, 0.00'+/- LT	CONSTRUCT ACCESS ROAD (SEE DETAIL SHEET H-140)
(23)	"RRC" 11+28.99+/-, 62.31'+/- RT TO "RRC" 90+96.85+/-, 43.19'+/- LT	PLACE 4 FOOT TEMPORARY FENCE 12' LEFT OF EDGE OF EXISTING UPRR TRACKS AS DIRECTED
(24)	"RRC" 0+73.99, 84.14'+/- RT TO "RRC" 7+75.57, 74.50'+/- RT	CONSTRUCT RAILROAD SUBGRADE AND TYPE I CLASS B AGGREGATE BASE (SEE SHEETS H-133A AND 116)
(25)	"RRC" 3+57.48, 57.29' RT TO "RRC"6+50.00, 57.43' RT	CONSTRUCT EARTHEN V-DITCH 1.5D' DEEP, 2:1 SIDE SLOPES SLOPE VARIES PER PLAN (SEE SHEETS H-133A & 116)
(26)	"RRC" 10+45.92, 79.96'+/- RT TO "RRC" 11+28.99, 68.13'+/- RT	CONSTRUCT RAILROAD SUBGRADE AND TYPE I CLASS B AGGREGATE BASE (SEE SHEETS H-133B &116)

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

SR 160 – UPRR CHANNEL

UPRR CHANNEL DRAINAGE PLAN

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DESIGN BY	JFL
DRAWN BY	VBM
CHECKED BY	CH

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STATE	PROJECT NO.	COUNTY	SHEET NO.
	STP-0160(017)	CLARK	H-102

SEE SHEET H-102A FOR NOTES

JONES BOULEVARD

SECTION 14
SECTION 13

FORD AVENUE

T.22S.
R.60E.
SEC. 13

CURVE DATA				
CURVE NUMBER	RADIUS	DELTA	LENGTH	TANGENT
1	125.00'	57°56'21"	126.40'	69.20'

"CA" 0+00.00 P.O.B.=
"RRC" 24+97.09, 208.19' LT.

"CA"

"CA" 1+58.98 P.C.

"CA" 2+85.38 P.T.
"RRC" 3+75.00 P.T.
"RRC" 27+16.00 P.T.
"RRC" 27+83.77 P.T.

FOR CULVERT INLET GRADING DETAILS SEE SHEET H-117

TEMPORARY CONSTRUCTION EASEMENT

R/W

"RRC" 23+50.00 P.T.

MAINTENANCE ROAD

TEMPORARY CONSTRUCTION EASEMENT
EXISTING UPRR R/W

R/W

15' (TYP.)

12"

MATCHLINE ~ SEE SHEET H-101

MATCHLINE ~ SEE SHEET H-103

"RRC"

200' UPRR R/W

U.P.R.R.

MAINTENANCE ROAD

EXISTING TRACK ℄

FUTURE TRACK ℄'S

EXISTING UPRR R/W
TEMPORARY CONSTRUCTION EASEMENT

12"

LVVWD

DATE

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

SR 160 – UPRR CHANNEL

UPRR CHANNEL
DRAINAGE PLAN

vtn nevada

DESIGN BY	JPL
DRAWN BY	VSM
CHECKED BY	CHL
PIC	KMB

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STATE	PROJECT NO.	COUNTY	SHEET NO.
	STP-0160(017)	CLARK	H-102A

(1)	"RRC" 21+40.95 TO "RRC" 23+50.00	CONSTRUCT TRANSITION STRUCTURE (SEE SHEETS H-108 & H-121)
(2)	"RRC" 23+50.00 TO "RRC" 27+15.00	CONSTRUCT 22' x 8' RECTANGULAR CHANNEL (SEE SHEETS H-108, H-115 & H-116)
(3)	"CA" 2+17.55	INSTALL 10' x 10' x 91.52' RCB 58 DEG. SKEW RT. AHEAD (UIE = 2452.50', LIE = 2451.61') CONSTRUCT TYPE II HEADWALL LT INSTALL CLASS 300 RIPRAP (SEE SHEET H-113 & H-117)
(4)	"RRC" 26+25.00 16.00' LT.	INSTALL CHANNEL ACCESS LADDER (SEE SHEET H-131)
(5)	"RRC" 26+57.00 16.00' RT.	INSTALL CHANNEL ACCESS LADDER (SEE SHEET H-131)
(6)	"RRC" 27+15.00 TO "RRC" 27+83.77	CONSTRUCT CONFLUENCE STRUCTURE (SEE SHEETS H-108 & H-122)
(7)	"RRC" 27+83.77 TO "RRC" 28+06.27	CONSTRUCT TRANSITION STRUCTURE (SEE SHEETS H-108 & H-122)
(8)	"RRC" 28+06.27 TO "RRC" 36+41.26	CONSTRUCT 32' x 7' RECTANGULAR CHANNEL (SEE SHEETS H-108, H-109, H-115 & H-116)
(9)	"RRC" 32+25.00 16.00' LT.	INSTALL CHANNEL ACCESS LADDER (SEE SHEET H-131)
(10)	"RRC" 32+57.00 16.00' RT.	INSTALL CHANNEL ACCESS LADDER (SEE SHEET H-131)
(11)	"RRC" 34+03.00 TO "RRC" 35+01.00	CONSTRUCT MAINTENANCE ACCESS RAMP (SEE SHEETS H-108 & H-123)
(12)	"RRC" 21+66.27± 23.87'± RT.	REMOVE POWER POLE
(13)	"RRC" 23+13.47± 23.42'± RT.	REMOVE POWER POLE
(14)	"RRC" 24+60.67± 21.96'± RT.	REMOVE POWER POLE
(15)	"RRC" 26+08.50± 18.52'± RT.	REMOVE POWER POLE
(16)	"RRC" 27+52.23± 21.05'± RT.	REMOVE POWER POLE
(17)	"RRC" 29+01.69± 23.54'± RT.	REMOVE POWER POLE
(18)	"RRC" 30+48.33± 23.96'± RT.	REMOVE POWER POLE
(19)	"RRC" 31+95.73± 23.67'± RT.	REMOVE POWER POLE
(20)	"RRC" 33+42.60± 23.74'± RT.	REMOVE POWER POLE
(21)	"RRC" 34+90.08± 23.90'± RT.	REMOVE POWER POLE
(22)	"RRC" 36+36.62± 23.74'± RT.	REMOVE POWER POLE
(23)	"RRC" 26+02.06± 71.16'± RT.	REMOVE EXISTING HEADWALL BACKFILL EXISTING CULVERT W/TYPE "B" SLURRY BACKFILL
(24)	"RRC" 26+07.78± 68.08'± RT.	REMOVE EXISTING HEADWALL BACKFILL EXISTING CULVERT W/TYPE "B" SLURRY BACKFILL
(25)	"RRC" 21+40.95, 31.00'± TO "RRC" 36+41.27, 30.00'±	INSTALL 72" CHAIN LINK FENCE (SEE SHEET H-132)
(26)	"RRC" 24+25, 52.95' LT TO "CA" 2+17.55, 5.00' RT	GRADE EARTHEN DITCH
(27)	"RRC" 27+45.26, 69.46' LT TO "CA" 2+17.55, 5.00' LT	GRADE EARTHEN DITCH

FENCING COORDINATE TABLE

POINT NUMBER	STATION	OFFSET	DESCRIPTION
3	"RRC" 24+05.53	31.04' LT	ANGLE POINT
4	"RRC" 24+04.14	106.03' LT	ANGLE POINT
5	"RRC" 27+53.80	108.05' LT	ANGLE POINT
6	"RRC" 27+47.20	33.34' LT	ANGLE POINT
7	"RRC" 33+82.61	30.00' LT	ANGLE POINT
8	"RRC" 33+88.32	48.00' LT	ANGLE POINT
9	"RRC" 35+48.69	48.00' LT	ANGLE POINT
10	"RRC" 35+74.39	30.00' LT	ANGLE POINT

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

SR 160 – UPRR CHANNEL

UPRR CHANNEL DRAINAGE PLAN

vtn nevada

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QC	KDB

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STATE	PROJECT NO.	COUNTY	SHEET NO.
	STP-0160(017)	CLARK	H-103

SEE SHEET H-103A FOR NOTES

FOR CULVERT INLET GRADING DETAILS SEE SHEET H-116

"CB" 0+00.00 P.O.B.=
"RRC" 38+88.93, 147.07' LT.
TEMPORARY CONSTRUCTION EASEMENT
"RRC" 38+00.00, 16.00' LT.
"CB" 1+85.36 P.T.
R/W
"CB"
"RRC" 38+00.00, 16.00' LT.
15' (TYP.)
COUGAR AVENUE
WIGWAM AVENUE
T.22S.-R.60E. SEC. 13
MAINTENANCE ROAD
EXISTING UPRR R/W
"RRC"
MAINTENANCE ROAD
U.P.R.R.
EXISTING TRACK ℄
FUTURE TRACK ℄'S
TEMPORARY CONSTRUCTION EASEMENT
EXISTING UPRR R/W
TEMPORARY CONSTRUCTION EASEMENT
200' UPRR R/W
SEE SHEET H-102 ~ MATCHLINE
SEE SHEET H-104 ~ MATCHLINE

FENCING COORDINATE TABLE			
POINT NUMBER	STATION	OFFSET	DESCRIPTION
11	"RRC" 24+05.53	31.04' LT	ANGLE POINT
12	"RRC" 24+04.14	106.03' LT	ANGLE POINT
13	"RRC" 27+53.80	108.05' LT	ANGLE POINT
14	"RRC" 27+47.20	33.34' LT	ANGLE POINT

STATE OF NEVADA
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SR 160 – UPRR CHANNEL

UPRR CHANNEL DRAINAGE PLAN

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STATE	PROJECT NO.	COUNTY	SHEET NO.
	STP-0160(017)	CLARK	H-103A

(1)	"RRC" 36+41.26 TO "RRC" 37+90.00	CONSTRUCT 32' x 7' RECTANGULAR CHANNEL (SEE SHEETS H-109, H-115 & H-116)
(2)	"RRC" 37+90.00 TO "RRC" 38+00.00	CONSTRUCT TRANSITION STRUCTURE (SEE SHEETS H-109, H-115 & H-124)
(3)	"CB" 1+50.00	CONSTRUCT 10' x 4' x 35.36' RCB 45 DEG. SKEW RT. AHEAD (UIE = 2445.00', LIE = 2443.05') CONSTRUCT TYPE II HEADWALL LT INSTALL CLASS 300 RIPRAP (SEE SHEETS H-113, H-118 & H-124)
(4)	"RRC" 38+25.00 16.00' LT.	INSTALL CHANNEL ACCESS LADDER (SEE SHEET H-131)
(5)	"RRC" 38+57.00 16.00' RT.	INSTALL CHANNEL ACCESS LADDER (SEE SHEET H-131)
(6)	"RRC" 38+00.00 TO "RRC" 51+41.26	CONSTRUCT 32' x 7.5' RECTANGULAR CHANNEL (SEE SHEETS H-109, H-110, H-115 & H-116)
(7)	"RRC" 44+25.00 16.00' LT.	INSTALL CHANNEL ACCESS LADDER (SEE SHEET H-131)
(8)	"RRC" 44+57.00 16.00' RT.	INSTALL CHANNEL ACCESS LADDER (SEE SHEET H-131)
(9)	"RRC" 50+25.00 16.00' LT.	INSTALL CHANNEL ACCESS LADDER (SEE SHEET H-131)
(10)	"RRC" 50+57.00 16.00' RT.	INSTALL CHANNEL ACCESS LADDER (SEE SHEET H-131)
(11)	"RRC" 37+85.26± 23.90'± RT.	REMOVE POWER POLE
(12)	"RRC" 39+30.97± 24.32'± RT.	REMOVE POWER POLE
(13)	"RRC" 40+78.00± 24.06'± RT.	REMOVE POWER POLE
(14)	"RRC" 42+25.41± 23.94'± RT.	REMOVE POWER POLE
(15)	"RRC" 43+72.21± 24.08'± RT.	REMOVE POWER POLE
(16)	"RRC" 45+19.62± 23.95'± RT.	REMOVE POWER POLE
(17)	"RRC" 46+65.70± 24.87'± RT.	REMOVE POWER POLE
(18)	"RRC" 48+12.72± 24.07'± RT.	REMOVE POWER POLE
(19)	"RRC" 49+62.16± 24.32'± RT.	REMOVE POWER POLE
(20)	"RRC" 51+08.32± 23.94'± RT.	REMOVE POWER POLE
(21)	"RRC" 38+09.23± 81.53'± RT.	REMOVE EXISTING HEADWALL BACKFILL EXISTING CULVERT W/TYPE "B" SLURRY BACKFILL
(22)	"RRC" 38+09.37± 56.27'± RT.	REMOVE EXISTING HEADWALL BACKFILL EXISTING CULVERT W/TYPE "B" SLURRY BACKFILL
(23)	"RRC" 36+41.27, 31.00'± TO "RRC" 51+41.27, 31.00'±	INSTALL 72" CHAIN LINK FENCE (SEE SHEET H-132)

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

SR 160 – UPRR CHANNEL

UPRR CHANNEL DRAINAGE PLAN

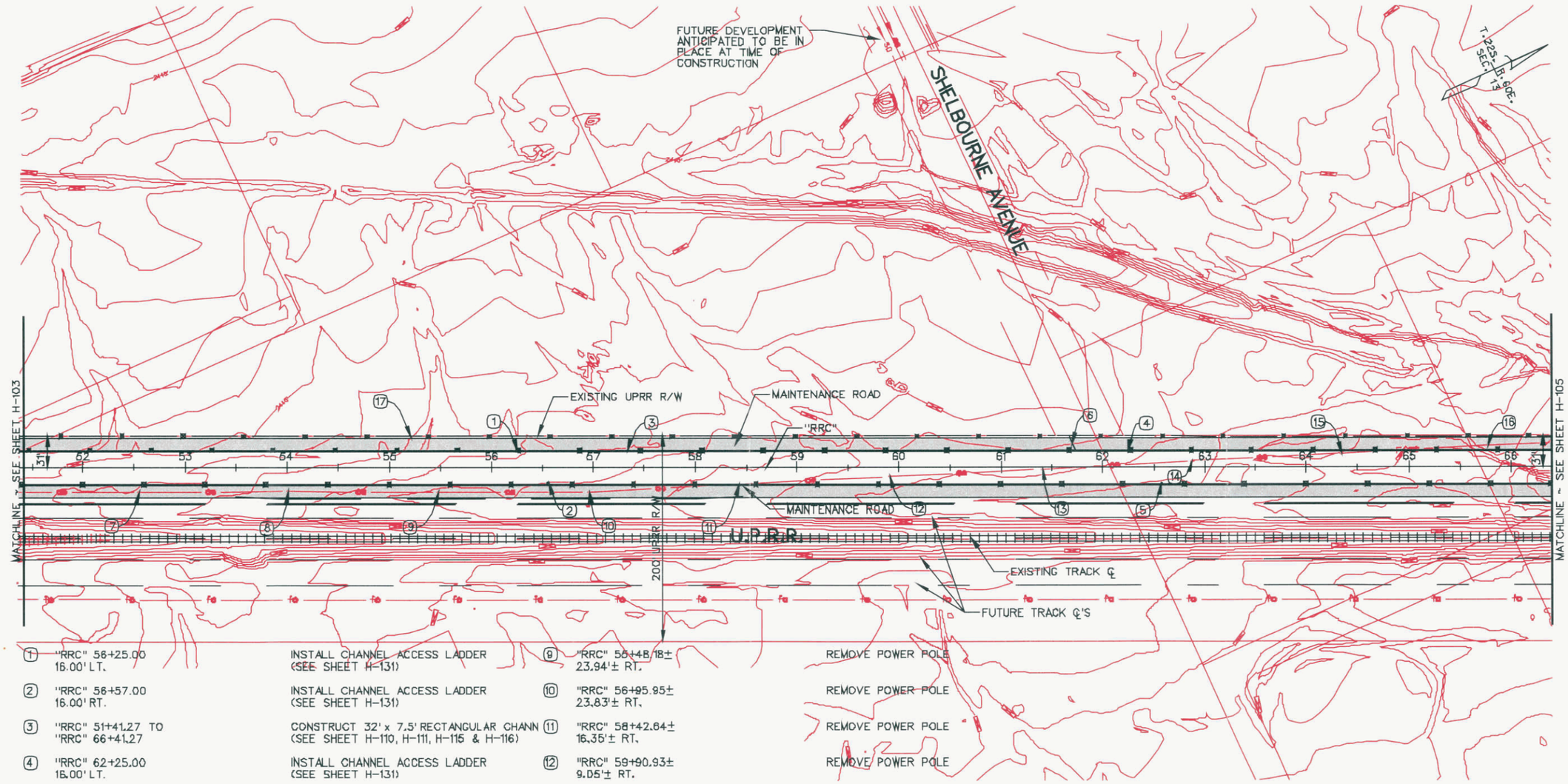
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DES	KDB

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STATE	PROJECT NO.	COUNTY	SHEET NO.
	STP-0160(017)	CLARK	H-104



①	"RRC" 56+25.00 16.00' LT.	INSTALL CHANNEL ACCESS LADDER (SEE SHEET H-131)	⑨	"RRC" 55+48.18± 23.94'± RT.	REMOVE POWER POLE
②	"RRC" 56+57.00 16.00' RT.	INSTALL CHANNEL ACCESS LADDER (SEE SHEET H-131)	⑩	"RRC" 56+95.95± 23.83'± RT.	REMOVE POWER POLE
③	"RRC" 51+41.27 TO "RRC" 66+41.27	CONSTRUCT 32' x 7.5' RECTANGULAR CHANN (SEE SHEET H-110, H-111, H-115 & H-116)	⑪	"RRC" 58+42.64± 16.35'± RT.	REMOVE POWER POLE
④	"RRC" 62+25.00 16.00' LT.	INSTALL CHANNEL ACCESS LADDER (SEE SHEET H-131)	⑫	"RRC" 59+90.93± 9.05'± RT.	REMOVE POWER POLE
⑤	"RRC" 62+57.00 16.00' RT.	INSTALL CHANNEL ACCESS LADDER (SEE SHEET H-131)	⑬	"RRC" 61+41.18± 1.83'± RT.	REMOVE POWER POLE
⑥	"RRC" 61+73.96, 16.00' LT TO "RRC" 61+37.39, 30.09' LT	INSTALL 42" x 8' RCP STUB (UIE = 2425.08', LIE = 2425.00) INSTALL PRECAST CONCRETE END CAP (NO DIRECT PAYMENT)	⑭	"RRC" 62+86.91± 5.94'± LT.	REMOVE POWER POLE
⑦	"RRC" 52+55.06± 24.04'± RT.	REMOVE POWER POLE	⑮	"RRC" 64+34.27± 13.26'± LT.	REMOVE POWER POLE
⑧	"RRC" 54+01.69± 23.70'± RT.	REMOVE POWER POLE	⑯	"RRC" 65+72.21± 20.48'± LT.	REMOVE POWER POLE
			⑰	"RRC" 51+40.27, 31.00'± TO "RRC" 66+41.27, 31.00'±	INSTALL 72" CHAIN LINK FENCE (SEE SHEET H-132)

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

SR 160 – UPRR CHANNEL

UPRR CHANNEL DRAINAGE PLAN

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STATE	PROJECT NO.	COUNTY	SHEET NO.
	STP-0160(017)	CLARK	H-105

SEE SHEET H-105A FOR NOTES

PINNACLE PEAKS DEVELOPMENT
FUTURE DEVELOPMENT ANTICIPATED TO BE IN PLACE AT TIME OF CONSTRUCTION

FOR CULVERT INLET GRADING DETAILS SEE SHEET H-110

"CC" 0+00.00 P.O.B. =
"RRC" 67+58.93, 147.07' LT.

TEMPORARY CONSTRUCTION EASEMENT

R/W

"RRC" 68+89.77, 15.78' LT.
"CC" 1+85.36 P.C.

"CC"

EXISTING UPRR R/W

MAINTENANCE ROAD

WINDMILL LANE

SECTION 12
SECTION 13

T.22S., R.60E.
SEC. 12

TEMPORARY CONSTRUCTION EASEMENT

R/W

MATCHLINE ~ SEE SHEET H-104

MATCHLINE ~ SEE SHEET H-106

"RRC"

MAINTENANCE ROAD

U.P.R.R.

200' UPRR R/W

EXISTING TRACK ℄

FUTURE TRACK ℄'S

EXISTING UPRR R/W
TEMPORARY CONSRUCTION EASEMENT

STATE OF NEVADA
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SR 160 – UPRR CHANNEL

UPRR CHANNEL
DRAINAGE PLAN

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STATE	PROJECT NO.	COUNTY	SHEET NO.
	STP-0160(017)	CLARK	H-105A

(1)	"RRC" 66+41.26 "RRC" 67+50.00	CONSTRUCT 32' x 7.5' RECTANGULAR CHANNEL (SEE SHEETS H-111 & H-126)
(2)	"RRC" 67+50.00 TO "RRC" 68+00.00	CONSTRUCT TRANSITION STRUCTURE (SEE SHEETS H-111, H-115 & H-116)
(3)	"RRC" 68+25.00 16.00' LT.	INSTALL CHANNEL ACCESS LADDER (SEE SHEET H-131)
(4)	"RRC" 68+57.00 16.00' RT.	INSTALL CHANNEL ACCESS LADDER (SEE SHEET H-131)
(5)	"CC" 1+50.00	CONSTRUCT 12' x 5' x 35.36' RCB 45 DEG. SKEW RT. AHEAD (UIE = 2421.00', LIE = 2419.25') INSTALL CLASS 300 RIPRAP CONSTRUCT TYPE II HEADWALL LT (SEE SHEETS H-114, H-119 & H-125)
(6)	"RRC" 68+00.00 TO "RRC" 82+00.00	CONSTRUCT 32' x 9' RECTANGULAR CHANNEL (SEE SHEETS H-111, H-112, H-115 & H-116)
(7)	"RRC" 74+25.00 16.00' LT.	INSTALL CHANNEL ACCESS LADDER (SEE SHEET H-131)
(8)	"RRC" 74+57.00 16.00' RT.	INSTALL CHANNEL ACCESS LADDER (SEE SHEET H-131)
(9)	"RRC" 78+15.00 TO "RRC" 79+13.00	CONSTRUCT MAINTENANCE ACCESS RAMP (SEE SHEETS H-111 & H-126)
(10)	"RRC" 80+25.00 16.00' LT.	INSTALL CHANNEL ACCESS LADDER (SEE SHEET H-131)
(11)	"RRC" 80+57.00 16.00' RT.	INSTALL CHANNEL ACCESS LADDER (SEE SHEET H-131)
(12)	"RRC" 76+44.63 16.00 'LT TO "RRC" 76+37.88 30.28' LT	INSTALL 60" x 8' RCP STUB (UIE = 2413.58', LIE = 2413.50') INSTALL PRCAST CONCRETE END CAP (NO DIRECT PAYMENT)
(13)	"RRC" 66+89.14± 25.70'± LT.	REMOVE POWER POLE
(14)	"RRC" 67+89.31± 13.53'± RT.	REMOVE POWER POLE
(15)	"RRC" 67+98.12± 28.11'± LT.	REMOVE POWER POLE
(16)	"RRC" 67+98.21± 34.21'± LT.	REMOVE POWER POLE
(17)	"RRC" 69+22.68± 33.96'± RT.	REMOVE POWER POLE
(18)	"RRC" 69+24.84± 30.64'± LT.	REMOVE POWER POLE
(19)	"RRC" 70+74.77± 30.76'± LT.	REMOVE POWER POLE
(20)	"RRC" 72+19.78± 30.86'± LT.	REMOVE POWER POLE
(21)	"RRC" 73+68.77± 31.07'± LT.	REMOVE POWER POLE
(22)	"RRC" 75+17.69± 31.37'± LT.	REMOVE POWER POLE
(23)	"RRC" 76+64.85± 31.14'± LT.	REMOVE POWER POLE
(24)	"RRC" 78+11.64± 31.47'± LT.	REMOVE POWER POLE
(25)	"RRC" 79+56.30± 31.53'± LT.	REMOVE POWER POLE
(26)	"RRC" 81+05.40± 31.97'± LT.	REMOVE POWER POLE
(27)	"RRC" 68+56.15± 68.87'± RT.	REMOVE EXISTING WINGWALLS BACKFILL EXISTING CULVERT W/ TYPE "B" SLURRY BACKFILL
(28)	"RRC" 69+01.93± 68.95'± RT.	REMOVE EXISTING WINGWALLS BACKFILL EXISTING CULVERT W/ TYPE "B" SLURRY BACKFILL
(29)	"RRC" 66+41.27 31.00'± LT. TO "RRC" 81+41.27 31.00'± LT.	INSTALL 72" CHAIN LINK FENCE (SEE SHEET H-132)

FENCING COORDINATE TABLE

POINT NUMBER	STATION	OFFSET	DESCRIPTION
15	"RRC" 66+76.00	30.00' LT	ANGLE POINT
16	"RRC" 66+76.00	72.00' LT	ANGLE POINT
17	"RRC" 66+99.00	72.00' LT	ANGLE POINT
18	"RRC" 66+99.00	30.00' LT	ANGLE POINT
19	"RRC" 77+74.61	30.00' LT	ANGLE POINT
20	"RRC" 78+00.32	48.00' LT	ANGLE POINT
21	"RRC" 79+60.69	48.00' LT	ANGLE POINT
22	"RRC" 79+86.39	30.00' LT	ANGLE POINT

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

SR 160 – UPRR CHANNEL

UPRR CHANNEL DRAINAGE PLAN

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STATE	PROJECT NO.	COUNTY	SHEET NO.
	STP-0160(017)	CLARK	H-106

T.22S. R.60E. SEC. 12

CURVE DATA

CURVE NUMBER	RADIUS	DELTA	LENGTH	TANGENT
1	175.00'	3° 54'02"	11.91'	5.96'
2	175.00'	94° 03'05"	287.26'	187.23'
3	375.00'	41° 21'32"	270.69'	141.55'

"CD" 0+00.00 P.O.B.=
"RRC" 85+85.00, 315.00' LT.

"RRC" 86+80.00, 37.47' LT.
"CD" 2+94.55 P.T.
"RRC" 87+00.00, 14.02' LT.
"CD" 3+26.08 P.T.

"RRC" 87+27.88 C.S.

SEE NOTE 3

SEE NOTE 1

FOR CULVERT INLET GRADING DETAILS SEE SHEET H-120

MAINTENANCE ROAD

"RRC"

"RRC" 84+15.05 C.S.
"RRC" 84+03.14 S.C.
"RRC" 83+23.14 T.S.

"RRC" 86+47.88 T.S.

GRADE AREA TO DRAIN TO CHANNEL

"RRC" 84+85.05 S.T.

"RRC" 90+15.14 C.S.

"RRC" 90+95.14 S.T.

MATCH EXISTING MAINTENANCE ROAD

MAINTENANCE ROAD

U.P.R.R.

EXISTING TRACK ℄

"RRC" 91+43.76 P.C.

FUTURE/POSSIBLE MAINTENANCE ROAD

200' UPRR ROW

FUTURE TRACK ℄'S

SNWA TEST STATION STA. 296+27

FOR INTERIM GRADING EXCAVATION FOR DETENTION BASIN, SEE SHEETS H-43 TO H-52.

"RRC" 93+14.45 P.T.

PROPOSED LOWER BLUE DIAMOND DETENTION BASIN

MATCHLINE - SEE SHEET H-105

SNWA 84" WL

25' 25' 50' SNWA EASEMENT

SEE SHEET H-106A FOR NOTES

NOTES

1. CONTRACTOR TO ENSURE CHANNEL CONSTRUCTION IN THE DESIGNATED AREA SHALL UTILIZE WATERTIGHT JOINTS OVER THE EXISTING WATERLINE FOR A MINIMUM LENGTH OF 10' FROM THE OUTSIDE DIAMETER OF THE EXISTING WATERLINE.
2. CONTRACTOR SHALL NOT PLACE OR USE ANY HEAVY EQUIPMENT IN THE VICINITY OF THE EXISTING 84" WATERLINE. A MINIMUM SEPARATION OF 3' VERTICALLY AS WELL AS 10' HORIZONTALLY FROM THE OUTSIDE DIAMETER OF THE EXISTNG WATERLINE.
3. FENCE POST AND GATE INSTALLATION OVER THE EXISTING 84" WATERLINE SHALL BE A MINIMUM OF 10' FROM THE OUTSIDE DIAMETER OF THE EXISTING WATERLINE.

NOTE

SNWA FIBER OPTIC CONDUIT IS LOCATED ON THE WEST SIDE OF THE SNWA PIPELINE.

SNWA CONSTRUCTION NOTE:

Contractor Shall Field Locate and Protect All SNWA/SNWS Appurtenances Including, But Not Limited to AV/AR, Access Manways and Cathodic Protection Systems. All Above Ground Structures and At Grade structures Must Be Adjusted to New Grade at Contractors Expense. Cathodic Protection Test Stations, Rectifiers, and AV/AR's Must Be Relocated to the Sidewalk per SNWA Standards and at the Contractor's Expense. Contractor to Notify Southern Nevada Water Authority, Development Plan Review, at (702) 862-3444 at Least 48 Hours Prior to Construction Activity.

SNWA DATE

SNWA Approval is Valid for One (1) Year From the Signature Date. If Construction Within the Easement or Restricted Pipe Safety Zone is not Complete, Plans Must be Resubmitted to SNWA for Approval.

Proud nothing underground visibly knows it's exists.
Call before you Dig
1-800-227-2600

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

SR 160 - UPRR CHANNEL

UPRR CHANNEL DRAINAGE PLAN

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STATE	PROJECT NO.	COUNTY	SHEET NO.
	STP-0160(017)	CLARK	H-106A

(1)	"RRC" 81+41.26 TO "RRC" 82+00.00	CONSTRUCT 32' x 9' RECTANGULAR CHANNEL (SEE SHEETS H-112 & H-115)
(2)	"RRC" 82+00.00 TO "RRC" 82+50.00 TO	CONSTRUCT TRANSITION STRUCTURE (SEE SHEETS H-112 & H-127)
(3)	"RRC" 82+50.00 TO "RRC" 89+75.00	CONSTRUCT 28' x 11' RECTANGULAR CHANNEL (SEE SHEETS H-112 & H-116)
(4)	"RRC" 84+95.05, 48.00' LT TO "RRC" 84+95.05, 28.00' LT	INSTALL 20' SWING GATE (DOUBLE)
(5)	"RRC" 86+00.00 14.00' LT.	INSTALL CHANNEL ACCESS LADDER (SEE SHEET H-131)
(6)	"RRC" 85+59.49 93.12' RT.	EXISTING SNWA TEST STATION ADJUST TO GRADE CAUTION: SNWA FIBER OPTIC CONDUIT AND TEST LEADS ARE SHALLOW
(7)	"RRC" 85+69.54 85.30' RT.	EXISTING SNWA TEST STATION ADJUST TO GRADE CAUTION: SNWA FIBER OPTIC CONDUIT AND TEST LEADS ARE SHALLOW
(8)	"RRC" 86+16.07± 26.64'± RT.	EXISTING FIBER OPTIC PULLBOX ADJUST TO GRADE CAUTION: SNWA FIBER OPTIC CONDUIT AND TEST LEADS ARE SHALLOW
(9)	"RRC" 88+28.00 14.00' RT.	INSTALL CHANNEL ACCESS LADDER (SEE SHEET H-131)
(10)	"CD" 2+94.53	INSTALL 8' x 3' x 31.80' RCB 45 DEG. SKEW RT. AHEAD (UIE = 2407.00', LIE = 2405.35') CONSTRUCT TYPE II HEADWALL LT INSTALL CLASS 300 RIPRAP (SEE SHEETS H-114 & H-120)
(11)	"RRC" 88+48.94, 45.50' LT TO "RRC" 88+65.95, 28.00' LT	INSTALL 20' SWING GATE (DOUBLE)
(12)	"RRC" 90+28.04, 14.12' LT TO "RRC" 90+26.49, 26.03 LT	INSTALL 12' SWING GATE (DOUBLE)
(13)	"RRC" 88+48.94, 45.50' LT TO "RRC" 88+65.95, 28.00' LT	INSTALL 12' SWING GATE (DOUBLE)
(14)	"RRC" 89+05.15± 30.17'± LT.	INSTALL 30" x 16.23' RCP CONNECT TO EXISTING BLOW-OFF ASSEMBLY UIE = 2403.73± LIE = 2402.20 SEE DETAIL SHEET 130A
(15)	"RRC" 89+90.00 14.00' LT.	INSTALL CHANNEL ACCESS LADDER (SEE SHEET H-131)
(16)	"RRC" 89+75.00 TO "RRC" 90+25.00	CONSTRUCT TRANSITION STRUCTURE (SEE SHEETS H-112 & H-129)
(17)	"RRC" 90+18.00 14.00' RT.	INSTALL CHANNEL ACCESS LADDER (SEE SHEET H-131)
(18)	"RRC" 90+25.00 TO "RRC" 90+50.00	INSTALL DUAL 12' x 11' x 25.00' RCB (SEE SHEETS H-112 & H-129)
(19)	"RRC" 90+50.00 TO "RRC" 90+58.00	CONSTRUCT TRANSITION STRUCTURE (SEE SHEETS H-112 & H-129)
(20)	"RRC" 90+58.00 TO "RRC" 92+00.00	INSTALL DUAL 12' x 10' x 142.00' RCB (SEE SHEETS H-112 & H-129)
(21)	"RRC" 92+00.00 TO "RRC" 92+50.00	CONSTRUCT TRANSITION STRUCTURE (SEE SHEETS H-112 & H-129)
(22)	"RRC" 92+72.00 14.00' LT.	INSTALL CHANNEL ACCESS LADDER (SEE SHEET H-131)
(23)	"RRC" 92+50.00 TO "RRC" 93+14.45	CONSTRUCT 28' x 10' RECTANGULAR CHANNEL (SEE SHEETS H-112 & H-116)
(24)	"RRC" 93+00.00 14.00' RT.	INSTALL CHANNEL ACCESS LADDER (SEE SHEET H-131)
(26)	"RRC" 82+53.37± 31.45'± LT.	REMOVE POWER POLE
(28)	"RRC" 84+02.65± 26.10'± LT.	REMOVE POWER POLE
(27)	"RRC" 85+41.37± 41.28'± RT.	REMOVE POWER POLE
(28)	"RRC" 86+69.12± 114.85'± RT.	REMOVE POWER POLE
(29)	"RRC" 87+55± 39'± LT.	REMOVE GABION MATTRESS
(30)	"RRC" 88+41± 38'± LT.	REMOVE GABION MATTRESS
(31)	"RRC" 89+52.62± 97.76'± RT.	REMOVE POWER POLE
(32)	"RRC" 90+24.14± 79.49'± LT.	REMOVE POWER POLE
(33)	"RRC" 81+41.27, 31.00'± TO "RRC" 93+14.45	INSTALL 72" CHAIN LINK FENCE (SEE SHEET H-132)

FENCING COORDINATE TABLE

POINT NUMBER	STATION	OFFSET	DESCRIPTION
23	"RRC" 83+77.19	28.29' LT	ANGLE POINT
24	"RRC" 84+95.05	47.00' LT	ANGLE POINT
25	"RRC" 84+95.05	28.00' LT	ANGLE POINT
26	"RRC" 86+47.88	28.00' LT	ANGLE POINT
27	"RRC" 90+17.85	27.28' LT	ANGLE POINT
28	"RRC" 90+22.42	48.61' LT	ANGLE POINT
29	"RRC" 83+80.21	29.34' LT	ANGLE POINT
30	"RRC" 83+35.36	113.58' LT	ANGLE POINT
31	"RRC" 87+38.43	120.40' LT	ANGLE POINT
32	"RRC" 88+94.03	186.53' LT	ANGLE POINT
33	"RRC" 90+26.49	26.03' LT	ANGLE POINT

SNWA CONSTRUCTION NOTE:

Contractor Shall Field Locate and Protect All SNWA/SNWS Appurtenances Including, But Not Limited to AV/AR, Access Manways and Cathodic Protection Systems. All Above Ground Structures and At Grade structures Must Be Adjusted to New Grade at Contractors Expense. Cathodic Protection Test Stations, Rectifiers, and AV/AR's Must Be Relocated to the Sidewalk per SNWA Standards and at the Contractor's Expense. Contractor to Notify Southern Nevada Water Authority, Development Plan Review, at (702) 862-3444 at Least 48 Hours Prior to Construction Activity.

SNWA **DATE**

SNWA Approval is Valid for One (1) Year From the Signature Date. If Construction Within the Easement or Restricted Pipe Safety Zone is not Complete, Plans Must be Resubmitted to SNWA for Approval.

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

SR 160 – UPRR CHANNEL

UPRR CHANNEL DRAINAGE PLAN

vtn nevada

DESIGN BY	JFL
DRAWN BY	VSN
CHECKED BY	CH
DIR	DIR

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STATE	PROJECT NO.	COUNTY	SHEET NO.
	STP-0160(017)	CLARK	H-107

CHANNEL EXCAVATION yd³
BORROW yd³
EMBANKMENT yd³

"Pe"

5924.7 (5036.0)
Q
⊠

EXCESS MATERIAL TO BE REMOVED FROM THE PROJECT AND DISPOSED OF PER SECTION 107.14

100 Year HGL Information
1 Q = 2,384 cfs

Proposed Drainage Facilities to be Constructed with SR-160 Phase 2B

Existing 24" Gas Line
Top El 2468.14'±
(Interpolated from Pothole Data)

Top of Channel Wall
Existing Ground 31' Left
Existing Ground @ Channel ℄

Inv. El. 2465.99'
-0.50%
Inv. El. 2464.80'
-0.41%
Inv. El. 2464.28'
7'
Invert of Channel
-0.41%
Inv. El. 2460.97'
-1.39%
Existing 42" Waterline
Top Water El. 2458.45'±
(Left Channel Wall)
60" Casing 18.66' Right
Protect in Place
18'
"RRC" 18+40.00
Grade Break
Inv. El. 2460.14'

"RRC" 11+28.99
Begin 32' x 7' Rectangular Channel

"RRC" 11+28.99 to "RRC" 20+00.00

LVVWD DATE

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

SR 160 – UPRR CHANNEL

UPRR CHANNEL PROFILE

vtn nevada

DESIGN BY	JFL
DRAWN BY	VBN
CHECKED BY	CH
PIC	PIC

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STATE	PROJECT NO.	COUNTY	SHEET NO.
	STP-0160(017)	CLARK	H-108

CHANNEL EXCAVATION yd³
BORROW yd³
yd³

586.6 (481.6) D D

1 3442.9(2928.5) D

11705.6 (9946.8) D D

327.7 (278.5) D

EXCESS MATERIAL TO BE REMOVED FROM THE PROJECT AND DISPOSED OF PER SECTION 107.14

1 This section has an Additional Quantity of 1204.1 cu. yd. of Structural Excavation

"RRC" 26+25.00
Top of LT Wall = 2464.26'

100 Year HGL Information
1 Q = 2,394 cfs

"RRC" 25+75.00
Begin LT Wall Transition
Top of LT Wall = 2460.88'

Existing Ground @ Channel ℄
Top of Left Channel Wall
Top of Right Channel Wall
Existing Ground 31' Left
Top of Channel Wall
Top of Right Channel Wall
Top of Left Channel Wall
-1.39%
Inv. El. 2458.75'
Inv. El. 2460.14'
-1.24%
Inv. El. 2455.66'
8'
Invert of Channel
-1.24%
Inv. El. 2460.63'
Inv. El. 2460.48'
-0.76%
-0.78%
7' Left Wall
8' Right Wall
Inv. El. 2445.75'
Access Ramp 9.03% Max
Inv. El. 2444.99'
18"±
Existing 12" Waterline in 24" Steel Casing
Steel Casing Inv. El. 2442.25'±

"RRC" 21+00.00
End 32' x 7' Rectangular Channel
Begin Transition
Grade Break

"RRC" 23+50.00
End Transition
Begin 22' x 8'
Rectangular Channel

Inv. El. 2451.15'

"RRC" 27+15.00
End 22' x 8' Rectangular Channel
Begin Confluence
Grade Break
Top of LT Wall = 2463.15'

"RRC" 28+06.01
End Transition
Begin 32' x 7' Rectangular Channel
Grade Break
End of LT Wall Transition
Top of Wall = 2457.40'

"RRC" 27+83.51
End Confluence
Begin Transition
Top of LT Wall = 2460.83'

"RRC" 34+03.00
Begin Access Ramp Lt.

"RRC" 20+00.00 to "RRC" 35+00.00

2490 2485 2480 2475 2470 2465 2460 2455 2450 2445 2440 2435 2430 2425 2420

20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35

LVVWD DATE

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

SR 160 – UPRR CHANNEL

UPRR CHANNEL PROFILE

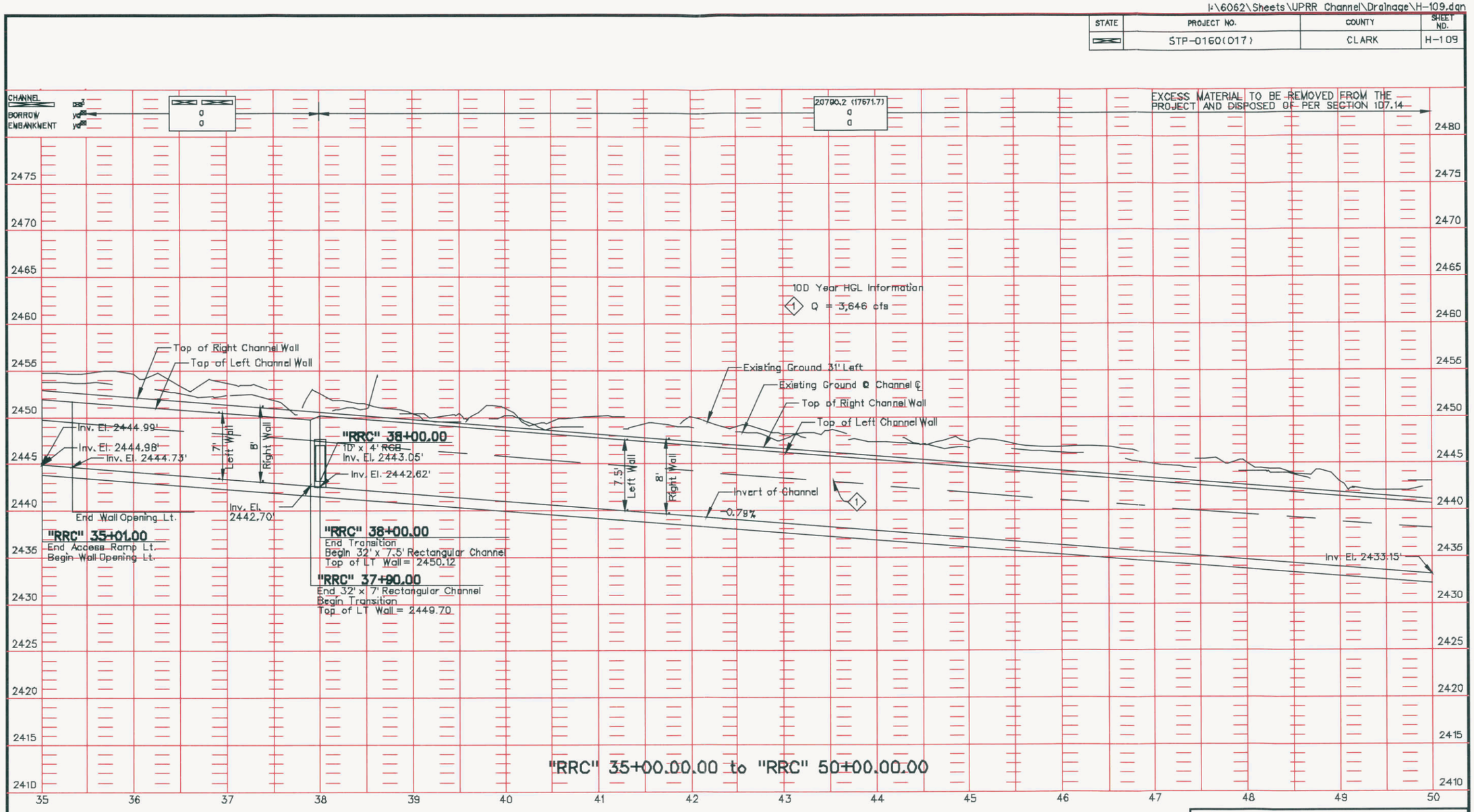
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DRAWN BY VBN
CHECKED BY CH

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STATE	PROJECT NO.	COUNTY	SHEET NO.
	STP-0160(017)	CLARK	H-109



STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

SR 160 – UPRR CHANNEL

UPRR CHANNEL PROFILE

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PIC	DSC

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STATE	PROJECT NO.	COUNTY	SHEET NO.
	STP-0160(017)	CLARK	H-110

EXCAVATION yd3
BORROW yd3
yd3

2 2577.8 (1502.0.8)
0
0

EXCESS MATERIAL TO BE REMOVED FROM THE PROJECT AND DISPOSED OF PER SECTION 107.14

2 This section has an Additional Quantity of 359.8 cu. yd. of Structural Excavation

10D Year HGL Information
1 Q = 3,646 cfs

Existing Ground 31' Left
Existing Ground @ Channel ℄
Top of Right Channel Wall
Top of Left Channel Wall

Inv. El. 2433.15'

7.5' Left Wall
8' Right Wall

1

0.79%

Invert of Channel

Inv. El. 2421.32'

"RRC" 61+73.96
42" RCP STUB
Inv. El. 2425.00'

"RRC" 50+00.00 to "RRC" 65+00.00

2470 2465 2460 2455 2450 2445 2440 2435 2430 2425 2420 2415 2410 2405 2400

50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

SR 160 – UPRR CHANNEL

UPRR CHANNEL PROFILE

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DESIGN BY	JEL
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STATE	PROJECT NO.	COUNTY	SHEET NO.
	STP-0160(017)	CLARK	H-111

632.5 (537.6)
0
0

CHANNEL EXCAVATION yd³
BORROW yd³
EMBANKMENT yd³

4269.9 (3629.4)
0
⊠

⊠
0

EXCESS MATERIAL TO BE REMOVED FROM THE PROJECT AND DISPOSED OF PER SECTION 107.14

⊠ This section has an Additional Quantity of 169.3 cu. yd. of Structural Excavation

100 Year HGL Information
◇1 Q = 3,970 cfs

"RRC" 66+00.00
Top of RT Wall = 2428.63'

"RRC" 66+50.00
Top of RT Wall = 2428.63'

7.5' Left Wall
8' Right Wall
8.5' Right Wall
9' Left Wall
10' Right Wall

-0.79%
-0.74%

Inv. El. 2421.32'
Inv. El. 2419.35'
Inv. El. 2418.98'
Inv. El. 2418.31'

Top of Right Channel Wall
Top of Left Channel Wall
Existing Ground 31' Left
Existing Ground @ Channel ℄

Invert of Channel

"RRC" 68+90.00
10' x 5' RCB
Inv. El. 2419.25'

"RRC" 68+00.00
End Transition
Begin 32' x 9' Rectangular Channel
Top of Rt Wall = 2428.79'

"RRC" 67+50.00
End 32' x 7.5' Rectangular Channel
Begin Transition
Grade Break
Top of RT Wall = 2427.85'

"RRC" 76+44.83
60" RCP STUB
Inv. El. 2413.50'

Existing 8" Sewer
Protect in Place

Inv. El. 2411.43'

"RRC" 78+15.00
Begin Access Ramp Lt.

Access Ramp
10% Max.

Inv. El. 2410.48'
Inv. El. 2410.70'

"RRC" 78+13.00
End Access Ramp Lt.
Begin Wall Opening Lt.

"RRC" 79+45.00
End Wall Opening Lt.
Inv. El. 2410.05'

"RRC" 65+00.00 to "RRC" 80+00.00

2460 2455 2450 2445 2440 2436 2430 2425 2420 2415 2410 2405 2400 2395 2390

65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

SR 160 – UPRR CHANNEL

UPRR CHANNEL PROFILE

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STATE	PROJECT NO.	COUNTY	SHEET NO.
	STP-0160(017)	CLARK	H-112

CHANNEL EXCAVATION yd³ | BORROW yd³ | EMBANKMENT yd³

546.9 (464.9) | 3165.8 (2691.8) | ④ 7008.1 (5956.9) | 455.0 (486.8) | 2624.5 (2230.8) | 434.7 (368.5)

⊠ This section has an Additional Quantity of 204.1 cu. yd. of Structural Excavation

EXCESS MATERIAL TO BE REMOVED FROM THE PROJECT AND DISPOSED OF PER SECTION 107.14

100 Year HGL Information
① Q = 3,970 cfs

RCB Design per AREMA Standards Cooper's E80 Loading

From Station	From Station
"RRC" 90+58.00	"RRC" 92+00.00

Top of Right Channel Wall
Top of Left Channel Wall
Top of Channel Wall
Existing Ground @ Channel ℄
Existing Ground 31' Left
9' Left Wall
10' Right Wall
11'
Inv. El. 2410.05'
Inv. El. 2408.56'
Inv. El. 2408.19'
~0.74%
Invert of Channel

"RRC" 82+00.00
End 32' x 9' Rectangular Channel
Begin Transition
Top of RT Wall = 2418.58'

"RRC" 82+50.00
End Transition
Begin 28' x 11' Rectangular Channel
Top of LT Wall = 2419.19'

"RRC" 87+00.00
8' x 5' RCB
Inv. El. 2406.35'

Inv. El. 2404.84'
Existing SNWA 84" Waterline in Concrete Encasement
Top El. 2399.00'± (Left Channel Wall)

Inv. El. 2403.75'
Inv. El. 2400.75'
Inv. El. 2400.11'
Inv. El. 2399.31'
4.00%
3.75'±
-1.21%

"RRC" 88+47.00
Grade Break

"RRC" 88+99.81
30" RCP
Inv. El. 2402.26'

"RRC" 89+22.00
Grade Break

"RRC" 88+75.00
End 28' x 11' Rectangular Channel
Begin Transition

"RRC" 90+25.00
End Transition
Begin Double 12' x 11' RCB's
Top of LT Wall = 2412.09'

U.P.R.R.
Future UPRR Tracks
Existing UPRR Tracks
Future UPRR Tracks
Maintenance Road
Double 12' x 11' x 25.00' RCB @ S = -1.24%
Bottom of Existing Bridge Deck El. 2412.46'±
Top RCB El. 2409.89
Double 12' x 10' x 142.00' RCB @ S = -1.24%
Maintenance Road
Inv. El. 2396.79'
Existing 12-1.25" Fiber Optic Cables Abandoned in Place Top El. 2400.54'±
Inv. El. 2399.20'
Inv. El. 2399.11'
Inv. El. 2397.39'
-1.21%
10'
Inv. El. 2396.01'
15'
12-1.25 Fiber Optic Cables Top El. 2390.00' +/-
Lower Blue Diamond Detention Basin Inlet Structure

"RRC" 90+58.00
End Transition
Begin Double 12' x 10' RCB's

"RRC" 90+60.00
End Double 12' x 11' RCB's
Begin Transition

"RRC" 92+00.00
End Double 12' x 10' RCB's
Begin Transition
Top of LT Wall = 2409.15'

"RRC" 92+50.00
End Transition
Begin 28' x 10'
Rectangular Channel

"RRC" 93+14.45
End 28' x 10' Rectangular Channel
Construct 5' Cutoff Wall
Connect to Proposed Inlet Structure
See LBDDB Improvement Plans
See Sheets H-43 & H-49

SNWA CONSTRUCTION NOTE:

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SNWA DATE

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"RRC" 80+00.00 to "RRC" 95+00.00

2440 2435 2430 2425 2420 2415 2410 2405 2400 2395 2390 2385 2380 2375 2370

80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

SR 160 - UPRR CHANNEL

UPRR CHANNEL PROFILE

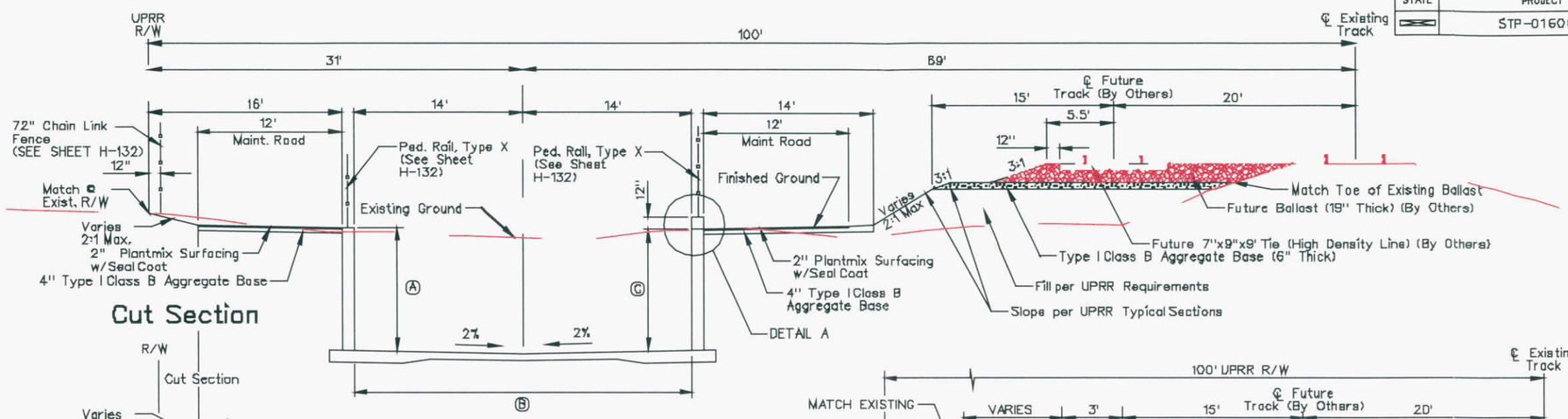
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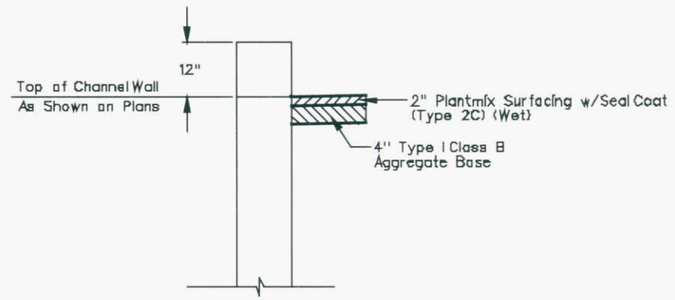
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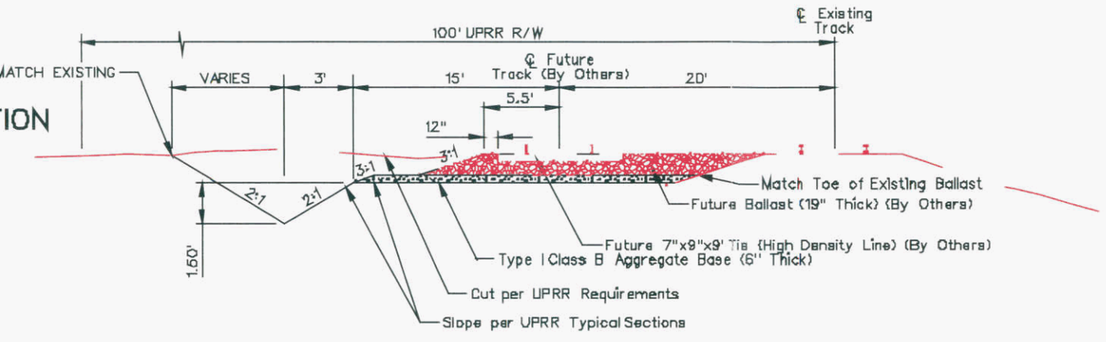
STATE	PROJECT NO.	COUNTY	SHEET NO.
	STP-0160(017)	CLARK	H-116



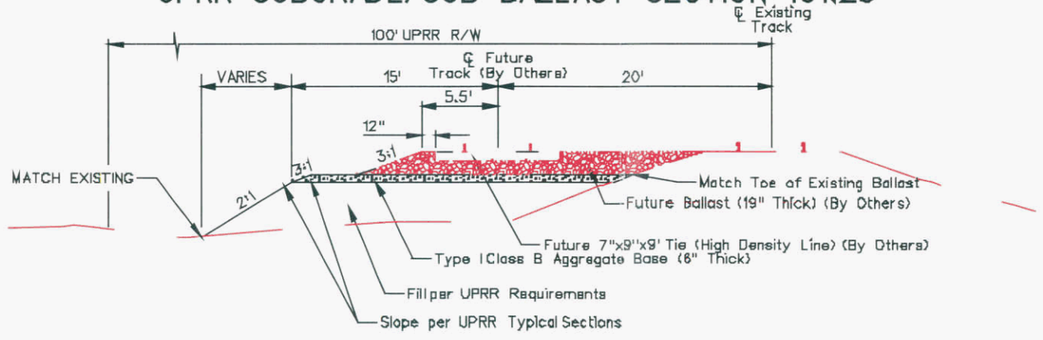
TYPICAL 28' WIDE CHANNEL SECTION



DETAIL A



UPRR SUBGRADE/SUB-BALLAST SECTION 101.25



UPRR SUBGRADE/SUB-BALLAST SECTION 101.26

CHANNEL TABLE				
FROM STATION	TO STATION	Ⓐ	Ⓑ	Ⓒ
11+28.99	21+00.00	7'	32'	7'
21+00.00	23+50.00	VARIES 7' TO 8'	VARIES 32' TO 22'	VARIES 7' TO 8'
23+50.00	27+15.00	8'	22'	8'
27+15.00	28+06.01	CONFLUENCE – SEE SHEET H-122 FOR DIMENSIONS		
28+06.01	37+90.00	7'	32'	8'
37+90.00	38+00.00	VARIES 7' TO 7.5'	32'	8'
38+00.00	67+50.00	7.5'	32'	VARIES 8' TO 8.5'
67+50.00	68+00.00	VARIES 7.5' TO 9'	32'	VARIES 8.5' TO 10'
68+00.00	82+00.00	9'	32'	10'
82+00.00	82+50.00	VARIES 9' TO 11'	VARIES 32' TO 28'	VARIES 10' TO 11'
82+50.00	89+75.00	11'	28'	11'
89+75.00	90+25.00	VARIES 11' TO 11.58'	VARIES 28' TO 26.25'	VARIES 11' TO 11.58'
90+25.00	90+50.00	DOUBLE 12' x 11' RCB'S		
90+50.00	90+58.00	RCB TRANSITION STRUCTURE		
90+58.00	92+00.00	DOUBLE 12' x 10' RCB'S		
92+00.00	92+50.00	VARIES 11.58' TO 10'	VARIES 26.25' TO 28'	VARIES 11.58' TO 10'
92+50.00	94+14.45	10'	28'	10'

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

SR 160 – UPRR CHANNEL

DRAINAGE DETAILS

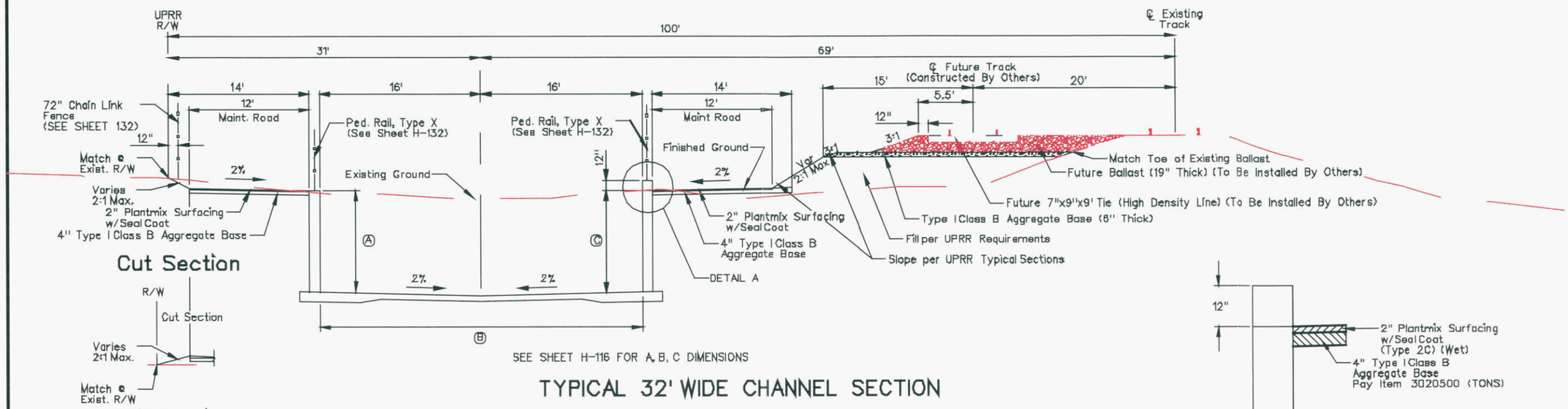
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DRAWN BY	VTN
CHECKED BY	CH
PIC	PIC

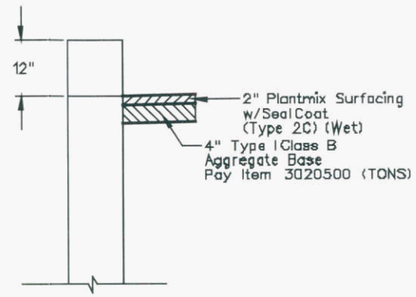
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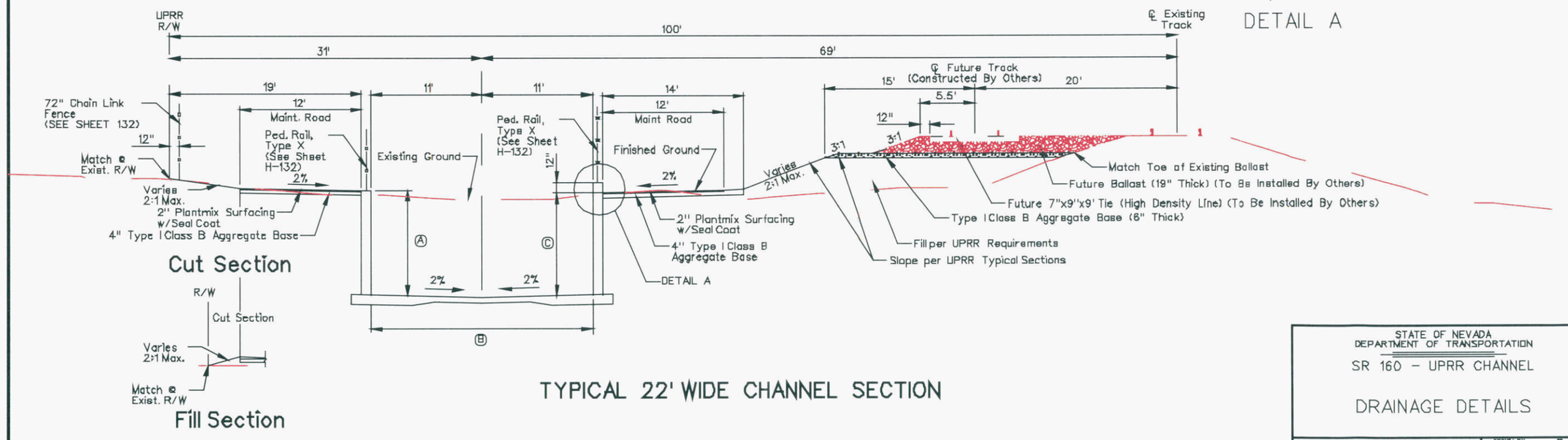
STATE	PROJECT NO.	COUNTY	SHEET NO.
	STP-0160(017)	CLARK	H-115



TYPICAL 32' WIDE CHANNEL SECTION



DETAIL A



TYPICAL 22' WIDE CHANNEL SECTION

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

SR 160 – UPRR CHANNEL

DRAINAGE DETAILS

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