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# Final Storm Drain Master Plan

## City of Cotati California

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**Prepared for:**

**City of Cotati**

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# TABLE OF CONTENTS


CHAPTER 1 SUMMARY ..... 1-1

CHAPTER 2 INTRODUCTION ..... 2-1

CHAPTER 3 STUDY AREA CHARACTERISTICS ..... 3-1

CHAPTER 4 STUDY METHODOLOGY ..... 4-1

CHAPTER 5 HYDRAULIC CAPACITY ANALYSIS ..... 5-1

CHAPTER 6 RECOMMENDATIONS AND COST ESTIMATES ..... 6-1


## TABLES


TABLE 3-1 SUMMARY OF TRIBUTARY WATERSHED DATA ..... 3-4

TABLE 5-1 CAPACITY ANALYSIS OF EXISTING DRAINAGE FACILITIES ..... 5-1

TABLE 6-1 DEFICIENT DRAINAGE AREAS ..... 6-1

TABLE 6-2 PROPOSED IMPROVEMENT PROJECTS ..... 6-3


## FIGURES


FOLLOWING PAGE

FIGURE 3-1 WATERSHED BOUNDARY MAP ..... 3-1

FIGURE 3-2 SOIL CLASSIFICATIONS ..... 3-2

FIGURE 3-3 10-YEAR, 24-HOUR RAINFALL-NOAA ATLAS ..... 3-2

FIGURE 3-4 25-YEAR, 24-HOUR RAINFALL-NOAA ATLAS ..... 3-2

FIGURE 3-5 100-YEAR, 24-HOUR RAINFALL-NOAA ATLAS ..... 3-2

FIGURE 3-6 LAND USE MAP ..... 3-2

FIGURE 5-1 DRAWING INDEX – HYDRAULIC STUDY RESULTS ..... 5-3

FIGURE 5- 2 HYDRAULIC STUDY RESULTS ..... 5-3

FIGURE 5- 3 HYDRAULIC STUDY RESULTS ..... 5-3

FIGURE 5- 4 HYDRAULIC STUDY RESULTS ..... 5-3

FIGURE 5- 5 HYDRAULIC STUDY RESULTS ..... 5-3

FIGURE 5- 6 HYDRAULIC STUDY RESULTS ..... 5-3

FIGURE 6-1 DRAWING INDEX – PROPOSED IMPROVEMENTS ..... 6-3

FIGURE 6-2 PROPOSED IMPROVEMENTS ..... 6-3

## FIGURES (CONTINUED)


FIGURE 6-3 PROPOSED IMPROVEMENTS ..... 6-3

FIGURE 6-4 PROPOSED IMPROVEMENTS ..... 6-3

FIGURE 6-5 PROPOSED IMPROVEMENTS ..... 6-3

FIGURE 6-6 PROPOSED IMPROVEMENTS ..... 6-3


## APPENDICES


APPENDIX A HEC-1 MODEL OUTPUT FILES

APPENDIX B HEC-RAS MODEL OUTPUT FILES

APPENDIX C COST ESTIMATES AND MISCELLANEOUS CORRESPONDENCE

# CHAPTER 1 - SUMMARY

## I. PURPOSE

This Storm Drainage Master Plan has been prepared to provide a detailed overview of the adequacy of the major storm drainage facilities serving the City of Cotati (City). This Storm Drainage Master Plan provides the following review of the hydrology and hydraulics of the watershed:

- A comprehensive description and mapping of the City's storm drain system and facilities
- The re-creation of the City's Utility Map that shows locations of public storm drains and facilities, size of pipelines, and pipe material in electronic format
- An assessment of the capacity of the existing creeks, channels, culverts, and closed conduits having diameters 24 inches and larger
- Identification of existing and future system deficiencies
- Preliminary recommendations on upgrades required
- The cost of these upgrades
- A creek maintenance program
- A determination of the fiscal impact to the City for State-required implementation of City-wide National Pollutant Discharge Elimination Standards (NPDES) permit.

## II. METHODOLOGY

This Storm Drainage Master Plan began with the identification of the watershed tributary to the City and the development of critical hydrology parameters, such as the design storms, the land use patterns, and soil type distributions. Included in this study were the waterways that flow through or adjacent to the City. The Study Area was identified as the watersheds tributary to those waterways. The Study Area was delineated based upon 2-foot contour topographical data within the city limits and USGS 20-feet contour data in the far reaches of the watersheds.

Land use mapping was obtained from the City of Cotati, the City of Rohnert Park, and the County of Sonoma. Soils data was obtained from the Natural Resources Conservation Services. The design storms used in the study were established based upon the recommendations from the *Sonoma County Flood Control Design Criteria*. These study area characteristics are described in Chapter 3.

Hydrologic modeling was performed using the Rational Method and the SCS Unit Hydrograph Method in HEC-1. Hydraulic modeling of major channels was performed using Haested Methods' HEC-RAS. Drainage culverts were evaluated using Manning's equation and design nomographs. Chapter 4 is devoted to a description of the design criteria used in the hydrologic and hydraulic study and Chapter 5 contains a detailed discussion of hydraulic results.

## III. PROPOSED IMPROVEMENTS

The analysis indicates that 19 drainage structures within the City of Cotati are undersized for the design flow. The total estimated cost of correcting these deficiencies is $3,980,000. Chapter 6 provides a prioritization of the recommended improvements.

## IV. RECOMMENDATIONS

Winzler & Kelly recommends a creek maintenance program to maintain the capacity of the City's creeks and constructed channels in Chapter 6. Also included is an evaluation of the fiscal impact to the City for the implementation of a City-wide NPDES permit.

# CHAPTER 2 - INTRODUCTION

## I. BACKGROUND AND PURPOSE OF STUDY

### A. BACKGROUND

The City of Cotati is located in central Sonoma County, approximately seven miles south of Santa Rosa, California, along the Highway 101 corridor. Cotati has a 1990 population of 6,800 and encompasses approximately 1.86 square miles. The City is largely rural in character with a central downtown commercial hub surrounded largely by residential and agricultural lands.

The City of Cotati's downtown storm drainage system consists primarily of reinforced concrete pipe (RCP) with diameters ranging from 12 to 66 inches. Since the mid-1980's, several subdivisions have been constructed with independent storm drain systems consisting of RCP with diameters ranging between 12 and 30 inches and poly-vinyl chloride (PVC) pipe with diameters between 6 and 12 inches.

The primary creeks in Cotati, Copeland Creek, Cotati Creek, Washoe Creek, and the Laguna de Santa Rosa have been channelized for flood protection purposes in their downstream sections. In the rural and agricultural areas, storm drainage consists largely of roadside ditches and culverts. In all, the City's storm water flows by gravity to nearly 30 discharge points on the Laguna de Santa Rosa.

### B. PURPOSE

The Sonoma County Water Agency (SCWA) prepared an area-wide storm water study was prepared for the City in 1972. In 1992, the SCWA also prepared the *Cotati Drainage Plan, West Area Extension* that addressed the western part of the City and areas west. Since then, the City has experienced growth, a General Plan Update (1998), revisions to the Flood Zone Map, and changes in the creek maintenance responsibilities. This stormwater master planning effort will identify an orderly approach to correcting existing problems and identify storm run-off flows so future facilities can be integrated into the entire flood control system. The objectives of the Stormwater Master Plan are to:

- Provide a comprehensive description and mapping of the City's storm drain system including creeks.
- Recreate the City's Utility Map that shows locations of public storm drains and facilities, size of pipelines, and pipe material. The new Utility Map shall use as its base a GIS map provided by Sonoma County.
- Create a computerized hydraulic model of the storm drain system that has the GIS map as its base.
- Evaluate the storm drain system so as to identify existing and future deficiencies in the main-line storm drain systems and creek systems.
- Evaluate deficiencies in the creek maintenance program.
- Determine the potential fiscal impacts to the City for State-required implementation of City-wide National Pollutant Discharge Elimination Standards (NPDES) permit.
- Prepare the City's 10-year Capital Improvement Program (CIP) for the storm drain system, differentiating between replacement and growth-related projects.

## C. SCOPE OF WORK

The Scope of Work for the Stormwater Master Plan is comprised of the following tasks:

- ***Review of Existing Data/Conduct Field Investigations*** Winzler and Kelly will review the reports, mapping and data pertaining to City's storm drain system; review population, land use and growth projections; review maintenance records of facilities; and review reports prepared by the SCWA for Zone 1A. Winzler and Kelly will conduct field investigations to measure typical cross-sections of waterway channels and major roadside ditches; measure depths from top of road to flow lines of major culverts; verify runoff paths; and evaluate the condition of major drainage structures.

- ***Prepare GIS-Based Storm Drain System Map*** The City will document all new storm drain installations since 1994 on the existing storm drain maps. This information will be used to create an updated Utility Map in electronic format with the GIS data as a background. The GIS data, provided by the County, consists of an aerial orthophotographic map of the City including 2-foot contours, spot elevations, street centerlines and rooflines of existing buildings.
  The updated Utility Map will contain the following entries:
  - Updated City limit boundary
  - Parcel lines
  - Locations of public storm drains and facilities, size of lines and pipe material
  - Locations and typical cross-sections of creeks and storm water channels
  - Elevations of selected facilities and structures, as surveyed by Winzler & Kelly.

- ***Evaluate Storm Drain Operations and Maintenance Program*** Winzler and Kelly will attend meetings with City and SCWA personnel to identify O&M activities conducted by both agencies; inventory such activities and identify areas of responsibility between the two agencies. The evaluation will conclude with recommended preventative maintenance schedules for target areas.

- ***Conduct Hydraulic Modeling*** The City's storm drain system will be modeled using Haested Methods' StormCAD for closed-conduit segments, Hydrologic Engineering Center's (HEC's) HEC-RAS for open-conduit segments, and a combination of HEC-RAS and Manning's equation for roadside ditches. Roadside culverts parallel to roadways will be evaluated by comparing design storm flows and culvert capacity. The following data will serve as input to the hydraulic models.
  - City topographic data will be used to estimate water channel and roadside ditch invert elevations and slopes.
  - Topographic data will be used to estimate manhole rim elevations.
  - Flow-line data for selected manholes will be collected by Winzler and Kelly.
  - Channel and roadside ditch cross-section measurements will be obtained during the field investigations.

- ***Identify Hydraulic Deficiencies*** Hydraulic structures are sized to convey the maximum anticipated runoff of an area, which occurs when the building density of the upstream reaches "build-out conditions", the maximum development allowable within the zoning designation. In this study, the design flow calculations will be

based upon the assumption that the upstream drainage area has reached build-out conditions. Hydraulic capacity will be modeled using StormCAD or HEC-RAS. For drainage facilities identified as undersized, the drainage area upstream of the structure will be evaluated to determine whether build-out capacity has yet been attained. Structures that are located in areas that have reached build-out capacity will be given a higher priority for improvement than those located in areas where more development is anticipated.

- ***Conduct Cost Study for the Implementation of a City-wide NPDES Permit*** Winzler and Kelly will estimate the potential fiscal impacts associated with the following tasks:
  - Applying for a City-wide NPDES permit,
  - Evaluating and selecting best management practices (BMP) for storm water pollution prevention, and
  - Implementing the selected BMPs.

- ***Prepare Capital Improvement Program*** Winzler and Kelly will prepare a 10-year CIP based on recommended system improvements identified in the previous tasks and other improvements identified by City maintenance staff. The 10-year CIP will identify storm system replacement projects and growth-related projects. Replacement projects are considered those located in areas with little or no anticipated future development. Growth-related projects are considered those resulting from the increased runoff associated with future development. In addition, long-range major facilities and their associated costs will be identified.

- ***Prepare Storm Drain Master Plan Report*** Winzler and Kelly will gather the evaluations, analyses and recommendations performed in the previous tasks and document them in a Draft Storm Drain Master Plan. Five (5) copies of the draft report will be submitted to City staff and SCWA staff for review. Comments will be incorporated into the Final Report. Twenty (20) copies of the Final Report will be provided to the City.

# CHAPTER 3 - STUDY AREA CHARACTERISTICS

## I. INTRODUCTION

This chapter provides background data on the Study Area for this Stormwater Master Plan. The chapter defines the Study Area and watershed boundaries that form the basis for the hydrologic analysis; develops the land use and soils information used to calculate run-off coefficients; and outlines the hydrologic patterns that form the basis for the selection of rainfall intensity curves.

## II. STUDY AREA BOUNDARIES

The Study Area includes the City of Cotati and the upland reaches that drain through the City and discharge into the Laguna de Santa Rosa. The Study Area comprises 10.42 square miles and is bound by the Sonoma Mountains to the east, rolling hills to the south and west, and the City of Rohnert Park to the north.

Three primary creeks reside within the Study Area, namely Copeland Creek, Cotati Creek, and Washoe Creek. Washoe Creek has been largely diverted away from the Study Area through the construction of a flood control channel west of the Study Area, but a portion of the watershed still drains along the western boundary of the City. The watershed surrounding each creek was identified and combined to for the boundary of the Study Area. Therefore, the Study Area comprises three watersheds, referred to in this report as Watersheds 1-3.

Watershed 1, tributary to Copeland Creek, encompasses 5.34 square miles and includes the residential and industrial area of Cotati east of the railroad tracks and a narrow strip on the city's northern border. Watershed 2, tributary to Cotati Creek, is 4.60 square miles in size, and contains the majority of the City. Watershed 3 is tributary to an unnamed constructed channel (the non-diverted portion of Washoe Creek watershed in our Study Area), encompasses 0.48 square miles, and includes the westernmost portions of the city. The watershed boundaries are shown in Figure 3-1.

While this Master Plan identifies and models a drainage basin well outside of the city limits, its recommendations are generally focused on areas within the City. Identification of improvements in the upstream watersheds is beyond the scope of this Master Plan.

## III. GEOGRAPHICAL SETTING

### A. Topography

The terrain within the drainage basin is quite diverse. The majority of the City and the lower reaches of all three watersheds are on a flat plain with slopes of approximately one percent. The upper reaches of Watershed 1, in the Sonoma Mountains, are quite steep, with many slopes in excess of 30 percent. The slopes of Watershed 2 are only as steep as 2-3 percent. The upper reaches of Watershed 3 consist of moderately sloping hillsides at approximately 15 percent slopes.

### B. Soils

The underlying soil types in the Study Area are used to assist in the development of the runoff coefficient in the hydrologic model. For this project, the Soil Conservation Service

(now the Natural Resources Conservation Service or NRCS), Soil Survey for Sonoma County was used to determine soil type. The Study Area includes three distinct types of hydrologic soils. Soil Type B includes sandy loams and shallow loess (wind-blown volcanic ashes). Soil Type C consists predominantly of soils with a high clay content, including clay loams and some shallow sandy loams. Soil Type D consists of heavy, plastic clays with significant swell potential. The soil types are illustrated in Figure 3-2.

## IV. CLIMATE

The climate in Sonoma County is typically dry in the summers, with mostly seasonal rainfall in the period from October through April. The average annual precipitation over the basin is estimated at approximately 24 inches. General area-wide storms of 2 or 3 days in duration produce most of the rainfall.

## V. HYDROLOGY

Stormwater master planning and the design of drainage facilities are highly dependent on the selection of the "design storm." This storm, typically expressed in terms of its expected recurrence interval (e.g., 10 years), is used to determine rainfall intensity. The length of the design storm also affects storm flows and runoffs. This study is based on a 24-hour storm duration, the volume of rainfall anticipated to fall in 24 hours.

The *NOAA Atlas 2 Precipitation-Frequency Atlas of the Western United States, Volume XI – California* was used to determine the 24-hour design rainfall for the project site. The Atlas reports 24-hour rainfall yields for 10-, 25-, and 100-year events throughout California. Figures 3-3, 3-4 and 3-5 indicate that the typical yield of 24-hour storms within the Study Area having recurrence intervals of 10, 25, and 100 years are respectively 4.5, 5.0, and 6.0 inches.

## VI. LAND USE

Land use patterns also affect stormwater master planning efforts because the rate at which stormwater runs off, as opposed to the amount that percolates into the soil, is proportional to the amount of impervious area in a watershed. For long-term planning efforts, it is important to look not only at current development, but also at planned development patterns. Storm drain infrastructure is intended to provide service for 50 to 100 years, and facilities must be designed to accommodate future development in a watershed.

The City of Cotati zoning map and the Sonoma County Land Use Plan was used to identify land use projections within the study area. The most intensively developed area within the Study Area is the City of Cotati, which consists largely of residential, and rural residential land use, with a central commercial district. Rohnert Park to the north and east of Cotati is largely residential and commercial. The County land is designated for diverse agriculture, land extensive agriculture, rural development. Figure 3-6 illustrates the land use patterns in the Study Area.

## VII. EXISTING FACILITIES

The primary drainage ways within the Study Area are Copeland Creek, Cotati Creek, and Washoe Creek. All three creeks are channelized within the city limits, although Cotati Creek is natural above Cypress Avenue.

J:\01\20770S\REPORT FILES\HYDROLOGY\M\FIG3-1.DWG 12/19/2001 11:05:42 AM PST

WATERSHED 1

WATERSHED 2

WATERSHED 3

Cotati

Petaluma

Sonoma Mountain

4000' 0 4000' 8000'

1 INCH = 4000 FT

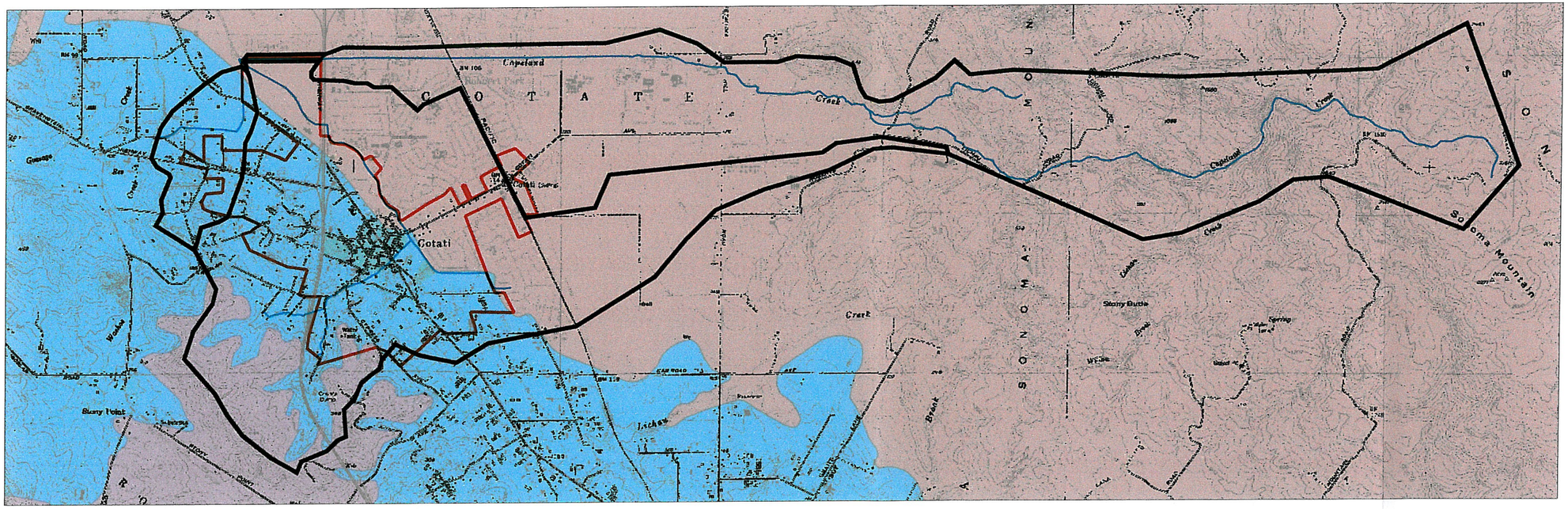
**LEGEND:**

- WATERSHED BOUNDARY
- CREEKS
- COTATI CITY LIMITS

**FIGURE 3-1**
**WATERSHED BOUNDARY MAP**

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J:\01\20770S\REPORT FILES\HYDROLOGYTM\FIG3-2.DWG 12/19/2001 10:56:55 AM PST




**LEGEND:**

- WATERSHED BOUNDARY
- COTATI CITY LIMITS
- HYDROLOGY SOIL GROUP B
- HYDROLOGY SOIL GROUP C
- HYDROLOGY SOIL GROUP D

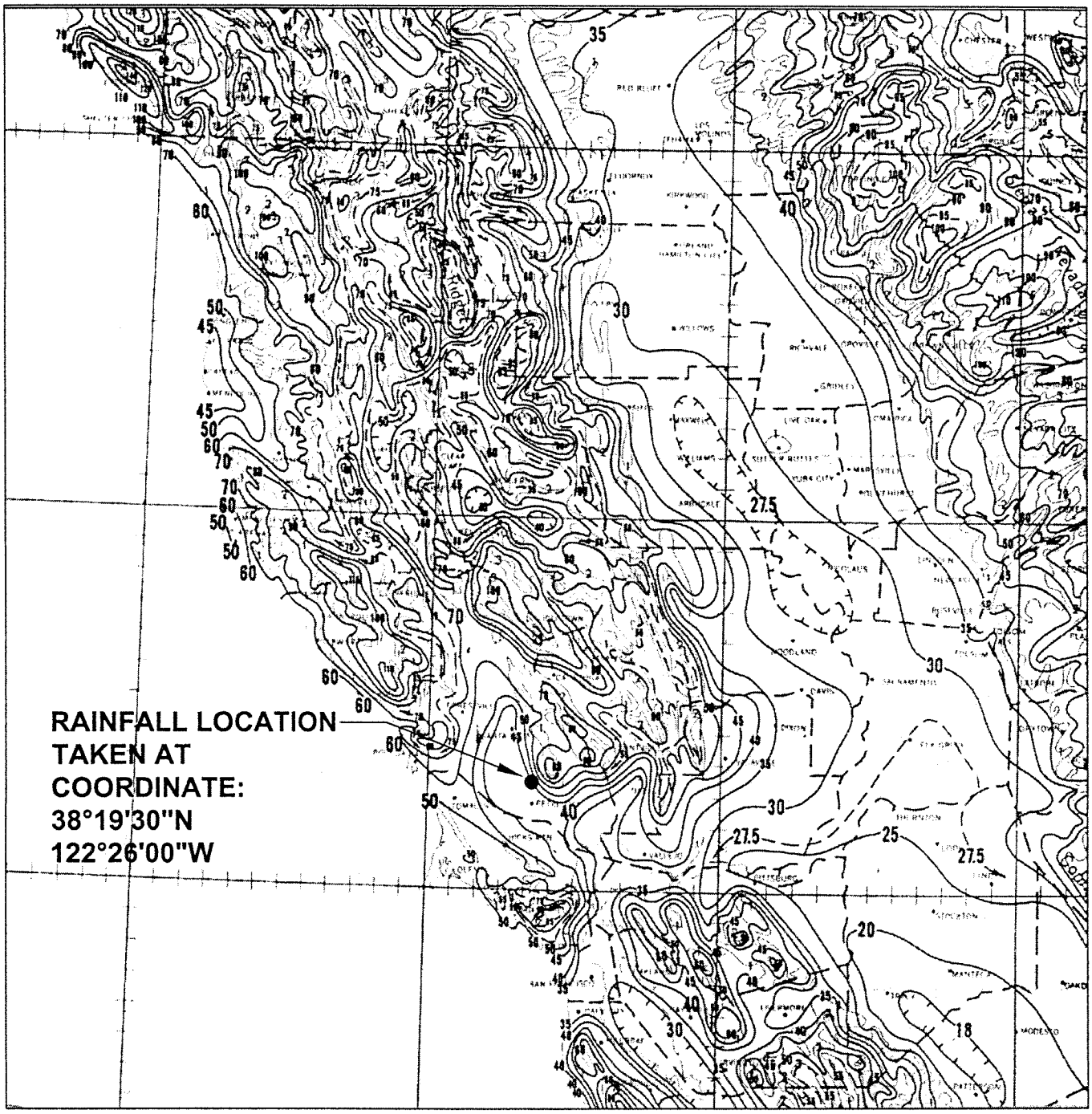
4000' 0 4000' 8000'

1 INCH = 4000 FT

**FIGURE 3-2**
**SOIL CLASSIFICATIONS**

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J:\01\207705\REPORT FILES\HYDROLOGY\MFIG3-3.DWG 12-18-01 12:05:07 PM



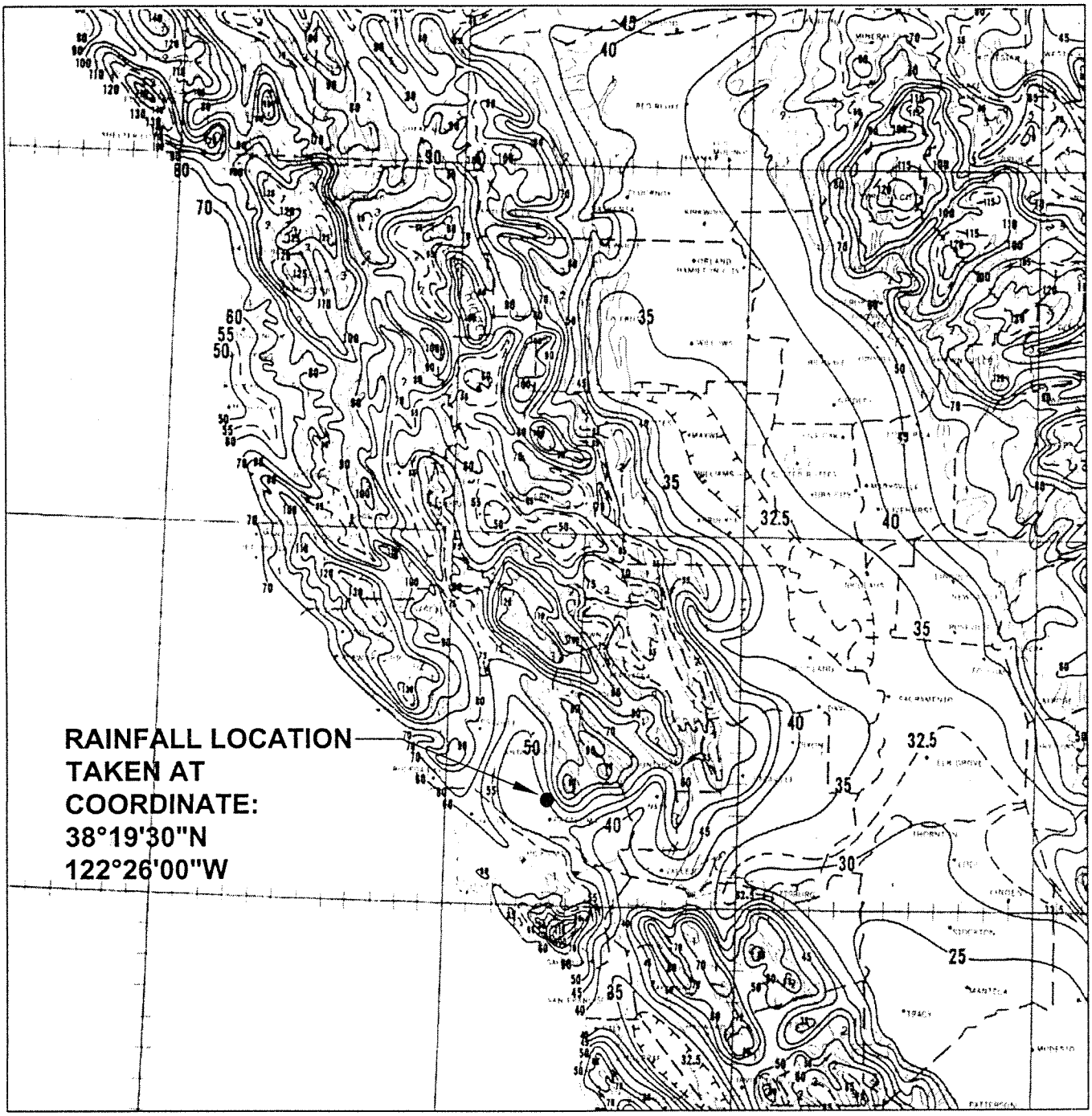

**Note:**
**Rainfall shown in tenths of an inch.**

FIGURE 3-3

10-YEAR, 24 HOUR
RAINFALL-NOAA ATLAS

WINZLER & KELLY
CONSULTING ENGINEERS

J:\01\207705\REPORT FILES\HYDROLOGY\TM\FIG3-4.DWG 12-20-01 8:14:37 AM

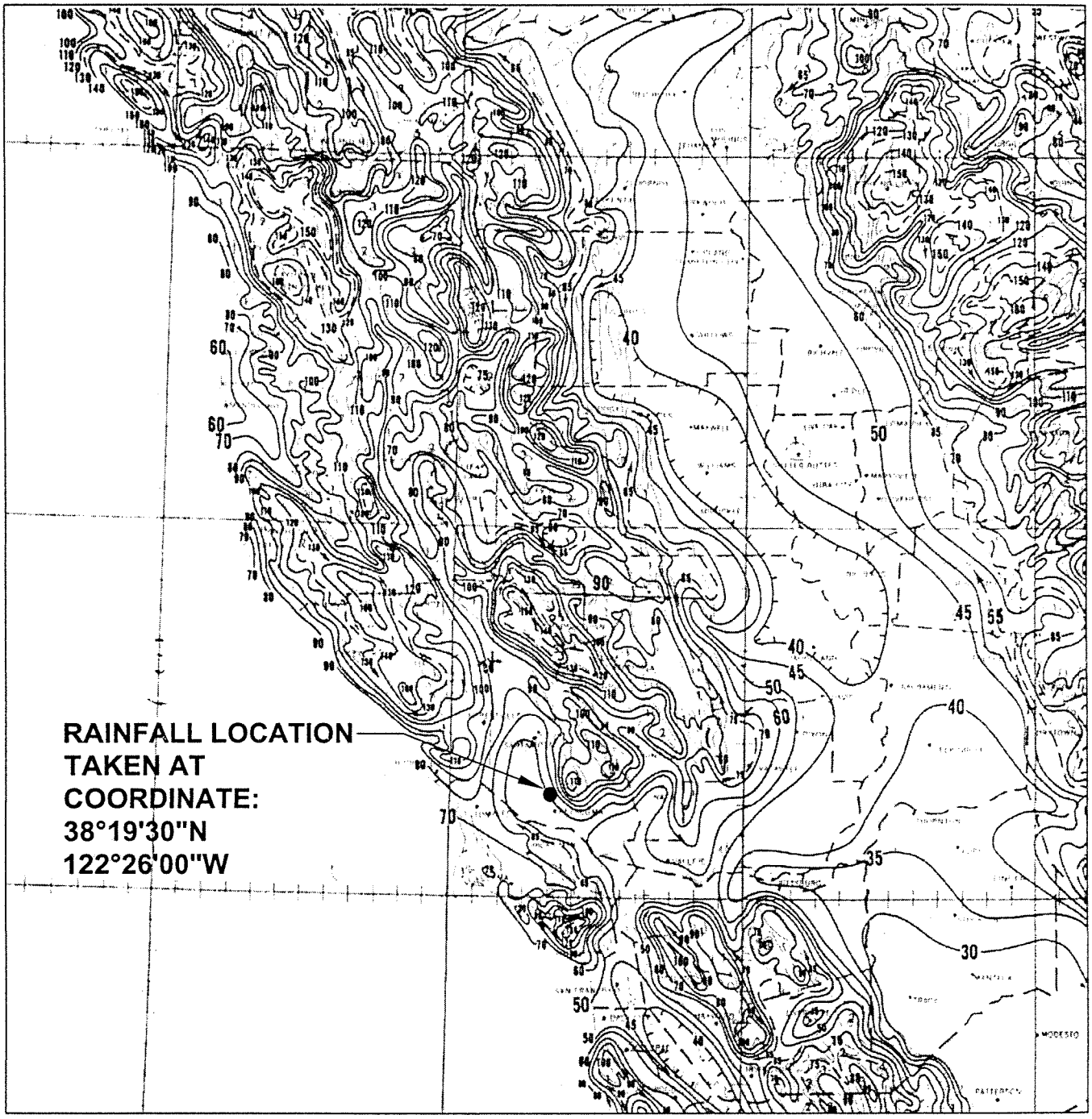



**Note:**
**Rainfall shown in tenths of an inch.**

FIGURE 3-4

25-YEAR, 24 HOUR
RAINFALL-NOAA ATLAS

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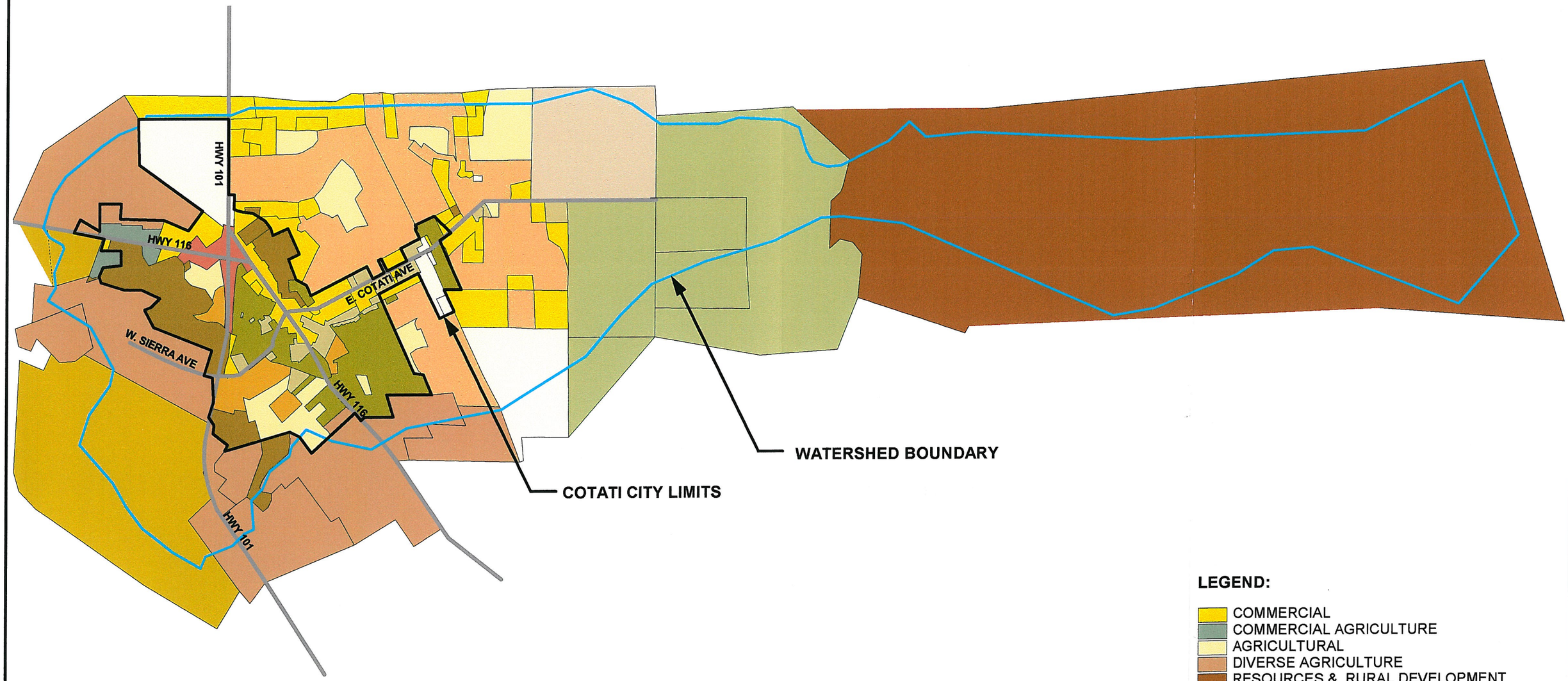



**Note:**
**Rainfall shown in tenths of an inch.**

FIGURE 3-5

100-YEAR, 24 HOUR
RAINFALL-NOAA ATLAS

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**LEGEND:**

- COMMERCIAL
- COMMERCIAL AGRICULTURE
- AGRICULTURAL
- DIVERSE AGRICULTURE
- RESOURCES & RURAL DEVELOPMENT
- LAND EXTENSIVE AGRICULTURE
- INDUSTRIAL
- HIGHWAY
- RURAL RESIDENTIAL (20-ACRE MIN)
- RURAL RESIDENTIAL (2-ACRE MIN)
- RURAL RESIDENTIAL (1.5 -ACRE MIN)
- RESIDENTIAL (10,000 SF MIN)
- RESIDENTIAL (8,000 SF MIN)
- RESIDENTIAL (6,500 SF MIN)
- MULTI-FAMILY RESIDENTIAL, COMMERCIAL

N

**FIGURE 3-6**
**LAND USE MAP**

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J:\01\207705\REPORT FILES\HYDROLOGYTM\LANDUSEFIG-A.APR

The downtown storm drainage system was constructed in 1979 and consists primarily of reinforced concrete pipe (RCP) with diameters ranging from 12 to 66 inches. A 60-foot wide earthen storm water channel was built in the early 1970's to extend the Laguna to the Cotati-Rohnert Park border. Since the mid-1980's, several subdivisions have been constructed with independent storm drain systems consisting of RCP with diameters ranging between 12 and 30 inches and poly-vinyl chloride (PVC) pipe with diameters between 6 and 12 inches.

During the last ten years, the Sonoma County Water Agency (SCWA) has completed several flood-protection projects on Cotati Creek and on Laguna de Santa Rosa Creek. One project includes channel excavations, retaining walls, and bridge and culvert replacements along Cotati Creek between the confluence with Laguna de Santa Rosa and the Old Redwood Highway crossing over Cotati Creek. In addition, SCWA built a reinforced-concrete-box bypass structure that diverts peak flows from the creek between Cypress Avenue and Valparaiso Avenue as well as several storm drain systems in the western part of the city.

In the rural and agricultural areas, storm drainage consists of roadside ditches, RCP or corrugated metal pipe (CMP) culverts, and concrete box culverts. In all, the City's storm water flows by gravity to nearly 30 discharge points on the Laguna de Santa Rosa within the city limits. No storm water pumping facilities are in existence.

## VIII. SUMMARY

The following Table 3-1 summarizes the primary characteristics of each of the tributary watersheds considered in this Master Plan.

**TABLE 3-1**
**SUMMARY OF TRIBUTARY WATERSHED DATA**

| Watershed | Area (sq. mi.) | Slope | Soil Types | Land Use | Tributary |
|---|---|---|---|---|---|
| Watershed 1 | 5.34 | 1% to 30% | D | Rural/Residential/ Agricultural | Copeland Creek |
| Watershed 2 | 4.60 | 1% to 5% | B, C and D | Rural/Residential/ Agricultural | Cotati Creek |
| Watershed 3 | 0.48 | 1% to 15% | C and D | Rural/Residential/ Agricultural | Washoe Creek |

# CHAPTER 4 – STUDY METHODOLOGY

## I. WATERSHED DELINEATION

Watershed areas provide the basis for all hydrologic calculations. In order to arrive at appropriate watershed areas for this Master Plan, topographic mapping of the Study Area is required. Within the city limits, topography at a scale of 1inch equals 200 feet with 2-foot contour intervals was available. For areas outside the city limits, U.S.G.S 15-Minute Quadrangle for Cotati and Glen Ellen, California, were used. This mapping is at a scale of 1inch equals 2000 feet with 20-foot contour intervals.

## II. DATA REVIEW

Storm drainage maps from the City of Cotati and the City of Rohnert Park were used for analysis of the existing drainage facilities in developed areas. Drainage facilities and their contributory watersheds in the County land were identified from USGS mapping.

## III. FIELD INVESTIGATIONS

Once the map review was complete, the identified drainage facilities and their contributory watersheds were field verified. The mapping presented in Chapter 5 of this Master Plan reflects the results of the field review effort.

Several of the drainage channels were photographed. The dimensions of the channels were measured at critical areas. Detailed information was compiled for use in developing Mannings "n" values for the subsequent modeling effort.

## IV. DESIGN CRITERIA

The Sonoma County Water Agency (SCWA) developed design criteria for sizing waterways, channels, and closed conduits in the *Flood Control Design Manual.* The City of Cotati recognizes the manual as the source of design criteria for this study. The manual defines minor, secondary, and major waterways as having a watershed area of one square mile or less, one to four square miles, and greater than four square miles, respectively. SCWA prescribes the following design storms for the hydrologic analysis of the following types of waterways:

- The 10-year, 24-hour event for minor waterways
- The 25-year, 24-hour event for secondary waterways
- The 100-year, 24-hour event for major waterways

A 10-year design storm has a minimum average recurrence interval of ten years, or a ten percent chance of occurring in any given year. A waterway will be classed as minor in its upper reaches, then change to the secondary classification at a point where the drainage area exceeds one square mile, and then change again to the major classification at a point where the drainage area exceeds four square miles.

In accordance with these criteria, 10-year, 25-year, and 100-year design storms were simulated for the study. The 100-year, 24-hour event is also used by FEMA in preparing

Flood Insurance Rate Maps and provides an important point of comparison between this study and the work previously developed by FEMA.

Most drainage features will be required to meet the minor waterway standard. Only drainage structures in the lower reaches of the watersheds will need to be designed for 25 or 100-year events.

## V. HYDROLOGY MODEL

The Hydrology Model predicts the volume of flow generated at any point in a watershed from the defined rainfall event. To this end, nodes were located at critical drainage facilities. A node represents a location where runoff rates were calculated. All nodes were numbered based on the watershed tributary to them. For example; Node 1.1 is in Watershed 1 and Node 3.2 is in Watershed 3. Each watershed in the Study Area was divided at nodes into subwatersheds. The watershed boundaries were presented in Figure 3-1. Subwatersheds are shown in Figures 5-2 through 5-6.

Two distinct methods were used to calculate the rate of runoff at each node location. The Soil Conservation Service (SCS) Unit Hydrograph Method was used for computing the runoff from large drainage areas including creeks, channels, and major closed conduit drainage systems. The Rational Method was used for the analysis of smaller drainage areas.

### A. RATIONAL METHOD

The *Flood Control Design Criteria Manual* supports the use of the Rational Method for small drainage areas. This simple equation, Q=CIAK, presents the relationship between rainfall runoff (Q), rainfall intensity (I), watershed area (A), and development intensity (C). The coefficient, K, varies with the mean annual precipitation in the Study Area. The relationship is reasonably accurate when the watershed area is less than one square mile, but can produce unreliable results for larger watersheds.

### B. SCS UNIT HYDROGRAPH METHOD

The SCS Unit Hydrograph Method is a well-established means of analyzing minor, secondary and major waterways. The SCS Method is a built-in analytical tool of HEC-1, a hydrologic modeling program that computes runoff rates. In addition to watershed area (A) and rainfall intensity (I), this model uses a Run-off Curve Number (CN) and Run-off Lag (L) to define the runoff hydrograph.

#### RUNOFF CURVE NUMBER

The Runoff Curve Number (CN) is a relationship between runoff and soil type and land use. Higher CN-values will generate greater runoff rates. The CN-value increases with density of development and with the relative impermeability of the underlying soils. Watersheds with a higher percentage of Type C and D soils will have a higher CN-value than those with predominantly Type B Soils.

#### RUNOFF LAG

The Runoff Lag (L) is defined as the time in hours from the center of mass of rainfall excess to the peak discharge. It has a relationship to the time of concentration of:

$$t_c = 1.67L.$$

The lag for the various watersheds was determined by estimating the time of concentration or travel time for runoff, and then using the above relationship to calculate the lag. A minimum lag of 6 minutes ($t_c$ of 10 minutes) was assumed if the calculations for $t_c$ for the various sub-watersheds indicated a shorter time of concentration.

RAINFALL EVENT

In addition, to Runoff Curve Number and Runoff Lag, the design rainfall and a rainfall distribution must be established. *The Sonoma County Flood Control Design Criteria* prescribes 24-hour design events (rainfall intensity and volume is predicted over a 24-hour period), with the design frequency which varies by size of watershed. For this Master Plan, 10-year, 25-year and
100-year frequencies are modeled.

Rainfall events can be developed by statistical review of rainfall records in the area under study or "synthetic" storms may be used. This Master Plan utilizes a synthetic storm developed by the Soil Conservation Service (SCS). The SCS synthetic storms were developed using the United States Weather Bureau's Rainfall Frequency Atlases. The SCS defined four different rainfall distributions, depending on the region of the country. These rainfall distributions are included in the HEC-1 modeling package. A Type IA distribution is assumed for the project site.

## VI. HYDRAULIC MODELS

The purpose of the hydraulic analysis was to evaluate the adequacy of the existing storm drainage system to convey and contain design storms. Using the flow data generated in the Hydrology Model, the creeks, channels, and storm drain trunks 24 inches in diameter and larger were simulated using one of several software programs: HEC-RAS, StormCAD, or Flowmaster I.

Open channels were modeled using HEC-RAS[1] or FLOWMASTER I[2]. Closed conduit storm drains and culverts were modeled using StormCAD and Inlet Control Nomographs, respectively.

### A. HYDRAULIC ANALYSIS METHODS

The hydraulic models utilize Manning's equation to relate depth of flow in the waterway to the flow rate (Q), cross sectional area of the drainage structure (A), slope of the ground through the structure (S), and roughness of the ground (Manning's roughness coefficient "n").

Flow Rates

In the Hydrology Model, runoff flow rates were computed at each node for the appropriate design storms. Runoff is assumed to enter the waterway at node locations.

[1] HEC-RAS, Version 4.6.2.
[2] FLOWMASTER I, Version 3.21, Haested's.

Closed Conduit Systems

The City of Cotati provided 200-scale maps showing the locations and dimensions of storm drain structures. The locations of manholes and inlets are shown but no invert or rim elevation data was provided.

Winzler and Kelly employed GPS technology to obtain rim elevations in NAVD '88 datum on 45 selected storm drain structures and outfall pipes critical to the hydraulics model. These select structures were then opened up and invert elevations were obtained by measuring from the rim of each structure to the flowline of storm drain pipelines. Pipe sizes were verified as accurately as possible from the surface without confined space entry. This data was then reduced and compiled and incorporated into the hydraulics model. Where no data was available, the slope of storm drains was assumed to approximate the ground slope.

Open Channels

The cross-sectional areas and ground slopes of open channels were measured from the 2-foot topography furnished by the City. Cross-sectional areas were field verified in most areas.

Roughness Coefficient

For this study, the following SCWA-recommended Manning's roughness coefficients were used:

- Closed conduit piping (concrete) 0.014
- Grassed channels 0.035
- Natural waterways 0.050

Boundary Conditions

For hydraulic analyses, a downstream and upstream water surface condition is required as input. For 10-year and 25-year design storms, normal depths were assumed. For the 100-year storm event, the upstream water condition was assumed to be normal and the downstream water surface elevation was taken from Federal Emergency Management Agency's *Flood Insurance Rate Map* for the City of Cotati.

# CHAPTER 5 - HYDRAULIC CAPACITY ANALYSIS

## I. CAPACITY OF EXISTING DRAINAGE FACILITIES

The hydraulic capacity of the drainage facilities were calculated in the hydraulic models for the appropriate design storms. Table 5-1 presents a list of the capacity of each facility. W&K established the following capacity criteria for identifying hydraulically deficient storm drainage systems:

- Channels and creeks shall accommodate the design storm flows within its banks. 100-year design flows will be allowed above the defined banks provided that the water surface does not exceed finished grade elevations within lots or areas of improvements.
- The hydraulic capacity of closed conduit systems under design flows is a full-pipe condition.
- Where backwater conditions impede the conveyance of water under design flows, surcharging of manholes and drop inlets will be tolerated as long as 2-feet of freeboard is maintained.

Drainage facilities having capacity in excess of its design flows are considered adequately sized. The capacities along with the design flows are presented in Table 5-1. Undersized facilities are shown in bold. Figures 5-1 through 5-6 graphically illustrate the results of modeling.

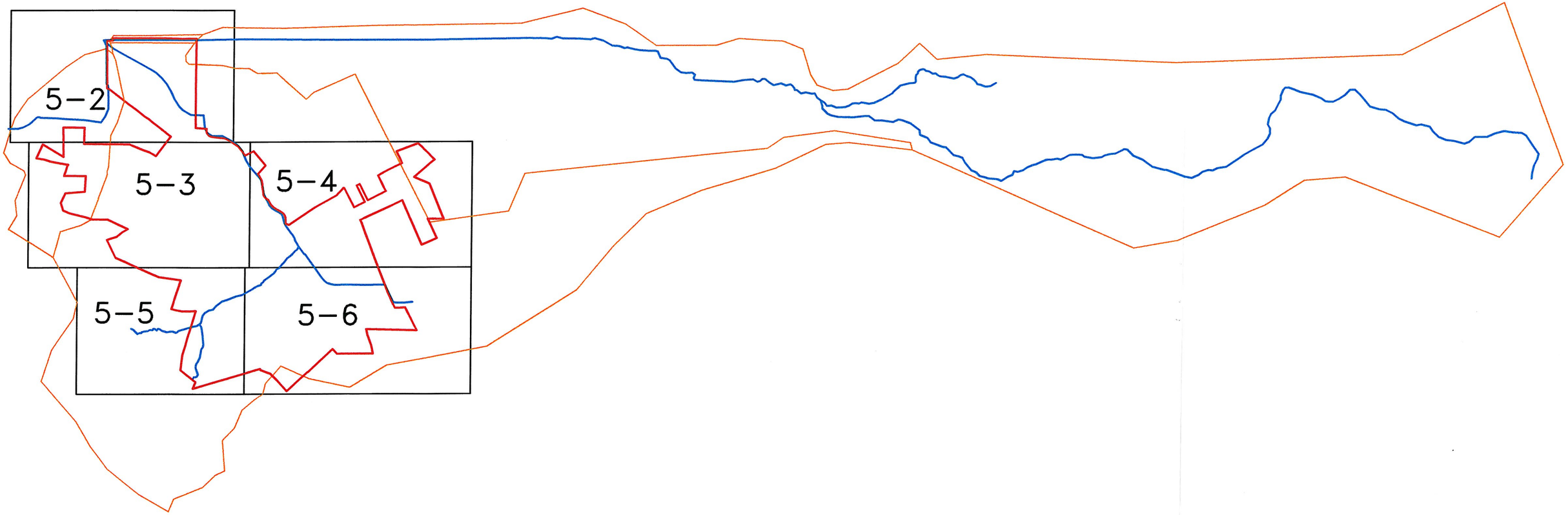
**TABLE 5-1**
**CAPACITY ANALYSIS OF EXISTING DRAINAGE FACILITIES**

| Node ID | Existing Storm Drain Description | Existing Capacity (cfs) | Estimated Flows (cfs) | | |
|---|---|---|---|---|---|
| | | | 10-Year | 25-Year | 100-Year |
| 1.0 | Channel | 6021 | | | 3027 |
| 1.1 | Channel | 3234 | | | 3020 |
| 1.2 | 36" RCP | 44 | 28 | | 40 |
| 1.3 | 36" RCP | 44 | 19 | | 27 |
| 2.0 | Channel | 3204 | | | 2371 |
| 2.0.1 | 30" RCP | 40 | 8 | | 12 |
| 2.0.2 | 39" RCP | 49 | 20 | | 35 |
| 2.0.3 | 30" CMP | 33 | 7 | | 10 |
| 2.0.4 | 24" SD | 31 | 14 | | 21 |
| 2.1 | Channel | 3323 | | | 2306 |
| 2.1.1 | 60" CMP | 99 | 65 | | 94 |
| 2.1.2 | 4'x3' RCB | 101 | 48 | | 70 |
| **2.1.3** | **18" RCP** | **6** | **8** | | **13** |
| 2.2 | Channel | 2280 | | | 2222 |
| 2.2.1 | 84" RCP | 290 | 225 | | 362 |
| 4.0 = 2.2.1.1 | 48" RCP | 108 | 86 | | 139 |
| 4.1 | 18" CMP | 14 | 12 | | 19 |
| 4.2 | 36" CP | 63 | 55 | | 91 |

| TABLE 5-1<br>CAPACITY ANALYSIS OF EXISTING DRAINAGE FACILITIES | | | | | |
|---|---|---|---|---|---|
| Node ID | Existing Storm Drain Description | Existing Capacity (cfs) | Estimated Flows (cfs) | | |
| | | | 10-Year | 25-Year | 100-Year |
| 4.2.1 | 30" RCP | 21 | 18 | | 47 |
| **4.2.2** | **12" CMP** | **4** | **12** | | **20** |
| **4.2.3** | **18" RCP** | **6** | **14** | | **22** |
| **4.2.3.1** | **12" RCP** | **4** | **7** | | **12** |
| 2.3 | Channel | 2855 | | 1550 | 1992 |
| **2.3.1** | **36" SD** | * | **10** | | **14** |
| 5.0 = 2.3.1.1 | 66" RCP | 260 | 141 | | 217 |
| 5.1 | 76"x48" RECP | 162 | 135 | | 207 |
| 5.1.1 | 54" RCP | 134 | 97 | | 148 |
| 5.1.1.1 | Ditch | 130 | 56 | | 79 |
| **5.1.1.2** | **12" CMP** | **2** | **3** | | **4** |
| **5.1.1.3** | **18" CMP** | **6** | **12** | | **17** |
| **5.1.1.4** | **24" CMP** | **13** | **36** | | **52** |
| **5.1.1.5** | **24" CMP** | **13** | **16** | | **23** |
| **5.1.2** | **12" CMP** | **4** | **10** | | **16** |
| **2.35** | **Channel** | **965** | | **1477** | **1901** |
| 2.3.6 | 24" RCP | 18 | 4 | | 5 |
| 2.3.7 | 30" RCP | 49 | 8 | | 11 |
| 2.3.8 | 30" RCP | 42 | 10 | | 15 |
| 2.3.9 | 30" RCP | 38 | 5 | | 6 |
| 2.4 | Channel | 1270 | | 1351 | 1741 |
| 2.4.1 | 48" RCP | 73 | 73 | | 102 |
| 2.4.2 | 30" RCP | 27 | 10 | | 15 |
| 2.4.3 | 24" RCP | 15 | 3 | | 4 |
| 2.4.4 | 24" RCP | 15 | 3 | | 4 |
| 2.45 | Channel | 1702 | | 1283 | 1653 |
| 2.4.6 | 24" RCP | 15 | 3 | | 4 |
| 2.4.7 | 30" RCP | 31 | 30 | | 45 |
| **2.5** | **Channel** | **927** | | **1257** | **1626** |
| **2.5.1** | **30" RCP** | **60** | **64** | | **89** |
| 2.5.2 | 42" RCP | 74 | 58 | | 82 |
| 2.5.2.1 | 48" RCP | 70 | 54 | | 77 |
| 2.5.3 | Twin 66" CP | 163 | 139 | | 195 |
| 2.6 | 2 - 10'x8' RCB | 1165 | | 1150 | 1492 |
| 2.6.1 | 30" RCP | 27 | 21 | | 36 |
| 2.6.2 | 24" RCP | 15 | 10 | | 14 |
| 2.6.3 | Ditch | 18 | 2 | | 3 |
| **2.7** | **Channel** | **987** | | **1140** | **1480** |
| **2.7.1** | **Arch Bridge** | **372** | | **427** | **588** |
| 2.7.1.1 | Arch Bridge | 575 | | 425 | 585 |

| TABLE 5-1<br>CAPACITY ANALYSIS OF EXISTING DRAINAGE FACILITIES | | | | | |
|---|---|---|---|---|---|
| Node ID | Existing Storm Drain Description | Existing Capacity (cfs) | Estimated Flows (cfs) | | |
| | | | 10-Year | 25-Year | 100-Year |
| 2.7.1.2 | Bridge | 637 | | 420 | 578 |
| 2.7.2 | 15'x5' RCB | 675 | | 415 | 574 |
| 2.7.2.1 | Ditch | 18 | 5 | | 7 |
| 2.7.3 | 16'x9' RCB | 770 | | 416 | 578 |
| 2.7.4 | 11'x6' RCB | 765 | 278 | | 481 |
| 2.7.5 | 8'x5' RCB | 602 | 269 | | 468 |
| **2.7.6** | **Channel DS of 12'x5' RCB** | **134** | **262** | | **457** |
| 2.7.7 | 4'x5' RCB | 193 | 138 | | 239 |
| 2.7.8 | 60" SD | 131 | 131 | | 228 |
| 2.7.9 | 24" RCP | 15 | 9 | | 13 |
| 2.7.10 | 24" RCP | 15 | 12 | | 17 |
| 2.7.11 | 30" SD | 27 | 6 | | 8 |
| 2.7.12 | 30" SD | 27 | 11 | | 15 |
| 2.7.13 | 42" CP | 48 | 25 | | 35 |
| 2.7.14 | 24" RCP | 30 | 30 | | 42 |
| 2.8 | Channel | 890 | | 704 | 888 |
| 2.8.1 | 42" RCP | 94 | 35 | | 52 |
| 2.8.2 | 24" RCP | 15 | 5 | | 7 |
| 2.8.3 | 30" RCP | 48 | 28 | | 40 |
| 2.8.4 | 24" RCP | 15 | 6 | | 9 |
| 2.8.5 | 30" RCP | 27 | 8 | | 11 |
| 2.8.6 | Ditch | 15 | 7 | | 10 |
| 2.8.7 | Ditch | 69 | 66 | | 93 |
| 2.9 | Channel | 793 | | 598 | 751 |
| 2.10 | 42" RCP | 66 | 20 | | 28 |
| 2.11 | 48" RCP | 73 | 23 | | 33 |
| 3.0 | Channel | 1525 | | 286 | 371 |
| 3.1 | 10'x6' Bridge | 411 | | 258 | 335 |
| **3.1.1** | **18" RCP** | **6** | **8** | | **14** |
| 3.2 | 10'x5' Bridge | 325 | | 189 | 246 |
| **3.3** | **15" RCP + Ditch** | **67** | **134** | | **202** |
| **3.3.1** | **30" CMP** | **21** | **51** | | **77** |
| **3.3.1.1** | **18" RCP** | **6** | **20** | | **30** |
| **3.3.2** | **18" CMP** | **6** | **88** | | **134** |

Improvement projects were recommended to correct the identified undersized storm drain conduits in the city limits. This study does not currently provide projects to reduce impacts from the 100-year event on the Laguna de Santa Rosa Creek. The FEMA Flood Insurance Study (FIS) indicates that significant flooding occurs within the city limits. Chapter 6 presents a description of the recommended improvements and their estimated costs.




LEGEND

- WATERWAY
- WATERSHED BOUNDARY
- CITY LIMITS

| NO. | DATE | REVISIONS | BY | APPR. |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| | | | |
|---|---|---|---|
| DSGN | JAM | CHKD | |
| DRWN | GAA | SCALE | NTS |

approved date

approved date

BAR IS ONE INCH ON ORIGINAL DRAWING.

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WINZLER & KELLY
CONSULTING ENGINEERS
495 TESCONI CIRCLE, SANTA ROSA, CA 95401 PH (707) 523-1010
P.O. BOX 6798, SANTA ROSA, CA 95406 FAX (707) 527-8679

CITY OF COTATI, CALIFORNIA

STORM DRAIN MASTER PLAN

DRAWING INDEX

JOB NUMBER 01207705

DRAWING NO.

SHEET NO. 5-1

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LEGEND

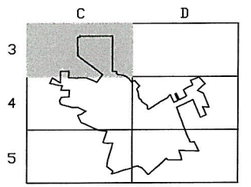
Node ID
Pipe Size
Q10/25=
Q100 =
Qc =

- NODE DESIGNATION
- CONDITION AT NODE
- DESIGN FLOW (CFS)
- 100 YEAR, 24 HOUR PEAK FLOW (CFS)
- CAPACITY AT NODE (CFS)

**BOLD = UNDERSIZED**
NORMAL TEXT = ADEQUATE

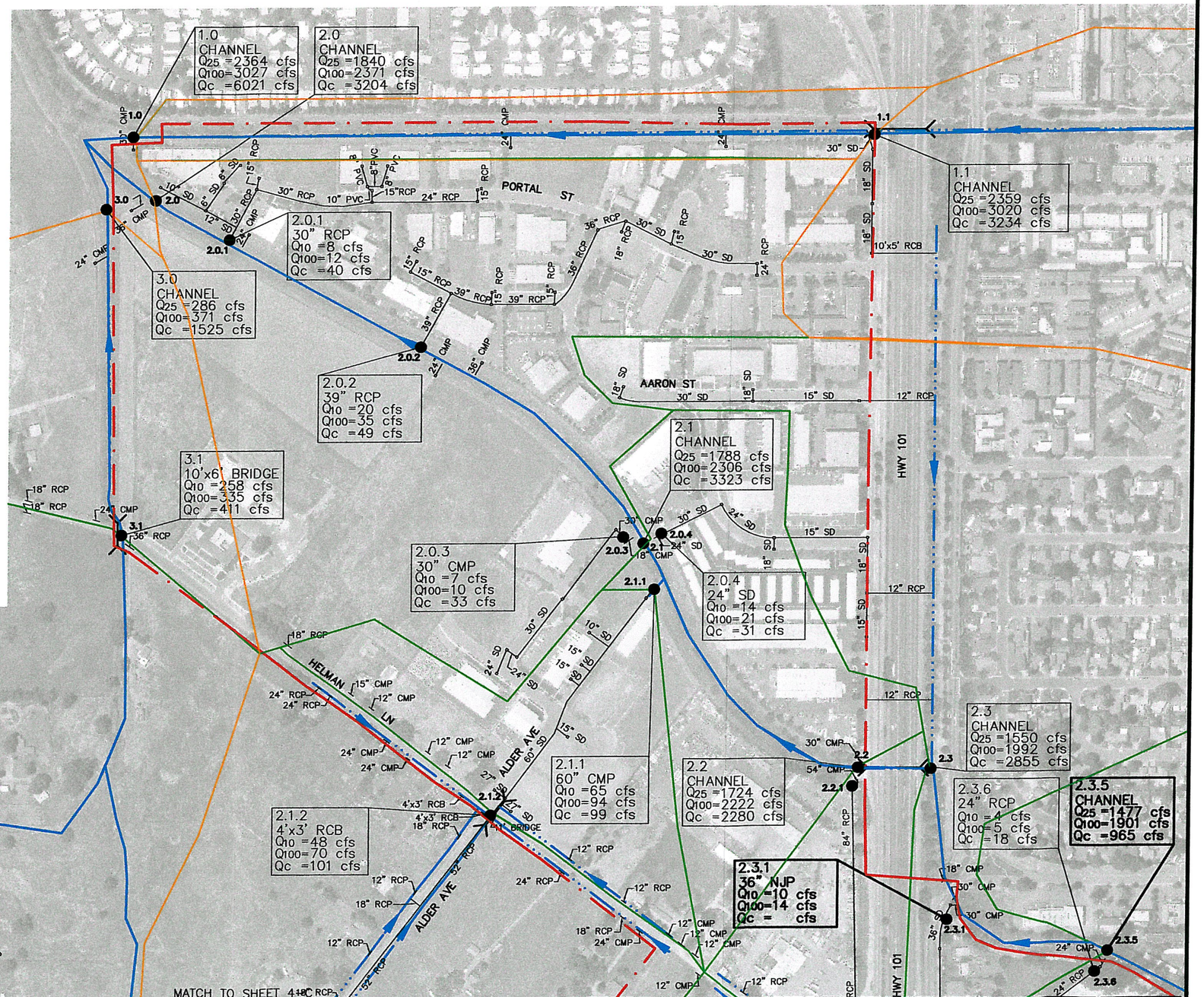
- 3.1 NODE ID
- MANHOLE
- DROP INLET

- WATERWAY
- 30" RCP — STORM DRAIN CONDUIT, PIPE MATERIAL, DIMENSION
- SUBWATERSHED BOUNDARY
- WATERSHED BOUNDARY
- DIRECTION OF FLOW
- CITY LIMITS




SHEET INDEX

SCALE
-200' 0 200' 400'
1" = 200'




| NO. | DATE | REVISIONS | BY | APPR. |
|---|---|---|---|---|
| | | | | |

| | | | |
|---|---|---|---|
| DSGN | JAM | CHKD | |
| DRWN | GAA | SCALE | 1"=200' |

approved date

approved date

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0 1"
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CITY OF COTATI, CALIFORNIA

STORM DRAIN MASTER PLAN

# HYDRAULIC STUDY RESULTS

JOB NUMBER 01207705

DRAWING NO. 3-C

SHEET NO. 5-2

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MATCH TO SHEET 3-C

3.3.1
30" CMP
Q10 =51 cfs
Q100=77 cfs
Qc =21 cfs

3.3
15"RCP+DITCH
Q10 =134 cfs
Q100=202 cfs
Qc =67 cfs

3.1.1
18" CMP
Q10 =8 cfs
Q100=14 cfs
Qc =6 cfs

3.3.1.1
18" RCP
Q10 =20 cfs
Q100=30 cfs
Qc =6 cfs

3.3.2
18" CMP
Q10 =88 cfs
Q100=134 cfs
Qc =6 cfs

2.1.3
18" CMP
Q10 =8 cfs
Q100=13 cfs
Qc =6 cfs

5.1
76"x48" RECP
Q10 =135 cfs
Q100=207 cfs
Qc =162 cfs

5.0
66" RCP
Q10 =141 cfs
Q100=217 cfs
Qc =260 cfs

4.0
48" RCP
Q10 =86 cfs
Q100=139 cfs
Qc =108 cfs

2.2.1
84" RCP
Q10 =225 cfs
Q100=362 cfs
Qc =290 cfs

2.3.7
30" RCP
Q10 =8 cfs
Q100=11 cfs
Qc =49 cfs

2.3.8
30" RCP
Q10 =10 cfs
Q100=15 cfs
Qc =42 cfs

5.1.1
54" RCP
Q10 =97 cfs
Q100=148 cfs
Qc =134 cfs

5.1.1.1
DITCH
Q10 =56 cfs
Q100=79 cfs
Qc =130 cfs

5.1.1.2
12" CMP
Q10 =3 cfs
Q100=4 cfs
Qc =2 cfs

4.1
18" RCP
Q10 =12 cfs
Q100=19 cfs
Qc =14 cfs

5.1.1.5
24" CMP
Q10 =16 cfs
Q100=23 cfs
Qc =13 cfs

5.1.1.4
24" CMP
Q10 =36 cfs
Q100=52 cfs
Qc =13 cfs

5.1.1.3
18" CMP
Q10 =12 cfs
Q100=17 cfs
Qc =6 cfs

5.1.2
12" CMP
Q10 =10 cfs
Q100=16 cfs
Qc =4 cfs

4.2
36" CP
Q10 =55 cfs
Q100=91 cfs
Qc =63 cfs

4.2.3
18" CMP
Q10 =14 cfs
Q100=22 cfs
Qc =6 cfs

4.2.1
30" RCP
Q10 =18 cfs
Q100=47 cfs
Qc =21 cfs

4.2.2
12" CMP
Q10 =12 cfs
Q100=20 cfs
Qc =4 cfs

4.2.3.1
12" RCP
Q10 =7 cfs
Q100=12 cfs
Qc =4 cfs

LOCUST AVE
MADRONE AVE
GRAVESTEIN HWY
RICHARDSON LN
SCHOOL ST
W. SCHOOL ST
MAPLE AVE
W. COTATI AVE
COTATI AVE
HWY 116
OLD REDWOOD HWY
AMBER LN

MATCH TO SHEET 4-D
MATCH TO SHEET 5-C

LEGEND

Node ID — NODE DESIGNATION
Pipe Size — CONDITION AT NODE
Q10/25 = DESIGN FLOW (CFS)
Q100 = 100 YEAR, 24 HOUR
Qc = PEAK FLOW (CFS)
CAPACITY AT NODE (CFS)

BOLD = UNDERSIZED
NORMAL TEXT = ADEQUATE

3.1 NODE ID
MANHOLE
DROP INLET

WATERWAY
30" RCP — STORM DRAIN CONDUIT, PIPE MATERIAL, DIMENSION
SUBWATERSHED BOUNDARY
WATERSHED BOUNDARY
DIRECTION OF FLOW
CITY LIMITS

SHEET INDEX

SCALE
-200' 0 200' 400'
1" = 200'

| NO. | DATE | REVISIONS | BY | APPR. |
|---|---|---|---|---|
| | | | | |

DSGN JAM CHKD
DRWN GAA SCALE 1"=200'
approved date
approved date

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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CITY OF COTATI, CALIFORNIA
STORM DRAIN MASTER PLAN
HYDRAULIC STUDY RESULTS

JOB NUMBER 01207705
DRAWING NO. 4-C
SHEET NO. 5-3

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## II. COMPARISON TO FEMA FLOOD INSURANCE STUDY

The Master Plan hydrology analysis resulted in more conservative flows than predicted by the FIS. The hydrology model when used to combine and route small watersheds downstream tends to result in conservative estimates. This is satisfactory for analysis of smaller sub-watersheds. However, it was never the intention of this Master Plan to develop a hydrology model that would override the FEMA analysis completed for the Laguna de Santa Rosa Creek.

The higher flows result in a higher hydraulic grade line in the lower reaches of the Laguna, downstream of Commerce Boulevard. The HGL closely matches between the FIS report and the current HEC-RAS model just upstream of Commerce Boulevard. It is assumed that the FIS in this lower reach is correct and a detailed analysis has not been completed downstream of Commerce Boulevard as part of this Master Plan. Upstream of Commerce Boulevard, the current HEC-RAS model assumes an "n" value of 0.035 based on the SCWA design criteria. This results in a lower HGL than predicted by the FIS and FEMA mapping which indicate significant flooding in the vicinity of the Laguna.

# CHAPTER 6 - RECOMMENDATIONS AND COST ESTIMATES

## I. RECOMMENDED PROJECT IMPROVEMENTS

### A. DEFICIENT DRAINAGE SYSTEMS

In addition to the hydraulic deficiencies identified in Chapter 5, WINZLER & KELLY also recommends improvement projects where roadside stormwater facilities have degraded and created a traffic safety hazard. Roadside ditches are commonly used to convey stormwater flows in the rural sections of Cotati. Deep roadside ditches located along thoroughfares with no shoulders can create a safety hazard for traffic. Improvement projects were proposed for certain sections of roads where deep ditches occur even though the ditch may be adequately sized to carry the design flows.

Table 6-1 presents a list of the undersized facilities and the roadside safety hazard areas and a description of their deficiency.

**TABLE 6-1**
**DEFICIENT DRAINAGE AREAS**

| Node ID | Description | Location | Deficiency H=Hydraulic S=Safety |
|---|---|---|---|
| 2.1.3 | 18" RCP Culvert | Gravenstein Hwy at Alder Ave. | H |
| 4.2 | Ditch US of 36" CP | Maple Ave. | S,H |
| 4.2.3 | 18" RCP SD | Backline | H |
| 4.2.3.1 | 12" RCP Culvert | School St. | H |
| 2.3.1 | 36" SD | Commerce Ave. | H |
| 5.1.1.1 | Ditch | School St. | S |
| 5.1.1.2 | 12" CMP Culvert | School St. | H |
| 5.1.1.3 | 18" CMP Culvert | School St. | H |
| 5.1.1.4 | 24" CMP Culvert | School St. | H |
| 5.1.1.5 | 24" CMP Culvert | School St. | H |
| 5.1.2 | 12" CMP Culvert | School St. | H |
| 2.35 | Channel | Near Nicholas Creek Ct. | H |
| 2.5 | Channel | Near Arthur St. | H |
| 2.5.1 | 30" RCP SD | East Cotati Ave. | H |
| 2.5.2 | 42" RCP SD | East Cotati Ave. | H |
| 2.7 | Channel | Near East Cotati Ave. | H |
| 2.7.6 | Creek DS of 12'x5' RCB | Water Rd. | H |
| 3.1.1 | 18" RCP Culvert | Gravenstein Hwy. | H |
| 3.3 | 15" RCP Culvert | Derby Lane at Locust Ave. | H |
| 3.3.1 | 30" CMP Culvert | Derby Lane | H |
| 3.3.1.1 | 18" RCP Culvert | Gravenstein Hwy at Madrone Ave. | H |
| 3.3.2 | 18" CMP Culvert | Gravenstein Hwy at Locust Ave. | H |

## B. IMPROVEMENT PROJECTS

Winzler & Kelly conducted the preliminary design for improvement projects to correct each identified deficiency. The projects include new or modified closed conduit systems and culvert replacements. For closed conduits, the design consists of proposed pipe locations and dimensions, and numbers of manholes and drop inlets. The following criteria were used for the design of the majority of closed conduit systems (Exceptions to these criteria are noted in the project descriptions.):

- Minimum slope of 0.2%.
- Manholes shall be placed a maximum of 350 feet on center and at changes in pipe diameter.
- Standard manholes shall be 48 inches in diameter.
- Minimum pipe cover of 3 feet in roadways.
- Pipe material: Reinforced concrete pipe.
- New storm drain systems shall be sized to convey the design storm without surcharging.
- Modifications to existing storm drain systems shall not increase downstream surcharging or backwater effects.
- Closed conduits shall be located within the public right-of-way.

Table 6-2 presents the proposed improvement projects.

## C. PROJECT DESIGN METHODS

The proposed projects were hydraulically analyzed through computer simulation to confirm that the hydraulic criteria were met. Closed conduit systems and culverts were modeled using StormCAD and Flowmaster respectively. The models were subjected to the design flow rates generated during the hydrology analysis.

## D. COST ESTIMATE DEVELOPMENT

Cost estimates for the drainage improvements are developed using *Means Construction Cost Data*. The following items are added to this subtotal amount:

- General Conditions (30%)
- Sales Tax (4%)
- General Contractors Overhead and Profit (8%)
- Legal, Administration & Engineering (25%)
- Bond (0.15%)
- Contingency (10%)

The estimated cost of each project is presented in Table 6-2.

## E. PROJECT PRIORITY ANALYSIS

The proposed drainage improvements will require a number of years to complete. The proposed improvement projects were ranked according to priority for construction. Priority rankings of low, medium, or high were attributed to each project based upon the criteria established below.

High Priority was attributed to projects that met the following criteria:

- Existing drainage facilities are significantly undersized for current levels of development.
- Maximum development has occurred in the project area.
- Maximum-anticipated runoff conditions currently exist; or
- Flooding of structures or improvements is known to occur.

Medium Priority was attributed to projects that met the following criteria:

- Existing drainage facilities are significantly undersized for anticipated levels of development.
- Existing drainage facilities are undersized for current levels of development but do not currently flood during the design storm.
- Structures or improvements exist in the anticipated 100-year flood area.
- Further development is anticipated in the project area.
- Runoff rates are expected to increase due to anticipated future development.

Low Priority was attributed to projects that met the following criteria:

- Existing drainage facilities are undersized for current levels of development but do not currently flood during the design storm.
- Further development is not anticipated in the project area.
- Structures or improvements exist in the anticipated 100-year flood area.

Development was expected in areas where current land use density was significantly less than that shown in Cotati's Land Use Plan. In addition to the high, medium, or low rankings, Table 6-2 shows a recommended grouping and order of projects. Figures 6-1 through 6-6 present the location of the proposed improvements.

### F. GROWTH-RELATED PROJECTS

The existing land use surrounding proposed improvements was compared to build-out conditions as designated in the current zoning plans. Growth-related projects were considered to be those located in areas where the existing land use was significantly less dense than build-out conditions.

## II. PROJECT DESCRIPTIONS

### A. COTATI CREEK BYPASS EXTENSION: WATER RD. PROJECT

An extension to the existing creek bypass is proposed on Water Road to divert peak flows from the creek during storm events. The Water Rd. Project consists of the installation of 650 feet of 4-ft x 5-ft reinforced concrete box (RCB) between the existing concrete box culvert on Water Road and the inlet to the existing 4-ft x 8-ft RCB. (See Node 2.7.6 on Figure 6-5.) This project was given a high priority because creek side homes in the Sierra Mobile Home Park are known to flood during peak storm events. This project is not considered growth-related because little development is anticipated in the area. The estimated cost of the project is $424,730.

## Table 6-2.
## Proposed Improvement Projects
## Cotati Storm Drain Master Plan

| Ranking<br>H=High<br>M=Medium<br>L=Low<br>Numbers indicate project order. | Node ID | Existing Storm Drain Description | Location | Improvement | Growth-Related? | Cost |
|---|---|---|---|---|---|---|
| H-1 | 2.7.6 | Creek | Water Rd. - Cotati Creek | Install 4'x5' RCB Creek Bypass | NO | $424,730 |
| H-2 | 3.3 | Ditch | Locust Ave. | Install 6'x4' RCB & 7'x4' RCB | YES | $2,030,133 |
| H-2 | 3.3.1 | 30" CMP Culvert | Derby Lane | Install 24"-36" RCP | YES | Included in 3.3 |
| H-2 | 3.3.1.1 | 18" RCP Culvert | Gravenstein Hwy at Madrone Ave. | Install 24"-36" RCP | YES | Included in 3.3 |
| H-2 | 3.3.2 | 18" CMP Culvert | Gravenstein Hwy at Locust Ave. | Install 48" SD & 6'x4' RCB | YES | Included in 3.3 |
| M-3 | 5.1.1.1 | Ditch | School St. | Install 30"-48" RCP | NO | $564,722 |
| M-3 | 5.1.1.2 | 12" CMP Culvert | School St. | Install 18" RCP | NO | Included in 5.1.1.1 |
| M-3 | 5.1.1.3 | 18" CMP Culvert | School St. | Install 24" RCP | NO | Included in 5.1.1.1 |
| M-3 | 5.1.1.4 | 24" CMP Culvert | School St. | Install 36" RCP | NO | Included in 5.1.1.1 |
| M-3 | 5.1.1.5 | 24" CMP Culvert | School St. | Install 30" RCP | NO | Included in 5.1.1.1 |
| M-4 | 4.2 | Ditch US of 36" RCP | Maple Ave. | Install 30"-36" RCP | NO | $344,515 |
| M-4 | 4.2.2 | 12" CMP Culvert | School St. | Install 24" RCP | NO | Included in 4.2.1 |
| M-4 | 4.2.3 | 18" RCP SD | Backline | Install 18"-24" RCP on School Rd. | NO | Included in 4.2.2 |
| M-4 | 4.2.3.1 | 12" RCP Culvert | School St. | Install 18" RCP | NO | Included in 4.2.2 |
| M-5 | 2.1.3 | 18" RCP Culvert | Gravenstein Hwy at Alder Ave. | Replace w/ 24" Culvert | YES | $44,577 |
| M-6 | 3.1.1 | 18" RCP Culvert | Gravenstein Hwy. | Replace w/ 24" Culvert | YES | $43,965 |
| M-7 | 5.1.2 | 12" CMP Culvert | School St. | Replace w/ 24" Culvert | NO | $33,324 |
| M-8 | 2.5.1 | 30" RCP SD | East Cotati Ave. | Replace w/ 42" RCP | YES | $53,381 |
| M-8 | 2.5.2 | 42" RCP SD | East Cotati Ave. | Replace w/ 48" RCP | YES | $97,661 |
| L-9 | 2.3.1 | 36" SD | Commerce Ave. | Correct reverse pipe slope. | NO | $343,728 |
| | **TOTAL** | | | | | **$3,980,736** |

Abbreviations: CMP = Corrugated Metal Pipe
RCP = Reinforced Concrete Pipe
RCB = Reinforced Concrete Box
US = Upstream

LEGEND

Node ID
Pipe Size
Q10/25=
Q100=
Qc =

NODE DESIGNATION
CONDITION AT NODE
DESIGN FLOW (CFS)
100 YEAR, 24 HOUR PEAK FLOW (CFS)
CAPACITY AT NODE (CFS)

**BOLD = UNDERSIZED**
NORMAL TEXT = ADEQUATE

3.1 NODE ID
MANHOLE
DROP INLET

WATERWAY
30" RCP STORM DRAIN CONDUIT
PIPE MATERIAL
DIMENSION
SUBWATERSHED BOUNDARY
WATERSHED BOUNDARY
DIRECTION OF FLOW
CITY LIMITS

C D
3
4
5
SHEET INDEX

SCALE
-200' 0 200' 400'
1" = 200'

2.3.9
30"RCP
Q10 =5 cfs
Q100=6 cfs
Qc =38 cfs

2.4.1
48"RCP
Q10 =73 cfs
Q100=102 cfs
Qc =73 cfs

2.4
CHANNEL
Q25 =1351 cfs
Q100=1741 cfs
Qc =1270 cfs

2.4.2
30"RCP
Q10 =10 cfs
Q100=15 cfs
Qc =27 cfs

2.4.3
24"RCP
Q10 =3 cfs
Q100=4 cfs
Qc =15 cfs

2.4.4
24"RCP
Q10 =3 cfs
Q100=4 cfs
Qc =15 cfs

2.4.6
24"RCP
Q10 =3 cfs
Q100=4 cfs
Qc =15 cfs

2.4.5
CHANNEL
Q25 =1283 cfs
Q100=1653 cfs
Qc =1702 cfs

2.5.3
TWIN 66" CP
Q10 =139 cfs
Q100=195 cfs
Qc =163 cfs

2.4.7
30"RCP
Q10 =30 cfs
Q100=45 cfs
Qc =31 cfs

**2.5**
**CHANNEL**
**Q25 =1257 cfs**
**Q100=1626 cfs**
**Qc =927 cfs**

2.6
2 @10'x8' RCB
Q25 =1150 cfs
Q100=1492 cfs
Qc =1165 cfs

2.5.1
30" RCP
Q10 =25 cfs
Q100=31 cfs
Qc =13 cfs

2.6.2
24"RCP
Q10 =10 cfs
Q100=14 cfs
Qc =15 cfs

2.6.1
30"RCP
Q10 =21 cfs
Q100=36 cfs
Qc =27 cfs

2.5.2.1
48"RCP
Q10 =54 cfs
Q100=77 cfs
Qc =70 cfs

2.5.2
42" RCP
Q10 =58 cfs
Q100=72 cfs
Qc =57 cfs

**2.7**
**CHANNEL**
**Q25 =1140 cfs**
**Q100=1480 cfs**
**Qc =987 cfs**

2.7.2.1
DITCH
Q10 =5 cfs
Q100=7 cfs
Qc =18 cfs

2.6.3
DITCH
Q10 =2 cfs
Q100=3 cfs
Qc =18 cfs

2.7.1.2
BRIDGE
Q25 =420 cfs
Q100=578 cfs
Qc =637 cfs

2.7.9
24" RCP
Q10 =9 cfs
Q100=13 cfs
Qc =15 cfs

2.7.1.1
ARCH BRIDGE
Q25 =425 cfs
Q100=585 cfs
Qc =575 cfs

**2.7.1**
**ARCH BRIDGE**
**Q25 =427 cfs**
**Q100=588 cfs**
**Qc =372 cfs**

1.2
36" RCP
Q10 =28 cfs
Q100=40 cfs
Qc =44 cfs

1.3
36" RCP
Q10 =19 cfs
Q100=27 cfs
Qc =44 cfs

2.10
42" RCP
Q10 =20 cfs
Q100=28 cfs
Qc =66 cfs

MATCH TO SHEET 4-D

MATCH TO SHEET 5-D

E. COTATI AVE

LINCOLN AVE

LA SALLE AVE

LANCASTER DR

INDUSTRIAL AVE

NWP RR

CAMINO COLEGIO

HENRY ST

J:\01\207705\Report Files\Hydraulics TM\ TM2figures.dwg Feb 05, 2002 - 2:16pm

| NO. | DATE | REVISIONS | BY | APPR. |
|---|---|---|---|---|
| | | | | |

| | | | |
|---|---|---|---|
| DSGN | JAM | CHKD | |
| DRWN | GAA | SCALE | 1"=200' |

approved date

approved date

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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CITY OF COTATI, CALIFORNIA

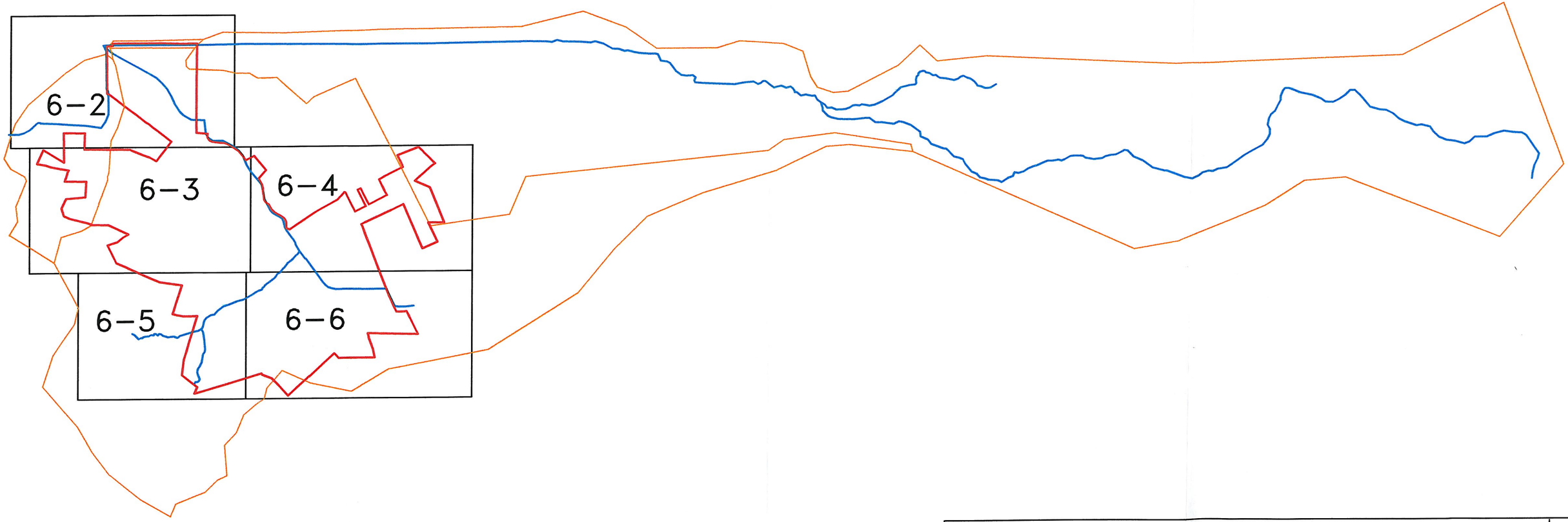
STORM DRAIN MASTER PLAN

# HYDRAULIC STUDY RESULTS

JOB NUMBER 01207705

DRAWING NO. 4-D

SHEET NO. 5-4




LEGEND

- WATERWAY
- SUBWATERSHED BOUNDARY
- WATERSHED BOUNDARY
- CITY LIMITS

| NO. | DATE | REVISIONS | BY | APPR. |
|---|---|---|---|---|
| | | | | |

| | | | |
|---|---|---|---|
| DSGN | JAM | CHKD | |
| DRWN | GAA | SCALE | NTS |

approved _____ date _____

approved _____ date _____

BAR IS ONE INCH ON ORIGINAL DRAWING.

0 ——— 1"

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STORM DRAIN MASTER PLAN

DRAWING INDEX

JOB NUMBER 01207705

DRAWING NO.

SHEET NO. 6-1

J:\01\207705\Report Files\Projects TM\ TM3figures.dwg Feb 06, 2002 - 8:25am

LEGEND

Node ID / (N) Improvement — NODE DESIGNATION / PROPOSED IMPROVEMENT

30" RCP — EXISTING PIPE / PIPE MATERIAL DIMENSION

42" SD — PROPOSED PIPE DIMENSION

WATERWAY

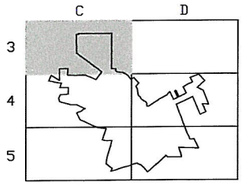
SUBWATERSHED BOUNDARY

SECONDARY WATERSHED BOUNDARY

DIRECTION OF FLOW

CITY LIMITS

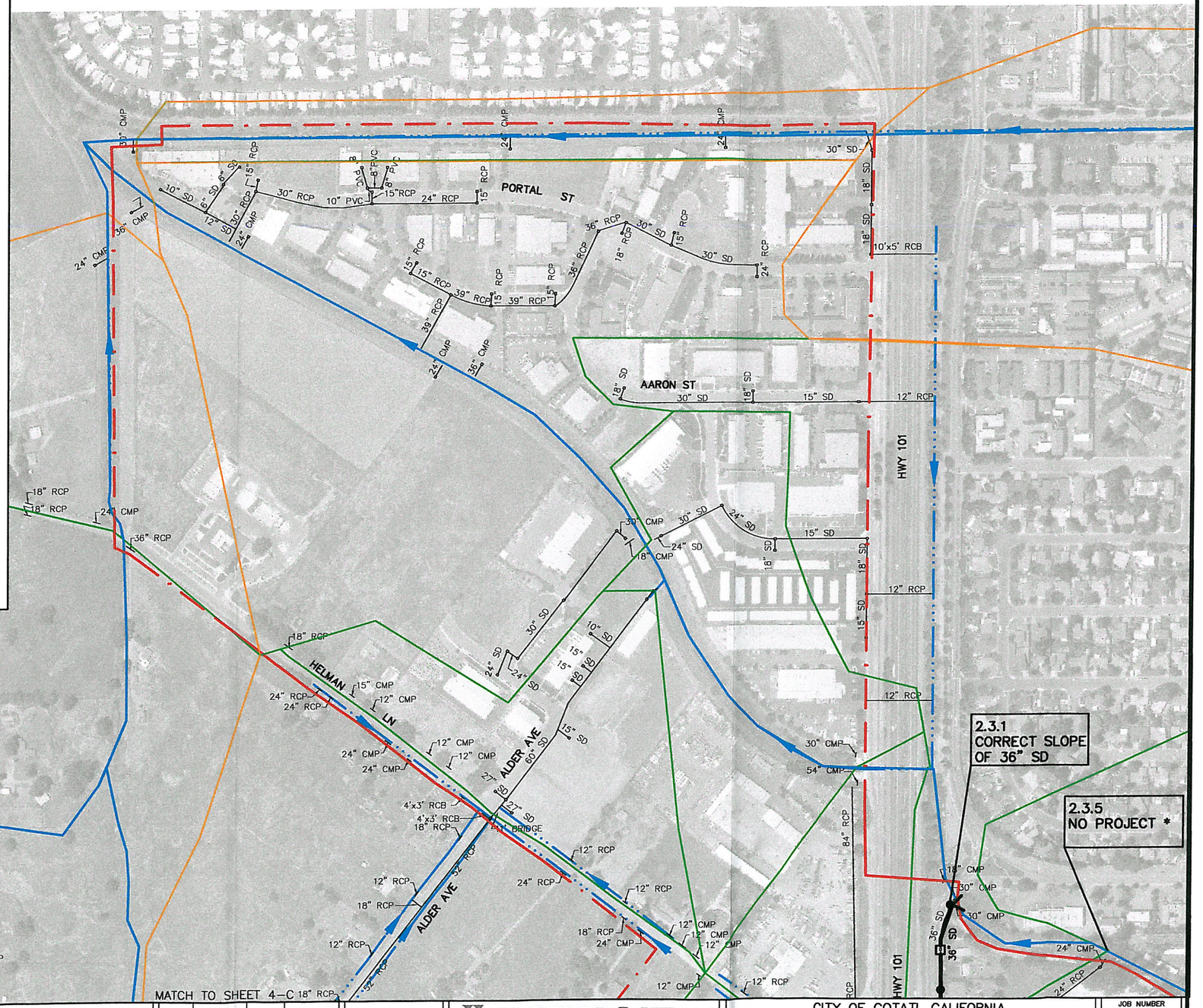
| EXISTING | NEW | |
|---|---|---|
| ○ | ● | MANHOLE |
| □ | ■ | DROP INLET |
| | | HEADWALL |




SHEET INDEX

SCALE
−200' 0 200' 400'
1" = 200'

* SEE TEXT




| NO. | DATE | REVISIONS | BY | APPR. |
|---|---|---|---|---|
| | | | | |

| | | | |
|---|---|---|---|
| DSGN | JAM | CHKD | |
| DRWN | GAA | SCALE | 1"=200' |

approved date

approved date

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY


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STORM DRAIN MASTER PLAN

PROPOSED IMPROVEMENTS

JOB NUMBER 01207705

DRAWING NO. 3–C

SHEET NO. 6–2

J:\01\207705\Report Files\Projects TM\ TM3figures.dwg Feb 05, 2002 - 3:56pm

MATCH TO SHEET 3-C

3.3.1
(N) 24"–36" SD

3.3
(N) 6'x4'–7'x4'
RCB

3.1.1
(N) 24" CULVERT

3.3.1.1
(N) 24"–36" SD

3.3.2
(N) 48" SD
& 6'x4' RCB

2.1.3
(N) 24" CULVERT

LOCUST AVE

MADRONE AVE

GRAVESTEIN HWY

HWY 1

OLD REDWOOD HWY

W. COTATI AVE

W. SCHOOL ST

SCHOOL ST

MAPLE AVE

RICHARDSON LN

AMBER LN

4.2
(N) 30"–36" SD

4.2.3
(N) 18"–24" SD
ON SCHOOL RD

4.2.2
(N) 24" SD

4.2.3.1
(N) 18" SD

5.1.1.1
(N) 30"–48" SD

5.1.1.2
(N) 18" SD

5.1.1.3
(N) 24" SD

5.1.1.5
(N) 30" SD

5.1.1.4
(N) 36" SD

5.1.2
(N) 24" CULVERT

MATCH TO SHEET 5-C

MATCH TO SHEET 4-D

LEGEND

Node ID
(N) Improvement
NODE DESIGNATION
PROPOSED IMPROVEMENT

30" RCP
EXISTING PIPE
PIPE MATERIAL
DIMENSION

42" SD
PROPOSED PIPE
DIMENSION

WATERWAY
SUBWATERSHED BOUNDARY
SECONDARY WATERSHED BOUNDARY
DIRECTION OF FLOW
CITY LIMITS

| EXISTING | NEW |
|---|---|
| ○ | ● MANHOLE |
| □ | ■ DROP INLET |
| | HEADWALL |

SHEET INDEX

SCALE
-200' 0 200' 400'
1" = 200'

| NO. | DATE | REVISIONS | BY | APPR. |
|---|---|---|---|---|
| | | | | |

| | | | |
|---|---|---|---|
| DSGN | JAM | CHKD | |
| DRWN | GAA | SCALE | 1"=200' |

approved date

approved date

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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CITY OF COTATI, CALIFORNIA

STORM DRAIN MASTER PLAN

# PROPOSED IMPROVEMENTS

JOB NUMBER 01207705

DRAWING NO. 4–C

SHEET NO. 6–3

J:\01\207705\Report Files\Projects TM\ TM3figures.dwg Feb 05, 2002 - 4:30pm

LEGEND

Node ID / (N) Improvement — NODE DESIGNATION / PROPOSED IMPROVEMENT

30" RCP — EXISTING PIPE / PIPE MATERIAL / DIMENSION

42" SD — PROPOSED PIPE DIMENSION

SUBWATERSHED BOUNDARY

SECONDARY WATERSHED BOUNDARY

DIRECTION OF FLOW

CITY LIMITS

| EXISTING | NEW | |
|---|---|---|
| ○ | ● | MANHOLE |
| □ | ■ | DROP INLET |
| | | HEADWALL |

* SEE TEXT

SHEET INDEX

C D

3 4 5

SCALE

-200' 0 200' 400'

1" = 200'

2.5
NO PROJECT *

2.5.1
(N) 42" SD

2.5.2
(N) 48" SD

2.7
NO PROJECT *

MATCH TO SHEET 4-C

MATCH TO SHEET 5-D

E. COTATI AVE

LINCOLN AVE

LA SALLE AVE

HENRY ST

LANCASTER DR

INDUSTRIAL AVE

NWP RR

CAMINO COLEGIO

| NO. | DATE | REVISIONS | BY | APPR. |
|---|---|---|---|---|
| | | | | |

| | | | |
|---|---|---|---|
| DSGN | JAM | CHKD | |
| DRWN | GAA | SCALE | 1"=200' |

approved ____ date ____

approved ____ date ____

BAR IS ONE INCH ON ORIGINAL DRAWING.

0 ——— 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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STORM DRAIN MASTER PLAN

# PROPOSED IMPROVEMENTS

JOB NUMBER 01207705

DRAWING NO. 4-D

SHEET NO. 6-4

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LEGEND

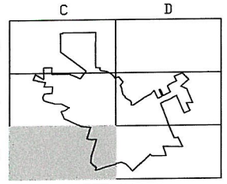
Node ID
(N) Improvement
NODE DESIGNATION
PROPOSED IMPROVEMENT

30" RCP
EXISTING PIPE
PIPE MATERIAL
DIMENSION

42" SD
PROPOSED PIPE
DIMENSION

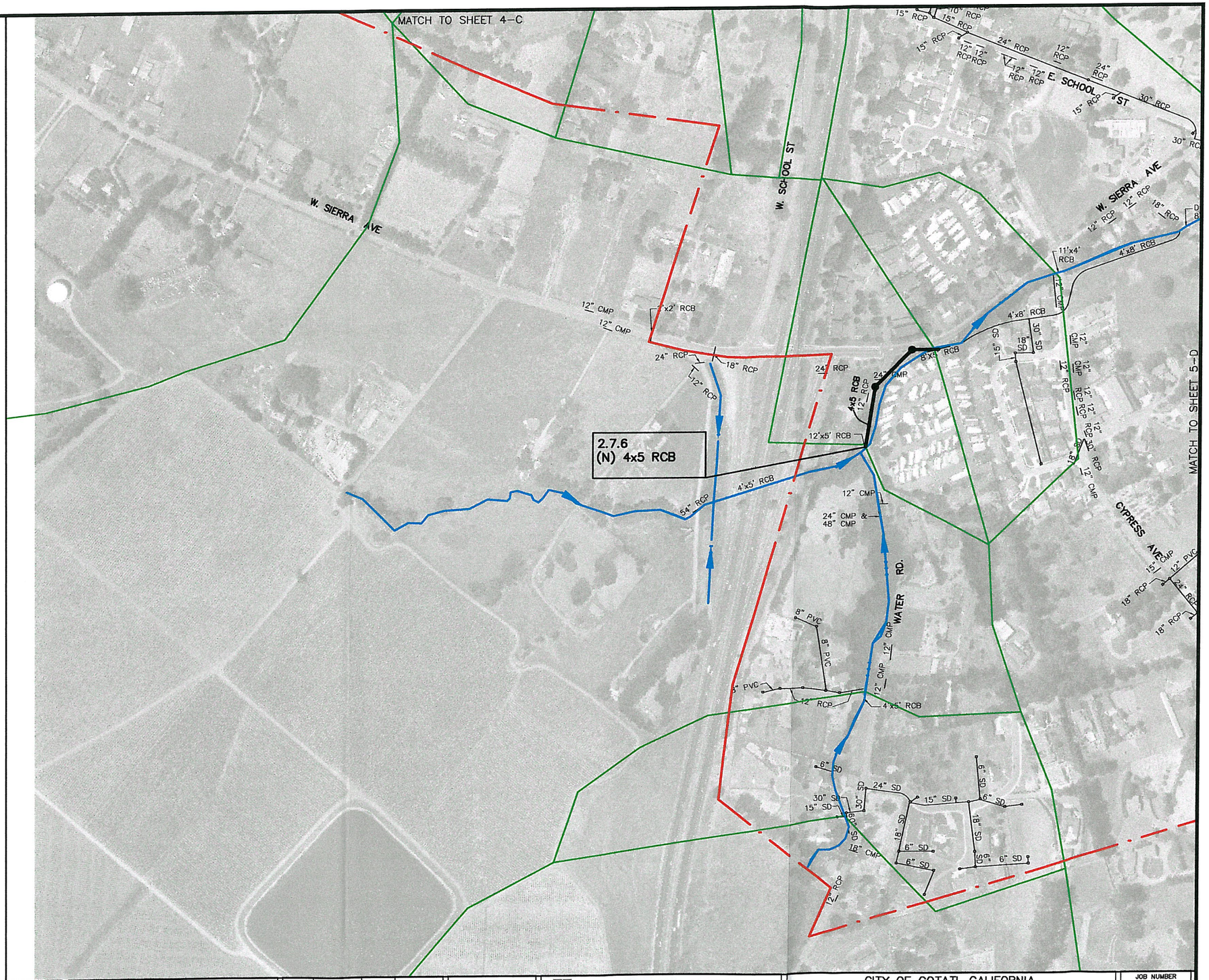
WATERWAY
SUBWATERSHED BOUNDARY
SECONDARY WATERSHED BOUNDARY
DIRECTION OF FLOW
CITY LIMITS

| EXISTING | NEW | |
|---|---|---|
| ○ | ● | MANHOLE |
| □ | ■ | DROP INLET |
| | | HEADWALL |




SHEET INDEX

SCALE
-200' 0 200' 400'
1" = 200'




| NO. | DATE | REVISIONS | BY | APPR. |
|---|---|---|---|---|
| | | | | |

| | | | |
|---|---|---|---|
| DSGN | JAM | CHKD | |
| DRWN | GAA | SCALE | 1"=200' |

approved _____ date _____

approved _____ date _____

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY


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STORM DRAIN MASTER PLAN

PROPOSED IMPROVEMENTS

JOB NUMBER 01207705

DRAWING NO. 5-C

SHEET NO. 6-5

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MATCH TO SHEET 4-D

MATCH TO SHEET 5-C

W. SIERRA AVE

PAGE ST

PARK AVE

BENSON LN

VALPARAISO AVE

MYRTLE AVE

OLD REDWOOD HWY

DORFMAN DR

CLOTHIER LN

VERONDA WY

EUCALYPTUS AVE

CYPRESS AVE

## LEGEND

Node ID — NODE DESIGNATION
(N) Improvement — PROPOSED IMPROVEMENT

30" RCP — EXISTING PIPE, PIPE MATERIAL DIMENSION
42" SD — PROPOSED PIPE DIMENSION

WATERWAY
SUBWATERSHED BOUNDARY
SECONDARY WATERSHED BOUNDARY
DIRECTION OF FLOW
CITY LIMITS

| EXISTING | NEW |
|---|---|
| ○ | ● MANHOLE |
| □ | ■ DROP INLET |
| | HEADWALL |

SHEET INDEX

C D

3
4
5

SCALE

-200' 0 200' 400'

1" = 200'

| NO. | DATE | REVISIONS | BY | APPR. |
|---|---|---|---|---|
| | | | | |

| | | | |
|---|---|---|---|
| DSGN | JAM | CHKD | |
| DRWN | GAA | SCALE | 1"=200' |

approved ____ date ____

approved ____ date ____

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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CITY OF COTATI, CALIFORNIA

STORM DRAIN MASTER PLAN

# PROPOSED IMPROVEMENTS

JOB NUMBER 01207705

DRAWING NO. 5-D

SHEET NO. 6-6

J:\01\207705\Report Files\Projects TM\ TM3figures.dwg Feb 06, 2002 - 7:59am

LEGEND

Node ID
Pipe Size
Q10/25 =
Q100 =
Qc =

NODE DESIGNATION
CONDITION AT NODE
DESIGN FLOW (CFS)
100 YEAR, 24 HOUR PEAK FLOW (CFS)
CAPACITY AT NODE (CFS)

**BOLD = UNDERSIZED**
NORMAL TEXT = ADEQUATE

3.1 NODE ID

MANHOLE

DROP INLET

WATERWAY

30" RCP — STORM DRAIN CONDUIT, PIPE MATERIAL, DIMENSION

SUBWATERSHED BOUNDARY

WATERSHED BOUNDARY

DIRECTION OF FLOW

CITY LIMITS

SHEET INDEX

SCALE
-200' 0 200' 400'
1" = 200'

MATCH TO SHEET 4-C

MATCH TO SHEET 5-D

W. SIERRA AVE

W. SCHOOL ST

E. SCHOOL ST

CYPRESS AVE

WATER RD.

2.7.4
11'x4' RCB
Q10 = 278 cfs
Q100= 481 cfs
Qc = 765 cfs

2.7.5
8'x5' RCB
Q10 =269 cfs
Q100=468 cfs
Qc =602 cfs

2.7.11
30" SD
Q25 =6 cfs
Q100=8 cfs
Qc =27 cfs

2.7.6
DS of 12'x5' RCB
Q10 = 262 cfs
Q100= 457 cfs
Qc = 134 cfs

2.7.14
24" RCP
Q10 =30 cfs
Q100=42 cfs
Qc =30 cfs

2.7.12
30" SD
Q10 =11 cfs
Q100=15 cfs
Qc =27 cfs

2.7.7
4'x5' RCB
Q10 =138 cfs
Q100=239 cfs
Qc =193 cfs

2.7.8
60" SD
Q10 =131 cfs
Q100=228 cfs
Qc =131 cfs

| NO. | DATE | REVISIONS | BY | APPR. |
|---|---|---|---|---|
| | | | | |

| | | | |
|---|---|---|---|
| DSGN | JAM | CHKD | |
| DRWN | GAA | SCALE | 1"=200' |

approved date

approved date

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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CITY OF COTATI, CALIFORNIA

STORM DRAIN MASTER PLAN

# HYDRAULIC STUDY RESULTS

JOB NUMBER 01207705

DRAWING NO. 5-C

SHEET NO. 5-5

J:\01\207705\Report Files\Hydraulics TM\ TM2figures.dwg Feb 05, 2002 - 11:26am

MATCH TO SHEET 4-D

MATCH TO SHEET 5-C

2.7.2
15'x5' RCB
Q25 =415 cfs
Q100=574 cfs
Qc =675 cfs

2.7.13
42"RCP
Q10 =25 cfs
Q100=35 cfs
Qc =48 cfs

2.7.3
16'x9' RCB
Q25 =416 cfs
Q100=578 cfs
Qc =770 cfs

2.7.10
24"RCP
Q10 =12 cfs
Q100=17 cfs
Qc =15 cfs

2.8.1
42"RCP
Q10 =35 cfs
Q100=52 cfs
Qc =94 cfs

2.8.7
DITCH
Q10 =66 cfs
Q100=93 cfs
Qc =69 cfs

2.8.5
30"RCP
Q10 =8 cfs
Q100=11 cfs
Qc =27 cfs

2.8.6
DITCH
Q10 =7 cfs
Q100=10 cfs
Qc =15 cfs

2.8.2
24"RCP
Q10 =5 cfs
Q100=7 cfs
Qc =15 cfs

2.8.3
30"RCP
Q10 =28 cfs
Q100=40 cfs
Qc =48 cfs

2.8
CHANNEL
Q25 =704 cfs
Q100=888 cfs
Qc =890 cfs

2.9
CHANNEL
Q25 =598 cfs
Q100=751 cfs
Qc =793 cfs

2.8.4
24"RCP
Q10 =6 cfs
Q100=9 cfs
Qc =15 cfs

2.11
48" RCP
Q10 =23 cfs
Q100=33 cfs
Qc =73 cfs

W. SIERRA AVE
PAGE ST
PARK AVE
BENSON LN
VALPARAISO AVE
MYRTLE AVE
OLD REDWOOD HWY
DORFMAN DR
CLOTHIER LN
VERONDA WY
EUCALYPTUS AVE
CYPRESS AVE

## LEGEND

Node ID
Pipe Size
Q10/25 =
Q100 =
Qc =

NODE DESIGNATION
CONDITION AT NODE
DESIGN FLOW (CFS)
100 YEAR, 24 HOUR PEAK FLOW (CFS)
CAPACITY AT NODE (CFS)

**BOLD = UNDERSIZED**
NORMAL TEXT = ADEQUATE

3.1 NODE ID
MANHOLE
DROP INLET

WATERWAY
30" RCP — STORM DRAIN CONDUIT, PIPE MATERIAL, DIMENSION
SUBWATERSHED BOUNDARY
WATERSHED BOUNDARY
DIRECTION OF FLOW
CITY LIMITS

SHEET INDEX
C D
3
4
5

SCALE
-200' 0 200' 400'
1" = 200'

| NO. | DATE | REVISIONS | BY | APPR. |
|---|---|---|---|---|
| | | | | |

| | | | |
|---|---|---|---|
| DSGN | JAM | CHKD | |
| DRWN | GAA | SCALE | 1"=200' |

approved date
approved date

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

WINZLER & KELLY
CONSULTING ENGINEERS
495 TESCONI CIRCLE, SANTA ROSA, CA 95401 PH (707) 523-1010
P.O. BOX 6798, SANTA ROSA, CA 95406 FAX (707) 527-8679

CITY OF COTATI, CALIFORNIA

STORM DRAIN MASTER PLAN

# HYDRAULIC STUDY RESULTS

JOB NUMBER 01207705
DRAWING NO. 5-D
SHEET NO. 5-6

J:\01\207705\Report Files\Hydraulics TM\TM2figures.dwg Feb 05, 2002 - 1:52pm

### B. NEW STORM DRAIN SYSTEM: LOCUST AVENUE PROJECT

A new storm drain system is proposed to replace roadside ditches and culverts on Locust Avenue, Derby Avenue and Gravenstein Highway. The Locust Avenue Project, consisting of 7-ft x 4-ft and 6-ft x 4-ft RCBs along Locust Avenue, 24-inch to 48-inch storm drain pipes on Gravenstein Highway and Derby Road, and a backline 48-inch storm drain located parallel to and east of Madrone Avenue has a total length of 4,850 linear feet. (See Nodes 3.3, 3.3.1, 3.3.1.1, and 3.3.2 on Figures 6-2 and 6-3.) The proposed drainage system discharges into Channel 3 at the end of Locust Avenue. A 700-ft section of 48-inch pipe is proposed on private property because an alignment within the public right-of-way would require depths greater than 15 feet. A drainage easement will be required for the private property pipe section. Two feet of cover is anticipated over the concrete box on Locust Avenue, less than the project criteria minimum of 3 feet, due to the constraints of slope. The reduced cover may require the concrete box to be designed with increased strength. This project has been attributed a high priority ranking because the existing drainage facilities are significantly undersized for current levels of development. Additionally, the installation of upstream drainage on Madrone Avenue and Madrone Court has exacerbated the lack of adequate drainage facilities downstream in the project area. The new storm drain is considered a growth-related project whose installation may promote development in the area. The estimated cost of the project is $2,030,000.

### C. NEW STORM DRAIN SYSTEM: SCHOOL ST. PROJECT

A new storm drain system is proposed to replace ditches and culverts on School Street west of Richardson Lane. The School Street Project, consisting of 18-inch to 48-inch conduit, has a total length of 1,650 feet. (See Nodes 5.1.1.1 through 5.1.1.5 on Figure 6-3.) The proposed drainage system outlets into an existing 54-inch diameter pipe on Richardson Lane. This project has been given a medium ranking because the existing facilities are inadequate for current conditions but do not currently flood during the design storm. The drainage ditch that parallels School Street, however, has eroded a channel onto private property. In addition, School Street is a relatively heavily traveled route and the roadside ditch is a potential traffic hazard. The School Street Project is not considered growth-related because no significant development is anticipated in the area. The estimated cost of the project is $565,000.

### D. NEW STORM DRAIN SYSTEM: MAPLE AVE./ SCHOOL ST. PROJECT

A new storm drain system is proposed to replace ditches and culverts on Maple Avenue and School Street. The Maple Ave./School St. Project consists of the installation of 1,280 feet of 18-inch to 36-inch storm drain conduits. (See Nodes 4.2, 4.2.2, 4.2.3, and 4.2.3.1 on Figure 6-3.) The proposed project builds upon an existing 30-inch conduit on private property and connects downstream into a 36-inch storm drain system on Maple Avenue. Although backline storm drains are normally undesirable, the 250-ft section of 30-inch pipe has its inlet and outlet in the public right-of-way for maintenance access. This project has been given a medium priority because existing drainage facilities are undersized for current levels of development. The current drainage facilities consist of multiple backline storm drains that are undesirable due to limited accessibility for maintenance purposes. The new storm drain system is not considered growth-related because little development is anticipated in the area. The estimated cost of the project is $345,000.

## E. STORM DRAIN REPLACEMENT: EAST COTATI AVE. PROJECT

Two sections of storm drain are recommended for replacement on East Cotati Avenue (See Nodes 2.5.1 and 2.5.2 on Figure 6-4). The project consists of the replacement of eighty feet of 30-inch storm drain with 42-inch pipe and 170 feet of 42-inch storm drain with 48-inch pipe. The existing pipe segments cause restrictions in the flow that will be eased with the pipe replacement. Surcharging of the system cannot be eliminated due to the flat slope of downstream pipes and the relatively high beginning water surface elevation of the channel at the storm drain's outlet. The replacement 48-inch pipe will be installed with a slope of less than 0.002 (S=0.0018±) due to the constraints of the upstream and downstream pipes. This project is considered a medium priority because existing drainage facilities are undersized for current levels of development but no flooding is presently occurring. Because significant development is possible on East Cotati Avenue, this project is considered growth-related. The estimated cost of the project is $151,000.

## F. CULVERT REPLACEMENT PROJECTS

Three existing culverts were identified for replacement. Two 18-inch culverts that cross Gravenstein Highway near Alder Avenue are recommended to be replaced with 24-inch culverts (See Nodes 2.1.3 and 3.1.1 on Figure 6-3). A 12-inch culvert that crosses School Street near Richardson Lane is recommended to be upsized to a 24-inch culvert (See Node 5.1.2 on Figure 6-3). All three projects were given a medium priority ranking because they do not currently pose a flooding hazard due to deep roadside ditches. Future development is expected in each project area that may result in increased runoff rates and flooding potential. The two culverts crossing Gravenstein Highway are considered growth-related because new development is anticipated on county land further up the drainage basin. The culvert across School Street is located in an area with little development potential, so it is not considered growth-related. The total estimated cost of the projects is $122,000.

## G. STORM DRAIN REPLACEMENT: COMMERCE AVE. PROJECT

The existing 36-inch storm drain along Commerce Avenue has a reverse slope along 800-feet of its length that impairs the pipes ability to convey stormwater. (See Node 2.3.1 on Figures 6-2 and 6-3.) The Commerce Ave. Project consists of the installation of a new 36-inch storm drain with a corrected slope. The existing storm drain surcharges to within 1 foot of the ground surface but does not currently flood during the design storm. No significant development is anticipated in the area so the project is considered to be a low priority and not growth-related. The estimated construction cost of the project is $344,000.

## H. CHANNEL ENLARGEMENT

The hydraulic evaluation of Channel 2 identified three sections that were undersized for the design storm peak flows (See Nodes 2.35, 2.5, and 2.7 on Figures 6-2 and 6-4.). In each case, the hydraulic deficiency is due to bank elevations that are lower than those downstream and upstream. During peak storm events, the water rises higher than the bank elevations and water floods overland. In each case, there is no development in the flood plain. A hydraulic evaluation of each channel section was conducted. WINZLER & KELLY determined that increasing the channel size would not measurably reduce the

water surface due to backwater conditions in the channel. Therefore, no channel improvements are recommended. Prior to any proposed development in this area, WINZLER & KELLY recommends that the ground surface be raised above the 100-year flood event. No construction costs are provided for the proposed improvements.

## III. RECOMMENDED CREEK MAINTENANCE PROGRAM

A creek maintenance program is important for maintaining the design capacity of flood control channels and creeks. The hydraulic capacity of a creek is a function of the roughness of the channel. Debris and vegetation increase the roughness of the section and decrease the channel's hydraulic capacity.

The SCWA recommends roughness factors for the analysis of flood control channels and natural creeks of 0.035 and 0.050, respectively. These roughness factors were used in this study and assume a certain level of channel maintenance.

WINZLER & KELLY recommends the following creek maintenance program to ensure that their creeks and flood control channels function as designed:

Biannual Maintenance

- Flood control channels: Trees and thick vegetation such as cattails and blackberry bushes shall be removed within the banks. Channel floor and banks shall be mown. Debris shall be removed.
- Natural creeks: Trees shall be pruned such that the leaves are above the bank level. Thick vegetation such as cattails and blackberry bushes shall be removed within the banks. Debris shall be removed.

Five-Year Maintenance

- Flood Control Channels: Remove excess sediment to restore original channel dimensions.

## IV. IMPLEMENTATION OF A CITY-WIDE NPDES PERMIT

The Storm Water Phase II Final Rule requires operators of small municipal separate storm sewer systems (MS4s) to obtain a National Pollutant Discharge Elimination System (NPDES) permit by March 2003. An NPDES Permit is required because storm water discharges from these MS4s are considered "point sources" of pollution. The Phase II Rule is the follow-up to the Environmental Protection Agency's (EPA's) Phase I NPDES Program. The Phase II Program expands the Phase I program by requiring additional operators of municipal separate storm sewer systems (MS4s) in urbanized areas and operators of small construction sites, through the use of NPDES permits, to implement programs and practices to manage storm water runoff.

Specifically, the Phase II Program applies to any operators of small MS4s located in "urbanized areas" as delineated by the Bureau of the Census. A "small" MS4 is any MS4 not already covered by Phase I of the NPDES storm water program. Small construction sites covered by this Rule include those that are between 1 and 5 acres in size. The State of California Regional Water Quality Control Board is the regulatory agency with NPDES Permit oversight authority.

In 2002, the City of Cotati will need to develop a Storm Water Management Program Implementation Plan (Plan) in order to meet the 2003 deadline. The Plan will assist the City with the implementation of a Storm Water Program that meets the requirements of the Phase II Rule. Those Phase II requirements are:

- Develop and implement a Storm Water Management Program;
- Reduce the discharge of pollutants to the "maximum extent practicable" (MEP);
- Protect water quality; and
- Satisfy the appropriate water quality requirements of the Clean Water Act.

# APPENDIX A
# HEC-1 MODEL OUTPUT FILES

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*               MAY   1991              *
*            VERSION 4.0.1E             *
*                                       *
*  RUN DATE  09/18/2001  TIME  11:36:32 *
*                                       *
*****************************************
```

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

2-Minute Interval

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

    IT          HYDROGRAPH TIME DATA
                       NMIN           2  MINUTES IN COMPUTATION INTERVAL
                      IDATE      1    0  STARTING DATE
                      ITIME        0000  STARTING TIME
                         NQ         720  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE      1    0  ENDING DATE
                     NDTIME        2358  ENDING TIME
                      ICENT          19  CENTURY MARK

                  COMPUTATION INTERVAL     0.03 HOURS
                       TOTAL TIME BASE    23.97 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


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


          **************
          *            *
  4 KK    *    1.4     *
          *            *
          **************

  6 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
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 156          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
 157          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
 158          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
 159          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
 160          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
 161          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
 162          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
 163          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
 164          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
 165          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
 166          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
 167          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
 168          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
 169          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
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 173          PC  1.0000 1.00000 1.00000 1.00000 1.00000
 174          LS          86.66
 175          UD     1.9

 176          KK  1.1
 177          KM
 178          KO                                      22
 179          HC       2

 180          KK  1.0
 181          KM
 182          KO                                      22
 183          RD    2550  0.0016    0.08            TRAP      20        2

 184          KK  1.0
 185          KM  Type IA Rainfall Simulation - 100 Yr
 186          KO                                      22
 187          BA   0.053
 188          PB       6
 189          LS           94.04
 190          UD    0.10

 191          KK  1.0
 192          KM
 193          KO                                      22
 194          HC       2
 195          ZZ
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  112         PB       6
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  124         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  125         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  126         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  127         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
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  137         PC  1.0000 1.00000 1.00000 1.00000 1.00000
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  139         UD     1.9

  140         KK  1.2
  141         KM
  142         KO                                    22
  143         HC       2

  144         KK  1.1
  145         KM  100 Yr
  146         KO                                    22
  147         BA    1.08
  148         PB       6
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  67          UD    1.9

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  71          HC      2

  72          KK  1.3
  73          KM  100 Yr
  74          KO                                    22
  75          BA   1.08
  76          PB      6
  77          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
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  92          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  93          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  94          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  95          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  96          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  97          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  98          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  99          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
 100          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
 101          PC  1.0000 1.00000 1.00000 1.00000 1.00000
 102          LS        86.66
 103          UD    1.9
```

HEC-1 INPUT PAGE 1

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

    1         ID  2-Minute Interval
    2         IT       2                    720
    3         IO       5       0

    4         KK  1.4
    5         KM  100 Yr
    6         KO                                      22
    7         BA    1.08
    8         PB       6
    9         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
   10         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
   11         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
   12         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
   13         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
   14         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
   15         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
   16         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
   17         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
   18         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
   19         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
   20         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
   21         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
   22         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
   23         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
   24         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
   25         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
   26         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
   27         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
   28         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
   29         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
   30         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
   31         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
   32         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
   33         PC  1.0000 1.00000 1.00000 1.00000 1.00000
   34         LS           86.66
   35         UD     1.9

   36         KK  1.5
   37         KM  100 Yr
   38         KO                                      22
   39         BA    1.08
   40         PB       6
   41         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
   42         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
   43         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
   44         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
   45         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
   46         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
   47         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
   48         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
   49         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
   50         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
   51         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
   52         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
   53         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
```

HEC1 S/N: 1343001909 HMVersion: 6.33 Data File: C:\TEMP\N1_100.txt

```
*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*              MAY   1991               *
*            VERSION 4.0.1E             *
*                                       *
*  RUN DATE  09/18/2001  TIME  11:36:32 *
*                                       *
*****************************************
```

```
*************************************
*                                   *
*    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
```

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

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

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

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

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

| OPERATION | STATION | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD | | | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|
| 6-HOUR | 24-HOUR | 72-HOUR | | | | | | | |
| HYDROGRAPH AT | 1.4 | 472. | 5.00 | 349. | 103. | 103. | 1.08 | | |
| HYDROGRAPH AT | 1.5 | 472. | 5.00 | 349. | 103. | 103. | 1.08 | | |
| 2 COMBINED AT | 1.4 | 944. | 5.00 | 699. | 205. | 205. | 2.16 | | |
| HYDROGRAPH AT | 1.3 | 472. | 5.00 | 349. | 103. | 103. | 1.08 | | |
| 2 COMBINED AT | 1.3 | 1415. | 5.00 | 1048. | 308. | 308. | 3.24 | | |
| HYDROGRAPH AT | 1.2 | 472. | 5.00 | 349. | 103. | 103. | 1.08 | | |
| 2 COMBINED AT | 1.2 | 1887. | 5.00 | 1398. | 411. | 411. | 4.32 | | |
| HYDROGRAPH AT | 1.1 | 472. | 5.00 | 349. | 103. | 103. | 1.08 | | |
| 2 COMBINED AT | 1.1 | 2359. | 5.00 | 1747. | 514. | 514. | 5.40 | | |
| ROUTED TO | 1.0 | 2348. | 5.13 | 1743. | 514. | 514. | 5.40 | | |
| HYDROGRAPH AT | 1.0 | 98. | 2.70 | 22. | 6. | 6. | 0.05 | | |
| 2 COMBINED AT | 1.0 | 2364. | 5.13 | 1754. | 520. | 520. | 5.45 | | |

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) |
| 1.0 | MANE | 2.00 | 2348.12 | 308.00 | 3.53 | 2.00 | 2348.12 | 308.00 | 3.53 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1018E+04 EXCESS=0.0000E+00 OUTFLOW=0.1017E+04 BASIN STORAGE=0.1282E-01 PERCENT ERROR= 0.0

```
                *             *
                **************

 193 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS
```

```
                    IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                     IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                    ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                    ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                   TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
180 KK    *    1.0     *
          *            *
          **************

182 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
184 KK    *    1.0     *
          *            *
          **************

186 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
191 KK    *    1.0     *
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
140 KK    *    1.2     *
          *            *
          **************

142 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
144 KK    *    1.1     *
          *            *
          **************

146 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
176 KK    *    1.1     *
          *            *
          **************

178 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
```

```
 72 KK      *    1.3     *
            *            *
            **************

 74 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS


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


            **************
            *            *
104 KK      *    1.3     *
            *            *
            **************

106 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS


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


            **************
            *            *
108 KK      *    1.2     *
            *            *
            **************

110 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS
```

| | | |
|---|---|---|
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
 36 KK    *    1.5     *
          *            *
          **************
```

 38 KO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
 68 KK    *    1.4     *
          *            *
          **************
```

 70 KO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
```

HEC1 S/N: 1343001909 HMVersion: 6.33 Data File: C:\TEMP\~vbh1A0B.TMP

```
*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*              MAY   1991               *
*            VERSION 4.0.1E             *
*                                       *
*  RUN DATE  09/18/2001  TIME  11:34:27 *
*                                       *
*****************************************
```

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

2-Minute Interval

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

    IT          HYDROGRAPH TIME DATA
                       NMIN           2  MINUTES IN COMPUTATION INTERVAL
                      IDATE      1    0  STARTING DATE
                      ITIME         0000  STARTING TIME
                         NQ         720  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE      1    0  ENDING DATE
                     NDTIME         2358  ENDING TIME
                     ICENT            19  CENTURY MARK

                  COMPUTATION INTERVAL     0.03 HOURS
                       TOTAL TIME BASE    23.97 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


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


          **************
          *            *
  4 KK    *    1.4     *
          *            *
          **************

  6 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
```

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

  155         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  156         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  157         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  158         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  159         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  160         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  161         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  162         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  163         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  164         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  165         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  166         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  167         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  168         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  169         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  170         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  171         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  172         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  173         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  174         LS          86.66
  175         UD     1.9

  176         KK  1.1
  177         KM
  178         KO                                      22
  179         HC       2

  180         KK  1.0
  181         KM
  182         KO                                      22
  183         RD    2550  0.0016    0.08            TRAP      20        2

  184         KK  1.0
  185         KM  Type IA Rainfall Simulation - 25 Yr
  186         KO                                      22
  187         BA   0.053
  188         PB       5
  189         LS           94.04
  190         UD    0.10

  191         KK  1.0
  192         KM
  193         KO                                      22
  194         HC       2
  195         ZZ
```

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

  104         KK  1.3
  105         KM
  106         KO                                  22
  107         HC       2

  108         KK  1.2
  109         KM  25 Yr
  110         KO                                  22
  111         BA    1.08
  112         PB       5
  113         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  114         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  115         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  116         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  117         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  118         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  119         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  120         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  121         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  122         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  123         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  124         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  125         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  126         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  127         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  128         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  129         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  130         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  131         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  132         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  133         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  134         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  135         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  136         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  137         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  138         LS          86.66
  139         UD     1.9

  140         KK  1.2
  141         KM
  142         KO                                  22
  143         HC       2

  144         KK  1.1
  145         KM  25  Yr
  146         KO                                  22
  147         BA    1.08
  148         PB       5
  149         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  150         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  151         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  152         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  153         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  154         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
```

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

   54         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
   55         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
   56         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
   57         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
   58         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
   59         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
   60         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
   61         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
   62         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
   63         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
   64         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
   65         PC  1.0000 1.00000 1.00000 1.00000 1.00000
   66         LS          86.66
   67         UD     1.9

   68         KK  1.4
   69         KM
   70         KO                                    22
   71         HC       2

   72         KK  1.3
   73         KM   25 Yr
   74         KO                                    22
   75         BA    1.08
   76         PB       5
   77         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
   78         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
   79         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
   80         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
   81         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
   82         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
   83         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
   84         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
   85         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
   86         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
   87         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
   88         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
   89         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
   90         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
   91         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
   92         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
   93         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
   94         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
   95         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
   96         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
   97         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
   98         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
   99         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  100         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  101         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  102         LS          86.66
  103         UD     1.9
```

HEC-1 INPUT PAGE 1

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

  1           ID  2-Minute Interval
  2           IT      2                   720
  3           IO      5       0

  4           KK  1.4
  5           KM  25 Yr
  6           KO                                  22
  7           BA    1.08
  8           PB       5
  9           PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
 10           PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
 11           PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
 12           PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
 13           PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
 14           PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
 15           PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
 16           PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
 17           PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
 18           PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
 19           PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
 20           PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
 21           PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
 22           PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
 23           PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
 24           PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
 25           PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
 26           PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
 27           PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
 28           PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
 29           PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
 30           PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
 31           PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
 32           PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
 33           PC  1.0000 1.00000 1.00000 1.00000 1.00000
 34           LS          86.66
 35           UD     1.9

 36           KK  1.5
 37           KM  25 Yr
 38           KO                                  22
 39           BA    1.08
 40           PB       5
 41           PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
 42           PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
 43           PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
 44           PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
 45           PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
 46           PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
 47           PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
 48           PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
 49           PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
 50           PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
 51           PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
 52           PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
 53           PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
```

HEC1 S/N: 1343001909  HMVersion: 6.33  Data File: C:\TEMP\N1_25.txt

```
*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*               MAY   1991              *
*            VERSION 4.0.1E             *
*                                       *
*  RUN DATE  09/18/2001  TIME  11:34:27 *
*                                       *
*****************************************
```

```
*****************************************
*                                       *
*    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
```

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

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

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

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

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

| 6-HOUR | OPERATION 24-HOUR | STATION 72-HOUR | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD | | | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|---|
| | HYDROGRAPH AT | 1.4 | 407. | 5.03 | 304. | 89. | 89. | 1.08 | | |
| | HYDROGRAPH AT | 1.5 | 407. | 5.03 | 304. | 89. | 89. | 1.08 | | |
| | 2 COMBINED AT | 1.4 | 814. | 5.03 | 607. | 178. | 178. | 2.16 | | |
| | HYDROGRAPH AT | 1.3 | 407. | 5.03 | 304. | 89. | 89. | 1.08 | | |
| | 2 COMBINED AT | 1.3 | 1220. | 5.03 | 911. | 268. | 268. | 3.24 | | |
| | HYDROGRAPH AT | 1.2 | 407. | 5.03 | 304. | 89. | 89. | 1.08 | | |
| | 2 COMBINED AT | 1.2 | 1627. | 5.03 | 1215. | 357. | 357. | 4.32 | | |
| | HYDROGRAPH AT | 1.1 | 407. | 5.03 | 304. | 89. | 89. | 1.08 | | |
| | 2 COMBINED AT | 1.1 | 2034. | 5.03 | 1519. | 446. | 446. | 5.40 | | |
| | ROUTED TO | 1.0 | 2024. | 5.17 | 1514. | 446. | 446. | 5.40 | | |
| | HYDROGRAPH AT | 1.0 | 87. | 2.70 | 20. | 5. | 5. | 0.05 | | |
| | 2 COMBINED AT | 1.0 | 2039. | 5.17 | 1524. | 451. | 451. | 5.45 | | |

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) |
| 1.0 | MANE | 2.00 | 2024.31 | 310.00 | 3.06 | 2.00 | 2024.31 | 310.00 | 3.06 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.8831E+03 EXCESS=0.0000E+00 OUTFLOW=0.8827E+03 BASIN STORAGE=0.1184E-01 PERCENT ERROR= 0.0

| | | |
|---|---|---|
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

```
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


           **************
           *            *
180 KK     *    1.0     *
           *            *
           **************

182 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


           **************
           *            *
184 KK     *    1.0     *
           *            *
           **************

186 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


           **************
           *            *
191 KK     *    1.0     *
           *            *
           **************

193 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
```

```
          **************
          *            *
140 KK    *    1.2     *
          *            *
          **************

142 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
144 KK    *    1.1     *
          *            *
          **************

146 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
176 KK    *    1.1     *
          *            *
          **************

178 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
```

```
          **************

 74 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
104 KK    *    1.3     *
          *            *
          **************

 106 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
108 KK    *    1.2     *
          *            *
          **************

 110 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
```

```
                    IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                     IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                    ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                    ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                   TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
 36 KK    *    1.5     *
          *            *
          **************

 38 KO          OUTPUT CONTROL VARIABLES
                    IPRNT           5  PRINT CONTROL
                    IPLOT           0  PLOT CONTROL
                    QSCAL          0.  HYDROGRAPH PLOT SCALE
                    IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                     IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                    ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                    ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                   TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
 68 KK    *    1.4     *
          *            *
          **************

 70 KO          OUTPUT CONTROL VARIABLES
                    IPRNT           5  PRINT CONTROL
                    IPLOT           0  PLOT CONTROL
                    QSCAL          0.  HYDROGRAPH PLOT SCALE
                    IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                     IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                    ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                    ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                   TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
 72 KK    *    1.3     *
          *            *
```

```
HEC1 S/N: 1343001909        HMVersion: 6.33    Data File: C:\TEMP\~vbh3806.TMP

*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*               MAY   1991              *
*            VERSION 4.0.1E             *
*                                       *
*  RUN DATE  09/18/2001  TIME  11:31:58 *
*                                       *
*****************************************

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

                        2-Minute Interval

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

     IT          HYDROGRAPH TIME DATA
                        NMIN           2  MINUTES IN COMPUTATION INTERVAL
                       IDATE      1    0  STARTING DATE
                       ITIME         0000  STARTING TIME
                          NQ         720  NUMBER OF HYDROGRAPH ORDINATES
                      NDDATE      1    0  ENDING DATE
                      NDTIME        2358  ENDING TIME
                       ICENT          19  CENTURY MARK

                 COMPUTATION INTERVAL     0.03 HOURS
                      TOTAL TIME BASE    23.97 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


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


            **************
            *            *
   4 KK     *    1.4     *
            *            *
            **************

   6 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
```

HEC-1 INPUT



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

  155         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  156         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  157         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  158         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  159         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  160         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  161         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  162         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  163         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  164         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  165         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  166         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  167         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  168         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  169         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  170         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  171         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  172         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  173         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  174         LS          86.66
  175         UD     1.9

  176         KK  1.1
  177         KM
  178         KO                                      22
  179         HC       2

  180         KK  1.0
  181         KM
  182         KO                                      22
  183         RD    2550  0.0016    0.08            TRAP      20        2

  184         KK  1.0
  185         KM  Type IA Rainfall Simulation - 10 Yr
  186         KO                                      22
  187         BA   0.053
  188         PB     4.5
  189         LS          94.04
  190         UD    0.10

  191         KK  1.0
  192         KM
  193         KO                                      22
  194         HC       2
  195         ZZ
```

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

  104         KK  1.3
  105         KM
  106         KO                                    22
  107         HC       2

  108         KK  1.2
  109         KM  10 Yr
  110         KO                                    22
  111         BA    1.08
  112         PB     4.5
  113         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  114         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  115         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  116         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  117         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  118         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  119         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  120         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  121         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  122         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  123         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  124         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  125         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  126         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  127         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  128         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  129         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  130         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  131         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  132         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  133         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  134         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  135         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  136         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  137         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  138         LS          86.66
  139         UD    1.9

  140         KK  1.2
  141         KM
  142         KO                                    22
  143         HC       2

  144         KK  1.1
  145         KM  10 Yr
  146         KO                                    22
  147         BA    1.08
  148         PB     4.5
  149         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  150         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  151         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  152         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  153         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  154         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
```

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

  54      PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  55      PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  56      PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  57      PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  58      PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  59      PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  60      PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  61      PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  62      PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  63      PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  64      PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  65      PC  1.0000 1.00000 1.00000 1.00000 1.00000
  66      LS          86.66
  67      UD     1.9

  68      KK  1.4
  69      KM
  70      KO                                    22
  71      HC       2

  72      KK  1.3
  73      KM  Type IA Rainfall Simulation 10-Yr
  74      KO                                    22
  75      BA    1.08
  76      PB     4.5
  77      PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  78      PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  79      PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  80      PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  81      PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  82      PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  83      PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  84      PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  85      PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  86      PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  87      PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  88      PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  89      PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  90      PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  91      PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  92      PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  93      PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  94      PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  95      PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  96      PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  97      PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  98      PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  99      PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
 100      PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
 101      PC  1.0000 1.00000 1.00000 1.00000 1.00000
 102      LS          86.66
 103      UD     1.9
```

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

    1         ID  2-Minute Interval
    2         IT       2                    720
    3         IO       5       0

    4         KK  1.4
    5         KM  Type IA Rainfall Simulation 10-Yr
    6         KO                                    22
    7         BA    1.08
    8         PB     4.5
    9         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
   10         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
   11         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
   12         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
   13         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
   14         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
   15         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
   16         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
   17         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
   18         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
   19         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
   20         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
   21         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
   22         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
   23         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
   24         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
   25         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
   26         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
   27         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
   28         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
   29         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
   30         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
   31         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
   32         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
   33         PC  1.0000 1.00000 1.00000 1.00000 1.00000
   34         LS           86.66
   35         UD     1.9

   36         KK  1.5
   37         KM  Type IA Rainfall Simulation 10-Yr
   38         KO                                    22
   39         BA    1.08
   40         PB     4.5
   41         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
   42         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
   43         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
   44         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
   45         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
   46         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
   47         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
   48         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
   49         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
   50         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
   51         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
   52         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
   53         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
```

HEC1 S/N: 1343001909  HMVersion: 6.33  Data File: C:\TEMP\~vbh3806.TMP

```
*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*               MAY  1991               *
*            VERSION 4.0.1E             *
*                                       *
*  RUN DATE  09/18/2001  TIME  11:31:58 *
*                                       *
*****************************************
```

```
*****************************************
*                                       *
*    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
```

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

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

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

| | | | |
|---|---|---|---|
| | IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| | IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| | ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| | ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| | TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
 36 KK    *    1.5     *
          *            *
          **************
```

 38 KO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
 68 KK    *    1.4     *
          *            *
          **************
```

 70 KO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
 72 KK    *    1.3     *
          *            *
```

```
          **************

 74 KO          OUTPUT CONTROL VARIABLES
                      IPRNT            5  PRINT CONTROL
                      IPLOT            0  PLOT CONTROL
                      QSCAL           0.  HYDROGRAPH PLOT SCALE
                      IPNCH            0  PUNCH COMPUTED HYDROGRAPH
                       IOUT           22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1            1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2          720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT        0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
104 KK    *    1.3     *
          *            *
          **************

106 KO          OUTPUT CONTROL VARIABLES
                      IPRNT            5  PRINT CONTROL
                      IPLOT            0  PLOT CONTROL
                      QSCAL           0.  HYDROGRAPH PLOT SCALE
                      IPNCH            0  PUNCH COMPUTED HYDROGRAPH
                       IOUT           22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1            1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2          720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT        0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
108 KK    *    1.2     *
          *            *
          **************

110 KO          OUTPUT CONTROL VARIABLES
                      IPRNT            5  PRINT CONTROL
                      IPLOT            0  PLOT CONTROL
                      QSCAL           0.  HYDROGRAPH PLOT SCALE
                      IPNCH            0  PUNCH COMPUTED HYDROGRAPH
                       IOUT           22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1            1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2          720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT        0.033  TIME INTERVAL IN HOURS



*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
```

```
          **************
          *            *
140 KK    *    1.2     *
          *            *
          **************

142 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
144 KK    *    1.1     *
          *            *
          **************

146 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
176 KK    *    1.1     *
          *            *
          **************

178 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
```

```
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
180 KK    *    1.0     *
          *            *
          **************

182 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
184 KK    *    1.0     *
          *            *
          **************

186 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
191 KK    *    1.0     *
          *            *
          **************

193 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
```

| | | |
|---|---|---|
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

| 6-HOUR | OPERATION 24-HOUR | STATION 72-HOUR | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD | | | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|---|
| | HYDROGRAPH AT | 1.4 | 604. | 4.93 | 442. | 130. | 130. | 1.08 | | |
| | HYDROGRAPH AT | 1.5 | 604. | 4.93 | 442. | 130. | 130. | 1.08 | | |
| | 2 COMBINED AT | 1.4 | 1208. | 4.93 | 884. | 261. | 261. | 2.16 | | |
| | HYDROGRAPH AT | 1.3 | 604. | 4.93 | 442. | 130. | 130. | 1.08 | | |
| | 2 COMBINED AT | 1.3 | 1812. | 4.93 | 1326. | 391. | 391. | 3.24 | | |
| | HYDROGRAPH AT | 1.2 | 604. | 4.93 | 442. | 130. | 130. | 1.08 | | |
| | 2 COMBINED AT | 1.2 | 2416. | 4.93 | 1768. | 521. | 521. | 4.32 | | |
| | HYDROGRAPH AT | 1.1 | 604. | 4.93 | 442. | 130. | 130. | 1.08 | | |
| | 2 COMBINED AT | 1.1 | 3020. | 4.93 | 2210. | 651. | 651. | 5.40 | | |
| | ROUTED TO | 1.0 | 3007. | 5.07 | 2204. | 651. | 651. | 5.40 | | |
| | HYDROGRAPH AT | 1.0 | 119. | 2.70 | 27. | 8. | 8. | 0.05 | | |
| | 2 COMBINED AT | 1.0 | 3027. | 5.07 | 2218. | 659. | 659. | 5.45 | | |

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) |
| 1.0 | MANE | 2.00 | 3006.70 | 304.00 | 4.48 | 2.00 | 3006.70 | 304.00 | 4.48 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1290E+04 EXCESS=0.0000E+00 OUTFLOW=0.1290E+04 BASIN STORAGE=0.1467E-01 PERCENT ERROR= 0.0

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

HEC1 S/N: 1343001909  HMVersion: 6.33  Data File: C:\TEMP\-vbh1539.TMP

```
*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*              MAY   1991               *
*           VERSION 4.0.1E              *
*                                       *
*  RUN DATE  09/18/2001  TIME  16:52:16 *
*                                       *
*****************************************
```

```
*****************************************
*                                       *
*    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
```

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

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

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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

   1          ID  2-Minute Interval
   2          IT       2                    720
   3          IO       5         0

   4          KK  2.7.8
   5          KM  10 Yr
   6          KO                                    22
   7          BA    0.417
   8          PB      4.5
   9          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  10          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  11          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  12          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  13          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  14          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  15          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  16          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  17          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  18          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  19          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  20          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  21          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  22          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  23          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  24          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  25          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  26          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  27          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  28          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  29          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  30          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  31          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  32          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  33          PC  1.0000 1.00000 1.00000 1.00000 1.00000
  34          LS          73.821
  35          UD    0.810

  36          KK  2.7.8
  37          KM
  38          KO                                    22
  39          RD      530   0.0038    0.035             TRAP        8        1

  40          KK  2.7.7
  41          KM  10 Yr
  42          KO                                    22
  43          BA    0.031
  44          PB      4.5
  45          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  46          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  47          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  48          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  49          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  50          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  51          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  52          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
```

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

  53          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  54          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  55          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  56          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  57          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  58          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  59          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  60          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  61          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  62          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  63          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  64          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  65          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  66          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  67          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  68          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  69          PC  1.0000 1.00000 1.00000 1.00000 1.00000
  70          LS          72.009
  71          UD   0.200

  72          KK  2.7.7
  73          KM
  74          KO                                      22
  75          HC       2

  76          KK  2.7.7
  77          KM
  78          KO                                      22
  79          RD    1050  0.0171  0.0358            TRAP       4       1

  80          KK  2.7.6
  81          KM  10 Yr
  82          KO                                      22
  83          BA   0.391
  84          PB     4.5
  85          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  86          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  87          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  88          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  89          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  90          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  91          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  92          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  93          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  94          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  95          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  96          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  97          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  98          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  99          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
 100          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
 101          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
 102          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
 103          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
 104          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  105         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  106         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  107         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  108         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  109         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  110         LS          73.791
  111         UD   0.764

  112         KK  2.7.6
  113         KM
  114         KO                                    22
  115         HC       2

  116         KK  2.7.6
  117         KM
  118         KO                                    22
  119         RD     500    0.02    0.08            TRAP      12       1

  120         KK  2.7.5
  121         KM  10 Yr
  122         KO                                    22
  123         BA   0.025
  124         PB     4.5
  125         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  126         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  127         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  128         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  129         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  130         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  131         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  132         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  133         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  134         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  135         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  136         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  137         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  138         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  139         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  140         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  141         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  142         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  143         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  144         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  145         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  146         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  147         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  148         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  149         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  150         LS          77.586
  151         UD   0.235
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  152         KK  2.7.5
  153         KM
  154         KO                                    22
  155         HC       2

  156         KK  2.7.5
  157         KM
  158         KO                                    22
  159         RD     550  0.0145    0.08            TRAP      12       1

  160         KK  2.7.4
  161         KM  10 Yr
  162         KO                                    22
  163         BA   0.026
  164         PB     4.5
  165         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  166         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  167         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  168         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  169         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  170         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  171         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  172         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  173         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  174         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  175         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  176         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  177         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  178         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  179         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  180         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  181         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  182         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  183         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  184         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  185         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  186         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  187         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  188         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  189         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  190         LS          83.861
  191         UD   0.261

  192         KK  2.7.4
  193         KM
  194         KO                                    22
  195         HC       2

  196         KK  2.7.4
  197         KM
  198         KO                                    22
  199         RD    1600  0.0063    0.08            TRAP      12       1
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  200         KK  2.7.3
  201         KM  10 Yr
  202         KO                                    22
  203         BA   0.233
  204         PB     4.5
  205         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  206         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  207         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  208         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  209         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  210         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  211         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  212         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  213         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  214         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  215         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  216         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  217         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  218         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  219         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  220         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  221         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  222         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  223         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  224         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  225         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  226         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  227         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  228         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  229         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  230         LS          80.007
  231         UD   1.455

  232         KK  2.7.3
  233         KM
  234         KO                                    22
  235         HC       2

  236         KK  2.7.3
  237         KM
  238         KO                                    22
  239         RD     300  0.0067   0.045            TRAP      12        1

  240         KK  2.7.2
  241         KM  10 Yr
  242         KO                                    22
  243         BA   0.017
  244         PB     4.5
  245         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  246         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  247         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  248         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  249         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  250         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  251         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  252         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  253         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  254         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  255         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  256         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  257         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  258         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  259         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  260         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  261         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  262         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  263         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  264         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  265         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  266         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  267         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  268         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  269         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  270         LS          89.275
  271         UD   0.125

  272         KK  2.7.2
  273         KM
  274         KO                                    22
  275         HC       2

  276         KK  2.7.2
  277         KM
  278         KO                                    22
  279         RD    9 00  0.0075    0.08            DEEP      12

  280         KK  2.11
  281         KM  10 Yr
  282         KO                                    22
  283         BA  0.3923
  284         PB     4.5
  285         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  286         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  287         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  288         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  289         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  290         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  291         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  292         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  293         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  294         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  295         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  296         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  297         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  298         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  299         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  300         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  301         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  302         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
```

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

 303          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
 304          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
 305          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
 306          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
 307          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
 308          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
 309          PC  1.0000 1.00000 1.00000 1.00000 1.00000
 310          LS          90.354
 311          UD   1.777

 312          KK  2.11
 313          KM
 314          KO                                    22
 315          RD     100   0.005   0.045            TRAP       6       2

 316          KK  2.10
 317          KM  10 Yr
 318          KO                                    22
 319          BA  0.3923
 320          PB     4.5
 321          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
 322          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
 323          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
 324          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
 325          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
 326          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
 327          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
 328          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
 329          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
 330          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
 331          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
 332          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
 333          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
 334          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
 335          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
 336          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
 337          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
 338          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
 339          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
 340          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
 341          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
 342          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
 343          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
 344          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
 345          PC  1.0000 1.00000 1.00000 1.00000 1.00000
 346          LS          90.354
 347          UD   1.777

 348          KK  2.10
 349          KM
 350          KO                                    22
 351          HC       2
```

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

  352         KK  2.9
  353         KM  10 Yr
  354         KO                                  22
  355         BA  0.3923
  356         PB     4.5
  357         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  358         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  359         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  360         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  361         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  362         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  363         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  364         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  365         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  366         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  367         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  368         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  369         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  370         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  371         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  372         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  373         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  374         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  375         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  376         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  377         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  378         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  379         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  380         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  381         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  382         LS          90.354
  383         UD   1.777

  384         KK  2.9
  385         KM
  386         KO                                  22
  387         HC       2

  388         KK  2.9
  389         KM
  390         KO                                  22
  391         RD    1500   0.0013    0.035            TRAP      12        2

  392         KK  2.8.1
  393         KM  10 Yr
  394         KO                                  22
  395         BA   0.133
  396         PB     4.5
  397         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  398         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  399         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  400         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  401         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  402         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  403         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  404         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  405         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  406         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  407         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  408         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  409         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  410         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  411         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  412         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  413         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  414         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  415         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  416         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  417         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  418         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  419         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  420         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  421         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  422         LS         83.286
  423         UD   0.562

  424         KK  2.8.1
  425         KM
  426         KO                                    22
  427         RD     900  0.0022    0.04            TRAP       8     1.5

  428         KK  2.8
  429         KM  10 Yr
  430         KO                                    22
  431         BA   0.141
  432         PB     4.5
  433         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  434         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  435         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  436         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  437         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  438         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  439         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  440         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  441         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  442         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  443         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  444         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  445         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  446         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  447         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  448         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  449         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  450         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  451         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  452         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  453         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  454         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  455         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 456          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
 457          PC  1.0000 1.00000 1.00000 1.00000 1.00000
 458          LS          84.160
 459          UD   1.386

 460          KK  2.8
 461          KM
 462          KO                                    22
 463          HC       3

 464          KK  2.8
 465          KM
 466          KO                                    22
 467          RD    1550  0.0026   0.035             TRAP      12       2

 468          KK  2.7.1
 469          KM  10 Yr
 470          KO                                    22
 471          BA   0.008
 472          PB     4.5
 473          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
 474          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
 475          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
 476          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
 477          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
 478          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
 479          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
 480          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
 481          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
 482          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
 483          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
 484          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
 485          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
 486          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
 487          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
 488          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
 489          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
 490          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
 491          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
 492          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
 493          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
 494          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
 495          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
 496          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
 497          PC  1.0000 1.00000 1.00000 1.00000 1.00000
 498          LS          93.395
 499          UD   0.213

 500          KK  2.7
 501          KM  10 Yr
 502          KO                                    22
 503          BA   0.094
 504          PB     4.5
 505          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
 506          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 507          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
 508          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
 509          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
 510          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
 511          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
 512          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
 513          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
 514          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
 515          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
 516          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
 517          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
 518          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
 519          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
 520          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
 521          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
 522          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
 523          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
 524          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
 525          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
 526          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
 527          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
 528          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
 529          PC  1.0000 1.00000 1.00000 1.00000 1.00000
 530          LS          88.901
 531          UD   0.223

 532          KK  2.7
 533          KM
 534          KO                                    22
 535          HC       4

 536          KK  2.7
 537          KM
 538          KO                                    22
 539          RD     250   0.004    0.08            TRAP      12        2

 540          KK  2.6
 541          KM  10 Yr
 542          KO                                    22
 543          BA   0.031
 544          PB     4.5
 545          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
 546          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
 547          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
 548          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
 549          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
 550          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
 551          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
 552          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
 553          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
 554          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
 555          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
 556          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
 557          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
 558          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
```

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

  559         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  560         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  561         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  562         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  563         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  564         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  565         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  566         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  567         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  568         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  569         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  570         LS          93.815
  571         UD   0.105

  572         KK  2.6
  573         KM
  574         KO                                    22
  575         HC       2

  576         KK  2.6
  577         KM
  578         KO                                    22
  579         RD     500    0.002    0.045             TRAP      12        2

  580         KK  2.5.21
  581         KM  10 Yr
  582         KO                                    22
  583         BA   0.069
  584         PB     4.5
  585         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  586         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  587         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  588         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  589         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  590         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  591         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  592         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  593         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  594         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  595         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  596         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  597         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  598         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  599         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  600         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  601         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  602         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  603         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  604         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  605         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  606         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  607         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  608         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  609         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  610         LS          91.012
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  611         UD   0.416

  612         KK  2.5.21
  613         KM
  614         KO                                    22
  615         RD    1350  0.0015   0.016           CIRC       4

  616         KK  2.5.2
  617         KM  10 Yr
  618         KO                                    22
  619         BA   0.036
  620         PB     4.5
  621         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  622         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  623         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  624         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  625         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  626         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  627         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  628         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  629         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  630         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  631         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  632         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  633         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  634         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  635         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  636         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  637         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  638         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  639         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  640         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  641         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  642         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  643         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  644         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  645         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  646         LS          92.385
  647         UD   1.171

  648         KK  2.5.1
  649         KM  10 Yr
  650         KO                                    22
  651         BA    .132
  652         PB     4.5
  653         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  654         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  655         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  656         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  657         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  658         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  659         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  660         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  661         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  662         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
```

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

  663         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  664         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  665         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  666         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  667         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  668         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  669         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  670         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  671         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  672         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  673         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  674         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  675         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  676         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  677         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  678         LS          93.659
  679         UD   0.401

  680         KK  2.5.1
  681         KM
  682         KO                                    22
  683         HC       3

  684         KK  2.5.1
  685         KM
  686         KO                                    22
  687         RD    1500    0.002    0.016            CIRC    7.77

  688         KK  2.5
  689         KM  10 Yr
  690         KO                                    22
  691         BA   0.029
  692         PB     4.5
  693         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  694         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  695         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  696         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  697         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  698         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  699         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  700         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  701         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  702         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  703         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  704         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  705         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  706         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  707         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  708         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  709         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  710         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  711         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  712         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  713         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  714         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  715         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  716         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  717         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  718         LS           94.09
  719         UD   0.684

  720         KK  2.5
  721         KM
  722         KO                                    22
  723         HC       3

  724         KK  2.5
  725         KM
  726         KO                                    22
  727         RD     500    0.002    0.045            TRAP      12        2

  728         KK  2.45
  729         KM  10 Yr
  730         KO                                    22
  731         BA   0.084
  732         PB     4.5
  733         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  734         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  735         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  736         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  737         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  738         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  739         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  740         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  741         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  742         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  743         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  744         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  745         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  746         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  747         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  748         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  749         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  750         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  751         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  752         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  753         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  754         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  755         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  756         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  757         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  758         LS          89.804
  759         UD   0.170

  760         KK  2.45
  761         KM
  762         KO                                    22
  763         HC       2
```

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

  764         KK  2.45
  765         KM
  766         KO                                    22
  767         RD    1300  0.0023   0.045           TRAP      12       2

  768         KK  2.4
  769         KM  10  Yr
  770         KO                                    22
  771         BA    .161
  772         PB     4.5
  773         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  774         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  775         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  776         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  777         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  778         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  779         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  780         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  781         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  782         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  783         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  784         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  785         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  786         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  787         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  788         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  789         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  790         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  791         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  792         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  793         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  794         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  795         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  796         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  797         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  798         LS          89.534
  799         UD   0.753

  800         KK  2.4
  801         KM
  802         KO                                    22
  803         HC       2

  804         KK  2.4
  805         KM
  806         KO                                    22
  807         RD    1400   0.004   0.045           TRAP      12       2

  808         KK  2.35
  809         KM  10 Yr
  810         KO                                    22
  811         BA   0.355
  812         PB     4.5
  813         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  814         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  815         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  816         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  817         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  818         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  819         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  820         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  821         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  822         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  823         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  824         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  825         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  826         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  827         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  828         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  829         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  830         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  831         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  832         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  833         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  834         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  835         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  836         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  837         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  838         LS          90.691
  839         UD   0.489

  840         KK  2.35
  841         KM
  842         KO                                    22
  843         HC       2

  844         KK  2.35
  845         KM
  846         KO                                    22
  847         RD    1050    0.001    0.045             TRAP      12        2

  848         KK  2.3
  849         KM  10 Yr
  850         KO                                    22
  851         BA     .202
  852         PB     4.5
  853         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  854         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  855         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  856         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  857         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  858         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  859         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  860         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  861         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  862         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  863         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  864         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  865         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
```

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

  866         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  867         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  868         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  869         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  870         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  871         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  872         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  873         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  874         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  875         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  876         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  877         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  878         LS          92.787
  879         UD   0.414

  880         KK  C2.3
  881         KM
  882         KO                                      22
  883         HC       2

  884         KK  4.2.31
  885         KM  10 Yr
  886         KO                                      22
  887         BA    0.01
  888         PB     4.5
  889         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  890         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  891         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  892         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  893         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  894         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  895         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  896         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  897         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  898         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  899         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  900         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  901         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  902         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  903         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  904         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  905         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  906         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  907         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  908         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  909         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  910         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  911         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  912         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  913         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  914         LS          78.500
  915         UD   0.205
```

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

  916         KK  4.2.3
  917         KM  10 Yr
  918         KO                                    22
  919         BA   0.008
  920         PB     4.5
  921         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  922         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  923         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  924         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  925         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  926         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  927         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  928         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  929         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  930         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  931         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  932         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  933         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  934         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  935         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  936         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  937         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  938         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  939         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  940         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  941         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  942         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  943         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  944         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  945         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  946         LS          80.055
  947         UD     0.1

  948         KK  4.2.3
  949         KM
  950         KO                                    22
  951         HC       2

  952         KK  4.2.3
  953         KM
  954         KO                                    22
  955         RD     450    0.01    0.05            TRAP       1       1

  956         KK  4.2.2
  957         KM  10 Yr
  958         KO                                    22
  959         BA   0.017
  960         PB     4.5
  961         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  962         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  963         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  964         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  965         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  966         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  967         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  968         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  969         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  970         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  971         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  972         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  973         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  974         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  975         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  976         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  977         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  978         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  979         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  980         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  981         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  982         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  983         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  984         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  985         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  986         LS          80.012
  987         UD   0.242

  988         KK  4.2.1
  989         KM  10 Yr
  990         KO                                  22
  991         BA   0.022
  992         PB     4.5
  993         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  994         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  995         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  996         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  997         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  998         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  999         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
 1000         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
 1001         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
 1002         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
 1003         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
 1004         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
 1005         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
 1006         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
 1007         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
 1008         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
 1009         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
 1010         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
 1011         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
 1012         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
 1013         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
 1014         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
 1015         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
 1016         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
 1017         PC  1.0000 1.00000 1.00000 1.00000 1.00000
 1018         LS          79.963
 1019         UD   0.181
```

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

1020          KK  4.2.1
1021          KM
1022          KO                                    22
1023          HC       2

1024          KK  4.2.1
1025          KM
1026          KO                                    22
1027          RD     500   0.008    0.05            TRAP       1       1

1028          KK  4.2
1029          KM  10 Yr
1030          KO                                    22
1031          BA   0.014
1032          PB     4.5
1033          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1034          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1035          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1036          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1037          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1038          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1039          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1040          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1041          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1042          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1043          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1044          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1045          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1046          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1047          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1048          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1049          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1050          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1051          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1052          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1053          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1054          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1055          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1056          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1057          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1058          LS          80.861
1059          UD    0.10

1060          KK  4.1
1061          KM  10 Yr
1062          KO                                    22
1063          BA   0.015
1064          PB     4.5
1065          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1066          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1067          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1068          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1069          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1070          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1071          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1072          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1073          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1074          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1075          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1076          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1077          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1078          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1079          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1080          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1081          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1082          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1083          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1084          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1085          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1086          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1087          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1088          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1089          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1090          LS          78.503
1091          UD   0.155

1092          KK  4.1
1093          KM
1094          KO                                      22
1095          HC       4

1096          KK  4.1B
1097          KM
1098          KO                                      22
1099          RD     650  0.0062   0.016             CIRC       3

1100          KK  4.1A
1101          KM
1102          KO                                      22
1103          RD     750  0.0027    0.04             TRAP     1.5       1

1104          KK  4.0
1105          KM  10 Yr
1106          KO                                      22
1107          BA   0.041
1108          PB     4.5
1109          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1110          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1111          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1112          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1113          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1114          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1115          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1116          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1117          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1118          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1119          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1120          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1121          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
```

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

1122          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1123          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1124          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1125          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1126          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1127          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1128          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1129          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1130          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1131          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1132          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1133          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1134          LS        82.889
1135          UD    0.1

1136          KK  4.0
1137          KM
1138          KO                                    22
1139          HC      2

1140          KK  4.0
1141          KM
1142          KO                                    22
1143          RD    900  0.0022    0.06            TRAP       2     1.5

1144          KK  5.1.2
1145          KM  10 Yr
1146          KO                                    22
1147          BA   0.016
1148          PB    4.5
1149          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1150          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1151          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1152          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1153          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1154          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1155          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1156          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1157          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1158          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1159          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1160          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1161          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1162          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1163          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1164          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1165          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1166          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1167          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1168          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1169          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1170          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1171          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1172          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1173          PC  1.0000 1.00000 1.00000 1.00000 1.00000
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1174          LS          78.50
1175          UD   0.161

1176          KK  5.1.2
1177          KM
1178          KO                                22
1179          RD    2000   0.002   0.045          TRAP       4       1

1180          KK  5.1.1
1181          KM  10 Yr
1182          KO                                22
1183          BA   0.188
1184          PB     4.5
1185          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1186          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1187          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1188          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1189          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1190          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1191          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1192          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1193          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1194          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1195          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1196          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1197          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1198          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1199          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1200          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1201          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1202          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1203          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1204          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1205          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1206          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1207          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1208          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1209          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1210          LS          84.557
1211          UD   0.823

1212          KK  5.1.1
1213          KM
1214          KO                                22
1215          RD    2000   0.002   0.045          TRAP       4       1

1216          KK  5.1
1217          KM  10 Yr
1218          KO                                22
1219          BA   0.096
1220          PB     4.5
1221          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1222          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1223          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1224          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
```

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

1225          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1226          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1227          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1228          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1229          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1230          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1231          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1232          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1233          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1234          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1235          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1236          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1237          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1238          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1239          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1240          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1241          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1242          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1243          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1244          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1245          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1246          LS          80.772
1247          UD   0.312

1248          KK  5.1
1249          KM
1250          KO                                    22
1251          HC       3

1252          KK  5.1
1253          KM
1254          KO                                    22
1255          RD     480    0.001    0.016            CIRC      5.0

1256          KK  5.0
1257          KM  10 Yr
1258          KO                                    22
1259          BA   0.022
1260          PB     4.5
1261          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1262          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1263          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1264          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1265          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1266          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1267          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1268          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1269          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1270          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1271          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1272          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1273          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1274          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1275          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1276          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1277          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1278          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1279          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1280          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1281          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1282          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1283          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1284          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1285          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1286          LS          86.06
1287          UD   0.126

1288          KK  5.0
1289          KM
1290          KO                                    22
1291          HC       2

1292          KK  5.0
1293          KM
1294          KO                                    22
1295          RD    1150  0.0009   0.016            CIRC     5.5

1296          KK  2.2.1
1297          KM  10 Yr
1298          KO                                    22
1299          BA   0.042
1300          PB     4.5
1301          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1302          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1303          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1304          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1305          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1306          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1307          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1308          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1309          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1310          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1311          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1312          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1313          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1314          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1315          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1316          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1317          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1318          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1319          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1320          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1321          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1322          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1323          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1324          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1325          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1326          LS          93.408
1327          UD     0.1
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1328          KK  2.2.1
1329          KM
1330          KO                                    22
1331          HC       3

1332          KK  2.2.1
1333          KM
1334          KO                                    22
1335          RD    1050  0.0019   0.016            CIRC       7

1336          KK  2.2
1337          KM  10 Yr
1338          KO                                    22
1339          BA   0.017
1340          PB     4.5
1341          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1342          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1343          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1344          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1345          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1346          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1347          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1348          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1349          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1350          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1351          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1352          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1353          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1354          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1355          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1356          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1357          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1358          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1359          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1360          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1361          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1362          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1363          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1364          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1365          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1366          LS          92.112
1367          UD     0.2

1368          KK  C2.2
1369          KM
1370          KO                                    22
1371          HC       3

1372          KK  2.2
1373          KM
1374          KO                                    22
1375          RD    1050   0.001    0.08            TRAP      20       2
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1376          KK  2.1.3
1377          KM  10 Yr
1378          KO                                22
1379          BA   0.012
1380          PB     4.5
1381          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1382          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1383          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1384          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1385          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1386          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1387          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1388          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1389          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1390          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1391          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1392          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1393          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1394          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1395          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1396          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1397          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1398          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1399          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1400          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1401          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1402          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1403          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1404          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1405          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1406          LS          80.152
1407          UD    .269

1408          KK  2.1.3
1409          KM
1410          KO                                22
1411          RD    1700  0.0059    0.08           TRAP       1       1

1412          KK  2.1.2
1413          KM  10 Yr
1414          KO                                22
1415          BA   0.107
1416          PB     4.5
1417          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1418          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1419          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1420          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1421          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1422          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1423          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1424          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1425          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1426          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1427          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1428          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1429          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1430          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1431          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1432          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1433          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1434          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1435          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1436          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1437          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1438          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1439          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1440          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1441          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1442          LS          88.395
1443          UD   1.722

1444          KK  2.1.2
1445          KM
1446          KO                                    22
1447          HC       2

1448          KK  2.1.2
1449          KM
1450          KO                                    22
1451          RD     950  0.0011   0.016            CIRC       5

1452          KK  2.1.1
1453          KM  10  Yr
1454          KO                                    22
1455          BA   0.032
1456          PB     4.5
1457          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1458          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1459          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1460          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1461          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1462          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1463          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1464          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1465          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1466          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1467          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1468          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1469          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1470          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1471          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1472          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1473          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1474          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1475          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1476          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1477          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1478          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1479          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
```

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

1480          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1481          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1482          LS          91.588
1483          UD    1.38

1484          KK  2.1
1485          KM  10  Yr
1486          KO                                  22
1487          BA     .03
1488          PB     4.5
1489          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1490          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1491          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1492          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1493          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1494          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1495          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1496          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1497          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1498          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1499          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1500          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1501          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1502          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1503          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1504          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1505          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1506          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1507          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1508          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1509          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1510          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1511          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1512          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1513          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1514          LS          93.232
1515          UD    .572

1516          KK  C2.1
1517          KM
1518          KO                                  22
1519          HC       4

1520          KK  R2.1
1521          KM
1522          KO                                  22
1523          RD    2250    .0009      .08            TRAP      20        2

1524          KK  2.0
1525          KM  Type IA Rainfall Simulation - 10  Yr
1526          KO                                    22
1527          BA     .09
1528          PB     4.5
1529          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1530          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
```

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

1531          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1532          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1533          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1534          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1535          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1536          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1537          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1538          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1539          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1540          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1541          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1542          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1543          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1544          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1545          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1546          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1547          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1548          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1549          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1550          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1551          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1552          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1553          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1554          LS           93.11
1555          UD   1.472

1556          KK  C2.0
1557          KM
1558          KO                                      22
1559          HC        2
1560          ZZ
```

HEC1 S/N: 1343001909 HMVersion: 6.33 Data File: C:\TEMP\~vbh1539.TMP

```
*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*               MAY   1991              *
*            VERSION 4.0.1E             *
*                                       *
*  RUN DATE  09/18/2001  TIME  16:52:16 *
*                                       *
*****************************************
```

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

2-Minute Interval

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

    IT          HYDROGRAPH TIME DATA
                       NMIN           2  MINUTES IN COMPUTATION INTERVAL
                      IDATE      1    0  STARTING DATE
                      ITIME        0000  STARTING TIME
                         NQ         720  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE      1    0  ENDING DATE
                     NDTIME        2358  ENDING TIME
                     ICENT           19  CENTURY MARK

                  COMPUTATION INTERVAL     0.03 HOURS
                       TOTAL TIME BASE    23.97 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
```

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

```
          **************
          *            *
  4 KK    *    2.7.8   *
          *            *
          **************

  6 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
```

| | | |
|---|---|---|
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
 36 KK    *    2.7.8   *
          *            *
          **************
```

38 KO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
 40 KK    *    2.7.7   *
          *            *
          **************
```

42 KO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
```

```
 72 KK      *    2.7.7   *
            *            *
            **************

 74 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT    .  0.033  TIME INTERVAL IN HOURS



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


            **************
            *            *
 76 KK      *    2.7.7   *
            *            *
            **************

 78 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


            **************
            *            *
 80 KK      *    2.7.6   *
            *            *
            **************

 82 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
112 KK    *    2.7.6   *
          *            *
          **************

114 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
116 KK    *    2.7.6   *
          *            *
          **************

118 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
120 KK    *    2.7.5   *
          *            *
          **************

122 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
```

| | | | |
|---|---|---|---|
| | IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| | IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| | ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| | ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| | TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
152 KK    *    2.7.5   *
          *            *
          **************
```

154 KO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
156 KK    *    2.7.5   *
          *            *
          **************
```

158 KO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
160 KK    *    2.7.4   *
```

```
          *             *
          **************

 162 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *             *
 192 KK   *    2.7.4    *
          *             *
          **************

 194 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *             *
 196 KK   *    2.7.4    *
          *             *
          **************

 198 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
200 KK    *    2.7.3   *
          *            *
          **************

202 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
232 KK    *    2.7.3   *
          *            *
          **************

234 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
236 KK    *    2.7.3   *
          *            *
          **************

238 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
```

```
                     IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                    ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                    ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                   TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
240 KK    *    2.7.2   *
          *            *
          **************

242 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
272 KK    *    2.7.2   *
          *            *
          **************

274 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
276 KK    *    2.7.2   *
          *            *
```

```
          **************

 278 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
 280 KK   *    2.11    *
          *            *
          **************

 282 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS

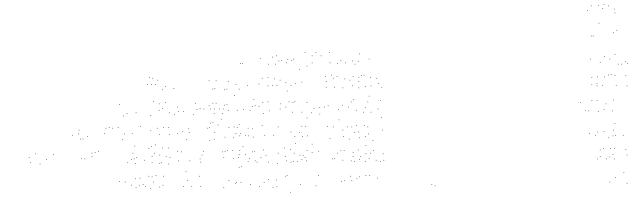


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
 312 KK   *    2.11    *
          *            *
          **************

 314 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS
```







```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
316 KK    *    2.10    *
          *            *
          **************

318 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
348 KK    *    2.10    *
          *            *
          **************

350 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
352 KK    *    2.9     *
          *            *
          **************

354 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
```

```
                    ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                    ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                   TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
 384 KK   *    2.9     *
          *            *
          **************

 386 KO         OUTPUT CONTROL VARIABLES
                  IPRNT           5  PRINT CONTROL
                  IPLOT           0  PLOT CONTROL
                  QSCAL          0.  HYDROGRAPH PLOT SCALE
                  IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                   IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                  ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                  ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                 TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
 388 KK   *    2.9     *
          *            *
          **************

 390 KO         OUTPUT CONTROL VARIABLES
                  IPRNT           5  PRINT CONTROL
                  IPLOT           0  PLOT CONTROL
                  QSCAL          0.  HYDROGRAPH PLOT SCALE
                  IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                   IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                  ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                  ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                 TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
 392 KK   *    2.8.1   *
          *            *
          **************
```

```
 394 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS


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


           **************
           *            *
 424 KK    *    2.8.1   *
           *            *
           **************

 426 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS


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


           **************
           *            *
 428 KK    *    2.8     *
           *            *
           **************

 430 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
```

```
          **************
          *            *
460 KK    *    2.8     *
          *            *
          **************

462 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
464 KK    *    2.8     *
          *            *
          **************

466 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
468 KK    *    2.7.1   *
          *            *
          **************

470 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
```

```
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
 500 KK   *    2.7     *
          *            *
          **************

 502 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
 532 KK   *    2.7     *
          *            *
          **************

 534 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
 536 KK   *    2.7     *
          *            *
          **************
```

```
 538 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS


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


           **************
           *            *
 540 KK    *    2.6     *
           *            *
           **************

 542 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS


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


           **************
           *            *
 572 KK    *    2.6     *
           *            *
           **************

 574 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
```

```
          **************
          *            *
576 KK    *    2.6     *
          *            *
          **************

578 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
580 KK    *    2.5.21  *
          *            *
          **************

582 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
612 KK    *    2.5.21  *
          *            *
          **************

614 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
```

```
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
 616 KK   *    2.5.2   *
          *            *
          **************

 618 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
 648 KK   *    2.5.1   *
          *            *
          **************

 650 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
 680 KK   *    2.5.1   *
          *            *
          **************

 682 KO          OUTPUT CONTROL VARIABLES
```

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
684 KK    *    2.5.1   *
          *            *
          **************
```

686 KO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
688 KK    *    2.5     *
          *            *
          **************
```

690 KO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
720 KK    *    2.5     *
          *            *
          **************

722 KO          OUTPUT CONTROL VARIABLES
                     IPRNT          5  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH          0  PUNCH COMPUTED HYDROGRAPH
                      IOUT         22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1          1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2        720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT      0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
724 KK    *    2.5     *
          *            *
          **************

726 KO          OUTPUT CONTROL VARIABLES
                     IPRNT          5  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH          0  PUNCH COMPUTED HYDROGRAPH
                      IOUT         22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1          1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2        720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT      0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
728 KK    *    2.45    *
          *            *
          **************

730 KO          OUTPUT CONTROL VARIABLES
                     IPRNT          5  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH          0  PUNCH COMPUTED HYDROGRAPH
                      IOUT         22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1          1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2        720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT      0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
760 KK    *    2.45    *
          *            *
          **************

762 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
764 KK    *    2.45    *
          *            *
          **************

766 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
768 KK    *    2.4     *
          *            *
          **************

770 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
```

| | | |
|---|---|---|
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
800 KK    *    2.4     *
          *            *
          **************
```

802 KO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
804 KK    *    2.4     *
          *            *
          **************
```

806 KO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
```

```
            *              *
 808 KK     *    2.35      *
            *              *
            ***************

 810 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


            ***************
            *              *
 840 KK     *    2.35      *
            *              *
            ***************

 842 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


            ***************
            *              *
 844 KK     *    2.35      *
            *              *
            ***************

 846 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
 848 KK   *    2.3     *
          *            *
          **************

 850 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
 880 KK   *    C2.3    *
          *            *
          **************

 882 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
 884 KK   *    4.2.31  *
          *            *
          **************

 886 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
```

```
                    QSCAL          0.  HYDROGRAPH PLOT SCALE
                    IPNCH          0   PUNCH COMPUTED HYDROGRAPH
                     IOUT         22   SAVE HYDROGRAPH ON THIS UNIT
                    ISAV1          1   FIRST ORDINATE PUNCHED OR SAVED
                    ISAV2        720   LAST ORDINATE PUNCHED OR SAVED
                   TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
 916 KK   *    4.2.3   *
          *            *
          **************

 918 KO         OUTPUT CONTROL VARIABLES
                    IPRNT          5   PRINT CONTROL
                    IPLOT          0   PLOT CONTROL
                    QSCAL          0.  HYDROGRAPH PLOT SCALE
                    IPNCH          0   PUNCH COMPUTED HYDROGRAPH
                     IOUT         22   SAVE HYDROGRAPH ON THIS UNIT
                    ISAV1          1   FIRST ORDINATE PUNCHED OR SAVED
                    ISAV2        720   LAST ORDINATE PUNCHED OR SAVED
                   TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
 948 KK   *    4.2.3   *
          *            *
          **************

 950 KO         OUTPUT CONTROL VARIABLES
                    IPRNT          5   PRINT CONTROL
                    IPLOT          0   PLOT CONTROL
                    QSCAL          0.  HYDROGRAPH PLOT SCALE
                    IPNCH          0   PUNCH COMPUTED HYDROGRAPH
                     IOUT         22   SAVE HYDROGRAPH ON THIS UNIT
                    ISAV1          1   FIRST ORDINATE PUNCHED OR SAVED
                    ISAV2        720   LAST ORDINATE PUNCHED OR SAVED
                   TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
```

```
952 KK      *    4.2.3   *
            *            *
            **************

954 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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


            **************
            *            *
956 KK      *    4.2.2   *
            *            *
            **************

958 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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


            **************
            *            *
988 KK      *    4.2.1   *
            *            *
            **************

990 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
1020 KK   *    4.2.1   *
          *            *
          **************

1022 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
1024 KK   *    4.2.1   *
          *            *
          **************

1026 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
1028 KK   *    4.2     *
          *            *
          **************

1030 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
```

```
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
1060 KK   *    4.1     *
          *            *
          **************

1062 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
1092 KK   *    4.1     *
          *            *
          **************

1094 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
1096 KK   *    4.1B    *
```

```
            *             *
            ***************

1098 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


            ***************
            *             *
1100 KK     *    4.1A     *
            *             *
            ***************

1102 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


            ***************
            *             *
1104 KK     *    4.0      *
            *             *
            ***************

1106 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
1136 KK     *    4.0     *
            *            *
            **************

1138 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


            **************
            *            *
1140 KK     *    4.0     *
            *            *
            **************

1142 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


            **************
            *            *
1144 KK     *    5.1.2   *
            *            *
            **************

1146 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
```

```
                     IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1          1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2        720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT      0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
1176 KK   *    5.1.2   *
          *            *
          **************

1178 KO         OUTPUT CONTROL VARIABLES
                IPRNT          5  PRINT CONTROL
                IPLOT          0  PLOT CONTROL
                QSCAL          0.  HYDROGRAPH PLOT SCALE
                IPNCH          0  PUNCH COMPUTED HYDROGRAPH
                 IOUT         22  SAVE HYDROGRAPH ON THIS UNIT
                ISAV1          1  FIRST ORDINATE PUNCHED OR SAVED
                ISAV2        720  LAST ORDINATE PUNCHED OR SAVED
               TIMINT      0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
1180 KK   *    5.1.1   *
          *            *
          **************

1182 KO         OUTPUT CONTROL VARIABLES
                IPRNT          5  PRINT CONTROL
                IPLOT          0  PLOT CONTROL
                QSCAL          0.  HYDROGRAPH PLOT SCALE
                IPNCH          0  PUNCH COMPUTED HYDROGRAPH
                 IOUT         22  SAVE HYDROGRAPH ON THIS UNIT
                ISAV1          1  FIRST ORDINATE PUNCHED OR SAVED
                ISAV2        720  LAST ORDINATE PUNCHED OR SAVED
               TIMINT      0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
1212 KK   *    5.1.1   *
          *            *
```

```
              **************

1214 KO           OUTPUT CONTROL VARIABLES
                        IPRNT           5  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE
                        IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                         IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                        ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                        ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                       TIMINT       0.033  TIME INTERVAL IN HOURS



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


              **************
              *            *
1216 KK       *    5.1     *
              *            *
              **************

1218 KO           OUTPUT CONTROL VARIABLES
                        IPRNT           5  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE
                        IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                         IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                        ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                        ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                       TIMINT       0.033  TIME INTERVAL IN HOURS



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


              **************
              *            *
1248 KK       *    5.1     *
              *            *
              **************

1250 KO           OUTPUT CONTROL VARIABLES
                        IPRNT           5  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE
                        IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                         IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                        ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                        ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                       TIMINT       0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
1252 KK   *    5.1     *
          *            *
          **************
```

```
1254 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
1256 KK   *    5.0     *
          *            *
          **************
```

```
1258 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
1288 KK   *    5.0     *
          *            *
          **************
```

```
1290 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
```

```
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
1292 KK   *    5.0     *
          *            *
          **************

1294 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
1296 KK   *    2.2.1   *
          *            *
          **************

1298 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
1328 KK   *    2.2.1   *
          *            *
          **************
```

```
1330 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


           **************
           *            *
1332 KK    *    2.2.1   *
           *            *
           **************

1334 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


           **************
           *            *
1336 KK    *    2.2     *
           *            *
           **************

1338 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
```

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            **************
            *            *
1368 KK     *    C2.2    *
            *            *
            **************

1370 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS


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


            **************
            *            *
1372 KK     *    2.2     *
            *            *
            **************

1374 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS


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


            **************
            *            *
1376 KK     *    2.1.3   *
            *            *
            **************

1378 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
```

```
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


           **************
           *            *
1408 KK    *    2.1.3   *
           *            *
           **************

1410 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


           **************
           *            *
1412 KK    *    2.1.2   *
           *            *
           **************

1414 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


           **************
           *            *
1444 KK    *    2.1.2   *
           *            *
           **************
```

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1446 KO          OUTPUT CONTROL VARIABLES
                   IPRNT          5  PRINT CONTROL
                   IPLOT          0  PLOT CONTROL
                   QSCAL          0.  HYDROGRAPH PLOT SCALE
                   IPNCH          0  PUNCH COMPUTED HYDROGRAPH
                    IOUT         22  SAVE HYDROGRAPH ON THIS UNIT
                   ISAV1          1  FIRST ORDINATE PUNCHED OR SAVED
                   ISAV2        720  LAST ORDINATE PUNCHED OR SAVED
                  TIMINT      0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
1448 KK   *    2.1.2   *
          *            *
          **************

1450 KO          OUTPUT CONTROL VARIABLES
                   IPRNT          5  PRINT CONTROL
                   IPLOT          0  PLOT CONTROL
                   QSCAL          0.  HYDROGRAPH PLOT SCALE
                   IPNCH          0  PUNCH COMPUTED HYDROGRAPH
                    IOUT         22  SAVE HYDROGRAPH ON THIS UNIT
                   ISAV1          1  FIRST ORDINATE PUNCHED OR SAVED
                   ISAV2        720  LAST ORDINATE PUNCHED OR SAVED
                  TIMINT      0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
1452 KK   *    2.1.1   *
          *            *
          **************

1454 KO          OUTPUT CONTROL VARIABLES
                   IPRNT          5  PRINT CONTROL
                   IPLOT          0  PLOT CONTROL
                   QSCAL          0.  HYDROGRAPH PLOT SCALE
                   IPNCH          0  PUNCH COMPUTED HYDROGRAPH
                    IOUT         22  SAVE HYDROGRAPH ON THIS UNIT
                   ISAV1          1  FIRST ORDINATE PUNCHED OR SAVED
                   ISAV2        720  LAST ORDINATE PUNCHED OR SAVED
                  TIMINT      0.033  TIME INTERVAL IN HOURS


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
```

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            **************
            *            *
1484 KK     *    2.1     *
            *            *
            **************

1486 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


            **************
            *            *
1516 KK     *    C2.1    *
            *            *
            **************

1518 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


            **************
            *            *
1520 KK     *    R2.1    *
            *            *
            **************

1522 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
```

```
                     TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
1524 KK   *    2.0     *
          *            *
          **************

1526 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
1556 KK   *    C2.0    *
          *            *
          **************

1558 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS
```

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

| OPERATION | STATION | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD | | | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 6-HOUR | 24-HOUR | 72-HOUR | | | |
| HYDROGRAPH AT | 2.7.8 | 131. | 3.70 | 84. | 22. | 22. | 0.42 | | |
| ROUTED TO | 2.7.8 | 131. | 3.73 | 84. | 22. | 22. | 0.42 | | |
| HYDROGRAPH AT | 2.7.7 | 15. | 2.87 | 6. | 2. | 2. | 0.03 | | |
| 2 COMBINED AT | 2.7.7 | 138. | 3.73 | 89. | 24. | 24. | 0.45 | | |
| ROUTED TO | 2.7.7 | 138. | 3.77 | 89. | 24. | 24. | 0.45 | | |
| HYDROGRAPH AT | 2.7.6 | 125. | 3.63 | 79. | 21. | 21. | 0.39 | | |
| 2 COMBINED AT | 2.7.6 | 262. | 3.70 | 168. | 44. | 44. | 0.84 | | |
| ROUTED TO | 2.7.6 | 262. | 3.73 | 168. | 44. | 44. | 0.84 | | |
| HYDROGRAPH AT | 2.7.5 | 16. | 2.87 | 6. | 2. | 2. | 0.03 | | |
| 2 COMBINED AT | 2.7.5 | 269. | 3.73 | 173. | 46. | 46. | 0.86 | | |
| ROUTED TO | 2.7.5 | 269. | 3.73 | 173. | 46. | 46. | 0.86 | | |
| HYDROGRAPH AT | 2.7.4 | 22. | 2.90 | 7. | 2. | 2. | 0.03 | | |
| 2 COMBINED AT | 2.7.4 | 278. | 3.73 | 180. | 48. | 48. | 0.89 | | |
| ROUTED TO | 2.7.4 | 278. | 3.83 | 179. | 48. | 48. | 0.89 | | |
| HYDROGRAPH AT | 2.7.3 | 76. | 4.57 | 55. | 15. | 15. | 0.23 | | |
| 2 COMBINED AT | 2.7.3 | 340. | 3.90 | 234. | 63. | 63. | 1.12 | | |
| ROUTED TO | 2.7.3 | 340. | 3.93 | 234. | 63. | 63. | 1.12 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| HYDROGRAPH AT | 2.7.2 | 23. | 2.73 | 6. | 2. | 2. | 0.02 |
| 2 COMBINED AT | 2.7.2 | 346. | 3.90 | 238. | 65. | 65. | 1.14 |
| ROUTED TO | 2.7.2 | 340. | 4.50 | 237. | 64. | 64. | 1.14 |
| HYDROGRAPH AT | 2.11 | 175. | 4.77 | 124. | 36. | 36. | 0.39 |
| ROUTED TO | 2.11 | 175. | 4.77 | 124. | 36. | 36. | 0.39 |
| HYDROGRAPH AT | 2.10 | 175. | 4.77 | 124. | 36. | 36. | 0.39 |
| 2 COMBINED AT | 2.10 | 349. | 4.77 | 248. | 73. | 73. | 0.78 |
| HYDROGRAPH AT | 2.9 | 175. | 4.77 | 124. | 36. | 36. | 0.39 |
| 2 COMBINED AT | 2.9 | 524. | 4.77 | 372. | 109. | 109. | 1.18 |
| ROUTED TO | 2.9 | 523. | 4.83 | 372. | 109. | 109. | 1.18 |
| HYDROGRAPH AT | 2.8.1 | 79. | 3.27 | 37. | 10. | 10. | 0.13 |
| ROUTED TO | 2.8.1 | 78. | 3.37 | 37. | 10. | 10. | 0.13 |
| HYDROGRAPH AT | 2.8 | 56. | 4.37 | 38. | 11. | 11. | 0.14 |
| 3 COMBINED AT | 2.8 | 614. | 4.73 | 443. | 129. | 129. | 1.45 |
| ROUTED TO | 2.8 | 613. | 4.80 | 443. | 129. | 129. | 1.45 |
| HYDROGRAPH AT | 2.7.1 | 10. | 2.83 | 3. | 1. | 1. | 0.01 |
| HYDROGRAPH AT | 2.7 | 102. | 2.83 | 31. | 8. | 8. | 0.09 |
| 4 COMBINED AT | 2.7 | 975. | 4.67 | 697. | 203. | 203. | 2.69 |
| ROUTED TO | 2.7 | 975. | 4.67 | 697. | 203. | 203. | 2.69 |
| HYDROGRAPH AT | | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 2.6 | 50. | 2.70 | 12. | 3. | 3. | 0.03 |
| 2 COMBINED AT | | | | | | |
| 2.6 | 984. | 4.67 | 703. | 206. | 206. | 2.72 |
| ROUTED TO | | | | | | |
| 2.6 | 983. | 4.67 | 703. | 206. | 206. | 2.72 |
| HYDROGRAPH AT | | | | | | |
| 2.5.21 | 63. | 3.07 | 24. | 7. | 7. | 0.07 |
| ROUTED TO | | | | | | |
| 2.5.21 | 61. | 3.13 | 24. | 6. | 6. | 0.07 |
| HYDROGRAPH AT | | | | | | |
| 2.5.2 | 21. | 3.93 | 13. | 4. | 4. | 0.04 |
| HYDROGRAPH AT | | | | | | |
| 2.5.1 | 132. | 3.03 | 49. | 13. | 13. | 0.13 |
| 3 COMBINED AT | | | | | | |
| 2.5.1 | 203. | 3.10 | 85. | 23. | 23. | 0.24 |
| ROUTED TO | | | | | | |
| 2.5.1 | 202. | 3.13 | 85. | 23. | 23. | 0.24 |
| HYDROGRAPH AT | | | | | | |
| 2.5 | 23. | 3.37 | 11. | 3. | 3. | 0.03 |
| 3 COMBINED AT | | | | | | |
| 2.5 | 1077. | 4.63 | 781. | 232. | 232. | 2.99 |
| ROUTED TO | | | | | | |
| 2.5 | 1076. | 4.67 | 781. | 232. | 232. | 2.99 |
| HYDROGRAPH AT | | | | | | |
| 2.45 | 104. | 2.80 | 28. | 8. | 8. | 0.08 |
| 2 COMBINED AT | | | | | | |
| 2.45 | 1100. | 4.63 | 802. | 240. | 240. | 3.07 |
| ROUTED TO | | | | | | |
| 2.45 | 1100. | 4.70 | 802. | 240. | 240. | 3.07 |
| HYDROGRAPH AT | | | | | | |
| 2.4 | 107. | 3.47 | 53. | 15. | 15. | 0.16 |
| 2 COMBINED AT | | | | | | |
| 2.4 | 1159. | 4.67 | 853. | 255. | 255. | 3.23 |
| ROUTED TO | | | | | | |
| 2.4 | 1158. | 4.70 | 853. | 255. | 255. | 3.23 |
| HYDROGRAPH AT | | | | | | |
| 2.35 | 298. | 3.17 | 122. | 33. | 33. | 0.35 |
| 2 COMBINED AT | | | | | | |
| 2.35 | 1272. | 4.67 | 965. | 288. | 288. | 3.59 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ROUTED TO | 2.35 | 1268. | 4.70 | 964. | 288. | 288. | 3.59 |
| HYDROGRAPH AT | 2.3 | 194. | 3.07 | 73. | 20. | 20. | 0.20 |
| 2 COMBINED AT | C2.3 | 1331. | 4.70 | 1030. | 308. | 308. | 3.79 |
| HYDROGRAPH AT | 4.2.31 | 7. | 2.83 | 2. | 1. | 1. | 0.01 |
| HYDROGRAPH AT | 4.2.3 | 8. | 2.73 | 2. | 1. | 1. | 0.01 |
| 2 COMBINED AT | 4.2.3 | 14. | 2.77 | 5. | 1. | 1. | 0.02 |
| ROUTED TO | 4.2.3 | 14. | 2.80 | 5. | 1. | 1. | 0.02 |
| HYDROGRAPH AT | 4.2.2 | 12. | 2.90 | 4. | 1. | 1. | 0.02 |
| HYDROGRAPH AT | 4.2.1 | 18. | 2.80 | 6. | 1. | 1. | 0.02 |
| 2 COMBINED AT | 4.2.1 | 29. | 2.83 | 10. | 3. | 3. | 0.04 |
| ROUTED TO | 4.2.1 | 29. | 2.87 | 10. | 3. | 3. | 0.04 |
| HYDROGRAPH AT | 4.2 | 14. | 2.73 | 4. | 1. | 1. | 0.01 |
| HYDROGRAPH AT | 4.1 | 12. | 2.80 | 4. | 1. | 1. | 0.01 |
| 4 COMBINED AT | 4.1 | 64. | 2.80 | 22. | 6. | 6. | 0.09 |
| ROUTED TO | 4.1B | 64. | 2.83 | 22. | 6. | 6. | 0.09 |
| ROUTED TO | 4.1A | 62. | 2.90 | 22. | 6. | 6. | 0.09 |
| HYDROGRAPH AT | 4.0 | 45. | 2.73 | 12. | 3. | 3. | 0.04 |
| 2 COMBINED AT | 4.0 | 92. | 2.83 | 33. | 9. | 9. | 0.13 |
| ROUTED TO | 4.0 | 86. | 2.93 | 33. | 9. | 9. | 0.13 |
| HYDROGRAPH AT | 5.1.2 | 12. | 2.80 | 4. | 1. | 1. | 0.02 |

| | | | | | | |
|---|---|---|---|---|---|---|
| ROUTED TO | | | | | | |
| 5.1.2 | 10. | 3.13 | 4. | 1. | 1. | 0.02 |
| HYDROGRAPH AT | | | | | | |
| 5.1.1 | 98. | 3.60 | 54. | 15. | 15. | 0.19 |
| ROUTED TO | | | | | | |
| 5.1.1 | 97. | 3.77 | 54. | 15. | 15. | 0.19 |
| HYDROGRAPH AT | | | | | | |
| 5.1 | 65. | 2.97 | 25. | 7. | 7. | 0.10 |
| 3 COMBINED AT | | | | | | |
| 5.1 | 135. | 3.63 | 82. | 22. | 22. | 0.30 |
| ROUTED TO | | | | | | |
| 5.1 | 135. | 3.67 | 82. | 22. | 22. | 0.30 |
| HYDROGRAPH AT | | | | | | |
| 5.0 | 26. | 2.73 | 7. | 2. | 2. | 0.02 |
| 2 COMBINED AT | | | | | | |
| 5.0 | 142. | 3.63 | 88. | 24. | 24. | 0.32 |
| ROUTED TO | | | | | | |
| 5.0 | 141. | 3.70 | 88. | 24. | 24. | 0.32 |
| HYDROGRAPH AT | | | | | | |
| 2.2.1 | 67. | 2.70 | 16. | 4. | 4. | 0.04 |
| 3 COMBINED AT | | | | | | |
| 2.2.1 | 226. | 3.00 | 135. | 37. | 37. | 0.49 |
| ROUTED TO | | | | | | |
| 2.2.1 | 225. | 3.03 | 135. | 37. | 37. | 0.49 |
| HYDROGRAPH AT | | | | | | |
| 2.2 | 21. | 2.83 | 6. | 2. | 2. | 0.02 |
| 3 COMBINED AT | | | | | | |
| C2.2 | 1487. | 4.60 | 1166. | 346. | 346. | 4.30 |
| ROUTED TO | | | | | | |
| 2.2 | 1479. | 4.70 | 1162. | 346. | 346. | 4.30 |
| HYDROGRAPH AT | | | | | | |
| 2.1.3 | 8. | 2.93 | 3. | 1. | 1. | 0.01 |
| ROUTED TO | | | | | | |
| 2.1.3 | 8. | 3.20 | 3. | 1. | 1. | 0.01 |
| HYDROGRAPH AT | | | | | | |
| 2.1.2 | 45. | 4.73 | 32. | 9. | 9. | 0.11 |
| 2 COMBINED AT | | | | | | |
| 2.1.2 | 48. | 4.70 | 35. | 10. | 10. | 0.12 |
| ROUTED TO | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | 2.1.2 | 48. | 4.77 | 35. | 10. | 10. | 0.12 |
| HYDROGRAPH AT | | | | | | | | |
| | | 2.1.1 | 17. | 4.20 | 11. | 3. | 3. | 0.03 |
| HYDROGRAPH AT | | | | | | | | |
| | | 2.1 | 25. | 3.23 | 11. | 3. | 3. | 0.03 |
| 4 COMBINED AT | | | | | | | | |
| | | C2.1 | 1553. | 4.67 | 1218. | 362. | 362. | 4.48 |
| ROUTED TO | | | | | | | | |
| | | R2.1 | 1534. | 4.83 | 1206. | 362. | 362. | 4.48 |
| HYDROGRAPH AT | | | | | | | | |
| | | 2.0 | 48. | 4.30 | 31. | 9. | 9. | 0.09 |
| 2 COMBINED AT | | | | | | | | |
| | | C2.0 | 1579. | 4.83 | 1237. | 371. | 371. | 4.57 |

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) |
| 2.7.8 | MANE | 1.91 | 130.53 | 225.07 | 1.96 | 2.00 | 130.52 | 224.00 | 1.96 |
| CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4356E+02 EXCESS=0.0000E+00 OUTFLOW=0.4356E+02 BASIN STORAGE=0.7061E-03 PERCENT ERROR= 0.0 | | | | | | | | | |
| 2.7.7 | MANE | 2.00 | 137.64 | 226.00 | 1.95 | 2.00 | 137.64 | 226.00 | 1.95 |
| CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4657E+02 EXCESS=0.0000E+00 OUTFLOW=0.4657E+02 BASIN STORAGE=0.5320E-03 PERCENT ERROR= 0.0 | | | | | | | | | |
| 2.7.6 | MANE | 1.49 | 262.07 | 223.99 | 1.95 | 2.00 | 262.07 | 224.00 | 1.95 |
| CONTINUITY SUMMARY (AC-FT) - INFLOW=0.8736E+02 EXCESS=0.0000E+00 OUTFLOW=0.8736E+02 BASIN STORAGE=0.7407E-03 PERCENT ERROR= 0.0 | | | | | | | | | |
| 2.7.5 | MANE | 1.81 | 269.14 | 224.81 | 1.96 | 2.00 | 269.10 | 224.00 | 1.96 |
| CONTINUITY SUMMARY (AC-FT) - INFLOW=0.9037E+02 EXCESS=0.0000E+00 OUTFLOW=0.9037E+02 BASIN STORAGE=0.9202E-03 PERCENT ERROR= 0.0 | | | | | | | | | |
| 2.7.4 | MANE | 2.00 | 277.61 | 230.00 | 1.99 | 2.00 | 277.61 | 230.00 | 1.99 |
| CONTINUITY SUMMARY (AC-FT) - INFLOW=0.9426E+02 EXCESS=0.0000E+00 OUTFLOW=0.9425E+02 BASIN STORAGE=0.4592E-02 PERCENT ERROR= 0.0 | | | | | | | | | |
| 2.7.3 | MANE | 0.81 | 339.99 | 235.46 | 2.08 | 2.00 | 339.95 | 236.00 | 2.08 |
| CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1248E+03 EXCESS=0.0000E+00 OUTFLOW=0.1248E+03 BASIN STORAGE=0.4380E-03 PERCENT ERROR= 0.0 | | | | | | | | | |
| 2.7.2 | MANE | 2.00 | 339.93 | 270.00 | 2.10 | 2.00 | 339.93 | 270.00 | 2.10 |
| CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1279E+03 EXCESS=0.0000E+00 OUTFLOW=0.1275E+03 BASIN STORAGE=0.9676E-02 PERCENT ERROR= 0.3 | | | | | | | | | |
| 2.11 | MANE | 0.39 | 174.53 | 285.66 | 3.43 | 2.00 | 174.52 | 286.00 | 3.43 |
| CONTINUITY SUMMARY (AC-FT) - INFLOW=0.7180E+02 EXCESS=0.0000E+00 OUTFLOW=0.7180E+02 BASIN STORAGE=0.1036E-03 PERCENT ERROR= 0.0 | | | | | | | | | |
| 2.9 | MANE | 2.00 | 522.58 | 290.00 | 3.43 | 2.00 | 522.58 | 290.00 | 3.43 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2154E+03 EXCESS=0.0000E+00 OUTFLOW=0.2154E+03 BASIN STORAGE=0.3567E-02 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.8.1 | MANE | 2.00 | 77.90 | 202.00 | 2.75 | 2.00 | 77.90 | 202.00 | 2.75 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1952E+02 EXCESS=0.0000E+00 OUTFLOW=0.1951E+02 BASIN STORAGE=0.1415E-02 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.8 | MANE | 2.00 | 613.42 | 288.00 | 3.31 | 2.00 | 613.42 | 288.00 | 3.31 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2562E+03 EXCESS=0.0000E+00 OUTFLOW=0.2561E+03 BASIN STORAGE=0.2398E-02 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.7 | MANE | 0.94 | 974.73 | 279.83 | 2.80 | 2.00 | 974.72 | 280.00 | 2.80 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4017E+03 EXCESS=0.0000E+00 OUTFLOW=0.4017E+03 BASIN STORAGE=0.6319E-03 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.6 | MANE | 1.60 | 983.24 | 281.76 | 2.81 | 2.00 | 983.19 | 280.00 | 2.81 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4079E+03 EXCESS=0.0000E+00 OUTFLOW=0.4079E+03 BASIN STORAGE=0.1006E-02 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.5.21 | MANE | 2.00 | 61.33 | 188.00 | 3.49 | 2.00 | 61.33 | 188.00 | 3.49 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1288E+02 EXCESS=0.0000E+00 OUTFLOW=0.1286E+02 BASIN STORAGE=0.4595E-03 PERCENT ERROR= 0.1

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.5.1 | MANE | 2.00 | 202.00 | 188.00 | 3.67 | 2.00 | 202.00 | 188.00 | 3.67 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4646E+02 EXCESS=0.0000E+00 OUTFLOW=0.4644E+02 BASIN STORAGE=0.3649E-03 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.5 | MANE | 1.56 | 1076.47 | 280.07 | 2.89 | 2.00 | 1076.47 | 280.00 | 2.89 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4603E+03 EXCESS=0.0000E+00 OUTFLOW=0.4603E+03 BASIN STORAGE=0.1087E-02 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.45 | MANE | 2.00 | 1099.54 | 282.00 | 2.90 | 2.00 | 1099.54 | 282.00 | 2.90 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4754E+03 EXCESS=0.0000E+00 OUTFLOW=0.4754E+03 BASIN STORAGE=0.2548E-02 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.4 | MANE | 2.00 | 1158.33 | 282.00 | 2.92 | 2.00 | 1158.33 | 282.00 | 2.92 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.5041E+03 EXCESS=0.0000E+00 OUTFLOW=0.5041E+03 BASIN STORAGE=0.2617E-02 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.35 | MANE | 2.00 | 1267.84 | 282.00 | 2.98 | 2.00 | 1267.84 | 282.00 | 2.98 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.5697E+03 EXCESS=0.0000E+00 OUTFLOW=0.5696E+03 BASIN STORAGE=0.2777E-02 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.2.3 | MANE | 2.00 | 13.69 | 168.00 | 2.39 | 2.00 | 13.69 | 168.00 | 2.39 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2297E+01 EXCESS=0.0000E+00 OUTFLOW=0.2297E+01 BASIN STORAGE=0.2790E-03 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.2.1 | MANE | 2.00 | 29.29 | 172.00 | 2.46 | 2.00 | 29.29 | 172.00 | 2.46 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.5117E+01 EXCESS=0.0000E+00 OUTFLOW=0.5117E+01 BASIN STORAGE=0.3617E-03 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.1B | MANE | 1.25 | 63.91 | 169.32 | 2.44 | 2.00 | 63.89 | 170.00 | 2.44 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1118E+02 EXCESS=0.0000E+00 OUTFLOW=0.1117E+02 BASIN STORAGE=0.1134E-03 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.1A | MANE | 2.00 | 61.67 | 174.00 | 2.43 | 2.00 | 61.67 | 174.00 | 2.43 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1117E+02 EXCESS=0.0000E+00 OUTFLOW=0.1117E+02 BASIN STORAGE=0.7367E-03 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.0 | MANE | 2.00 | 85.82 | 176.00 | 2.52 | 2.00 | 85.82 | 176.00 | 2.52 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1711E+02 EXCESS=0.0000E+00 OUTFLOW=0.1708E+02 BASIN STORAGE=0.1104E-02 PERCENT ERROR= 0.1

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.1.2 | MANE | 2.00 | 9.88 | 188.00 | 2.32 | 2.00 | 9.88 | 188.00 | 2.32 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1992E+01 EXCESS=0.0000E+00 OUTFLOW=0.1981E+01 BASIN STORAGE=0.3542E-02 PERCENT ERROR= 0.4

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.1.1 | MANE | 2.00 | 96.79 | 226.00 | 2.87 | 2.00 | 96.79 | 226.00 | 2.87 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2876E+02 EXCESS=0.0000E+00 OUTFLOW=0.2873E+02 BASIN STORAGE=0.3062E-02 PERCENT ERROR= 0.1

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.1 | MANE | 1.54 | 134.60 | 219.57 | 2.73 | 2.00 | 134.59 | 220.00 | 2.73 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4365E+02 EXCESS=0.0000E+00 OUTFLOW=0.4362E+02 BASIN STORAGE=0.1637E-03 PERCENT ERROR= 0.1

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.0 | MANE | 2.00 | 141.30 | 222.00 | 2.74 | 2.00 | 141.30 | 222.00 | 2.74 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4715E+02 EXCESS=0.0000E+00 OUTFLOW=0.4707E+02 BASIN STORAGE=0.4972E-03 PERCENT ERROR= 0.2

```
            2.2.1   MANE         2.00    224.85    182.00      2.77      2.00    224.85    182.00        2.77

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.7256E+02 EXCESS=0.0000E+00 OUTFLOW=0.7254E+02 BASIN STORAGE=0.2704E-03 PERCENT ERROR=   0.0

            2.2     MANE         2.00   1478.85    282.00      2.99      2.00   1478.85    282.00        2.99

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.6851E+03 EXCESS=0.0000E+00 OUTFLOW=0.6848E+03 BASIN STORAGE=0.5068E-02 PERCENT ERROR=   0.0

            2.1.3   MANE         2.00      7.94    192.00      2.47      2.00      7.94    192.00        2.47

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1584E+01 EXCESS=0.0000E+00 OUTFLOW=0.1582E+01 BASIN STORAGE=0.1717E-02 PERCENT ERROR=   0.0

            2.1.2   MANE         2.00     48.09    286.00      3.16      2.00     48.09    286.00        3.16

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2004E+02 EXCESS=0.0000E+00 OUTFLOW=0.2004E+02 BASIN STORAGE=0.3041E-03 PERCENT ERROR=   0.0

            R2.1    MANE         2.00   1534.02    290.00      3.00      2.00   1534.02    290.00        3.00

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.7169E+03 EXCESS=0.0000E+00 OUTFLOW=0.7161E+03 BASIN STORAGE=0.1169E-01 PERCENT ERROR=   0.1


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

HEC1 S/N: 1343001909 HMVersion: 6.33 Data File: C:\TEMP\~vbh376D.TMP

```
*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*               MAY   1991              *
*            VERSION 4.0.1E             *
*                                       *
*  RUN DATE  09/18/2001  TIME  16:54:46 *
*                                       *
*****************************************
```

```
*****************************************
*                                       *
*    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
```

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

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

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

    1         ID  2-Minute Interval
    2         IT       2                    720
    3         IO       5        0

    4         KK  2.7.8
    5         KM  25 Yr
    6         KO                                    22
    7         BA   0.417
    8         PB       5
    9         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
   10         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
   11         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
   12         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
   13         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
   14         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
   15         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
   16         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
   17         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
   18         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
   19         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
   20         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
   21         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
   22         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
   23         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
   24         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
   25         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
   26         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
   27         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
   28         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
   29         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
   30         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
   31         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
   32         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
   33         PC  1.0000 1.00000 1.00000 1.00000 1.00000
   34         LS          73.821
   35         UD   0.810

   36         KK  2.7.8
   37         KM
   38         KO                                    22
   39         RD     530  0.0038    0.035            TRAP       8       1

   40         KK  2.7.7
   41         KM  25 Yr
   42         KO                                    22
   43         BA   0.031
   44         PB       5
   45         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
   46         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
   47         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
   48         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
   49         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
   50         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
   51         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
   52         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
```

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

  53          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  54          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  55          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  56          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  57          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  58          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  59          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  60          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  61          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  62          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  63          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  64          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  65          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  66          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  67          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  68          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  69          PC  1.0000 1.00000 1.00000 1.00000 1.00000
  70          LS         72.009
  71          UD  0.200

  72          KK  2.7.7
  73          KM
  74          KO                                     22
  75          HC       2

  76          KK  2.7.7
  77          KM
  78          KO                                     22
  79          RD    1050  0.0171  0.0358            TRAP       4       1

  80          KK  2.7.6
  81          KM  25 Yr
  82          KO                                     22
  83          BA   0.391
  84          PB       5
  85          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  86          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  87          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  88          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  89          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  90          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  91          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  92          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  93          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  94          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  95          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  96          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  97          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  98          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  99          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
 100          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
 101          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
 102          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
 103          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
 104          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
```

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

  105         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  106         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  107         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  108         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  109         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  110         LS          73.791
  111         UD   0.764

  112         KK  2.7.6
  113         KM
  114         KO                                    22
  115         HC        2

  116         KK  2.7.6
  117         KM
  118         KO                                    22
  119         RD      500     0.02     0.08            TRAP       12        1

  120         KK  2.7.5
  121         KM  25 Yr
  122         KO                                    22
  123         BA   0.025
  124         PB         5
  125         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  126         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  127         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  128         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  129         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  130         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  131         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  132         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  133         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  134         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  135         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  136         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  137         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  138         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  139         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  140         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  141         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  142         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  143         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  144         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  145         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  146         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  147         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  148         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  149         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  150         LS          77.586
  151         UD   0.235
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  152         KK  2.7.5
  153         KM
  154         KO                                    22
  155         HC       2

  156         KK  2.7.5
  157         KM
  158         KO                                    22
  159         RD     550  0.0145    0.08           TRAP      12       1

  160         KK  2.7.4
  161         KM  25 Yr
  162         KO                                    22
  163         BA   0.026
  164         PB       5
  165         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  166         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  167         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  168         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  169         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  170         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  171         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  172         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  173         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  174         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  175         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  176         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  177         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  178         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  179         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  180         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  181         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  182         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  183         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  184         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  185         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  186         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  187         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  188         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  189         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  190         LS          83.861
  191         UD   0.261

  192         KK  2.7.4
  193         KM
  194         KO                                    22
  195         HC       2

  196         KK  2.7.4
  197         KM
  198         KO                                    22
  199         RD    1600  0.0063    0.08           TRAP      12       1
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  200         KK  2.7.3
  201         KM  25 Yr
  202         KO                                    22
  203         BA   0.233
  204         PB       5
  205         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  206         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  207         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  208         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  209         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  210         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  211         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  212         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  213         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  214         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  215         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  216         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  217         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  218         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  219         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  220         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  221         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  222         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  223         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  224         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  225         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  226         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  227         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  228         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  229         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  230         LS          80.007
  231         UD   1.455

  232         KK  2.7.3
  233         KM
  234         KO                                    22
  235         HC       2

  236         KK  2.7.3
  237         KM
  238         KO                                    22
  239         RD     300  0.0067   0.045            TRAP      12        1

  240         KK  2.7.2
  241         KM  25 Yr
  242         KO                                    22
  243         BA   0.017
  244         PB       5
  245         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  246         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  247         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  248         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  249         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  250         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  251         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  252         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  253         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  254         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  255         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  256         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  257         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  258         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  259         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  260         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  261         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  262         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  263         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  264         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  265         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  266         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  267         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  268         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  269         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  270         LS          89.275
  271         UD   0.125

  272         KK  2.7.2
  273         KM
  274         KO                                      22
  275         HC       2

  276         KK  2.7.2
  277         KM
  278         KO                                      22
  279         RD    9 00  0.0075    0.08            DEEP      12

  280         KK  2.11
  281         KM  25 Yr
  282         KO                                      22
  283         BA  0.3923
  284         PB       5
  285         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  286         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  287         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  288         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  289         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  290         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  291         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  292         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  293         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  294         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  295         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  296         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  297         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  298         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  299         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  300         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  301         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  302         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
```

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

  303         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  304         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  305         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  306         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  307         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  308         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  309         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  310         LS          90.354
  311         UD   1.777

  312         KK  2.11
  313         KM
  314         KO                                    22
  315         RD     100   0.005   0.045            TRAP       6       2

  316         KK  2.10
  317         KM  25 Yr
  318         KO                                    22
  319         BA  0.3923
  320         PB       5
  321         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  322         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  323         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  324         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  325         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  326         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  327         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  328         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  329         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  330         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  331         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  332         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  333         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  334         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  335         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  336         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  337         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  338         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  339         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  340         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  341         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  342         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  343         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  344         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  345         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  346         LS          90.354
  347         UD   1.777

  348         KK  2.10
  349         KM
  350         KO                                    22
  351         HC       2
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  353         KM  25 Yr
  354         KO                                  22
  355         BA  0.3923
  356         PB       5
  357         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  358         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  359         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  360         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  361         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  362         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  363         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  364         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  365         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  366         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  367         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  368         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  369         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  370         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  371         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  372         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  373         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  374         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  375         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  376         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  377         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  378         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  379         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  380         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  381         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  382         LS          90.354
  383         UD   1.777

  384         KK  2.9
  385         KM
  386         KO                                  22
  387         HC       2

  388         KK  2.9
  389         KM
  390         KO                                  22
  391         RD    1500  0.0013   0.035          TRAP      12       2

  392         KK  2.8.1
  393         KM  25 Yr
  394         KO                                  22
  395         BA   0.133
  396         PB       5
  397         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  398         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  399         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  400         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  401         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  402         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  403     PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  404     PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  405     PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  406     PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  407     PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  408     PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  409     PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  410     PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  411     PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  412     PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  413     PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  414     PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  415     PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  416     PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  417     PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  418     PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  419     PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  420     PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  421     PC  1.0000 1.00000 1.00000 1.00000 1.00000
  422     LS          83.286
  423     UD   0.562

  424     KK  2.8.1
  425     KM
  426     KO                                      22
  427     RD     900  0.0022     0.04            TRAP       8     1.5

  428     KK  2.8
  429     KM  25 Yr
  430     KO                                      22
  431     BA   0.141
  432     PB       5
  433     PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  434     PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  435     PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  436     PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  437     PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  438     PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  439     PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  440     PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  441     PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  442     PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  443     PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  444     PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  445     PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  446     PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  447     PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  448     PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  449     PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  450     PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  451     PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  452     PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  453     PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  454     PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  455     PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  456         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  457         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  458         LS          84.160
  459         UD   1.386

  460         KK  2.8
  461         KM
  462         KO                                    22
  463         HC       3

  464         KK  2.8
  465         KM
  466         KO                                    22
  467         RD    1550  0.0026   0.035            TRAP      12        2

  468         KK  2.7.1
  469         KM  25 Yr
  470         KO                                    22
  471         BA   0.008
  472         PB       5
  473         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  474         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  475         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  476         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  477         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  478         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  479         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  480         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  481         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  482         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  483         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  484         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  485         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  486         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  487         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  488         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  489         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  490         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  491         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  492         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  493         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  494         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  495         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  496         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  497         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  498         LS          93.395
  499         UD   0.213

  500         KK  2.7
  501         KM  25 Yr
  502         KO                                    22
  503         BA   0.094
  504         PB       5
  505         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  506         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  507         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  508         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  509         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  510         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  511         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  512         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  513         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  514         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  515         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  516         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  517         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  518         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  519         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  520         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  521         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  522         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  523         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  524         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  525         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  526         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  527         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  528         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  529         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  530         LS          88.901
  531         UD   0.223

  532         KK  2.7
  533         KM
  534         KO                                      22
  535         HC       4

  536         KK  2.7
  537         KM
  538         KO                                      22
  539         RD     250   0.004    0.08             TRAP      12        2

  540         KK  2.6
  541         KM  25 Yr
  542         KO                                      22
  543         BA   0.031
  544         PB       5
  545         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  546         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  547         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  548         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  549         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  550         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  551         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  552         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  553         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  554         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  555         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  556         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  557         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  558         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  559         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  560         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  561         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  562         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  563         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  564         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  565         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  566         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  567         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  568         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  569         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  570         LS          93.815
  571         UD   0.105

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  574         KO                                      22
  575         HC       2

  576         KK  2.6
  577         KM
  578         KO                                      22
  579         RD     500   0.002   0.045            TRAP      12       2

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  581         KM  25 Yr
  582         KO                                      22
  583         BA   0.069
  584         PB       5
  585         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  586         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  587         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  588         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  589         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  590         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  591         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  592         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  593         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  594         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  595         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  596         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  597         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  598         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  599         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  600         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  601         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  602         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  603         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  604         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  605         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  606         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  607         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  608         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  609         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  610         LS          91.012
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  612         KK  2.5.21
  613         KM
  614         KO                                    22
  615         RD    1350  0.0015   0.016            CIRC       4

  616         KK  2.5.2
  617         KM  25 Yr
  618         KO                                    22
  619         BA   0.036
  620         PB       5
  621         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  622         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  623         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  624         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  625         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  626         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  627         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  628         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  629         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  630         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  631         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  632         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  633         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  634         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  635         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  636         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  637         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  638         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  639         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  640         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  641         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  642         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  643         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  644         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  645         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  646         LS          92.385
  647         UD   1.171

  648         KK  2.5.1
  649         KM  25 Yr
  650         KO                                    22
  651         BA    .132
  652         PB       5
  653         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  654         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  655         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  656         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  657         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  658         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  659         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  660         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  661         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  662         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  663         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  664         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  665         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  666         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  667         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  668         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  669         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  670         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  671         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  672         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  673         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  674         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  675         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  676         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  677         PC  1.0000 1.00000 1.00000 1.00000 1.00000
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  679         UD   0.401

  680         KK  2.5.1
  681         KM
  682         KO                                    22
  683         HC       3

  684         KK  2.5.1
  685         KM
  686         KO                                    22
  687         RD    1500    0.002    0.016            CIRC    7.77

  688         KK  2.5
  689         KM  25 Yr
  690         KO                                    22
  691         BA   0.029
  692         PB       5
  693         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  694         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  695         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  696         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  697         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  698         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  699         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  700         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  701         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  702         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  703         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  704         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  705         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  706         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  707         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  708         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  709         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  710         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  711         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  712         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  713         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  714         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  715         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  716         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  717         PC  1.0000 1.00000 1.00000 1.00000 1.00000
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  719         UD   0.684

  720         KK  2.5
  721         KM
  722         KO                                  22
  723         HC       3

  724         KK  2.5
  725         KM
  726         KO                                  22
  727         RD     500   0.002   0.045            TRAP      12       2

  728         KK  2.45
  729         KM  25 Yr
  730         KO                                  22
  731         BA   0.084
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  734         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  735         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  736         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  737         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  738         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  739         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  740         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  741         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  742         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  743         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  744         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  745         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  746         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  747         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  748         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  749         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  750         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  751         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  752         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  753         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  754         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  755         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  756         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  757         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  758         LS         89.804
  759         UD   0.170

  760         KK  2.45
  761         KM
  762         KO                                  22
  763         HC       2
```

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

  764         KK  2.45
  765         KM
  766         KO                                    22
  767         RD    1300  0.0023   0.045           TRAP      12       2

  768         KK  2.4
  769         KM  25 Yr
  770         KO                                    22
  771         BA    .161
  772         PB       5
  773         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  774         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  775         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  776         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  777         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  778         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  779         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  780         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  781         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  782         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  783         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  784         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  785         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  786         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  787         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  788         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  789         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  790         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  791         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  792         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  793         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  794         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  795         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  796         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  797         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  798         LS          89.534
  799         UD   0.753

  800         KK  2.4
  801         KM
  802         KO                                    22
  803         HC       2

  804         KK  2.4
  805         KM
  806         KO                                    22
  807         RD    1400   0.004   0.045           TRAP      12       2

  808         KK  2.35
  809         KM  25 Yr
  810         KO                                    22
  811         BA   0.355
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  813         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  814         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  815         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  816         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  817         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  818         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  819         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  820         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  821         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  822         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  823         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  824         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  825         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  826         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  827         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  828         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  829         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  830         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  831         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  832         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  833         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  834         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  835         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  836         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  837         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  838         LS        90.691
  839         UD   0.489

  840         KK  2.35
  841         KM
  842         KO                                    22
  843         HC       2

  844         KK  2.35
  845         KM
  846         KO                                    22
  847         RD    1050    0.001    0.045             TRAP      12        2

  848         KK  2.3
  849         KM  25 Yr
  850         KO                                    22
  851         BA     .202
  852         PB        5
  853         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  854         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  855         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  856         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  857         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  858         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  859         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  860         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  861         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  862         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  863         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  864         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  865         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
```

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

  866         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  867         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  868         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  869         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  870         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  871         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  872         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  873         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  874         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  875         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  876         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  877         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  878         LS          92.787
  879         UD   0.414

  880         KK  C2.3
  881         KM
  882         KO                                    22
  883         HC       2

  884         KK  4.2.31
  885         KM  25 Yr
  886         KO                                    22
  887         BA    0.01
  888         PB       5
  889         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  890         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  891         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  892         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  893         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  894         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  895         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  896         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  897         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  898         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  899         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  900         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  901         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  902         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  903         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  904         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  905         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  906         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  907         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  908         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  909         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  910         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  911         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  912         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
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  914         LS          78.500
  915         UD   0.205
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  916         KK  4.2.3
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  918         KO                                22
  919         BA   0.008
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  921         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  922         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  923         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  924         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  925         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  926         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  927         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  928         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  929         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  930         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  931         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  932         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  933         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  934         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  935         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  936         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  937         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  938         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  939         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  940         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  941         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  942         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  943         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  944         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  945         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  946         LS         80.055
  947         UD     0.1

  948         KK  4.2.3
  949         KM
  950         KO                                22
  951         HC       2

  952         KK  4.2.3
  953         KM
  954         KO                                22
  955         RD     450    0.01    0.05            TRAP       1       1

  956         KK  4.2.2
  957         KM  25 Yr
  958         KO                                22
  959         BA   0.017
  960         PB       5
  961         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  962         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  963         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  964         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  965         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  966         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
```

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

 967          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
 968          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
 969          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
 970          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
 971          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
 972          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
 973          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
 974          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
 975          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
 976          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
 977          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
 978          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
 979          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
 980          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
 981          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
 982          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
 983          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
 984          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
 985          PC  1.0000 1.00000 1.00000 1.00000 1.00000
 986          LS        80.012
 987          UD   0.242

 988          KK  4.2.1
 989          KM  25 Yr
 990          KO                                  22
 991          BA   0.022
 992          PB       5
 993          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
 994          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
 995          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
 996          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
 997          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
 998          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
 999          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1000          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1001          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1002          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1003          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1004          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1005          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1006          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1007          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1008          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1009          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1010          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1011          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1012          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1013          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1014          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1015          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1016          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1017          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1018          LS        79.963
1019          UD   0.181
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1020          KK  4.2.1
1021          KM
1022          KO                                    22
1023          HC       2

1024          KK  4.2.1
1025          KM
1026          KO                                    22
1027          RD     500   0.008    0.05            TRAP       1       1

1028          KK  4.2
1029          KM  25 Yr
1030          KO                                    22
1031          BA   0.014
1032          PB       5
1033          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1034          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1035          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1036          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1037          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1038          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1039          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1040          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1041          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1042          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1043          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1044          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1045          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1046          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1047          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1048          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1049          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1050          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1051          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1052          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1053          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1054          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1055          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1056          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1057          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1058          LS          80.861
1059          UD    0.10

1060          KK  4.1
1061          KM  25 Yr
1062          KO                                    22
1063          BA   0.015
1064          PB       5
1065          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1066          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1067          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1068          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1069          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1070          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1071          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1072          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1073          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1074          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1075          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1076          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1077          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1078          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1079          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1080          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1081          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1082          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1083          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1084          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1085          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1086          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1087          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1088          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1089          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1090          LS          78.503
1091          UD   0.155

1092          KK  4.1
1093          KM
1094          KO                                    22
1095          HC       4

1096          KK  4.1B
1097          KM
1098          KO                                    22
1099          RD     650  0.0062   0.016            CIRC       3

1100          KK  4.1A
1101          KM
1102          KO                                    22
1103          RD     750  0.0027    0.04            TRAP     1.5       1

1104          KK  4.0
1105          KM  25 Yr
1106          KO                                    22
1107          BA   0.041
1108          PB       5
1109          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1110          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1111          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1112          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1113          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1114          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1115          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1116          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1117          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1118          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1119          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1120          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1121          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1122          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1123          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1124          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1125          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1126          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1127          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1128          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1129          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1130          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1131          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1132          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1133          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1134          LS          82.889
1135          UD     0.1

1136          KK  4.0
1137          KM
1138          KO                                    22
1139          HC       2

1140          KK  4.0
1141          KM
1142          KO                                    22
1143          RD     900  0.0022    0.06            TRAP       2     1.5

1144          KK  5.1.2
1145          KM  25 Yr
1146          KO                                    22
1147          BA   0.016
1148          PB       5
1149          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1150          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1151          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1152          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1153          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1154          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1155          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1156          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1157          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1158          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1159          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1160          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1161          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1162          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1163          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1164          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1165          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1166          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1167          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1168          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1169          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1170          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1171          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1172          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1173          PC  1.0000 1.00000 1.00000 1.00000 1.00000
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1174          LS          78.50
1175          UD   0.161

1176          KK  5.1.2
1177          KM
1178          KO                                    22
1179          RD    2000    0.002    0.045           TRAP       4       1

1180          KK  5.1.1
1181          KM  25 Yr
1182          KO                                    22
1183          BA   0.188
1184          PB       5
1185          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1186          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1187          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1188          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1189          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1190          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1191          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1192          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1193          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1194          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1195          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1196          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1197          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1198          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1199          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1200          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1201          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1202          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1203          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1204          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1205          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1206          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1207          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1208          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1209          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1210          LS          84.557
1211          UD   0.823

1212          KK  5.1.1
1213          KM
1214          KO                                    22
1215          RD    2000    0.002    0.045           TRAP       4       1

1216          KK  5.1
1217          KM  25 Yr
1218          KO                                    22
1219          BA   0.096
1220          PB       5
1221          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1222          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1223          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1224          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1225          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1226          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1227          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1228          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1229          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1230          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1231          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1232          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1233          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1234          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1235          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1236          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1237          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1238          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1239          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1240          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1241          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1242          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1243          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1244          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1245          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1246          LS          80.772
1247          UD   0.312

1248          KK  5.1
1249          KM
1250          KO                                      22
1251          HC       3

1252          KK  5.1
1253          KM
1254          KO                                       22
1255          RD     480    0.001    0.016             CIRC      5.0

1256          KK  5.0
1257          KM  25 Yr
1258          KO                                      22
1259          BA   0.022
1260          PB       5
1261          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1262          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1263          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1264          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1265          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1266          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1267          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1268          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1269          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1270          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1271          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1272          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1273          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1274          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1275          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1276          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
```

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

1277          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1278          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1279          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1280          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1281          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1282          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1283          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1284          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1285          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1286          LS          86.06
1287          UD   0.126

1288          KK  5.0
1289          KM
1290          KO                                    22
1291          HC       2

1292          KK  5.0
1293          KM
1294          KO                                    22
1295          RD    1150  0.0009   0.016           CIRC     5.5

1296          KK  2.2.1
1297          KM  25 Yr
1298          KO                                    22
1299          BA   0.042
1300          PB       5
1301          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1302          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1303          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1304          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1305          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1306          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1307          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1308          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1309          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1310          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1311          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1312          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1313          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1314          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1315          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1316          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1317          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1318          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1319          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1320          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1321          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1322          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1323          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1324          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1325          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1326          LS          93.408
1327          UD     0.1
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1328          KK  2.2.1
1329          KM
1330          KO                                    22
1331          HC       3

1332          KK  2.2.1
1333          KM
1334          KO                                    22
1335          RD    1050  0.0019   0.016            CIRC       7

1336          KK  2.2
1337          KM  25 Yr
1338          KO                                    22
1339          BA   0.017
1340          PB       5
1341          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1342          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1343          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1344          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1345          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1346          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1347          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1348          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1349          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1350          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1351          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1352          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1353          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1354          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1355          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1356          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1357          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1358          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1359          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1360          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1361          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1362          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1363          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1364          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1365          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1366          LS         92.112
1367          UD     0.2

1368          KK  C2.2
1369          KM
1370          KO                                    22
1371          HC       3

1372          KK  2.2
1373          KM
1374          KO                                    22
1375          RD    1050   0.001    0.08            TRAP      20       2
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1376          KK  2.1.3
1377          KM  25 Yr
1378          KO                                22
1379          BA   0.012
1380          PB       5
1381          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1382          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1383          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1384          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1385          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1386          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1387          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1388          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1389          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1390          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1391          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1392          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1393          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1394          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1395          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1396          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1397          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1398          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1399          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1400          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1401          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1402          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1403          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1404          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1405          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1406          LS          80.152
1407          UD    .269

1408          KK  2.1.3
1409          KM
1410          KO                                22
1411          RD    1700  0.0059    0.08             TRAP       1       1

1412          KK  2.1.2
1413          KM  25 Yr
1414          KO                                22
1415          BA   0.107
1416          PB       5
1417          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1418          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1419          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1420          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1421          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1422          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1423          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1424          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1425          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1426          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1427          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1428          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1429          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1430          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1431          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1432          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1433          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1434          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1435          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1436          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1437          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1438          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1439          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1440          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1441          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1442          LS          88.395
1443          UD   1.722

1444          KK  2.1.2
1445          KM
1446          KO                                      22
1447          HC        2

1448          KK  2.1.2
1449          KM
1450          KO                                      22
1451          RD      950  0.0011    0.016            CIRC        5

1452          KK  2.1.1
1453          KM  25 Yr
1454          KO                                      22
1455          BA   0.032
1456          PB         5
1457          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1458          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1459          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1460          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1461          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1462          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1463          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1464          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1465          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1466          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1467          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1468          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1469          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1470          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1471          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1472          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1473          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1474          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1475          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1476          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1477          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1478          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1479          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
```

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

1480          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1481          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1482          LS          91.588
1483          UD    1.38

1484          KK  2.1
1485          KM  25 Yr
1486          KO                                    22
1487          BA     .03
1488          PB       5
1489          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1490          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1491          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1492          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1493          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1494          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1495          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1496          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1497          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1498          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1499          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1500          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1501          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1502          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1503          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1504          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1505          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1506          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1507          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1508          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1509          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1510          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1511          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1512          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1513          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1514          LS          93.232
1515          UD    .572

1516          KK  C2.1
1517          KM
1518          KO                                    22
1519          HC       4

1520          KK  R2.1
1521          KM
1522          KO                                    22
1523          RD    2250    .0009     .08            TRAP      20       2

1524          KK  2.0
1525          KM  Type IA Rainfall Simulation - 25 Yr
1526          KO                                    22
1527          BA     .09
1528          PB       5
1529          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1530          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
```

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

1531          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1532          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1533          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1534          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1535          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1536          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1537          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1538          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1539          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1540          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1541          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1542          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1543          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1544          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1545          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1546          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1547          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1548          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1549          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1550          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1551          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1552          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1553          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1554          LS          93.11
1555          UD   1.472

1556          KK  C2.0
1557          KM
1558          KO                                      22
1559          HC       2
1560          ZZ
```

HEC1 S/N: 1343001909 HMVersion: 6.33 Data File: C:\TEMP\~vbh376D.TMP

```
*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*               MAY   1991              *
*            VERSION 4.0.1E             *
*                                       *
*  RUN DATE  09/18/2001  TIME  16:54:46 *
*                                       *
*****************************************
```

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

2-Minute Interval

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

    IT          HYDROGRAPH TIME DATA
                       NMIN           2  MINUTES IN COMPUTATION INTERVAL
                      IDATE      1    0  STARTING DATE
                      ITIME        0000  STARTING TIME
                         NQ         720  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE      1    0  ENDING DATE
                     NDTIME        2358  ENDING TIME
                      ICENT          19  CENTURY MARK

                  COMPUTATION INTERVAL     0.03 HOURS
                       TOTAL TIME BASE    23.97 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


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


          **************
          *            *
  4 KK    *    2.7.8   *
          *            *
          **************

  6 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
```

| | | | |
|---|---|---|---|
| | QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| | IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| | IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| | ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| | ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| | TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
 36 KK    *    2.7.8   *
          *            *
          **************
```

OUTPUT CONTROL VARIABLES

| | | | |
|---|---|---|---|
| 38 KO | IPRNT | 5 | PRINT CONTROL |
| | IPLOT | 0 | PLOT CONTROL |
| | QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| | IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| | IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| | ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| | ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| | TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
 40 KK    *    2.7.7   *
          *            *
          **************
```

OUTPUT CONTROL VARIABLES

| | | | |
|---|---|---|---|
| 42 KO | IPRNT | 5 | PRINT CONTROL |
| | IPLOT | 0 | PLOT CONTROL |
| | QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| | IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| | IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| | ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| | ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| | TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
```

```
 72 KK      *    2.7.7   *
            *            *
            **************

 74 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS


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


            **************
            *            *
 76 KK      *    2.7.7   *
            *            *
            **************

 78 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS


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


            **************
            *            *
 80 KK      *    2.7.6   *
            *            *
            **************

 82 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
 112 KK   *    2.7.6   *
          *            *
          **************

 114 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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

          **************
          *            *
 116 KK   *    2.7.6   *
          *            *
          **************

 118 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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

          **************
          *            *
 120 KK   *    2.7.5   *
          *            *
          **************

 122 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
```

```
                    IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                     IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                    ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                    ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                   TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
152 KK    *    2.7.5   *
          *            *
          **************

154 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
156 KK    *    2.7.5   *
          *            *
          **************

158 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
160 KK    *    2.7.4   *
```

```
                *              *
                ***************

 162 KO           OUTPUT CONTROL VARIABLES
                        IPRNT           5  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE
                        IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                         IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                        ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                        ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                       TIMINT       0.033  TIME INTERVAL IN HOURS



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


                ***************
                *              *
 192 KK         *    2.7.4     *
                *              *
                ***************

 194 KO           OUTPUT CONTROL VARIABLES
                        IPRNT           5  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE
                        IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                         IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                        ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                        ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                       TIMINT       0.033  TIME INTERVAL IN HOURS



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


                ***************
                *              *
 196 KK         *    2.7.4     *
                *              *
                ***************

 198 KO           OUTPUT CONTROL VARIABLES
                        IPRNT           5  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE
                        IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                         IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                        ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                        ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                       TIMINT       0.033  TIME INTERVAL IN HOURS
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
200 KK    *    2.7.3   *
          *            *
          **************

202 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
232 KK    *    2.7.3   *
          *            *
          **************

234 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
236 KK    *    2.7.3   *
          *            *
          **************

238 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
```

```
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
240 KK    *    2.7.2   *
          *            *
          **************

242 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
272 KK    *    2.7.2   *
          *            *
          **************

274 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
276 KK    *    2.7.2   *
          *            *
```

```
          **************

 278 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
 280 KK   *    2.11    *
          *            *
          **************

 282 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
 312 KK   *    2.11    *
          *            *
          **************

 314 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
316 KK    *    2.10    *
          *            *
          **************

318 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
348 KK    *    2.10    *
          *            *
          **************

350 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
352 KK    *    2.9     *
          *            *
          **************

354 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
```

| | | |
|---|---|---|
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
384 KK    *    2.9     *
          *            *
          **************
```

386 KO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
388 KK    *    2.9     *
          *            *
          **************
```

390 KO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
392 KK    *    2.8.1   *
          *            *
          **************
```

```
 394 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
 424 KK   *    2.8.1   *
          *            *
          **************

 426 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
 428 KK   *    2.8     *
          *            *
          **************

 430 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
```

```
          **************
          *            *
460 KK    *    2.8     *
          *            *
          **************

462 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
464 KK    *    2.8     *
          *            *
          **************

466 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
468 KK    *    2.7.1   *
          *            *
          **************

470 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
```

```
                     ISAV2          720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT        0.033  TIME INTERVAL IN HOURS


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


           **************
           *            *
 500 KK    *    2.7     *
           *            *
           **************

 502 KO          OUTPUT CONTROL VARIABLES
                      IPRNT            5  PRINT CONTROL
                      IPLOT            0  PLOT CONTROL
                      QSCAL           0.  HYDROGRAPH PLOT SCALE
                      IPNCH            0  PUNCH COMPUTED HYDROGRAPH
                       IOUT           22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1            1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2          720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT        0.033  TIME INTERVAL IN HOURS


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


           **************
           *            *
 532 KK    *    2.7     *
           *            *
           **************

 534 KO          OUTPUT CONTROL VARIABLES
                      IPRNT            5  PRINT CONTROL
                      IPLOT            0  PLOT CONTROL
                      QSCAL           0.  HYDROGRAPH PLOT SCALE
                      IPNCH            0  PUNCH COMPUTED HYDROGRAPH
                       IOUT           22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1            1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2          720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT        0.033  TIME INTERVAL IN HOURS


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


           **************
           *            *
 536 KK    *    2.7     *
           *            *
           **************
```

```
 538 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
 540 KK   *    2.6     *
          *            *
          **************

 542 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
 572 KK   *    2.6     *
          *            *
          **************

 574 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
```

```
          **************
          *            *
576 KK    *    2.6     *
          *            *
          **************

578 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
580 KK    *    2.5.21  *
          *            *
          **************

582 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
612 KK    *    2.5.21  *
          *            *
          **************

614 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
```

```
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
 616 KK   *    2.5.2   *
          *            *
          **************

 618 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
 648 KK   *    2.5.1   *
          *            *
          **************

 650 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
 680 KK   *    2.5.1   *
          *            *
          **************

 682 KO          OUTPUT CONTROL VARIABLES
```

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
684 KK    *    2.5.1   *
          *            *
          **************
```

686 KO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
688 KK    *    2.5     *
          *            *
          **************
```

690 KO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
            **************
            *            *
 720 KK     *    2.5     *
            *            *
            **************

 722 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS


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


            **************
            *            *
 724 KK     *    2.5     *
            *            *
            **************

 726 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS


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


            **************
            *            *
 728 KK     *    2.45    *
            *            *
            **************

 730 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
760 KK    *    2.45    *
          *            *
          **************

762 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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

          **************
          *            *
764 KK    *    2.45    *
          *            *
          **************

766 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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

          **************
          *            *
768 KK    *    2.4     *
          *            *
          **************

770 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
```

```
                    IPLOT           0  PLOT CONTROL
                    QSCAL          0.  HYDROGRAPH PLOT SCALE
                    IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                     IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                    ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                    ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                   TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
800 KK    *    2.4     *
          *            *
          **************

802 KO          OUTPUT CONTROL VARIABLES
                    IPRNT           5  PRINT CONTROL
                    IPLOT           0  PLOT CONTROL
                    QSCAL          0.  HYDROGRAPH PLOT SCALE
                    IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                     IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                    ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                    ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                   TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
804 KK    *    2.4     *
          *            *
          **************

806 KO          OUTPUT CONTROL VARIABLES
                    IPRNT           5  PRINT CONTROL
                    IPLOT           0  PLOT CONTROL
                    QSCAL          0.  HYDROGRAPH PLOT SCALE
                    IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                     IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                    ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                    ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                   TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
```

```
            *              *
 808 KK     *    2.35      *
            *              *
            ***************

 810 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


            ***************
            *              *
 840 KK     *    2.35      *
            *              *
            ***************

 842 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


            ***************
            *              *
 844 KK     *    2.35      *
            *              *
            ***************

 846 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
 848 KK   *    2.3     *
          *            *
          **************

 850 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
 880 KK   *    C2.3    *
          *            *
          **************

 882 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
 884 KK   *    4.2.31  *
          *            *
          **************

 886 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
```

| | | |
|---|---|---|
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

916 KK

**********
*  *
*  4.2.3  *
*  *
**********

918 KO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

948 KK

**********
*  *
*  4.2.3  *
*  *
**********

950 KO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

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

```
952 KK      *    4.2.3   *
            *            *
            **************

954 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


            **************
            *            *
956 KK      *    4.2.2   *
            *            *
            **************

958 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


            **************
            *            *
988 KK      *    4.2.1   *
            *            *
            **************

990 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
1020 KK   *    4.2.1   *
          *            *
          **************

1022 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
1024 KK   *    4.2.1   *
          *            *
          **************

1026 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
1028 KK   *    4.2     *
          *            *
          **************

1030 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
```

| | | |
|---|---|---|
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
1060 KK   *    4.1     *
          *            *
          **************
```

1062 KO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
1092 KK   *    4.1     *
          *            *
          **************
```

1094 KO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
1096 KK   *    4.1B    *
```

```
            *             *
            ***************

1098 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


            ***************
            *             *
1100 KK     *    4.1A     *
            *             *
            ***************

1102 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


            ***************
            *             *
1104 KK     *    4.0      *
            *             *
            ***************

1106 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
1136 KK     *    4.0     *
            *            *
            **************

1138 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


            **************
            *            *
1140 KK     *    4.0     *
            *            *
            **************

1142 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


            **************
            *            *
1144 KK     *    5.1.2   *
            *            *
            **************

1146 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
```

```
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
1176 KK   *    5.1.2   *
          *            *
          **************

1178 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
1180 KK   *    5.1.1   *
          *            *
          **************

1182 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
1212 KK   *    5.1.1   *
          *            *
```

```
          **************

1214 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
1216 KK   *    5.1     *
          *            *
          **************

1218 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
1248 KK   *    5.1     *
          *            *
          **************

1250 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
1252 KK   *    5.1     *
          *            *
          **************

1254 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
1256 KK   *    5.0     *
          *            *
          **************

1258 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
1288 KK   *    5.0     *
          *            *
          **************

1290 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
```

```
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


           **************
           *            *
1292 KK    *    5.0     *
           *            *
           **************

1294 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


           **************
           *            *
1296 KK    *    2.2.1   *
           *            *
           **************

1298 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


           **************
           *            *
1328 KK    *    2.2.1   *
           *            *
           **************
```

```
1330 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS


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


           **************
           *            *
1332 KK    *    2.2.1   *
           *            *
           **************

1334 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS


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


           **************
           *            *
1336 KK    *    2.2     *
           *            *
           **************

1338 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
```

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            **************
            *            *
1368 KK     *    C2.2    *
            *            *
            **************

1370 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


            **************
            *            *
1372 KK     *    2.2     *
            *            *
            **************

1374 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


            **************
            *            *
1376 KK     *    2.1.3   *
            *            *
            **************

1378 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
```

```
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
1408 KK   *    2.1.3   *
          *            *
          **************

1410 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
1412 KK   *    2.1.2   *
          *            *
          **************

1414 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
1444 KK   *    2.1.2   *
          *            *
          **************
```

```
1446 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


           **************
           *            *
1448 KK    *    2.1.2   *
           *            *
           **************

1450 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


           **************
           *            *
1452 KK    *    2.1.1   *
           *            *
           **************

1454 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
```

```
          **************
          *            *
1484 KK   *    2.1     *
          *            *
          **************

1486 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
1516 KK   *    C2.1    *
          *            *
          **************

1518 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
1520 KK   *    R2.1    *
          *            *
          **************

1522 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
```

```
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


           **************
           *            *
1524 KK    *    2.0     *
           *            *
           **************

1526 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


           **************
           *            *
1556 KK    *    C2.0    *
           *            *
           **************

1558 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS
```

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

| OPERATION | STATION | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD | | | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|
| 6-HOUR 24-HOUR | 72-HOUR | | | | | | | | |
| HYDROGRAPH AT | 2.7.8 | 162. | 3.70 | 100. | 26. | 26. | 0.42 | | |
| ROUTED TO | 2.7.8 | 161. | 3.70 | 100. | 26. | 26. | 0.42 | | |
| HYDROGRAPH AT | 2.7.7 | 19. | 2.83 | 7. | 2. | 2. | 0.03 | | |
| 2 COMBINED AT | 2.7.7 | 170. | 3.70 | 107. | 28. | 28. | 0.45 | | |
| ROUTED TO | 2.7.7 | 170. | 3.73 | 107. | 28. | 28. | 0.45 | | |
| HYDROGRAPH AT | 2.7.6 | 155. | 3.63 | 94. | 25. | 25. | 0.39 | | |
| 2 COMBINED AT | 2.7.6 | 324. | 3.67 | 201. | 53. | 53. | 0.84 | | |
| ROUTED TO | 2.7.6 | 324. | 3.70 | 201. | 53. | 53. | 0.84 | | |
| HYDROGRAPH AT | 2.7.5 | 20. | 2.87 | 7. | 2. | 2. | 0.03 | | |
| 2 COMBINED AT | 2.7.5 | 333. | 3.67 | 207. | 55. | 55. | 0.86 | | |
| ROUTED TO | 2.7.5 | 333. | 3.70 | 207. | 55. | 55. | 0.86 | | |
| HYDROGRAPH AT | 2.7.4 | 26. | 2.90 | 9. | 2. | 2. | 0.03 | | |
| 2 COMBINED AT | 2.7.4 | 343. | 3.70 | 215. | 57. | 57. | 0.89 | | |
| ROUTED TO | 2.7.4 | 343. | 3.77 | 215. | 57. | 57. | 0.89 | | |
| HYDROGRAPH AT | 2.7.3 | 91. | 4.53 | 65. | 18. | 18. | 0.23 | | |
| 2 COMBINED AT | 2.7.3 | 417. | 3.87 | 279. | 75. | 75. | 1.12 | | |
| ROUTED TO | 2.7.3 | 416. | 3.87 | 279. | 75. | 75. | 1.12 | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| HYDROGRAPH AT | | | | | | |
| 2.7.2 | 26. | 2.73 | 6. | 2. | 2. | 0.02 |
| 2 COMBINED AT | | | | | | |
| 2.7.2 | 423. | 3.87 | 283. | 77. | 77. | 1.14 |
| ROUTED TO | | | | | | |
| 2.7.2 | 415. | 4.40 | 282. | 77. | 77. | 1.14 |
| HYDROGRAPH AT | | | | | | |
| 2.11 | 200. | 4.73 | 141. | 41. | 41. | 0.39 |
| ROUTED TO | | | | | | |
| 2.11 | 200. | 4.73 | 141. | 41. | 41. | 0.39 |
| HYDROGRAPH AT | | | | | | |
| 2.10 | 200. | 4.73 | 141. | 41. | 41. | 0.39 |
| 2 COMBINED AT | | | | | | |
| 2.10 | 400. | 4.73 | 283. | 83. | 83. | 0.78 |
| HYDROGRAPH AT | | | | | | |
| 2.9 | 200. | 4.73 | 141. | 41. | 41. | 0.39 |
| 2 COMBINED AT | | | | | | |
| 2.9 | 600. | 4.73 | 424. | 124. | 124. | 1.18 |
| ROUTED TO | | | | | | |
| 2.9 | 598. | 4.80 | 424. | 124. | 124. | 1.18 |
| HYDROGRAPH AT | | | | | | |
| 2.8.1 | 93. | 3.27 | 43. | 11. | 11. | 0.13 |
| ROUTED TO | | | | | | |
| 2.8.1 | 92. | 3.33 | 43. | 11. | 11. | 0.13 |
| HYDROGRAPH AT | | | | | | |
| 2.8 | 66. | 4.33 | 45. | 12. | 12. | 0.14 |
| 3 COMBINED AT | | | | | | |
| 2.8 | 705. | 4.70 | 506. | 148. | 148. | 1.45 |
| ROUTED TO | | | | | | |
| 2.8 | 704. | 4.77 | 506. | 148. | 148. | 1.45 |
| HYDROGRAPH AT | | | | | | |
| 2.7.1 | 12. | 2.83 | 3. | 1. | 1. | 0.01 |
| HYDROGRAPH AT | | | | | | |
| 2.7 | 117. | 2.83 | 35. | 10. | 10. | 0.09 |
| 4 COMBINED AT | | | | | | |
| 2.7 | 1140. | 4.60 | 808. | 235. | 235. | 2.69 |
| ROUTED TO | | | | | | |
| 2.7 | 1140. | 4.60 | 808. | 235. | 235. | 2.69 |
| HYDROGRAPH AT | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2.6 | 56. | 2.70 | 13. | 4. | 4. | 0.03 |
| 2 COMBINED AT | | | | | | | |
| | 2.6 | 1151. | 4.60 | 815. | 239. | 239. | 2.72 |
| ROUTED TO | | | | | | | |
| | 2.6 | 1150. | 4.63 | 815. | 239. | 239. | 2.72 |
| HYDROGRAPH AT | | | | | | | |
| | 2.5.21 | 72. | 3.07 | 27. | 7. | 7. | 0.07 |
| ROUTED TO | | | | | | | |
| | 2.5.21 | 70. | 3.13 | 27. | 7. | 7. | 0.07 |
| HYDROGRAPH AT | | | | | | | |
| | 2.5.2 | 24. | 3.93 | 14. | 4. | 4. | 0.04 |
| HYDROGRAPH AT | | | | | | | |
| | 2.5.1 | 149. | 3.03 | 55. | 15. | 15. | 0.13 |
| 3 COMBINED AT | | | | | | | |
| | 2.5.1 | 231. | 3.07 | 96. | 27. | 27. | 0.24 |
| ROUTED TO | | | | | | | |
| | 2.5.1 | 229. | 3.13 | 96. | 27. | 27. | 0.24 |
| HYDROGRAPH AT | | | | | | | |
| | 2.5 | 26. | 3.37 | 12. | 3. | 3. | 0.03 |
| 3 COMBINED AT | | | | | | | |
| | 2.5 | 1257. | 4.57 | 904. | 268. | 268. | 2.99 |
| ROUTED TO | | | | | | | |
| | 2.5 | 1257. | 4.60 | 904. | 268. | 268. | 2.99 |
| HYDROGRAPH AT | | | | | | | |
| | 2.45 | 119. | 2.80 | 32. | 9. | 9. | 0.08 |
| 2 COMBINED AT | | | | | | | |
| | 2.45 | 1284. | 4.57 | 928. | 277. | 277. | 3.07 |
| ROUTED TO | | | | | | | |
| | 2.45 | 1283. | 4.63 | 928. | 277. | 277. | 3.07 |
| HYDROGRAPH AT | | | | | | | |
| | 2.4 | 122. | 3.47 | 61. | 17. | 17. | 0.16 |
| 2 COMBINED AT | | | | | | | |
| | 2.4 | 1352. | 4.60 | 987. | 294. | 294. | 3.23 |
| ROUTED TO | | | | | | | |
| | 2.4 | 1351. | 4.63 | 987. | 294. | 294. | 3.23 |
| HYDROGRAPH AT | | | | | | | |
| | 2.35 | 340. | 3.17 | 139. | 38. | 38. | 0.35 |
| 2 COMBINED AT | | | | | | | |
| | 2.35 | 1481. | 4.57 | 1114. | 332. | 332. | 3.59 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ROUTED TO | | | | | | | |
| | 2.35 | 1477. | 4.63 | 1112. | 331. | 331. | 3.59 |
| HYDROGRAPH AT | | | | | | | |
| | 2.3 | 220. | 3.07 | 83. | 23. | 23. | 0.20 |
| 2 COMBINED AT | | | | | | | |
| | C2.3 | 1550. | 4.60 | 1187. | 354. | 354. | 3.79 |
| HYDROGRAPH AT | | | | | | | |
| | 4.2.31 | 9. | 2.83 | 3. | 1. | 1. | 0.01 |
| HYDROGRAPH AT | | | | | | | |
| | 4.2.3 | 9. | 2.73 | 2. | 1. | 1. | 0.01 |
| 2 COMBINED AT | | | | | | | |
| | 4.2.3 | 17. | 2.77 | 5. | 1. | 1. | 0.02 |
| ROUTED TO | | | | | | | |
| | 4.2.3 | 17. | 2.80 | 5. | 1. | 1. | 0.02 |
| HYDROGRAPH AT | | | | | | | |
| | 4.2.2 | 15. | 2.87 | 5. | 1. | 1. | 0.02 |
| HYDROGRAPH AT | | | | | | | |
| | 4.2.1 | 21. | 2.80 | 7. | 2. | 2. | 0.02 |
| 2 COMBINED AT | | | | | | | |
| | 4.2.1 | 35. | 2.83 | 12. | 3. | 3. | 0.04 |
| ROUTED TO | | | | | | | |
| | 4.2.1 | 35. | 2.87 | 12. | 3. | 3. | 0.04 |
| HYDROGRAPH AT | | | | | | | |
| | 4.2 | 17. | 2.73 | 4. | 1. | 1. | 0.01 |
| HYDROGRAPH AT | | | | | | | |
| | 4.1 | 14. | 2.77 | 4. | 1. | 1. | 0.01 |
| 4 COMBINED AT | | | | | | | |
| | 4.1 | 77. | 2.80 | 26. | 7. | 7. | 0.09 |
| ROUTED TO | | | | | | | |
| | 4.1B | 77. | 2.83 | 26. | 7. | 7. | 0.09 |
| ROUTED TO | | | | | | | |
| | 4.1A | 74. | 2.90 | 26. | 7. | 7. | 0.09 |
| HYDROGRAPH AT | | | | | | | |
| | 4.0 | 53. | 2.73 | 13. | 3. | 3. | 0.04 |
| 2 COMBINED AT | | | | | | | |
| | 4.0 | 111. | 2.80 | 39. | 10. | 10. | 0.13 |
| ROUTED TO | | | | | | | |
| | 4.0 | 103. | 2.93 | 39. | 10. | 10. | 0.13 |
| HYDROGRAPH AT | | | | | | | |
| | 5.1.2 | 15. | 2.80 | 5. | 1. | 1. | 0.02 |

| | | | | | | |
|---|---|---|---|---|---|---|
| ROUTED TO | | | | | | |
| 5.1.2 | 12. | 3.10 | 5. | 1. | 1. | 0.02 |
| HYDROGRAPH AT | | | | | | |
| 5.1.1 | 115. | 3.60 | 62. | 17. | 17. | 0.19 |
| ROUTED TO | | | | | | |
| 5.1.1 | 114. | 3.77 | 62. | 17. | 17. | 0.19 |
| HYDROGRAPH AT | | | | | | |
| 5.1 | 78. | 2.97 | 29. | 8. | 8. | 0.10 |
| 3 COMBINED AT | | | | | | |
| 5.1 | 159. | 3.60 | 95. | 26. | 26. | 0.30 |
| ROUTED TO | | | | | | |
| 5.1 | 158. | 3.63 | 95. | 26. | 26. | 0.30 |
| HYDROGRAPH AT | | | | | | |
| 5.0 | 30. | 2.73 | 8. | 2. | 2. | 0.02 |
| 2 COMBINED AT | | | | | | |
| 5.0 | 167. | 3.63 | 102. | 28. | 28. | 0.32 |
| ROUTED TO | | | | | | |
| 5.0 | 166. | 3.67 | 102. | 28. | 28. | 0.32 |
| HYDROGRAPH AT | | | | | | |
| 2.2.1 | 76. | 2.70 | 18. | 5. | 5. | 0.04 |
| 3 COMBINED AT | | | | | | |
| 2.2.1 | 271. | 3.00 | 156. | 43. | 43. | 0.49 |
| ROUTED TO | | | | | | |
| 2.2.1 | 270. | 3.03 | 156. | 43. | 43. | 0.49 |
| HYDROGRAPH AT | | | | | | |
| 2.2 | 24. | 2.83 | 7. | 2. | 2. | 0.02 |
| 3 COMBINED AT | | | | | | |
| C2.2 | 1733. | 4.53 | 1346. | 399. | 399. | 4.30 |
| ROUTED TO | | | | | | |
| 2.2 | 1724. | 4.60 | 1341. | 398. | 398. | 4.30 |
| HYDROGRAPH AT | | | | | | |
| 2.1.3 | 10. | 2.90 | 4. | 1. | 1. | 0.01 |
| ROUTED TO | | | | | | |
| 2.1.3 | 10. | 3.20 | 4. | 1. | 1. | 0.01 |
| HYDROGRAPH AT | | | | | | |
| 2.1.2 | 52. | 4.70 | 37. | 11. | 11. | 0.11 |
| 2 COMBINED AT | | | | | | |
| 2.1.2 | 56. | 4.67 | 40. | 12. | 12. | 0.12 |
| ROUTED TO | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2.1.2 | 55. | 4.73 | 40. | 12. | 12. | 0.12 |
| HYDROGRAPH AT | | | | | | | |
| | 2.1.1 | 19. | 4.20 | 12. | 3. | 3. | 0.03 |
| HYDROGRAPH AT | | | | | | | |
| | 2.1 | 29. | 3.23 | 12. | 3. | 3. | 0.03 |
| 4 COMBINED AT | | | | | | | |
| | C2.1 | 1809. | 4.60 | 1405. | 417. | 417. | 4.48 |
| ROUTED TO | | | | | | | |
| | R2.1 | 1788. | 4.77 | 1392. | 417. | 417. | 4.48 |
| HYDROGRAPH AT | | | | | | | |
| | 2.0 | 55. | 4.27 | 35. | 10. | 10. | 0.09 |
| 2 COMBINED AT | | | | | | | |
| | C2.0 | 1840. | 4.73 | 1428. | 427. | 427. | 4.57 |

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) |
| 2.7.8 | MANE | 1.78 | 161.48 | 223.04 | 2.35 | 2.00 | 161.45 | 222.00 | 2.35 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.5225E+02 EXCESS=0.0000E+00 OUTFLOW=0.5224E+02 BASIN STORAGE=0.6104E-03 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.7.7 | MANE | 2.00 | 170.06 | 224.00 | 2.34 | 2.00 | 170.06 | 224.00 | 2.34 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.5588E+02 EXCESS=0.0000E+00 OUTFLOW=0.5588E+02 BASIN STORAGE=0.6128E-03 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.7.6 | MANE | 1.39 | 324.35 | 221.24 | 2.34 | 2.00 | 324.25 | 222.00 | 2.34 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1048E+03 EXCESS=0.0000E+00 OUTFLOW=0.1048E+03 BASIN STORAGE=0.7524E-03 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.7.5 | MANE | 1.69 | 332.67 | 223.07 | 2.35 | 2.00 | 332.66 | 222.00 | 2.35 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1084E+03 EXCESS=0.0000E+00 OUTFLOW=0.1084E+03 BASIN STORAGE=0.1103E-02 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.7.4 | MANE | 2.00 | 342.56 | 226.00 | 2.38 | 2.00 | 342.56 | 226.00 | 2.38 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1129E+03 EXCESS=0.0000E+00 OUTFLOW=0.1129E+03 BASIN STORAGE=0.3531E-02 PERCENT ERROR= 0.0

2.7.3 MANE 0.75 416.41 232.97 2.49 2.00 416.37 232.00 2.49

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1488E+03 EXCESS=0.0000E+00 OUTFLOW=0.1488E+03 BASIN STORAGE=0.4252E-03 PERCENT ERROR= 0.0

2.7.2 MANE 2.00 415.01 264.00 2.50 2.00 415.01 264.00 2.50

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1523E+03 EXCESS=0.0000E+00 OUTFLOW=0.1518E+03 BASIN STORAGE=0.1023E-01 PERCENT ERROR= 0.3

2.11 MANE 0.37 199.88 284.02 3.91 2.00 199.88 284.00 3.91

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.8188E+02 EXCESS=0.0000E+00 OUTFLOW=0.8188E+02 BASIN STORAGE=0.1027E-03 PERCENT ERROR= 0.0

2.9 MANE 2.00 598.46 288.00 3.91 2.00 598.46 288.00 3.91

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2456E+03 EXCESS=0.0000E+00 OUTFLOW=0.2456E+03 BASIN STORAGE=0.2956E-02 PERCENT ERROR= 0.0

2.8.1 MANE 2.00 91.99 200.00 3.20 2.00 91.99 200.00 3.20

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2271E+02 EXCESS=0.0000E+00 OUTFLOW=0.2270E+02 BASIN STORAGE=0.1392E-02 PERCENT ERROR= 0.0

2.8 MANE 2.00 704.38 286.00 3.79 2.00 704.38 286.00 3.79

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2930E+03 EXCESS=0.0000E+00 OUTFLOW=0.2930E+03 BASIN STORAGE=0.2682E-02 PERCENT ERROR= 0.0

2.7 MANE 0.89 1140.26 276.19 3.24 2.00 1140.23 276.00 3.24

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4655E+03 EXCESS=0.0000E+00 OUTFLOW=0.4654E+03 BASIN STORAGE=0.5882E-03 PERCENT ERROR= 0.0

2.6 MANE 1.52 1149.95 277.36 3.25 2.00 1149.88 278.00 3.25

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4725E+03 EXCESS=0.0000E+00 OUTFLOW=0.4725E+03 BASIN STORAGE=0.1185E-02 PERCENT ERROR= 0.0

2.5.21 MANE 2.00 69.92 188.00 3.98 2.00 69.92 188.00 3.98

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1466E+02 EXCESS=0.0000E+00 OUTFLOW=0.1464E+02 BASIN STORAGE=0.3834E-03 PERCENT ERROR= 0.1

2.5.1 MANE 2.00 229.05 188.00 4.16 2.00 229.05 188.00 4.16

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.5263E+02 EXCESS=0.0000E+00 OUTFLOW=0.5261E+02 BASIN STORAGE=0.3709E-03 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.5 | MANE | 1.48 | 1256.61 | 275.66 | 3.33 | 2.00 | 1256.54 | 276.00 | 3.33 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.5318E+03 EXCESS=0.0000E+00 OUTFLOW=0.5318E+03 BASIN STORAGE=0.1107E-02 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.45 | MANE | 2.00 | 1282.86 | 278.00 | 3.35 | 2.00 | 1282.86 | 278.00 | 3.35 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.5491E+03 EXCESS=0.0000E+00 OUTFLOW=0.5490E+03 BASIN STORAGE=0.2677E-02 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.4 | MANE | 2.00 | 1351.27 | 278.00 | 3.37 | 2.00 | 1351.27 | 278.00 | 3.37 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.5819E+03 EXCESS=0.0000E+00 OUTFLOW=0.5819E+03 BASIN STORAGE=0.2940E-02 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.35 | MANE | 2.00 | 1477.16 | 278.00 | 3.43 | 2.00 | 1477.16 | 278.00 | 3.43 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.6567E+03 EXCESS=0.0000E+00 OUTFLOW=0.6565E+03 BASIN STORAGE=0.3017E-02 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.2.3 | MANE | 2.00 | 16.53 | 168.00 | 2.82 | 2.00 | 16.53 | 168.00 | 2.82 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2707E+01 EXCESS=0.0000E+00 OUTFLOW=0.2706E+01 BASIN STORAGE=0.2459E-03 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.2.1 | MANE | 2.00 | 35.22 | 172.00 | 2.89 | 2.00 | 35.22 | 172.00 | 2.89 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.6014E+01 EXCESS=0.0000E+00 OUTFLOW=0.6014E+01 BASIN STORAGE=0.3251E-03 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.1B | MANE | 1.20 | 77.01 | 169.08 | 2.87 | 2.00 | 76.94 | 170.00 | 2.87 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1315E+02 EXCESS=0.0000E+00 OUTFLOW=0.1314E+02 BASIN STORAGE=0.1233E-03 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.1A | MANE | 2.00 | 74.24 | 174.00 | 2.86 | 2.00 | 74.24 | 174.00 | 2.86 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1314E+02 EXCESS=0.0000E+00 OUTFLOW=0.1314E+02 BASIN STORAGE=0.6732E-03 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.0 | MANE | 2.00 | 103.25 | 176.00 | 2.96 | 2.00 | 103.25 | 176.00 | 2.96 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2005E+02 EXCESS=0.0000E+00 OUTFLOW=0.2003E+02 BASIN STORAGE=0.1408E-02 PERCENT ERROR= 0.1

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.1.2 | MANE | 2.00 | 11.97 | 186.00 | 2.74 | 2.00 | 11.97 | 186.00 | 2.74 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2352E+01 EXCESS=0.0000E+00 OUTFLOW=0.2339E+01 BASIN STORAGE=0.2729E-02 PERCENT ERROR= 0.4

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.1.1 | MANE | 2.00 | 113.58 | 226.00 | 3.32 | 2.00 | 113.58 | 226.00 | 3.32 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.3334E+02 EXCESS=0.0000E+00 OUTFLOW=0.3331E+02 BASIN STORAGE=0.3092E-02 PERCENT ERROR= 0.1

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.1 | MANE | 1.49 | 158.35 | 218.49 | 3.17 | 2.00 | 158.34 | 218.00 | 3.17 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.5082E+02 EXCESS=0.0000E+00 OUTFLOW=0.5079E+02 BASIN STORAGE=0.1881E-03 PERCENT ERROR= 0.1

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.0 | MANE | 2.00 | 166.11 | 220.00 | 3.19 | 2.00 | 166.11 | 220.00 | 3.19 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.5486E+02 EXCESS=0.0000E+00 OUTFLOW=0.5476E+02 BASIN STORAGE=0.4957E-03 PERCENT ERROR= 0.2

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.2.1 | MANE | 2.00 | 269.52 | 182.00 | 3.22 | 2.00 | 269.52 | 182.00 | 3.22 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.8430E+02 EXCESS=0.0000E+00 OUTFLOW=0.8426E+02 BASIN STORAGE=0.2696E-03 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.2 | MANE | 2.00 | 1723.69 | 276.00 | 3.44 | 2.00 | 1723.69 | 276.00 | 3.44 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.7895E+03 EXCESS=0.0000E+00 OUTFLOW=0.7892E+03 BASIN STORAGE=0.5433E-02 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.1.3 | MANE | 2.00 | 9.53 | 192.00 | 2.90 | 2.00 | 9.53 | 192.00 | 2.90 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1860E+01 EXCESS=0.0000E+00 OUTFLOW=0.1859E+01 BASIN STORAGE=0.2033E-02 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.1.2 | MANE | 2.00 | 55.48 | 284.00 | 3.63 | 2.00 | 55.48 | 284.00 | 3.63 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2303E+02 EXCESS=0.0000E+00 OUTFLOW=0.2302E+02 BASIN STORAGE=0.3076E-03 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| R2.1 | MANE | 2.00 | 1788.20 | 286.00 | 3.45 | 2.00 | 1788.20 | 286.00 | 3.45 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.8259E+03 EXCESS=0.0000E+00 OUTFLOW=0.8250E+03 BASIN STORAGE=0.1259E-01 PERCENT ERROR= 0.1

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

HEC1 S/N: 1343001909 HMVersion: 6.33 Data File: C:\TEMP\~vbh2501.TMP

```
*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*               MAY   1991              *
*            VERSION 4.0.1E             *
*                                       *
*  RUN DATE  09/18/2001  TIME  18:21:02 *
*                                       *
*****************************************
```

```
*****************************************
*                                       *
*    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
```

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

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

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

HEC-1 INPUT PAGE 1

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

  1           ID  2-Minute Interval
  2           IT       2                    720
  3           IO       5       0

  4           KK  2.7.8
  5           KM  100 Yr
  6           KO                                    22
  7           BA   0.417
  8           PB       6
  9           PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
 10           PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
 11           PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
 12           PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
 13           PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
 14           PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
 15           PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
 16           PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
 17           PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
 18           PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
 19           PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
 20           PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
 21           PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
 22           PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
 23           PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
 24           PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
 25           PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
 26           PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
 27           PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
 28           PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
 29           PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
 30           PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
 31           PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
 32           PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
 33           PC  1.0000 1.00000 1.00000 1.00000 1.00000
 34           LS          73.821
 35           UD   0.810

 36           KK  2.7.8
 37           KM
 38           KO                                    22
 39           RD     530  0.0038   0.035            TRAP       8       1

 40           KK  2.7.7
 41           KM  100 Yr
 42           KO                                    22
 43           BA   0.031
 44           PB       6
 45           PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
 46           PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
 47           PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
 48           PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
 49           PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
 50           PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
 51           PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
 52           PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
```

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

  53          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  54          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  55          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  56          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  57          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  58          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  59          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  60          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  61          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  62          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  63          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  64          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  65          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  66          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  67          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  68          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  69          PC  1.0000 1.00000 1.00000 1.00000 1.00000
  70          LS        72.009
  71          UD   0.200

  72          KK  2.7.7
  73          KM
  74          KO                                    22
  75          HC       2

  76          KK  2.7.7
  77          KM
  78          KO                                    22
  79          RD    1050  0.0171  0.0358            TRAP       4       1

  80          KK  2.7.6
  81          KM  100 Yr
  82          KO                                    22
  83          BA   0.391
  84          PB       6
  85          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  86          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  87          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  88          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  89          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  90          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  91          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  92          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  93          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  94          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  95          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  96          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  97          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  98          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  99          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
 100          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
 101          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
 102          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
 103          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
 104          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
```

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

  105         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  106         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  107         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  108         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  109         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  110         LS          73.791
  111         UD   0.764

  112         KK  2.7.6
  113         KM
  114         KO                                    22
  115         HC       2

  116         KK  2.7.6
  117         KM
  118         KO                                    22
  119         RD     500    0.02    0.08            TRAP      12       1

  120         KK  2.7.5
  121         KM  100 Yr
  122         KO                                    22
  123         BA   0.025
  124         PB       6
  125         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  126         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  127         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  128         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  129         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  130         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  131         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  132         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  133         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  134         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  135         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  136         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  137         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  138         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  139         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  140         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  141         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  142         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  143         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  144         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  145         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  146         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  147         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  148         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  149         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  150         LS          77.586
  151         UD   0.235
```

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

  152         KK  2.7.5
  153         KM
  154         KO                                    22
  155         HC       2

  156         KK  2.7.5
  157         KM
  158         KO                                    22
  159         RD     550  0.0145    0.08            TRAP      12        1

  160         KK  2.7.4
  161         KM  100 Yr
  162         KO                                    22
  163         BA   0.026
  164         PB       6
  165         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  166         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  167         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  168         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  169         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  170         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  171         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  172         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  173         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  174         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  175         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  176         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  177         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  178         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  179         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  180         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  181         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  182         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  183         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  184         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  185         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  186         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  187         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  188         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  189         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  190         LS          83.861
  191         UD   0.261

  192         KK  2.7.4
  193         KM
  194         KO                                    22
  195         HC       2

  196         KK  2.7.4
  197         KM
  198         KO                                    22
  199         RD    1600  0.0063    0.08            TRAP      12        1
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  200         KK  2.7.3
  201         KM  100 Yr
  202         KO                                    22
  203         BA   0.233
  204         PB       6
  205         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  206         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  207         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  208         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  209         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  210         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  211         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  212         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  213         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  214         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  215         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  216         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  217         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  218         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  219         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  220         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  221         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  222         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  223         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  224         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  225         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  226         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  227         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  228         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  229         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  230         LS          80.007
  231         UD   1.455

  232         KK  2.7.3
  233         KM
  234         KO                                    22
  235         HC       2

  236         KK  2.7.3
  237         KM
  238         KO                                    22
  239         RD     300  0.0067   0.045            TRAP      12       1

  240         KK  2.7.2
  241         KM  100 Yr
  242         KO                                    22
  243         BA   0.017
  244         PB       6
  245         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  246         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  247         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  248         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  249         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  250         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
```

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

  251         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  252         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  253         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  254         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  255         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  256         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  257         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  258         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  259         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  260         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  261         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  262         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  263         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  264         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  265         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  266         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  267         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  268         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  269         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  270         LS        89.275
  271         UD   0.125

  272         KK  2.7.2
  273         KM
  274         KO                                    22
  275         HC       2

  276         KK  2.7.2
  277         KM
  278         KO                                    22
  279         RD    9 00  0.0075    0.08            DEEP      12

  280         KK  2.11
  281         KM  100 Yr
  282         KO                                    22
  283         BA  0.3923
  284         PB       6
  285         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  286         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  287         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  288         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  289         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  290         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  291         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  292         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  293         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  294         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  295         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  296         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  297         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  298         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  299         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  300         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  301         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  302         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
```

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

  303         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  304         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  305         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  306         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  307         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  308         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  309         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  310         LS          90.354
  311         UD   1.777

  312         KK  2.11
  313         KM
  314         KO                                    22
  315         RD     100   0.005   0.045            TRAP       6       2

  316         KK  2.10
  317         KM  100 Yr
  318         KO                                    22
  319         BA  0.3923
  320         PB       6
  321         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  322         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  323         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  324         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  325         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  326         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  327         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  328         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  329         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  330         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  331         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  332         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  333         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  334         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  335         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  336         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  337         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  338         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  339         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  340         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  341         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  342         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  343         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  344         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  345         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  346         LS          90.354
  347         UD   1.777

  348         KK  2.10
  349         KM
  350         KO                                    22
  351         HC       2
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  352         KK  2.9
  353         KM  100 Yr
  354         KO                              22
  355         BA  0.3923
  356         PB       6
  357         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  358         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  359         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  360         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  361         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  362         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  363         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  364         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  365         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  366         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  367         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  368         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  369         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68565 0.69027 0.69386 0.69744
  370         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  371         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  372         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  373         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  374         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  375         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  376         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  377         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  378         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  379         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  380         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  381         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  382         LS          90.354
  383         UD   1.777

  384         KK  2.9
  385         KM
  386         KO                              22
  387         HC       2

  388         KK  2.9
  389         KM
  390         KO                              22
  391         RD    1500  0.0013   0.035             TRAP       12        2

  392         KK  2.8.1
  393         KM  100 Yr
  394         KO                              22
  395         BA   0.133
  396         PB       6
  397         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  398         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  399         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  400         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  401         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  402         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
```

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

  403         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  404         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  405         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  406         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  407         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  408         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  409         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  410         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  411         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  412         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  413         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  414         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  415         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  416         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  417         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  418         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  419         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  420         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  421         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  422         LS        83.286
  423         UD   0.562

  424         KK  2.8.1
  425         KM
  426         KO                                    22
  427         RD     900  0.0022    0.04            TRAP       8     1.5

  428         KK  2.8
  429         KM  100 Yr
  430         KO                                    22
  431         BA   0.141
  432         PB       6
  433         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  434         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  435         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  436         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  437         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  438         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  439         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  440         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  441         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  442         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  443         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  444         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  445         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  446         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  447         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  448         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  449         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  450         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  451         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  452         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  453         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  454         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  455         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
```

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

  456         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  457         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  458         LS          84.160
  459         UD   1.386

  460         KK  2.8
  461         KM
  462         KO                                    22
  463         HC       3

  464         KK  2.8
  465         KM
  466         KO                                    22
  467         RD    1550  0.0026   0.035            TRAP      12        2

  468         KK  2.7.1
  469         KM  100 Yr
  470         KO                                    22
  471         BA   0.008
  472         PB       6
  473         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  474         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  475         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  476         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  477         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  478         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  479         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  480         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  481         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  482         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  483         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  484         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  485         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  486         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  487         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  488         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  489         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  490         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  491         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  492         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  493         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  494         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  495         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  496         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  497         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  498         LS          93.395
  499         UD   0.213

  500         KK  2.7
  501         KM  100 Yr
  502         KO                                    22
  503         BA   0.094
  504         PB       6
  505         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  506         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  507     PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  508     PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  509     PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  510     PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  511     PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  512     PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  513     PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  514     PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  515     PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  516     PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  517     PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  518     PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  519     PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  520     PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  521     PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  522     PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  523     PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  524     PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  525     PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  526     PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  527     PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  528     PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  529     PC  1.0000 1.00000 1.00000 1.00000 1.00000
  530     LS        88.901
  531     UD   0.223

  532     KK  2.7
  533     KM
  534     KO                                    22
  535     HC       4

  536     KK  2.7
  537     KM
  538     KO                                    22
  539     RD     250   0.004    0.08           TRAP      12        2

  540     KK  2.6
  541     KM  100 Yr
  542     KO                                    22
  543     BA   0.031
  544     PB       6
  545     PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  546     PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  547     PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  548     PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  549     PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  550     PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  551     PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  552     PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  553     PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  554     PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  555     PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  556     PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  557     PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  558     PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
```

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

  559         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  560         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  561         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  562         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  563         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  564         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  565         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  566         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  567         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  568         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
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  571         UD   0.105

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  575         HC       2

  576         KK  2.6
  577         KM
  578         KO                                    22
  579         RD     500   0.002   0.045            TRAP      12        2

  580         KK  2.5.21
  581         KM  100 Yr
  582         KO                                    22
  583         BA   0.069
  584         PB       6
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  586         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  587         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  588         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  589         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  590         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  591         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  592         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  593         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  594         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  595         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  596         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  597         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  598         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  599         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  600         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  601         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  602         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  603         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  604         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  605         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  606         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  607         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  608         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  609         PC  1.0000 1.00000 1.00000 1.00000 1.00000
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  616         KK  2.5.2
  617         KM  100 Yr
  618         KO                                  22
  619         BA   0.036
  620         PB       6
  621         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  622         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  623         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  624         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  625         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  626         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  627         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  628         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  629         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  630         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  631         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  632         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  633         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  634         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  635         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  636         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  637         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  638         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  639         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  640         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  641         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  642         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  643         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  644         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  645         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  646         LS          92.385
  647         UD   1.171

  648         KK  2.5.1
  649         KM  100 Yr
  650         KO                                  22
  651         BA    .132
  652         PB       6
  653         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  654         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  655         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  656         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  657         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  658         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  659         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  660         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  661         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  662         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  663         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  664         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  665         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  666         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  667         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  668         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  669         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  670         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  671         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  672         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  673         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  674         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  675         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  676         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  677         PC  1.0000 1.00000 1.00000 1.00000 1.00000
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  679         UD   0.401

  680         KK  2.5.1
  681         KM
  682         KO                                    22
  683         HC       3

  684         KK  2.5.1
  685         KM
  686         KO                                    22
  687         RD    1500   0.002   0.016            CIRC    7.77

  688         KK  2.5
  689         KM  100 Yr
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  691         BA   0.029
  692         PB       6
  693         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  694         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  695         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  696         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  697         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  698         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  699         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  700         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  701         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  702         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  703         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  704         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  705         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  706         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  707         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  708         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  709         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  710         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  711         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  712         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  713         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  714         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  715         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  716         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  717         PC  1.0000 1.00000 1.00000 1.00000 1.00000
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  719         UD   0.684

  720         KK  2.5
  721         KM
  722         KO                                  22
  723         HC       3

  724         KK  2.5
  725         KM
  726         KO                                  22
  727         RD     500   0.002   0.045            TRAP      12       2

  728         KK  2.45
  729         KM  25 Yr
  730         KO                                  22
  731         BA   0.084
  732         PB       5
  733         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  734         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  735         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  736         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  737         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  738         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  739         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  740         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  741         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  742         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  743         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  744         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  745         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  746         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  747         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  748         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  749         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  750         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  751         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  752         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  753         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  754         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  755         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  756         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  757         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  758         LS          89.804
  759         UD   0.170

  760         KK  2.45
  761         KM
  762         KO                                  22
  763         HC       2
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  764         KK  2.45
  765         KM
  766         KO                                    22
  767         RD    1300  0.0023   0.045           TRAP      12       2

  768         KK  2.4
  769         KM  100 Yr
  770         KO                                    22
  771         BA    .161
  772         PB       6
  773         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  774         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  775         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  776         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  777         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  778         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  779         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  780         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  781         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  782         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  783         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  784         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  785         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  786         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  787         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  788         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  789         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  790         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  791         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  792         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  793         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  794         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  795         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  796         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  797         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  798         LS          89.534
  799         UD   0.753

  800         KK  2.4
  801         KM
  802         KO                                    22
  803         HC       2

  804         KK  2.4
  805         KM
  806         KO                                    22
  807         RD    1400   0.004   0.045           TRAP      12       2

  808         KK  2.35
  809         KM  100 Yr
  810         KO                                    22
  811         BA   0.355
  812         PB       6
  813         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
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  814         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  815         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  816         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  817         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  818         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  819         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  820         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  821         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  822         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  823         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  824         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  825         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  826         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  827         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  828         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  829         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  830         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  831         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  832         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  833         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  834         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  835         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  836         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  837         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  838         LS        90.691
  839         UD   0.489

  840         KK  2.35
  841         KM
  842         KO                                    22
  843         HC       2

  844         KK  2.35
  845         KM
  846         KO                                    22
  847         RD    1050    0.001    0.045            TRAP      12        2

  848         KK  2.3
  849         KM  100 Yr
  850         KO                                    22
  851         BA     .202
  852         PB        6
  853         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  854         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  855         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  856         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  857         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  858         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  859         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  860         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  861         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  862         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  863         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  864         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  865         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  866         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  867         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  868         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  869         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  870         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  871         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  872         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  873         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  874         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  875         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  876         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  877         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  878         LS        92.787
  879         UD   0.414

  880         KK  C2.3
  881         KM
  882         KO                                    22
  883         HC       2

  884         KK  4.2.31
  885         KM  100 Yr
  886         KO                                    22
  887         BA    0.01
  888         PB       6
  889         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  890         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  891         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  892         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  893         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  894         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  895         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  896         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  897         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  898         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  899         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  900         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  901         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  902         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  903         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  904         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  905         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  906         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  907         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  908         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  909         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  910         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  911         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  912         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  913         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  914         LS        78.500
  915         UD   0.205
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  916         KK  4.2.3
  917         KM  100 Yr
  918         KO                                    22
  919         BA   0.008
  920         PB       6
  921         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  922         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  923         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  924         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  925         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  926         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  927         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  928         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  929         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  930         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  931         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  932         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  933         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  934         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  935         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  936         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  937         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  938         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  939         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  940         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  941         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  942         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  943         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  944         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  945         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  946         LS         80.055
  947         UD     0.1

  948         KK  4.2.3
  949         KM
  950         KO                                    22
  951         HC       2

  952         KK  4.2.3
  953         KM
  954         KO                                    22
  955         RD     450    0.01    0.05           TRAP       1       1

  956         KK  4.2.2
  957         KM  100 Yr
  958         KO                                    22
  959         BA   0.017
  960         PB       6
  961         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  962         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  963         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  964         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  965         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  966         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
```

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

  967         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  968         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  969         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  970         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  971         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  972         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  973         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  974         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  975         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  976         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  977         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  978         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  979         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  980         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  981         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  982         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  983         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  984         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  985         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  986         LS          80.012
  987         UD   0.242

  988         KK  4.2.1
  989         KM  100 Yr
  990         KO                                    22
  991         BA   0.022
  992         PB       6
  993         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  994         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  995         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  996         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  997         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  998         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  999         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
 1000         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
 1001         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
 1002         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
 1003         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
 1004         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
 1005         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
 1006         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
 1007         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
 1008         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
 1009         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
 1010         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
 1011         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
 1012         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
 1013         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
 1014         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
 1015         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
 1016         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
 1017         PC  1.0000 1.00000 1.00000 1.00000 1.00000
 1018         LS          79.963
 1019         UD   0.181
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1020          KK  4.2.1
1021          KM
1022          KO                                    22
1023          HC       2

1024          KK  4.2.1
1025          KM
1026          KO                                    22
1027          RD     500   0.008    0.05           TRAP       1       1

1028          KK  4.2
1029          KM  100 Yr
1030          KO                                    22
1031          BA   0.014
1032          PB       6
1033          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1034          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1035          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1036          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1037          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1038          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1039          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1040          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1041          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1042          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1043          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1044          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1045          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1046          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1047          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1048          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1049          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1050          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1051          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1052          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1053          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1054          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1055          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1056          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1057          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1058          LS          80.861
1059          UD    0.10

1060          KK  4.1
1061          KM  100 Yr
1062          KO                                    22
1063          BA   0.015
1064          PB       6
1065          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1066          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1067          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1068          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1069          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1070          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1071          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1072          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1073          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1074          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1075          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1076          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1077          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1078          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1079          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1080          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1081          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1082          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1083          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1084          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1085          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1086          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1087          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1088          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1089          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1090          LS          78.503
1091          UD   0.155

1092          KK  4.1
1093          KM
1094          KO                                    22
1095          HC       4

1096          KK  4.1B
1097          KM
1098          KO                                    22
1099          RD     650  0.0062   0.016            CIRC       3

1100          KK  4.1A
1101          KM
1102          KO                                    22
1103          RD     750  0.0027    0.04            TRAP     1.5       1

1104          KK  4.0
1105          KM  100 Yr
1106          KO                                    22
1107          BA   0.041
1108          PB       6
1109          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1110          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1111          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1112          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1113          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1114          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1115          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1116          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1117          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1118          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1119          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1120          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1121          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1122          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1123          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1124          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1125          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1126          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1127          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1128          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1129          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1130          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1131          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1132          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1133          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1134          LS        82.889
1135          UD    0.1

1136          KK  4.0
1137          KM
1138          KO                                    22
1139          HC       2

1140          KK  4.0
1141          KM
1142          KO                                    22
1143          RD     900  0.0022    0.06            TRAP       2     1.5

1144          KK  5.1.2
1145          KM  100 Yr
1146          KO                                    22
1147          BA   0.016
1148          PB       6
1149          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1150          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1151          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1152          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1153          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1154          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1155          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1156          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1157          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1158          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1159          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1160          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1161          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1162          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1163          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1164          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1165          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1166          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1167          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1168          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1169          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1170          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1171          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1172          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1173          PC  1.0000 1.00000 1.00000 1.00000 1.00000
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1174          LS          78.50
1175          UD   0.161

1176          KK  5.1.2
1177          KM
1178          KO                                  22
1179          RD    2000   0.002   0.045           TRAP       4       1

1180          KK  5.1.1
1181          KM  100 Yr
1182          KO                                  22
1183          BA   0.188
1184          PB       6
1185          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1186          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1187          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1188          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1189          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1190          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1191          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1192          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1193          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1194          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1195          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1196          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1197          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1198          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1199          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1200          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1201          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1202          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1203          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1204          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1205          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1206          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1207          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1208          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1209          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1210          LS          84.557
1211          UD   0.823

1212          KK  5.1.1
1213          KM
1214          KO                                  22
1215          RD    2000   0.002   0.045           TRAP       4       1

1216          KK  5.1
1217          KM  100 Yr
1218          KO                                  22
1219          BA   0.096
1220          PB       6
1221          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1222          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1223          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1224          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1225          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1226          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1227          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1228          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1229          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1230          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1231          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1232          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1233          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1234          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1235          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1236          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1237          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1238          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1239          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1240          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1241          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1242          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1243          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1244          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1245          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1246          LS          80.772
1247          UD   0.312

1248          KK  5.1
1249          KM
1250          KO                                    22
1251          HC       3

1252          KK  5.1
1253          KM
1254          KO                                    22
1255          RD     480    0.001    0.016             CIRC     5.0

1256          KK  5.0
1257          KM  100 Yr
1258          KO                                    22
1259          BA   0.022
1260          PB       6
1261          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1262          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1263          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1264          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1265          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1266          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1267          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1268          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1269          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1270          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1271          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1272          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1273          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1274          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1275          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1276          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1277          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1278          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1279          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1280          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1281          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1282          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1283          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1284          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1285          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1286          LS          86.06
1287          UD   0.126

1288          KK  5.0
1289          KM
1290          KO                                    22
1291          HC       2

1292          KK  5.0
1293          KM
1294          KO                                    22
1295          RD    1150  0.0009   0.016            CIRC     5.5

1296          KK  2.2.1
1297          KM  100 Yr
1298          KO                                    22
1299          BA   0.042
1300          PB       6
1301          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1302          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1303          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1304          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1305          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1306          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1307          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1308          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1309          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1310          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1311          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1312          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1313          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1314          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1315          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1316          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1317          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1318          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1319          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1320          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1321          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1322          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1323          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1324          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1325          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1326          LS          93.408
1327          UD     0.1
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1328          KK  2.2.1
1329          KM
1330          KO                                    22
1331          HC       3

1332          KK  2.2.1
1333          KM
1334          KO                                    22
1335          RD    1050  0.0019   0.016            CIRC       7

1336          KK  2.2
1337          KM  100 Yr
1338          KO                                    22
1339          BA   0.017
1340          PB       6
1341          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1342          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1343          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1344          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1345          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1346          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1347          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1348          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1349          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1350          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1351          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1352          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1353          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1354          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1355          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1356          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1357          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1358          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1359          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1360          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1361          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1362          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1363          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1364          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1365          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1366          LS          92.112
1367          UD     0.2

1368          KK  C2.2
1369          KM
1370          KO                                    22
1371          HC       3

1372          KK  2.2
1373          KM
1374          KO                                    22
1375          RD    1050   0.001    0.08            TRAP      20       2
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1376          KK  2.1.3
1377          KM  100 Yr
1378          KO                                    22
1379          BA   0.012
1380          PB       6
1381          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1382          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1383          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1384          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1385          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1386          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1387          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1388          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1389          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1390          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1391          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1392          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1393          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68565 0.69027 0.69386 0.69744
1394          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1395          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1396          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1397          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1398          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1399          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1400          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1401          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1402          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1403          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1404          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1405          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1406          LS          80.152
1407          UD    .269

1408          KK  2.1.3
1409          KM
1410          KO                                    22
1411          RD    1700  0.0059    0.08            TRAP       1       1

1412          KK  2.1.2
1413          KM  100 Yr
1414          KO                                    22
1415          BA   0.107
1416          PB       6
1417          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1418          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1419          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1420          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1421          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1422          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1423          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1424          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1425          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1426          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1427          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1428          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1429          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1430          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1431          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1432          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1433          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1434          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1435          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1436          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1437          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1438          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1439          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1440          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1441          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1442          LS          88.395
1443          UD   1.722

1444          KK  2.1.2
1445          KM
1446          KO                                    22
1447          HC       2

1448          KK  2.1.2
1449          KM
1450          KO                                    22
1451          RD     950  0.0011   0.016            CIRC       5

1452          KK  2.1.1
1453          KM  100 Yr
1454          KO                                    22
1455          BA   0.032
1456          PB       6
1457          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1458          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1459          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1460          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1461          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1462          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1463          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1464          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1465          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1466          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1467          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1468          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1469          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1470          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1471          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1472          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1473          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1474          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1475          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1476          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1477          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1478          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1479          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1480          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1481          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1482          LS         91.588
1483          UD    1.38

1484          KK  2.1
1485          KM  100 Yr
1486          KO                                    22
1487          BA     .03
1488          PB       6
1489          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1490          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
1491          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1492          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1493          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1494          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1495          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1496          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1497          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1498          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1499          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1500          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1501          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1502          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1503          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1504          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1505          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1506          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1507          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1508          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1509          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1510          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1511          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1512          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1513          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1514          LS         93.232
1515          UD    .572

1516          KK  C2.1
1517          KM
1518          KO                                    22
1519          HC       4

1520          KK  R2.1
1521          KM
1522          KO                                    22
1523          RD    2250    .0009     .08            TRAP      20       2

1524          KK  2.0
1525          KM  Type IA Rainfall Simulation - 100 Yr
1526          KO                                    22
1527          BA     .09
1528          PB       6
1529          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
1530          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
```

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

1531          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
1532          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
1533          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
1534          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
1535          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
1536          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
1537          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
1538          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
1539          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
1540          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
1541          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
1542          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
1543          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
1544          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
1545          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
1546          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
1547          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
1548          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
1549          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
1550          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
1551          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
1552          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
1553          PC  1.0000 1.00000 1.00000 1.00000 1.00000
1554          LS           93.11
1555          UD   1.472

1556          KK  C2.0
1557          KM
1558          KO                                      22
1559          HC       2
1560          ZZ
```

```
*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*               MAY   1991              *
*            VERSION 4.0.1E             *
*                                       *
*  RUN DATE  09/18/2001  TIME  18:21:02 *
*                                       *
*****************************************
```

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

2-Minute Interval

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

    IT          HYDROGRAPH TIME DATA
                       NMIN           2  MINUTES IN COMPUTATION INTERVAL
                      IDATE      1    0  STARTING DATE
                      ITIME         0000  STARTING TIME
                         NQ          720  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE      1    0  ENDING DATE
                     NDTIME         2358  ENDING TIME
                     ICENT            19  CENTURY MARK

                  COMPUTATION INTERVAL     0.03 HOURS
                       TOTAL TIME BASE    23.97 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
```

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

```
          **************
          *            *
  4 KK    *    2.7.8   *
          *            *
          **************

  6 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
```

| | | |
|---|---|---|
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
 36 KK    *    2.7.8   *
          *            *
          **************
```

 38 KO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
 40 KK    *    2.7.7   *
          *            *
          **************
```

 42 KO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
```

```
 72 KK      *    2.7.7   *
            *            *
            **************

 74 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


            **************
            *            *
 76 KK      *    2.7.7   *
            *            *
            **************

 78 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


            **************
            *            *
 80 KK      *    2.7.6   *
            *            *
            **************

 82 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
112 KK    *    2.7.6   *
          *            *
          **************

114 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
116 KK    *    2.7.6   *
          *            *
          **************

118 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
120 KK    *    2.7.5   *
          *            *
          **************

122 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
```

```
                    IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                     IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                    ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                    ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                   TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
152 KK    *    2.7.5   *
          *            *
          **************

154 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
156 KK    *    2.7.5   *
          *            *
          **************

158 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
160 KK    *    2.7.4   *
```

```
            *              *
            **************

 162 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


            **************
            *              *
 192 KK     *    2.7.4     *
            *              *
            **************

 194 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


            **************
            *              *
 196 KK     *    2.7.4     *
            *              *
            **************

 198 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
200 KK    *    2.7.3   *
          *            *
          **************

202 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
232 KK    *    2.7.3   *
          *            *
          **************

234 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
236 KK    *    2.7.3   *
          *            *
          **************

238 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
```

```
                     IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1          1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2        720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT      0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
240 KK    *    2.7.2   *
          *            *
          **************

242 KO          OUTPUT CONTROL VARIABLES
                     IPRNT          5  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH          0  PUNCH COMPUTED HYDROGRAPH
                      IOUT         22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1          1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2        720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT      0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
272 KK    *    2.7.2   *
          *            *
          **************

274 KO          OUTPUT CONTROL VARIABLES
                     IPRNT          5  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH          0  PUNCH COMPUTED HYDROGRAPH
                      IOUT         22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1          1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2        720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT      0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
276 KK    *    2.7.2   *
          *            *
```

```
          **************

 278 KO           OUTPUT CONTROL VARIABLES
                        IPRNT           5  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE
                        IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                         IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                        ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                        ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                       TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
 280 KK   *    2.11    *
          *            *
          **************

 282 KO           OUTPUT CONTROL VARIABLES
                        IPRNT           5  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE
                        IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                         IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                        ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                        ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                       TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
 312 KK   *    2.11    *
          *            *
          **************

 314 KO           OUTPUT CONTROL VARIABLES
                        IPRNT           5  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE
                        IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                         IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                        ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                        ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                       TIMINT       0.033  TIME INTERVAL IN HOURS
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
316 KK    *    2.10    *
          *            *
          **************

318 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
348 KK    *    2.10    *
          *            *
          **************

350 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
352 KK    *    2.9     *
          *            *
          **************

354 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
```

| | | | |
|---|---|---|---|
| | ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| | ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| | TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
384 KK    *    2.9     *
          *            *
          **************
```

386 KO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
388 KK    *    2.9     *
          *            *
          **************
```

390 KO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
392 KK    *    2.8.1   *
          *            *
          **************
```

```
394 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
424 KK    *    2.8.1   *
          *            *
          **************
```

```
426 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
428 KK    *    2.8     *
          *            *
          **************
```

```
430 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
460 KK    *    2.8     *
          *            *
          **************

462 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
464 KK    *    2.8     *
          *            *
          **************

466 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
468 KK    *    2.7.1   *
          *            *
          **************

470 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
```

```
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
 500 KK   *    2.7     *
          *            *
          **************

 502 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
 532 KK   *    2.7     *
          *            *
          **************

 534 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
 536 KK   *    2.7     *
          *            *
          **************
```

```
 538 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS


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


           **************
           *            *
 540 KK    *    2.6     *
           *            *
           **************

 542 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS


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


           **************
           *            *
 572 KK    *    2.6     *
           *            *
           **************

 574 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
```

```
          **************
          *            *
576 KK    *    2.6     *
          *            *
          **************

578 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
580 KK    *    2.5.21  *
          *            *
          **************

582 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
612 KK    *    2.5.21  *
          *            *
          **************

614 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
```

```
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


           **************
           *            *
 616 KK    *    2.5.2   *
           *            *
           **************

 618 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


           **************
           *            *
 648 KK    *    2.5.1   *
           *            *
           **************

 650 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


           **************
           *            *
 680 KK    *    2.5.1   *
           *            *
           **************

 682 KO          OUTPUT CONTROL VARIABLES
```

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
684 KK    *    2.5.1   *
          *            *
          **************
```

686 KO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
688 KK    *    2.5     *
          *            *
          **************
```

690 KO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
720 KK    *    2.5     *
          *            *
          **************

722 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
724 KK    *    2.5     *
          *            *
          **************

726 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
728 KK    *    2.45    *
          *            *
          **************

730 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
760 KK    *    2.45    *
          *            *
          **************
```

762 KO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
764 KK    *    2.45    *
          *            *
          **************
```

766 KO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
768 KK    *    2.4     *
          *            *
          **************
```

770 KO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |

| | | |
|---|---|---|
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
800 KK    *    2.4     *
          *            *
          **************
```

802 KO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
          *            *
804 KK    *    2.4     *
          *            *
          **************
```

806 KO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

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

```
          **************
```

```
            *             *
 808 KK     *    2.35     *
            *             *
            ***************

 810 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS


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


            ***************
            *             *
 840 KK     *    2.35     *
            *             *
            ***************

 842 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS


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


            ***************
            *             *
 844 KK     *    2.35     *
            *             *
            ***************

 846 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
848 KK    *    2.3     *
          *            *
          **************

850 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
880 KK    *    C2.3    *
          *            *
          **************

882 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
884 KK    *    4.2.31  *
          *            *
          **************

886 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
```

```
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH            0  PUNCH COMPUTED HYDROGRAPH
                       IOUT           22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1            1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2          720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT        0.033  TIME INTERVAL IN HOURS


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


           **************
           *            *
 916 KK    *    4.2.3   *
           *            *
           **************

 918 KO          OUTPUT CONTROL VARIABLES
                      IPRNT            5  PRINT CONTROL
                      IPLOT            0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH            0  PUNCH COMPUTED HYDROGRAPH
                       IOUT           22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1            1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2          720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT        0.033  TIME INTERVAL IN HOURS


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


           **************
           *            *
 948 KK    *    4.2.3   *
           *            *
           **************

 950 KO          OUTPUT CONTROL VARIABLES
                      IPRNT            5  PRINT CONTROL
                      IPLOT            0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH            0  PUNCH COMPUTED HYDROGRAPH
                       IOUT           22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1            1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2          720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT        0.033  TIME INTERVAL IN HOURS


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


           **************
           *            *
```

```
 952 KK      *    4.2.3   *
             *            *
             **************

 954 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


             **************
             *            *
 956 KK      *    4.2.2   *
             *            *
             **************

 958 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


             **************
             *            *
 988 KK      *    4.2.1   *
             *            *
             **************

 990 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
1020 KK   *    4.2.1   *
          *            *
          **************

1022 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
1024 KK   *    4.2.1   *
          *            *
          **************

1026 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
1028 KK   *    4.2     *
          *            *
          **************

1030 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
```

```
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


           **************
           *            *
1060 KK    *    4.1     *
           *            *
           **************

1062 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


           **************
           *            *
1092 KK    *    4.1     *
           *            *
           **************

1094 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


           **************
           *            *
1096 KK    *    4.1B    *
```

```
            *             *
            **************

1098 KO           OUTPUT CONTROL VARIABLES
                     IPRNT            5  PRINT CONTROL
                     IPLOT            0  PLOT CONTROL
                     QSCAL           0.  HYDROGRAPH PLOT SCALE
                     IPNCH            0  PUNCH COMPUTED HYDROGRAPH
                      IOUT           22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1            1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2          720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT        0.033  TIME INTERVAL IN HOURS



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


            **************
            *             *
1100 KK     *    4.1A     *
            *             *
            **************

1102 KO           OUTPUT CONTROL VARIABLES
                     IPRNT            5  PRINT CONTROL
                     IPLOT            0  PLOT CONTROL
                     QSCAL           0.  HYDROGRAPH PLOT SCALE
                     IPNCH            0  PUNCH COMPUTED HYDROGRAPH
                      IOUT           22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1            1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2          720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT        0.033  TIME INTERVAL IN HOURS



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


            **************
            *             *
1104 KK     *    4.0      *
            *             *
            **************

1106 KO           OUTPUT CONTROL VARIABLES
                     IPRNT            5  PRINT CONTROL
                     IPLOT            0  PLOT CONTROL
                     QSCAL           0.  HYDROGRAPH PLOT SCALE
                     IPNCH            0  PUNCH COMPUTED HYDROGRAPH
                      IOUT           22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1            1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2          720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT        0.033  TIME INTERVAL IN HOURS
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


           **************
           *            *
1136 KK    *    4.0     *
           *            *
           **************

1138 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


           **************
           *            *
1140 KK    *    4.0     *
           *            *
           **************

1142 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


           **************
           *            *
1144 KK    *    5.1.2   *
           *            *
           **************

1146 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
```

```
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1          1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2        720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT      0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
1176 KK   *    5.1.2   *
          *            *
          **************

1178 KO         OUTPUT CONTROL VARIABLES
                     IPRNT          5  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL         0.  HYDROGRAPH PLOT SCALE
                     IPNCH          0  PUNCH COMPUTED HYDROGRAPH
                      IOUT         22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1          1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2        720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT      0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
1180 KK   *    5.1.1   *
          *            *
          **************

1182 KO         OUTPUT CONTROL VARIABLES
                     IPRNT          5  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL         0.  HYDROGRAPH PLOT SCALE
                     IPNCH          0  PUNCH COMPUTED HYDROGRAPH
                      IOUT         22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1          1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2        720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT      0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
1212 KK   *    5.1.1   *
          *            *
```

```
            **************
1214 KO           OUTPUT CONTROL VARIABLES
                        IPRNT           5  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE
                        IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                         IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                        ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                        ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                       TIMINT       0.033  TIME INTERVAL IN HOURS



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


            **************
            *            *
1216 KK     *    5.1     *
            *            *
            **************

1218 KO           OUTPUT CONTROL VARIABLES
                        IPRNT           5  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE
                        IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                         IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                        ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                        ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                       TIMINT       0.033  TIME INTERVAL IN HOURS



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


            **************
            *            *
1248 KK     *    5.1     *
            *            *
            **************

1250 KO           OUTPUT CONTROL VARIABLES
                        IPRNT           5  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE
                        IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                         IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                        ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                        ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                       TIMINT       0.033  TIME INTERVAL IN HOURS
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
1252 KK   *    5.1     *
          *            *
          **************

1254 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
1256 KK   *    5.0     *
          *            *
          **************

1258 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
1288 KK   *    5.0     *
          *            *
          **************

1290 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
```

```
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


           **************
           *            *
1292 KK    *    5.0     *
           *            *
           **************

1294 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


           **************
           *            *
1296 KK    *    2.2.1   *
           *            *
           **************

1298 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


           **************
           *            *
1328 KK    *    2.2.1   *
           *            *
           **************
```

```
1330 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


           **************
           *            *
1332 KK    *    2.2.1   *
           *            *
           **************

1334 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


           **************
           *            *
1336 KK    *    2.2     *
           *            *
           **************

1338 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
```

```
            **************
            *            *
1368 KK     *    C2.2    *
            *            *
            **************

1370 KO           OUTPUT CONTROL VARIABLES
                        IPRNT           5  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE
                        IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                         IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                        ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                        ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                       TIMINT       0.033  TIME INTERVAL IN HOURS



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

            **************
            *            *
1372 KK     *    2.2     *
            *            *
            **************

1374 KO           OUTPUT CONTROL VARIABLES
                        IPRNT           5  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE
                        IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                         IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                        ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                        ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                       TIMINT       0.033  TIME INTERVAL IN HOURS



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

            **************
            *            *
1376 KK     *    2.1.3   *
            *            *
            **************

1378 KO           OUTPUT CONTROL VARIABLES
                        IPRNT           5  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE
                        IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                         IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                        ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
```

```
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
1408 KK   *    2.1.3   *
          *            *
          **************

1410 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
1412 KK   *    2.1.2   *
          *            *
          **************

1414 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
1444 KK   *    2.1.2   *
          *            *
          **************
```

```
1446 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


           **************
           *            *
1448 KK    *    2.1.2   *
           *            *
           **************

1450 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


           **************
           *            *
1452 KK    *    2.1.1   *
           *            *
           **************

1454 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
```

```
            **************
            *            *
1484 KK     *    2.1     *
            *            *
            **************

1486 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


            **************
            *            *
1516 KK     *    C2.1    *
            *            *
            **************

1518 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


            **************
            *            *
1520 KK     *    R2.1    *
            *            *
            **************

1522 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
```

```
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


           **************
           *            *
1524 KK    *    2.0     *
           *            *
           **************

1526 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


           **************
           *            *
1556 KK    *    C2.0    *
           *            *
           **************

1558 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS
```

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

| 6-HOUR | OPERATION 24-HOUR | STATION 72-HOUR | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD | | | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|---|
| | HYDROGRAPH AT | 2.7.8 | 228. | 3.63 | 134. | 36. | 36. | 0.42 | | |
| | ROUTED TO | 2.7.8 | 228. | 3.67 | 134. | 36. | 36. | 0.42 | | |
| | HYDROGRAPH AT | 2.7.7 | 28. | 2.83 | 10. | 2. | 2. | 0.03 | | |
| | 2 COMBINED AT | 2.7.7 | 239. | 3.67 | 143. | 38. | 38. | 0.45 | | |
| | ROUTED TO | 2.7.7 | 239. | 3.67 | 143. | 38. | 38. | 0.45 | | |
| | HYDROGRAPH AT | 2.7.6 | 219. | 3.57 | 126. | 33. | 33. | 0.39 | | |
| | 2 COMBINED AT | 2.7.6 | 457. | 3.63 | 269. | 71. | 71. | 0.84 | | |
| | ROUTED TO | 2.7.6 | 457. | 3.63 | 269. | 71. | 71. | 0.84 | | |
| | HYDROGRAPH AT | 2.7.5 | 27. | 2.87 | 9. | 2. | 2. | 0.03 | | |
| | 2 COMBINED AT | 2.7.5 | 468. | 3.63 | 278. | 74. | 74. | 0.86 | | |
| | ROUTED TO | 2.7.5 | 468. | 3.67 | 277. | 74. | 74. | 0.86 | | |
| | HYDROGRAPH AT | 2.7.4 | 34. | 2.90 | 11. | 3. | 3. | 0.03 | | |
| | 2 COMBINED AT | 2.7.4 | 482. | 3.67 | 288. | 77. | 77. | 0.89 | | |
| | ROUTED TO | 2.7.4 | 481. | 3.73 | 287. | 77. | 77. | 0.89 | | |
| | HYDROGRAPH AT | 2.7.3 | 121. | 4.47 | 84. | 24. | 24. | 0.23 | | |
| | 2 COMBINED AT | 2.7.3 | 579. | 3.80 | 371. | 100. | 100. | 1.12 | | |
| | ROUTED TO | 2.7.3 | 578. | 3.83 | 371. | 100. | 100. | 1.12 | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| HYDROGRAPH AT | | | | | | |
| 2.7.2 | 33. | 2.73 | 8. | 2. | 2. | 0.02 |
| 2 COMBINED AT | | | | | | |
| 2.7.2 | 587. | 3.80 | 377. | 103. | 103. | 1.14 |
| ROUTED TO | | | | | | |
| 2.7.2 | 574. | 4.30 | 375. | 102. | 102. | 1.14 |
| HYDROGRAPH AT | | | | | | |
| 2.11 | 251. | 4.70 | 176. | 52. | 52. | 0.39 |
| ROUTED TO | | | | | | |
| 2.11 | 251. | 4.70 | 176. | 52. | 52. | 0.39 |
| HYDROGRAPH AT | | | | | | |
| 2.10 | 251. | 4.70 | 176. | 52. | 52. | 0.39 |
| 2 COMBINED AT | | | | | | |
| 2.10 | 502. | 4.70 | 352. | 103. | 103. | 0.78 |
| HYDROGRAPH AT | | | | | | |
| 2.9 | 251. | 4.70 | 176. | 52. | 52. | 0.39 |
| 2 COMBINED AT | | | | | | |
| 2.9 | 753. | 4.70 | 527. | 155. | 155. | 1.18 |
| ROUTED TO | | | | | | |
| 2.9 | 751. | 4.77 | 527. | 155. | 155. | 1.18 |
| HYDROGRAPH AT | | | | | | |
| 2.8.1 | 122. | 3.27 | 55. | 15. | 15. | 0.13 |
| ROUTED TO | | | | | | |
| 2.8.1 | 121. | 3.33 | 55. | 15. | 15. | 0.13 |
| HYDROGRAPH AT | | | | | | |
| 2.8 | 86. | 4.30 | 57. | 16. | 16. | 0.14 |
| 3 COMBINED AT | | | | | | |
| 2.8 | 888. | 4.67 | 633. | 186. | 186. | 1.45 |
| ROUTED TO | | | | | | |
| 2.8 | 888. | 4.73 | 633. | 186. | 186. | 1.45 |
| HYDROGRAPH AT | | | | | | |
| 2.7.1 | 14. | 2.83 | 4. | 1. | 1. | 0.01 |
| HYDROGRAPH AT | | | | | | |
| 2.7 | 148. | 2.83 | 44. | 12. | 12. | 0.09 |
| 4 COMBINED AT | | | | | | |
| 2.7 | 1480. | 4.50 | 1035. | 301. | 301. | 2.69 |
| ROUTED TO | | | | | | |
| 2.7 | 1480. | 4.50 | 1035. | 301. | 301. | 2.69 |
| HYDROGRAPH AT | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2.6 | 69. | 2.70 | 16. | 4. | 4. | 0.03 |
| 2 COMBINED AT | | | | | | | |
| | 2.6 | 1493. | 4.50 | 1044. | 305. | 305. | 2.72 |
| ROUTED TO | | | | | | | |
| | 2.6 | 1492. | 4.53 | 1043. | 305. | 305. | 2.72 |
| HYDROGRAPH AT | | | | | | | |
| | 2.5.21 | 89. | 3.07 | 34. | 9. | 9. | 0.07 |
| ROUTED TO | | | | | | | |
| | 2.5.21 | 87. | 3.13 | 34. | 9. | 9. | 0.07 |
| HYDROGRAPH AT | | | | | | | |
| | 2.5.2 | 30. | 3.90 | 18. | 5. | 5. | 0.04 |
| HYDROGRAPH AT | | | | | | | |
| | 2.5.1 | 183. | 3.03 | 67. | 19. | 19. | 0.13 |
| 3 COMBINED AT | | | | | | | |
| | 2.5.1 | 285. | 3.07 | 118. | 33. | 33. | 0.24 |
| ROUTED TO | | | | | | | |
| | 2.5.1 | 283. | 3.13 | 118. | 33. | 33. | 0.24 |
| HYDROGRAPH AT | | | | | | | |
| | 2.5 | 32. | 3.33 | 15. | 4. | 4. | 0.03 |
| 3 COMBINED AT | | | | | | | |
| | 2.5 | 1627. | 4.47 | 1156. | 342. | 342. | 2.99 |
| ROUTED TO | | | | | | | |
| | 2.5 | 1626. | 4.50 | 1156. | 342. | 342. | 2.99 |
| HYDROGRAPH AT | | | | | | | |
| | 2.45 | 119. | 2.80 | 32. | 9. | 9. | 0.08 |
| 2 COMBINED AT | | | | | | | |
| | 2.45 | 1654. | 4.50 | 1181. | 351. | 351. | 3.07 |
| ROUTED TO | | | | | | | |
| | 2.45 | 1653. | 4.53 | 1181. | 351. | 351. | 3.07 |
| HYDROGRAPH AT | | | | | | | |
| | 2.4 | 154. | 3.47 | 76. | 21. | 21. | 0.16 |
| 2 COMBINED AT | | | | | | | |
| | 2.4 | 1742. | 4.50 | 1254. | 372. | 372. | 3.23 |
| ROUTED TO | | | | | | | |
| | 2.4 | 1741. | 4.53 | 1254. | 372. | 372. | 3.23 |
| HYDROGRAPH AT | | | | | | | |
| | 2.35 | 425. | 3.13 | 172. | 47. | 47. | 0.35 |
| 2 COMBINED AT | | | | | | | |
| | 2.35 | 1907. | 4.47 | 1412. | 419. | 419. | 3.59 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ROUTED TO | 2.35 | 1901. | 4.50 | 1410. | 419. | 419. | 3.59 |
| HYDROGRAPH AT | 2.3 | 272. | 3.07 | 102. | 28. | 28. | 0.20 |
| 2 COMBINED AT | C2.3 | 1992. | 4.50 | 1501. | 447. | 447. | 3.79 |
| HYDROGRAPH AT | 4.2.31 | 12. | 2.83 | 4. | 1. | 1. | 0.01 |
| HYDROGRAPH AT | 4.2.3 | 12. | 2.73 | 3. | 1. | 1. | 0.01 |
| 2 COMBINED AT | 4.2.3 | 22. | 2.77 | 7. | 2. | 2. | 0.02 |
| ROUTED TO | 4.2.3 | 22. | 2.80 | 7. | 2. | 2. | 0.02 |
| HYDROGRAPH AT | 4.2.2 | 20. | 2.87 | 7. | 2. | 2. | 0.02 |
| HYDROGRAPH AT | 4.2.1 | 29. | 2.80 | 9. | 2. | 2. | 0.02 |
| 2 COMBINED AT | 4.2.1 | 48. | 2.83 | 15. | 4. | 4. | 0.04 |
| ROUTED TO | 4.2.1 | 47. | 2.87 | 15. | 4. | 4. | 0.04 |
| HYDROGRAPH AT | 4.2 | 22. | 2.73 | 6. | 1. | 1. | 0.01 |
| HYDROGRAPH AT | 4.1 | 19. | 2.77 | 6. | 1. | 1. | 0.01 |
| 4 COMBINED AT | 4.1 | 105. | 2.80 | 33. | 9. | 9. | 0.09 |
| ROUTED TO | 4.1B | 104. | 2.83 | 33. | 9. | 9. | 0.09 |
| ROUTED TO | 4.1A | 100. | 2.87 | 33. | 9. | 9. | 0.09 |
| HYDROGRAPH AT | 4.0 | 70. | 2.70 | 17. | 5. | 5. | 0.04 |
| 2 COMBINED AT | 4.0 | 150. | 2.80 | 50. | 13. | 13. | 0.13 |
| ROUTED TO | 4.0 | 139. | 2.90 | 50. | 13. | 13. | 0.13 |
| HYDROGRAPH AT | 5.1.2 | 20. | 2.80 | 6. | 2. | 2. | 0.02 |

| | | | | | | |
|---|---|---|---|---|---|---|
| ROUTED TO | 5.1.2 | 16. | 3.07 | 6. | 2. | 2. | 0.02 |
| HYDROGRAPH AT | 5.1.1 | 150. | 3.57 | 79. | 22. | 22. | 0.19 |
| ROUTED TO | 5.1.1 | 148. | 3.73 | 79. | 22. | 22. | 0.19 |
| HYDROGRAPH AT | 5.1 | 104. | 2.97 | 38. | 10. | 10. | 0.10 |
| 3 COMBINED AT | 5.1 | 208. | 3.57 | 122. | 33. | 33. | 0.30 |
| ROUTED TO | 5.1 | 207. | 3.57 | 122. | 33. | 33. | 0.30 |
| HYDROGRAPH AT | 5.0 | 39. | 2.73 | 10. | 3. | 3. | 0.02 |
| 2 COMBINED AT | 5.0 | 218. | 3.57 | 131. | 36. | 36. | 0.32 |
| ROUTED TO | 5.0 | 217. | 3.60 | 131. | 36. | 36. | 0.32 |
| HYDROGRAPH AT | 2.2.1 | 94. | 2.70 | 21. | 6. | 6. | 0.04 |
| 3 COMBINED AT | 2.2.1 | 364. | 2.97 | 200. | 55. | 55. | 0.49 |
| ROUTED TO | 2.2.1 | 362. | 3.00 | 200. | 55. | 55. | 0.49 |
| HYDROGRAPH AT | 2.2 | 30. | 2.83 | 8. | 2. | 2. | 0.02 |
| 3 COMBINED AT | C2.2 | 2232. | 4.40 | 1703. | 504. | 504. | 4.30 |
| ROUTED TO | 2.2 | 2222. | 4.47 | 1698. | 504. | 504. | 4.30 |
| HYDROGRAPH AT | 2.1.3 | 13. | 2.90 | 5. | 1. | 1. | 0.01 |
| ROUTED TO | 2.1.3 | 13. | 3.17 | 5. | 1. | 1. | 0.01 |
| HYDROGRAPH AT | 2.1.2 | 66. | 4.67 | 46. | 13. | 13. | 0.11 |
| 2 COMBINED AT | 2.1.2 | 71. | 4.63 | 50. | 15. | 15. | 0.12 |
| ROUTED TO | | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2.1.2 | 70. | 4.67 | 50. | 15. | 15. | 0.12 |
| HYDROGRAPH AT | | | | | | | |
| | 2.1.1 | 24. | 4.17 | 15. | 4. | 4. | 0.03 |
| HYDROGRAPH AT | | | | | | | |
| | 2.1 | 36. | 3.23 | 15. | 4. | 4. | 0.03 |
| 4 COMBINED AT | | | | | | | |
| | C2.1 | 2330. | 4.47 | 1778. | 527. | 527. | 4.48 |
| ROUTED TO | | | | | | | |
| | R2.1 | 2306. | 4.60 | 1764. | 526. | 526. | 4.48 |
| HYDROGRAPH AT | | | | | | | |
| | 2.0 | 68. | 4.27 | 44. | 13. | 13. | 0.09 |
| 2 COMBINED AT | | | | | | | |
| | C2.0 | 2371. | 4.60 | 1808. | 539. | 539. | 4.57 |

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) |
| 2.7.8 | MANE | 1.60 | 227.53 | 219.50 | 3.17 | 2.00 | 227.50 | 220.00 | 3.17 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.7045E+02 EXCESS=0.0000E+00 OUTFLOW=0.7044E+02 BASIN STORAGE=0.6615E-03 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.7.7 | MANE | 1.83 | 239.18 | 221.31 | 3.16 | 2.00 | 239.12 | 220.00 | 3.16 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.7540E+02 EXCESS=0.0000E+00 OUTFLOW=0.7540E+02 BASIN STORAGE=0.6376E-03 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.7.6 | MANE | 1.24 | 456.95 | 218.57 | 3.16 | 2.00 | 456.84 | 218.00 | 3.16 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1414E+03 EXCESS=0.0000E+00 OUTFLOW=0.1414E+03 BASIN STORAGE=0.7716E-03 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.7.5 | MANE | 1.51 | 468.05 | 220.30 | 3.17 | 2.00 | 468.04 | 220.00 | 3.17 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1461E+03 EXCESS=0.0000E+00 OUTFLOW=0.1461E+03 BASIN STORAGE=0.1064E-02 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.7.4 | MANE | 2.00 | 480.99 | 224.00 | 3.20 | 2.00 | 480.99 | 224.00 | 3.20 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1519E+03 EXCESS=0.0000E+00 OUTFLOW=0.1519E+03 BASIN STORAGE=0.3734E-02 PERCENT ERROR= 0.0

```
            2.7.3   MANE          0.68    578.56    229.17      3.32      2.00    578.46    230.00        3.32

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1989E+03 EXCESS=0.0000E+00 OUTFLOW=0.1989E+03 BASIN STORAGE=0.4367E-03 PERCENT ERROR=   0.0

            2.7.2   MANE          2.00    573.95    258.00      3.33      2.00    573.95    258.00        3.33

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2032E+03 EXCESS=0.0000E+00 OUTFLOW=0.2025E+03 BASIN STORAGE=0.8926E-02 PERCENT ERROR=   0.3

            2.11    MANE          0.35    250.92    282.04      4.89      2.00    250.92    282.00        4.89

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1022E+03 EXCESS=0.0000E+00 OUTFLOW=0.1022E+03 BASIN STORAGE=0.1018E-03 PERCENT ERROR=   0.0

            2.9     MANE          2.00    751.33    286.00      4.88      2.00    751.33    286.00        4.88

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.3066E+03 EXCESS=0.0000E+00 OUTFLOW=0.3066E+03 BASIN STORAGE=0.3662E-02 PERCENT ERROR=   0.0

            2.8.1   MANE          2.00    120.82    200.00      4.12      2.00    120.82    200.00        4.12

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2923E+02 EXCESS=0.0000E+00 OUTFLOW=0.2923E+02 BASIN STORAGE=0.1677E-02 PERCENT ERROR=   0.0

            2.8     MANE          2.00    887.95    284.00      4.75      2.00    887.95    284.00        4.75

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.3675E+03 EXCESS=0.0000E+00 OUTFLOW=0.3675E+03 BASIN STORAGE=0.2468E-02 PERCENT ERROR=   0.0

            2.7     MANE          0.82   1480.08    270.90      4.15      2.00   1480.04    270.00        4.15

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.5959E+03 EXCESS=0.0000E+00 OUTFLOW=0.5959E+03 BASIN STORAGE=0.6632E-03 PERCENT ERROR=   0.0

            2.6     MANE          1.40   1492.13    272.39      4.16      2.00   1492.11    272.00        4.16

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.6046E+03 EXCESS=0.0000E+00 OUTFLOW=0.6046E+03 BASIN STORAGE=0.9819E-03 PERCENT ERROR=   0.0

            2.5.21  MANE          2.00     87.01    188.00      4.95      2.00     87.01    188.00        4.95

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1825E+02 EXCESS=0.0000E+00 OUTFLOW=0.1822E+02 BASIN STORAGE=0.4603E-03 PERCENT ERROR=   0.1

            2.5.1   MANE          2.00    282.91    188.00      5.14      2.00    282.91    188.00        5.14

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.6505E+02 EXCESS=0.0000E+00 OUTFLOW=0.6503E+02 BASIN STORAGE=0.3606E-03 PERCENT ERROR=   0.0
```

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.5 | MANE | 1.37 | 1626.43 | 269.20 | 4.25 | 2.00 | 1626.33 | 270.00 | 4.25 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.6778E+03 EXCESS=0.0000E+00 OUTFLOW=0.6778E+03 BASIN STORAGE=0.9656E-03 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.45 | MANE | 2.00 | 1652.91 | 272.00 | 4.24 | 2.00 | 1652.91 | 272.00 | 4.24 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.6951E+03 EXCESS=0.0000E+00 OUTFLOW=0:6951E+03 BASIN STORAGE=0.2431E-02 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.4 | MANE | 2.00 | 1741.35 | 272.00 | 4.27 | 2.00 | 1741.35 | 272.00 | 4.27 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.7362E+03 EXCESS=0.0000E+00 OUTFLOW=0.7362E+03 BASIN STORAGE=0.2603E-02 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.35 | MANE | 2.00 | 1901.19 | 270.00 | 4.33 | 2.00 | 1901.19 | 270.00 | 4.33 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.8294E+03 EXCESS=0.0000E+00 OUTFLOW=0.8293E+03 BASIN STORAGE=0.2818E-02 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.2.3 | MANE | 2.00 | 22.38 | 168.00 | 3.70 | 2.00 | 22.38 | 168.00 | 3.70 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.3551E+01 EXCESS=0.0000E+00 OUTFLOW=0.3551E+01 BASIN STORAGE=0.2934E-03 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.2.1 | MANE | 2.00 | 47.44 | 172.00 | 3.78 | 2.00 | 47.44 | 172.00 | 3.78 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.7862E+01 EXCESS=0.0000E+00 OUTFLOW=0.7861E+01 BASIN STORAGE=0.3001E-03 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.1B | MANE | 1.13 | 104.25 | 169.28 | 3.75 | 2.00 | 103.88 | 170.00 | 3.75 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1721E+02 EXCESS=0.0000E+00 OUTFLOW=0.1720E+02 BASIN STORAGE=0.1173E-03 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.1A | MANE | 2.00 | 100.38 | 172.00 | 3.75 | 2.00 | 100.38 | 172.00 | 3.75 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1720E+02 EXCESS=0.0000E+00 OUTFLOW=0.1719E+02 BASIN STORAGE=0.6100E-03 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4.0 | MANE | 2.00 | 139.46 | 174.00 | 3.85 | 2.00 | 139.46 | 174.00 | 3.85 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2612E+02 EXCESS=0.0000E+00 OUTFLOW=0.2609E+02 BASIN STORAGE=0.1258E-02 PERCENT ERROR= 0.1

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.1.2 | MANE | 2.00 | 16.38 | 184.00 | 3.61 | 2.00 | 16.38 | 184.00 | 3.61 |

```
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.3097E+01 EXCESS=0.0000E+00 OUTFLOW=0.3082E+01 BASIN STORAGE=0.2898E-02 PERCENT ERROR=   0.4

          5.1.1   MANE        2.00    147.92    224.00      4.25      2.00    147.92    224.00        4.25

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4267E+02 EXCESS=0.0000E+00 OUTFLOW=0.4264E+02 BASIN STORAGE=0.2822E-02 PERCENT ERROR=   0.1

          5.1     MANE        1.41    207.19    214.10      4.09      2.00    207.18    214.00        4.09

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.6548E+02 EXCESS=0.0000E+00 OUTFLOW=0.6543E+02 BASIN STORAGE=0.1992E-03 PERCENT ERROR=   0.1

          5.0     MANE        2.00    216.98    216.00      4.10      2.00    216.98    216.00        4.10

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.7061E+02 EXCESS=0.0000E+00 OUTFLOW=0.7048E+02 BASIN STORAGE=0.4620E-03 PERCENT ERROR=   0.2

          2.2.1   MANE        2.00    362.34    180.00      4.13      2.00    362.34    180.00        4.13

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1083E+03 EXCESS=0.0000E+00 OUTFLOW=0.1082E+03 BASIN STORAGE=0.2510E-03 PERCENT ERROR=   0.0

          2.2     MANE        2.00   2222.11    268.00      4.35      2.00   2222.11    268.00        4.35

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.9977E+03 EXCESS=0.0000E+00 OUTFLOW=0.9974E+03 BASIN STORAGE=0.5281E-02 PERCENT ERROR=   0.0

          2.1.3   MANE        2.00     12.82    190.00      3.79      2.00     12.82    190.00        3.79

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2430E+01 EXCESS=0.0000E+00 OUTFLOW=0.2428E+01 BASIN STORAGE=0.1885E-02 PERCENT ERROR=   0.0

          2.1.2   MANE        2.00     70.42    282.00      4.58      2.00     70.42    282.00        4.58

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2907E+02 EXCESS=0.0000E+00 OUTFLOW=0.2906E+02 BASIN STORAGE=0.2990E-03 PERCENT ERROR=   0.0

          R2.1    MANE        2.00   2305.86    276.00      4.36      2.00   2305.86    276.00        4.36

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1043E+04 EXCESS=0.0000E+00 OUTFLOW=0.1043E+04 BASIN STORAGE=0.1220E-01 PERCENT ERROR=   0.1



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

HEC1 S/N: 1343001909 HMVersion: 6.33 Data File: C:\TEMP\~vbh0A74.TMP

```
*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*               MAY  1991               *
*           VERSION 4.0.1E              *
*                                       *
*  RUN DATE  09/18/2001  TIME  16:37:29 *
*                                       *
*****************************************
```

```
*****************************************
*                                       *
*    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
```

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

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

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

HEC-1 INPUT PAGE 1

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

   1          ID  2-Minute Intervals
   2          IT       2                    720
   3          IO       5       0

   4          KK  3.3
   5          KM  10 Yr
   6          KO                                    22
   7          BA   0.004
   8          PB     4.5
   9          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  10          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  11          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  12          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  13          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  14          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  15          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  16          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  17          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  18          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  19          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  20          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  21          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  22          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  23          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  24          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  25          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  26          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  27          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  28          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  29          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  30          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  31          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  32          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  33          PC  1.0000 1.00000 1.00000 1.00000 1.00000
  34          LS          84.779
  35          UD   0.556

  36          KK  3.3.2
  37          KM  10 Yr
  38          KO                                    22
  39          BA   0.141
  40          PB     4.5
  41          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  42          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  43          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  44          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  45          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  46          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  47          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  48          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  49          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  50          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  51          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  52          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  53          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
```

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

   54         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
   55         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
   56         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
   57         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
   58         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
   59         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
   60         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
   61         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
   62         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
   63         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
   64         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
   65         PC  1.0000 1.00000 1.00000 1.00000 1.00000
   66         LS          84.772
   67         UD   0.578

   68         KK  3.3.11
   69         KM  10 Yr
   70         KO                                    22
   71         BA   0.026
   72         PB     4.5
   73         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
   74         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
   75         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
   76         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
   77         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
   78         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
   79         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
   80         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
   81         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
   82         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
   83         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
   84         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
   85         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
   86         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
   87         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
   88         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
   89         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
   90         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
   91         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
   92         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
   93         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
   94         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
   95         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
   96         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
   97         PC  1.0000 1.00000 1.00000 1.00000 1.00000
   98         LS          86.467
   99         UD   0.417

  100         KK  3.3.1
  101         KM  10 Yr
  102         KO                                    22
  103         BA   0.037
  104         PB     4.5
  105         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  106         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  107         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  108         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  109         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  110         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  111         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  112         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  113         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  114         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  115         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  116         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  117         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  118         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  119         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  120         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  121         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  122         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  123         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  124         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  125         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  126         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  127         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  128         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  129         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  130         LS          86.625
  131         UD   0.339

  132         KK  3.3
  133         KM
  134         KO                                      22
  135         HC       4

  136         KK  3.3
  137         KM
  138         KO                                      22
  139         RD    1300  0.0046    0.04             TRAP       3       1

  140         KK  3.21
  141         KM  10 Yr
  142         KO                                      22
  143         BA    1.28
  144         PB     4.5
  145         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  146         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  147         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  148         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  149         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  150         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  151         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  152         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  153         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  154         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  155         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  156         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  157         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  158         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
```

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

  159         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  160         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  161         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  162         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  163         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  164         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  165         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  166         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  167         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  168         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  169         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  170         LS          83.001
  171         UD   1.025

  172         KK  3.21
  173         KM
  174         KO                                      22
  175         RD     100   0.002   0.045             TRAP       6       2

  176         KK  3.2
  177         KM  10 Yr
  178         KO                                      22
  179         BA    1.28
  180         PB     4.5
  181         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  182         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  183         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  184         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  185         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  186         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  187         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  188         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  189         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  190         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  191         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  192         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  193         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  194         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  195         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  196         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  197         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  198         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  199         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  200         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  201         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  202         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  203         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  204         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  205         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  206         LS          83.001
  207         UD   1.025
```

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

  208         KK  3.21
  209         KM
  210         KO                                    22
  211         HC       2

  212         KK  3.2
  213         KM
  214         KO                                    22
  215         HC       2

  216         KK  3.2
  217         KM
  218         KO                                    22
  219         RD    1400  0.0029   0.045            TRAP       4     1.5

  220         KK  3.1
  221         KM  10 Yr
  222         KO                                    22
  223         BA  0.0535
  224         PB     4.5
  225         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  226         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  227         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  228         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  229         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  230         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  231         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  232         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  233         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  234         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  235         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  236         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  237         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  238         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  239         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  240         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  241         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  242         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  243         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  244         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  245         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  246         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  247         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  248         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  249         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  250         LS          86.354
  251         UD  0.9445

  252         KK  3.1
  253         KM
  254         KO                                    22
  255         RD     100   0.002   0.045            TRAP       6       2
```

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

  256         KK  3.101
  257         KM  10 Yr
  258         KO                                22
  259         BA  0.0535
  260         PB     4.5
  261         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  262         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  263         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  264         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  265         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  266         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  267         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  268         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  269         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  270         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  271         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
  272         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  273         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  274         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  275         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  276         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  277         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  278         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  279         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  280         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  281         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  282         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  283         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  284         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  285         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  286         LS          86.354
  287         UD  0.9445

  288         KK  3.1
  289         KM
  290         KO                                22
  291         HC       2

  292         KK  3.1.1
  293         KM  10 Yr
  294         KO                                22
  295         BA   0.013
  296         PB     4.5
  297         PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  298         PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
  299         PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  300         PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  301         PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  302         PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  303         PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
  304         PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
  305         PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
  306         PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
  307         PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
```

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

  308         PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
  309         PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
  310         PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
  311         PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
  312         PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
  313         PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
  314         PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
  315         PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
  316         PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
  317         PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
  318         PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
  319         PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
  320         PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
  321         PC  1.0000 1.00000 1.00000 1.00000 1.00000
  322         LS         78.991
  323         UD   0.228

  324         KK  3.1.1
  325         KM
  326         KO                                      22
  327         RD    2400  0.0042    0.06            TRAP       4       2

  328         KK  3.1
  329         KM
  330         KO                                      22
  331         HC       3

  332         KK  3.1
  333         KM
  334         KO                                      22
  335         RD    1130  0.0062    0.05            TRAP      24       2

  336         KK  3.01
  337         KM  10 Yr
  338         KO                                      22
  339         BA  0.0215
  340         PB     4.5
  341         LS         89.361
  342         UD  0.9445

  343         KK  3.01
  344         KM
  345         KO                                      22
  346         RD     100   0.002   0.045            TRAP       6       2

  347         KK  3.0
  348         KM  Type 1A Rainfall Simulation - 10 Yr
  349         KO                                      22
  350         BA  0.0215
  351         PB     4.5
  352         LS         89.361
  353         UD  0.9445
```

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

  354         KK  3.01
  355         KM
  356         KO                                    22
  357         HC       2

  358         KK  3.0
  359         KM
  360         KO                                    22
  361         HC       2
  362         ZZ
```

HEC1 S/N: 1343001909 HMVersion: 6.33 Data File: C:\TEMP\~vbh0A74.TMP

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*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*               MAY   1991              *
*            VERSION 4.0.1E             *
*                                       *
*  RUN DATE  09/18/2001  TIME  16:37:29 *
*                                       *
*****************************************
```

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

2-Minute Intervals

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

    IT          HYDROGRAPH TIME DATA
                       NMIN           2  MINUTES IN COMPUTATION INTERVAL
                      IDATE      1    0  STARTING DATE
                      ITIME         0000  STARTING TIME
                         NQ          720  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE      1    0  ENDING DATE
                     NDTIME         2358  ENDING TIME
                     ICENT            19  CENTURY MARK

                  COMPUTATION INTERVAL     0.03 HOURS
                       TOTAL TIME BASE    23.97 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


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


          **************
          *            *
  4 KK    *    3.3     *
          *            *
          **************

  6 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
```

```
                    IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                     IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                    ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                    ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                   TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
 36 KK    *    3.3.2   *
          *            *
          **************

 38 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
 68 KK    *    3.3.11  *
          *            *
          **************

 70 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
100 KK    *    3.3.1   *
          *            *
```

```
          **************

 102 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
 132 KK   *    3.3     *
          *            *
          **************

 134 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
 136 KK   *    3.3     *
          *            *
          **************

 138 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
```

```
          **************
          *            *
140 KK    *    3.21    *
          *            *
          **************

142 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
172 KK    *    3.21    *
          *            *
          **************

174 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
176 KK    *    3.2     *
          *            *
          **************

178 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
```

```
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
208 KK    *    3.21    *
          *            *
          **************

210 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
212 KK    *    3.2     *
          *            *
          **************

214 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
216 KK    *    3.2     *
          *            *
          **************

218 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
```

```
                    IPLOT           0  PLOT CONTROL
                    QSCAL          0.  HYDROGRAPH PLOT SCALE
                    IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                     IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                    ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                    ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                   TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
220 KK    *    3.1     *
          *            *
          **************

222 KO          OUTPUT CONTROL VARIABLES
                    IPRNT           5  PRINT CONTROL
                    IPLOT           0  PLOT CONTROL
                    QSCAL          0.  HYDROGRAPH PLOT SCALE
                    IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                     IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                    ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                    ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                   TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
252 KK    *    3.1     *
          *            *
          **************

254 KO          OUTPUT CONTROL VARIABLES
                    IPRNT           5  PRINT CONTROL
                    IPLOT           0  PLOT CONTROL
                    QSCAL          0.  HYDROGRAPH PLOT SCALE
                    IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                     IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                    ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                    ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                   TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
```

```
256 KK      *    3.101    *
            *             *
            ***************

258 KO           OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS


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


            ***************
            *             *
288 KK      *    3.1      *
            *             *
            ***************

290 KO           OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS


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


            ***************
            *             *
292 KK      *    3.1.1    *
            *             *
            ***************

294 KO           OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
324 KK    *    3.1.1   *
          *            *
          **************

326 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
328 KK    *    3.1     *
          *            *
          **************

330 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
332 KK    *    3.1     *
          *            *
          **************

334 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
```

```
                    ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                    ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                   TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
336 KK    *    3.01    *
          *            *
          **************

338 KO          OUTPUT CONTROL VARIABLES
                  IPRNT           5  PRINT CONTROL
                  IPLOT           0  PLOT CONTROL
                  QSCAL          0.  HYDROGRAPH PLOT SCALE
                  IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                   IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                  ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                  ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                 TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
343 KK    *    3.01    *
          *            *
          **************

345 KO          OUTPUT CONTROL VARIABLES
                  IPRNT           5  PRINT CONTROL
                  IPLOT           0  PLOT CONTROL
                  QSCAL          0.  HYDROGRAPH PLOT SCALE
                  IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                   IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                  ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                  ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                 TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
347 KK    *    3.0     *
          *            *
          **************
```

```
 349 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
 354 KK   *    3.01    *
          *            *
          **************

 356 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
 358 KK   *    3.0     *
          *            *
          **************

 360 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS
```

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

| OPERATION | STATION | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD | | | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|
| 6-HOUR | 24-HOUR | 72-HOUR | | | | | | | |
| HYDROGRAPH AT | 3.3 | 3. | 3.27 | 1. | 0. | 0. | 0.00 | | |
| HYDROGRAPH AT | 3.3.2 | 88. | 3.30 | 41. | 11. | 11. | 0.14 | | |
| HYDROGRAPH AT | 3.3.11 | 20. | 3.10 | 8. | 2. | 2. | 0.03 | | |
| HYDROGRAPH AT | 3.3.1 | 31. | 3.00 | 12. | 3. | 3. | 0.04 | | |
| 4 COMBINED AT | 3.3 | 134. | 3.17 | 62. | 16. | 16. | 0.21 | | |
| ROUTED TO | 3.3 | 133. | 3.23 | 62. | 16. | 16. | 0.21 | | |
| HYDROGRAPH AT | 3.21 | 563. | 3.90 | 346. | 94. | 94. | 1.28 | | |
| ROUTED TO | 3.21 | 563. | 3.90 | 346. | 94. | 94. | 1.28 | | |
| HYDROGRAPH AT | 3.2 | 563. | 3.90 | 346. | 94. | 94. | 1.28 | | |
| 2 COMBINED AT | 3.21 | 1126. | 3.90 | 692. | 188. | 188. | 2.56 | | |
| 2 COMBINED AT | 3.2 | 1219. | 3.83 | 753. | 204. | 204. | 2.77 | | |
| ROUTED TO | 3.2 | 1217. | 3.90 | 752. | 204. | 204. | 2.77 | | |
| HYDROGRAPH AT | 3.1 | 28. | 3.73 | 16. | 4. | 4. | 0.05 | | |
| ROUTED TO | 3.1 | 28. | 3.77 | 16. | 4. | 4. | 0.05 | | |
| HYDROGRAPH AT | 3.101 | 28. | 3.73 | 16. | 4. | 4. | 0.05 | | |
| 2 COMBINED AT | 3.1 | 56. | 3.73 | 32. | 9. | 9. | 0.11 | | |
| HYDROGRAPH AT | 3.1.1 | 9. | 2.87 | 3. | 1. | 1. | 0.01 | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| ROUTED TO | | | | | | |
| 3.1.1 | 8. | 3.30 | 3. | 1. | 1. | 0.01 |
| 3 COMBINED AT | | | | | | |
| 3.1 | 1277. | 3.90 | 787. | 214. | 214. | 2.89 |
| ROUTED TO | | | | | | |
| 3.1 | 1276. | 3.93 | 787. | 214. | 214. | 2.89 |
| HYDROGRAPH AT | | | | | | |
| 3.01 | 13. | 3.70 | 7. | 2. | 2. | 0.02 |
| ROUTED TO | | | | | | |
| 3.01 | 13. | 3.73 | 7. | 2. | 2. | 0.02 |
| HYDROGRAPH AT | | | | | | |
| 3.0 | 13. | 3.70 | 7. | 2. | 2. | 0.02 |
| 2 COMBINED AT | | | | | | |
| 3.01 | 25. | 3.70 | 14. | 4. | 4. | 0.04 |
| 2 COMBINED AT | | | | | | |
| 3.0 | 1301. | 3.93 | 801. | 218. | 218. | 2.93 |

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) |
| 3.3 | MANE | 2.00 | 133.45 | 194.00 | 2.94 | 2.00 | 133.45 | 194.00 | 2.94 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.3260E+02 EXCESS=0.0000E+00 OUTFLOW=0.3260E+02 BASIN STORAGE=0.1189E-02 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.21 | MANE | 0.38 | 563.08 | 233.85 | 2.73 | 2.00 | 563.07 | 234.00 | 2.73 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1861E+03 EXCESS=0.0000E+00 OUTFLOW=0.1861E+03 BASIN STORAGE=0.1437E-03 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.2 | MANE | 2.00 | 1216.81 | 234.00 | 2.74 | 2.00 | 1216.81 | 234.00 | 2.74 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4047E+03 EXCESS=0.0000E+00 OUTFLOW=0.4047E+03 BASIN STORAGE=0.2057E-02 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.1 | MANE | 0.90 | 28.12 | 225.09 | 3.04 | 2.00 | 28.12 | 226.00 | 3.04 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.8665E+01 EXCESS=0.0000E+00 OUTFLOW=0.8665E+01 BASIN STORAGE=0.1421E-03 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.1.1 | MANE | 2.00 | 8.37 | 198.00 | 2.37 | 2.00 | 8.37 | 198.00 | 2.37 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1647E+01 EXCESS=0.0000E+00 OUTFLOW=0.1644E+01 BASIN STORAGE=0.3223E-02 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.1 | MANE | 2.00 | 1276.38 | 236.00 | 2.75 | 2.00 | 1276.38 | 236.00 | 2.75 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4237E+03 EXCESS=0.0000E+00 OUTFLOW=0.4237E+03 BASIN STORAGE=0.2970E-02 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.01 | MANE | 1.14 | 12.68 | 222.75 | 3.33 | 2.00 | 12.67 | 224.00 | 3.33 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.3820E+01 EXCESS=0.0000E+00 OUTFLOW=0.3820E+01 BASIN STORAGE=0.1416E-03 PERCENT ERROR= 0.0

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

HEC1 S/N: 1343001909  HMVersion: 6.33  Data File: C:\TEMP\~vbh1C00.TMP

```
*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*               MAY   1991              *
*            VERSION 4.0.1E             *
*                                       *
*  RUN DATE  10/08/2001  TIME  14:43:34 *
*                                       *
*****************************************
```

```
*****************************************
*                                       *
*    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
```

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

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

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

HEC-1 INPUT  PAGE 1

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

   1          ID  2-Minute Intervals
   2          IT       2                    720
```

```
  3          IO       5       0

  4          KK  3.3
  5          KM  25 Yr
  6          KO                                      22
  7          BA   0.004
  8          PB       5
  9          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
 10          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
 11          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
 12          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
 13          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
 14          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
 15          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
 16          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
 17          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
 18          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
 19          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
 20          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
 21          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
 22          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
 23          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
 24          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
 25          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
 26          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
 27          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
 28          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
 29          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
 30          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
 31          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
 32          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
 33          PC  1.0000 1.00000 1.00000 1.00000 1.00000
 34          LS          84.779
 35          UD   0.556

 36          KK  3.3.2
 37          KM  25 Yr
 38          KO                                      22
 39          BA   0.141
 40          PB       5
 41          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
 42          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
 43          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
 44          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
 45          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
 46          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
 47          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
 48          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
 49          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
 50          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
 51          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
 52          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
 53          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
```



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

 54          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
 55          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
 56          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
```

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   57          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
   58          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
   59          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
   60          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
   61          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
   62          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
   63          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
   64          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
   65          PC  1.0000 1.00000 1.00000 1.00000 1.00000
   66          LS          84.772
   67          UD   0.578

   68          KK  3.3.11
   69          KM  25 Yr
   70          KO                                    22
   71          BA   0.026
   72          PB        5
   73          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
   74          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
   75          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
   76          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
   77          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
   78          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
   79          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
   80          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
   81          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
   82          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
   83          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
   84          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
   85          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
   86          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
   87          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
   88          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
   89          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
   90          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
   91          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
   92          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
   93          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
   94          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
   95          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
   96          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
   97          PC  1.0000 1.00000 1.00000 1.00000 1.00000
   98          LS          86.467
   99          UD   0.417

  100          KK  3.3.1
  101          KM  25 Yr
  102          KO                                    22
  103          BA   0.037
  104          PB        5
  105          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  106          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  107          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  108          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  109          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  110          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
```

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111          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
112          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
113          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
114          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
115          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
116          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
117          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
118          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
119          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
120          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
121          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
122          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
123          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
124          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
125          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
126          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
127          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
128          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
129          PC  1.0000 1.00000 1.00000 1.00000 1.00000
130          LS          86.625
131          UD   0.339

132          KK  3.3
133          KM
134          KO                                    22
135          HC       4

136          KK  3.3
137          KM
138          KO                                    22
139          RD    1300  0.0046    0.04           TRAP       3       1

140          KK  3.21
141          KM  25 Yr
142          KO                                    22
143          BA    1.28
144          PB       5
145          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
146          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
147          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
148          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
149          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
150          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
151          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
152          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
153          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
154          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
155          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
156          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
157          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
158          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
```



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

159          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
160          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
161          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
162          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
163          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
```

```
164          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
165          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
166          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
167          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
168          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
169          PC  1.0000 1.00000 1.00000 1.00000 1.00000
170          LS          83.001
171          UD   1.025

172          KK  3.21
173          KM
174          KO                                      22
175          RD     100    0.002    0.045            TRAP       6       2

176          KK  3.2
177          KM  25 Yr
178          KO                                      22
179          BA    1.28
180          PB       5
181          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
182          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
183          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
184          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
185          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
186          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
187          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
188          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
189          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
190          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
191          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
192          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
193          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
194          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
195          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
196          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
197          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
198          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
199          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
200          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
201          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
202          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
203          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
204          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
205          PC  1.0000 1.00000 1.00000 1.00000 1.00000
206          LS          83.001
207          UD   1.025
```



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


208          KK  3.21
209          KM
210          KO                                      22
211          HC       2

212          KK  3.2
213          KM
214          KO                                      22
215          HC       2
```

```
 216          KK  3.2
 217          KM
 218          KO                                      22
 219          RD    1400  0.0029   0.045             TRAP       4     1.5

 220          KK  3.1
 221          KM  25 Yr
 222          KO                                      22
 223          BA  0.0535
 224          PB       5
 225          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
 226          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
 227          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
 228          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
 229          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
 230          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
 231          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
 232          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
 233          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
 234          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
 235          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
 236          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
 237          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
 238          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
 239          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
 240          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
 241          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
 242          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
 243          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
 244          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
 245          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
 246          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
 247          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
 248          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
 249          PC  1.0000 1.00000 1.00000 1.00000 1.00000
 250          LS         86.354
 251          UD  0.9445

 252          KK  3.1
 253          KM
 254          KO                                      22
 255          RD     100   0.002   0.045             TRAP       6       2
                                        HEC-1 INPUT                                                PAGE  6

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

 256          KK  3.101
 257          KM  25 Yr
 258          KO                                      22
 259          BA  0.0535
 260          PB       5
 261          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
 262          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
 263          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
 264          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
 265          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
 266          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
 267          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
```

```
268          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
269          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
270          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
271          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
272          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
273          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
274          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
275          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
276          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
277          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
278          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
279          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
280          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
281          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
282          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
283          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
284          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
285          PC  1.0000 1.00000 1.00000 1.00000 1.00000
286          LS          86.354
287          UD  0.9445

288          KK  3.1
289          KM
290          KO                                      22
291          HC       2

292          KK  3.1.1
293          KM  25 Yr
294          KO                                      22
295          BA   0.013
296          PB       5
297          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
298          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
299          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
300          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
301          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
302          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
303          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
304          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
305          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
306          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
307          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
```



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

308          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
309          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
310          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
311          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
312          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
313          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
314          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
315          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
316          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
317          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
318          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
319          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
320          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
321          PC  1.0000 1.00000 1.00000 1.00000 1.00000
```

```
          322           LS          78.991
          323           UD   0.228

          324           KK  3.1.1
          325           KM
          326           KO                                    22
          327           RD    2400  0.0042    0.06            TRAP       4       2

          328           KK  3.1
          329           KM
          330           KO                                    22
          331           HC       3

          332           KK  3.1
          333           KM
          334           KO                                    22
          335           RD    1130  0.0062    0.05            TRAP      24       2

          336           KK  3.01
          337           KM  25 Yr
          338           KO                                    22
          339           BA  0.0215
          340           PB       5
          341           LS          89.361
          342           UD  0.9445

          343           KK  3.01
          344           KM
          345           KO                                    22
          346           RD     100   0.002   0.045            TRAP       6       2

          347           KK  3.0
          348           KM  Type 1A Rainfall Simulation - 25 Yr
          349           KO                                    22
          350           BA  0.0215
          351           PB       5
          352           LS          89.361
          353           UD  0.9445
                                              HEC-1 INPUT                                    PAGE  8

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


          354           KK  3.01
          355           KM
          356           KO                                    22
          357           HC       2

          358           KK  3.0
          359           KM
          360           KO                                    22
          361           HC       2
          362           ZZ
HEC1 S/N: 1343001909        HMVersion: 6.33    Data File: C:\TEMP\~vbh1C00.TMP


**************************************                **************************************
*                                    *                *                                    *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *            *    U.S. ARMY CORPS OF ENGINEERS    *
*               MAY   1991             *             *    HYDROLOGIC ENGINEERING CENTER   *
```

```
*            VERSION 4.0.1E              *
*                                        *
*  RUN DATE  10/08/2001  TIME  14:43:34  *
*                                        *
******************************************
```


```
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104             *
*                                      *
****************************************
```


2-Minute Intervals

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

    IT          HYDROGRAPH TIME DATA
                       NMIN           2  MINUTES IN COMPUTATION INTERVAL
                      IDATE      1    0  STARTING DATE
                      ITIME         0000  STARTING TIME
                         NQ          720  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE      1    0  ENDING DATE
                     NDTIME         2358  ENDING TIME
                      ICENT           19  CENTURY MARK

                  COMPUTATION INTERVAL     0.03 HOURS
                       TOTAL TIME BASE    23.97 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
```

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

```
          **************
          *            *
  4 KK    *    3.3     *
          *            *
          **************

  6 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
 36 KK    *    3.3.2   *
          *            *
          **************

 38 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
 68 KK    *    3.3.11  *
          *            *
          **************

 70 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
100 KK    *    3.3.1   *
          *            *
          **************

102 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
```

```
                    IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                   ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                   ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                  TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
132 KK    *    3.3     *
          *            *
          **************

134 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
136 KK    *    3.3     *
          *            *
          **************

138 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
140 KK    *    3.21    *
          *            *
          **************
```

```
142 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
172 KK    *    3.21    *
          *            *
          **************

174 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
176 KK    *    3.2     *
          *            *
          **************

178 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
```

```
          **************
          *            *
208 KK    *    3.21    *
          *            *
          **************

210 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
212 KK    *    3.2     *
          *            *
          **************

214 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
216 KK    *    3.2     *
          *            *
          **************

218 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS
```

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
220 KK    *    3.1     *
          *            *
          **************

222 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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

          **************
          *            *
252 KK    *    3.1     *
          *            *
          **************

254 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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

          **************
          *            *
256 KK    *    3.101   *
          *            *
          **************

258 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
```

```
                    QSCAL          0.  HYDROGRAPH PLOT SCALE
                    IPNCH            0  PUNCH COMPUTED HYDROGRAPH
                     IOUT           22  SAVE HYDROGRAPH ON THIS UNIT
                    ISAV1            1  FIRST ORDINATE PUNCHED OR SAVED
                    ISAV2          720  LAST ORDINATE PUNCHED OR SAVED
                   TIMINT        0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
288 KK    *    3.1     *
          *            *
          **************

290 KO          OUTPUT CONTROL VARIABLES
                      IPRNT            5  PRINT CONTROL
                      IPLOT            0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH            0  PUNCH COMPUTED HYDROGRAPH
                       IOUT           22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1            1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2          720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT        0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
292 KK    *    3.1.1   *
          *            *
          **************

294 KO          OUTPUT CONTROL VARIABLES
                      IPRNT            5  PRINT CONTROL
                      IPLOT            0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH            0  PUNCH COMPUTED HYDROGRAPH
                       IOUT           22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1            1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2          720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT        0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
324 KK    *    3.1.1   *
```

```
            *             *
            ***************

 326 KO           OUTPUT CONTROL VARIABLES
                        IPRNT           5  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE
                        IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                         IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                        ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                        ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                       TIMINT       0.033  TIME INTERVAL IN HOURS



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


            ***************
            *             *
 328 KK     *     3.1     *
            *             *
            ***************

 330 KO           OUTPUT CONTROL VARIABLES
                        IPRNT           5  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE
                        IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                         IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                        ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                        ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                       TIMINT       0.033  TIME INTERVAL IN HOURS



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


            ***************
            *             *
 332 KK     *     3.1     *
            *             *
            ***************

 334 KO           OUTPUT CONTROL VARIABLES
                        IPRNT           5  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE
                        IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                         IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                        ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                        ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                       TIMINT       0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
336 KK    *    3.01    *
          *            *
          **************

338 KO          OUTPUT CONTROL VARIABLES
                     IPRNT            5  PRINT CONTROL
                     IPLOT            0  PLOT CONTROL
                     QSCAL           0.  HYDROGRAPH PLOT SCALE
                     IPNCH            0  PUNCH COMPUTED HYDROGRAPH
                      IOUT           22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1            1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2          720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT        0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
343 KK    *    3.01    *
          *            *
          **************

345 KO          OUTPUT CONTROL VARIABLES
                     IPRNT            5  PRINT CONTROL
                     IPLOT            0  PLOT CONTROL
                     QSCAL           0.  HYDROGRAPH PLOT SCALE
                     IPNCH            0  PUNCH COMPUTED HYDROGRAPH
                      IOUT           22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1            1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2          720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT        0.033  TIME INTERVAL IN HOURS
```

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

```
          **************
          *            *
347 KK    *    3.0     *
          *            *
          **************

349 KO          OUTPUT CONTROL VARIABLES
                     IPRNT            5  PRINT CONTROL
                     IPLOT            0  PLOT CONTROL
                     QSCAL           0.  HYDROGRAPH PLOT SCALE
                     IPNCH            0  PUNCH COMPUTED HYDROGRAPH
                      IOUT           22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1            1  FIRST ORDINATE PUNCHED OR SAVED
```

```
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
354 KK    *    3.01    *
          *            *
          **************

356 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
358 KK    *    3.0     *
          *            *
          **************

360 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


                                                RUNOFF SUMMARY
                                          FLOW IN CUBIC FEET PER SECOND
                                        TIME IN HOURS,  AREA IN SQUARE MILES

                                    PEAK   TIME OF     AVERAGE FLOW FOR MAXIMUM PERIOD      BASIN     MAXIMUM     TIME OF
          OPERATION       STATION   FLOW     PEAK                                          AREA      STAGE     MAX STAGE
6-HOUR     24-HOUR     72-HOUR

          HYDROGRAPH AT
                           3.3          3.    3.27          1.          0.          0.      0.00

          HYDROGRAPH AT
```

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | 3.3.2 | 103. | 3.27 | 48. | 13. | 13. | 0.14 |
| HYDROGRAPH AT | | | | | | | |
| | 3.3.11 | 23. | 3.07 | 9. | 2. | 2. | 0.03 |
| HYDROGRAPH AT | | | | | | | |
| | 3.3.1 | 36. | 3.00 | 13. | 4. | 4. | 0.04 |
| 4 COMBINED AT | | | | | | | |
| | 3.3 | 157. | 3.17 | 71. | 19. | 19. | 0.21 |
| ROUTED TO | | | | | | | |
| | 3.3 | 156. | 3.23 | 71. | 19. | 19. | 0.21 |
| HYDROGRAPH AT | | | | | | | |
| | 3.21 | 665. | 3.87 | 402. | 109. | 109. | 1.28 |
| ROUTED TO | | | | | | | |
| | 3.21 | 665. | 3.87 | 402. | 109. | 109. | 1.28 |
| HYDROGRAPH AT | | | | | | | |
| | 3.2 | 665. | 3.87 | 402. | 109. | 109. | 1.28 |
| 2 COMBINED AT | | | | | | | |
| | 3.21 | 1330. | 3.87 | 804. | 219. | 219. | 2.56 |
| 2 COMBINED AT | | | | | | | |
| | 3.2 | 1438. | 3.83 | 873. | 238. | 238. | 2.77 |
| ROUTED TO | | | | | | | |
| | 3.2 | 1435. | 3.87 | 873. | 238. | 238. | 2.77 |
| HYDROGRAPH AT | | | | | | | |
| | 3.1 | 33. | 3.73 | 18. | 5. | 5. | 0.05 |
| ROUTED TO | | | | | | | |
| | 3.1 | 33. | 3.73 | 18. | 5. | 5. | 0.05 |
| HYDROGRAPH AT | | | | | | | |
| | 3.101 | 33. | 3.73 | 18. | 5. | 5. | 0.05 |
| 2 COMBINED AT | | | | | | | |
| | 3.1 | 66. | 3.73 | 37. | 10. | 10. | 0.11 |
| HYDROGRAPH AT | | | | | | | |
| | 3.1.1 | 11. | 2.87 | 4. | 1. | 1. | 0.01 |
| ROUTED TO | | | | | | | |
| | 3.1.1 | 10. | 3.27 | 4. | 1. | 1. | 0.01 |
| 3 COMBINED AT | | | | | | | |
| | 3.1 | 1505. | 3.87 | 913. | 249. | 249. | 2.89 |
| ROUTED TO | | | | | | | |
| | 3.1 | 1505. | 3.90 | 913. | 249. | 249. | 2.89 |
| HYDROGRAPH AT | | | | | | | |
| | 3.01 | 15. | 3.70 | 8. | 2. | 2. | 0.02 |
| ROUTED TO | | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 3.01 | 15. | 3.70 | 8. | 2. | 2. | 0.02 |
| HYDROGRAPH AT | | | | | | |
| 3.0 | 15. | 3.70 | 8. | 2. | 2. | 0.02 |
| 2 COMBINED AT | | | | | | |
| 3.01 | 29. | 3.70 | 16. | 4. | 4. | 0.04 |
| 2 COMBINED AT | | | | | | |
| 3.0 | 1533. | 3.90 | 929. | 253. | 253. | 2.93 |

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) |
| 3.3 | MANE | 2.00 | 156.23 | 194.00 | 3.40 | 2.00 | 156.23 | 194.00 | 3.40 |
| CONTINUITY SUMMARY (AC-FT) - INFLOW=0.3771E+02 EXCESS=0.0000E+00 OUTFLOW=0.3771E+02 BASIN STORAGE=0.1012E-02 PERCENT ERROR= 0.0 | | | | | | | | | |
| 3.21 | MANE | 0.36 | 664.78 | 232.06 | 3.17 | 2.00 | 664.76 | 232.00 | 3.17 |
| CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2167E+03 EXCESS=0.0000E+00 OUTFLOW=0.2167E+03 BASIN STORAGE=0.1496E-03 PERCENT ERROR= 0.0 | | | | | | | | | |
| 3.2 | MANE | 2.00 | 1435.33 | 232.00 | 3.19 | 2.00 | 1435.33 | 232.00 | 3.19 |
| CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4711E+03 EXCESS=0.0000E+00 OUTFLOW=0.4710E+03 BASIN STORAGE=0.1564E-02 PERCENT ERROR= 0.0 | | | | | | | | | |
| 3.1 | MANE | 0.87 | 32.74 | 224.11 | 3.50 | 2.00 | 32.74 | 224.00 | 3.50 |
| CONTINUITY SUMMARY (AC-FT) - INFLOW=0.9993E+01 EXCESS=0.0000E+00 OUTFLOW=0.9993E+01 BASIN STORAGE=0.1445E-03 PERCENT ERROR= 0.0 | | | | | | | | | |
| 3.1.1 | MANE | 2.00 | 10.12 | 196.00 | 2.80 | 2.00 | 10.12 | 196.00 | 2.80 |
| CONTINUITY SUMMARY (AC-FT) - INFLOW=0.1942E+01 EXCESS=0.0000E+00 OUTFLOW=0.1938E+01 BASIN STORAGE=0.3537E-02 PERCENT ERROR= 0.0 | | | | | | | | | |
| 3.1 | MANE | 2.00 | 1505.02 | 234.00 | 3.20 | 2.00 | 1505.02 | 234.00 | 3.20 |
| CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4930E+03 EXCESS=0.0000E+00 OUTFLOW=0.4930E+03 BASIN STORAGE=0.2504E-02 PERCENT ERROR= 0.0 | | | | | | | | | |
| 3.01 | MANE | 1.09 | 14.58 | 222.70 | 3.81 | 2.00 | 14.58 | 222.00 | 3.81 |

```
CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4368E+01 EXCESS=0.0000E+00 OUTFLOW=0.4368E+01 BASIN STORAGE=0.1428E-03 PERCENT ERROR=    0.0



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

HEC1 S/N: 1343001909 HMVersion: 6.33 Data File: C:\TEMP\~vbh037F.TMP

```
*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*               MAY   1991              *
*            VERSION 4.0.1E             *
*                                       *
*  RUN DATE  09/18/2001  TIME  15:40:22 *
*                                       *
*****************************************
```

```
*****************************************
*                                       *
*    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
```

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

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

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

HEC-1 INPUT PAGE 1

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

  1           ID  2-Minute Intervals
  2           IT       2                    720
  3           IO       5       0
```

```
 4          KK  3.3
 5          KM  100 Yr
 6          KO                                      22
 7          BA   0.004
 8          PB       6
 9          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
10          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
11          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
12          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
13          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
14          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
15          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
16          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
17          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
18          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
19          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
20          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
21          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
22          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
23          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
24          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
25          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
26          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
27          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
28          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
29          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
30          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
31          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
32          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
33          PC  1.0000 1.00000 1.00000 1.00000 1.00000
34          LS         84.779
35          UD   0.556

36          KK  3.3.2
37          KM  100 Yr
38          KO                                      22
39          BA   0.141
40          PB       6
41          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
42          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
43          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
44          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
45          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
46          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
47          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
48          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
49          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
50          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
51          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
52          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
53          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
```



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

54          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
55          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
56          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
57          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
```

```
   58          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
   59          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
   60          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
   61          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
   62          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
   63          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
   64          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
   65          PC  1.0000 1.00000 1.00000 1.00000 1.00000
   66          LS          84.772
   67          UD   0.578

   68          KK  3.3.11
   69          KM  100 Yr
   70          KO                                    22
   71          BA   0.026
   72          PB       6
   73          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
   74          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
   75          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
   76          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
   77          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
   78          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
   79          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
   80          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
   81          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
   82          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
   83          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
   84          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
   85          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
   86          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
   87          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
   88          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
   89          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
   90          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
   91          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
   92          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
   93          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
   94          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
   95          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
   96          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
   97          PC  1.0000 1.00000 1.00000 1.00000 1.00000
   98          LS          86.467
   99          UD   0.417

  100          KK  3.3.1
  101          KM  100 Yr
  102          KO                                    22
  103          BA   0.037
  104          PB       6
  105          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
  106          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
```



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

  107          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
  108          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
  109          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
  110          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
  111          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
```

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112          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
113          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
114          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
115          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
116          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
117          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
118          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
119          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
120          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
121          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
122          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
123          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
124          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
125          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
126          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
127          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
128          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
129          PC  1.0000 1.00000 1.00000 1.00000 1.00000
130          LS        86.625
131          UD   0.339

132          KK  3.3
133          KM
134          KO                                    22
135          HC       4

136          KK  3.3
137          KM
138          KO                                    22
139          RD    1300  0.0046    0.04           TRAP       3       1

140          KK  3.2
141          KM  100 Yr
142          KO                                    22
143          BA    1.28
144          PB       6
145          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
146          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
147          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
148          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
149          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
150          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
151          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
152          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
153          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
154          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
155          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
156          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
157          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
158          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
```



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

159          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
160          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
161          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
162          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
163          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
164          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
```

```
165          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
166          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
167          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
168          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
169          PC  1.0000 1.00000 1.00000 1.00000 1.00000
170          LS          83.001
171          UD   1.025

172          KK  3.21
173          KM  100 Yr
174          KO                                  22
175          BA    1.28
176          PB       6
177          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
178          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
179          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
180          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
181          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
182          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
183          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
184          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
185          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
186          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
187          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
188          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
189          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
190          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
191          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
192          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
193          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
194          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
195          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
196          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
197          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
198          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
199          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
200          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
201          PC  1.0000 1.00000 1.00000 1.00000 1.00000
202          LS          83.001
203          UD   1.025

204          KK  3.2
205          KM
206          KO                                  22
207          HC       3
```



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


208          KK  3.2
209          KM
210          KO                                  22
211          RD    1400  0.0029   0.045           TRAP       4     1.5

212          KK  3.1.1
213          KM  100 Yr
214          KO                                  22
215          BA   0.013
216          PB       6
```

```
217          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
218          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
219          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
220          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
221          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
222          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
223          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
224          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
225          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
226          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
227          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
228          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
229          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
230          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
231          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
232          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
233          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
234          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
235          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
236          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
237          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
238          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
239          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
240          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
241          PC  1.0000 1.00000 1.00000 1.00000 1.00000
242          LS          78.991
243          UD   0.228

244          KK  3.1.1
245          KM
246          KO                                      22
247          RD    2400  0.0042    0.06            TRAP       4       2

248          KK  3.1
249          KM  100 Yr
250          KO                                      22
251          BA  0.0535
252          PB        6
253          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
254          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
255          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
256          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
257          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
258          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

259          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
260          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
261          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
262          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
263          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
264          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
265          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
266          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
267          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
268          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
269          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
270          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
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271          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
272          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
273          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
274          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
275          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
276          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
277          PC  1.0000 1.00000 1.00000 1.00000 1.00000
278          LS          86.354
279          UD  0.9445

280          KK  3.101
281          KM  100 Yr
282          KO                                    22
283          BA  0.0535
284          PB        6
285          PC  0.0000 0.00224 0.00432 0.00628 0.00816 0.01000 0.01184 0.01372 0.01568 0.01776
286          PC  0.0200 0.02276 0.02568 0.02872 0.03184 0.03500 0.03797 0.04095 0.04394 0.04695
287          PC  0.0500 0.05315 0.05633 0.05954 0.06276 0.06600 0.06920 0.07240 0.07560 0.07880
288          PC  0.0820 0.08514 0.08829 0.09147 0.09471 0.09800 0.10147 0.10502 0.10862 0.11229
289          PC  0.1160 0.11969 0.12342 0.12721 0.13107 0.13500 0.13901 0.14310 0.14729 0.15159
290          PC  0.1560 0.16059 0.16530 0.17011 0.17501 0.18000 0.18494 0.18999 0.19517 0.20049
291          PC  0.2060 0.21196 0.21808 0.22432 0.23064 0.23700 0.24285 0.24878 0.25490 0.26127
292          PC  0.2680 0.27517 0.28287 0.29118 0.30019 0.31000 0.33142 0.35469 0.37876 0.40255
293          PC  0.4250 0.43936 0.45168 0.46232 0.47164 0.48000 0.48904 0.49752 0.50548 0.51296
294          PC  0.5200 0.52664 0.53292 0.53888 0.54456 0.55000 0.55564 0.56116 0.56656 0.57184
295          PC  0.5770 0.58198 0.58685 0.59163 0.59635 0.60100 0.60576 0.61044 0.61504 0.61956
296          PC  0.6240 0.62836 0.63264 0.63684 0.64096 0.64500 0.64889 0.65272 0.65651 0.66026
297          PC  0.6640 0.66773 0.67148 0.67527 0.67910 0.68300 0.68665 0.69027 0.69386 0.69744
298          PC  0.7010 0.70473 0.70838 0.71198 0.71551 0.71900 0.72245 0.72586 0.72926 0.73263
299          PC  0.7360 0.73939 0.74277 0.74613 0.74948 0.75281 0.75613 0.75943 0.76271 0.76598
300          PC  0.7692 0.77248 0.77571 0.77892 0.78211 0.78529 0.78845 0.79160 0.79474 0.79786
301          PC  0.8010 0.80405 0.80712 0.81018 0.81322 0.81625 0.81926 0.82226 0.82524 0.82821
302          PC  0.8312 0.83410 0.83702 0.83992 0.84281 0.84569 0.84855 0.85140 0.85423 0.85704
303          PC  0.8598 0.86262 0.86539 0.86815 0.87089 0.87361 0.87632 0.87901 0.88169 0.88435
304          PC  0.8870 0.88963 0.89225 0.89485 0.89744 0.90001 0.90257 0.90511 0.90763 0.91014
305          PC  0.9126 0.91512 0.91759 0.92004 0.92247 0.92489 0.92729 0.92968 0.93206 0.93442
306          PC  0.9368 0.93909 0.94140 0.94370 0.94598 0.94825 0.95050 0.95274 0.95496 0.95717
307          PC  0.9594 0.96154 0.96370 0.96584 0.96797 0.97009 0.97219 0.97428 0.97635 0.97840
308          PC  0.9804 0.98246 0.98447 0.98647 0.98845 0.99041 0.99236 0.99429 0.99621 0.99811
309          PC  1.0000 1.00000 1.00000 1.00000 1.00000
310          LS          86.354
311          UD  0.9445
```



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

312          KK  3.101
313          KM
314          KO                                    22
315          HC        2

316          KK  3.1
317          KM
318          KO                                    22
319          HC        3

320          KK  3.1
321          KM
322          KO                                    22
```

```
          323            RD    1130  0.0062    0.05            TRAP      24       2

          324            KK  3.0
          325            KM  Type 1A Rainfall Simulation - 100 Yr
          326            KO                                      22
          327            BA  0.0143
          328            PB       6
          329            LS          89.361
          330            UD   0.667

          331            KK  3.01
          332            KM  100 Yr
          333            KO                                      22
          334            BA  0.0143
          335            PB       6
          336            LS          89.361
          337            UD   0.667

          338            KK  3.02
          339            KM  100 Yr
          340            KO                                      22
          341            BA  0.0143
          342            PB       6
          343            LS          89.361
          344            UD   0.667

          345            KK  3.01
          346            KM
          347            KO                                      22
          348            HC       3

          349            KK  3.0
          350            KM
          351            KO                                      22
          352            HC       2
          353            ZZ
HEC1 S/N: 1343001909        HMVersion: 6.33    Data File: C:\TEMP\~vbh037F.TMP
```

```
*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*               MAY   1991              *
*            VERSION 4.0.1E             *
*                                       *
*  RUN DATE  09/18/2001  TIME  15:40:22 *
*                                       *
*****************************************
```

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

2-Minute Intervals

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

```
     IT          HYDROGRAPH TIME DATA
                       NMIN           2  MINUTES IN COMPUTATION INTERVAL
                      IDATE      1    0  STARTING DATE
                      ITIME        0000  STARTING TIME
                         NQ         720  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE      1    0  ENDING DATE
                     NDTIME        2358  ENDING TIME
                      ICENT          19  CENTURY MARK

                  COMPUTATION INTERVAL     0.03 HOURS
                       TOTAL TIME BASE    23.97 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


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


               **************
               *            *
   4 KK        *    3.3     *
               *            *
               **************

   6 KO          OUTPUT CONTROL VARIABLES
                       IPRNT          5  PRINT CONTROL
                       IPLOT          0  PLOT CONTROL
                       QSCAL         0.  HYDROGRAPH PLOT SCALE
                       IPNCH          0  PUNCH COMPUTED HYDROGRAPH
                        IOUT         22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1          1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2        720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT      0.033  TIME INTERVAL IN HOURS



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


               **************
               *            *
  36 KK        *    3.3.2   *
               *            *
               **************

  38 KO          OUTPUT CONTROL VARIABLES
                       IPRNT          5  PRINT CONTROL
                       IPLOT          0  PLOT CONTROL
                       QSCAL         0.  HYDROGRAPH PLOT SCALE
                       IPNCH          0  PUNCH COMPUTED HYDROGRAPH
                        IOUT         22  SAVE HYDROGRAPH ON THIS UNIT
```

```
                    ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                    ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                   TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
 68 KK    *    3.3.11  *
          *            *
          **************

 70 KO          OUTPUT CONTROL VARIABLES
                    IPRNT           5  PRINT CONTROL
                    IPLOT           0  PLOT CONTROL
                    QSCAL          0.  HYDROGRAPH PLOT SCALE
                    IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                     IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                    ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                    ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                   TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
100 KK    *    3.3.1   *
          *            *
          **************

102 KO          OUTPUT CONTROL VARIABLES
                    IPRNT           5  PRINT CONTROL
                    IPLOT           0  PLOT CONTROL
                    QSCAL          0.  HYDROGRAPH PLOT SCALE
                    IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                     IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                    ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                    ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                   TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
132 KK    *    3.3     *
          *            *
          **************
```

```
 134 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
 136 KK   *    3.3     *
          *            *
          **************

 138 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
 140 KK   *    3.2     *
          *            *
          **************

 142 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
```

```
            **************
            *            *
172 KK      *    3.21    *
            *            *
            **************

174 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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


            **************
            *            *
204 KK      *    3.2     *
            *            *
            **************

206 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS


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


            **************
            *            *
208 KK      *    3.2     *
            *            *
            **************

210 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
                     IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                      IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                     ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                     ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                    TIMINT       0.033  TIME INTERVAL IN HOURS
```

*** *** *** *

```
                    IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                     IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                    ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                    ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                   TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
280 KK    *    3.101   *
          *            *
          **************

282 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
312 KK    *    3.101   *
          *            *
          **************

314 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
316 KK    *    3.1     *
          *            *
```

```
          **************

 318 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
 320 KK   *    3.1     *
          *            *
          **************

 322 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



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


          **************
          *            *
 324 KK   *    3.0     *
          *            *
          **************

 326 KO           OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                       IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                        IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                       ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                       ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                      TIMINT       0.033  TIME INTERVAL IN HOURS



*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
```

```
          **************
          *            *
331 KK    *    3.01    *
          *            *
          **************

333 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
338 KK    *    3.02    *
          *            *
          **************

340 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.033  TIME INTERVAL IN HOURS


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


          **************
          *            *
345 KK    *    3.01    *
          *            *
          **************

347 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          22  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         720  LAST ORDINATE PUNCHED OR SAVED
```

TIMINT 0.033 TIME INTERVAL IN HOURS

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

```
          **************
          *            *
349 KK    *    3.0     *
          *            *
          **************
```

351 KO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 5 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |
| IPNCH | 0 | PUNCH COMPUTED HYDROGRAPH |
| IOUT | 22 | SAVE HYDROGRAPH ON THIS UNIT |
| ISAV1 | 1 | FIRST ORDINATE PUNCHED OR SAVED |
| ISAV2 | 720 | LAST ORDINATE PUNCHED OR SAVED |
| TIMINT | 0.033 | TIME INTERVAL IN HOURS |

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

| 6-HOUR | OPERATION 24-HOUR | STATION 72-HOUR | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD | | | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|---|
| | HYDROGRAPH AT | 3.3 | 4. | 3.23 | 2. | 0. | 0. | 0.00 | | |
| | HYDROGRAPH AT | 3.3.2 | 134. | 3.27 | 60. | 16. | 16. | 0.14 | | |
| | HYDROGRAPH AT | 3.3.11 | 30. | 3.07 | 12. | 3. | 3. | 0.03 | | |
| | HYDROGRAPH AT | 3.3.1 | 47. | 2.97 | 17. | 4. | 4. | 0.04 | | |
| | 4 COMBINED AT | 3.3 | 203. | 3.17 | 90. | 24. | 24. | 0.21 | | |
| | ROUTED TO | 3.3 | 202. | 3.23 | 90. | 24. | 24. | 0.21 | | |
| | HYDROGRAPH AT | 3.2 | 874. | 3.83 | 515. | 141. | 141. | 1.28 | | |
| | HYDROGRAPH AT | 3.21 | 874. | 3.83 | 515. | 141. | 141. | 1.28 | | |
| | 3 COMBINED AT | 3.2 | 1888. | 3.80 | 1118. | 306. | 306. | 2.77 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ROUTED TO | 3.2 | 1885. | 3.83 | 1118. | 306. | 306. | 2.77 |
| HYDROGRAPH AT | 3.1.1 | 15. | 2.87 | 5. | 1. | 1. | 0.01 |
| ROUTED TO | 3.1.1 | 14. | 3.23 | 5. | 1. | 1. | 0.01 |
| HYDROGRAPH AT | 3.1 | 42. | 3.70 | 23. | 6. | 6. | 0.05 |
| HYDROGRAPH AT | 3.101 | 42. | 3.70 | 23. | 6. | 6. | 0.05 |
| 2 COMBINED AT | 3.101 | 84. | 3.70 | 47. | 13. | 13. | 0.11 |
| 3 COMBINED AT | 3.1 | 1975. | 3.83 | 1169. | 320. | 320. | 2.89 |
| ROUTED TO | 3.1 | 1975. | 3.87 | 1169. | 320. | 320. | 2.89 |
| HYDROGRAPH AT | 3.0 | 14. | 3.37 | 7. | 2. | 2. | 0.01 |
| HYDROGRAPH AT | 3.01 | 14. | 3.37 | 7. | 2. | 2. | 0.01 |
| HYDROGRAPH AT | 3.02 | 14. | 3.37 | 7. | 2. | 2. | 0.01 |
| 3 COMBINED AT | 3.01 | 43. | 3.37 | 20. | 6. | 6. | 0.04 |
| 2 COMBINED AT | 3.0 | 2007. | 3.83 | 1189. | 326. | 326. | 2.93 |

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) |
| 3.3 | MANE | 2.00 | 202.40 | 194.00 | 4.34 | 2.00 | 202.40 | 194.00 | 4.34 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.4810E+02 EXCESS=0.0000E+00 OUTFLOW=0.4810E+02 BASIN STORAGE=0.1218E-02 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.2 | MANE | 2.00 | 1884.89 | 230.00 | 4.11 | 2.00 | 1884.89 | 230.00 | 4.11 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.6067E+03 EXCESS=0.0000E+00 OUTFLOW=0.6067E+03 BASIN STORAGE=0.1699E-02 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.1.1 | MANE | 2.00 | 13.74 | 194.00 | 3.67 | 2.00 | 13.74 | 194.00 | 3.67 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.2551E+01 EXCESS=0.0000E+00 OUTFLOW=0.2546E+01 BASIN STORAGE=0.2902E-02 PERCENT ERROR= 0.0

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3.1 | MANE | 2.00 | 1974.71 | 232.00 | 4.12 | 2.00 | 1974.71 | 232.00 | 4.12 |

CONTINUITY SUMMARY (AC-FT) - INFLOW=0.6346E+03 EXCESS=0.0000E+00 OUTFLOW=0.6346E+03 BASIN STORAGE=0.2712E-02 PERCENT ERROR= 0.0

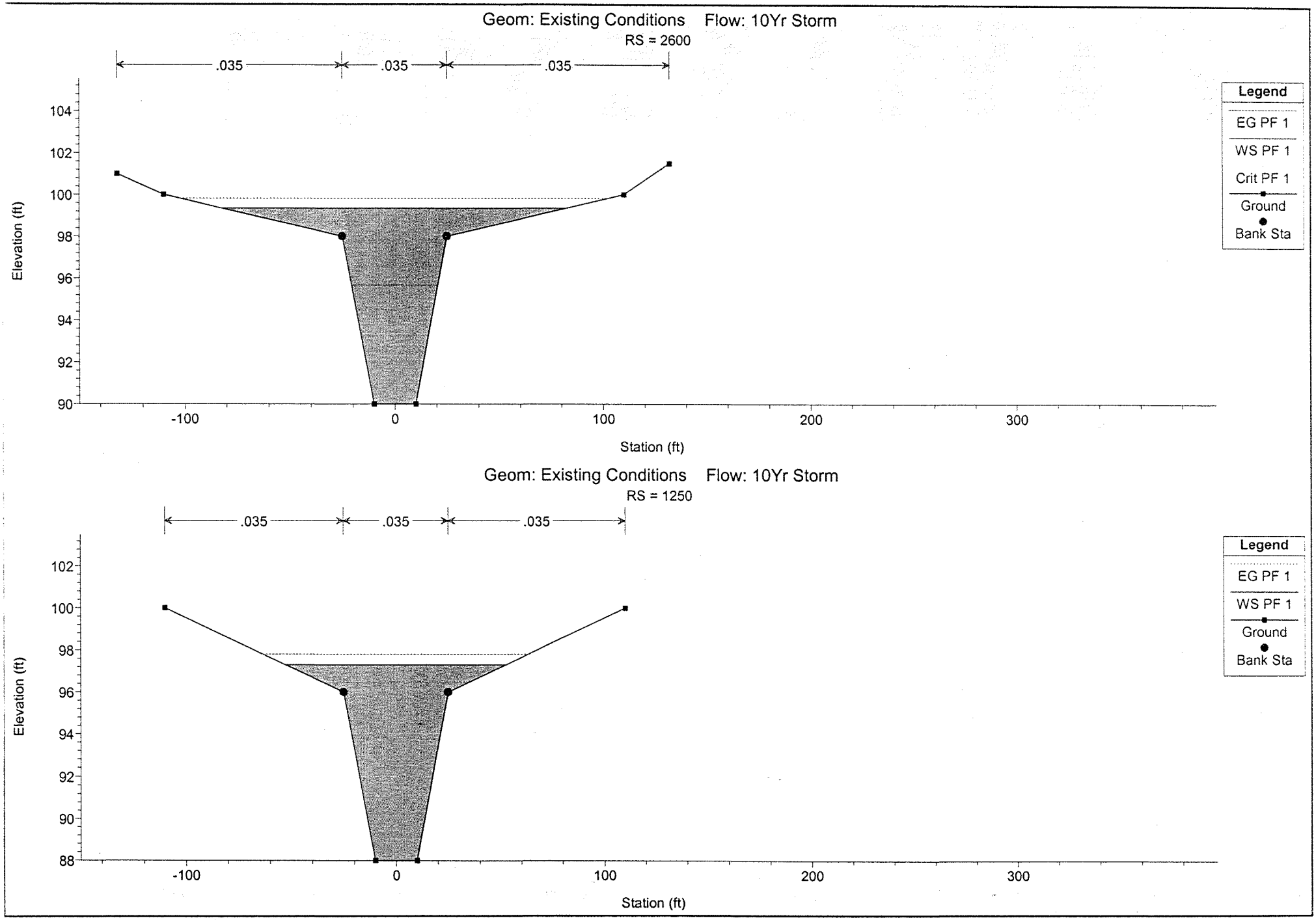
*** NORMAL END OF HEC-1 ***

# APPENDIX B
# HEC-RAS MODEL OUTPUT FILES

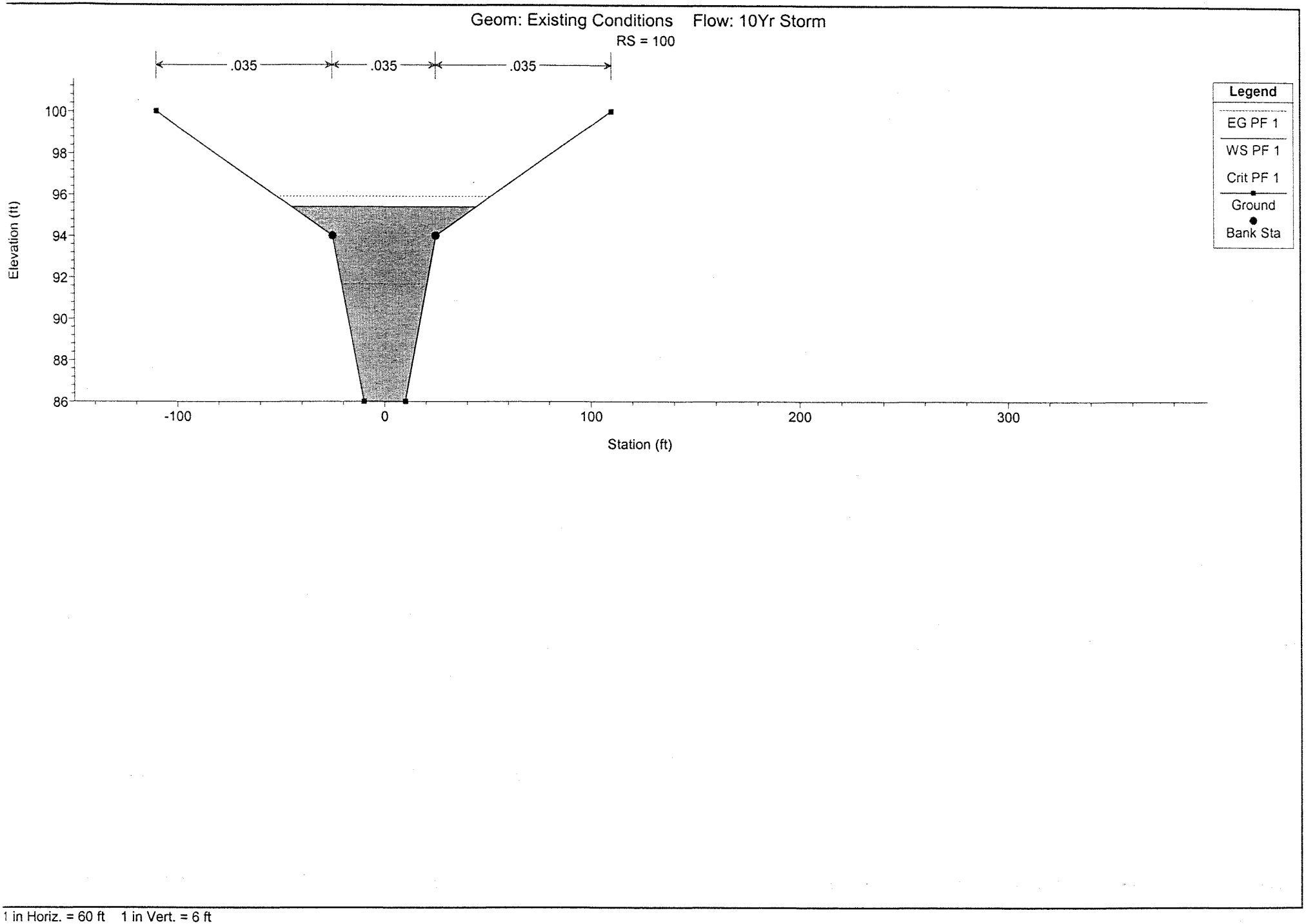
WATERSHED #1 - 10 YR STORM
J:/01/20705/Hydraulics/HEC-RAS/Chan

HEC-RAS Plan: 1EC10 River: Channel 1 Reach: Node 1.0 - 1.1 Profile: PF 1

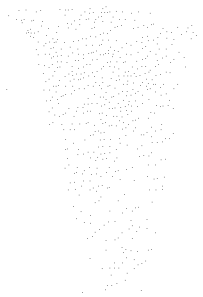
| Reach | River Sta | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | (cfs) | (ft) | (ft) | (ft) | (ft) | (ft/ft) | (ft/s) | (sq ft) | (ft) | |
| ode 1.0 - 1.1 | 2600 | 2034.00 | 90.00 | 99.36 | 95.67 | 99.82 | 0.001429 | 5.56 | 427.16 | 165.88 | 0.37 |
| ode 1.0 - 1.1 | 1250 | 2034.00 | 88.00 | 97.31 | | 97.81 | 0.001549 | 5.76 | 381.66 | 105.55 | 0.39 |
| Node 1.0 - 1.1 | 100 | 2039.00 | 86.00 | 95.40 | 91.68 | 95.90 | 0.001500 | 5.72 | 378.12 | 89.78 | 0.38 |




1 in Horiz. = 60 ft 1 in Vert. = 6 ft



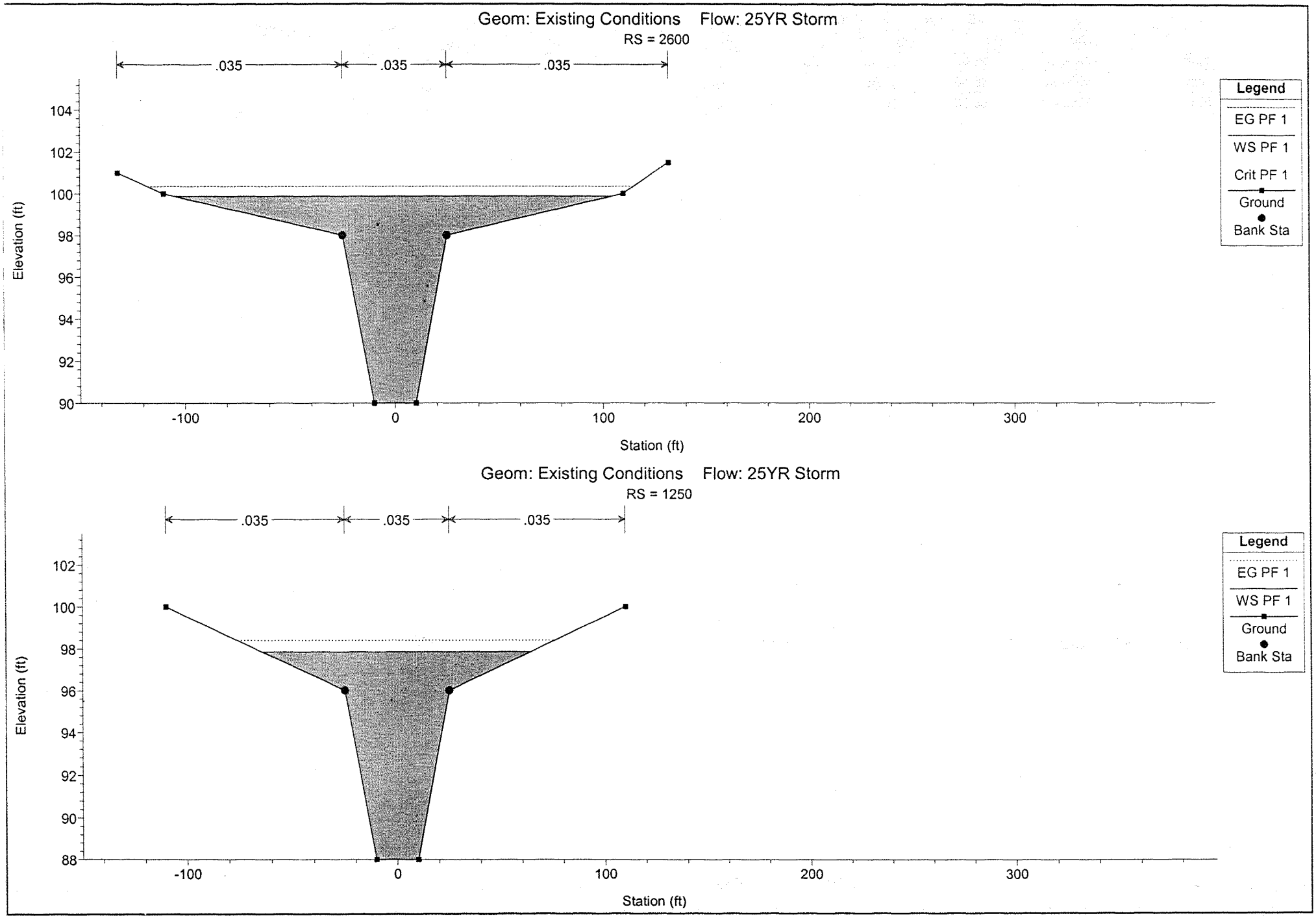

1 in Horiz. = 60 ft  1 in Vert. = 6 ft



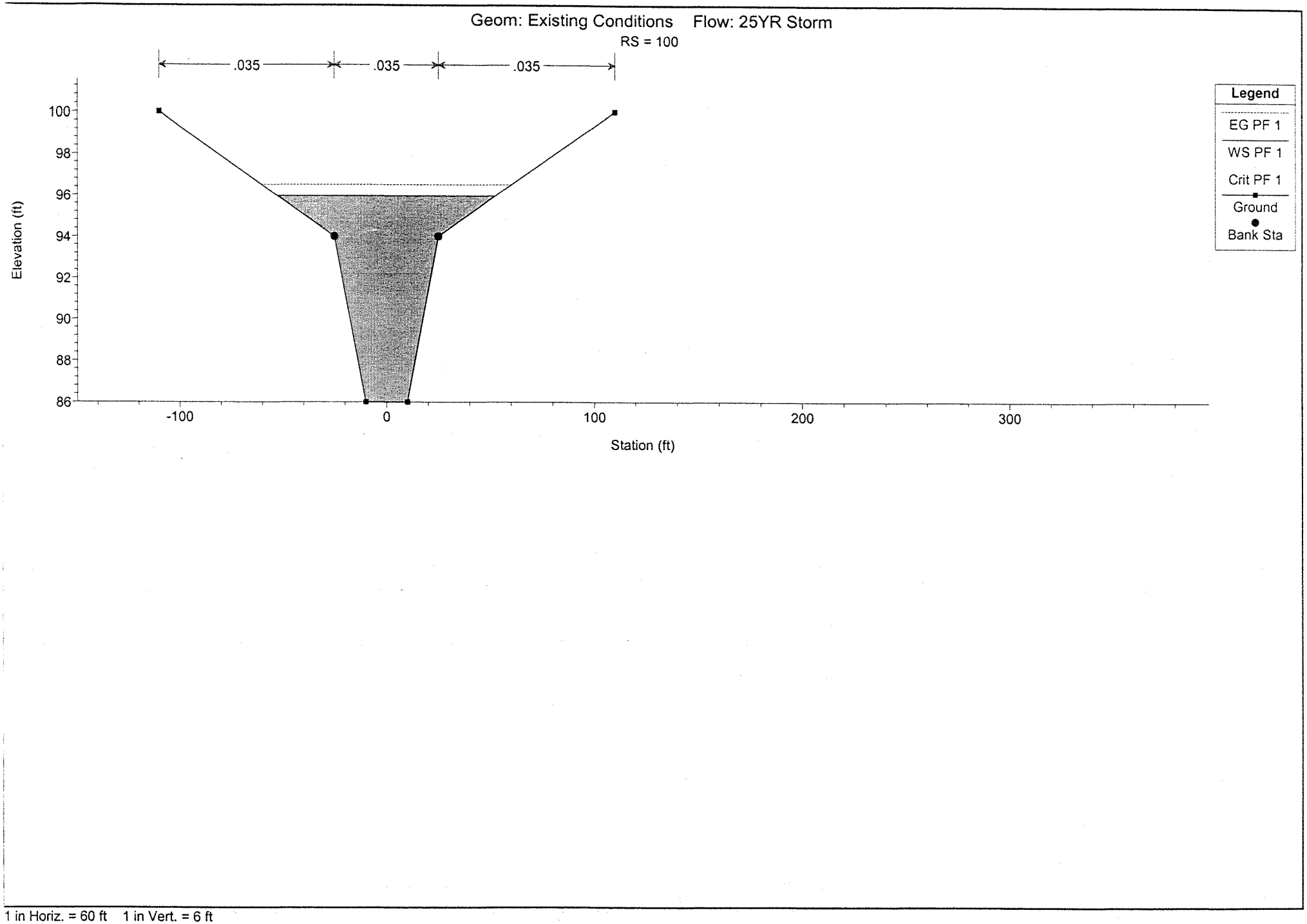
WATERSHED #1 - 25 YR STORM
J:/01/207705/Hydraulics/HEC-RAS/Chan

EC-RAS Plan: 1EC25 River: Channel 1 Reach: Node 1.0 - 1.1 Profile: PF 1

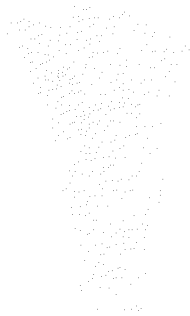
| Reach | River Sta | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | (cfs) | (ft) | (ft) | (ft) | (ft) | (ft/ft) | (ft/s) | (sq ft) | (ft) | |
| Node 1.0 - 1.1 | 2600 | 2359.00 | 90.00 | 99.89 | 96.19 | 100.35 | 0.001356 | 5.69 | 526.62 | 210.77 | 0.37 |
| Node 1.0 - 1.1 | 1250 | 2364.00 | 88.00 | 97.86 | | 98.40 | 0.001532 | 6.03 | 446.47 | 129.03 | 0.39 |
| Node 1.0 - 1.1 | 100 | 2364.00 | 86.00 | 95.96 | 92.19 | 96.50 | 0.001501 | 6.02 | 432.56 | 105.57 | 0.39 |




1 in Horiz. = 60 ft 1 in Vert. = 6 ft



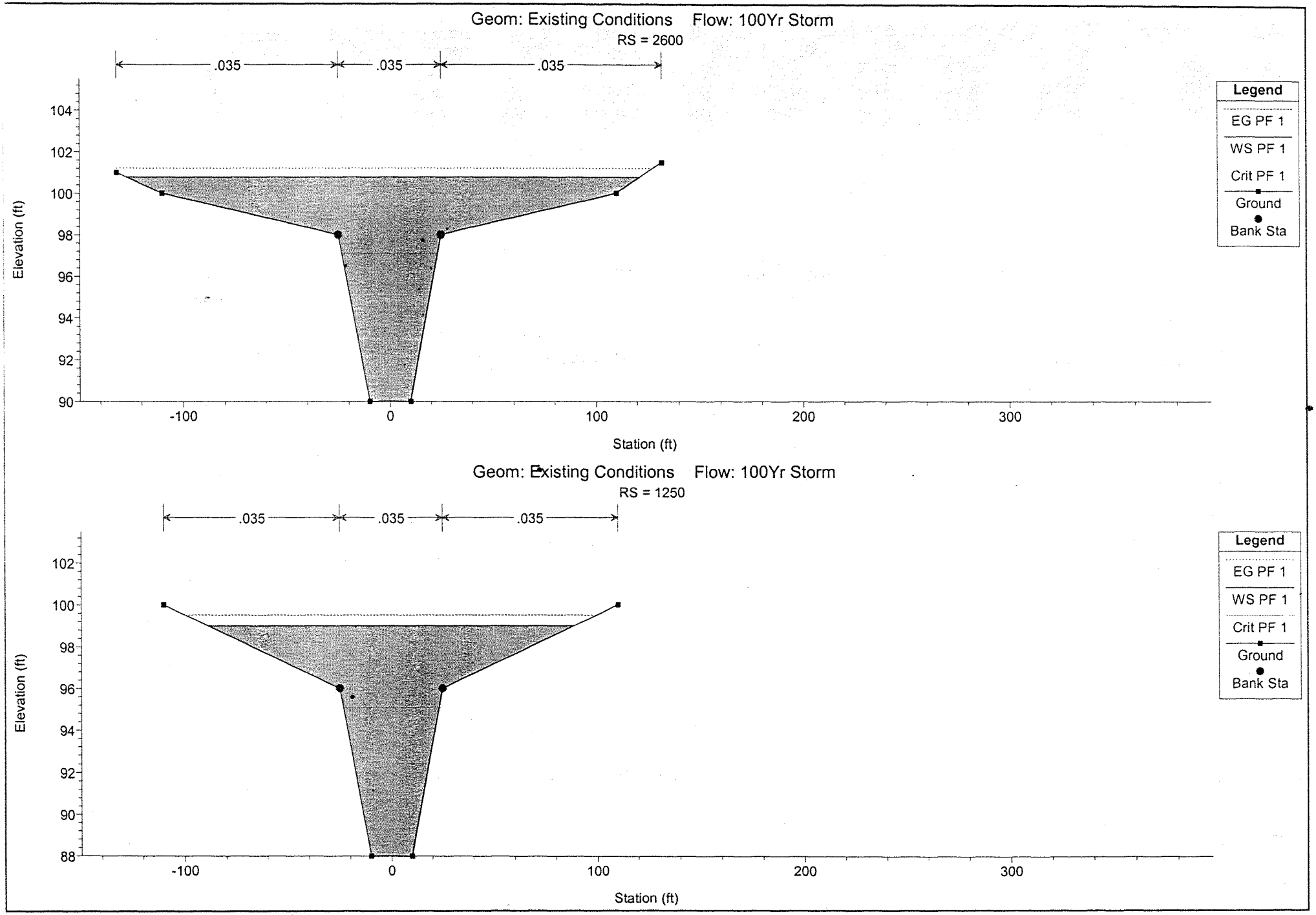

1 in Horiz. = 60 ft 1 in Vert. = 6 ft



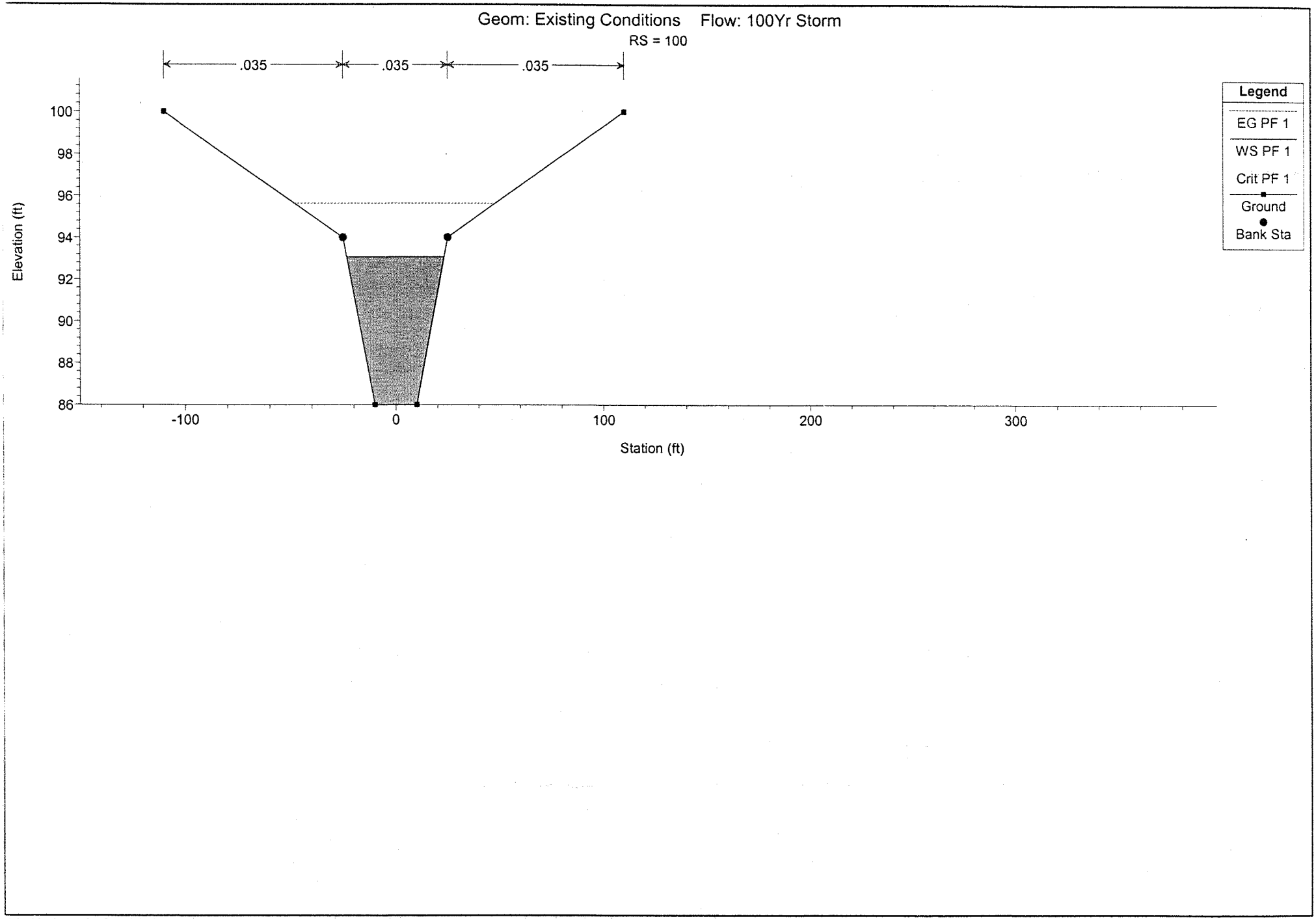
TER D # 100, STC
J:/01/20705/Hydraulics/HEC-RAS/Channel 1

EC-RAS Plan: 1EC100 River: Channel 1 Reach: Node 1.0 - 1.1 Profile: PF 1

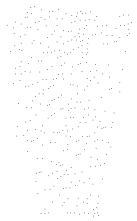
| Reach | River Sta | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | (cfs) | (ft) | (ft) | (ft) | (ft) | (ft/ft) | (ft/s) | (sq ft) | (ft) | |
| Node 1.0 - 1.1 | 2600 | 3020.00 | 90.00 | 100.79 | 97.09 | 101.21 | 0.001172 | 5.70 | 736.32 | 249.12 | 0.35 |
| Node 1.0 - 1.1 | 1250 | 3027.00 | 88.00 | 99.01 | 95.08 | 99.52 | 0.001312 | 6.13 | 622.41 | 177.78 | 0.37 |
| Node 1.0 - 1.1 | 100 | 3027.00 | 86.00 | 93.08 | 93.08 | 95.64 | 0.011619 | 12.85 | 235.62 | 46.55 | 1.01 |




1 in Horiz. = 60 ft 1 in Vert. = 6 ft



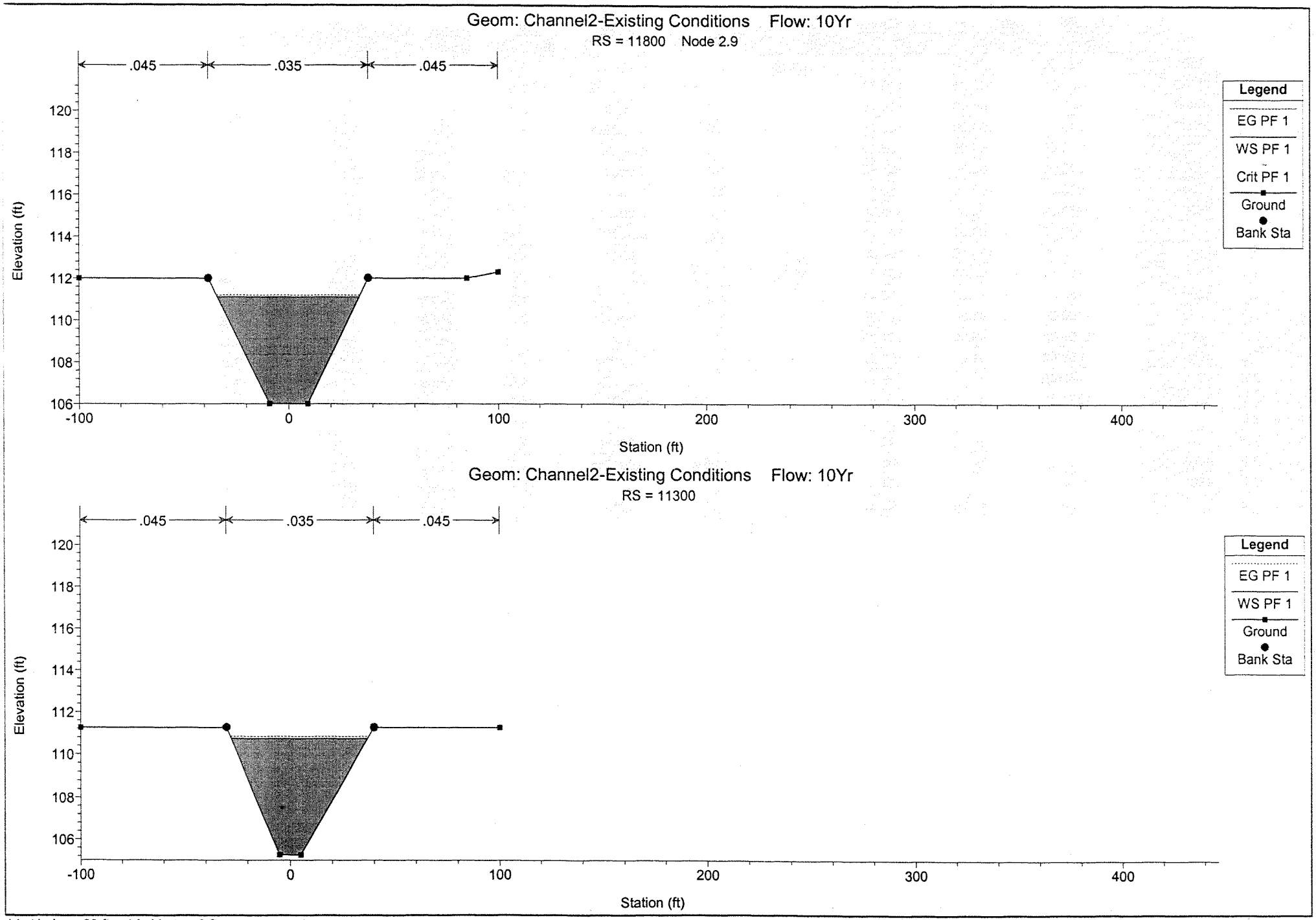

1 in Horiz. = 60 ft 1 in Vert. = 6 ft



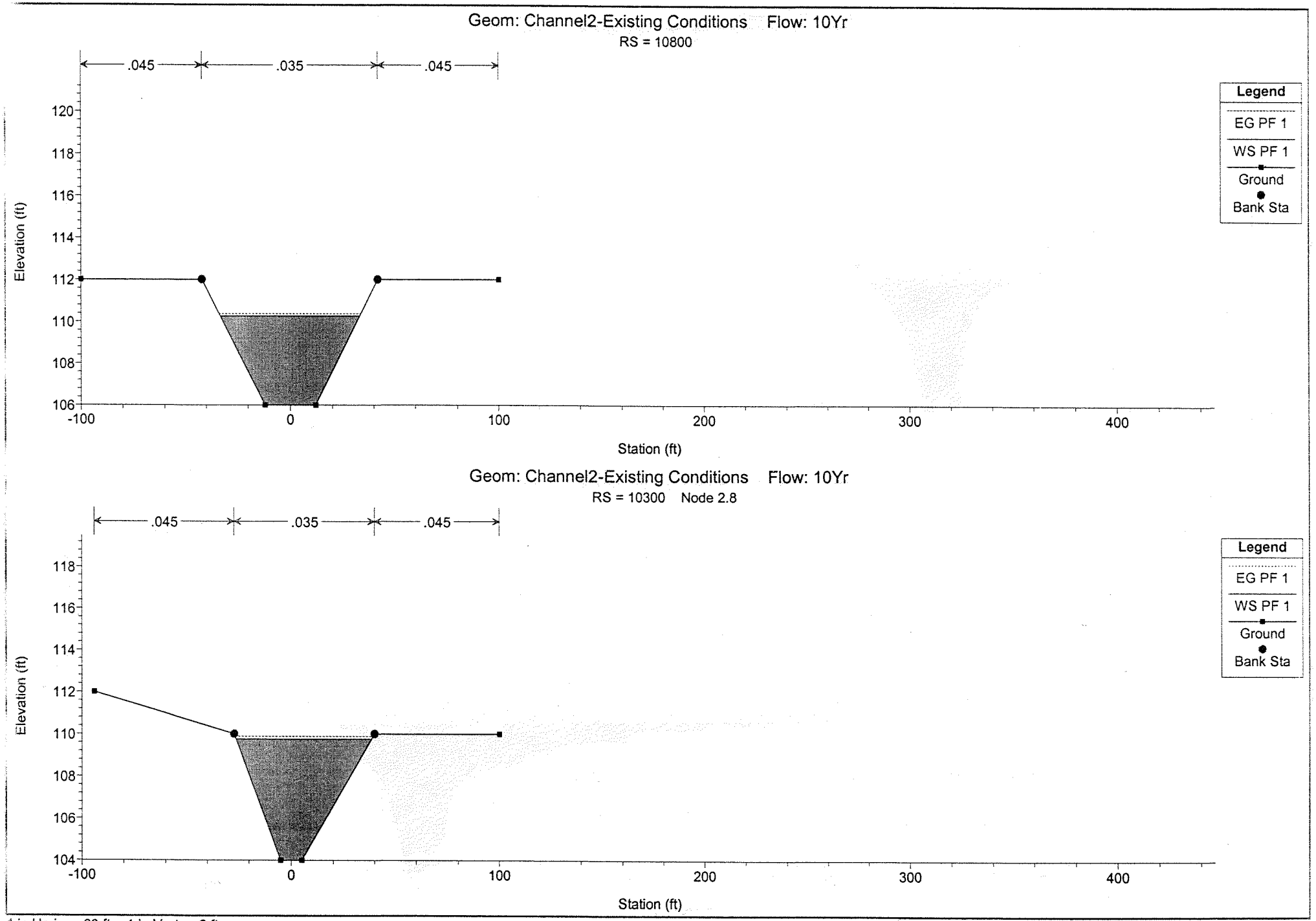
WATERSHED #2 10YR STORM
J:/01/20705/Hydraulics/HEC-RAS/Channel 2

EC-RAS Plan: 2EC10 River: Channel 2 Reach: Node 2.0 - 2.9 Profile: PF 1

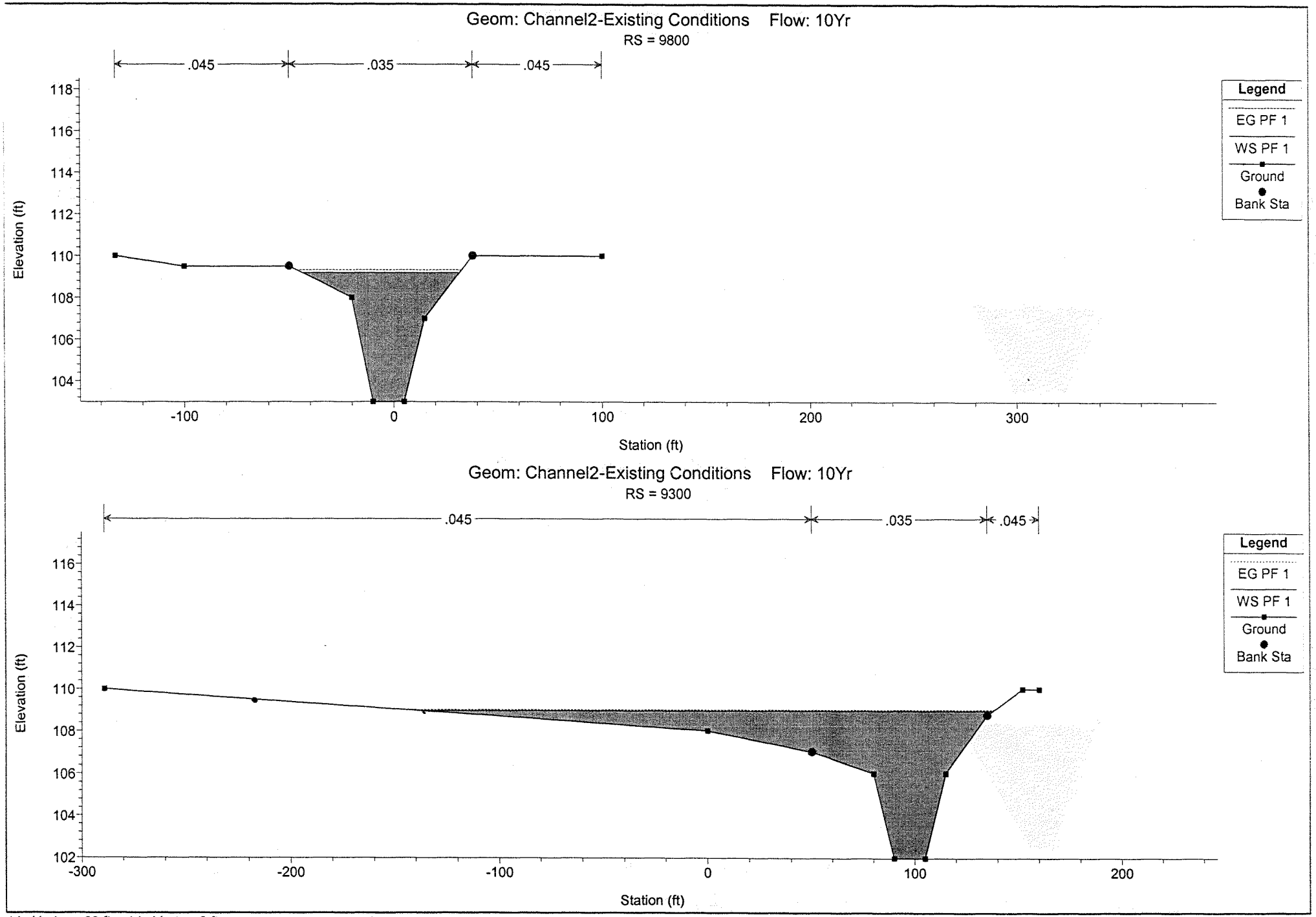
| Reach | River Sta | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | (cfs) | (ft) | (ft) | (ft) | (ft) | (ft/ft) | (ft/s) | (sq ft) | (ft) | |
| ode 2.0 - 2.9 | 11800 | 523.00 | 106.00 | 111.11 | 108.38 | 111.20 | 0.000681 | 2.40 | 217.97 | 67.37 | 0.24 |
| ode 2.0 - 2.9 | 11300 | 523.00 | 105.25 | 110.73 | | 110.83 | 0.000799 | 2.56 | 204.64 | 64.75 | 0.25 |
| ode 2.0 - 2.9 | 10800 | 523.00 | 106.00 | 110.26 | | 110.37 | 0.001007 | 2.71 | 192.72 | 66.56 | 0.28 |
| ode 2.0 - 2.9 | 10300 | 613.00 | 104.00 | 109.76 | | 109.89 | 0.000930 | 2.85 | 215.28 | 64.73 | 0.28 |
| Node 2.0 - 2.9 | 9800 | 613.00 | 103.00 | 109.19 | | 109.33 | 0.001384 | 3.01 | 203.85 | 75.46 | 0.32 |
| Node 2.0 - 2.9 | 9300 | 613.00 | 102.00 | 108.96 | | 109.01 | 0.000317 | 1.76 | 449.86 | 277.08 | 0.16 |
| Node 2.0 - 2.9 | 8800 | 975.00 | 102.00 | 108.51 | | 108.67 | 0.001225 | 3.14 | 312.79 | 110.80 | 0.31 |
| Node 2.0 - 2.9 | 8600 | 983.00 | 102.00 | 108.04 | | 108.31 | 0.002519 | 4.17 | 237.72 | 131.16 | 0.44 |
| Node 2.0 - 2.9 | 8100 | 1076.00 | 100.00 | 107.38 | | 107.56 | 0.000977 | 3.45 | 337.37 | 118.55 | 0.29 |
| Node 2.0 - 2.9 | 7550 | 1100.00 | 100.00 | 106.66 | 103.60 | 106.90 | 0.001452 | 3.96 | 283.96 | 93.03 | 0.35 |
| ode 2.0 - 2.9 | 6800 | 1100.00 | 98.00 | 102.63 | 102.47 | 104.34 | 0.012228 | 10.51 | 104.70 | 27.25 | 0.94 |
| ode 2.0 - 2.9 | 6200 | 1158.00 | 97.00 | 102.41 | | 102.60 | 0.001112 | 3.52 | 330.64 | 90.79 | 0.31 |
| Node 2.0 - 2.9 | 5700 | 1158.00 | 95.00 | 101.98 | | 102.14 | 0.000753 | 3.24 | 357.32 | 74.85 | 0.26 |
| Node 2.0 - 2.9 | 5200 | 1158.00 | 95.00 | 101.22 | | 101.52 | 0.002267 | 4.42 | 262.02 | 78.34 | 0.43 |
| Node 2.0 - 2.9 | 4750 | 1268.00 | 94.00 | 100.32 | | 100.60 | 0.001831 | 4.28 | 301.79 | 118.45 | 0.39 |
| Node 2.0 - 2.9 | 4200 | 1268.00 | 92.00 | 99.22 | | 99.55 | 0.002025 | 4.58 | 276.93 | 71.42 | 0.41 |
| Node 2.0 - 2.9 | 3700 | 1331.00 | 91.00 | 96.91 | | 97.80 | 0.006434 | 7.58 | 175.67 | 49.13 | 0.71 |
| Node 2.0 - 2.9 | 3450 | 1479.00 | 88.00 | 96.39 | | 96.81 | 0.002202 | 5.22 | 283.11 | 61.48 | 0.43 |
| Node 2.0 - 2.9 | 2900 | 1479.00 | 88.00 | 95.93 | | 96.11 | 0.000699 | 3.41 | 434.22 | 79.55 | 0.26 |
| Node 2.0 - 2.9 | 2400 | 1534.00 | 88.00 | 95.13 | | 95.39 | 0.001146 | 4.12 | 372.63 | 74.55 | 0.32 |
| Node 2.0 - 2.9 | 1600 | 1579.00 | 86.00 | 94.38 | | 94.60 | 0.000844 | 3.79 | 419.01 | 87.41 | 0.28 |
| Node 2.0 - 2.9 | 800 | 1579.00 | 86.00 | 93.38 | 90.32 | 93.71 | 0.001502 | 4.61 | 342.63 | 70.88 | 0.37 |



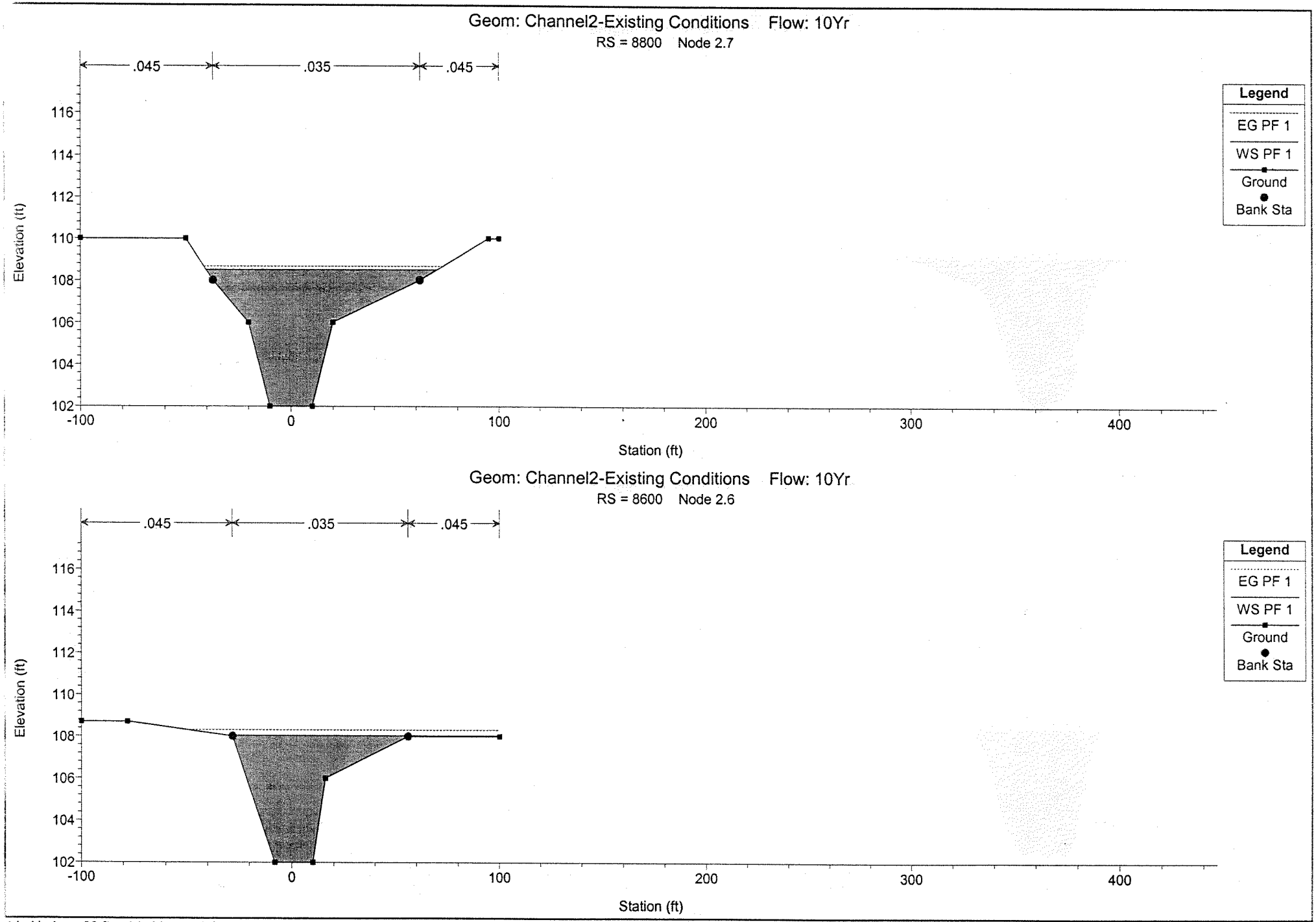

1 in Horiz. = 60 ft 1 in Vert. = 6 ft

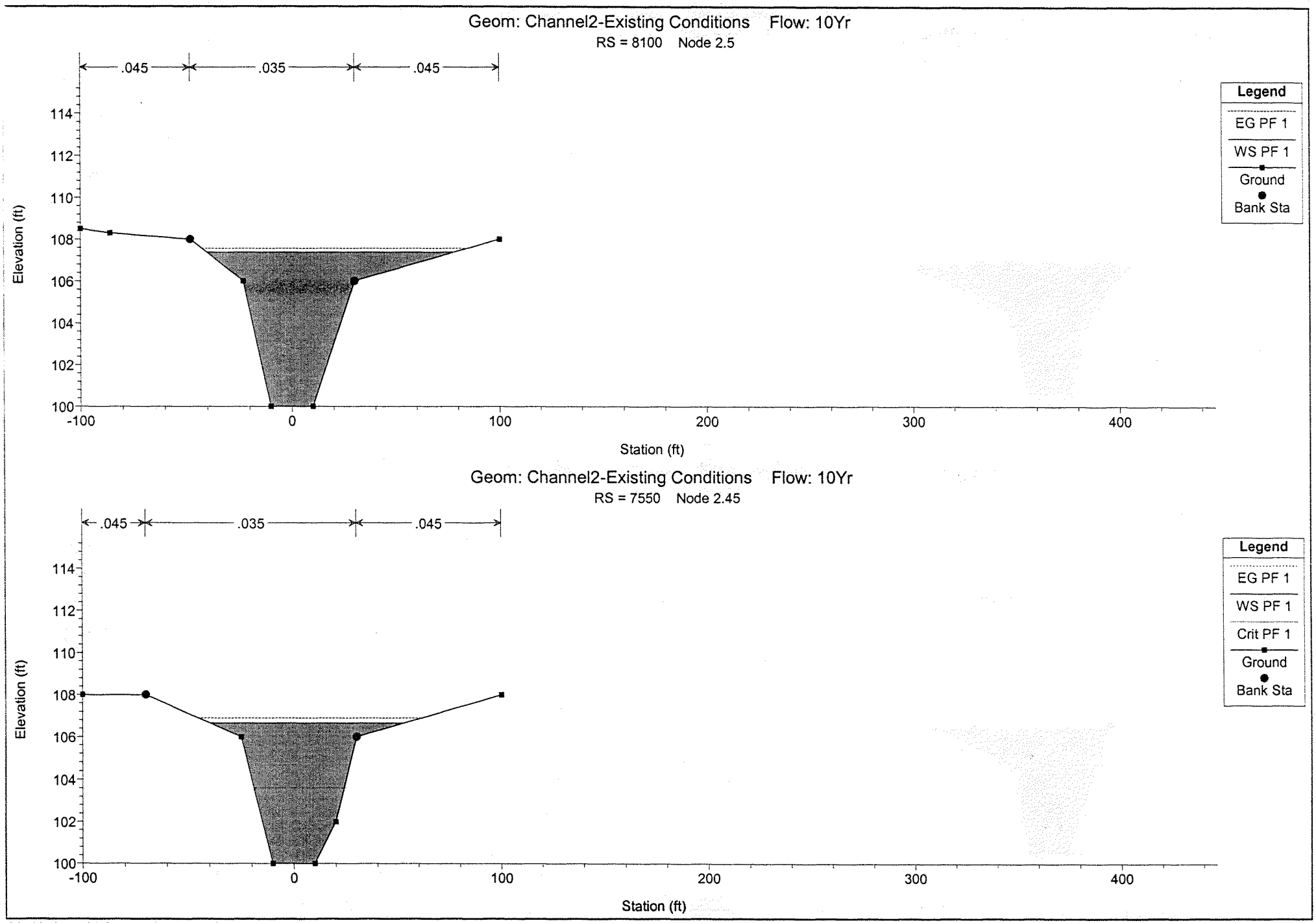



1 in Horiz. = 60 ft 1 in Vert. = 6 ft

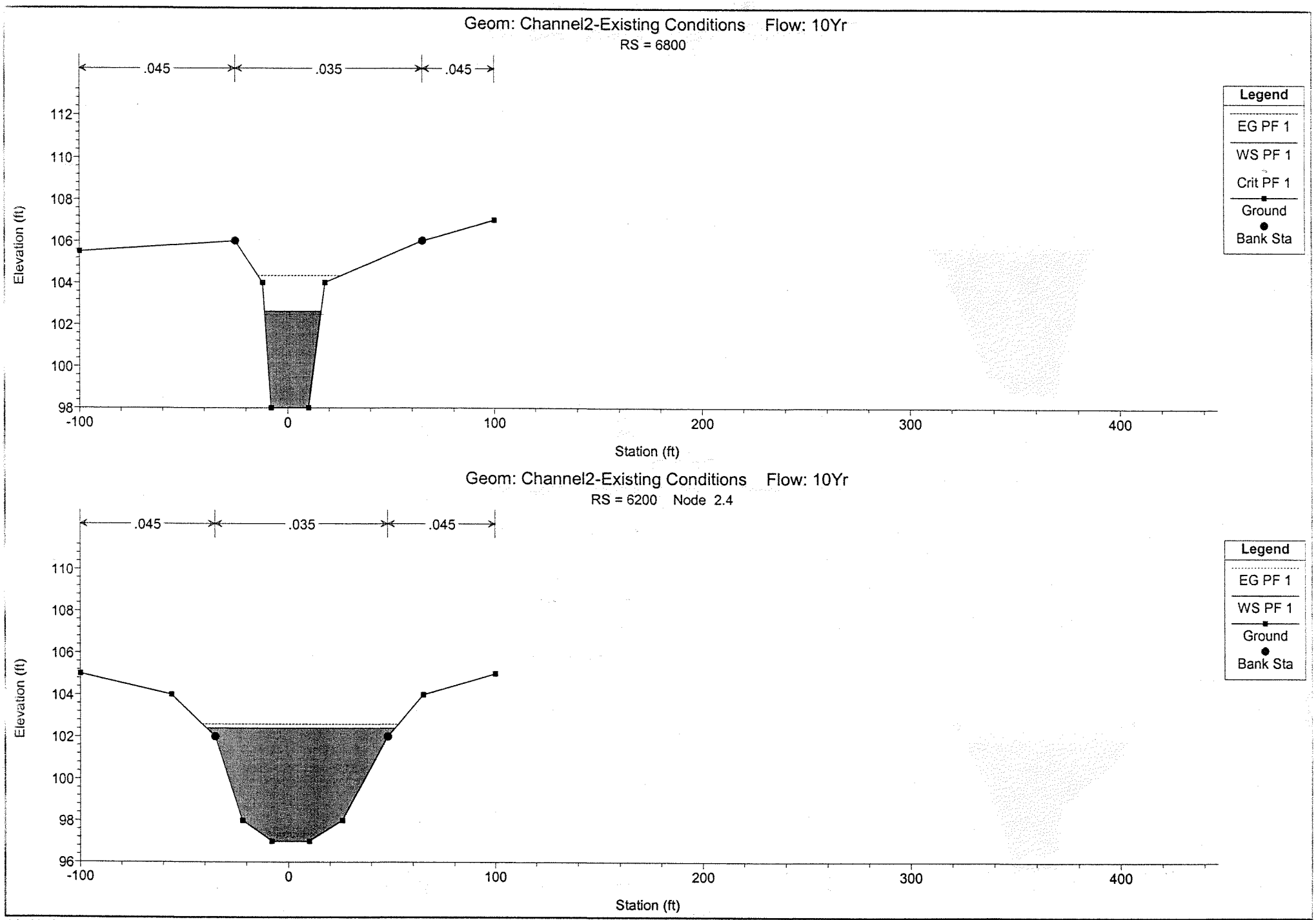



1 in Horiz. = 60 ft 1 in Vert. = 6 ft

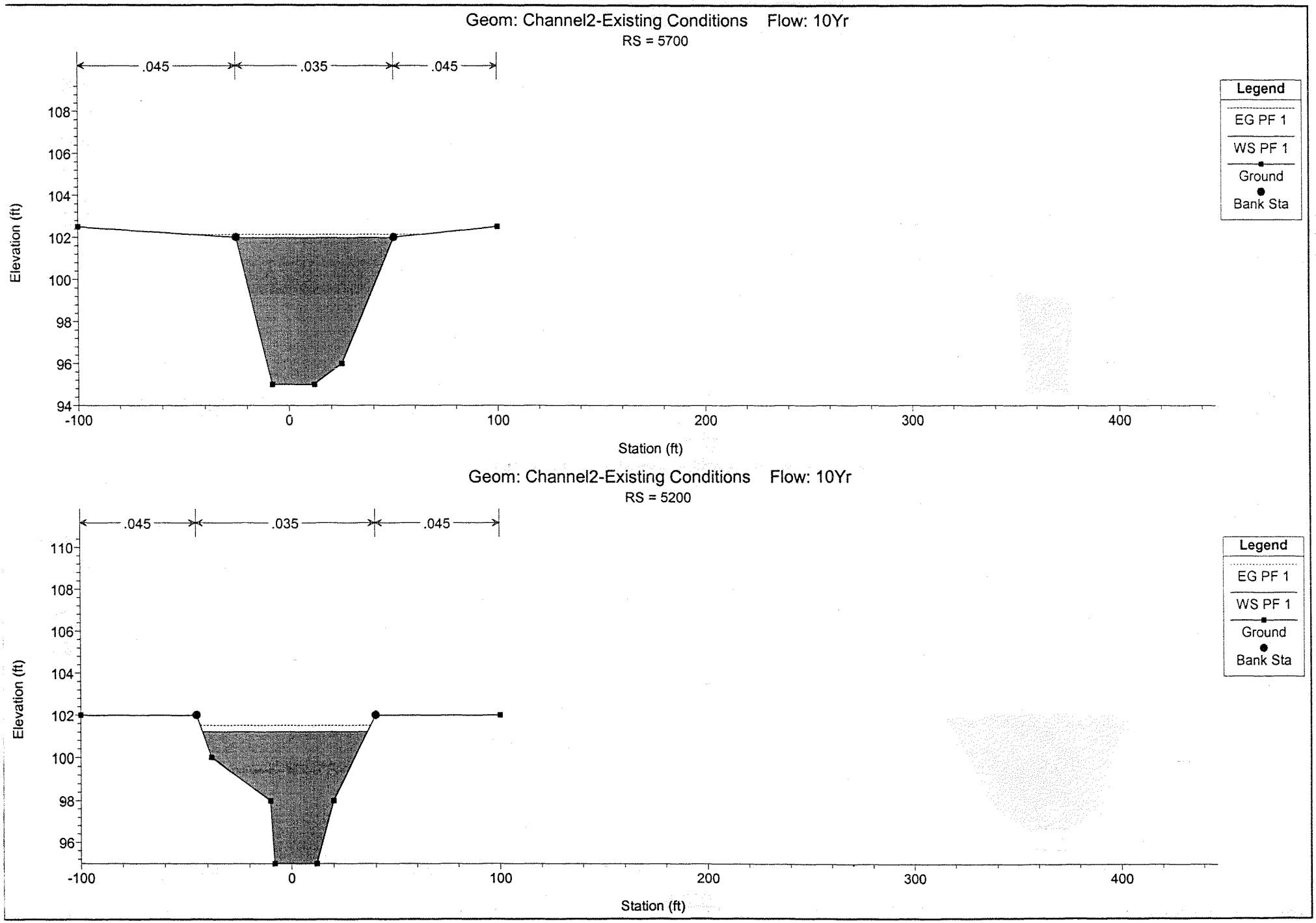

Geom: Channel2-Existing Conditions Flow: 10Yr
RS = 8800 Node 2.7
.045
.035
.045
Elevation (ft)
116
114
112
110
108
106
104
102
-100
0
100
200
300
400
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Geom: Channel2-Existing Conditions Flow: 10Yr
RS = 8600 Node 2.6
.045
.035
.045
Elevation (ft)
116
114
112
110
108
106
104
102
-100
0
100
200
300
400
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
1 in Horiz. = 60 ft 1 in Vert. = 6 ft



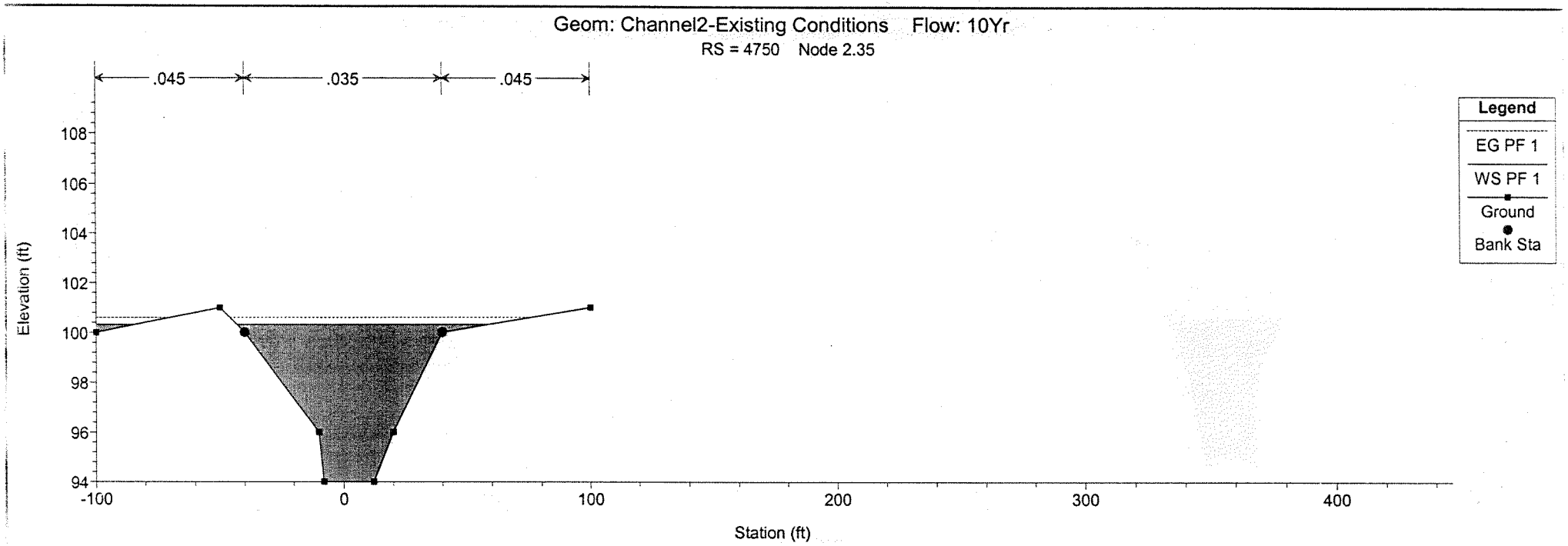

1 in Horiz. = 60 ft 1 in Vert. = 6 ft

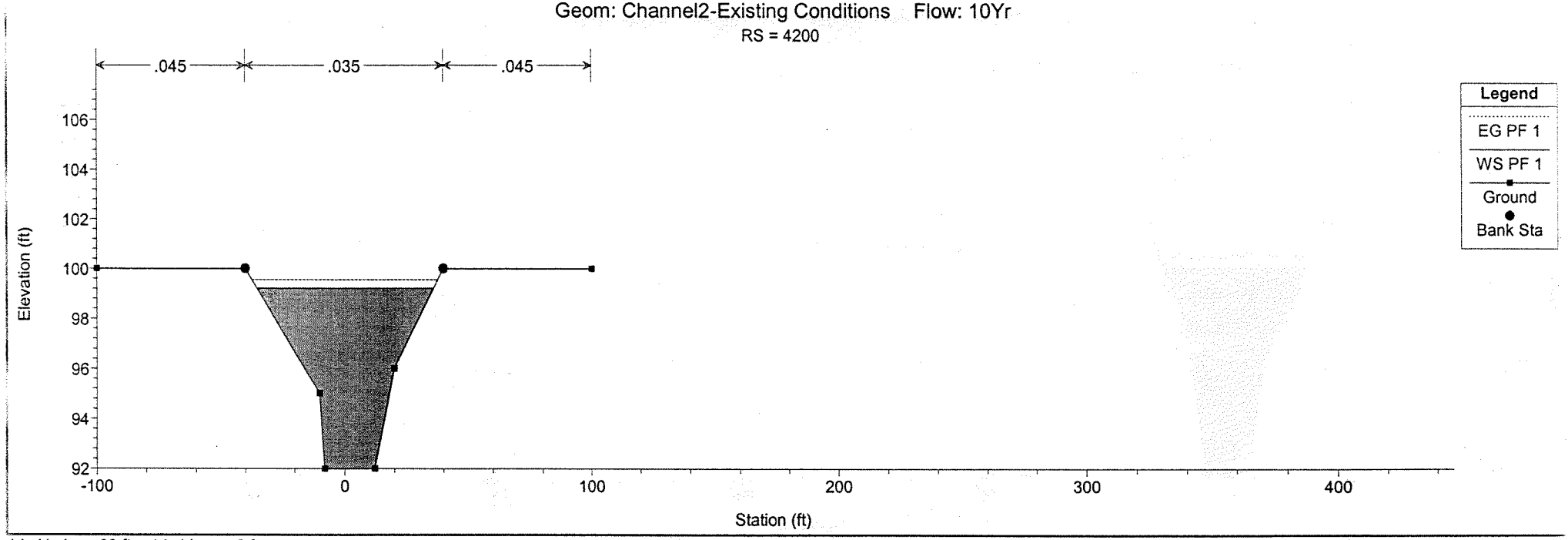



1 in Horiz. = 60 ft 1 in Vert. = 6 ft

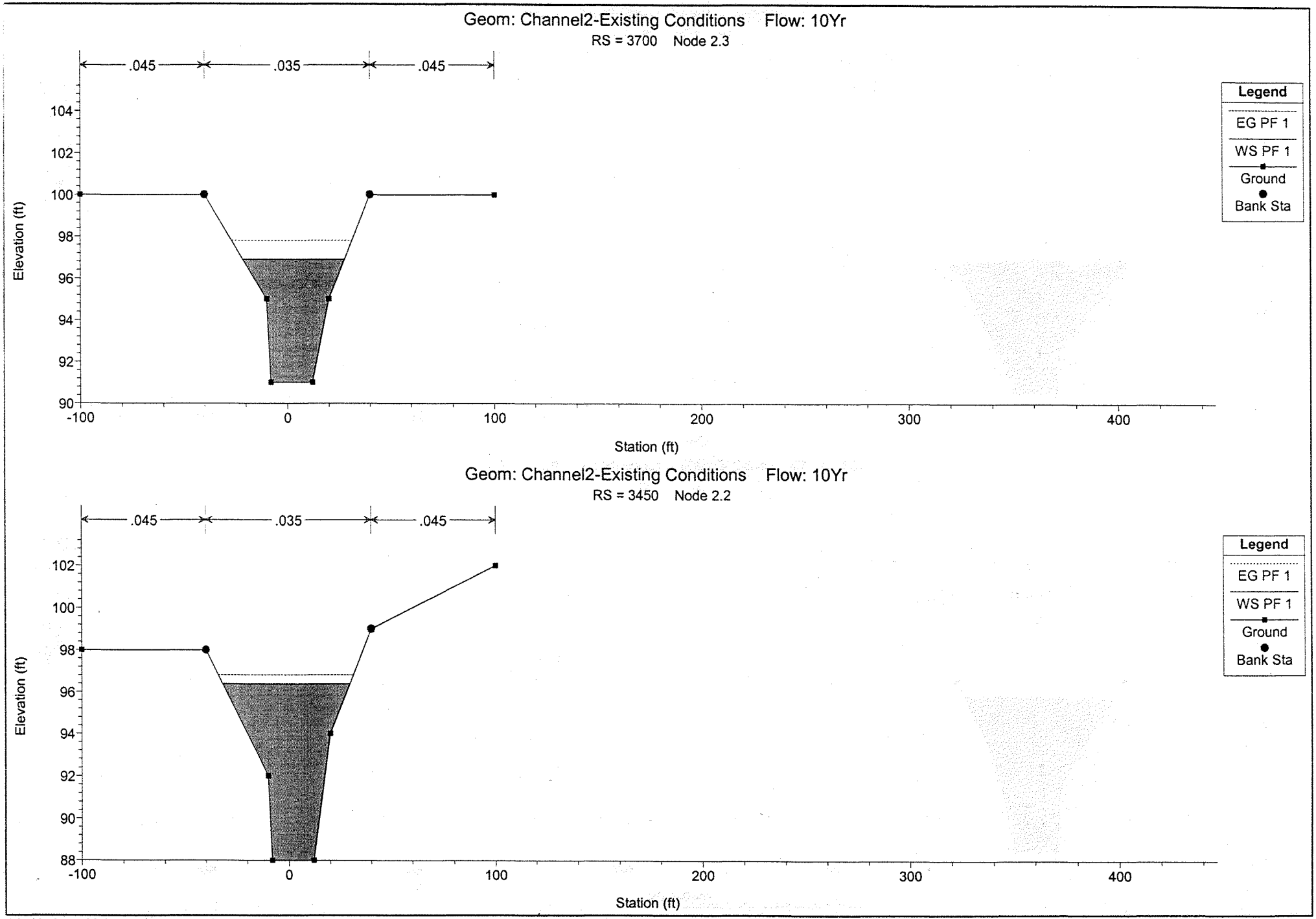



1 in Horiz. = 60 ft 1 in Vert. = 6 ft

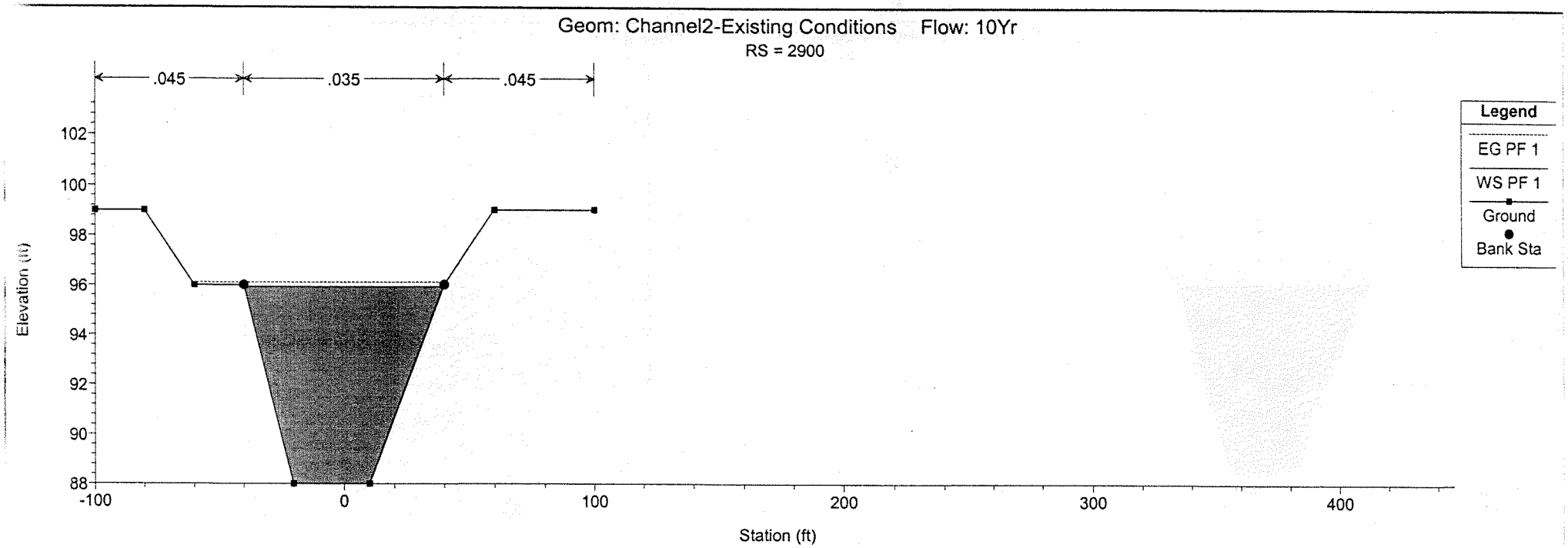


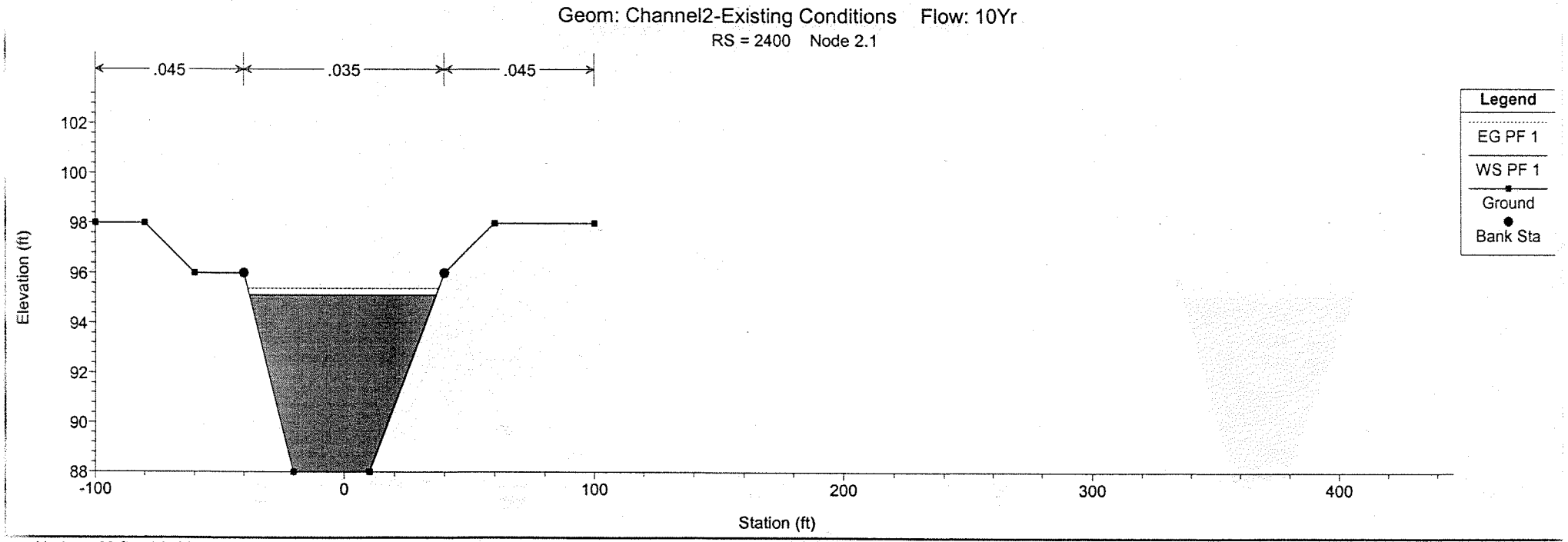




1 in Horiz. = 60 ft 1 in Vert. = 6 ft

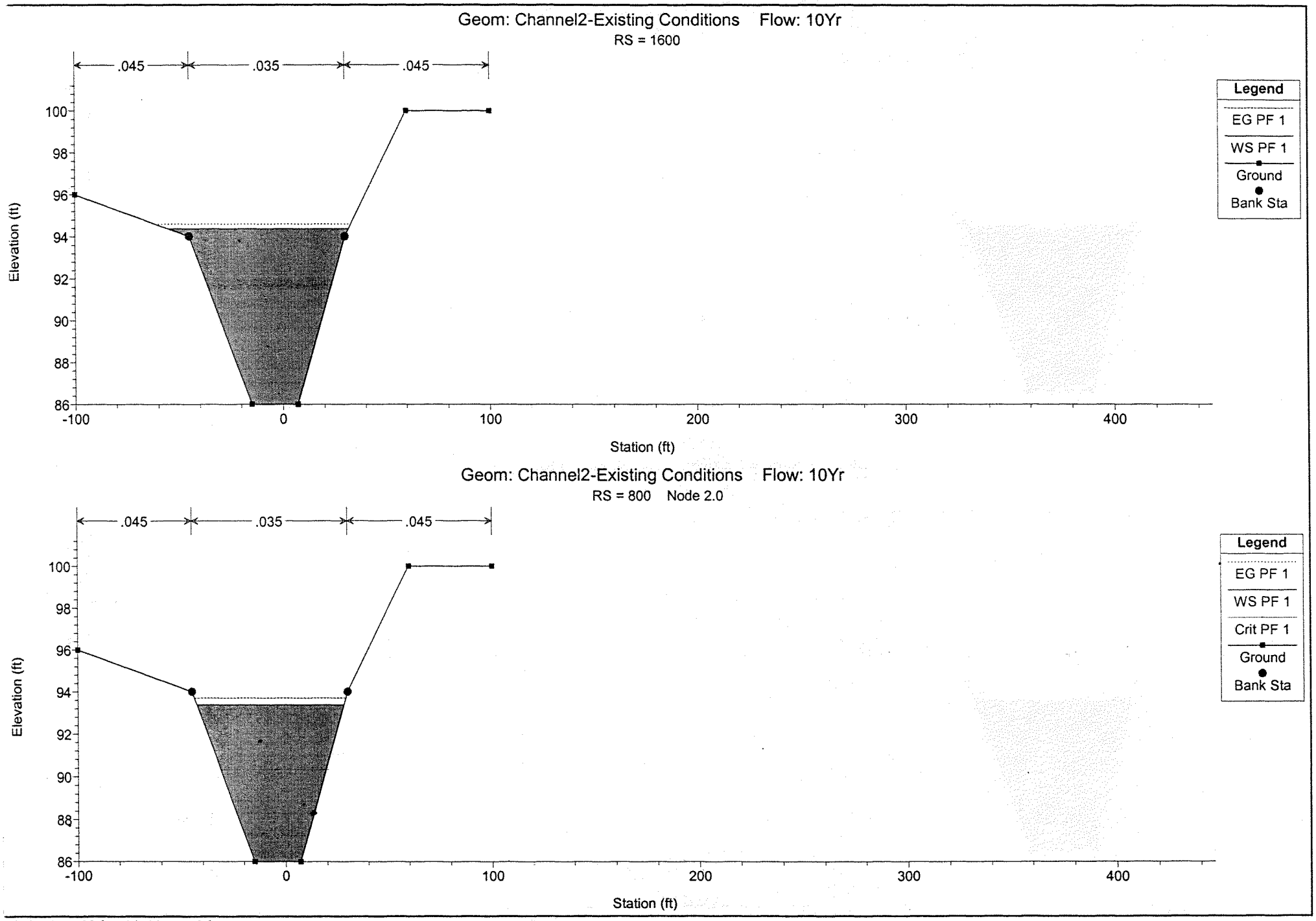



1 in Horiz. = 60 ft 1 in Vert. = 6 ft




in Horiz. = 60 ft 1 in Vert. = 6 ft

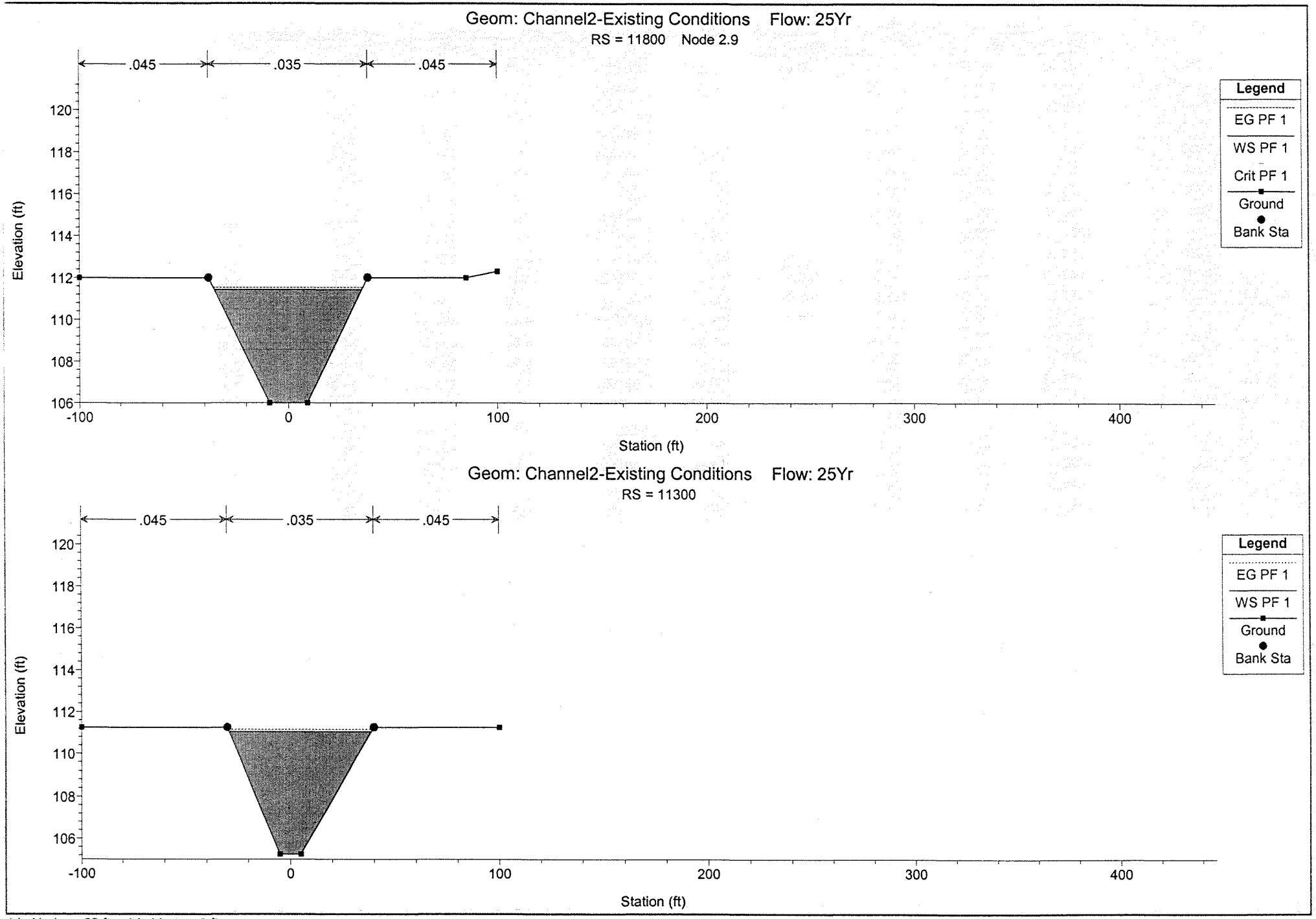

Geom: Channel2-Existing Conditions Flow: 10Yr
RS = 1600
.045
.035
.045
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
Geom: Channel2-Existing Conditions Flow: 10Yr
RS = 800 Node 2.0
.045
.035
.045
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
1 in Horiz. = 60 ft · 1 in Vert. = 6 ft

W...RS...) #... 25 ...STI

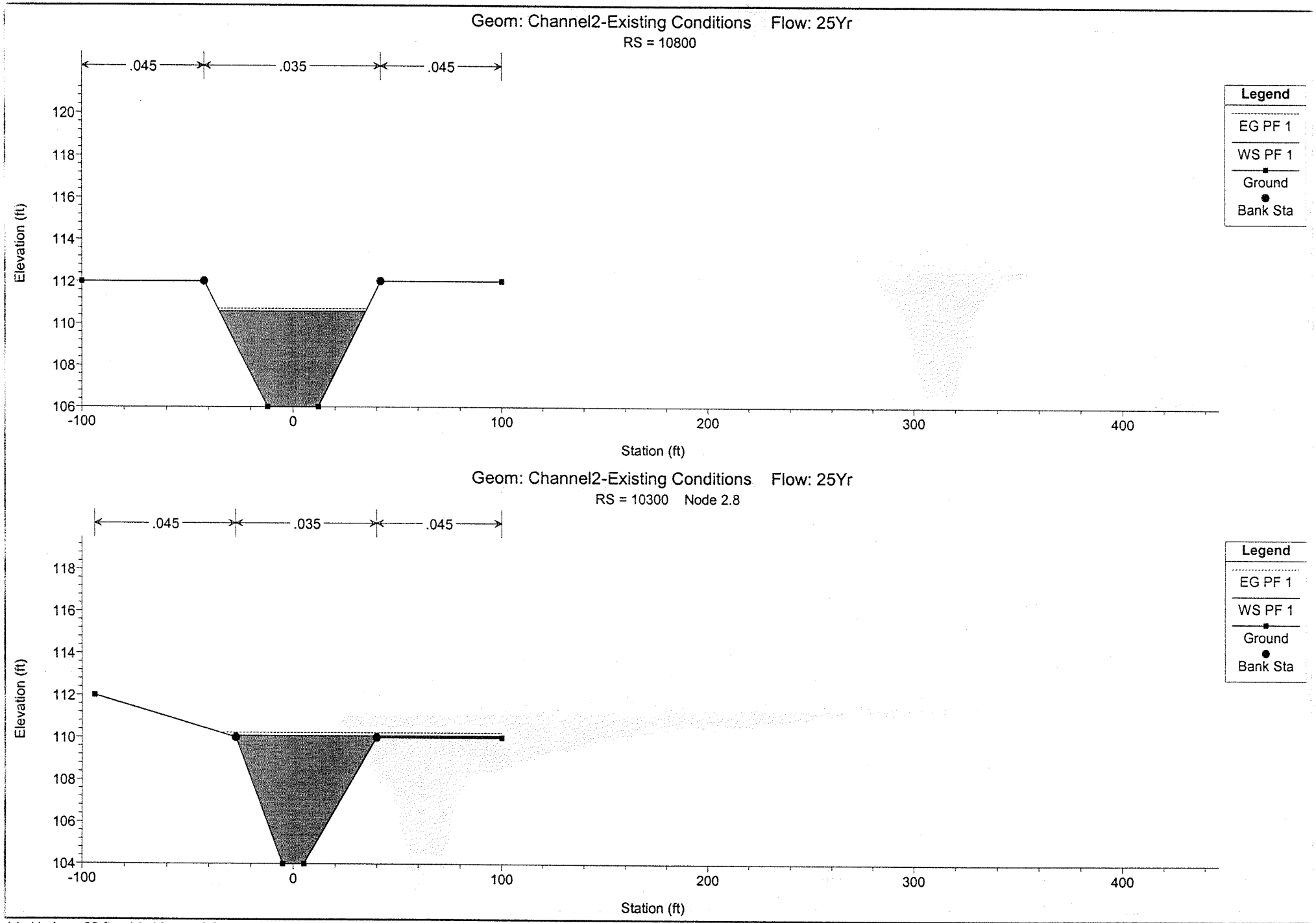
J:/01/207705/ Hydraulics/ HEC-RAS/Ch...

EC-RAS Plan: 2EC25 River: Channel 2 Reach: Node 2.0 - 2.9 Profile: PF 1

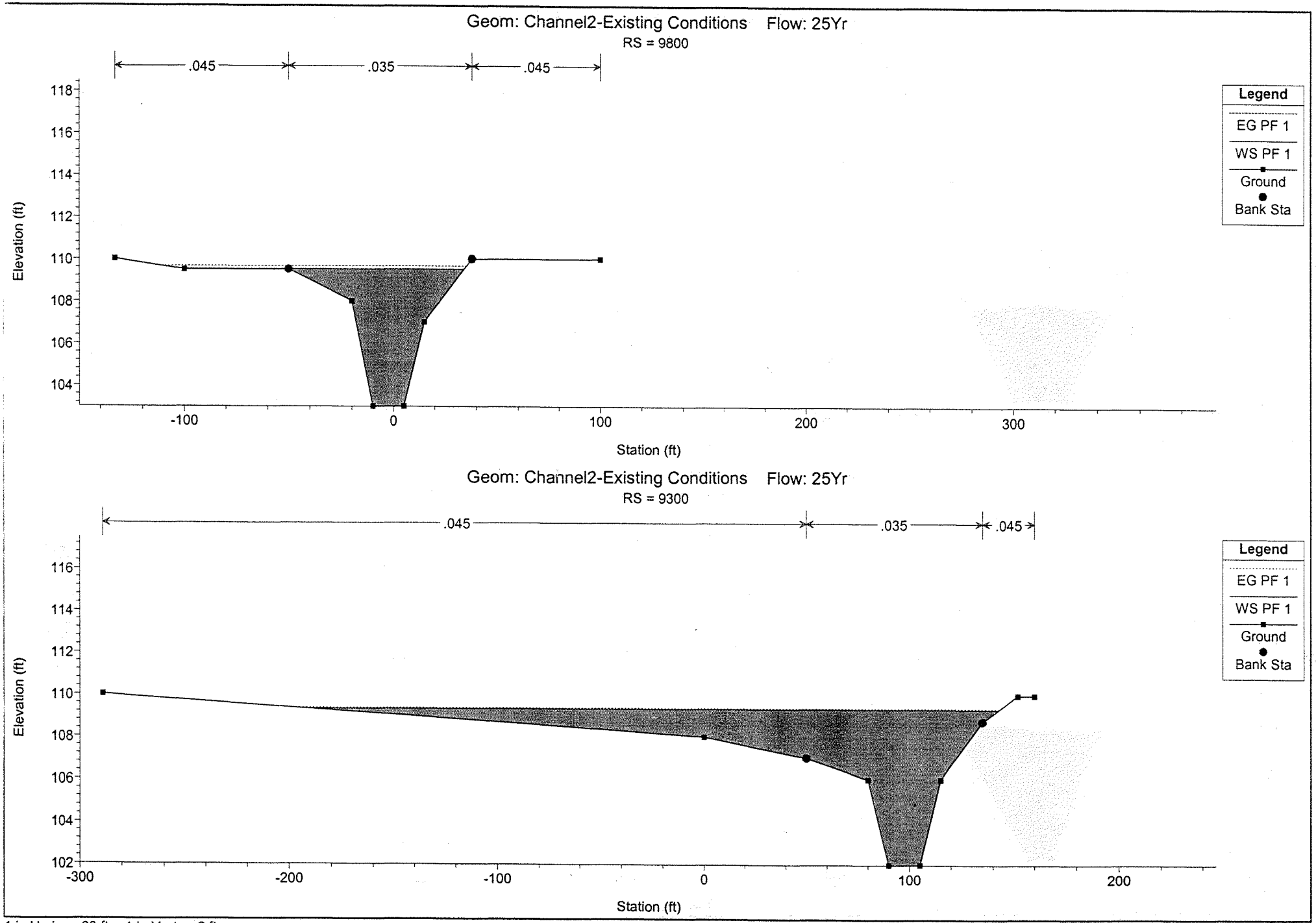
| Reach | River Sta | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | (cfs) | (ft) | (ft) | (ft) | (ft) | (ft/ft) | (ft/s) | (sq ft) | (ft) | |
| ode 2.0 - 2.9 | 11800 | 598.00 | 106.00 | 111.43 | 108.56 | 111.53 | 0.000684 | 2.49 | 240.25 | 70.49 | 0.24 |
| Node 2.0 - 2.9 | 11300 | 598.00 | 105.25 | 111.05 | | 111.16 | 0.000801 | 2.65 | 225.97 | 67.97 | 0.26 |
| Node 2.0 - 2.9 | 10800 | 598.00 | 106.00 | 110.58 | | 110.70 | 0.000973 | 2.78 | 215.12 | 69.85 | 0.28 |
| ode 2.0 - 2.9 | 10300 | 704.00 | 104.00 | 110.09 | | 110.23 | 0.000926 | 2.96 | 243.00 | 130.13 | 0.28 |
| ode 2.0 - 2.9 | 9800 | 704.00 | 103.00 | 109.52 | | 109.67 | 0.001396 | 3.05 | 231.73 | 135.68 | 0.33 |
| Node 2.0 - 2.9 | 9300 | 704.00 | 102.00 | 109.33 | | 109.37 | 0.000270 | 1.74 | 563.21 | 335.58 | 0.15 |
| Node 2.0 - 2.9 | 8800 | 1140.00 | 102.00 | 108.92 | | 109.09 | 0.001101 | 3.23 | 360.26 | 120.24 | 0.30 |
| Node 2.0 - 2.9 | 8600 | 1150.00 | 102.00 | 108.55 | | 108.79 | 0.001892 | 4.03 | 312.67 | 167.06 | 0.39 |
| Node 2.0 - 2.9 | 8100 | 1257.00 | 100.00 | 107.97 | | 108.15 | 0.000913 | 3.42 | 415.92 | 146.69 | 0.28 |
| Node 2.0 - 2.9 | 7550 | 1283.00 | 100.00 | 107.30 | 103.92 | 107.52 | 0.001412 | 3.86 | 354.49 | 129.48 | 0.35 |
| Node 2.0 - 2.9 | 6800 | 1283.00 | 98.00 | 102.91 | 102.91 | 104.93 | 0.013572 | 11.41 | 112.43 | 27.82 | 1.00 |
| Node 2.0 - 2.9 | 6200 | 1351.00 | 97.00 | 102.81 | 100.13 | 103.03 | 0.001092 | 3.72 | 368.73 | 98.44 | 0.31 |
| Node 2.0 - 2.9 | 5700 | 1351.00 | 95.00 | 102.37 | | 102.56 | 0.000781 | 3.48 | 404.53 | 168.50 | 0.27 |
| Node 2.0 - 2.9 | 5200 | 1351.00 | 95.00 | 101.60 | | 101.93 | 0.002260 | 4.62 | 292.30 | 81.56 | 0.43 |
| Node 2.0 - 2.9 | 4750 | 1477.00 | 94.00 | 100.76 | | 101.06 | 0.001655 | 4.39 | 365.87 | 171.49 | 0.38 |
| Node 2.0 - 2.9 | 4200 | 1477.00 | 92.00 | 99.71 | | 100.06 | 0.002002 | 4.71 | 313.29 | 76.81 | 0.41 |
| Node 2.0 - 2.9 | 3700 | 1550.00 | 91.00 | 97.48 | | 98.37 | 0.005971 | 7.55 | 205.21 | 54.81 | 0.69 |
| Node 2.0 - 2.9 | 3450 | 1724.00 | 88.00 | 96.95 | | 97.40 | 0.002220 | 5.40 | 319.06 | 66.54 | 0.43 |
| Node 2.0 - 2.9 | 2900 | 1724.00 | 88.00 | 96.51 | | 96.71 | 0.000677 | 3.57 | 492.56 | 106.78 | 0.26 |
| ode 2.0 - 2.9 | 2400 | 1788.00 | 88.00 | 95.72 | | 96.00 | 0.001135 | 4.28 | 417.86 | 78.25 | 0.33 |
| ode 2.0 - 2.9 | 1600 | 1840.00 | 86.00 | 94.99 | | 95.24 | 0.000801 | 3.96 | 478.68 | 107.33 | 0.28 |
| ode 2.0 - 2.9 | 800 | 1840.00 | 86.00 | 94.06 | 90.72 | 94.40 | 0.001402 | 4.69 | 392.31 | 76.85 | 0.36 |



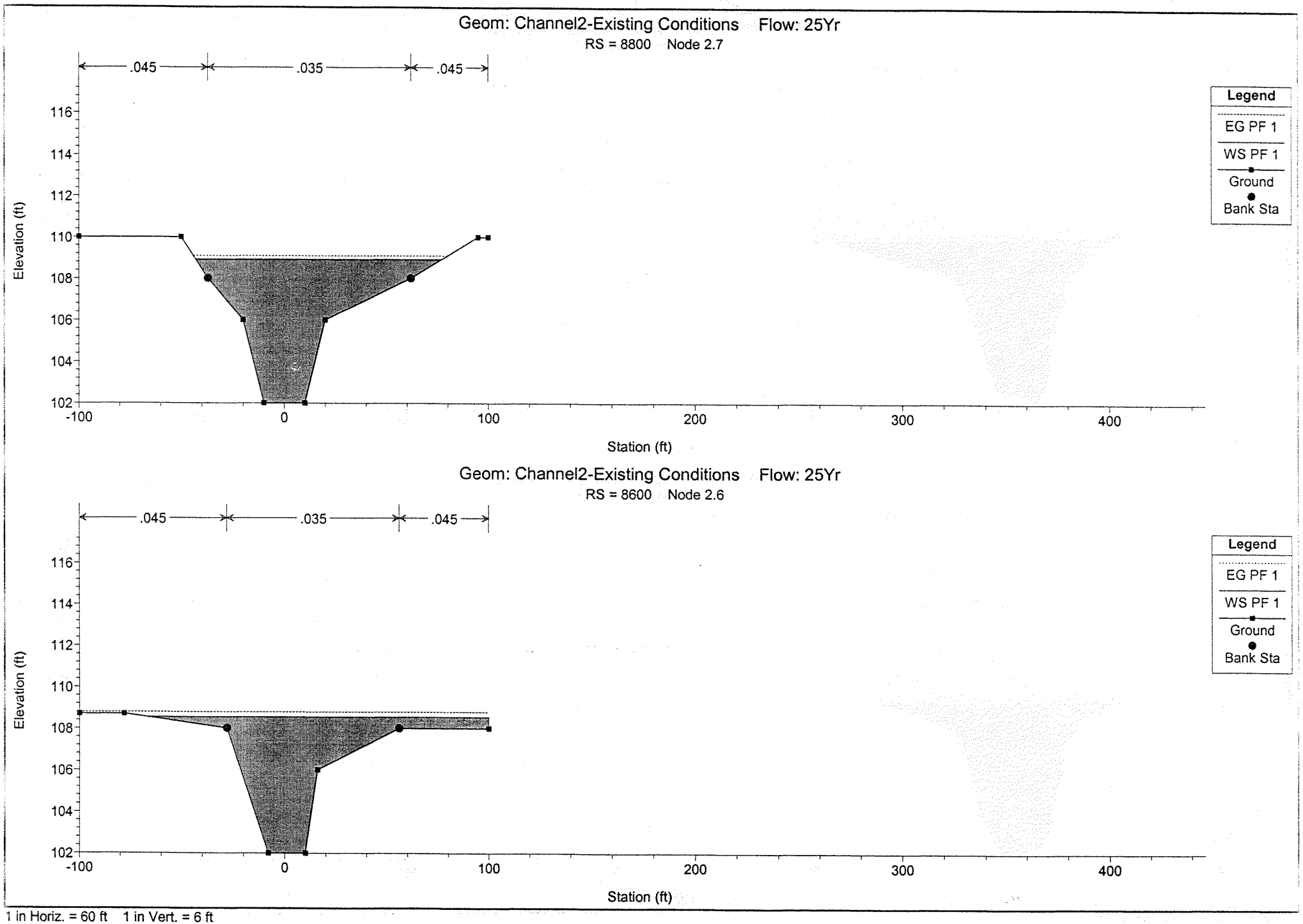

1 in Horiz. = 60 ft 1 in Vert. = 6 ft



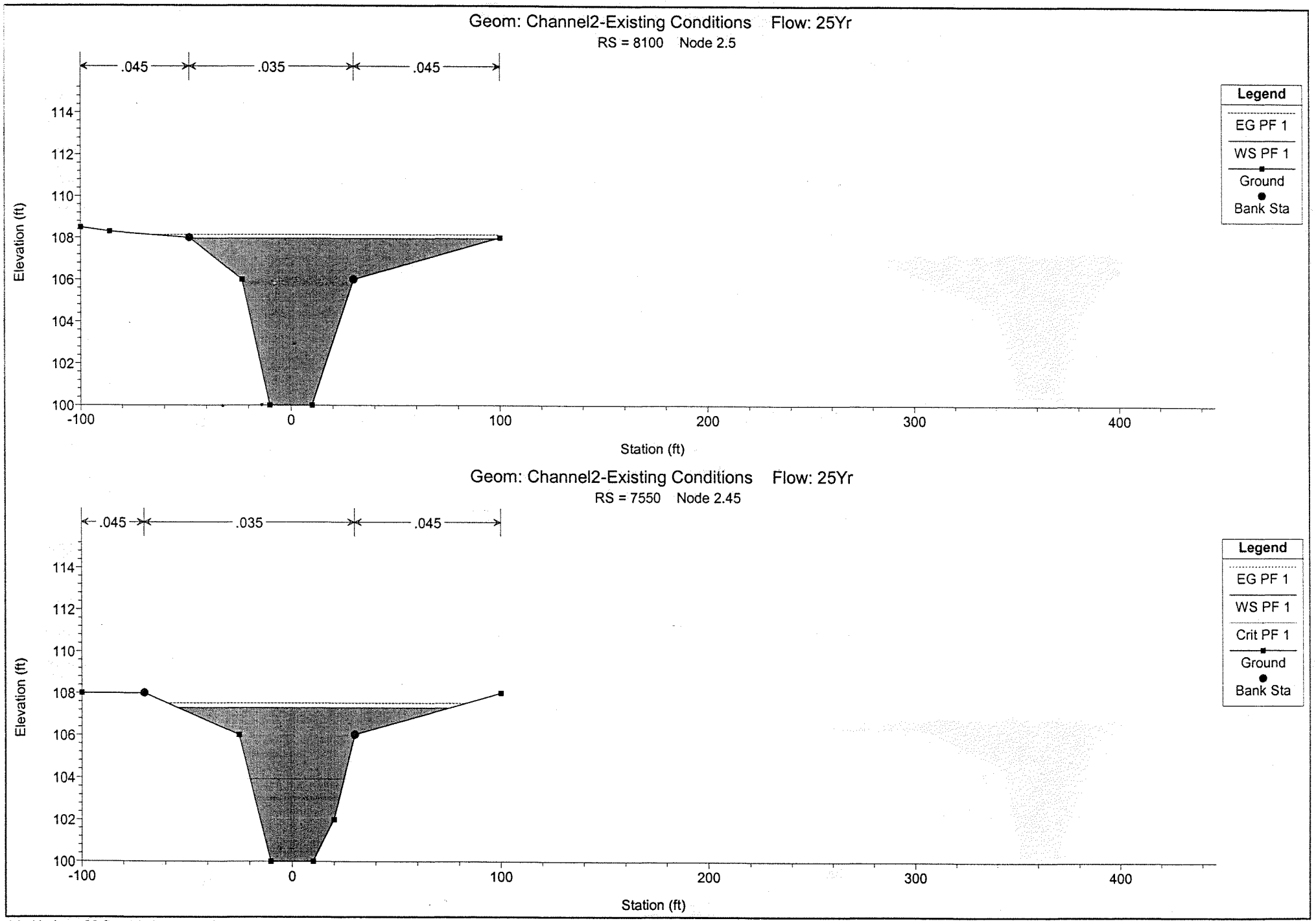

1 in Horiz. = 60 ft 1 in Vert. = 6 ft



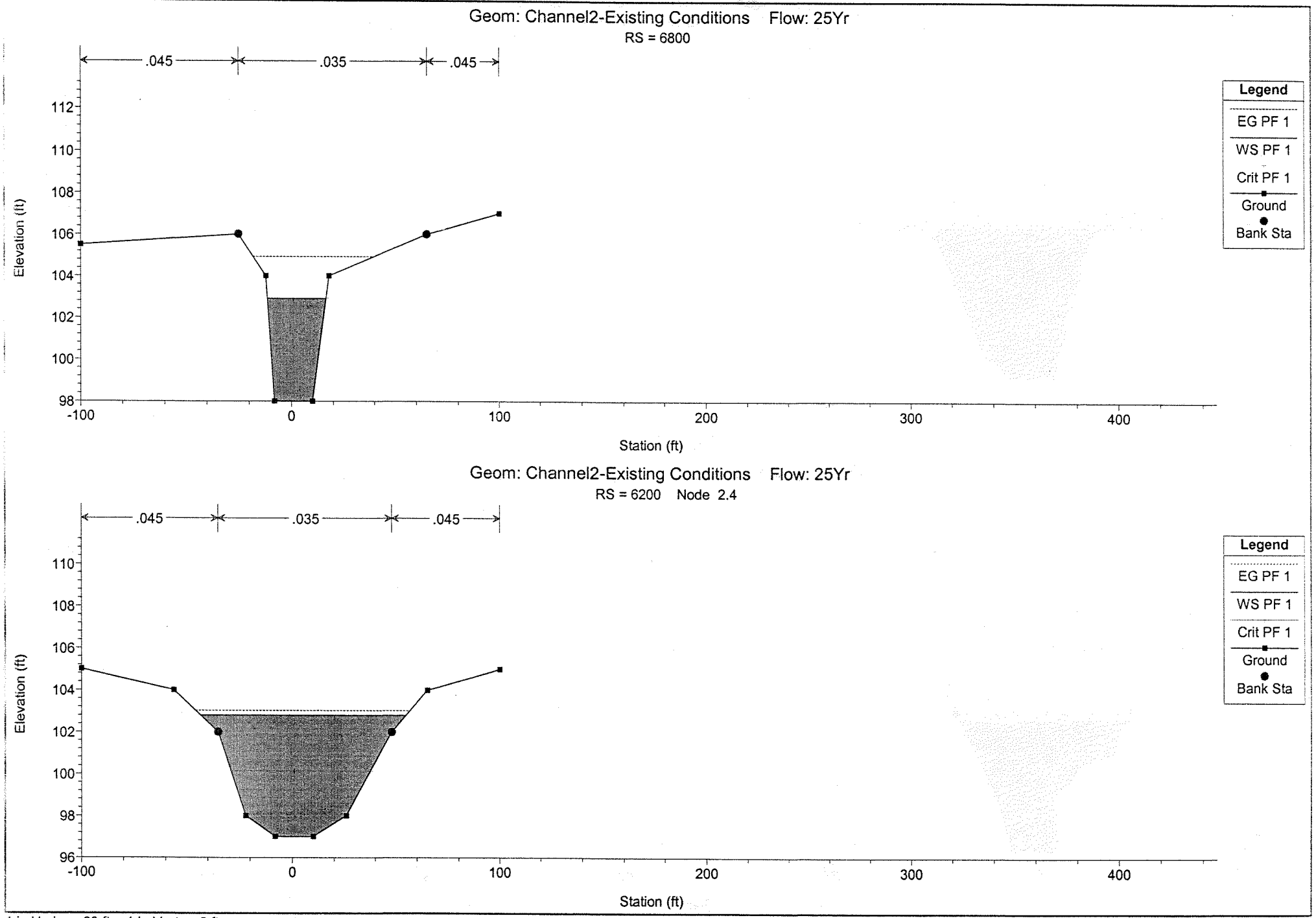

1 in Horiz. = 60 ft 1 in Vert. = 6 ft



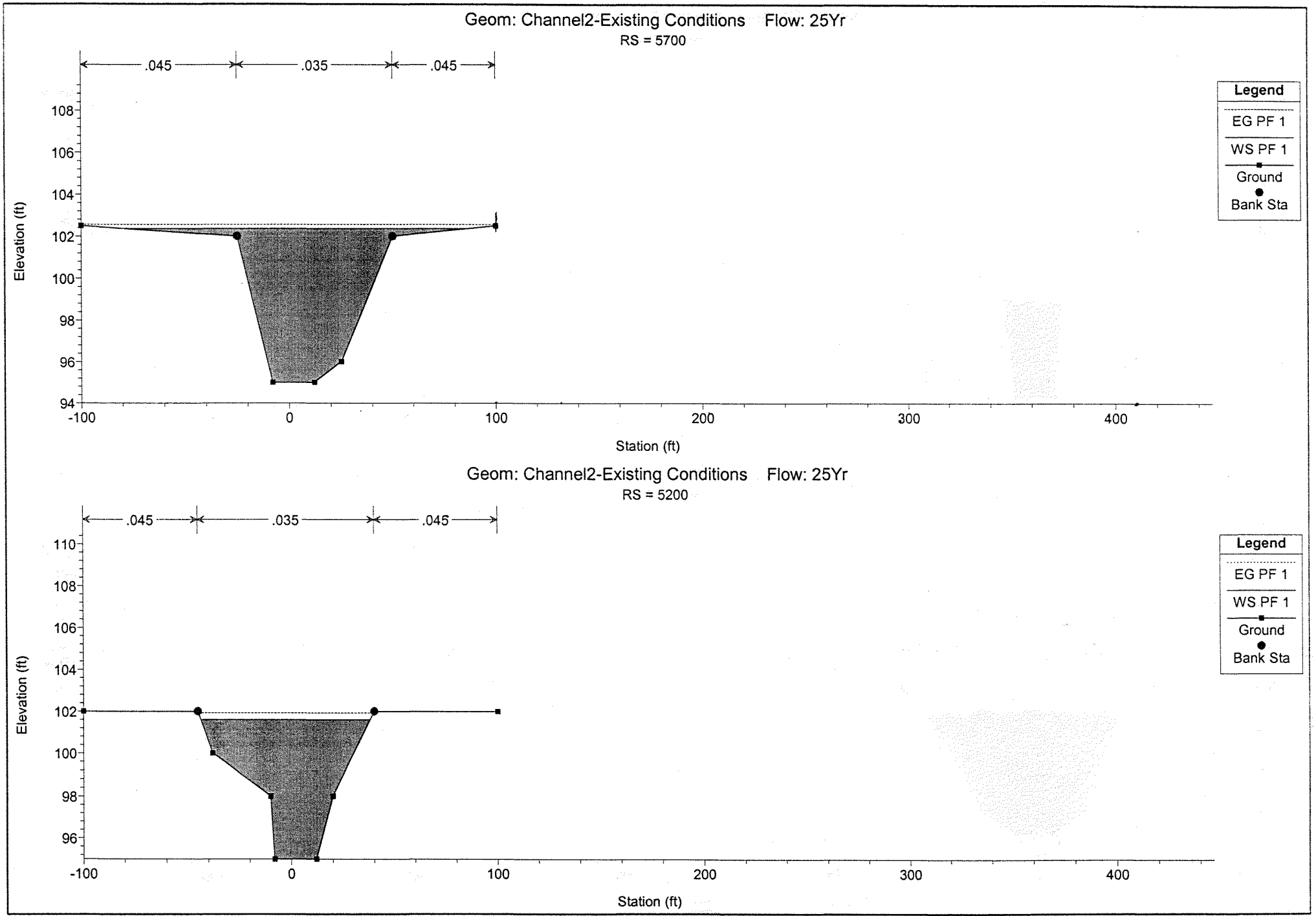

1 in Horiz. = 60 ft 1 in Vert. = 6 ft



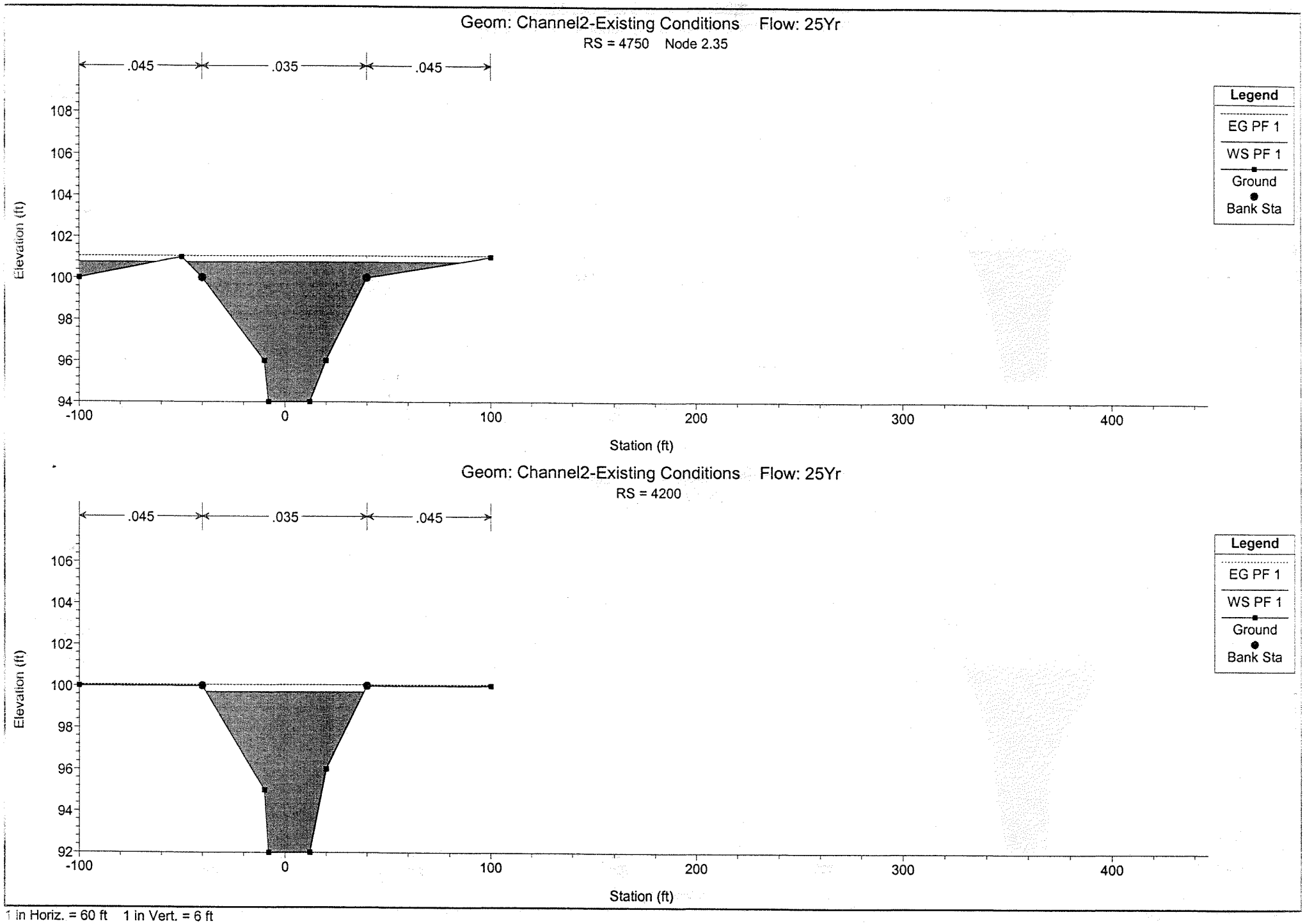

1 in Horiz. = 60 ft 1 in Vert. = 6 ft



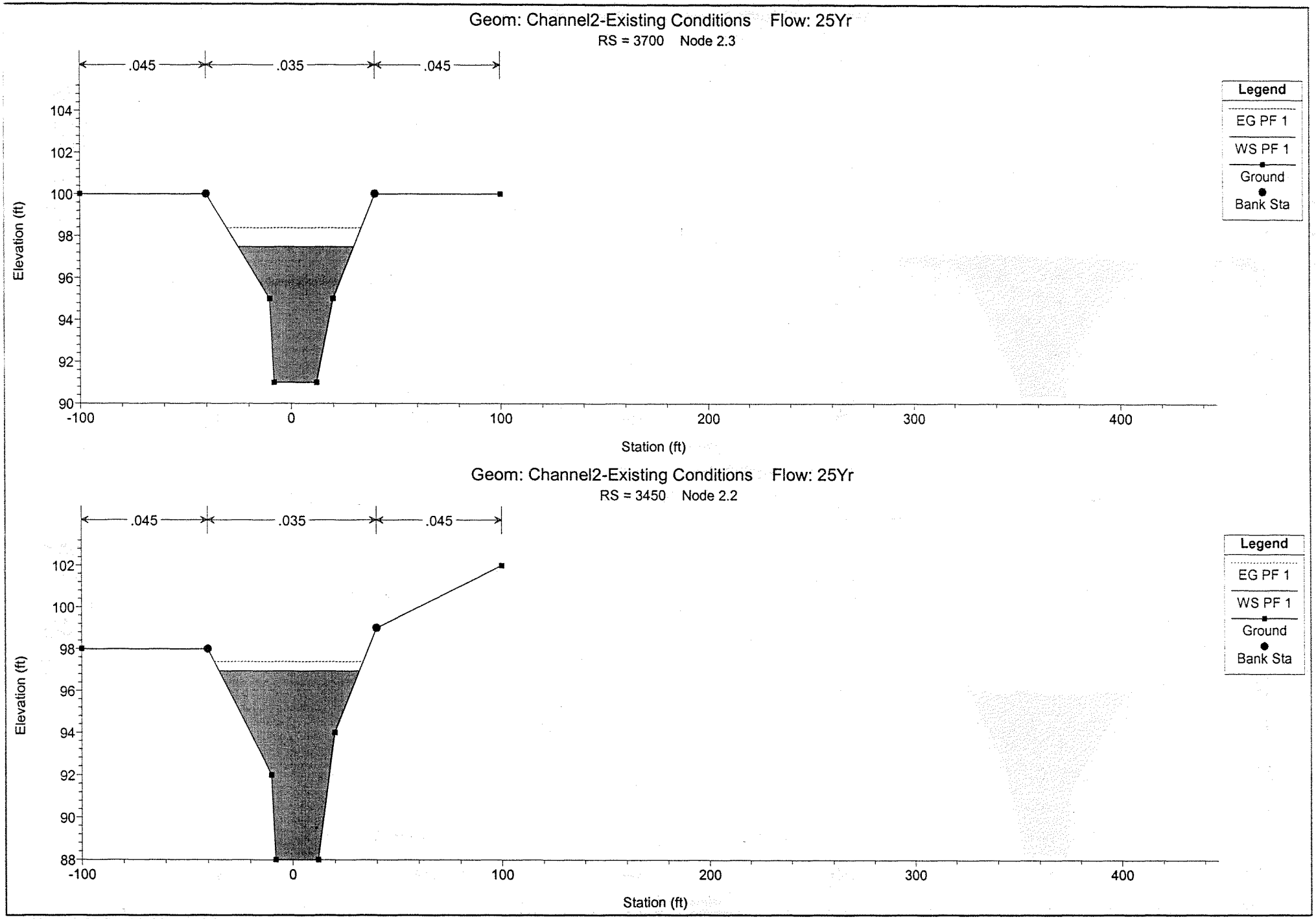

1 in Horiz. = 60 ft 1 in Vert. = 6 ft



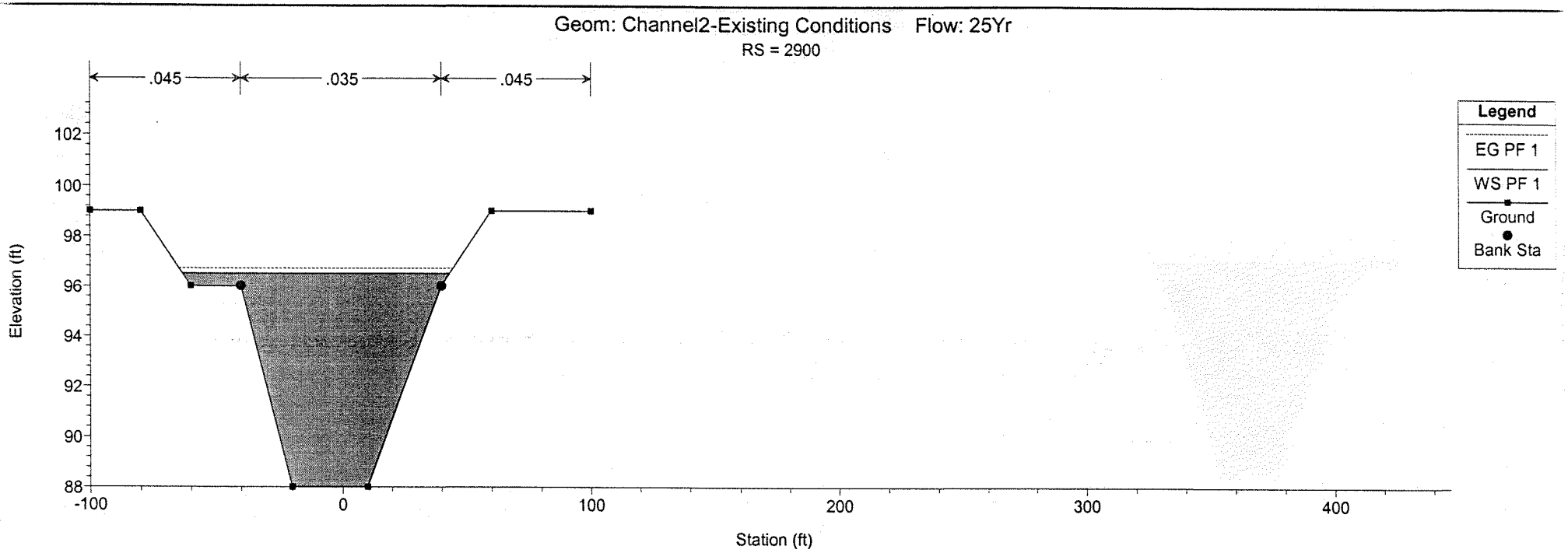

1 in Horiz. = 60 ft 1 in Vert. = 6 ft

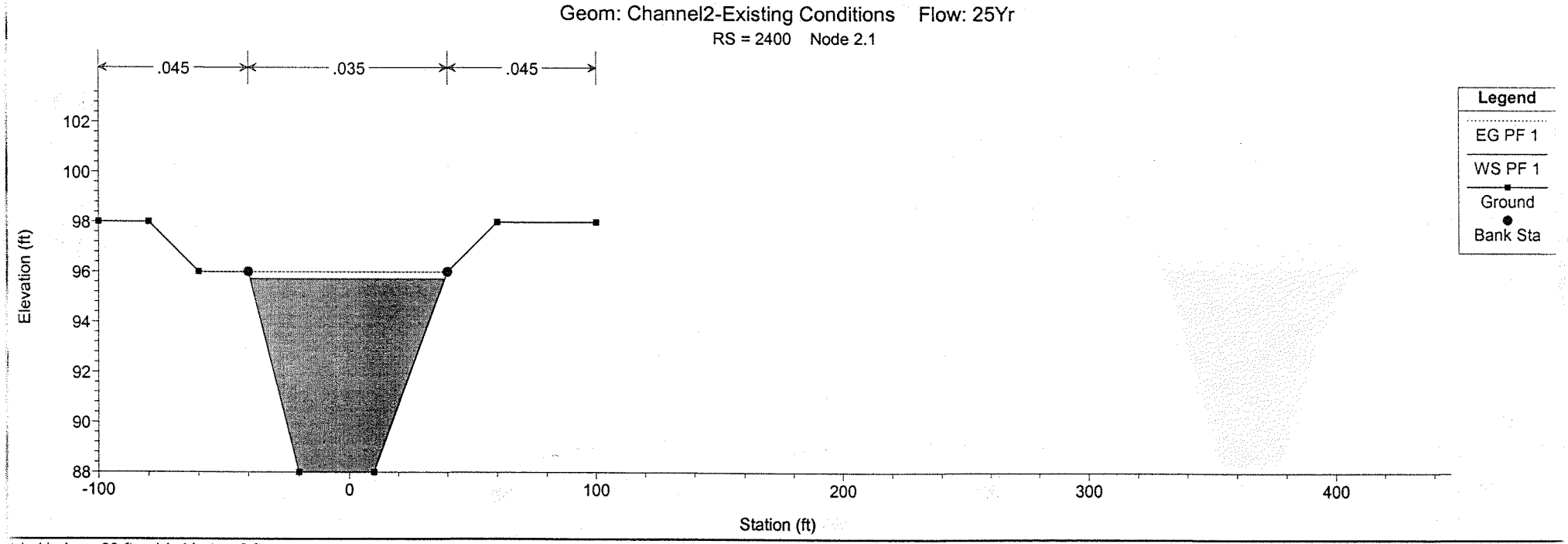



1 in Horiz. = 60 ft 1 in Vert. = 6 ft

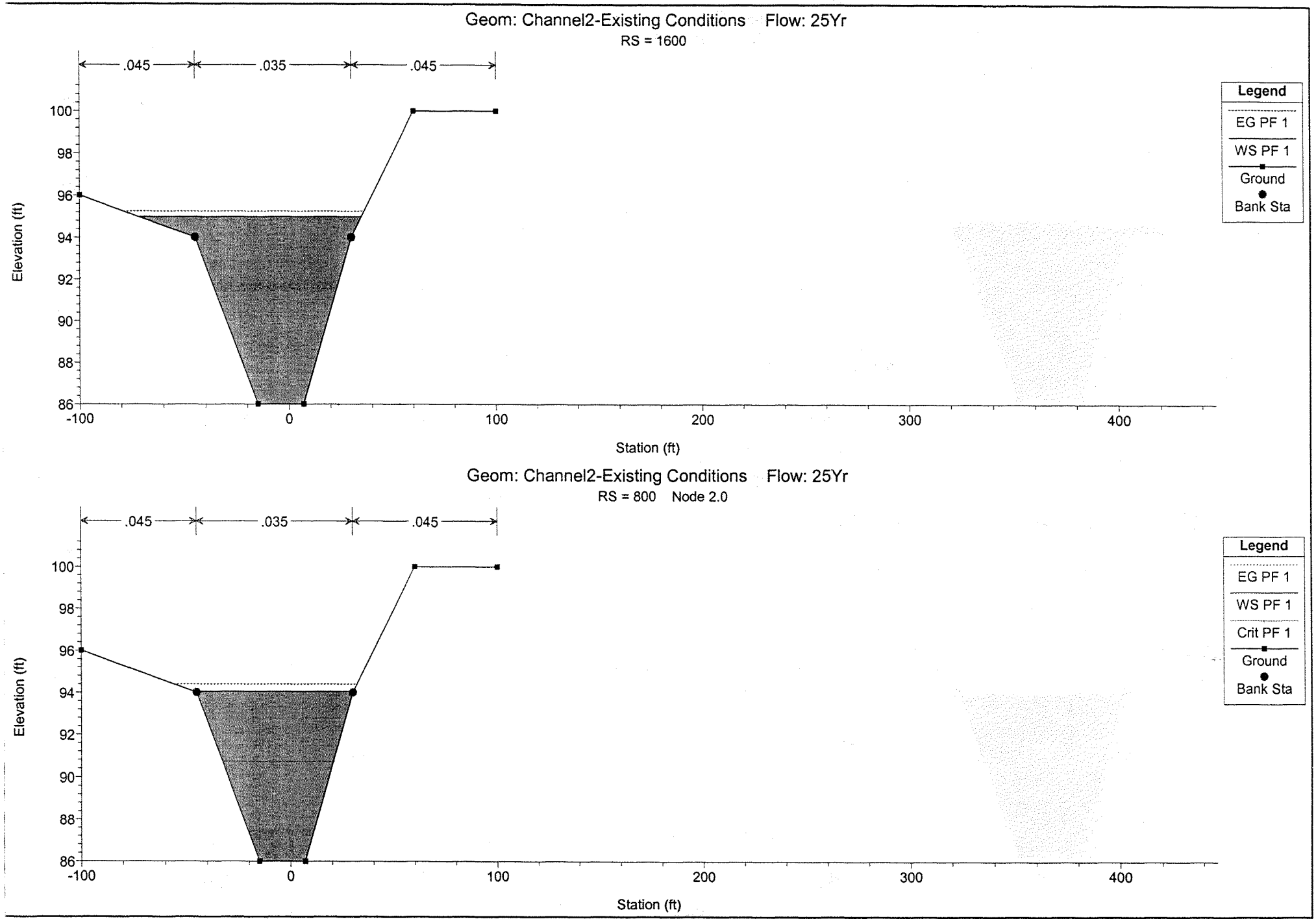



1 in Horiz. = 60 ft 1 in Vert. = 6 ft




1 in Horiz. = 60 ft 1 in Vert. = 6 ft

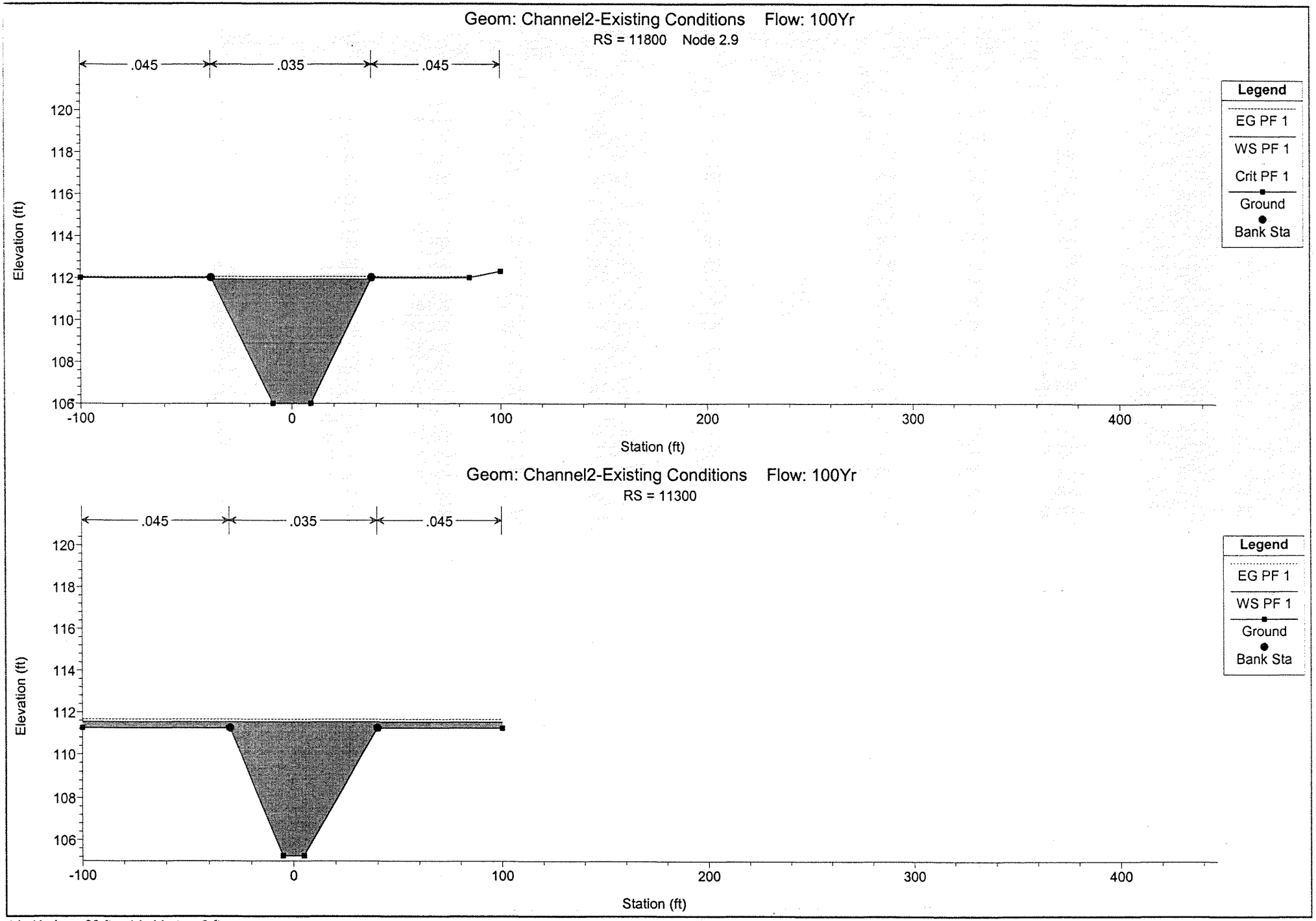



1 in Horiz. = 60 ft 1 in Vert. = 6 ft

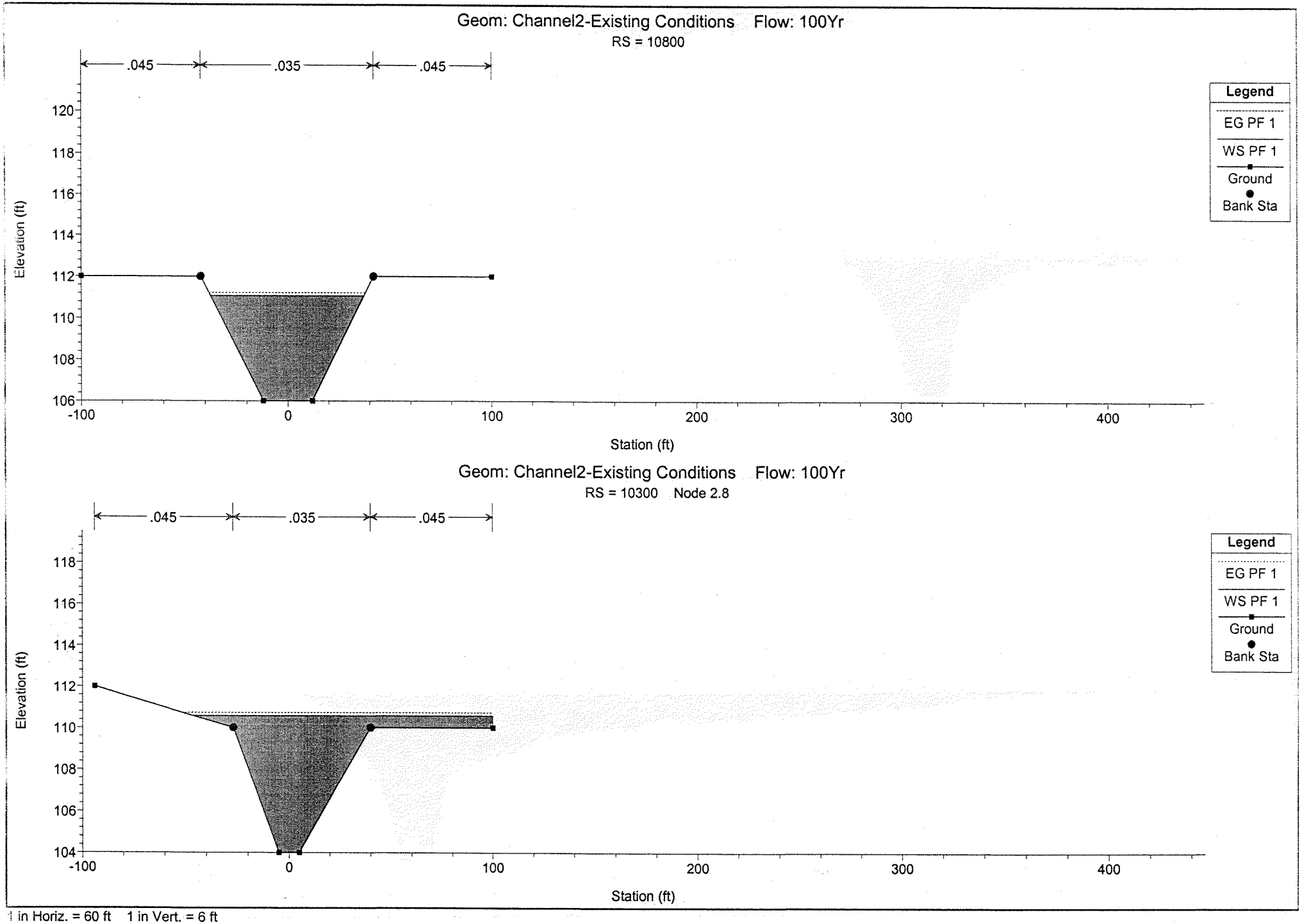
WATERSHED - 1 IR RA
J:/01/207705/Hydraulics/HEC-RAS/Channel

HEC-RAS Plan: 2EC100 River: Channel 2 Reach: Node 2.0 - 2.9 Profile: PF 1

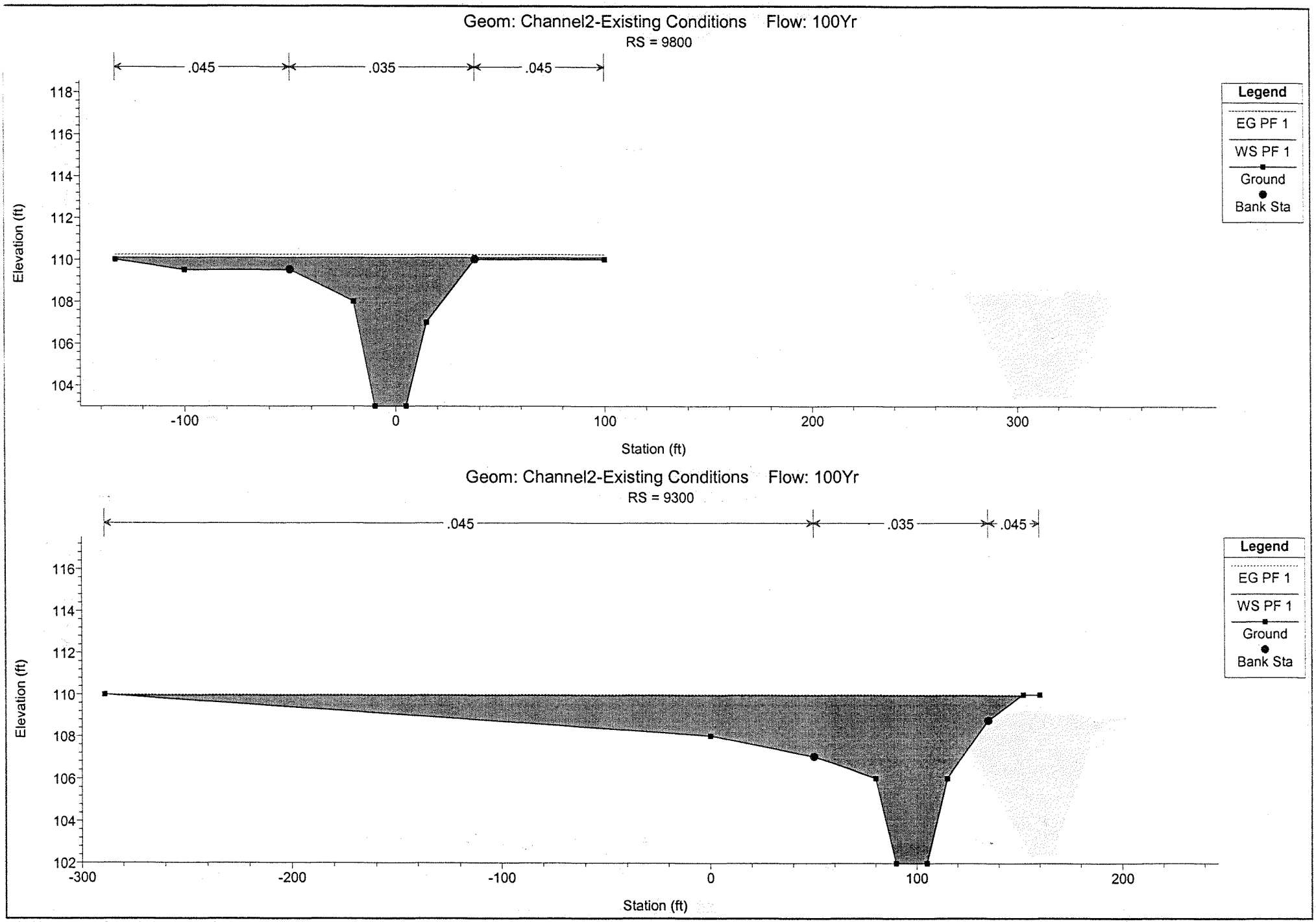
| Reach | River Sta | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | (cfs) | (ft) | (ft) | (ft) | (ft) | (ft/ft) | (ft/s) | (sq ft) | (ft) | |
| Node 2.0 - 2.9 | 11800 | 751.00 | 106.00 | 111.93 | 108.89 | 112.05 | 0.000735 | 2.71 | 276.96 | 75.36 | 0.25 |
| Node 2.0 - 2.9 | 11300 | 751.00 | 105.25 | 111.55 | | 111.67 | 0.000781 | 2.82 | 299.45 | 200.00 | 0.26 |
| Node 2.0 - 2.9 | 10800 | 751.00 | 106.00 | 111.08 | | 111.22 | 0.001008 | 2.99 | 250.86 | 74.79 | 0.29 |
| Node 2.0 - 2.9 | 10300 | 888.00 | 104.00 | 110.59 | | 110.74 | 0.000899 | 3.19 | 311.41 | 146.68 | 0.28 |
| Node 2.0 - 2.9 | 9800 | 888.00 | 103.00 | 110.09 | | 110.23 | 0.001154 | 3.07 | 325.92 | 233.00 | 0.30 |
| Node 2.0 - 2.9 | 9300 | 888.00 | 102.00 | 109.95 | | 109.99 | 0.000213 | 1.70 | 802.17 | 433.79 | 0.14 |
| Node 2.0 - 2.9 | 8800 | 1480.00 | 102.00 | 109.53 | | 109.72 | 0.001069 | 3.54 | 437.74 | 134.25 | 0.31 |
| Node 2.0 - 2.9 | 8600 | 1492.00 | 102.00 | 109.24 | | 109.47 | 0.001462 | 4.02 | 447.38 | 200.00 | 0.35 |
| Node 2.0 - 2.9 | 8100 | 1626.00 | 100.00 | 108.77 | | 108.94 | 0.000783 | 3.52 | 561.88 | 200.00 | 0.27 |
| Node 2.0 - 2.9 | 7550 | 1653.00 | 100.00 | 108.20 | 104.52 | 108.41 | 0.001228 | 3.76 | 500.13 | 200.00 | 0.33 |
| Node 2.0 - 2.9 | 6800 | 1653.00 | 98.00 | 103.71 | 103.71 | 106.02 | 0.013275 | 12.20 | 135.47 | 29.43 | 1.00 |
| Node 2.0 - 2.9 | 6200 | 1741.00 | 97.00 | 103.46 | 100.61 | 103.73 | 0.001124 | 4.14 | 436.81 | 110.80 | 0.33 |
| Node 2.0 - 2.9 | 5700 | 1741.00 | 95.00 | 103.02 | | 103.24 | 0.000805 | 3.82 | 532.38 | 200.00 | 0.28 |
| Node 2.0 - 2.9 | 5200 | 1741.00 | 95.00 | 102.19 | | 102.59 | 0.002309 | 5.05 | 364.53 | 200.00 | 0.44 |
| Node 2.0 - 2.9 | 4750 | 1901.00 | 94.00 | 101.45 | | 101.75 | 0.001466 | 4.57 | 499.30 | 200.00 | 0.37 |
| Node 2.0 - 2.9 | 4200 | 1901.00 | 92.00 | 100.47 | | 100.84 | 0.001846 | 4.96 | 430.11 | 200.00 | 0.40 |
| Node 2.0 - 2.9 | 3700 | 1992.00 | 91.00 | 98.29 | | 99.25 | 0.005876 | 7.89 | 252.59 | 62.86 | 0.69 |
| Node 2.0 - 2.9 | 3450 | 2222.00 | 88.00 | 97.66 | | 98.22 | 0.002562 | 6.03 | 368.51 | 72.92 | 0.47 |
| Node 2.0 - 2.9 | 2900 | 2222.00 | 88.00 | 97.15 | | 97.41 | 0.000787 | 4.12 | 563.84 | 115.34 | 0.28 |
| Node 2.0 - 2.9 | 2400 | 2306.00 | 88.00 | 96.14 | | 96.55 | 0.001503 | 5.11 | 454.43 | 102.85 | 0.38 |
| Node 2.0 - 2.9 | 1600 | 2306.00 | 86.00 | 95.11 | | 95.47 | 0.001180 | 4.86 | 491.15 | 111.04 | 0.34 |
| Node 2.0 - 2.9 | 800 | 2371.00 | 86.00 | 92.00 | 91.40 | 93.38 | 0.007903 | 9.44 | 251.25 | 61.75 | 0.82 |



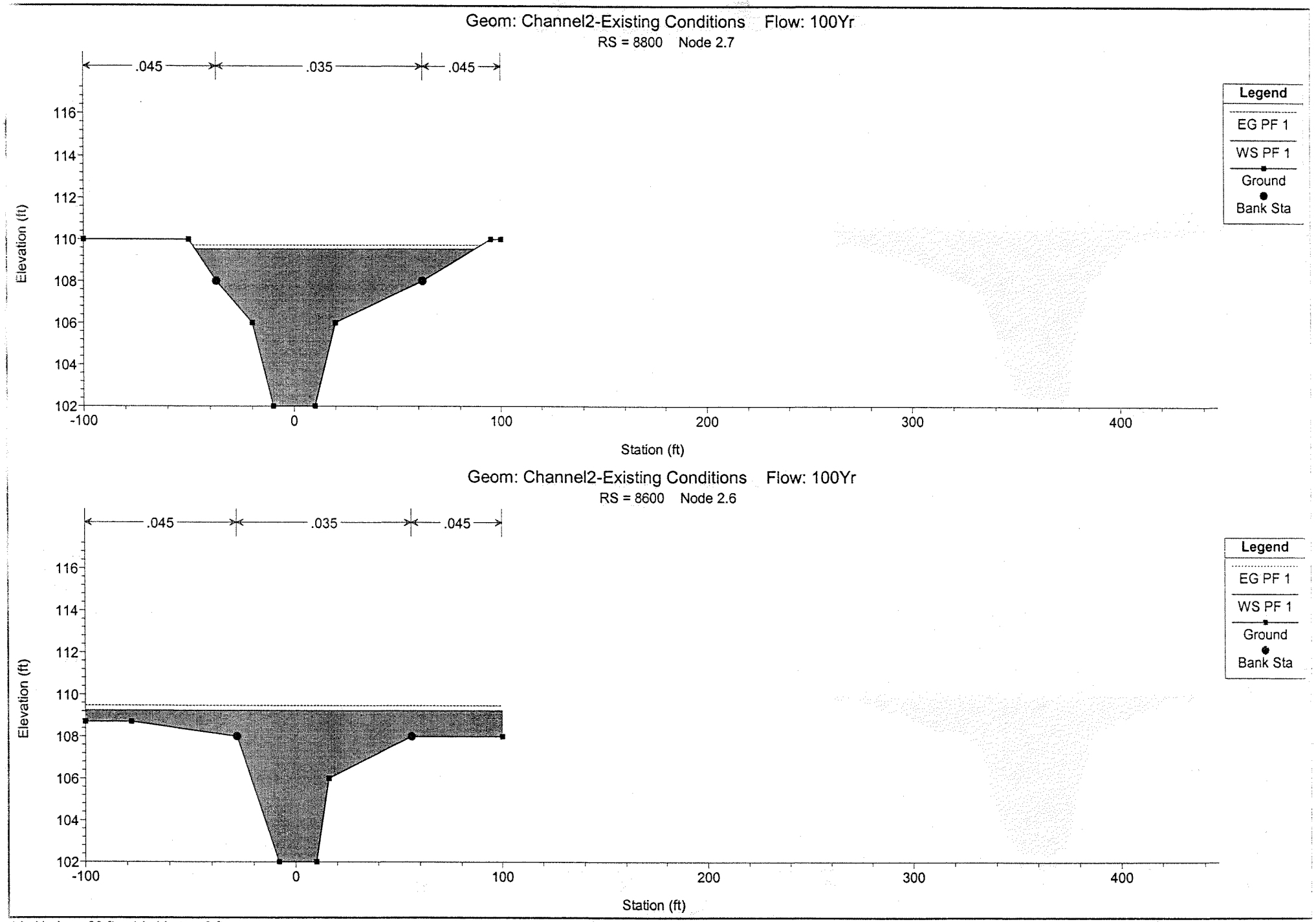

1 in Horiz. = 60 ft 1 in Vert. = 6 ft



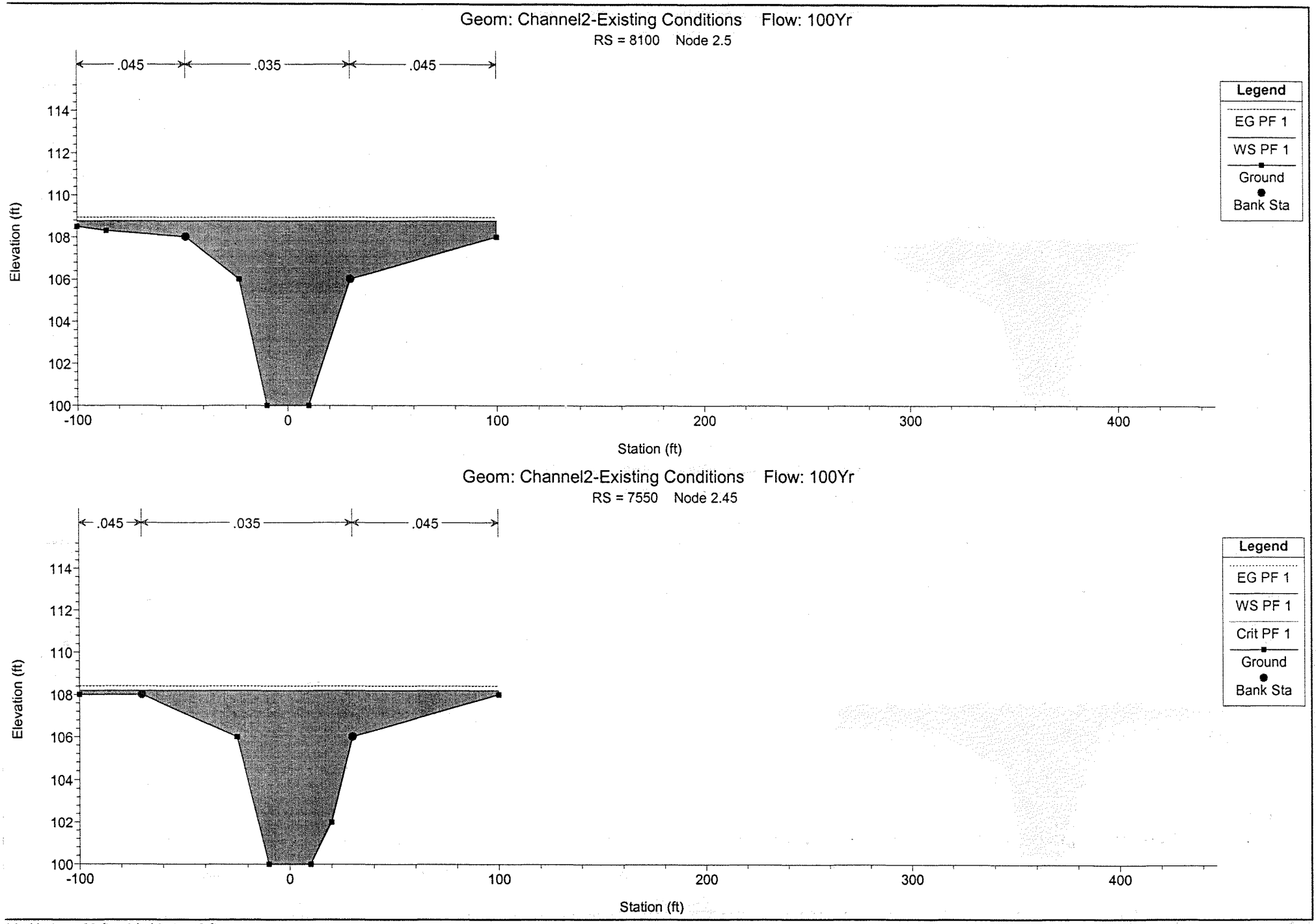

1 in Horiz. = 60 ft 1 in Vert. = 6 ft



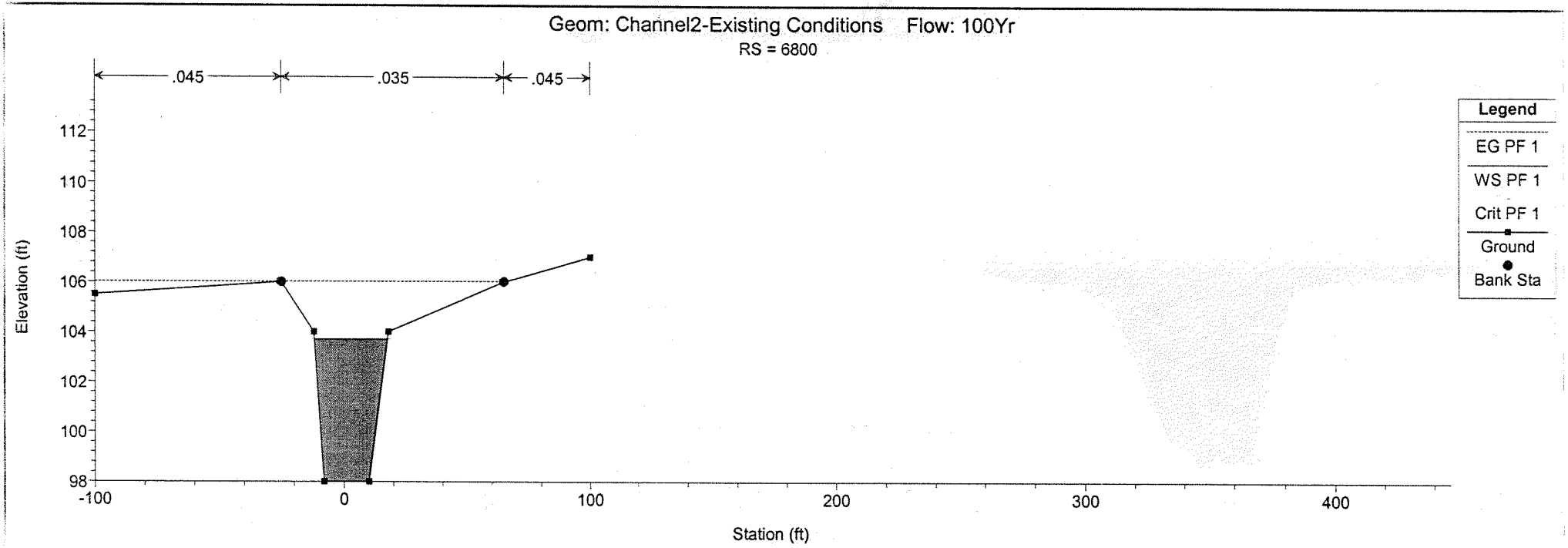

1 in Horiz. = 60 ft 1 in Vert. = 6 ft

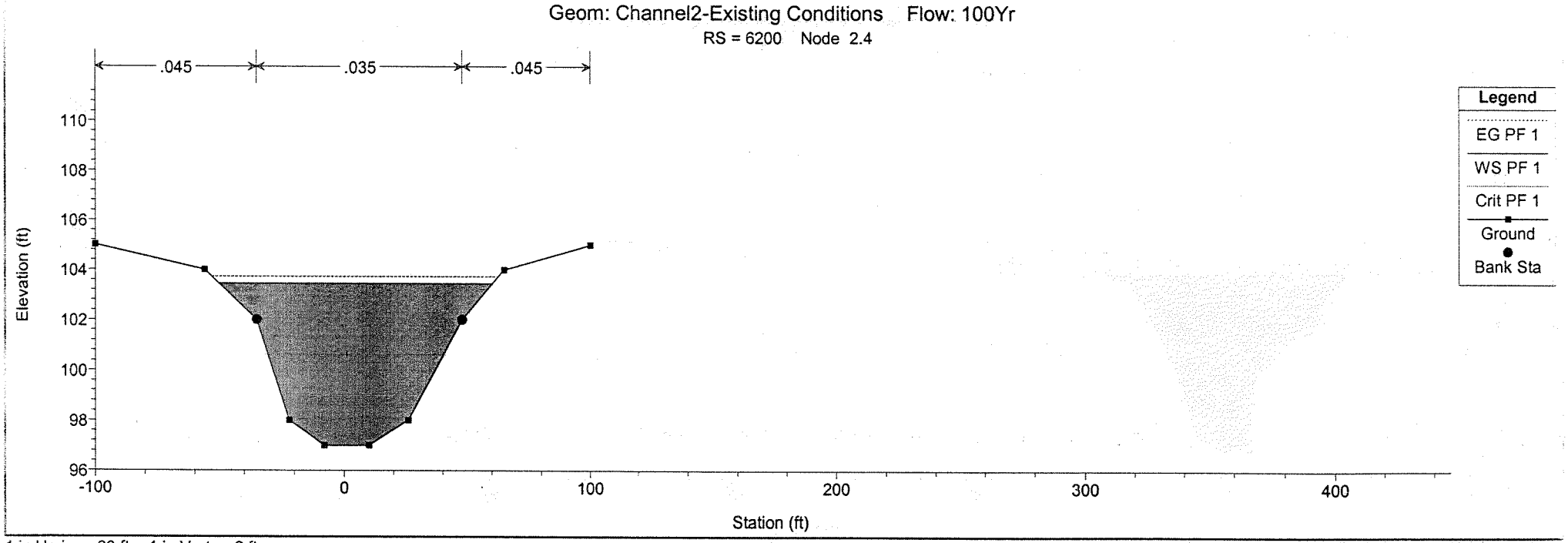



1 in Horiz. = 60 ft 1 in Vert. = 6 ft

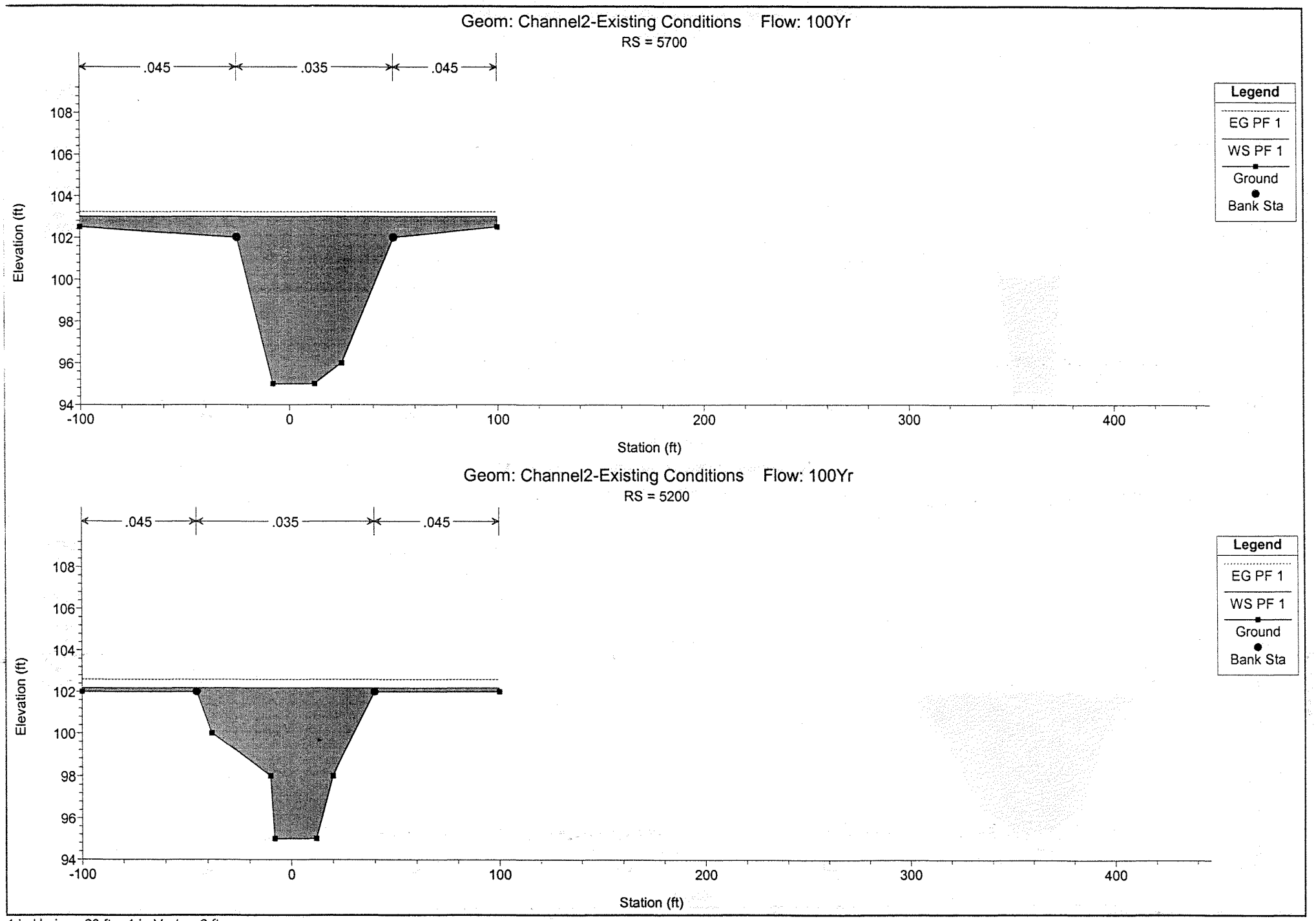



1 in Horiz. = 60 ft 1 in Vert. = 6 ft

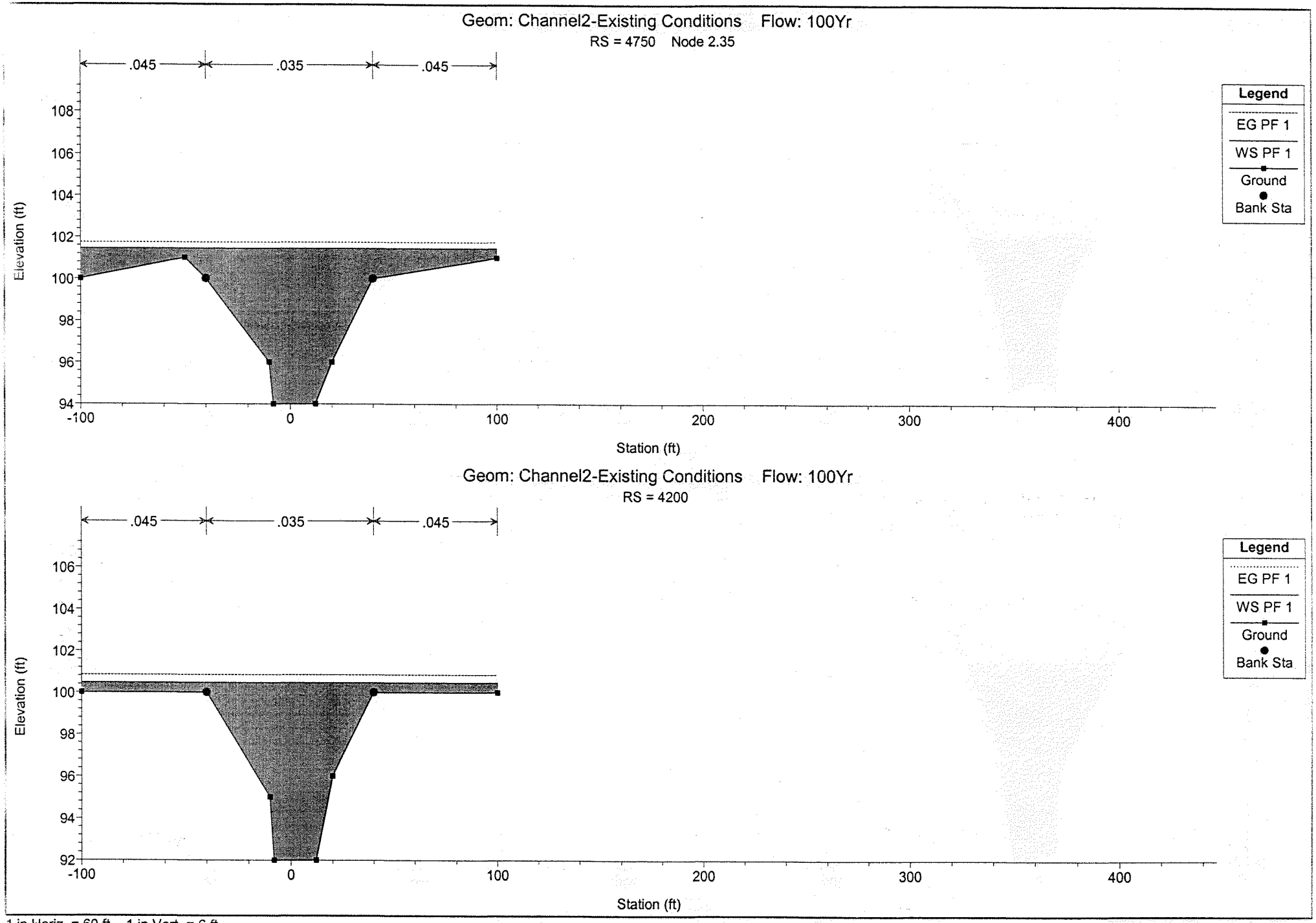


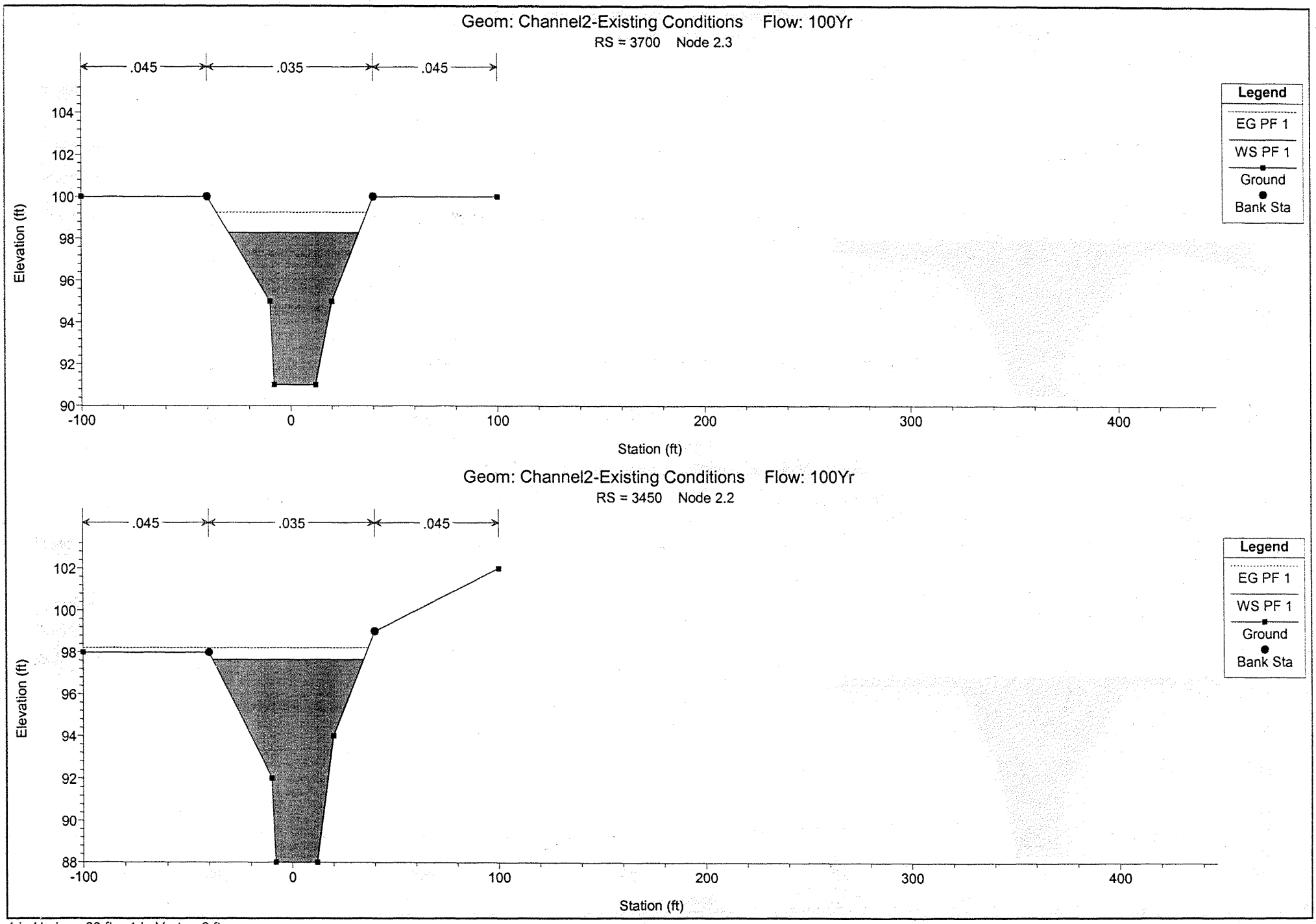

1 in Horiz. = 60 ft 1 in Vert. = 6 ft



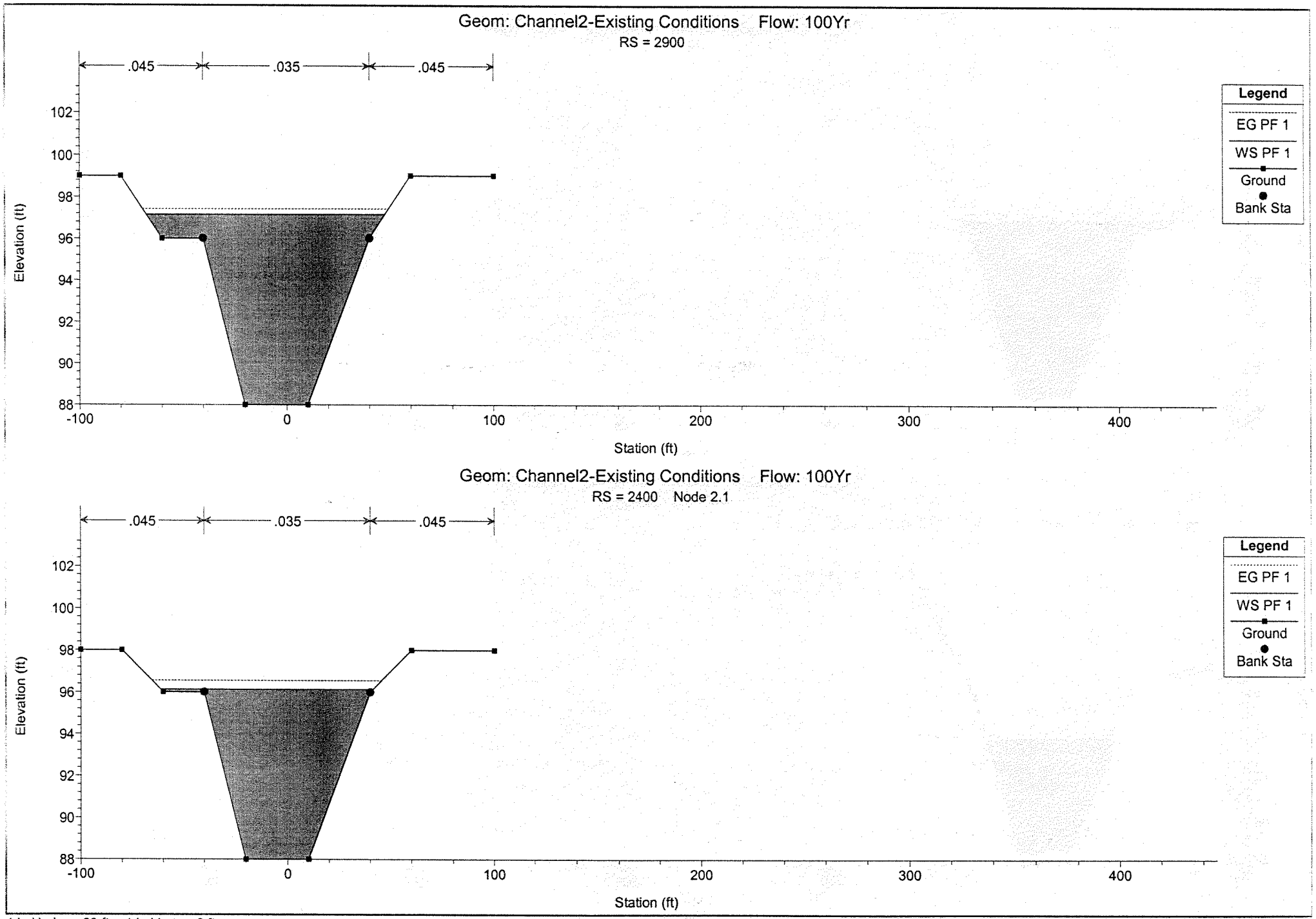

1 in Horiz. = 60 ft 1 in Vert. = 6 ft



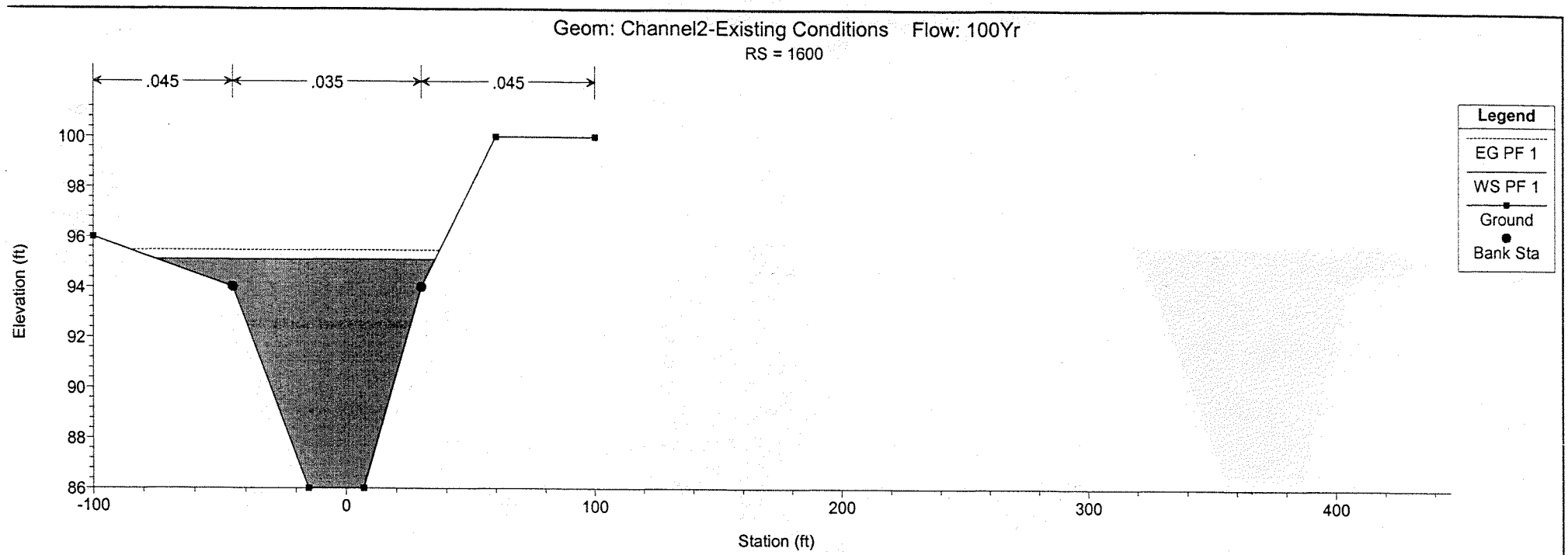

1 in Horiz. = 60 ft 1 in Vert. = 6 ft

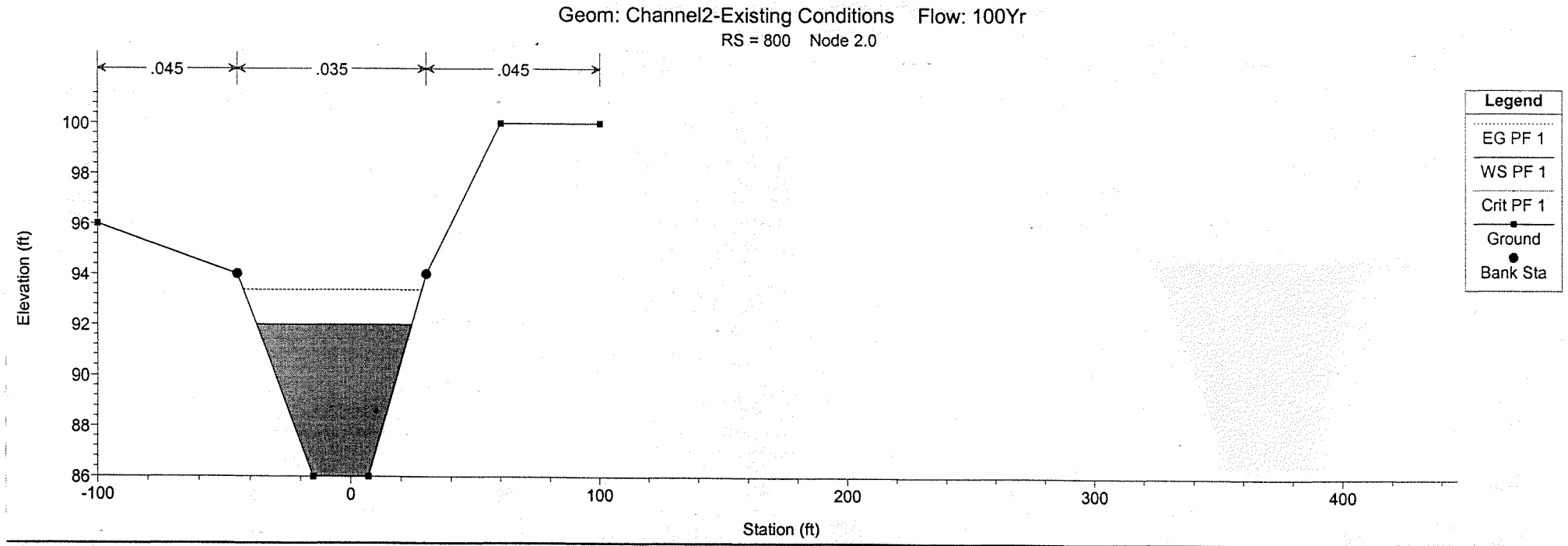



1 in Horiz. = 60 ft 1 in Vert. = 6 ft




1 in Horiz. = 60 ft 1 in Vert. = 6 ft



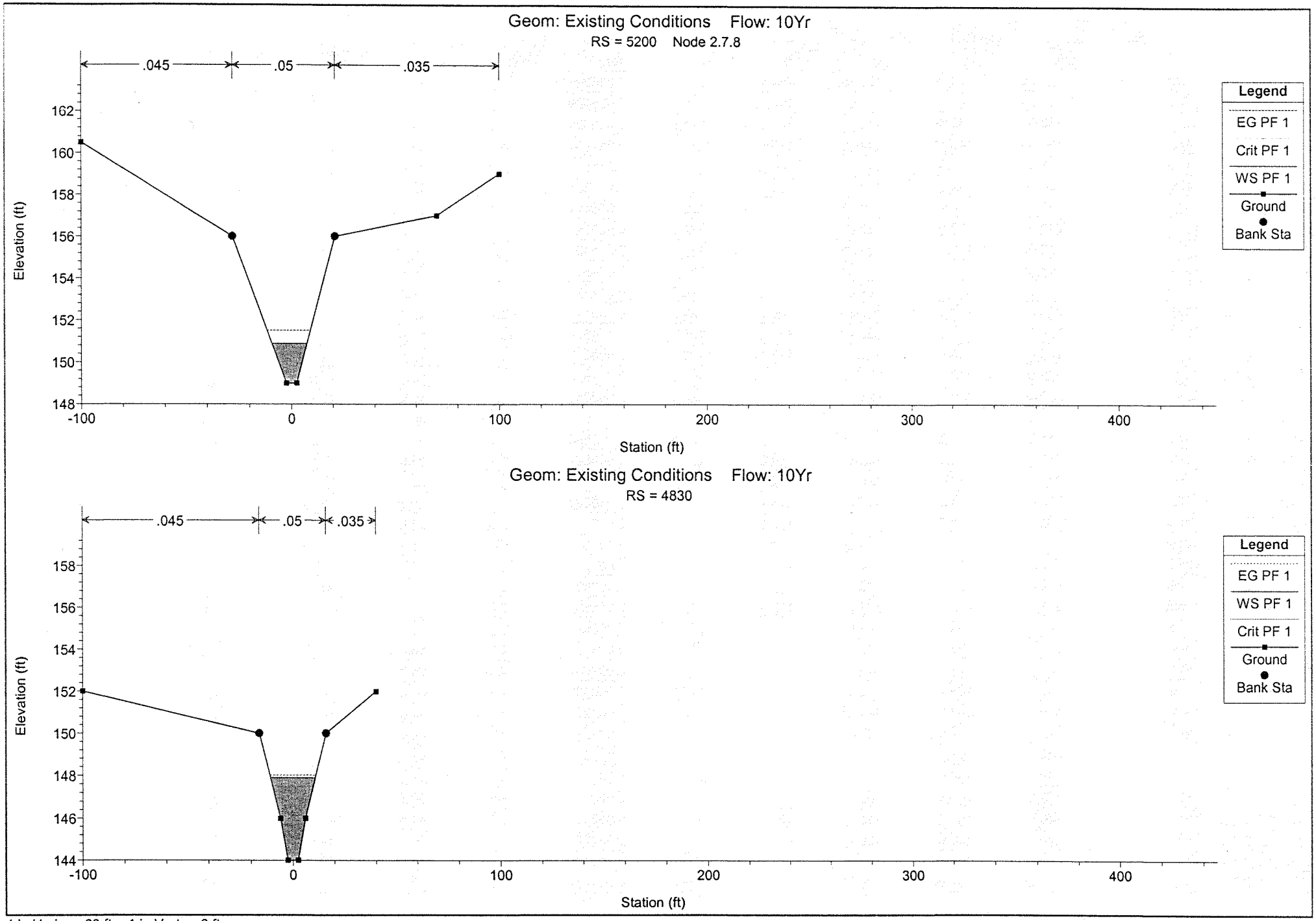




1 in Horiz. = 60 ft 1 in Vert. = 6 ft

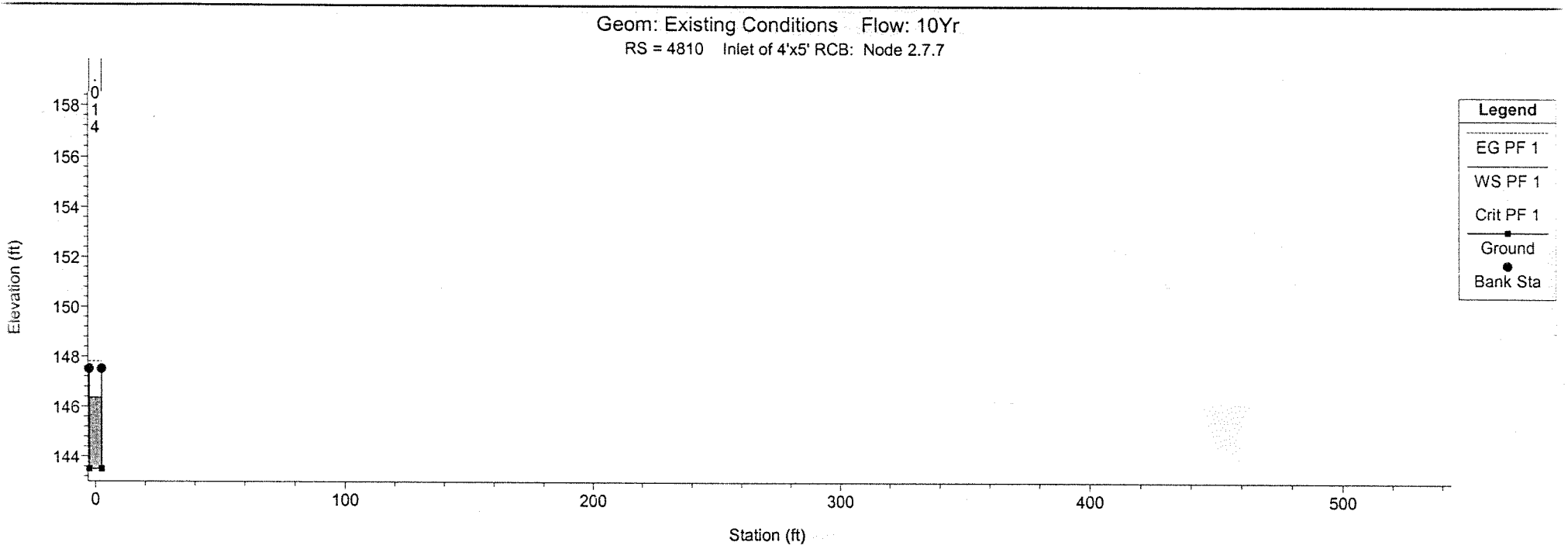
Cotton Creek ... ER ... 07 ... RS
J:/01/20705/Hydraulics/HEC-RAS/Channel 2

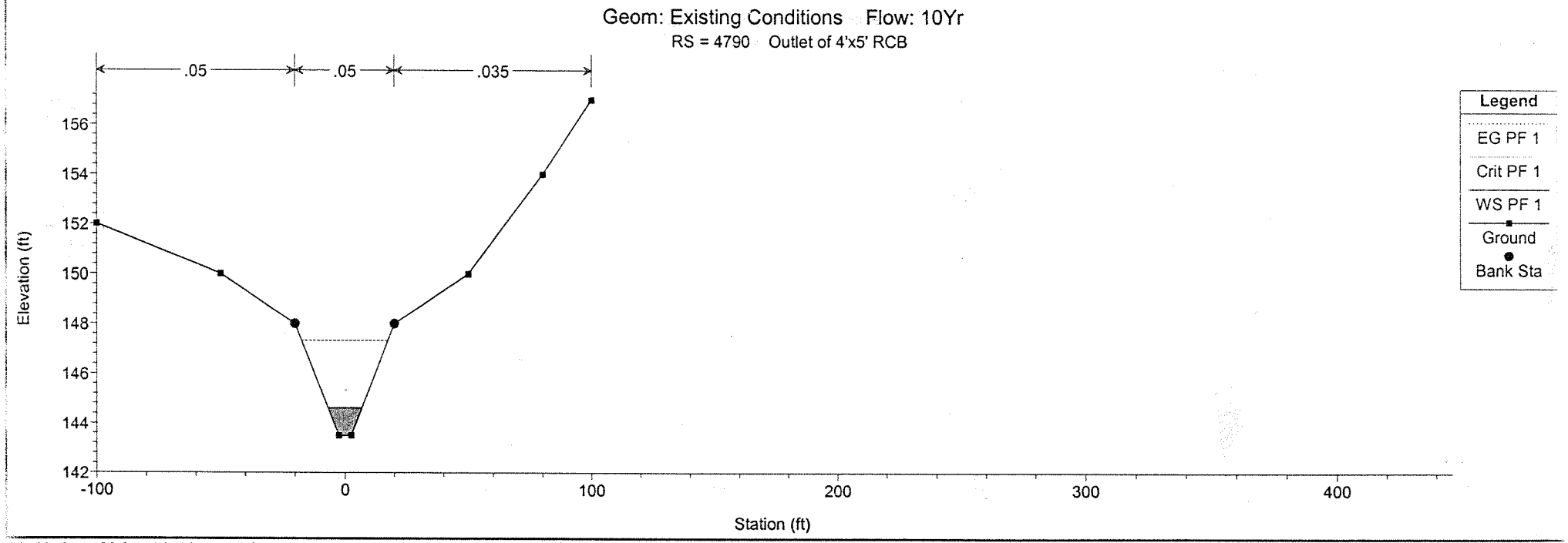
HEC-RAS Plan: 2_7_EC10 River: Creek 2.7 Reach: Node 2.7.1-2.7.8 Profile: PF 1

| Reach | River Sta | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | (cfs) | (ft) | (ft) | (ft) | (ft) | (ft/ft) | (ft/s) | (sq ft) | (ft) | |
| Node 2.7.1-2.7.8 | 5200 | 131.00 | 149.00 | 150.89 | 150.89 | 151.51 | 0.036228 | 6.33 | 20.70 | 16.89 | 1.01 |
| Node 2.7.1-2.7.8 | 4830 | 131.00 | 144.00 | 147.91 | 146.15 | 148.02 | 0.003009 | 2.67 | 49.00 | 21.54 | 0.31 |
| Node 2.7.1-2.7.8 | 4810 | 138.00 | 143.50 | 146.36 | 146.36 | 147.81 | 0.005626 | 9.65 | 14.30 | 5.00 | 1.01 |
| Node 2.7.1-2.7.8 | 4790 | 138.00 | 143.50 | 144.62 | 145.34 | 147.33 | 0.291884 | 13.22 | 10.44 | 13.69 | 2.67 |
| Node 2.7.1-2.7.8 | 4700 | 138.00 | 141.00 | 143.25 | 142.68 | 143.52 | 0.011513 | 4.16 | 33.15 | 21.49 | 0.59 |
| Node 2.7.1-2.7.8 | 4300 | 138.00 | 134.00 | 136.74 | 136.36 | 137.33 | 0.021598 | 6.16 | 22.41 | 11.33 | 0.77 |
| Node 2.7.1-2.7.8 | 3800 | 138.00 | 128.30 | 132.16 | | 132.37 | 0.005471 | 3.70 | 37.33 | 14.34 | 0.40 |
| Node 2.7.1-2.7.8 | 3775 | 218.00 | 128.00 | 132.02 | | 132.33 | 0.000563 | 4.52 | 48.21 | 12.00 | 0.40 |
| Node 2.7.1-2.7.8 | 3745 | 218.00 | 127.70 | 132.06 | | 132.26 | 0.003707 | 3.61 | 60.45 | 15.71 | 0.32 |
| Node 2.7.1-2.7.8 | 3715 | 218.00 | 127.10 | 131.91 | | 132.14 | 0.004685 | 4.10 | 76.92 | 89.11 | 0.37 |
| Node 2.7.1-2.7.8 | 3450 | 218.00 | 125.52 | 129.28 | 128.53 | 129.94 | 0.017297 | 6.53 | 33.40 | 11.76 | 0.68 |
| Node 2.7.1-2.7.8 | 3315 | 218.00 | 122.40 | 125.39 | 125.39 | 126.56 | 0.038192 | 8.71 | 25.04 | 10.78 | 1.01 |
| Node 2.7.1-2.7.8 | 3300 | 225.00 | 120.60 | 122.47 | 123.50 | 125.99 | 0.014622 | 15.07 | 14.93 | 8.00 | 1.94 |
| Node 2.7.1-2.7.8 | 3270 | 225.00 | 120.40 | 124.87 | 123.40 | 125.26 | 0.008512 | 5.03 | 44.74 | 14.02 | 0.50 |
| Node 2.7.1-2.7.8 | 3230 | 269.00 | 119.50 | 124.92 | | 125.06 | 0.001817 | 3.01 | 98.58 | 47.59 | 0.26 |
| Node 2.7.1-2.7.8 | 3170 | 269.00 | 118.00 | 124.69 | | 124.90 | 0.003059 | 3.73 | 80.06 | 43.83 | 0.29 |
| Node 2.7.1-2.7.8 | 2760 | 269.00 | 117.80 | 121.13 | 121.13 | 122.35 | 0.016585 | 8.84 | 30.62 | 15.40 | 0.98 |
| Node 2.7.1-2.7.8 | 2720 | 278.00 | 117.60 | 119.78 | 120.30 | 121.87 | 0.006598 | 11.60 | 23.97 | 11.00 | 1.38 |
| Node 2.7.1-2.7.8 | 2700 | 278.00 | 117.50 | 119.45 | 120.07 | 121.59 | 0.043684 | 11.75 | 23.67 | 13.33 | 1.55 |
| Node 2.7.1-2.7.8 | 2660 | 278.00 | 117.00 | 120.54 | 119.56 | 120.94 | 0.004634 | 5.04 | 55.15 | 22.15 | 0.56 |
| Node 2.7.1-2.7.8 | 2220 | 278.00 | 114.00 | 116.47 | 116.47 | 117.43 | 0.016023 | 7.86 | 35.35 | 18.64 | 1.01 |
| Node 2.7.1-2.7.8 | 2200 | 278.00 | 113.70 | 115.30 | 115.80 | 117.13 | 0.007125 | 10.86 | 25.61 | 16.00 | 1.51 |
| Node 2.7.1-2.7.8 | 2165 | 278.00 | 113.70 | 115.68 | 115.77 | 116.78 | 0.020563 | 8.44 | 32.93 | 17.32 | 1.08 |
| Node 2.7.1-2.7.8 | 2100 | 278.00 | 111.63 | 116.07 | 114.14 | 116.28 | 0.001907 | 3.72 | 74.74 | 23.68 | 0.37 |
| Node 2.7.1-2.7.8 | 1700 | 278.00 | 112.00 | 115.19 | 113.95 | 115.39 | 0.002620 | 3.66 | 76.06 | 33.23 | 0.43 |
| Node 2.7.1-2.7.8 | 1300 | 278.00 | 110.00 | 112.26 | 112.18 | 113.20 | 0.015667 | 7.81 | 35.59 | 17.04 | 0.95 |
| Node 2.7.1-2.7.8 | 1281 | 340.00 | 108.60 | 112.57 | | 113.02 | 0.000691 | 5.35 | 63.56 | 16.00 | 0.47 |
| Node 2.7.1-2.7.8 | 1165 | 340.00 | 108.00 | 112.45 | | 112.84 | 0.003227 | 4.99 | 68.09 | 17.29 | 0.44 |
| Node 2.7.1-2.7.8 | 1119 | 340.00 | 107.44 | 112.32 | | 112.69 | 0.002997 | 4.94 | 68.84 | 16.93 | 0.43 |
| Node 2.7.1-2.7.8 | 1100 | 340.00 | 107.10 | 112.39 | | 112.64 | 0.000306 | 4.02 | 84.58 | 16.00 | 0.31 |
| Node 2.7.1-2.7.8 | 1070 | 340.00 | 107.08 | 111.81 | 110.91 | 112.56 | 0.007297 | 6.95 | 48.95 | 14.46 | 0.67 |
| Node 2.7.1-2.7.8 | 970 | 340.00 | 107.03 | 111.06 | | 111.84 | 0.008216 | 7.08 | 48.00 | 15.80 | 0.72 |
| Node 2.7.1-2.7.8 | 927 | 340.00 | 107.00 | 111.25 | | 111.51 | 0.002347 | 4.10 | 82.96 | 23.00 | 0.38 |
| Node 2.7.1-2.7.8 | 912 | 340.00 | 107.60 | 110.11 | 110.11 | 111.38 | 0.003111 | 9.02 | 37.68 | 15.00 | 1.00 |
| Node 2.7.1-2.7.8 | 867 | 340.00 | 107.40 | 109.52 | 109.83 | 111.04 | 0.026200 | 9.89 | 34.36 | 17.44 | 1.24 |
| Node 2.7.1-2.7.8 | 850 | 340.00 | 107.00 | 110.44 | 108.90 | 110.69 | 0.002330 | 4.01 | 84.70 | 27.27 | 0.40 |
| Node 2.7.1-2.7.8 | 600 | 340.00 | 106.00 | 109.74 | | 110.05 | 0.002773 | 4.47 | 76.00 | 22.67 | 0.43 |
| Node 2.7.1-2.7.8 | 100 | 350.00 | 104.00 | 108.90 | | 109.04 | 0.001405 | 2.99 | 116.94 | 40.22 | 0.31 |
| Node 2.7.1-2.7.8 | 0.0 | 350.00 | 102.00 | 108.92 | 104.91 | 108.96 | 0.000212 | 1.60 | 272.76 | 130.82 | 0.14 |

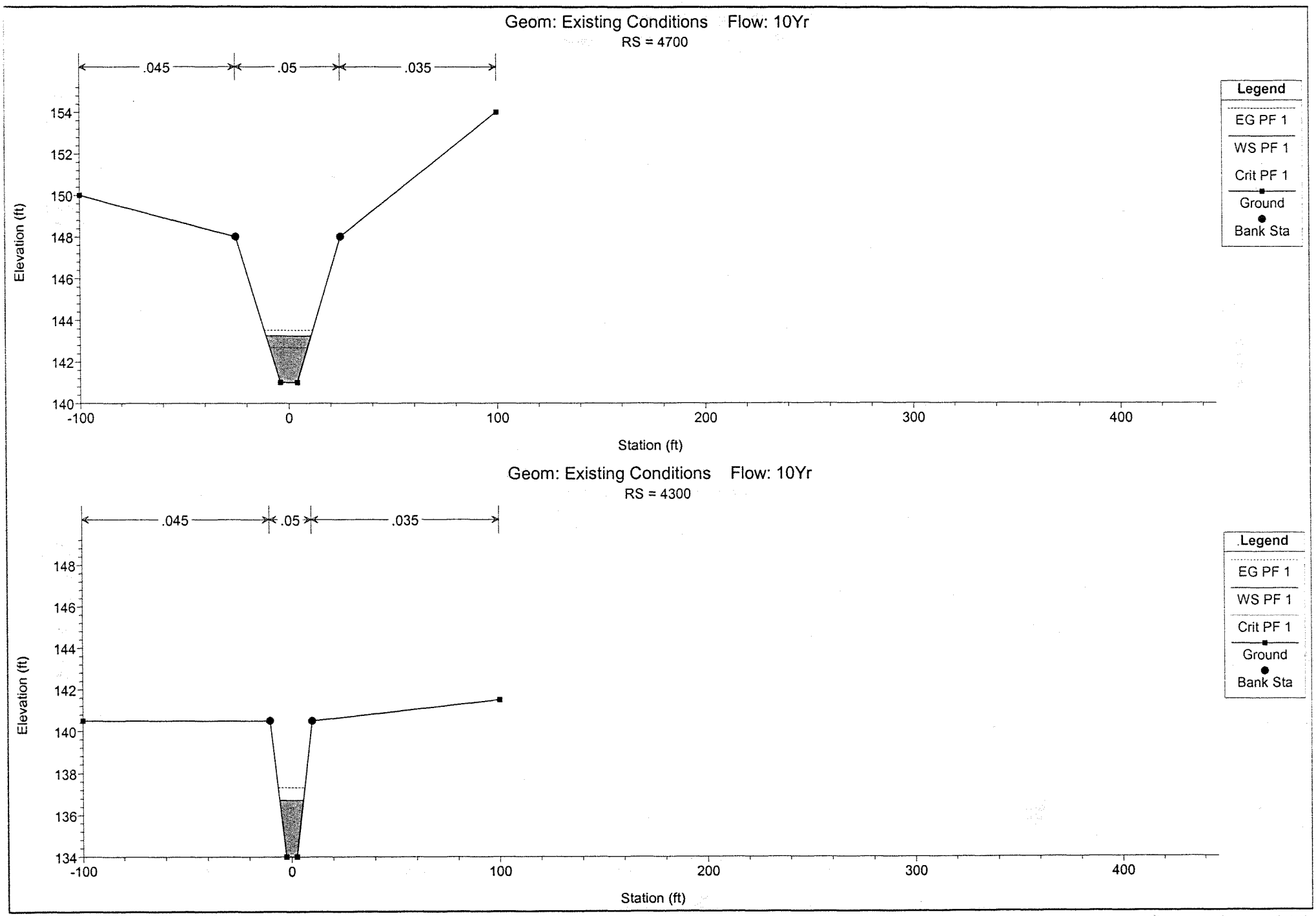



1 in Horiz. = 60 ft 1 in Vert. = 6 ft

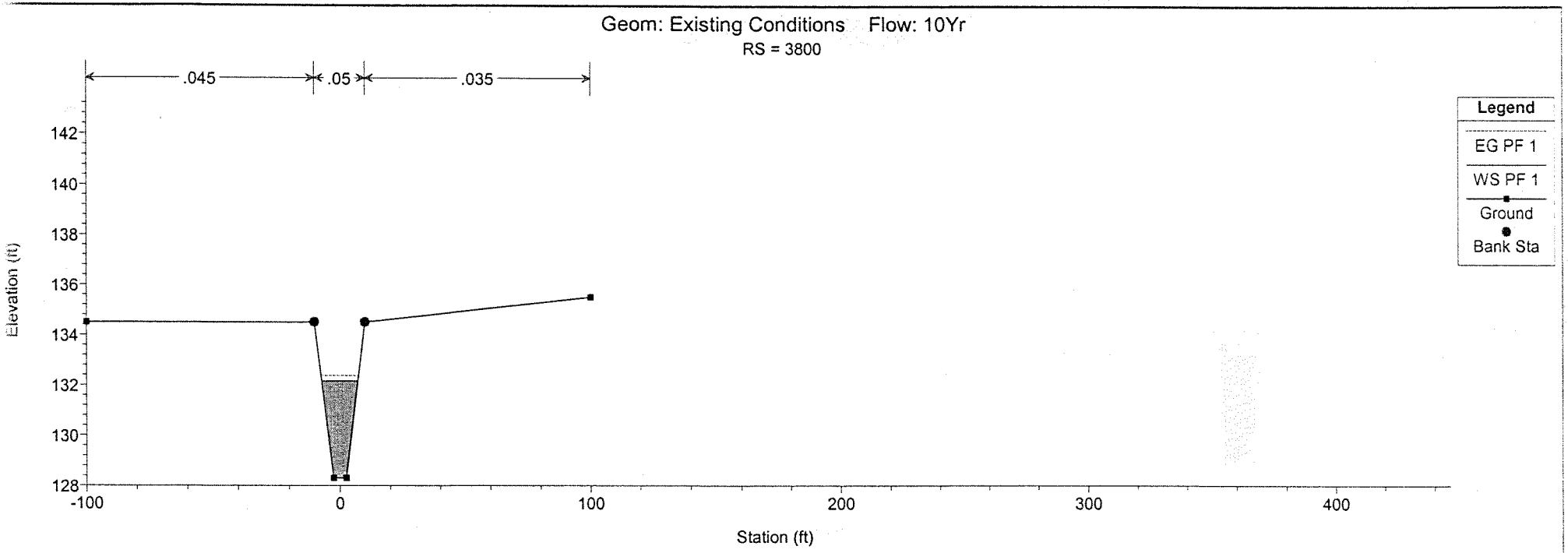


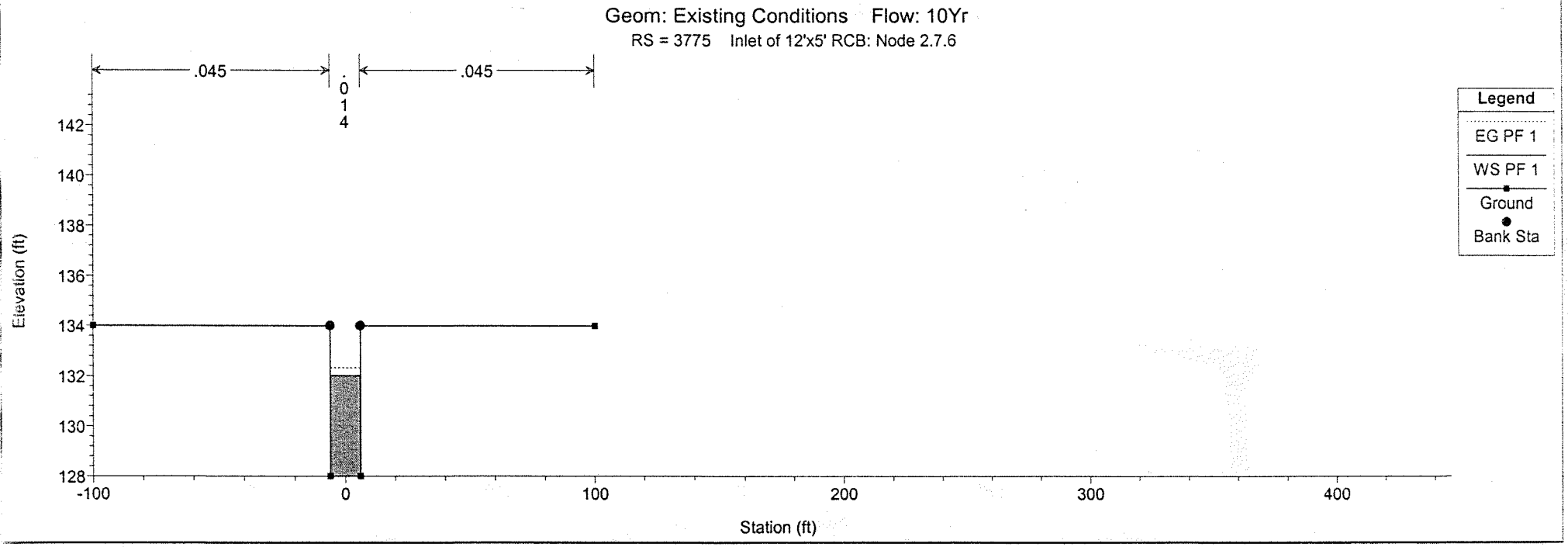




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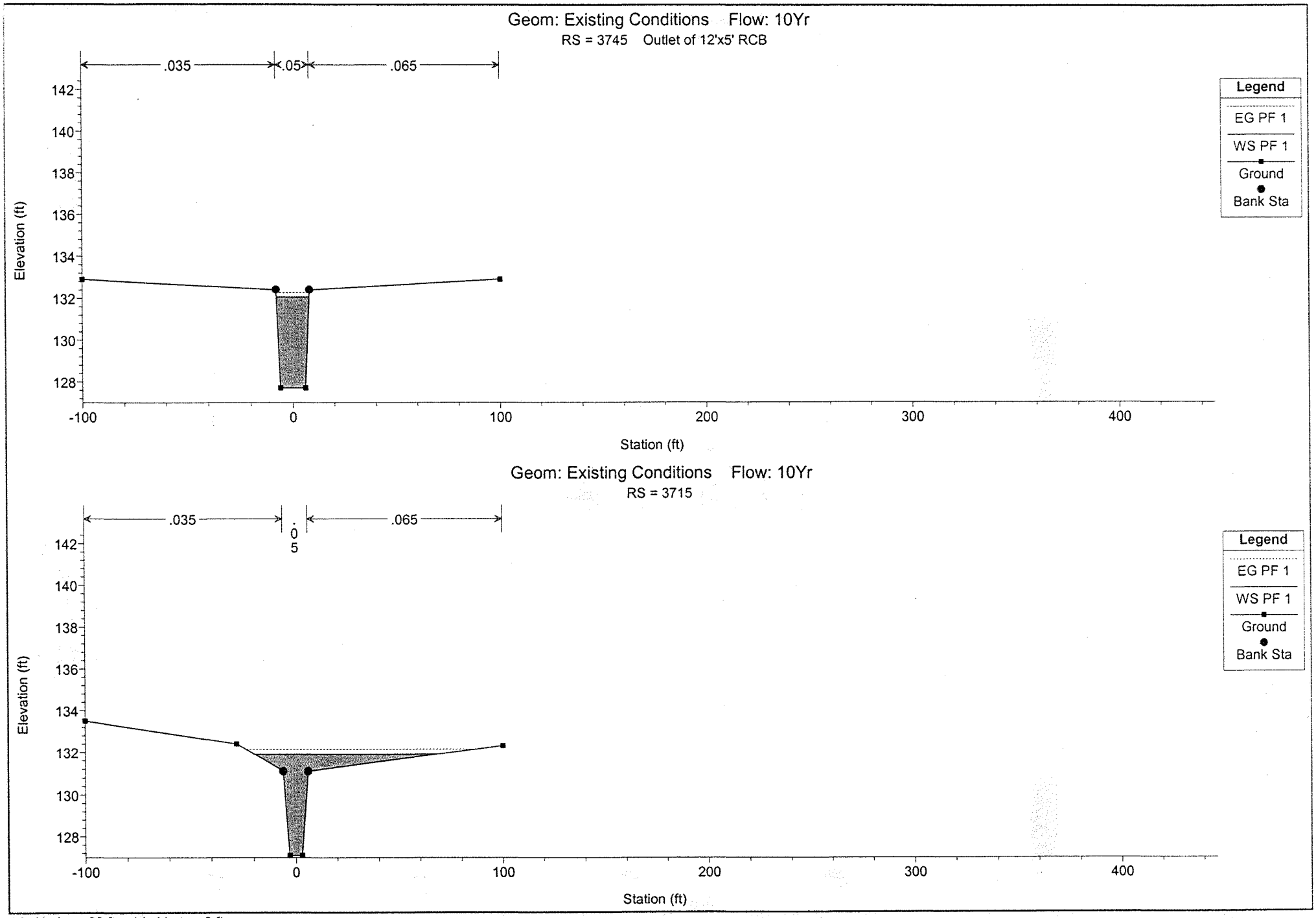



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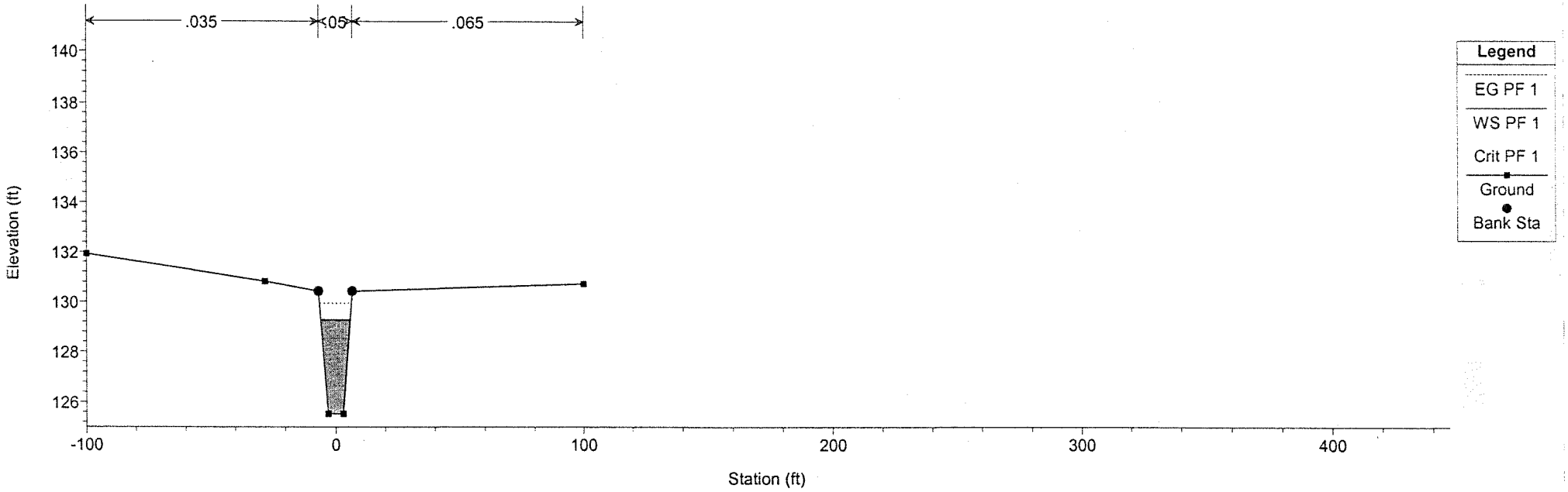

1 in Horiz. = 60 ft 1 in Vert. = 6 ft




1 in Horiz. = 60 ft 1 in Vert. = 6 ft

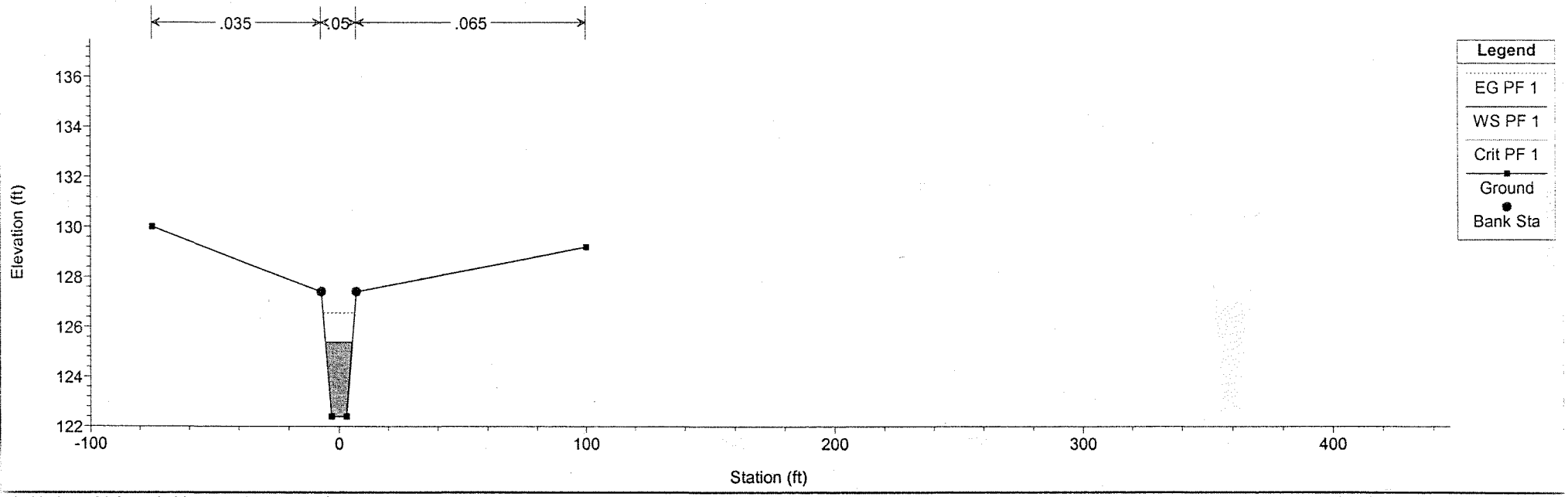
Geom: Existing Conditions Flow: 10Yr

RS = 3450

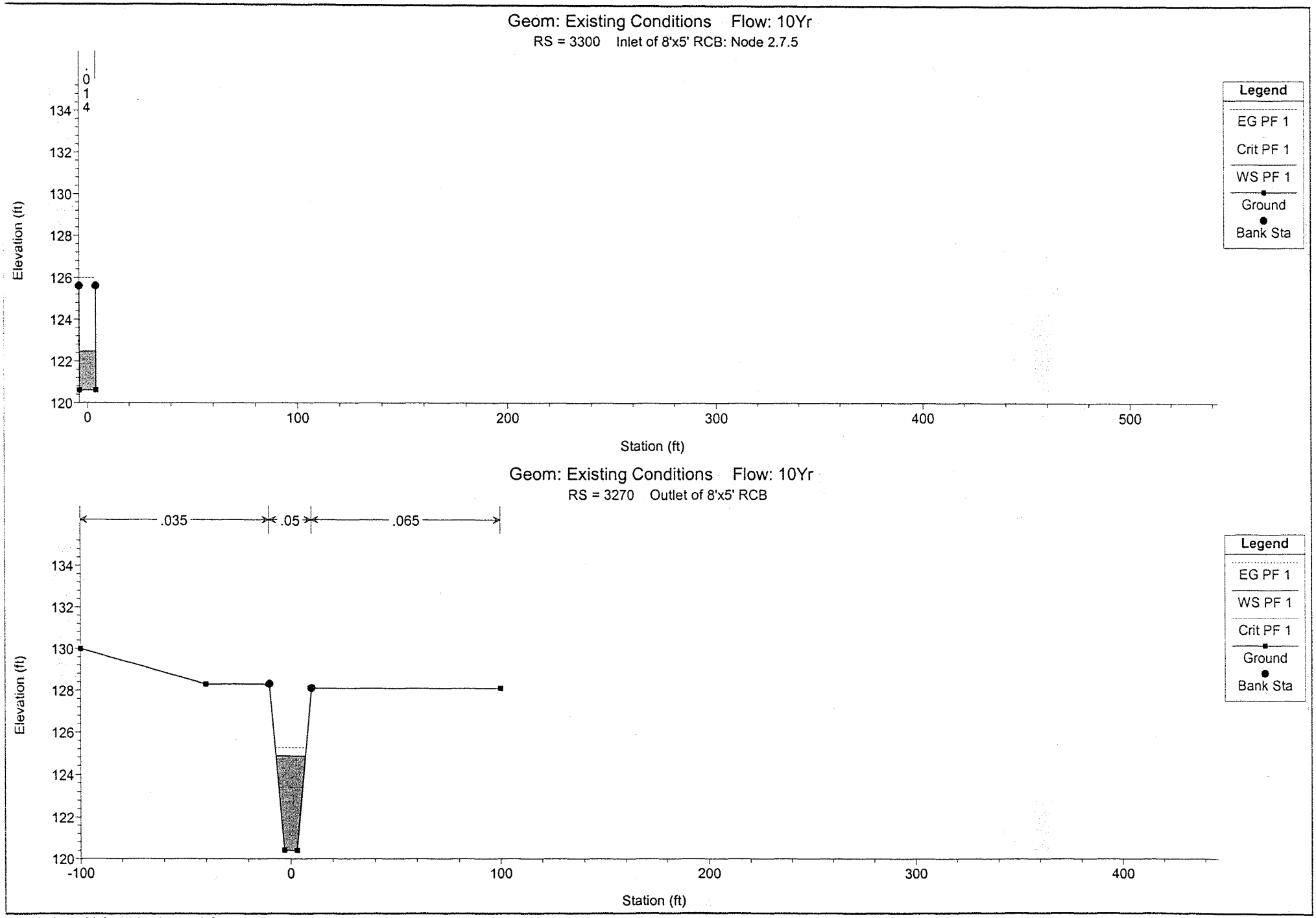



Geom: Existing Conditions Flow: 10Yr

RS = 3315



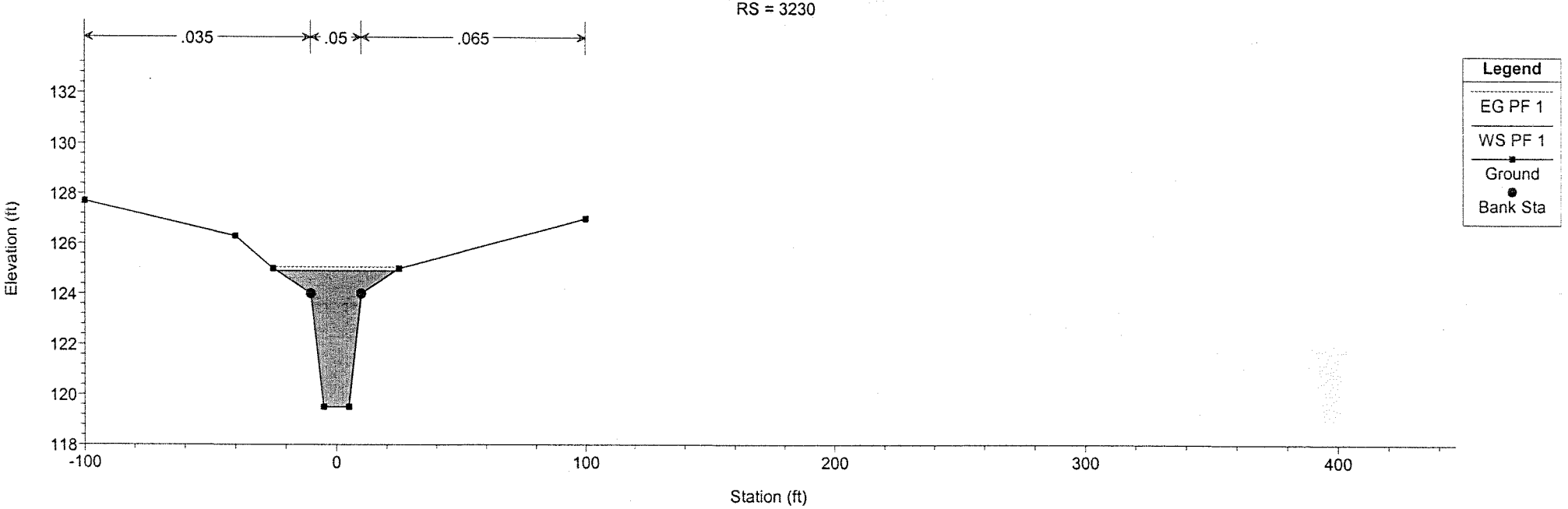

1 in Horiz. = 60 ft 1 in Vert. = 6 ft




1 in Horiz. = 60 ft 1 in Vert. = 6 ft

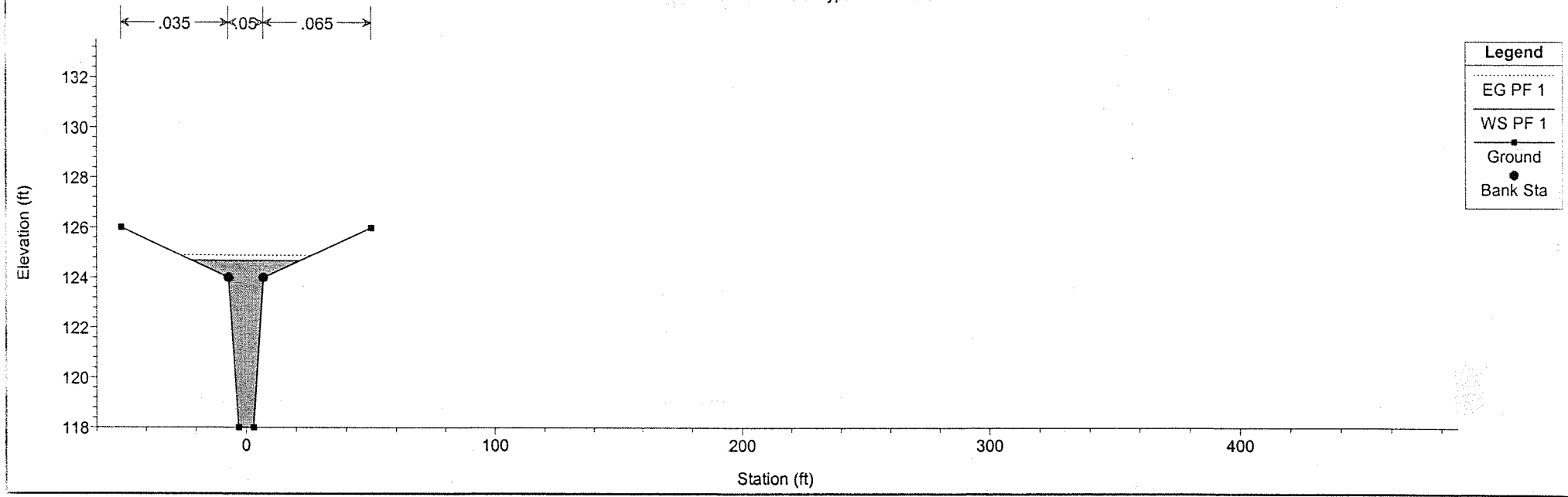
Geom: Existing Conditions Flow: 10Yr

RS = 3230

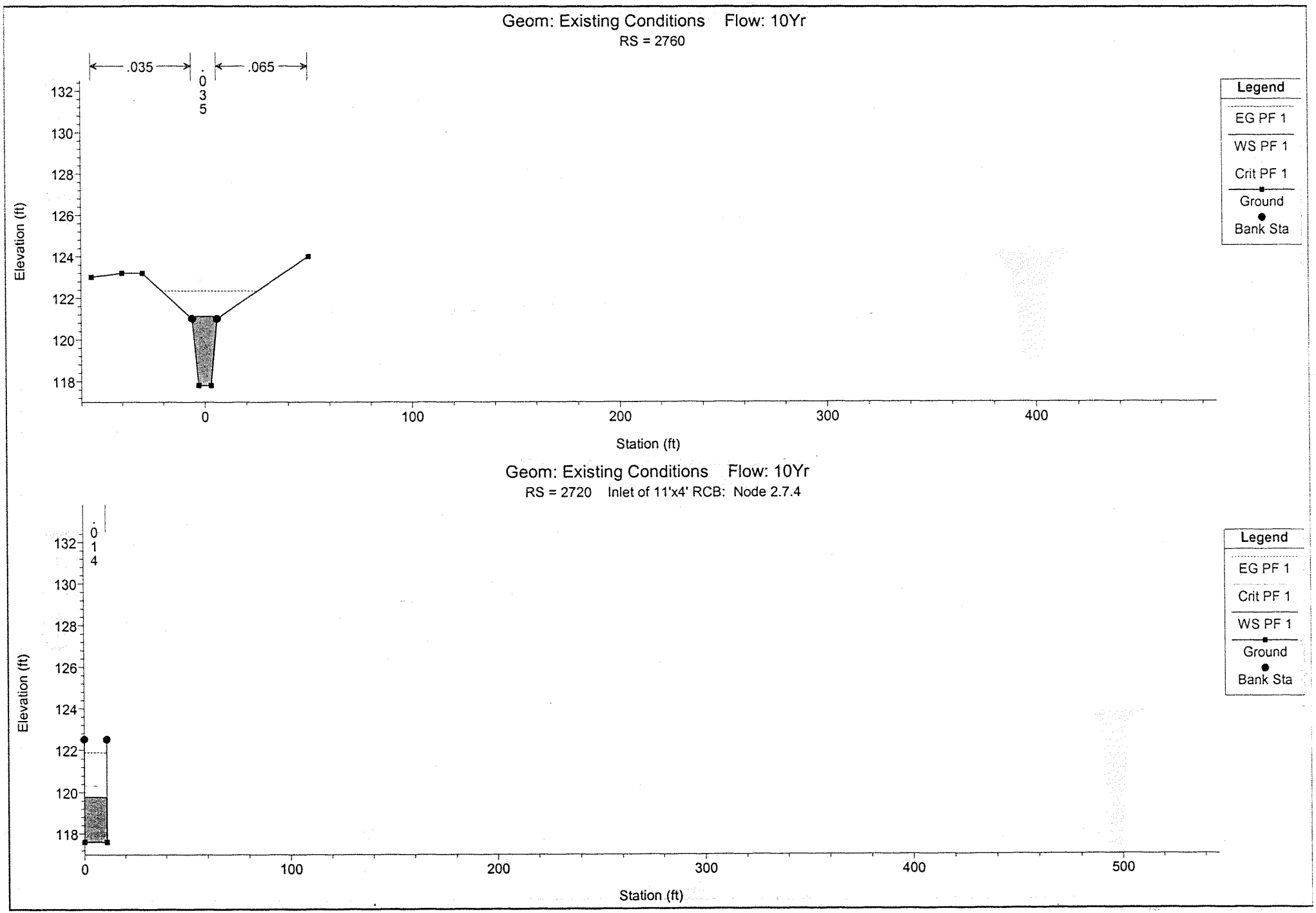



Geom: Existing Conditions Flow: 10Yr

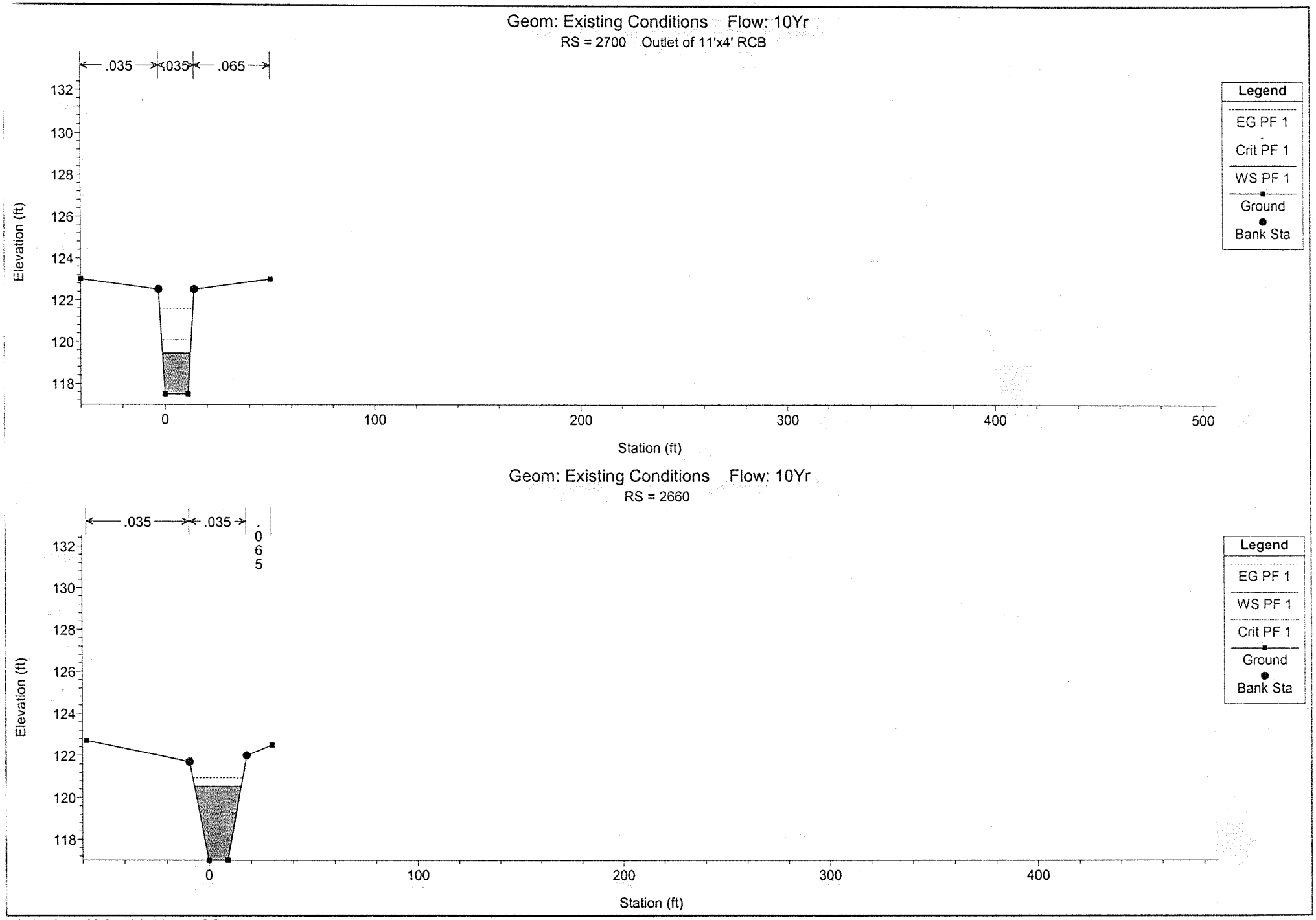
RS = 3170 4'x8' RCB Bypass Diversion



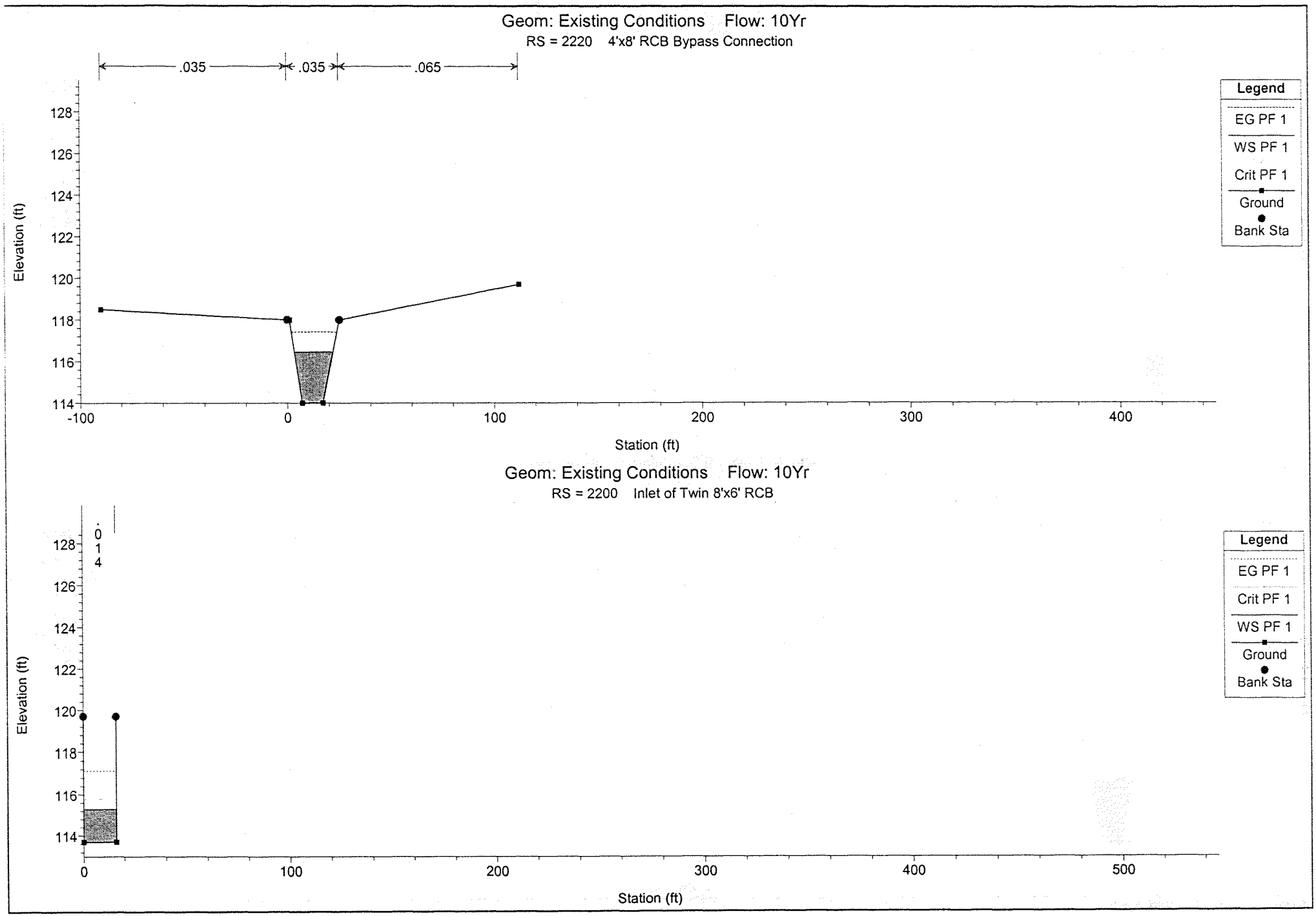

1 in Horiz. = 60 ft 1 in Vert. = 6 ft



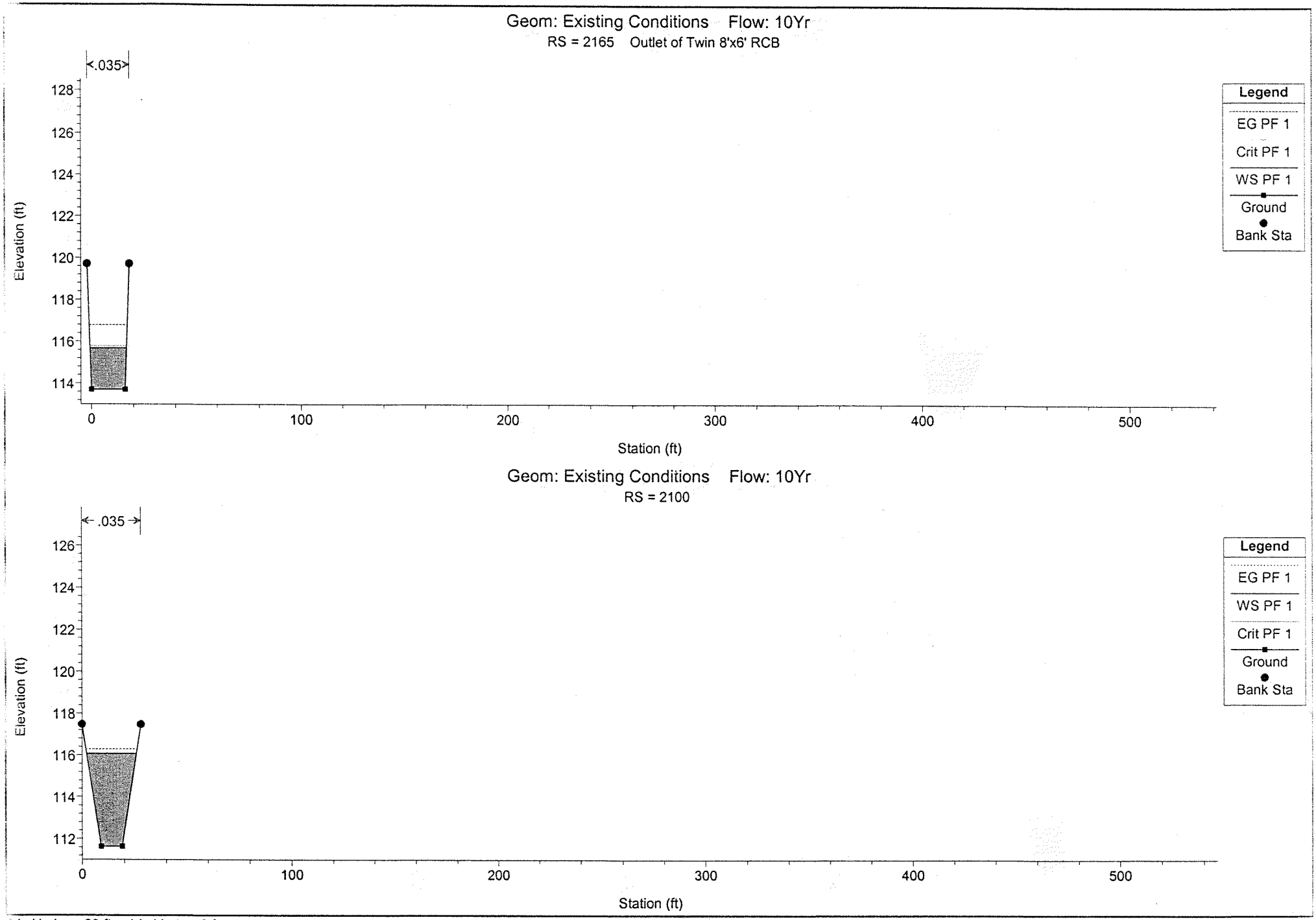

1 in Horiz. = 60 ft 1 in Vert. = 6 ft

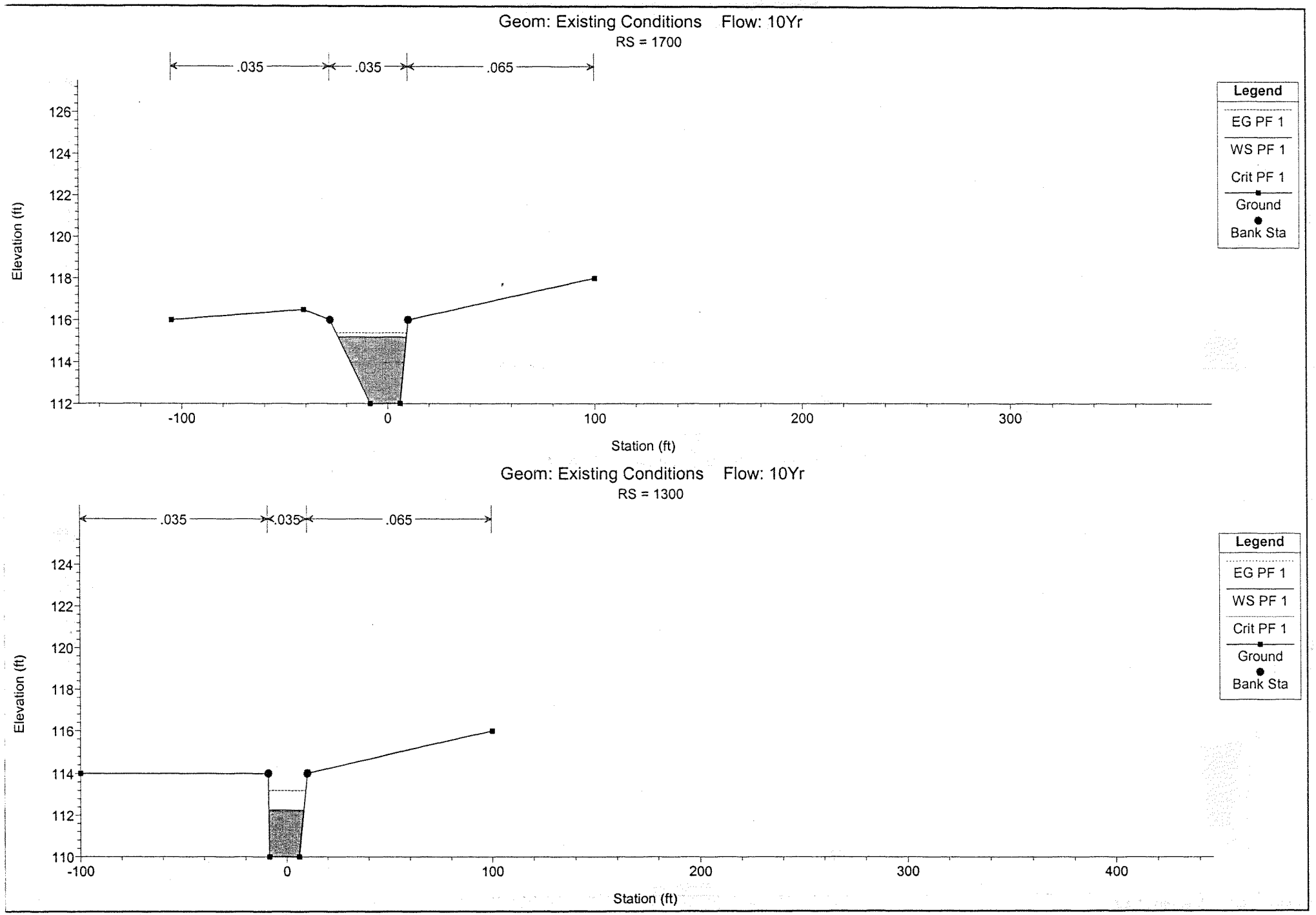



1 in Horiz. = 60 ft 1 in Vert. = 6 ft

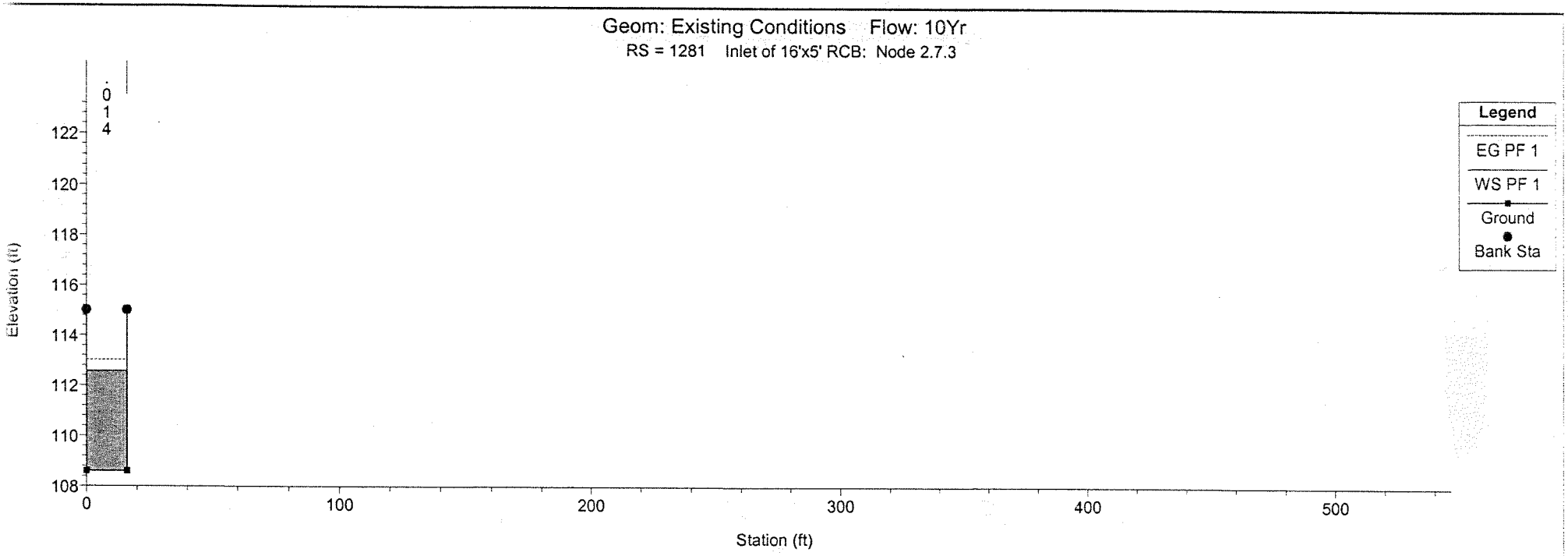


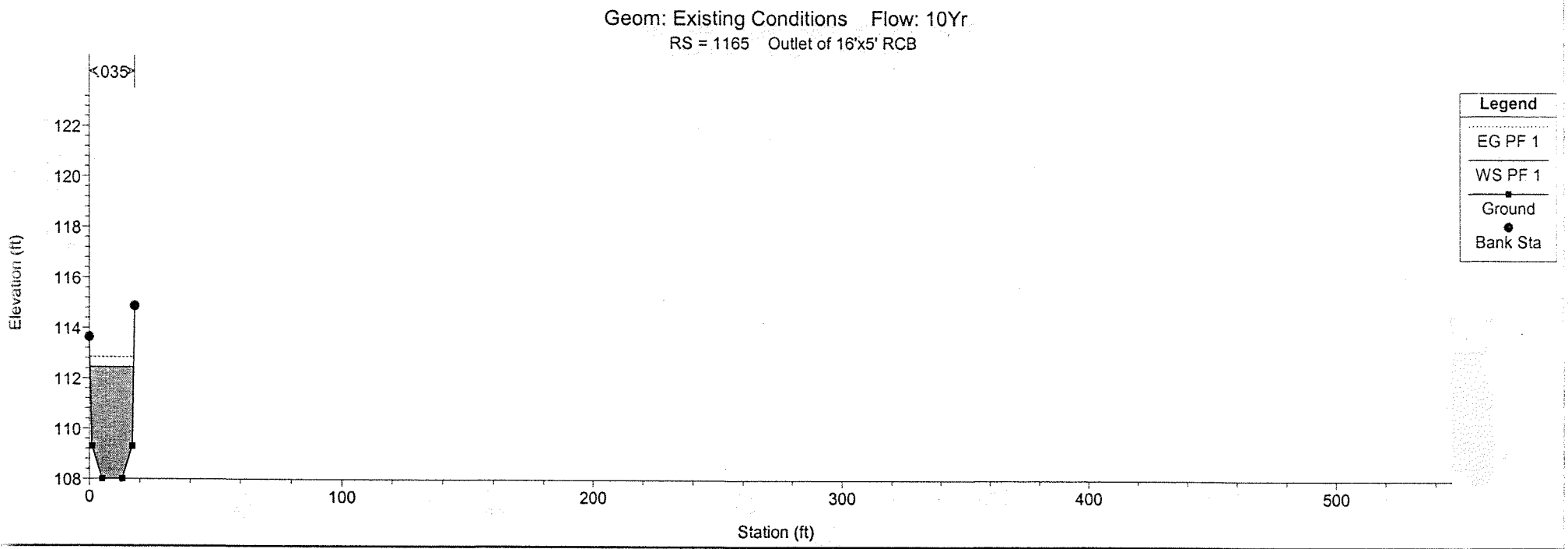

1 in Horiz. = 60 ft 1 in Vert. = 6 ft


Geom: Existing Conditions Flow: 10Yr
RS = 2165 Outlet of Twin 8'x6' RCB
<.035>
Elevation (ft)
128
126
124
122
120
118
116
114
0
100
200
300
400
500
Station (ft)
Legend
EG PF 1
Crit PF 1
WS PF 1
Ground
Bank Sta
Geom: Existing Conditions Flow: 10Yr
RS = 2100
← .035 →
Elevation (ft)
126
124
122
120
118
116
114
112
0
100
200
300
400
500
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
in Horiz. = 60 ft 1 in Vert. = 6 ft

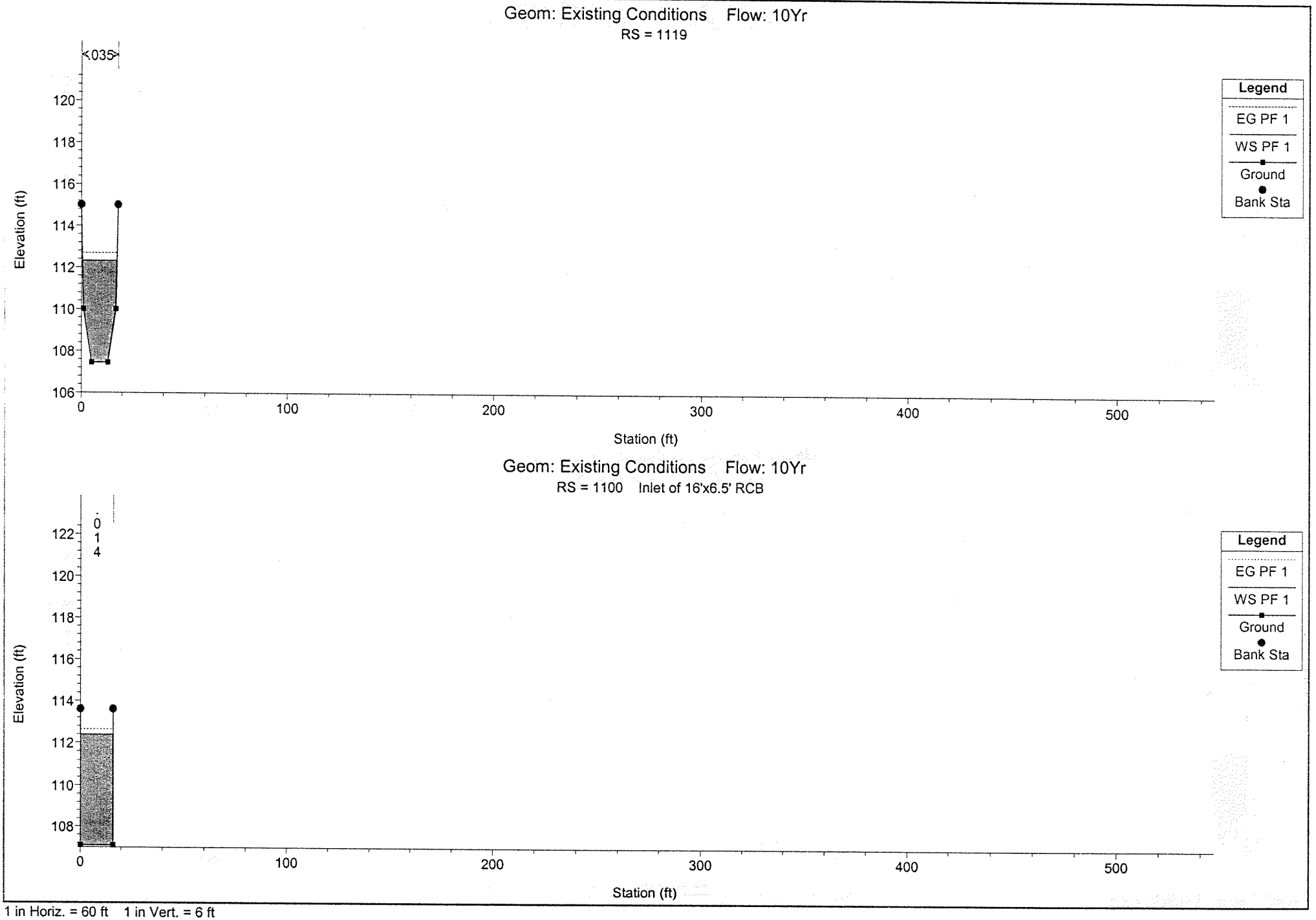



1 in Horiz. = 60 ft 1 in Vert. = 6 ft

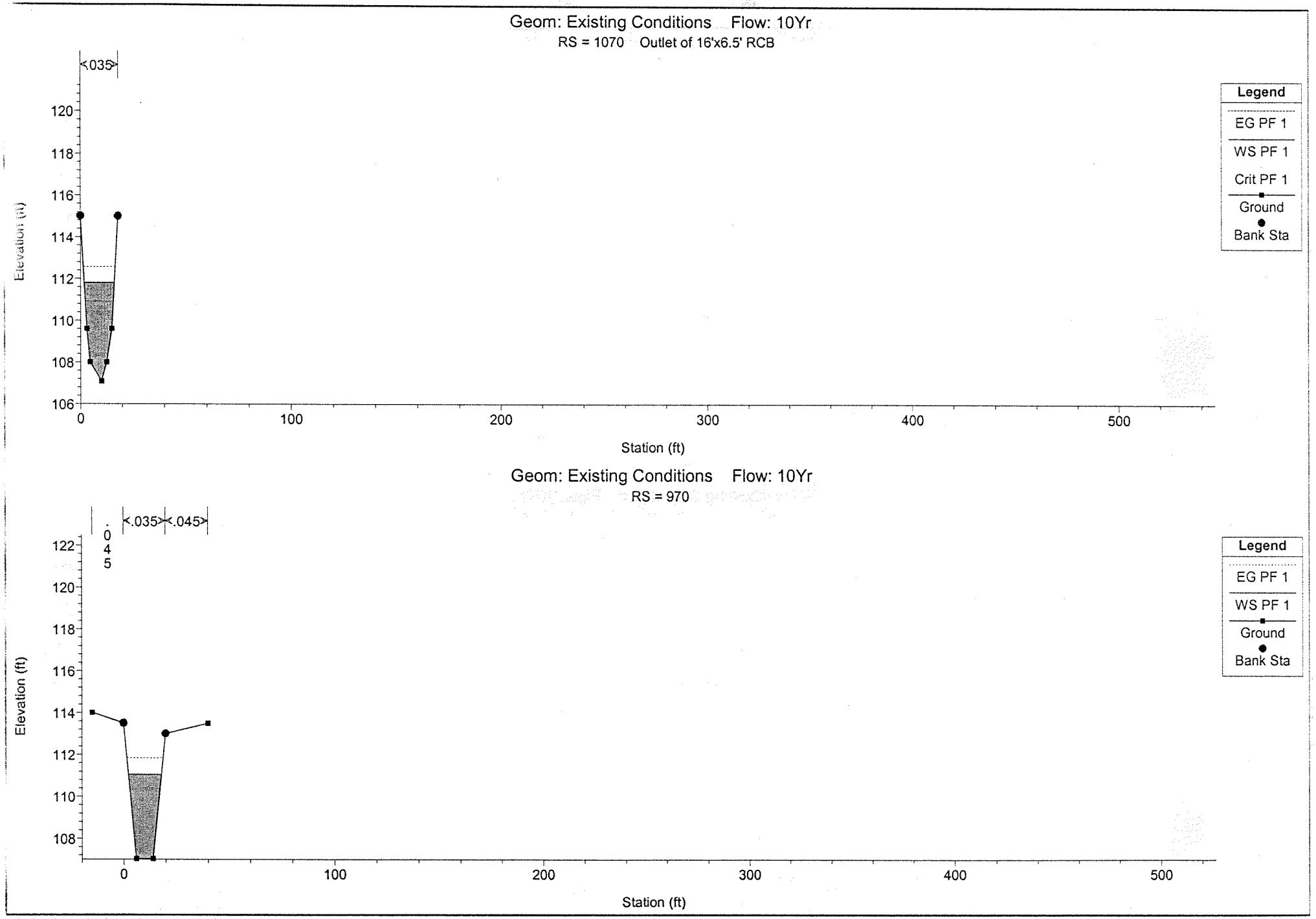


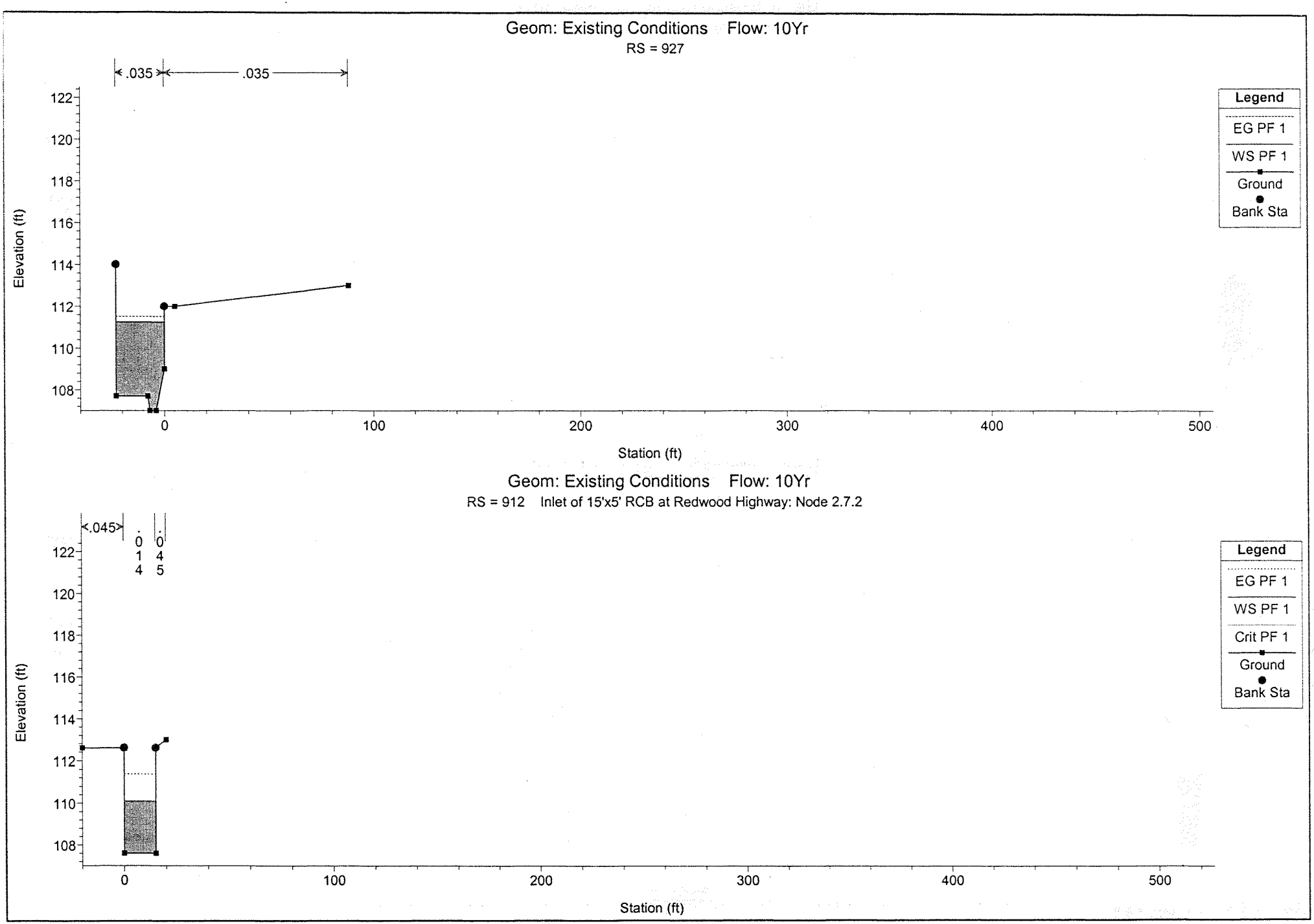

in Horiz. = 60 ft 1 in Vert. = 6 ft



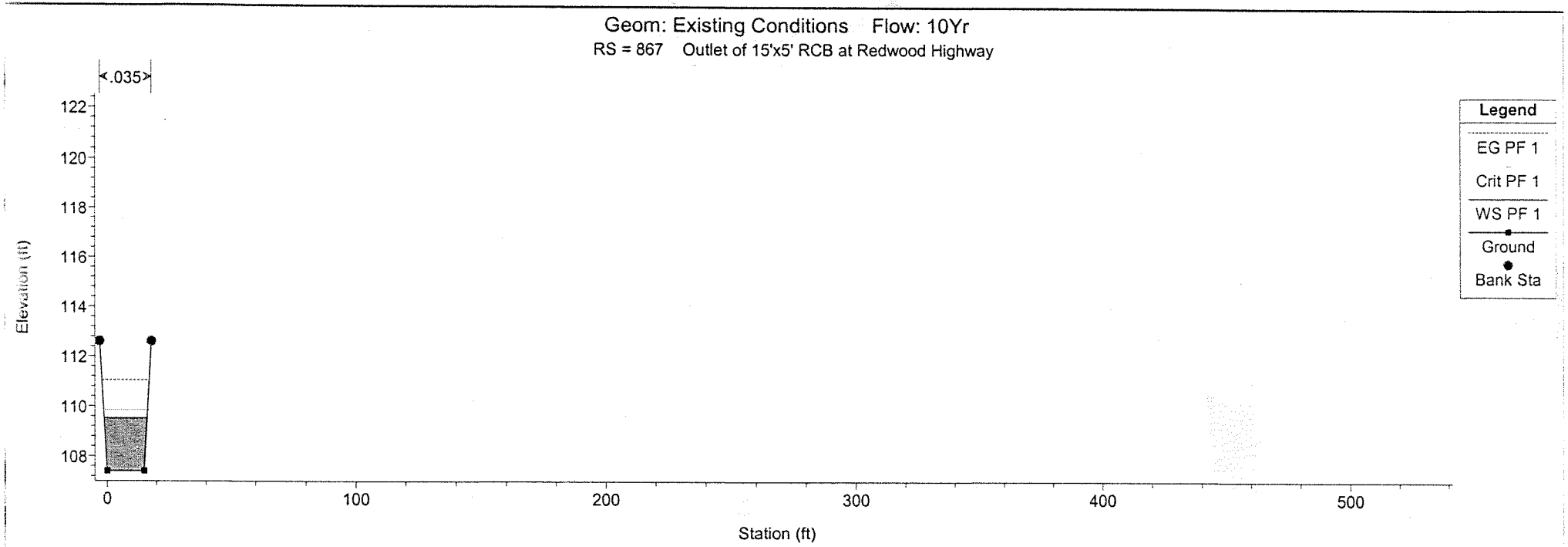

1 in Horiz. = 60 ft 1 in Vert. = 6 ft

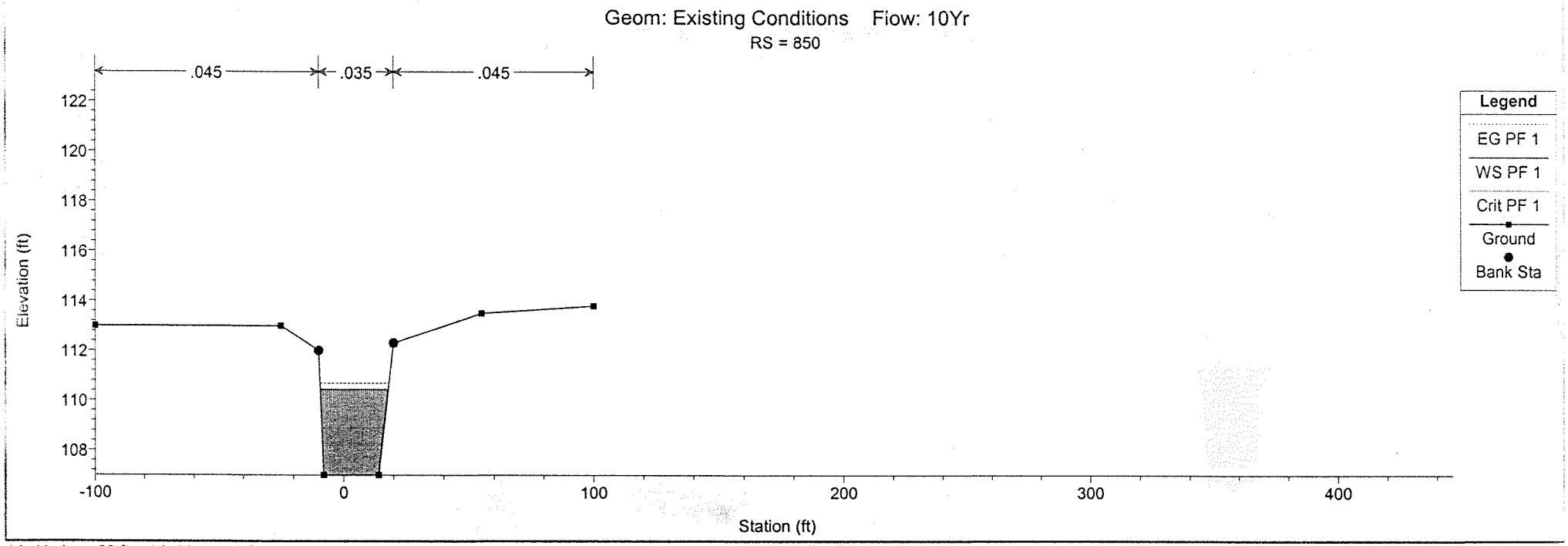



1 in Horiz. = 60 ft 1 in Vert. = 6 ft

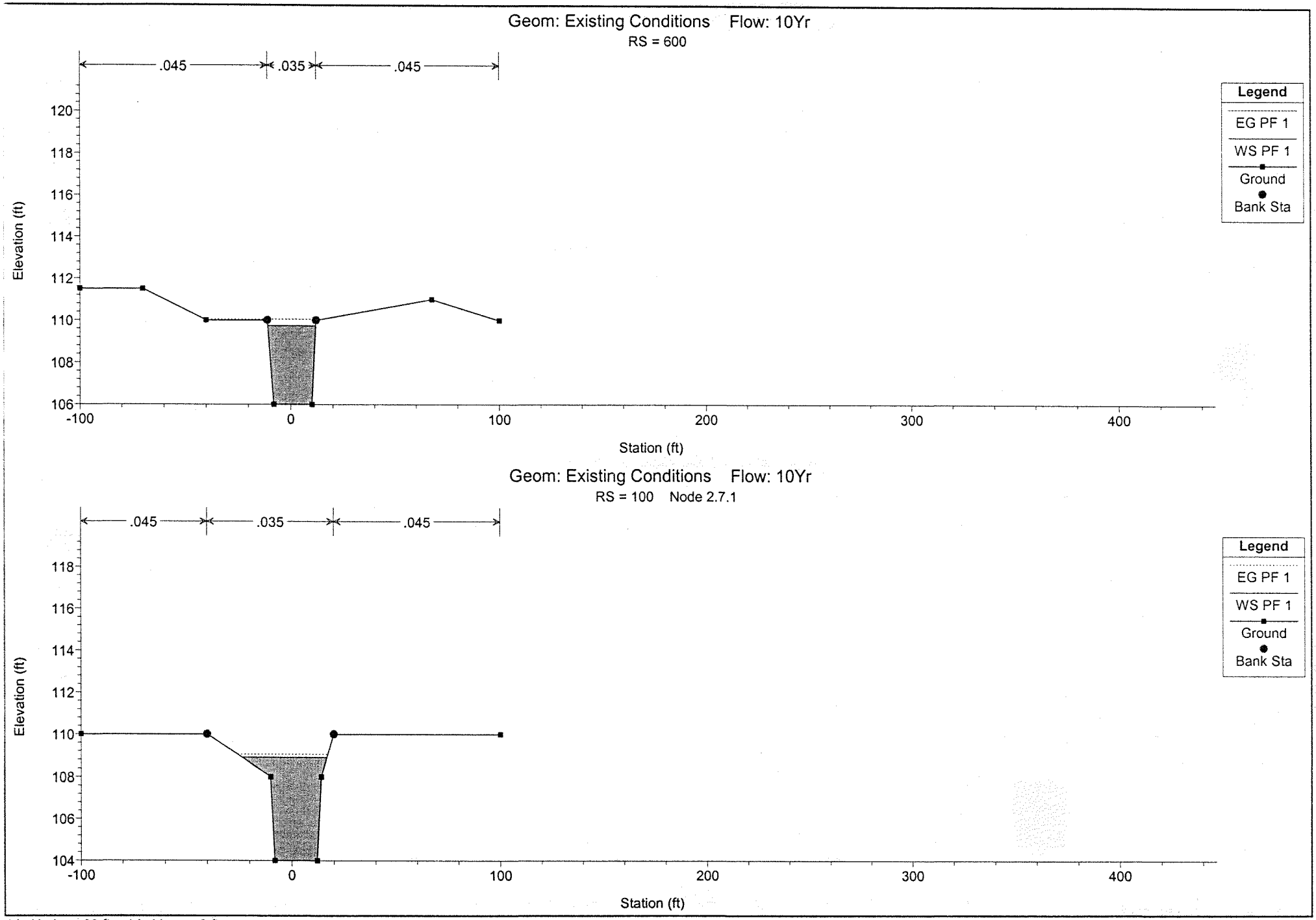



1 in Horiz. = 60 ft 1 in Vert. = 6 ft

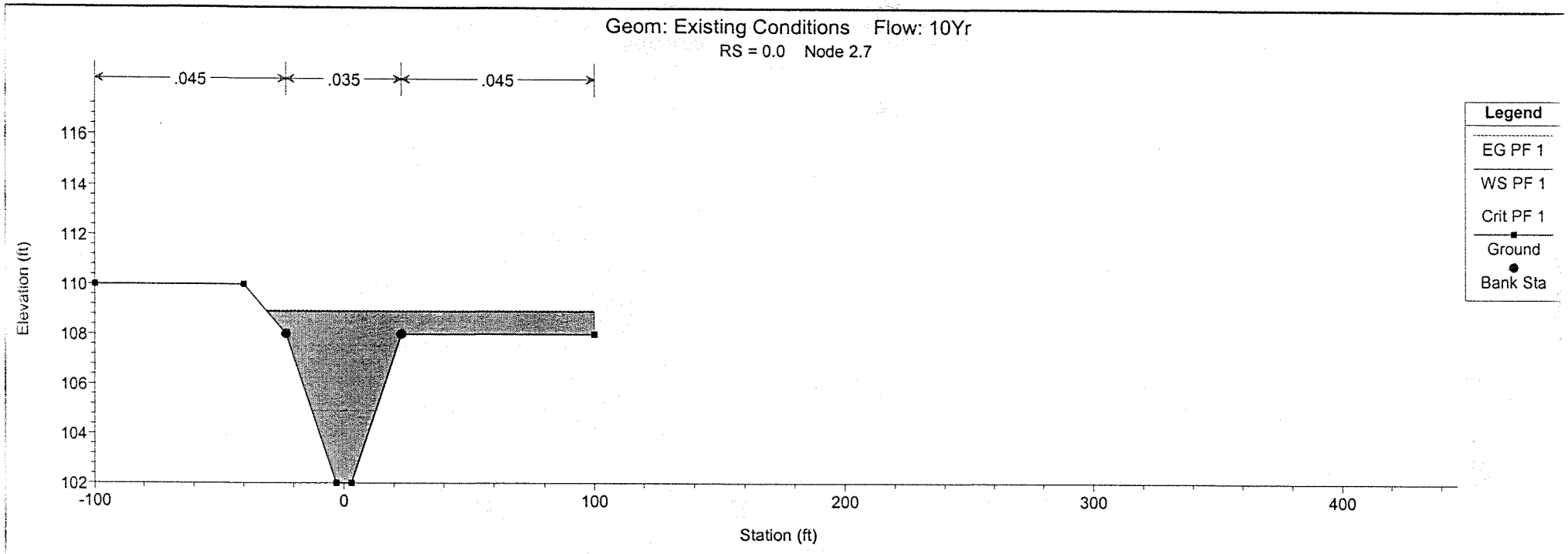


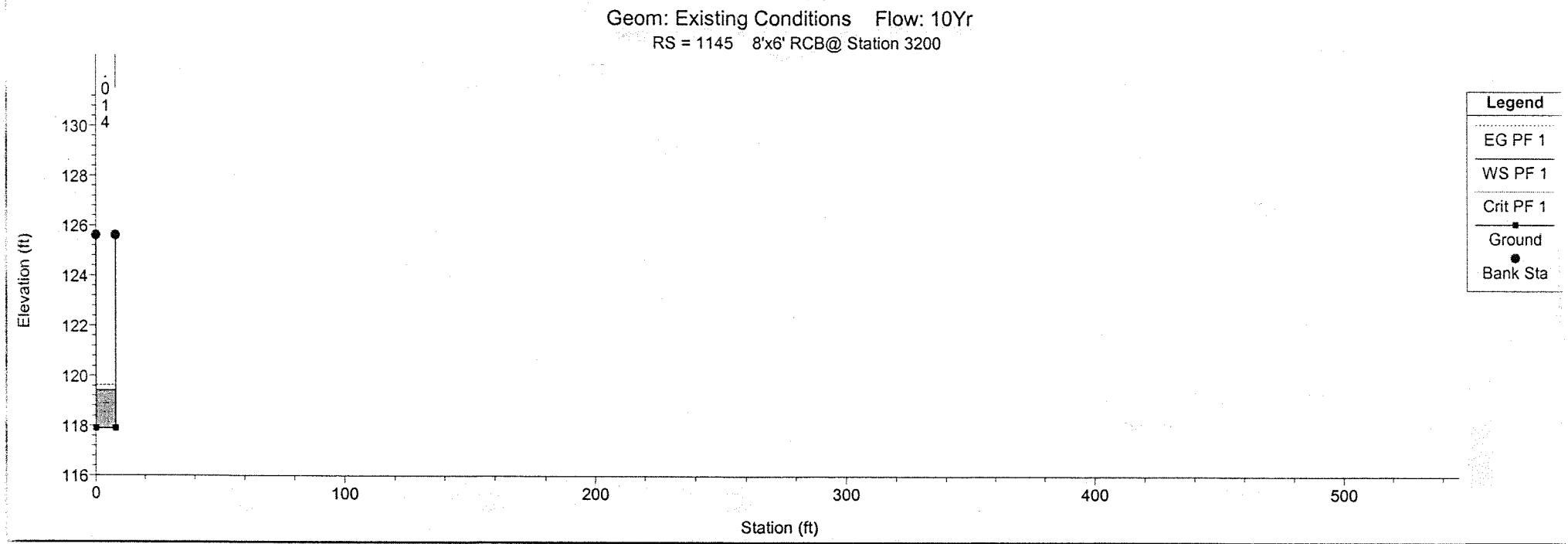




1 in Horiz. = 60 ft 1 in Vert. = 6 ft

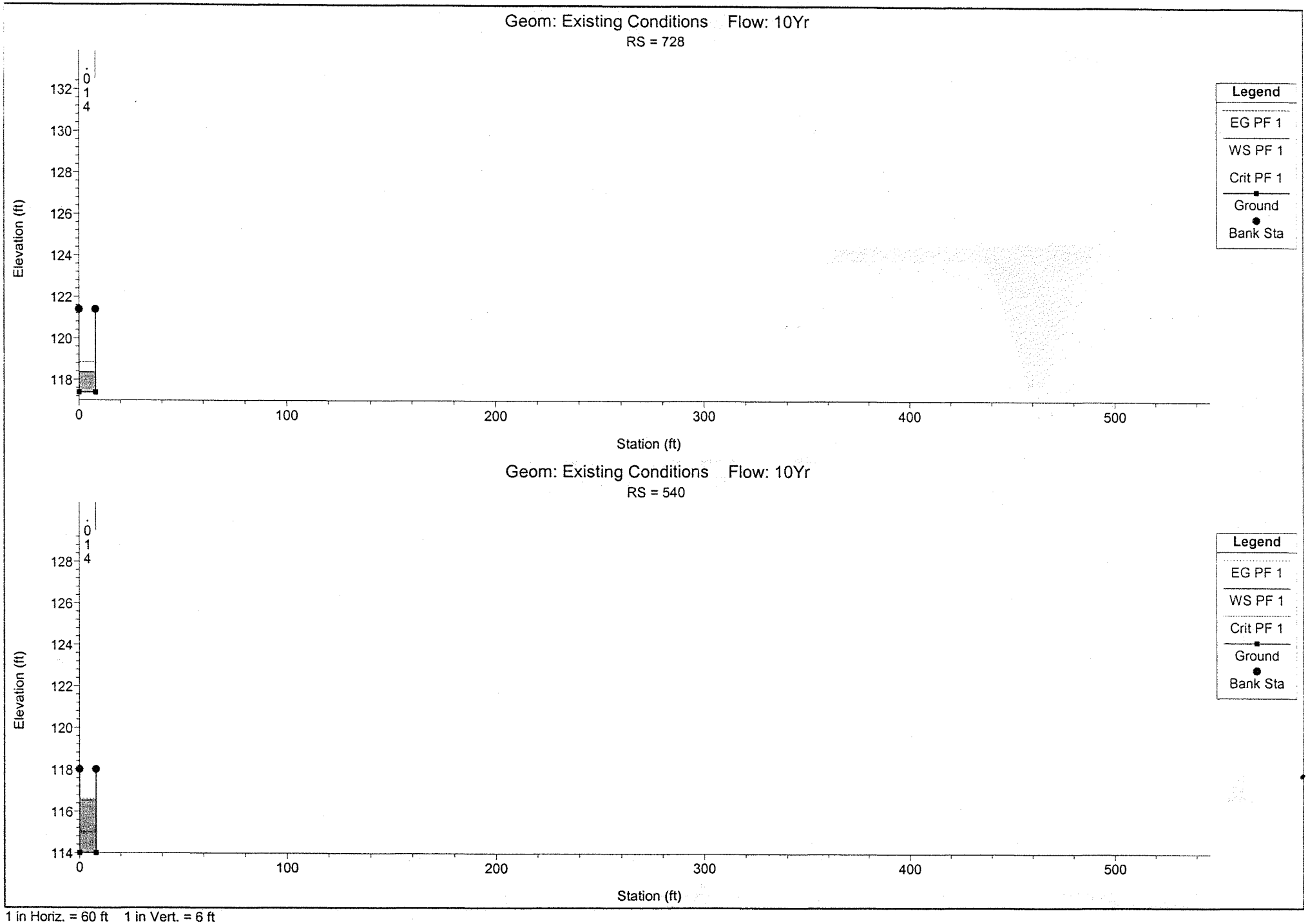



1 in Horiz. = 60 ft 1 in Vert. = 6 ft

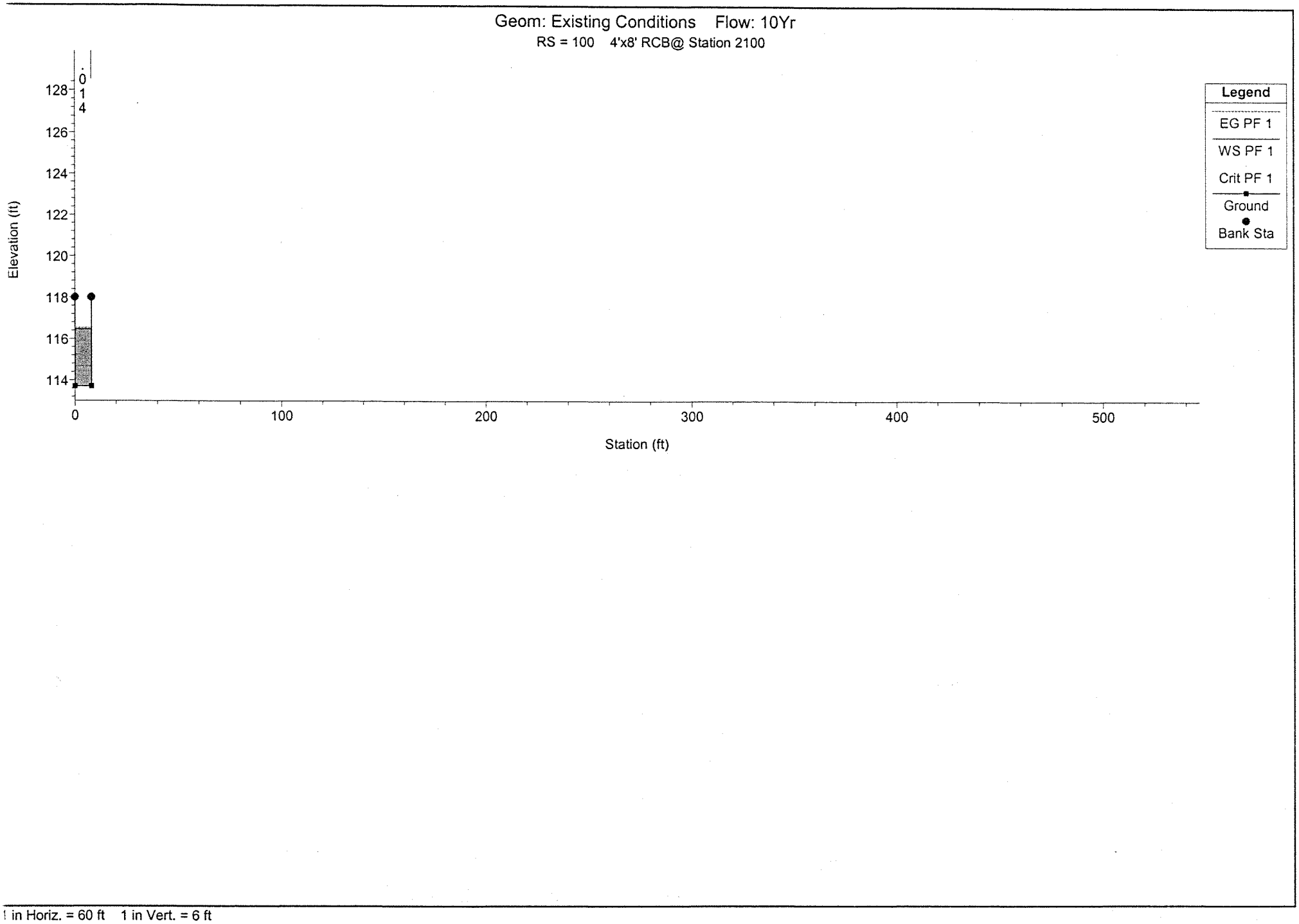



1 in Horiz. = 60 ft 1 in Vert. = 6 ft




1 in Horiz. = 60 ft 1 in Vert. = 6 ft

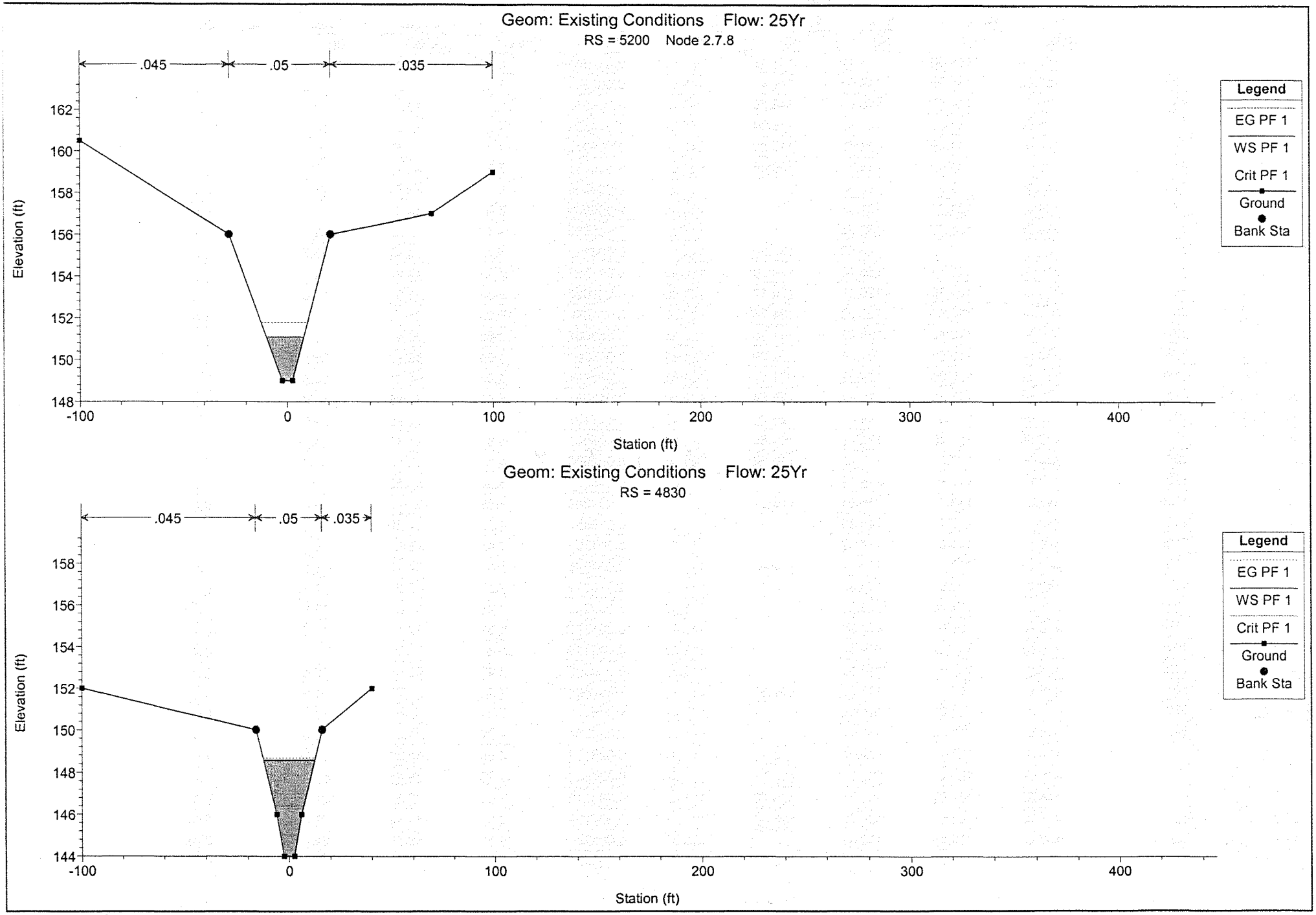



1 in Horiz. = 60 ft 1 in Vert. = 6 ft

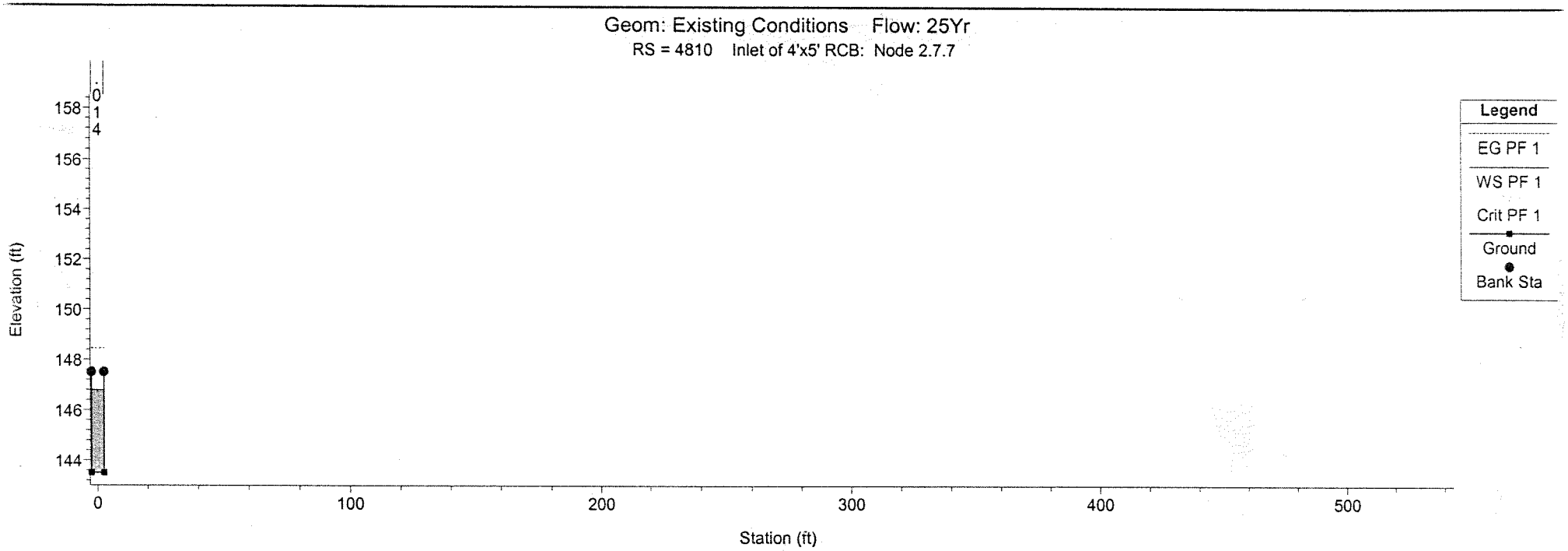
J:/01/207705/ Hydraulics / HECRAS / Channel 2

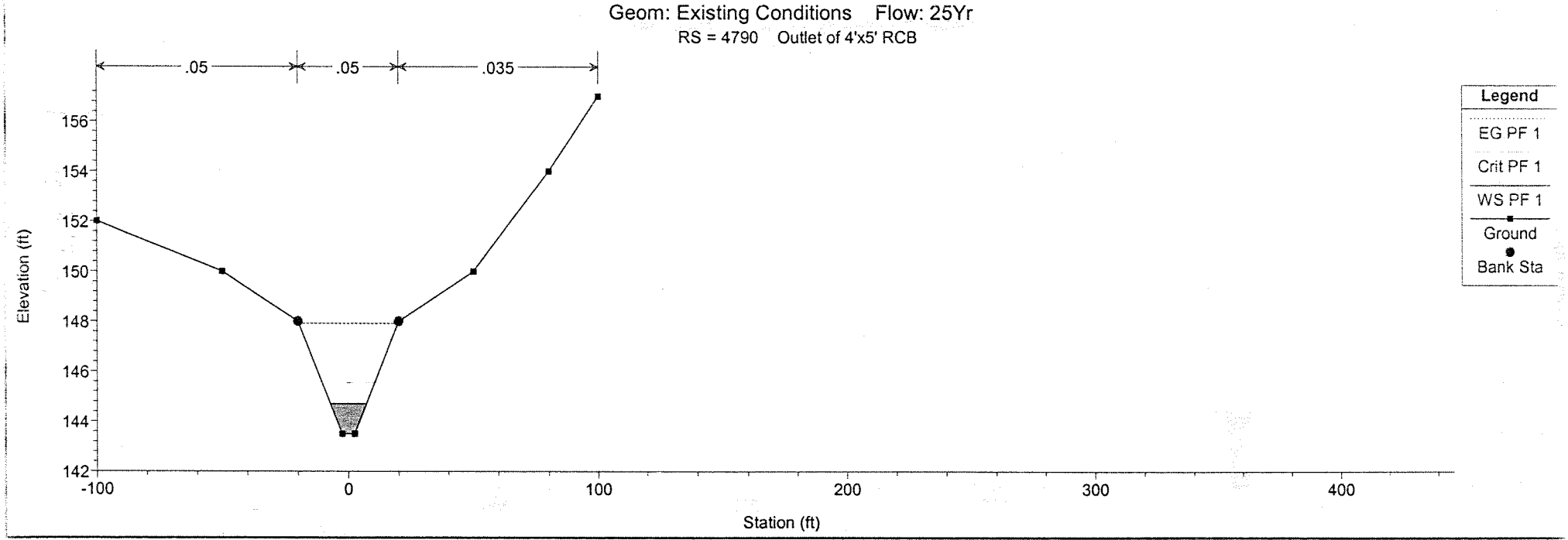
HEC-RAS Plan: 2_7EC25 River: Creek 2.7 Reach: Node 2.7.1-2.7.8 Profile: PF 1

| Reach | River Sta | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | (cfs) | (ft) | (ft) | (ft) | (ft) | (ft/ft) | (ft/s) | (sq ft) | (ft) | |
| Node 2.7.1-2.7.8 | 5200 | 161.00 | 149.00 | 151.10 | 151.10 | 151.78 | 0.035369 | 6.62 | 24.31 | 18.18 | 1.01 |
| Node 2.7.1-2.7.8 | 4830 | 161.00 | 144.00 | 148.58 | 146.41 | 148.67 | 0.002201 | 2.50 | 64.51 | 24.88 | 0.27 |
| Node 2.7.1-2.7.8 | 4810 | 170.00 | 143.50 | 146.79 | 146.79 | 148.45 | 0.005952 | 10.34 | 16.43 | 5.00 | 1.01 |
| Node 2.7.1-2.7.8 | 4790 | 170.00 | 143.50 | 144.72 | 145.54 | 147.92 | 0.314552 | 14.38 | 11.83 | 14.46 | 2.80 |
| Node 2.7.1-2.7.8 | 4700 | 170.00 | 141.00 | 143.62 | 142.89 | 143.88 | 0.009382 | 4.09 | 41.59 | 23.73 | 0.54 |
| Node 2.7.1-2.7.8 | 4300 | 170.00 | 134.00 | 136.81 | 136.66 | 137.65 | 0.030059 | 7.35 | 23.13 | 11.48 | 0.91 |
| Node 2.7.1-2.7.8 | 3800 | 170.00 | 128.30 | 132.90 | | 133.09 | 0.004085 | 3.50 | 48.59 | 16.13 | 0.36 |
| Node 2.7.1-2.7.8 | 3775 | 324.00 | 128.00 | 132.44 | | 133.02 | 0.000939 | 6.08 | 53.32 | 12.00 | 0.51 |
| Node 2.7.1-2.7.8 | 3745 | 324.00 | 127.70 | 132.55 | | 132.89 | 0.005689 | 4.73 | 72.02 | 69.53 | 0.40 |
| Node 2.7.1-2.7.8 | 3715 | 324.00 | 127.10 | 132.56 | 130.90 | 132.71 | 0.003131 | 3.72 | 153.46 | 138.68 | 0.31 |
| Node 2.7.1-2.7.8 | 3450 | 324.00 | 125.52 | 130.15 | 129.30 | 130.99 | 0.017887 | 7.33 | 44.22 | 13.09 | 0.70 |
| Node 2.7.1-2.7.8 | 3315 | 324.00 | 122.40 | 126.17 | 126.17 | 127.58 | 0.036622 | 9.53 | 33.98 | 12.03 | 1.00 |
| Node 2.7.1-2.7.8 | 3300 | 333.00 | 120.60 | 123.26 | 124.36 | 127.06 | 0.011609 | 15.63 | 21.30 | 8.00 | 1.69 |
| Node 2.7.1-2.7.8 | 3270 | 333.00 | 120.40 | 123.38 | 124.15 | 125.96 | 0.083007 | 12.88 | 25.85 | 11.35 | 1.50 |
| Node 2.7.1-2.7.8 | 3230 | 333.00 | 119.50 | 124.54 | 122.39 | 124.81 | 0.004001 | 4.20 | 82.78 | 36.29 | 0.37 |
| Node 2.7.1-2.7.8 | 3170 | 233.00 | 118.00 | 124.39 | 121.17 | 124.58 | 0.002994 | 3.53 | 68.61 | 30.60 | 0.29 |
| Node 2.7.1-2.7.8 | 2760 | 233.00 | 117.80 | 120.84 | 120.84 | 122.00 | 0.018054 | 8.67 | 26.86 | 11.69 | 1.01 |
| Node 2.7.1-2.7.8 | 2720 | 233.00 | 117.60 | 119.46 | 120.00 | 121.48 | 0.007457 | 11.41 | 20.43 | 11.00 | 1.48 |
| Node 2.7.1-2.7.8 | 2700 | 233.00 | 117.50 | 120.62 | 119.80 | 121.14 | 0.006551 | 5.81 | 40.13 | 14.74 | 0.62 |
| Node 2.7.1-2.7.8 | 2660 | 233.00 | 117.00 | 120.62 | 119.32 | 120.88 | 0.002970 | 4.09 | 57.02 | 22.46 | 0.45 |
| Node 2.7.1-2.7.8 | 2220 | 343.00 | 114.00 | 116.79 | 116.79 | 117.85 | 0.015506 | 8.26 | 41.53 | 19.77 | 1.00 |
| Node 2.7.1-2.7.8 | 2200 | 343.00 | 113.70 | 116.94 | 116.12 | 117.62 | 0.001280 | 6.62 | 51.78 | 16.00 | 0.65 |
| Node 2.7.1-2.7.8 | 2165 | 343.00 | 113.70 | 116.89 | | 117.51 | 0.006851 | 6.29 | 54.50 | 18.13 | 0.64 |
| Node 2.7.1-2.7.8 | 2100 | 343.00 | 111.63 | 117.02 | | 117.21 | 0.001361 | 3.48 | 98.60 | 26.61 | 0.32 |
| Node 2.7.1-2.7.8 | 1700 | 343.00 | 112.00 | 115.85 | 114.50 | 116.29 | 0.004226 | 5.34 | 64.19 | 18.83 | 0.51 |
| Node 2.7.1-2.7.8 | 1300 | 343.00 | 110.00 | 112.92 | | 113.74 | 0.010311 | 7.26 | 47.21 | 17.79 | 0.79 |
| Node 2.7.1-2.7.8 | 1281 | 416.00 | 108.60 | 113.10 | | 113.62 | 0.000725 | 5.78 | 71.93 | 16.00 | 0.48 |
| Node 2.7.1-2.7.8 | 1165 | 416.00 | 108.00 | 112.99 | | 113.44 | 0.003353 | 5.37 | 77.40 | 17.51 | 0.45 |
| Node 2.7.1-2.7.8 | 1119 | 416.00 | 107.44 | 112.84 | | 113.28 | 0.003179 | 5.35 | 77.78 | 17.14 | 0.44 |
| Node 2.7.1-2.7.8 | 1100 | 416.00 | 107.10 | 112.91 | | 113.22 | 0.000352 | 4.47 | 93.00 | 16.00 | 0.33 |
| Node 2.7.1-2.7.8 | 1070 | 416.00 | 107.08 | 112.27 | 111.33 | 113.14 | 0.007624 | 7.46 | 55.75 | 14.97 | 0.68 |
| Node 2.7.1-2.7.8 | 970 | 416.00 | 107.03 | 111.55 | | 112.41 | 0.008106 | 7.44 | 55.89 | 16.73 | 0.72 |
| Node 2.7.1-2.7.8 | 927 | 416.00 | 107.00 | 111.77 | | 112.07 | 0.002357 | 4.39 | 94.81 | 23.00 | 0.38 |
| Node 2.7.1-2.7.8 | 912 | 415.00 | 107.60 | 110.46 | 110.46 | 111.91 | 0.003132 | 9.66 | 42.97 | 15.00 | 1.01 |
| Node 2.7.1-2.7.8 | 867 | 415.00 | 107.40 | 109.75 | 110.17 | 111.56 | 0.027820 | 10.79 | 38.45 | 17.71 | 1.29 |
| Node 2.7.1-2.7.8 | 850 | 415.00 | 107.00 | 110.71 | 109.16 | 111.02 | 0.002710 | 4.51 | 92.05 | 27.68 | 0.44 |
| Node 2.7.1-2.7.8 | 600 | 415.00 | 106.00 | 109.69 | 108.46 | 110.17 | 0.004309 | 5.54 | 74.92 | 22.61 | 0.54 |
| Node 2.7.1-2.7.8 | 100 | 427.00 | 104.00 | 108.01 | | 108.37 | 0.002965 | 4.85 | 88.13 | 24.10 | 0.45 |
| Node 2.7.1-2.7.8 | 0.0 | 427.00 | 102.00 | 108.04 | 105.21 | 108.15 | 0.000824 | 2.70 | 160.93 | 123.34 | 0.26 |

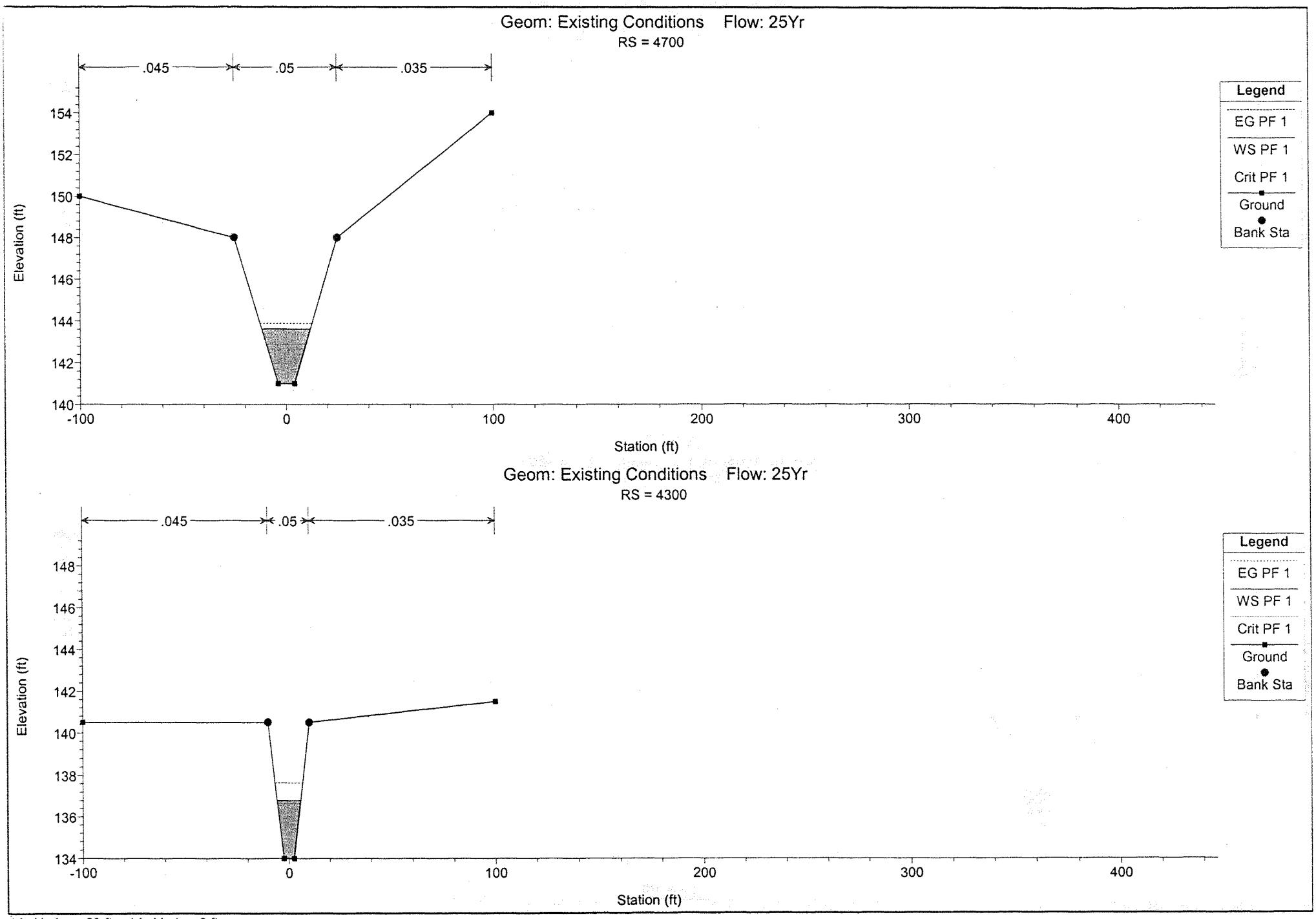



1 in Horiz. = 60 ft 1 in Vert. = 6 ft

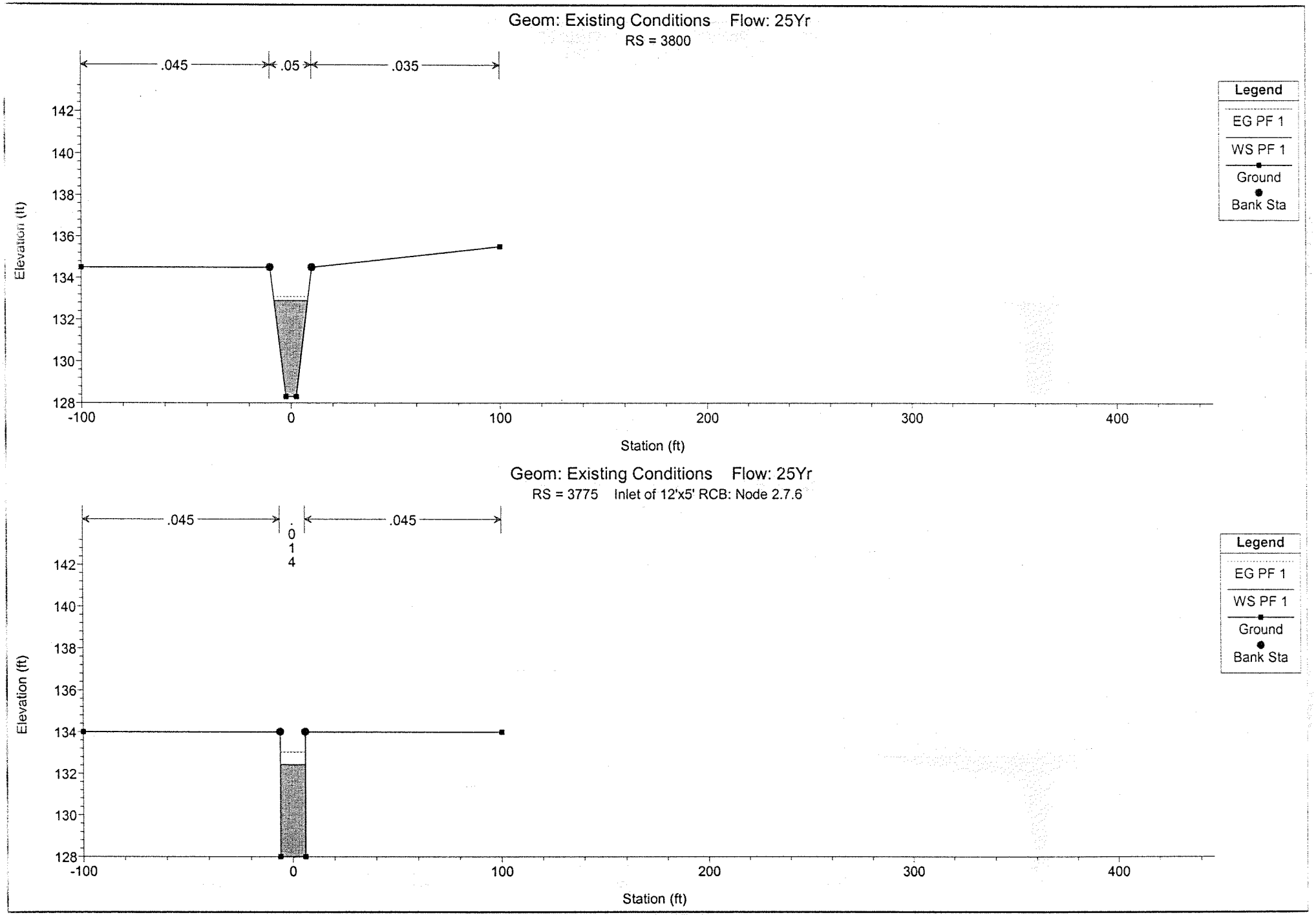


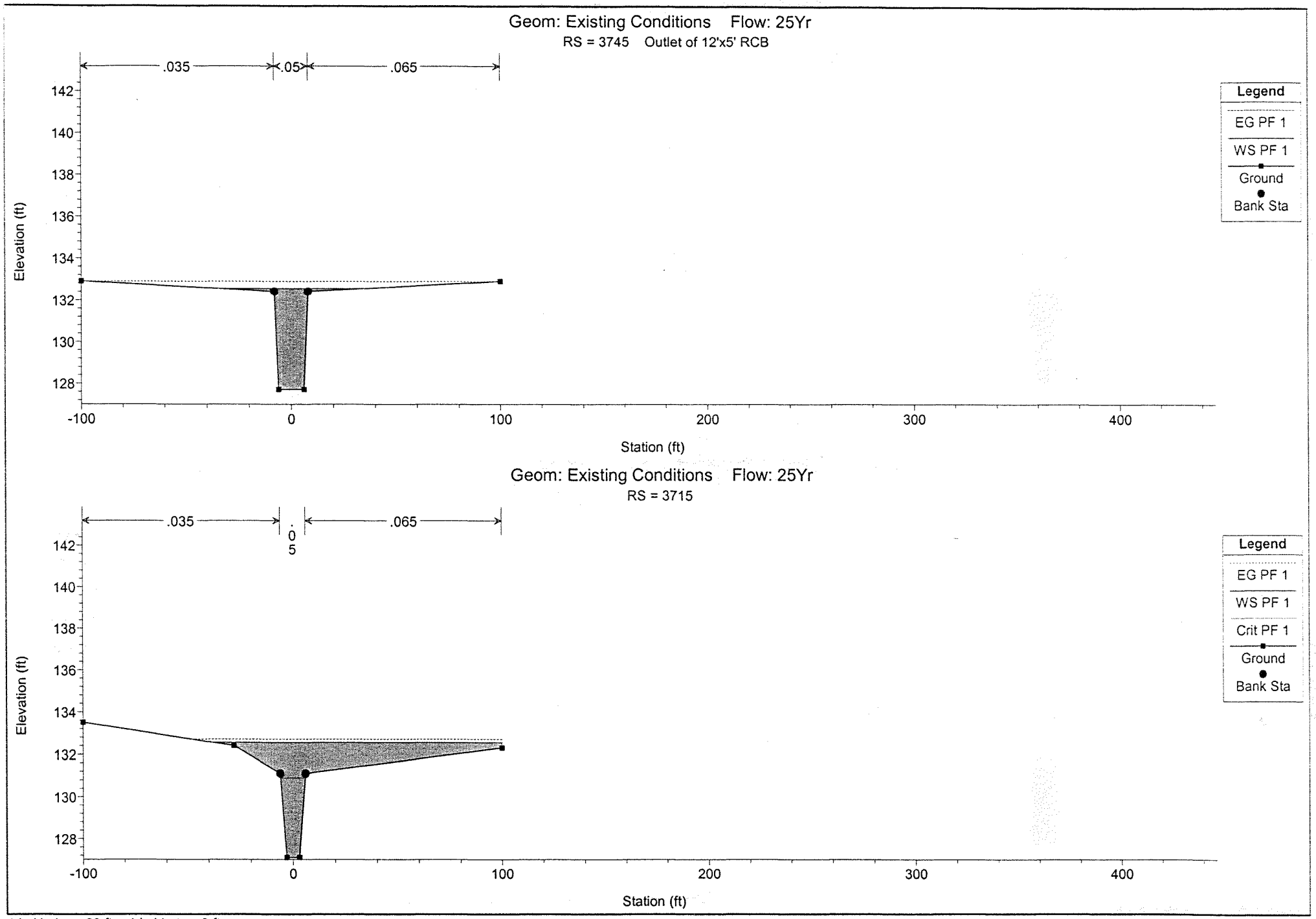

1 in Horiz. = 60 ft 1 in Vert. = 6 ft



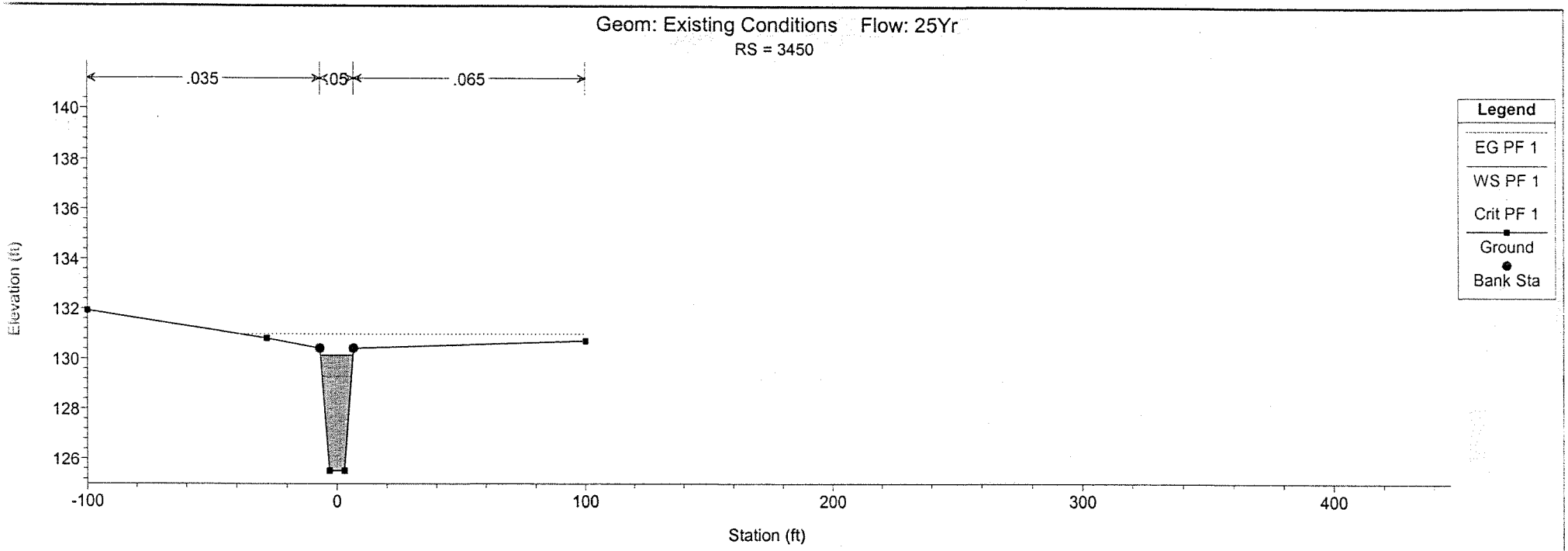

1 in Horiz. = 60 ft 1 in Vert. = 6 ft

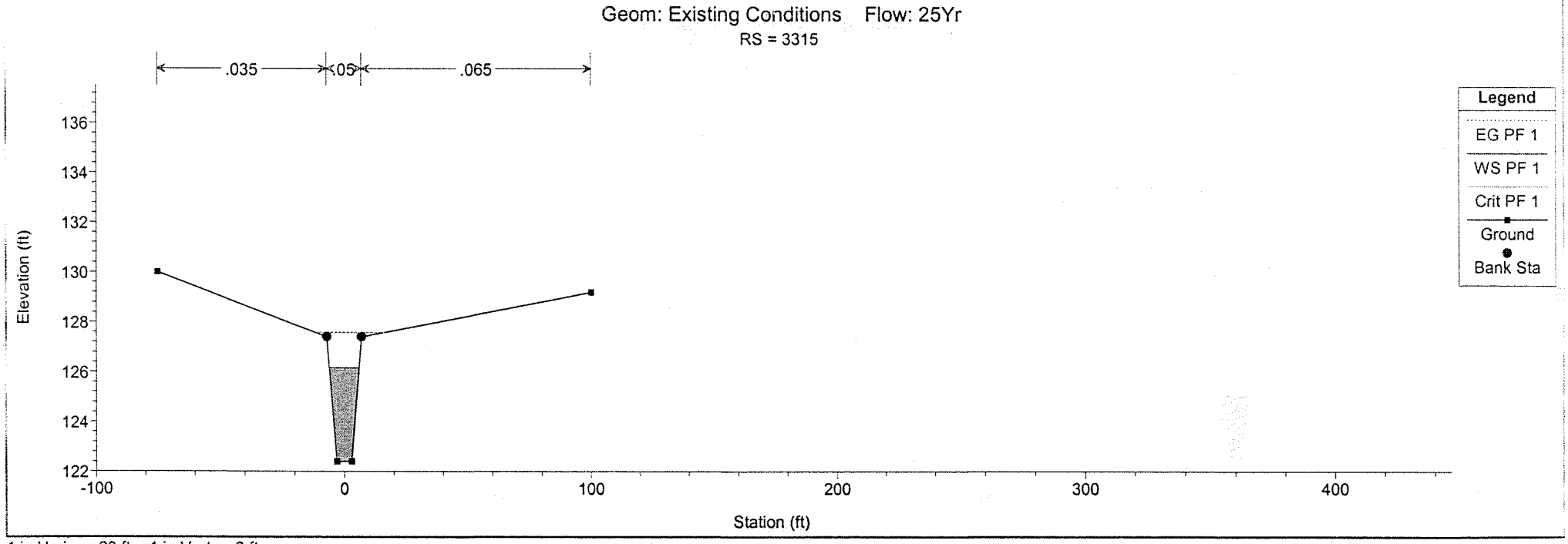



1 in Horiz. = 60 ft 1 in Vert. = 6 ft

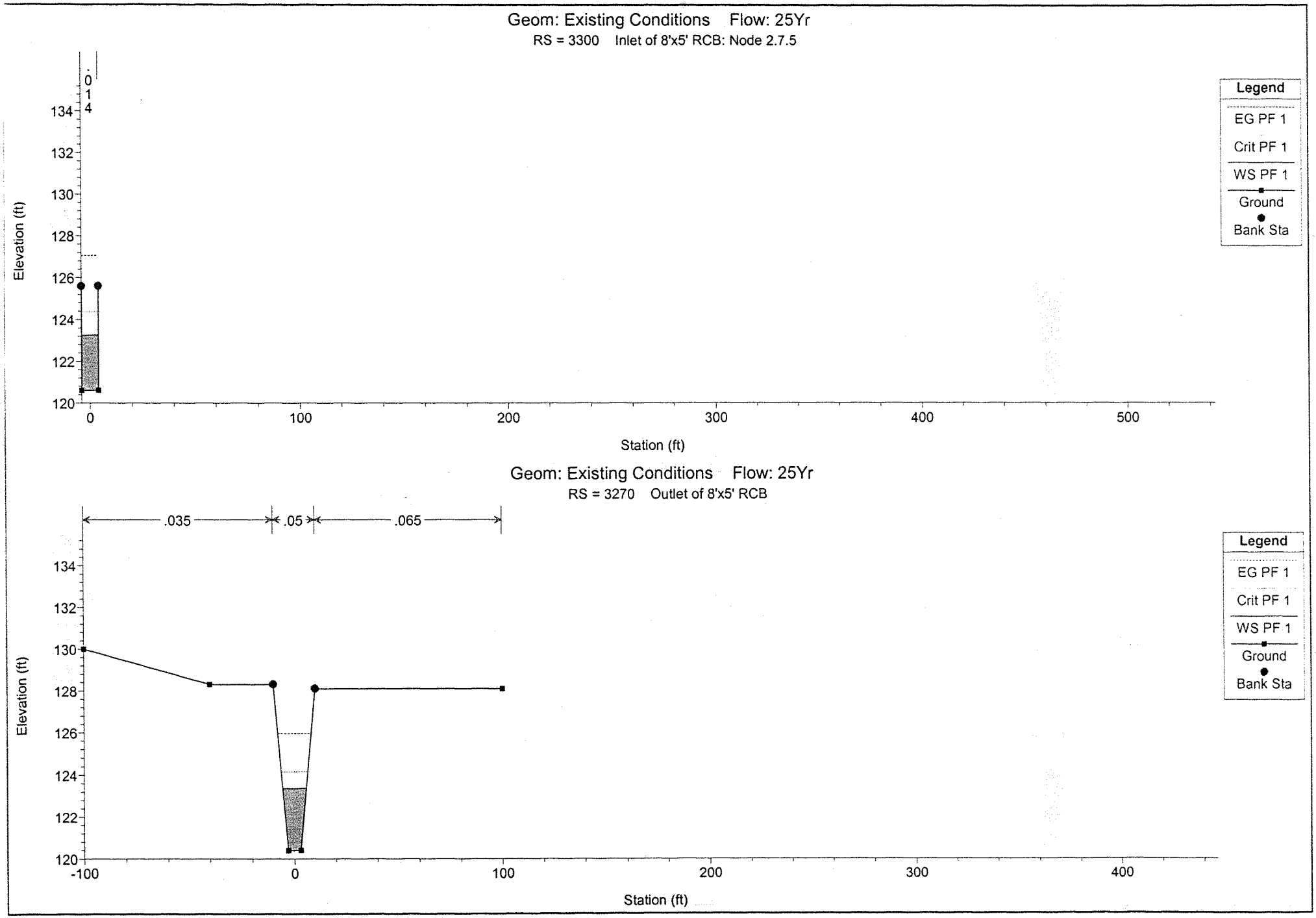



1 in Horiz. = 60 ft 1 in Vert. = 6 ft



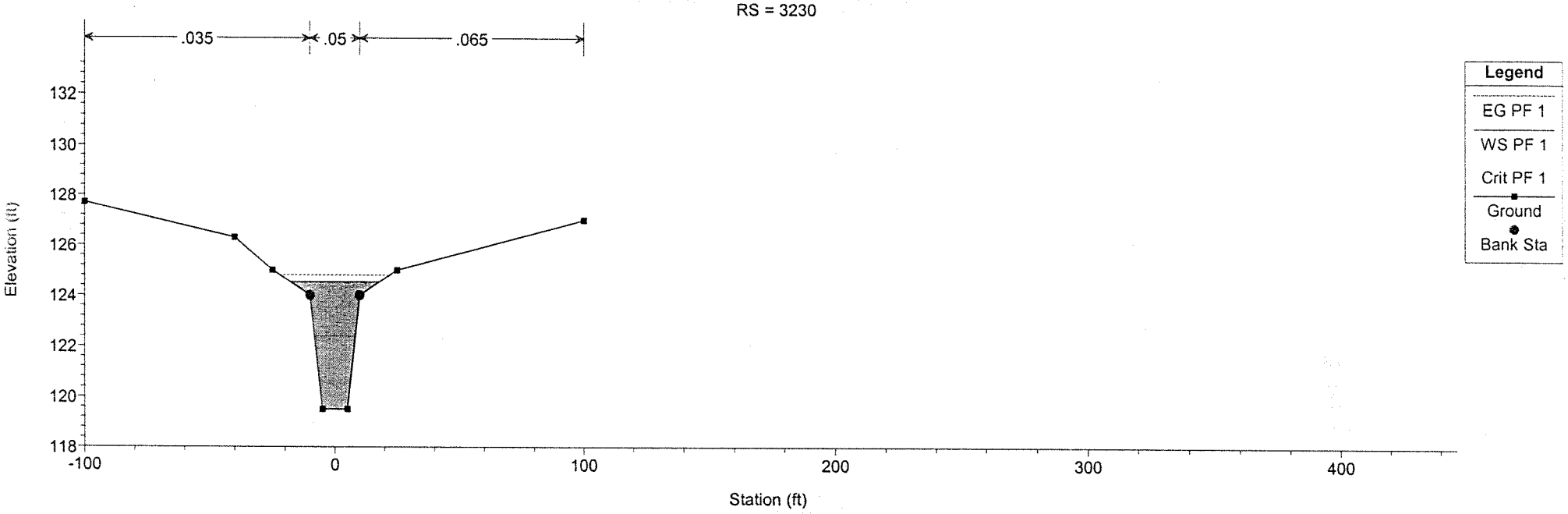

1 in Horiz. = 60 ft 1 in Vert. = 6 ft




1 in Horiz. = 60 ft 1 in Vert. = 6 ft

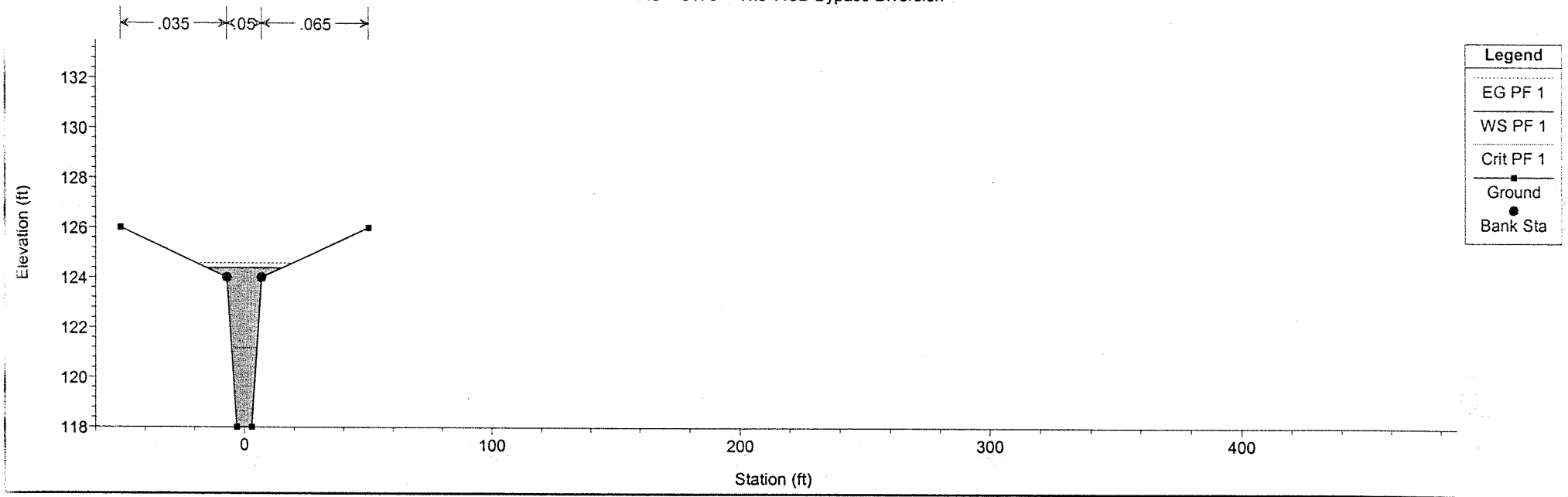
Geom: Existing Conditions Flow: 25Yr

RS = 3230

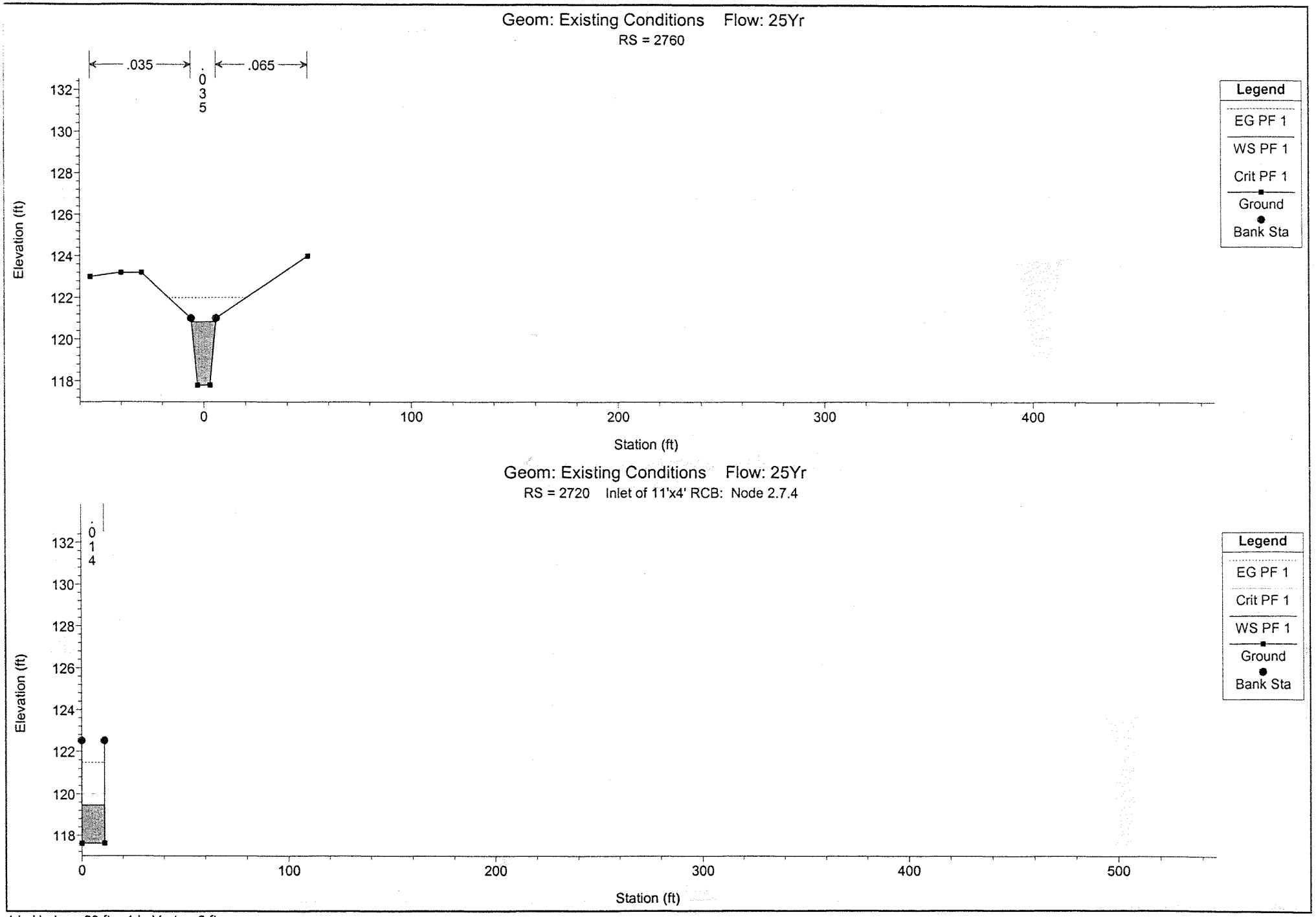



Geom: Existing Conditions Flow: 25Yr

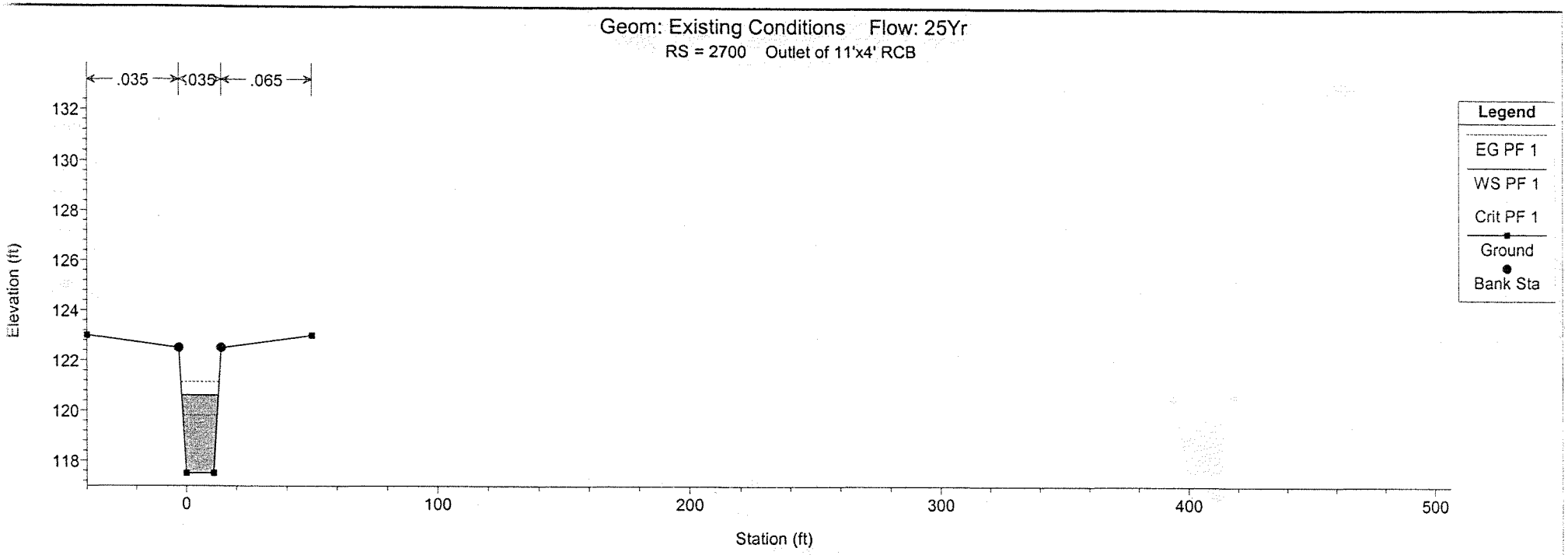
RS = 3170 4'x8' RCB Bypass Diversion

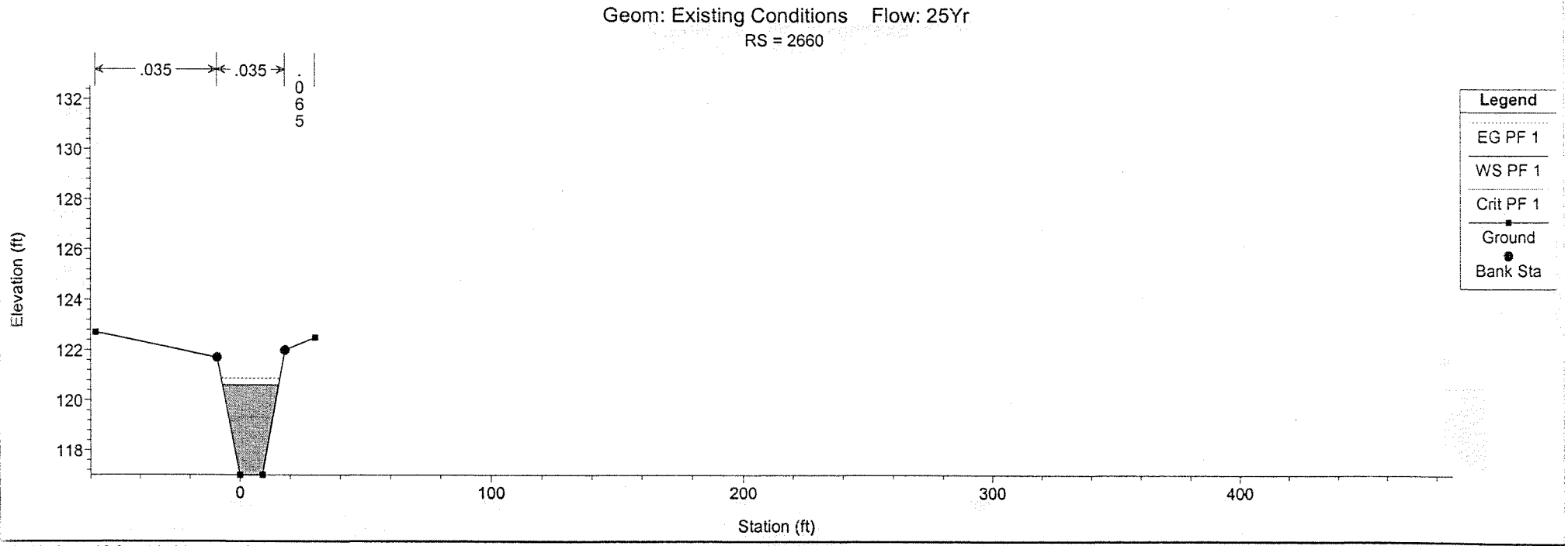



1 in Horiz. = 60 ft 1 in Vert. = 6 ft

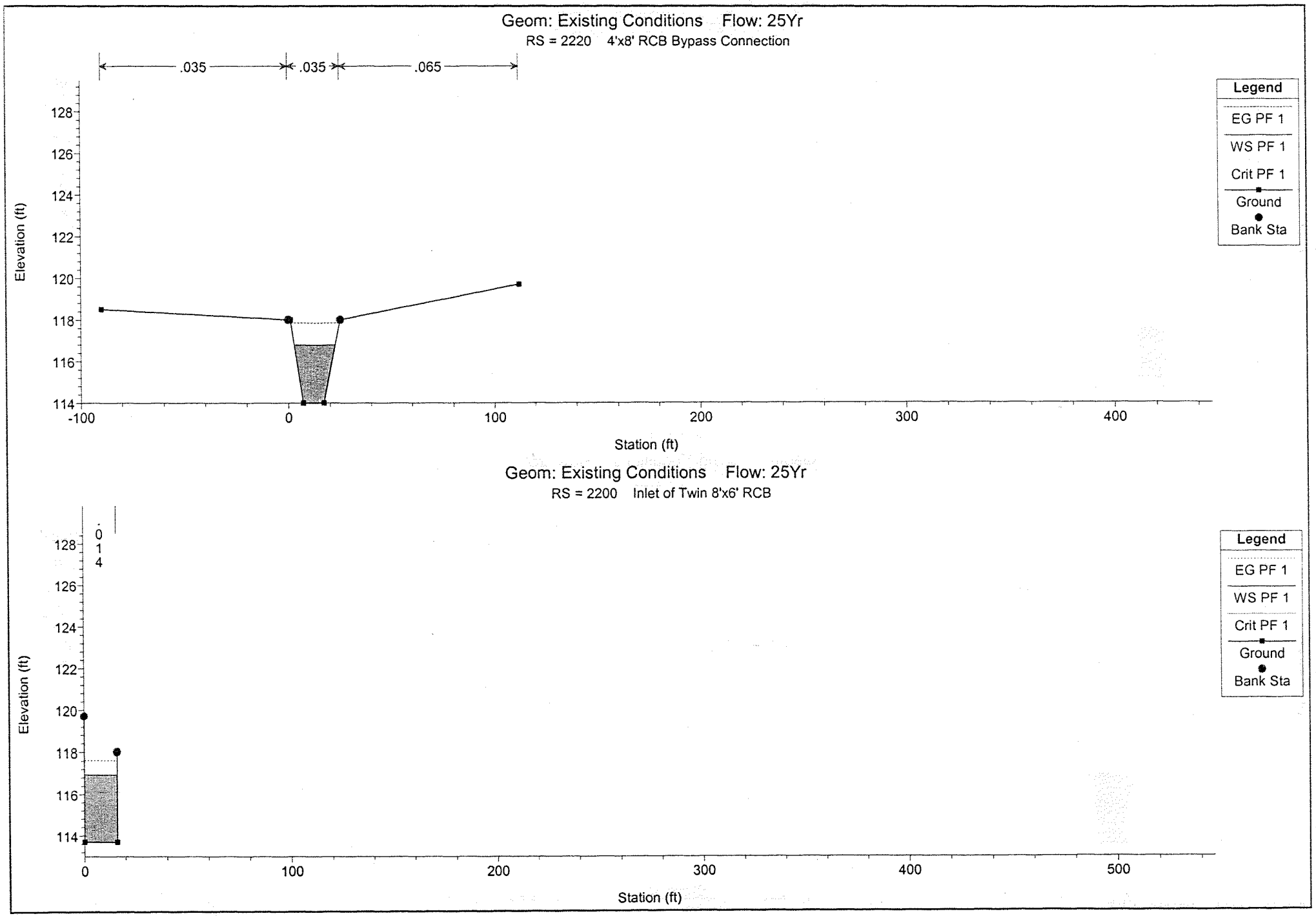



1 in Horiz. = 60 ft 1 in Vert. = 6 ft

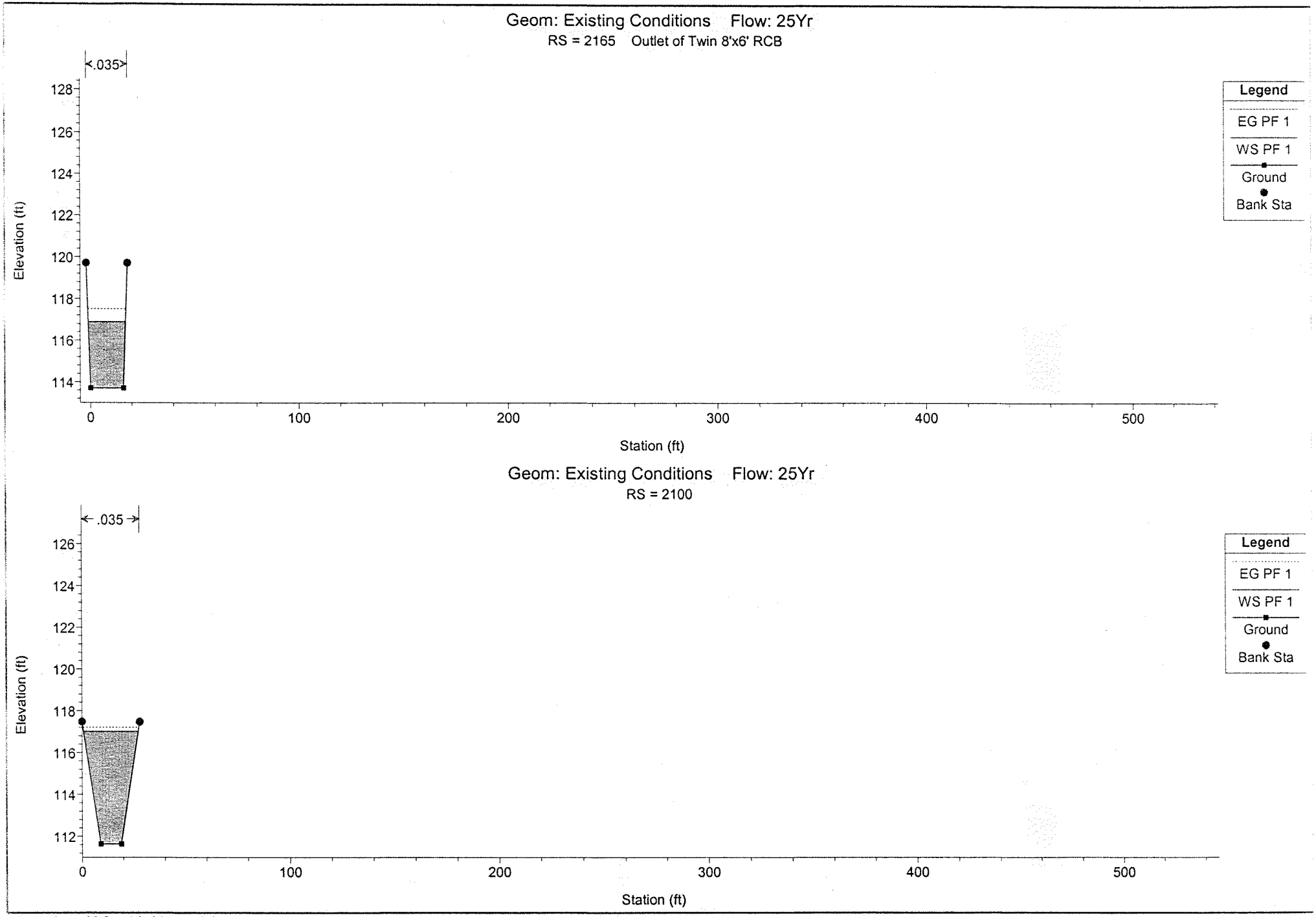


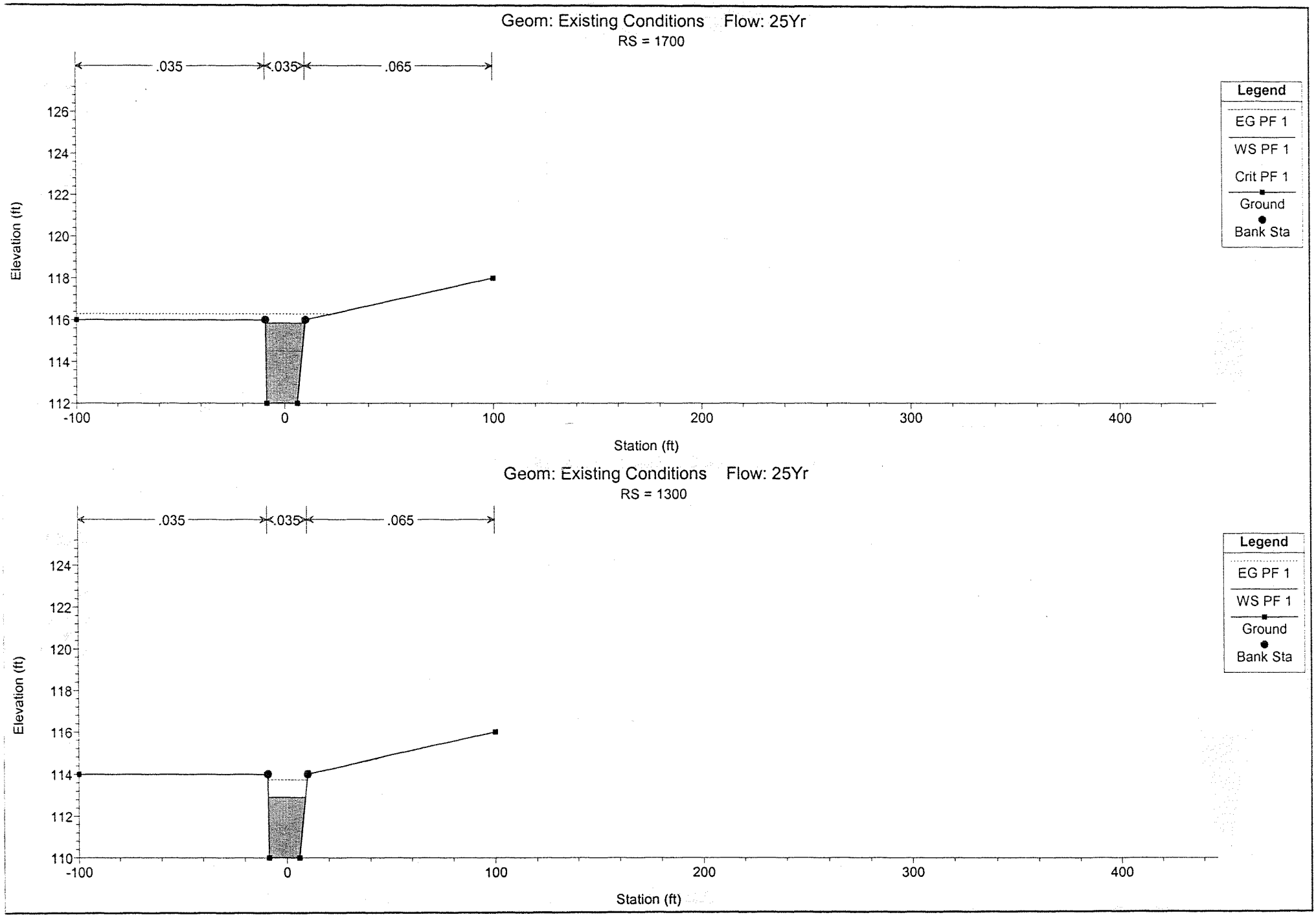

in Horiz. = 60 ft 1 in Vert. = 6 ft



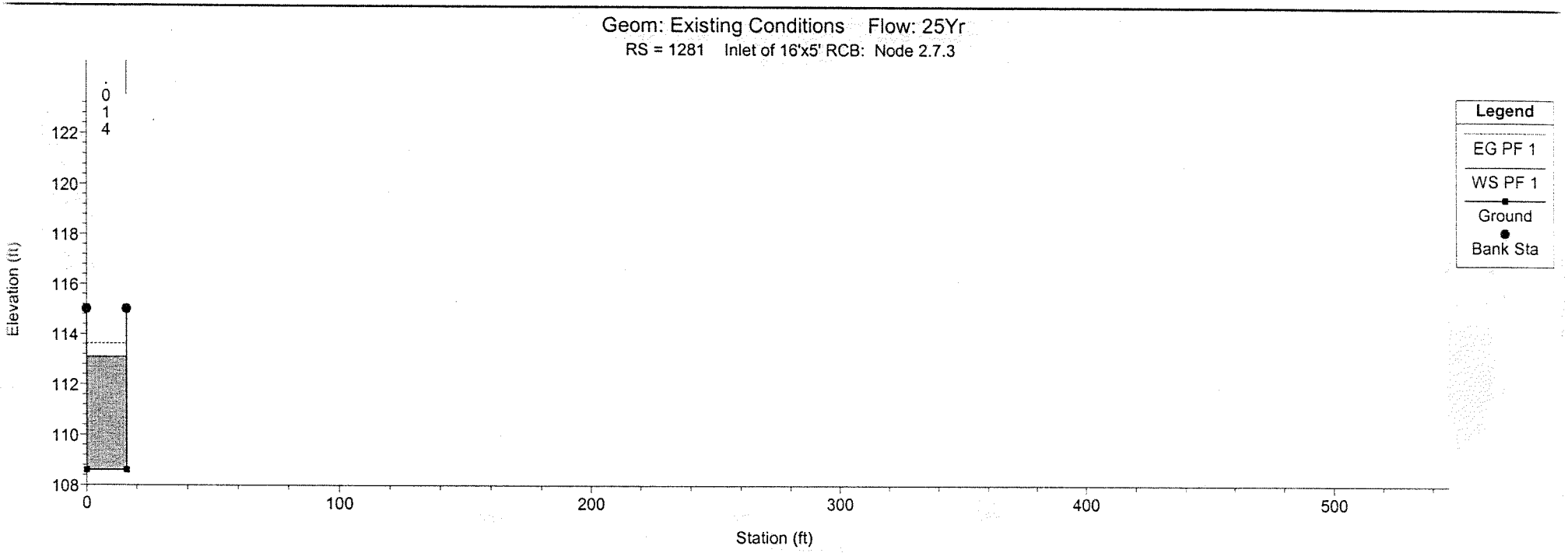

1 in Horiz. = 60 ft 1 in Vert. = 6 ft

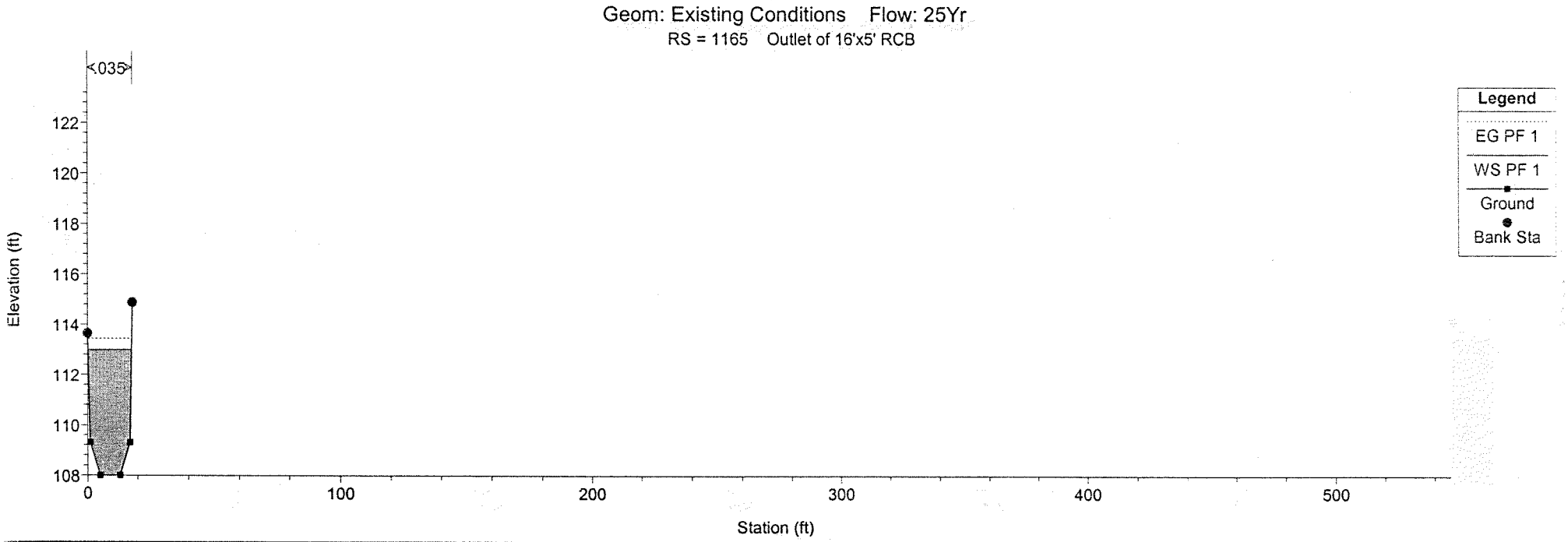



1 in Horiz. = 60 ft 1 in Vert. = 6 ft

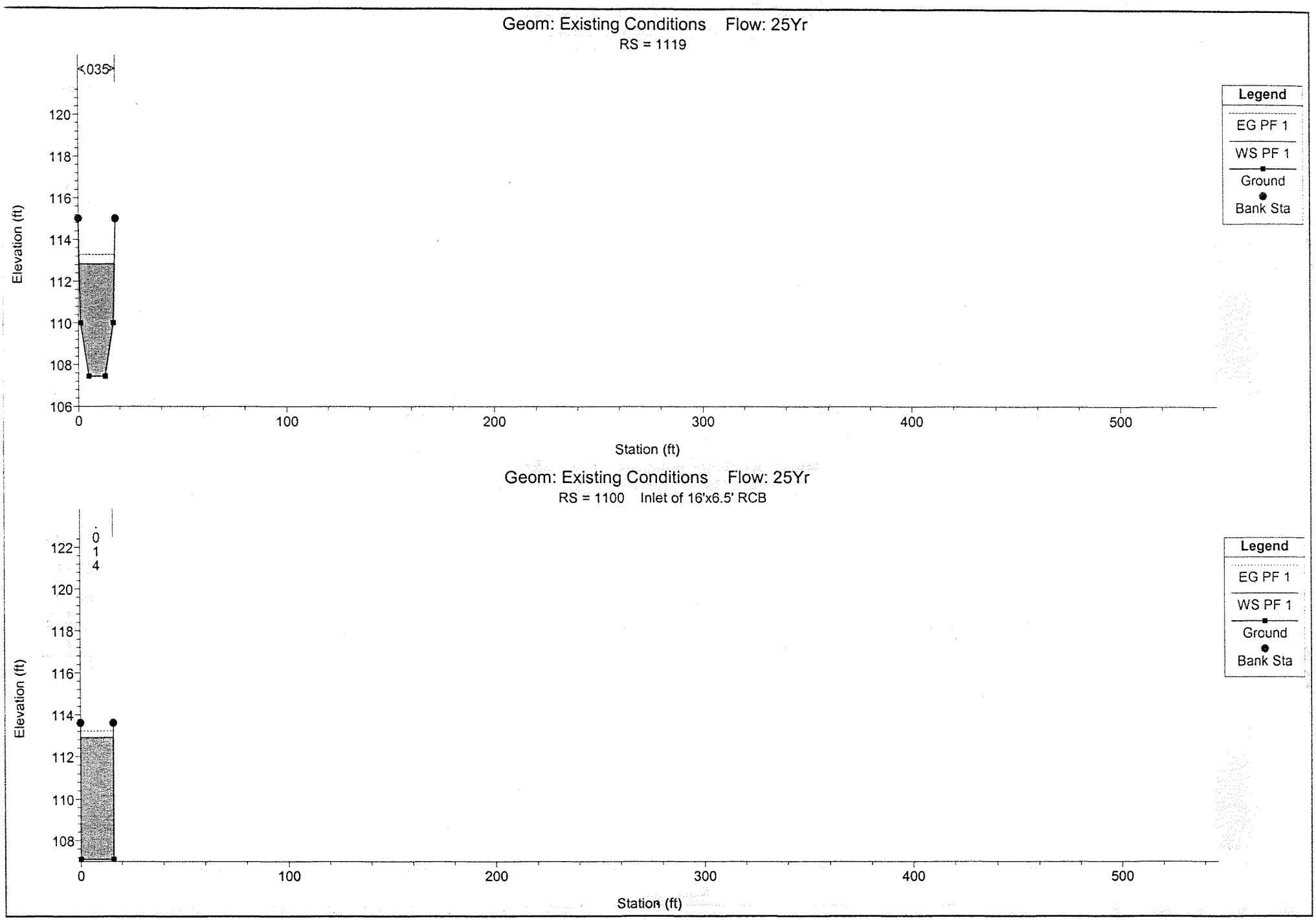



1 in Horiz. = 60 ft 1 in Vert. = 6 ft

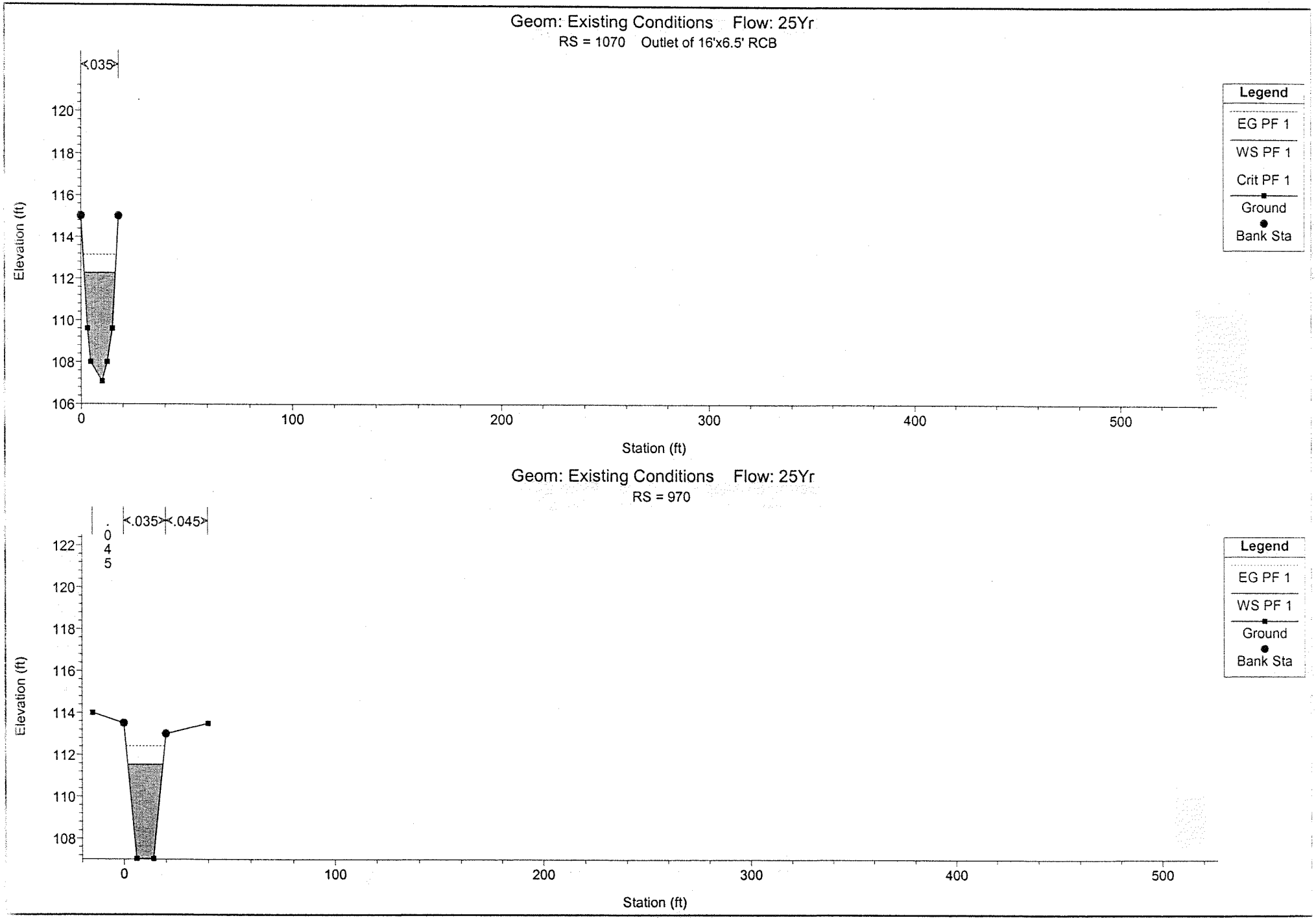


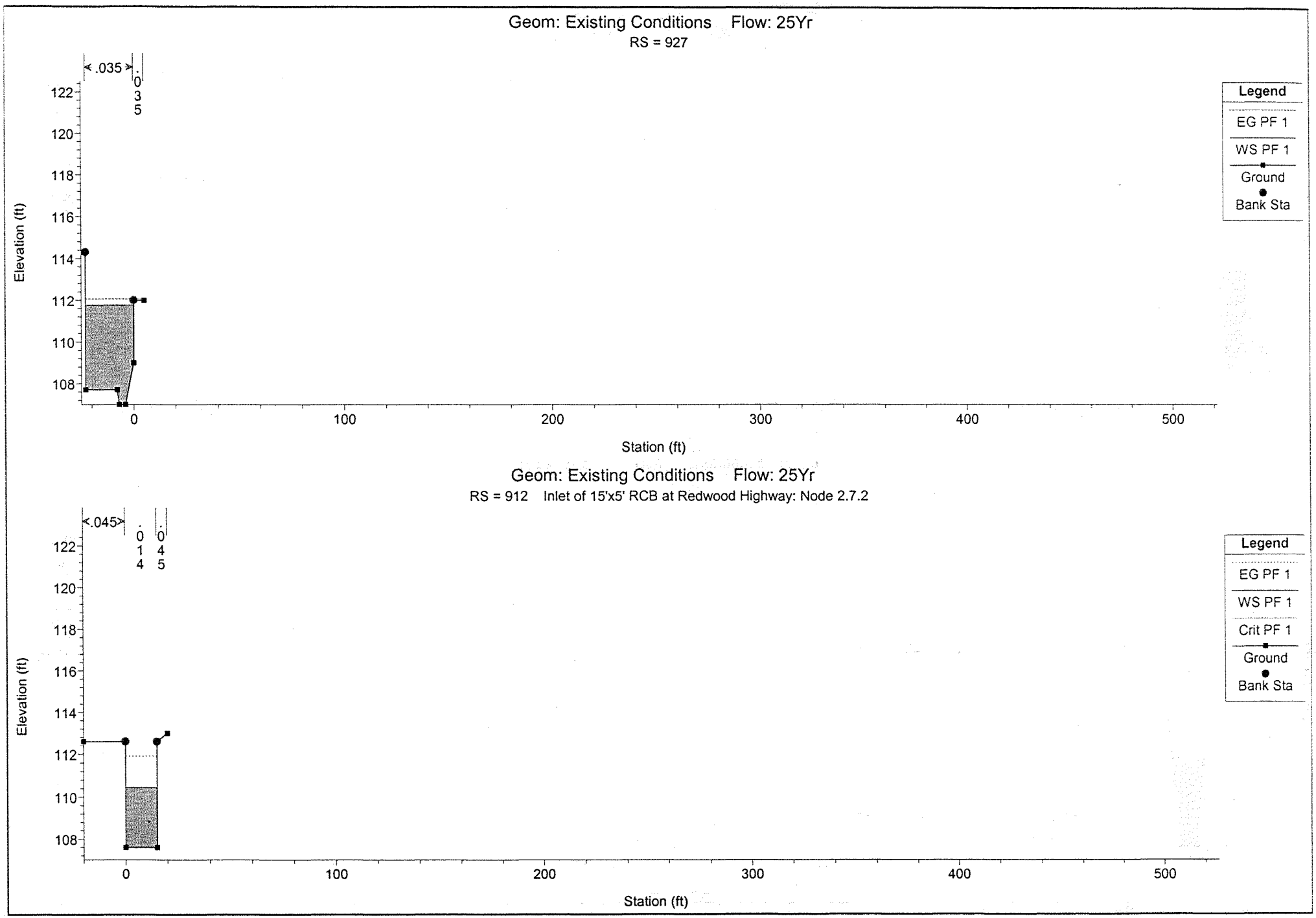

in Horiz. = 60 ft 1 in Vert. = 6 ft



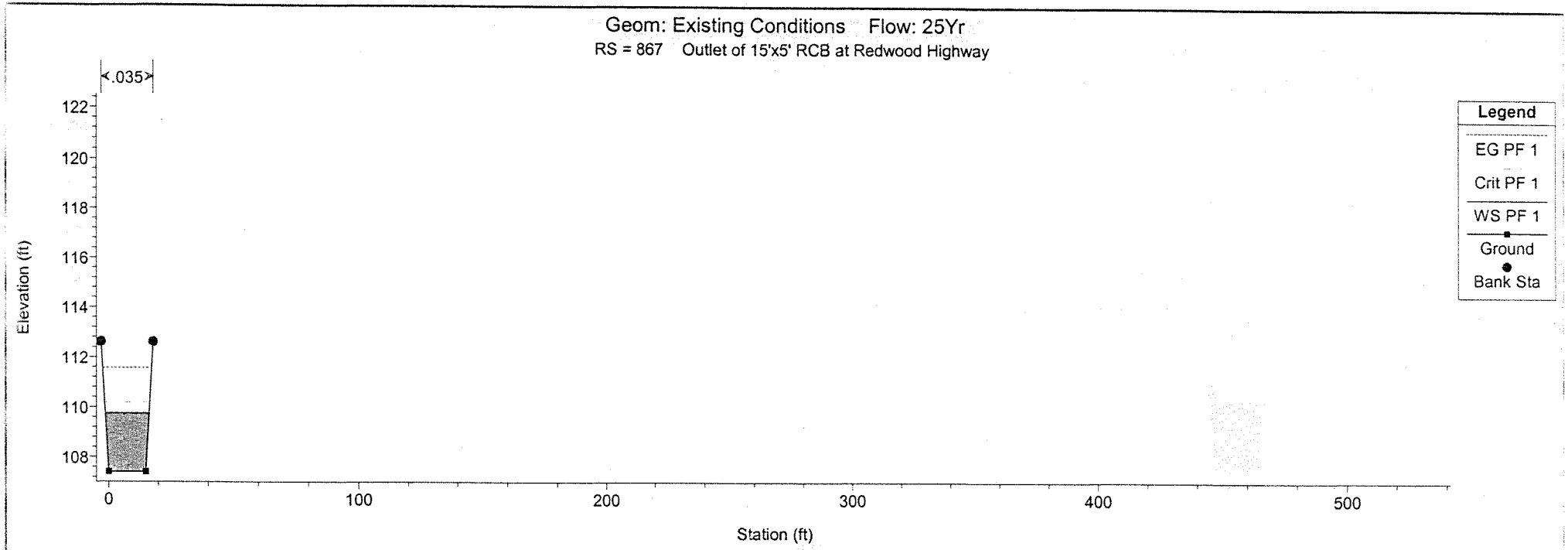

1 in Horiz. = 60 ft 1 in Vert. = 6 ft

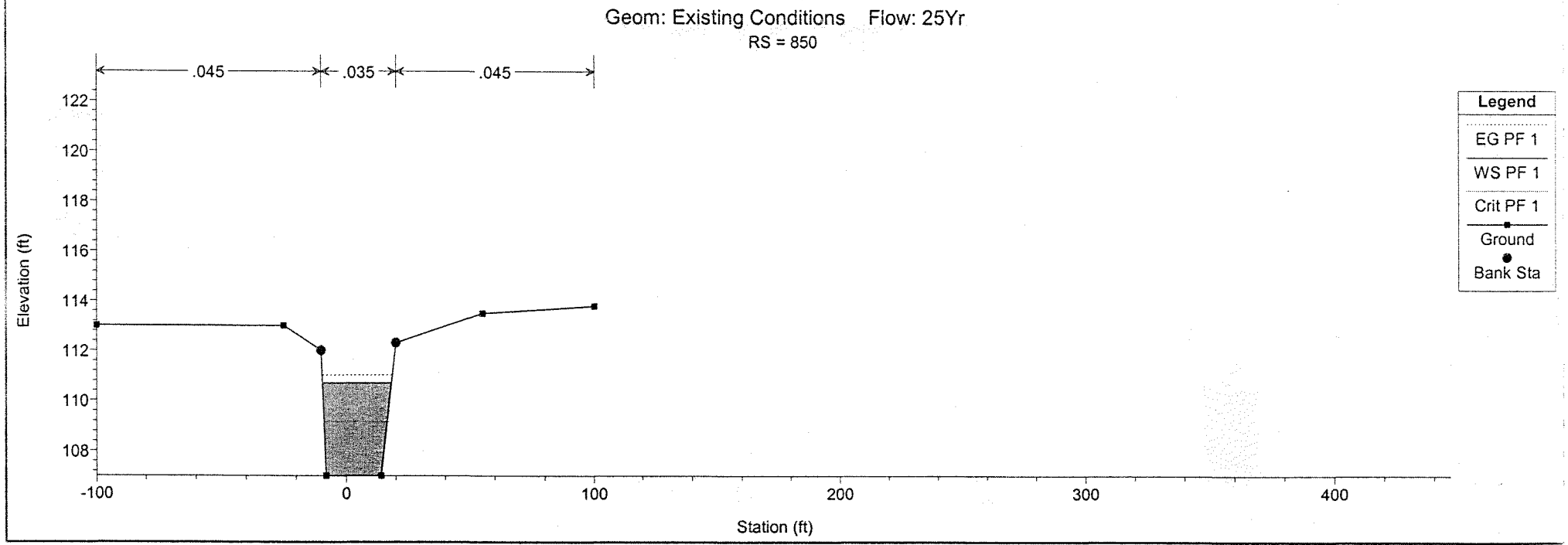



1 in Horiz. = 60 ft 1 in Vert. = 6 ft

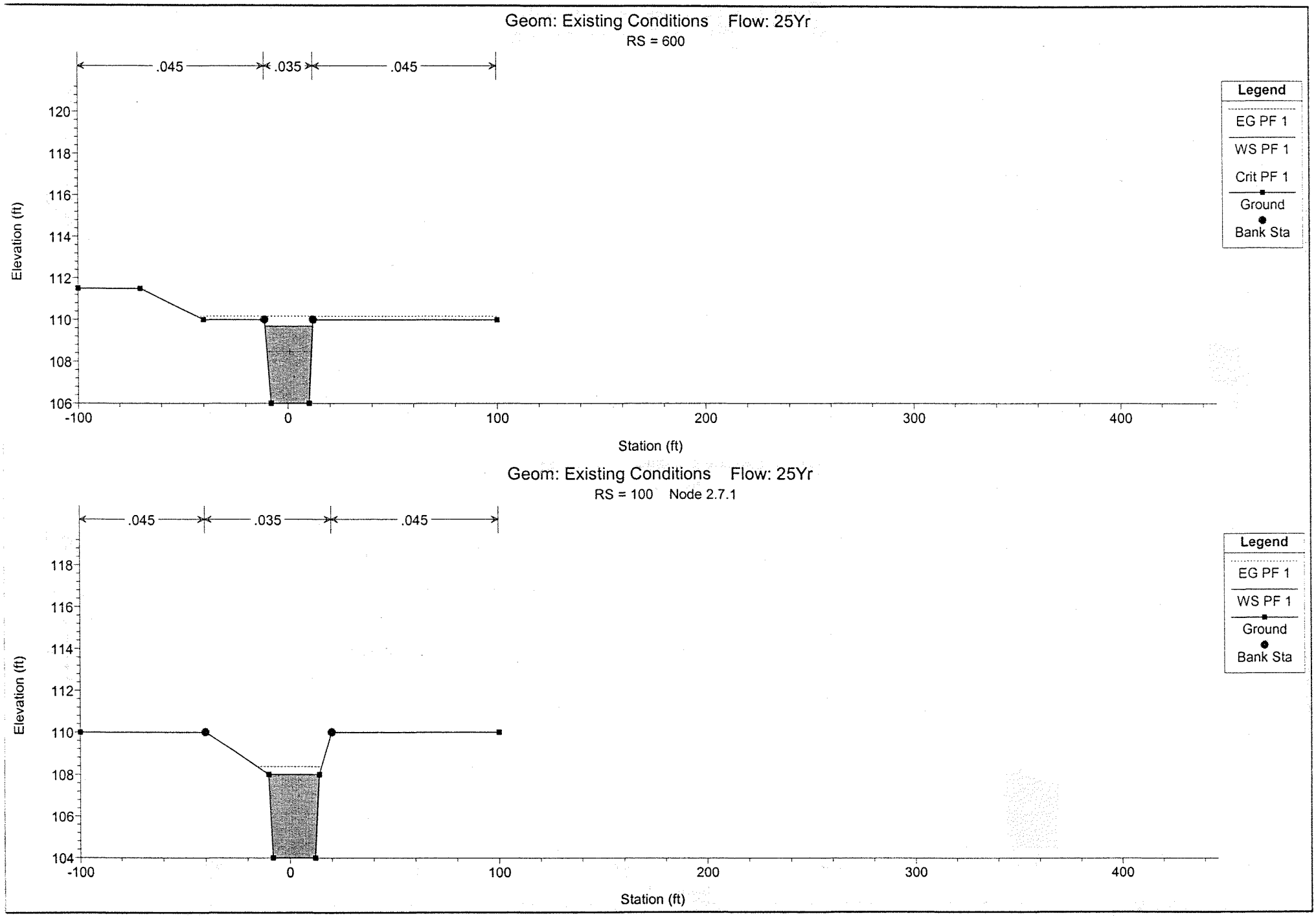



1 in Horiz. = 60 ft 1 in Vert. = 6 ft

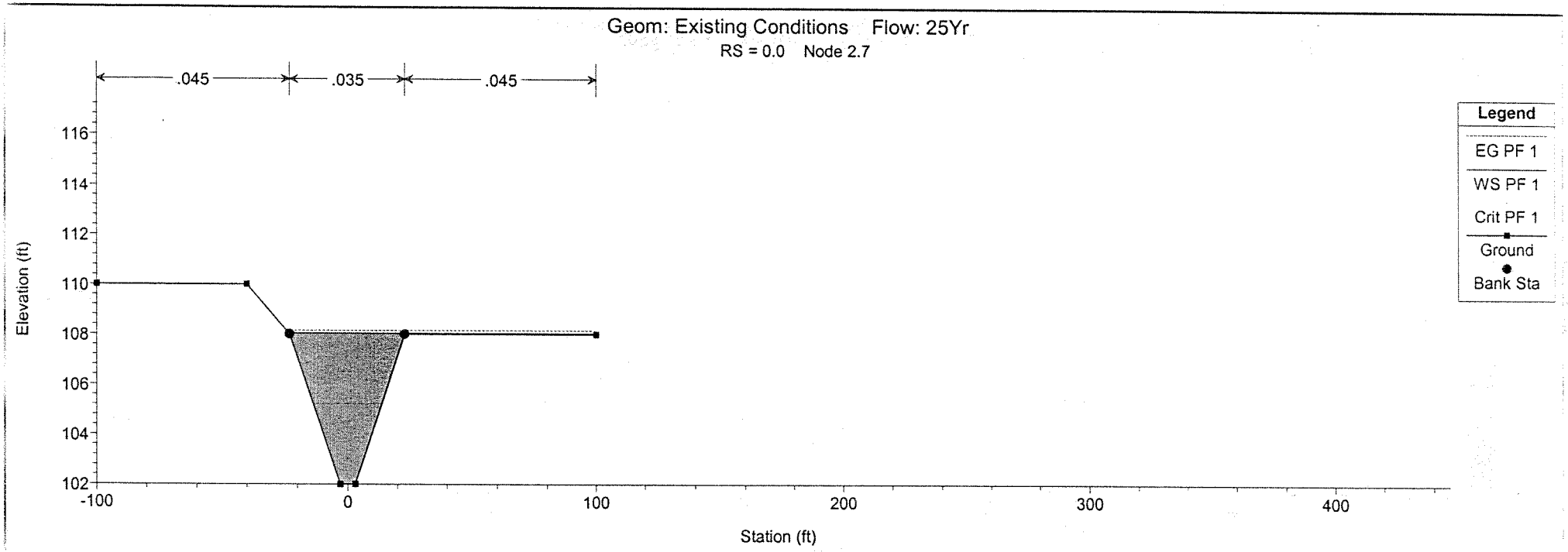


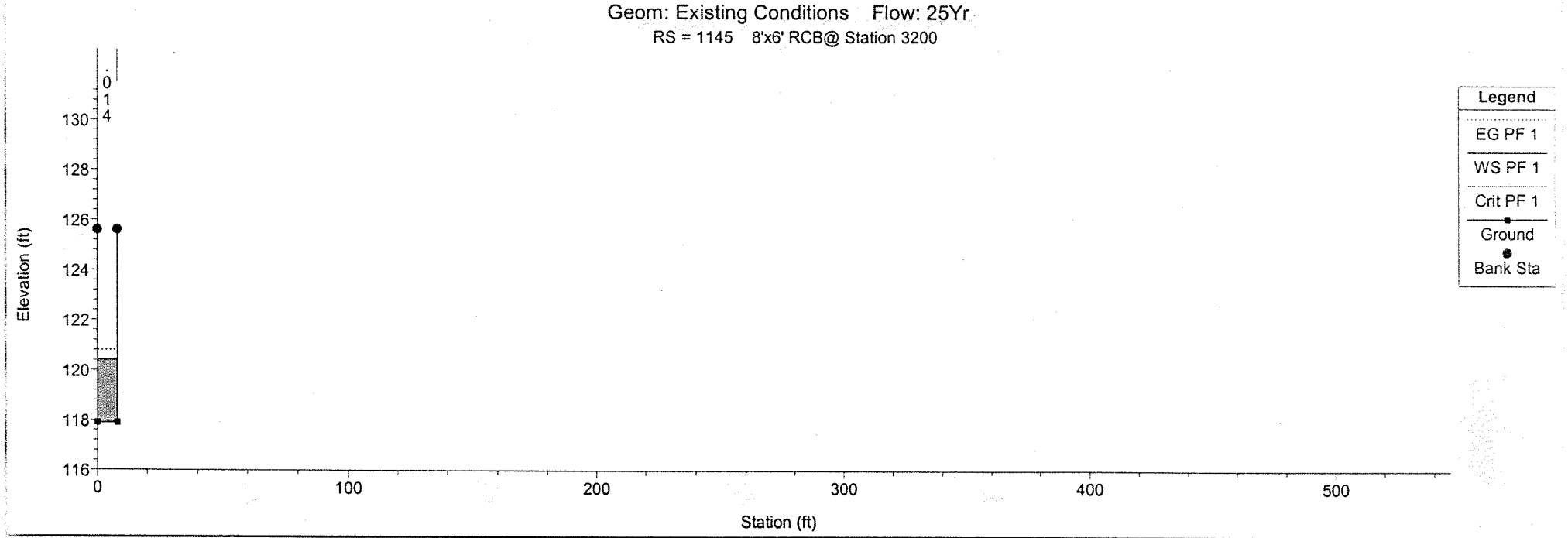




1 in Horiz. = 60 ft 1 in Vert. = 6 ft

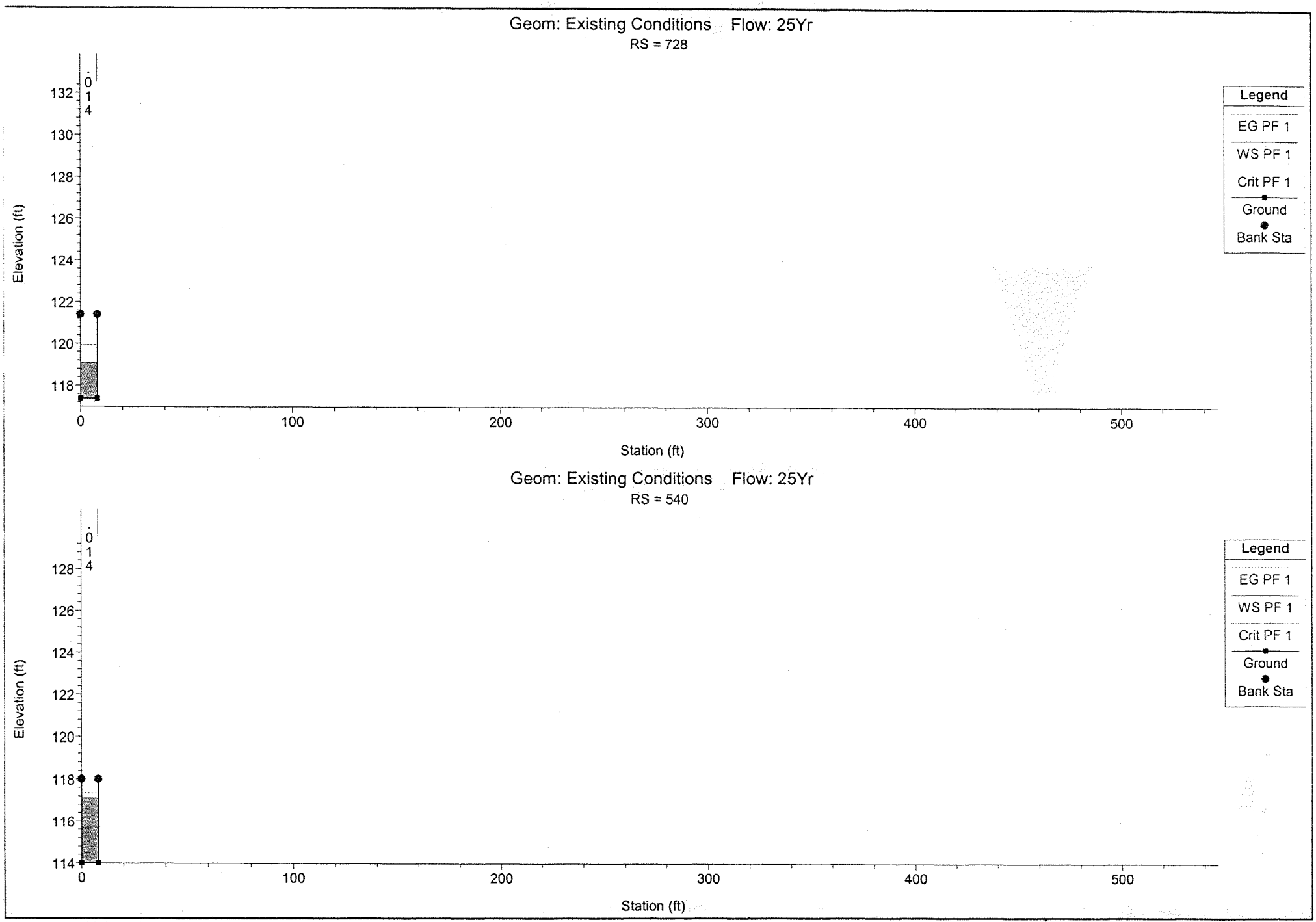



1 in Horiz. = 60 ft 1 in Vert. = 6 ft

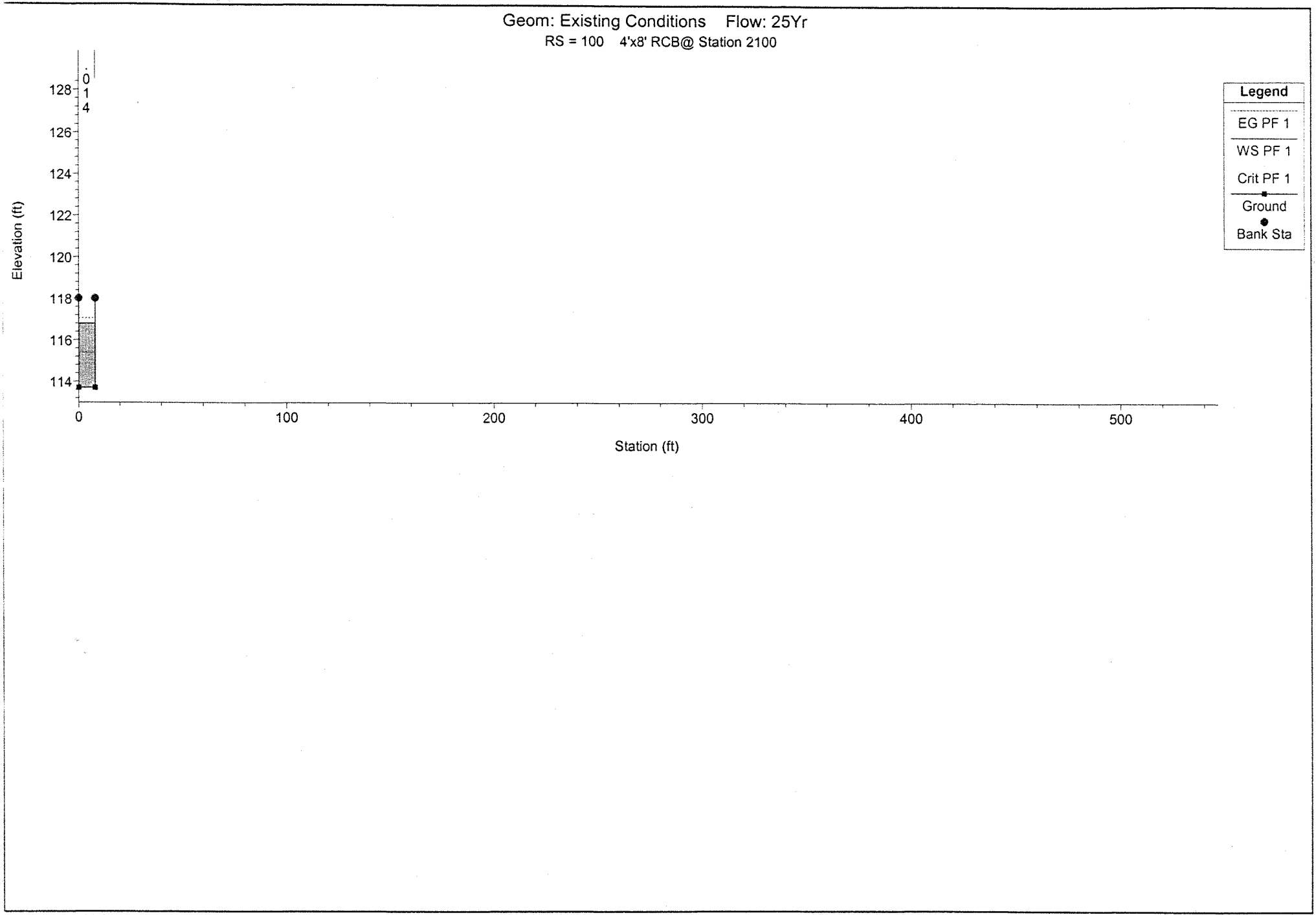



1 in Horiz. = 60 ft 1 in Vert. = 6 ft




1 in Horiz. = 60 ft 1 in Vert. = 6 ft

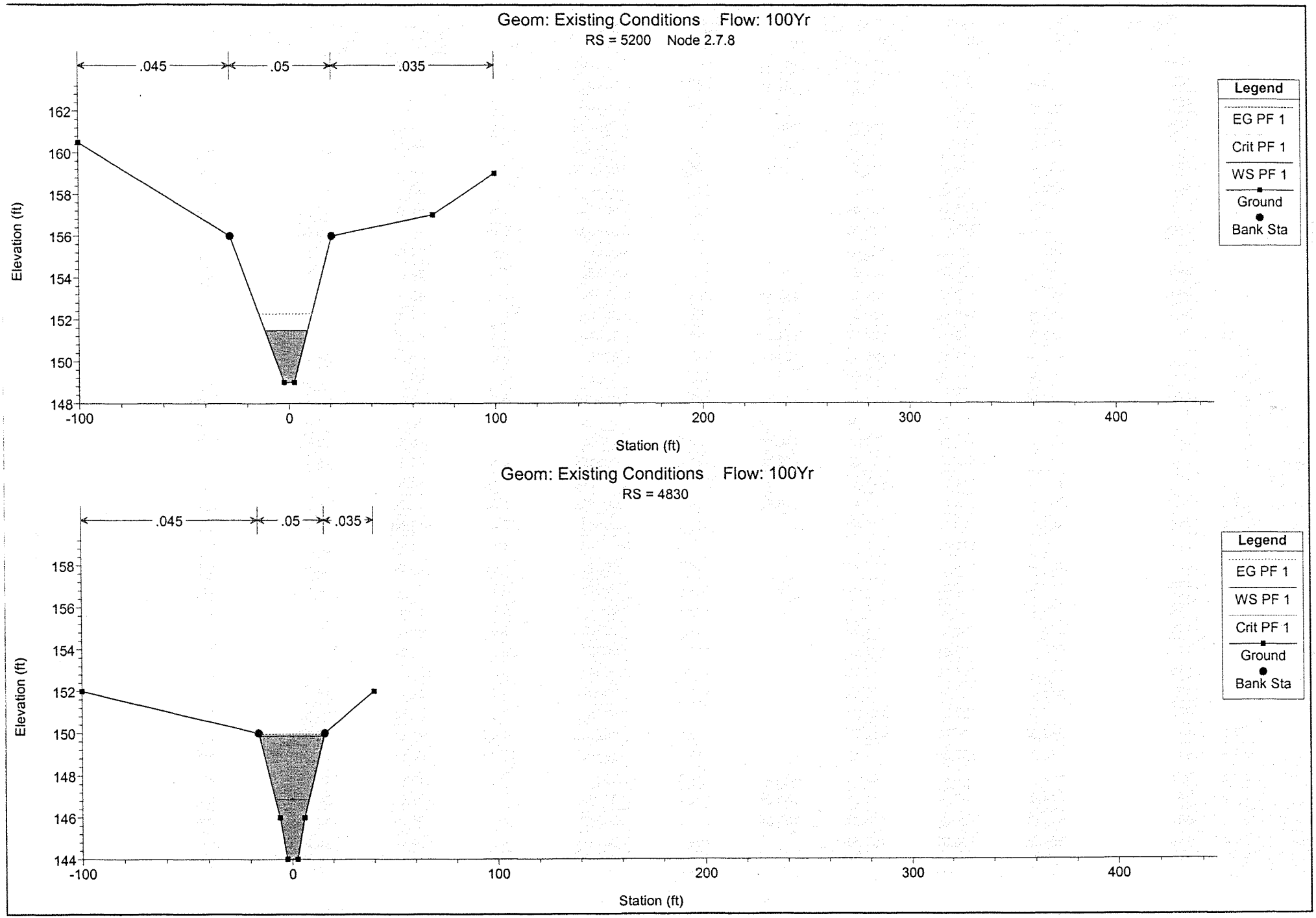



1 in Horiz. = 60 ft 1 in Vert. = 6 ft

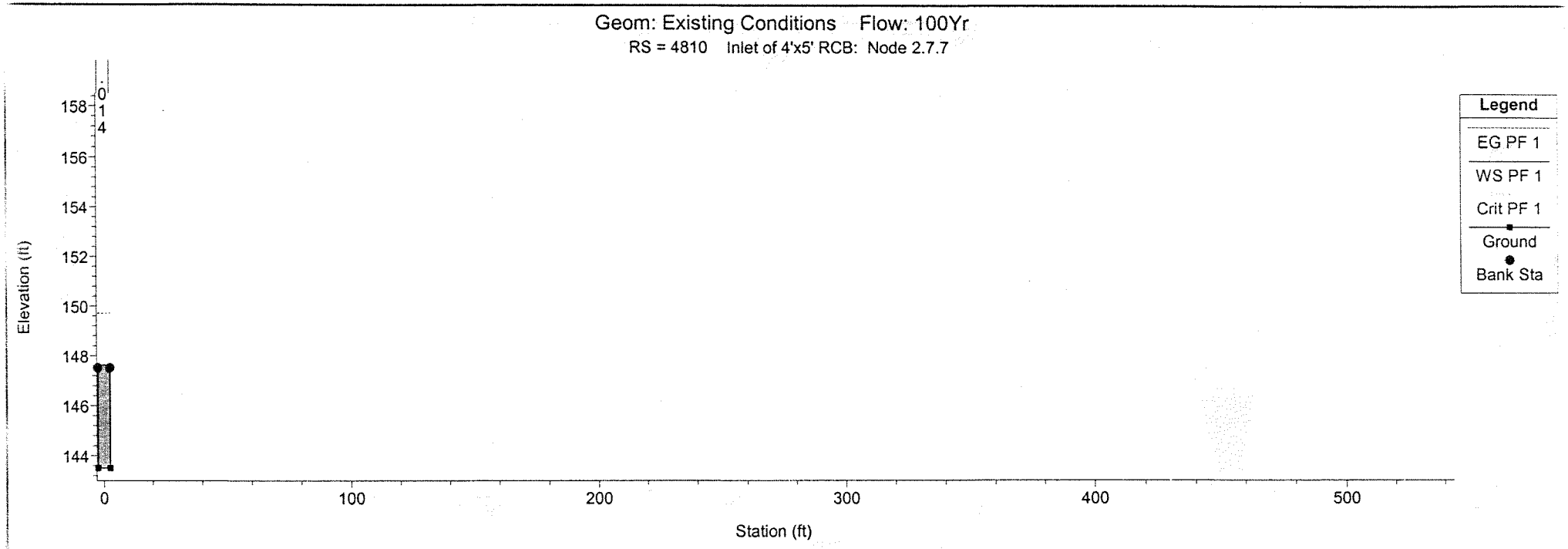
COTT... CRE... : N...RSI... #2 100'
J:/01/207705/Hydraulics/HEC-RAS/Channel 2

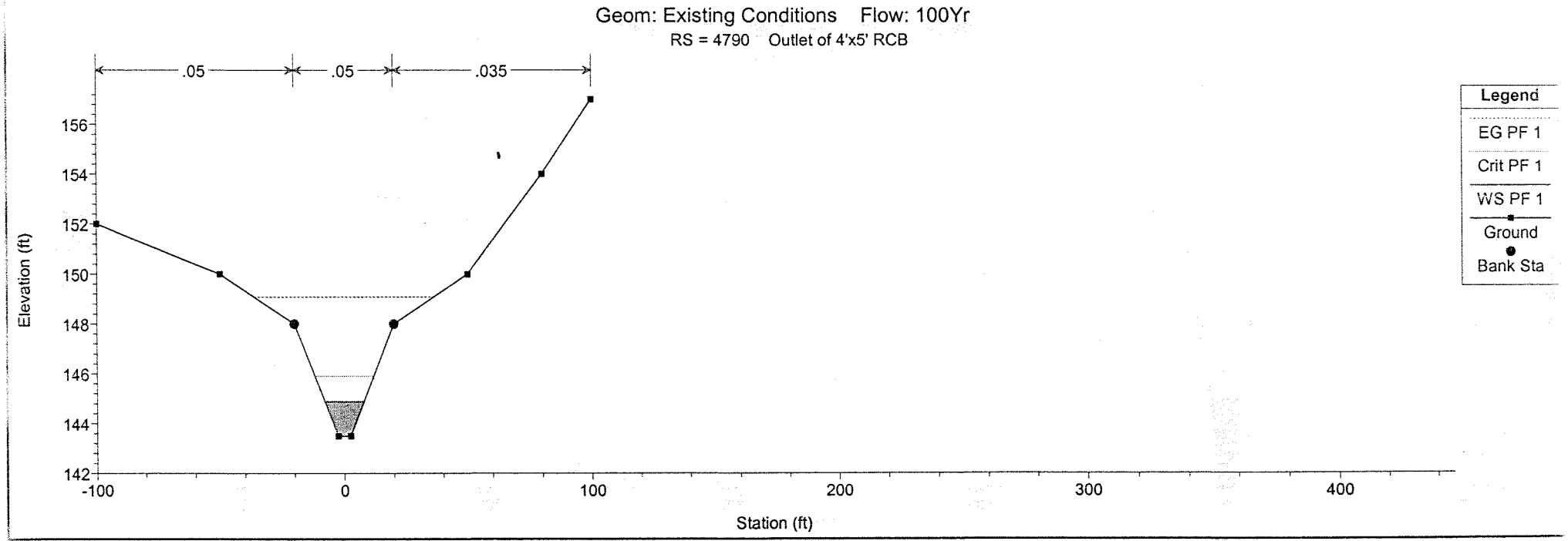
HEC-RAS Plan: 2_7EC100 River: Creek 2.7 Reach: Node 2.7.1-2.7.8 Profile: PF 1

| Reach | River Sta | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | (cfs) | (ft) | (ft) | (ft) | (ft) | (ft/ft) | (ft/s) | (sq ft) | (ft) | |
| Node 2.7.1-2.7.8 | 5200 | 228.00 | 149.00 | 151.49 | 151.49 | 152.28 | 0.033769 | 7.13 | 31.99 | 20.67 | 1.01 |
| Node 2.7.1-2.7.8 | 4830 | 228.00 | 144.00 | 149.88 | 146.89 | 149.96 | 0.001337 | 2.25 | 101.30 | 31.42 | 0.22 |
| Node 2.7.1-2.7.8 | 4810 | 239.00 | 143.50 | 147.63 | 147.63 | 149.71 | 0.006606 | 11.59 | 20.63 | 5.00 | 1.01 |
| Node 2.7.1-2.7.8 | 4790 | 239.00 | 143.50 | 144.89 | 145.91 | 149.09 | 0.353289 | 16.44 | 14.54 | 15.85 | 3.02 |
| Node 2.7.1-2.7.8 | 4700 | 239.00 | 141.00 | 144.02 | 143.27 | 144.35 | 0.010363 | 4.64 | 51.49 | 26.11 | 0.58 |
| Node 2.7.1-2.7.8 | 4300 | 239.00 | 134.00 | 137.61 | 137.20 | 138.42 | 0.022519 | 7.23 | 33.06 | 13.33 | 0.81 |
| Node 2.7.1-2.7.8 | 3800 | 239.00 | 128.30 | 133.52 | | 133.78 | 0.004777 | 4.04 | 59.10 | 17.63 | 0.39 |
| Node 2.7.1-2.7.8 | 3775 | 457.00 | 128.00 | 132.54 | | 133.63 | 0.001759 | 8.38 | 54.50 | 12.00 | 0.69 |
| Node 2.7.1-2.7.8 | 3745 | 457.00 | 127.70 | 132.95 | | 133.32 | 0.006312 | 5.29 | 128.94 | 200.00 | 0.43 |
| Node 2.7.1-2.7.8 | 3715 | 457.00 | 127.10 | 133.01 | | 133.13 | 0.002711 | 3.69 | 221.64 | 167.80 | 0.29 |
| Node 2.7.1-2.7.8 | 3450 | 457.00 | 125.52 | 130.91 | 130.12 | 131.66 | 0.014537 | 7.40 | 92.41 | 133.83 | 0.65 |
| Node 2.7.1-2.7.8 | 3315 | 457.00 | 122.40 | 126.96 | 126.96 | 128.64 | 0.036241 | 10.39 | 43.99 | 13.30 | 1.01 |
| Node 2.7.1-2.7.8 | 3300 | 468.00 | 120.60 | 124.30 | 125.34 | 128.18 | 0.009262 | 15.80 | 29.63 | 8.00 | 1.45 |
| Node 2.7.1-2.7.8 | 3270 | 468.00 | 120.40 | 123.77 | 124.93 | 127.45 | 0.105463 | 15.41 | 30.36 | 12.04 | 1.71 |
| Node 2.7.1-2.7.8 | 3230 | 468.00 | 119.50 | 125.12 | 123.04 | 125.48 | 0.004513 | 4.89 | 109.06 | 56.06 | 0.41 |
| Node 2.7.1-2.7.8 | 3170 | 327.00 | 118.00 | 124.96 | | 125.21 | 0.003502 | 4.13 | 93.38 | 55.38 | 0.32 |
| Node 2.7.1-2.7.8 | 2760 | 327.00 | 117.80 | 121.75 | 121.75 | 122.79 | 0.010969 | 8.32 | 45.05 | 31.23 | 0.83 |
| Node 2.7.1-2.7.8 | 2720 | 347.00 | 117.60 | 120.33 | 120.73 | 122.40 | 0.005305 | 11.55 | 30.05 | 11.00 | 1.23 |
| Node 2.7.1-2.7.8 | 2700 | 347.00 | 117.50 | 119.77 | 120.46 | 122.14 | 0.040984 | 12.35 | 28.09 | 13.73 | 1.52 |
| Node 2.7.1-2.7.8 | 2660 | 347.00 | 117.00 | 121.35 | 119.90 | 121.69 | 0.003200 | 4.67 | 74.24 | 25.15 | 0.48 |
| Node 2.7.1-2.7.8 | 2220 | 481.00 | 114.00 | 117.38 | 117.38 | 118.62 | 0.014906 | 8.96 | 53.69 | 21.81 | 1.01 |
| Node 2.7.1-2.7.8 | 2200 | 481.00 | 113.70 | 117.43 | 116.73 | 118.44 | 0.001659 | 8.06 | 59.70 | 16.00 | 0.74 |
| Node 2.7.1-2.7.8 | 2165 | 481.00 | 113.70 | 117.40 | | 118.29 | 0.008457 | 7.54 | 63.83 | 18.47 | 0.71 |
| Node 2.7.1-2.7.8 | 2100 | 481.00 | 111.63 | 117.60 | | 117.88 | 0.001757 | 4.19 | 114.74 | 28.00 | 0.36 |
| Node 2.7.1-2.7.8 | 1700 | 481.00 | 112.00 | 116.41 | 115.10 | 116.86 | 0.003935 | 5.66 | 116.41 | 128.63 | 0.50 |
| Node 2.7.1-2.7.8 | 1300 | 481.00 | 110.00 | 114.09 | 113.10 | 114.82 | 0.006581 | 6.91 | 77.30 | 114.14 | 0.64 |
| Node 2.7.1-2.7.8 | 1281 | 578.00 | 108.60 | 114.10 | | 114.77 | 0.000795 | 6.57 | 87.92 | 16.00 | 0.49 |
| Node 2.7.1-2.7.8 | 1165 | 578.00 | 108.00 | 113.99 | | 114.57 | 0.003623 | 6.07 | 95.19 | 17.84 | 0.46 |
| Node 2.7.1-2.7.8 | 1119 | 578.00 | 107.44 | 113.82 | | 114.40 | 0.003539 | 6.09 | 94.84 | 17.53 | 0.46 |
| Node 2.7.1-2.7.8 | 1100 | 578.00 | 107.10 | 113.90 | | 114.33 | 0.000442 | 5.32 | 108.73 | 16.00 | 0.36 |
| Node 2.7.1-2.7.8 | 1070 | 578.00 | 107.08 | 113.16 | | 114.24 | 0.008073 | 8.32 | 69.45 | 15.96 | 0.70 |
| Node 2.7.1-2.7.8 | 970 | 578.00 | 107.03 | 112.51 | | 113.49 | 0.007611 | 7.93 | 72.86 | 18.59 | 0.71 |
| Node 2.7.1-2.7.8 | 927 | 578.00 | 107.00 | 112.77 | | 113.14 | 0.002270 | 4.85 | 121.81 | 28.00 | 0.38 |
| Node 2.7.1-2.7.8 | 912 | 574.00 | 107.60 | 111.16 | 111.16 | 112.95 | 0.003177 | 10.76 | 53.34 | 15.00 | 1.01 |
| Node 2.7.1-2.7.8 | 867 | 574.00 | 107.40 | 110.19 | 110.80 | 112.57 | 0.030318 | 12.37 | 46.42 | 18.22 | 1.37 |
| Node 2.7.1-2.7.8 | 850 | 574.00 | 107.00 | 111.27 | 109.67 | 111.71 | 0.003238 | 5.32 | 107.94 | 28.54 | 0.48 |
| Node 2.7.1-2.7.8 | 600 | 574.00 | 106.00 | 110.58 | 109.04 | 110.93 | 0.002785 | 5.14 | 166.80 | 151.63 | 0.44 |
| Node 2.7.1-2.7.8 | 100 | 588.00 | 104.00 | 108.83 | | 109.24 | 0.004142 | 5.15 | 114.07 | 38.92 | 0.53 |
| Node 2.7.1-2.7.8 | 0.0 | 588.00 | 102.00 | 108.92 | 105.73 | 109.02 | 0.000599 | 2.69 | 272.76 | 130.82 | 0.23 |

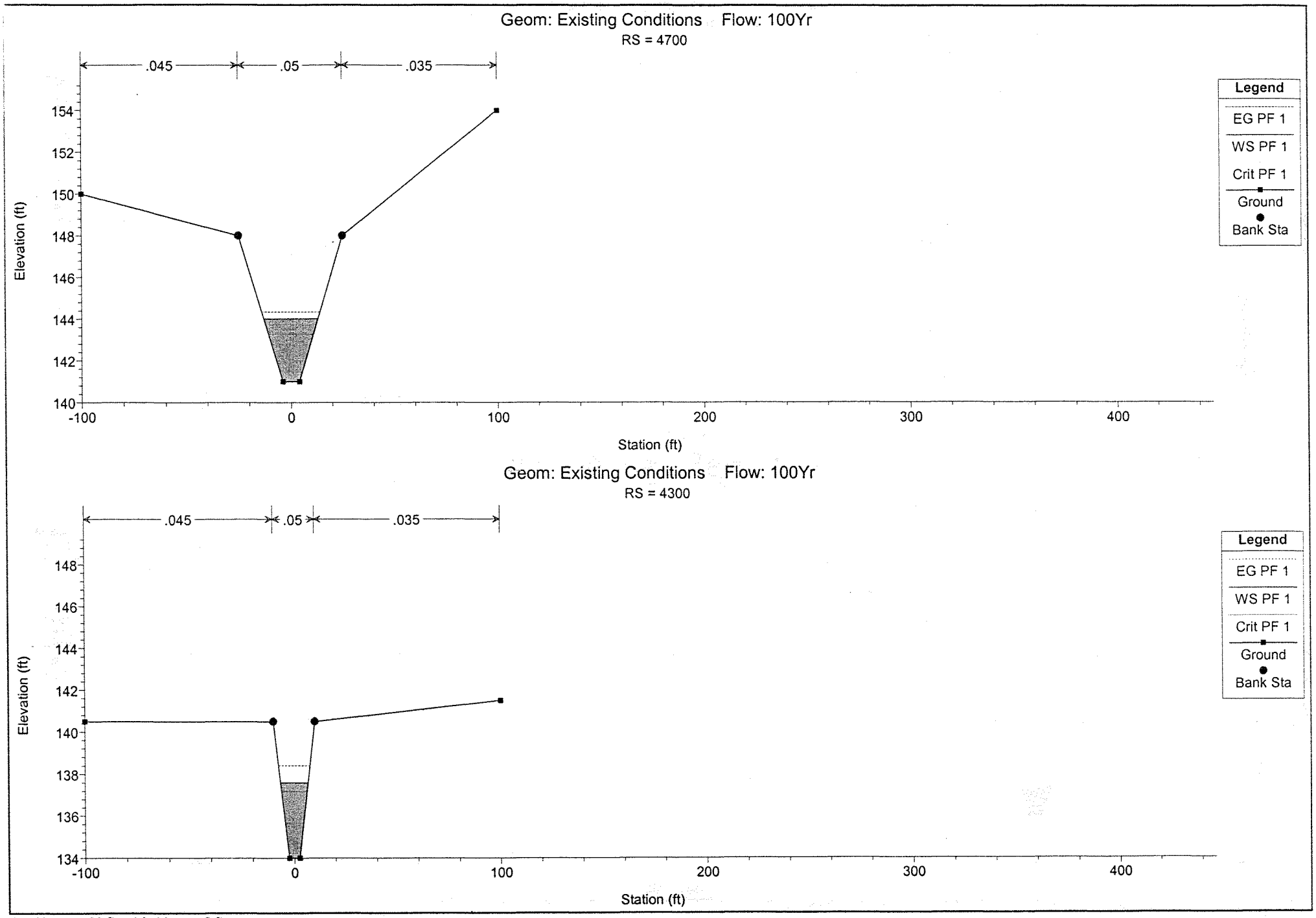



1 in Horiz. = 60 ft 1 in Vert. = 6 ft

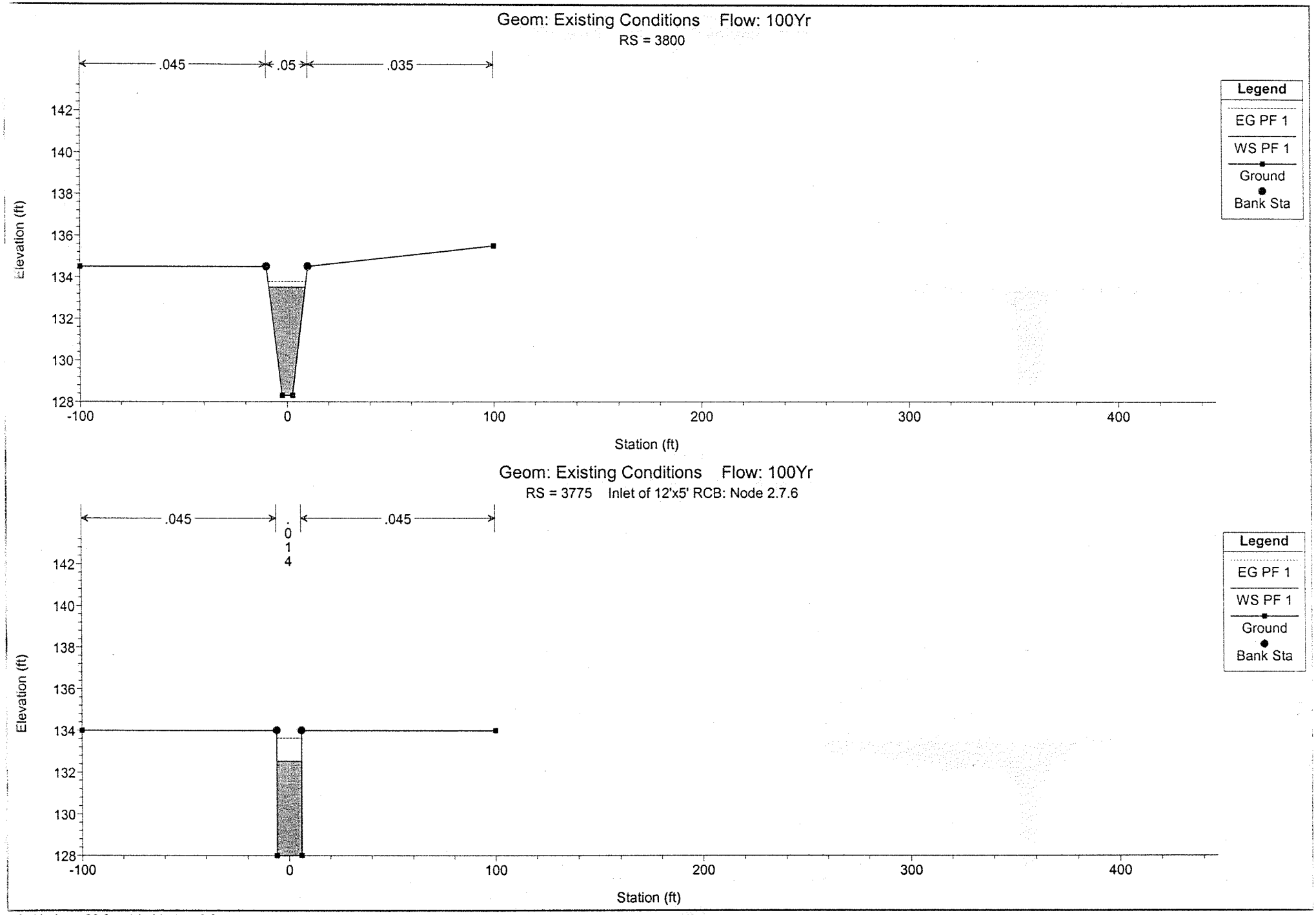


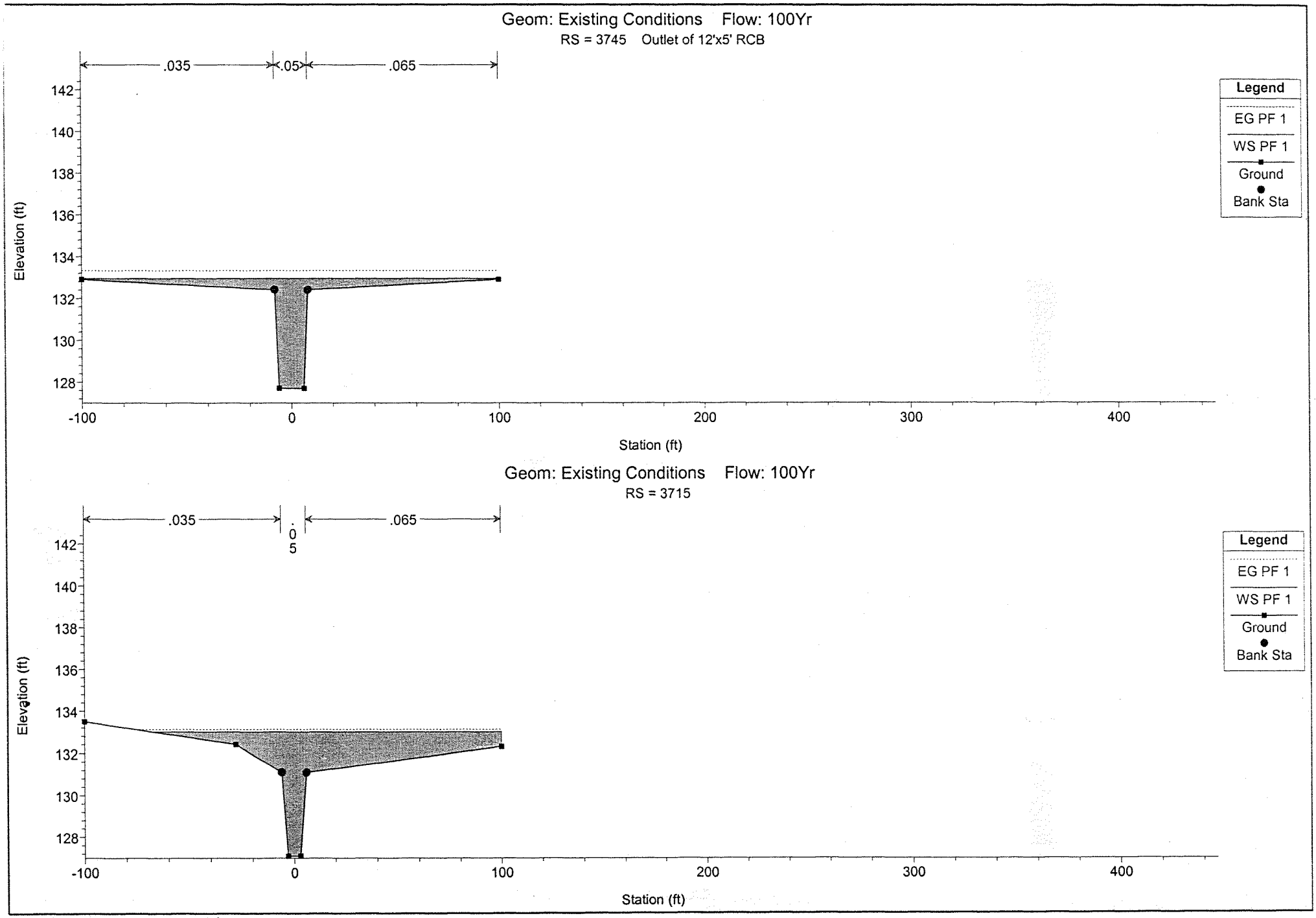

1 in Horiz. = 60 ft 1 in Vert. = 6 ft



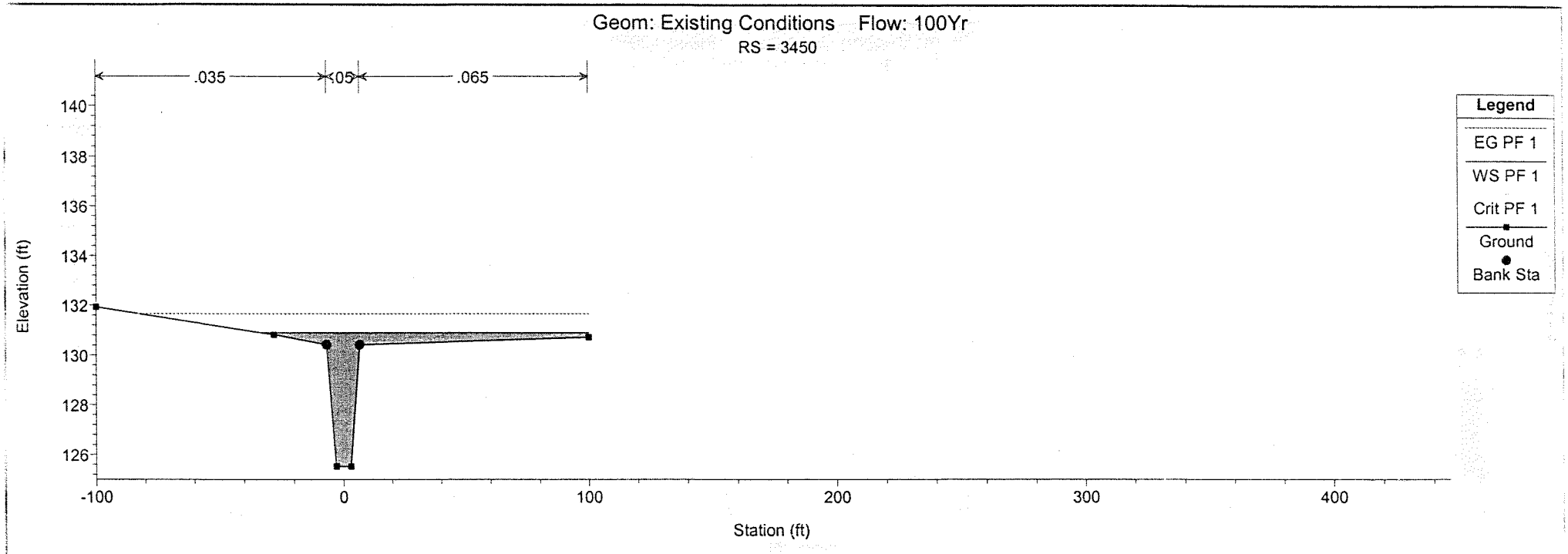

1 in Horiz. = 60 ft 1 in Vert. = 6 ft

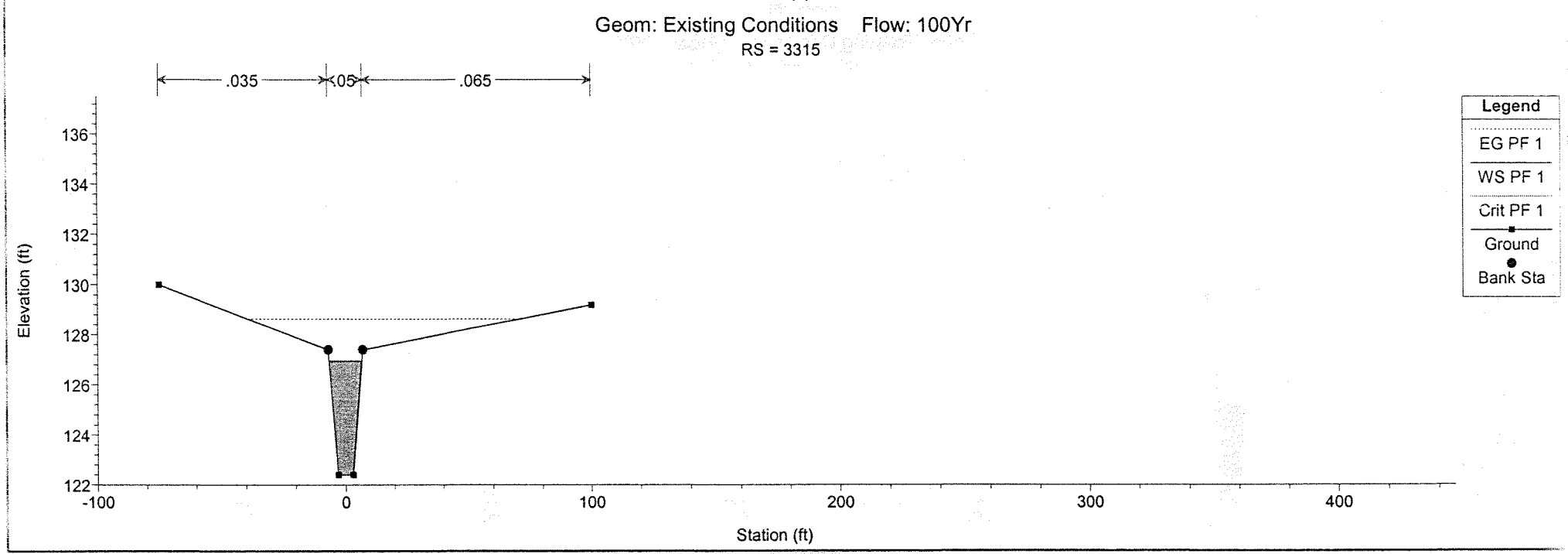



1 in Horiz. = 60 ft 1 in Vert. = 6 ft

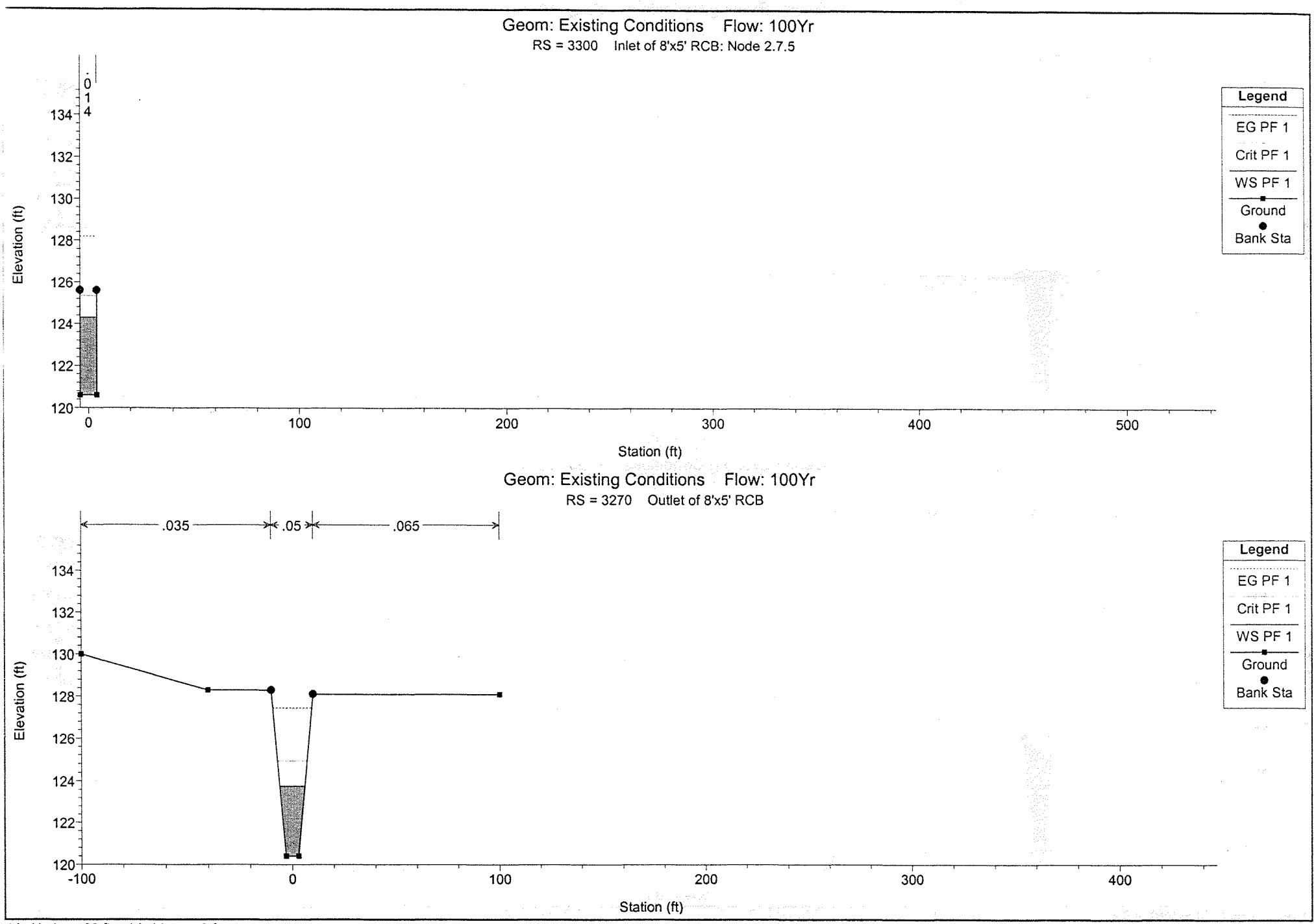



1 in Horiz. = 60 ft 1 in Vert. = 6 ft



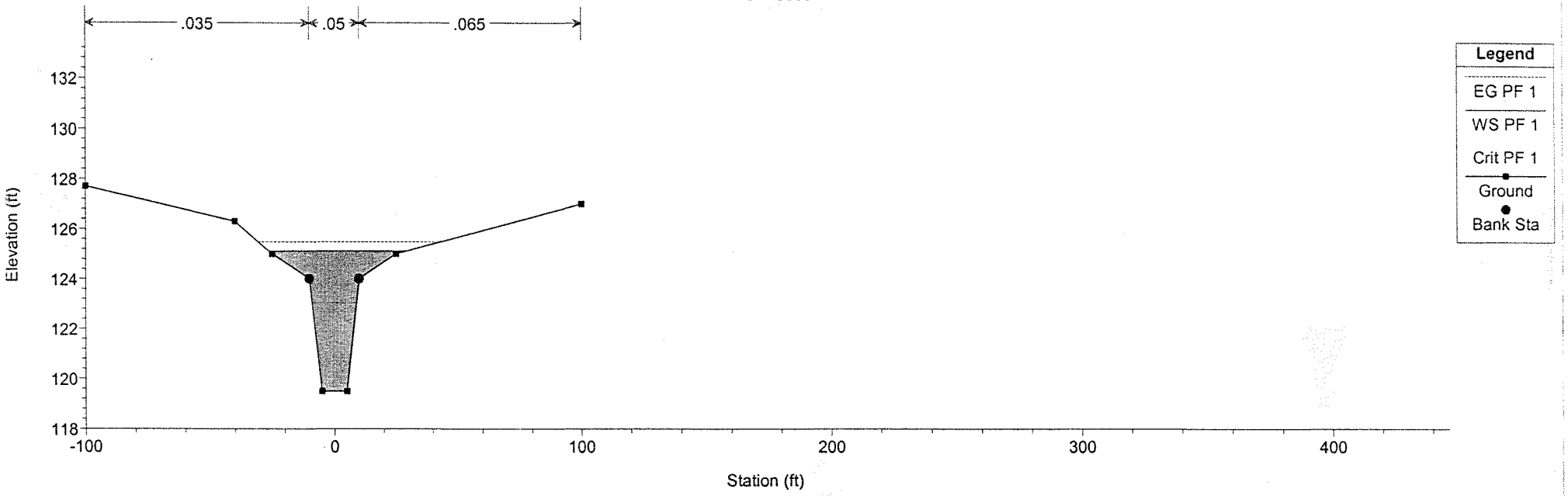

1 in Horiz. = 60 ft 1 in Vert. = 6 ft




1 in Horiz. = 60 ft 1 in Vert. = 6 ft

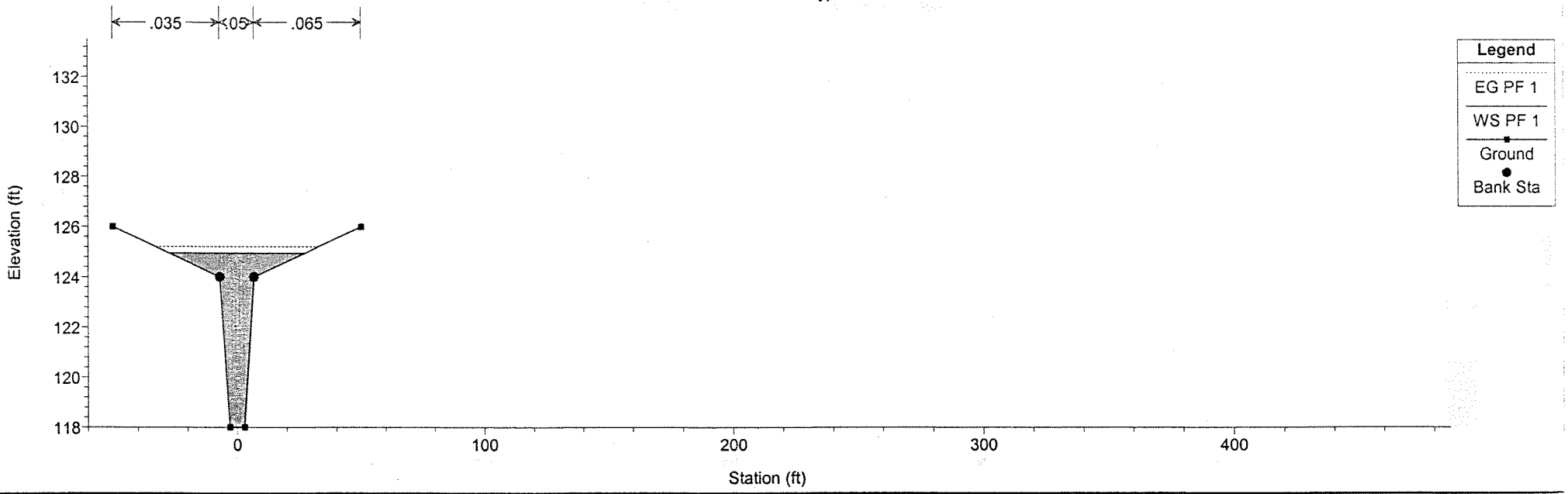
Geom: Existing Conditions  Flow: 100Yr

RS = 3230

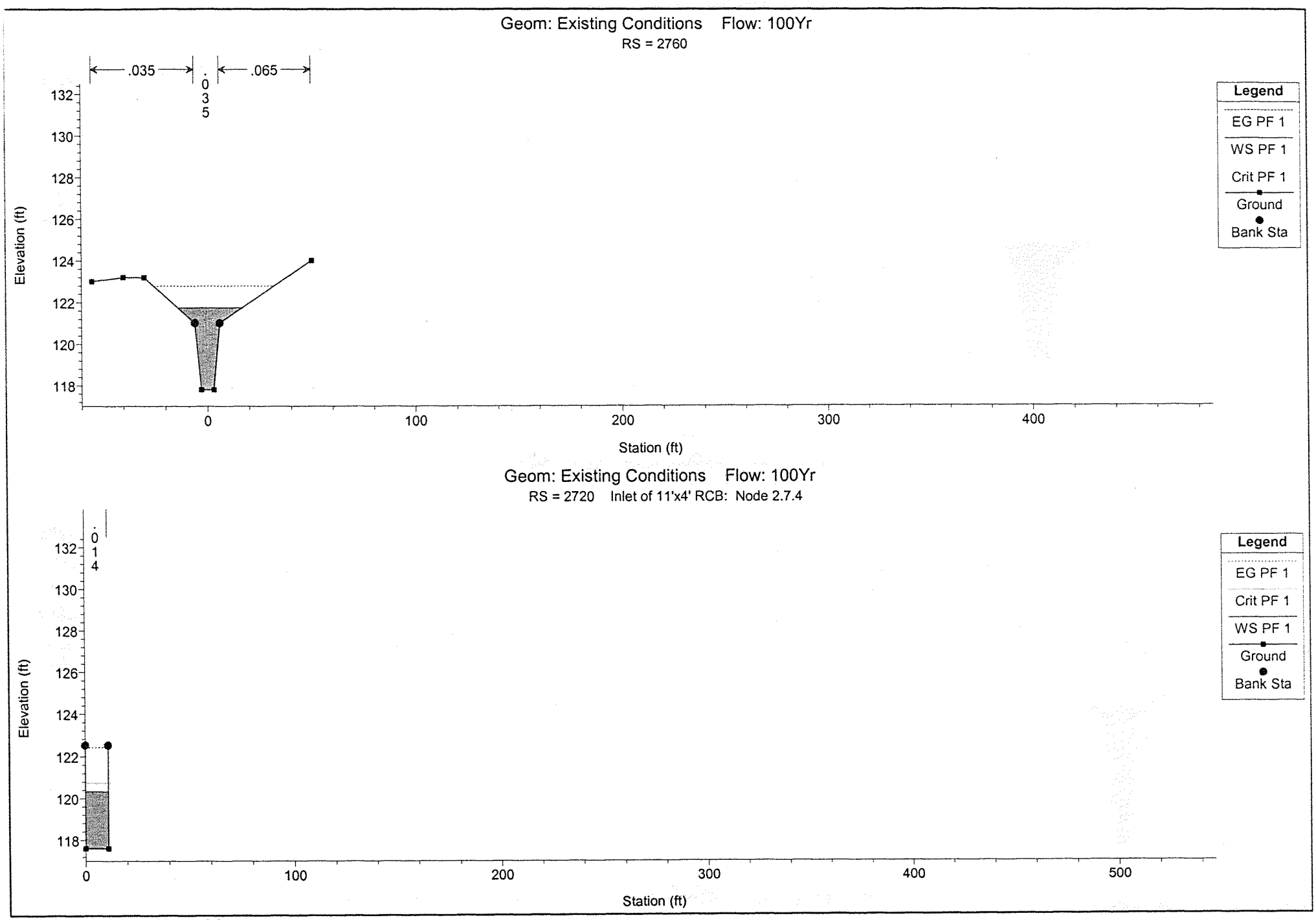



Geom: Existing Conditions  Flow: 100Yr

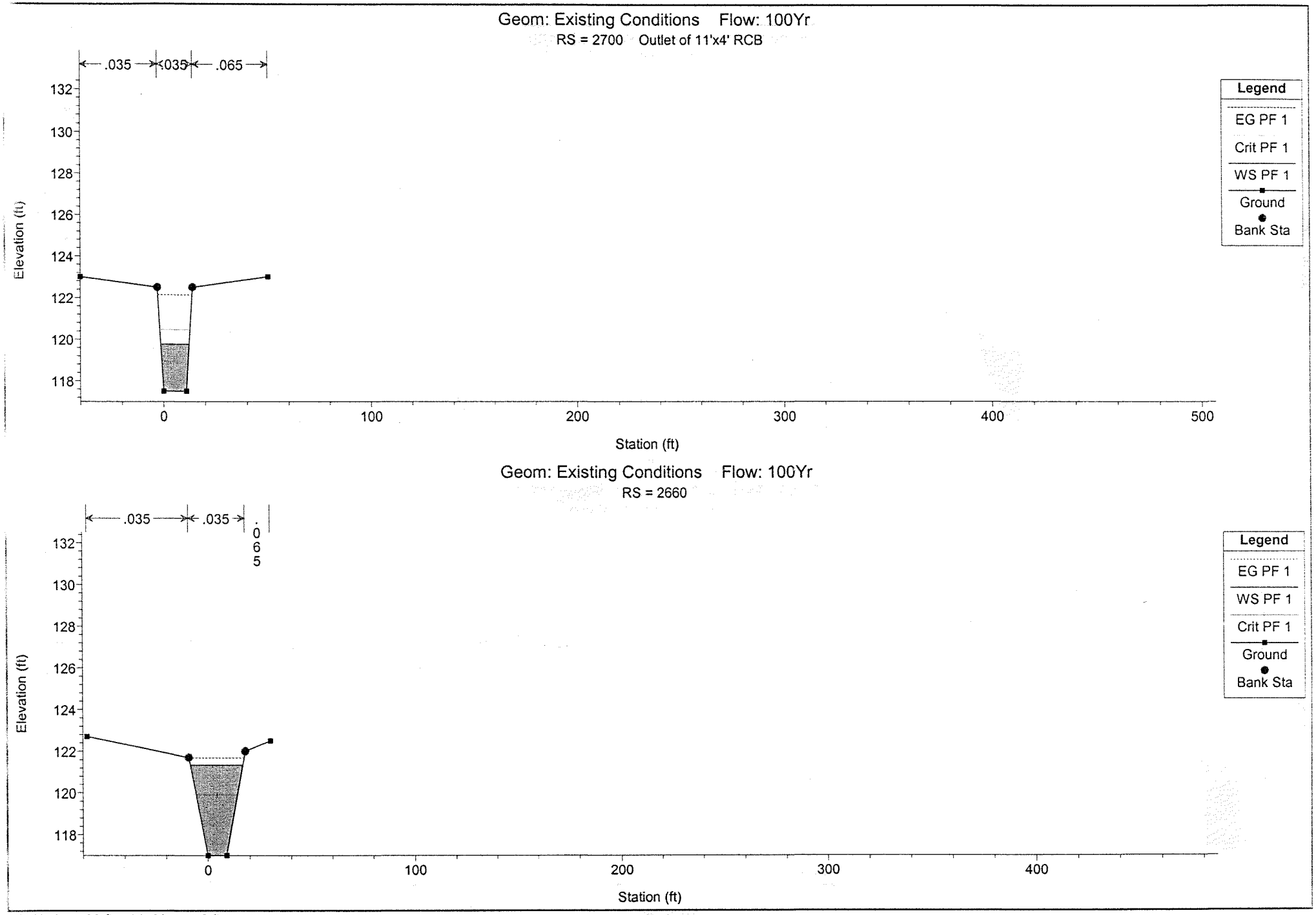
RS = 3170  4'x8' RCB Bypass Diversion




1 in Horiz. = 60 ft  1 in Vert. = 6 ft



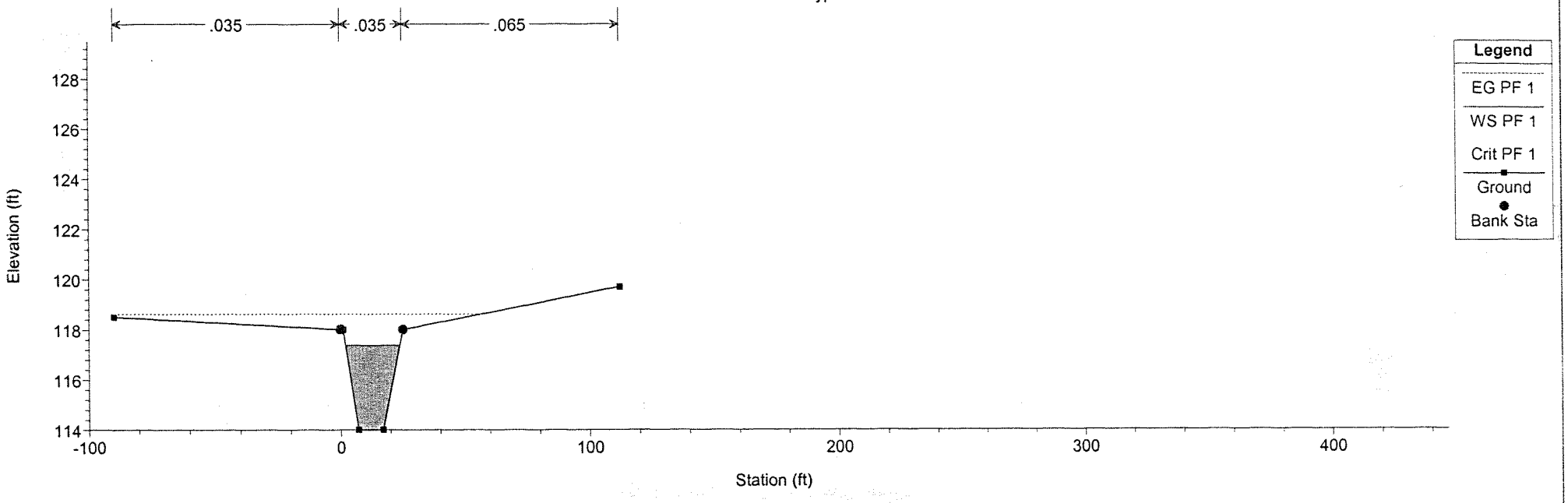

1 in Horiz. = 60 ft 1 in Vert. = 6 ft




1 in Horiz. = 60 ft 1 in Vert. = 6 ft

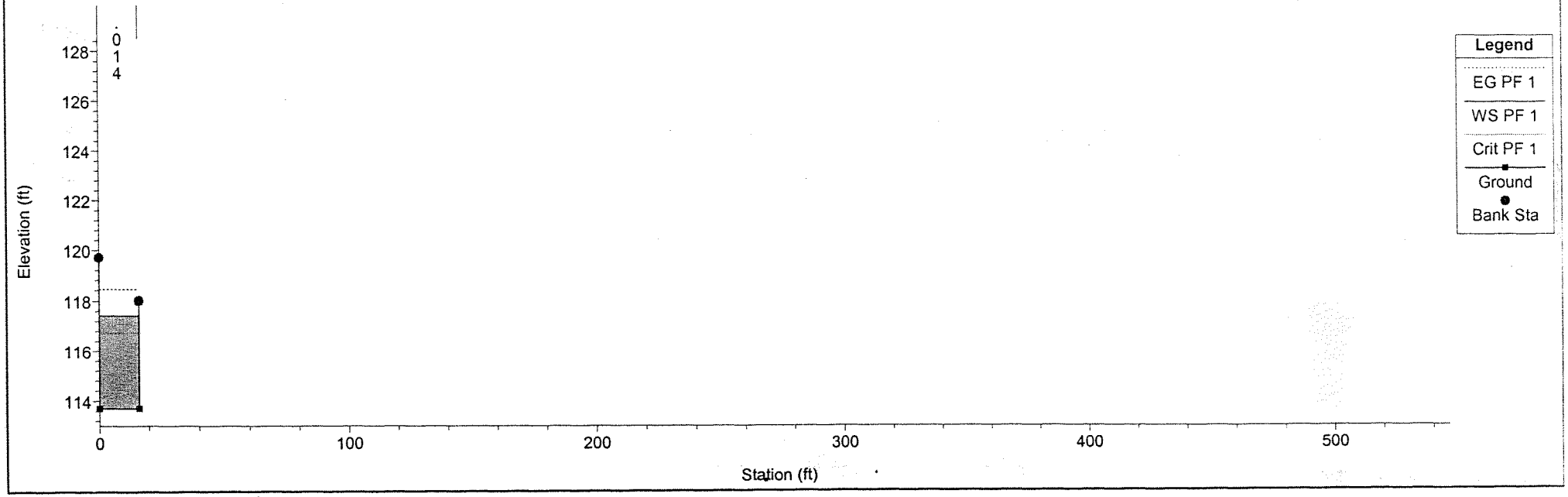
Geom: Existing Conditions Flow: 100Yr

RS = 2220 4'x8' RCB Bypass Connection

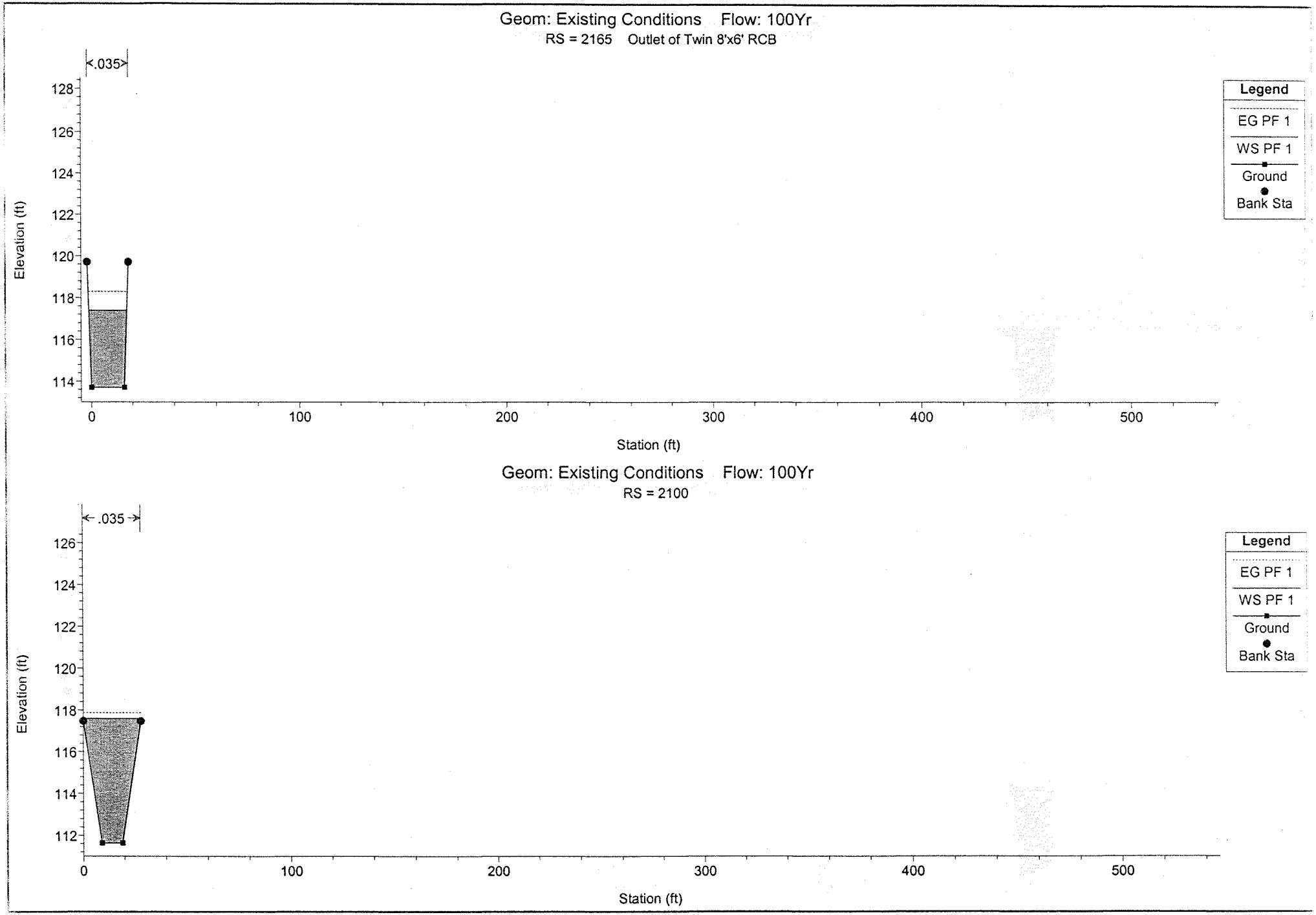



Geom: Existing Conditions Flow: 100Yr

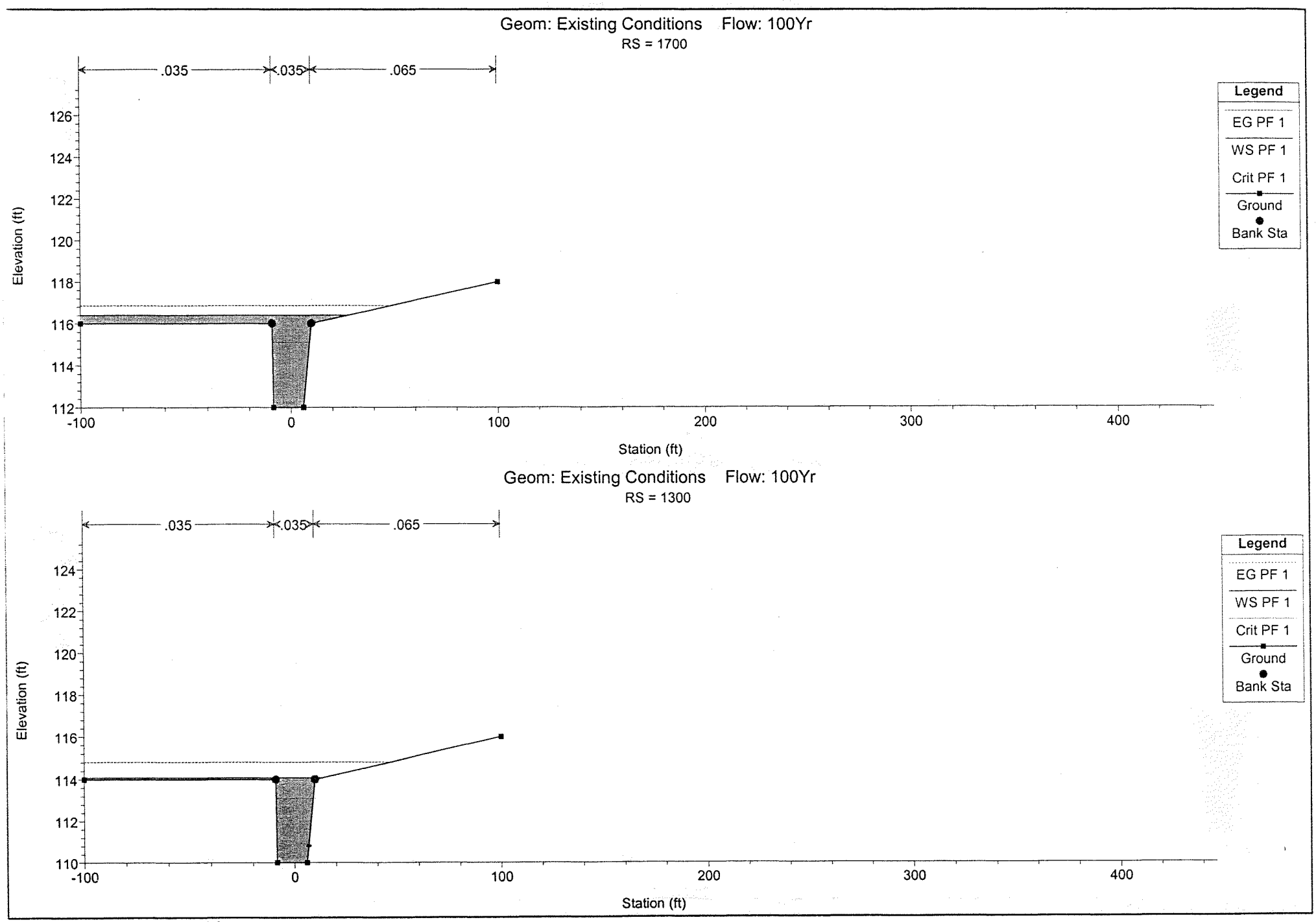
RS = 2200 Inlet of Twin 8'x6' RCB



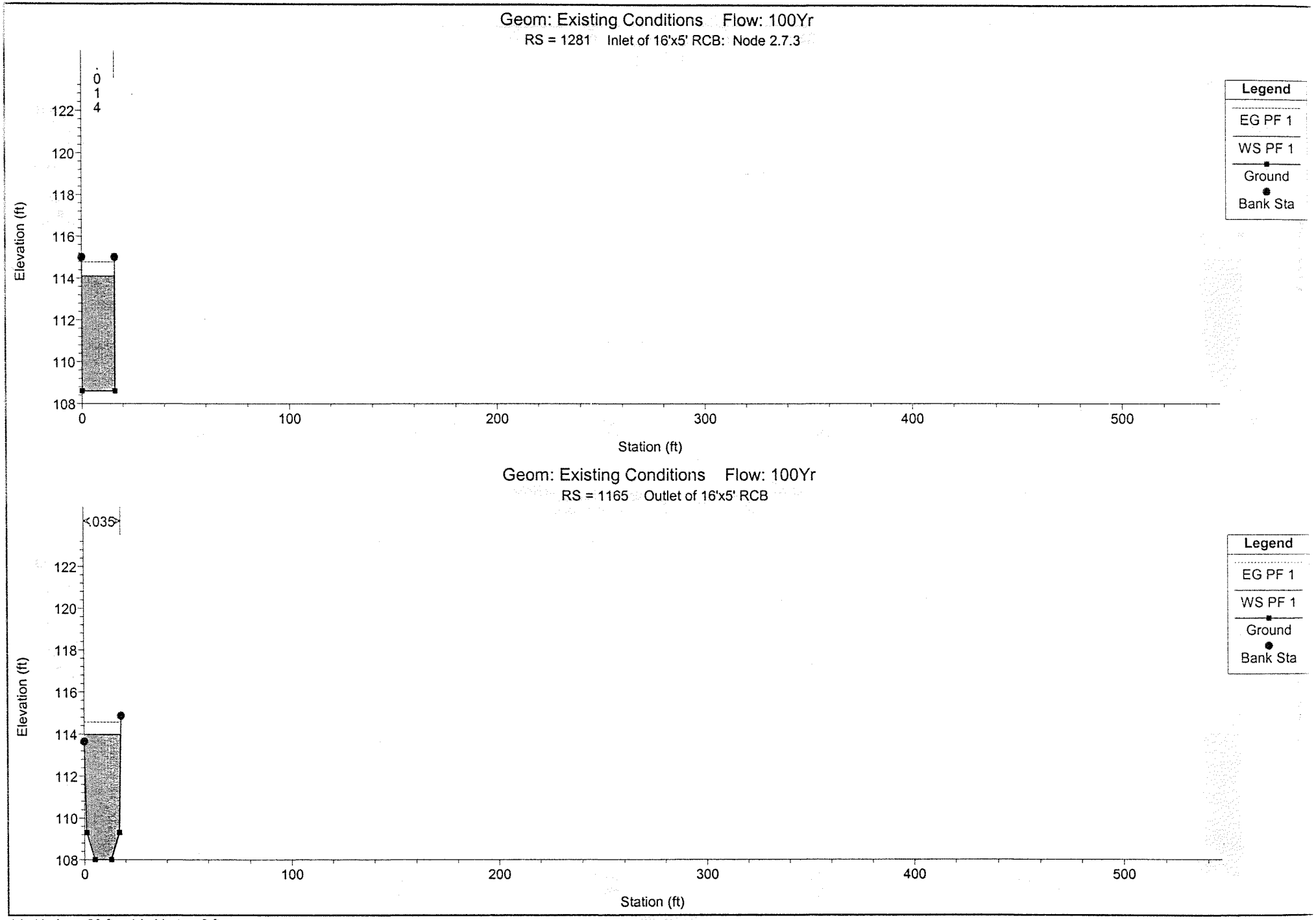

1 in Horiz. = 60 ft 1 in Vert. = 6 ft



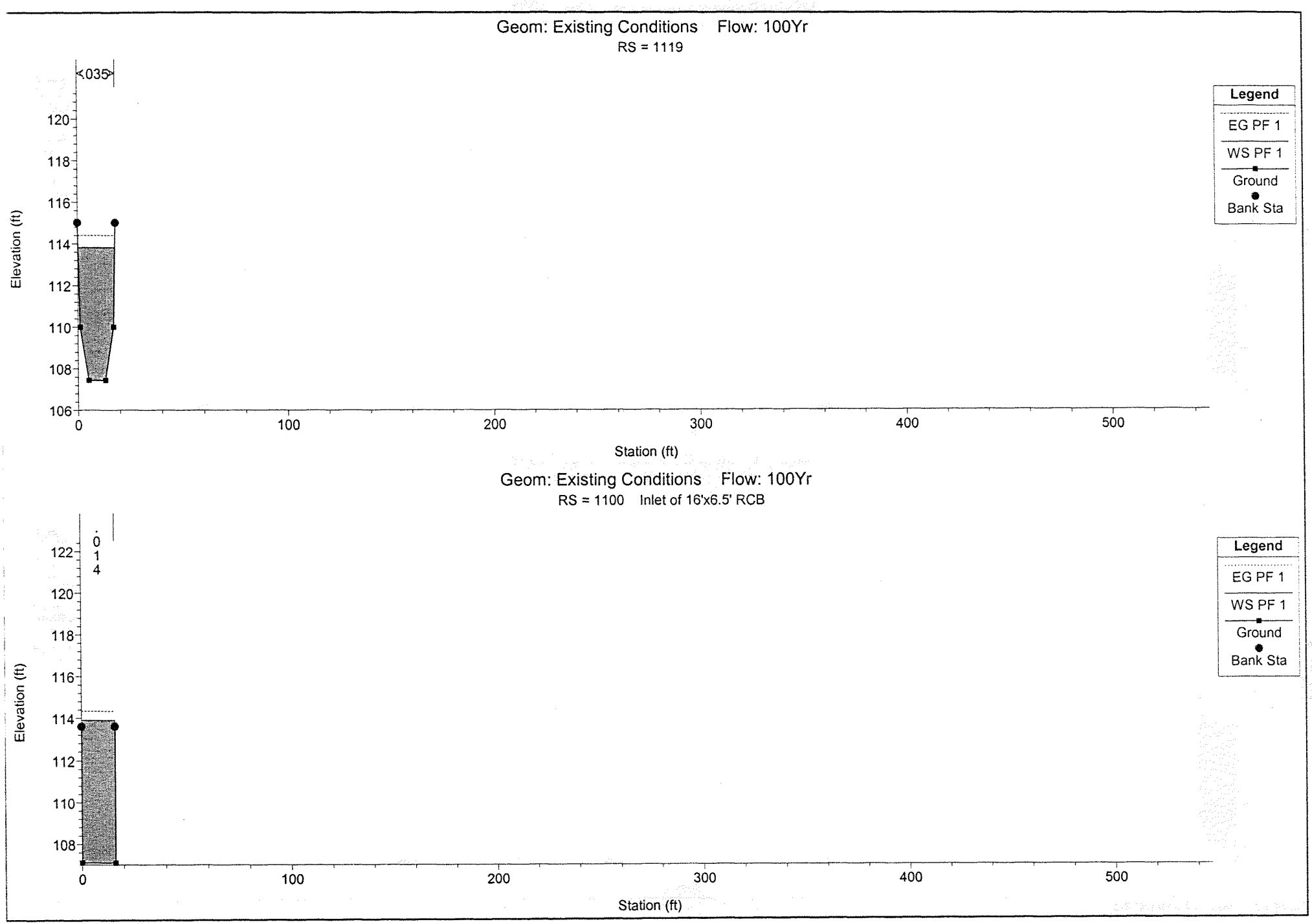

1 in Horiz. = 60 ft 1 in Vert. = 6 ft



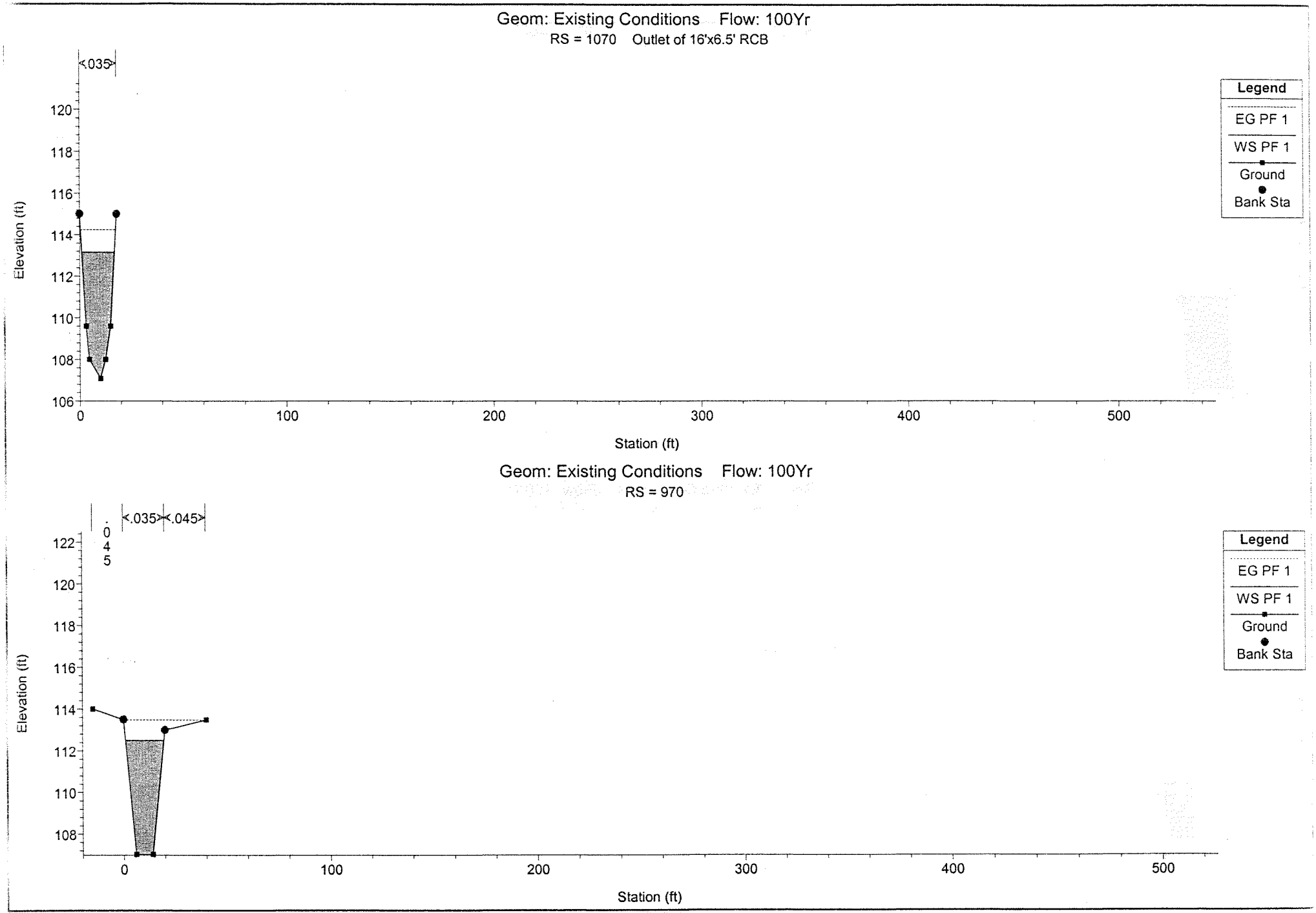

1 in Horiz. = 60 ft 1 in Vert. = 6 ft



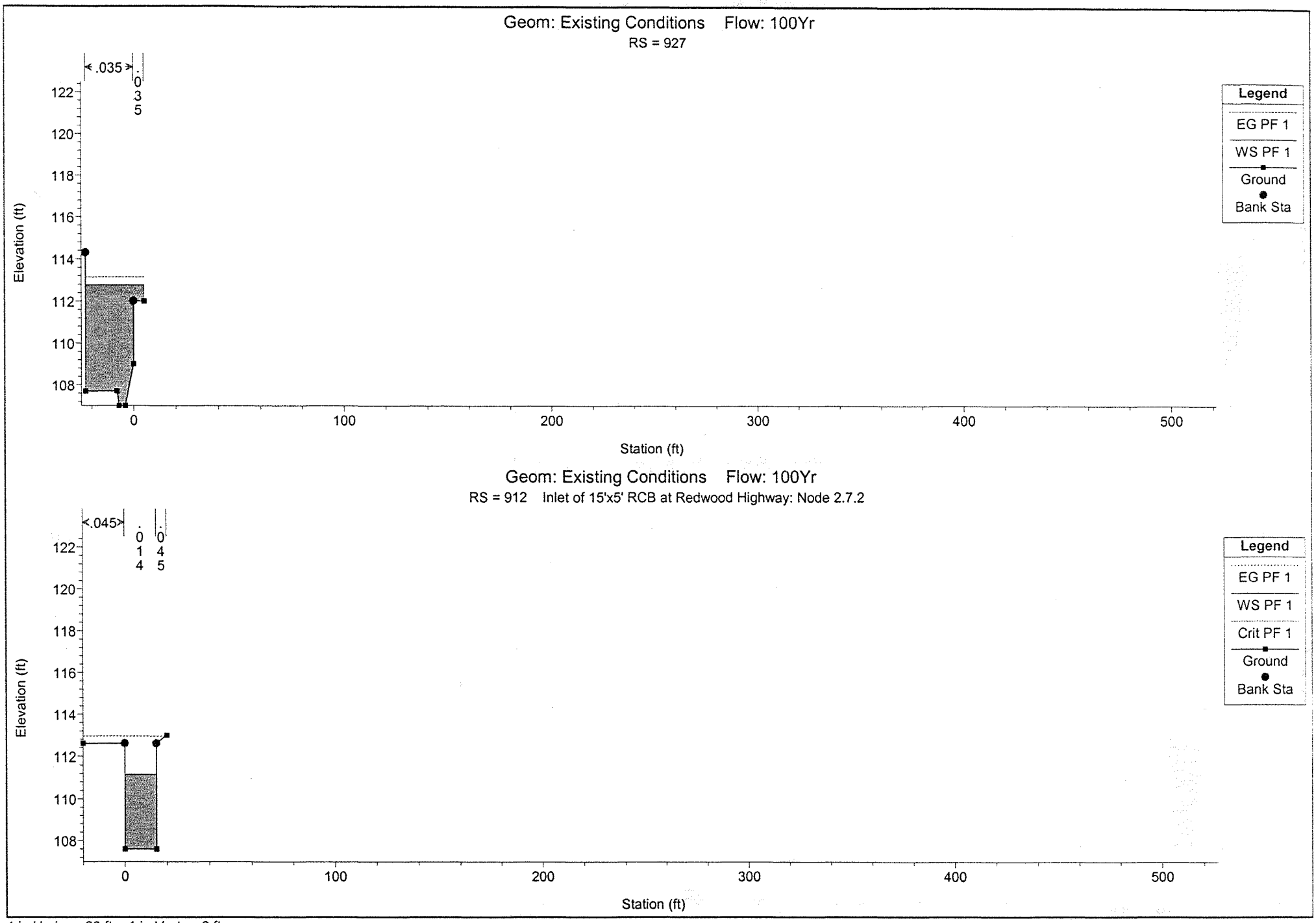

1 in Horiz. = 60 ft 1 in Vert. = 6 ft



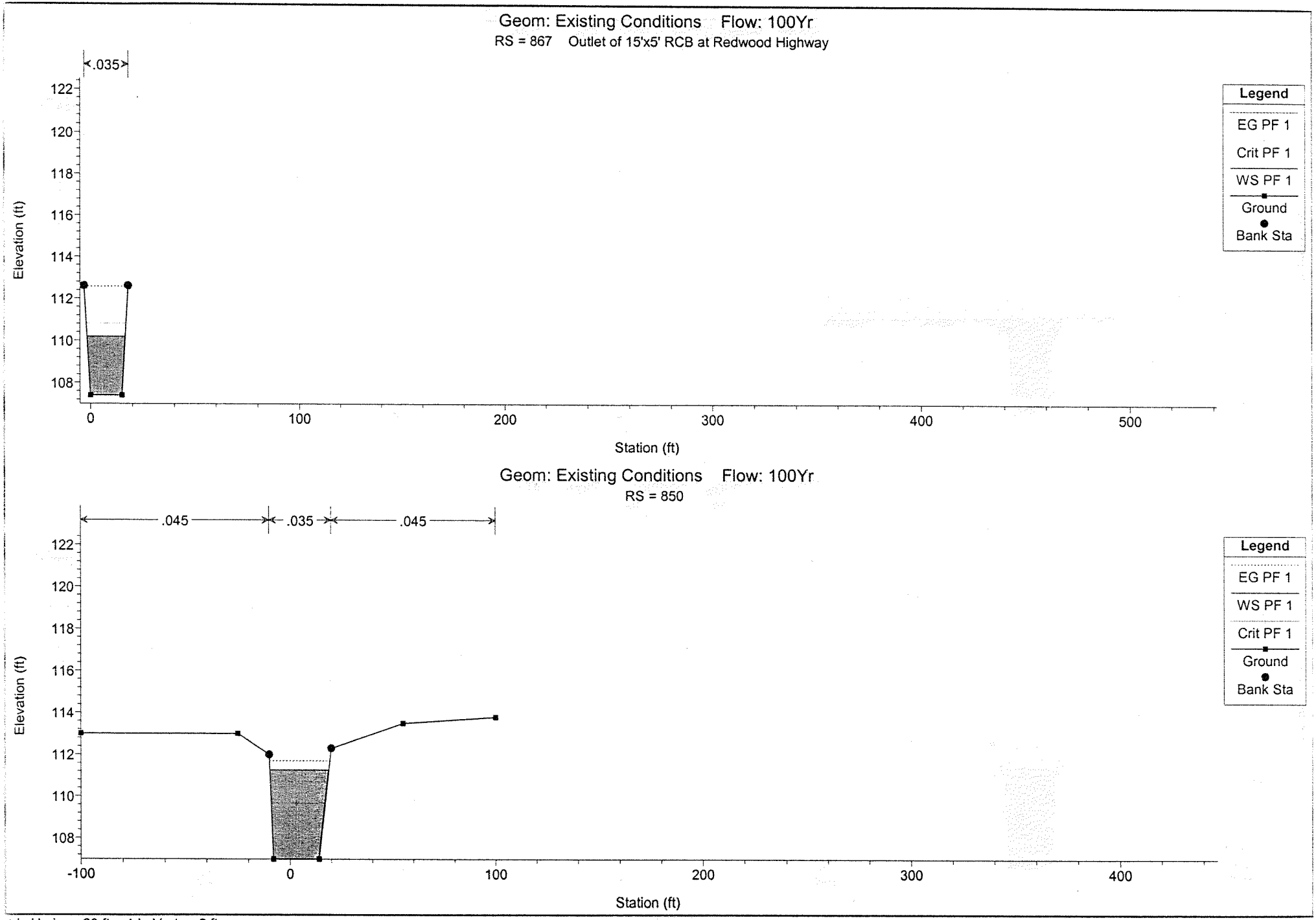

1 in Horiz. = 60 ft 1 in Vert. = 6 ft

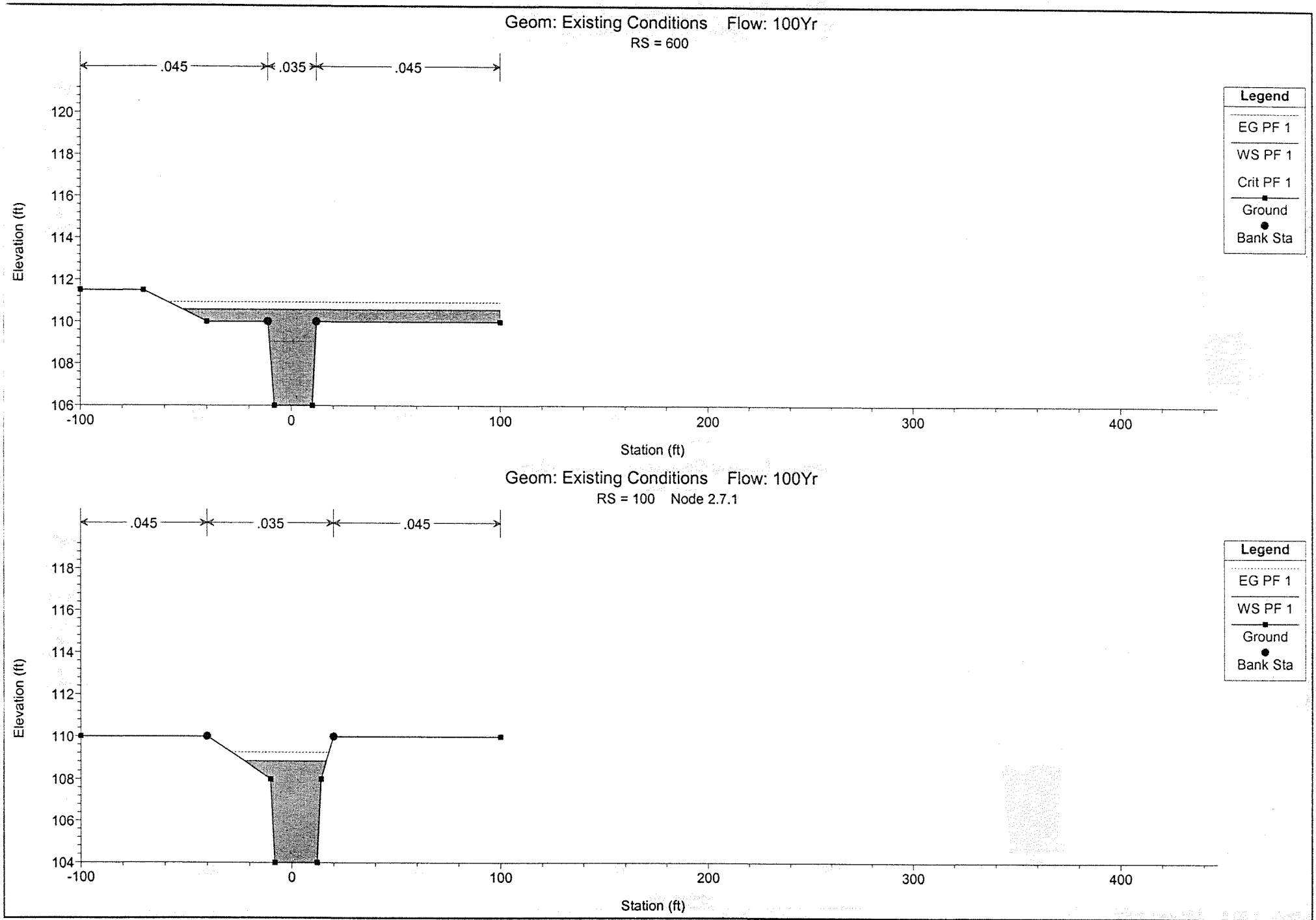



1 in Horiz. = 60 ft 1 in Vert. = 6 ft

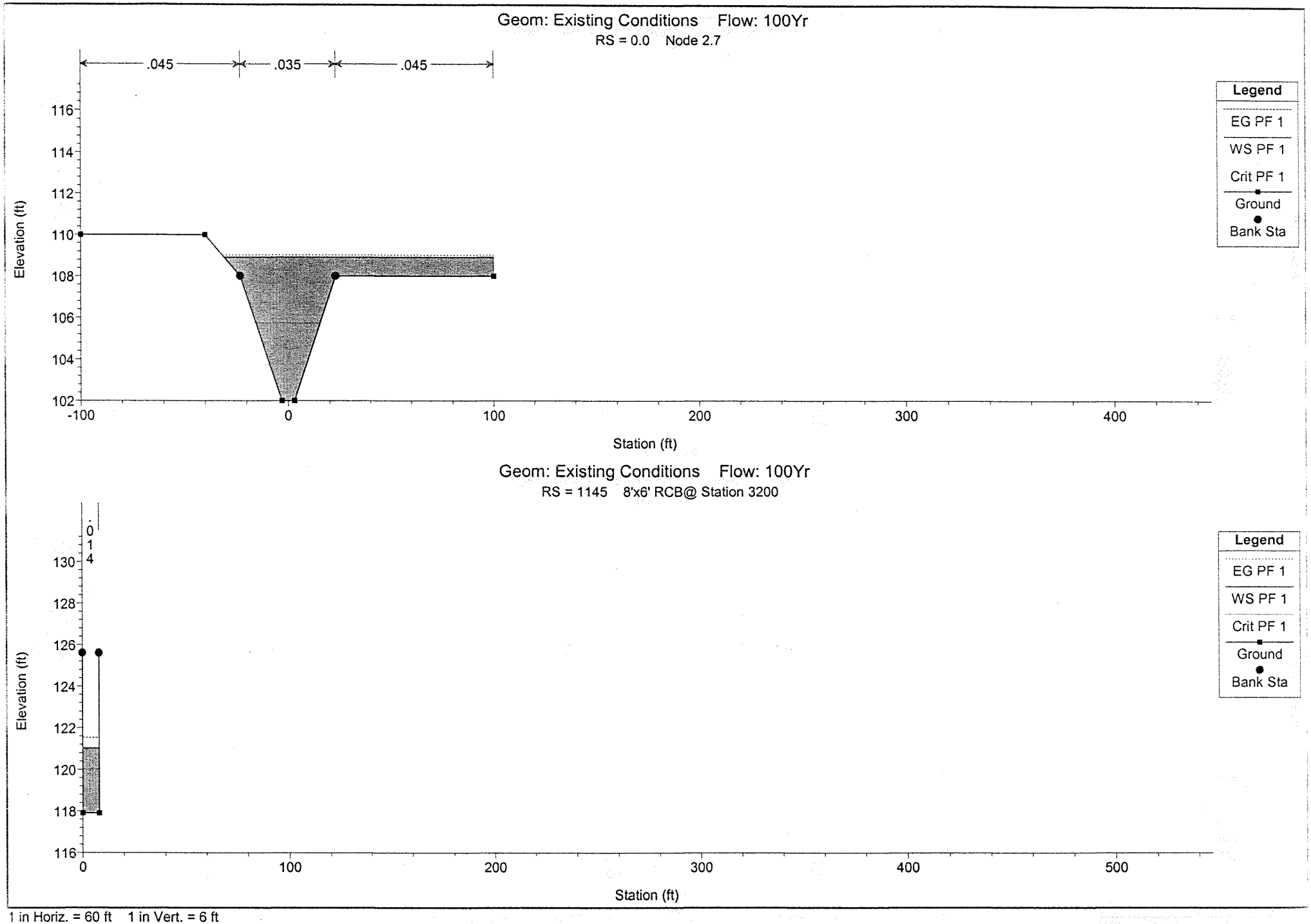



1 in Horiz. = 60 ft 1 in Vert. = 6 ft

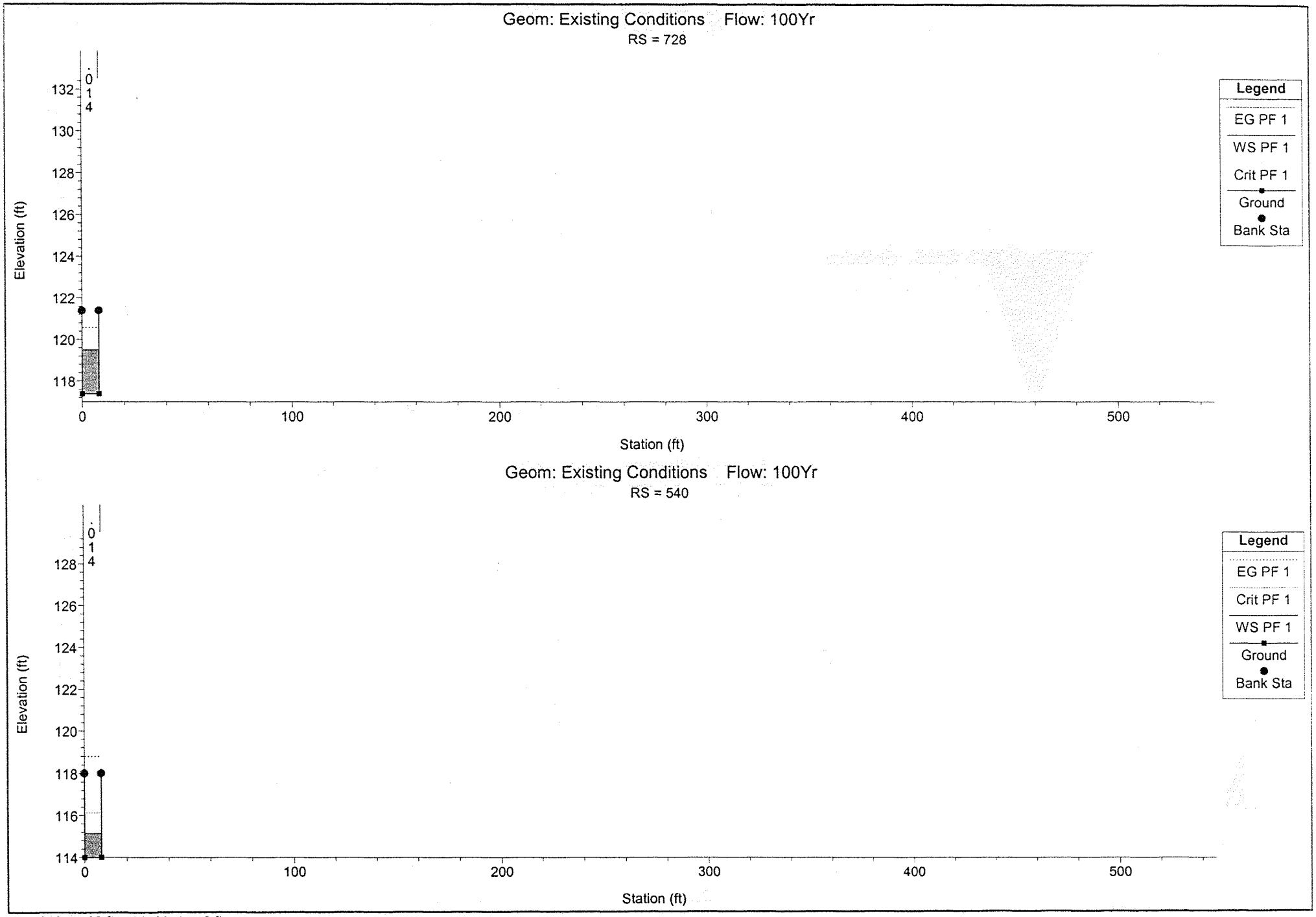

Geom: Existing Conditions Flow: 100Yr
RS = 867 Outlet of 15'x5' RCB at Redwood Highway
.035
Elevation (ft)
122
120
118
116
114
112
110
108
0
100
200
300
400
500
Station (ft)
Legend
EG PF 1
Crit PF 1
WS PF 1
Ground
Bank Sta
Geom: Existing Conditions Flow: 100Yr
RS = 850
.045
.035
.045
Elevation (ft)
122
120
118
116
114
112
110
108
-100
0
100
200
300
400
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
1 in Horiz. = 60 ft 1 in Vert. = 6 ft



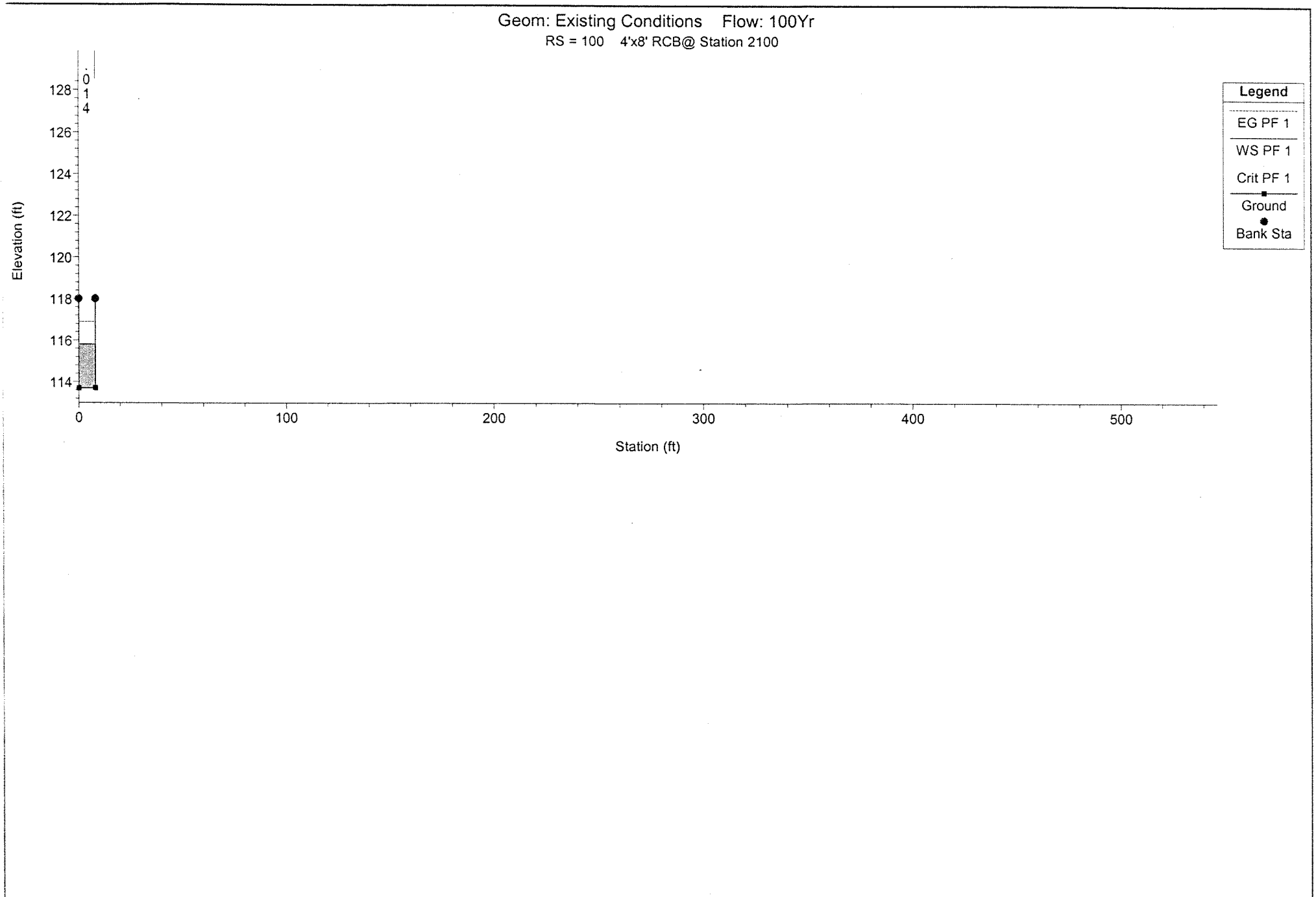

1 in Horiz. = 60 ft 1 in Vert. = 6 ft




1 in Horiz. = 60 ft 1 in Vert. = 6 ft



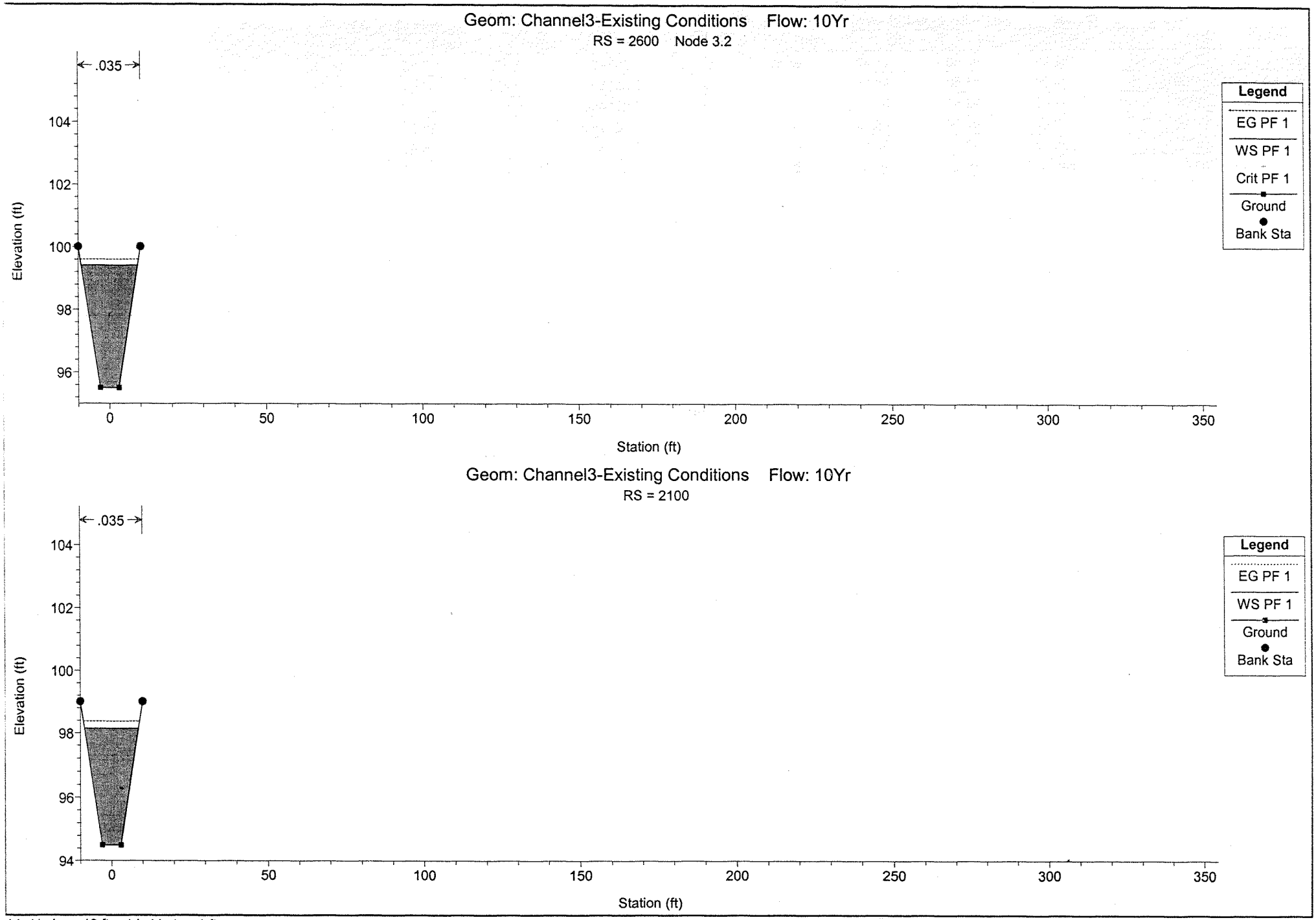

1 in Horiz. = 60 ft 1 in Vert. = 6 ft

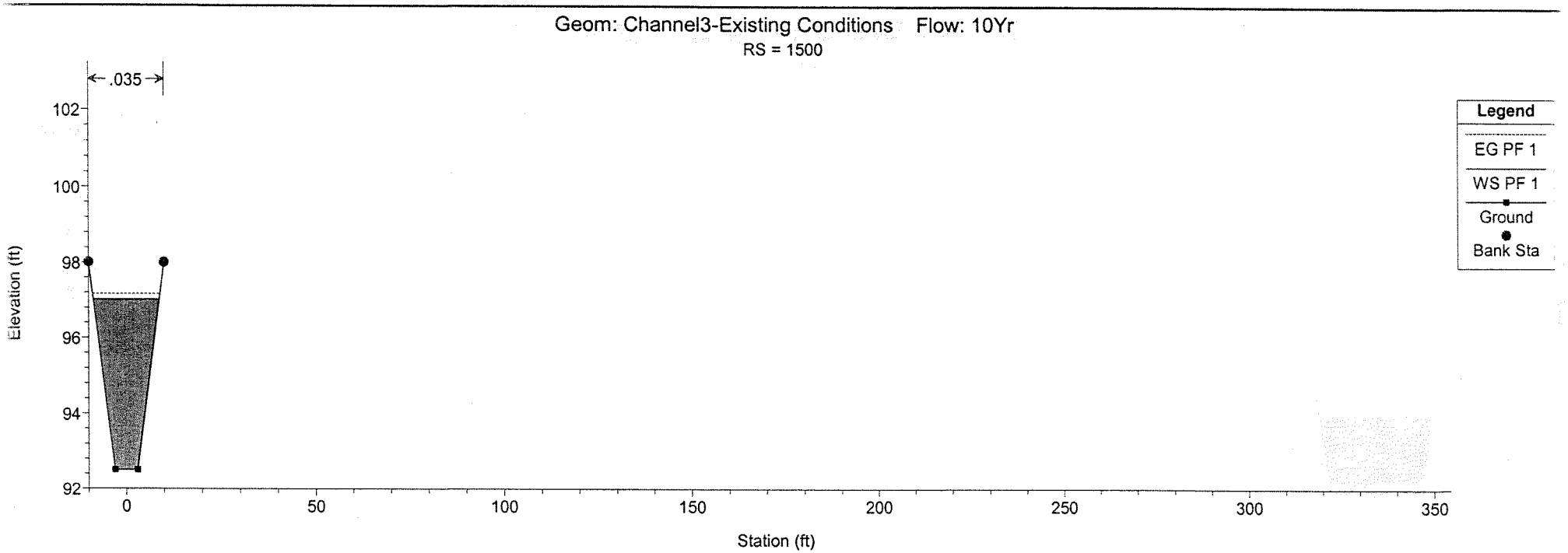

Geom: Existing Conditions Flow: 100Yr
RS = 100 4'x8' RCB@ Station 2100
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
128
126
124
122
120
118
116
114
0
100
200
300
400
500
Station (ft)
1 in Horiz. = 60 ft 1 in Vert. = 6 ft

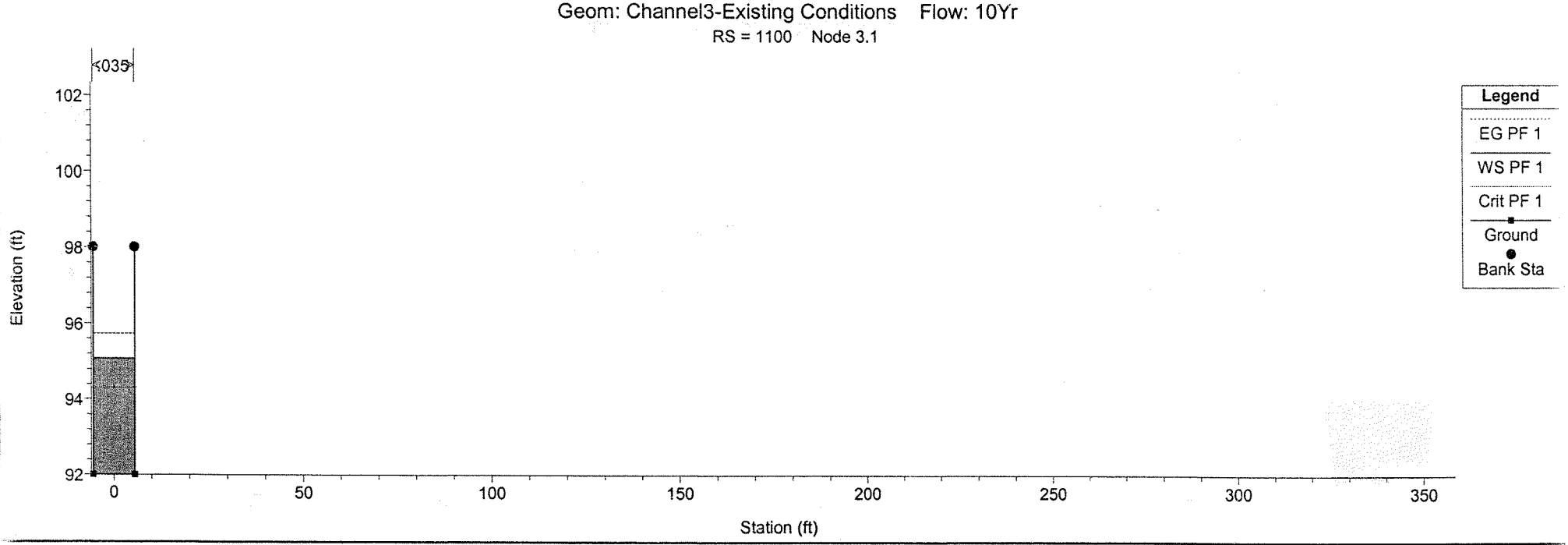
W[illegible]SH E3 [illegible]YR [illegible]RA
J:/01/20705/Hydraulics/HEC-RAS/Channel

HEC-RAS Plan: 3EC10 River: Channel 3 Reach: Node 3.0 - 3.2 Profile: PF 1

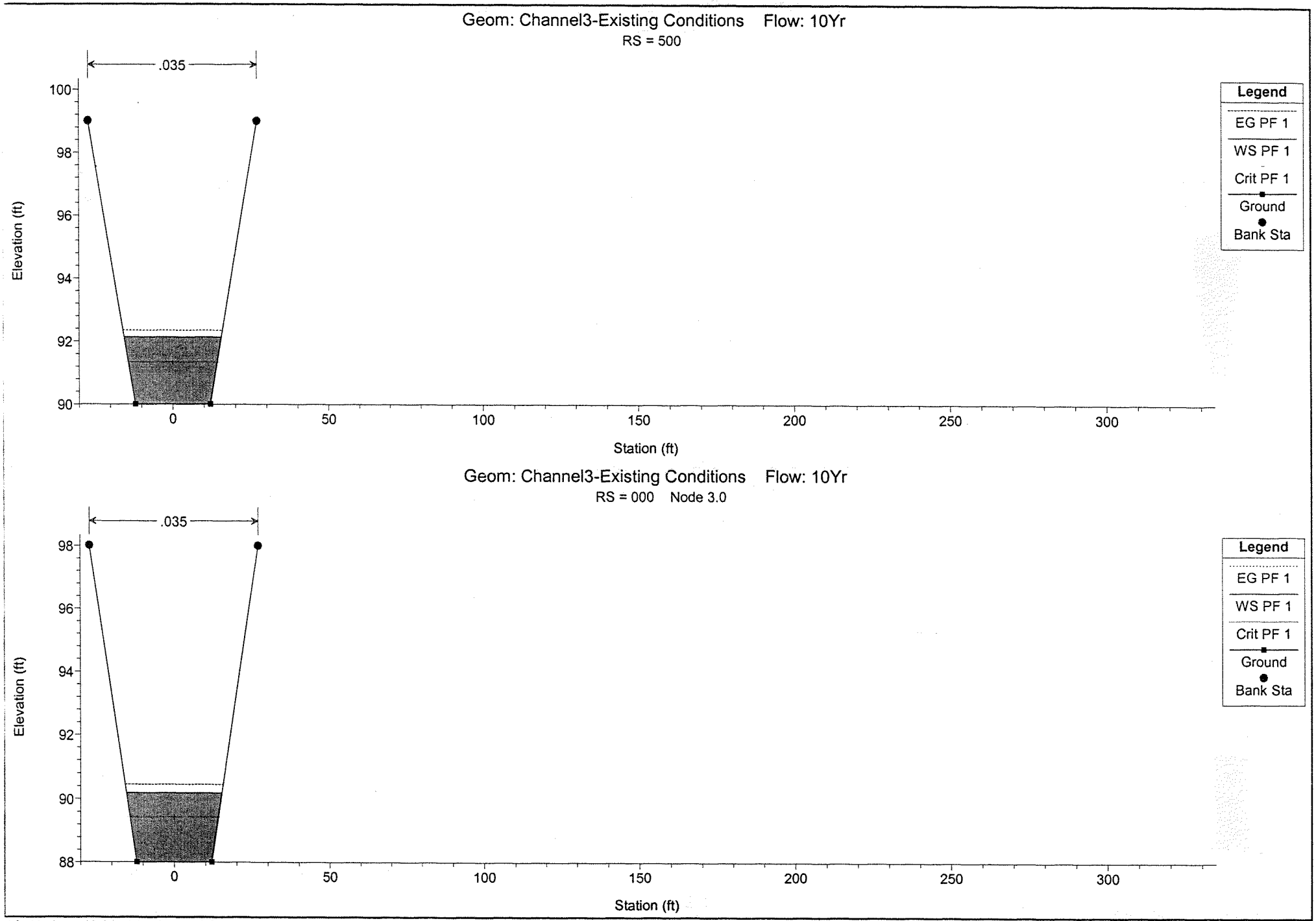
| Reach | River Sta | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | (cfs) | (ft) | (ft) | (ft) | (ft) | (ft/ft) | (ft/s) | (sq ft) | (ft) | |
| Node 3.0 - 3.2 | 2600 | 162.00 | 95.50 | 99.42 | 97.80 | 99.60 | 0.002125 | 3.42 | 47.35 | 18.18 | 0.37 |
| Node 3.0 - 3.2 | 2100 | 162.00 | 94.50 | 98.15 | | 98.37 | 0.002827 | 3.80 | 42.61 | 17.35 | 0.43 |
| Node 3.0 - 3.2 | 1500 | 162.00 | 92.50 | 97.02 | | 97.17 | 0.001460 | 3.05 | 53.15 | 17.51 | 0.31 |
| Node 3.0 - 3.2 | 1100 | 220.00 | 92.00 | 95.08 | 94.31 | 95.73 | 0.009455 | 6.50 | 33.87 | 11.00 | 0.65 |
| Node 3.0 - 3.2 | 500 | 220.00 | 90.00 | 92.13 | 91.33 | 92.35 | 0.003513 | 3.75 | 58.69 | 31.10 | 0.48 |
| Node 3.0 - 3.2 | 000 | 245.00 | 88.00 | 90.20 | 89.43 | 90.46 | 0.004001 | 4.09 | 59.94 | 30.59 | 0.51 |


Geom: Channel3-Existing Conditions Flow: 10Yr
RS = 2600 Node 3.2
.035
Elevation (ft)
104
102
100
98
96
0
50
100
150
200
250
300
350
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Geom: Channel3-Existing Conditions Flow: 10Yr
RS = 2100
.035
Elevation (ft)
104
102
100
98
96
94
0
50
100
150
200
250
300
350
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
1 in Horiz. = 40 ft 1 in Vert. = 4 ft




1 in Horiz. = 40 ft 1 in Vert. = 4 ft

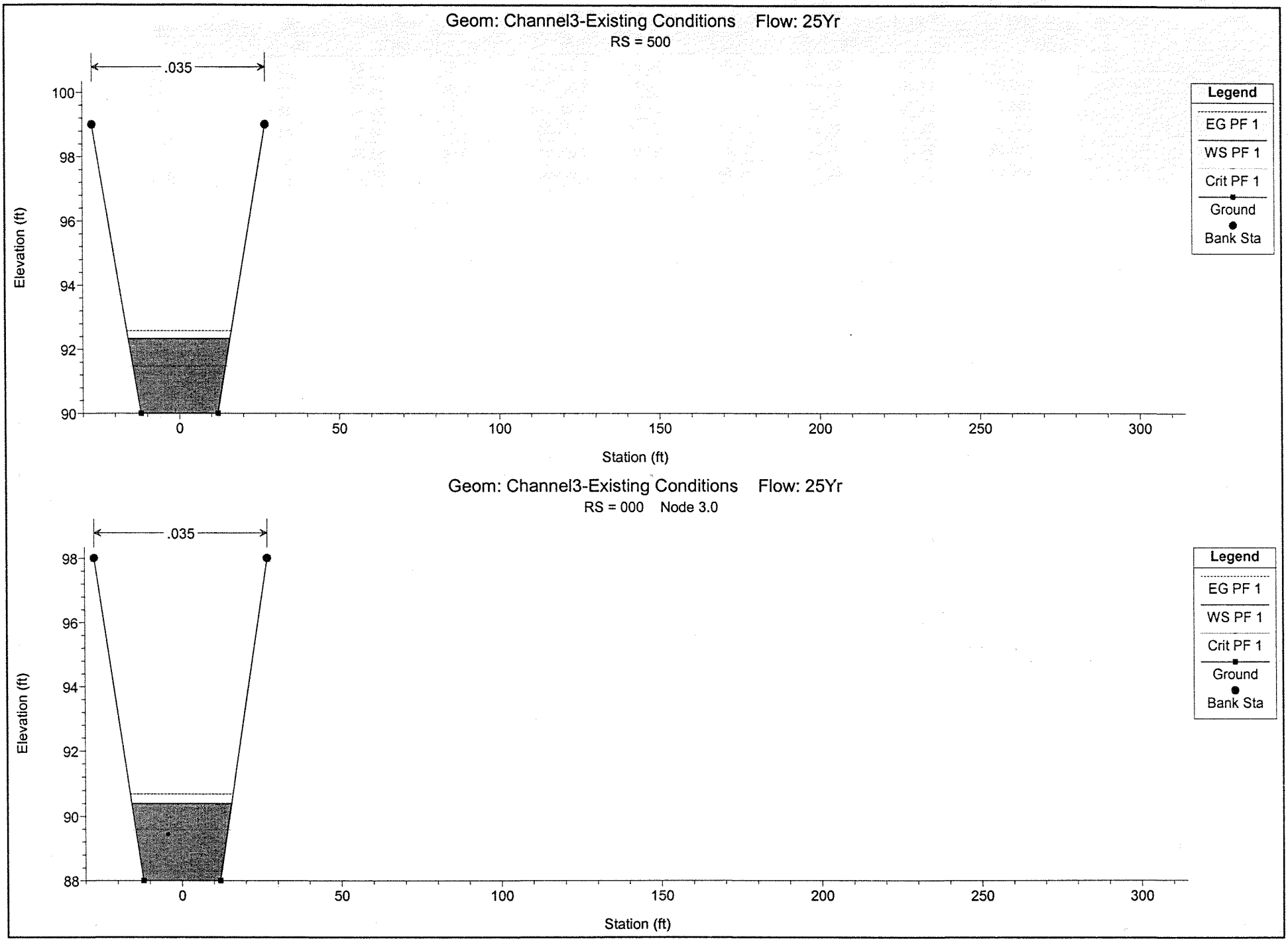



1 in Horiz. = 40 ft 1 in Vert. = 4 ft

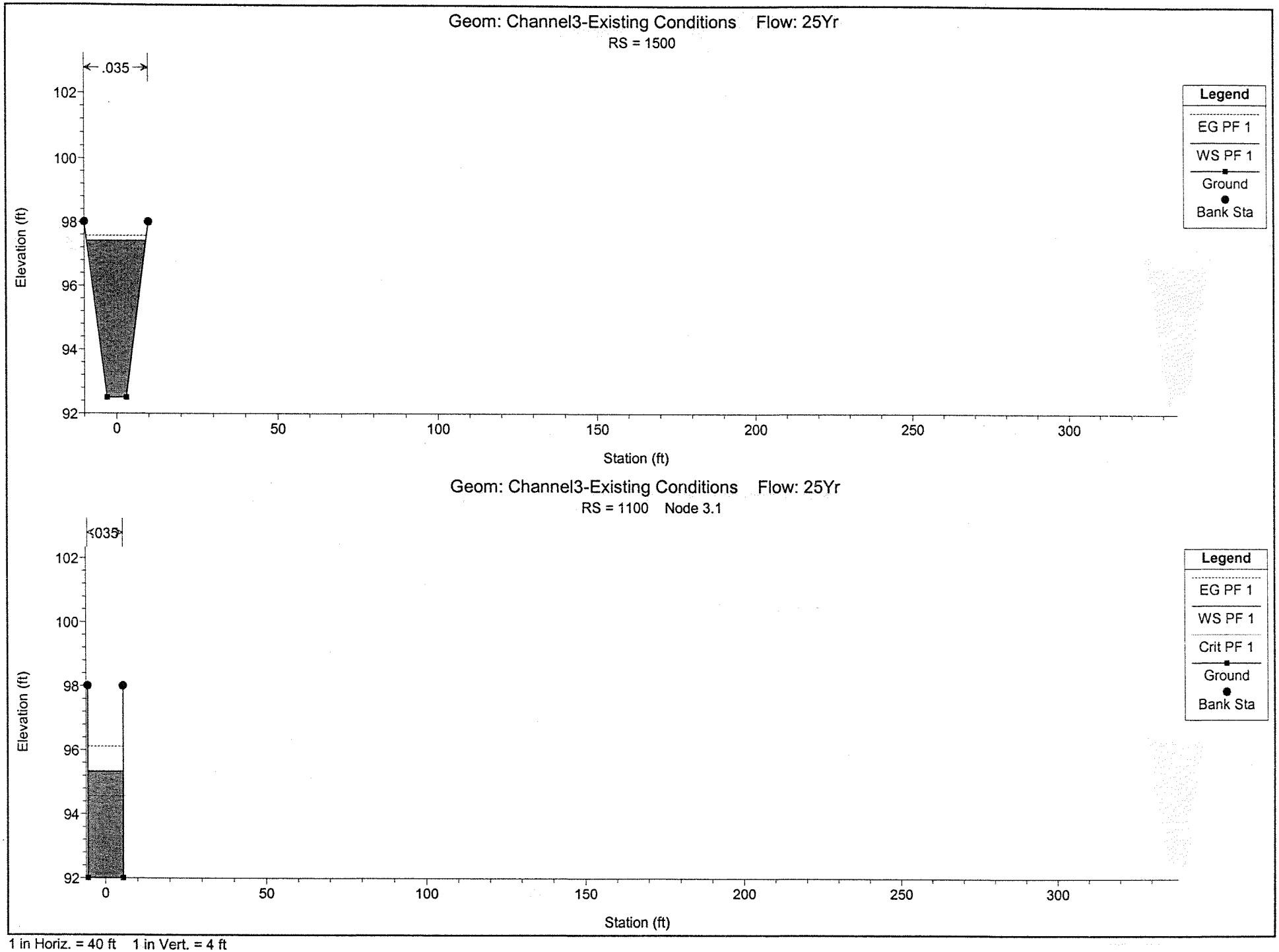
ATTACHMENT 3 - 2 YR FLOW
J:\01\207705\Hydraulics\HEC-RAS\Ch

HEC-RAS Plan: 3EC25 River: Channel 3 Reach: Node 3.0 - 3.2 Profile: PF 1

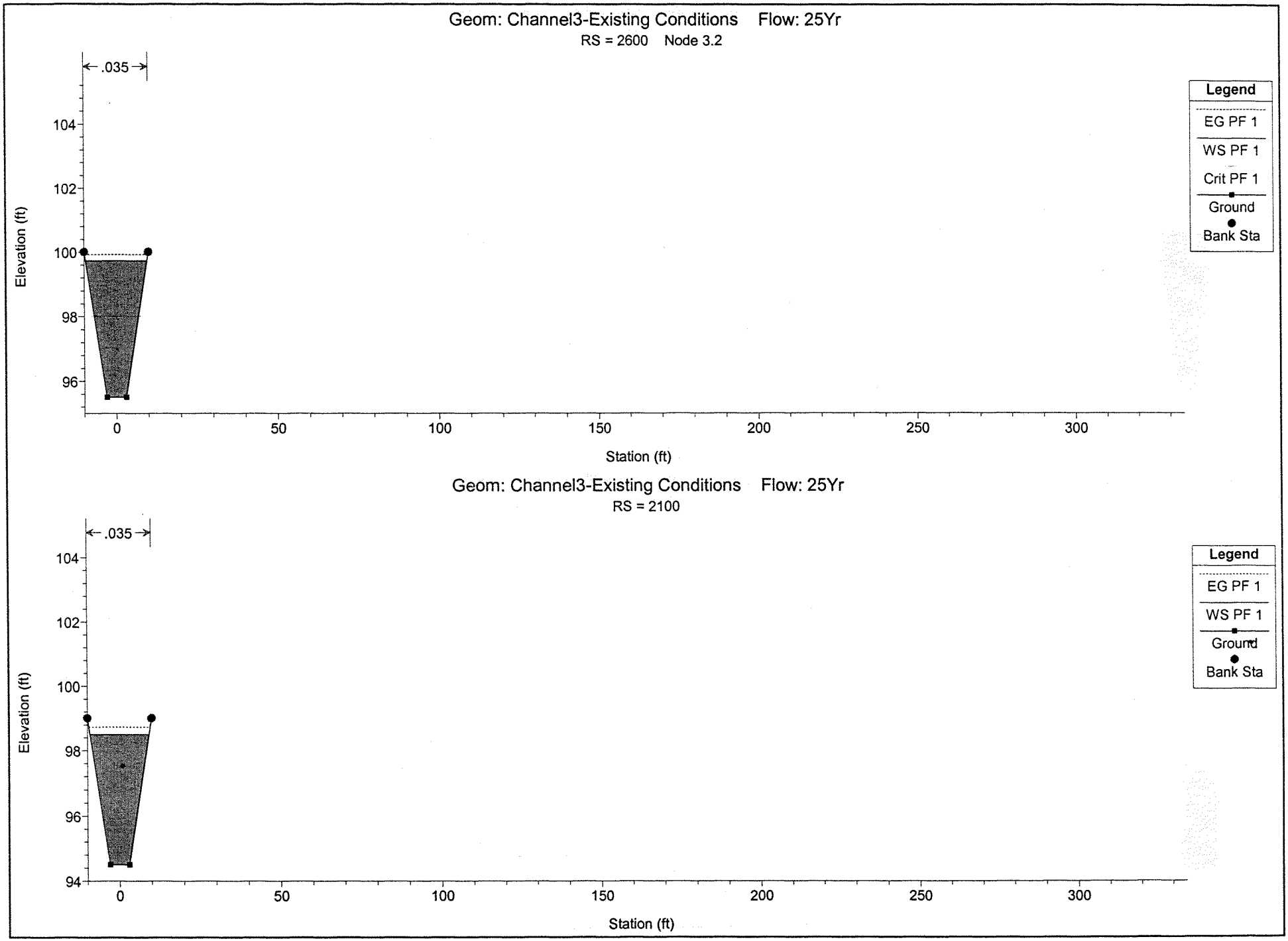
| Reach | River Sta | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | (cfs) | (ft) | (ft) | (ft) | (ft) | (ft/ft) | (ft/s) | (sq ft) | (ft) | |
| Node 3.0 - 3.2 | 2600 | 190.00 | 95.50 | 99.73 | 98.01 | 99.93 | 0.002129 | 3.57 | 53.24 | 19.16 | 0.38 |
| Node 3.0 - 3.2 | 2100 | 190.00 | 94.50 | 98.50 | | 98.74 | 0.002675 | 3.88 | 48.93 | 18.45 | 0.42 |
| Node 3.0 - 3.2 | 1500 | 190.00 | 92.50 | 97.41 | | 97.57 | 0.001438 | 3.16 | 60.16 | 18.50 | 0.31 |
| Node 3.0 - 3.2 | 1100 | 258.00 | 92.00 | 95.34 | 94.57 | 96.10 | 0.010353 | 7.03 | 36.70 | 11.00 | 0.68 |
| Node 3.0 - 3.2 | 500 | 258.00 | 90.00 | 92.34 | 91.47 | 92.58 | 0.003512 | 3.96 | 65.23 | 31.79 | 0.49 |
| Node 3.0 - 3.2 | 000 | 286.00 | 88.00 | 90.40 | 89.58 | 90.69 | 0.004006 | 4.31 | 66.36 | 31.21 | 0.52 |




1 in Horiz. = 40 ft 1 in Vert. = 4 ft




1 in Horiz. = 40 ft 1 in Vert. = 4 ft

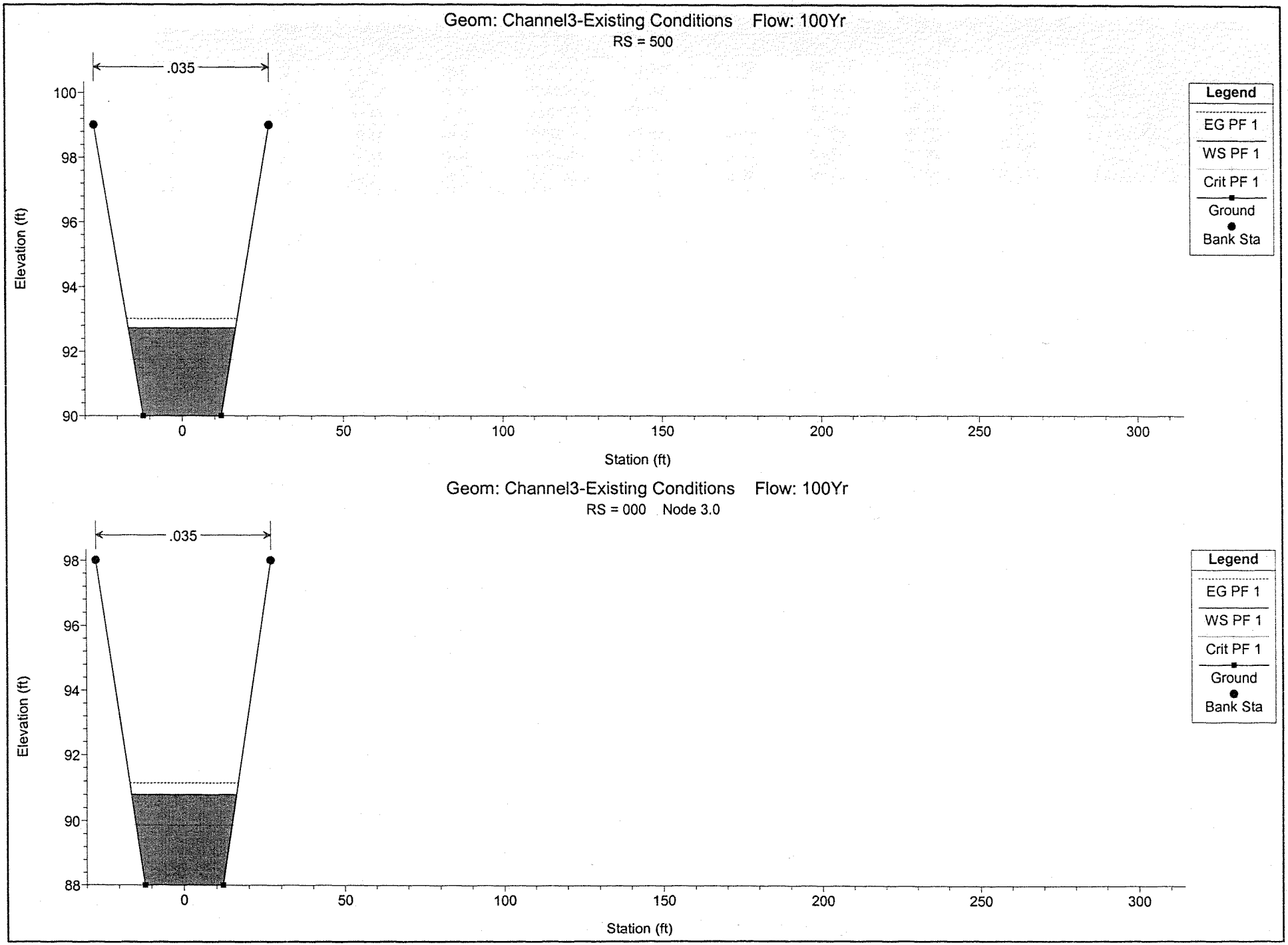



1 in Horiz. = 40 ft 1 in Vert. = 4 ft

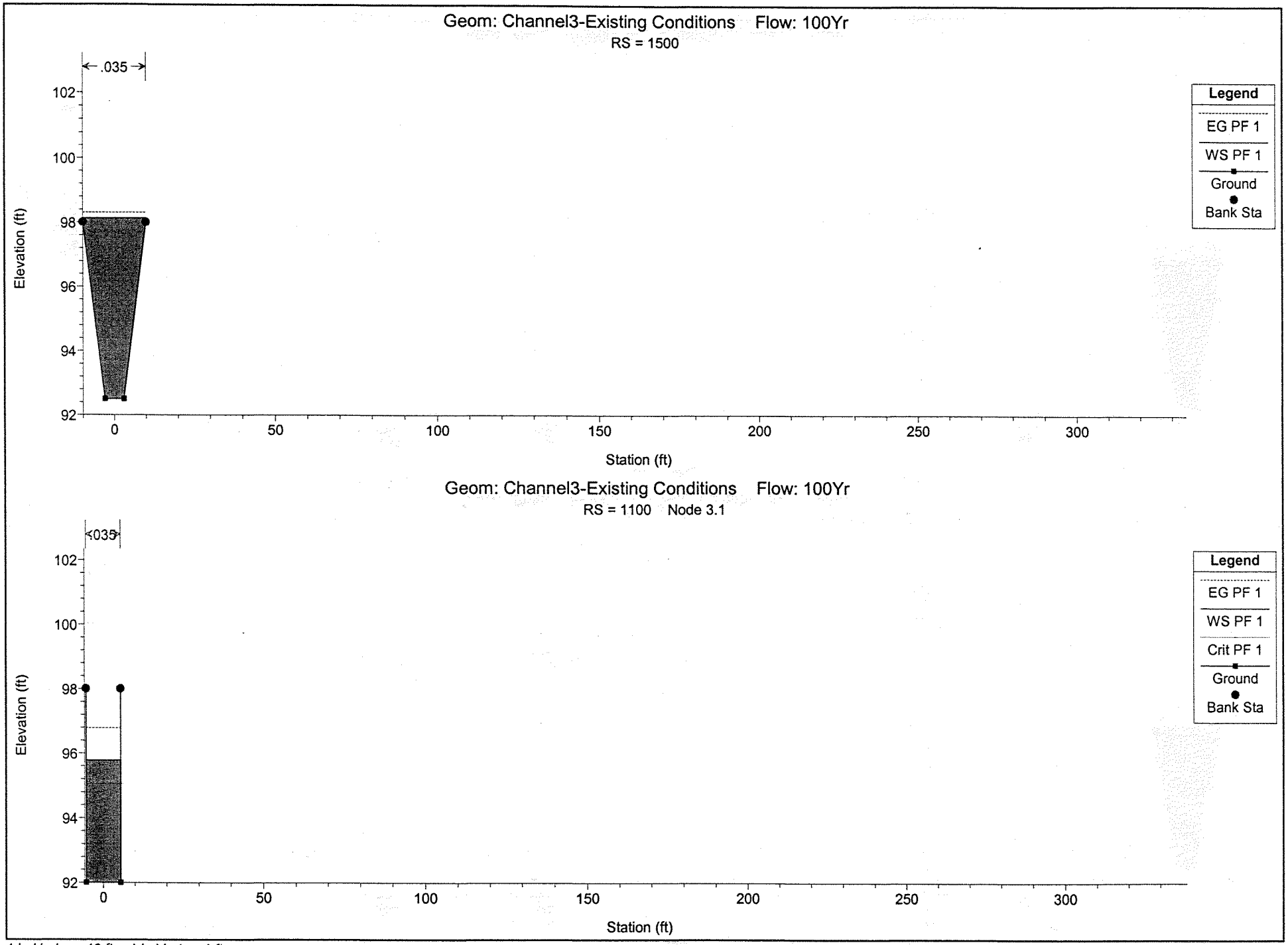
WATERSHED #7 - 100 YR STORM
J:/01/207705/Hydraulics/HEC-RAS/Chann

HEC-RAS Plan: 3EC100 River: Channel 3 Reach: Node 3.0 - 3.2 Profile: PF 1

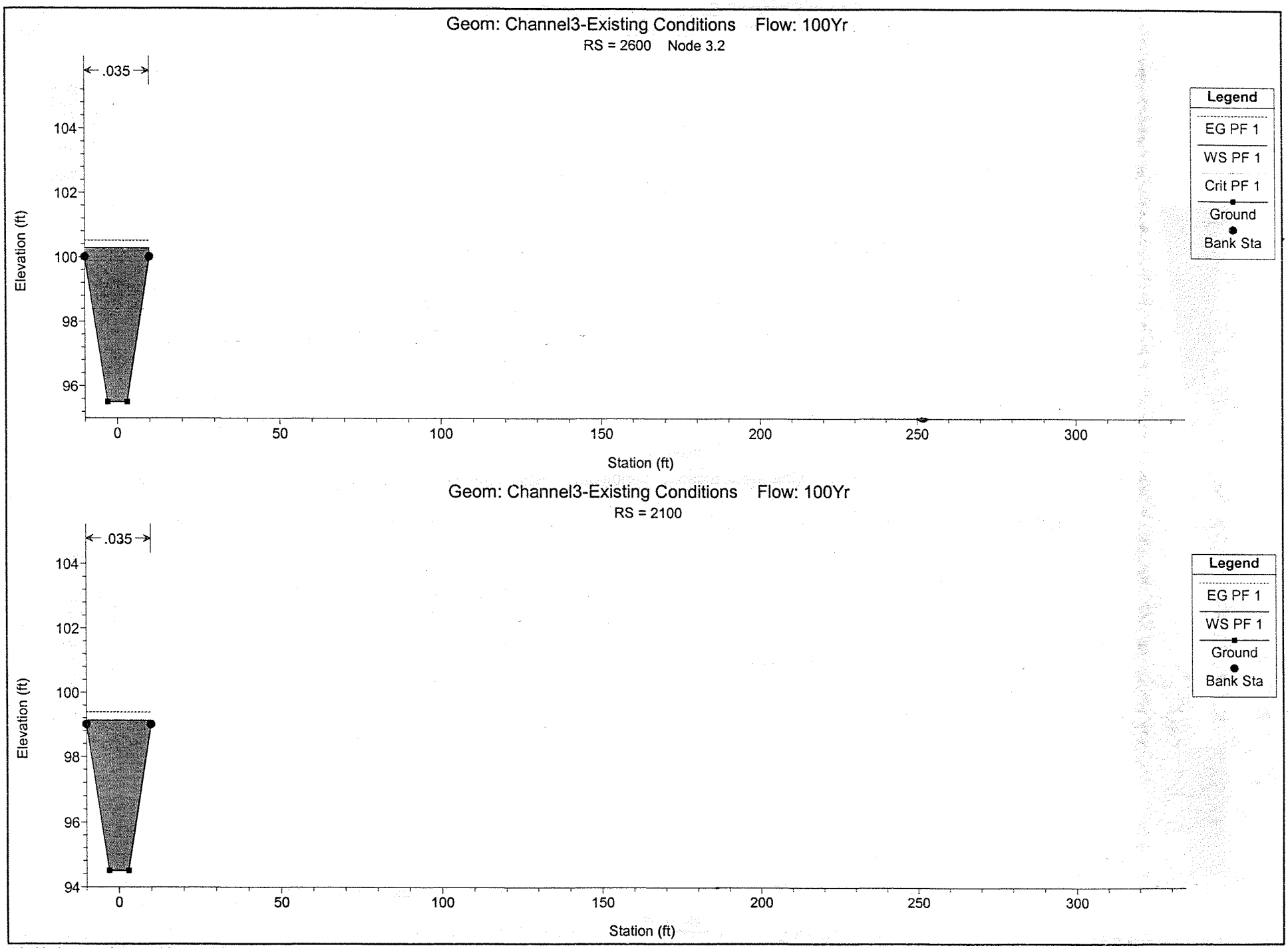
| Reach | River Sta | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | (cfs) | (ft) | (ft) | (ft) | (ft) | (ft/ft) | (ft/s) | (sq ft) | (ft) | |
| Node 3.0 - 3.2 | 2600 | 246.00 | 95.50 | 100.28 | 98.39 | 100.51 | 0.002105 | 3.84 | 64.14 | 20.00 | 0.38 |
| Node 3.0 - 3.2 | 2100 | 246.00 | 94.50 | 99.14 | | 99.39 | 0.002417 | 4.02 | 61.22 | 20.00 | 0.40 |
| Node 3.0 - 3.2 | 1500 | 246.00 | 92.50 | 98.13 | | 98.30 | 0.001361 | 3.32 | 74.18 | 20.00 | 0.30 |
| Node 3.0 - 3.2 | 1100 | 335.00 | 92.00 | 95.78 | 95.06 | 96.79 | 0.012298 | 8.06 | 41.57 | 11.00 | 0.73 |
| Node 3.0 - 3.2 | 500 | 335.00 | 90.00 | 92.73 | 91.74 | 93.02 | 0.003476 | 4.30 | 77.91 | 33.10 | 0.49 |
| Node 3.0 - 3.2 | 000 | 371.00 | 88.00 | 90.80 | 89.87 | 91.14 | 0.004001 | 4.70 | 78.94 | 32.40 | 0.53 |




1 in Horiz. = 40 ft 1 in Vert. = 4 ft




1 in Horiz. = 40 ft 1 in Vert. = 4 ft




1 in Horiz. = 40 ft 1 in Vert. = 4 ft

# Appendix C
# Cost Estimates and Miscellaneous Correspondence

TABLE
CONSTRUCTION COST ESTIMATE

**Buget Estimate Sheet**

| | | | |
|---|---|---|---|
| Title: | Cotati Storm Drain Master Plan | Prepared By: | Winzler & Kelly |
| | Proposed Storm Drainage Projects | Date of Estimate | 12/7/01 |
| Node: | 2.1.3 | Design Status: | Concept Design |
| Location: | Gravenstein Hwy. at Alder Ave. | | |
| Project: | Culvert Replacement | | |

| ITEM | QUANTITY | UNIT | UNIT COST | TOTAL COST |
|---|---|---|---|---|
| Demolish (E) 18" RCP | 70 | LF | $ 8.00 | $ 560 |
| Install 24" RCP | 70 | LF | $ 55.00 | $ 3,850 |
| Install Trench Paving | 330 | LF | $ 8.00 | $ 2,640 |
| Construct Culvert Headwalls | 2 | EA | $ 3,500.00 | $ 7,000 |
| Traffic Control | 1 | LS | $ 10,000.00 | $ 10,000 |
| Subtotal | | | | $ 24,050 |
| General Conditions | 30 | % | | $ 7,215 |
| Sales Tax | 4 | % | | $ 962 |
| General Contractors Overhead & Profit | 8 | % | | $ 1,924 |
| Legal, Administration, & Engineering | 25 | % | | $ 6,013 |
| Bond | 1.5 | % | | $ 361 |
| **Total Base Bid** | | | | $ 40,524 |
| Contingency | 10 | % | | $ 4,052 |
| **Total with Contingency** | | | | **$ 44,577** |

TABLE
CONSTRUCTION COST ESTIMATE

**Buget Estimate Sheet**

| | | | |
|---|---|---|---|
| Title: | Cotati Storm Drain Master Plan | Prepared By: | Winzler & Kelly |
| | Proposed Storm Drainage Projects | Date of Estimate | 12/7/01 |
| Nodes: | 2.3.1 | Design Status: | Concept Design |
| Location: | Commerce Ave. | | |
| Project: | Storm Drain Slope Correction | | |

| ITEM | QUANTITY | UNIT | UNIT COST | TOTAL COST |
|---|---|---|---|---|
| Demolish (E) Headwall | 1 | LS | $ 1,500.00 | $ 1,500 |
| Remove (E) 36" SD | 794 | LF | $ 10.00 | $ 7,940 |
| Install (N) 36"SD | 794 | LF | $ 126.00 | $ 100,044 |
| Modify (E) Drop Inlet | 4 | EA | $ 2,000.00 | $ 8,000 |
| Construct (N) 36" Storm Drain Headwall | 1 | EA | $ 3,500.00 | $ 3,500 |
| Install Trench Paving | 5,558 | SF | $ 8.00 | $ 44,464 |
| Traffic Control | 1 | LS | $ 20,000.00 | $ 20,000 |
| Subtotal | | | | $ 185,448 |
| General Conditions | 30 | % | | $ 55,634 |
| Sales Tax | 4 | % | | $ 7,418 |
| General Contractors Overhead & Profit | 8 | % | | $ 14,836 |
| Legal, Administration, & Engineering | 25 | % | | $ 46,362 |
| Bond | 2 | % | | $ 2,782 |
| **Total Base Bid** | | | | $ 312,480 |
| Contingency | 10 | % | | $ 31,248 |
| **Total with Contingency** | | | | **$ 343,728** |

TABLE
CONSTRUCTION COST ESTIMATE

**Buget Estimate Sheet**

| | | | |
|---|---|---|---|
| Title: | Cotati Storm Drain Master Plan | Prepared By: | Winzler & Kelly |
| | Proposed Storm Drainage Projects | Date of Estimate | 12/7/01 |
| Node: | 2.4.1 | Design Status: | Concept Design |
| Location: | Gravenstein Way | | |
| Project: | Storm Drain Replacement | | |

| ITEM | QUANTITY | UNIT | UNIT COST | TOTAL COST |
|---|---|---|---|---|
| Demolish (E) 48" RCP | 1,010 | LF | $ 14.00 | $ 14,140 |
| Install 54" SD | 1,010 | LF | $ 175.00 | $ 176,750 |
| Install Trench Paving | 9,090 | SF | $ 8.00 | $ 72,720 |
| Construct Headwall | 1 | EA | $ 5,050.00 | $ 5,050 |
| Modify (E) Manhole | 4 | EA | $ 2,500.00 | $ 10,000 |
| Traffic Control | 1 | LS | $ 10,000.00 | $ 10,000 |
| Subtotal | | | | $ 288,660 |
| General Conditions | 30 | % | | $ 86,598 |
| Sales Tax | 4 | % | | $ 11,546 |
| General Contractors Overhead & Profit | 8 | % | | $ 23,093 |
| Legal, Administration, & Engineering | 25 | % | | $ 72,165 |
| Bond | 2 | % | | $ 4,330 |
| **Total Base Bid** | | | | $ 486,392 |
| Contingency | 10 | % | | $ 48,639 |
| **Total with Contingency** | | | | **$ 535,031** |

TABLE
CONSTRUCTION COST ESTIMATE

**Buget Estimate Sheet**

| | | | |
|---|---|---|---|
| Title: | Cotati Storm Drain Master Plan | Prepared By: | Winzler & Kelly |
| | Proposed Storm Drainage Projects | Date of Estimate | 12/7/01 |
| Node: | 2.5.1 | Design Status: | Concept Design |
| Location: | East Cotati. Ave. | | |
| Project: | Storm Drain Replacement | | |

| ITEM | QUANTITY | UNIT | UNIT COST | TOTAL COST |
|---|---|---|---|---|
| Demolish (E) 30" SD | 80 | LF | $ 10.00 | $ 800 |
| Install (N) 42" SD | 80 | LF | $ 150.00 | $ 12,000 |
| Modify Manhole Connection | 2 | EA | $ 2,000.00 | $ 4,000 |
| Install Trench Paving | 600 | SF | $ 8.00 | $ 4,800 |
| Traffic Control | 1 | LS | $ 8,000.00 | $ 8,000 |
| Subtotal | | | | $ 28,800 |
| General Conditions | 30 | % | | $ 8,640 |
| Sales Tax | 4 | % | | $ 1,152 |
| General Contractors Overhead & Profit | 8 | % | | $ 2,304 |
| Legal, Administration, & Engineering | 25 | % | | $ 7,200 |
| Bond | 2 | % | | $ 432 |
| **Total Base Bid** | | | | $ 48,528 |
| Contingency | 10 | % | | $ 4,853 |
| **Total with Contingency** | | | | **$ 53,381** |

TABLE
CONSTRUCTION COST ESTIMATE

**Buget Estimate Sheet**

Title: Cotati Storm Drain Master Plan
Proposed Storm Drainage Projects
Node: 2.5.2
Location: East Cotati. Ave.
Project: Storm Drain Replacement

Prepared By: Winzler & Kelly
Date of Estimate 12/7/01
Design Status: Concept Design

| ITEM | QUANTITY | UNIT | UNIT COST | TOTAL COST |
|---|---|---|---|---|
| Demolish (E) 42" SD | 170 | LF | $ 10.00 | $ 1,700 |
| Install (N) 48" SD | 170 | LF | $ 183.00 | $ 31,110 |
| Modify Manhole Connection | 2 | EA | $ 2,000.00 | $ 4,000 |
| Install Trench Paving | 1360 | SF | $ 8.00 | $ 10,880 |
| Traffic Control | 1 | LS | $ 5,000.00 | $ 5,000 |
| Subtotal | | | | $ 52,690 |
| General Conditions | 30 | % | | $ 15,807 |
| Sales Tax | 4 | % | | $ 2,108 |
| General Contractors Overhead & Profit | 8 | % | | $ 4,215 |
| Legal, Administration, & Engineering | 25 | % | | $ 13,173 |
| Bond | 2 | % | | $ 790 |
| **Total Base Bid** | | | | $ 88,783 |
| Contingency | 10 | % | | $ 8,878 |
| **Total with Contingency** | | | | **$ 97,661** |

TABLE
CONSTRUCTION COST ESTIMATE

**Buget Estimate Sheet**

| | | | |
|---|---|---|---|
| Title: | Cotati Storm Drain Master Plan | Prepared By: | Winzler & Kelly |
| | Proposed Storm Drainage Projects | Date of Estimate | 12/7/01 |
| Nodes: | 2.7.6 | Design Status: | Concept Design |
| Location: | Water Rd. | | |
| Project: | Creek Bypass Extension | | |

| ITEM | QUANTITY | UNIT | UNIT COST | TOTAL COST |
|---|---|---|---|---|
| Install 5x4ft RCB | 650 | LF | $ 239.00 | $ 155,350 |
| Modify (E) Bypass Inlet for (N) Bypass Connection | 1 | EA | $ 5,000.00 | $ 5,000 |
| Install Bypass Junction Structure at (E) 12x5ft RCB | 1 | EA | $ 7,000.00 | $ 7,000 |
| Install Trench Paving | 5,850 | SF | $ 8.00 | $ 46,800 |
| Traffic Control | 1 | LS | $ 15,000.00 | $ 15,000 |
| Subtotal | | | | $ 229,150 |
| General Conditions | 30 | % | | $ 68,745 |
| Sales Tax | 4 | % | | $ 9,166 |
| General Contractors Overhead & Profit | 8 | % | | $ 18,332 |
| Legal, Administration, & Engineering | 25 | % | | $ 57,288 |
| Bond | 2 | % | | $ 3,437 |
| **Total Base Bid** | | | | $ 386,118 |
| Contingency | 10 | % | | $ 38,612 |
| **Total with Contingency** | | | | **$ 424,730** |

TABLE
CONSTRUCTION COST ESTIMATE

**Buget Estimate Sheet**

| | | | |
|---|---|---|---|
| Title: | Cotati Storm Drain Master Plan | Prepared By: | Winzler & Kelly |
| | Proposed Storm Drainage Projects | Date of Estimate | 12/7/01 |
| Node: | 3.1.1 | Design Status: | Concept Design |
| Location: | Gravenstein Hwy. | | |
| Project: | Culvert Replacement | | |

| ITEM | QUANTITY | UNIT | UNIT COST | TOTAL COST |
|---|---|---|---|---|
| Demolish (E) Headwall | 1 | LS | $ 1,500.00 | $ 1,500 |
| Demolish (E) 18" Culvert | 60 | LF | $ 8.00 | $ 480 |
| Install (N) 24" Culvert | 60 | LF | $ 55.00 | $ 3,300 |
| Construct (N) 24" Headwall | 2 | EA | $ 3,500.00 | $ 7,000 |
| Install Trench Paving | 180 | SF | $ 8.00 | $ 1,440 |
| Traffic Control | 1 | LS | $ 10,000.00 | $ 10,000 |
| Subtotal | | | | $ 23,720 |
| General Conditions | 30 | % | | $ 7,116 |
| Sales Tax | 4 | % | | $ 949 |
| General Contractors Overhead & Profit | 8 | % | | $ 1,898 |
| Legal, Administration, & Engineering | 25 | % | | $ 5,930 |
| Bond | 2 | % | | $ 356 |
| **Total Base Bid** | | | | $ 39,968 |
| Contingency | 10 | % | | $ 3,997 |
| **Total with Contingency** | | | | **$ 43,965** |

TABLE
CONSTRUCTION COST ESTIMATE

**Buget Estimate Sheet**

| | | | |
|---|---|---|---|
| Title: | Cotati Storm Drain Master Plan | Prepared By: | Winzler & Kelly |
| | Proposed Storm Drainage Projects | Date of Estimate | 12/7/01 |
| Nodes: | 3.3, 3.3.1, 3.3.1.1, 3.3.2 | Design Status: | Concept Design |
| Location: | Gravenstein Hwy., Derby Rd., & Locust Ave. | | |
| Project: | Storm Drain Installation | | |

| ITEM | QUANTITY | UNIT | UNIT COST | TOTAL COST |
|---|---|---|---|---|
| Demolish (E) Culverts | 280 | LF | $ 8.00 | $ 2,240 |
| Install 7x4ft RCB | 534 | LF | $ 278.00 | $ 148,452 |
| Install 6x4ft RCB | 1,214 | LF | $ 259.00 | $ 314,426 |
| Install 48" SD | 808 | LF | $ 183.00 | $ 147,864 |
| Install 36" SD | 1,031 | LF | $ 126.00 | $ 129,906 |
| Install 30" SD | 431 | LF | $ 90.00 | $ 38,790 |
| Install 24" SD | 1,031 | LF | $ 55.00 | $ 56,705 |
| Install Junction Structures | 3 | EA | $ 7,000.00 | $ 21,000 |
| Install Standard Drop Inlet | 12 | EA | $ 3,500.00 | $ 42,000 |
| Install 7x4ft RCB Headwall | 1 | EA | $ 7,000.00 | $ 7,000 |
| Install 48" Headwall | 1 | EA | $ 5,000.00 | $ 5,000 |
| Install 6' diameter Drop Inlet | 7 | EA | $ 5,000.00 | $ 35,000 |
| Install Trench Paving | 13,077 | SF | $ 8.00 | $ 104,616 |
| Ditch Regrading | 29,192 | SF | $ 0.25 | $ 7,298 |
| Traffic Control | 1 | LS | $ 35,000.00 | $ 35,000 |
| Subtotal | | | | $ 1,095,297 |
| General Conditions | 30 | % | | $ 328,589 |
| Sales Tax | 4 | % | | $ 43,812 |
| General Contractors Overhead & Profit | 8 | % | | $ 87,624 |
| Legal, Administration, & Engineering | 25 | % | | $ 273,824 |
| Bond | 2 | % | | $ 16,429 |
| **Total Base Bid** | | | | $ 1,845,575 |
| Contingency | 10 | % | | $ 184,558 |
| **Total with Contingency** | | | | **$ 2,030,133** |

TABLE
CONSTRUCTION COST ESTIMATE

**Buget Estimate Sheet**

| | | | |
|---|---|---|---|
| Title: | Cotati Storm Drain Master Plan | Prepared By: | Winzler & Kelly |
| | Proposed Storm Drainage Projects | Date of Estimate | 12/7/01 |
| Node: | 4.2 | Design Status: | Concept Design |
| Location: | Maple Ave. | | |
| Project: | Storm Drain Installation | | |

| ITEM | QUANTITY | UNIT | UNIT COST | TOTAL COST |
|---|---|---|---|---|
| Install 30" RCP | 150 | LF | $ 94.00 | $ 14,100 |
| Install 36" RCP | 300 | LF | $ 130.00 | $ 39,000 |
| Install Drop Inlet | 2 | EA | $ 3,000.00 | $ 6,000 |
| Construct Manhole Connection | 1 | EA | $ 2,000.00 | $ 2,000 |
| Install Trench Paving | 900 | SF | $ 8.00 | $ 7,200 |
| Ditch Regrading | 2700 | SF | $ 0.25 | $ 675 |
| Traffic Control | 1 | LS | $ 5,000.00 | $ 5,000 |
| Subtotal | | | | $ 73,975 |
| General Conditions | 30 | % | | $ 22,193 |
| Sales Tax | 4 | % | | $ 2,959 |
| General Contractors Overhead & Profit | 8 | % | | $ 5,918 |
| Legal, Administration, & Engineering | 25 | % | | $ 18,494 |
| Bond | 1.5 | % | | $ 1,110 |
| **Total Base Bid** | | | | $ 124,648 |
| Contingency | 10 | % | | $ 12,465 |
| **Total with Contingency** | | | | **$ 137,113** |

TABLE
CONSTRUCTION COST ESTIMATE

**Buget Estimate Sheet**

| | | | |
|---|---|---|---|
| Title: | Cotati Storm Drain Master Plan | Prepared By: | Winzler & Kelly |
| | Proposed Storm Drainage Projects | Date of Estimate | 12/7/01 |
| Nodes: | 4.2.2, 4.2.3, 4.2.3.1 | Design Status: | Concept Design |
| Location: | School Rd. | | |
| Project: | Storm Drain Installation | | |

| ITEM | QUANTITY | UNIT | UNIT COST | TOTAL COST |
|---|---|---|---|---|
| Demolish (E) Culverts | 93 | LF | $ 8.00 | $ 744 |
| Install 18" RCP | 329 | LF | $ 50.00 | $ 16,450 |
| Install 24" RCP | 537 | LF | $ 55.00 | $ 29,535 |
| Install Standard Manhole | 3 | EA | $ 3,500.00 | $ 10,500 |
| Install Drop Inlet | 6 | EA | $ 3,500.00 | $ 21,000 |
| Install Trench Paving | 2,777 | SF | $ 8.00 | $ 22,212 |
| Traffic Control | 1 | LS | $ 10,000.00 | $ 10,000 |
| Subtotal | | | | $ 110,441 |
| General Conditions | 30 | % | | $ 33,132 |
| Sales Tax | 4 | % | | $ 4,418 |
| General Contractors Overhead & Profit | 8 | % | | $ 8,835 |
| Legal, Administration, & Engineering | 25 | % | | $ 27,610 |
| Bond | 2 | % | | $ 1,657 |
| **Total Base Bid** | | | | $ 186,093 |
| Contingency | 10 | % | | $ 18,609 |
| **Total with Contingency** | | | | **$ 204,702** |

TABLE
CONSTRUCTION COST ESTIMATE

**Buget Estimate Sheet**

| | | | |
|---|---|---|---|
| Title: | Cotati Storm Drain Master Plan | Prepared By: | Winzler & Kelly |
| | Proposed Storm Drainage Projects | Date of Estimate | 12/7/01 |
| Nodes: | 5.1.1.1, 5.1.1.2, 5.1.1.3, 5.1.1.4, 5.1.1.5 | Design Status: | Concept Design |
| Location: | School Rd. | | |
| Project: | Storm Drain Installation | | |

| ITEM | QUANTITY | UNIT | UNIT COST | TOTAL COST |
|---|---|---|---|---|
| Demolish (E) Culverts | 158 | LF | $ 8.00 | $ 1,264 |
| Install 42" SD | 852 | LF | $ 150.00 | $ 127,800 |
| Install 36" SD | 326 | LF | $ 126.00 | $ 41,076 |
| Install 30" SD | 36 | LF | $ 90.00 | $ 3,240 |
| Install 24" SD | 327 | LF | $ 55.00 | $ 17,985 |
| Install 18" SD | 362 | LF | $ 50.00 | $ 18,100 |
| Install Standard Manhole | 2 | EA | $ 3,500.00 | $ 7,000 |
| Install Drop Inlet | 9 | EA | $ 3,500.00 | $ 31,500 |
| Install Trench Paving | 3,637 | SF | $ 8.00 | $ 29,096 |
| Ditch Regrading | 10,470 | SF | $ 0.25 | $ 2,618 |
| Traffic Control | 1 | LS | $ 25,000.00 | $ 25,000 |
| Subtotal | | | | $ 304,679 |
| General Conditions | 30 | % | | $ 91,404 |
| Sales Tax | 4 | % | | $ 12,187 |
| General Contractors Overhead & Profit | 8 | % | | $ 24,374 |
| Legal, Administration, & Engineering | 25 | % | | $ 76,170 |
| Bond | 2 | % | | $ 4,570 |
| **Total Base Bid** | | | | $ 513,383 |
| Contingency | 10 | % | | $ 51,338 |
| **Total with Contingency** | | | | **$ 564,722** |

TABLE
CONSTRUCTION COST ESTIMATE

**Buget Estimate Sheet**

| | | | |
|---|---|---|---|
| Title: | Cotati Storm Drain Master Plan | Prepared By: | Winzler & Kelly |
| | Proposed Storm Drainage Projects | Date of Estimate | 12/7/01 |
| Node: | 5.1.2 | Design Status: | Concept Design |
| Location: | School Rd. | | |
| Project: | Culvert Replacement | | |

| ITEM | QUANTITY | UNIT | UNIT COST | TOTAL COST |
|---|---|---|---|---|
| Demolish (E) 12" CMP | 29 | LF | $ 8.00 | $ 232 |
| Install 24" SD | 29 | LF | $ 55.00 | $ 1,595 |
| Install Trench Paving | 144 | SF | $ 8.00 | $ 1,152 |
| Construct Culvert Headwalls | 2 | EA | $ 3,500.00 | $ 7,000 |
| Traffic Control | 1 | LS | $ 8,000.00 | $ 8,000 |
| Subtotal | | | | $ 17,979 |
| General Conditions | 30 | % | | $ 5,394 |
| Sales Tax | 4 | % | | $ 719 |
| General Contractors Overhead & Profit | 8 | % | | $ 1,438 |
| Legal, Administration, & Engineering | 25 | % | | $ 4,495 |
| Bond | 2 | % | | $ 270 |
| **Total Base Bid** | | | | $ 30,295 |
| Contingency | 10 | % | | $ 3,029 |
| **Total with Contingency** | | | | **$ 33,324** |

WINZLER & KELLY
CONSULTING ENGINEERS

# MEMORANDUM

**TO:** **Toni Bertolero**

**FROM:** **Rick Jorgensen**

**DATE:** December 19, 2001

**RE:** Cotati Storm Drain Master Plan – US 101 Culvert

**JOB #:** 01-207705-010

At your request we have reviewed the box culvert (RCB) crossing of the Laguna De Santa Rosa crossing US 101. City staff field verified that the crossing consists of dual 10'x 9' RCB's.

In our original analysis for the master plan, we did not analyze this crossing or the Laguna in detail from US 101 downstream. We assumed that the FEMA mapping and Flood Insurance Study (FIS) were acceptable for this reach and we used the water surface through this reach referenced in the FIS. The FIS and Mapping indicate that the RCB crossing is adequate.

Our hydrology study resulted in flows at the Laguna higher than the FEMA FIS (2000 cfs vs 1500 cfs). If these flows are carried through this reach of the Laguna, a significantly higher 100-year water surface would be predicted which would lead to a recommended upsizing of this structure.

I do not believe this is warranted. The hydrology model when used to combine and route small watersheds downstream tends to result in conservative estimates. This is ok for analysis of smaller sub-watersheds. However, it was never our intention to develop a hydrology model that would override the FEMA analysis completed for the Laguna.

Our mapping currently does not reference the RCB directly. We indicate that the channel in this reach is adequate.

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