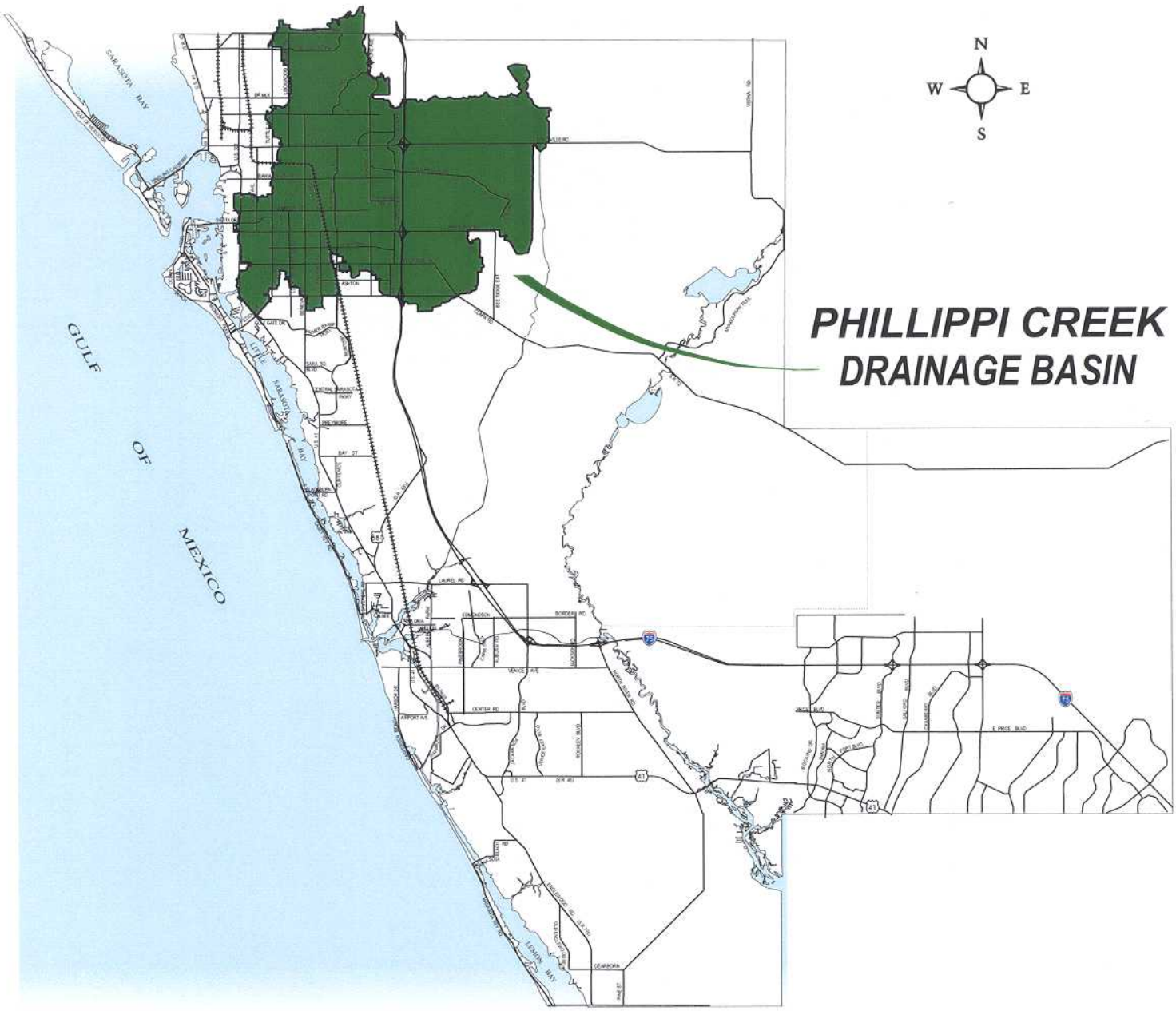
PHILLIPPI CREEK - FLOOD STUDY UPDATE

FINAL REPORT

March 2000



Sarasota County PUBLIC WORKS - SEU Planning

SARASOTA COUNTY

STORMWATER MANAGEMENT RESOURCE TECHNOLOGIES INC.

PHILLIPPI CREEK
COMPREHENSIVE FLOOD STUDY UPDATE

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SARASOTA COUNTY PUBLIC WORKS
STORMWATER PLANNING DIVISION

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INTRODUCTION

1.1 PURPOSE

The objective of the *Phillippi Creek Comprehensive Flood Study Update* is to create and implement a detailed, dynamic, and user friendly watershed model for use as a basin-planning tool. This "update" is intended to serve as a supplement to the *Phillippi Creek Basin Master Plan* (BMP) completed by Post, Buckley, Schuh, and Jernigan (PBS&J) in December of 1994, and adopted thereafter by the Sarasota County Board of Commissioners. Included in the BMP was a modeling study that employed a "macro" approach, with less than 100 subbasins. Although this level of detail was deemed suitable for the design and permitting of the large scale flood control projects completed to date (Main A and the Celery Fields), the model was not detailed enough to meet several other objectives. The new model employs a "micro" approach, with over 2,000 subbasins and 2,500 node locations. This approach provides several advantages over the original model, including:

1. The ability to identify potential adverse increases in off-site flood stages, which might result from new development proposals.
2. The ability to identify additional, localized flood protection level of service (FPLOS) deficiencies along the smaller tributaries of Phillippi Creek, which were outside the scope of the original "macro" modeling.
3. The ability to identify and evaluate the benefits from stormwater infrastructure improvement alternatives to resolve any additional localized FPLOS deficiencies.
4. The ability to re-evaluate the need for, and benefits associated with, existing recommended but not yet constructed capital improvement projects (CIP) for Phillippi Creek.
5. The ability to provide other County departments, other governmental agencies, and the general public with a comprehensive and accurate floodplain information database.

In addition, it is anticipated that the *Phillippi Creek Comprehensive Flood Study Update* will be submitted to the Federal Emergency Management Agency (FEMA) as part of a request to revise the Flood Insurance Rate Maps (FIRM) for Sarasota County. The flood study update has incorporated recent developments and improvements in the basin, including recently completed CIP projects and those that are currently under construction, or scheduled to be under construction by July of 2000.

1.2 AUTHORIZATION

The Sarasota Board of County Commissioners on June 9th, 1998 authorized this study as part of a three year *Stormwater Planning Work Program*, pursuant to Contract No. 98-280. This study was prepared by Stormwater Management Resource Technologies, Inc (SMRT), in cooperation with, the planning section of the stormwater division of Sarasota County Public Works.

1.3 BACKGROUND

The original BMP had a primary objective which was "to address the location and magnitude of the existing flood problems in the basin, to recommend a water quantity level of service for the County, and to recommend Capital Improvement Projects that will bring the stormwater conveyance systems within the basin into compliance with the recommended level of service criteria." A secondary objective was to address water quality concerns. The BMP report provides a comprehensive description of the Phillippi Creek Basin and its major tributaries, a

narrative description of historic flood events, and thorough inventories of past studies and previous improvements.

In an effort to accomplish the primary objective, the original BMP employed a "macro" approach to the modeling of Phillippi Creek and its major tributaries with SWMM-EXTRAN and HEC-2. A full description of the modeling methods and results can be found in the 1994 BMP report and the *Phillippi Creek Basin Master Plan Stormwater Technical Supplement*, also submitted by PBS&J in December of 1994.

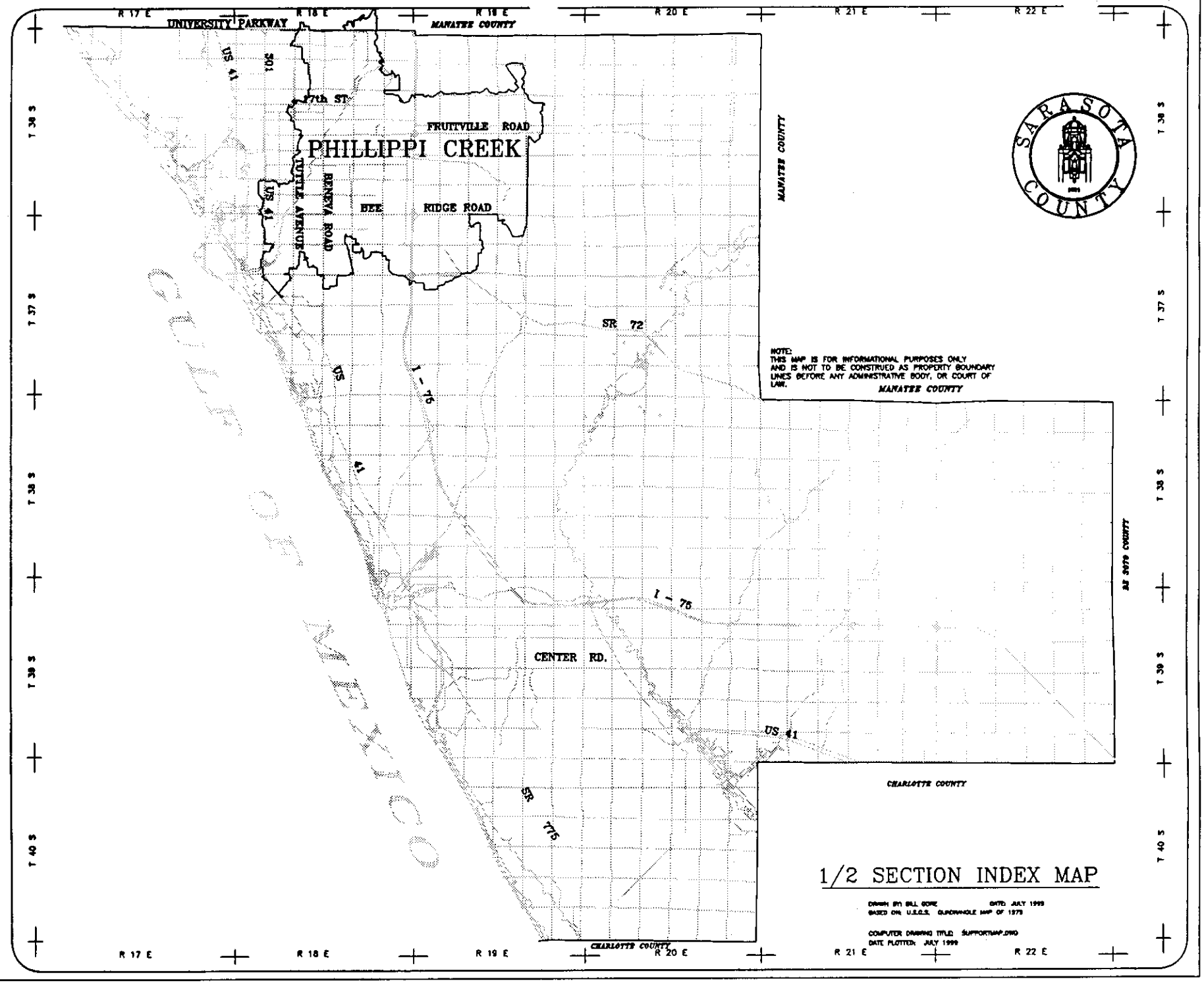
Several major CIP projects were recommended in the original BMP. Two of these projects have subsequently been completed in accordance with the concepts recommended in the BMP. The Main A improvements, designed by MEA Group Inc. and the Celery Fields Regional Stormwater Facility, designed by Boyle Engineering Corp. were constructed to provide flood relief to the Colonial Gables area.

The BMP recommended three other major projects consisting of Redbug Slough channel improvements, a Main B regional stormwater facility, and the Branch BA regional stormwater facility. Contracts were awarded on separate occasions to Kimley-Horn & Associates (KHA) to design and permit both the Redbug Slough improvements and the Main B regional facility. Subsequently, the concept for the Redbug Slough project was re-evaluated, primarily due to concerns related to real property acquisition and environmental impacts. As a result of the Redbug Slough / Clark Lakes Branch Flood Abatement Alternative Analysis completed in June of 1997, KHA recommended a by-pass culvert alternative. This project is currently designed and permitted, and is scheduled to go to construction early in the year 2000. KHA also re-evaluated the Main B regional facility concept. As a result of the detailed modeling completed for the Phillippi Creek Main B Flood Abatement Alternative Analysis in February of 1998, it was determined that the Main B regional facility was not needed, primarily due to a lack of widespread FPLOS deficiencies in the area. Several minor culvert enlargement projects were recommended to alleviate localized street flooding. The final CIP project recommended in the original BMP is the Branch BA regional facility. KHA was recently selected to design and permit this project. It is recommended that the concept for this project be reevaluated within the context of the *Phillippi Creek Comprehensive Flood Study Update.*

Since the completion of the original BMP, subsequent flood events have indicated a need for an additional project in the vicinity of Lockwood Ridge Road and Bahia Vista Street where approximately 100 homes flood. Known as the Lockwood Ridge/Bahia Vista Floodplain Reclamation Project, design is currently underway by Wilson Miller, Inc.

1.4 DESCRIPTION OF STUDY AREA

The Phillippi Creek Basin is a coastal watershed encompassing 55.83 square miles of the northern half of Sarasota County (refer to Figure 1.4.1 - Location Map). It is the most populous basin in the County, consisting of residential, commercial, and agricultural land uses. The topography of the watershed is flat, with the highest elevation of 45 feet occurring in the extreme northeast segment of the basin. Subbasin and channel slopes are generally less than 5 feet per mile. Soils in the basin are described by the NRCS Soils Survey as poorly drained fine sands. The primary conveyance system consists of open channels, originally dredged in the 1920's to improve drainage for agricultural uses (Smally, Wellford, and Nalven, 1961, p.13). These rural ditches and canals typically were never converted to an "urban" drainage system, as the basin was developed. This fact, coupled with extensive construction in the floodplain, has resulted in the flooding problems experienced during major storm events.



(FIGURE 1.4.1 - LOCATION MAP)

2.0 INVESTIGATIVE METHODS

2.1 DATA SOURCES

The primary source of topographic information utilized was the Southwest Florida Water Management District (SWFWMD) aerials with 1-foot contours dating from 1979 to 1993. A systematic review of the files of Sarasota County Public Works, the Southwest Florida Water Management District, and the City of Sarasota was conducted for developments within the Phillippi Creek Basin. Approved construction plans and record drawings were used extensively in the development of the model in order to reduce field survey requirements, and to supplement the SWFWMD aerials where they pre-date the newer developments. Sarasota County 1995 aerial photography was used to estimate impervious coverage. In addition, City of Sarasota Drainage Maps dating from 1955 to 1986 were used to aid in the delineation of subbasins within the City Limits.

Previous detailed studies were utilized wherever possible. Existing ICPR modeling completed for the County by Kimley-Horn and Associates, Inc. for the Redbug Slough / Clark Lakes Branch Flood Abatement Alternative Analysis in June of 1997 and the Phillippi Creek Main B Flood Abatement Alternative Analysis in February of 1998 was incorporated directly. Surveyed cross sections for Branch BA were obtained from the Branch BA Floodplain Study completed by Smally, Wellford, and Nalven, Inc. in October of 1989. Surveyed cross sections for Branch C were utilized from the Analysis of Branch C prepared by Post, Buckley, Schuh, & Jernigan, Inc., also in October of 1989. Also incorporated was information contained in the South Leewyn Drive Stormwater Improvements Design Report prepared by Day and Zimmermann Infrastructure, Inc., in association with Thomas A. Shoopman, P.E, in December of 1998.

Where information was not available from record drawings or previous studies, field surveyed cross section, pipe, and structure information was obtained. This task required significant effort, combining personnel from the Sarasota County Survey and Mapping Division, Darrell E. Gerken, PSM, Inc., Wilson, Miller, Barton, and Peek, Inc., and Strayer Surveying and Mapping, Inc. In addition, field surveys by Hazen and Sawyer, Inc., and MEA Group Inc., were utilized for the Lateral AA and Lateral AB study areas, respectively.

Finally, field reconnaissance was conducted of all the major drainage ways and tributaries. Color photographs of the open channel reaches were taken in September of 1999 for determination of design manning's n values.

2.2 FLOODPLAIN ANALYSIS METHODOLOGY

2.2.1 HYDROLOGY

The Natural Resources Conservation Service (NRCS), formerly known as the Soil Conservation Service (SCS) Curve Number and Unit Hydrograph Method contained within ICPR version 2.11 was used for the hydrologic portion of the modeling. The NRCS unit hydrograph method requires certain information be provided to generate runoff hydrographs. This information typically includes (1) subbasin area, (2) rainfall, (3) runoff curve number, (4) time of concentration, and (5) peak rate factor.

Since subbasin areas and rainfall information are measurable or known quantities, there is typically minimal subjectivity in their determination. The runoff curve number is a parameter that determines the volume of runoff. It is typically an indicator of impervious coverage and/or water table depth. Therefore for a given land use and/or initial water table depth under design conditions, careful thought should minimize the subjectivity of selecting this parameter. It should be mentioned that the hydrologic model utilized for the analyses allow for the portion of the subbasin that is in directly connected impervious coverage to be considered separately. Finally, the time of concentration and peak rate factor are unit hydrograph parameters. They dictate the magnitude and shape of the runoff hydrograph. Selection of these parameters has been extremely subjective to engineering judgement. In recent years there has been significant discussion on peak rate factors in Southwest Florida which has led to several conclusions that peak rate factors in the southern portion of Florida should be around 100, particularly for undeveloped or rural watersheds. Time of concentration parameters remain extremely subjective and are typically computed using empirical equations provided by numerous sources.

The procedures used for the Phillippi Creek model update are discussed below. In particular, significant discussion is provided for the information requirements that are considered subjective.

SUBBASIN AREA

Topographic maps and construction plans for the entire watershed were used to delineate subbasins within the Phillippi Creek watershed. Subbasins were delineated in concert with the hydraulic network. Over 2,000 subbasins were ultimately delineated and considered in the analysis.

RAINFALL

This information is typically available as an actual storm event that has been measured or a design event that is recommended by an authoritative source. In the case of Phillippi Creek, initial calibration simulations utilized actual rainfall measurements from a major storm that occurred on November 13-14, 1997 in the watershed. Subsequent design storms were then simulated using rainfall volumes, distributions, and durations recommended by the Southwest Florida Water Management District (24-hour duration) and the South Florida Water Management District (72-hour). A detailed discussion of these storms is provided in Sections 2.2.3 and 2.2.4 of this report.

SELECTION OF DESIGN CURVE NUMBER

The runoff volume for each subbasin was computed as prescribed by the NRCS Runoff Curve Method with the exception that the area of directly connected impervious coverage was first determined and subtracted from the total area. This directly connected impervious area is that which is connected to the subbasin outfall by impervious surfaces such that no infiltration can take place.

The remaining area in the subbasin is comprised of non-directly connected impervious areas (impervious surfaces where runoff can flow over pervious surface before reaching the subbasin outfall) and pervious areas. A weighted Runoff Curve Number was computed for this remaining portion of each subbasin. Runoff Curve Numbers for non-directly connected impervious areas was taken as 98. Runoff Curve Numbers for pervious areas was taken as 78, for design conditions. Several references were consulted to support a design Runoff Curve Number of 78 for pervious surfaces and are discussed briefly below:

1. Sarasota County – Development Services

Sarasota County Development Services administers stormwater related ordinances and has typically required a Runoff Curve Number of 70 for undeveloped areas in determining allowable release rates from new development.

2. Southwest Florida Water Management District – Basis of Review Permit Manual

The Southwest Florida Water Management District (SWFWMD) guidelines recommend the use of the NRCS Method under antecedent moisture condition II (average) when determining design peak discharge rates. This would basically default to the method discussed below.

3. NRCS (fka SCS) - Technical Release No. 55 (2nd Edition)

The NRCS provides national guidelines for selecting Runoff Curve Numbers by hydrologic soil group. For open space, grassland, or pasture, the following Runoff Curve Numbers are presented:

Table 2.2.1.1 – NRCS Curve Numbers for Open Space

Open Space, Condition	Soil Group A	Soil Group B	Soil Group C	Soil Group D
Poor Condition	68	79	86	89
Fair Condition	49	69	79	84
Good Condition	39	61	74	80

Most soils in Sarasota County are considered hydrologic soil group B/D. Assuming open space in fair condition and a hydrologic soil group C as indicative of average wet season conditions yields a design Runoff Curve Number of 79.

4. Camp Dresser & McKee (CDM) – Sarasota County Stormwater Master Plan

In 1986, CDM prepared a Stormwater Master Plan for Sarasota County. This Plan included detailed hydrologic analyses for the Phillippi Creek and Alligator Creek basins using the Runoff Block from the SWMM computer model, as customized by CDM. To account for infiltration losses, CDM utilized Horton's equation. Unique to the CDM model, a maximum

amount of soil storage is specified in the Runoff Block input file. The maximum amount of soil storage was determined by CDM for each NRCS Soil Group, as follows:

Table 2.2.1.2 – Maximum Infiltration as a Function of Hydrologic Soils Group, CDM (1986)

Soil Group	Maximum Infiltration
A	3.8"
B	3.0"
C	2.2"
D	1.6"

Consistent with their Runoff Block input file, CDM indicates that for design purposes, an NRCS Soil Classification C was appropriate. In addition, 0.1" of depression storage was specified in the Runoff Block input file for the majority of subbasins in Phillippi Creek. These rainfall loss assumptions equate to a Runoff Curve Number of 81.

5. South Florida Water Management District – Basis of Review Permit Manual

With the understanding that hydrologic conditions in Sarasota County may be more indicative of those found within the limits of the South Florida Water Management District (SFWMD) than those in the Southwest Florida Water Management District, the formers' guidelines for determining runoff from pervious surfaces were consulted. These guidelines recommend using antecedent moisture conditions based upon average, wet-season water table elevations for design purposes. The SFWMD Permit Manual provides soil storage capacity for normal sandy soils found within the District in their natural state, as estimated by the NRCS. Specifically, Curve Numbers are a function of soil storage, which is a function of the depth to the water table as indicated below:

Table 2.2.1.3 – Available Storage as a Function of Depth to Water Table (NRCS), and Corresponding Runoff Curve Number

Depth to Water Table	Available Storage	Runoff Curve Number
1'	0.6"	94
2'	2.5"	80
3'	6.6"	60
4'	10.9"	48

For design purposes, an assumed wet-season depth to water table of 2' to 2.5' yields a design Runoff Curve Number between 70 and 80.

6. University of Florida – Estimation of Runoff Peak Rates and Volumes from Flatwoods Watersheds

Supported by the South Florida Water Management District, this report included as an objective re-examining runoff volume estimating techniques using actual data collected by the South Florida Water Management District and the U.S. Geological Survey on five agricultural (improved and unimproved pasture) watersheds ranging from 20 to 3600 acres. The data base considered approximately 160 storms, all equal to or exceeding 0.70 inches and having reliable, concurrent runoff and water table data.

Of the seven different runoff estimating techniques considered, those that incorporated the antecedent water table conditions were found to provide the best results. The Agricultural Research Service (ARS) method was reported to consistently perform best on all event classes. The ARS method relates available soil storage to the depth to the water table. The relationship given by the ARS method between depth to water table, available soil storage, and Runoff Curve Number is summarized below:

Table 2.2.1.4 – Available Storage as a Function of Depth to Water Table (ARS), and Corresponding Runoff Curve Number

Depth to Water Table	Available Soil Storage	Runoff Curve Number
0.5'	0.25"	97.5
1.0'	0.81"	92.5
1.5'	1.44"	87
2.0'	2.19"	82
2.5'	2.94"	77
3.0'	3.69"	73
3.5'	4.44"	69
4.0'	5.19"	66

An average wet-season depth to water table between 2' and 2.5' would correspond to a design Runoff Curve Number between 77 and 82.

7. U.S. Geological Survey – Hydrological Data Collection in Sarasota County

The U.S. Geological Survey, through a cooperative funding agreement with Sarasota County gauged seven watersheds within Sarasota County between mid 1991 and mid 1993. Significant rainfall and runoff were recorded in the last 2 years of this period of record to the extent that the U.S.G.S. was able to develop stage discharge rating curves at all seven gauge locations. A digital copy of the incremental rainfall and runoff measurements was obtained from the U.S.G.S. Areas upstream of the gauge sites were also verified independently using SWFWMD 1-foot contour aerials, as opposed to USGS 5-foot contour aerials. Runoff curve numbers were independently calculated using the NRCS runoff equation:

$$Q = \frac{(P - I_a)^2}{(P - I_a)^2 + S}$$

where

Q = runoff (in),
P = rainfall (in),
S = potential maximum retention after runoff begins (in), and
I_a = initial abstraction (in).

If I_a is approximated as 0.2S, then the runoff equation reduces to:

$$Q = \frac{(P - 0.2S)^2}{(P + 0.8S)}.$$

The above form of the runoff equation can be used to solve for S, since Q and P are known. Curve number is related to S by the equation:

$$CN = \frac{1000}{S + 10}.$$

The results of the reductions for the four rural and/or agricultural basins are provided in the following table:

Table 2.2.1.5 – Computed Wet Season Runoff Curve Numbers in Sarasota County

South Creek			
Date	Rainfall (inches)	Runoff (inches)	Curve Number
6/23/92	17.20"	4.30"	29.7
9/06/92	1.17"	0.13"	79.4
9/13/92	1.83"	0.39"	77.9
3/13/93	2.93"	0.69"	70.3
4/01/93	3.30"	1.27"	76.8
Average CN			66.8
Average Wet Season CN			78.6
Forked Creek			
Date	Rainfall (inches)	Runoff (inches)	Curve Number
6/23/92	12.83"	7.00"	58.2
8/09/92	6.20"	1.94"	58.7
10/02/92	1.29"	0.45"	88.4
3/13/93	1.25"	0.07"	73.9
4/15/93	1.06"	0.08"	78.4
Average CN			71.5
Average Wet Season CN			73.5
Gottfried Creek			
Date	Rainfall (inches)	Runoff (inches)	Curve Number
6/24/92	15.15"	8.41"	55.0
8/09/92	3.55"	1.09"	70.9
8/11/92	1.21"	0.37"	87.7
10/02/92	2.13"	0.74"	82.1
1/08/93	2.33"	0.13"	60.2
3/13/93	1.80"	0.09"	65.1
3/17/93	1.06"	0.07"	77.5
4/01/93	1.24"	0.09"	75.3
4/15/93	1.62"	0.10"	69.3
5/08/93	1.27"	0.06"	72.0
Average CN			71.5
Average Wet Season CN			80.2
Ainger Creek			
Date	Rainfall (inches)	Runoff (inches)	Curve Number
6/23/92	16.11"	6.24"	40.5
9/25/92	1.33"	0.83"	94.6
10/02/92	2.31"	1.21"	87.8
10/11/92	1.20"	0.43"	89.3
7/14/93	1.70"	0.05"	63.4
Average CN			75.1
Average Wet Season CN			83.8

Based upon the independent reduction of the USGS data, average runoff curve numbers in the four rural basins in Sarasota County range between 66.8 and 75.1. When considering the wet season (between June and October), the average runoff curve numbers range between 73.5 and 83.8. It should be noted that the largest storm recorded in late June of 1992 was not considered in the average wet season computation due to the fact that the antecedent moisture

conditions preceding this event were extremely dry. In addition, rural areas typically do not produce runoff at the initiation of the wet season, as it can take several weeks to a month for groundwater and wetland water levels to be replenished following April and May.

PEAK RATE FACTOR DETERMINATION

The National Resources Conservation Service (NRCS) hydrologic method utilizes a site specific unit hydrograph and a storm specific excess rainfall hyetograph to generate a storm specific runoff hydrograph. While the antecedent moisture conditions and rainfall distribution and volume vary from event to event, the dimensionless unit hydrograph is assumed to remain constant for a given subbasin.

The dimensionless unit hydrograph is defined by the watershed area and time of concentration, as well as a peak rate factor (PRF). Although a standard peak rate factor of 484 is recommended by the NRCS, peak rate factors have been found to deviate as a function of local topography. National Engineering Handbook No. 4 indicates that a value of 300 may be appropriate for 'flat swampy' areas, and a value of 284 has been developed for the Delaware/Maryland/Virginia (Delmarva) coastal area based upon analysis of seven (7) total storm events and four (4) watersheds with slopes between 2% and 5%. Subsequent research by the University of Florida on five (5) watersheds and approximately 80 storm events has indicated peak rate factors as low as 75 may be appropriate in southern Florida. Peak rate factors commonly used for design purposes in the Southwest Florida Water Management District include 256, 284 and 323.

The accurate estimation of peak rate factors for the southern portion of Florida, which includes Sarasota County, has received much attention in recent years. Standard de-convolution is one technique which is prescribed for determining unit hydrographs from observed data and requires both rainfall and runoff measurements. However, this technique is very tedious and since it is extremely sensitive to the rainfall distribution, it is frequently not successful.

1. Description of Study Areas

The five study areas are situated in Sarasota County, Florida. These study areas are nearly level and contain various degrees of both urbanization and stormwater management facilities. A brief overview of each of the study areas if provided below:

Walker Creek The Walker Creek study area contains approximately 2,939 acres and is located in the northwest portion of Sarasota County. This coastal basin generally drains from east to west to Whitaker Bayou and Sarasota Bay. It is essentially 100% developed with mixed urban land uses. Although it contains a well-defined network of drainage ditches, minimal stormwater management facilities are located in the study area. Underlying soils consist primarily of poorly drained Eaugallie and Myakka Fine Sand.

Clower Creek The Clower Creek study area contains a reported 227 acres and is located in west central Sarasota County. Land uses in this developed coastal basin include a regional mall, strip shopping centers, a mobile home park, residential areas, and major roadway corridors. An estimated 70% of this basin is serviced by stormwater management facilities. However many of these systems have been in existence for 20 years or more and may therefore not meet current flood control design standards. This small coastal basin ultimately empties into Little Sarasota Bay. Drainage is primarily from east to west and is serviced by a man-made ditch, a significant portion of which has been enclosed by a large, storm sewer

system. Primary underlying soils include poorly drained Eaugallie and Myakka Fine Sand and Pineda Fine Sand.

Catfish Creek The Catfish Creek study area contains an estimated 3,180 acres and is located in the west central portion of Sarasota County. This coastal basin generally drains north to south and eventually empties into Little Sarasota Bay. At the time of the data collection, this basin was approximately 70% developed, primarily with residential land uses, although some industrial type land uses are located within its headwaters. With the exception of these older industrial areas, the developed portions of this study area are serviced by state of the art stormwater management facilities. A well-defined canal, known as the Catfish Creek Main and three lateral ditches provide drainage for the study area. Primarily soils are poorly drained Eaugallie and Myakka Fine Sand and Pineda Fine Sand.

South Creek The South Creek study area contains 294 acres located at the headwaters of the 20 square mile South Creek watershed. This study area is located in central Sarasota County and eventually discharges into Drymond Bay. Although the land use characteristics of this study area are primarily rural in nature, an on-going institutional development associated with a medical complex is located in its upper portion. Drainage is serviced by a man-made ditch, which conducts stormwater from north to south along the westerly boundary of the study area. Canals with large water control structures provide drainage for the institutional area. Primary soils are poorly drained Eaugallie and Myakka Fine Sand and Ona Fine Sand.

Gottfried Creek The Gottfried Creek study area contains an estimated 1,065 acres and is located in southwest Sarasota County. This coastal basin ultimately discharges into Lemon Bay. Although a large portion of this study area is undeveloped (±60%), some residential development with minimal stormwater management facilities are scattered throughout. Drainage in this study area is serviced by a man-made ditch, which was excavated through the center of an elongated wetland slough. Stormwater is conveyed northwest and then northeast through this study area. Primary soils include poorly drained Eaugallie and Myakka Fine Sand.

2. Data Collection and Analysis

Continuous rainfall and water level recorders for all study areas except the South Creek study area were placed and operated by the U.S.G.S., in cooperation with Sarasota County between October of 1991 and 1993. The South Creek study area is gauged with continuous rainfall and water level recorders, which have been in place since late 1992 and are operated by the Palmer Ranch.

Although the initial monitoring period between October 1991 and June 1992 produced few rainfall/runoff events, approximately 15 to 18 inches of rainfall fell in a three day period resulting in extensive and severe flooding throughout much of Sarasota County in late June of 1992. The 1992 summer rainy season, as well as those in 1993 and 1994 produced many rainfall events exceeding 1 inch and runoff events exceeding ½ inch which allowed numerous discharge measurements and the development of reliable rating curves at all monitoring sites. Continuous rainfall and discharge measurements were obtained from the U.S.G.S. for all sites except South Creek. Continuous rainfall and water level strip charts for the South Creek site were obtained from the Palmer Ranch. Discharge measurements and rating curve information for the South Creek site were developed by CCI Environmental Services, Incorporated.

This information was reviewed and reduced for each of the study areas. Specifically, rainfall hyetographs and distributions, as well as direct runoff hydrographs were ascertained from the data. Although base flow appeared to be negligible for these small coastal study areas, it was determined that the runoff hydrographs consist of both water released by the surficial water table as well as surface runoff. Although the surficial groundwater component may be significant, no inherent separation method was obvious. Direct runoff hydrographs (DRH) were determined using the straight-line approach. Initial rainfall and runoff times were noted to determine the time of the runoff hydrograph peaks. Rainfall/runoff events which were reduced are summarized in Table 2.2.1.6 and include 17 events for Walker Creek, 14 events for Catfish Creek, 9 events for Clower Creek, 5 events for South Creek, and 12 events for Gottfried Creek.

Table 2.2.1.6 - Summary of Rainfall/Runoff Events

Walker Creek			
Date	Rainfall	Runoff	Peak Discharge
06/24/92	5.31"	1.24"	399 cfs
07/23/92	2.56"	1.25"	427 cfs
08/07/92	1.79"	1.05"	388 cfs
08/11/92	0.98"	0.48"	149 cfs
09/04/92	2.39"	0.09"	328 cfs
09/05/92	2.03"	0.59"	246 cfs
09/26/92	1.46"	0.97"	270 cfs
02/26/93	1.18"	0.23"	98 cfs
03/12/93	1.26"	0.43"	122 cfs
04/01/93	3.05"	1.20"	316 cfs
04/05/93	1.08"	0.37"	128 cfs
04/15/93	1.65"	0.40"	113 cfs
05/30/93	1.42"	0.12"	85 cfs
05/31/93	0.74"	0.06"	40 cfs
07/01/93	2.54"	0.49"	236 cfs
07/07/93	0.73"	0.14"	36 cfs
07/14/93	0.92"	0.10"	47 cfs
Clower Creek			
Date	Rainfall	Runoff	Peak Discharge
03/30/92	0.86"	0.38"	21 cfs
07/12/92	1.53"	0.86"	36 cfs
07/22/92	1.28"	0.89"	43 cfs
08/14/92	0.79"	0.11"	19 cfs
09/02/92	1.67"	1.09"	64 cfs
09/04/92	1.15"	0.61"	38 cfs
09/13/92	3.10"	2.49"	108 cfs
01/14/93	1.80"	0.89"	41 cfs
01/15/93	1.28"	0.63"	35 cfs
Catfish Creek			
Date	Rainfall	Runoff	Peak Discharge

01/08/93	1.68"	0.05"	11 cfs
01/14/93	3.25"	0.69"	68 cfs
01/25/93	1.48"	0.43"	41 cfs
02/22/93	0.08"	0.06"	9 cfs
02/26/93	1.02"	0.18"	29 cfs
03/03/93	0.52"	0.06"	6 cfs
03/13/93	2.54"	0.64"	133 cfs
04/01/93	4.49"	2.06"	301 cfs
04/05/93	1.25"	0.31"	61 cfs
04/15/93	1.73"	0.49"	83 cfs
07/31/93	0.76"	0.06"	21 cfs
08/16/93	1.13"	0.15"	31 cfs
08/30/93	1.60"	0.34"	44 cfs
09/13/93	0.88"	0.49"	62 cfs
	South	**Creek**	
Date	Rainfall	Runoff	Peak Discharge
03/12/93	2.70"	1.40"	7 cfs
04/01/93	4.70"	3.33"	19 cfs
04/15/93	1.70"	1.22"	7 cfs
03/01/94	2.70"	0.74"	5 cfs
10/13/94	1.80"	1.34"	9 cfs
	Gottfried	**Creek**	
Date	Rainfall	Runoff	Peak Discharge
06/24/92	15.15"	8.41"	118 cfs
08/09/92	3.55"	1.09"	20 cfs
08/11/92	1.21"	0.37"	15 cfs
10/02/92	2.13"	0.74"	17 cfs
01/08/93	2.33"	0.13"	2 cfs
03/13/93	1.80"	0.09"	4 cfs
03/17/93	1.06"	0.07"	2 cfs
04/01/93	1.24"	0.09"	2 cfs
04/15/93	1.62"	0.10"	3 cfs
08/31/93	not avail.	0.07"	5 cfs
09/15/93	not avail.	0.08"	4 cfs
10/02/91	not avail.	0.63"	22 cfs

In addition, some general trends were noted from the review of the observed data:

- All basins appear to respond relatively quickly to the initiation of rainfall.
- Runoff hydrographs for all basins appear to have relatively long recession limbs. (A significant portion of the runoff volume is contained in the recession limb of the hydrograph.)

- All basins responded only to rainfall and contained no discernable base flow.

- Although a significant portion of the runoff hydrograph volume is attributable to surficial groundwater, it was not possible to dissect it from the surface water component.

- The time to the peak runoff discharge appears inversely related to the degree of urbanization and drainage. Accordingly, the urban study areas produced more discrete runoff events than the rural study areas.

- A possible linear relationship between runoff volumes and peak discharges seemed generally apparent for all study areas.

3. NRCS Unit Hydrograph

The NRCS unit hydrograph method (1985) has been developed and extensively used and is based upon the following equation:

$$qp = \frac{K A Q}{Tp} \qquad (1)$$

where, qp = peak discharge, in cfs; K = peak rate factor; A = drainage area, in square miles; Q = runoff volume, in inches; Tp = time to peak, in hours.

Unit hydrographs are computed by the NRCS computer model through specification of a peak rate factor, drainage area, and time of concentration. By definition, the runoff volume for the NRCS unit hydrograph is equal to 1 inch. A user specified rainfall distribution is then used to compute the resulting runoff hydrograph through standard convolution techniques.

Conversely, if continuous rainfall and discharge measurements are available, event specific unit hydrographs may be determined through de-convolution techniques. However, this de-convolution procedure is tedious and its success is very dependent upon the uniformity of the rainfall distribution. Although this de-convolution was employed, it had limited success and yielded very event specific unit hydrographs.

An alternative procedure was utilized to develop generic unit hydrographs for each of the study areas based upon the previously observed trend that a linear relationship between runoff volume and peak discharges may exist. As such, peak discharge rates were plotted against runoff volumes for each study area. A linear regression analysis was performed for each study area, which allowed the determination of the peak discharge rate corresponding to one inch of runoff. Standard errors were added to provide a bias toward single, high intensity events. From this analysis, K/Tp ratios were computed using equation 1. The results of the linear regression analyses are presented in TABLE 2.2.1.7.

Table 2.2.1.7 - Results of Peak Discharge vs. Runoff Volume Linear Regression Analysis

Location	Area	Constant	Std. Error	r2	No. of Obs.	X Coeff.	Std. Error	qp R = 1"	K/Tp	qp/Area
Walker	2,939 acres	23.32	37.55	0.93	17	302.55	22.10	385.5 cfs	83.9	0.13
Clower	227 acres	10.27	6.08	0.96	9	143.39	3.19	59.9 cfs	166.0	0.26
Catfish	3,180 acres	2.81	17.6	0.95	14	39.32	9.41	173.2 cfs	34.9	0.05
South	292 acres	0.95	0.99	0.97	5	5.27	0.50	7.7 cfs	16.8	0.03
Gottfried	1,065 acres	4.41	4.18	0.98	12	13.63	0.53	22.8 cfs	13.7	0.02

The constant K/Tp ratios for each basin enabled the development of Tp estimates for a range of peak rate factors. The following five (5) peak rate factors were considered.

PEAK RATE FACTOR	SOURCE
75	University of Florida
256	Commonly used in Florida
284	Delmarva Unit Hydrograph
323	Commonly used in Florida
484	Standard NRCS Unit Hydrograph

Each combination of K and Tp were simulated for each storm and for each study area. Dimensionless coordinates available from others (1989) were used to define unit hydrographs with shape factors of 256, 323, and 484. Curvilinear dimensionless unit hydrographs with peak rate factors of 75 (1986) and 284 were prepared using the procedures outlined in the Neidrauer paper (Undated). Storm specific runoff curve numbers were computed using rainfall and runoff volumes for each event. For estimation purposes, the basin lag time was assumed approximately equal to the unit hydrograph time to peak. Therefore, the time of concentration was estimated by the following NRCS equation:

$$Tc = Lag\ (\sim Tp)/0.6 \qquad (2)$$

4. Results and Conclusions

Tables 2.2.1.8 through 2.2.1.12 on the following pages compare observed and computed peak discharges and their associated times for the NRCS unit hydrograph analyses. These comparisons indicate that all combinations of peak rate factors and times of concentration simulate the observed flows with reasonable accuracy for all storms and for all watersheds. However, the combination of the lowest peak rate factor and time of concentration consistently performed the best in simulating the observed time to peak of the hydrograph for all watersheds.

- All K/Tp ratios resulted in runoff hydrograph peak discharges which are consistent and in reasonably good agreement with those measured.

- Overall, runoff hydrographs computed using Tp's associated with a K of 75 provided the closest agreement between observed and simulated runoff hydrograph times to peak.

Table 2.2.1.8a - Comparison of Observed and Computed Peak Discharges –Walker Creek

Storm	Obs. Flow	Series 1 K = 75 Tc = 89 min	Series 2 K = 256 Tc = 305 min	Series 3 K = 284 Tc = 338 min	Series 4 K = 323 Tc = 385 min	Series 5 K = 484 Tc = 577 min
06/24/92	399 cfs	325 cfs	309 cfs	349 cfs	319 cfs	355 cfs
07/23/92	427 cfs	422 cfs	424 cfs	429 cfs	429 cfs	430 cfs
08/07/92	388 cfs	350 cfs	353 cfs	358 cfs	357 cfs	360 cfs
08/11/92	149 cfs	164 cfs	163 cfs	164 cfs	165 cfs	165 cfs
09/04/92	328 cfs	298 cfs	304 cfs	307 cfs	309 cfs	309 cfs
09/05/92	246 cfs	192 cfs	201 cfs	204 cfs	204 cfs	205 cfs
09/26/92	270 cfs	329 cfs	332 cfs	334 cfs	334 cfs	335 cfs
02/96/93	98 cfs	79 cfs	80 cfs	82 cfs	82 cfs	82 cfs
03/12/93	122 cfs	137 cfs	138 cfs	143 cfs	142 cfs	145 cfs
04/01/93	316 cfs	332 cfs	310 cfs	357 cfs	320 cfs	363 cfs
04/05/93	128 cfs	123 cfs	124 cfs	126 cfs	125 cfs	126 cfs
04/15/93	113 cfs	125 cfs	126 cfs	134 cfs	130 cfs	135 cfs
05/30/93	85 cfs	40 cfs	40 cfs	40 cfs	40 cfs	40 cfs
05/31/93	40 cfs	21 cfs	22 cfs	22 cfs	22 cfs	22 cfs
07/01/93	236 cfs	164 cfs	164 cfs	167 cfs	166 cfs	167 cfs
07/07/93	36 cfs	49 cfs	50 cfs	50 cfs	50 cfs	50 cfs
07/14/93	47 cfs	31 cfs	32 cfs	33 cfs	33 cfs	33 cfs

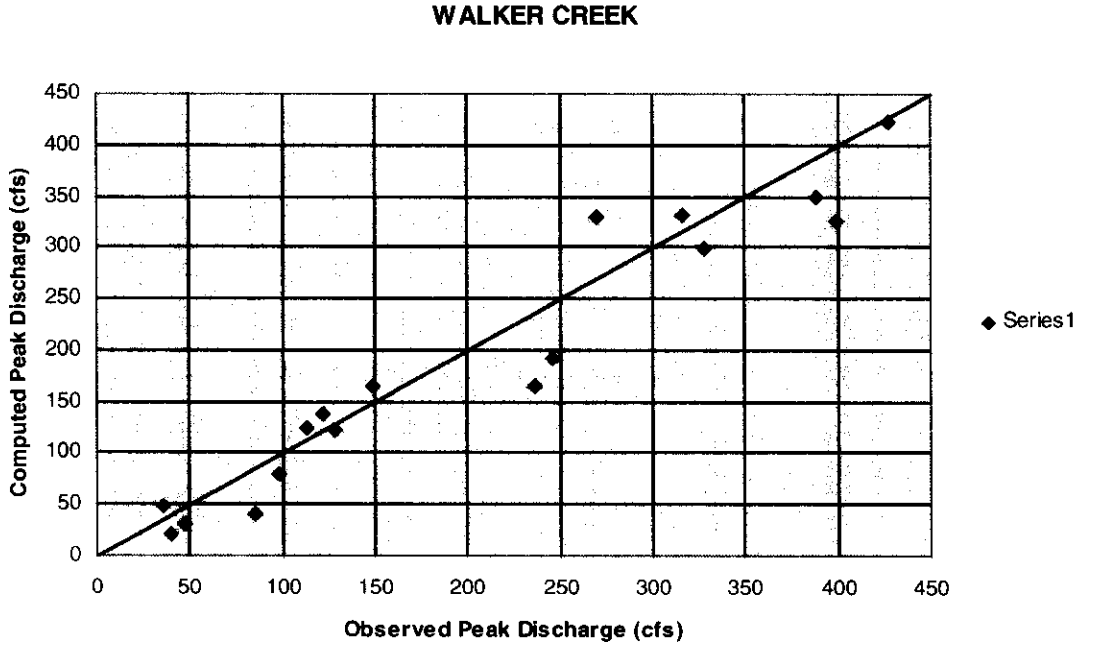


Table 2.2.1.8b - Comparison of Observed and Computed Peak Discharge Times -Walker Creek

Storm	Obs. TP	Series 1 K = 75 Tc = 89 min	Series 2 K = 256 Tc = 305 min	Series 3 K = 284 Tc = 338 min	Series 4 K = 323 Tc = 385 min	Series 5 K = 484 Tc = 577 min
06/24/92	7.75 hrs	12.26 hrs	14.00 hrs	13.75 hrs	14.50 hrs	16.00 hrs
07/23/92	1.50 hrs	1.78 hrs	4.00 hrs	4.25 hrs	4.75 hrs	6.75 hrs
08/07/92	2.00 hrs	1.58 hrs	4.00 hrs	4.25 hrs	5.00 hrs	7.00 hrs
08/11/92	1.25 hrs	1.19 hrs	3.50 hrs	3.75 hrs	4.50 hrs	6.50 hrs
09/04/92	1.50 hrs	1.78 hrs	4.25 hrs	4.50 hrs	5.00 hrs	7.00 hrs
09/05/92	1.25 hrs	1.78 hrs	4.25 hrs	4.25 hrs	5.00 hrs	7.00 hrs
09/26/92	3.00 hrs	2.77 hrs	5.00 hrs	5.50 hrs	6.00 hrs	8.00 hrs
02/26/93	2.50 hrs	3.56 hrs	5.75 hrs	5.75 hrs	6.50 hrs	8.50 hrs
03/12/93	5.75 hrs	3.16 hrs	5.00 hrs	5.25 hrs	5.75 hrs	7.75 hrs
04/01/93	2.50 hrs	5.54 hrs	7.50 hrs	6.75 hrs	8.00 hrs	9.25 hrs
04/01/93	2.50 hrs	3.76 hrs	5.75 hrs	6.00 hrs	6.75 hrs	8.75 hrs
04/15/93	2.75 hrs	5.74 hrs	7.25 hrs	7.25 hrs	8.00 hrs	9.75 hrs
05/30/93	1.25 hrs	1.58 hrs	4.00 hrs	4.25 hrs	4.75 hrs	7.00 hrs
05/31/93	1.75 hrs	2.97 hrs	5.25 hrs	5.75hrs	6.25 hrs	8.25 hrs
07/01/93	4.75 hrs	4.94 hrs	7.25 hrs	7.50 hrs	8.00 hrs	10.00 hrs
07/07/93	1.50 hrs	1.58 hrs	4.00 hrs	4.25 hrs	4.75 hrs	6.75 hrs
07/14/93	1.75 hrs	2.57 hrs	4.75 hrs	4.75 hrs	5.50 hrs	7.75 hrs

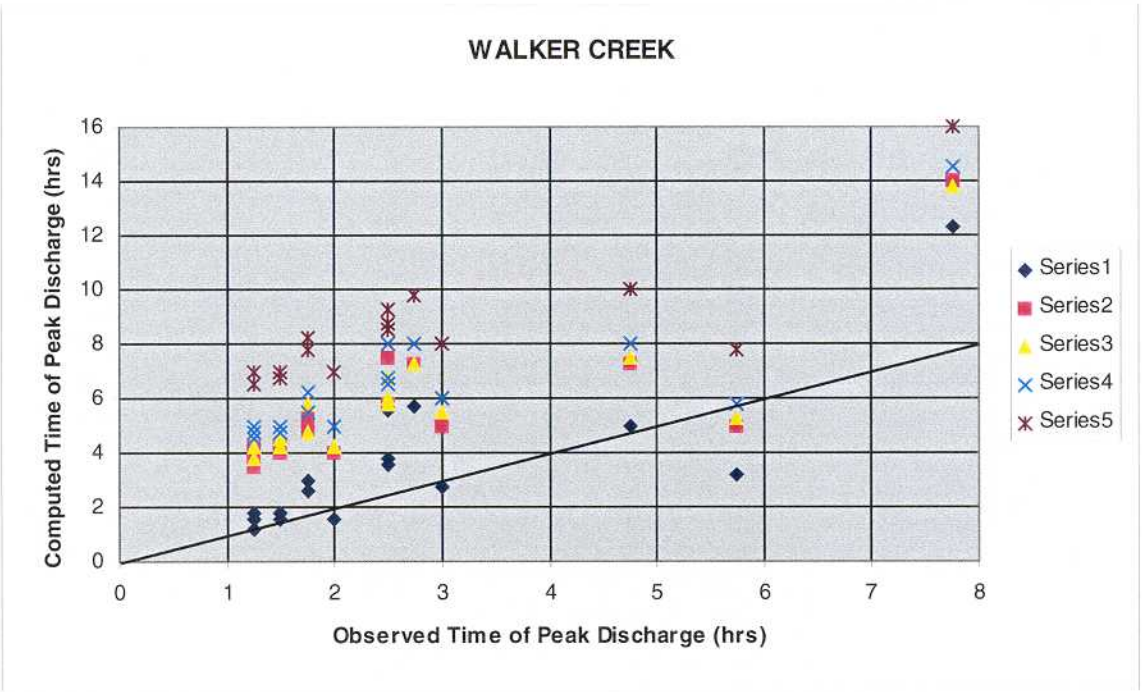


Table 2.2.1.9a - Comparison of Observed and Computed Peak Discharges - Clower Creek

Storm	Obs. Flow	Series 1 K = 75 Tc = 45 min	Series 2 K = 256 Tc = 154 min	Series 3 K = 284 Tc = 171 min	Series 4 K = 323 Tc = 194 min	Series 5 K = 484 Tc = 291 min
03/30/92	20.8 cfs	9.9 cfs	9.7 cfs	11.3 cfs	10.2 cfs	11.6 cfs
07/12/92	36.3 cfs	41.3 cfs	41.3 cfs	42.0 cfs	42.0 cfs	43.1 cfs
07/22/92	43.2 cfs	43.8 cfs	44.0 cfs	44.9 cfs	45.0 cfs	45.7 cfs
08/14/92	19.1 cfs	10.4 cfs	5.7 cfs	5.7 cfs	5.7 cfs	5.8 cfs
09/02/92	64.0 cfs	54.2 cfs	54.8 cfs	56.0 cfs	56.0 cfs	56.7 cfs
09/04/92	38.4 cfs	31.8 cfs	31.7 cfs	31.8 cfs	32.1 cfs	32.2 cfs
09/13/92	108.2 cfs	122.1 cfs	121.7 cfs	125.7 cfs	125.1 cfs	127.9 cfs
01/14/93	40.7 cfs	40.2 cfs	39.5 cfs	43.6 cfs	41.5 cfs	44.3 cfs
01/15/93	34.7 cfs	22.2 cfs	22.4 cfs	24.3 cfs	23.0 cfs	25.4 cfs

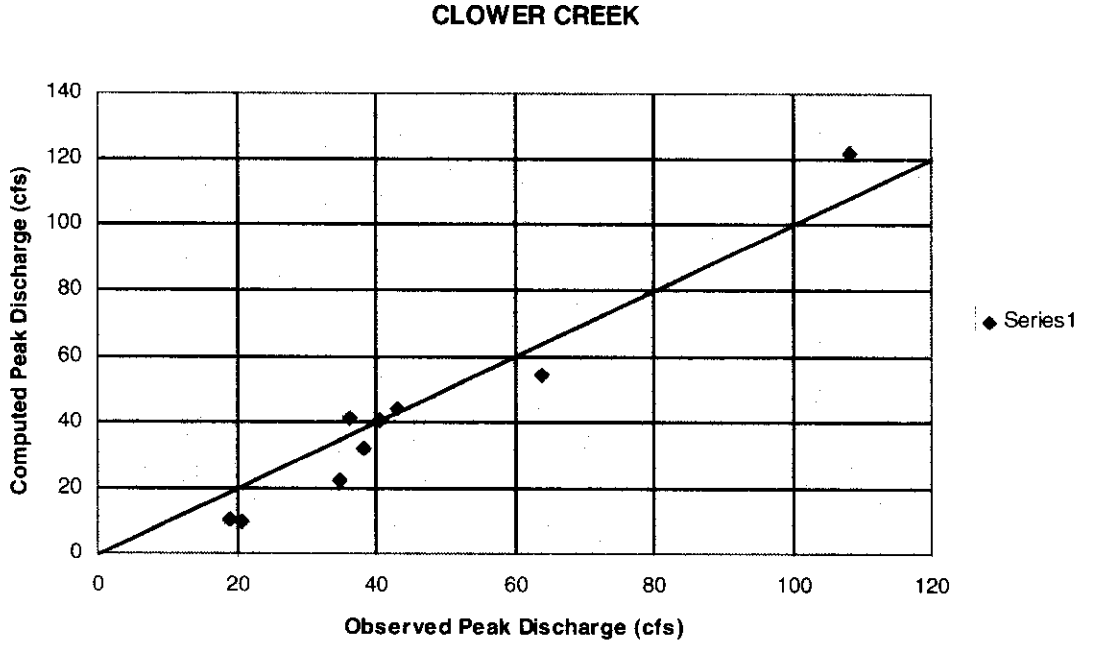


Table 2.2.1.9b - Comparison of Observed and Computed Peak Discharge Times – Clower Creek

Storm	Obs. TP	Series 1 K = 75 Tc = 45 min	Series 2 K = 256 Tc = 154 min	Series 3 K = 284 Tc = 171 min	Series 4 K = 323 Tc = 194 min	Series 5 K = 484 Tc = 291 min
03/30/92	1.08 hrs	5.40 hrs	6.00 hrs	6.00 hrs	6.00 hrs	6.75 hrs
07/12/92	1.75 hrs	2.20 hrs	3.25 hrs	3.50 hrs	3.50 hrs	4.75 hrs
07/22/92	0.92 hrs	1.90 hrs	2.75 hrs	3.00 hrs	3.25 hrs	4.25 hrs
08/14/92	0.33 hrs	1.20 hrs	2.00 hrs	2.25 hrs	2.50 hrs	3.50 hrs
09/02/92	0.83 hrs	1.50 hrs	2.50 hrs	2.50 hrs	2.75 hrs	3.75 hrs
09/04/92	0.83 hrs	1.40 hrs	2.50 hrs	2.75 hrs	2.75 hrs	3.75 hrs
09/13/92	1.33 hrs	1.90 hrs	2.75 hrs	3.00 hrs	3.25 hrs	4.25 hrs
01/14/93	18.30 hrs	3.10 hrs	3.75 hrs	3.75 hrs	4.00 hrs	5.00 hrs
01/15/93	1.50 hrs	1.90 hrs	2.75 hrs	4.00 hrs	3.50 hrs	4.75 hrs

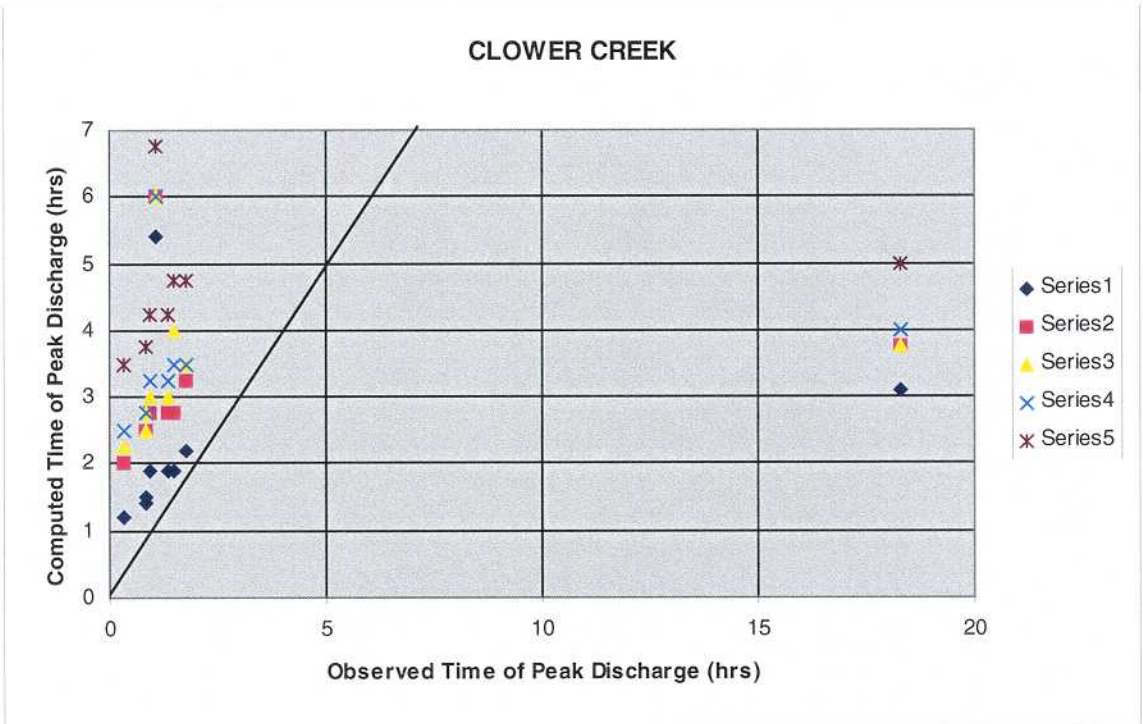


Table 2.2.1.10a - Comparison of Observed and Computed Peak Discharges - Catfish Creek

Storm	Obs. Flow	Series 1 K = 75 Tc = 215 min	Series 2 K = 256 Tc = 734 min	Series 3 K = 284 Tc = 815 min	Series 4 K = 323 Tc = 927 min	Series 5 K = 484 Tc = 1388 min
01/08/93	11 cfs	6 cfs	6 cfs	7 cfs	7 cfs	7 cfs
01/14/93	68 cfs	77 cfs	78 cfs	79 cfs	80 cfs	81 cfs
01/25/93	41 cfs	59 cfs	57 cfs	60 cfs	58 cfs	61 cfs
02/22/93	9 cfs	8 cfs	8 cfs	9 cfs	8 cfs	9 cfs
02/26/93	29 cfs	27 cfs	27 cfs	27 cfs	27 cfs	27 cfs
03/03/93	5 cfs	9 cfs	9 cfs	9 cfs	9 cfs	9 cfs
03/13/93	133 cfs	94 cfs	95 cfs	97 cfs	97 cfs	98 cfs
04/01/93	301 cfs	306 cfs	305 cfs	313 cfs	313 cfs	317 cfs
04/05/93	61 cfs	49 cfs	49 cfs	49 cfs	49 cfs	49 cfs
04/15/93	83 cfs	74 cfs	75 cfs	76 cfs	76 cfs	76 cfs
07/31/93	21 cfs	9 cfs	9 cfs	9 cfs	9 cfs	9 cfs
08/16/93	31 cfs	24 cfs	24 cfs	24 cfs	24 cfs	24 cfs
08/30/93	44 cfs	49 cfs	48 cfs	48 cfs	48 cfs	48 cfs
09/13/93	62 cfs	74 cfs	74 cfs	75 cfs	75 cfs	75 cfs

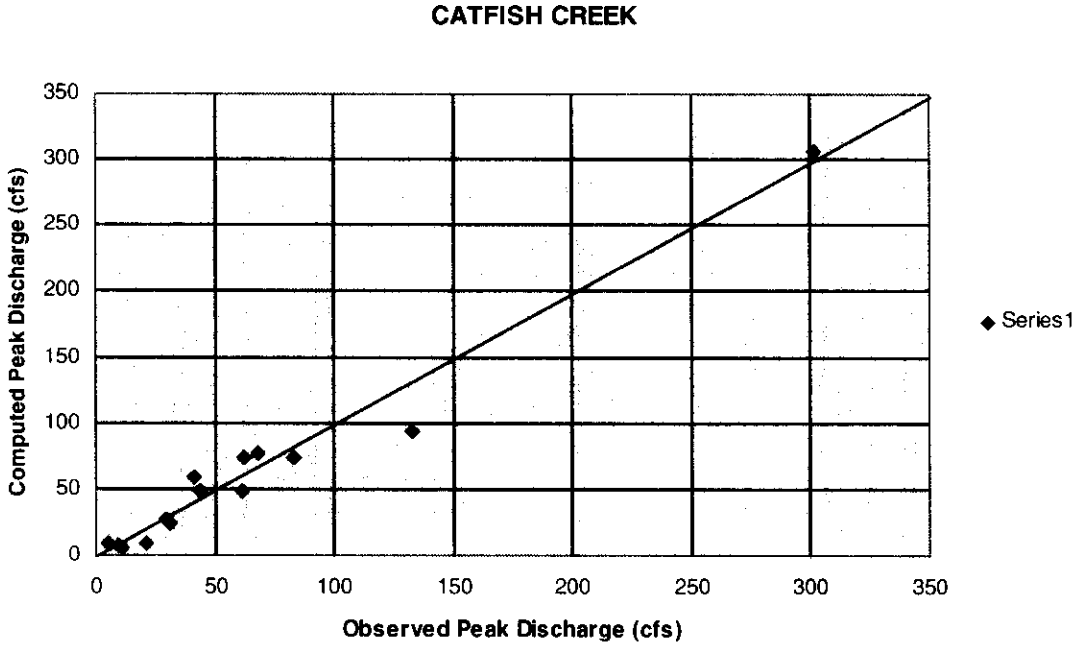


Table 2.2.1.10b - Comparison of Observed and Computed Peak Discharge Times - Catfish Creek

Storm	Obs. TP	Series 1 K = 75 Tc = 215 min	Series 2 K = 256 Tc = 734 min	Series 3 K = 284 Tc = 815 min	Series 4 K = 323 Tc = 927 min	Series 5 K = 484 Tc = 1388 min
01/08/93	7.00 hrs	13.50 hrs	15.25 hrs	16.25 hrs	17.00 hrs	21.75 hrs
01/14/93	34.00 hrs	35.00 hrs	39.50 hrs	39.50 hrs	41.50 hrs	47.00 hrs
01/25/93	23.00 hrs	21.50 hrs	26.50 hrs	26.50 hrs	28.00 hrs	32.25 hrs
02/22/93	4.50 hrs	7.00 hrs	11.50 hrs	11.75 hrs	13.00 hrs	17.50 hrs
02/26/93	5.25 hrs	4.50 hrs	10.25 hrs	11.00 hrs	12.25 hrs	17.50 hrs
03/03/93	6.00 hrs	3.50 hrs	9.25 hrs	10.00 hrs	11.25 hrs	16.25 hrs
03/13/93	4.75 hrs	4.00 hrs	9.75 hrs	10.50 hrs	12.00 hrs	17.25 hrs
04/01/93	3.75 hrs	6.25 hrs	11.25 hrs	11.50 hrs	13.25 hrs	18.00 hrs
04/05/93	5.50 hrs	4.50 hrs	10.25 hrs	11.00 hrs	12.25 hrs	17.25 hrs
04/15/93	13.25 hrs	7.00 hrs	12.00 hrs	12.50 hrs	14.00 hrs	19.00 hrs
07/31/93	7.25 hrs	3.25 hrs	9.00 hrs	9.75 hrs	11.00 hrs	16.25 hrs
08/16/93	4.25 hrs	3.00 hrs	8.75 hrs	9.75 hrs	11.00 hrs	16.00 hrs
08/30/93	23.00 hrs	17.75 hrs	23.75 hrs	24.50 hrs	25.50 hrs	29.75 hrs
09/13/93	5.75 hrs	4.75 hrs	9.50 hrs	10.25 hrs	11.75 hrs	16.75 hrs

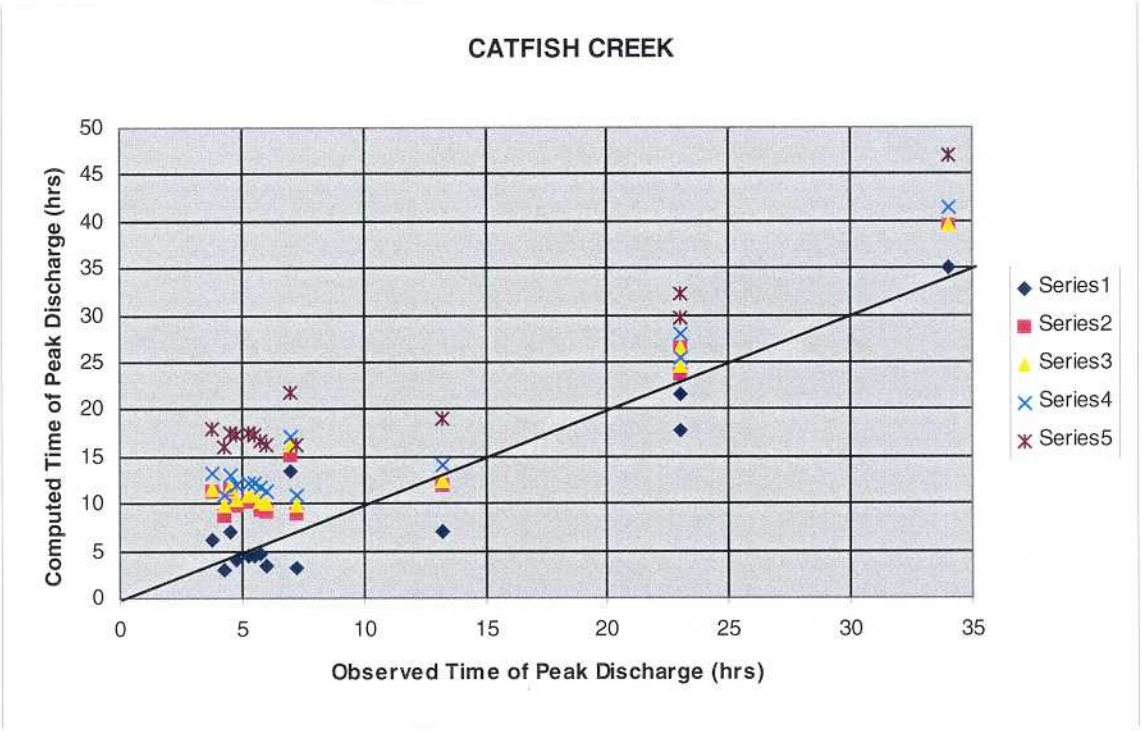


Table 2.2.1.11a - Comparison of Observed and Computed Peak Discharges - South Creek

Storm	Obs. Flow	Series 1 K = 75 Tc = 447 min	Series 2 K = 256 Tc = 1527 min	Series 3 K = 284 Tc = 1694 min	Series 4 K = 323 Tc = 1927 min	Series 5 K = 484 Tc = 2887 min
03/12/93	7.3 cfs	9.3 cfs	9.1 cfs	9.4 cfs	9.3 cfs	9.5 cfs
04/01/93	18.6 cfs	22.8 cfs	22.7 cfs	22.8 cfs	22.9 cfs	22.9 cfs
04/15/93	6.8 cfs	8.4 cfs	8.3 cfs	8.4 cfs	8.4 cfs	8.4 cfs
03/01/94	5.2 cfs	5.1 cfs	5.1 cfs	5.1 cfs	5.1 cfs	5.1 cfs
10/13/94	9.2 cfs	9.3 cfs	9.2 cfs	9.3 cfs	9.3 cfs	9.3 cfs

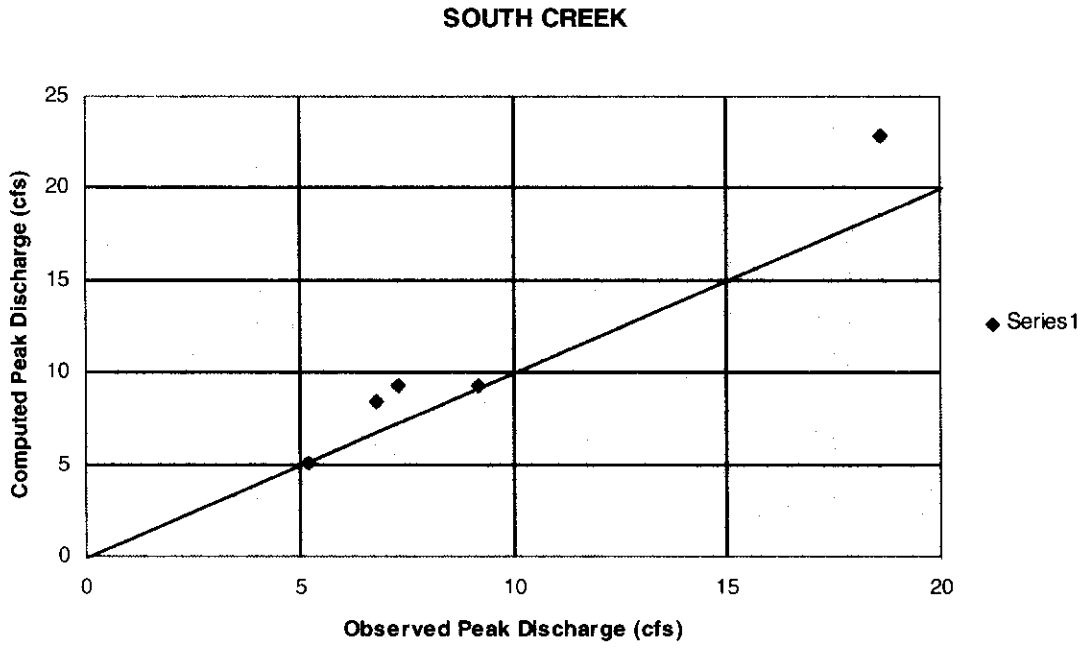


Table 2.2.1.11b - Comparison of Observed and Computed Peak Discharge Times - South Creek

Storm	Obs. TP	Series 1 K = 75 Tc = 447 min	Series 2 K = 256 Tc = 1527 min	Series 3 K = 284 Tc = 1694 min	Series 4 K = 323 Tc = 1927 min	Series 5 K = 484 Tc = 2887 min
03/12/93	13 hrs	16.25 hrs	28.0 hrs	29.50 hrs	31.75 hrs	42.25 hrs
04/01/93	8 hrs	11.75 hrs	23.5 hrs	25.25 hrs	27.75 hrs	38.25 hrs
04/15/93	13 hrs	9.25 hrs	21.5 hrs	23.00 hrs	25.00 hrs	35.75 hrs
03/01/94	11 hrs	16.50 hrs	28.5 hrs	30.25 hrs	32.75 hrs	43.50 hrs
10/13/94	16 hrs	8.50 hrs	20.5 hrs	22.25 hrs	24.75 hrs	35.50 hrs

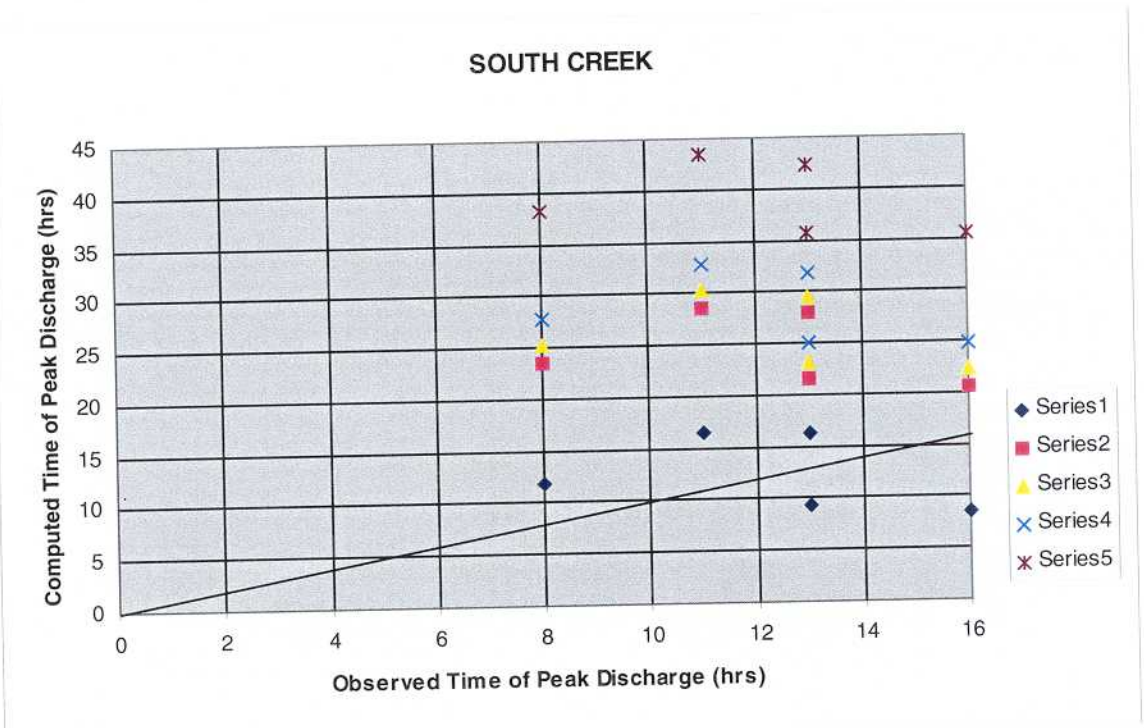


Table 2.2.1.12a - Comparison of Observed and Computed Peak Discharges - Gottfried Creek

Storm	Obs. Flow	Series 1 K = 75 Tc = 548 min	Series 2 K = 256 Tc = 1872 min	Series 3 K = 284 Tc = 2076 min	Series 4 K = 323 Tc = 2362 min	Series 5 K = 484 Tc = 3539 min
06/24/92	118 cfs	122 cfs	120 cfs	135 cfs	124 cfs	134 cfs
08/09/92	20 cfs	19 cfs	18 cfs	19 cfs	18 cfs	19 cfs
08/11/92	17 cfs	14 cfs	14 cfs	15 cfs	15 cfs	15 cfs
10/02/92	2 cfs	3 cfs	3 cfs	3 cfs	3 cfs	3 cfs
01/08/93	4 cfs	2 cfs	2 cfs	2 cfs	2 cfs	2 cfs
03/13/93	2 cfs	1 cfs	1 cfs	1 cfs	1 cfs	1 cfs
03/17/93	2 cfs	2 cfs	2 cfs	2 cfs	2 cfs	2 cfs
04/01/93	3 cfs	2 cfs	2 cfs	2 cfs	2 cfs	2 cfs
04/15/93	1 cfs	1 cfs	1 cfs	1 cfs	1 cfs	1 cfs

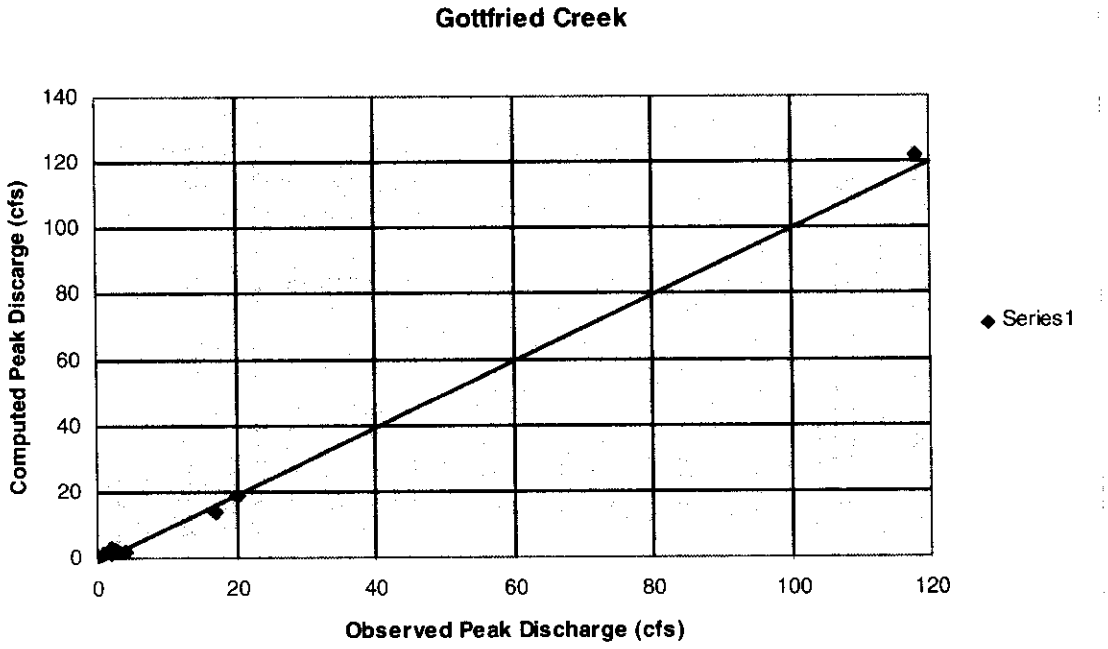


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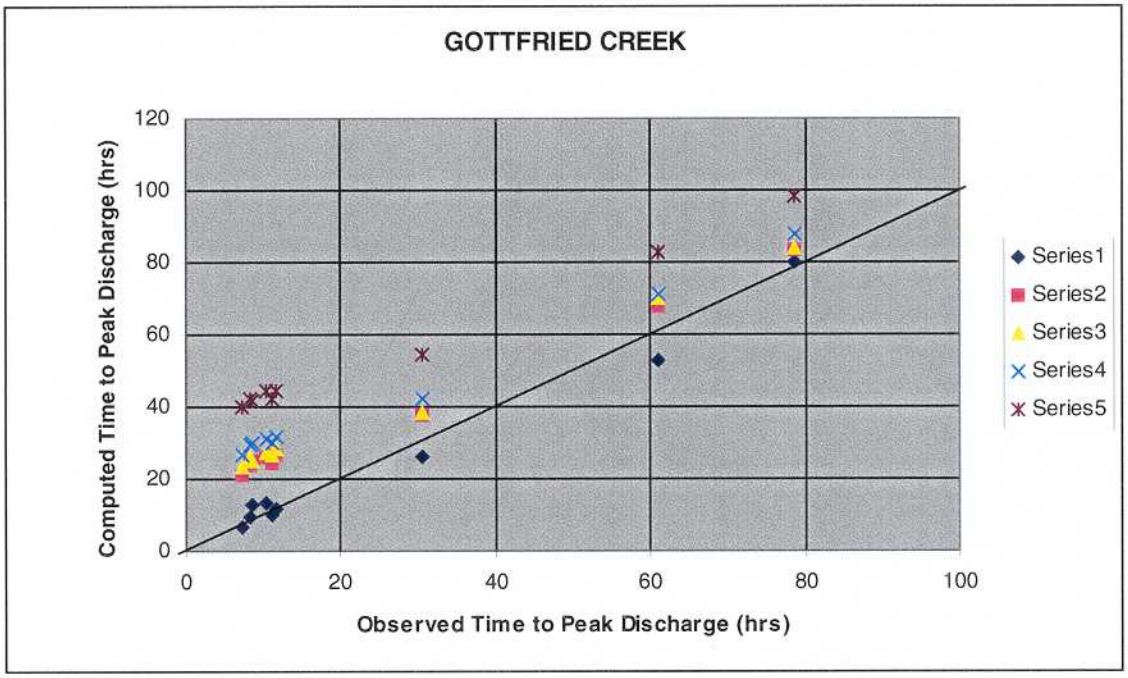
Table 2.2.1.12b - Comparison of Observed and Computed Peak Discharge Times - Gottfried Creek

Storm	Obs. TP	Series 1 K = 75 Tc = 548 min	Series 2 K = 256 Tc = 1872 min	Series 3 K = 284 Tc = 2076 min	Series 4 K = 323 Tc = 2362 min	Series 5 K = 484 Tc = 3539 min
06/24/92	78.50 hrs	80.00 hrs	83.50 hrs	84.00 hrs	87.75 hrs	98.50 hrs
08/09/92	61.00 hrs	53.00 hrs	68.00 hrs	70.00 hrs	71.00 hrs	82.75 hrs
08/11/92	30.50 hrs	26.25 hrs	37.75 hrs	38.25 hrs	42.00 hrs	54.25 hrs
10/02/92	10.25 hrs	13.25 hrs	26.25 hrs	27.00 hrs	31.00 hrs	44.25 hrs
01/08/93	8.50 hrs	12.75 hrs	25.00 hrs	25.00 hrs	30.00 hrs	41.75 hrs
03/13/93	11.75 hrs	11.50 hrs	26.50 hrs	28.25 hrs	31.50 hrs	44.50 hrs
03/17/93	8.25 hrs	9.25 hrs	24.00 hrs	26.00 hrs	29.25 hrs	42.25 hrs
04/01/93	11.00 hrs	9.75 hrs	24.50 hrs	26.50 hrs	29.75 hrs	42.50 hrs
04/15/93	7.25 hrs	6.50 hrs	21.25 hrs	23.50 hrs	26.50 hrs	39.75 hrs



Other observations that are not necessarily evident from the previous tables are noted below:

- The finding that a K of 75 consistently provided the closest match of observed runoff hydrographs for all the study areas indicates that peak rate factors may be more related to regional hydrologic response characteristics (i.e. topographic relief, depression storage) and not land use or drainage characteristics.

- Land use and drainage characteristics are likely responsible for significant reductions in the time of concentration and therefore, more responsive runoff hydrographs.

- Overall, runoff hydrographs computed using a K of 75 provided the closest generalized shape when compared to the observed hydrographs.

- In general, the NRCS unit hydrograph did not perform well for storms which produced low runoff volumes.

Based on the work of Capece and others (1986), the South Florida Water Management District (SFWMD) recommends using a peak rate factor of 100 for subbasins with slopes less than about 5 feet per mile (0.1 percent). The majority of the rural subbasins in Phillippi Creek fall into this category. For subbasins with slopes greater than 5 feet per mile, SFWMD recommends using 256.

For the purpose of the *Phillippi Creek Comprehensive Flood Study Update*, the selection of a peak rate factor of 100 resulted primarily from the calibration procedure described in Section 2.2.3. As a result of the calibration, a peak rate factor of 100 was applied uniformly across the basin, in both urban and rural areas. For design purposes, it is probably appropriate to apply a higher peak rate factor to developed areas, since urbanization tends to increase the slope and thus reduce surface storage. However, the existing stormwater collection system in most of the older developments within the basin was designed for relatively small storm events. Because of this, temporary ponding often occurs at the inlets to the storm drains during major storm events, and the flow rate is "metered" by the undersized inlets and pipes. For example, drainage plans prepared for Kensington Park subdivision in the 1960's indicate that the pipes and inlets were sized for 1.0 cubic foot per second per acre, based on the rational method with a "C" of 0.35 and a rainfall intensity "I" of 3.0 inches per hour. For an assumed developed TC of 30 minutes, this corresponds to less than a 2-year storm. Since the "minor" or "secondary" stormwater collection systems typically were not modeled in the ICPR simulation, the temporary ponding that occurs as a result of these minor systems may explain why applying a peak rate factor of 100 in urban areas gave the best match to observed data.

In July of 1994, Sarasota County adopted a 100-year, 24-hour storm as a basis for new subdivision design. In the flood study update model, all developments designed under the 100-year criteria were assigned a peak rate factor of 256, since it is assumed that there will be little or no ponding effect for these systems. In addition, it is recommended that a peak rate factor of 256 (or higher) be used for design of new developments within the basin, with the possible exception of very low-density subdivisions where the existing topography is not significantly altered.

TIME OF CONCENTRATION

The time of concentration (TC) for each subbasin was computed using the Manning's kinematic solution as outlined in NRCS Technical Release 55. In this approach, the TC is computed by summing the travel times for the sheet flow, shallow concentrated flow, and open channel flow components of the drainage system from the hydraulically most distant point to the receiving node.

For sheet flow of less than 300 feet, the following form of Manning's kinematic solution was used:

$$T_t = \frac{0.007\,(nL)^{0.8}}{(P_2)^{0.5} s^{0.4}}$$

where

T_t = travel time (hr),
n = Manning's roughness coefficient
L = Flow length (ft)
P_2 = 2-year, 24-hour rainfall (in), and
s = slope of hydraulic grade line (land slope, ft/ft)

The following formulas from NRCS TR-55 were used to compute the velocity, (V in feet per second) of shallow concentrated flow:

Unpaved: $V = 16.1345(s)^{0.5}$
Paved: $V = 20.3282(s)^{0.5}$

2.2.2 HYDRAULICS

Due to the numerous drainage improvements that have been constructed in the past several decades, the Phillippi Creek basin contains a complex network of canals, ditches, culverts, storm sewers, weirs, wetlands, ponds and lakes. These hydraulic features can have profound effects on hydrologically determined flow rates. It is this hydraulic network which dictated the required level of detail of the model node / reach network. The existing conditions model contains 2,508 nodes, 1,203 pipe reaches, 863 open channel reaches, 444 drop structure reaches, and 967 weir reaches (many of which simulate roadway or berm overtopping).

The unsteady flow routing model contained within ICPR version 2.11 was utilized for the simulation. This model is accepted by FEMA and is well suited for use in low-relief watersheds such as those found in coastal Florida. A full description of the computational procedures can be found within the ICPR User's Manual (Singhofen and Eaglin, 1995). It should be noted that due to the large number of nodes and reaches, the authors of the software have compiled a special version of the software to be able to accommodate the large array sizes necessary to run the model and view the results. Streamline Technologies, Inc. has stated that the 5,000-node large array version will soon be available free of charge to licensed "unlimited node" ICPR users.

STORAGE NODES

Approximately 2/3 of the more than 2500 nodes in the model are storage nodes. These nodes allow the model to account for the attenuation effects of lakes, ponds, wetlands, and floodplains. Stage-area information used in the model was gathered primarily by planimetering contours from SWFWMD one-foot contour aerial maps. This information was supplemented with data obtained from construction plans and field surveys.

MANNING'S "N"

Field reconnaissance was conducted of every significant open channel reach in the model. In order to document channel conditions and vegetative growth towards the end of the growing season (which naturally coincides with the rainy season), color photographs were taken at crossings and other locations during September of 1999. These photographs are on file in a binder at the County Stormwater Division.

To aid in determination of Manning's n, Cowan's equation was consulted (Arcement and Shneider, 1984):

$$n = (n_b + n_1 + n_2 + n_3 + n_4)m$$

where: n_b = a base value of n for a straight uniform, smooth channel in natural materials;
n_1 = a value added to correct for the effect of surface irregularities;
n_2 = a value for variations in shape and size of the channel cross section;
n_3 = a value for obstructions;
n_4 = a value for vegetation and flow conditions;
and m = a correction factor for meandering of the channel.

Other references consulted on Manning's n determination are fully documented in the bibliography at the end of this report and include Chow (1959), Barnes (1967), and Gillen (1996).

BRIDGES

The bridge modeling routines in ICPR directly incorporate the code from the one-dimensional, steady-flow model WSPRO (Shearman et. al., 1986). Prior to execution of the ICPR simulation, ICPR uses the bridge input data to create a series of WSPRO input files with several user-specified combinations of tailwater and flow rate, to cover the anticipated range of flows and stages. ICPR then executes the WSPRO routines to generate a family of headwater-discharge rating curves for each user-specified tailwater elevation. It is this family of rating curves that is used in the dynamic ICPR simulation, with a double-linear interpolation performed between curves and data points on the curves.

The Phillippi Creek ICPR model contains 28 bridge reaches. Initially, three other bridges were modeled and later removed, including Webber Road over Phillippi Creek, Proctor Road over Phillippi Creek, and I-75 over Main A. These bridges create no significant head loss, but tended to present a stability problem in the ICPR simulation. Therefore, the bridge reaches were removed and modeled as open channel. Golf cart bridges within the study area typically do not present significant obstructions to the flow, and were not modeled. These structures are characterized by clear spans across the canals with no approaches or abutments. Typically, they consist of 10 to 12 foot wide wood or concrete decks, with 12 to

18 inches between the low chord and top of deck elevations. Several of the cart bridges were field surveyed, and the low chord elevations of most of them were determined to lie above the 100-year flood elevation. These bridges were ignored in the model, including three bridges across the Main B canal in the Meadows, and one bridge in Main C through Tatum Ridge. For those golf cart bridges that were not surveyed, or the low chord elevation was determined to fall below the 100-year flood level, the bridge losses were accounted for in the Manning's n calculations (n_3 in Cowan's equation). This procedure was utilized for channel reaches 30800, 30801, and 32150.

2.2.3 CALIBRATION STORM

In order to determine design flood elevations, and to accurately predict the effects of flood control improvements and changes in land use, it was necessary to build a watershed model that will closely match measured flood stages and flow rates when provided with rainfall input from an actual storm event. The selection of a storm event for calibration was based on three factors: (1) availability of data, (2) magnitude of the event, and (3) recentness of the event.

The minimum information required for a calibration is rainfall from recording rain gages and surveyed high water marks. However, if instantaneous stage and streamflow records are available, they can be used to reduce the number of unknowns in the model. This is accomplished by separating the model error into hydraulic (Manning's "n") and hydrologic (peak rate factor and time of concentration) components. First, the model is calibrated to the measured stage / discharge-rating curve through adjustment of the Manning's "n". Thus, the hydraulic model error component is eliminated before simulating any historical events, since the model will now match the observed peak stage for any observed peak discharge rate. Continuous streamflow data allows the determination of runoff volume for a specific event. If adequate rainfall data is also available, the NRCS curve number can be calculated directly from the rainfall / runoff data for each storm using the procedure outlined in Section 2.2.1. This is important since infiltration parameters depend greatly upon antecedent moisture conditions, which vary from event to event. It follows that the curve number should not be used as a calibration parameter since the antecedent moisture condition determined for a particular event is not necessarily appropriate to use for the design storm. Once the curve number is adjusted to match the observed runoff volume for the calibration event, the peak rate factor and / or the times of concentration can be adjusted to match the peak discharge rate and time to peak.

Unfortunately, there has not been a reliable instantaneous stage / streamflow gage within Phillippi Creek since 1981. For a period from 1994 to September 1997, there was a USGS gage at the Bahia Vista east crossing of Phillippi Creek. However, a review of the records brought into question the reliability of the data. A peak stage of 21.0 was recorded by the gage on September 28, 1997, after a 48-hour rainfall of 7.74 inches. Although this was a significant rainfall event, there were no reports of widespread flooding in the basin, unlike the major events of June 1992 and November 1997, which produced surveyed high water elevations at the same location of only 16.97, and 17.03, respectively. This observation cast doubt on the accuracy of the rating curve, and all of the flow / stage values derived from it. There were other USGS stage / streamflow gages on the creek at different locations prior to 1981. However, because of the rapid pace of development within the basin, the changes in land use, channel geometry, drainage structures, etc. that have taken place between 1981 and 1999, the older data is considered obsolete for calibration purposes. In addition to the streamflow gages, there were three peak stage indicators on tributaries to the creek for a brief

period of time. The following table summarizes the USGS gaging history within Phillippi Creek:

Table 2.2.3.1- History of USGS gaging activity within Phillippi Creek Basin

Station No.	Station Name	Location	Type of Record	Period of Record
02299747	Tributary to Phillippi Creek at Porter Road Near Sarasota, FL	Main C at Porter Road	Peak stage	1995
02299750	Phillippi Creek near Sarasota, FL	Main A at Cattlemen Road	Instantaneous stage and flow	1980-1981 1995*
02299760	Tributary to Phillippi Creek Near Bee Ridge	Lateral ABC at Bee Ridge Road	Peak stage	1995
02299780	Phillippi Creek Near Bee Ridge, FL	Phillippi Creek at Bahia Vista East	Instantaneous stage and flow	1994-1997
02299800	Phillippi Creek at Sarasota, FL	Phillippi Creek at Bahia Vista West	Instantaneous stage and flow	1960-1981
02299807	Phillippi Creek at Hayden, FL	Phillippi Creek at Riverview High	Instantaneous flow	1974-1978

*Peak stage indicator only for 1995

The event chosen for the calibration should typically be an extreme event of record. Three such events have occurred within the Phillippi Creek basin since June 1992. Rainfall and high water elevations were available for all events:

1) June 1992 This event resulted in the highest rainfall totals with 16-20 inches recorded over an approximately three day period, which is well in excess of a 100-year rainfall. However, the extremely dry conditions preceding this event prevented this event from producing flooding in excess of a 100-year flood. In fact, documented high water elevations from the June 1992 storm typically were slightly lower than those associated with the theoretical 3-day, 100-year storm event of 13.05 inches in 72 hours, with average antecedent moisture conditions.

2) July 1995 Between 3 and 10 inches of rain fell within 15 hours. The highest totals were in the extreme southeastern corner of the basin. With a few possible exceptions, flooding during this event was generally not as damaging or as widespread as it was during the June, 1992 storm.

3) November 1997 During this storm, 6.5 to 10 inches of rain fell over the basin within a 30-hour period, with more than 90% of the volume falling in the first 15 hours. Due to the effects of el-nino, antecedent moisture conditions were considered to be average wet season.

The event should be recent enough in the history of the basin so that the modeled land use and drainage / flood control infrastructure is not drastically different than it was at the time of the event. Primarily for this reason, the storm of November 1997 was chosen as the calibration event. In addition, since antecedent moisture conditions were considered to be close to the design conditions (AMC II), the curve numbers computed for the design condition were considered appropriate for the November 1997 storm.

Rainfall data was obtained from four continuous recording gages, three of which are located within the Phillippi Creek Basin, the fourth being located west of the basin in Tri-Par Estates

Mobile Home Park. The rainfall totals from these gages were used to construct a simple Thiessen diagram for Phillippi Creek. Isohyets were drawn at 0.5-inch intervals. At the boundaries of the resulting Phillippi Creek isohyetal map, the isohyets fit together reasonably well with a countywide isohyetal map prepared by Sarasota County following the storm event. Area weighted rainfall depths were computed for each major subbasin.

Table 2.2.3.2 - November 13th and 14th, 1997 Rainfall Event
Phillippi Creek Area Rainfall Totals

Gage Location	Owner/Operator	Type of Gage / Record interval	30-hour Rainfall Total (inches)
1301 Cattlemen Road	Sarasota County Natural Resources Department	Tipping Bucket (0.1 inch rainfall increment)	10.04"
Tri-Par Estates WWTP	U.S. Geological Survey	Tipping Bucket (15-min.)	5.72"
Brookside Junior High School	S.W.F.W.M.D.	Recording gage (daily)	7.72"
Pinkney Avenue SARCO Facility	S.W.F.W.M.D.	Recording gage (daily)	9.82"

A single dimensionless rainfall distribution was constructed from the gage data. Only the gages at 1301 Cattlemen and Tri-Par Estates WWTP have a small enough recording interval to use for this purpose. A side-by-side comparison of data from the Cattlemen and Tri-Par gages indicated a relatively similar time distribution of rainfall, despite the large difference in rainfall total. The gage at 1301 Cattlemen was used for the distribution because of its location close to the centroid of the basin.

Following the November 1997 event, Strayer Surveying and Mapping, Inc. surveyed a total of 13 high water elevations along Phillippi Creek, Redbug Slough, and Lateral AB. These were supplemented with three high water elevations marked in Main B by Biological Research Associates, Inc., and surveyed by Wilson, Miller, Barton, and Peek, Inc. In addition, A&M Engineering provided a surveyed high water elevation near Main C upstream of Palmer Boulevard.

Initial computed flood levels for the November 1997 storm consistently exceeded those that were observed. Manning's "n" values within Phillippi Creek were adjusted downward to the lowest reasonable values. This resulted in considerable improvement; however, the computed values were still significantly higher than the observed. Global adjustment of the peak rate factor from 256 to 100 closed the remaining gap to bring computed and observed peak stages into close agreement.

Since recent instantaneous stage and streamflow data was not available, the calibration performed is considered somewhat crude, based on the best available data at this time. Sarasota County has recently installed nine (9) continuous rainfall and stream stage recorders throughout the Phillippi Creek Basin. With the potential addition of streamflow monitoring capability at these sites, more complete information for future verification of the calibrated model would be possible, and should be pursued.

2.2.4 DESIGN STORM

In the original BMP modeling, the design storm utilized for flood protection level of service was the 100-year, 24-hour storm event, which was then used to develop the Phillippi Creek C.I.P. The 24-hour duration storm is commonly used in Sarasota County for analysis of small basins (less than 10 square miles), and for design and permitting of stormwater management facilities for new development. However, it should be recognized that in a basin as large as Phillippi Creek, many areas may be "volume sensitive", and longer duration, higher volume rainfall events may result in higher flood elevations than the 100-year, 24-hour storm. Recognizing this fact, the 100-year, 72-hour storm event was simulated using the South Florida Water Management District (SFWMD) procedure. In this procedure, the 24-hour rainfall depth is multiplied by a factor of 1.359 to determine the 72-hour depth. As depicted in the table below, 35.9% of the 24-hour depth falls during the first 48 hours. The rainfall depth for the final 24 hours is equal to 100% of the 24-hour total. The 24-hour rainfall distribution is the NRCS type II, modified for Florida.

Table 2.2.4.1 – SFWMD 72-Hour Rainfall Distribution

Time (hours)	Cumulative Percentage of One Day Rainfall	
0	0	35.9 Percent of One Day Rainfall
24	14.6	
48	35.9	
58	57.2	100 Percent of One Day Rainfall
59	62.8	
59.5	67.8	
59.75	82.8	
60	101.5	
60.5	108.8	
61	112.6	
62	117.7	
72	135.9	

Source: SFWMD Management and Storage of Surface Waters Permit Information Manual, Volume IV

In peak sensitive areas, this simulation generally resulted in flood elevations that were very close to the 24-hour elevations. In volume sensitive areas, the 72-hour elevations were consistently higher than the 24-hour levels.

Utilizing the rainfall maps published by the Southwest Florida Water Management District, 24-hour rainfall depths of 4.25, 6.0, 7.0, 8.0, and 10.0 inches were determined for the 2, 5, 10, 25, and 100 year return periods, respectively. An aerial adjustment for the size of the basin of 0.96 was then applied to these depths. The 72-hour rainfall depth was thus calculated to be (10.0)(0.96)(1.359) = 13.05 inches.

Since the Phillippi Creek Stormwater Improvement Program has been based upon the SWFWMD 100-year, 24-hour design storm, it is recommended that the 100-year, 24-hour storm event be used as the base flood elevation for revising the FEMA FIRM maps. This design storm is also consistent with that utilized for previous FEMA flood studies of Phillippi Creek. However, in recognition of higher flood elevations that may occur during longer

duration storms such as the 72-hour, it is recommended that new finished floor elevations within the Phillippi Creek Basin be set a minimum of one foot above the 100-year, 72-hour flood elevations, as a factor of safety.

2.3 FLOODPLAIN ANALYSIS RESULTS

A flood-modeling workshop was held at Colonial Oaks Park on February 24, 2000. The purpose of this workshop was to review flood-modeling parameters, as they may be specific to Sarasota County. J.P. Marchand of Sarasota County chaired the workshop. Regional experts in attendance included Bernard L. Golding, Richard Gibney, Himat T. Solanki of SWFWMD and Stephen Suau. Kathleen M. Hammett of the USGS and Dr. Jayantha Obeysekera of the SFWMD also provided literature and input although they were not able to attend. Using the Phillippi Creek Basin Update as a general example, Mr. Suau presented the rational for various parameter selections. This report and the modeling parameters used in the Phillippi Creek update reflect the consensus reached at the workshop.

A complete listing of flood elevations for the 2, 5, 10, 25, and 100-year, 24-hour and 72-hour storm events is provided as Appendix A. A Basin / Subbasin / Node-Reach map is provided as Exhibit A. A map of the 100-year, 24-hour floodplain is provided as Exhibit B.

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APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

	2 year	5 year	10 year	25 year	100 year	2 year	5 year	10 year	25 year	100 year	Minimum
Node ID	24 hour	24 hour	24 hour	24 hour	24 hour	72 hour	72 hour	72 hour	72 hour	72 hour	FF elev.
30000	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	11.00
30001	2.77	3.00	3.11	3.25	3.46	2.92	3.17	3.30	3.43	3.66	11.00
30002	3.06	3.24	3.38	3.53	3.75	3.18	3.44	3.58	3.72	3.94	11.00
30003	3.45	3.87	4.09	4.32	4.63	3.74	4.18	4.40	4.59	4.88	11.00
30004	3.50	3.94	4.17	4.41	4.73	3.81	4.27	4.49	4.68	4.99	11.00
30005	3.53	4.03	4.27	4.52	4.82	3.99	4.34	4.56	4.79	5.08	11.00
30008	3.68	4.25	4.53	4.82	5.18	4.18	4.63	4.88	5.14	5.51	11.00
30010	3.90	4.55	4.87	5.18	5.59	4.44	4.99	5.27	5.55	5.96	11.00
30012	4.06	4.74	5.06	5.38	5.79	4.61	5.19	5.47	5.75	6.15	11.00
30014	4.20	4.93	5.27	5.61	6.04	4.79	5.40	5.70	5.98	6.40	11.00
30016	4.30	5.08	5.43	5.78	6.24	4.92	5.56	5.88	6.18	6.63	11.00
30018	4.44	5.26	5.63	5.99	6.47	5.08	5.77	6.10	6.41	6.88	11.00
30020	3.50	3.95	4.17	4.41	4.74	3.82	4.27	4.49	4.69	4.99	11.00
30021	3.52	4.01	4.25	4.50	4.78	3.94	4.31	4.53	4.76	5.04	11.00
30022	6.85	6.96	7.01	7.08	7.20	6.93	7.04	7.11	7.18	7.30	11.00
30023	11.86	11.89	11.91	11.93	11.96	11.88	11.91	11.93	11.94	11.97	12.97
30030	3.60	4.19	4.42	4.74	5.12	4.02	4.51	4.80	5.05	5.36	11.00
30031	3.79	4.51	4.75	5.14	5.56	4.30	4.83	5.19	5.47	5.79	11.00
30032	3.89	4.52	4.84	5.15	5.56	4.42	4.96	5.24	5.52	5.93	11.00
30034	4.48	6.04	7.18	8.54	9.96	5.45	7.51	8.83	9.83	10.12	11.12
30035	4.49	6.04	7.18	8.55	9.97	5.46	7.51	8.83	9.83	10.12	11.12
30036	10.84	11.06	11.18	11.30	11.51	10.96	11.18	11.29	11.41	11.61	12.61
30037	11.09	11.42	11.57	11.73	12.01	11.26	11.55	11.72	11.88	12.14	13.14
30038	10.96	11.37	11.55	11.73	12.01	11.21	11.55	11.72	11.88	12.15	13.15
30039	10.96	11.37	11.55	11.73	12.01	11.21	11.56	11.72	11.88	12.15	13.15
30040	12.31	12.50	12.61	12.72	12.91	12.38	12.56	12.66	12.76	12.96	13.96
30041	12.41	12.68	12.79	12.90	13.08	12.52	12.74	12.84	12.94	13.11	14.11
30041A	12.56	12.82	12.94	13.06	13.25	12.66	12.88	12.99	13.10	13.28	14.28
30042	12.65	12.93	13.06	13.18	13.40	12.75	12.99	13.11	13.23	13.43	14.43
30044	12.78	13.14	13.30	13.43	13.65	12.91	13.23	13.36	13.48	13.68	14.68
30046	12.81	13.20	13.38	13.53	13.81	12.95	13.29	13.44	13.58	13.85	14.85
30050	12.85	13.29	13.49	13.69	14.09	13.01	13.39	13.57	13.75	14.15	15.15
30052	12.94	13.54	13.88	14.21	14.88	13.14	13.69	14.00	14.31	14.96	15.96
30054	13.05	13.80	14.29	14.75	15.69	13.27	14.02	14.45	14.89	15.80	16.80
30056	13.10	13.89	14.45	14.95	15.98	13.33	14.13	14.62	15.11	16.09	17.09
30058	17.32	17.43	17.50	17.62	17.87	17.36	17.44	17.52	17.64	17.88	18.88
30060	4.16	4.78	5.20	5.69	6.43	4.55	5.25	5.69	6.19	7.42	11.00
30061	6.63	7.24	7.65	7.85	8.02	7.02	7.69	7.85	7.85	9.50	11.00
30062	8.98	9.55	9.94	10.29	10.37	9.36	9.98	10.28	10.36	11.21	12.21
30063	10.57	11.11	11.49	11.80	12.20	10.94	11.53	11.79	12.00	12.41	13.41
30064	12.37	12.88	13.23	13.47	13.80	12.70	13.26	13.47	13.64	13.89	14.89
30065	13.23	13.74	14.09	14.24	14.42	13.56	14.12	14.23	14.29	14.76	15.76
30066	13.69	14.10	14.44	14.61	14.90	13.95	14.48	14.61	14.73	15.26	16.26
30067	13.69	14.12	14.70	14.89	16.26	13.95	14.74	14.91	15.63	16.44	17.44
30068	15.46	15.56	15.63	15.92	16.41	15.53	15.66	15.95	16.22	16.62	17.62
30068A	13.72	14.15	14.49	14.65	14.94	13.99	14.52	14.65	14.78	15.32	16.32
30070	6.72	7.04	7.21	7.37	7.65	6.86	7.16	7.32	7.47	7.73	11.00
30071	11.81	12.21	12.40	12.60	12.92	11.98	12.35	12.53	12.71	13.01	14.01
30072	14.31	14.64	14.81	14.97	15.26	14.43	14.74	14.90	15.06	15.33	16.33
30073	8.88	9.11	9.22	9.35	9.52	8.98	9.19	9.31	9.43	9.53	11.00
30074	16.23	16.51	16.67	16.97	17.16	16.36	16.64	16.78	16.94	17.21	18.21
30076	4.21	4.98	5.34	5.71	6.12	4.82	5.49	5.80	6.08	6.48	11.00
30077	4.24	5.98	6.87	8.62	8.85	5.67	7.85	8.67	8.83	8.90	11.00
30078	6.99	8.87	9.86	10.61	11.25	8.56	10.64	11.08	11.25	11.26	12.26
30079	9.50	11.37	12.33	12.54	13.40	11.06	12.54	12.54	13.40	13.41	14.41
30080	11.08	12.95	13.91	14.09	14.38	12.64	14.04	14.09	14.37	14.56	15.56
30081	11.11	13.02	14.00	14.22	14.67	12.70	14.14	14.23	14.65	14.93	15.93

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
30082	11.74	13.34	14.34	14.88	15.33	13.03	14.65	14.96	15.30	15.60	16.60
30083	12.19	13.76	14.73	15.52	16.00	13.49	15.17	15.67	15.98	16.40	17.40
30084	12.71	14.24	15.16	16.13	16.73	13.98	15.68	16.35	16.68	17.57	18.57
30085	13.20	14.73	15.62	16.73	17.75	14.47	16.19	17.06	17.63	18.81	19.81
30086	13.55	15.08	15.94	17.14	18.80	14.82	16.54	17.68	18.69	19.84	20.84
30090	17.56	18.03	18.23	18.48	19.92	17.96	18.35	18.89	19.81	20.87	21.87
30091	10.11	10.52	10.65	10.80	11.09	10.24	10.61	10.73	10.72	10.77	11.77
30092	12.88	13.33	13.61	13.81	14.08	13.28	13.71	13.87	13.99	14.15	15.15
30093	13.09	14.01	14.38	14.81	15.38	13.80	14.60	14.92	15.22	15.65	16.65
30094	13.19	14.33	14.80	15.27	15.84	14.05	15.02	15.37	15.70	16.11	17.11
30094A	14.14	14.56	14.97	15.39	15.90	14.29	15.16	15.46	15.76	16.14	17.14
30095	14.22	14.89	15.41	15.90	16.36	14.56	15.61	15.94	16.20	16.52	17.52
30096	15.62	16.19	16.51	16.90	18.13	15.98	16.58	17.22	17.74	18.76	19.76
30097	17.26	17.74	18.01	18.07	19.52	17.58	18.07	18.08	18.94	20.53	21.53
30098	17.58	18.07	18.36	18.55	20.12	17.90	18.42	18.57	19.37	21.28	22.28
30099	17.95	18.38	18.65	18.89	20.47	18.22	18.71	18.91	19.61	21.72	22.72
30100	18.86	19.18	19.35	19.51	20.97	19.06	19.38	19.51	19.96	22.35	23.35
30100A	18.86	19.18	19.35	19.51	20.97	19.06	19.38	19.51	19.96	22.35	23.35
30101	22.40	22.40	22.40	22.40	22.40	22.40	22.40	22.40	22.40	22.40	23.40
30106	5.10	6.08	6.50	6.90	7.45	5.83	6.65	7.02	7.38	7.90	11.00
30107	5.18	6.17	6.60	7.00	7.55	5.92	6.75	7.13	7.48	7.99	11.00
30110	5.36	6.41	6.85	7.28	7.88	6.14	7.01	7.42	7.80	8.37	11.00
30111	5.51	6.52	6.93	7.33	7.89	6.26	7.08	7.45	7.81	8.38	11.00
30112	5.70	6.79	7.24	7.67	8.30	6.50	7.41	7.80	8.19	8.85	11.00
30113	5.79	6.92	7.39	7.84	8.47	6.62	7.56	7.97	8.37	9.06	11.00
30114	5.92	7.07	7.54	7.98	8.62	6.76	7.71	8.12	8.52	9.19	11.00
30116	15.35	15.79	16.02	16.27	16.59	15.56	15.98	16.21	16.45	16.60	17.60
30117	15.60	16.14	16.42	16.75	17.41	15.85	16.37	16.67	17.03	17.41	18.41
30119	19.23	19.60	19.69	19.95	20.55	19.45	19.65	19.90	20.14	20.63	21.63
30121	19.43	19.83	19.99	20.25	20.94	19.65	19.95	20.20	20.45	21.16	22.16
30124	10.95	11.56	11.82	12.11	12.66	11.21	11.74	11.98	12.31	12.78	13.78
30125	14.40	14.74	14.86	14.98	15.29	14.56	14.82	14.93	15.07	15.36	16.36
30126	15.97	16.58	16.82	17.11	17.60	16.25	16.75	16.99	17.31	17.71	18.71
30128	20.06	20.47	20.60	20.75	20.97	20.26	20.55	20.68	20.84	21.00	22.00
30129	20.35	21.08	21.36	21.88	22.42	20.72	21.26	21.69	22.12	22.53	23.53
30130	20.61	21.72	22.07	22.24	22.53	21.21	21.99	22.18	22.33	22.63	23.63
30130A	21.24	21.77	22.11	22.28	22.58	21.41	22.03	22.22	22.38	22.67	23.67
30131	21.35	21.81	22.15	22.32	22.62	21.49	22.07	22.26	22.42	22.71	23.71
30134	8.07	8.83	9.27	9.39	9.39	8.28	9.07	9.38	9.39	9.39	11.00
30135	9.78	11.37	12.47	13.47	15.71	10.18	11.96	12.90	13.92	15.88	16.88
30136	17.92	18.52	18.83	19.04	19.45	18.10	18.70	18.92	19.12	19.51	20.51
30137	18.71	19.25	19.56	19.77	20.15	18.84	19.42	19.65	19.85	20.20	21.20
30138	18.86	19.58	20.14	20.52	21.23	19.01	19.86	20.29	20.64	21.27	22.27
30139	21.44	21.58	21.66	21.71	21.75	21.47	21.62	21.69	21.71	21.76	22.76
30140	21.61	21.91	22.07	22.19	22.69	21.64	21.95	22.12	22.25	22.68	23.68
30141	21.72	22.14	22.38	22.58	23.54	21.77	22.19	22.44	22.67	23.50	24.50
30144	18.54	19.01	19.50	20.02	21.12	18.73	19.24	19.75	20.20	21.24	22.24
30145	20.43	20.96	21.21	22.01	22.64	20.61	21.06	21.48	22.36	22.66	23.66
30147	10.83	10.93	10.98	11.04	11.33	10.85	10.94	11.00	11.06	11.73	12.73
30149	8.51	8.55	8.57	8.59	9.01	8.53	8.57	8.58	8.67	9.25	11.00
30201	17.43	18.24	18.69	19.14	20.05	18.09	18.94	19.36	19.97	20.90	21.90
30202	17.50	18.26	18.69	19.14	20.05	18.12	18.94	19.36	19.97	20.90	21.90
30204	23.30	24.00	24.25	24.46	24.81	23.62	24.18	24.40	24.61	24.95	25.95
30206	17.57	18.31	18.72	19.15	20.08	18.18	18.96	19.37	19.99	20.94	21.94
30209	17.56	18.30	18.71	19.14	20.08	18.16	18.95	19.36	19.99	20.93	21.93
30220	17.56	18.30	18.71	19.14	20.07	18.16	18.95	19.36	19.99	20.93	21.93
30221	17.67	18.58	19.12	19.70	20.77	18.38	19.41	19.96	20.59	21.73	22.73

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
30230	17.58	18.36	18.79	19.25	20.28	18.22	19.04	19.49	20.17	21.16	22.16
30231	17.60	18.37	18.79	19.25	20.28	18.22	19.05	19.49	20.18	21.16	22.16
30232	17.58	18.36	18.79	19.25	20.28	18.22	19.04	19.49	20.17	21.16	22.16
30235	17.58	18.37	18.79	19.25	20.28	18.22	19.05	19.49	20.18	21.16	22.16
30236	17.60	18.46	19.05	19.70	20.63	18.31	19.51	20.06	20.54	21.39	22.39
30237	22.24	23.82	24.84	25.84	26.24	23.05	24.75	25.72	26.17	26.28	27.28
30238	26.49	26.82	27.01	27.22	27.58	26.70	27.04	27.23	27.38	27.83	28.83
30238B	22.38	23.99	25.09	26.19	26.83	23.17	25.01	26.08	26.67	26.97	27.97
30239	23.15	24.11	25.30	26.47	27.34	23.32	25.21	26.34	27.02	27.57	28.57
30241	17.93	18.86	19.36	19.89	20.50	18.62	19.63	20.16	20.46	21.17	22.17
30241A	17.93	18.85	19.36	19.89	20.50	18.61	19.63	20.16	20.46	21.17	22.17
30242	17.58	18.39	18.82	19.43	21.21	18.23	19.14	20.17	21.11	21.76	22.76
30243	19.66	20.33	20.62	21.00	22.38	19.92	20.28	21.05	21.91	23.44	24.44
30245	24.14	24.32	24.41	24.50	24.65	24.24	24.40	24.49	24.57	24.70	25.70
30246	24.45	24.68	24.80	24.94	25.18	24.62	24.86	25.00	25.13	25.39	26.39
30247	25.46	25.76	25.97	26.29	27.01	25.65	25.94	26.21	26.57	27.07	28.07
30248	21.59	21.81	21.95	22.09	22.28	21.79	21.99	22.12	22.23	22.41	23.41
30249	17.93	18.85	19.36	19.89	20.50	18.61	19.63	20.16	20.46	21.17	22.17
30251	17.93	18.86	19.37	19.89	20.51	18.62	19.63	20.16	20.46	21.10	22.10
30251A	17.93	18.86	19.37	19.89	20.51	18.62	19.63	20.16	20.46	21.10	22.10
30252	18.28	18.93	19.44	19.96	20.66	18.70	19.70	20.19	20.61	21.36	22.36
30253	17.93	18.86	19.37	19.89	20.52	18.62	19.63	20.17	20.47	21.08	22.08
30253A	17.93	18.86	19.37	19.90	20.51	18.61	19.63	20.17	20.47	21.10	22.10
30254	17.93	18.86	19.37	19.90	20.53	18.62	19.64	20.17	20.48	21.08	22.08
30254A	17.93	18.86	19.37	19.89	20.52	18.62	19.63	20.17	20.47	21.08	22.08
30255	20.01	20.26	20.44	20.67	21.22	20.10	20.33	20.51	20.74	21.26	22.26
30255A	19.13	19.45	19.55	19.90	20.52	19.29	19.63	20.17	20.47	21.08	22.08
30255B	18.96	19.24	19.37	19.89	20.52	19.10	19.63	20.17	20.47	21.08	22.08
30256	18.12	18.87	19.38	19.90	20.55	18.63	19.65	20.18	20.49	21.11	22.11
30257	18.54	18.96	19.40	19.91	20.61	18.82	19.67	20.19	20.53	21.19	22.19
30258	18.39	18.89	19.39	19.91	20.60	18.66	19.66	20.19	20.52	21.18	22.18
30258A	18.29	18.89	19.39	19.91	20.58	18.65	19.66	20.19	20.51	21.15	22.15
30258B	18.28	18.89	19.39	19.91	20.58	18.65	19.66	20.19	20.51	21.15	22.15
30259	18.50	19.02	19.40	19.92	20.63	18.79	19.67	20.20	20.54	21.22	22.22
30260	21.86	22.58	22.92	23.28	23.88	22.28	22.96	23.30	23.65	24.17	25.17
30261	22.03	22.69	23.02	23.38	23.96	22.40	23.06	23.39	23.74	24.24	25.24
30262	22.05	22.71	23.03	23.39	23.98	22.42	23.07	23.41	23.75	24.25	25.25
30263	18.25	18.86	19.37	19.90	20.52	18.62	19.64	20.17	20.47	21.08	22.08
30264	17.93	18.85	19.36	19.89	20.50	18.61	19.63	20.16	20.46	21.17	22.17
30265	22.25	22.91	23.23	23.49	23.98	22.62	23.25	23.50	23.76	24.26	25.26
30266	17.93	18.85	19.36	19.89	20.50	18.61	19.63	20.16	20.46	21.17	22.17
30267	22.11	22.42	22.47	22.53	22.60	22.35	22.47	22.52	22.56	22.62	23.62
30268	17.93	18.86	19.36	19.89	20.50	18.61	19.63	20.16	20.46	21.17	22.17
30269	31.44	31.70	31.74	31.79	31.85	31.68	31.75	31.79	31.82	31.87	32.87
30270	31.76	31.98	32.09	32.22	32.44	31.86	32.07	32.18	32.30	32.52	33.52
30271	26.02	26.45	26.58	26.59	26.85	26.34	26.59	26.59	26.59	27.23	28.23
30272	17.93	18.86	19.36	19.89	20.50	18.62	19.63	20.16	20.46	21.17	22.17
30273	27.83	28.22	28.40	28.71	29.24	28.15	28.54	28.85	29.15	29.77	30.77
30275	29.79	30.02	30.14	30.44	31.99	29.90	30.13	30.56	31.72	32.41	33.41
30276	29.26	29.61	29.80	30.30	31.85	29.55	29.95	30.47	31.63	32.32	33.32
30277	29.74	30.05	30.40	30.97	31.89	30.00	30.65	31.38	31.73	32.34	33.34
30281	18.71	19.05	19.42	19.95	20.58	18.85	19.69	20.21	20.57	21.21	22.21
30282	22.11	23.21	23.27	23.55	24.13	22.41	23.24	23.43	23.73	24.29	25.29
30283	23.36	23.53	23.53	23.81	24.33	23.48	23.53	23.69	23.99	24.47	25.47
30284	25.64	26.28	26.58	26.88	27.35	25.84	26.41	26.70	26.97	27.38	28.38
30285	28.85	28.98	29.03	29.09	29.15	28.92	29.03	29.08	29.13	29.17	30.17
30286	28.97	29.23	29.36	29.50	29.73	29.00	29.25	29.38	29.51	29.73	30.73

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
30288	29.99	30.60	31.07	31.15	31.23	30.02	30.72	31.09	31.16	31.23	32.23
30289	29.60	29.81	29.92	30.04	30.26	29.76	29.97	30.10	30.22	30.44	31.44
30290	29.30	29.56	29.71	29.87	30.15	29.43	29.70	29.85	30.00	30.27	31.27
30291	31.32	31.52	31.63	31.75	31.97	31.42	31.63	31.74	31.86	32.07	33.07
30292	26.68	27.31	27.57	27.85	28.31	26.91	27.42	27.68	27.94	28.35	29.35
30293	30.31	30.66	30.84	31.03	31.42	30.60	30.96	31.16	31.38	31.84	32.84
30294	30.17	30.41	30.53	30.65	30.86	30.27	30.48	30.60	30.73	30.92	31.92
30295	28.73	28.88	28.97	29.05	29.21	28.77	28.91	28.99	29.07	29.23	30.23
30296	30.73	30.82	30.86	30.91	31.00	30.76	30.85	30.89	30.94	31.02	32.02
30297	29.53	29.63	29.65	29.79	29.95	29.59	29.72	29.83	29.93	30.03	31.03
30299	27.80	28.07	28.09	28.39	28.94	27.96	28.13	28.25	28.53	29.02	30.02
30301	5.62	6.54	6.94	7.71	8.28	6.30	7.09	7.85	8.20	8.75	11.00
30302	6.01	6.86	7.20	8.11	8.84	6.65	7.42	8.27	8.72	9.37	11.00
30303	6.56	7.47	7.84	8.26	8.87	7.29	8.03	8.34	8.75	9.41	11.00
30304	13.71	13.94	14.06	14.19	14.43	13.83	14.06	14.18	14.31	14.53	15.53
30305	8.57	9.41	9.69	9.95	10.50	9.29	9.80	10.07	10.40	10.94	11.94
30306	10.22	11.06	11.34	11.58	12.12	10.93	11.47	11.70	12.02	12.55	13.55
30307	10.44	11.40	12.08	12.30	14.07	11.25	12.17	12.68	13.82	15.18	16.18
30308	10.96	11.85	12.42	12.66	14.24	11.71	12.50	12.98	14.00	15.31	16.31
30309	11.81	12.85	13.35	13.65	16.70	12.70	13.45	13.96	16.20	18.79	19.79
30310	19.03	19.72	20.23	20.65	20.76	19.47	20.29	20.65	20.73	20.80	21.80
30312	14.87	15.65	15.82	15.99	17.32	15.55	15.90	16.15	16.99	19.12	20.12
30313	15.30	16.59	17.18	17.73	18.21	16.30	17.47	17.88	18.15	19.21	20.21
30315	16.11	17.14	17.60	18.06	18.55	16.93	17.84	18.20	18.49	19.49	20.49
30318	17.29	17.87	18.09	18.37	18.81	17.80	18.24	18.49	18.76	19.65	20.65
30321	17.39	18.05	18.42	18.85	19.56	17.94	18.66	19.03	19.50	20.05	21.05
30322	17.86	18.06	18.43	18.87	19.58	17.95	18.67	19.05	19.52	20.07	21.07
30323	19.05	19.34	19.47	19.61	20.31	19.23	19.51	19.76	20.23	20.53	21.53
30324	19.25	19.81	20.08	20.44	22.10	19.60	20.17	20.58	21.84	22.47	23.47
30325	20.76	21.06	21.19	21.35	22.27	20.95	21.23	21.39	22.05	22.59	23.59
30326	20.85	21.28	21.47	21.69	22.73	21.12	21.54	21.75	22.40	23.40	24.40
30327	19.09	19.42	19.59	19.79	20.55	19.28	19.64	19.87	20.43	20.82	21.82
30331	24.60	25.06	25.12	25.26	25.58	24.79	25.12	25.25	25.43	26.24	27.24
30333	21.51	21.98	22.25	22.56	23.32	21.83	22.33	22.63	23.04	23.95	24.95
30335	21.47	21.88	22.09	22.32	22.97	21.75	22.15	22.37	22.72	23.54	24.54
30337	28.63	28.82	29.08	29.39	29.94	28.75	29.07	29.35	29.65	30.14	31.14
30338	19.62	20.06	20.29	20.51	20.68	19.76	20.06	20.19	20.40	21.09	22.09
30339	25.23	25.38	25.44	25.85	26.37	25.38	25.44	25.82	26.14	26.56	27.56
30340	21.44	22.54	23.09	23.62	24.28	22.12	23.09	23.57	24.04	24.40	25.40
30341	22.66	23.93	24.57	25.41	26.68	23.48	24.64	25.46	26.04	27.00	28.00
30342	25.42	25.96	26.17	26.84	29.13	25.67	25.99	26.87	28.19	29.54	30.54
30343	23.45	23.49	23.51	23.53	23.57	23.46	23.50	23.52	23.54	23.57	24.57
30344	19.76	20.14	20.39	20.61	20.86	19.90	20.19	20.36	20.60	21.21	22.21
30347	26.74	27.15	27.42	27.74	28.52	26.85	27.28	27.54	27.85	28.80	29.80
30348	29.42	29.49	29.53	29.57	29.64	29.47	29.53	29.57	29.60	29.66	30.66
30349	23.20	24.54	25.27	26.52	28.24	24.08	25.43	26.69	27.65	28.77	29.77
30350	28.48	28.91	29.14	29.39	30.00	28.70	29.12	29.35	29.59	30.44	31.44
30351	23.64	25.02	25.82	27.65	29.73	24.56	26.06	27.91	29.11	30.48	31.48
30354	23.86	25.25	26.07	28.16	30.35	24.80	26.34	28.48	29.77	31.21	32.21
30356	27.62	28.00	28.35	28.85	29.76	27.74	28.25	28.74	29.31	30.01	31.01
30357	31.53	31.66	31.70	31.73	31.85	31.62	31.71	31.74	31.80	32.30	33.30
30361	24.08	25.46	26.29	28.58	30.86	25.04	26.58	28.94	30.29	31.80	32.80
30362	30.82	31.96	32.45	32.62	32.78	31.45	32.49	32.63	32.73	32.90	33.90
30363	29.16	30.28	30.41	30.52	31.66	30.06	30.47	30.58	31.43	32.24	33.24
30365	24.36	25.64	26.45	28.83	31.18	25.27	26.76	29.21	30.62	32.20	33.20
30366	26.87	27.10	27.17	28.91	31.36	27.06	27.20	29.30	30.79	32.44	33.44
30367	32.51	32.57	32.60	32.63	32.69	32.55	32.61	32.64	32.68	32.81	33.81

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
30368	29.78	30.00	30.13	30.57	32.33	29.90	30.13	30.65	31.87	32.81	33.81
30369	33.78	33.82	33.83	33.85	33.88	33.81	33.85	33.86	33.88	33.92	34.92
30371	33.17	33.64	33.91	34.12	34.92	33.63	34.16	34.33	34.76	35.63	36.63
30372	33.23	33.87	34.26	34.68	35.60	33.87	34.63	35.01	35.47	36.36	37.36
30374	32.76	33.76	34.15	34.36	34.65	33.36	34.14	34.34	34.51	34.79	35.79
30380	6.24	7.54	8.04	8.51	9.24	7.19	8.24	8.69	9.11	9.86	11.00
30381	6.32	7.64	8.15	8.65	9.42	7.28	8.37	8.84	9.28	10.06	11.06
30382	6.45	7.78	8.31	8.83	9.63	7.41	8.53	9.02	9.48	10.26	11.26
30383	6.50	8.09	8.67	9.29	10.13	7.63	8.94	9.48	9.98	10.68	11.68
30384	6.62	8.26	8.87	9.51	10.37	7.77	9.15	9.70	10.22	10.94	11.94
30386	6.76	8.40	9.00	9.63	10.48	7.91	9.27	9.82	10.33	11.05	12.05
30387	7.04	8.67	9.26	9.88	10.72	8.18	9.53	10.07	10.58	11.32	12.32
30388	7.25	8.85	9.44	10.05	10.88	8.37	9.70	10.23	10.74	11.48	12.48
30391	7.77	9.29	9.85	10.43	11.19	8.83	10.10	10.59	11.07	11.79	12.79
30393	8.18	9.76	10.33	10.91	11.70	9.28	10.58	11.09	11.55	12.30	13.30
30395	8.58	10.17	10.74	11.31	12.12	9.69	11.00	11.51	11.95	12.74	13.74
30396	8.67	10.23	10.78	11.35	12.16	9.75	11.03	11.55	11.97	12.80	13.80
30397	9.00	10.56	11.11	11.65	12.62	10.07	11.34	11.82	12.39	13.19	14.19
30399	9.62	11.20	11.74	12.21	12.99	10.72	11.96	12.38	12.78	13.47	14.47
30400	10.19	11.90	12.47	12.96	13.82	11.38	12.71	13.18	13.54	14.27	15.27
30401	10.45	12.12	12.68	13.16	13.99	11.61	12.92	13.38	13.73	14.46	15.46
30402	10.74	12.46	13.04	13.53	14.38	11.95	13.29	13.77	14.12	14.83	15.83
30403	11.34	12.77	13.39	13.87	14.72	12.32	13.65	14.14	14.51	15.26	16.26
30404	12.09	13.56	14.15	14.63	15.47	13.13	14.42	14.91	15.27	16.04	17.04
30405	6.27	7.56	8.06	8.53	9.25	7.21	8.26	8.70	9.12	9.87	11.00
30406	6.32	7.62	8.12	8.58	9.29	7.27	8.32	8.75	9.15	9.89	11.00
30407	6.36	7.69	8.21	8.76	9.58	7.33	8.45	8.96	9.43	10.22	11.22
30408	6.39	7.72	8.24	8.78	9.60	7.36	8.48	8.98	9.45	10.24	11.24
30410	6.57	8.21	8.78	9.40	10.26	7.73	9.05	9.60	10.10	10.81	11.81
30411	8.94	9.49	9.75	10.03	10.75	9.21	9.74	10.09	10.58	11.33	12.33
30412	9.06	9.65	9.93	10.24	10.86	9.35	9.92	10.23	10.69	11.62	12.62
30413	10.24	11.01	11.36	11.73	12.32	10.62	11.35	11.73	12.10	12.61	13.61
30414	11.81	12.71	13.10	13.51	14.19	12.26	13.09	13.52	13.94	14.57	15.57
30415	11.85	12.77	13.16	13.59	14.28	12.30	13.16	13.59	14.02	14.67	15.67
30416	12.87	13.79	14.18	14.62	15.35	13.35	14.19	14.65	15.10	15.79	16.79
30417	14.02	14.93	15.32	15.76	16.49	14.50	15.34	15.80	16.26	16.95	17.95
30418	14.51	15.45	15.86	16.29	17.01	15.01	15.90	16.36	16.81	17.51	18.51
30419	14.65	15.65	16.44	17.20	18.52	15.18	16.54	17.38	18.25	20.10	21.10
30421	10.02	10.59	10.89	11.32	12.32	10.25	10.83	11.34	11.88	12.78	13.78
30422	16.58	16.71	16.77	16.83	16.93	16.64	16.75	16.81	16.87	16.96	17.96
30423	19.82	20.01	20.08	20.17	20.30	19.91	20.06	20.14	20.21	20.34	21.34
30424	19.88	20.35	20.66	20.99	21.63	20.04	20.57	20.87	21.20	21.69	22.69
30425	13.09	13.32	13.44	13.57	13.80	13.18	13.40	13.52	13.65	13.84	14.84
30426	13.09	13.32	13.44	13.57	13.80	13.18	13.40	13.52	13.64	13.84	14.84
30427	13.09	13.31	13.44	13.57	13.79	13.18	13.40	13.52	13.64	13.84	14.84
30428	8.75	9.83	10.44	10.64	10.89	8.89	10.45	10.63	10.78	10.99	11.99
30429	8.75	9.82	10.43	10.63	10.88	8.88	10.44	10.63	10.77	10.97	11.97
30431	14.65	15.29	15.61	16.00	16.67	14.97	15.62	16.03	16.44	17.10	18.10
30432	19.77	20.55	20.63	20.69	20.77	20.16	20.62	20.68	20.73	20.80	21.80
30434	20.27	21.31	21.53	21.71	21.97	20.75	21.48	21.66	21.82	22.07	23.07
30436	21.47	23.08	23.58	24.01	24.59	22.14	23.44	23.87	24.24	24.78	25.78
30437	21.59	23.32	23.86	24.34	24.99	22.34	23.71	24.18	24.64	25.14	26.14
30438	21.83	23.42	23.99	24.50	25.14	22.37	23.83	24.32	24.82	25.28	26.28
30439	21.92	23.66	24.29	24.89	25.49	22.43	24.10	24.66	25.18	25.63	26.63
30440	22.07	23.85	24.51	25.14	25.69	22.51	24.32	24.90	25.42	25.81	26.81
30441	22.41	24.28	24.96	25.63	26.10	22.73	24.77	25.38	25.90	26.18	27.18
30442	22.43	24.43	25.11	25.77	26.28	22.77	24.92	25.53	26.05	26.39	27.39

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
30443	24.30	24.54	25.21	25.86	26.40	24.30	25.03	25.63	26.15	26.51	27.51
30444	21.52	23.10	23.66	24.09	24.68	22.16	23.51	23.95	24.33	24.88	25.88
30445	21.52	23.12	23.68	24.11	24.70	22.17	23.54	23.98	24.35	24.91	25.91
30446	21.56	23.15	23.70	24.14	24.74	22.33	23.55	23.99	24.37	24.95	25.95
30447	21.55	23.15	23.73	24.17	24.87	22.24	23.60	24.04	24.41	25.12	26.12
30448	22.49	23.16	23.72	24.22	24.89	22.59	23.56	24.04	24.52	25.12	26.12
30449	22.50	23.16	23.72	24.22	24.89	22.60	23.56	24.04	24.52	25.12	26.12
30450	22.98	23.38	23.84	24.42	25.28	23.10	23.67	24.17	24.80	25.59	26.59
30451	23.03	23.45	23.85	24.43	25.32	23.15	23.68	24.19	24.81	25.65	26.65
30452	23.06	23.57	23.85	24.43	25.36	23.18	23.68	24.19	24.81	25.71	26.71
30453	23.06	23.57	23.86	24.44	25.36	23.18	23.69	24.20	24.82	25.71	26.71
30454	23.27	23.51	23.84	24.43	25.32	23.29	23.68	24.19	24.80	25.65	26.65
30455	23.19	23.58	23.86	24.44	25.36	23.25	23.69	24.20	24.82	25.72	26.72
30456	23.06	23.57	23.86	24.44	25.36	23.18	23.68	24.20	24.82	25.71	26.71
30457	24.37	24.86	25.11	25.28	25.96	24.41	24.89	25.14	25.20	26.45	27.45
30458	25.15	26.52	27.10	27.67	28.54	25.30	26.60	27.20	27.68	28.55	29.55
30459	25.44	27.18	28.02	28.79	29.17	25.59	27.29	28.12	28.80	29.17	30.17
30460	26.08	27.31	28.20	29.03	29.57	26.12	27.43	28.31	29.04	29.60	30.60
30461	26.40	27.43	28.38	29.28	29.97	26.44	27.56	28.50	29.28	30.04	31.04
30462	24.43	24.92	25.25	25.46	26.03	24.44	24.99	25.29	25.41	26.53	27.53
30463	25.96	27.85	28.38	28.46	28.56	26.13	27.93	28.39	28.46	28.56	29.56
30464	25.48	27.32	28.20	28.99	29.21	25.66	27.44	28.33	29.00	29.21	30.21
30465	25.51	27.36	28.27	29.08	29.36	25.69	27.49	28.40	29.09	29.38	30.38
30466	26.42	27.48	28.45	29.37	30.13	26.47	27.62	28.57	29.38	30.22	31.22
30467	23.18	23.61	24.11	24.77	25.81	23.32	23.88	24.53	25.16	26.09	27.09
30468	23.50	23.70	24.11	24.77	25.81	23.51	23.88	24.53	25.16	26.10	27.10
30469	23.62	24.17	24.66	25.36	26.65	23.81	24.35	25.13	25.76	26.87	27.87
30470	23.97	24.78	25.13	25.82	26.88	24.29	24.96	25.63	26.16	27.09	28.09
30471	24.43	25.76	26.07	26.67	27.25	24.95	25.93	26.50	26.84	27.41	28.41
30472	24.94	25.10	25.37	26.08	27.00	25.03	25.23	25.90	26.37	27.19	28.19
30473	26.56	26.84	27.18	27.58	27.66	26.63	27.05	27.43	27.62	27.84	28.84
30474	23.84	24.51	25.26	26.10	27.27	24.03	24.84	25.50	26.33	27.56	28.56
30475	25.47	25.48	26.42	27.70	28.60	25.48	25.71	26.78	27.95	28.66	29.66
30476	23.88	24.60	25.36	26.18	27.40	24.10	24.98	25.74	26.43	27.67	28.67
30477	23.89	24.60	25.38	26.21	27.53	24.12	25.00	25.75	26.44	27.74	28.74
30478	23.88	24.62	25.38	26.21	27.54	24.11	24.99	25.74	26.46	27.73	28.73
30479	24.07	25.08	25.80	26.49	27.60	24.41	25.47	26.29	26.88	27.80	28.80
30480	24.31	25.23	26.19	26.89	27.67	24.58	25.94	26.71	27.29	27.86	28.86
30482	24.12	25.34	26.01	26.75	27.89	24.57	25.74	26.51	27.09	28.02	29.02
30483	24.13	25.35	26.01	26.78	27.93	24.57	25.74	26.51	27.09	28.02	29.02
30484	24.44	26.28	27.09	27.93	28.61	25.01	26.75	27.46	28.24	28.67	29.67
30485	24.45	26.28	27.10	27.94	28.51	25.01	26.76	27.47	28.25	28.53	29.53
30486	25.21	26.55	27.32	28.09	28.77	25.51	27.01	27.67	28.38	28.84	29.84
30487	26.07	28.21	28.63	29.14	29.74	26.83	28.49	28.95	29.37	29.86	30.86
30488	24.58	26.60	27.50	28.42	29.06	25.15	27.14	27.93	28.75	29.12	30.12
30489	24.85	26.69	27.64	28.61	29.40	25.18	27.27	28.10	28.99	29.51	30.51
30490	24.94	26.74	27.68	28.61	29.12	25.23	27.31	28.11	28.92	29.17	30.17
30491	24.94	26.75	27.69	28.63	29.10	25.23	27.32	28.13	28.93	29.12	30.12
30492	25.93	26.94	28.00	28.94	29.56	26.03	27.62	28.45	29.27	29.63	30.63
30493	25.95	26.96	28.03	28.98	29.63	26.04	27.65	28.48	29.32	29.71	30.71
30494	26.39	26.96	28.04	29.00	29.66	26.43	27.66	28.50	29.34	29.74	30.74
30495	27.14	27.33	28.52	29.42	30.12	27.20	28.15	28.96	29.75	30.21	31.21
30496	27.14	27.34	28.54	29.45	30.16	27.21	28.16	28.98	29.78	30.25	31.25
30497	28.71	29.00	29.58	30.26	30.92	28.84	29.30	29.96	30.56	31.05	32.05
30498	28.94	29.32	29.85	30.46	31.07	29.13	29.60	30.19	30.73	31.20	32.20
30499	29.09	29.68	30.12	30.66	31.29	29.36	29.92	30.44	30.93	31.43	32.43
30500	30.18	30.57	30.87	31.21	31.61	30.36	30.73	31.07	31.38	31.70	32.70

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
30501	31.07	31.44	31.59	31.75	31.99	31.25	31.53	31.69	31.83	32.06	33.06
30502	27.77	29.38	30.30	31.05	31.57	28.05	30.11	30.97	31.26	31.74	32.74
30503	27.38	28.76	29.42	30.04	30.60	27.49	29.25	29.90	30.26	30.73	31.73
30508	16.91	17.39	17.63	17.88	19.14	17.08	17.53	17.92	18.70	20.20	21.20
30509	18.15	18.47	18.64	18.82	19.40	18.25	18.56	18.72	19.03	20.20	21.20
30510	22.00	22.44	22.67	22.91	23.24	22.14	22.56	22.78	23.01	23.27	24.27
30511	23.49	23.89	24.11	24.30	24.59	23.61	24.00	24.20	24.37	24.60	25.60
30513	15.23	16.05	16.70	17.39	18.84	15.70	16.85	17.63	18.46	20.29	21.29
30514	16.51	17.19	17.54	18.12	19.31	16.98	17.70	18.32	18.98	20.51	21.51
30515	18.88	19.51	19.81	20.28	20.97	19.32	19.96	20.38	20.77	21.53	22.53
30516	19.95	20.58	20.88	21.16	21.61	20.39	20.97	21.23	21.49	22.04	23.04
30517	22.60	23.09	23.37	23.57	23.87	22.92	23.44	23.63	23.79	24.05	25.05
30518	25.20	25.89	26.13	26.35	26.62	25.45	26.01	26.21	26.33	26.47	27.47
30519	27.12	27.80	27.91	28.15	28.89	27.61	27.99	28.11	28.44	29.17	30.17
30520	29.94	30.38	30.55	30.74	31.05	30.23	30.59	30.78	30.96	31.19	32.19
30521	29.96	30.46	30.67	30.91	31.32	30.30	30.72	30.95	31.19	31.54	32.54
30522	30.23	30.65	30.85	31.07	31.45	30.53	30.92	31.14	31.35	31.66	32.66
30523	30.78	31.04	31.18	31.35	31.66	30.89	31.19	31.37	31.55	31.84	32.84
30524	30.89	31.16	31.30	31.46	31.76	31.01	31.29	31.46	31.63	31.92	32.92
30525	30.90	31.17	31.30	31.46	31.76	31.01	31.30	31.46	31.64	31.92	32.92
30526	28.89	29.07	29.29	29.50	29.86	29.00	29.29	29.47	29.66	30.05	31.05
30528	32.38	32.63	32.79	32.95	33.24	32.54	32.82	32.97	33.13	33.44	34.44
30529	31.66	32.31	32.75	33.26	33.98	32.04	32.84	33.33	33.74	34.18	35.18
30530	17.61	17.98	18.19	19.70	22.31	17.79	18.18	20.60	21.77	23.80	24.80
30531	17.81	18.17	18.37	19.79	22.36	17.96	18.29	20.69	21.82	23.54	24.54
30532	18.32	18.41	18.46	18.52	19.78	18.38	18.47	18.63	19.47	20.84	21.84
30533	16.52	17.21	17.56	18.14	19.37	16.99	17.70	18.31	18.97	20.53	21.53
30535	22.58	22.90	22.98	23.18	23.40	22.86	23.05	23.21	23.33	23.52	24.52
30536	22.71	23.51	23.92	24.07	24.17	23.25	23.98	24.08	24.14	24.23	25.23
30537	24.31	24.99	25.39	25.65	25.93	24.66	25.40	25.53	25.64	25.61	26.61
30538	24.55	25.23	25.71	26.29	26.76	24.88	25.74	26.00	26.27	26.82	27.82
30539	25.15	25.86	26.62	27.67	28.28	25.49	26.67	27.59	28.16	28.36	29.36
30540	25.35	26.07	27.17	28.56	29.58	25.68	27.22	28.43	29.29	29.68	30.68
30541	26.82	27.00	27.29	28.63	29.65	26.90	27.34	28.51	29.35	29.76	30.76
30542	26.90	27.10	27.39	28.68	29.70	26.99	27.43	28.56	29.40	29.82	30.82
30543	26.92	27.16	27.47	28.79	29.88	27.03	27.51	28.67	29.51	30.04	31.04
30550	25.10	25.64	25.66	25.69	25.72	25.62	25.67	25.70	25.71	25.73	26.73
30552	30.29	30.32	30.32	30.33	30.33	30.37	30.32	30.33	30.33	30.33	31.33
30553	31.96	32.53	32.57	32.60	32.63	32.49	32.58	32.60	32.62	32.65	33.65
30554	32.11	32.64	32.77	32.87	33.02	32.58	32.78	32.87	32.96	33.10	34.10
30555	33.64	34.02	34.14	34.25	34.44	33.92	34.14	34.25	34.35	34.53	35.53
30556	33.77	34.19	34.35	34.50	34.76	34.15	34.35	34.50	34.64	34.89	35.89
30557	34.42	34.83	35.02	35.20	35.46	34.64	34.99	35.17	35.32	35.57	36.57
30558	25.85	26.30	26.54	26.88	27.28	26.16	26.60	26.94	27.18	27.49	28.49
30559	28.29	28.51	28.63	28.75	28.84	28.44	28.66	28.76	28.81	28.89	29.89
30560	30.75	30.92	31.03	31.13	31.15	30.83	30.98	31.09	31.11	31.11	32.11
30561	31.39	31.70	31.71	31.71	31.77	31.63	31.71	31.73	31.75	31.81	32.81
30562	32.84	33.17	33.34	33.53	33.96	33.05	33.37	33.54	33.77	34.26	35.26
30563	33.70	33.99	34.14	34.31	34.59	33.85	34.14	34.30	34.46	34.75	35.75
30564	33.71	34.03	34.23	34.44	35.41	33.88	34.24	34.44	35.26	35.57	36.57
30565	34.29	34.81	35.06	35.24	35.50	34.56	35.04	35.23	35.29	35.45	36.45
30566	34.46	34.99	35.22	35.42	35.59	34.72	35.19	35.39	35.52	35.64	36.64
30568	6.85	8.48	9.07	9.70	10.54	7.99	9.35	9.89	10.40	11.10	12.10
30569	6.94	8.55	9.14	9.76	10.59	8.07	9.41	9.95	10.45	11.13	12.13
30570	7.00	8.65	9.26	9.88	10.75	8.16	9.53	10.07	10.59	11.40	12.40
30571	7.08	8.74	9.34	9.97	10.82	8.24	9.61	10.15	10.67	11.45	12.45
30573	8.34	9.05	9.40	9.95	10.87	8.69	9.59	10.16	10.69	11.43	12.43

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
30574	8.78	9.71	10.18	10.55	11.58	9.23	10.13	10.75	11.38	12.25	13.25
30575	9.76	10.74	11.25	11.64	12.43	10.24	11.19	11.66	12.17	13.00	14.00
30576	9.81	10.82	11.34	11.74	12.54	10.31	11.28	11.75	12.26	13.11	14.11
30577	11.52	12.38	12.86	13.24	13.89	11.93	12.80	13.21	13.61	14.18	15.18
30578	11.56	12.44	12.93	13.33	14.00	11.99	12.88	13.30	13.70	14.31	15.31
30579	11.82	12.71	13.20	13.59	14.25	12.25	13.14	13.56	13.95	14.55	15.55
30580	11.98	12.89	13.39	13.78	14.43	12.43	13.33	13.75	14.13	14.72	15.72
30581	11.99	12.90	13.40	13.79	14.45	12.44	13.34	13.76	14.14	14.78	15.78
30582	12.81	13.75	14.25	14.62	15.33	13.30	14.18	14.60	14.98	15.65	16.65
30583	14.15	14.99	15.43	15.75	16.41	14.57	15.38	15.73	16.07	16.72	17.72
30584	14.29	15.13	15.58	15.92	16.58	14.73	15.54	15.91	16.25	16.90	17.90
30585	14.31	15.31	15.86	16.33	17.27	14.86	15.83	16.34	16.84	17.44	18.44
30586	14.76	15.63	16.13	16.57	17.46	15.26	16.12	16.59	17.06	17.67	18.67
30588	11.63	12.62	13.19	13.69	14.54	12.10	13.14	13.65	14.15	14.91	15.91
30590	15.23	16.35	16.95	17.59	20.22	15.87	16.97	17.57	18.13	20.80	21.80
30591	13.24	14.38	15.04	15.66	16.72	13.73	15.01	15.61	16.18	17.32	18.32
30592	12.49	13.62	14.36	14.93	16.09	13.05	14.31	14.89	15.49	16.53	17.53
30593	14.15	15.03	15.50	15.84	16.55	14.58	15.45	15.82	16.18	16.89	17.89
30595	14.17	15.06	15.53	15.95	16.73	14.60	15.49	15.93	16.33	17.11	18.11
30597	14.21	15.09	15.56	15.98	16.83	14.64	15.52	15.95	16.35	17.24	18.24
30599	14.47	15.32	15.61	15.99	16.97	14.87	15.61	15.97	16.46	17.41	18.41
30601	14.49	15.33	15.62	16.00	17.01	14.88	15.62	15.97	16.49	17.46	18.46
30603	13.14	13.86	14.36	14.78	15.72	13.58	14.29	14.75	15.19	16.13	17.13
30604	14.23	15.15	15.73	16.17	17.04	14.67	15.65	16.13	16.56	17.43	18.43
30605	14.48	15.66	16.58	17.12	18.43	14.99	16.48	17.04	17.64	18.96	19.96
30606	14.65	15.94	16.92	17.52	19.21	15.17	16.82	17.41	18.25	19.82	20.82
30607	15.26	16.59	17.85	18.59	20.72	15.70	17.57	18.42	19.42	21.43	22.43
30608	16.79	17.92	19.20	20.03	21.53	17.01	18.71	19.84	20.63	22.00	23.00
30609	17.82	20.11	21.53	22.21	22.63	18.15	21.04	22.00	22.39	22.71	23.71
30610	18.32	20.78	22.28	22.89	23.32	18.56	21.72	22.69	23.05	23.41	24.41
30611	18.42	21.04	22.65	23.30	23.80	18.68	22.03	23.08	23.46	23.88	24.88
30612	18.32	21.01	22.14	22.33	22.66	18.53	21.85	22.23	22.44	22.73	23.73
30613	19.87	22.54	23.80	24.10	24.40	19.87	23.19	23.89	24.13	24.41	25.41
30614	7.11	8.74	9.28	9.89	10.74	8.26	9.54	10.08	10.59	11.33	12.33
30615	10.40	10.87	11.30	11.64	11.79	10.60	11.19	11.52	11.76	11.87	12.87
30616	12.59	13.19	13.81	14.22	14.31	12.85	13.67	14.08	14.32	14.30	15.30
30617	15.48	16.13	16.13	16.13	17.17	15.75	16.13	16.13	16.47	17.44	18.44
30618	16.60	16.76	16.85	16.93	17.52	16.66	16.81	16.89	16.95	17.80	18.80
30619	7.34	8.92	9.55	10.25	11.60	8.43	9.86	10.59	11.40	12.70	13.70
30620	8.40	8.93	9.58	10.38	11.97	8.64	9.95	10.79	11.72	13.24	14.24
30621	8.44	8.97	9.61	10.47	12.19	8.75	10.02	10.93	11.92	13.55	14.55
30622	12.03	12.71	12.92	13.21	13.77	12.34	12.91	13.17	13.49	14.10	15.10
30623	12.52	13.40	13.52	13.81	14.38	12.87	13.50	13.77	14.12	14.56	15.56
30624	12.92	13.59	13.59	13.94	14.68	13.30	13.58	13.89	14.34	15.15	16.15
30626	14.31	14.86	15.11	15.36	15.71	14.43	15.09	15.32	15.55	15.72	16.72
30627	10.11	11.11	11.44	11.71	11.72	10.54	11.42	11.50	11.50	13.51	14.51
30628	15.63	16.44	16.85	17.21	18.34	15.92	16.68	16.98	17.31	18.60	19.60
30629	9.44	9.80	10.05	10.79	11.76	9.62	10.42	11.01	11.57	12.57	13.57
30630	10.61	11.04	11.32	11.62	13.02	10.82	11.28	11.65	12.68	13.85	14.85
30631	11.35	12.66	13.20	13.55	13.97	12.06	13.14	13.49	13.79	14.30	15.30
30632	11.47	12.73	13.25	13.61	14.04	12.15	13.20	13.55	13.84	14.35	15.35
30633	11.99	13.02	13.51	13.87	14.31	12.53	13.45	13.80	14.08	14.58	15.58
30634	12.04	13.24	13.79	14.23	14.80	12.67	13.73	14.15	14.49	15.07	16.07
30635	12.10	13.28	13.83	14.26	14.83	12.72	13.76	14.18	14.52	15.10	16.10
30636	12.22	13.33	13.87	14.30	14.86	12.78	13.81	14.22	14.56	15.12	16.12
30637	13.03	14.86	15.86	16.74	17.58	13.68	15.81	16.64	17.22	17.97	18.97
30638	13.07	14.88	15.88	16.75	17.59	13.72	15.82	16.65	17.22	17.97	18.97

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
30639	13.68	14.99	15.93	16.78	17.61	14.10	15.87	16.68	17.25	17.99	18.99
30640	14.86	15.49	16.16	16.91	17.68	15.14	16.12	16.83	17.35	18.04	19.04
30641	15.18	15.74	16.31	17.01	17.75	15.45	16.29	16.93	17.43	18.08	19.08
30642	15.31	15.93	16.50	17.17	17.89	15.63	16.47	17.10	17.58	18.21	19.21
30643	15.72	16.64	17.16	17.75	18.39	16.27	17.14	17.69	18.11	18.67	19.67
30644	14.12	14.37	14.53	14.72	15.30	14.14	14.39	14.55	14.81	15.49	16.49
30645	16.73	18.13	18.56	18.96	19.47	17.68	18.57	18.94	19.26	19.66	20.66
30646	16.80	18.27	18.70	19.08	19.55	17.82	18.71	19.06	19.36	19.67	20.67
30647	16.92	18.46	18.90	19.27	19.65	17.98	18.90	19.25	19.53	19.72	20.72
30648	15.52	16.20	16.33	16.44	17.44	15.79	16.29	16.37	16.68	17.71	18.71
30649	15.19	15.75	16.33	17.06	17.84	15.47	16.31	16.99	17.51	18.19	19.19
30650	17.12	17.31	17.41	17.52	17.88	17.26	17.45	17.55	17.65	18.22	19.22
30651	10.73	11.21	11.39	11.51	11.99	11.00	11.37	11.53	11.89	12.48	13.48
30652	11.33	12.35	12.67	12.87	13.10	11.93	12.64	12.84	12.99	13.25	14.25
30653	9.60	9.94	10.43	11.02	11.77	9.80	10.67	11.18	11.65	12.36	13.36
30654	11.87	12.12	12.26	12.40	12.65	11.99	12.24	12.37	12.51	12.89	13.89
30655	8.47	9.77	10.37	11.00	11.88	9.29	10.64	11.18	11.73	12.71	13.71
30656	12.10	13.28	13.83	14.26	14.84	12.72	13.76	14.18	14.53	15.10	16.10
30657	12.49	13.09	13.40	13.70	14.08	12.79	13.36	13.65	13.91	14.14	15.14
30658	15.79	15.89	15.95	15.99	16.05	15.83	15.93	15.98	16.02	16.06	17.06
30659	17.10	17.28	17.39	17.60	19.17	17.13	17.31	17.39	17.81	19.42	20.42
30660	8.69	9.89	10.40	10.94	11.72	9.56	10.64	11.11	11.57	12.31	13.31
30661	8.69	10.15	10.95	11.65	12.69	9.71	11.33	11.84	12.45	12.98	13.98
30662	8.69	10.20	10.76	11.33	12.13	9.78	11.01	11.52	11.96	12.74	13.74
30663	8.69	10.24	10.79	11.35	12.16	9.76	11.03	11.55	11.97	12.78	13.78
30664	26.23	26.47	26.52	26.55	26.58	26.30	26.50	26.53	26.55	26.59	27.59
30665	22.11	22.25	22.32	22.40	22.55	22.14	22.28	22.35	22.43	22.56	23.56
30666	21.25	21.32	21.37	21.40	21.49	21.26	21.36	21.39	21.42	21.50	22.50
30667	14.40	14.63	14.74	14.84	15.01	14.53	14.71	14.80	14.90	15.22	16.22
30668	13.28	13.43	13.64	14.04	14.73	13.37	13.82	14.19	14.53	15.18	16.18
30669	11.37	12.86	13.47	13.95	14.72	12.37	13.73	14.16	14.51	15.22	16.22
30671	11.98	12.16	12.16	12.36	13.68	12.14	12.23	12.55	12.99	14.27	15.27
30672	11.99	12.22	12.27	12.43	13.71	12.15	12.27	12.60	13.11	14.27	15.27
30673	11.99	12.22	12.28	12.44	13.72	12.15	12.27	12.62	13.13	14.27	15.27
30674	10.77	11.96	12.48	12.97	13.83	11.43	12.70	13.17	13.53	14.28	15.28
30675	11.69	11.93	12.42	12.85	13.81	11.82	12.59	13.12	13.50	14.29	15.29
30676	11.23	11.93	12.46	12.94	13.83	11.45	12.67	13.12	13.49	14.26	15.26
30677	10.33	11.93	12.47	12.97	13.82	11.41	12.71	13.18	13.54	14.27	15.27
30678	10.21	11.92	12.47	12.97	13.82	11.40	12.71	13.18	13.54	14.27	15.27
30679	10.61	11.93	12.46	12.95	13.82	11.42	12.69	13.18	13.54	14.27	15.27
30700	10.56	12.21	12.76	13.24	14.06	11.70	12.99	13.45	13.80	14.52	15.52
30702	10.82	12.42	12.97	13.45	14.24	11.93	13.18	13.64	13.98	14.69	15.69
30704	11.82	12.97	13.47	13.91	14.64	12.58	13.65	14.07	14.41	15.05	16.05
30706	13.42	14.20	14.57	14.93	15.55	13.99	14.68	15.04	15.37	15.90	16.90
30708	13.73	14.48	14.85	15.23	15.87	14.29	14.98	15.35	15.69	16.21	17.21
30709	14.28	15.14	15.60	16.13	17.10	14.92	15.80	16.30	16.81	17.85	18.85
30710	14.34	15.20	15.66	16.19	17.15	14.98	15.85	16.36	16.86	17.89	18.89
30712	14.41	15.27	15.73	16.37	17.52	15.05	15.94	16.57	17.19	18.32	19.32
30713	14.58	15.40	15.87	16.48	17.61	15.20	16.07	16.69	17.29	18.39	19.39
30714	14.93	15.71	16.18	16.78	17.86	15.52	16.39	16.97	17.55	18.60	19.60
30715	15.40	16.16	16.64	17.20	18.21	15.97	16.83	17.39	17.93	18.91	19.91
30716	16.03	16.91	17.27	17.77	18.68	16.72	17.43	17.93	18.44	19.33	20.33
30717	16.66	17.60	17.96	18.37	19.18	17.41	18.12	18.49	18.94	19.75	20.75
30720	18.09	19.20	19.63	20.05	20.72	18.98	19.83	20.14	20.55	21.20	22.20
30721	18.32	19.50	19.93	20.25	21.00	19.14	20.06	20.45	20.75	21.50	22.50
30722	19.12	20.34	20.78	21.14	21.87	20.01	20.94	21.31	21.63	22.33	23.33
30723	19.68	20.96	21.42	21.82	22.56	20.65	21.61	21.98	22.33	23.01	24.01

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
30724	17.25	17.75	18.03	18.22	18.57	17.32	17.81	18.10	18.30	18.75	19.75
30725	13.83	14.04	14.20	14.42	14.82	13.84	14.04	14.20	14.41	14.75	15.75
30726	11.03	12.46	13.00	13.48	14.25	11.98	13.20	13.65	14.03	14.70	15.70
30727	13.44	14.02	14.28	14.56	14.99	13.68	14.20	14.49	14.78	15.29	16.29
30728	13.54	14.15	14.43	14.71	15.15	13.80	14.35	14.65	14.94	15.44	16.44
30729	14.73	14.83	14.88	15.19	15.63	14.80	14.83	15.13	15.42	15.85	16.85
30730	16.37	16.78	17.01	17.12	17.40	16.56	17.00	17.11	17.23	17.52	18.52
30732	17.17	17.72	18.01	18.28	18.68	17.43	17.97	18.22	18.45	18.82	19.82
30733	18.40	18.53	18.60	18.73	19.00	18.47	18.60	18.70	18.84	19.11	20.11
30734	19.50	19.91	20.13	20.37	20.61	19.71	20.11	20.33	20.51	20.82	21.82
30735	20.05	20.52	20.77	21.05	21.56	20.29	20.75	21.00	21.27	21.77	22.77
30736	20.35	20.57	20.70	20.84	21.11	20.57	20.87	21.04	21.23	21.57	22.57
30737	16.23	16.75	17.05	17.38	17.97	16.39	16.88	17.18	17.49	18.03	19.03
30738	15.62	16.06	16.06	16.06	18.04	16.06	16.06	16.06	16.07	19.12	20.12
30739	18.73	18.99	19.13	19.27	19.53	18.80	19.06	19.20	19.34	19.59	20.59
30740	17.82	17.88	17.91	17.94	18.00	17.85	17.90	17.93	17.96	18.06	19.06
30741	10.85	12.45	13.01	13.82	15.84	11.96	13.38	14.43	15.52	17.38	18.38
30742	13.51	14.36	14.75	15.12	15.67	14.12	14.86	15.19	15.50	16.00	17.00
30743	13.62	14.54	14.96	15.35	15.93	14.25	15.05	15.40	15.72	16.24	17.24
30744	13.80	14.81	15.26	15.66	16.27	14.46	15.31	15.68	16.02	16.56	17.56
30745	14.64	15.54	15.96	16.34	16.92	15.16	15.95	16.30	16.63	17.16	18.16
30746	14.72	15.69	16.22	16.73	18.43	15.27	16.19	16.66	17.81	18.83	19.83
30747	16.87	17.61	17.96	18.32	19.24	17.22	17.88	18.22	18.77	19.54	20.54
30748	17.31	18.09	18.46	18.84	19.67	17.68	18.38	18.73	19.22	19.94	20.94
30749	17.86	18.65	19.03	19.42	20.15	18.24	18.95	19.31	19.74	20.39	21.39
30750	18.58	19.39	19.76	20.13	20.79	18.97	19.68	20.03	20.41	21.00	22.00
30751	19.22	20.06	20.42	20.78	21.40	19.63	20.35	20.68	21.03	21.59	22.59
30752	19.69	20.54	20.93	21.30	21.92	20.12	20.86	21.20	21.55	22.11	23.11
30753	20.25	21.12	21.52	21.90	22.54	20.71	21.46	21.81	22.17	22.74	23.74
30754	21.01	21.81	22.19	22.56	23.16	21.46	22.14	22.48	22.82	23.36	24.36
30755	21.26	22.01	22.36	22.72	23.30	21.69	22.33	22.66	22.99	23.52	24.52
30756	22.28	22.75	23.01	23.25	23.69	22.54	23.00	23.22	23.46	23.89	24.89
30757	22.47	23.15	23.53	23.94	24.78	22.83	23.52	23.90	24.35	25.20	26.20
30759	24.15	24.57	24.84	25.18	25.92	24.37	24.84	25.14	25.53	26.31	27.31
30761	26.08	27.00	27.33	27.61	27.69	26.36	27.32	27.60	27.66	27.72	28.72
30762	26.15	27.41	28.06	28.53	28.65	26.71	28.10	28.52	28.60	28.68	29.68
30763	26.42	28.02	28.57	28.75	28.90	27.06	28.49	28.72	28.82	28.93	29.93
30765	28.60	29.77	30.28	30.67	31.22	29.07	30.10	30.50	30.85	31.32	32.32
30766	17.82	17.88	17.91	17.94	18.00	17.85	17.90	17.92	17.95	18.06	19.06
30767	21.65	22.59	23.14	24.01	25.60	21.71	22.56	23.34	24.19	25.68	26.68
30768	26.08	26.27	26.36	26.46	26.62	26.10	26.29	26.38	26.48	26.63	27.63
30769	24.76	24.96	25.06	25.16	25.34	24.79	24.98	25.08	25.18	25.35	26.35
30775	16.99	17.64	17.95	18.11	18.69	17.28	17.92	18.11	18.44	19.34	20.34
30777	20.86	23.76	25.27	25.79	26.30	21.59	25.00	25.61	26.03	26.36	27.36
30779	22.31	22.47	22.56	22.65	22.82	22.40	22.56	22.64	22.73	22.88	23.88
30780	21.20	22.17	22.65	23.12	23.63	21.65	22.56	23.00	23.43	23.74	24.74
30781	23.88	24.56	25.00	25.50	26.35	24.04	24.75	25.19	25.69	26.42	27.42
30782	19.69	20.97	21.43	21.83	22.57	20.65	21.61	21.99	22.34	23.02	24.02
30783	19.12	20.34	20.78	21.13	21.33	20.02	20.94	21.21	21.30	21.38	22.38
30784	19.79	20.65	20.75	20.82	20.90	20.56	20.78	20.84	20.88	20.95	21.95
30785	19.65	19.83	19.91	19.97	20.06	19.77	19.94	19.99	20.04	20.10	21.10
30786	18.10	19.31	19.79	20.47	21.08	19.03	19.92	20.53	20.96	21.48	22.48
30787	20.00	20.73	22.16	23.19	23.62	20.20	22.31	23.15	23.49	23.69	24.69
30788	19.75	20.88	22.61	23.19	23.61	20.05	22.66	23.15	23.49	23.66	24.66
30790	18.01	19.22	19.91	20.29	20.50	18.28	19.43	20.09	20.33	20.52	21.52
30792	26.23	26.89	27.24	27.62	28.33	26.43	27.06	27.41	27.80	28.55	29.55
30793	28.65	29.11	29.41	29.71	30.17	28.81	29.29	29.58	29.84	30.28	31.28

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
30795	27.69	28.17	28.38	28.59	28.96	28.05	28.45	28.64	28.84	29.22	30.22
30796	28.56	28.86	29.03	29.21	29.43	28.69	28.98	29.14	29.31	29.46	30.46
30797	27.00	27.00	27.00	27.00	27.00	27.00	27.00	27.00	27.00	27.00	28.00
30800	19.85	21.09	21.53	21.94	22.69	20.81	21.72	22.09	22.46	23.18	24.18
30801	20.13	21.30	21.73	22.18	22.92	21.06	21.94	22.31	22.71	23.47	24.47
30802	20.17	21.47	21.88	22.27	23.00	21.06	22.00	22.47	22.84	23.58	24.58
30803	20.30	21.56	21.98	22.37	23.13	21.18	22.12	22.58	22.95	23.71	24.71
30804	20.56	21.75	22.16	22.58	23.38	21.41	22.35	22.80	23.16	23.96	24.96
30805	20.95	22.03	22.43	22.85	23.72	21.74	22.68	23.11	23.48	24.28	25.28
30806	21.36	22.37	22.75	23.22	24.13	22.13	23.04	23.50	23.92	24.68	25.68
30807	21.51	22.50	22.95	23.42	24.21	22.25	23.07	23.53	24.01	24.79	25.79
30808	22.17	23.05	23.48	23.93	24.72	22.79	23.60	24.09	24.58	25.29	26.29
30811	22.56	23.42	23.82	24.27	25.06	23.19	23.96	24.45	24.93	25.60	26.60
30814	22.76	23.61	24.01	24.48	25.26	23.39	24.16	24.66	25.13	25.78	26.78
30815	22.76	23.62	24.01	24.49	25.31	23.39	24.17	24.67	25.15	25.86	26.86
30816	22.78	23.63	24.03	24.50	25.32	23.41	24.19	24.69	25.17	25.87	26.87
30817	20.33	21.59	22.01	22.40	23.13	21.22	22.15	22.61	22.96	23.71	24.71
30818	21.18	21.82	22.19	22.56	23.31	21.61	22.33	22.74	23.09	23.71	24.71
30820	25.35	25.48	25.56	25.64	25.81	25.48	25.66	25.76	25.88	26.10	27.10
30821	20.30	21.56	21.98	22.37	23.14	21.18	22.12	22.58	22.95	23.72	24.72
30822	20.30	21.56	21.98	22.37	23.13	21.18	22.12	22.58	22.96	23.71	24.71
30823	19.88	20.83	21.26	21.63	22.09	20.61	21.45	21.81	22.05	22.35	23.35
30824	19.88	20.85	21.27	21.63	21.85	20.62	21.45	21.79	21.85	21.89	22.89
30825	22.34	22.43	22.48	22.53	23.13	22.38	22.46	22.59	22.96	23.71	24.71
30826	20.30	21.56	21.98	22.37	23.13	21.18	22.12	22.58	22.96	23.71	24.71
30827	20.30	21.56	21.98	22.37	23.13	21.18	22.12	22.58	22.96	23.71	24.71
30828	22.56	22.59	22.61	22.62	23.13	22.58	22.60	22.61	22.96	23.71	24.71
30830	24.31	24.52	24.63	24.75	24.95	24.39	24.59	24.70	24.81	25.00	26.00
30831	23.23	23.57	23.69	24.07	24.82	23.53	23.82	24.23	24.68	25.37	26.37
30832	24.14	24.38	24.51	24.66	24.95	24.36	24.62	24.75	24.90	25.48	26.48
30833	26.59	26.79	26.90	27.02	27.23	26.75	26.94	27.05	27.16	27.35	28.35
30834	26.59	26.80	26.92	27.04	27.28	26.76	26.96	27.07	27.19	27.42	28.42
30835	22.56	23.42	23.82	24.28	25.06	23.19	23.96	24.45	24.93	25.60	26.60
30836	23.37	23.62	24.01	24.48	25.26	23.47	24.17	24.66	25.14	25.79	26.79
30837	22.79	23.63	24.03	24.50	25.32	23.41	24.19	24.69	25.17	25.87	26.87
30838	22.77	23.62	24.01	24.48	25.26	23.39	24.17	24.66	25.14	25.79	26.79
30840	21.52	22.47	22.83	23.28	24.16	22.24	23.10	23.54	23.96	24.71	25.71
30841	22.38	23.20	24.27	25.13	25.79	22.87	24.62	25.35	25.74	25.89	26.89
30842	22.86	24.92	25.84	26.31	26.63	24.10	26.08	26.36	26.55	26.75	27.75
30843	23.56	25.02	25.88	26.36	26.72	24.28	26.12	26.42	26.62	26.88	27.88
30844	24.34	25.19	25.94	26.42	26.79	24.64	26.17	26.48	26.69	26.96	27.96
30845	25.48	26.31	26.48	26.63	26.86	26.12	26.52	26.65	26.77	27.02	28.02
30846	25.60	26.40	26.58	26.75	27.02	26.20	26.62	26.77	26.92	27.20	28.20
30847	25.86	26.85	27.25	27.68	28.48	26.52	27.29	27.76	28.24	28.78	29.78
30848	25.86	26.86	27.25	27.69	28.48	26.52	27.30	27.77	28.24	28.78	29.78
30849	25.92	26.93	27.26	27.69	28.48	26.57	27.30	27.77	28.24	28.78	29.78
30850	23.94	24.35	24.59	25.23	25.80	24.15	24.81	25.40	25.72	25.91	26.91
30852	24.89	25.37	25.62	26.14	26.81	25.22	25.80	26.28	26.67	27.21	28.21
30853	24.99	25.50	25.80	26.22	26.87	25.33	25.95	26.36	26.74	27.29	28.29
30854	24.99	25.49	25.76	26.16	26.74	25.33	25.90	26.28	26.62	27.10	28.10
30855	25.09	25.64	26.20	26.65	27.15	25.52	26.40	26.80	27.08	27.50	28.50
30856	27.06	27.57	27.85	28.08	28.40	27.43	27.95	28.16	28.34	28.67	29.67
30857	27.23	27.89	28.22	28.43	28.61	27.73	28.32	28.48	28.58	28.78	29.78
30858	25.56	26.52	26.81	27.04	27.10	26.23	26.82	27.04	27.08	27.12	28.12
30859	25.63	26.41	26.60	26.78	27.05	26.22	26.64	26.80	26.95	27.23	28.23
30860	25.68	26.49	26.71	27.00	27.50	26.27	26.77	27.05	27.34	27.83	28.83
30861	25.77	26.76	27.14	27.64	28.11	26.48	27.26	27.70	27.98	28.39	29.39

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
30862	25.87	26.78	27.16	27.65	28.11	26.50	27.28	27.71	27.98	28.39	29.39
30863	25.97	27.14	27.80	28.55	29.06	26.70	27.98	28.63	28.93	29.31	30.31
30864	26.73	27.25	27.87	28.58	29.08	26.94	28.03	28.65	28.94	29.32	30.32
30865	27.21	28.10	28.44	28.68	29.09	27.74	28.50	28.72	28.96	29.32	30.32
30867	25.49	26.32	26.49	26.66	26.98	26.13	26.53	26.68	26.84	27.21	28.21
30868	26.47	26.56	26.71	26.84	27.20	26.55	26.76	26.92	27.14	27.53	28.53
30870	20.60	21.78	22.19	22.60	23.39	21.45	22.37	22.82	23.18	23.97	24.97
30871	20.61	21.79	22.21	22.64	23.42	21.46	22.38	22.85	23.24	24.02	25.02
30872	20.83	21.87	22.28	22.69	23.45	21.58	22.43	22.90	23.27	24.04	25.04
30873	20.83	21.88	22.30	22.72	23.53	21.59	22.45	22.96	23.34	24.10	25.10
30874	22.63	23.27	23.53	23.82	24.31	23.19	23.68	23.94	24.21	24.59	25.59
30875	24.53	24.69	24.77	24.86	25.01	24.60	24.75	24.83	24.91	25.06	26.06
30876	24.95	25.18	25.30	25.42	25.64	25.07	25.27	25.39	25.50	25.70	26.70
30877	22.66	23.30	23.58	23.87	24.37	23.22	23.72	24.00	24.27	24.66	25.66
30878	26.19	26.39	26.49	26.60	26.79	26.33	26.51	26.60	26.70	26.88	27.88
30879	26.64	26.85	26.97	27.10	27.33	26.85	27.07	27.18	27.30	27.50	28.50
30880	26.64	26.85	26.98	27.10	27.33	26.85	27.07	27.18	27.30	27.51	28.51
30881	26.64	26.86	26.98	27.11	27.36	26.85	27.08	27.20	27.33	27.57	28.57
30882	26.65	26.89	27.04	27.19	27.49	26.88	27.14	27.28	27.44	27.71	28.71
30883	26.65	26.90	27.05	27.22	27.53	26.89	27.16	27.31	27.47	27.77	28.77
30886	22.87	23.72	24.12	24.57	25.37	23.50	24.27	24.75	25.22	25.92	26.92
30887	22.87	23.74	24.16	24.61	25.42	23.50	24.32	24.79	25.27	25.99	26.99
30890	22.88	23.80	24.25	24.70	25.55	23.55	24.42	24.89	25.38	26.17	27.17
30891	22.90	23.93	24.43	24.89	25.81	23.64	24.63	25.12	25.64	26.55	27.55
30892	22.93	23.93	24.44	24.90	25.81	23.65	24.64	25.12	25.64	26.55	27.55
30893	23.66	24.30	24.45	24.90	25.81	24.25	24.64	25.12	25.64	26.55	27.55
30894	23.69	24.46	24.72	25.21	26.28	24.37	25.00	25.54	26.17	27.50	28.50
30895	25.13	25.28	25.36	25.68	26.39	25.27	25.64	25.85	26.31	27.57	28.57
30896	26.20	26.61	26.84	27.09	27.59	26.58	27.04	27.27	27.59	27.93	28.93
30897	27.00	27.21	27.36	27.53	27.68	27.20	27.50	27.65	27.68	27.96	28.96
30898	29.39	29.67	29.81	29.95	30.16	29.64	29.92	30.04	30.15	30.33	31.33
30900	22.90	23.73	24.13	24.58	25.38	23.52	24.28	24.75	25.22	25.92	26.92
30901	22.90	23.73	24.13	24.58	25.38	23.52	24.28	24.75	25.22	25.92	26.92
30902	27.47	27.71	27.84	27.98	28.22	27.60	27.84	27.97	28.10	28.34	29.34
30903	22.90	23.76	24.16	24.61	25.43	23.52	24.32	24.79	25.27	25.99	26.99
30904	24.50	24.65	24.74	24.83	25.45	24.59	24.75	24.86	25.28	26.02	27.02
30905	22.88	23.80	24.26	24.71	25.56	23.55	24.42	24.90	25.39	26.18	27.18
30906	28.39	28.51	28.57	28.63	28.74	28.46	28.57	28.63	28.70	28.72	29.72
30907	23.04	23.80	24.25	24.70	25.55	23.55	24.42	24.90	25.38	26.17	27.17
30908	27.41	27.66	27.78	27.91	28.09	27.58	27.80	27.90	28.01	28.16	29.16
30909	27.45	27.77	27.94	28.12	28.44	27.66	27.95	28.12	28.29	28.58	29.58
30910	27.48	27.85	28.05	28.28	28.69	27.71	28.07	28.27	28.49	28.87	29.87
30911	27.50	27.90	28.13	28.38	28.84	27.75	28.13	28.36	28.60	29.04	30.04
30912	28.37	28.61	28.77	28.95	29.35	28.47	28.74	28.91	29.11	29.52	30.52
30913	27.45	27.77	27.94	28.13	28.45	27.66	27.96	28.12	28.29	28.59	29.59
30915	29.01	29.21	29.33	29.45	29.67	29.19	29.40	29.50	29.62	29.81	30.81
30916	29.01	29.22	29.34	29.47	29.71	29.20	29.41	29.53	29.65	29.87	30.87
30917	29.52	29.81	29.97	30.14	30.45	29.81	30.12	30.28	30.43	30.71	31.71
30918	29.85	30.11	30.27	30.45	30.81	30.11	30.44	30.63	30.84	31.25	32.25
30919	29.85	30.11	30.27	30.45	30.81	30.11	30.44	30.63	30.84	31.25	32.25
30943	23.41	24.09	24.44	24.82	25.50	23.95	24.61	24.97	25.36	26.06	27.06
30944	23.83	24.15	24.30	24.54	25.35	24.01	24.30	24.73	25.20	25.90	26.90
30945	24.17	24.56	24.73	24.96	25.51	24.37	24.76	25.04	25.37	26.06	27.06
30946	24.49	25.15	25.66	26.14	26.81	24.85	25.82	26.24	26.62	27.20	28.20
30947	22.82	23.67	24.06	24.53	25.35	23.44	24.22	24.72	25.20	25.89	26.89
30948	27.99	28.02	28.03	28.05	28.08	28.02	28.04	28.06	28.07	28.10	29.10
30949	25.75	25.97	26.04	26.12	26.24	25.92	26.04	26.09	26.14	26.23	27.23

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
30950	22.79	23.64	24.04	24.52	25.33	23.42	24.20	24.70	25.18	25.88	26.88
30951	22.81	23.66	24.05	24.53	25.34	23.44	24.22	24.72	25.19	25.89	26.89
30952	22.92	23.75	24.12	24.64	25.44	23.53	24.31	24.84	25.30	25.97	26.97
30953	22.96	23.77	24.15	24.67	25.47	23.56	24.35	24.88	25.34	26.00	27.00
30954	23.42	24.48	24.96	25.13	25.47	24.21	25.05	25.17	25.35	26.00	27.00
30955	23.60	24.62	25.05	25.28	25.65	24.37	25.18	25.37	25.56	26.13	27.13
30956	23.66	24.66	25.08	25.34	25.72	24.42	25.22	25.44	25.64	26.18	27.18
30957	23.67	24.66	25.09	25.34	25.72	24.42	25.22	25.44	25.65	26.19	27.19
30958	23.79	24.71	25.13	25.40	25.79	24.48	25.28	25.51	25.72	26.25	27.25
30959	23.79	24.71	25.13	25.41	25.79	24.48	25.28	25.51	25.73	26.25	27.25
30960	23.79	24.72	25.14	25.41	25.80	24.48	25.28	25.52	25.73	26.26	27.26
30961	23.82	24.73	25.14	25.42	25.81	24.49	25.29	25.53	25.74	26.26	27.26
30962	23.82	24.73	25.15	25.43	25.82	24.50	25.30	25.54	25.76	26.28	27.28
30963	23.66	24.66	25.08	25.34	25.72	24.42	25.22	25.44	25.64	26.18	27.18
30964	23.67	24.66	25.09	25.34	25.72	24.42	25.22	25.44	25.65	26.19	27.19
30965	23.67	24.66	25.09	25.34	25.72	24.42	25.22	25.44	25.65	26.19	27.19
30966	25.69	26.13	26.38	26.64	27.12	26.08	26.53	26.78	27.03	27.49	28.49
30967	23.92	24.67	25.10	25.38	25.72	24.44	25.25	25.44	25.65	26.19	27.19
30969	25.70	26.16	26.42	26.71	27.24	26.10	26.59	26.86	27.14	27.66	28.66
30971	25.69	25.86	25.96	26.06	26.27	25.76	25.94	26.05	26.17	26.33	27.33
30972	25.70	25.91	26.06	26.35	26.69	25.79	26.07	26.36	26.56	26.83	27.83
30973	26.67	26.94	27.06	27.19	27.52	26.82	27.06	27.19	27.36	27.75	28.75
30974	26.45	26.57	26.68	26.80	27.00	26.53	26.78	26.91	27.04	27.22	28.22
30975	25.76	25.93	26.02	26.09	26.30	25.90	26.07	26.13	26.20	26.51	27.51
30976	25.77	25.96	26.03	26.10	26.31	25.94	26.07	26.14	26.21	26.52	27.52
30977	25.91	26.26	26.47	26.70	27.03	26.20	26.62	26.85	27.01	27.06	28.06
30978	28.00	28.50	28.78	29.09	29.51	28.15	28.65	28.93	29.24	29.56	30.56
30979	27.41	27.55	27.62	27.70	27.82	27.51	27.65	27.72	27.79	27.90	28.90
30980	28.00	28.50	28.78	29.10	29.51	28.15	28.65	28.93	29.24	29.56	30.56
30981	26.48	26.66	26.77	26.90	27.08	26.63	26.87	27.00	27.12	27.28	28.28
30982	26.47	26.70	26.81	26.93	27.11	26.66	26.91	27.03	27.15	27.31	28.31
30983	26.48	26.72	26.84	26.98	27.20	26.69	26.96	27.10	27.25	27.47	28.47
30984	23.80	24.74	25.15	25.44	25.86	24.50	25.31	25.56	25.81	26.35	27.35
30985	26.42	26.67	26.78	26.88	27.07	26.62	26.84	26.95	27.06	27.36	28.36
30986	26.43	26.69	26.81	26.94	27.18	26.63	26.88	27.01	27.16	27.48	28.48
30987	23.80	24.74	25.15	25.44	25.86	24.50	25.31	25.56	25.81	26.35	27.35
30988	23.80	24.74	25.15	25.44	25.87	24.50	25.31	25.57	25.82	26.37	27.37
30989	24.35	24.78	25.15	25.46	25.93	24.69	25.33	25.63	25.91	26.48	27.48
30990	23.85	24.74	25.16	25.46	25.85	24.51	25.32	25.58	25.80	26.31	27.31
30991	23.88	24.75	25.17	25.47	25.86	24.52	25.32	25.59	25.81	26.31	27.31
30992	23.89	24.75	25.17	25.47	25.86	24.52	25.32	25.59	25.81	26.31	27.31
30993	24.18	24.87	25.28	25.63	26.01	24.66	25.45	25.75	25.96	26.39	27.39
30994	24.18	24.87	25.28	25.63	26.01	24.66	25.45	25.75	25.96	26.39	27.39
30995	24.19	24.87	25.29	25.65	26.04	24.66	25.46	25.77	25.99	26.41	27.41
30996	27.27	27.61	27.79	27.96	28.26	27.40	27.72	27.89	28.04	28.32	29.32
30997	26.57	26.78	26.88	26.98	27.09	26.72	26.91	27.00	27.04	27.05	28.05
30998	27.41	27.78	28.00	28.25	28.72	27.64	28.04	28.27	28.52	29.01	30.01
30999	26.57	26.79	26.89	26.99	27.11	26.72	26.92	27.01	27.06	27.08	28.08
31000	22.65	23.49	23.88	24.33	25.12	23.28	24.02	24.50	24.98	25.66	26.66
31001	22.75	23.86	24.38	25.17	26.25	23.47	24.63	25.50	26.18	26.41	27.41
31002	23.10	23.98	24.49	25.27	26.36	23.68	24.74	25.59	26.27	26.57	27.57
31003	23.75	24.81	25.48	25.81	26.40	24.55	25.61	25.91	26.32	26.61	27.61
31004	24.14	25.56	26.00	26.23	26.53	25.21	26.09	26.28	26.47	26.71	27.71
31007	24.28	25.62	26.06	26.31	26.66	25.30	26.15	26.37	26.58	26.86	27.86
31008	25.14	25.77	26.23	26.59	27.16	25.51	26.35	26.68	27.00	27.55	28.55
31009	25.19	25.82	26.27	26.63	27.21	25.56	26.39	26.72	27.05	27.60	28.60
31010	25.21	25.85	26.31	26.70	27.34	25.58	26.43	26.79	27.16	27.79	28.79

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
31011	25.31	25.96	26.38	26.78	27.45	25.71	26.50	26.87	27.25	27.93	28.93
31012	25.32	25.99	26.41	26.82	27.53	25.73	26.54	26.92	27.32	28.05	29.05
31013	26.23	26.47	26.61	26.91	27.59	26.45	26.71	27.00	27.40	28.09	29.09
31014	25.25	25.85	26.29	26.66	27.25	25.60	26.41	26.75	27.08	27.66	28.66
31015	24.21	25.57	26.02	26.26	26.62	25.23	26.11	26.32	26.54	26.90	27.90
31016	24.41	25.57	26.02	26.27	26.68	25.23	26.11	26.34	26.58	27.02	28.02
31018	24.41	25.58	26.02	26.28	26.68	25.23	26.12	26.35	26.58	27.02	28.02
31019	24.97	25.58	26.03	26.28	26.69	25.24	26.12	26.35	26.59	27.04	28.04
31020	24.47	25.57	26.02	26.28	26.71	25.23	26.11	26.35	26.61	27.11	28.11
31022	25.08	25.71	26.16	26.49	27.13	25.50	26.28	26.62	26.99	27.63	28.63
31023	25.11	25.75	26.22	26.63	27.13	25.59	26.39	26.79	27.00	27.63	28.63
31024	25.08	25.71	26.16	26.49	27.14	25.50	26.29	26.62	27.00	27.65	28.65
31025	26.92	27.41	27.56	27.69	27.90	27.25	27.57	27.68	27.79	27.98	28.98
31026	25.18	25.82	26.30	26.72	27.37	25.56	26.43	26.82	27.19	27.80	28.80
31027	26.38	26.72	26.91	27.03	27.40	26.57	26.90	26.97	27.19	27.71	28.71
31028	25.25	25.85	26.29	26.66	27.25	25.60	26.41	26.75	27.08	27.66	28.66
31029	26.79	27.35	27.45	27.50	27.57	27.18	27.45	27.50	27.54	27.64	28.64
31030	25.23	25.84	26.29	26.65	27.24	25.59	26.40	26.74	27.07	27.64	28.64
31040	22.87	23.72	24.12	24.57	25.37	23.49	24.27	24.75	25.21	25.91	26.91
31041	23.12	23.94	24.32	24.72	25.47	23.71	24.48	24.88	25.32	26.01	27.01
31042	23.14	23.97	24.35	24.75	25.50	23.74	24.52	24.92	25.35	26.04	27.04
31044	23.39	24.18	24.56	24.94	25.65	23.96	24.72	25.12	25.51	26.21	27.21
31045	23.40	24.20	24.57	24.95	25.66	23.98	24.74	25.13	25.53	26.22	27.22
31046	23.45	24.24	24.61	25.00	25.70	24.02	24.78	25.17	25.57	26.26	27.26
31047	25.85	26.19	26.34	26.46	26.70	26.12	26.41	26.53	26.66	27.02	28.02
31048	25.87	26.25	26.43	26.61	26.95	26.16	26.52	26.70	26.90	27.37	28.37
31049	25.88	26.26	26.46	26.67	27.09	26.18	26.57	26.78	27.03	27.55	28.55
31051	22.87	23.72	24.12	24.57	25.37	23.49	24.27	24.75	25.22	25.92	26.92
31052	27.48	27.79	27.95	27.99	28.35	27.75	27.96	28.16	28.38	28.61	29.61
31053	26.29	26.50	26.61	26.73	26.95	26.37	26.58	26.69	26.81	27.01	28.01
31054	29.04	29.81	29.86	29.89	29.94	29.50	29.86	29.89	29.91	29.96	30.96
31055	26.73	27.18	27.43	27.70	28.18	26.93	27.35	27.60	27.85	28.30	29.30
31056	27.83	28.19	28.41	28.64	29.03	27.97	28.34	28.55	28.77	29.14	30.14
31057	27.88	28.32	28.63	29.01	29.83	28.04	28.50	28.82	29.19	29.96	30.96
31058	29.42	29.59	29.69	29.80	30.01	29.59	29.82	29.96	30.11	30.40	31.40
31059	31.15	31.41	31.48	31.54	31.62	31.20	31.43	31.50	31.55	31.63	32.63
31060	29.42	29.59	29.69	29.81	30.02	29.59	29.83	29.96	30.11	30.40	31.40
31061	26.32	26.61	26.75	26.90	27.15	26.50	26.73	26.85	26.98	27.20	28.20
31062	27.94	28.26	28.44	28.63	29.01	28.10	28.42	28.60	28.80	29.20	30.20
31063	31.00	31.15	31.23	31.31	31.45	31.14	31.32	31.41	31.50	31.66	32.66
31070	28.82	29.44	29.70	29.89	30.23	29.15	29.66	29.84	30.02	30.39	31.39
31072	29.56	29.83	30.04	30.22	30.76	29.64	30.00	30.18	30.38	30.94	31.94
31073	29.88	30.14	30.33	30.65	31.32	29.97	30.29	30.55	30.90	31.54	32.54
31074	29.96	30.20	30.38	30.72	31.39	30.04	30.34	30.60	30.97	31.59	32.59
31076	30.62	30.73	30.80	31.03	31.71	30.68	30.78	30.93	31.33	31.89	32.89
31077	31.77	32.25	32.50	32.78	32.98	31.98	32.43	32.69	32.90	33.01	34.01
31100	12.43	13.85	14.36	14.95	15.76	13.51	14.64	15.14	15.62	16.41	17.41
31101	12.49	13.92	14.43	15.01	15.82	13.59	14.71	15.20	15.68	16.47	17.47
31102	12.50	13.93	14.44	15.03	15.90	13.60	14.72	15.22	15.74	16.63	17.63
31103	12.56	14.00	14.51	15.10	15.98	13.67	14.78	15.29	15.81	16.69	17.69
31104	13.24	14.57	15.02	15.56	16.41	14.27	15.25	15.74	16.23	17.06	18.06
31105	13.26	14.59	15.04	15.59	16.53	14.29	15.27	15.77	16.31	17.26	18.26
31106	14.45	15.49	15.87	16.36	17.22	15.25	16.05	16.52	17.00	17.83	18.83
31107	14.97	15.97	16.33	16.80	17.62	15.75	16.49	16.95	17.41	18.19	19.19
31108	15.30	16.11	16.62	17.19	18.21	15.81	16.82	17.38	17.92	18.90	19.90
31110	15.02	16.10	16.61	17.19	18.20	15.81	16.82	17.38	17.92	18.90	19.90
31113	15.75	16.55	16.98	17.46	18.34	16.33	17.15	17.62	18.09	19.00	20.00

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
31114	16.00	16.77	17.18	17.60	18.36	16.56	17.34	17.72	18.12	19.01	20.01
31116	16.11	16.87	17.28	17.70	18.42	16.67	17.45	17.82	18.20	19.05	20.05
31117	16.15	16.93	17.34	17.75	18.44	16.74	17.51	17.88	18.23	19.06	20.06
31118	17.53	18.16	18.51	18.92	19.52	18.00	18.76	19.12	19.34	20.86	21.86
31119	18.64	19.14	19.42	19.85	20.55	19.04	19.72	20.00	20.36	21.39	22.39
31120	19.56	19.90	20.14	20.46	21.28	19.82	20.22	20.60	21.07	21.86	22.86
31122	21.64	22.48	22.94	23.27	23.76	22.20	23.04	23.33	23.61	24.05	25.05
31123	29.00	29.11	29.12	29.14	29.18	29.11	29.16	29.19	29.21	29.25	30.25
31125	16.23	16.44	16.53	16.62	16.76	16.37	16.54	16.63	16.71	16.84	17.84
31126	16.23	16.42	16.50	16.59	16.75	16.35	16.52	16.61	16.69	17.16	18.16
31127	16.21	16.38	16.46	16.55	16.69	16.32	16.48	16.56	16.64	17.20	18.20
31128	16.31	16.65	16.82	17.01	17.39	16.52	16.84	17.02	17.23	17.60	18.60
31129	16.38	16.78	16.97	17.19	17.59	16.63	17.00	17.20	17.43	17.80	18.80
31130	18.18	18.61	18.84	19.08	19.22	18.42	18.85	19.08	19.17	19.27	20.27
31131	16.40	16.67	16.85	17.04	17.42	16.54	16.87	17.05	17.26	17.63	18.63
31132	17.37	18.15	18.64	19.17	20.14	17.75	18.61	19.10	19.56	20.44	21.44
31133	17.71	18.67	19.31	19.99	20.53	18.15	19.25	19.88	20.37	20.59	21.59
31134	15.82	15.98	16.06	16.15	16.30	15.87	16.02	16.10	16.18	16.70	17.70
31135	17.94	18.43	18.74	19.11	19.88	18.18	18.64	18.98	19.37	20.10	21.10
31137	15.90	16.20	16.63	17.19	18.21	15.95	16.83	17.38	17.92	18.90	19.90
31138	15.94	16.27	16.63	17.20	18.21	16.01	16.83	17.38	17.93	18.91	19.91
31139	18.36	18.50	18.58	18.63	18.79	18.40	18.54	18.61	18.65	18.91	19.91
31140	19.27	20.20	20.73	21.28	21.76	19.48	20.38	20.89	21.42	21.77	22.77
31142	16.39	16.76	16.96	17.21	18.21	16.65	16.96	17.39	17.93	18.90	19.90
31144	17.38	17.83	18.03	18.23	18.56	17.67	18.03	18.20	18.38	18.91	19.91
31145	22.81	22.93	22.99	23.05	23.14	22.89	22.99	23.04	23.09	23.17	24.17
31146	22.96	23.29	23.49	23.71	24.12	23.18	23.48	23.66	23.86	24.25	25.25
31148	21.50	21.61	21.69	21.79	22.03	21.53	21.66	21.75	21.86	22.11	23.11
31150	18.33	19.18	19.72	20.30	20.80	18.65	19.48	19.97	20.51	20.81	21.81
31151	19.56	19.87	20.03	20.19	20.52	19.87	20.12	20.23	20.35	20.62	21.62
31152	20.17	20.22	20.25	20.36	20.72	20.19	20.28	20.41	20.56	20.87	21.87
31155	15.90	16.68	17.11	17.55	18.35	16.47	17.27	17.68	18.12	19.01	20.01
31156	15.90	16.69	17.11	17.56	18.37	16.47	17.27	17.69	18.13	19.05	20.05
31158	16.61	16.76	17.12	17.55	18.36	16.69	17.29	17.69	18.12	19.01	20.01
31160	19.78	20.38	20.72	21.08	21.74	20.37	20.98	21.30	21.65	22.27	23.27
31161	22.05	22.38	22.55	22.73	23.07	22.29	22.57	22.72	22.89	23.16	24.16
31163	19.64	19.90	20.03	20.17	20.43	19.71	19.95	20.08	20.21	20.45	21.45
31164	23.95	24.37	24.52	24.68	24.98	24.20	24.50	24.65	24.80	25.09	26.09
31166	20.51	20.77	20.91	21.05	21.32	20.71	20.94	21.07	21.20	21.44	22.44
31167	18.24	18.66	18.89	19.78	21.43	18.46	19.66	20.77	21.57	22.47	23.47
31169	17.04	17.98	18.83	19.15	19.36	17.67	19.05	19.21	19.32	19.48	20.48
31170	17.18	19.24	19.59	19.71	19.86	18.48	19.65	19.75	19.83	19.95	20.95
31172	21.86	22.03	22.17	22.24	22.29	22.02	22.24	22.28	22.30	22.34	23.34
31173	24.98	25.78	26.11	26.29	26.50	25.73	26.31	26.44	26.56	26.74	27.74
31175	25.00	25.87	26.30	26.72	27.26	25.83	26.73	27.08	27.40	27.89	28.89
31177	28.06	28.20	28.28	28.36	28.59	28.22	28.35	28.43	28.55	28.96	29.96
31178	28.78	28.98	29.08	29.21	29.45	28.84	29.05	29.17	29.30	29.53	30.53
31179	28.63	28.76	28.83	28.91	29.06	28.72	28.85	28.93	29.01	29.19	30.19
31180	28.88	28.94	28.98	29.03	29.14	28.91	28.99	29.04	29.10	29.23	30.23
31182	28.43	28.60	28.69	28.78	29.05	28.52	28.68	28.77	28.94	29.26	30.26
31185	23.36	23.49	23.62	23.79	24.02	23.44	23.60	23.76	23.89	24.05	25.05
31186	24.35	24.84	25.04	25.08	25.13	24.63	25.04	25.08	25.11	25.15	26.15
31202	14.01	15.49	16.19	16.67	17.62	15.30	16.38	16.77	17.40	18.51	19.51
31204	14.02	15.55	16.23	16.70	17.68	15.35	16.42	16.80	17.45	18.59	19.59
31206	14.04	15.55	16.21	16.70	17.68	15.35	16.39	16.80	17.45	18.59	19.59
31208	14.04	15.57	16.25	16.71	17.71	15.37	16.44	16.81	17.47	18.62	19.62
31210	14.05	15.63	16.35	16.86	17.81	15.41	16.58	16.98	17.56	18.72	19.72

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
31215	14.34	15.86	16.55	17.08	18.02	15.63	16.78	17.22	17.84	18.88	19.88
31216	14.33	15.85	16.53	17.06	18.05	15.62	16.76	17.20	17.78	18.98	19.98
31218	14.35	15.85	16.53	17.06	18.05	15.62	16.76	17.21	17.78	18.98	19.98
31222	14.40	15.87	16.54	17.07	18.05	15.64	16.78	17.22	17.79	18.98	19.98
31224	14.60	15.93	16.57	17.09	18.05	15.69	16.82	17.25	17.79	18.96	19.96
31226	14.68	16.02	16.62	17.15	18.09	15.75	16.89	17.31	17.83	18.99	19.99
31228	16.61	16.86	17.04	17.61	18.59	16.75	17.27	17.77	18.31	19.54	20.54
31230	17.41	17.97	18.24	18.56	19.37	17.74	18.27	18.60	19.05	19.99	20.99
31232	18.13	18.83	19.17	19.50	20.26	18.54	19.18	19.51	19.94	20.72	21.72
31238	21.18	21.34	21.43	21.54	21.62	21.25	21.41	21.50	21.57	21.63	22.63
31240	19.68	20.14	20.40	20.65	20.95	19.93	20.41	20.65	20.85	21.07	22.07
31242	21.44	21.45	21.46	21.46	21.48	21.45	21.46	21.46	21.47	21.48	22.48
31246	23.21	23.46	23.60	23.80	24.23	23.36	23.60	23.79	24.01	24.42	25.42
31249	23.18	23.61	23.80	24.10	24.43	23.37	23.87	24.17	24.40	24.48	25.48
31250	14.35	15.89	16.54	17.07	18.06	15.65	16.77	17.21	17.79	18.98	19.98
31252	14.50	15.92	16.55	17.08	18.06	15.67	16.78	17.22	17.79	18.99	19.99
31254	17.18	17.77	17.88	17.98	18.12	17.61	17.85	17.96	18.05	18.99	19.99
31256	17.36	18.01	18.19	18.40	18.72	17.79	18.15	18.36	18.54	19.00	20.00
31258	17.87	18.49	18.76	19.09	19.52	18.23	18.72	19.03	19.28	20.05	21.05
31260	19.22	19.95	20.21	20.29	21.53	19.55	20.16	20.27	20.33	21.95	22.95
31262	19.54	20.12	20.38	20.45	21.70	19.78	20.33	20.43	20.51	22.29	23.29
31264	19.77	20.20	20.46	20.58	21.85	19.92	20.41	20.55	20.65	22.57	23.57
31270	14.61	16.12	16.76	17.42	18.07	15.79	17.06	17.65	17.92	18.97	19.97
31272	15.11	16.27	16.89	17.52	18.18	15.93	17.15	17.76	18.11	18.98	19.98
31274	16.35	16.95	17.33	17.88	18.66	16.75	17.56	18.10	18.52	19.02	20.02
31276	16.41	17.08	17.53	18.17	18.82	16.86	17.81	18.34	18.70	19.09	20.09
31278	16.98	17.58	17.83	18.20	18.97	17.37	17.92	18.37	18.80	19.22	20.22
31280	17.74	18.34	18.59	18.87	19.48	18.12	18.62	18.92	19.28	19.72	20.72
31282	19.90	20.40	20.67	20.96	21.22	20.19	20.68	20.94	21.10	21.30	22.30
31283	22.89	23.15	23.28	23.41	23.65	23.04	23.27	23.40	23.53	23.74	24.74
31284	22.37	22.62	23.14	23.44	23.55	22.44	23.16	23.43	23.51	23.59	24.59
31286	22.93	23.39	23.68	24.66	24.92	23.18	23.69	24.58	24.89	24.94	25.94
31287	24.44	24.67	24.78	24.89	25.04	24.59	24.79	24.89	24.98	25.08	26.08
31290	16.44	17.10	17.56	18.19	18.84	16.89	17.84	18.37	18.73	19.11	20.11
31292	17.98	18.09	18.15	18.43	19.15	18.06	18.18	18.65	19.05	19.87	20.87
31294	18.95	19.26	19.39	19.49	19.67	19.20	19.45	19.50	19.62	20.19	21.19
31296	19.29	19.61	19.77	19.94	20.23	19.53	19.85	20.00	20.17	20.39	21.39
31300	20.06	21.45	21.94	22.35	23.08	21.07	22.11	22.51	22.84	23.62	24.62
31301	20.32	21.74	22.24	22.65	23.38	21.33	22.40	22.81	23.13	23.89	24.89
31302	20.71	22.02	22.50	22.91	23.56	21.74	22.56	23.02	23.37	24.05	25.05
31303	20.81	22.13	22.61	23.02	23.67	21.83	22.67	23.13	23.47	24.15	25.15
31304	21.05	22.42	22.90	23.31	23.98	22.08	22.98	23.43	23.76	24.44	25.44
31305	21.04	22.51	23.01	23.50	24.03	22.04	23.02	23.52	24.00	24.52	25.52
31306	21.54	23.00	23.48	23.95	24.51	22.51	23.53	24.00	24.43	24.98	25.98
31307	21.87	23.36	23.86	24.33	24.93	22.86	23.92	24.40	24.81	25.39	26.39
31308	22.05	23.53	24.03	24.50	25.11	23.03	24.11	24.58	24.98	25.57	26.57
31309	22.31	23.74	24.24	24.71	25.33	23.25	24.34	24.81	25.18	25.78	26.78
31310	22.53	23.87	24.36	24.82	25.43	23.40	24.47	24.92	25.27	25.86	26.86
31311	22.56	23.90	24.40	24.86	25.47	23.44	24.51	24.97	25.32	25.91	26.91
31312	22.95	24.23	24.72	25.15	25.76	23.79	24.85	25.28	25.59	26.17	27.17
31313	23.59	24.78	25.21	25.61	26.21	24.40	25.37	25.77	26.05	26.59	27.59
31314	24.00	25.04	25.41	25.80	26.53	24.93	25.50	25.89	26.43	26.92	27.92
31315	24.23	25.27	25.62	26.00	26.74	25.16	25.74	26.12	26.64	27.13	28.13
31316	24.48	25.51	25.84	26.21	26.95	25.40	25.99	26.36	26.85	27.33	28.33
31317	24.88	26.38	26.84	27.36	28.87	26.19	27.24	27.92	28.61	29.62	30.62
31318	25.48	26.89	27.29	27.79	29.23	26.72	27.71	28.34	28.99	29.93	30.93
31319	26.23	27.48	27.84	28.31	29.59	27.30	28.17	28.75	29.36	30.24	31.24

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

	2 year	5 year	10 year	25 year	100 year	2 year	5 year	10 year	25 year	100 year	Minimum
Node ID	24 hour	24 hour	24 hour	24 hour	24 hour	72 hour	72 hour	72 hour	72 hour	72 hour	FF elev.
31320	26.58	27.75	28.09	28.55	29.74	27.56	28.38	28.94	29.52	30.37	31.37
31321	26.78	27.93	28.26	28.71	29.85	27.74	28.52	29.07	29.64	30.46	31.46
31322	26.85	28.08	28.52	29.11	30.39	27.86	28.84	29.48	30.14	31.08	32.08
31325	27.33	28.50	28.90	29.46	30.64	28.29	29.17	29.78	30.40	31.28	32.28
31326	27.54	28.68	29.06	29.61	30.75	28.47	29.32	29.92	30.52	31.37	32.37
31327	29.16	29.57	30.14	30.57	31.12	29.41	30.36	30.71	31.01	31.46	32.46
31328	29.18	29.60	30.17	30.60	31.15	29.44	30.38	30.74	31.04	31.49	32.49
31329	29.23	29.66	30.22	30.66	31.21	29.50	30.43	30.79	31.09	31.54	32.54
31330	29.87	30.56	30.83	31.05	31.37	30.46	30.92	31.11	31.30	31.63	32.63
31332	29.88	30.57	30.84	31.06	31.39	30.46	30.93	31.13	31.32	31.65	32.65
31334	29.88	30.58	30.85	31.07	31.40	30.47	30.94	31.13	31.33	31.66	32.66
31336	29.89	30.60	30.86	31.09	31.43	30.49	30.95	31.16	31.35	31.69	32.69
31337	29.92	30.73	31.03	31.33	31.70	30.59	31.13	31.42	31.63	31.88	32.88
31338	29.94	30.75	31.05	31.35	31.73	30.61	31.15	31.43	31.65	31.91	32.91
31339	30.01	30.83	31.13	31.46	31.94	30.68	31.23	31.54	31.81	32.20	33.20
31340	30.48	31.24	31.53	31.82	32.34	31.05	31.61	31.90	32.20	32.60	33.60
31343	30.48	31.24	31.53	31.82	32.34	31.05	31.61	31.90	32.20	32.60	33.60
31344	30.65	31.35	31.67	32.10	32.78	31.15	31.76	32.19	32.57	33.17	34.17
31346	31.91	32.23	32.42	32.65	33.03	32.06	32.43	32.66	32.86	33.34	34.34
31347	31.92	32.25	32.45	32.68	33.06	32.07	32.45	32.69	32.89	33.37	34.37
31348	32.51	32.72	32.86	33.02	33.35	32.54	32.77	32.93	33.12	33.48	34.48
31349	21.12	21.48	21.96	22.37	23.12	21.17	22.13	22.53	22.88	23.65	24.65
31350	20.74	22.06	22.54	22.95	23.60	21.77	22.59	23.05	23.40	24.08	25.08
31351	23.25	23.45	23.56	23.65	23.95	23.23	23.34	23.54	23.77	24.18	25.18
31352	24.35	24.71	24.88	25.03	25.29	24.49	24.84	24.97	25.09	25.37	26.37
31353	24.57	24.91	25.08	25.21	25.51	24.69	25.03	25.15	25.27	25.59	26.59
31354	24.85	25.76	26.20	26.62	27.04	25.24	26.05	26.44	26.82	27.08	28.08
31358	22.06	23.61	24.40	24.95	25.65	23.03	24.44	24.95	25.40	26.06	27.06
31359	22.51	23.80	24.52	25.04	25.72	23.26	24.54	25.04	25.46	26.11	27.11
31360	23.80	24.38	24.86	25.29	25.90	24.00	24.84	25.26	25.64	26.25	27.25
31361	24.07	24.76	25.25	25.71	26.41	24.30	25.19	25.64	26.06	26.75	27.75
31362	24.15	24.82	25.29	25.74	26.44	24.38	25.24	25.68	26.09	26.77	27.77
31363	24.38	25.16	25.64	26.13	26.92	24.64	25.54	26.02	26.47	27.23	28.23
31364	24.43	25.20	25.67	26.16	26.94	24.68	25.57	26.05	26.49	27.25	28.25
31365	24.60	25.32	25.76	26.23	26.99	24.84	25.65	26.11	26.54	27.29	28.29
31366	25.09	26.24	26.86	27.44	27.96	25.44	26.59	27.21	27.69	28.07	29.07
31367	25.13	26.17	26.82	27.40	27.90	25.45	26.57	27.16	27.66	27.99	28.99
31368	25.49	26.85	27.58	28.25	28.99	25.89	27.24	27.94	28.54	29.08	30.08
31369	25.79	27.05	27.73	28.36	29.07	26.15	27.40	28.06	28.63	29.17	30.17
31370	25.85	27.08	27.76	28.38	29.09	26.20	27.43	28.08	28.65	29.18	30.18
31371	26.14	27.64	28.45	29.13	29.92	26.53	28.01	28.76	29.38	29.98	30.98
31372	26.19	27.67	28.47	29.14	29.93	26.58	28.04	28.77	29.40	29.99	30.99
31373	26.25	27.73	28.61	29.36	30.20	26.63	28.10	28.97	29.61	30.27	31.27
31374	26.42	27.80	28.65	29.39	30.22	26.76	28.16	29.01	29.63	30.29	31.29
31378	24.38	25.16	25.64	26.13	26.92	24.64	25.55	26.02	26.47	27.23	28.23
31379	26.67	26.87	26.95	27.03	27.16	26.75	26.92	27.00	27.08	27.26	28.26
31381	24.44	25.21	25.68	26.16	26.94	24.70	25.58	26.05	26.49	27.25	28.25
31382	24.97	25.40	25.69	26.16	26.94	25.14	25.60	26.05	26.49	27.25	28.25
31383	25.80	26.10	26.22	26.67	27.50	25.91	26.21	26.52	27.01	27.77	28.77
31385	25.57	27.04	27.86	28.69	29.93	26.00	27.45	28.25	29.03	30.02	31.02
31387	26.80	27.20	27.82	28.44	29.20	26.83	27.50	28.14	28.72	29.32	30.32
31390	22.56	23.88	24.37	24.81	25.46	23.42	24.45	24.90	25.27	25.88	26.88
31391	23.54	24.19	24.60	24.95	25.64	23.84	24.65	25.03	25.39	25.99	26.99
31392	25.63	26.30	26.67	27.63	27.79	26.01	26.50	27.60	27.72	27.82	28.82
31393	26.00	26.60	26.99	27.78	28.06	26.32	26.84	27.73	27.92	28.12	29.12
31394	26.90	27.42	27.69	28.14	28.55	27.13	27.60	28.06	28.32	28.64	29.64
31396	27.17	27.53	27.79	28.23	28.68	27.27	27.70	28.14	28.41	28.78	29.78

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
31398	23.02	24.04	24.48	24.90	25.55	23.62	24.56	24.99	25.35	25.95	26.95
31400	24.05	25.08	25.45	25.85	26.56	24.95	25.54	25.93	26.45	26.94	27.94
31402	24.94	25.17	25.47	25.86	26.57	25.19	25.56	25.94	26.46	26.95	27.95
31404	27.59	27.86	28.00	28.13	28.31	27.74	27.99	28.11	28.23	28.38	29.38
31405	27.92	28.24	28.41	28.58	28.83	28.13	28.44	28.60	28.75	28.96	29.96
31406	28.02	28.43	28.75	29.28	30.01	28.28	28.86	29.37	29.78	30.48	31.48
31407	29.15	29.47	29.65	29.84	30.40	29.37	29.70	29.89	30.11	31.01	32.01
31408	30.34	30.68	30.87	31.08	31.50	30.57	30.94	31.14	31.37	31.88	32.88
31410	28.74	28.90	28.99	29.09	29.35	28.80	28.95	29.05	29.16	29.43	30.43
31411	28.76	28.95	29.06	29.19	29.49	28.83	29.01	29.13	29.27	29.57	30.57
31413	25.79	26.09	26.13	26.18	26.74	26.03	26.13	26.16	26.64	27.13	28.13
31415	26.02	26.50	26.98	27.55	29.04	26.40	27.38	28.07	28.80	29.82	30.82
31416	26.92	27.22	27.37	27.64	29.10	27.12	27.47	28.13	28.88	29.90	30.90
31417	27.55	27.90	28.04	28.24	29.15	27.81	28.13	28.30	28.94	29.97	30.97
31418	28.18	28.48	28.64	28.82	29.23	28.39	28.69	28.85	29.05	30.04	31.04
31419	28.24	28.55	28.72	28.90	29.28	28.46	28.78	28.94	29.12	30.08	31.08
31420	28.35	28.60	28.83	29.05	29.59	28.51	28.95	29.17	29.41	30.37	31.37
31421	29.61	29.82	29.94	30.04	30.21	29.83	30.05	30.16	30.27	30.63	31.63
31422	29.68	29.93	30.09	30.26	30.57	29.95	30.27	30.46	30.63	31.00	32.00
31423	29.24	29.72	30.03	30.39	30.84	29.74	30.31	30.59	30.80	31.31	32.31
31424	29.27	29.78	30.10	30.47	31.01	29.79	30.39	30.70	30.97	31.52	32.52
31430	27.48	28.59	29.19	29.46	29.27	27.62	27.93	28.42	29.04	29.94	30.94
31432	30.52	30.80	30.93	31.05	31.26	30.74	31.02	31.15	31.27	31.44	32.44
31433	30.72	30.89	30.99	31.12	31.29	30.87	31.09	31.21	31.31	31.46	32.46
31434	31.85	32.20	32.41	32.64	33.03	32.18	32.54	32.75	32.96	33.22	34.22
31435	34.13	34.41	34.54	34.65	34.76	34.41	34.63	34.71	34.76	34.82	35.82
31436	34.15	34.50	34.69	34.89	35.24	34.49	34.87	35.05	35.24	35.59	36.59
31438	34.16	34.53	34.75	35.01	35.49	34.53	34.98	35.23	35.49	35.98	36.98
31440	28.27	28.60	29.20	29.47	29.28	28.39	28.57	28.67	29.06	29.95	30.95
31442	32.93	33.15	33.21	33.27	33.36	33.13	33.24	33.30	33.34	33.42	34.42
31444	30.72	31.05	31.31	31.61	31.80	31.04	31.65	31.77	31.85	32.00	33.00
31445	32.92	33.49	33.80	34.13	34.68	33.37	33.91	34.19	34.46	34.81	35.81
31450	31.86	32.12	32.26	32.41	32.71	32.00	32.26	32.41	32.58	32.90	33.90
31451	33.80	34.20	34.35	34.48	34.73	34.09	34.36	34.47	34.57	34.88	35.88
31455	26.58	27.75	28.10	28.55	29.74	27.57	28.38	28.94	29.52	30.37	31.37
31456	26.60	27.83	28.21	28.72	30.03	27.63	28.52	29.14	29.79	30.84	31.84
31458	27.02	27.87	28.24	28.75	30.05	27.69	28.57	29.17	29.82	30.86	31.86
31459	30.51	30.74	30.86	31.00	31.25	30.69	30.95	31.09	31.24	31.43	32.43
31460	30.51	30.74	30.87	31.00	31.26	30.70	30.95	31.10	31.25	31.44	32.44
31462	30.82	31.86	32.23	32.43	32.55	31.52	32.29	32.45	32.52	32.61	33.61
31463	31.63	31.94	32.11	32.27	32.49	31.86	32.17	32.32	32.44	32.64	33.64
31464	31.40	31.77	31.97	32.10	32.26	31.66	32.03	32.13	32.22	32.36	33.36
31468	30.92	31.36	31.64	31.99	32.66	31.14	31.65	31.98	32.32	32.97	33.97
31469	30.92	31.37	31.66	32.00	32.67	31.15	31.67	31.99	32.33	32.98	33.98
31470	27.34	28.50	28.90	29.46	30.64	28.29	29.18	29.78	30.40	31.28	32.28
31473	32.28	32.48	32.60	32.73	33.09	32.44	32.67	32.81	33.03	33.40	34.40
31500	29.21	29.65	30.20	30.63	31.18	29.50	30.41	30.76	31.06	31.51	32.51
31501	29.26	29.72	30.24	30.67	31.21	29.59	30.45	30.80	31.10	31.55	32.55
31502	29.57	30.14	30.46	30.83	31.38	30.01	30.61	30.95	31.25	31.73	32.73
31503	29.63	30.24	30.53	30.92	31.84	30.09	30.67	31.04	31.56	32.35	33.35
31504	29.74	30.35	30.64	31.01	31.88	30.20	30.75	31.11	31.61	32.39	33.39
31506	30.83	31.16	31.34	31.55	32.55	30.88	31.22	31.43	32.10	33.33	34.33
31508	29.84	30.43	30.71	31.06	31.92	30.27	30.81	31.16	31.65	32.43	33.43
31509	29.89	30.47	30.75	31.09	31.95	30.31	30.84	31.19	31.68	32.46	33.46
31510	32.05	32.11	32.14	32.17	32.22	32.09	32.14	32.17	32.20	32.61	33.61
31511	30.52	32.20	33.16	33.59	33.67	31.62	33.38	33.60	33.65	33.81	34.81
31512	30.55	32.20	33.17	33.60	33.68	31.63	33.39	33.61	33.66	33.83	34.83

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
31513	30.56	32.21	33.18	33.61	33.70	31.63	33.40	33.63	33.67	33.86	34.86
31514	30.73	32.64	33.76	34.09	34.14	31.97	34.01	34.10	34.13	34.16	35.16
31515	31.43	31.68	31.82	31.97	32.48	31.61	31.88	32.03	32.19	33.20	34.20
31516	30.44	31.05	31.46	32.02	33.24	30.81	31.54	32.07	32.71	34.00	35.00
31518	29.19	29.61	30.18	30.63	31.13	29.44	30.40	30.76	31.02	31.55	32.55
31519	29.19	29.62	30.18	30.62	31.18	29.46	30.40	30.76	31.07	31.52	32.52
31520	29.19	29.62	30.18	30.62	31.18	29.46	30.40	30.76	31.07	31.53	32.53
31521	29.19	29.63	30.19	30.63	31.19	29.48	30.42	30.76	31.07	31.53	32.53
31522	29.20	29.64	30.20	30.63	31.19	29.50	30.42	30.76	31.07	31.53	32.53
31524	30.31	31.23	31.65	31.92	32.30	31.05	31.86	32.12	32.35	32.69	33.69
31525	30.31	31.22	31.65	31.93	32.46	31.05	31.87	32.19	32.53	33.16	34.16
31526	30.31	31.23	31.66	31.97	32.59	31.05	31.90	32.26	32.67	33.46	34.46
31527	30.31	31.23	31.66	31.97	32.60	31.05	31.90	32.27	32.68	33.49	34.49
31528	30.31	31.23	31.66	31.98	32.60	31.06	31.90	32.27	32.68	33.50	34.50
31532	30.19	30.99	31.36	31.71	32.23	30.86	31.61	31.98	32.27	32.69	33.69
31533	30.22	31.05	31.44	31.79	32.38	30.91	31.70	32.08	32.44	33.03	34.03
31537	29.91	30.60	30.87	31.09	31.42	30.49	30.95	31.15	31.34	31.68	32.68
31538	30.17	30.74	31.06	31.51	32.08	30.60	31.29	31.57	31.86	32.46	33.46
31539	30.57	31.03	31.30	31.68	32.22	30.88	31.47	31.73	32.00	32.58	33.58
31540	30.78	31.23	31.52	31.89	32.41	31.07	31.66	31.94	32.24	32.71	33.71
31541	32.20	33.07	33.39	33.70	34.10	32.72	33.39	33.67	33.90	34.24	35.24
31542	31.35	31.59	31.78	32.28	33.26	31.40	31.91	32.33	32.88	33.66	34.66
31543	32.46	33.40	33.71	33.98	34.26	33.03	33.69	33.94	34.12	34.33	35.33
31544	32.93	33.92	33.99	34.03	34.10	33.67	33.99	34.03	34.07	34.24	35.24
31545	30.81	31.05	31.16	31.26	31.44	31.02	31.23	31.34	31.45	31.67	32.67
31546	32.18	32.40	32.50	32.59	32.76	32.37	32.57	32.67	32.77	32.94	33.94
31547	30.08	30.84	31.14	31.46	31.97	30.69	31.24	31.55	31.83	32.25	33.25
31548	30.44	30.88	31.16	31.48	32.01	30.73	31.25	31.56	31.85	32.30	33.30
31550	31.37	31.61	31.81	32.37	33.59	31.41	31.94	32.42	33.08	34.24	35.24
31552	30.87	31.23	31.44	31.69	32.83	30.92	31.29	31.53	32.27	33.81	34.81
31553	30.93	31.36	31.63	31.96	32.98	30.98	31.42	31.71	32.38	33.92	34.92
31554	30.96	31.42	31.72	32.09	33.11	31.01	31.49	31.80	32.46	34.12	35.12
31555	30.99	31.51	31.84	32.26	33.13	31.06	31.58	31.93	32.47	34.13	35.13
31602	12.95	14.55	15.08	15.67	16.51	14.16	15.40	15.91	16.36	17.20	18.20
31603	13.20	14.92	15.57	16.17	17.13	14.47	15.83	16.39	16.99	17.55	18.55
31605	13.21	14.94	15.58	16.18	17.13	14.48	15.84	16.39	17.00	17.56	18.56
31607	13.25	14.97	15.61	16.20	17.15	14.51	15.86	16.41	17.01	17.58	18.58
31608	13.35	15.19	15.86	16.49	17.31	14.70	16.13	16.70	17.21	17.67	18.67
31609	13.36	15.20	15.87	16.50	17.32	14.72	16.14	16.70	17.22	17.68	18.68
31610	13.37	15.21	15.88	16.51	17.32	14.73	16.15	16.71	17.22	17.68	18.68
31612	13.39	15.23	15.89	16.51	17.33	14.75	16.15	16.71	17.22	17.69	18.69
31613	13.28	15.19	16.02	16.54	17.45	14.95	16.17	16.75	17.27	17.72	18.72
31614	13.28	15.20	16.04	16.55	17.47	14.95	16.18	16.77	17.28	17.74	18.74
31615	13.29	15.21	16.05	16.56	17.47	14.96	16.19	16.77	17.29	17.76	18.76
31616	13.33	15.23	16.06	16.58	17.49	14.98	16.21	16.79	17.30	17.79	18.79
31617	13.36	15.25	16.08	16.59	17.50	15.00	16.22	16.80	17.31	17.81	18.81
31618	13.40	15.26	16.09	16.61	17.51	15.02	16.23	16.81	17.32	17.82	18.82
31619	13.41	15.27	16.09	16.61	17.51	15.02	16.24	16.81	17.33	17.83	18.83
31620	13.42	15.29	16.11	16.67	17.57	15.04	16.27	16.86	17.38	17.97	18.97
31622	14.86	15.32	16.13	16.69	17.57	15.46	16.29	16.87	17.38	17.98	18.98
31623	16.53	17.50	18.21	18.30	18.37	17.41	18.28	18.33	18.36	18.42	19.42
31624	21.07	21.36	21.52	21.75	22.33	21.31	21.63	21.89	22.21	22.76	23.76
31625	17.20	17.45	17.58	17.71	17.94	17.44	17.64	17.74	17.84	18.19	19.19
31630	12.47	14.61	15.32	15.88	16.80	14.17	15.55	16.08	16.66	17.24	18.24
31640	13.72	15.39	16.09	16.66	17.27	14.84	16.34	16.83	17.16	17.64	18.64
31641	13.74	15.42	16.09	16.67	17.29	14.86	16.34	16.84	17.17	17.67	18.67
31642	14.59	15.43	16.10	16.68	17.35	14.96	16.36	16.87	17.25	17.71	18.71

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
31643	15.97	16.23	16.31	16.71	17.36	16.19	16.41	16.89	17.26	17.72	18.72
31644	16.11	16.61	16.82	16.95	17.37	16.51	16.89	16.98	17.27	17.73	18.73
31645	19.44	19.71	19.83	20.12	20.23	19.68	19.89	20.15	20.20	20.30	21.30
31646	19.49	19.81	20.02	20.37	20.66	19.77	20.12	20.43	20.61	20.71	21.71
31647	20.07	20.29	20.41	20.59	20.84	20.27	20.47	20.65	20.79	20.93	21.93
31648	21.22	21.24	21.26	21.29	21.32	21.24	21.28	21.29	21.32	21.35	22.35
31649	21.29	21.46	21.55	21.64	21.83	21.44	21.61	21.68	21.78	21.97	22.97
31650	21.72	22.08	22.30	22.54	22.70	22.04	22.44	22.64	22.68	22.73	23.73
31651	21.85	22.17	22.39	22.64	22.86	22.14	22.54	22.75	22.82	22.96	23.96
31652	22.00	22.34	22.54	22.77	23.03	22.30	22.68	22.88	22.98	23.18	24.18
31653	22.10	22.51	22.76	23.05	23.56	22.47	22.93	23.20	23.45	23.90	24.90
31654	22.21	22.59	22.84	23.12	23.63	22.55	23.00	23.26	23.52	23.97	24.97
31655	22.21	22.59	22.84	23.13	23.63	22.55	23.01	23.27	23.52	23.98	24.98
31656	22.21	22.59	22.84	23.12	23.63	22.55	23.00	23.26	23.52	23.97	24.97
31661	13.45	15.29	15.97	16.54	17.33	14.82	16.22	16.73	17.23	17.69	18.69
31663	13.57	15.42	16.10	16.68	17.35	14.96	16.36	16.87	17.26	17.72	18.72
31665	13.59	15.43	16.11	16.69	17.36	14.97	16.36	16.87	17.26	17.72	18.72
31666	13.60	15.44	16.12	16.70	17.39	14.98	16.38	16.89	17.28	17.77	18.77
31668	13.62	15.48	16.17	16.70	17.39	15.02	16.43	16.89	17.28	17.78	18.78
31671	16.30	16.51	16.61	16.74	17.41	16.48	16.67	16.91	17.30	17.80	18.80
31672	17.45	18.01	18.36	18.41	19.11	17.93	18.66	18.52	19.10	19.17	20.17
31673	22.41	22.62	22.73	22.84	23.04	22.61	22.83	22.93	23.02	23.18	24.18
31674	25.62	26.04	26.27	26.51	26.94	26.03	26.48	26.69	26.90	27.04	28.04
31682	13.64	15.43	16.11	16.69	17.36	14.97	16.37	16.87	17.26	17.72	18.72
31684	16.67	16.88	17.02	17.23	17.80	16.83	17.07	17.31	17.63	17.91	18.91
31690	13.37	15.21	15.88	16.51	17.33	14.73	16.15	16.71	17.22	17.68	18.68
31692	13.35	15.22	15.88	16.49	17.31	14.73	16.13	16.69	17.21	17.66	18.66
31700	13.40	15.24	15.90	16.52	17.34	14.79	16.16	16.72	17.23	17.70	18.70
31702	13.66	15.44	16.12	16.69	17.36	14.98	16.37	16.88	17.26	17.73	18.73
31704	13.95	15.47	16.13	16.70	17.37	15.04	16.38	16.88	17.27	17.74	18.74
31706	18.93	19.45	19.80	20.27	21.05	19.35	20.09	20.60	21.03	21.11	22.11
31707	22.60	22.90	23.05	23.22	23.53	22.77	23.07	23.24	23.41	23.71	24.71
31708	27.38	27.55	27.63	27.71	27.85	27.46	27.61	27.70	27.79	27.92	28.92
31709	27.65	28.01	28.26	28.47	28.82	27.81	28.26	28.55	28.83	29.25	30.25
31710	29.43	30.22	30.39	30.51	30.70	30.04	30.39	30.56	30.71	30.91	31.91
31711	30.60	30.80	30.89	30.97	31.09	30.81	30.98	31.03	31.07	31.15	32.15
31712	30.50	30.73	30.83	30.93	31.08	30.74	30.96	31.04	31.09	31.17	32.17
31720	21.51	21.93	22.02	22.04	22.06	21.82	22.02	22.04	22.05	22.07	23.07
31721	23.15	24.18	24.32	24.47	24.74	23.87	24.33	24.47	24.63	24.82	25.82
31722	23.43	24.86	25.23	25.55	25.70	24.36	25.23	25.55	25.64	25.74	26.74
31723	27.23	27.71	27.87	28.09	28.40	27.55	27.90	28.10	28.27	28.55	29.55
31724	30.71	31.12	31.32	31.52	31.95	31.00	31.37	31.53	31.77	32.18	33.18
31725	30.13	30.13	30.85	31.43	31.95	30.13	31.02	31.50	31.77	32.18	33.18
31726	29.08	29.14	29.17	29.21	29.26	29.11	29.17	29.20	29.23	29.28	30.28
31730	13.47	15.26	15.92	16.52	17.34	14.81	16.17	16.73	17.24	17.71	18.71
31732	13.80	15.27	15.92	16.53	17.34	14.82	16.17	16.73	17.24	17.71	18.71
31734	18.02	18.04	18.05	18.06	18.08	18.03	18.05	18.06	18.07	18.09	19.09
31736	13.31	15.25	16.10	16.61	17.45	14.99	16.24	16.80	17.27	17.72	18.72
31737	14.55	15.67	16.44	16.88	17.47	15.24	16.60	17.02	17.29	17.75	18.75
31738	13.71	15.28	16.11	16.64	17.53	15.03	16.26	16.83	17.34	17.85	18.85
31742	13.75	15.28	16.10	16.62	17.51	15.03	16.24	16.81	17.33	17.83	18.83
31743	17.74	17.82	17.84	17.87	17.92	17.81	17.87	17.90	17.93	17.98	18.98
31744	17.49	17.55	17.59	17.66	18.25	17.53	17.60	17.68	18.11	18.84	19.84
31745	20.33	20.62	20.72	20.82	20.98	20.60	20.82	20.93	21.03	21.20	22.20
31746	20.34	20.68	20.84	21.03	21.43	20.65	21.01	21.21	21.47	21.89	22.89
31747	20.33	20.62	20.72	20.82	20.98	20.60	20.82	20.93	21.03	21.20	22.20
31748	20.33	20.62	20.72	20.82	20.98	20.60	20.82	20.93	21.03	21.20	22.20

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
31749	20.41	20.65	20.72	20.78	20.89	20.63	20.76	20.84	20.93	21.08	22.08
31749A	20.37	20.61	20.69	20.78	20.92	20.60	20.78	20.88	20.98	21.15	22.15
31750	20.38	20.62	20.71	20.80	20.95	20.60	20.80	20.90	21.01	21.23	22.23
31750A	20.37	20.61	20.69	20.78	20.92	20.60	20.78	20.88	20.99	21.20	22.20
31751	23.07	23.11	23.13	23.16	23.20	23.10	23.14	23.16	23.19	23.22	24.22
31751A	23.36	23.71	23.84	23.88	23.93	23.60	23.85	23.88	23.91	23.95	24.95
31751B	23.36	23.71	23.84	23.88	23.93	23.60	23.85	23.88	23.91	23.95	24.95
31752	25.45	25.56	25.83	26.06	26.38	25.53	25.86	26.05	26.20	26.47	27.47
31753	28.12	28.47	28.66	28.78	28.94	28.35	28.68	28.79	28.87	29.01	30.01
31754	29.85	30.20	30.40	30.62	30.62	30.08	30.45	30.62	30.62	30.62	31.62
31760	13.41	15.29	16.16	16.69	17.57	15.05	16.36	16.87	17.38	17.98	18.98
31762	13.78	15.30	16.18	16.72	17.58	15.05	16.41	16.89	17.38	17.98	18.98
31763	14.88	15.35	16.19	16.89	17.70	15.16	16.51	17.18	17.55	18.00	19.00
31764	15.90	16.66	17.05	17.48	18.22	16.44	17.20	17.58	18.09	18.82	19.82
31770	14.83	15.79	16.63	16.91	17.58	15.76	16.81	17.04	17.39	17.98	18.98
31772	16.44	16.96	17.34	17.47	17.77	17.00	17.55	17.64	17.79	18.05	19.05
31774	20.42	20.71	20.85	20.94	21.26	20.73	21.02	21.11	21.24	21.50	22.50
31775	21.21	22.87	23.13	23.22	23.35	22.91	23.22	23.29	23.36	23.47	24.47
31777	24.52	24.55	24.56	24.58	24.60	24.55	24.58	24.59	24.60	24.61	25.61
31780	12.35	13.77	14.29	14.88	15.68	13.44	14.57	15.06	15.54	16.33	17.33
31781	12.40	13.82	14.34	14.93	15.74	13.49	14.62	15.12	15.60	16.39	17.39
31784	12.57	14.06	14.60	15.20	16.03	13.71	14.90	15.41	15.89	16.71	17.71
31786	12.67	14.20	14.74	15.35	16.22	13.83	15.05	15.58	16.07	16.93	17.93
31787	12.95	14.54	15.08	15.67	16.51	14.16	15.40	15.91	16.36	17.20	18.20
31788	13.09	14.65	15.19	15.76	16.59	14.28	15.50	16.00	16.44	17.27	18.27
31789	13.53	14.79	15.48	16.02	16.69	14.67	15.65	16.13	16.61	17.50	18.50
31790	13.56	14.88	15.56	16.07	16.77	14.66	15.65	16.13	16.62	17.60	18.60
31791	13.77	15.19	15.88	16.35	17.31	15.04	16.03	16.41	17.08	18.24	19.24
31792	13.88	15.33	16.03	16.50	17.45	15.16	16.19	16.57	17.22	18.36	19.36
31793	14.01	15.49	16.19	16.67	17.61	15.30	16.37	16.77	17.39	18.51	19.51
31794	14.16	15.65	16.35	16.86	17.79	15.44	16.55	16.97	17.57	18.66	19.66
31795	14.32	15.84	16.52	17.05	17.98	15.61	16.74	17.18	17.78	18.84	19.84
31798	14.70	16.25	16.91	17.44	18.42	15.98	17.16	17.62	18.23	19.21	20.21
31799	14.97	16.54	17.20	17.76	18.72	16.25	17.47	17.96	18.53	19.48	20.48
31801	15.18	16.75	17.40	17.98	18.94	16.46	17.69	18.20	18.75	19.68	20.68
31803	15.65	17.22	17.81	18.35	19.24	16.90	18.11	18.60	19.06	19.95	20.95
31804	15.96	17.54	18.12	18.65	19.53	17.21	18.44	18.93	19.35	20.23	21.23
31805	16.09	17.69	18.35	18.91	19.67	17.48	18.59	19.09	19.54	20.50	21.50
31806	16.23	17.81	18.46	19.01	19.76	17.59	18.71	19.20	19.63	20.57	21.57
31810	12.22	13.74	14.29	14.88	15.68	13.35	14.57	15.06	15.54	16.33	17.33
31811	15.23	15.41	15.50	15.59	15.76	15.34	15.51	15.60	15.69	16.33	17.33
31812	12.58	14.08	14.60	15.20	16.04	13.71	14.90	15.41	15.89	16.72	17.72
31814	12.58	14.06	14.60	15.30	16.21	13.71	14.90	15.57	16.06	16.92	17.92
31815	12.41	14.02	14.61	15.18	16.03	13.58	14.82	15.38	15.89	16.71	17.71
31816	13.09	14.65	15.19	15.76	16.59	14.27	15.50	16.00	16.45	17.27	18.27
31817	13.52	14.81	15.48	16.00	16.69	14.58	15.57	16.07	16.56	17.53	18.53
31818	12.66	14.79	15.48	16.00	16.69	14.56	15.54	16.04	16.54	17.51	18.51
31819	13.99	15.49	16.19	16.77	17.54	15.15	16.31	16.84	17.33	18.16	19.16
31821	14.44	16.00	16.71	17.35	18.19	15.57	16.87	17.44	17.92	18.63	19.63
31822	15.85	16.53	17.16	17.80	18.73	16.18	17.30	17.88	18.35	19.11	20.11
31823	15.94	16.70	17.31	17.91	18.75	16.32	17.43	17.98	18.42	19.11	20.11
31824	15.98	16.70	17.29	17.96	18.74	16.37	17.42	18.05	18.55	19.11	20.11
31825	16.35	17.29	17.82	18.31	18.84	16.86	17.89	18.34	18.71	19.11	20.11
31826	15.36	16.02	16.73	17.37	18.22	15.67	16.89	17.47	17.95	18.65	19.65
31830	13.68	14.84	15.56	16.07	16.77	14.72	15.65	16.13	16.62	17.59	18.59
31832	13.30	14.41	14.92	16.28	17.71	14.12	15.23	16.73	17.47	18.62	19.62
31833	13.31	14.41	14.92	16.28	17.66	14.12	15.23	16.68	17.42	18.55	19.55

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
31834	13.65	14.41	14.92	16.28	17.65	14.12	15.23	16.65	17.43	18.48	19.48
31839	14.09	15.52	15.82	16.15	16.82	15.37	15.82	16.21	16.67	17.62	18.62
31840	14.02	15.46	16.09	16.59	17.47	15.29	16.30	16.71	17.31	18.24	19.24
31844	14.16	15.66	16.35	16.86	17.74	15.44	16.56	16.98	17.53	18.47	19.47
31845	15.11	16.20	16.61	16.93	17.81	15.99	16.72	17.03	17.62	18.27	19.27
31846	15.09	16.17	16.57	16.89	17.81	15.97	16.69	17.00	17.62	18.29	19.29
31847	16.66	16.87	16.99	17.13	17.37	16.87	17.15	17.31	17.47	17.79	18.79
31849	14.33	15.85	16.53	17.09	18.06	15.62	16.92	17.22	17.79	19.00	20.00
31850	14.72	16.30	16.96	17.33	18.07	16.02	17.16	17.39	17.80	19.04	20.04
31852	14.81	16.33	16.96	17.48	17.98	16.04	17.20	17.63	17.95	18.30	19.30
31853	15.26	16.38	17.00	17.48	17.98	16.06	17.22	17.63	17.95	18.29	19.29
31855	14.98	16.55	17.21	17.75	18.89	16.26	17.44	18.13	18.70	19.66	20.66
31856	15.85	16.66	17.20	17.72	18.62	16.42	17.41	17.89	18.43	19.27	20.27
31857	14.98	16.55	17.20	17.77	18.73	16.26	17.47	17.97	18.53	19.49	20.49
31860	14.98	16.70	17.36	17.93	18.89	16.40	17.65	18.13	18.71	19.66	20.66
31861	15.01	16.77	17.44	18.04	18.95	16.45	17.76	18.23	18.77	19.69	20.69
31862	15.16	16.91	17.54	18.16	19.05	16.55	17.86	18.34	18.86	19.76	20.76
31863	16.94	17.80	18.38	18.91	19.64	17.50	18.58	19.05	19.51	20.16	21.16
31864	17.66	18.54	18.98	19.47	20.20	18.24	19.15	19.60	20.03	20.62	21.62
31865	20.17	20.94	21.30	21.63	22.13	20.64	21.32	21.64	21.94	22.40	23.40
31866	20.23	21.08	21.51	21.90	22.50	20.73	21.53	21.91	22.27	22.81	23.81
31868	20.74	21.61	22.06	22.46	23.09	21.26	22.08	22.48	22.89	23.30	24.30
31869	20.89	21.77	22.22	22.64	23.27	21.41	22.24	22.65	23.05	23.50	24.50
31870	21.90	22.63	23.05	23.46	24.14	22.29	23.04	23.44	23.83	24.45	25.45
31871	22.54	23.23	23.62	24.01	24.70	22.89	23.61	23.97	24.35	25.04	26.04
31872	24.49	25.14	25.50	25.82	26.46	24.79	25.45	25.76	26.07	26.82	27.82
31873	25.21	25.85	26.22	26.55	27.17	25.51	26.16	26.48	26.78	27.54	28.54
31874	25.88	26.53	26.90	27.22	27.87	26.19	26.85	27.16	27.47	28.26	29.26
31875	26.29	27.21	27.87	28.44	29.61	26.73	27.83	28.40	28.93	29.88	30.88
31876	26.50	27.75	28.61	29.13	29.98	27.04	28.58	29.09	29.44	30.25	31.25
31877	26.76	28.35	29.45	29.87	30.20	27.37	29.44	29.86	29.98	30.36	31.36
31878	28.13	30.06	30.15	30.19	30.32	29.19	30.15	30.19	30.23	30.44	31.44
31879	28.53	31.11	31.49	32.14	32.74	29.98	31.50	32.14	32.61	32.89	33.89
31880	31.60	31.86	32.34	32.83	33.42	31.76	32.37	32.84	33.26	33.46	34.46
31881	31.73	31.94	32.37	32.84	33.43	31.86	32.40	32.85	33.27	33.47	34.47
31882	32.50	32.80	33.11	33.41	33.76	32.70	33.14	33.42	33.71	33.78	34.78
31883	32.55	32.83	33.13	33.42	33.76	32.74	33.15	33.43	33.71	33.79	34.79
31884	33.02	33.31	33.49	33.71	33.91	33.23	33.51	33.72	33.87	33.97	34.97
31885	33.04	33.32	33.50	33.71	33.91	33.24	33.52	33.73	33.87	33.97	34.97
31886	33.35	33.68	33.78	33.85	33.93	33.59	33.79	33.85	33.90	33.99	34.99
31887	33.36	33.69	33.79	33.85	33.94	33.60	33.80	33.86	33.91	33.99	34.99
31888	33.51	33.83	33.91	33.96	34.04	33.74	33.91	33.96	34.01	34.06	35.06
31889	33.52	33.84	33.91	33.97	34.04	33.75	33.91	33.97	34.02	34.07	35.07
31900	33.79	34.10	34.15	34.22	34.38	34.05	34.15	34.21	34.29	34.47	35.47
31901	28.56	31.22	31.67	32.52	33.20	30.04	31.68	32.50	33.10	33.27	34.27
31903	32.52	32.73	32.85	33.07	33.71	32.63	32.73	33.05	33.53	33.85	34.85
31904	33.26	33.76	33.82	33.87	33.96	33.65	33.81	33.86	33.91	34.01	35.01
31905	33.28	33.76	33.82	33.87	33.96	33.66	33.82	33.86	33.92	34.01	35.01
31906	33.61	33.98	34.02	34.06	34.12	33.91	34.02	34.05	34.09	34.15	35.15
31907	33.80	34.10	34.14	34.17	34.21	34.05	34.13	34.16	34.19	34.23	35.23
31908	34.22	34.83	35.02	35.19	35.40	34.39	34.71	34.85	34.99	35.48	36.48
31909	34.26	34.90	35.10	35.27	35.44	34.38	34.68	34.81	34.94	35.61	36.61
31910	34.27	34.90	35.10	35.28	35.44	34.38	34.67	34.81	34.94	35.61	36.61
31911	34.35	35.04	35.26	35.46	35.58	34.35	34.61	34.73	34.84	35.89	36.89
31912	34.36	35.04	35.26	35.46	35.58	34.36	34.61	34.73	34.84	35.89	36.89
31913	34.48	35.24	35.50	35.73	35.87	34.92	34.93	34.93	34.86	36.40	37.40
31914	34.48	35.24	35.50	35.73	35.87	34.95	34.96	34.96	34.89	36.40	37.40

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
31915	34.49	35.25	35.51	35.73	36.05	34.74	35.26	35.46	35.64	36.28	37.28
31916	34.37	35.09	35.32	35.53	35.80	34.59	35.05	35.23	35.40	36.00	37.00
31920	22.19	22.66	22.93	23.22	23.79	22.46	22.97	23.25	23.60	24.05	25.05
31921	24.44	24.77	24.94	25.13	25.54	24.66	24.97	25.16	25.38	25.79	26.79
31922	24.60	24.98	25.19	25.48	26.13	24.86	25.22	25.52	25.89	26.51	27.51
31923	24.74	25.16	25.43	25.84	26.64	25.02	25.49	25.89	26.34	27.13	28.13
31924	24.98	25.39	25.65	26.03	26.79	25.26	25.70	26.08	26.50	27.26	28.26
31925	25.36	25.75	25.98	26.33	27.03	25.63	26.03	26.37	26.76	27.48	28.48
31926	25.78	26.46	26.90	27.28	27.66	26.22	26.97	27.30	27.52	27.92	28.92
31928	27.93	28.24	28.39	28.59	28.95	28.11	28.41	28.60	28.79	29.22	30.22
31930	28.88	29.20	29.34	29.50	29.82	29.08	29.35	29.50	29.67	30.04	31.04
31931	29.55	30.29	30.62	30.97	31.62	30.04	30.63	30.96	31.35	31.78	32.78
31932	29.67	30.37	30.69	31.03	31.70	30.13	30.70	31.03	31.42	31.86	32.86
31933	29.84	30.53	30.78	31.08	31.71	30.32	30.79	31.07	31.45	31.87	32.87
31933A	30.19	31.02	31.31	31.63	32.10	30.72	31.32	31.63	31.96	32.19	33.19
31934	30.23	31.04	31.32	31.65	32.11	30.75	31.34	31.64	31.97	32.21	33.21
31935	30.66	31.60	31.89	32.19	32.45	31.15	31.92	32.19	32.37	32.53	33.53
31936	30.73	31.63	31.92	32.21	32.47	31.20	31.94	32.21	32.39	32.55	33.55
31937	30.94	31.80	32.11	32.45	32.77	31.41	32.14	32.45	32.66	32.89	33.89
31938	31.18	31.98	32.28	32.69	33.08	31.63	32.32	32.70	32.94	33.24	34.24
31939	31.35	32.18	32.52	32.94	33.42	31.82	32.56	32.96	33.24	33.62	34.62
31940	31.43	32.22	32.55	32.96	33.44	31.88	32.59	32.98	33.26	33.63	34.63
31941	31.63	32.40	32.77	33.23	33.78	32.08	32.82	33.25	33.56	34.01	35.01
31942	31.80	32.58	33.04	33.51	34.13	32.26	33.10	33.53	33.88	34.39	35.39
31943	32.10	32.99	33.52	34.01	34.74	32.58	33.58	34.03	34.44	35.06	36.06
31944	32.31	33.11	33.61	34.08	34.79	32.75	33.66	34.09	34.49	35.10	36.10
31945	32.42	33.26	33.77	34.25	34.92	32.90	33.83	34.27	34.69	35.19	36.19
31947	32.96	33.69	34.06	34.41	34.97	33.42	34.10	34.43	34.76	35.23	36.23
31948	33.15	33.86	34.10	34.38	34.97	33.59	34.12	34.40	34.76	35.23	36.23
31949	33.21	33.87	34.11	34.38	34.97	33.62	34.12	34.40	34.76	35.23	36.23
31950	33.37	34.04	34.24	34.49	34.99	33.78	34.25	34.51	34.80	35.24	36.24
31951	32.75	33.41	33.90	34.34	34.96	33.13	33.96	34.36	34.74	35.22	36.22
31952	32.77	33.48	34.05	34.49	34.99	33.18	34.12	34.51	34.80	35.24	36.24
31953	32.80	33.51	34.08	34.51	35.02	33.21	34.15	34.54	34.83	35.27	36.27
31954	34.30	34.87	34.96	35.02	35.19	34.77	34.98	35.04	35.13	35.35	36.35
31955	34.40	34.90	34.99	35.06	35.22	34.79	35.02	35.08	35.17	35.38	36.38
31956	34.44	35.06	35.27	35.47	35.81	34.90	35.35	35.55	35.74	35.99	36.99
31957	33.90	34.36	34.67	34.94	35.37	34.15	34.68	34.94	35.17	35.57	36.57
31958	35.60	35.78	35.88	36.00	36.19	35.68	35.86	35.97	36.07	36.27	37.27
31958A	34.37	34.63	34.82	35.03	35.42	34.49	34.82	35.03	35.23	35.60	36.60
31959	35.61	35.79	35.89	36.00	36.20	35.69	35.87	35.97	36.08	36.28	37.28
31959A	34.60	35.06	35.32	35.56	35.81	34.85	35.31	35.54	35.71	35.89	36.89
31960	18.55	19.27	19.89	20.53	21.31	18.96	19.96	20.63	21.18	21.44	22.44
31961	18.69	19.37	19.95	20.57	21.36	19.05	20.01	20.66	21.22	21.51	22.51
31962	19.04	20.12	20.81	21.54	21.93	19.53	20.85	21.55	21.85	22.01	23.01
31963	19.06	20.13	20.82	21.54	21.94	19.55	20.86	21.56	21.85	22.02	23.02
31964	19.87	20.23	20.88	21.56	21.99	19.96	20.92	21.58	21.88	22.08	23.08
31965	19.07	20.14	20.82	21.54	21.94	19.56	20.86	21.56	21.85	22.02	23.02
31966	19.12	20.14	20.83	21.54	21.94	19.58	20.87	21.56	21.85	22.03	23.03
31967	20.48	20.63	20.86	21.60	22.08	20.57	20.90	21.61	21.94	22.22	23.22
31968	19.10	20.21	20.83	21.55	21.95	19.62	20.87	21.56	21.86	22.03	23.03
31969	20.62	21.11	21.16	21.55	21.96	21.08	21.16	21.57	21.86	22.04	23.04
31970	25.38	25.73	25.92	26.20	26.87	25.61	25.97	26.24	26.61	27.31	28.31
31971	26.21	26.55	26.75	26.96	27.40	26.36	26.71	26.91	27.13	27.61	28.61
31972	27.04	27.35	27.55	27.78	28.30	27.19	27.53	27.74	27.99	28.62	29.62
31973	30.47	31.17	31.32	31.46	31.87	30.98	31.32	31.45	31.66	32.03	33.03
31974	30.74	31.43	31.74	32.08	32.73	31.15	31.72	32.03	32.37	33.03	34.03

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
31975	31.99	33.12	33.60	34.00	34.62	32.66	33.59	33.97	34.29	34.97	35.97
31976	32.35	32.96	33.38	33.84	34.59	32.66	33.42	33.85	34.27	34.92	35.92
31977	32.55	33.29	33.72	34.10	34.67	32.93	33.72	34.07	34.37	35.00	36.00
31978	33.48	33.85	34.11	34.39	34.84	33.69	34.11	34.37	34.62	35.11	36.11
31979	35.21	35.38	35.48	35.59	35.80	35.38	35.61	35.75	35.90	36.19	37.19
31980	32.34	33.14	33.63	34.10	34.81	32.78	33.68	34.11	34.51	35.12	36.12
31981	32.34	33.15	33.64	34.11	34.82	32.79	33.69	34.11	34.52	35.13	36.13
31982	32.35	33.15	33.64	34.12	34.82	32.79	33.69	34.12	34.52	35.14	36.14
31983	32.34	33.14	33.64	34.11	34.81	32.78	33.68	34.11	34.51	35.13	36.13
31985	32.75	33.42	33.91	34.34	34.96	33.13	33.96	34.36	34.75	35.22	36.22
31986	33.05	33.70	34.15	34.60	35.26	33.43	34.20	34.61	35.00	35.54	36.54
31987	33.06	33.71	34.16	34.60	35.26	33.44	34.20	34.61	35.00	35.54	36.54
31988	33.52	34.13	34.52	35.00	35.73	33.89	34.56	35.00	35.41	36.07	37.07
31989	33.86	34.44	34.81	35.18	35.83	34.22	34.84	35.17	35.52	36.17	37.17
31990	33.95	34.53	34.90	35.28	35.94	34.31	34.92	35.27	35.62	36.28	37.28
31991	33.98	34.56	34.92	35.30	35.97	34.34	34.95	35.29	35.65	36.32	37.32
31992	34.10	34.69	35.05	35.43	36.13	34.49	35.09	35.43	35.80	36.50	37.50
31995	25.89	26.55	26.92	27.26	27.92	26.20	26.87	27.20	27.52	28.30	29.30
31996	25.92	26.57	26.95	27.29	27.95	26.22	26.89	27.22	27.55	28.33	29.33
31997	26.04	26.76	27.18	27.58	28.40	26.37	27.11	27.49	27.90	28.60	29.60
31998	26.18	26.95	27.41	27.86	28.53	26.52	27.32	27.74	28.22	28.68	29.68
31999	25.40	26.17	26.49	26.77	27.37	25.72	26.43	26.69	26.99	27.74	28.74
32000	26.31	27.22	27.89	28.58	30.13	26.75	27.85	28.55	29.44	30.31	31.31
32001	26.32	27.23	27.91	28.58	30.13	26.78	27.88	28.57	29.44	30.31	31.31
32002	27.45	27.56	27.92	28.58	30.12	27.57	27.90	28.58	29.44	30.31	31.31
32003	28.18	28.72	29.03	29.40	30.14	28.69	29.37	29.75	30.21	30.90	31.90
32004	32.07	32.09	32.11	32.12	32.14	32.08	32.11	32.12	32.13	32.15	33.15
32006	14.98	16.63	17.22	17.75	18.89	16.37	17.44	18.13	18.71	19.66	20.66
32008	17.46	17.83	18.06	18.12	18.93	17.56	17.97	18.30	18.79	19.68	20.68
32009	17.70	18.45	18.85	18.96	19.08	17.95	18.70	18.92	18.99	19.66	20.66
32010	25.80	26.47	26.91	27.28	27.66	26.23	26.97	27.30	27.52	27.92	28.92
32011	28.76	29.24	29.52	29.83	30.41	29.13	29.69	30.01	30.36	31.03	32.03
32012	26.30	26.45	26.54	26.62	26.77	26.38	26.52	26.59	26.68	26.82	27.82
32013	29.39	29.70	29.88	30.08	30.45	29.66	30.06	30.28	30.53	31.00	32.00
32014	29.43	29.70	29.88	30.08	30.45	29.66	30.06	30.29	30.54	31.01	32.01
32015	29.44	29.70	29.88	30.08	30.46	29.67	30.06	30.29	30.54	31.01	32.01
32016	29.44	29.70	29.88	30.08	30.45	29.66	30.06	30.29	30.54	31.01	32.01
32019	34.80	34.80	34.80	35.26	35.58	34.80	34.82	35.25	35.52	35.63	36.63
32020	33.38	34.05	34.25	34.50	35.00	33.79	34.26	34.52	34.81	35.25	36.25
32021	33.51	34.40	34.80	35.04	35.21	34.08	34.83	35.05	35.14	35.32	36.32
32022	33.59	34.42	34.82	35.06	35.22	34.12	34.84	35.06	35.15	35.33	36.33
32023	34.01	34.74	35.24	35.55	35.66	34.27	35.26	35.54	35.63	35.69	36.69
32025	34.15	34.78	35.26	35.56	35.67	34.39	35.28	35.56	35.63	35.70	36.70
32026	34.25	35.11	35.50	35.58	35.67	34.72	35.51	35.58	35.64	35.70	36.70
32031	33.59	34.06	34.26	34.51	35.01	33.81	34.27	34.53	34.82	35.26	36.26
32033	34.09	34.69	34.93	35.00	35.11	34.46	34.95	35.01	35.07	35.29	36.29
32034	34.38	35.07	35.42	35.60	35.71	34.84	35.52	35.62	35.68	35.80	36.80
32035	34.41	35.09	35.44	35.65	35.92	34.87	35.54	35.69	35.82	36.15	37.15
32037	34.42	35.10	35.45	35.67	36.03	34.88	35.55	35.72	35.89	36.25	37.25
32039	34.50	35.16	35.50	35.80	36.21	34.97	35.62	35.90	36.16	36.35	37.35
32040	15.18	16.75	17.40	17.98	18.94	16.46	17.69	18.20	18.75	19.68	20.68
32041	15.18	16.75	17.40	17.97	18.94	16.46	17.69	18.20	18.75	19.68	20.68
32042	15.18	16.75	17.40	17.97	18.94	16.46	17.69	18.20	18.75	19.68	20.68
32043	15.18	16.76	17.40	17.98	18.94	16.46	17.69	18.20	18.75	19.69	20.69
32044	15.18	16.76	17.41	17.98	18.94	16.46	17.69	18.21	18.76	19.69	20.69
32045	17.61	18.03	18.25	18.47	18.96	17.98	18.32	18.49	18.76	19.70	20.70
32046	18.39	18.55	18.61	18.75	19.11	18.47	18.63	18.76	18.93	19.70	20.70

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
32047	15.20	16.76	17.40	17.97	18.93	16.46	17.68	18.19	18.74	19.68	20.68
32048	15.21	16.79	17.43	18.01	18.98	16.48	17.71	18.23	18.78	19.72	20.72
32049	15.22	16.82	17.46	18.05	19.02	16.50	17.74	18.27	18.83	19.77	20.77
32050	26.13	26.44	26.65	26.88	27.31	26.30	26.73	26.95	27.18	27.64	28.64
32051	25.00	25.76	26.19	26.66	27.42	25.36	26.15	26.61	27.09	27.67	28.67
32053	15.21	16.74	17.37	17.95	18.91	16.46	17.62	18.14	18.72	19.63	20.63
32054	15.21	16.75	17.38	17.95	18.91	16.46	17.62	18.15	18.72	19.63	20.63
32055	15.21	16.75	17.38	17.95	18.91	16.46	17.62	18.15	18.72	19.63	20.63
32056	19.35	19.55	19.65	19.76	19.93	19.54	19.69	19.77	19.85	20.00	21.00
32057	23.33	23.63	23.81	23.99	24.33	23.64	24.00	24.18	24.36	24.57	25.57
32058	15.67	17.23	17.82	18.35	19.24	16.93	18.11	18.60	19.06	19.95	20.95
32059	15.69	17.24	17.82	18.35	19.24	16.94	18.11	18.60	19.06	19.95	20.95
32060	15.74	17.25	17.85	18.38	19.25	16.96	18.14	18.62	19.08	19.95	20.95
32061	17.53	18.15	18.61	19.03	19.73	17.91	18.74	19.13	19.53	20.24	21.24
32063	22.88	23.88	24.19	24.47	24.69	23.47	24.17	24.44	24.60	24.84	25.84
32064	25.06	25.18	25.21	25.50	26.44	25.17	25.25	25.53	26.09	27.08	28.08
32065	24.88	25.39	25.71	26.06	26.24	25.06	25.61	25.96	26.14	26.28	27.28
32066	15.68	17.23	17.82	18.35	19.24	16.93	18.11	18.60	19.06	19.94	20.94
32067	15.68	17.24	17.82	18.35	19.23	16.94	18.08	18.57	19.06	19.92	20.92
32068	17.78	19.02	19.69	20.35	21.47	18.62	19.91	20.54	21.18	22.28	23.28
32069	21.98	22.40	22.62	22.86	23.30	22.06	22.47	22.70	22.94	23.36	24.36
32070	19.75	20.15	20.34	20.51	20.77	19.88	20.25	20.36	20.42	20.58	21.58
32071	19.98	20.45	20.68	20.90	21.26	20.14	20.59	20.76	20.90	21.14	22.14
32072	20.05	20.54	20.78	21.01	21.38	20.22	20.69	20.88	21.03	21.29	22.29
32073	20.79	21.18	21.40	21.61	22.00	20.92	21.31	21.51	21.70	22.02	23.02
32074	22.15	22.57	22.78	22.98	23.25	22.29	22.70	22.89	23.06	23.29	24.29
32075	22.19	22.63	22.86	23.06	23.36	22.34	22.76	22.96	23.15	23.41	24.41
32076	22.36	22.80	22.99	23.16	23.47	22.52	22.92	23.09	23.26	23.70	24.70
32077	22.34	22.80	22.98	23.16	23.47	22.52	22.92	23.09	23.26	23.71	24.71
32078	22.14	22.92	23.40	23.93	25.00	22.29	23.10	23.58	24.12	25.15	26.15
32079	24.02	24.43	24.68	24.98	25.60	24.09	24.51	24.77	25.09	25.71	26.71
32080	26.51	26.91	27.13	27.38	27.87	26.56	26.96	27.18	27.42	27.92	28.92
32081	23.76	24.17	24.40	24.65	25.12	23.82	24.23	24.46	24.71	25.18	26.18
32082	24.31	24.53	24.72	24.97	25.26	24.43	24.67	24.96	25.12	25.40	26.40
32083	24.67	24.90	25.11	25.24	25.75	24.78	25.05	25.22	25.35	26.16	27.16
32084	26.54	27.02	27.30	27.61	28.08	26.79	27.31	27.62	27.95	28.18	29.18
32085	26.00	26.20	26.48	26.75	27.18	26.07	26.34	26.61	26.87	27.33	28.33
32086	28.09	28.48	28.59	28.67	28.80	28.18	28.54	28.63	28.70	28.83	29.83
32087	28.01	28.34	28.51	28.69	29.01	28.13	28.45	28.61	28.79	29.08	30.08
32088	15.25	16.83	17.49	18.06	19.03	16.53	17.77	18.29	18.85	19.78	20.78
32089	15.26	16.85	17.50	18.08	19.05	16.54	17.78	18.30	18.86	19.80	20.80
32090	15.27	16.85	17.50	18.08	19.05	16.54	17.79	18.31	18.86	19.80	20.80
32091	15.28	16.86	17.51	18.09	19.06	16.55	17.79	18.31	18.87	19.80	20.80
32092	15.33	16.87	17.52	18.09	19.06	16.56	17.80	18.32	18.87	19.80	20.80
32093	17.91	18.20	18.35	18.65	19.08	18.02	18.32	18.51	18.89	19.80	20.80
32093A	17.93	18.23	18.38	18.70	19.03	18.04	18.35	18.55	18.84	19.95	20.95
32094	18.12	18.58	18.91	19.50	20.00	18.28	18.75	19.23	19.72	20.11	21.11
32095	19.47	19.98	20.10	20.20	20.31	19.66	20.07	20.17	20.24	20.33	21.33
32095A	19.43	19.95	20.10	20.23	20.35	19.61	20.08	20.20	20.28	20.39	21.39
32096	19.42	19.94	20.11	20.26	20.41	19.59	20.09	20.24	20.34	20.46	21.46
32096A	19.01	19.43	19.61	19.79	20.26	19.15	19.68	19.91	20.19	20.42	21.42
32097	18.49	19.12	19.47	19.84	20.32	18.87	19.61	19.95	20.24	20.59	21.59
32098	15.67	16.97	17.63	18.19	19.11	16.60	17.88	18.37	18.91	19.84	20.84
32101	16.73	18.34	18.97	19.52	20.30	18.08	19.27	19.77	20.18	21.10	22.10
32102	17.58	18.75	19.35	19.85	20.63	18.58	19.65	20.10	20.61	21.69	22.69
32103	17.60	18.77	19.36	19.86	20.64	18.60	19.66	20.11	20.63	21.71	22.71
32104	17.62	18.92	19.49	19.99	20.67	18.60	19.71	20.10	20.67	21.83	22.83

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
32105	17.70	18.97	19.54	20.02	20.71	18.66	19.75	20.14	20.72	21.89	22.89
32108	17.76	18.99	19.55	20.03	20.73	18.70	19.76	20.14	20.77	21.97	22.97
32109	17.84	19.03	19.56	20.03	20.75	18.75	19.77	20.14	20.82	22.02	23.02
32110	17.88	19.05	19.56	20.04	20.76	18.77	19.77	20.14	20.86	22.06	23.06
32111	17.89	19.06	19.56	20.03	20.79	18.78	19.77	20.15	21.00	22.25	23.25
32112	17.91	19.07	19.57	20.04	20.81	18.79	19.77	20.18	21.05	22.29	23.29
32113	17.96	19.09	19.57	20.04	20.88	18.82	19.77	20.26	21.13	22.35	23.35
32115	17.96	19.09	19.56	20.02	20.92	18.82	19.76	20.29	21.19	22.40	23.40
32117	18.01	19.10	19.40	19.69	20.93	18.84	19.46	20.30	21.19	22.40	23.40
32119	18.32	19.18	19.48	19.71	20.93	18.93	19.56	20.31	21.19	22.40	23.40
32120	19.28	19.71	19.89	20.11	20.93	19.58	19.94	20.31	21.19	22.40	23.40
32121	19.28	20.54	21.19	21.56	22.01	20.55	21.63	21.91	22.19	22.85	23.85
32122	19.28	20.54	21.19	21.57	22.02	20.55	21.64	21.92	22.20	22.87	23.87
32123	19.28	20.54	21.19	21.57	22.03	20.55	21.64	21.92	22.21	22.89	23.89
32125	19.28	20.55	21.19	21.57	22.06	20.55	21.65	21.94	22.26	22.94	23.94
32126	19.28	20.55	21.20	21.65	22.41	20.55	21.76	22.20	22.74	23.69	24.69
32127	19.28	20.55	21.20	21.76	22.60	20.55	21.87	22.40	22.89	23.81	24.81
32128	19.28	20.55	21.20	21.78	22.62	20.55	21.89	22.42	22.91	23.83	24.83
32129	19.45	20.58	21.28	22.02	22.84	20.56	22.07	22.62	23.10	23.97	24.97
32130	19.85	22.00	23.12	24.31	25.87	21.62	23.90	25.01	25.92	27.10	28.10
32131	20.96	22.56	23.52	24.59	26.06	22.19	24.18	25.22	26.09	27.24	28.24
32132	22.86	23.93	24.58	25.34	26.55	23.61	24.96	25.79	26.55	27.57	28.57
32133	23.76	24.83	25.39	26.02	27.04	24.51	25.65	26.35	27.01	27.91	28.91
32134	24.05	25.07	25.63	26.23	27.26	24.68	25.99	26.59	27.20	28.08	29.08
32135	24.78	25.83	26.34	26.88	27.75	25.48	26.60	27.15	27.69	28.45	29.45
32136	24.97	26.03	26.53	27.05	27.90	25.68	26.77	27.30	27.83	28.57	29.57
32137	25.04	26.09	26.60	27.12	28.01	25.87	26.98	27.50	27.89	28.60	29.60
32138	25.59	26.67	27.16	27.64	28.43	26.42	27.46	27.94	28.31	28.97	29.97
32140	25.93	27.01	27.49	27.94	28.68	26.75	27.75	28.20	28.57	29.19	30.19
32141	26.20	27.26	27.73	28.17	28.87	27.01	27.97	28.41	28.76	29.36	30.36
32142	26.23	27.32	27.78	28.23	28.94	27.06	28.02	28.47	28.84	29.45	30.45
32143	26.91	27.93	28.37	28.78	29.43	27.69	28.57	28.98	29.34	29.91	30.91
32144	27.80	28.76	29.17	29.54	30.12	28.56	29.34	29.71	30.03	30.56	31.56
32145	28.56	29.51	29.91	30.29	30.85	29.31	30.08	30.45	30.75	31.28	32.28
32146	28.95	29.92	30.32	30.68	31.24	29.73	30.48	30.83	31.14	31.56	32.56
32147	28.99	30.00	30.41	30.78	31.37	29.79	30.58	30.94	31.27	31.68	32.68
32148	29.44	30.41	30.79	31.11	31.66	30.22	30.94	31.25	31.56	32.00	33.00
32149	29.51	30.45	30.82	31.15	31.69	30.26	30.98	31.28	31.59	32.04	33.04
32150	29.76	30.72	31.09	31.42	31.92	30.52	31.25	31.54	31.82	32.27	33.27
32151	30.47	31.41	31.81	32.15	32.65	31.20	31.96	32.26	32.54	32.97	33.97
32152	30.82	31.82	32.23	32.60	33.14	31.58	32.39	32.72	33.02	33.48	34.48
32153	30.87	31.88	32.30	32.67	33.22	31.64	32.45	32.79	33.10	33.58	34.58
32154	30.95	31.96	32.38	32.75	33.32	31.72	32.54	32.88	33.20	33.69	34.69
32155	30.99	31.96	32.39	32.76	33.33	31.73	32.55	32.89	33.21	33.70	34.70
32156	31.00	31.98	32.40	32.78	33.35	31.75	32.57	32.91	33.24	33.73	34.73
32157	32.70	32.87	32.97	33.13	33.44	32.85	33.07	33.24	33.33	33.87	34.87
32158	33.12	33.43	33.60	33.78	34.11	33.41	33.76	33.96	34.16	34.54	35.54
32170	22.81	24.98	25.39	25.84	26.53	24.95	25.81	26.25	26.58	27.07	28.07
32171	25.15	25.40	25.54	25.85	26.54	25.39	25.83	26.26	26.59	27.08	28.08
32172	25.17	25.51	25.71	25.94	26.55	25.48	25.83	26.26	26.60	27.08	28.08
32173	18.70	18.89	19.07	19.52	20.27	18.82	19.27	19.72	20.18	20.98	21.98
32174	21.43	21.68	21.80	21.94	22.20	21.57	21.79	21.91	22.04	22.28	23.28
32177	23.83	23.92	23.96	24.01	24.17	23.85	23.93	23.98	24.04	24.18	25.18
32178	24.20	24.35	24.43	24.51	24.71	24.24	24.39	24.46	24.55	24.73	25.73
32179	25.25	25.67	25.91	26.16	26.55	25.37	25.77	26.00	26.25	26.62	27.62
32180	17.74	19.02	19.59	20.09	20.73	18.70	19.81	20.21	20.73	21.89	22.89
32181	19.84	20.12	20.26	20.43	20.75	19.98	20.27	20.44	20.71	21.79	22.79

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
32183	18.30	19.00	19.55	20.03	20.73	18.74	19.76	20.14	20.77	21.97	22.97
32184	18.38	19.09	19.61	20.11	20.76	18.84	19.83	20.23	20.78	21.97	22.97
32185	18.68	19.26	19.62	20.11	20.94	18.90	19.84	20.27	20.78	21.97	22.97
32188	17.87	19.07	19.60	20.08	20.77	18.78	19.81	20.20	20.82	22.02	23.02
32190	17.84	19.03	19.56	20.04	20.75	18.75	19.77	20.14	20.82	22.02	23.02
32191	17.88	19.09	19.63	20.13	20.88	18.79	19.85	20.28	20.83	22.02	23.02
32192	17.89	19.09	19.64	20.13	20.89	18.80	19.86	20.29	20.83	22.02	23.02
32194	17.85	19.04	19.57	20.04	20.76	18.75	19.77	20.15	20.82	22.02	23.02
32195	18.48	19.48	20.04	20.62	21.60	19.05	20.12	20.65	21.22	22.88	23.88
32197	17.88	19.06	19.58	20.06	20.78	18.78	19.79	20.20	20.87	22.08	23.08
32198	19.03	19.20	19.60	20.09	20.78	19.11	19.82	20.23	20.87	22.08	23.08
32199	19.28	19.50	19.71	20.17	20.79	19.39	19.93	20.31	20.89	22.09	23.09
32203	19.60	19.80	19.90	20.25	20.80	19.70	20.05	20.37	20.89	22.09	23.09
32204	19.89	20.12	20.19	20.39	20.91	20.00	20.24	20.50	20.90	22.11	23.11
32205	17.93	19.20	19.83	20.52	21.16	18.81	20.14	20.69	21.03	22.23	23.23
32206	19.44	19.65	20.04	20.61	21.20	19.49	20.25	20.75	21.07	22.23	23.23
32207	20.12	20.52	20.59	20.72	21.20	20.26	20.63	20.77	21.07	22.23	23.23
32208	20.29	20.66	20.74	20.86	21.25	20.41	20.75	20.87	21.12	22.23	23.23
32210	20.89	21.18	21.30	21.42	21.95	20.96	21.26	21.39	21.67	22.41	23.41
32211	22.03	22.57	22.81	23.04	23.46	22.20	22.68	22.90	23.14	23.63	24.63
32212	20.46	20.80	21.05	21.28	21.72	20.66	20.92	21.14	21.41	22.30	23.30
32213	21.62	21.82	21.95	22.07	22.25	21.73	21.89	22.00	22.13	22.34	23.34
32214	22.44	23.36	23.86	24.35	25.01	22.70	23.58	24.08	24.52	25.07	26.07
32220	17.94	19.08	19.58	20.04	20.81	18.80	19.78	20.18	21.05	22.29	23.29
32221	17.94	19.08	19.58	20.05	20.81	18.80	19.78	20.18	21.05	22.29	23.29
32222	18.60	19.10	19.60	20.05	20.81	18.81	19.80	20.18	21.05	22.29	23.29
32224	17.68	18.33	18.61	19.69	20.90	18.19	19.34	20.28	21.16	22.38	23.38
32226	15.24	16.28	18.45	19.69	20.92	16.01	19.34	20.29	21.19	22.40	23.40
32227	17.96	19.10	19.36	19.69	20.92	18.84	19.42	20.29	21.19	22.40	23.40
32228	18.03	19.12	19.42	19.69	22.43	18.86	19.49	21.54	22.79	23.74	24.74
32230	19.28	20.55	21.20	21.81	22.70	20.55	21.90	22.47	22.94	23.84	24.84
32235	28.61	29.12	29.31	29.49	29.75	29.03	29.42	29.58	29.73	30.01	31.01
32236	28.72	29.20	29.40	29.59	29.87	29.14	29.53	29.70	29.87	30.16	31.16
32237	29.15	29.50	29.69	29.87	30.19	29.43	29.80	29.99	30.18	30.49	31.49
32238	29.15	29.50	29.70	29.89	30.22	29.44	29.82	30.01	30.21	30.54	31.54
32240	27.14	27.50	27.69	27.91	28.10	27.40	27.77	27.99	28.08	28.60	29.60
32241	26.13	27.10	27.56	27.99	28.70	26.84	27.80	28.23	28.59	29.20	30.20
32242	26.27	27.92	28.65	28.79	28.92	27.33	28.72	28.83	28.90	29.20	30.20
32243	26.49	28.00	28.71	28.88	29.07	27.43	28.79	28.93	29.04	29.22	30.22
32244	27.22	28.99	29.10	29.17	29.25	28.83	29.13	29.19	29.24	29.31	30.31
32245	27.27	29.01	29.14	29.23	29.37	28.85	29.18	29.26	29.34	29.48	30.48
32246	28.66	29.10	29.20	29.30	29.45	29.02	29.24	29.33	29.42	29.57	30.57
32247	28.68	29.14	29.28	29.41	29.63	29.05	29.33	29.45	29.58	29.81	30.81
32248	28.80	29.16	29.29	29.42	29.65	29.06	29.34	29.47	29.60	29.83	30.83
32249	28.84	29.16	29.30	29.43	29.66	29.07	29.35	29.48	29.61	29.84	30.84
32250	28.92	29.31	29.52	29.72	30.06	29.19	29.61	29.80	30.00	30.33	31.33
32251	29.58	30.16	30.24	30.32	30.44	30.11	30.27	30.34	30.41	30.52	31.52
32253	29.51	30.60	31.13	31.26	31.33	30.36	31.22	31.28	31.32	31.37	32.37
32254	29.64	30.70	31.23	31.34	31.40	30.46	31.31	31.36	31.39	31.65	32.65
32257	29.20	30.16	30.66	31.10	31.24	29.96	30.94	31.17	31.24	31.33	32.33
32258	29.27	30.24	30.74	31.12	31.27	30.03	31.02	31.18	31.27	31.35	32.35
32260	33.35	33.70	33.87	34.07	34.43	33.64	34.00	34.21	34.43	34.81	35.81
32261	36.55	36.61	36.63	36.66	36.70	36.59	36.64	36.67	36.69	36.73	37.73
32262	37.84	38.32	38.57	38.82	39.21	38.20	38.68	38.91	39.14	39.47	40.47
32264	29.44	30.41	30.79	31.12	31.66	30.23	30.95	31.25	31.56	32.00	33.00
32265	31.10	31.26	31.35	31.44	31.69	31.26	31.41	31.49	31.58	32.02	33.02
32266	31.11	31.28	31.38	31.49	31.70	31.28	31.46	31.55	31.66	32.03	33.03

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
32267	30.66	30.80	30.96	31.21	31.72	30.80	31.07	31.33	31.61	32.08	33.08
32268	30.94	31.02	31.07	31.24	31.73	31.02	31.12	31.34	31.62	32.09	33.09
32270	36.93	37.07	37.14	37.20	37.31	37.03	37.15	37.21	37.26	37.31	38.31
32271	33.37	33.47	33.52	33.57	33.66	33.46	33.55	33.60	33.64	33.72	34.72
32272	33.38	33.48	33.54	33.60	33.72	33.48	33.58	33.64	33.70	33.82	34.82
32273	33.38	33.50	33.57	33.65	33.80	33.49	33.62	33.70	33.78	33.93	34.93
32274	29.77	30.73	31.11	31.44	31.94	30.53	31.26	31.56	31.84	32.28	33.28
32276	29.79	30.85	31.21	31.52	32.02	30.63	31.35	31.64	31.92	32.50	33.50
32277	31.17	31.43	31.66	31.97	32.47	31.34	31.78	32.07	32.36	32.75	33.75
32278	31.92	32.08	32.20	32.37	32.69	32.05	32.27	32.43	32.61	33.01	34.01
32280	32.20	32.76	33.10	33.36	33.67	32.57	33.16	33.38	33.58	34.01	35.01
32281	32.92	33.27	33.48	33.74	34.58	33.15	33.56	33.82	34.29	35.51	36.51
32283	31.17	31.43	31.67	31.97	32.47	31.35	31.78	32.07	32.36	32.75	33.75
32284	31.18	31.44	31.68	31.98	32.47	31.36	31.79	32.08	32.37	32.76	33.76
32285	31.41	31.71	31.90	32.12	32.54	31.53	31.89	32.12	32.38	32.88	33.88
32286	31.19	31.46	31.69	31.99	32.48	31.37	31.80	32.08	32.37	32.76	33.76
32287	31.67	31.90	32.00	32.10	32.54	31.79	32.02	32.17	32.43	32.85	33.85
32288	31.69	31.94	32.05	32.16	32.56	31.83	32.08	32.20	32.45	32.88	33.88
32289	31.89	32.01	32.10	32.27	32.63	31.98	32.16	32.33	32.53	32.97	33.97
32290	32.67	32.93	33.09	33.26	33.59	32.80	33.08	33.24	33.42	33.75	34.75
32291	32.01	32.20	32.31	32.44	32.72	32.15	32.38	32.51	32.65	33.01	34.01
32292	32.01	32.20	32.31	32.44	32.72	32.15	32.38	32.51	32.65	33.02	34.02
32293	33.00	33.19	33.29	33.40	33.62	33.09	33.27	33.38	33.49	33.72	34.72
32295	34.68	35.02	35.08	35.12	35.18	34.73	35.04	35.09	35.13	35.17	36.17
32298	31.53	31.72	32.02	32.37	32.93	31.65	32.16	32.48	32.79	33.32	34.32
32299	31.54	31.74	32.03	32.38	32.95	31.67	32.17	32.49	32.80	33.34	34.34
32301	31.93	32.30	32.66	32.97	33.46	32.00	32.73	33.02	33.29	33.72	34.72
32302	32.61	32.82	32.99	33.19	33.59	32.69	32.99	33.19	33.43	33.83	34.83
32303	33.15	33.41	33.50	33.58	33.76	33.25	33.46	33.55	33.63	33.92	34.92
32306	33.38	33.77	33.98	34.25	34.79	33.73	34.19	34.45	34.73	35.27	36.27
32308	33.45	33.86	34.09	34.36	34.88	33.82	34.30	34.56	34.83	35.35	36.35
32309	33.45	33.87	34.10	34.37	34.90	33.82	34.31	34.57	34.84	35.37	36.37
32312	32.67	32.90	33.06	33.25	33.64	32.76	33.06	33.25	33.47	33.87	34.87
32313	32.73	32.98	33.18	33.46	33.93	32.83	33.17	33.45	33.71	34.19	35.19
32315	34.61	35.22	35.57	35.96	36.68	34.84	35.47	35.83	36.22	36.94	37.94
32317	35.90	36.10	36.21	36.28	36.40	36.03	36.22	36.29	36.36	36.50	37.50
32322	38.36	38.66	38.81	38.96	39.21	38.63	38.94	39.09	39.24	39.50	40.50
32402	17.90	19.16	19.81	20.26	20.88	18.86	20.06	20.42	20.82	21.91	22.91
32403	18.03	19.23	20.01	20.47	21.00	19.02	20.13	20.52	20.98	22.00	23.00
32405	18.38	19.50	20.31	20.71	21.27	19.33	20.48	20.82	21.21	22.05	23.05
32406	18.45	19.56	20.39	20.78	21.34	19.38	20.57	20.90	21.28	22.07	23.07
32407	18.46	19.56	20.40	20.78	21.35	19.39	20.58	20.90	21.28	22.07	23.07
32408	18.49	19.65	20.49	20.89	21.49	19.46	20.69	21.03	21.41	22.10	23.10
32409	18.49	19.66	20.50	20.89	21.50	19.47	20.69	21.04	21.42	22.10	23.10
32410	19.10	20.07	20.80	21.25	21.98	19.85	21.05	21.44	21.88	22.66	23.66
32411	19.27	20.27	20.97	21.47	22.29	20.04	21.25	21.68	22.17	23.07	24.07
32412	19.39	20.44	21.12	21.67	22.57	20.19	21.42	21.90	22.44	23.44	24.44
32414	24.58	24.60	24.65	24.71	24.80	24.59	24.66	24.71	24.76	24.84	25.84
32415	26.70	26.80	27.08	27.39	27.93	26.72	27.15	27.44	27.73	28.22	29.22
32418	20.98	21.31	21.50	21.71	22.10	21.30	21.63	21.79	21.99	22.56	23.56
32421	21.46	21.91	22.18	22.52	23.14	21.76	22.29	22.60	22.95	23.59	24.59
32424	18.42	19.53	20.33	20.72	21.28	19.37	20.50	20.83	21.22	22.05	23.05
32425	18.43	19.54	20.33	20.72	21.28	19.38	20.50	20.84	21.22	22.05	23.05
32426	18.47	19.56	20.34	20.73	21.29	19.40	20.51	20.84	21.22	22.05	23.05
32427	20.18	20.50	20.66	20.80	21.34	20.43	20.70	20.96	21.28	22.06	23.06
32428	20.86	21.60	22.10	22.68	23.42	21.42	22.35	22.94	23.42	23.54	24.54
32429	23.23	23.47	23.59	23.72	24.01	23.42	23.65	23.77	23.99	24.14	25.14

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
32430	23.29	23.58	23.74	23.98	24.72	23.50	23.80	24.10	24.57	25.02	26.02
32432	26.71	27.13	27.36	27.62	28.09	27.00	27.41	27.65	27.91	28.39	29.39
32434	20.32	20.35	20.39	20.73	21.29	20.36	20.51	20.84	21.22	22.05	23.05
32435	19.20	19.68	20.45	20.88	21.58	19.52	20.67	21.05	21.47	22.26	23.26
32436	21.48	21.68	21.80	21.92	22.15	21.68	21.92	22.02	22.13	22.31	23.31
32437	21.78	22.02	22.17	22.34	22.67	21.92	22.23	22.39	22.57	22.97	23.97
32438	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.91	25.15	26.15
32440	23.24	23.50	23.63	23.77	24.08	23.45	23.70	23.83	24.09	24.33	25.33
32441	23.98	24.35	24.55	24.72	24.98	24.39	24.73	24.87	25.06	25.16	26.16
32442	24.04	24.36	24.57	24.75	25.04	24.40	24.76	24.91	25.18	25.33	26.33
32443	27.20	27.76	28.15	28.60	29.41	27.87	28.92	29.42	29.80	30.83	31.83
32444	29.02	29.65	30.05	30.49	31.12	29.44	30.26	30.73	31.10	31.74	32.74
32446	20.37	20.57	20.69	20.86	21.30	20.54	20.78	20.96	21.23	22.05	23.05
32447	20.37	20.57	20.69	20.86	21.30	20.54	20.78	20.96	21.23	22.05	23.05
32450	23.35	23.66	23.83	24.07	24.81	23.57	23.89	24.18	24.64	25.23	26.23
32452	21.09	21.24	21.33	21.44	21.70	21.14	21.30	21.41	21.55	22.05	23.05
32455	18.61	19.69	20.67	21.00	21.56	19.48	20.87	21.12	21.49	22.17	23.17
32456	18.71	19.82	21.08	21.92	23.17	19.57	21.69	22.31	22.99	23.99	24.99
32458	18.59	19.83	20.60	21.11	21.78	19.62	20.91	21.31	21.69	22.32	23.32
32460	20.72	21.10	21.31	21.53	21.89	20.96	21.34	21.53	21.75	22.29	23.29
32464	27.29	27.94	28.31	28.72	29.05	27.88	28.65	28.97	29.12	29.46	30.46
32500	18.01	19.12	19.59	20.05	20.89	18.86	19.79	20.27	21.13	22.35	23.35
32501	18.07	19.15	19.61	20.07	20.90	18.90	19.81	20.29	21.13	22.35	23.35
32502	18.35	19.51	19.98	20.45	21.18	19.26	20.18	20.64	21.23	22.37	23.37
32503	18.42	19.56	20.02	20.48	21.19	19.32	20.22	20.66	21.23	22.37	23.37
32505	18.48	19.60	20.06	20.52	21.21	19.36	20.26	20.68	21.24	22.38	23.38
32506	18.49	19.61	20.07	20.52	21.21	19.36	20.26	20.69	21.24	22.38	23.38
32507	18.62	19.72	20.18	20.64	21.30	19.47	20.38	20.79	21.31	22.43	23.43
32509	19.14	20.49	21.26	21.98	22.97	20.17	21.55	22.21	22.76	23.97	24.97
32510	20.95	21.49	21.76	22.24	23.14	21.24	21.95	22.42	22.95	24.12	25.12
32511	21.64	22.17	22.40	22.86	23.50	22.02	22.57	22.96	23.31	24.35	25.35
32512	23.10	23.51	23.92	25.21	26.69	23.40	24.13	25.80	26.60	26.85	27.85
32513	23.41	23.93	24.29	25.41	26.78	23.83	24.47	25.94	26.69	26.95	27.95
32514	23.91	25.41	26.08	26.37	26.82	24.95	26.15	26.46	26.74	26.99	27.99
32515	24.46	25.66	26.21	26.49	26.95	25.29	26.28	26.56	26.84	27.14	28.14
32516	24.59	25.72	26.27	26.55	27.01	25.37	26.33	26.63	26.90	27.21	28.21
32517	24.76	26.28	26.94	27.26	27.58	25.77	27.05	27.30	27.48	27.73	28.73
32518	24.98	26.38	27.01	27.33	27.67	25.90	27.12	27.38	27.57	27.83	28.83
32521	26.54	27.24	27.62	27.95	28.34	27.00	27.73	28.01	28.22	28.52	29.52
32522	26.60	27.33	27.71	28.06	28.47	27.09	27.82	28.12	28.35	28.67	29.67
32523	27.40	28.00	28.32	28.62	28.92	27.83	28.43	28.69	28.85	29.07	30.07
32524	29.94	30.89	31.48	32.24	33.10	30.64	31.76	32.47	32.92	33.48	34.48
32526	33.12	34.14	34.73	35.21	35.56	33.95	35.03	35.32	35.52	35.67	36.67
32528	33.62	34.69	34.95	35.21	35.56	34.44	35.03	35.32	35.52	35.67	36.67
32530	18.48	19.64	20.11	20.55	21.19	19.40	20.30	20.69	21.23	22.36	23.36
32531	18.49	19.65	20.11	20.55	21.19	19.42	20.30	20.69	21.23	22.36	23.36
32532	18.53	19.67	20.12	20.55	21.19	19.44	20.31	20.69	21.23	22.36	23.36
32533	18.56	19.68	20.13	20.56	21.19	19.46	20.32	20.69	21.23	22.36	23.36
32534	18.90	19.83	20.35	20.80	21.42	19.63	20.56	20.93	21.28	22.35	23.35
32535	18.97	19.84	20.36	20.80	21.43	19.65	20.57	20.94	21.29	22.35	23.35
32537	26.78	27.14	27.33	27.53	27.85	27.04	27.39	27.57	27.75	28.05	29.05
32538	19.25	19.60	19.78	19.96	20.27	19.60	20.00	20.20	20.40	20.73	21.73
32540	22.38	22.86	22.86	22.92	23.34	22.71	22.86	22.95	23.18	23.56	24.56
32541	23.18	23.54	23.74	23.96	24.38	23.41	23.78	23.98	24.20	24.62	25.62
32543	19.14	20.49	21.25	21.98	22.97	20.17	21.55	22.21	22.76	23.97	24.97
32544	19.14	20.50	21.25	21.99	22.98	20.18	21.55	22.22	22.76	23.97	24.97
32545	19.15	20.50	21.25	21.99	22.98	20.18	21.55	22.22	22.76	23.97	24.97

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
32549	21.06	21.60	21.81	22.27	23.16	21.37	21.98	22.44	22.96	24.13	25.13
32550	21.09	21.66	21.85	22.35	23.37	21.43	22.05	22.53	23.13	24.42	25.42
32552	25.27	25.49	25.60	25.72	25.92	25.44	25.66	25.77	25.88	26.02	27.02
32553	27.06	27.45	27.67	27.92	28.27	27.36	27.79	28.03	28.21	28.50	29.50
32555	23.47	23.67	23.78	23.91	24.15	23.66	23.93	24.09	24.26	24.58	25.58
32558	24.46	25.66	26.22	26.49	26.95	25.29	26.28	26.57	26.85	27.14	28.14
32559	24.50	25.73	26.26	26.50	26.95	25.35	26.31	26.57	26.85	27.15	28.15
32560	24.51	25.73	26.27	26.50	26.96	25.36	26.31	26.58	26.85	27.16	28.16
32561	24.56	25.74	26.29	26.54	27.06	25.36	26.35	26.62	26.98	27.56	28.56
32562	24.58	25.88	26.21	26.41	26.94	25.53	26.25	26.49	26.83	27.13	28.13
32563	25.15	25.98	26.21	26.32	26.80	25.70	26.24	26.35	26.70	26.96	27.96
32564	25.28	26.25	26.64	27.02	27.61	25.94	26.73	27.09	27.39	27.95	28.95
32565	30.67	30.82	30.90	30.99	31.16	30.81	31.00	31.11	31.23	31.45	32.45
32566	27.13	27.79	28.06	28.12	28.18	27.28	28.03	28.10	28.14	28.19	29.19
32568	25.02	26.39	27.02	27.34	27.72	25.92	27.12	27.39	27.60	27.91	28.91
32570	28.10	28.56	28.84	29.13	29.64	28.42	28.92	29.19	29.47	30.00	31.00
32572	28.32	28.52	28.62	28.76	29.22	28.38	28.56	28.71	28.93	29.42	30.42
32573	29.81	30.34	30.65	30.97	31.54	30.16	30.71	31.00	31.31	31.85	32.85
32575	30.27	30.81	31.36	31.80	32.56	30.73	31.64	32.08	32.51	32.66	33.66
32576	32.05	32.39	32.55	32.73	33.18	32.34	32.66	32.82	33.03	33.52	34.52
32577	32.70	32.83	32.90	32.97	33.22	32.79	32.92	32.96	33.10	33.54	34.54
32578	32.84	32.99	33.08	33.17	33.38	32.93	33.09	33.18	33.30	33.63	34.63
32579	34.52	34.56	34.58	34.59	34.62	34.56	34.59	34.60	34.61	34.63	35.63
32580	31.39	31.78	32.00	32.37	33.58	31.70	32.11	32.63	33.35	34.14	35.14
32585	34.34	34.62	34.77	34.92	35.18	34.39	34.66	34.81	34.95	35.22	36.22
32601	19.28	20.55	21.20	21.79	22.63	20.55	21.89	22.44	22.93	23.84	24.84
32602	19.28	20.55	21.20	21.87	22.86	20.55	21.92	22.54	23.02	23.99	24.99
32605	19.28	20.55	21.20	21.89	22.91	20.55	21.93	22.55	23.04	24.01	25.01
32606	19.28	20.55	21.20	21.90	22.94	20.55	21.93	22.57	23.05	24.03	25.03
32607	19.28	20.55	21.20	21.92	22.98	20.55	21.93	22.59	23.08	24.04	25.04
32609	19.38	20.59	21.20	21.96	23.04	20.55	21.94	22.62	23.13	24.06	25.06
32610	19.40	20.61	21.22	21.97	23.07	20.56	21.94	22.63	23.16	24.07	25.07
32611	19.66	20.79	21.33	22.04	23.11	20.58	21.94	22.66	23.18	24.08	25.08
32612	19.70	20.83	21.36	22.07	23.15	20.61	21.94	22.67	23.23	24.11	25.11
32614	20.28	21.19	21.65	22.19	23.21	20.93	22.02	22.71	23.27	24.12	25.12
32615	20.30	21.21	21.67	22.21	23.22	20.95	22.03	22.72	23.28	24.12	25.12
32616	20.74	21.53	21.94	22.36	23.28	21.25	22.15	22.77	23.33	24.14	25.14
32619	20.85	21.63	22.03	22.43	23.30	21.35	22.22	22.80	23.35	24.15	25.15
32620	21.01	21.79	22.26	22.94	23.80	21.49	22.50	23.13	23.73	24.64	25.64
32621	21.33	22.02	22.44	23.06	23.87	21.72	22.63	23.21	23.77	24.68	25.68
32622	21.51	22.17	22.58	23.17	24.16	21.87	22.73	23.30	23.92	24.94	25.94
32623	22.25	22.83	23.12	23.52	24.34	22.55	23.17	23.58	24.08	25.03	26.03
32624	24.01	24.94	25.17	25.30	25.58	24.75	25.24	25.35	25.46	25.99	26.99
32625	24.85	25.08	25.21	25.37	25.63	24.93	25.16	25.29	25.43	25.67	26.67
32626	29.14	29.46	29.61	29.76	30.00	29.38	29.66	29.80	29.93	30.15	31.15
32627	29.15	29.48	29.63	29.78	30.03	29.39	29.68	29.82	29.96	30.18	31.18
32628	22.44	23.20	23.64	24.18	25.18	22.80	23.63	24.15	24.74	25.78	26.78
32629	23.18	23.30	23.36	23.43	23.54	23.20	23.32	23.38	23.44	24.13	25.13
32630	21.24	21.51	21.67	22.16	23.26	21.43	22.07	22.77	23.37	24.19	25.19
32631	21.69	22.08	22.27	22.58	23.41	21.98	22.45	22.91	23.51	24.24	25.24
32632	21.95	22.41	22.63	22.94	23.66	22.28	22.77	23.21	23.72	24.44	25.44
32633	23.35	23.77	23.97	24.20	24.61	23.65	24.05	24.37	24.57	25.02	26.02
32634	25.51	26.19	26.55	26.97	27.60	25.99	26.67	27.16	27.48	28.01	29.01
32635	27.24	27.84	28.16	28.45	28.83	27.68	28.30	28.55	28.76	29.07	30.07
32636	27.27	27.90	28.25	28.59	29.12	27.73	28.40	28.72	29.01	29.52	30.52
32637	25.71	26.68	27.29	28.02	28.29	26.32	27.49	28.05	28.20	28.46	29.46
32640	28.17	28.51	28.63	28.75	28.93	28.46	28.70	28.79	28.88	29.02	30.02

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
32641	28.27	28.71	28.89	29.05	29.36	28.68	29.02	29.16	29.32	29.60	30.60
32642	29.23	29.46	29.56	29.68	29.92	29.46	29.66	29.77	29.89	30.12	31.12
32643	29.24	29.53	29.68	29.85	30.12	29.54	29.81	29.94	30.07	30.30	31.30
32645	29.30	29.66	29.88	30.14	30.62	29.69	30.15	30.39	30.63	31.08	32.08
32646	29.30	29.66	29.88	30.13	30.61	29.69	30.15	30.38	30.62	31.07	32.07
32647	29.30	29.77	30.06	30.40	31.04	29.77	30.35	30.65	30.97	31.55	32.55
32648	29.31	29.71	29.95	30.22	30.74	29.74	30.24	30.50	30.76	31.24	32.24
32650	28.55	28.73	28.89	29.03	29.34	28.70	29.02	29.16	29.31	29.59	30.59
32651	28.99	29.43	29.66	29.90	30.27	29.26	29.73	29.97	30.19	30.53	31.53
32655	29.26	29.59	29.78	29.99	30.34	29.46	29.84	30.06	30.26	30.58	31.58
32656	31.46	31.60	31.68	31.75	31.89	31.54	31.69	31.77	31.85	31.99	32.99
32660	27.12	27.66	28.01	28.42	28.97	27.43	28.08	28.48	28.88	29.09	30.09
32661	28.14	28.47	28.93	29.31	29.42	28.44	29.29	29.37	29.43	29.52	30.52
32662	29.38	29.57	29.64	29.69	29.83	29.56	29.71	29.77	29.85	29.99	30.99
32665	27.28	27.94	28.30	28.65	29.21	27.76	28.46	28.79	29.10	29.66	30.66
32666	27.31	28.01	28.41	28.78	29.35	27.83	28.59	28.93	29.26	29.83	30.83
32667	27.36	28.13	28.60	29.02	29.69	27.95	28.82	29.20	29.59	30.29	31.29
32668	28.48	28.64	28.74	29.06	29.76	28.61	28.87	29.25	29.65	30.37	31.37
32670	30.55	30.76	30.86	31.03	31.14	30.70	30.86	31.02	31.10	31.17	32.17
32672	27.29	27.95	28.32	28.67	29.22	27.77	28.47	28.80	29.11	29.62	30.62
32673	28.89	28.99	29.05	29.12	29.34	28.97	29.08	29.15	29.27	29.59	30.59
32674	29.59	29.71	29.75	29.83	30.13	29.68	29.76	29.84	30.02	30.29	31.29
32675	29.94	30.10	30.16	30.22	30.32	30.06	30.18	30.24	30.29	30.43	31.43
32677	28.05	28.61	29.08	29.47	29.90	28.27	29.04	29.44	29.69	30.10	31.10
32678	28.10	28.63	29.09	29.48	29.93	28.31	29.04	29.45	29.70	30.15	31.15
32680	27.91	28.58	29.05	29.45	29.82	28.17	29.02	29.43	29.66	29.96	30.96
32681	28.09	28.61	28.85	29.14	29.86	28.39	28.85	29.11	29.45	30.19	31.19
32685	19.28	20.55	21.20	21.94	23.06	20.55	21.94	22.63	23.13	24.09	25.09
32686	19.28	20.55	21.20	21.94	23.06	20.55	21.94	22.64	23.14	24.10	25.10
32687	19.28	20.55	21.20	21.95	23.07	20.55	21.94	22.64	23.14	24.10	25.10
32688	19.31	20.56	21.20	21.96	23.07	20.55	21.94	22.65	23.14	24.10	25.10
32690	21.98	22.23	22.35	22.46	23.07	22.10	22.30	22.67	23.14	24.10	25.10
32691	23.91	24.09	24.16	24.23	24.31	23.95	23.99	24.06	24.14	24.28	25.28
32692	24.29	24.60	24.76	24.92	25.24	24.38	24.67	24.83	25.00	25.31	26.31
32695	19.77	20.75	21.29	22.02	23.11	20.59	21.95	22.67	23.16	24.11	25.11
32696	20.37	20.83	21.33	22.04	23.11	20.67	21.95	22.68	23.17	24.11	25.11
32697	24.84	25.12	25.28	25.46	25.78	25.12	25.49	25.70	25.92	26.32	27.32
32698	20.69	20.79	21.20	21.95	23.07	20.58	21.94	22.64	23.14	24.10	25.10
32699	20.32	20.68	21.27	22.02	23.04	20.56	21.96	22.62	23.14	24.10	25.10
32700	19.43	20.62	21.22	21.96	23.05	20.55	21.94	22.62	23.13	24.06	25.06
32702	19.49	20.65	21.24	21.97	23.05	20.55	21.94	22.63	23.14	24.06	25.06
32703	19.81	20.77	21.31	22.00	23.07	20.58	21.94	22.64	23.15	24.07	25.07
32704	23.53	25.66	26.47	26.96	27.49	24.82	26.52	26.63	27.24	27.94	28.94
32705	23.84	25.76	26.54	27.01	27.54	24.96	26.58	26.69	27.29	27.99	28.99
32706	24.19	25.84	26.58	27.05	27.57	25.11	26.63	26.76	27.33	28.02	29.02
32707	24.50	25.89	26.61	27.08	27.58	25.23	26.66	26.82	27.34	28.02	29.02
32708	24.58	26.19	27.03	27.66	28.58	25.48	27.06	27.63	28.10	28.93	29.93
32709	29.21	29.68	29.88	30.03	30.13	29.25	29.69	29.89	29.98	29.96	30.96
32710	29.70	30.17	30.25	30.30	30.35	29.81	30.18	30.25	30.30	30.35	31.35
32711	29.68	29.71	29.72	29.73	29.74	29.66	29.69	29.70	29.70	29.71	30.71
32712	30.49	30.73	30.79	30.90	31.01	30.58	30.73	30.84	30.94	31.05	32.05
32713	30.16	30.28	30.37	30.69	30.86	30.20	30.29	30.49	30.73	30.87	31.87
32714	29.78	29.84	29.92	30.12	30.69	29.78	29.84	29.93	30.16	30.67	31.67
32715	29.61	29.75	29.82	30.01	30.62	29.60	29.75	29.83	30.03	30.60	31.60
32716	29.59	29.72	29.79	29.96	30.47	29.58	29.72	29.80	29.98	30.48	31.48
32718	29.54	29.67	29.74	29.91	30.42	29.53	29.67	29.75	29.93	30.44	31.44
32719	28.93	28.98	29.03	29.34	29.62	28.93	29.09	29.36	29.49	29.75	30.75

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
32720	28.19	28.59	28.91	29.29	29.56	28.43	29.02	29.32	29.45	29.74	30.74
32721	28.15	28.49	28.79	29.12	29.25	28.36	28.89	29.14	29.21	29.35	30.35
32725	21.05	21.32	21.47	21.98	23.06	21.18	21.94	22.63	23.14	24.06	25.06
32726	23.48	24.00	24.19	24.35	24.58	23.76	24.14	24.28	24.42	24.66	25.66
32728	25.88	26.10	26.51	27.01	27.54	26.03	26.56	26.70	27.27	27.96	28.96
32729	27.54	27.72	27.77	27.81	27.89	27.64	27.75	27.80	27.84	27.94	28.94
32732	20.70	21.20	21.63	22.28	23.28	20.98	22.09	22.78	23.31	24.14	25.14
32734	21.00	21.63	22.05	22.69	23.51	21.34	22.42	22.98	23.45	24.21	25.21
32736	21.14	21.92	22.50	23.04	23.69	21.56	22.72	23.18	23.56	24.26	25.26
32737	21.52	22.06	22.55	23.06	23.70	21.78	22.75	23.19	23.56	24.26	25.26
32738	22.68	22.92	23.07	23.27	23.77	22.81	23.09	23.31	23.61	24.27	25.27
32740	20.92	21.69	22.09	22.46	23.33	21.41	22.26	22.82	23.37	24.16	25.16
32741	21.01	21.77	22.16	22.52	23.35	21.48	22.31	22.85	23.39	24.17	25.17
32742	21.82	22.49	22.84	23.37	24.62	22.19	22.99	23.61	24.52	25.77	26.77
32743	21.18	22.15	22.79	23.29	24.38	21.77	22.93	23.46	24.31	25.46	26.46
32744	25.46	25.64	25.73	25.83	25.98	25.59	25.77	25.87	25.95	26.01	27.01
32745	26.34	26.52	26.62	26.71	26.92	26.47	26.66	26.75	26.88	27.04	28.04
32747	22.96	23.42	23.70	24.00	24.51	23.21	23.72	24.01	24.29	24.83	25.83
32748	21.98	22.60	22.84	23.28	24.25	22.29	22.96	23.53	24.22	25.03	26.03
32749	23.86	24.57	24.79	25.46	26.23	24.36	25.04	25.59	26.08	26.55	27.55
32752	20.41	20.91	21.20	21.91	23.04	20.71	21.93	22.64	23.14	24.10	25.10
32754	25.76	26.28	26.57	26.89	27.47	25.98	26.49	26.78	27.10	27.62	28.62
32756	26.26	26.65	26.90	27.19	27.67	26.38	26.81	27.08	27.37	27.84	28.84
32758	26.64	26.95	27.04	27.13	27.28	26.89	27.08	27.16	27.24	27.35	28.35
32760	19.49	19.94	20.14	20.38	20.93	19.81	20.21	20.43	21.20	22.40	23.40
32761	23.27	23.58	23.73	23.87	24.03	23.49	23.77	23.89	23.97	24.09	25.09
32762	23.31	23.72	23.93	24.15	24.49	23.59	23.98	24.18	24.36	24.68	25.68
32763	23.34	23.80	24.05	24.32	24.80	23.65	24.11	24.36	24.62	25.08	26.08
32764	23.29	23.64	23.83	24.01	24.28	23.54	23.88	24.04	24.19	24.45	25.45
32768	22.46	23.38	23.88	24.39	25.05	22.72	23.60	24.10	24.56	25.11	26.11
32770	22.12	22.65	22.89	23.14	23.55	22.27	22.76	22.99	23.23	23.70	24.70
32772	25.53	25.74	25.86	25.99	26.24	25.57	25.78	25.89	26.01	26.24	27.24
32775	17.90	19.12	19.69	20.24	21.32	18.81	19.94	20.51	21.11	22.03	23.03
32777	19.51	19.90	20.18	20.63	21.35	19.73	20.36	20.80	21.14	22.03	23.03
32778	21.18	21.81	22.09	22.34	22.76	21.46	22.02	22.26	22.50	23.19	24.19
32779	21.49	22.09	22.33	22.57	22.96	21.77	22.27	22.49	22.72	23.30	24.30
32780	21.60	22.21	22.48	22.74	23.18	21.88	22.41	22.65	22.90	23.58	24.58
32781	22.19	22.70	22.91	23.11	23.45	22.42	22.86	23.04	23.23	23.71	24.71
32782	24.54	24.73	24.86	24.93	25.16	24.64	24.89	25.00	25.13	25.32	26.32
32783	24.81	25.17	25.17	25.38	25.55	25.02	25.19	25.37	25.54	26.09	27.09
32784	24.93	25.49	26.15	26.90	28.24	25.21	26.27	27.01	27.68	28.89	29.89
32785	26.90	27.14	27.18	27.84	29.95	27.05	27.24	27.92	29.07	30.77	31.77
32788	26.06	26.65	26.99	27.33	27.70	26.42	26.97	27.27	27.48	27.67	28.67
32789	27.69	28.01	28.18	28.37	28.73	27.88	28.17	28.33	28.51	28.84	29.84
32794	24.50	25.01	25.54	25.78	26.04	24.50	25.55	25.55	25.93	26.51	27.51
32795	24.80	25.48	26.12	26.35	26.59	24.80	26.14	26.14	26.48	27.04	28.04
32796	24.50	25.63	26.29	26.58	26.87	24.82	26.32	26.35	26.74	27.44	28.44
32797	24.40	25.64	26.35	26.69	27.06	24.82	26.38	26.43	26.89	27.82	28.82
32798	24.40	25.65	26.41	26.82	27.27	24.82	26.45	26.52	27.06	27.93	28.93
32801	16.13	17.66	18.11	18.51	19.48	17.20	18.21	18.75	19.29	20.26	21.26
32802	15.71	17.25	17.92	18.51	19.48	16.93	18.21	18.75	19.30	20.26	21.26
32803	16.41	17.37	18.00	18.58	19.53	17.04	18.28	18.81	19.35	20.30	21.30
32804	16.82	17.67	18.30	18.95	20.24	17.31	18.57	19.22	19.99	21.18	22.18
32805	20.21	20.53	20.67	20.78	21.24	20.40	20.67	20.78	21.07	21.72	22.72
32806	20.23	20.56	20.70	20.82	21.29	20.42	20.70	20.82	21.11	21.77	22.77
32807	20.57	21.29	21.63	22.02	22.74	20.99	21.66	22.04	22.52	23.10	24.10
32808	20.61	21.33	21.68	22.07	22.79	21.03	21.71	22.09	22.57	23.14	24.14

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
32809	20.79	21.55	21.91	22.31	23.06	21.26	21.95	22.35	22.85	23.41	24.41
32810	23.04	24.64	25.34	26.26	26.71	24.45	25.60	26.38	26.58	26.90	27.90
32811	25.75	26.78	27.23	27.48	27.74	26.47	27.30	27.52	27.67	27.86	28.86
32812	26.32	27.40	27.92	28.29	28.76	27.10	28.02	28.35	28.62	28.92	29.92
32812A	25.94	26.97	27.45	27.76	28.11	26.68	27.53	27.81	28.01	28.25	29.25
32813	29.24	29.83	30.07	30.43	31.05	29.76	30.30	30.63	30.96	31.43	32.43
32814	29.31	29.92	30.16	30.50	31.08	29.85	30.39	30.69	31.00	31.45	32.45
32815	29.38	30.02	30.29	30.60	31.18	29.98	30.53	30.80	31.11	31.56	32.56
32816	30.08	30.62	30.88	31.12	31.46	30.58	31.03	31.21	31.38	31.82	32.82
32817	33.87	34.08	34.19	34.33	34.64	34.06	34.27	34.41	34.55	34.81	35.81
32818	34.10	34.51	34.75	35.03	35.48	34.52	35.00	35.23	35.44	35.78	36.78
32819	34.08	34.41	34.62	34.85	35.29	34.49	34.94	35.16	35.36	35.68	36.68
32820	34.09	34.43	34.65	34.89	35.34	34.51	34.99	35.21	35.41	35.74	36.74
32821	16.34	17.34	17.96	18.52	19.37	17.02	18.24	18.72	19.20	20.05	21.05
32822	16.26	17.37	17.99	18.58	19.53	17.04	18.27	18.80	19.34	20.29	21.29
32823	19.32	19.36	19.39	19.41	19.53	19.34	19.38	19.41	19.43	20.29	21.29
32824	15.91	16.44	16.65	16.91	17.52	16.30	16.73	17.03	17.41	18.04	19.04
32825	18.91	19.06	19.07	19.09	19.11	18.98	19.06	19.08	19.10	19.13	20.13
32826	18.99	19.05	19.07	19.09	19.13	19.01	19.06	19.08	19.10	19.14	20.14
32828	18.77	19.03	19.04	19.06	19.08	18.82	19.03	19.05	19.07	19.09	20.09
32830	16.48	17.40	18.03	18.63	19.61	17.06	18.31	18.85	19.40	20.43	21.43
32831	16.77	18.33	18.92	19.70	21.35	17.71	18.84	19.78	20.83	21.85	22.85
32832	17.09	19.49	20.43	21.13	21.87	18.54	20.31	21.05	21.55	22.14	23.14
32833	17.30	19.73	20.59	21.28	22.04	19.00	20.48	21.20	21.70	22.33	23.33
32834	17.68	20.77	21.34	21.72	22.21	19.77	21.30	21.66	21.95	22.44	23.44
32835	17.98	21.63	22.45	22.78	23.18	20.41	22.44	22.74	22.97	23.32	24.32
32836	18.18	22.43	23.41	23.67	24.00	21.03	23.42	23.65	23.83	24.12	25.12
32837	18.52	22.90	23.80	24.00	24.24	21.40	23.82	24.00	24.13	24.33	25.33
32838	19.97	23.37	24.15	24.30	24.46	21.76	24.19	24.31	24.40	24.53	25.53
32839	20.26	23.89	24.50	24.68	24.89	22.13	24.57	24.71	24.82	25.01	26.01
32840	20.75	24.84	25.18	25.34	25.57	22.70	25.19	25.32	25.45	25.66	26.66
32842	24.31	24.43	24.59	24.81	25.16	24.42	24.70	24.87	25.01	25.57	26.57
32843	24.32	24.45	24.60	24.83	25.26	24.44	24.71	24.90	25.05	25.71	26.71
32844	24.34	24.49	24.67	24.91	25.48	24.48	24.78	24.98	25.16	25.82	26.82
32845	20.84	20.89	20.91	20.94	21.66	20.84	20.89	20.91	21.07	22.15	23.15
32847	17.24	17.94	18.37	18.96	20.18	17.61	18.60	19.22	19.94	21.05	22.05
32849	19.35	19.91	20.30	20.85	21.95	19.42	20.06	20.54	21.13	22.18	23.18
32850	20.56	21.08	21.26	21.44	21.82	20.84	21.24	21.41	21.64	22.29	23.29
32850A	20.39	20.76	20.90	21.02	21.39	20.59	20.89	21.01	21.24	21.81	22.81
32851	21.66	22.64	23.06	23.52	24.46	22.00	22.97	23.39	23.99	25.50	26.50
32851A	20.99	22.00	22.29	22.63	23.32	21.58	22.23	22.54	22.98	24.10	25.10
32852	22.55	23.16	23.59	24.01	24.81	22.75	23.52	23.91	24.48	25.70	26.70
32852A	22.35	22.85	23.19	23.59	24.52	22.52	23.12	23.48	24.07	25.54	26.54
32853	23.11	23.67	24.12	24.54	25.60	23.40	24.14	24.76	25.48	26.06	27.06
32854	22.95	23.52	23.94	24.39	25.26	23.23	23.96	24.39	25.14	25.61	26.61
32855	22.64	23.24	23.77	24.25	24.98	22.90	23.78	24.24	24.84	25.22	26.22
32856	21.88	23.05	23.62	24.03	24.73	22.34	23.63	24.02	24.55	25.02	26.02
32857	21.32	22.81	23.24	23.64	24.38	22.07	23.26	23.63	24.21	24.67	25.67
32858	21.10	22.44	22.85	23.22	24.02	21.86	22.87	23.24	23.84	24.31	25.31
32859	20.94	21.94	22.31	22.70	23.54	21.57	22.35	22.73	23.35	23.83	24.83
32861	21.43	21.90	22.22	22.47	22.83	21.58	22.08	22.37	22.59	22.90	23.90
32862	21.84	22.58	23.00	23.15	23.28	22.03	22.77	23.08	23.18	23.29	24.29
32863	21.90	22.67	23.07	23.17	23.28	22.08	22.86	23.12	23.19	23.29	24.29
32864	22.74	22.83	23.08	23.53	24.46	22.78	22.98	23.40	23.99	25.50	26.50
32865	23.94	24.35	24.63	24.90	25.39	24.06	24.50	24.77	25.05	25.57	26.57
32866	23.96	24.39	24.67	24.95	25.48	24.08	24.54	24.81	25.10	25.63	26.63
32870	23.79	24.59	25.00	25.61	25.87	24.31	25.33	25.70	25.83	26.18	27.18

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
32871	24.04	25.11	25.75	26.15	26.41	24.77	25.96	26.23	26.39	26.58	27.58
32872	24.05	25.11	25.75	26.15	26.41	24.77	25.96	26.24	26.39	26.58	27.58
32873	24.88	25.24	25.76	26.15	26.49	24.99	25.96	26.24	26.40	26.86	27.86
32874	24.89	25.25	25.76	26.16	26.51	25.00	25.96	26.24	26.40	26.88	27.88
32875	24.40	25.12	25.76	26.15	26.54	24.78	25.96	26.24	26.49	26.73	27.73
32876	24.68	25.29	25.77	26.17	26.82	24.91	25.97	26.26	26.52	27.24	28.24
32877	24.90	25.50	25.98	26.36	26.62	25.33	26.17	26.47	26.61	26.79	27.79
32878	27.56	27.89	28.08	28.30	28.70	27.83	28.21	28.43	28.66	29.08	30.08
32879	33.15	34.18	34.43	34.63	34.91	34.03	34.53	34.69	34.82	35.03	36.03
32880	33.25	34.47	34.83	35.13	35.58	34.27	34.98	35.24	35.48	35.90	36.90
32881	35.25	35.54	35.75	36.03	36.65	35.48	35.89	36.19	36.54	37.16	38.16
32882	35.28	35.61	35.85	36.16	36.86	35.55	36.02	36.36	36.74	37.44	38.44
32883	35.29	35.63	35.83	36.14	36.87	35.53	36.05	36.37	36.74	37.44	38.44
32884	35.27	35.60	35.87	36.18	36.88	35.56	36.04	36.40	36.76	37.45	38.45
32885	35.28	35.61	35.85	36.17	36.94	35.55	36.07	36.44	36.82	37.53	38.53
32886	35.28	35.61	35.85	36.41	37.82	35.55	36.40	37.11	37.93	38.44	39.44
32887	37.99	38.24	38.26	38.27	38.29	38.24	38.27	38.28	38.29	38.41	39.41
32890	28.49	28.68	28.76	28.85	28.98	28.62	28.78	28.85	28.92	29.03	30.03
32891	29.11	29.42	29.55	29.69	29.90	29.32	29.58	29.69	29.79	30.09	31.09
32892	28.86	29.10	29.23	29.38	29.65	29.08	29.40	29.58	29.77	30.10	31.10
32893	30.62	30.70	30.74	30.78	30.85	30.67	30.75	30.78	30.81	30.86	31.86
32894	31.59	31.68	31.73	31.77	31.83	31.65	31.73	31.77	31.80	31.85	32.85
32900	22.72	23.60	24.12	24.56	25.07	23.05	24.02	24.44	24.92	25.71	26.71
32901	24.45	24.70	24.82	24.95	25.05	24.70	24.97	25.03	25.05	25.70	26.70
32902	22.98	23.69	24.16	24.59	25.08	23.23	24.06	24.47	24.93	25.71	26.71
32903	23.57	24.15	24.75	25.20	25.64	23.73	24.56	25.05	25.46	25.85	26.85
32904	25.47	25.86	26.08	26.27	26.48	25.59	25.97	26.17	26.34	26.50	27.50
32905	29.16	29.52	29.55	29.57	29.60	29.36	29.55	29.57	29.58	29.61	30.61
32910	20.74	21.46	21.90	22.31	23.04	21.13	21.91	22.31	22.75	23.57	24.57
32911	21.06	21.63	22.05	22.51	23.35	21.32	22.04	22.47	22.95	23.93	24.93
32912	20.70	21.33	21.68	22.07	22.79	21.03	21.71	22.09	22.57	23.14	24.14
32913	22.75	23.04	23.24	23.46	24.14	22.78	23.06	23.26	23.64	24.24	25.24
32914	24.07	24.73	25.12	25.57	26.43	24.12	24.76	25.17	25.63	26.48	27.48
32915	21.09	21.27	21.32	21.36	21.44	21.20	21.30	21.34	21.38	21.74	22.74
32916	28.51	28.90	29.04	29.15	29.31	28.73	29.02	29.13	29.23	29.37	30.37
32920	26.81	27.46	27.95	28.32	28.78	27.17	28.04	28.37	28.65	28.94	29.94
32921	27.62	27.81	28.19	28.65	29.31	27.66	28.22	28.66	29.10	29.47	30.47
32922	27.77	27.92	28.23	28.65	29.31	27.80	28.25	28.66	29.10	29.48	30.48
32924	30.14	30.57	30.81	31.05	31.28	30.43	30.84	31.07	31.20	31.43	32.43
32925	30.56	31.07	31.21	31.33	31.47	30.87	31.21	31.32	31.40	31.53	32.53
32930	27.55	28.24	28.57	28.92	29.37	28.09	28.66	28.98	29.24	29.52	30.52
32931	27.76	28.61	29.07	29.67	30.50	28.40	29.23	29.75	30.24	30.78	31.78
32932	27.86	28.76	29.31	30.06	31.09	28.53	29.50	30.16	30.76	31.44	32.44
32933	27.89	28.80	29.38	30.18	31.27	28.57	29.59	30.29	30.92	31.65	32.65
32934	30.96	31.71	31.90	32.09	32.31	31.61	31.95	32.13	32.24	32.46	33.46
32935	31.43	32.02	32.25	32.46	32.76	31.90	32.31	32.50	32.66	32.92	33.92
32936	31.43	32.04	32.27	32.49	32.83	31.91	32.34	32.54	32.72	33.01	34.01
32937	31.83	32.11	32.33	32.64	33.15	32.02	32.42	32.71	32.98	33.51	34.51
32938	31.85	32.16	32.41	32.74	33.30	32.06	32.51	32.82	33.12	33.69	34.69
32939	31.96	32.44	32.94	33.49	34.48	32.28	33.10	33.61	34.13	35.19	36.19
32940	32.48	33.05	34.16	35.27	36.22	32.80	34.47	35.45	36.15	36.30	37.30
32941	35.46	35.64	35.75	35.84	36.25	35.59	35.78	35.85	36.19	36.33	37.33
32942	37.96	38.40	38.60	38.68	38.77	38.26	38.62	38.69	38.74	38.81	39.81
32943	37.99	38.47	38.68	38.77	38.88	38.32	38.70	38.78	38.84	38.94	39.94
32944	38.04	38.47	38.68	38.77	38.88	38.32	38.70	38.78	38.84	38.94	39.94
32945	38.05	38.51	38.71	38.80	38.92	38.35	38.74	38.81	38.88	38.98	39.98
32950	27.88	28.83	29.40	30.19	31.29	28.59	29.60	30.30	30.94	31.67	32.67

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
32951	27.90	28.87	29.48	30.31	31.49	28.62	29.68	30.42	31.09	31.94	32.94
32952	29.14	29.40	29.64	30.42	31.76	29.27	29.76	30.54	31.29	32.45	33.45
32953	29.82	30.14	30.33	30.61	32.08	29.98	30.31	30.71	31.45	33.01	34.01
32954	33.57	33.91	33.97	34.11	34.50	33.73	33.95	34.07	34.21	34.81	35.81
32955	33.67	34.06	34.21	34.48	35.17	33.84	34.16	34.39	34.65	35.31	36.31
32956	33.78	34.19	34.42	34.83	35.35	33.96	34.35	34.70	35.08	35.41	36.41
32957	33.73	34.14	34.36	34.70	35.23	33.91	34.30	34.58	34.91	35.36	36.36
32959	30.63	30.79	30.87	30.95	32.08	30.70	30.84	30.92	31.45	33.01	34.01
33001	16.66	18.31	18.93	19.50	20.28	18.03	19.24	19.75	20.15	21.08	22.08
33002	17.00	18.66	19.23	19.81	20.62	18.33	19.58	20.09	20.46	21.35	22.35
33003	17.55	19.23	19.74	20.33	21.16	18.82	20.13	20.63	21.01	21.84	22.84
33006	18.06	19.75	20.21	20.81	21.63	19.27	20.62	21.11	21.49	22.29	23.29
33007	18.62	20.27	20.70	21.28	22.09	19.74	21.10	21.58	21.94	22.72	23.72
33008	19.02	20.70	21.10	21.68	22.49	20.13	21.51	21.98	22.33	23.11	24.11
33009	19.24	20.95	21.35	21.92	22.74	20.35	21.75	22.23	22.58	23.36	24.36
33010	19.36	21.06	21.46	22.04	22.87	20.46	21.87	22.35	22.71	23.48	24.48
33011	19.64	21.07	21.88	22.06	23.19	20.88	22.02	22.36	23.02	23.92	24.92
33012	19.78	21.23	22.01	22.22	23.33	21.01	22.18	22.52	23.17	24.06	25.06
33013	19.96	21.39	22.15	22.39	23.47	21.16	22.34	22.68	23.30	24.18	25.18
33014	20.39	21.79	22.50	22.79	23.81	21.52	22.74	23.08	23.63	24.46	25.46
33015	20.71	22.09	22.77	23.09	24.09	21.80	23.04	23.39	23.89	24.69	25.69
33016	21.08	22.42	23.06	23.42	24.38	22.11	23.37	23.72	24.18	24.94	25.94
33017	21.59	22.82	23.42	23.78	24.64	22.53	23.69	24.06	24.54	25.19	26.19
33018	21.97	23.06	23.62	24.00	24.83	22.84	23.89	24.29	24.74	25.32	26.32
33019	22.26	23.27	23.78	24.20	24.97	23.08	24.08	24.48	24.89	25.49	26.49
33020	22.45	23.45	23.95	24.23	25.00	23.12	24.12	24.51	24.91	25.52	26.52
33023	22.72	23.69	24.13	24.47	25.18	23.40	24.38	24.74	25.10	25.77	26.77
33024	22.98	23.92	24.33	24.72	25.36	23.70	24.65	24.99	25.29	26.03	27.03
33025	23.06	24.00	24.43	24.81	25.43	23.79	24.74	25.08	25.36	26.12	27.12
33026	23.19	24.13	24.63	25.02	25.60	23.97	24.96	25.29	25.54	26.35	27.35
33027	23.44	24.40	24.94	25.34	25.90	24.26	25.30	25.62	25.85	26.57	27.57
33028	23.50	24.45	25.01	25.39	25.93	24.31	25.36	25.67	25.87	26.58	27.58
33029	23.67	24.57	25.10	25.47	26.01	24.41	25.43	25.73	25.95	26.61	27.61
33030	24.04	24.82	25.29	25.62	26.16	24.63	25.58	25.87	26.10	26.68	27.68
33031	24.38	25.12	25.55	25.83	26.38	24.89	25.78	26.06	26.32	26.79	27.79
33033	24.69	25.46	25.92	26.26	27.22	25.18	26.13	26.64	27.14	27.51	28.51
33035	24.39	25.13	25.56	25.86	26.53	24.90	25.80	26.09	26.40	27.25	28.25
33040	19.54	20.16	20.48	20.87	21.66	20.04	20.67	21.17	21.51	22.31	23.31
33041	21.82	22.06	22.19	22.32	22.58	21.88	22.10	22.23	22.36	22.67	23.67
33042	20.11	20.40	20.65	21.01	21.72	20.40	20.89	21.26	21.62	22.38	23.38
33043	20.32	20.51	20.71	21.04	21.73	20.52	20.93	21.28	21.64	22.39	23.39
33044	20.63	21.07	21.33	21.62	22.15	21.08	21.55	21.80	22.08	22.66	23.66
33046	18.06	19.75	20.21	20.81	21.64	19.27	20.62	21.12	21.49	22.30	23.30
33047	18.07	19.76	20.22	20.82	21.66	19.28	20.64	21.14	21.52	22.37	23.37
33048	18.46	19.76	20.22	20.82	21.66	19.29	20.64	21.14	21.52	22.37	23.37
33049	22.75	23.05	23.17	23.29	23.46	23.04	23.30	23.42	23.51	23.67	24.67
33049A	18.47	19.81	20.42	20.88	21.71	19.35	20.78	21.20	21.58	22.41	23.41
33050	20.97	21.10	21.14	21.29	22.09	21.09	21.14	21.59	21.94	22.72	23.72
33051	21.31	21.80	22.11	22.45	23.10	21.77	22.38	22.74	23.11	23.51	24.51
33052	21.31	21.81	22.11	22.46	23.11	21.77	22.39	22.75	23.12	23.61	24.61
33055	19.18	20.89	21.33	21.87	22.69	20.46	21.69	22.17	22.56	23.35	24.35
33056	20.74	21.41	21.86	22.36	23.26	21.24	22.16	22.65	23.17	24.10	25.10
33057	20.76	21.44	21.89	22.39	23.29	21.29	22.19	22.67	23.20	24.15	25.15
33060	19.27	20.99	21.39	21.94	22.75	20.38	21.77	22.24	22.60	23.37	24.37
33061	21.44	22.56	22.71	23.50	24.37	22.22	22.99	23.71	24.24	24.62	25.62
33064	21.82	22.77	23.05	23.60	24.42	22.46	23.11	23.79	24.30	24.68	25.68
33065	22.33	23.00	23.35	23.71	24.48	22.75	23.35	23.87	24.36	24.74	25.74

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
33066	22.54	23.16	23.51	23.81	24.52	22.94	23.53	23.93	24.40	24.80	25.80
33067	23.54	23.70	23.76	23.93	24.53	23.67	23.79	23.93	24.41	24.81	25.81
33068	28.32	28.67	28.81	28.94	29.15	28.60	28.83	28.95	29.06	29.26	30.26
33069	29.42	29.66	29.78	29.99	30.47	29.63	29.92	30.11	30.39	30.75	31.75
33070	30.49	31.17	31.57	31.97	32.66	31.01	31.72	32.08	32.44	33.09	34.09
33071	23.16	23.55	23.80	24.11	24.58	23.40	23.87	24.32	24.57	24.62	25.62
33072	23.76	24.26	24.50	24.75	25.42	24.11	24.55	24.80	25.26	25.56	26.56
33073	18.73	19.84	21.13	21.96	23.20	19.59	21.74	22.34	23.02	24.01	25.01
33074	18.76	20.02	21.25	22.11	23.24	19.73	21.85	22.47	23.15	24.03	25.03
33075	23.81	24.30	24.79	25.19	25.55	24.09	24.87	25.18	25.46	25.63	26.63
33076	20.74	22.28	23.03	23.56	24.13	21.85	23.40	23.60	23.94	24.75	25.75
33077	20.90	22.55	22.85	23.14	24.12	22.16	23.08	23.42	23.92	24.73	25.73
33078	24.04	24.97	25.18	25.28	25.41	24.31	25.22	25.30	25.41	25.56	26.56
33079	26.58	26.73	27.14	27.19	27.24	26.65	27.15	27.19	27.22	27.27	28.27
33082	19.96	21.40	22.16	22.40	23.48	21.16	22.35	22.69	23.31	24.23	25.23
33083	22.02	22.25	22.44	22.74	23.74	22.17	22.64	22.90	23.62	24.79	25.79
33084	23.30	23.36	23.39	23.43	23.82	23.34	23.40	23.43	23.72	24.83	25.83
33085	25.48	25.82	25.95	26.09	26.33	25.75	26.02	26.16	26.30	26.57	27.57
33086	25.78	25.83	25.94	26.04	26.22	25.81	25.99	26.09	26.19	26.48	27.48
33087	22.70	22.91	23.03	23.15	24.21	22.80	23.07	23.34	24.10	25.42	26.42
33088	20.39	21.79	22.50	22.79	23.82	21.52	22.74	23.08	23.63	24.49	25.49
33090	21.14	22.49	23.22	23.70	24.54	22.23	23.71	23.97	24.49	25.28	26.28
33091	22.38	22.90	23.47	23.95	24.59	22.30	23.79	24.04	24.65	25.43	26.43
33092	23.28	23.68	23.90	24.28	24.66	22.58	23.92	24.14	24.85	25.57	26.57
33093	24.70	25.01	25.19	25.37	24.91	23.84	24.38	24.51	25.63	26.03	27.03
33094	27.46	27.84	28.05	28.26	27.37	26.79	27.19	27.27	28.51	28.75	29.75
33095	27.69	28.14	28.39	28.65	29.08	27.25	28.27	28.60	28.95	29.39	30.39
33096	29.42	29.50	29.73	30.01	30.49	29.85	30.13	30.25	30.37	30.78	31.78
33097	30.96	32.08	32.12	32.16	32.23	32.07	32.14	32.17	32.21	32.27	33.27
33098	31.82	32.15	32.23	32.32	32.48	32.13	32.27	32.35	32.44	32.62	33.62
33099	31.86	32.28	32.41	32.57	32.91	32.23	32.48	32.64	32.82	33.06	34.06
33101	19.82	21.29	22.08	22.31	23.41	21.06	22.26	22.60	23.25	24.14	25.14
33102	20.34	22.54	23.64	24.56	25.53	22.13	24.26	25.01	25.51	25.99	26.99
33103	20.61	22.73	23.79	24.70	25.68	22.33	24.40	25.14	25.65	26.18	27.18
33105	21.53	23.26	24.19	25.04	26.00	22.93	24.77	25.45	25.97	26.56	27.56
33106	21.62	23.37	24.32	25.41	26.59	23.04	25.09	25.89	26.55	27.30	28.30
33107	22.29	23.74	24.61	25.61	26.75	23.48	25.32	26.06	26.71	27.47	28.47
33108	23.13	24.35	25.11	25.97	27.03	24.16	25.72	26.39	27.00	27.75	28.75
33109	23.52	24.71	25.44	26.26	27.26	24.54	26.02	26.65	27.22	27.97	28.97
33110	23.97	25.15	25.86	26.62	27.58	24.99	26.40	27.01	27.54	28.27	29.27
33111	24.01	25.23	25.97	26.98	28.04	25.06	26.68	27.44	28.01	28.67	29.67
33112	24.34	25.52	26.22	27.16	28.20	25.37	26.89	27.61	28.17	28.83	29.83
33113	24.49	25.66	26.35	27.26	28.28	25.51	26.99	27.70	28.25	28.92	29.92
33114	24.50	25.68	26.37	27.28	28.31	25.52	27.01	27.73	28.28	29.00	30.00
33116	26.34	26.69	27.07	27.69	28.55	26.64	27.48	28.09	28.53	29.18	30.18
33118	27.12	27.13	27.51	28.06	28.82	27.13	27.88	28.39	28.79	29.41	30.41
33120	28.22	28.98	29.30	29.60	30.08	28.88	29.48	29.78	30.05	30.48	31.48
33121	28.60	29.29	29.62	29.93	30.41	29.19	29.81	30.11	30.38	30.82	31.82
33122	28.70	29.41	29.75	30.05	30.53	29.31	29.94	30.23	30.50	30.92	31.92
33123	28.88	29.61	29.95	30.26	30.73	29.51	30.14	30.43	30.70	31.12	32.12
33124	28.89	29.62	29.98	30.29	30.78	29.53	30.17	30.47	30.75	31.18	32.18
33125	28.93	29.69	30.05	30.38	30.99	29.59	30.25	30.57	30.93	31.59	32.59
33128	28.99	29.75	30.13	30.46	31.08	29.65	30.33	30.66	31.02	31.69	32.69
33129	31.96	32.89	33.30	33.60	34.03	32.67	33.46	33.70	33.93	34.60	35.60
33130	34.20	34.70	35.01	35.37	36.05	34.49	35.08	35.45	35.85	36.25	37.25
33131	34.20	34.71	35.01	35.38	36.05	34.49	35.08	35.45	35.86	36.25	37.25
33132	34.21	34.72	35.03	35.39	36.07	34.50	35.10	35.46	35.87	36.30	37.30

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
33135	22.43	22.53	23.14	23.92	24.59	22.49	23.57	24.13	24.57	24.79	25.79
33136	21.02	22.74	23.79	24.70	25.68	22.33	24.41	25.14	25.65	26.18	27.18
33137	24.15	24.21	24.33	25.41	26.60	24.19	25.09	25.89	26.56	27.30	28.30
33138	27.40	27.62	27.74	27.91	28.36	27.52	27.72	27.86	28.11	28.68	29.68
33139	27.42	27.69	27.85	28.04	28.43	27.57	27.83	27.99	28.19	28.71	29.71
33140	22.38	23.38	24.33	25.42	26.59	23.05	25.09	25.89	26.55	27.30	28.30
33141	22.90	23.41	24.34	25.44	26.62	23.11	25.10	25.91	26.58	27.35	28.35
33142	25.60	25.70	25.64	25.74	26.66	25.73	25.72	25.96	26.62	27.38	28.38
33143	27.61	27.95	28.14	28.33	28.64	27.94	28.32	28.48	28.64	28.91	29.91
33146	23.26	24.39	25.19	26.02	27.10	24.20	25.77	26.43	27.06	27.88	28.88
33147	23.37	24.55	25.42	26.09	27.22	24.33	25.86	26.52	27.15	28.07	29.07
33148	25.62	25.85	26.01	26.47	27.40	25.73	26.18	26.66	27.26	28.27	29.27
33150	24.38	25.56	26.25	27.17	28.21	25.42	26.91	27.63	28.18	28.85	29.85
33151	26.27	26.49	26.62	27.19	28.22	26.44	26.95	27.64	28.20	28.87	29.87
33152	26.64	26.91	27.05	27.27	28.28	26.86	27.16	27.71	28.25	28.94	29.94
33153	29.67	29.69	29.70	29.77	29.95	29.67	29.73	29.84	29.93	30.07	31.07
33154	30.43	30.56	30.59	30.62	30.67	30.55	30.62	30.65	30.67	30.70	31.70
33155	31.75	32.03	32.19	32.36	32.71	31.99	32.26	32.41	32.58	32.95	33.95
33156	28.55	28.84	29.00	29.17	29.49	28.68	28.96	29.12	29.30	29.70	30.70
33157	32.90	33.10	33.20	33.32	33.53	33.06	33.28	33.41	33.54	33.82	34.82
33158	32.94	33.18	33.32	33.48	33.78	33.13	33.43	33.60	33.79	34.16	35.16
33159	32.91	33.10	33.21	33.32	33.54	33.06	33.29	33.41	33.55	33.82	34.82
33160	32.37	32.67	32.87	33.08	33.38	32.70	33.10	33.28	33.41	33.58	34.58
33161	32.60	32.90	33.06	33.21	33.46	32.90	33.21	33.36	33.48	33.65	34.65
33163	28.63	28.87	29.00	29.12	29.35	28.87	29.15	29.29	29.44	29.69	30.69
33164	27.85	28.22	28.42	28.65	29.19	28.22	28.64	28.89	29.18	29.73	30.73
33165	28.69	29.11	29.36	29.65	30.25	29.03	29.50	29.78	30.12	30.90	31.90
33167	32.44	32.71	32.87	33.09	33.60	32.71	33.12	33.40	33.70	34.24	35.24
33168	34.68	35.39	35.79	36.21	36.92	35.09	35.82	36.22	36.63	37.32	38.32
33169	28.73	29.47	29.85	30.22	30.90	29.36	30.09	30.49	30.91	31.68	32.68
33170	30.99	31.84	32.09	32.42	33.02	31.73	32.32	32.61	33.04	33.86	34.86
33171	31.49	31.96	32.26	32.63	33.44	31.84	32.52	32.98	33.44	34.30	35.30
33172	31.59	32.31	32.67	33.05	33.79	32.16	32.90	33.31	33.76	34.62	35.62
33173	31.72	32.36	32.71	33.09	33.82	32.22	32.93	33.33	33.78	34.64	35.64
33174	32.58	32.81	32.94	33.17	33.87	32.70	33.01	33.39	33.83	34.68	35.68
33175	32.83	33.06	33.17	33.32	33.72	33.00	33.30	33.53	33.80	34.33	35.33
33176	30.99	31.84	32.09	32.42	33.02	31.73	32.32	32.61	33.04	33.86	34.86
33177	30.99	31.84	32.09	32.42	33.02	31.73	32.32	32.61	33.04	33.87	34.87
33178	33.49	33.96	34.22	34.53	35.00	33.90	34.41	34.69	34.95	35.42	36.42
33180	20.72	22.10	22.79	23.12	24.10	21.81	23.06	23.41	23.91	24.70	25.70
33181	21.35	23.62	23.93	24.10	24.84	22.76	24.07	24.14	24.79	25.57	26.57
33182	24.02	24.40	24.80	25.16	25.76	24.22	24.92	25.23	25.59	26.19	27.19
33183	25.96	26.28	26.42	26.54	26.74	26.20	26.46	26.57	26.68	26.82	27.82
33184	27.04	27.54	27.83	28.04	28.28	27.33	27.89	28.06	28.17	28.47	29.47
33185	27.99	28.39	28.66	28.97	29.70	28.25	28.72	29.03	29.44	30.11	31.11
33186	29.53	29.73	29.84	29.97	30.21	29.73	29.99	30.15	30.31	30.64	31.64
33188	23.72	23.76	23.79	23.82	24.12	23.76	23.81	23.84	23.98	24.69	25.69
33189	23.78	23.85	23.90	23.94	24.18	23.85	23.93	23.98	24.07	24.73	25.73
33190	28.18	28.39	28.53	28.63	28.86	28.40	28.60	28.70	28.84	29.31	30.31
33191	29.85	30.10	30.25	30.34	30.52	30.10	30.29	30.38	30.50	30.75	31.75
33192	31.90	32.04	32.12	32.24	32.54	32.05	32.26	32.41	32.58	32.88	33.88
33193	32.96	33.34	33.37	33.55	33.94	33.06	33.37	33.55	33.75	34.14	35.14
33194	33.01	33.34	33.48	33.69	34.11	33.14	33.49	33.69	33.91	34.40	35.40
33197	21.14	22.62	23.38	23.92	24.84	22.21	23.80	24.14	24.79	25.57	26.57
33198	21.14	22.63	23.39	23.93	24.85	22.22	23.81	24.15	24.79	25.58	26.58
33199	21.41	22.71	23.53	24.39	25.24	22.27	24.20	24.72	25.28	25.76	26.76
33200	22.11	23.00	23.68	24.49	25.29	22.77	24.30	24.80	25.33	25.79	26.79

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
33201	23.38	24.19	24.61	25.06	25.70	24.16	24.97	25.26	25.73	26.49	27.49
33202	24.26	24.76	25.09	25.47	26.04	24.73	25.39	25.63	26.04	26.61	27.61
33203	24.34	24.94	25.31	25.74	26.43	24.91	25.66	25.96	26.41	27.28	28.28
33204	24.73	25.33	25.70	26.14	26.87	25.29	26.02	26.33	26.82	27.91	28.91
33205	25.88	26.29	26.55	26.85	27.33	26.24	26.75	27.00	27.28	28.03	29.03
33206	26.09	26.65	26.98	27.32	27.88	26.60	27.20	27.49	27.80	28.45	29.45
33207	26.90	27.24	27.36	27.58	28.02	27.16	27.47	27.69	27.93	28.49	29.49
33208	27.31	27.62	27.87	28.13	28.61	27.50	27.95	28.20	28.47	29.27	30.27
33209	27.95	28.31	28.45	28.62	28.94	28.24	28.49	28.65	28.83	29.36	30.36
33210	28.22	28.56	28.74	28.92	29.22	28.45	28.77	28.93	29.10	29.50	30.50
33211	28.25	28.60	28.78	28.95	29.25	28.48	28.80	28.96	29.13	29.50	30.50
33212	29.86	29.96	30.02	30.07	30.16	29.92	30.02	30.07	30.12	30.19	31.19
33213	31.10	31.25	31.33	31.46	31.79	31.17	31.32	31.43	31.57	31.94	32.94
33215	23.88	23.95	23.98	24.54	25.35	23.93	24.33	24.82	25.39	25.88	26.88
33216	23.47	23.72	23.87	24.02	24.99	23.72	24.05	24.28	24.96	25.69	26.69
33217	24.59	24.67	24.75	25.24	25.96	24.64	25.14	25.49	25.97	26.71	27.71
33218	28.57	28.83	28.97	29.12	29.38	28.84	29.11	29.23	29.36	29.75	30.75
33219	29.98	30.12	30.20	30.27	30.43	30.09	30.21	30.27	30.34	30.51	31.51
33221	28.87	29.03	29.14	29.33	29.96	28.95	29.16	29.33	29.63	30.35	31.35
33223	22.68	24.24	25.08	25.80	25.06	22.77	24.34	24.74	26.55	27.19	28.19
33224	23.57	24.30	25.13	25.85	25.12	22.79	24.37	24.77	26.60	27.24	28.24
33225	23.64	24.34	25.14	25.86	25.14	22.80	24.37	24.77	26.60	27.25	28.25
33226	24.91	25.31	25.49	25.93	25.22	23.22	24.40	24.82	26.67	27.32	28.32
33227	24.99	25.42	25.61	25.97	25.53	24.46	24.96	25.21	26.69	27.33	28.33
33228	27.69	28.13	28.36	28.59	29.04	27.67	28.27	28.59	28.88	29.27	30.27
33229	29.24	29.39	29.51	29.68	30.03	29.44	29.65	29.73	29.89	30.31	31.31
33230	29.30	29.54	29.72	29.96	30.47	29.55	29.86	30.04	30.28	30.95	31.95
33231	32.85	33.04	33.13	33.23	33.38	33.00	33.17	33.26	33.33	33.49	34.49
33232	34.23	34.88	34.98	35.07	35.19	34.81	35.04	35.11	35.18	35.30	36.30
33235	21.65	23.08	23.80	24.39	25.10	22.63	24.28	24.69	25.12	25.58	26.58
33236	23.74	24.50	24.89	25.19	26.21	24.50	25.19	25.52	26.30	27.04	28.04
33237	28.19	28.46	28.58	28.71	28.94	28.47	28.73	28.85	28.96	29.17	30.17
33238	28.58	28.89	29.11	29.37	29.89	28.90	29.35	29.59	29.85	30.40	31.40
33239	28.58	28.90	29.13	29.41	29.97	28.92	29.39	29.65	29.93	30.51	31.51
33240	25.41	25.60	25.75	26.00	26.74	25.55	25.89	26.17	26.78	27.79	28.79
33241	28.59	28.92	29.16	29.44	30.02	28.94	29.43	29.69	29.98	30.55	31.55
33242	21.98	23.09	23.65	24.04	24.86	22.84	23.97	24.32	24.78	25.60	26.60
33243	27.53	27.90	28.11	28.86	29.48	27.90	28.88	29.19	29.42	29.79	30.79
33244	29.73	29.86	29.93	30.01	30.31	29.89	30.02	30.12	30.28	30.63	31.63
33245	29.73	29.87	29.95	30.03	30.34	29.89	30.04	30.15	30.30	30.67	31.67
33246	28.52	28.73	28.85	28.99	29.24	28.73	29.01	29.18	29.36	29.71	30.71
33247	25.90	26.06	26.14	26.22	26.35	26.05	26.17	26.24	26.30	26.67	27.67
33248	29.75	29.83	29.86	29.90	29.98	29.81	29.88	29.91	29.95	30.11	31.11
33250	22.99	23.92	24.33	24.72	25.36	23.70	24.64	24.99	25.29	26.03	27.03
33251	23.03	23.93	24.33	24.71	25.33	23.71	24.63	24.97	25.28	25.99	26.99
33252	23.12	23.95	24.33	24.71	25.33	23.72	24.62	24.96	25.27	25.99	26.99
33253	23.22	23.97	24.33	24.70	25.31	23.74	24.60	24.94	25.26	25.96	26.96
33254	23.23	23.97	24.33	24.70	25.31	23.75	24.60	24.94	25.26	25.96	26.96
33257	26.05	26.38	26.55	26.72	27.04	26.35	26.67	26.84	27.02	27.18	28.18
33258	29.14	29.27	29.36	29.47	29.64	29.25	29.44	29.53	29.63	29.73	30.73
33259	31.19	31.34	31.42	31.50	31.63	31.32	31.48	31.55	31.63	31.74	32.74
33260	23.22	23.95	24.29	24.63	25.25	23.74	24.55	24.86	25.16	25.93	26.93
33262	23.20	23.95	24.27	24.62	25.25	23.73	24.54	24.86	25.16	25.93	26.93
33265	22.60	23.32	24.16	24.57	25.25	23.24	24.48	24.82	25.16	25.94	26.94
33266	22.60	23.32	24.12	24.57	25.25	23.24	24.48	24.82	25.16	25.93	26.93
33267	22.60	23.32	24.12	24.57	25.25	23.24	24.48	24.82	25.16	25.93	26.93
33268	22.60	23.32	24.12	24.61	25.25	23.24	24.53	24.85	25.16	25.93	26.93

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
33269	23.25	23.92	24.17	24.57	25.25	23.75	24.48	24.82	25.16	25.94	26.94
33270	23.77	23.99	24.27	24.62	25.25	23.84	24.54	24.85	25.16	25.93	26.93
33272	26.96	27.41	27.69	27.93	28.31	27.25	27.80	28.02	28.22	28.54	29.54
33273	30.65	30.90	31.04	31.19	31.45	30.85	31.13	31.28	31.43	31.45	32.45
33275	23.25	24.12	24.51	24.86	25.45	23.92	24.79	25.11	25.39	26.14	27.14
33276	23.68	25.00	25.26	25.46	25.87	24.67	25.40	25.61	25.81	26.64	27.64
33277	24.18	25.26	25.44	25.58	25.93	24.98	25.52	25.70	25.87	26.68	27.68
33278	24.67	25.51	25.70	25.87	26.31	25.29	25.79	25.99	26.22	26.73	27.73
33279	25.57	25.75	25.90	25.98	26.35	25.70	25.96	26.03	26.26	26.73	27.73
33280	25.68	25.90	26.03	26.16	26.45	25.86	26.11	26.21	26.38	26.74	27.74
33283	25.71	25.98	26.13	26.30	26.61	25.98	26.33	26.53	26.75	27.15	28.15
33284	22.16	22.61	23.46	24.61	25.92	22.50	24.13	25.17	25.76	26.68	27.68
33285	23.98	24.99	25.27	25.45	25.93	24.68	25.39	25.56	25.76	26.68	27.68
33287	23.02	23.94	24.63	25.02	25.71	23.98	24.96	25.30	25.54	26.36	27.36
33301	23.50	24.45	25.03	25.41	25.93	24.32	25.39	25.68	25.87	26.57	27.57
33302	23.52	24.45	25.05	25.45	25.87	24.32	25.49	25.69	25.78	26.38	27.38
33303	23.53	24.45	25.06	25.46	25.87	24.33	25.51	25.70	25.78	26.37	27.37
33304	23.55	24.45	25.07	25.47	25.92	24.33	25.53	25.73	25.80	26.37	27.37
33305	23.62	24.50	25.05	25.47	26.00	24.39	25.53	25.77	25.81	26.39	27.39
33307	23.63	24.50	25.04	25.46	26.01	24.39	25.53	25.78	25.81	26.39	27.39
33308	23.64	24.51	25.05	25.47	26.02	24.40	25.53	25.78	25.82	26.40	27.40
33309	26.92	27.41	27.70	27.98	28.39	27.24	27.83	28.07	28.29	28.64	29.64
33312	26.95	27.43	27.71	27.98	28.40	27.26	27.84	28.08	28.29	28.65	29.65
33313	26.98	27.45	27.75	28.00	28.40	27.29	27.86	28.09	28.30	28.65	29.65
33314	23.55	24.21	24.47	24.72	25.77	24.10	24.65	25.09	25.59	26.36	27.36
33317	26.00	26.00	26.09	26.28	26.61	26.00	26.31	26.52	26.73	27.00	28.00
33318	23.98	24.98	25.00	25.02	25.63	24.80	25.02	25.20	25.48	26.02	27.02
33319	23.97	24.97	24.99	25.08	25.73	24.79	25.12	25.30	25.58	26.09	27.09
33320	28.36	28.51	28.61	28.71	28.91	28.51	28.73	28.86	29.00	29.27	30.27
33323	24.76	25.55	26.01	26.33	27.28	25.26	26.20	26.70	27.20	27.56	28.56
33325	24.82	25.63	26.09	26.39	27.32	25.32	26.26	26.74	27.24	27.60	28.60
33326	25.09	26.01	26.09	26.83	27.49	25.91	26.47	27.00	27.27	27.96	28.96
33328	26.66	27.12	27.33	27.61	28.05	26.91	27.39	27.69	27.91	28.39	29.39
33330	26.66	27.12	27.34	27.61	28.06	26.92	27.40	27.69	27.92	28.40	29.40
33331	26.76	27.19	27.42	27.69	28.13	27.02	27.49	27.77	28.00	28.49	29.49
33332	27.32	27.63	27.81	27.99	28.35	27.46	27.81	28.00	28.21	28.64	29.64
33334	27.33	27.65	27.84	28.05	28.50	27.48	27.84	28.07	28.33	28.84	29.84
33335	27.35	27.69	27.89	28.11	28.55	27.52	27.90	28.12	28.40	28.90	29.90
33338	26.08	26.51	26.70	26.89	27.22	26.50	26.92	27.14	27.36	27.85	28.85
33339	26.46	26.96	27.21	27.47	27.92	26.95	27.51	27.81	28.11	28.34	29.34
33340	29.23	29.28	29.31	29.33	29.39	29.28	29.34	29.37	29.40	29.45	30.45
33341	26.48	26.65	26.74	26.89	27.22	26.66	26.92	27.14	27.36	27.85	28.85
33344	25.22	25.89	26.06	26.23	26.73	25.73	26.15	26.36	26.63	27.09	28.09
33345	25.99	26.44	26.58	26.75	27.28	26.36	26.68	26.89	27.17	27.64	28.64
33346	28.32	29.11	29.38	29.95	30.39	29.07	29.68	30.19	30.33	30.52	31.52
33347	28.33	29.13	29.39	29.96	30.40	29.08	29.69	30.19	30.34	30.54	31.54
33348	28.56	29.28	29.52	30.07	30.57	29.24	29.82	30.32	30.50	30.75	31.75
33349	31.95	32.49	32.92	33.14	33.27	32.21	32.93	33.09	33.22	33.41	34.41
33351	32.00	32.54	32.96	33.19	33.36	32.29	32.99	33.16	33.30	33.53	34.53
33352	32.15	32.67	33.04	33.28	33.51	32.48	33.09	33.28	33.44	33.71	34.71
33353	32.17	32.74	33.08	33.33	33.62	32.53	33.14	33.35	33.54	33.86	34.86
33354	32.25	32.79	33.12	33.38	33.70	32.62	33.19	33.41	33.61	33.95	34.95
33355	32.32	32.84	33.15	33.41	33.75	32.69	33.22	33.45	33.66	34.01	35.01
33358	28.52	29.34	29.59	30.07	30.58	29.23	29.80	30.26	30.48	30.80	31.80
33360	34.46	34.63	34.94	35.31	36.22	34.51	35.12	35.47	36.08	36.55	37.55
33362	36.68	36.97	37.13	37.29	37.59	36.91	37.20	37.36	37.52	37.83	38.83
33363	35.00	35.34	35.32	35.45	35.66	35.36	35.69	35.95	36.14	36.24	37.24

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
33364	35.88	36.03	36.06	36.09	36.14	36.03	36.10	36.14	36.18	36.27	37.27
33366	23.91	24.90	25.39	25.83	26.54	24.75	25.78	26.18	26.50	27.22	28.22
33367	24.63	25.64	26.09	26.55	27.42	25.54	26.49	26.97	27.40	28.15	29.15
33368	25.21	26.10	26.51	26.94	27.79	26.00	26.86	27.34	27.77	28.51	29.51
33369	25.60	26.43	26.81	27.23	28.08	26.33	27.14	27.62	28.06	28.79	29.79
33370	27.91	28.65	28.97	29.31	30.03	28.56	29.19	29.61	30.02	30.72	31.72
33372	28.80	29.58	29.91	30.28	31.00	29.48	30.16	30.58	30.99	31.71	32.71
33373	29.48	30.19	30.52	30.90	31.60	30.12	30.79	31.19	31.60	32.28	33.28
33374	29.50	30.23	30.56	30.95	31.68	30.15	30.84	31.25	31.68	32.51	33.51
33375	30.08	30.80	31.15	31.52	32.23	30.66	31.38	31.81	32.23	32.90	33.90
33376	31.64	32.66	32.87	33.05	33.67	32.55	32.98	33.21	33.66	34.05	35.05
33377	32.02	32.84	33.06	33.25	33.73	32.73	33.18	33.41	33.73	34.08	35.08
33378	32.63	33.35	33.62	33.88	34.32	33.22	33.79	34.03	34.31	34.82	35.82
33379	33.25	33.84	34.12	34.36	34.76	33.71	34.27	34.50	34.74	35.19	36.19
33380	33.63	34.21	34.50	34.74	35.10	34.09	34.65	34.86	35.08	35.46	36.46
33381	34.63	35.03	35.29	35.53	35.86	34.90	35.43	35.64	35.83	36.14	37.14
33382	34.99	35.09	35.64	35.96	36.03	35.05	35.86	36.00	36.02	36.19	37.19
33383	35.17	35.40	35.85	36.14	36.28	35.31	36.04	36.19	36.26	36.51	37.51
33384	35.53	36.38	36.66	37.23	37.83	36.05	36.63	37.47	37.76	38.31	39.31
33385	35.84	36.58	36.83	37.36	37.94	36.29	36.81	37.58	37.87	38.43	39.43
33386	36.74	37.17	37.33	37.70	38.20	36.99	37.43	37.86	38.13	38.76	39.76
33387	36.75	37.18	37.36	37.74	38.26	37.00	37.46	37.91	38.18	38.88	39.88
33388	37.43	37.86	38.05	38.32	38.75	37.70	38.15	38.44	38.68	39.37	40.37
33389	39.68	39.90	40.01	40.08	40.16	39.86	40.06	40.12	40.16	40.24	41.24
33390	40.87	41.42	41.76	42.12	42.43	41.29	42.04	42.28	42.43	42.49	43.49
33391	41.11	41.72	42.09	42.59	43.36	41.58	42.39	43.02	43.35	43.44	44.44
33392	41.18	41.79	42.16	42.64	43.39	41.65	42.45	43.05	43.38	43.48	44.48
33394	43.62	43.90	44.04	44.21	44.50	43.85	44.15	44.32	44.49	44.78	45.78
33395	43.63	43.91	44.06	44.23	44.54	43.87	44.17	44.35	44.53	44.83	45.83
33400	28.20	28.25	28.30	28.35	27.83	27.17	27.64	27.85	28.06	28.40	29.40
33401	29.96	30.11	30.13	30.15	30.17	30.11	30.15	30.17	30.18	30.20	31.20
33402	30.89	30.95	30.99	31.03	31.09	30.93	31.00	31.03	31.07	31.12	32.12
33403	28.97	29.60	29.93	30.30	31.02	29.50	30.17	30.59	31.01	31.72	32.72
33404	29.20	29.90	30.24	30.56	31.24	29.77	30.43	30.81	31.22	31.93	32.93
33405	29.67	29.94	30.01	30.32	31.03	29.88	30.19	30.61	31.02	31.73	32.73
33406	30.13	30.67	30.98	31.63	32.59	30.54	31.24	31.98	32.47	33.13	34.13
33407	34.54	34.58	34.61	34.84	35.01	34.57	34.77	34.91	35.00	35.15	36.15
33409	33.26	34.13	34.62	34.85	35.03	33.86	34.78	34.93	35.02	35.18	36.18
33410	33.85	34.16	34.65	34.88	35.09	34.01	34.80	34.96	35.08	35.28	36.28
33411	34.20	34.72	34.99	35.30	35.86	34.55	35.10	35.42	35.75	36.28	37.28
33412	35.03	35.14	35.24	35.59	36.17	35.14	35.36	35.70	36.04	36.57	37.57
33413	35.21	35.50	35.73	36.12	36.84	35.44	35.87	36.25	36.67	37.41	38.41
33414	35.96	36.06	36.17	36.40	37.00	36.03	36.27	36.52	36.87	37.56	38.56
33415	37.72	38.05	38.20	38.30	38.44	37.98	38.26	38.35	38.43	38.67	39.67
33416	39.89	40.14	40.27	40.41	40.59	40.12	40.41	40.50	40.65	40.93	41.93
33417	41.29	41.57	41.70	41.80	41.96	41.56	41.82	41.92	42.02	42.18	43.18
33419	38.32	38.50	38.51	38.52	38.58	38.49	38.62	38.65	38.69	38.75	39.75
33421	41.63	41.89	42.01	42.13	42.30	41.88	42.14	42.26	42.36	42.51	43.51
33422	44.24	44.72	44.97	45.15	45.22	44.55	45.04	45.16	45.20	45.25	46.25
33423	41.75	41.98	42.26	42.64	43.39	41.90	42.52	43.06	43.39	43.48	44.48
33424	44.93	45.14	45.19	45.24	45.33	45.11	45.22	45.27	45.31	45.40	46.40
33425	45.59	45.77	45.85	45.93	46.07	45.74	45.89	45.97	46.04	46.13	47.13
33430	26.51	26.78	26.90	27.07	27.28	26.69	26.87	26.94	26.96	27.52	28.52
33431	27.27	27.57	27.73	27.89	28.18	27.46	27.75	27.91	28.21	28.64	29.64
33432	27.59	27.93	28.08	28.25	28.54	27.79	28.10	28.25	28.58	29.08	30.08
33433	27.77	28.10	28.25	28.41	28.70	27.99	28.29	28.55	28.89	29.38	30.38
33434	33.94	33.98	34.00	34.02	34.06	33.98	34.02	34.05	34.07	34.11	35.11

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
33435	34.21	34.39	34.49	34.59	34.77	34.37	34.59	34.71	34.82	35.01	36.01
33437	33.40	33.86	34.07	34.29	34.78	33.79	34.16	34.57	34.92	35.37	36.37
33438	34.36	34.57	34.67	34.77	35.02	34.54	34.71	34.91	35.13	35.56	36.56
33439	34.81	34.99	35.07	35.17	35.34	34.95	35.11	35.20	35.31	35.67	36.67
33440	34.87	35.08	35.20	35.33	35.54	35.02	35.25	35.37	35.50	35.84	36.84
33441	35.43	36.19	36.34	36.43	36.58	35.92	36.36	36.45	36.53	36.69	37.69
33442	36.49	36.73	36.83	36.85	36.87	36.62	36.84	36.86	36.87	37.03	38.03
33443	38.37	38.61	38.70	38.78	38.91	38.55	38.72	38.80	38.88	39.01	40.01
33444	34.95	35.03	35.12	35.22	35.39	35.00	35.16	35.25	35.35	35.69	36.69
33446	39.12	40.17	40.32	40.43	40.59	40.17	40.44	40.55	40.65	40.81	41.81
33501	15.25	16.83	17.48	18.06	19.03	16.53	17.77	18.29	18.84	19.78	20.78
33502	15.32	16.91	17.57	18.15	19.12	16.60	17.86	18.39	18.94	19.87	20.87
33504	15.70	17.25	17.91	18.51	19.48	16.93	18.21	18.74	19.29	20.26	21.26
33505	16.57	17.82	18.44	18.98	20.01	17.55	18.69	19.22	19.75	20.80	21.80
33506	16.68	17.98	18.63	19.19	20.28	17.69	18.89	19.45	20.02	21.31	22.31
33507	17.28	18.55	19.21	20.00	20.90	18.27	19.63	20.30	20.72	21.74	22.74
33508	17.56	18.80	19.46	20.21	21.11	18.53	19.85	20.50	20.94	21.95	22.95
33509	17.98	19.03	19.56	20.30	21.19	18.58	20.03	20.56	21.04	21.55	22.55
33510	18.21	19.29	19.83	20.55	21.45	18.87	20.28	20.80	21.29	21.87	22.87
33511	18.27	19.41	19.98	20.76	21.85	18.98	20.44	21.05	21.67	22.49	23.49
33514	18.54	19.75	20.36	21.12	22.24	19.33	20.80	21.42	22.06	22.96	23.96
33515	18.60	19.84	20.48	21.31	22.57	19.41	20.95	21.66	22.37	23.44	24.44
33516	18.66	19.91	20.55	21.38	22.64	19.49	21.02	21.73	22.44	23.52	24.52
33519	18.88	20.17	20.81	21.60	22.77	19.75	21.25	21.92	22.58	23.63	24.63
33522	20.56	21.63	22.19	22.79	23.66	21.38	22.51	23.06	23.52	24.23	25.23
33524	22.51	23.58	24.07	24.57	25.28	23.36	24.34	24.78	25.17	25.84	26.84
33525	22.81	23.88	24.37	24.85	25.55	23.67	24.62	25.05	25.44	26.11	27.11
33526	23.25	24.62	25.35	26.05	27.07	24.34	25.70	26.41	26.98	27.41	28.41
33529	24.34	25.47	26.06	26.67	27.57	25.27	26.36	26.97	27.48	27.94	28.94
33530	24.50	25.81	26.72	27.53	28.12	25.55	27.11	27.87	28.08	28.28	29.28
33531	25.48	26.57	27.21	27.88	28.44	26.37	27.54	28.18	28.40	28.65	29.65
33532	26.61	27.57	28.05	28.61	29.11	27.41	28.35	28.80	29.05	29.40	30.40
33533	27.25	28.34	28.88	29.33	29.82	28.12	29.14	29.49	29.75	30.14	31.14
33536	27.45	28.55	29.08	29.51	29.99	28.33	29.33	29.66	29.92	30.32	31.32
33537	27.51	28.68	29.27	29.75	30.32	28.45	29.55	29.93	30.24	30.69	31.69
33538	27.67	28.83	29.40	29.86	30.43	28.61	29.66	30.04	30.35	30.81	31.81
33539	28.13	29.29	29.73	30.15	30.70	29.16	29.98	30.33	30.64	31.06	32.06
33540	28.80	29.85	30.22	30.55	31.09	29.70	30.42	30.73	31.04	31.39	32.39
33542	29.68	30.46	30.72	30.98	31.43	30.36	30.88	31.13	31.39	31.77	32.77
33544	29.74	30.53	30.79	31.06	31.50	30.43	30.96	31.20	31.46	31.85	32.85
33545	29.76	30.55	30.82	31.09	31.52	30.46	31.00	31.23	31.48	31.86	32.86
33546	29.90	30.85	31.23	31.71	32.38	30.73	31.54	31.98	32.34	32.83	33.83
33547	29.77	30.29	30.59	30.90	31.43	30.28	30.96	31.31	31.54	31.85	32.85
33548	29.94	30.90	31.28	31.76	32.43	30.78	31.59	32.03	32.39	32.87	33.87
33549	30.10	31.04	31.40	31.80	32.44	30.92	31.66	32.06	32.41	32.89	33.89
33550	30.11	31.04	31.40	31.81	32.44	30.92	31.66	32.06	32.41	32.89	33.89
33551	30.83	31.23	31.48	31.86	32.48	31.19	31.72	32.10	32.45	32.93	33.93
33552	30.85	31.26	31.50	31.88	32.50	31.21	31.74	32.13	32.47	32.94	33.94
33553	30.86	31.27	31.52	31.90	32.52	31.23	31.77	32.15	32.49	32.96	33.96
33554	31.40	31.68	31.81	32.19	32.62	31.64	32.07	32.30	32.58	33.28	34.28
33555	30.95	31.28	31.56	31.92	32.52	31.23	31.80	32.16	32.49	32.96	33.96
33556	30.99	31.55	32.09	32.66	33.39	31.46	32.56	33.02	33.43	34.04	35.04
33557	31.54	32.07	32.32	32.79	33.68	31.99	32.64	33.20	33.68	34.11	35.11
33558	31.81	32.37	32.76	33.40	33.77	32.29	33.22	33.63	33.77	34.12	35.12
33559	35.07	35.13	35.16	35.19	35.26	35.12	35.18	35.22	35.25	35.32	36.32
33560	27.61	28.62	29.15	29.57	30.06	28.41	29.39	29.72	29.98	30.39	31.39
33561	27.92	29.21	29.54	29.80	30.15	29.00	29.66	29.88	30.08	30.45	31.45

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
33562	28.76	29.56	29.86	30.12	30.48	29.36	29.96	30.19	30.39	30.73	31.73
33564	28.95	29.78	30.10	30.38	30.77	29.55	30.20	30.45	30.66	31.01	32.01
33565	28.98	29.84	30.22	30.53	30.99	29.59	30.32	30.60	30.85	31.27	32.27
33566	29.27	30.15	30.54	30.87	31.34	29.87	30.63	30.93	31.19	31.61	32.61
33567	29.45	30.35	30.77	31.12	31.61	30.06	30.86	31.17	31.44	31.89	32.89
33568	29.62	30.48	30.88	31.22	31.71	30.20	30.97	31.27	31.54	31.98	32.98
33569	30.53	31.01	31.34	31.70	32.30	30.83	31.41	31.76	32.09	32.78	33.78
33570	31.09	31.38	31.69	32.13	33.04	31.18	31.77	32.22	32.83	33.27	34.27
33571	31.67	32.16	32.40	32.67	33.34	32.03	32.48	32.75	33.16	33.60	34.60
33572	32.38	32.85	33.11	33.39	34.16	32.77	33.29	33.55	33.82	34.93	35.93
33575	31.43	32.47	32.86	33.25	33.52	32.32	33.06	33.34	33.49	33.67	34.67
33576	33.01	33.34	33.64	33.74	34.62	33.34	33.74	33.74	34.31	35.46	36.46
33580	15.20	16.61	17.46	18.09	19.07	15.99	17.71	18.29	18.87	19.77	20.77
33581	17.23	17.43	17.98	18.60	19.55	17.32	18.27	18.82	19.36	20.30	21.30
33582	17.84	18.33	18.63	19.02	20.04	17.97	18.74	19.23	19.77	20.83	21.83
33583	19.80	20.46	20.90	21.39	22.19	19.99	20.72	21.17	21.63	22.36	23.36
33584	21.27	21.89	22.02	22.18	22.51	21.62	21.96	22.10	22.25	22.61	23.61
33585	22.02	22.64	23.00	23.39	24.15	22.23	22.82	23.18	23.56	24.30	25.30
33586	17.85	18.35	18.66	19.02	20.03	17.98	18.74	19.24	19.78	20.82	21.82
33587	18.87	19.51	19.83	20.18	20.85	19.00	19.59	19.93	20.30	20.98	21.98
33588	15.71	17.26	17.93	18.53	19.51	16.93	18.21	18.76	19.31	20.29	21.29
33589	15.97	17.29	17.97	18.58	19.51	16.95	18.24	18.76	19.31	20.29	21.29
33590	20.01	20.60	20.91	21.24	21.84	20.38	20.91	21.18	21.48	21.99	22.99
33591	17.29	18.56	19.24	20.02	20.93	18.28	19.65	20.33	20.75	21.80	22.80
33592	19.61	20.05	20.28	20.51	20.92	19.86	20.25	20.45	20.74	21.74	22.74
33593	19.42	19.89	20.14	20.41	21.16	19.50	19.96	20.53	20.97	21.96	22.96
33594	24.37	24.51	24.58	24.67	24.84	24.50	24.69	24.79	24.91	25.07	26.07
33595	22.75	23.05	23.18	23.29	23.47	23.04	23.31	23.43	23.52	23.67	24.67
33596	18.71	19.93	20.57	21.39	22.64	19.52	21.03	21.74	22.44	23.52	24.52
33598	20.14	20.54	20.85	21.55	22.68	20.33	21.21	21.88	22.48	23.56	24.56
33599	23.90	24.71	24.80	24.88	25.00	24.53	24.78	24.86	24.93	25.04	26.04
33602	22.96	23.44	23.68	23.92	24.23	23.34	23.79	24.00	24.15	24.32	25.32
33603	23.01	23.52	23.77	24.03	24.39	23.41	23.91	24.14	24.32	24.61	25.61
33605	26.15	26.22	26.26	26.31	26.38	26.21	26.29	26.33	26.37	26.43	27.43
33608	21.08	22.90	24.52	24.93	25.57	22.31	24.77	25.13	25.48	26.11	27.11
33609	22.96	23.96	24.51	25.12	25.89	23.69	24.78	25.29	25.73	26.49	27.49
33610	23.28	24.46	24.90	25.14	25.89	24.06	24.98	25.30	25.73	26.49	27.49
33611	31.49	31.74	31.84	31.94	32.04	31.65	31.87	31.97	32.03	32.09	33.09
33614	23.36	24.37	24.53	24.93	25.57	24.31	24.77	25.13	25.48	26.11	27.11
33618	24.17	24.50	24.64	24.95	25.58	24.48	24.79	25.14	25.48	26.11	27.11
33619	24.17	24.51	24.65	24.95	25.58	24.48	24.80	25.15	25.49	26.12	27.12
33620	25.77	25.85	25.90	25.94	26.02	25.82	25.90	25.94	25.98	26.13	27.13
33621	25.95	26.08	26.16	26.23	26.36	26.03	26.16	26.22	26.29	26.41	27.41
33622	28.76	28.81	28.84	28.87	28.92	28.79	28.84	28.87	28.89	28.94	29.94
33623	29.73	30.64	31.16	31.73	32.30	30.65	31.70	31.99	32.29	32.68	33.68
33624	25.67	26.73	27.18	27.55	27.90	26.78	27.55	27.78	27.93	28.15	29.15
33625	26.03	27.07	27.56	28.00	28.43	27.11	27.99	28.27	28.46	28.76	29.76
33626	27.14	27.82	28.20	28.56	28.94	27.84	28.55	28.78	28.96	29.22	30.22
33627	28.14	28.80	29.14	29.44	29.76	28.82	29.42	29.61	29.77	29.99	30.99
33628	29.79	30.73	31.27	31.90	32.63	30.74	31.86	32.26	32.62	33.09	34.09
33629	32.78	33.42	33.66	33.69	33.86	33.39	33.66	33.66	33.86	34.11	35.11
33632	35.06	35.54	35.66	35.75	35.93	35.54	35.71	35.81	35.88	35.98	36.98
33633	35.10	35.74	35.95	36.13	36.45	35.74	36.07	36.23	36.37	36.63	37.63
33634	35.93	36.11	36.25	36.40	36.71	36.13	36.37	36.50	36.64	36.93	37.93
33635	36.11	36.46	36.67	36.91	37.39	36.40	36.82	37.04	37.28	37.73	38.73
33637	35.15	35.84	36.14	36.37	36.75	35.85	36.29	36.47	36.67	36.82	37.82
33638	35.96	36.29	36.50	36.75	37.17	36.29	36.64	36.83	37.02	37.39	38.39

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
33640	35.95	36.23	36.43	36.66	37.11	36.27	36.63	36.82	37.02	37.40	38.40
33642	32.75	33.00	33.13	33.27	33.71	32.97	33.24	33.44	33.68	34.24	35.24
33643	32.76	33.04	33.19	33.37	33.85	33.01	33.33	33.54	33.81	34.41	35.41
33644	27.48	27.59	27.68	27.79	27.95	27.55	27.74	27.83	27.92	28.06	29.06
33644A	26.52	26.69	26.74	26.78	27.09	26.47	26.44	26.48	27.00	27.45	28.45
33645	24.35	25.49	26.08	26.69	27.59	25.28	26.37	26.99	27.50	27.98	28.98
33647	25.58	26.68	27.51	28.29	28.90	26.48	27.97	28.61	28.89	29.27	30.27
33648	28.30	28.50	28.61	28.73	29.03	28.48	28.71	28.84	29.02	29.36	30.36
33649	26.61	27.57	28.05	28.61	29.11	27.41	28.35	28.80	29.05	29.40	30.40
33650	28.25	29.54	29.58	29.61	29.66	29.43	29.60	29.63	29.66	29.70	30.70
33650A	29.51	30.54	30.62	30.64	30.66	30.37	30.63	30.64	30.65	30.67	31.67
33650B	30.63	31.38	31.41	31.42	31.43	31.33	31.42	31.43	31.43	31.44	32.44
33650C	31.30	31.61	31.62	31.62	31.63	31.59	31.62	31.62	31.63	31.63	32.63
33650D	31.68	31.95	31.96	31.96	31.97	31.95	31.96	31.97	31.97	31.98	32.98
33651	25.98	26.80	27.49	28.09	28.69	26.56	27.84	28.30	28.60	29.08	30.08
33652	27.30	28.34	28.86	29.32	29.83	28.13	29.12	29.49	29.76	30.16	31.16
33653	27.69	28.37	28.88	29.35	29.89	28.15	29.13	29.51	29.81	30.25	31.25
33654	27.46	28.55	29.09	29.52	30.00	28.34	29.33	29.67	29.93	30.33	31.33
33655	27.67	28.83	29.40	29.87	30.43	28.61	29.67	30.05	30.36	30.82	31.82
33656	28.47	28.96	29.47	29.92	30.47	28.73	29.72	30.09	30.39	30.86	31.86
33658	29.01	29.68	29.99	30.37	30.83	29.49	30.19	30.54	30.77	31.16	32.16
33659	29.04	29.71	30.02	30.44	30.91	29.53	30.27	30.62	30.86	31.26	32.26
33660	29.78	30.34	30.70	31.08	31.99	30.26	30.84	31.56	31.95	32.53	33.53
33661	31.28	31.50	31.61	31.72	32.13	31.47	31.69	31.86	32.10	32.62	33.62
33663	29.68	29.94	30.11	30.32	30.79	29.77	30.07	30.28	30.57	31.12	32.12
33664	28.59	28.83	28.97	29.12	29.41	28.82	29.15	29.34	29.54	29.93	30.93
33665	28.24	29.36	29.79	30.21	30.76	29.22	30.04	30.40	30.70	31.22	32.22
33667	29.81	29.97	30.13	30.26	30.85	29.94	30.18	30.47	30.79	31.31	32.31
33668	31.14	31.70	32.01	32.35	32.96	31.61	32.25	32.60	32.96	33.48	34.48
33669	31.14	31.71	32.02	32.37	32.99	31.61	32.27	32.63	33.00	33.60	34.60
33670	31.16	31.73	32.08	32.47	33.20	31.63	32.35	32.77	33.19	33.65	34.65
33671	31.13	31.70	32.01	32.36	32.94	31.61	32.27	32.63	32.99	33.66	34.66
33672	36.56	37.13	37.21	37.24	37.28	36.93	37.22	37.24	37.26	37.30	38.30
33674	30.16	30.57	30.76	31.00	31.45	30.48	30.89	31.15	31.41	31.80	32.80
33674A	30.16	30.57	30.76	31.00	31.45	30.48	30.89	31.15	31.41	31.80	32.80
33675	31.80	32.33	32.36	32.38	32.41	32.31	32.37	32.39	32.40	32.44	33.44
33675A	32.15	32.36	32.40	32.43	32.48	32.34	32.41	32.44	32.47	32.52	33.52
33676	33.26	33.30	33.32	33.34	33.37	33.29	33.33	33.34	33.36	33.39	34.39
33677	33.58	33.66	33.69	33.73	33.78	33.64	33.71	33.74	33.77	33.83	34.83
33678	33.60	33.70	33.74	33.79	33.87	33.67	33.76	33.81	33.85	33.93	34.93
33679	33.85	34.20	34.39	34.56	34.79	34.09	34.48	34.62	34.76	34.99	35.99
33680	33.96	34.48	34.80	35.01	35.22	34.32	34.93	35.05	35.17	35.40	36.40
33681	32.02	33.06	33.17	33.25	33.37	32.77	33.19	33.27	33.34	33.45	34.45
33682	30.69	31.04	31.22	31.41	31.74	30.93	31.27	31.44	31.62	31.92	32.92
33683	30.01	30.68	30.92	31.16	31.59	30.59	31.08	31.30	31.55	31.94	32.94
33683A	29.94	30.65	30.89	31.14	31.57	30.55	31.05	31.28	31.54	31.92	32.92
33684	30.10	30.87	31.19	31.49	32.08	30.74	31.40	31.68	32.01	32.75	33.75
33685	30.21	31.01	31.37	31.78	32.43	30.86	31.63	32.03	32.39	32.86	33.86
33686	30.61	31.31	31.62	32.02	32.85	31.16	31.85	32.34	32.78	33.36	34.36
33687	30.74	31.16	31.46	31.85	32.48	31.09	31.71	32.10	32.45	32.93	33.93
33688	30.60	31.05	31.41	31.81	32.45	30.93	31.66	32.06	32.41	32.89	33.89
33689	31.95	32.13	32.23	32.35	33.21	32.13	32.37	32.51	33.28	33.97	34.97
33690	32.28	32.60	32.77	32.95	33.47	32.57	32.94	33.18	33.53	34.14	35.14
33691	32.28	32.61	32.78	32.96	33.47	32.58	32.96	33.19	33.54	34.15	35.15
33692	32.28	32.61	32.79	32.98	33.48	32.58	32.98	33.22	33.55	34.16	35.16
33693	31.81	32.09	32.24	32.40	32.68	32.03	32.39	32.60	32.69	33.30	34.30
33694	32.91	33.09	33.19	33.30	33.61	33.05	33.30	33.57	33.66	33.78	34.78

APPENDIX A - COMPUTED DESIGN STORM FLOOD ELEVATIONS

Node ID	2 year 24 hour	5 year 24 hour	10 year 24 hour	25 year 24 hour	100 year 24 hour	2 year 72 hour	5 year 72 hour	10 year 72 hour	25 year 72 hour	100 year 72 hour	Minimum FF elev.
33695	33.96	34.10	34.17	34.33	34.93	34.07	34.36	34.77	35.06	35.20	36.20
33696	35.62	35.76	35.83	36.09	36.54	35.74	36.11	36.44	36.76	37.25	38.25
33697	37.75	38.34	38.67	38.80	39.04	38.31	38.80	38.98	39.18	39.53	40.53
33698	32.67	32.99	33.18	33.36	33.58	32.88	33.23	33.40	33.55	33.66	34.66
33699	33.11	33.29	33.39	33.49	33.66	33.24	33.41	33.49	33.59	33.75	34.75
33699A	32.86	32.94	32.99	33.03	33.10	32.92	32.99	33.03	33.07	33.13	34.13
33700	23.87	24.59	25.35	25.97	26.56	24.05	25.15	25.77	26.29	26.68	27.68
33701	22.44	24.29	24.97	25.65	26.14	22.74	24.77	25.40	25.93	26.20	27.20
33702	22.50	24.30	24.99	25.68	26.31	22.75	24.78	25.42	25.97	26.37	27.37
33703	24.92	25.14	25.24	25.24	26.32	25.00	25.21	25.24	25.65	26.58	27.58
33704	22.45	24.29	24.97	25.65	26.09	22.74	24.77	25.40	25.91	26.13	27.13
33705	22.75	24.31	25.00	25.70	26.41	22.85	24.78	25.43	26.00	26.50	27.50
33706	22.69	24.30	24.99	25.69	26.35	22.76	24.78	25.43	25.98	26.40	27.40
33707	21.84	23.46	24.06	24.66	25.31	22.38	23.89	24.42	24.96	25.45	26.45
33708	21.88	23.49	24.11	24.79	25.44	22.43	23.93	24.51	25.09	25.58	26.58
33709	21.87	23.50	24.13	24.82	25.45	22.41	23.94	24.53	25.11	25.58	26.58
33710	21.90	23.52	24.17	24.92	25.48	22.47	23.97	24.61	25.18	25.59	26.59
33711	21.88	23.53	24.19	24.97	25.50	22.43	23.98	24.65	25.21	25.59	26.59
33712	21.91	23.56	24.21	25.02	25.52	22.48	24.00	24.69	25.25	25.64	26.64
33713	21.91	23.58	24.27	25.12	25.56	22.47	24.04	24.78	25.33	25.63	26.63
33714	21.92	23.59	24.29	25.15	25.55	22.48	24.04	24.81	25.35	25.62	26.62
33715	26.12	26.31	26.41	26.52	27.10	26.19	26.37	26.46	26.56	27.40	28.40
33720	26.08	26.31	26.42	26.52	27.12	26.19	26.40	26.47	26.74	27.29	28.29
33721	25.25	25.33	25.36	25.40	25.53	25.27	25.34	25.38	25.42	25.60	26.60
33722	25.61	25.73	25.79	25.85	25.96	25.62	25.73	25.79	25.85	25.96	26.96
33723	22.29	23.59	24.30	25.18	25.60	22.48	24.05	24.82	25.40	25.65	26.65
33724	21.92	23.59	24.36	25.26	25.59	22.49	24.06	24.90	25.40	25.63	26.63
33725	25.27	25.51	25.65	25.84	26.15	25.38	25.61	25.76	25.98	26.19	27.19
33726	25.29	25.57	25.74	25.95	26.28	25.42	25.70	25.87	26.08	26.34	27.34
33727	25.30	25.60	25.78	26.00	26.36	25.43	25.74	25.92	26.14	26.45	27.45
33750	9.76	9.82	9.86	9.89	9.97	9.78	9.84	9.87	9.91	10.66	11.66
33751	9.30	9.41	9.47	9.53	9.85	9.31	9.43	9.49	9.77	10.66	11.66
33752	9.08	9.20	9.27	9.35	9.85	9.10	9.23	9.44	9.77	10.66	11.66
33753	7.77	8.40	8.83	9.28	9.85	7.83	9.09	9.44	9.77	10.65	11.65
33754	7.77	8.40	8.83	9.28	9.85	7.82	9.09	9.44	9.77	10.65	11.65
33755	7.77	8.38	8.82	9.28	9.85	7.80	9.09	9.44	9.76	10.65	11.65
33756	7.76	8.38	8.82	9.28	9.85	7.80	9.09	9.44	9.76	10.65	11.65
33757	7.76	8.37	8.82	9.28	9.85	7.79	9.09	9.44	9.76	10.69	11.69
33758	7.76	8.37	8.82	9.28	9.85	7.79	9.09	9.44	9.76	10.65	11.65
33759	7.76	8.37	8.82	9.28	9.85	7.77	9.09	9.43	9.76	10.49	11.49
33760	6.58	8.87	10.02	10.29	10.61	8.15	10.03	10.28	10.46	10.76	11.76
33761	6.57	8.19	9.68	9.95	10.26	7.65	9.71	9.94	10.12	10.67	11.67
33762	6.51	7.94	9.40	9.56	10.14	7.54	9.47	9.58	9.97	10.68	11.68
33763	6.53	7.86	8.97	9.55	10.12	7.49	9.33	9.58	9.98	10.66	11.66
33764	6.46	7.80	9.31	9.55	10.05	7.43	9.46	9.57	10.01	10.44	11.44
33765	6.45	7.81	8.34	8.95	10.12	7.44	8.62	9.26	9.97	10.63	11.63

PHILLIPPI CREEK

BASIN/ SUBBASIN/ NODE MAP
AdICPR MODEL
JUNE, 1999

NORTH

0 1000 2000
GRAPHIC SCALE 1"= NTS

LEGEND

- Major Basin Boundary
- Minor Basin boundary
- Canal Reach
- Study Reach
- Subbasin Boundary
- Subbasin Id. Number
- Node Id. Number
- Node Location

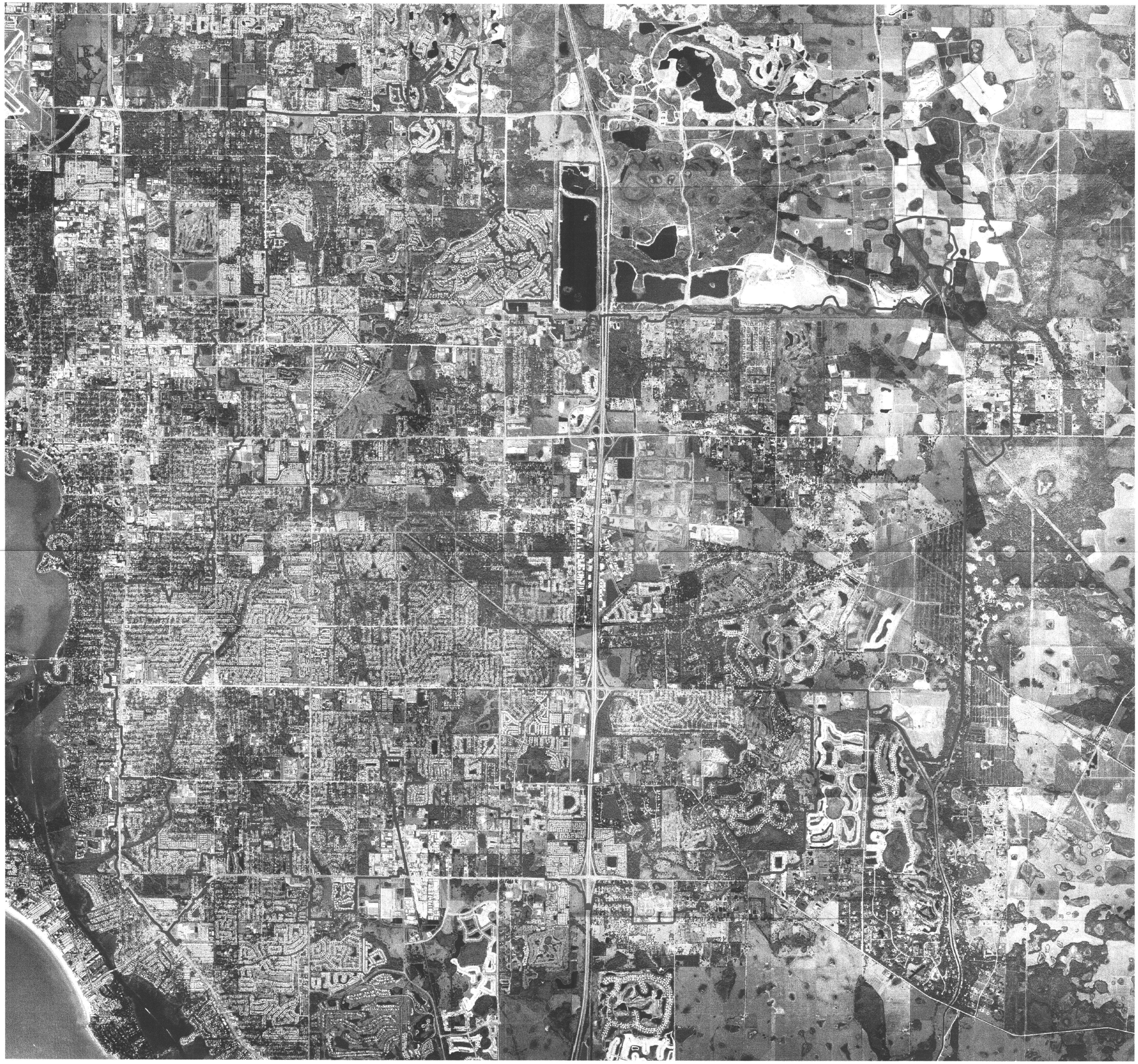
Subbasin	Node Range
Lower Phillippi (Bay to Bee Ridge)	30000-30199
Redbug Slough	30200-30379
Middle Phillippi (Bee Ridge to SCLRR)	30380-30699
Lower Main B and Lateral BB	30700-30799
Main B	30800-31099
Branch BB	31100-31199
Lateral AA (Linwood Canal)	31200-31299
Branch BA	31300-31599
Branch C	31600-31779
Upper Phillippi (SCLRR to I-75)	31780-31859
Lateral AB	31860-32039
Laterals AC, CAZ, and ABA	32040-32099
Main C	32100-32599
Lateral CE (Main C Trib. West of I-75)	32600-32799
Lateral ABC (Center Gate Canal)	32800-32999
Main A (Upstream of I-75)	33000-33499
Branch AA	33500-33699

SARASOTA COUNTY 1921

STORMWATER MANAGEMENT RESOURCE TECHNOLOGIES INC.

Phillippi Creek Basin

100 Year Floodplain

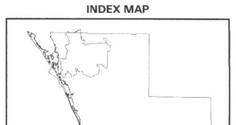


MAP LEGEND

Basin Boundary

100 Year Floodplain

INDEX MAP



SCALE

THIS MAP IS NOT A SURVEY.

THIS MAP IS FOR INFORMATIONAL PURPOSES ONLY.

Map created by Evan Brown of Sarasota County Public Works - Survey & Mapping on March 9, 2000. The photography was flown in December of 1998 by F.D.O.T. The photography is grayscale with a 1 foot pixel. The photographs were processed in ERDAS IMAGINE 8.3.1. Map vectors were created in AutoCAD 14 and processed in ArcCAD, ArcView, and ARC/INFO. This map was created using ERDAS IMAGINE 8.4.

STORMWATER