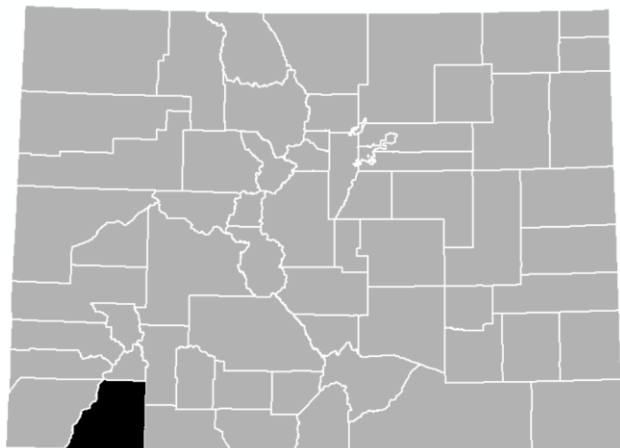


FLOOD INSURANCE STUDY

FEDERAL EMERGENCY MANAGEMENT AGENCY

VOLUME 1 OF 3



LA PLATA COUNTY, COLORADO AND INCORPORATED AREAS

COMMUNITY NAME	NUMBER
BAYFIELD, TOWN OF	080098
DURANGO, CITY OF	080099
IGNACIO, TOWN OF	080268
LA PLATA COUNTY UNINCORPORATED AREAS	080097



FEMA

REVISED:

April 25, 2024

FLOOD INSURANCE STUDY NUMBER
08067CV001B

Version Number 2.6.4.6

TABLE OF CONTENTS

Volume 1

	<u>Page</u>
SECTION 1.0 – INTRODUCTION	1
1.1 The National Flood Insurance Program	1
1.2 Purpose of this Flood Insurance Study Report	2
1.3 Jurisdictions Included in the Flood Insurance Study Project	2
1.4 Considerations for using this Flood Insurance Study Report	7
SECTION 2.0 – FLOODPLAIN MANAGEMENT APPLICATIONS	15
2.1 Floodplain Boundaries	15
2.2 Floodways	24
2.3 Base Flood Elevations	25
2.4 Non-Encroachment Zones	26
2.5 Coastal Flood Hazard Areas	26
2.5.1 Water Elevations and the Effects of Waves	26
2.5.2 Floodplain Boundaries and BFEs for Coastal Areas	26
2.5.3 Coastal High Hazard Areas	26
2.5.4 Limit of Moderate Wave Action	26
SECTION 3.0 – INSURANCE APPLICATIONS	26
3.1 National Flood Insurance Program Insurance Zones	26
SECTION 4.0 – AREA STUDIED	27
4.1 Basin Description	27
4.2 Principal Flood Problems	27
4.3 Non-Levee Flood Protection Measures	28
4.4 Levees	28
SECTION 5.0 – ENGINEERING METHODS	29
5.1 Hydrologic Analyses	29
5.2 Hydraulic Analyses	39
5.3 Coastal Analyses	48
5.3.1 Total Stillwater Elevations	48
5.3.2 Waves	49
5.3.3 Coastal Erosion	49
5.3.4 Wave Hazard Analyses	49
5.4 Alluvial Fan Analyses	49
SECTION 6.0 – MAPPING METHODS	49
6.1 Vertical and Horizontal Control	49
6.2 Base Map	51
6.3 Floodplain and Floodway Delineation	51
6.4 Coastal Flood Hazard Mapping	78
6.5 FIRM Revisions	78
6.5.1 Letters of Map Amendment	78
6.5.2 Letters of Map Revision Based on Fill	79
6.5.3 Letters of Map Revision	79

6.5.4	Physical Map Revisions	79
6.5.5	Contracted Restudies	80
6.5.6	Community Map History	80
SECTION 7.0 – CONTRACTED STUDIES AND COMMUNITY COORDINATION		81
7.1	Contracted Studies	81
7.2	Community Meetings	82
SECTION 8.0 – ADDITIONAL INFORMATION		84
SECTION 9.0 – BIBLIOGRAPHY AND REFERENCES		85

Figures

	<u>Page</u>
Figure 1: FIRM Index	9
Figure 2: FIRM Notes to Users	10
Figure 3: Map Legend for FIRM	12
Figure 4: Floodway Schematic	25
Figure 5: Wave Runup Transect Schematic	26
Figure 6: Coastal Transect Schematic	26
Figure 7: Frequency Discharge-Drainage Area Curves	38
Figure 8: 1% Annual Chance Total Stillwater Elevations for Coastal Areas	49
Figure 9: Transect Location Map	49

Tables

	<u>Page</u>
Table 1: Listing of NFIP Jurisdictions	2
Table 2: Flooding Sources Included in this FIS Report	17
Table 3: Flood Zone Designations by Community	27
Table 4: Basin Characteristics	27
Table 5: Principal Flood Problems	28
Table 6: Historic Flooding Elevations	28
Table 7: Non-Levee Flood Protection Measures	28
Table 8: Levees	29
Table 9: Summary of Discharges	31
Table 10: Summary of Non-Coastal Stillwater Elevations	39
Table 11: Stream Gage Information used to Determine Discharges	39
Table 12: Summary of Hydrologic and Hydraulic Analyses	41
Table 13: Roughness Coefficients	48
Table 14: Summary of Coastal Analyses	48
Table 15: Tide Gage Analysis Specifics	49
Table 16: Coastal Transect Parameters	49
Table 17: Summary of Alluvial Fan Analyses	49
Table 18: Results of Alluvial Fan Analyses	49
Table 19: Countywide Vertical Datum Conversion	50

Table 20: Stream-Based Vertical Datum Conversion	50
Table 21: Base Map Sources	51
Table 22: Summary of Topographic Elevation Data used in Mapping	52
Table 23: Floodway Data	53
Table 24: Flood Hazard and Non-Encroachment Data for Selected Streams	78
Table 25: Summary of Coastal Transect Mapping Considerations	78
Table 26: Incorporated Letters of Map Change	79
Table 27: Community Map History	81
Table 28: Summary of Contracted Studies Included in this FIS Report	82
Table 29: Community Meetings	83
Table 30: Map Repositories	84
Table 31: Additional Information	84
Table 32: Bibliography and References	86

Volume 1

Exhibits

<u>Flood Profiles</u>	<u>Panel</u>
500-Year Split Flow	01P

Volume 2

Exhibits

<u>Flood Profiles</u>	<u>Panel</u>
Animas River	02-28P
Coon Creek	29-34P
D Creek	35P
Dry Gulch	36-39P
Dry Gulch Split	40P
Grimes Creek	41-42P
Grimes East	43P
Grimes to Vallecito	44P
Grimes West	45P
Hermosa Creek	46-52P
Horse Gulch	53-55P
Horse Gulch Split	56-57P
Junction Creek	58-66P
Lightner Creek	67-81P

Volume 3

Exhibits

<u>Flood Profiles</u>	<u>Panel</u>
Los Pinos River	82-104P
Los Pinos River Split	105P
Lower Berri Creek	106P
Middle Creek	107-109P
Middle East	110P
South Bear Creek	111P
Upper Berri Creek	112P
Vallecito Creek	113-119P

Published Separately

Flood Insurance Rate Map (FIRM)

FLOOD INSURANCE STUDY REPORT LA PLATA COUNTY, COLORADO

SECTION 1.0 – INTRODUCTION

1.1 The National Flood Insurance Program

The National Flood Insurance Program (NFIP) is a voluntary Federal program that enables property owners in participating communities to purchase insurance protection against losses from flooding. This insurance is designed to provide an alternative to disaster assistance to meet the escalating costs of repairing damage to buildings and their contents caused by floods.

For decades, the national response to flood disasters was generally limited to constructing flood-control works such as dams, levees, sea-walls, and the like, and providing disaster relief to flood victims. This approach did not reduce losses nor did it discourage unwise development. In some instances, it may have actually encouraged additional development. To compound the problem, the public generally could not buy flood coverage from insurance companies, and building techniques to reduce flood damage were often overlooked.

In the face of mounting flood losses and escalating costs of disaster relief to the general taxpayers, the U.S. Congress created the NFIP. The intent was to reduce future flood damage through community floodplain management ordinances, and provide protection for property owners against potential losses through an insurance mechanism that requires a premium to be paid for the protection.

The U.S. Congress established the NFIP on August 1, 1968, with the passage of the National Flood Insurance Act of 1968. The NFIP was broadened and modified with the passage of the Flood Disaster Protection Act of 1973 and other legislative measures. It was further modified by the National Flood Insurance Reform Act of 1994 and the Flood Insurance Reform Act of 2004. The NFIP is administered by the Federal Emergency Management Agency (FEMA), which is a component of the Department of Homeland Security (DHS).

Participation in the NFIP is based on an agreement between local communities and the Federal Government. If a community adopts and enforces floodplain management regulations to reduce future flood risks to new construction and substantially improved structures in Special Flood Hazard Areas (SFHAs), the Federal Government will make flood insurance available within the community as a financial protection against flood losses. The community's floodplain management regulations must meet or exceed criteria established in accordance with Title 44 Code of Federal Regulations (CFR) Part 60, *Criteria for Land Management and Use*.

SFHAs are delineated on the community's Flood Insurance Rate Maps (FIRMs). Under the NFIP, buildings that were built before the flood hazard was identified on the community's FIRMs are generally referred to as "Pre-FIRM" buildings. When the NFIP was created, the U.S. Congress recognized that insurance for Pre-FIRM buildings would be prohibitively expensive if the premiums were not subsidized by the Federal Government. Congress also recognized that most of these floodprone buildings were

built by individuals who did not have sufficient knowledge of the flood hazard to make informed decisions. The NFIP requires that full actuarial rates reflecting the complete flood risk be charged on all buildings constructed or substantially improved on or after the effective date of the initial FIRM for the community or after December 31, 1974, whichever is later. These buildings are generally referred to as “Post-FIRM” buildings.

1.2 Purpose of this Flood Insurance Study Report

This Flood Insurance Study (FIS) Report revises and updates information on the existence and severity of flood hazards for the study area. The studies described in this report developed flood hazard data that will be used to establish actuarial flood insurance rates and to assist communities in efforts to implement sound floodplain management.

In some states or communities, floodplain management criteria or regulations may exist that are more restrictive than the minimum Federal requirements. Contact your State NFIP Coordinator to ensure that any higher State standards are included in the community’s regulations.

1.3 Jurisdictions Included in the Flood Insurance Study Project

This FIS Report covers the entire geographic area of La Plata County, Colorado.

The jurisdictions that are included in this project area, along with the Community Identification Number (CID) for each community and the United States Geological Survey (USGS) 8-digit Hydrologic Unit Code (HUC-8) sub-basins affecting each, are shown in Table 1. The FIRM panel numbers that affect each community are listed. If the flood hazard data for the community is not included in this FIS Report, the location of that data is identified.

Jurisdictions that have no identified SFHAs as of the effective date of this study are indicated in the table. Changed conditions in these communities (such as urbanization or annexation) or the availability of new scientific or technical data about flood hazards could make it necessary to determine SFHAs in these jurisdictions in the future.

Table 1: Listing of NFIP Jurisdictions

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Bayfield, Town of	080098	14080101	08067C0563G, 08067C0565G, 08067C0751G, 08067C0752F ¹	
Durango, City of	080099	14080104	08067C0492G, 08067C0493G, 08067C0494G, 08067C0503G, 08067C0511G,	

Table 1: Listing of NFIP Jurisdictions

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Durango, City of (cont.)	080099	14080104	08067C0513G 08067C0515G, 08067C0700G, 08067C0701G, 08067C0703G, 08067C0705G	
Ignacio, Town of	080268	14080101	08067C0750F ¹ , 08067C0975G	
La Plata County, Unincorporated Areas	080097	14080101 14080104 14080105	08067C0025F ¹ , 08067C0050F ¹ , 08067C0075F ¹ , 08067C0100F ¹ , 08067C0125F ¹ , 08067C0150F ¹ , 08067C0175F ¹ , 08067C0200F ¹ , 08067C0225F ¹ , 08067C0250F ¹ , 08067C0275F ¹ , 08067C0300F ¹ , 08067C0325F ¹ , 08067C0330F ¹ , 08067C0333G, 08067C0335G, 08067C0336G, 08067C0337G, 08067C0338G, 08067C0339G, 08067C0345G, 08067C0350F ¹ , 08067C0360F, 08067C0370G, 08067C0375F ¹ , 08067C0381F,	

Table 1: Listing of NFIP Jurisdictions

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
La Plata County, Unincorporated Areas (cont.)	080097	14080101 14080104 14080105	08067C0383F, 08067C0385F ¹ , 08067C0389G, 08067C0390F ¹ , 08067C0391F, 08067C0395F, 08067C0425F ¹ , 08067C0450F ¹ , 08067C0455F, 08067C0460G, 08067C0465F ¹ , 08067C0470G, 08067C0480F ¹ , 08067C0484G, 08067C0485F ¹ , 08067C0486F, 08067C0487F, 08067C0490F ¹ , 08067C0491F, 08067C0492G, 08067C0493G, 08067C0494G, 08067C0501G, 08067C0502G, 08067C0503G, 08067C0504G, 08067C0510G, 08067C0511G, 08067C0513G, 08067C0515G, 08067C0520G, 08067C0530G, 08067C0534G, 08067C0535G, 08067C0540F, 08067C0545F ¹ , 08067C0551G, 08067C0552G, 08067C0553G, 08067C0554F,	

Table 1: Listing of NFIP Jurisdictions

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
La Plata County, Unincorporated Areas (cont.)	080097	14080101 14080104 14080105	08067C0561G, 08067C0563G, 08067C0565G, 08067C0575F ¹ 08067C0600F ¹ , 08067C0625F ¹ , 08067C0645G, 08067C0650F ¹ , 08067C0655G, 08067C0660G, 08067C0665G, 08067C0670F ¹ , 08067C0700G, 08067C0701G, 08067C0703G, 08067C0705G, 08067C0710G, 08067C0715G, 08067C0720G, 08067C0730G, 08067C0740G, 08067C0750F ¹ , 08067C0751G, 08067C0752F ¹ , 08067C0753G, 08067C0754G, 08067C0775G, 08067C0800F ¹ , 08067C0850F ¹ , 08067C0855G, 08067C0860G, 08067C0865G, 08067C0870G, 08067C0900F ¹ , 08067C0920G, 08067C0925G, 08067C0930G, 08067C0940G, 08067C0950F ¹ ,	

Table 1: Listing of NFIP Jurisdictions

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
La Plata County, Unincorporated Areas (cont.)	080097	14080101 14080104 14080105	08067C0975G, 08067C1000G, 08067C1025F ¹ , 08067C1100G, 08067C1130G ¹ , 08067C1135G ¹ , 08067C1175G, 08067C1225G	
Southern Ute Indian Reservation		14080101 14080104 14080105	08067C0625F ¹ , 08067C0645G, 08067C0650F ¹ , 08067C0655G, 08067C0660G, 08067C0665G, 08067C0670F ¹ , 08067C0700G, 08067C0710G, 08067C0715G, 08067C0720G, 08067C0730G, 08067C0740G, 08067C0750F ¹ , 08067C0753G, 08067C0754G, 08067C0775G, 08067C0800F ¹ , 08067C0850F ¹ , 08067C0855G, 08067C0860G, 08067C0865G, 08067C0870G, 08067C0900F ¹ , 08067C0920G, 08067C0925G,	

Table 1: Listing of NFIP Jurisdictions

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Southern Ute Indian Reservation (cont.)		14080101 14080104 14080105	08067C0930G, 08067C0940G, 08067C0950F ¹ , 08067C0975G, 08067C1000G, 08067C1025F ¹ , 08067C1100G, 08067C1125G ¹ , 08067C1130G ¹ , 08067C1135G ¹ , 08067C1175G, 08067C1200G ¹ , 08067C1225G	
Ute Mountain Indian Reservation		14080105	08067C0625F ¹ , 08067C0825F ¹ , 08067C0850F ¹ , 08067C0865G, 08067C1050G ¹ , 08067C1075G ¹ , 08067C1100G	

¹ Panel Not Printed

1.4 Considerations for using this Flood Insurance Study Report

The NFIP encourages State and local governments to implement sound floodplain management programs. To assist in this endeavor, each FIS Report provides floodplain data, which may include a combination of the following: 10-, 4-, 2-, 1-, and 0.2-percent annual chance flood elevations (the 1-percent-annual-chance flood elevation is also referred to as the Base Flood Elevation (BFE)); delineations of the 1-percent-annual-chance and 0.2-percent-annual-chance floodplains; and 1-percent-annual-chance floodway. This information is presented on the FIRM and/or in many components of the FIS Report, including Flood Profiles, Floodway Data tables, Summary of Non-Coastal Stillwater Elevations tables, and Coastal Transect Parameters tables (not all components may be provided for a specific FIS).

This section presents important considerations for using the information contained in this FIS Report and the FIRM, including changes in format and content. Figures 1, 2, and 3 present information that applies to using the FIRM with the FIS Report.

- Part or all of this FIS Report may be revised and republished at any time. In addition, part of this FIS Report may be revised by a Letter of Map Revision

(LOMR), which does not involve republication or redistribution of the FIS Report. Refer to Section 6.5 of this FIS Report for information about the process to revise the FIS Report and/or FIRM.

It is, therefore, the responsibility of the user to consult with community officials by contacting the community repository to obtain the most current FIS Report components. Communities participating in the NFIP have established repositories of flood hazard data for floodplain management and flood insurance purposes. Community map repository addresses are provided in Table 30, "Map Repositories," within this FIS Report.

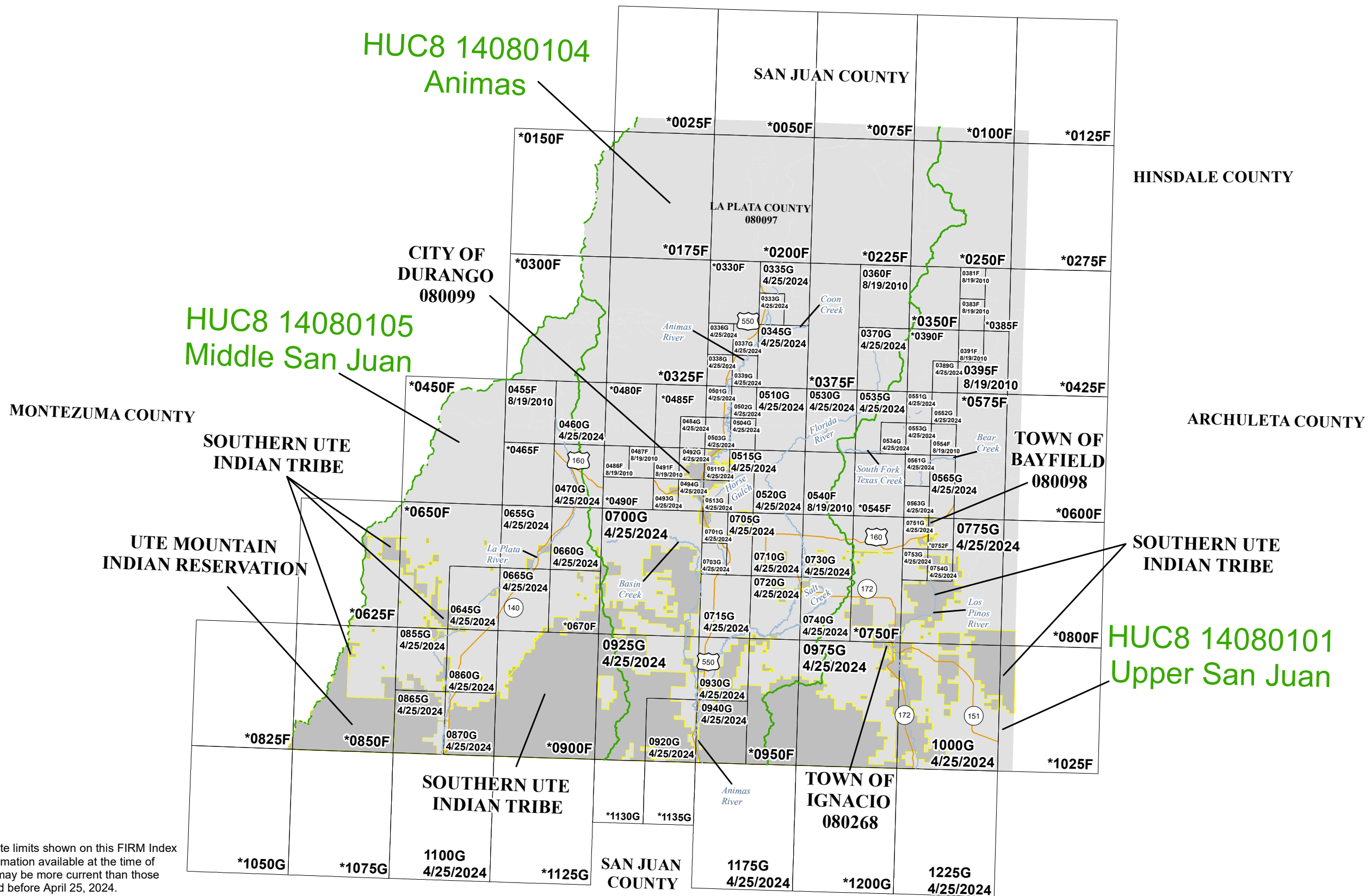
- New FIS Reports are frequently developed for multiple communities, such as entire counties. A countywide FIS Report incorporates previous FIS Reports for individual communities and the unincorporated area of the county (if not jurisdictional) into a single document and supersedes those documents for the purposes of the NFIP.

The initial Countywide FIS Report for La Plata County became effective on August 19, 2010. Refer to Table for information about subsequent revisions to the FIRMs.

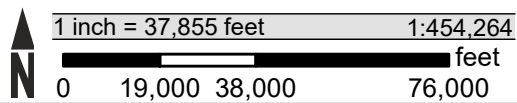
- FEMA has developed a *Guide to Flood Maps* (FEMA 258) and online tutorials to assist users in accessing the information contained on the FIRM. These include how to read panels and step-by-step instructions to obtain specific information. To obtain this guide and other assistance in using the FIRM, visit the FEMA Web site at www.fema.gov/online-tutorials.

The FIRM Index in Figure 1 shows the overall FIRM panel layout within La Plata County, and also displays the panel number and effective date for each FIRM panel in the county. Other information shown on the FIRM Index includes community boundaries, flooding sources, watershed boundaries, and USGS HUC-8 codes.

Figure 1: FIRM Index



ATTENTION: The corporate limits shown on this FIRM Index are based on the best information available at the time of publication. As such, they may be more current than those shown on the panels issued before April 25, 2024.

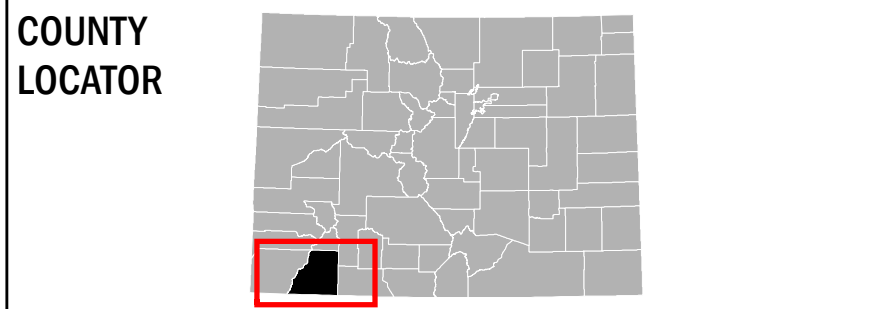


Map Projection:
Universal Transverse Mercator Zone 13N;
North American Datum 1983

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT [HTTPS://MSC.FEMA.GOV](https://MSC.FEMA.GOV)

SEE FLOOD INSURANCE STUDY FOR ADDITIONAL INFORMATION

* PANEL NOT PRINTED - NO SPECIAL FLOOD HAZARD AREAS



NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP INDEX

LA PLATA COUNTY, COLORADO And Incorporated Areas

PANELS PRINTED:

0333, 0335, 0336, 0337, 0338, 0339, 0345, 0360, 0370, 0381, 0383, 0389, 0391, 0395, 0455, 0460, 0470, 0484, 0486, 0487, 0491, 0492, 0493, 0494, 0501, 0502, 0503, 0504, 0510, 0511, 0513, 0515, 0520, 0530, 0534, 0535, 0540, 0551, 0552, 0553, 0554, 0561, 0563, 0565, 0645, 0655, 0660, 0665, 0700, 0701, 0703, 0705, 0710, 0715, 0720, 0730, 0740, 0751, 0753, 0754, 0775, 0855, 0860, 0865, 0870, 0920, 0925, 0930, 0940, 0975, 1000, 1100, 1175, 1225



FEMA
MAP NUMBER
08067CIND0B
MAP REVISED
APRIL 25, 2024

Each FIRM panel may contain specific notes to the user that provide additional information regarding the flood hazard data shown on that map. However, the FIRM panel does not contain enough space to show all the notes that may be relevant in helping to better understand the information on the panel. Figure 2 contains the full list of these notes.

Figure 2: FIRM Notes to Users

<h2 style="text-align: center;">NOTES TO USERS</h2>
<p>For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products, or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Flood Map Service Center website or by calling the FEMA Map Information eXchange.</p> <p>Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.</p> <p>For community and countywide map dates, refer to Table 27 in this FIS Report.</p> <p>To determine if flood insurance is available in the community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.</p>
<p>The map is for use in administering the NFIP. It may not identify all areas subject to flooding, particularly from local drainage sources of small size. Consult the community map repository to find updated or additional flood hazard information.</p> <p>BASE FLOOD ELEVATIONS: For more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, consult the Flood Profiles and Floodway Data and/or Summary of Non-Coastal Stillwater Elevations tables within this FIS Report. Use the flood elevation data within the FIS Report in conjunction with the FIRM for construction and/or floodplain management.</p>
<p>FLOODWAY INFORMATION: Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the FIS Report for this jurisdiction.</p>
<p>FLOOD CONTROL STRUCTURE INFORMATION: Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 4.3 "Non-Levee Flood Protection Measures" of this FIS Report for information on flood control structures for this jurisdiction.</p>

Figure 2. FIRM Notes to Users

PROJECTION INFORMATION: The projection used in the preparation of the map was Universal Transverse Mercator (UTM) Zone 13. The horizontal datum was the North American Datum of 1983 NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

ELEVATION DATUM: Flood elevations on the FIRM are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at www.ngs.noaa.gov.

Local vertical monuments may have been used to create the map. To obtain current monument information, please contact the appropriate local community listed in Table 30 of this FIS Report.

BASE MAP INFORMATION: Base map information shown on this FIRM was derived from the U.S. Census Bureau TIGER files, the U.S. Geological Survey, and the La Plata County GIS Department, dated 2019, and the U.S. Department of Agriculture, dated 2016. For information about base maps, refer to Section 6.2 “Base Map” in this FIS Report.”

Corporate limits shown on the map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after the map was published, map users should contact appropriate community officials to verify current corporate limit locations.

NOTES FOR FIRM INDEX

REVISIONS TO INDEX: As new studies are performed and FIRM panels are updated within La Plata County, Colorado, corresponding revisions to the FIRM Index will be incorporated within the FIS Report to reflect the effective dates of those panels. Please refer to Table 27 of this FIS Report to determine the most recent FIRM revision date for each community. The most recent FIRM panel effective date will correspond to the most recent index date.

SPECIAL NOTES FOR SPECIFIC FIRM PANELS

This Notes to Users section was created specifically for La Plata County, CO, effective April 25, 2024.

FLOOD RISK REPORT: A Flood Risk Report (FRR) may be available for many of the flooding sources and communities referenced in this FIS Report. The FRR is provided to increase public awareness of flood risk by helping communities identify the areas within their jurisdictions that have the greatest risks. Although non-regulatory, the information provided within the FRR can assist communities in assessing and evaluating mitigation opportunities to reduce these risks. It can also be used by communities developing or updating flood risk mitigation plans. These plans allow communities to identify and evaluate opportunities to reduce potential loss of life and property. However, the FRR is not intended to be the final authoritative source of all flood risk data for a project area; rather, it should be used with other data sources to paint a comprehensive picture of flood risk.

Each FIRM panel contains an abbreviated legend for the features shown on the maps. However, the FIRM panel does not contain enough space to show the legend for all map features. Figure 3 shows the full legend of all map features. Note that not all of these features may appear on the FIRM panels in La Plata County.

Figure 3: Map Legend for FIRM

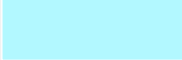

SPECIAL FLOOD HAZARD AREAS: The 1% annual chance flood, also known as the base flood or 100-year flood, has a 1% chance of happening or being exceeded each year. Special Flood Hazard Areas are subject to flooding by the 1% annual chance flood. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood. The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights. See note for specific types. If the floodway is too narrow to be shown, a note is shown.	
	Special Flood Hazard Areas subject to inundation by the 1% annual chance flood (Zones A, AE, AH, AO, AR, A99, V and VE)
Zone A	The flood insurance rate zone that corresponds to the 1% annual chance floodplains. No base (1% annual chance) flood elevations (BFEs) or depths are shown within this zone.
Zone AE	The flood insurance rate zone that corresponds to the 1% annual chance floodplains. Base flood elevations derived from the hydraulic analyses are shown within this zone.
Zone AH	The flood insurance rate zone that corresponds to the areas of 1% annual chance shallow flooding (usually areas of ponding) where average depths are between 1 and 3 feet. Whole-foot BFEs derived from the hydraulic analyses are shown at selected intervals within this zone.
Zone AO	The flood insurance rate zone that corresponds to the areas of 1% annual chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between 1 and 3 feet. Average whole-foot depths derived from the hydraulic analyses are shown within this zone.
Zone AR	The flood insurance rate zone that corresponds to areas that were formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
Zone A99	The flood insurance rate zone that corresponds to areas of the 1% annual chance floodplain that will be protected by a Federal flood protection system where construction has reached specified statutory milestones. No base flood elevations or flood depths are shown within this zone.
Zone V	The flood insurance rate zone that corresponds to the 1% annual chance coastal floodplains that have additional hazards associated with storm waves. Base flood elevations are not shown within this zone.
Zone VE	Zone VE is the flood insurance rate zone that corresponds to the 1% annual chance coastal floodplains that have additional hazards associated with storm waves. Base flood elevations derived from the coastal analyses are shown within this zone as static whole-foot elevations that apply throughout the zone.
	Regulatory Floodway determined in Zone AE.

Figure 3: Map Legend for FIRM

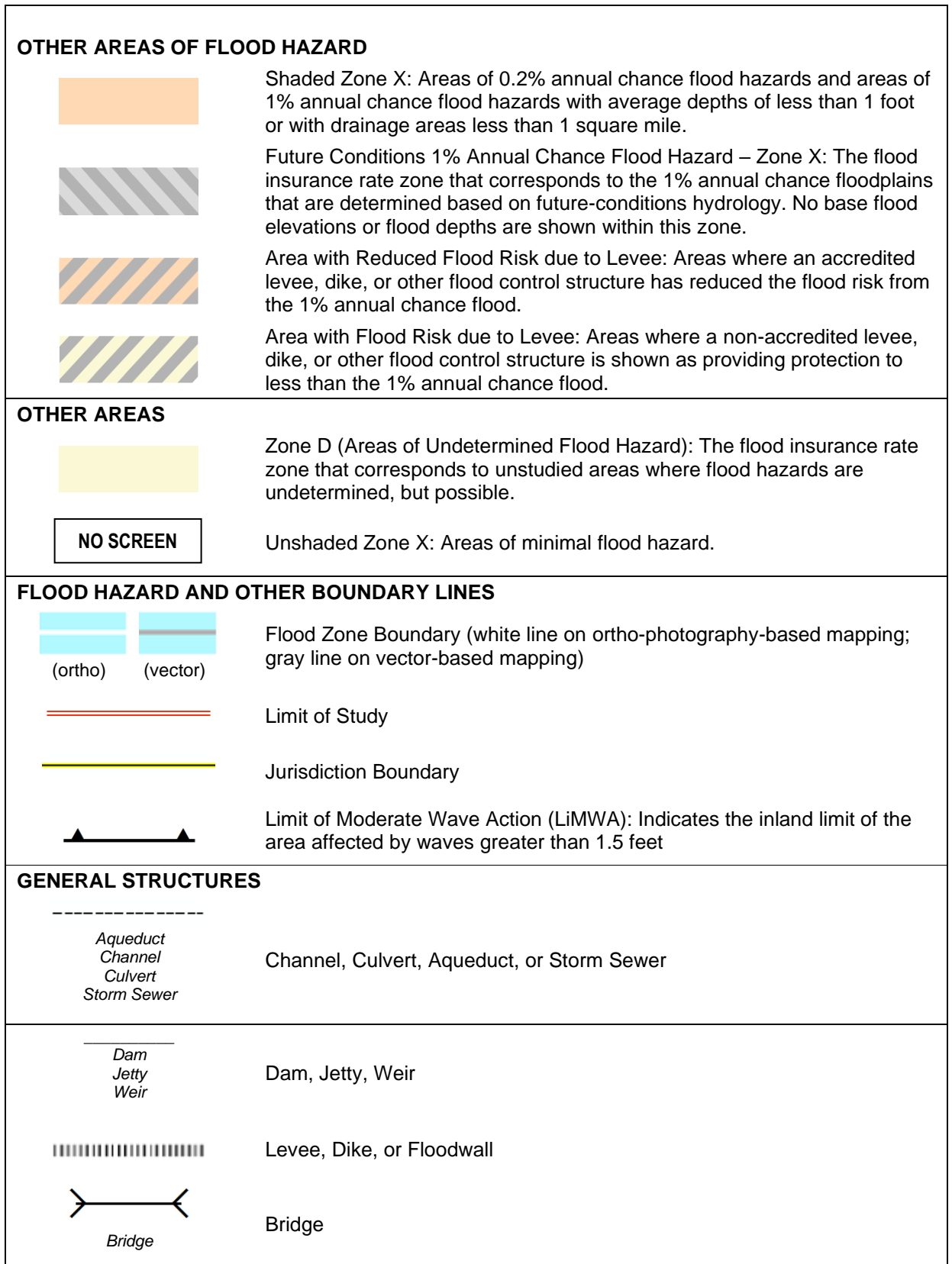


Figure 3: Map Legend for FIRM


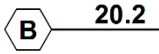
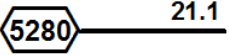
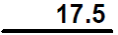
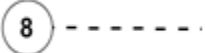









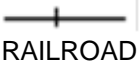
REFERENCE MARKERS	
	River mile Markers
CROSS SECTION & TRANSECT INFORMATION	
	Lettered Cross Section with Regulatory Water Surface Elevation (BFE)
	Numbered Cross Section with Regulatory Water Surface Elevation (BFE)
	Unlettered Cross Section with Regulatory Water Surface Elevation (BFE)
	Coastal Transect
	Profile Baseline: Indicates the modeled flow path of a stream and is shown on FIRM panels for all valid studies with profiles or otherwise established base flood elevation.
	Coastal Transect Baseline: Used in the coastal flood hazard model to represent the 0.0-foot elevation contour and the starting point for the transect and the measuring point for the coastal mapping.
	Base Flood Elevation Line
ZONE AE (EL 16)	Static Base Flood Elevation value (shown under zone label)
ZONE AO (DEPTH 2)	Zone designation with Depth
ZONE AO (DEPTH 2) (VEL 15 FPS)	Zone designation with Depth and Velocity
BASE MAP FEATURES	
	River, Stream or Other Hydrographic Feature
	Interstate Highway
	U.S. Highway
	State Highway
	County Highway
	Street, Road, Avenue Name, or Private Drive if shown on Flood Profile
	Railroad

Figure 3: Map Legend for FIRM

—————	Horizontal Reference Grid Line
—	Horizontal Reference Grid Ticks
+	Secondary Grid Crosshairs
Land Grant	Name of Land Grant
7	Section Number
R. 43 W. T. 22 N.	Range, Township Number
4276^{000m}E	Horizontal Reference Grid Coordinates (UTM)
365000 FT	Horizontal Reference Grid Coordinates (State Plane)
80° 16' 52.5"	Corner Coordinates (Latitude, Longitude)

SECTION 2.0 – FLOODPLAIN MANAGEMENT APPLICATIONS

2.1 Floodplain Boundaries

To provide a national standard without regional discrimination, the 1-percent-annual-chance (100-year) flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2-percent-annual-chance (500-year) flood is employed to indicate additional areas of flood hazard in the community.

Each flooding source included in the project scope has been studied and mapped using professional engineering and mapping methodologies that were agreed upon by FEMA and La Plata County as appropriate to the risk level. Flood risk is evaluated based on factors such as known flood hazards and projected impact on the built environment. Engineering analyses were performed for each studied flooding source to calculate its 1-percent-annual-chance flood elevations; elevations corresponding to other floods (e.g. 10-, 4-, 2-, 0.2-percent annual chance, etc.) may have also been computed for certain flooding sources. Engineering models and methods are described in detail in Section 5.0 of this FIS Report. The modeled elevations at cross sections were used to delineate the floodplain boundaries on the FIRM; between cross sections, the boundaries were interpolated using elevation data from various sources. More information on specific mapping methods is provided in Section 6.0 of this FIS Report.

Depending on the accuracy of available topographic data (Table 22), study methodologies employed (Section 5.0), and flood risk, certain flooding sources may be mapped to show both the 1-percent and 0.2-percent-annual-chance floodplain boundaries, regulatory water surface elevations (BFEs), and/or a regulatory floodway. Similarly, other flooding sources may be mapped to show only the 1-percent-annual-chance floodplain boundary on the FIRM, without published water surface elevations. In cases where the 1-percent and 0.2-percent-annual-chance floodplain boundaries are close together, only the 1-percent-annual-chance floodplain boundary is shown on the FIRM. Figure 3, “Map Legend for FIRM”, describes the flood zones that are used on the FIRMs to account for the varying levels of flood risk that exist along flooding sources within the project area. Table 2 and Table 3 indicate the flood zone designations for

each flooding source and each community within La Plata County, respectively.

Table 2, "Flooding Sources Included in this FIS Report," lists each flooding source, including its study limits, affected communities, mapped zone on the FIRM, and the completion date of its engineering analysis from which the flood elevations on the FIRM and in the FIS Report were derived. Descriptions and dates for the latest hydrologic and hydraulic analyses of the flooding sources are shown in Table 12. Floodplain boundaries for these flooding sources are shown on the FIRM (published separately) using the symbology described in Figure 3. On the map, the 1-percent-annual-chance floodplain corresponds to the SFHAs. The 0.2-percent-annual-chance floodplain shows areas that, although out of the regulatory floodplain, are still subject to flood hazards.

Small areas within the floodplain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data. The procedures to remove these areas from the SFHA are described in Section 6.5 of this FIS Report.

Table 2: Flooding Sources Included in this FIS Report

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
500 Yr Split Flow	La Plata County, Unincorporated Areas	Approximately 39 feet upstream of Trust Dr.	Approximately 247 feet upstream County Road 500	14080101	0.3		N	Zone AE	2007
Animas River	La Plata County, Unincorporated Areas; Southern Ute Indian Reservation	Approximately 150 feet south of the Colorado-New Mexico border	Approximately 1.0 mile downstream of River Road	14080104	14.7		N	Zone A	2019
Animas River	Durango, City of; La Plata County, Unincorporated Areas	Approximately 1.0 mile downstream of River Road	Approximately 1.6 miles upstream of Trimble Lane	14080104	12.8		Y	Zone AE	2019
Animas River	La Plata County, Unincorporated Areas	Approximately 1.6 miles upstream of Trimble Lane	Divergence of Coon Creek Split	14080104	4.0		Y	Zone AE	2019
Animas River	La Plata County, Unincorporated Areas	Divergence of Coon Creek	Approximately 150 feet upstream of County Road 250 (Baker's Bridge)	14080104	0.6		Y	Zone AE	2019
Animas River	La Plata County, Unincorporated Areas	Approximately 150 feet upstream of County Road 250 (Bakers Bridge)	Approximately 4.4 miles upstream of County Road 250 (Bakers Bridge)	14080104	2.5		N	Zone A	2019
Basin Creek	La Plata County, Unincorporated Areas; Southern Ute Indian Reservation	Confluence with Animas River	Approximately 1.1 miles upstream of County Road 211	14080104	5.7		N	Zone A	2019

Table 2: Flooding Sources Included in this FIS Report

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Bear Creek	La Plata County, Unincorporated Areas	Confluence with Los Pinos River	Approximately 0.8 miles upstream of County Road 501	14080101	1.9		N	Zone A	2019
Coon Creek	La Plata County, Unincorporated Areas	Confluence with Animas River	Divergence with Animas River	14080104	4.0		N	Zone AE	2019
D Creek	La Plata County, Unincorporated Areas	Confluence with Grimes Creek	Approximately 269 feet upstream of Hope Rd	14080101	0.2		Y	Zone AE	2007
Dry Gulch	Durango, City of	Confluence with Junction Creek	Approximately 0.2 miles upstream of Pine Ridge Court	14080104	0.4		Y	Zone AE	2019
Dry Gulch	Durango, City of	Approximately 0.2 miles upstream of Pine Ridge Court	Approximately 140 feet downstream of Borrego Drive	14080104	0.07		Y	Zone AE	2019
Dry Gulch	Durango, City of	Approximately 140 feet downstream of Borrego Drive	Approximately 160 feet upstream of Tanglewood Drive	14080104	1.0		Y	Zone AE	2019
Dry Gulch	Durango, City of; La Plata County, Unincorporated Areas	Approximately 160 feet upstream of Tanglewood Drive	Approximately 1.5 miles upstream of Tanglewood Drive	14080104	0.8		N	Zone A	2019
Dry Gulch Split	Durango, City of	Approximately 0.2 miles upstream of Pine Ridge Court	Approximately 140 feet downstream of Borrego Drive	14080104	0.07		Y	Zone AE	2019

Table 2: Flooding Sources Included in this FIS Report

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Florida River	La Plata County, Unincorporated Areas; Southern Ute Indian Reservation	Confluence with Animas River	Approximately 0.2 miles downstream Lemon Reservoir	14080104	25.7		N	Zone A	2019
Grimes Creek	La Plata County, Unincorporated Areas	Approximately 0.2 miles upstream of edge of Vallecito Lake	Approximately 0.14 miles upstream of confluence with D Creek	14080101	1.6		Y	Zone AE	2007
Grimes Creek East	La Plata County, Unincorporated Areas	Confluence with Grimes Creek	Approximately 0.2 miles upstream of W Grimes Creek Rd	14080101	0.4		Y	Zone AE	2007
Grimes to Vallecito	La Plata County, Unincorporated Areas	Confluence with Vallecito Creek	Approximately 244 feet downstream of Pnderosa Homes Dr	14080101	0.1		Y	Zone AE	2007
Grimes West	La Plata County, Unincorporated Areas	Approximately 0.2 miles downstream of Hummingbird Way	Approximately 401 feet downstream of County Road 501	14080101	0.4		Y	Zone AE	2007
Hermosa Creek	La Plata County, Unincorporated Areas; San Juan National Forest	Confluence with Animas River	Approximately 2.1 miles upstream of U.S. Highway 550	14080104	2.3		Y	Zone AE	2019
Horse Gulch	Durango, City of	Confluence with Animas River	Approximately 0.2 miles upstream of confluence with Animas River	14080104	0.1		Y	Zone AE	2019

Table 2: Flooding Sources Included in this FIS Report

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Horse Gulch	Durango, City of	Approximately 0.2 miles upstream of confluence with Animas River	Approximately 0.2 miles downstream of E 8th Ave	14080104	0.2		Y	Zone AE	2019
Horse Gulch	Durango, City of; La Plata County, Unincorporated Areas	Approximately 0.2 miles downstream of E 8th Ave	Approximately 0.4 miles upstream of E 8th Ave	14080104	0.2		Y	Zone AE	2019
Horse Gulch	La Plata County, Unincorporated Areas	Approximately 0.4 miles upstream of E 8th Ave	Approximately 4.8 miles upstream of E 8th Ave	14080104	3.0		N	Zone A	2019
Horse Gulch Split	Durango, City of	Confluence with Horse Gulch	Divergence from Horse Gulch	14080104	0.2		Y	Zone AE	2019
Junction Creek	Durango, City of; La Plata County, Unincorporated Areas	Confluence with Animas River	Approximately 0.5 miles upstream of Mountain Memories Lane	14080104	3.7		Y	Zone AE	2019
La Plata River	La Plata County, Unincorporated Areas; Southern Ute Indian Reservation	Approximately 120 feet downstream of Colorado/New Mexico border	Approximately 4.3 miles upstream of U.S. Highway 160	14080105	24.0		N	Zone A	2019
Lightner Creek	Durango, City of; La Plata County, Unincorporated Areas	Confluence with Animas River	Confluence of Wildcat Canyon	14080104	1.7		Y	Zone AE	2019
Lightner Creek	Durango, City of; La Plata County, Unincorporated Areas	Confluence of Wildcat Canyon	Approximately 342 feet downstream of Lightner Creek Rd	14080104	1.3		Y	Zone AE	1978

Table 2: Flooding Sources Included in this FIS Report

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Los Pinos River	La Plata County, Unincorporated Areas; Southern Ute Indian Reservation	Approximately 0.2 miles downstream of Colorado-New Mexico border	Approximately 1.2 miles downstream of County Road 151	14080101	7.4		N	Zone A	2019
Los Pinos River	La Plata County, Unincorporated Areas; Southern Ute Indian Reservation	Approximately 1.2 miles downstream of County Road 151	Approximately 1.1 miles upstream of Bear Dance Drive	14080101	2.3		Y	Zone AE	2019
Los Pinos River	La Plata County, Unincorporated Areas; Southern Ute Indian Reservation	Approximately 1.1 miles upstream of Bear Dance Drive	Approximately 1.8 miles downstream of Bayfield Parkway	14080101	5.2		N	Zone A	2019
Los Pinos River	Bayfield, Town of; La Plata County, Unincorporated Areas; Southern Ute Indian Reservation	Approximately 1.8 miles downstream of Bayfield Parkway	Approximately 3.1 miles upstream of U.S. Highway 160	14080101	3.5		Y	Zone AE	2019
Los Pinos River	La Plata County, Unincorporated Areas	Approximately 3.1 miles upstream of U.S. Highway 160	Approximately 0.9 miles upstream of County Road 501	14080101	5.6		N	Zone AE	2019
Los Pinos River	La Plata County, Unincorporated Areas	Approximately 0.9 miles upstream of County Road 501	Approximately 0.3 miles downstream of Narnia Lane	14080101	0.6		N	Zone AE	2019

Table 2: Flooding Sources Included in this FIS Report

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Los Pinos River	La Plata County, Unincorporated Areas	Approximately 0.3 miles downstream of Narnia Lane	Approximately 2.4 miles upstream of confluence of Red Creek	14080101	3.3		N	Zone AE	2019
Los Pinos River Split	La Plata County, Unincorporated Areas	Approximately 0.9 miles upstream of County Road 501	Approximately 0.3 miles downstream of Narnia Lane	1408101	0.6		N	Zone AE	2019
Lower Berri Creek	La Plata County, Unincorporated Areas	Approximately 0.1 mile downstream of County Road 501	Approximately 82 feet upstream of Little Valley Rd	14080101	0.8		Y	Zone AE, AO	2007
Middle Creek	La Plata County, Unincorporated Areas	Approximately 0.2 miles upstream of edge of Vallecito Lake	Confluence with Vallecito Creek	14080101	0.9		Y	Zone AE	2007
Middle East	La Plata County, Unincorporated Areas	Approximately 144 feet upstream of Tween Bridge Dr	Approximately 83 feet upstream of Decker Dr	14080101	0.1		Y	Zone AE	2007
Pine Gulch	La Plata County, Unincorporated Areas	Confluence with Florida River	Approximately 0.5 miles upstream of Prospect Dr	14080104	4.4		N	Zone A	2019
Red Creek	La Plata County, Unincorporated Areas	Confluence with Los Pinos River	Approximately 0.7 miles upstream of County Road 501	14080101	0.8		N	Zone A	2019
Salt Creek	La Plata County, Unincorporated Areas	Confluence with Florida River	Approximately 1.0 miles upstream of Shooter Lane	14080104	1.1		N	Zone A	2019

Table 2: Flooding Sources Included in this FIS Report

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
South Bear Creek	La Plata County, Unincorporated Areas	Confluence with Vallecito Creek	Confluence with Vallecito Creek	14080101	0.5		Y	Zone AE	2007
South Fork Texas Creek	La Plata County, Unincorporated Areas	Confluence with Los Pinos River	Approximately 1.1 miles upstream of confluence with Los Pinos River	14080101	0.6		N	Zone A	2019
Upper Berri Creek	La Plata County, Unincorporated Areas	Approximately 457 feet downstream of Little Valley Rd	Approximately 238 feet upstream of N Pine Ln	14080101	0.4		Y	Zone AE	2007
Vallecito Creek	La Plata County, Unincorporated Areas; San Juan National Forest	Approximately 0.2 miles upstream of edge of Vallecito Lake	Approximately 187 feet upstream of Vallecito CG FS Rd	14080101	2.8		Y	Zone AE	2007
Wildcat Canyon	La Plata County, Unincorporated Areas	Confluence with Lightner Creek	Approximately 0.4 miles upstream of Wildcat Canyon Road	14080104	1.8		N	Zone A	2019
Wilson Gulch	La Plata County, Unincorporated Areas	Confluence with Animas River	Confluence of Wilson Gulch Split	14080104	1.5		N	Zone A	2019
Wilson Gulch	Durango, City of; La Plata County, Unincorporated Areas	Confluence of Wilson Gulch Split	Approximately 2.0 miles upstream of County Road 235	1408104	3.0		N	Zone A	2019
Wilson Gulch Split	Durango, City of; La Plata County, Unincorporated Areas	Confluence with Wilson Gulch	Approximately 0.2 miles upstream of Three Springs Boulevard	14080104	0.8		N	Zone A	2019

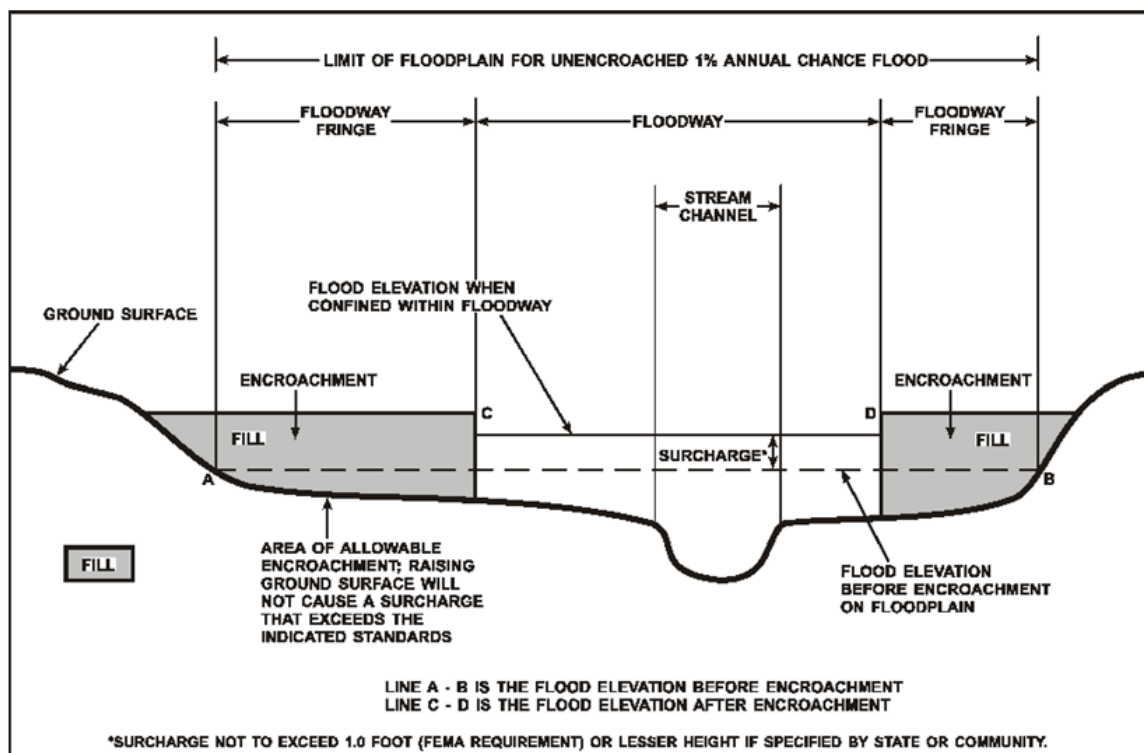
2.2 Floodways

Encroachment on floodplains, such as structures and fill, reduces flood-carrying capacity, increases flood heights and velocities, and increases flood hazards in areas beyond the encroachment itself. One aspect of floodplain management involves balancing the economic gain from floodplain development against the resulting increase in flood hazard.

For purposes of the NFIP, a floodway is used as a tool to assist local communities in balancing floodplain development against increasing flood hazard. With this approach, the area of the 1-percent-annual-chance floodplain on a river is divided into a floodway and a floodway fringe based on hydraulic modeling. The floodway is the channel of a stream, plus any adjacent floodplain areas, that must be kept free of encroachment in order to carry the 1-percent-annual-chance flood. The floodway fringe is the area between the floodway and the 1-percent-annual-chance floodplain boundaries where encroachment is permitted. The floodway must be wide enough so that the floodway fringe could be completely obstructed without increasing the water surface elevation of the 1-percent-annual-chance flood more than 1 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to floodplain development are shown in Figure 4.

To participate in the NFIP, Federal regulations require communities to limit increases caused by encroachment to 1.0 foot, provided that hazardous velocities are not produced. Regulations for Colorado require communities in La Plata County to limit increases caused by encroachment to 0.5 foot and several communities have adopted additional restrictions. The floodways in this project are presented to local agencies as minimum standards that can be adopted directly or that can be used as a basis for additional floodway projects.

Figure 4: Floodway Schematic



Floodway widths presented in this FIS Report and on the FIRM were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. For certain stream segments, floodways were adjusted so that the amount of floodwaters conveyed on each side of the floodplain would be reduced equally. The results of the floodway computations have been tabulated for selected cross sections and are shown in Table 23, "Floodway Data."

All floodways that were developed for this Flood Risk Project are shown on the FIRM using the symbology described in Figure 3. In cases where the floodway and 1-percent-annual-chance floodplain boundaries are either close together or collinear, only the floodway boundary has been shown on the FIRM. For information about the delineation of floodways on the FIRM, refer to Section 6.3.

2.3 Base Flood Elevations

The hydraulic characteristics of flooding sources were analyzed to provide estimates of the elevations of floods of the selected recurrence intervals. The BFE is the elevation of the 1-percent-annual-chance flood. These BFEs are most commonly rounded to the whole foot, as shown on the FIRM, but in certain circumstances or locations they may be rounded to 0.1 foot. Cross section lines shown on the FIRM may also be labeled with the BFE rounded to 0.1 foot. Whole-foot BFEs derived from engineering analyses that apply to coastal areas, areas of ponding, or other static areas with little elevation change may also be shown at selected intervals on the FIRM.

BFEs are primarily intended for flood insurance rating purposes. Cross sections with

BFEs shown on the FIRM correspond to the cross sections shown in the Floodway Data table and Flood Profiles in this FIS Report. For construction and/or floodplain management purposes, users are cautioned to use the flood elevation data presented in this FIS Report in conjunction with the data shown on the FIRM. For example, the user may use the FIRM to determine the stream station of a location of interest and then use the profile to determine the 1-percent annual chance elevation at that location. Because only selected cross sections may be shown on the FIRM for riverine areas, the profile should be used to obtain the flood elevation between mapped cross sections. Additionally, for riverine areas, whole-foot elevations shown on the FIRM may not exactly reflect the elevations derived from the hydraulic analyses; therefore, elevations obtained from the profile may more accurately reflect the results of the hydraulic analysis.

2.4 Non-Encroachment Zones

This section is not applicable to this Flood Risk Project.

2.5 Coastal Flood Hazard Areas

This section is not applicable to this Flood Risk Project.

2.5.1 Water Elevations and the Effects of Waves

This section is not applicable to this Flood Risk Project.

Figure 5: Wave Runup Transect Schematic
[Not Applicable to this Flood Risk Project]

2.5.2 Floodplain Boundaries and BFEs for Coastal Areas

This section is not applicable to this Flood Risk Project.

2.5.3 Coastal High Hazard Areas

This section is not applicable to this Flood Risk Project.

Figure 6: Coastal Transect Schematic
[Not Applicable to this Flood Risk Project]

2.5.4 Limit of Moderate Wave Action

This section is not applicable to this Flood Risk Project.

SECTION 3.0 – INSURANCE APPLICATIONS

3.1 National Flood Insurance Program Insurance Zones

For flood insurance applications, the FIRM designates flood insurance rate zones as described in Figure 3, “Map Legend for FIRM.” Flood insurance zone designations are assigned to flooding sources based on the results of the hydraulic or coastal analyses.

Insurance agents use the zones shown on the FIRM and depths and base flood elevations in this FIS Report in conjunction with information on structures and their contents to assign premium rates for flood insurance policies.

The 1-percent-annual-chance floodplain boundary corresponds to the boundary of the areas of special flood hazards (e.g. Zones A, AE, V, VE, etc.), and the 0.2-percent-annual-chance floodplain boundary corresponds to the boundary of areas of additional flood hazards.

Table 3 lists the flood insurance zones in La Plata County.

Table 3: Flood Zone Designations by Community

Community	Flood Zone(s)
Bayfield, Town of	AE, X
Durango, City of	A, AE, AO, X
Ignacio, Town of	AE, X
La Plata County, Unincorporated Areas	A, AE, AO, X

SECTION 4.0 – AREA STUDIED

4.1 Basin Description

Table 4 contains a description of the characteristics of the HUC-8 sub-basins within which each community falls. The table includes the main flooding sources within each basin, a brief description of the basin, and its drainage area.

Table 4: Basin Characteristics

HUC-8 Sub-Basin Name	HUC-8 Sub-Basin Number	Primary Flooding Source	Description of Affected Area	Drainage Area (square miles)
Animas	14080104	Animas River	Covers central portion of the county	817
Middle San Juan	14080105	San Juan River	Covers western portion of the county	419
Upper San Juan	14080101	San Juan River	Covers eastern portion of the county	463

4.2 Principal Flood Problems

Table 5 contains a description of the principal flood problems that have been noted for La Plata County by flooding source.

Table 5: Principal Flood Problems

Flooding Source	Description of Flood Problems
Animas River	The October 5, 1911 flood is considered the most severe known in the Durango area. During that flood, a peak flow of 25,000 cubic feet per second (cfs), which was estimated to be a flood of 100-year frequency, was recorded on the Animas River.
Hermosa Creek	The largest snowmelt flood of record, on Hermosa Creek occurred in May 1941, and the second largest occurred in 1920.
Junction Creek	The largest flood on Lightner and Junction Creeks occurred on October 20, 1972, with peak flows of 2830 and 1780 cfs, respectively (approximate return period of 50 years).
Lightner Creek	The largest flood on Lightner and Junction Creeks occurred on October 20, 1972, with peak flows of 2830 and 1780 cfs, respectively (approximate return period of 50 years).
Los Pinos River	In 1911, the Los Pinos River inundated the land along the river at Bayfield for nearly 1 week. The water reached a depth of 3.5 to 4 feet at the fairgrounds.
Upper Vallecito Creek	The flood of September 1970 at Upper Vallecito Creek was caused by an extremely heavy rainfall of 4.5 inches in 6-to 12-hour period.
Vallecito Creek	In October 2006, a flood occurred on Vallecito Creek. The flood measured in the vicinity of 4,000 cfs, corresponding to a 4% annual chance of recurrence (25-year return period) event. The flood also caused severe bank erosion along the length of the creek above Vallecito reservoir, which resulted in bank retreats of 20 to 30 feet in some locations.
Vallecito Reservoir	In July 1957, heavy rains in the mountains to the north filled the Vallecito Reservoir to its ultimate capacity. The three flood gates all opened at once releasing a surge of water at approximate 13,000 cfs.

Table 6 contains information about historic flood elevations in the communities within La Plata County.

Table 6: Historic Flooding Elevations
[Not Applicable to this Flood Risk Project]

4.3 Non-Levee Flood Protection Measures

Table 7 contains information about non-levee flood protection measures within La Plata County such as dams, jetties, and or dikes. Levees are addressed in Section 4.4 of this FIS Report.

Table 7: Non-Levee Flood Protection Measures
[Not Applicable to this Flood Risk Project]

4.4 Levees

This section is not applicable to this Flood Risk Project.

Table 8: Levees
[Not Applicable to this Flood Risk Project]

SECTION 5.0 – ENGINEERING METHODS

For the flooding sources in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude that are expected to be equaled or exceeded at least once on the average during any 10-, 25-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 25-, 50-, 100-, and 500-year floods, have a 10-, 4-, 2-, 1-, and 0.2-percent-annual-chance, respectively, of being equaled or exceeded during any year.

Although the recurrence interval represents the long-term, average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood that equals or exceeds the 100-year flood (1-percent chance of annual exceedance) during the term of a 30-year mortgage is approximately 26 percent (about 3 in 10); for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

In addition to these flood events, the “1-percent-plus”, or “1%+”, annual chance flood elevation has been modeled and included on the flood profile for certain flooding sources in this FIS Report. While not used for regulatory or insurance purposes, this flood event has been calculated to help illustrate the variability range that exists between the regulatory 1-percent-annual-chance flood elevation and a 1-percent-annual-chance elevation that has taken into account an additional amount of uncertainty in the flood discharges (thus, the 1% “plus”). For flooding sources whose discharges were estimated using regression equations, the 1%+ flood elevations are derived by taking the 1-percent-annual-chance flood discharges and increasing the modeled discharges by a percentage equal to the average predictive error for the regression equation. For flooding sources with gage- or rainfall-runoff-based discharge estimates, the upper 84-percent confidence limit of the discharges is used to compute the 1%+ flood elevations.

5.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak elevation-frequency relationships for floods of the selected recurrence intervals for each flooding source studied. Hydrologic analyses are typically performed at the watershed level. Depending on factors such as watershed size and shape, land use and urbanization, and natural or

man-made storage, various models or methodologies may be applied. A summary of the hydrologic methods applied to develop the discharges used in the hydraulic analyses for each stream is provided in Table 12. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation.

A summary of the discharges is provided in Table 9.

Table 9: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1% Annual Chance Plus	0.2% Annual Chance
500-Year Split Flow	Split from Vallecito Creek	*	*	*	*	*	*	482
Animas River	Upstream of Needle Creek Confluence	243	3,897	4,494	4,984	5,519	6,308	6,983
Animas River	Upstream of Cascade Creek Confluence	254.4	4,032	4,685	5,223	5,813	6,674	7,435
Animas River	Downstream of Cascade Creek Confluence	339.6	4,987	6,034	6,916	7,896	9,266	10,637
Animas River	Upstream of Bear Creek	384.3	5,493	6,748	7,813	8,998	10,638	12,332
Animas River	Downstream of Coon Creek	435.9	6,066	7,558	8,828	10,248	12,193	14,253
Animas River	Upstream of Falls Creek	623.6	8,178	10,542	12,573	14,854	17,926	21,336
Animas River	USGS Gage 09361500, Animas at Durango	700.9	9,051	11,775	14,120	16,758	20,295	24,263
Animas River	Downstream of Lightner Creek Confluence	766.2	9,641	12,543	15,041	17,851	21,619	25,845
Animas River	Downstream of Basin Creek	809.4	10,022	13,038	15,635	18,556	22,472	26,866
Animas River	Upstream of Florida River Confluence	873.5	10,578	13,762	16,502	19,585	23,719	28,356
Animas River	Downstream of Florida River Confluence	1,094.6	12,454	16,203	19,429	23,059	27,926	33,386
Animas River	Animas at New Mexico Border	1,127	12,667	16,479	19,761	23,452	28,402	33,955

Table 9: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1% Annual Chance Plus	0.2% Annual Chance
Basin Creek	At Confluence with Animas River	17.9	725	1,128	1,463	1,866	3,154	3,088
Basin Creek	Approximately 2.5 miles Upstream of Confluence	14.5	619	959	1,242	1,577	2,665	2,594
Bear Creek	At Confluence with Los Pinos	19.3	491	708	867	1,044	1,765	1,541
D Creek	Split from Vallecito Creek	*	*	*	2,953	5,293	*	16,138
Dry Gulch Creek	At Tanglewood Drive	2.02	149	226	291	358	606	568
Dry Gulch Creek	At Confluence with Junction Creek	4.48	246	373	475	588	993	927
Florida River	USGS Gage 09362900 Florida River below Lemon Reservoir	68.3	954	1,114	1,229	1,341	1,813	1,592
Florida River	USGS Gage 09363000, Florida at Durango	97.1	1,007	1,214	1,368	1,523	2,072	1,888
Florida River	Downstream of HWY 160	134.2	1,076	1,344	1,551	1,762	2,413	2,278
Florida River	Downstream of Salt Creek Confluence	170.6	1,145	1,475	1,733	2,002	2,753	2,668
Florida River	Downstream of Pine Gulch Confluence	193.6	1,188	1,556	1,847	2,150	2,965	2,910
Florida River	USGS Gage 09363200-Florida at Bondad	220.9	1,239	1,651	1,980	2,325	3,212	3,194

Table 9: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1% Annual Chance Plus	0.2% Annual Chance
Grimes Creek	Upstream of West Grimes Creek Road	*	631	*	2,157	2,443	*	4,106
Grimes Creek	Unnamed Location	*	301	*	2,368	2,933	*	6,522
Grimes Creek	Unnamed Location	*	301	*	3,230	4,231	*	10,106
Grimes Creek	Unnamed Location	*	301	*	3,240	4,317	*	11,370
Grimes Creek	Unnamed Location	*	301	*	3,484	4,957	*	13,640
Grimes Creek	At Vallecito Reservoir	*	301	*	3,703	6,043	*	18,138
Grimes East	Split from Grimes Creek	*	168	*	2,450	3,148	*	5,317
Grimes East	Unnamed Location	*	168	*	2,553	3,353	*	5,993
Grimes East	Unnamed Location	*	168	*	2,625	3,530	*	6,604
Grimes East	Confluence with Grimes Creek	*	168	*	2,694	3,789	*	7,588
Grimes to Vallecito	Split from Vallecito Creek	*	*	*	*	495	*	2,528
Grimes West	Split from Grimes Creek	*	*	*	272	334	*	815
Hermosa Creek	USGS Gage 09361000 at Hermosa Creek	172.4	2,138	2,828	3,375	3,947	5,034	5,379
Horse Gulch	Approximately 1 mile Upstream of Confluence with Animas	2.64	199	309	402	505	853	825
Horse Gulch	At Confluence with Animas River	4.81	320	503	660	840	1,420	1,403

Table 9: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1% Annual Chance Plus	0.2% Annual Chance
Junction Creek	USGS Gage 09361400, Junction Creek near Durango	25.5	575	1,006	825	1,210	2,045	1,775
Junction Creek	At Junction Creek Mobile Home Park	32.8	684	980	1,195	1,441	2,435	2,118
Junction Creek	Upstream of Confluence with Animas River	38.7	771	1,108	1,352	1,635	2,763	2,412
La Plata River	USGS Gage 0936550, La Plata River at Hesperus	34.5	868	1,147	1,369	1,599	1,894	2,175
La Plata River	Upstream of Hay Gulch Confluence	51.2	931	1,262	1,535	1,831	2,229	2,620
La Plata River	Downstream of Hay Gulch Confluence	81.34	1,046	1,470	1,836	2,249	2,835	3,424
La Plata River	Upstream of Cherry Creek Confluence	112	1,163	1,680	2,141	2,673	3,450	4,240
La Plata River	Downstream of Cherry Creek	187.3	1,449	2,198	2,892	3,716	4,963	6,246
La Plata River	Upstream of Long Hollow Confluence	221.2	1,578	2,431	3,231	4,186	5,644	7,150
La Plata River	USGS Gage 0936550, La Plata River at New Mexico Border	309.1	1,910	3,030	4,098	5,392	7,392	9,468
Lightner Creek	At Fish Hatchery	27	900	*	1,650	2,050	*	3,200
Lightner Creek	At Confluence with Coal Gulch	53	1,550	*	2,670	3,530	*	5,530

Table 9: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1% Annual Chance Plus	0.2% Annual Chance
Lightner Creek	At Confluence with Animas River	63.7	1,090	1,570	1,918	2,331	3,940	3,461
Los Pinos River	Los Pinos River at Vallecito	255	2,800	2,800	2,800	2,800	2,800	2,800
Los Pinos River	Upstream of South Fork Texas Creek	274	3,293	3,509	3,667	3,843	5,458	4,337
Los Pinos River	Downstream of CR-501	289	3,504	3,807	4,027	4,278	6,075	4,969
Los Pinos River	Upstream of Bear Creek	298	3,626	3,984	4,243	4,543	6,451	5,365
Los Pinos River	Los Pinos River at Bayfield	335	4,035	4,570	4,952	5,411	7,684	6,651
Los Pinos River	USGS Gage 09353800 Los Pinos River at Ignacio	340	4,109	4,679	5,088	5,581	7,925	6,917
Los Pinos River	Upstream of Dry Creek	410	4,741	5,586	6,187	6,934	8,252	8,935
Los Pinos River	Los Pinos River at Ignacio	444	5,059	6,055	6,765	7,661	9,117	10,062
Los Pinos River	Upstream of Ute Creek	474	5,090	6,102	6,824	7,737	9,207	10,182
Los Pinos River	Upstream of La Boca	507	5,667	6,962	7,896	9,097	10,826	12,328
Los Pinos River	USGS Gage 09354500 Los Pinos at La Boca	520	5,789	7,146	8,127	9,393	11,178	12,801
Lower Berri Creek	Unnamed Location	*	*	*	*	1,928	*	9,529
Lower Berri Creek	Confluence with Vallecito Creek	*	*	*	*	65	*	3,551
Middle Creek	Split from Vallecito Creek	*	284	*	305	317	*	511
Middle Creek	Unnamed Location	*	614	*	1,112	1,246	*	1,912

Table 9: Summary of Discharges

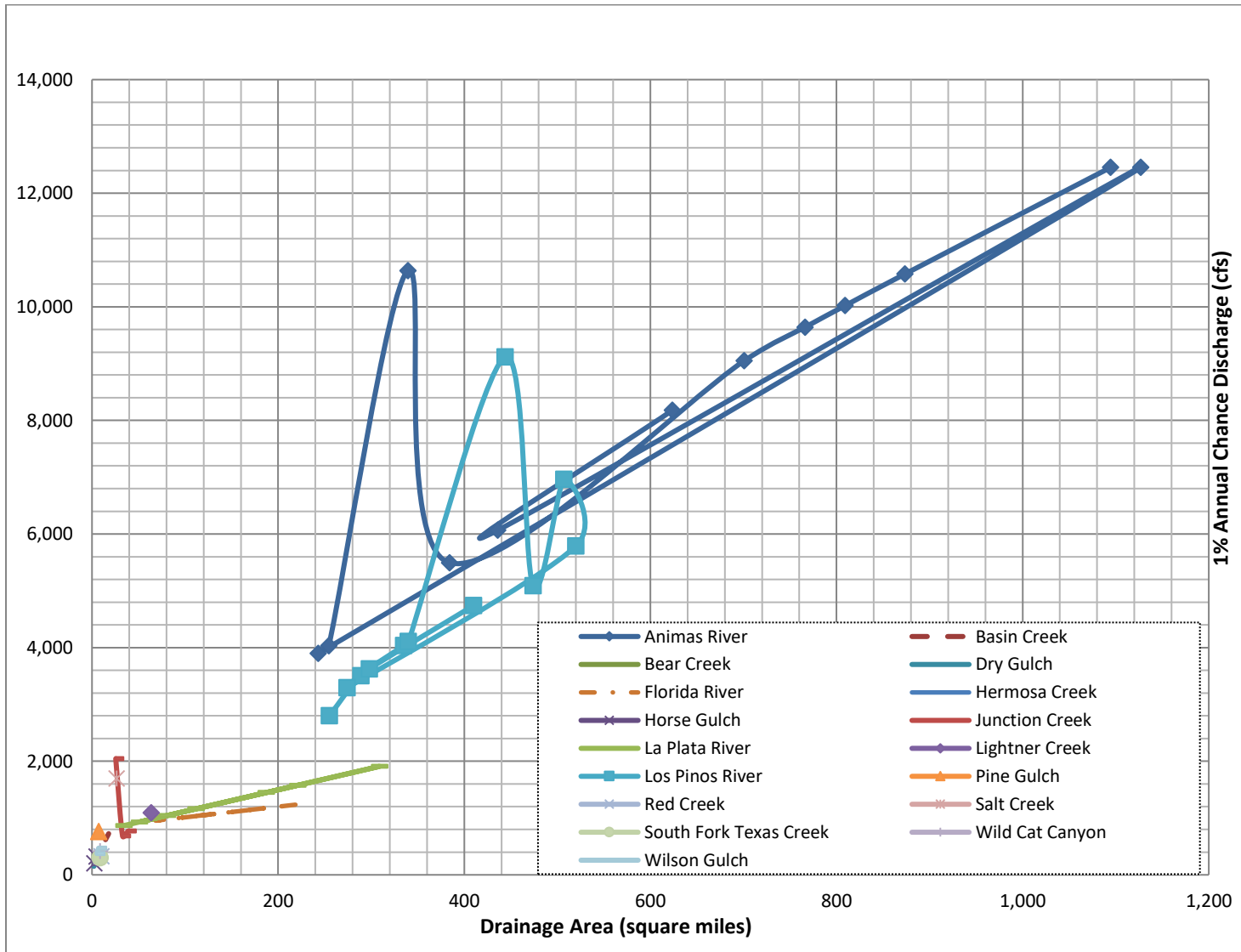
Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1% Annual Chance Plus	0.2% Annual Chance
Middle Creek	Unnamed Location	*	860	*	1,841	2,515	*	6,007
Middle Creek	At Vallecito Reservoir	*	1,246	*	1,797	3,079	*	7,821
Middle East	Confluence with Middle Creek	*	56	*	201	538	*	2,397
Pine Gulch	At Confluence with Florida River	7.14	760	1,325	1,878	2,592	4,381	5,072
Red Creek	At Confluence with Los Pinos	10.2	327	472	580	698	1,179	1,031
Salt Creek	At Confluence with Florida River	26.6	1,695	2,917	4,080	5,632	9,518	10,875
South Fork Texas Creek	At Confluence with Los Pinos	8.7	303	441	545	657	1,110	978
South Bear Creek	Split from Vallecito Creek	*	239	*	658	1,103	*	1,959
Upper Berri Creek	Unnamed Location	*	*	*	*	73	*	512
Upper Berri Creek	Confluence with Vallecito Creek	*	*	*	*	68	*	1,366
Vallecito Creek	At National Forest Boundary	*	2,372	*	4,527	7,175	*	20,772
Vallecito Creek	Unnamed Location	*	2,088	*	4,219	6,859	*	20,261
Vallecito Creek	Unnamed Location	*	1,841	*	2,744	4,502	*	11,058
Vallecito Creek	Unnamed Location	*	1,739	*	2,480	3,866	*	9,815
Vallecito Creek	Unnamed Location	*	1,454	*	1,914	2,483	*	4,876
Vallecito Creek	Unnamed Location	*	2,700	*	3,711	5,562	*	12,697

Table 9: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1% Annual Chance Plus	0.2% Annual Chance
Vallecito Creek	Unnamed Location	*	2,700	*	3,467	4,994	*	11,290
Vallecito Creek	Unnamed Location	*	2,459	*	2,589	2,804	*	5,603
Vallecito Creek	Unnamed Location	*	2,461	*	5,542	8,097	*	21,741
Vallecito Creek	At Vallecito Reservoir	*	2,700	*	6,200	9,200	*	23,700
Wild Cat Canyon	At Lightner Creek	8.81	416	637	819	1,028	1,738	1,742
Wilson Gulch	At High Llama Lane	5.32	374	596	791	1,019	1,723	1,743
Wilson Gulch	At Confluence with Animas River	7.09	469	753	1,002	1,300	2,197	2,245

*Data not Available

Figure 7: Frequency Discharge-Drainage Area Curves



**Table 10: Summary of Non-Coastal Stillwater Elevations
[Not Applicable to this Flood Risk Project]**

Table 11: Stream Gage Information used to Determine Discharges

Flooding Source	Gage Identifier	Agency that Maintains Gage	Site Name	Drainage Area (Square Miles)	Period of Record	
					From	To
Animas River	09361500	USGS	Animas River at Durango, CO	701	6/23/1898	6/5/2017
Florida River	09362900	CDWR	Florida River below Lemon Reservoir near Durango, CO	68.8	6/14/1991	4/20/2017
Florida River	09363200	USGS	Florida River at Bondad, CO	221	7/26/1957	7/24/1983
Hermosa Creek	09361000	USGS	Hermosa Creek near Hermosa, CO	172	5/23/1920	5/21/1980
La Plata	09365500	USGS	La Plata at Hesperus, CO	34.4	6/15/1905	6/6/2017
La Plata River	09366500	USGS	La Plata at Colorado-New Mexico State Line	331	8/1/1920	3/20/2017
Los Pinos	09355000	USGS	Los Pinos River at La Boca, CO	519	8/3/1951	4/5/2017
Los Pinos River	09353800	USGS	Los Pinos River near Ignacio, CO	340	10/7/1999	4/5/2017

5.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals. Base flood elevations on the FIRM represent the elevations shown on the Flood Profiles and in the Floodway Data tables in the FIS Report. Rounded whole-foot elevations may be shown on the FIRM in coastal areas, areas of ponding, and other areas with static base flood elevations. These whole-foot elevations may not exactly reflect the elevations derived from the hydraulic analyses. Flood elevations shown on the FIRM are primarily intended for flood insurance rating purposes. For construction and/or floodplain management purposes, users are cautioned to use the flood elevation data presented in this FIS Report in conjunction with the data shown on the FIRM. The hydraulic analyses for this FIS were based on unobstructed flow. The flood elevations

shown on the profiles are thus considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

For streams for which hydraulic analyses were based on cross sections, locations of selected cross sections are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 6.3), selected cross sections are also listed in Table 23, "Floodway Data."

A summary of the methods used in hydraulic analyses performed for this project is provided in Table 12. Roughness coefficients are provided in Table 13. Roughness coefficients are values representing the frictional resistance water experiences when passing overland or through a channel. They are used in the calculations to determine water surface elevations. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation.

Table 12: Summary of Hydrologic and Hydraulic Analyses

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
500 Yr Split Flow	Approximately 39 feet upstream of Trust Dr.	Approximately 247 feet upstream County Road 500	Discharge- Frequency based on Gage analysis	HEC-RAS step- backwater	2007	Zone AE	
Animas River	Approximately 150 feet south of the Colorado- New Mexio border	Approximately 1.0 mile downstream of River Road	Gage Analysis	HEC-RAS 5.0.5	2019	Zone A	
Animas River	Approximately 1.0 mile downstream of River Road	Approximately 1.6 miles upstream of Trimble Lane	Gage Analysis	HEC-RAS 5.0.6	2019	Zone AE with Floodway	
Animas River	Approximately 1.6 miles upstream of Trimble Lane	Divergence of Coon Creek Split	Gage Analysis	HEC-RAS 5.0.6	2019	Zone AE with Floodway	
Animas River	Divergence of Coon Creek Split	Approximately 150 feet upstream of County Road 250 (Baker's Bridge)	Gage Analysis	HEC-RAS 5.0.6	2019	Zone AE with Floodway	
Animas River	Approximately 150 feet upstream of County Road 250 (Bakers Bridge)	Approximately 4.4 miles upstream of County Road 250 (Bakers Bridge)	Gage Analysis	HEC-RAS 5.0.5	2019	Zone A	
Basin Creek	Confluence with Animas River	Approximately 1.1 miles upstream of County Road 211	Regression Analysis	HEC-RAS 5.0.5	2019	Zone A	

Table 12: Summary of Hydrologic and Hydraulic Analyses

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Bear Creek	Confluence with Los Pinos River	Approximately 0.8 miles upstream of County Road 501	Regression Analysis	HEC-RAS 5.0.5	2019	Zone A	
Coon Creek	Confluence with Animas River	Divergence with Animas River	Gage Analysis	HEC-RAS 5.0.6	2019	Zone AE	
D Creek	Confluence with Grimes Creek	Approximately 269 feet upstream of Hope Rd	Discharge-Frequency based on Gage analysis	HEC-RAS	2007	Zone AE with Floodway	
Dry Gulch	Confluence with Junction Creek	Approximately 0.2 miles upstream of Pine Ridge Court	Regression Analysis	HEC-RAS 5.0.5	2019	Zone AE with Floodway	
Dry Gulch	Approximately 0.2 miles upstream of Pine Ridge Court	Approximately 140 feet downstream of Borrego Drive	Regression Analysis	HEC-RAS 5.0.5	2019	Zone AE with Floodway	
Dry Gulch	Approximately 140 feet downstream of Borrego Drive	Approximately 160 feet upstream of Tanglewood Drive	Regression Analysis	HEC-RAS 5.0.5	2019	Zone AE with Floodway	
Dry Gulch	Approximately 160 feet upstream of Tanglewood Drive	Approximately 1.5 miles upstream of Tanglewood Drive	Regression Analysis	HEC-RAS 5.0.5	2019	Zone A	
Dry Gulch Split	Approximately 0.2 miles upstream of Pine Ridge Court	Approximately 140 feet downstream of Borrego Drive	Regression Analysis	HEC-RAS 5.0.5	2019	Zone AE with Floodway	

Table 12: Summary of Hydrologic and Hydraulic Analyses

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Florida River	Confluence with Animas River	Approximately 0.2 mile downstream Lemon Reservoir	Gage Analysis	HEC-RAS 5.0.5	2019	Zone A	
Grimes Creek	Approximately 0.2 miles upstream of edge of Vallecito Lake	Approximately 0.14 miles upstream of confluence with D Creek	Discharge- Frequency based on Gage analysis	HEC-RAS	2007	Zone AE with Floodway	
Grimes Creek East	Confluence with Grimes Creek	Approximately 0.2 miles upstream of W Grimes Creek Rd	Discharge- Frequency based on Gage analysis	HEC-RAS	2007	Zone AE with Floodway	
Grimes to Vallecito	Confluence with Vallecito Creek	Approximately 244 feet downstream of Pnderosa Homes Dr	Discharge- Frequency based on Gage analysis	HEC-RAS	2007	Zone AE with Floodway	
Grimes West	Approximately 0.2 miles downstream of Hummingbird Way	Approximately 401 feet downstream of County Road 501	Discharge- Frequency based on Gage analysis	HEC-RAS	2007	Zone AE with Floodway	
Hermosa Creek	Confluence with Animas River	Approximately 2.1 miles upstream of U.S. Highway 550	Gage Analysis	HEC-RAS 5.0.5	2019	Zone AE with Floodway	

Table 12: Summary of Hydrologic and Hydraulic Analyses

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Horse Gulch	Confluence with Animas River	Approximately 0.2 miles upstream of confluence with Animas River	Regression Analysis	HEC-RAS 5.0.5	2019	Zone AE with Floodway	
Horse Gulch	Approximately 0.2 miles upstream of confluence with Animas River	Approximately 0.2 miles downstream of E 8th Ave	Regression Analysis	HEC-RAS 5.0.5	2019	Zone AE with Floodway	
Horse Gulch	Approximately 0.2 miles downstream of E 8th Ave	Approximately 0.4 miles upstream of E 8th Ave	Regression Analysis	HEC-RAS 5.0.5	2019	Zone AE with Floodway	
Horse Gulch	Approximately 0.4 miles upstream of E 8th Ave	Approximately 4.8 miles upstream of E 8th Ave	Regression Analysis	HEC-RAS 5.0.5	2019	Zone A	
Horse Gulch Split	Confluence with Horse Gulch	Divergence from Horse Gulch	Regression Analysis	HEC-RAS 5.0.5	2019	Zone AE with Floodway	
Junction Creek	Confluence with Animas River	Approximately 0.5 miles upstream of Mountain Memories Lane	Regression Analysis	HEC-RAS 5.0.5	2019	Zone AE with Floodway	
La Plata River	Approximately 120 feet downstream of Colorado/New Mexico border	Approximately 4.3 miles upstream of U.S. Highway 160	Regression Analysis	HEC-RAS 5.0.5	2019	Zone A	
Lightner Creek	Confluence with Animas River	Confluence of Wildcat Canyon	Regression Analysis	HEC-RAS 5.0.6	2019	Zone AE with Floodway	
Lightner Creek	Confluence of Wildcat Canyon	Approximately 342 feet downstream of Lightner Creek Rd	Discharge-Frequency	HEC-2	1978	Zone AE with Floodway	

Table 12: Summary of Hydrologic and Hydraulic Analyses

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Los Pinos River	Approximately 0.2 miles downstream of Colorado-New Mexico border	Approximately 1.2 miles downstream of County Road 151	Incremental Regression	HEC-RAS 5.0.5	2019	Zone A	
Los Pinos River	Approximately 1.2 miles downstream of County Road 151	Approximately 1.1 miles upstream of Bear Dance Drive	Incremental Regression	HEC-RAS 5.0.6	2019	Zone AE with Floodway	
Los Pinos River	Approximately 1.1 miles upstream of Bear Dance Drive	Approximately 1.8 miles downstream of Bayfield Parkway	Incremental Regression	HEC-RAS 5.0.5	2019	Zone A	
Los Pinos River	Approximately 1.8 miles downstream of Bayfield Parkway	Approximately 3.1 miles upstream of U.S. Highway 160	Incremental Regression	HEC-RAS 5.0.6	2019	Zone AE with Floodway	
Los Pinos River	Approximately 3.1 miles upstream of U.S. Highway 160	Approximately 0.9 miles upstream of County Road 501	Incremental Regression	HEC-RAS 5.0.6	2019	Zone AE	
Los Pinos River	Approximately 0.9 miles upstream of County Road 501	Approximately 0.3 miles downstream of Narnia Lane	Incremental Regression	HEC-RAS 5.0.6	2019	Zone AE	
Los Pinos River	Approximately 0.3 miles downstream of Narnia Lane	Approximately 2.4 miles upstream of confluence of Red Creek	Incremental Regression	HEC-RAS 5.0.6	2019	Zone AE	
Los Pinos River Split	Approximately 0.9 miles upstream of County Road 501	Approximately 0.3 miles downstream of Narnia Lane	Incremental Regression	HEC-RAS 5.0.6	2019	Zone AE	

Table 12: Summary of Hydrologic and Hydraulic Analyses

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Lower Berri Creek	Approximately 0.1 mile downstream of County Road 501	Approximately 82 feet upstream of Little Valley Rd	Discharge- Frequency based on Gage analysis	HEC-RAS	2007	Zone AO, AE with Floodway	
Middle Creek	Approximately 0.2 miles upstream of edge of Vallecito Lake	Confluence with Vallecito Creek	Discharge- Frequency based on Gage analysis	HEC-RAS	2007	Zone AE with Floodway	
Middle East	Approximately 144 feet upstream of Tween Bridge Dr	Approximately 83 feet upstream of Decker Dr	Discharge- Frequency based on Gage analysis	HEC-RAS	2007	Zone AE with Floodway	
Pine Gulch	Confluence with Florida River	Approximately 0.5 miles upstream of Prospect Dr	Regression Analysis	HEC-RAS 5.0.5	2019	Zone A	
Red Creek	Confluence with Los Pinos River	Approximately 0.7 miles upstream of County Road 501	Regression Analysis	HEC-RAS 5.0.5	2019	Zone A	
Salt Creek	Confluence with Florida River	Approximately 1.0 miles upstream of Shooter Lane	Regression Analysis	HEC-RAS 5.0.5	2019	Zone A	
South Bear Creek	Confluence with Vallecito Creek	Confluence with Vallecito Creek	Regression Analysis	HEC-RAS 5.0.5	2007	Zone AE with Floodway	

Table 12: Summary of Hydrologic and Hydraulic Analyses

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
South Fork Texas Creek	Confluence with Los Pinos River	Approximately 1.1 miles upstream of confluence with Los Pinos River	Regression Analysis	HEC-RAS 5.0.5	2019	Zone A	
Upper Berri Creek	Approximately 457 feet downstream of Little Valley Rd	Approximately 238 feet upstream of N Pine Ln	Discharge- Frequency based on Gage analysis	HEC-RAS	2007	Zone AE with Floodway	
Vallecito Creek	Approximately 0.2 miles upstream of edge of Vallecito Lake	Approximately 187 feet upstream of Vallecito CG FS Rd	Discharge- Frequency based on Gage analysis	HEC-RAS	2007	Zone AE with Floodway	
Wildcat Canyon	Confluence with Lightner Creek	Approximately 0.4 miles upstream of Wildcat Canyon Road	Regression Analysis	HEC-RAS 5.0.5	2019	Zone A	
Wilson Gulch	Confluence with Animas River	Confluence of Wilson Gulch Split	Regression Analysis	HEC-RAS 5.0.5	2019	Zone A	
Wilson Gulch	Confluence of Wilson Gulch Split	Approximately 2.0 miles upstream of County Road 235	Regression Analysis	HEC-RAS 5.0.5	2019	Zone A	
Wilson Gulch Split	Confluence with Wilson Gulch	Approximately 0.2 miles upstream of Three Springs Boulevard	Regression Analysis	HEC-RAS 5.0.5	2019	Zone A	

Table 13: Roughness Coefficients

Flooding Source	Channel “n”	Overbank “n”
500-Year Split Flow	0.040-0.078	0.020-0.10
Animas River	0.03-0.045	0.02-0.13
Coon Creek	0.04-0.04	0.03-0.08
D Creek	0.040-0.078	0.020-0.10
Dry Gulch	0.013-0.1	0.013-0.1
Dry Gulch Split	0.06-0.06	0.013-0.085
Grimes Creek	0.040-0.078	0.020-0.10
Grimes East	0.040-0.078	0.020-0.10
Grimes to Vallecito	0.040-0.078	0.020-0.10
Hermosa Creek	0.045-0.05	0.04-0.09
Horse Gulch	0.013-0.06	0.013-0.12
Horse Gulch Split	0.013-0.05	0.013-0.105
Junction Creek	0.03-0.048	0.01-0.12
Lightner Creek	0.040-0.100	0.040-0.150
Lightner Creek	0.035-0.035	0.016-0.105
Los Pinos River	0.04-0.043	0.013-0.1
Los Pinos River	0.04-0.043	0.016-0.1
Los Pinos River	0.04-0.073	0.02-0.1
Lower Berri Creek	0.040-0.078	0.020-0.10
Middle Creek	0.040-0.078	0.020-0.10
Middle East	0.040-0.078	0.020-0.10
South Berri Creek	0.040-0.078	0.020-0.10
Upper Berri Creek	0.040-0.078	0.020-0.10
Vallecito Creek	0.040-0.078	0.020-0.10

5.3 Coastal Analyses

This section is not applicable to this Flood Risk Project.

Table 14: Summary of Coastal Analyses
[Not Applicable to this Flood Risk Project]

5.3.1 Total Stillwater Elevations

This section is not applicable to this Flood Risk Project.

Figure 8: 1% Annual Chance Total Stillwater Elevations for Coastal Areas

[Not applicable to this Flood Risk Project]

Table 15: Tide Gage Analysis Specifics

[Not applicable to this Flood Risk Project]

5.3.2 Waves

This section is not applicable to this Flood Risk Project.

5.3.3 Coastal Erosion

This section is not applicable to this Flood Risk Project.

5.3.4 Wave Hazard Analyses

This section is not applicable to this Flood Risk Project.

Table 16: Coastal Transect Parameters

[Not Applicable to this Flood Risk Project]

Figure 9: Transect Location Map

[Not Applicable to this Flood Risk Project]

5.4 Alluvial Fan Analyses

This section is not applicable to this Flood Risk Project.

Table 17: Summary of Alluvial Fan Analyses

[Not Applicable to this Flood Risk Project]

Table 18: Results of Alluvial Fan Analyses

[Not Applicable to this Flood Risk Project]

SECTION 6.0 – MAPPING METHODS

6.1 Vertical and Horizontal Control

All FIS Reports and FIRMs are referenced to a specific vertical datum. The vertical datum provides a starting point against which flood, ground, and structure elevations can be referenced and compared. Until recently, the standard vertical datum used for newly created or revised FIS Reports and FIRMs was the National Geodetic Vertical Datum of 1929 (NGVD29). With the completion of the North American Vertical Datum of 1988 (NAVD88), many FIS Reports and FIRMs are now prepared using NAVD88 as the referenced vertical datum.

Flood elevations shown in this FIS Report and on the FIRMs are referenced to

NAVD88. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between NGVD29 and NAVD88 or other datum conversion, visit the National Geodetic Survey website at www.ngs.noaa.gov.

Temporary vertical monuments are often established during the preparation of a flood hazard analysis for the purpose of establishing local vertical control. Although these monuments are not shown on the FIRM, they may be found in the archived project documentation associated with the FIS Report and the FIRMs for this community. Interested individuals may contact FEMA to access these data.

To obtain current elevation, description, and/or location information for benchmarks in the area, please visit the NGS website at www.ngs.noaa.gov.

The datum conversion locations and values that were calculated for La Plata County are provided in Table 19.

Table 19: Countywide Vertical Datum Conversion
[Not Applicable to this Flood Risk Project]

A countywide conversion factor could not be generated for La Plata County because the maximum variance from average exceeds 0.25 feet. Calculations for the vertical offsets on a stream by stream basis are depicted in Table 20.

Table 20: Stream-Based Vertical Datum Conversion

Flooding Source	Average Vertical Datum Conversion Factor (feet)
Lightner Creek	4.1

6.2 Base Map

The FIRMs and FIS Report for this project have been produced in a digital format. The flood hazard information was converted to a Geographic Information System (GIS) format that meets FEMA's FIRM Database specifications and geographic information standards. This information is provided in a digital format so that it can be incorporated into a local GIS and be accessed more easily by the community. The FIRM Database includes most of the tabular information contained in the FIS Report in such a way that the data can be associated with pertinent spatial features. For example, the information contained in the Floodway Data table and Flood Profiles can be linked to the cross sections that are shown on the FIRMs. Additional information about the FIRM Database and its contents can be found in FEMA's *Guidelines and Standards for Flood Risk Analysis and Mapping*, www.fema.gov/media-library/resources-documents/collections/361.

Base map information shown on the FIRM was derived from the sources described in Table 21.

Table 21: Base Map Sources

Data Type	Data Provider	Data Date	Data Scale	Data Description
Political Boundaries	La Plata County GIS Department	2019	1:24,000	Municipal and county boundaries
Public Land Survey System (PLSS)	United States Department of Agriculture (USDA)	2016	1:24,000	PLSS data
Surface Water Features	(USGS) National Hydrology Dataset	2019	1:24,000	Streams, rivers, and lakes for the county
Transportation Features	US Census TigerLine Files, Road and Rail Centerlines	2019	1:24,000	Roads and railroads for the county

6.3 Floodplain and Floodway Delineation

The FIRM shows tints, screens, and symbols to indicate floodplains and floodways as well as the locations of selected cross sections used in the hydraulic analyses and floodway computations.

For riverine flooding sources, the mapped floodplain boundaries shown on the FIRM have been delineated using the flood elevations determined at each cross section; between cross sections, the boundaries were interpolated using the topographic elevation data described in Table 22.

In cases where the 1-percent and 0.2-percent-annual-chance floodplain boundaries are close together, only the 1-percent-annual-chance floodplain boundary has been shown. Small areas within the floodplain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data.

The floodway widths presented in this FIS Report and on the FIRM were computed for certain stream segments on the basis of equal conveyance reduction from each side of

the floodplain. Floodway widths were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. Table 2 indicates the flooding sources for which floodways have been determined. The results of the floodway computations for those flooding sources have been tabulated for selected cross sections and are shown in Table 23, "Floodway Data."

Certain flooding sources may have been studied that do not have published BFEs on the FIRMs, or for which there is a need to report the 1-percent-annual-chance flood elevations at selected cross sections because a published Flood Profile does not exist in this FIS Report. These streams may have also been studied using methods to determine non-encroachment zones rather than floodways. For these flooding sources, the 1-percent-annual-chance floodplain boundaries have been delineated using the flood elevations determined at each cross section; between cross sections, the boundaries were interpolated using the topographic elevation data described in Table . All topographic data used for modeling or mapping has been converted as necessary to NAVD88. The 1-percent-annual-chance elevations for selected cross sections along these flooding sources, along with their non-encroachment widths, if calculated, are shown in Table 4, "Flood Hazard and Non-Encroachment Data for Selected Streams."

Table 22: Summary of Topographic Elevation Data used in Mapping

Community	Flooding Source	Source for Topographic Elevation Data				
		Description	Scale	Vertical Accuracy	Horizontal Accuracy	Citation
Bayfield, Town of; Durango, City of; Ignacio, Town of; La Plata County, Unincorporated Areas	Animas River and Tributaries; Florida River, Hermosa Creek Horse Gulch, Junction Creek, La Plata River, Lightner Creek, Los Pinos River	Light Detection and Ranging data (LiDAR)	N/A	2 ft	9.25 cm	USACE 2014
La Plata County, Unincorporated Areas	Vallecito Creek, Vallecito Reservoir, Lightner Creek	Topographic Contours	N/A	1 and 2 ft	N/A	Anderson 2007
La Plata County, Unincorporated Areas	Approximate study streams	Topographic Contours	1:24,000	N/A	N/A	USGS 1961-1968

BFEs shown at cross sections on the FIRM represent the 1-percent-annual-chance water surface elevations shown on the Flood Profiles and in the Floodway Data tables in the FIS Report.

Table 23: Floodway Data

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	100,513	394	2,951	6.3	6,340.2	6,340.2	6,340.7	0.5
B	102,168	274	2,533	7.3	6,348.5	6,348.5	6,348.8	0.3
C	103,688	183	1,915	9.7	6,354.2	6,354.2	6,354.3	0.1
D	104,926	202	2,164	8.6	6,361.3	6,361.3	6,361.5	0.2
E	106,609	160	1,535	12.1	6,368.4	6,368.4	6,368.6	0.2
F	108,461	187	1,645	11.3	6,377.6	6,377.6	6,377.9	0.3
G	110,198	171	1,671	11.1	6,389.5	6,389.5	6,389.9	0.4
H	111,805	251	2,434	7.6	6,401.6	6,401.6	6,401.7	0.1
I	113,354	205	1,788	10.4	6,407.4	6,407.4	6,407.7	0.3
J	115,545	193	1,568	11.8	6,418.9	6,418.9	6,419.1	0.2
K	117,443	198	1,903	9.8	6,429.0	6,429.0	6,429.4	0.4
L	119,654	159	1,650	11.2	6,440.9	6,440.9	6,441.0	0.1
M	121,791	181	2,017	9.2	6,453.0	6,453.0	6,453.0	0.0
N	124,193	155	1,673	11.1	6,468.8	6,468.8	6,468.8	0.0
O	126,230	162	1,813	10.2	6,481.1	6,481.1	6,481.2	0.1
P	128,247	182	1,766	10.1	6,489.1	6,489.1	6,489.2	0.1
Q	130,040	150	1,478	12.1	6,498.0	6,498.0	6,498.1	0.1
R	131,692	178	1,829	9.2	6,506.6	6,506.6	6,506.7	0.1
S	133,254	198	1,977	8.5	6,515.9	6,515.9	6,515.9	0.0
T	136,172	153	1,955	8.6	6,522.8	6,522.8	6,523.0	0.2
U	137,783	179	2,038	8.2	6,525.1	6,525.1	6,525.4	0.3

¹Feet above approximately 150 feet downstream of the Colorado-New Mexico Border

TABLE 23	FEDERAL EMERGENCY MANAGEMENT AGENCY LA PLATA COUNTY, CO AND INCORPORATED AREAS	FLOODWAY DATA
		FLOODING SOURCE: ANIMAS RIVER

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
V	139,452	136	1,363	12.3	6,529.0	6,529.0	6,529.3	0.3
W	141,345	130	1,418	11.8	6,538.1	6,538.1	6,538.2	0.1
X	143,612	647	4,988	3.4	6,544.3	6,544.3	6,544.4	0.1
Y	145,698	2,380	10,833	1.5	6,544.6	6,544.6	6,544.8	0.2
Z	148,803	1,992	10,066	1.7	6,545.0	6,545.0	6,545.2	0.2
AA	152,394	1,371	6,148	2.6	6,545.8	6,545.8	6,546.1	0.3
AB	156,620	2,361	10,790	1.5	6,547.2	6,547.2	6,547.4	0.2
AC	161,461	2,188	10,677	1.5	6,548.2	6,548.2	6,548.5	0.3
AD	165,272	2,399	8,280	1.9	6,549.4	6,549.4	6,549.8	0.4
AE	169,572	2,155	8,162	1.9	6,551.2	6,551.2	6,551.6	0.4
AF	175,086	2,024	5,366	3.0	6,553.4	6,553.4	6,553.7	0.3
AG	180,505	1,384	8,577	1.9	6,555.4	6,555.4	6,555.7	0.3
AH	183,896	2,140	7,941	2.0	6,556.0	6,556.0	6,556.3	0.3
AI	186,696	1,304	5,348	2.9	6,557.0	6,557.0	6,557.2	0.2
AJ	190,088	1,653	4,735	3.3	6,557.6	6,557.6	6,558.0	0.4
AK	193,774	328	3,715	4.2	6,558.8	6,558.8	6,559.1	0.3
AL	198,428	643	3,002	5.2	6,561.0	6,561.0	6,561.4	0.4
AM	201,667	798	5,517	2.8	6,563.5	6,563.5	6,563.8	0.3
AN	204,053	319	2,820	5.5	6,566.2	6,566.2	6,566.2	0.0
AO	207,523	312	2,513	6.2	6,569.5	6,569.5	6,570.0	0.5
AP	210,700	351	2,178	4.8	6,577.6	6,577.6	6,577.7	0.1

¹Feet above approximately 150 feet downstream of the Colorado-New Mexico Border

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY
LA PLATA COUNTY, CO
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: ANIMAS RIVER

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
AQ	213,560	339	1,909	5.5	6,584.9	6,584.9	6,585.3	0.4
AR	216,262	459	1,903	5.5	6,592.2	6,592.2	6,592.6	0.4
AS	219,998	367	1,168	8.9	6,612.1	6,612.1	6,612.4	0.3
AT	222,808	469	1,578	6.6	6,631.4	6,631.4	6,631.8	0.4
AU	225,295	838	1,766	5.9	6,647.9	6,647.9	6,648.2	0.3
AV	227,689	334	1,590	6.6	6,662.3	6,662.3	6,662.8	0.5
AW	230,681	290	1,030	9.9	6,681.8	6,681.8	6,682.1	0.3
AX	233,841	619	2,191	4.6	6,712.5	6,712.5	6,713.0	0.5
AY	235,703	166	881	11.5	6,727.6	6,727.6	6,727.7	0.1
AZ	238,401	172	968	10.5	6,745.0	6,745.0	6,745.1	0.1

¹Feet above approximately 150 feet downstream of the Colorado-New Mexico Border

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

LA PLATA COUNTY, CO

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: ANIMAS RIVER

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	657	283	1,032	5.1	7,769.2	7,769.2	7,770.1	0.9
B	1,035	421	819	6.5	7,773.8	7,773.8	7,774.6	0.8

¹Feet above Confluence with Grimes Creek

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY
LA PLATA COUNTY, CO
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: D CREEK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	279	48	41	5.1	6,592.6	6,592.6	6,592.9	0.3
B	1,536	50	61	5.2	6,628.3	6,628.3	6,628.3	0.0
C	2,563	67	90	6.5	6,663.6	6,663.6	6,663.6	0.0
D	3,697	48	62	9.5	6,689.8	6,689.8	6,690.0	0.2
E	4,547	37	235	3.5	6,712.7	6,712.7	6,712.9	0.2
F	5,516	44	79	7.5	6,748.2	6,748.2	6,748.2	0.0
G	6,603	33	71	8.2	6,778.4	6,778.4	6,778.4	0.0
H	7,700	25	64	9.1	6,818.1	6,818.1	6,818.1	0.0
I	8,834	24	63	9.3	6,871.3	6,871.3	6,871.3	0.0

¹Feet above confluence with Junction Creek

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY
LA PLATA COUNTY, CO
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: DRY GULCH

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	248	70	143	4.1	6,675.5	6,675.5	6,675.6	0.1

¹Feet above confluence with Dry Gulch

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY
LA PLATA COUNTY, CO
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: DRY GULCH SPLIT

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	0	438	890	2.7	7,672.1	7,672.1	7,672.8	0.7
B	329	318	527	4.6	7,674.1	7,674.1	7,674.7	0.6
C	583	296	646	3.8	7,676.1	7,676.1	7,676.9	0.8
D	886	466	587	4.2	7,679.5	7,679.5	7,679.9	0.4
E	1,366	424	704	3.5	7,684.4	7,684.4	7,684.5	0.1
F	1,566	455	675	3.6	7,685.7	7,685.7	7,685.8	0.1
G	2,193	402	306	4.9	7,690.5	7,690.5	7,690.5	0.0
H	2,789	100	430	4.0	7,698.3	7,698.3	7,698.3	0.0
I	3,418	609	834	3.5	7,700.1	7,700.1	7,700.3	0.2
J	4,169	581	1,175	3.7	7,704.3	7,704.3	7,705.2	0.9
K	4,560	331	858	5.0	7,708.7	7,708.7	7,709.0	0.3
L	5,297	75	165	7.1	7,714.1	7,714.1	7,714.1	0.0
M	5,644	104	347	3.4	7,718.6	7,718.6	7,719.6	1.0
N	5,923	111	181	6.4	7,721.7	7,721.7	7,722.3	0.6
O	6,090	100	292	4.0	7,723.2	7,723.2	7,724.1	0.9
P	6,679	137	181	6.5	7,728.8	7,728.8	7,729.0	0.2
Q	7,013	88	274	4.3	7,731.7	7,731.7	7,732.3	0.6
R	7,200	422	1,066	4.7	7,733.5	7,733.5	7,734.5	1.0
S	7,518	290	774	7.2	7,737.3	7,737.3	7,738.3	1.0
T	7,955	288	867	7.0	7,742.5	7,742.5	7,742.9	0.4
U	8,236	340	1,214	5.0	7,745.7	7,745.7	7,746.7	1.0
V	8,731	399	804	7.5	7,751.1	7,751.1	7,751.8	0.7
W	9,300	339	885	6.8	7,759.2	7,759.2	7,760.1	0.9
X	9,613	129	357	3.1	7,762.4	7,762.4	7,763.4	1.0
Y	9,808	53	154	7.1	7,765.3	7,765.3	7,765.4	0.1
Z	10,164	53	125	8.8	7,777.8	7,777.8	7,778.0	0.2

¹Feet above Vallecito Reservoir

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY
LA PLATA COUNTY, CO
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: GRIMES CREEK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	666	234	580	5.4	7,715.6	7,715.6	7,716.6	1.0
B	895	193	595	5.3	7,718.8	7,718.8	7,719.6	0.8
C	941	220	662	4.8	7,719.0	7,719.0	7,720.0	1.0
D	1,174	239	661	4.8	7,721.5	7,721.5	7,722.1	0.6
E	1,222	236	721	4.4	7,722.0	7,722.0	7,722.7	0.7
F	1,296	221	503	6.3	7,722.9	7,722.9	7,723.3	0.4
G	1,330	213	713	4.4	7,723.6	7,723.6	7,724.3	0.7
H	1,685	198	582	5.8	7,726.5	7,726.5	7,727.3	0.8
I	1,946	210	590	6.0	7,730.3	7,730.3	7,730.7	0.4

¹Feet above Confluence with Grimes Creek

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY
LA PLATA COUNTY, CO
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: GRIMES EAST

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	400	148	444	1.1	7,736.1	7,736.1	7,736.1	0.0
B	802	36	25	0.1	7,737.0	7,737.0	7,737.0	0.0

¹Feet above Confluence with Vallecito Creek

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY
LA PLATA COUNTY, CO
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: GRIMES TO VALLECITO

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	0	71	160	2.1	7,672.7	7,672.7	7,672.9	0.2
B	373	106	97	3.4	7,674.5	7,674.5	7,674.7	0.2
C	661	68	112	3.0	7,677.6	7,677.6	7,677.7	0.1
D	1,067	80	75	4.5	7,680.0	7,680.0	7,680.0	0.0
E	1,542	70	71	4.7	7,684.6	7,684.6	7,685.2	0.6
F	1,710	119	145	2.3	7,686.2	7,686.2	7,686.8	0.6
G	2,311	54	55	6.0	7,689.2	7,689.2	7,689.9	0.7
H	2,542	52	97	0.1	7,690.3	7,690.3	7,691.0	0.7

¹Feet above Vallecito Reservoir

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY
LA PLATA COUNTY, CO
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: GRIMES WEST

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	1,026	138	501	5.4	6,591.6	6,591.6	6,591.7	0.1
B	2,446	299	825	3.3	6,599.6	6,599.6	6,599.6	0.0
C	3,910	428	1,065	2.6	6,604.1	6,604.1	6,604.6	0.5
D	4,865	558	472	6.0	6,609.0	6,609.0	6,609.3	0.3
E	6,532	394	630	4.9	6,631.4	6,631.4	6,631.4	0.0
F	7,680	244	379	10.2	6,647.5	6,647.5	6,647.5	0.0
G	8,523	106	406	9.7	6,660.4	6,660.4	6,660.5	0.1
H	9,643	52	367	10.8	6,680.5	6,680.5	6,680.6	0.1
I	10,524	64	365	10.8	6,694.6	6,694.6	6,694.7	0.1
J	11,588	182	415	9.5	6,716.1	6,716.1	6,716.1	0.0
K	12,523	60	316	12.5	6,733.1	6,733.1	6,733.4	0.3
L	13,525	89	347	11.4	6,755.0	6,755.0	6,755.0	0.0
M	14,809	49	289	13.7	6,792.4	6,792.4	6,792.4	0.0
N	15,815	56	546	7.2	6,807.8	6,807.8	6,808.0	0.2

¹Feet above confluence with Animas River

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY
LA PLATA COUNTY, CO
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: HERMOSA CREEK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	505	80	154	5.5	6,461.8	6,461.8	6,462.0	0.2
B	1,203	70	245	3.0	6,488.1	6,488.1	6,488.3	0.3
C	2,373	25	80	10.6	6,527.9	6,527.9	6,527.9	0.0
D	3,542	29	61	8.2	6,600.0	6,600.0	6,600.0	0.0

¹Feet above confluence with Animas River

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY
LA PLATA COUNTY, CO
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: HORSE GULCH

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	194	69	263	6.2	6,524.7	6,524.7	6,524.7	0.0
B	1,246	148	235	7.0	6,546.7	6,546.7	6,546.7	0.0
C	2,583	85	468	3.5	6,571.8	6,571.8	6,572.0	0.2
D	4,113	50	159	10.3	6,592.0	6,592.0	6,592.0	0.0
E	5,944	55	190	8.6	6,625.2	6,625.2	6,625.2	0.0
F	7,655	125	219	7.5	6,658.2	6,658.2	6,658.2	0.0
G	9,018	117	238	6.9	6,685.8	6,685.8	6,685.8	0.0
H	10,505	118	216	7.6	6,713.6	6,713.6	6,713.6	0.0
I	12,008	330	315	4.9	6,743.5	6,743.5	6,743.9	0.4
J	13,131	353	291	4.9	6,769.8	6,769.8	6,769.8	0.0
K	14,418	58	149	9.7	6,798.2	6,798.2	6,798.2	0.0
L	16,018	78	171	8.4	6,838.4	6,838.4	6,838.4	0.0
M	17,295	44	142	10.2	6,870.0	6,870.0	6,870.0	0.0
N	18,642	83	167	9.2	6,908.8	6,908.8	6,908.8	0.0
O	20,007	81	175	8.3	6,943.2	6,943.2	6,943.2	0.0
P	22,000	61	156	9.2	7,003.2	7,003.2	7,003.6	0.4

¹Feet above confluence with Animas River

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY
LA PLATA COUNTY, CO
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: JUNCTION CREEK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	185	50	205	11.4	6,482.7	6,482.7	6,482.7	0.0
B	594	62	253	9.2	6,491.5	6,491.5	6,491.7	0.2
C	871	47	198	11.8	6,495.4	6,495.4	6,495.5	0.1
D	1,245	30	173	13.5	6,501.5	6,501.5	6,501.5	0.0
E	1,764	38	183	12.7	6,510.8	6,510.8	6,510.8	0.0
F	2,330	87	240	9.7	6,519.6	6,519.6	6,519.7	0.1
G	2,586	38	186	12.5	6,523.7	6,523.7	6,523.7	0.0
H	2,846	40	276	8.4	6,528.7	6,528.7	6,528.9	0.2
I	3,383	32	176	13.2	6,539.6	6,539.6	6,539.6	0.0
J	3,722	110	614	5.4	6,547.3	6,547.3	6,547.6	0.3
K	4,020	111	462	5.0	6,548.2	6,548.2	6,548.3	0.1
L	4,595	116	252	9.3	6,555.8	6,555.8	6,555.8	0.0
M	5,095	89	297	7.8	6,563.7	6,563.7	6,563.7	0.0
N	5,556	38	185	12.6	6,570.5	6,570.5	6,570.5	0.0
O	5,949	48	352	6.6	6,579.5	6,579.5	6,579.5	0.0
P	6,116	54	393	5.9	6,580.0	6,580.0	6,580.0	0.0
Q	6,408	49	245	9.5	6,583.4	6,583.4	6,583.4	0.0
R	6,742	56	425	5.5	6,592.6	6,592.6	6,592.6	0.0
S	7,055	82	725	3.5	6,601.4	6,601.4	6,601.4	0.0
T	7,595	54	207	11.3	6,603.2	6,603.2	6,603.2	0.0
U	7,851	38	186	12.6	6,606.5	6,606.5	6,606.5	0.0

¹ Feet above confluence with Animas River

TABLE 23	FEDERAL EMERGENCY MANAGEMENT AGENCY	FLOODWAY DATA
	LA PLATA COUNTY, CO AND INCORPORATED AREAS	

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
V	8,380	31	176	13.3	6,612.8	6,612.8	6,612.8	0.0
W	8,581	50	184	12.7	6,616.2	6,616.2	6,616.2	0.0
X	9,095	32	176	13.2	6,628.1	6,628.1	6,628.1	0.0
Y	9,441	185	519	4.5	6,633.7	6,633.7	6,633.8	0.1
Z	9,696	64	304	7.7	6,637.5	6,637.5	6,637.6	0.1
AA	10,095	52	210	11.1	6,641.2	6,641.2	6,641.3	0.1
AB	10,572	64	727	3.2	6,651.1	6,651.1	6,651.2	0.1
AC	10,957	35	179	13.0	6,652.3	6,652.3	6,652.4	0.1
AD	11,379	336	588	4.0	6,662.8	6,662.8	6,662.8	0.0
AE	11,665	168	636	6.6	6,667.6	6,667.6	6,667.7	0.1
AF	11,829	158	621	6.8	6,669.6	6,669.6	6,669.7	0.1
AG	12,053	153	529	7.9	6,673.5	6,673.5	6,673.5	0.0
AH	13,850	64	712	5.9	6,703.1	6,703.1	6,703.1	0.0
AI	14,315	42	235	13.4	6,712.2	6,712.2	6,712.2	0.0
AJ	14,380	59	279	11.3	6,714.9	6,714.9	6,715.3	0.4
AK	14,445	58	341	9.2	6,716.0	6,716.0	6,716.4	0.4
AL	14,680	65	305	10.3	6,726.9	6,726.9	6,726.9	0.0
AM	14,915	277	901	3.5	6,730.1	6,730.1	6,730.1	0.0
AN	15,385	36	222	14.2	6,738.5	6,738.5	6,738.5	0.0
AO	15,880	89	326	9.7	6,746.2	6,746.2	6,746.3	0.1
AP	16,360	50	256	12.3	6,756.0	6,756.0	6,756.0	0.0
AQ	16,880	71	295	10.7	6,771.5	6,771.5	6,771.5	0.0
AR	17,340	55	275	11.5	6,778.0	6,778.0	6,778.2	0.2

¹ Feet above confluence with Animas River

TABLE 23	FEDERAL EMERGENCY MANAGEMENT AGENCY	FLOODWAY DATA
	LA PLATA COUNTY, CO AND INCORPORATED AREAS	FLOODING SOURCE: LIGHTNER CREEK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
AS	17,760	41	237	13.3	6,788.5	6,788.5	6,788.5	0.0
AT	18,140	72	341	9.3	6,794.9	6,794.9	6,795.9	1.0
AU	18,610	44	239	13.2	6,803.7	6,803.7	6,803.9	0.2
AV	19,170	40	239	13.2	6,813.4	6,813.4	6,813.8	0.4
AW	19,685	75	305	10.3	6,825.1	6,825.1	6,825.1	0.0
AX	20,165	75	288	9.8	6,831.4	6,831.4	6,831.4	0.0
AY	20,515	79	277	10.2	6,835.4	6,835.4	6,835.4	0.0
AZ	21,015	63	251	11.3	6,845.5	6,845.5	6,845.5	0.0
BA	21,490	85	317	8.9	6,855.2	6,855.3	6,855.3	0.0
BB	21,705	67	273	10.4	6,856.7	6,856.7	6,856.7	0.0
BC	21,780	24	180	15.7	6,857.5	6,857.5	6,857.5	0.0
BD	21,820	24	237	11.9	6,859.9	6,859.9	6,859.9	0.0
BE	22,110	60	308	9.2	6,864.6	6,864.6	6,864.7	0.1
BF	22,720	87	297	9.5	6,874.7	6,874.7	6,874.8	0.1
BG	23,215	200	457	6.2	6,884.7	6,884.7	6,885.7	1.0
BH	23,865	150	377	7.5	6,894.4	6,894.4	6,895.3	0.9
BI	24,455	84	296	9.6	6,905.1	6,905.1	6,905.2	0.1
BJ	24,965	44	243	11.6	6,910.2	6,910.2	6,910.6	0.4
BK	24,990	44	310	9.1	6,911.8	6,911.8	6,912.2	0.4
BL	25,055	76	304	9.3	6,913.4	6,913.4	6,914.2	0.8
BM	25,560	86	306	9.3	6,926.6	6,926.6	6,926.6	0.0
BN	26,100	64	216	9.5	6,937.1	6,937.1	6,937.1	0.0
BO	26,615	65	212	9.6	6,944.8	6,944.8	6,944.8	0.0
BP	27,225	40	231	8.9	6,954.7	6,954.7	6,954.7	0.0

¹ Feet above confluence with Animas River

TABLE 23	FEDERAL EMERGENCY MANAGEMENT AGENCY	FLOODWAY DATA
	LA PLATA COUNTY, CO AND INCORPORATED AREAS	

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
BQ	27,895	85	250	8.2	6,967.3	6,967.3	6,968.3	1.0
BR	28,220	62	188	10.9	6,977.2	6,977.2	6,977.2	0.0
BS	28,760	61	204	10.1	6,987.0	6,987.0	6,987.0	0.0
BT	29,470	75	228	9.0	6,997.6	6,997.6	6,997.6	0.0
BU	30,075	66	215	9.5	7,010.2	7,010.2	7,010.5	0.3
BV	30,755	130	303	6.8	7,019.6	7,019.6	7,020.2	0.6
BW	31,430	28	154	13.3	7,032.8	7,032.8	7,033.0	0.2
BX	32,005	40	190	10.8	7,043.6	7,043.6	7,043.9	0.3
BY	32,515	76	238	8.6	7,051.9	7,051.9	7,052.6	0.7
BZ	33,140	120	282	7.3	7,063.1	7,063.1	7,063.9	0.8
CA	33,790	53	198	10.4	7,074.9	7,074.9	7,075.9	1.0
CB	34,465	36	166	12.3	7,089.7	7,089.7	7,089.8	0.1
CC	35,095	40	186	11.0	7,103.2	7,103.2	7,103.7	0.5
CD	35,670	29	159	12.9	7,112.9	7,112.9	7,113.8	0.9
CE	36,270	39	184	11.2	7,125.2	7,125.3	7,125.7	0.4
CF	36,865	56	225	9.1	7,138.0	7,138.0	7,138.6	0.6
CG	37,365	41	181	11.3	7,151.7	7,151.7	7,151.7	0.0
CH	38,010	112	236	8.7	7,163.1	7,163.1	7,164.0	0.9
CI	38,050	112	186	11.0	7,164.1	7,164.1	7,164.5	0.4
CJ	38,070	76	292	7.0	7,165.3	7,165.3	7,165.7	0.4
CK	38,605	33	172	11.9	7,177.5	7,177.5	7,177.5	0.0
CL	39,265	57	224	9.2	7,193.7	7,193.7	7,194.3	0.6
CM	39,465	50	219	9.4	7,197.5	7,197.5	7,198.2	0.7
CN	39,615	44	188	10.9	7,201.1	7,201.1	7,201.9	0.8

¹ Feet above confluence with Animas River

TABLE 23	FEDERAL EMERGENCY MANAGEMENT AGENCY	FLOODWAY DATA
	LA PLATA COUNTY, CO AND INCORPORATED AREAS	FLOODING SOURCE: LIGHTNER CREEK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	101,866	824	997	5.6	6,831.9	6,831.9	6,832.1	0.2
B	102,363	631	1,050	5.3	6,836.4	6,836.4	6,836.8	0.4
C	104,154	535	968	5.8	6,849.7	6,849.7	6,849.8	0.1
D	105,540	235	783	7.1	6,861.8	6,861.8	6,862.0	0.2
E	107,428	572	1,439	5.8	6,876.3	6,876.3	6,876.3	0.0
F	108,541	208	663	8.2	6,886.4	6,886.4	6,886.4	0.0
G	110,332	834	1,108	4.9	6,900.1	6,900.1	6,900.1	0.0
H	112,597	726	1,203	4.5	6,919.9	6,919.9	6,920.1	0.2
I	114,164	704	1,356	4.0	6,932.1	6,932.1	6,932.2	0.1
J	115,763	979	1,934	2.8	6,945.5	6,945.5	6,945.5	0.0
K	117,122	1,020	2,003	2.7	6,956.7	6,956.7	6,956.8	0.1
L	118,556	622	988	5.5	6,968.0	6,968.0	6,968.1	0.1
M	120,742	424	992	5.5	6,983.5	6,983.5	6,983.5	0.0
N	122,370	1,072	1,353	4.0	6,994.1	6,994.1	6,994.3	0.2

¹Feet above approximately 0.2 miles downstream of Colorado-New Mexico border

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY
LA PLATA COUNTY, CO
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: LOS PINOS RIVER

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	308	181	524	3.7	7,685.6	7,685.6	7,685.6	0.2
B	625	156	265	7.3	7,690.9	7,690.9	7,691.2	0.3
C	694	141	845	2.3	7,691.4	7,691.4	7,692.2	0.8

¹Feet above Confluence with Vallecito Creek

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY
LA PLATA COUNTY, CO
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: LOWER BERRI CREEK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	1,272	42	152	2.1	7,678.8	7,678.8	7,679.3	0.5
B	1,933	28	61	5.2	7,685.3	7,685.3	7,685.4	1.0
C	2,142	33	80	4.0	7,687.2	7,687.2	7,687.2	0.0
D	2,786	40	195	6.4	7,691.9	7,691.9	7,692.4	0.5
E	3,204	85	365	3.7	7,695.9	7,695.9	7,696.0	0.1
F	3,588	341	764	3.3	7,699.3	7,699.3	7,699.7	0.4
G	4,037	262	564	2.3	7,701.5	7,701.5	7,701.8	0.3
H	4,323	156	183	8.0	7,704.6	7,704.6	7,704.6	0.0
I	4,548	197	595	2.5	7,707.3	7,707.3	7,708.3	1.0
J	4,632	163	514	3.1	7,707.8	7,707.8	7,708.6	0.8
K	4,672	153	369	4.6	7,708.0	7,708.0	7,708.6	0.6
L	4,811	139	303	6.4	7,709.8	7,709.8	7,710.3	0.5
M	5,261	285	477	5.2	7,713.5	7,713.5	7,714.1	0.6
N	5,630	440	1,010	3.0	7,717.7	7,717.7	7,718.7	1.0

¹Feet above Vallecito Reservoir

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY
LA PLATA COUNTY, CO
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: MIDDLE CREEK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	44	90	233	1.3	7,704.4	7,704.4	7,704.7	0.3
B	151	61	182	3.5	7,704.6	7,704.6	7,704.9	0.3
C	493	61	128	3.4	7,707.4	7,707.4	7,707.5	0.1

¹Feet above Confluence with Middle Creek

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY
LA PLATA COUNTY, CO
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: MIDDLE EAST

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	446	203	184	6.0	7,762.1	7,762.1	7,762.1	0.0
B	906	68	216	5.1	7,769.9	7,769.9	7,769.9	0.0
C	1,575	28	103	10.7	7,780.2	7,780.2	7,781.0	0.8
D	2,257	45	125	8.8	7,790.0	7,790.0	7,790.0	0.0

¹Feet above Confluence with Vallecito Creek

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY
LA PLATA COUNTY, CO
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: SOUTH BEAR CREEK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	215	73	26	2.8	7,712.4	7,712.4	7,712.4	0.0
B	459	38	38	1.9	7,716.0	7,716.0	7,716.0	0.0
C	484	66	22	3.3	7,717.0	7,717.0	7,717.0	0.0
D	556	62	84	0.9	7,717.3	7,717.3	7,717.3	0.0
E	714	75	25	2.9	7,718.2	7,718.2	7,718.2	0.0
F	877	79	47	1.5	7,720.0	7,720.0	7,720.0	0.0
G	1,047	42	35	1.9	7,720.9	7,720.9	7,720.9	0.0

¹Feet above Confluence with Vallecito Creek

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY
LA PLATA COUNTY, CO
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: UPPER BERRI CREEK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	0	780	1,648	4.4	7,673.1	7,673.1	7,673.6	0.5
B	286	898	1,626	4.4	7,674.6	7,674.6	7,675.2	0.6
C	523	589	1,273	5.4	7,676.1	7,676.1	7,676.7	0.6
D	1,751	602	1,875	3.7	7,684.2	7,684.2	7,684.6	0.4
E	2,134	136	469	10.5	7,686.7	7,686.7	7,686.7	0.0
F	2,533	94	656	7.5	7,691.6	7,691.6	7,691.7	0.1
G	3,037	267	902	5.0	7,695.9	7,695.9	7,696.0	0.1
H	3,278	238	543	8.3	7,696.6	7,696.6	7,696.6	0.0
I	3,788	343	1,035	3.7	7,700.8	7,700.8	7,700.8	0.0
J	4,076	277	481	7.3	7,702.0	7,702.0	7,702.0	0.0
K	4,276	270	582	5.6	7,705.1	7,705.1	7,705.1	0.0
L	5,148	288	494	6.2	7,712.4	7,712.4	7,712.4	0.0
M	5,649	137	300	8.3	7,717.2	7,717.2	7,717.2	0.0
N	5,919	283	618	9.0	7,721.1	7,721.1	7,721.7	0.6
O	6,526	345	869	6.0	7,729.3	7,729.3	7,729.7	0.4
P	7,048	430	982	4.5	7,734.9	7,734.9	7,735.2	0.3
Q	7,476	141	537	7.3	7,741.0	7,741.0	7,741.0	0.0
R	7,656	152	418	9.4	7,743.5	7,743.5	7,743.5	0.0
S	7,961	196	978	4.0	7,749.2	7,749.2	7,749.3	0.1
T	8,298	274	513	7.6	7,753.4	7,753.4	7,753.4	0.0
U	9,204	101	292	9.6	7,768.1	7,768.1	7,768.4	0.3
V	9,555	121	393	7.1	7,773.4	7,773.4	7,773.6	0.2
W	10,229	531	1,229	6.6	7,784.0	7,784.0	7,785.0	1.0
X	10,633	395	1,233	6.6	7,790.4	7,790.4	7,790.6	0.2
Y	11,423	470	890	10.3	7,804.5	7,804.5	7,804.5	0.0
Z	11,913	403	1,458	6.3	7,813.4	7,813.4	7,814.2	0.8

¹Feet above Vallecito Reservoir

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY
LA PLATA COUNTY, CO
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: VALLECITO CREEK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
AA	12,459	402	1,158	7.9	7,825.7	7,825.7	7,825.7	0.0
AB	13,031	253	1,271	7.2	7,836.9	7,836.9	7,837.7	0.8
AC	13,270	121	836	11.0	7,839.0	7,839.0	7,839.0	0.0
AD	13,586	83	689	13.4	7,844.1	7,844.1	7,844.2	0.1
AE	14,539	95	727	12.7	7,860.3	7,860.3	7,861.0	0.7
AF	15,084	112	675	13.6	7,872.2	7,872.2	7,872.9	0.7
AG	16,279	173	898	10.2	7,897.9	7,897.9	7,898.4	0.5
AH	17,275	186	1,445	6.4	7,918.8	7,918.8	7,919.5	0.7

¹Feet above Vallecito Reservoir

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY
LA PLATA COUNTY, CO
 AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: VALLECITO CREEK

Non-encroachment areas may be delineated where it is not possible to delineate floodways because specific channel profiles with bridge and culvert geometry were not developed. Any non-encroachment determinations for this Flood Risk Project have been tabulated for selected cross sections and are shown in Table 4. The non-encroachment width indicates the measured distance left and right (looking downstream) from the mapped center of the stream to the non-encroachment boundary based on a surcharge of 1.0 foot or less.

Table 24: Flood Hazard and Non-Encroachment Data for Selected Streams
[Not Applicable to this Flood Risk Project]

6.4 Coastal Flood Hazard Mapping

This section is not applicable to this Flood Risk Project.

Table 25: Summary of Coastal Transect Mapping Considerations
[Not Applicable to this Flood Risk Project]

6.5 FIRM Revisions

This FIS Report and the FIRM are based on the most up-to-date information available to FEMA at the time of its publication; however, flood hazard conditions change over time. Communities or private parties may request flood map revisions at any time. Certain types of requests require submission of supporting data. FEMA may also initiate a revision. Revisions may take several forms, including Letters of Map Amendment (LOMAs), Letters of Map Revision Based on Fill (LOMR-Fs), Letters of Map Revision (LOMRs) (referred to collectively as Letters of Map Change (LOMCs)), Physical Map Revisions (PMRs), and FEMA-contracted restudies. These types of revisions are further described below. Some of these types of revisions do not result in the republishing of the FIS Report. To assure that any user is aware of all revisions, it is advisable to contact the community repository of flood-hazard data (shown in Table 30, “Map Repositories”).

6.5.1 Letters of Map Amendment

A LOMA is an official revision by letter to an effective NFIP map. A LOMA results from an administrative process that involves the review of scientific or technical data submitted by the owner or lessee of property who believes the property has incorrectly been included in a designated SFHA. A LOMA amends the currently effective FEMA map and establishes that a specific property is not located in a SFHA.

To obtain an application for a LOMA, visit www.fema.gov/letter-map-amendment-loma and download the form “MT-1 Application Forms and Instructions for Conditional and Final Letters of Map Amendment and Letters of Map Revision Based on Fill”. Visit the “Flood Map-Related Fees” section to determine the cost, if any, of applying for a LOMA.

FEMA offers a tutorial on how to apply for a LOMA. The LOMA Tutorial Series can be accessed at www.fema.gov/online-tutorials.

For more information about how to apply for a LOMA, call the FEMA Map Information eXchange; toll free, at 1-877-FEMA MAP (1-877-336-2627).

6.5.2 Letters of Map Revision Based on Fill

A LOMR-F is an official revision by letter to an effective NFIP map. A LOMR-F states FEMA’s determination concerning whether a structure or parcel has been elevated on fill above the base flood elevation and is, therefore, excluded from the SFHA.

Information about obtaining an application for a LOMR-F can be obtained in the same manner as that for a LOMA, by visiting www.fema.gov/letter-map-amendment-loma for the “MT-1 Application Forms and Instructions for Conditional and Final Letters of Map Amendment and Letters of Map Revision Based on Fill” or by calling the FEMA Map Information eXchange, toll free, at 1-877-FEMA MAP (1-877-336-2627). Fees for applying for a LOMR-F, if any, are listed in the “Flood Map-Related Fees” section.

A tutorial for LOMR-F is available at www.fema.gov/online-tutorials.

6.5.3 Letters of Map Revision

A LOMR is an official revision to the currently effective FEMA map. It is used to change flood zones, floodplain and floodway delineations, flood elevations and planimetric features. All requests for LOMRs should be made to FEMA through the chief executive officer of the community, since it is the community that must adopt any changes and revisions to the map. If the request for a LOMR is not submitted through the chief executive officer of the community, evidence must be submitted that the community has been notified of the request.

To obtain an application for a LOMR, visit www.fema.gov/media-library/assets/documents/1343 and download the form “MT-2 Application Forms and Instructions for Conditional Letters of Map Revision and Letters of Map Revision”. Visit the “Flood Map-Related Fees” section to determine the cost of applying for a LOMR. For more information about how to apply for a LOMR, call the FEMA Map Information eXchange; toll free, at 1-877-FEMA MAP (1-877-336-2627) to speak to a Map Specialist.

Previously issued mappable LOMCs (including LOMRs) that have been incorporated into the La Plata County FIRM are listed in Table 6. Please note that this table only includes LOMCs that have been issued on the FIRM panels updated by this map revision. For all other areas within this county, users should be aware that revisions to the FIS Report made by prior LOMRs may not be reflected herein and users will need to continue to use the previously issued LOMRs to obtain the most current data.

**Table 26: Incorporated Letters of Map Change
[Not Applicable to this Flood Risk Project]**

6.5.4 Physical Map Revisions

A Physical Map Revisions (PMR) is an official republication of a community’s NFIP map to effect changes to base flood elevations, floodplain boundary delineations, regulatory floodways and planimetric features. These changes typically occur as a result of structural works or improvements, annexations resulting in additional flood hazard areas or correction to base flood elevations or SFHAs.

The community’s chief executive officer must submit scientific and technical data to

FEMA to support the request for a PMR. The data will be analyzed and the map will be revised if warranted. The community is provided with copies of the revised information and is afforded a review period. When the base flood elevations are changed, a 90-day appeal period is provided. A 6-month adoption period for formal approval of the revised map(s) is also provided.

For more information about the PMR process, please visit www.fema.gov and visit the “Flood Map Revision Processes” section.

6.5.5 Contracted Restudies

The NFIP provides for a periodic review and restudy of flood hazards within a given community. FEMA accomplishes this through a national watershed-based mapping needs assessment strategy, known as the Coordinated Needs Management Strategy (CNMS). The CNMS is used by FEMA to assign priorities and allocate funding for new flood hazard analyses used to update the FIS Report and FIRM. The goal of CNMS is to define the validity of the engineering study data within a mapped inventory. The CNMS is used to track the assessment process, document engineering gaps and their resolution, and aid in prioritization for using flood risk as a key factor for areas identified for flood map updates. Visit www.fema.gov to learn more about the CNMS or contact the FEMA Regional Office listed in Section 8 of this FIS Report.

6.5.6 Community Map History

The current FIRM presents flooding information for the entire geographic area of La Plata County. Previously, separate FIRMs, Flood Hazard Boundary Maps (FHBM) and/or Flood Boundary and Floodway Maps (FBFM) may have been prepared for the incorporated communities and the unincorporated areas in the county that had identified SFHAs. Current and historical data relating to the maps prepared for the project area are presented in Table 27, “Community Map History.” A description of each of the column headings and the source of the date is also listed below.

- *Community Name* includes communities falling within the geographic area shown on the FIRM, including those that fall on the boundary line, nonparticipating communities, and communities with maps that have been rescinded. Communities with No Special Flood Hazards are indicated by a footnote. If all maps (FHBM, FBFM, and FIRM) were rescinded for a community, it is not listed in this table unless SFHAs have been identified in this community.
- *Initial Identification Date (First NFIP Map Published)* is the date of the first NFIP map that identified flood hazards in the community. If the FHBM has been converted to a FIRM, the initial FHBM date is shown. If the community has never been mapped, the upcoming effective date or “pending” (for Preliminary FIS Reports) is shown. If the community is listed in Table 7 but not identified on the map, the community is treated as if it were unmapped.
- *Initial FHBM Effective Date* is the effective date of the first FHBM. This date may be the same date as the Initial NFIP Map Date.
- *FHBM Revision Date(s)* is the date(s) that the FHBM was revised, if applicable.

- *Initial FIRM Effective Date* is the date of the first effective FIRM for the community.
- *FIRM Revision Date(s)* is the date(s) the FIRM was revised, if applicable. This is the revised date that is shown on the FIRM panel, if applicable. As countywide studies are completed or revised, each community listed should have its FIRM dates updated accordingly to reflect the date of the countywide study. Once the FIRMs exist in countywide format, as PMRs of FIRM panels within the county are completed, the FIRM Revision Dates in the table for each community affected by the PMR are updated with the date of the PMR, even if the PMR did not revise all the panels within that community.

The initial effective date for the La Plata County FIRMs in countywide format was 8/19/2010.

Table 27: Community Map History

Community Name	Initial Identification Date	Initial FHBM Effective Date	FHBM Revision Date(s)	Initial FIRM Effective Date	FIRM Revision Date(s)
Bayfield, Town of	10/18/1974	10/18/1974	6/11/1976	9/29/1978	4/25/2024 8/19/2010
Durango, City of	11/30/1973	11/30/1973	3/5/1976	1/17/1979	4/25/2024 8/19/2010 5/21/2001 12/5/1989 9/14/1982
Ignacio, Town of ¹	8/19/2010	N/A	N/A	8/19/2010	4/25/2024
La Plata County, Unincorporated Areas	6/3/1977	6/3/1977	N/A	12/15/1981	4/25/2024 8/19/2010 5/21/2001 3/16/1995 2/15/1984

¹This community did not have a FIRM prior to the first countywide FIRM for Weld County

SECTION 7.0 – CONTRACTED STUDIES AND COMMUNITY COORDINATION

7.1 Contracted Studies

Table 28 provides a summary of the contracted studies, by flooding source, that are included in this FIS Report.

Table 28: Summary of Contracted Studies Included in this FIS Report

Flooding Source	FIS Report Dated	Contractor	Number	Work Completed Date	Affected Communities
Animas River, Basin Creek, Coon Creek, Dry Gulch, Dry Gulch Split, Florida River, Hermosa Creek Horse Gulch, Junction Creek, La Plata River, Lightner Creek, Los Pinos River, Pine Gulch, Red Creek, Salt Creek, Wildcat Canyon, Wilson Gulch, Wilson Gulch Split	4/25/2024	AECOM	CT 2018-2357	4/3/2020	Bayfield, Town of; Durango, City of; Ignacio, Town of; La Plata County, Unincorporated Areas
500 Yr Split Flow, D Creek, Grimes Creek, Grimes Creek East, Grimes to Vallecito, Grimes West, Lower Berri Creek, Middle Creek, Middle East, South Bear Creek, Upper Berri Creek, Vallecito Creek, Vallecito Reservoir	8/19/2010	Anderson Consulting Engineers, Inc.	N/A	7/2007	La Plata County, Unincorporated Areas
Lightner Creek above Wildcat Canyon	8/19/2010	Camp, Dresser & Mckee Inc.	H-4041	1978	La Plata County, Unincorporated Areas

7.2 Community Meetings

The dates of the community meetings held for this Flood Risk Project and previous Flood Risk Projects are shown in Table 29. These meetings may have previously been referred to by a variety of names (Community Coordination Officer (CCO), Scoping, Discovery, etc.), but all meetings represent opportunities for FEMA, community officials, study contractors, and other invited guests to discuss the planning for and results of the project.

Table 29: Community Meetings

Community	FIS Report Dated	Date of Meeting	Meeting Type	Attended By
Bayfield, Town of	4/25/2024	8/6/2019	Flood Risk Review	FEMA, Colorado Water Conservation Board, the community, the study contractor.
		8/6/2020	Resilience	FEMA, Colorado Water Conservation Board, the community, the study contractor.
		3/18/2021	Final CCO	FEMA, Colorado Water Conservation Board, the community, the study contractor.
Durango, City of	4/25/2024	8/6/2019	Flood Risk Review	FEMA, Colorado Water Conservation Board, the community, the study contractor.
		8/6/2020	Resilience	FEMA, Colorado Water Conservation Board, the community, the study contractor.
		3/18/2021	Final CCO	FEMA, Colorado Water Conservation Board, the community, the study contractor.
Ignacio, Town of	4/25/2024	8/7/2019	Flood Risk Review	FEMA, Colorado Water Conservation Board, the community, the study contractor.
		8/6/2020	Resilience	FEMA, Colorado Water Conservation Board, the community, the study contractor.
		3/18/2021	Final CCO	FEMA, Colorado Water Conservation Board, the community, the study contractor.
La Plata County, Unincorporated Areas	4/25/2024	8/6/2019	Flood Risk Review	FEMA, Colorado Water Conservation Board, the community, the study contractor.
		8/6/2020	Resilience	FEMA, Colorado Water Conservation Board, the community, the study contractor.
		3/18/2021	Final CCO	FEMA, Colorado Water Conservation Board, the community, the study contractor.

SECTION 8.0 – ADDITIONAL INFORMATION

Information concerning the pertinent data used in the preparation of this FIS Report can be obtained by submitting an order with any required payment to the FEMA Engineering Library. For more information on this process, see www.fema.gov.

Table 30 is a list of the locations where FIRMs for La Plata County can be viewed. Please note that the maps at these locations are for reference only and are not for distribution. Also, please note that only the maps for the community listed in the table are available at that particular repository. A user may need to visit another repository to view maps from an adjacent community.

Table 30: Map Repositories

Community	Address	City	State	Zip Code
Bayfield, Town of	Town Hall 1199 Bayfield Parkway	Bayfield	CO	81122
Durango, City of	City Hall 949 East 2nd Avenue	Durango	CO	81301
Ignacio, Town of	Town Hall 540 Goddard Avenue	Ignacio	CO	81137
La Plata County, Unincorporated Areas	La Plata County Commissioner's Office 1101 East 2nd Avenue	Durango	CO	81301

The National Flood Hazard Layer (NFHL) dataset is a compilation of effective FIRM Databases and LOMCs. Together they create a GIS data layer for a State or Territory. The NFHL is updated as studies become effective and extracts are made available to the public monthly. NFHL data can be viewed or ordered from the website shown in Table .

Table 31 contains useful contact information regarding the FIS Report, the FIRM, and other relevant flood hazard and GIS data. In addition, information about the State NFIP Coordinator and GIS Coordinator is shown in this table. At the request of FEMA, each Governor has designated an agency of State or territorial government to coordinate that State's or territory's NFIP activities. These agencies often assist communities in developing and adopting necessary floodplain management measures. State GIS Coordinators are knowledgeable about the availability and location of State and local GIS data in their state.

Table 31: Additional Information

FEMA and the NFIP	
FEMA and FEMA Engineering Library website	www.fema.gov/national-flood-insurance-program-flood-hazard-mapping/engineering-library
NFIP website	www.fema.gov/national-flood-insurance-program
NFHL Dataset	msc.fema.gov

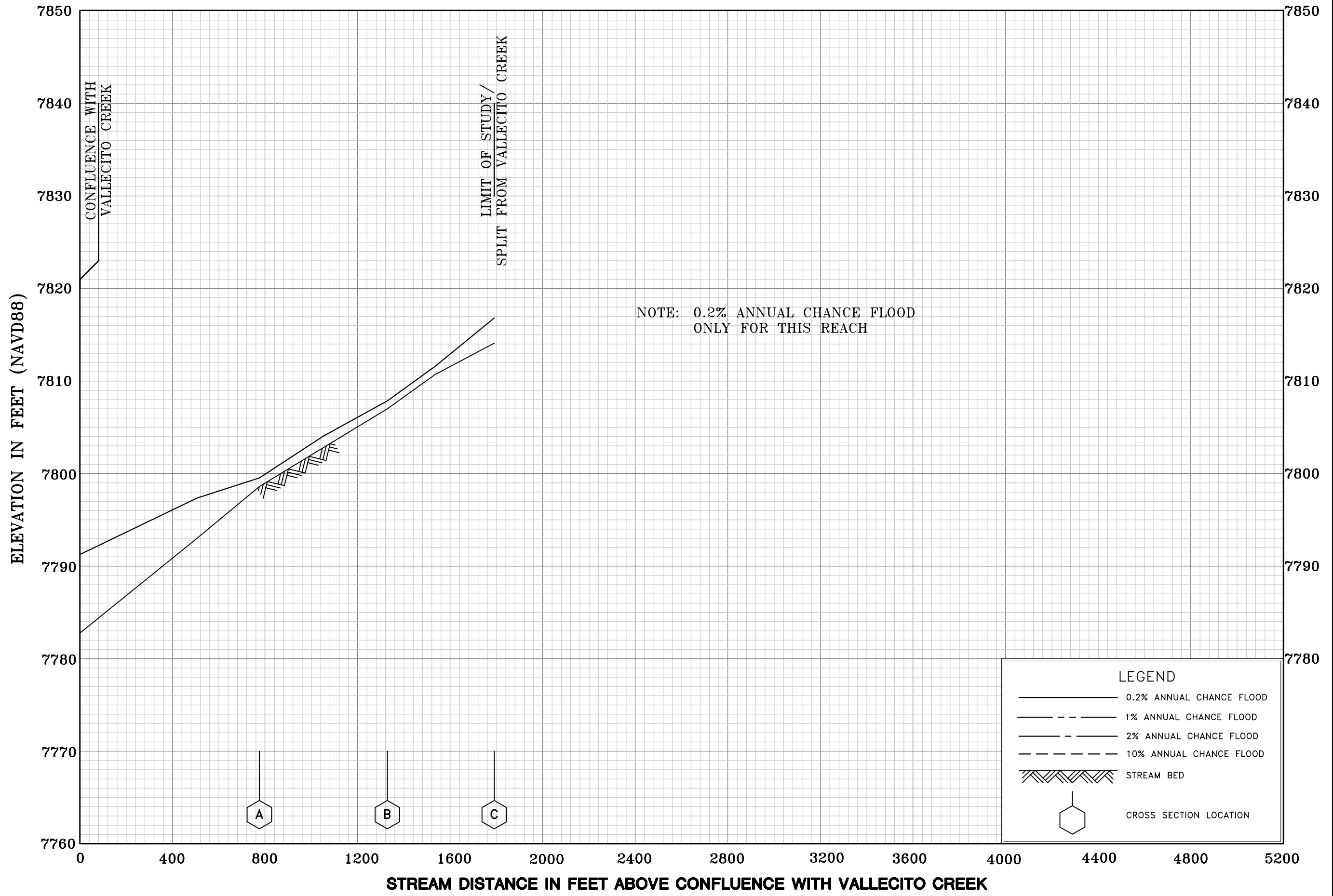
FEMA Region VIII	Denver Federal Center, Building 710 P.O. Box 25267 Denver, CO 80255-0267 (303) 235-4812
Other Federal Agencies	
USGS website	www.usgs.gov
Hydraulic Engineering Center website	www.hec.usace.army.mil
State Agencies and Organizations	
State NFIP Coordinator	Doug Mahan, CFM CWCB Community Assistance Program Coordinator 1313 Sherman Street, Rm. 718 Denver, CO 80203 (303) 866-3441 x3221 doug.mahan@state.co.us
State GIS Coordinator	Jon Gottsegen Statewide GIS Coordinator 601 E. 18 th Ave Denver, CO 80203 Phone: (303) 764-7712 jon.gottsegen@state.co.us

SECTION 9.0 – BIBLIOGRAPHY AND REFERENCES

Table 32 includes sources used in the preparation of and cited in this FIS Report as well as additional studies that have been conducted in the study area.

Table 32: Bibliography and References

Citation in this FIS	Publisher/ Issuer	Publication Title, “Article,” Volume, Number, etc.	Author/Editor	Place of Publication	Publication Date/ Date of Issuance	Link
Anderson 2007	Anderson Engineering Co	<i>7.5-Minute Series Topographic Maps, Scale 1:24,000</i>	Anderson	Houston, TX	2007	
Camp, Dresser & Mckee Inc.	Camp, Dresser & Mckee Inc.	<i>Flood Insurance Study, La Plata County, Colorado, Unincorporated Areas</i>	Camp, Dresser & Mckee Inc.		1978	
CWCB 2019	Colorado Water Conservation Board	<i>Hydrology, Hydraulics, and Floodplain Mapping submittal for La Plata County</i>	CWCB	Denver, CO	11/29/2019	
GIS 2019	La Plata County GIS Department	<i>Municipal and county boundaries</i>	La Plata County GIS Department	Durango, CO	2019	
USACE 2014	U.S. Army Corps of Engineers	<i>Light Detection and Ranging data (LiDAR)</i>	USACE		2014	
USCB 2016	U.S. Census Bureau	<i>TIGER/Line Shapefile, 2016</i>	USCB	Washington, D.C.	6/1/2019	
USDA 2016	Bureau of Land Management	<i>Public Land Survey System</i>	BLM	Washington, D.C.	1/1/2016	
USGS 1961 - 1968	U.S. Geologic Survey	<i>7.5-Minute Series Topographic Maps, Scale 1:24,000</i>	USGS	Hayfield, CO	1961-1968	
USGS 2013	U.S. Department of Interior, Geological Survey	<i>Light Detection and Ranging data(LiDAR)</i>	USGS	Washington, D.C.	2013	
USGS 2016	U.S. Geologic Survey	<i>USGS Digital Orthophoto Quarter Quadrangles</i>	USGS	Reston, VA	11/11/2016	
USGS 2019	U.S. Geologic Survey	<i>National Hydrography Dataset (NHD)</i>	USGS	Reston, VA	10/17/2019	
USHUD 1977	U.S. Department of Housing and Urban Development	<i>Federal Insurance Administration’s Flood Hazard Boundary Map</i>	USHUD	Washington, D.C.	1977	



FLOOD PROFILES

500-YEAR SPLIT FLOW

FEDERAL EMERGENCY MANAGEMENT AGENCY

LA PLATA COUNTY, CO
(AND INCORPORATED AREAS)

01P