# TABLE OF CONTENTS

Volume 1

<table>
<thead>
<tr>
<th>SECTION 1.0 – INTRODUCTION</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 The National Flood Insurance Program</td>
<td>1</td>
</tr>
<tr>
<td>1.2 Purpose of this Flood Insurance Study Report</td>
<td>2</td>
</tr>
<tr>
<td>1.3 Jurisdictions Included in the Flood Insurance Study Project</td>
<td>2</td>
</tr>
<tr>
<td>1.4 Considerations for using this Flood Insurance Study Report</td>
<td>10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECTION 2.0 – FLOODPLAIN MANAGEMENT APPLICATIONS</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 Floodplain Boundaries</td>
<td>23</td>
</tr>
<tr>
<td>2.2 Floodways</td>
<td>31</td>
</tr>
<tr>
<td>2.3 Base Flood Elevations</td>
<td>32</td>
</tr>
<tr>
<td>2.4 Non-Encroachment Zones</td>
<td>32</td>
</tr>
<tr>
<td>2.5 Coastal Flood Hazard Areas</td>
<td>33</td>
</tr>
<tr>
<td>2.5.1 Water Elevations and the Effects of Waves</td>
<td>33</td>
</tr>
<tr>
<td>2.5.2 Floodplain Boundaries and BFEs for Coastal Areas</td>
<td>34</td>
</tr>
<tr>
<td>2.5.3 Coastal High Hazard Areas</td>
<td>35</td>
</tr>
<tr>
<td>2.5.4 Limit of Moderate Wave Action</td>
<td>36</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECTION 3.0 – INSURANCE APPLICATIONS</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1 National Flood Insurance Program Insurance Zones</td>
<td>36</td>
</tr>
<tr>
<td>3.2 Coastal Barrier Resources System</td>
<td>37</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECTION 4.0 – AREA STUDIED</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1 Basin Description</td>
<td>37</td>
</tr>
<tr>
<td>4.2 Principal Flood Problems</td>
<td>38</td>
</tr>
<tr>
<td>4.3 Non-Levee Flood Protection Measures</td>
<td>56</td>
</tr>
<tr>
<td>4.4 Levees</td>
<td>60</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECTION 5.0 – ENGINEERING METHODS</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1 Hydrologic Analyses</td>
<td>63</td>
</tr>
</tbody>
</table>

## Figures

<table>
<thead>
<tr>
<th>Figure</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1: FIRM Panel Index</td>
<td>13</td>
</tr>
<tr>
<td>Figure 2: FIRM Notes to Users</td>
<td>16</td>
</tr>
<tr>
<td>Figure 3: Map Legend for FIRM</td>
<td>19</td>
</tr>
<tr>
<td>Figure 4: Floodway Schematic</td>
<td>31</td>
</tr>
<tr>
<td>Figure 5: Wave Runup Transect Schematic</td>
<td>34</td>
</tr>
<tr>
<td>Figure 6: Coastal Transect Schematic</td>
<td>36</td>
</tr>
<tr>
<td>Figure 7: Frequency Discharge-Drainage Area Curves</td>
<td>70</td>
</tr>
</tbody>
</table>
Table 1: Listing of NFIP Jurisdictions 2
Table 2: Flooding Sources Included in this FIS Report 24
Table 3: Flood Zone Designations by Community 37
Table 4: Coastal Barrier Resources System Information 37
Table 5: Basin Characteristics 38
Table 6: Principal Flood Problems 38
Table 7: Historic Flooding Elevations 56
Table 8: Non-Levee Flood Protection Measures 56
Table 9: Levees 61
Table 10: Summary of Discharges 64
Table 11: Summary of Non-Coastal Stillwater Elevations 71
Table 12: Stream Gage Information used to Determine Discharges 72

5.2 Hydraulic Analyses 73
5.3 Coastal Analysis 105
  5.3.1 Total Stillwater Elevations 105
  5.3.2 Waves 107
  5.3.3 Coastal Erosion 107
  5.3.4 Wave Hazard Analyses 107
5.4 Alluvial Fan Analyses 124

SECTION 6.0 – MAPPING METHODS 125
6.1 Vertical and Horizontal Control 125
6.2 Base Map 127
6.3 Floodplain and Floodway Delineation 127

Figure 8: 1% Annual Chance Total Stillwater Elevations for Coastal Areas 106
Figure 9: Transect Location Map 121

Table 13: Summary of Hydrologic and Hydraulic Analyses 74
Table 14: Roughness Coefficients 105
Table 15: Summary of Coastal Analyses 105
Table 16: Tide Gage Analysis Specifics 107
Table 17: Coastal Transect Parameters 109
Volume 2, Continued

Tables

Table 18: Summary of Alluvial Fan Analyses 124
Table 19: Results of Alluvial Fan Analyses 124
Table 20: Countywide Vertical Datum Conversion 125
Table 21: Stream-Based Vertical Datum Conversion 126
Table 22: Base Map Data 127
Table 23: Summary of Topographic Elevation Data used in Mapping 128

Volume 3

6.4 Coastal Flood Hazard Mapping 170
6.5 FIRM Revisions 174
  6.5.1 Letters of Map Amendment 174
  6.5.2 Letters of Map Revision Based on Fill 175
  6.5.3 Letters of Map Revision 175
  6.5.4 Physical Map Revisions 175
  6.5.5 Contracted Restudies 176
  6.5.6 Community Map History 176

SECTION 7.0 – CONTRACTED STUDIES AND COMMUNITY COORDINATION 178
  7.1 Contracted Studies 178
  7.2 Community Meetings 179

SECTION 8.0 – ADDITIONAL INFORMATION 182

SECTION 9.0 – BIBLIOGRAPHY AND REFERENCES 183

Tables

Table 24: Floodway Data 130
Table 25: Flood Hazard and Non-Encroachment Data for Selected Streams 170
Table 26: Summary of Coastal Transect Mapping Considerations 171
Table 27: Incorporated Letters of Map Change 175
Table 28: Community Map History 177
Table 29: Summary of Contracted Studies Included in this FIS Report 178
Table 30: Community Meetings 180
Table 31: Map Repositories 182
Table 32: Additional Information 183
Table 33: Bibliography and References 184
Volume 3, Continued

Exhibits

Flood Profiles  Panel
Arroyo Seco  01-08 P
Calera Creek  09-12 P
Canyon Del Rey  13-18 P
Carmel River  19-34 P
Carmel River Garland Ranch Overbank  35 P
Carmel River Hacienda Carmel Overbank  36 P

Volume 4

Exhibits

Flood Profiles  Panel
Carmel River North Highway 1 Overbank  37-38 P
Carmel River Schulte Overbank  39 P
Carmel River South Highway 1 Overbank  40-41 P
Castroville Boulevard Wash  42-44 P
Corncob Canyon Creek  45 P
East Branch Gonzales Slough  46 P
El Toro Creek  47-50 P
Elkhorn Slough  51-54 P
Gabilan Creek  55-60 P
Gonzales Slough  61-64 P
Harper Creek  65-69 P
Josselyn Canyon Creek  70 P
Natividad Creek  71-72 P
Pajaro River  73-85 P
Pajaro River – Without Consideration of Levee  86-94 P
Pine Canyon Creek  95-98 P
Reclamation Ditch  99-109 P
Salinas River  110-122 P
Salinas River Overbank  123-124 P

Volume 5

Exhibits

Flood Profiles  Panel
San Benancio Gulch  125-139 P
San Lorenzo Creek  140-142 P
San Miguel Canyon Creek  143-146 P
Santa Rita Creek  147-150 P
Tembladero Slough  151-152 P
Thomasello Creek  153 P
Watson Creek  154-162 P

Published Separately

Flood Insurance Rate Map (FIRM)
THE 2% AND 0.2% ANNUAL CHANCE FLOOD PROFILES ARE TOO CLOSE TO THE 1% ANNUAL CHANCE ELEVATION TO BE SHOWN SEPARATELY.

LEGEND
- 0.2% ANNUAL CHANCE FLOOD
- 1% ANNUAL CHANCE FLOOD
- 2% ANNUAL CHANCE FLOOD
- 10% ANNUAL CHANCE FLOOD
- STREAM BED
- CROSS SECTION LOCATION

FEDERAL EMERGENCY MANAGEMENT AGENCY
MONTEREY COUNTY, CA
AND INCORPORATED AREAS

77P
THE 2% AND 0.2% ANNUAL CHANCE FLOOD PROFILES ARE TO BE SHOWN TO THE 1% ANNUAL CHANCE EXTENSION TO BE SHOWN SEPARATELY.
The 2% and 3% annual chance flood profiles are too close to the 1% annual chance elevation to be shown separately.
THE 2% AND 0.2% ANNUAL CHANCE FLOOD PROFILES ARE TOO CLOSE TO THE 1% ANNUAL CHANCE ELEVATION TO BE SHOWN SEPARATELY.