2018 Upper Rio Grande Field Office O&M Critical Mission Directives and Responsibilities

July 12, 2018
FLOOD CONTROL RESPONSIBILITIES

• Inspect and maintain approx. 220 miles of river and levees along the river from below Percha Dam to Little Box Canyon

• Maintain approx. 4,500 acres of river floodplains

• Maintain approx. 18.5 miles of Canals

• Inspect and maintain 210 drainage and irrigation structures
FLOOD CONTROL RESPONSIBILITIES

• Inspect and maintain 5 major sediment control dams- Green, Jalarosa 1 & 2, Crow Canyon & Broad Canyon, all five located north Dona Ana and southern Sierra Counties, (south of Garfield Bridge, north of Hatch, & northwest of radium Springs).

• Operate and maintain 2 major diversion dams- American and International.

• Inspect, monitor & maintain four flood warning stations and five flow gaging stations throughout the entire project.
BOUNDARY DEMARCATION & PORTS of ENTRY RESPONSIBILITIES

- Maintain several International Bridges, including Bridge of the Americas (BOTA), Ft. Hancock/Porvenir Bridge & Tornillo/Guadalupe Bridge.

- Perform weekly trash removal, monthly sweeping, fencing repairs, monuments maintenance and pavement markers replacement.

- Maintenance of flag poles & replacement of US flags, as needed at El Paso/Santa Fe, Stanton and BOTA bridges.
BOUNDARY DEMARCATION & PORTS of ENTRY RESPONSIBILITIES

Tornillo/Guadalupe Bridge-Port of Entry
BOUNDARY DEMARCATION & PORTS of ENTRY RESPONSIBILITIES

Ft Hancock/Porvenir Bridge-Port of Entry
URGFO FLOOD CONTROL
CANALIZATION PROJECT LIMITS

Canalization Project

Percha Dam

Rio Grande

Hatch, New Mexico

Approximately 106 River Miles

American Dam
## URGFO FLOOD CONTROL
### Rio Grande Design Flow Capacities

<table>
<thead>
<tr>
<th>Reach/Location</th>
<th>Designed Capacity - C.F.S.</th>
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</thead>
<tbody>
<tr>
<td>Percha Dam to Trujillo Arroyo</td>
<td>Start of Reach</td>
</tr>
<tr>
<td>Trujillo Arroyo to Jaralosa Arroyo</td>
<td>13,000</td>
</tr>
<tr>
<td>Jaralosa Arroyo to Placitas Arroyo</td>
<td>16,000</td>
</tr>
<tr>
<td>Placitas Arroyo to Angostura Arroyo</td>
<td>20,000</td>
</tr>
<tr>
<td>Angostura Arroyo to Tonuco Cut-Off</td>
<td>21,000</td>
</tr>
<tr>
<td>Tonuco Cut-Off to Leasburg Dam</td>
<td>No Construction</td>
</tr>
<tr>
<td>Leasburg Dam to Picacho Flume</td>
<td>End of Reach</td>
</tr>
<tr>
<td>Picacho Flume to Mesilla Dam</td>
<td>17,000</td>
</tr>
<tr>
<td>Mesilla Dam to Mesquite Bridge</td>
<td>16,000</td>
</tr>
<tr>
<td>Mesquite Bride to Vado Bridge</td>
<td>15,000</td>
</tr>
<tr>
<td>Vado Bridge to Berino Bridge</td>
<td>14,000</td>
</tr>
<tr>
<td>Berino Bridge to American Dam</td>
<td>13,000</td>
</tr>
<tr>
<td>American Dam to Chamizal Project</td>
<td>12,000</td>
</tr>
<tr>
<td>Chamizal Project</td>
<td>12,000</td>
</tr>
<tr>
<td>Chamizal to End of Rectification @ Quitman Canyon</td>
<td>24,000</td>
</tr>
<tr>
<td>Chamizal to End of Rectification @ Quitman Canyon</td>
<td>11,000</td>
</tr>
</tbody>
</table>
The Five Sediment Control Dams located at tributary arroyos were constructed to reduce flood peaks and sediment inflows into the Rio Grande, thereby reducing the average annual maintenance cost for the Rio Grande Canalization Project.

Between 1969 and 1975, five dams were constructed by SCS (now NRCS) at four major arroyos. They are designed, with one exception (Broad Canyon; 50 yr Design), to provide sufficient storage capacity to contain an estimated 100 years of sediment inflow and to control the estimated 100 year-over flood.
The five sediment control dams, outlet works and access roads, are maintained by the USIBWC-Las Cruces Facility.

The local entities sponsoring these five SCS projects are the Elephant Butte Irrigation District, and the Caballo Natural Resources Conservation District.

Soil Conservation Service, PL 566 Projects, 1975 Conditions

<table>
<thead>
<tr>
<th>ARROYO/DAM</th>
<th>COMPLETED</th>
<th>DRAINAGE AREA REGULATED, SQ.MI.</th>
<th>CAPACITY IN ACRE-FEET</th>
<th>HEIGHT FEET</th>
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</thead>
<tbody>
<tr>
<td>BROAD CANYON, NO. 1</td>
<td>1969</td>
<td>64</td>
<td>2,625</td>
<td>70.5</td>
</tr>
<tr>
<td>CROW CANYON, NO. 2A</td>
<td>1971</td>
<td>120</td>
<td>3,945</td>
<td>65.5</td>
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<tr>
<td>GREEN ARROYO, NO. 1A</td>
<td>1972</td>
<td>31</td>
<td>1,320</td>
<td>90.2</td>
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<tr>
<td>JARALOSA ARROYO NO. 4</td>
<td>1975</td>
<td>86</td>
<td>3,427</td>
<td>91.5</td>
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<tr>
<td>JARALOSA ARROYO NO. 5</td>
<td>1975</td>
<td>6</td>
<td>389</td>
<td>27.5</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>307</td>
<td>11,706</td>
<td></td>
</tr>
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</table>
SEEDMENT CONTROL DAMS

Las Cruces Facility field personnel required to inspect and maintain all five sediment control dams. Also, Facilitate yearly inspections w/EBID, NRCS & State engineer Reps.

- Berrenda Sediment Control Dam-Maintenance work.
- Berrenda Sediment Control spillway maintenance work.
CANALIZATION RIVER PROJECTS

• As required by Record of Decision (ROD) under Part IV on River Channel Maintenance Plan in Canalization project segment. Typically 100,000 to 120,000 CY of river sediment are removed during non-irrigation season-late October to mid-March.

• Completed all of this FY-18 non-irrigation season - 12 Canalization river channel maintenance projects, an approximate total of 178,973 CY of river sediment was removed.

• The river channel sediment removal performed this year was due to additional personnel brought in from the Mercedes and Ft. Hancock Field Office’s to assist.
CANALIZATION RIVER PROJECTS

• Late 2018/early2019, non-irrigation season, scheduled to address priority river channel and arroyo locations listed under, the USIBWC River Management Plan - Canalization Record of Decision (ROD) - 5 Yr. Part IV-Channel Maintenance Section.

• FY 19- River sediment removal schedule will include work sites on various Arroyos and Siphons maintenance, in particular: Placitas Arroyo, Rincon Siphon, Garcia I Arroyo, Rincon Arroyo and Bignell Arroyo.

• Various locations will require willow restoration work, which will require additional time to perform both river sediment removal and restoration work by same IBWC personnel.
CANALIZATION RIVER PROJECTS
Proposed 2018/2019 work sites

HATCH SIPHON WORK SITE

During the 2018/19 non-irrigation season approximately 4,000 cubic yards of sediment anticipated to be removed from the area at the Hatch Siphon.

PLACITAS ARROYO WORK SITE

During the 2018/19 non-irrigation season approximately 13,000 cubic yards of sediment anticipated to be removed from the area at the Placitas Arroyo.
CANALIZATION RIVER PROJECTS
Prop 2018/2019 work sites

RINCON SIPHON WORK SITE

During the 2018/19 non-irrigation season approximately 15,000 cubic yards of sediment anticipated to be removed from the area at the Rincon Siphon.

GARCIA I ARROYO WORK SITE

During the 2018/19 non-irrigation season approximately 12,000 cubic yards of sediment anticipated to be removed from the area at the Garcia Arroyo.
CANALIZATION RIVER PROJECTS
Proposed 2018/2019 work sites

RINCON ARROYO to BIGNELL ARROYO
During the 2018/19 non-irrigation season approximately 56,000 cubic yards of sediment anticipated to be removed from selected areas between Rincon and Bignell arroyos.
DIVERSION DAMS MAINTENANCE

Am Dam field personnel required to inspect and maintain both Diversions Dams, as a priority. Also working w/ESD on projects to rehabilitate gates, cables, seals, trunnions, sprockets, motors, limit switches, etc.

- American Dam during USACE five year inspection Dec. 2016.

In order to perform the 5 year USACE Diversions Dams inspections it is necessary to remove all of the silt from the upstream and downstream aprons of the dams.

At American Dam 30,000 cy of material was removed.  
At International Dam 20,000 cy of material was removed.
• Project area is from start of Chamizal concrete channel @ Chihuahuita to 2.5 miles downstream. (Remaining 2.5 miles downstream are under CILA maintenance responsibility.)
RECTIFICATION PROJECT
CHAMIZAL CONCRETE CHANNEL AREA

• Schedule for July-August, perform required maintenance on silt and vegetation removal from start of Chamizal concrete channel @ Chihuahuita to 2.5 miles downstream.
• Mexico-CILA contractor has already started their downstream end of required maintenance on silt and vegetation removal on Chamizal concrete channel.
• In 2017- 42,944 CY of sediment were removed. This is a major arroyo requiring continual, regular maintenance.
• In 2018- Approx. 8,000 CY have been removed from this Arroyo, just recently. Coordinated w/CILA Rep. to request permission to work from Mexico side. Will address as 2018 rain events require.
Removal of silt at this critical site required, in order to improve the ability to accurately measure flow at the Fort Quitman Gaging Station site. Approximately 15,000 cubic yards of material was removed.
Critical local flooding downstream at Neely Arroyo. Working upstream of area from Ft Quitman Gaging downstream to Neely. Already 3 miles downstream.
RECTIFICATION PROJECT

Neely Arroyo- Local Flooding Problem Area

- Levee repairs and grading at Neely Arroyo, to assist in addressing adjacent local flooding to extent possible.
- River flow covering floodplain. This entire general area needs to be addressed as a total separate river dredging project, as it has not been addressed for a number of years.
BOUNDARY PRESERVATION
Arroyo Del Fraile Problem Area and Upstream

- Widened and re-established pilot channel to approx. 38’.
- Removed an avg. of 3’ of sediment. Totaling approx. 55,736 CY. to date.
- Have re-established pilot channel for approx. 2.5 miles upstream of Del Fraile. Presently approx. 1500’ below Little Box Canyon.