

List of actions (a.) and list of features (b.) proposed to be covered by Program Comment.

a. List of Types of Actions - Canals and Ditches.

- Gate recoating, repair, replacement (including head gates, radial gates, trash gates, turn out gates, slide gates)
- Vegetation treatment on canal banks
- Fish screen repair, replacement
- Replacement of concrete lining and liners
- Lining previously unlined ditches
- Repair, refurbish roller gate actuator and gear train
- Clean, repair, and or replacement trash screens/racks
- Irrigation lateral replacement
- Baffle stand and meter replacement
- Automate canal head gates
- Repair canal subsidence
- Flow meter repair or replacement
- Stabilize embankment
- Repair, replacement of Headworks
- Penstock repair and replacement including cathodic protection system repair or replacement
- Install debris handling system on fish screen
- Irrigation crossing pipe repair
- Sediment removal
- Replace drains and culverts
- Replace open ditch with pipe
- Reconstruct, replace, check structure
- Replace measurement structure
- Rehabilitation, repair or replace measuring flume
- Installation/replacement/removal of components of irrigation systems-head gates, fish screens, pumps, diversions, flumes, siphons, diversions, fish passage structures/barriers
- Decommissioning irrigation ditches/canals/laterals

- Installation/in-kind replacement/replacement of off-site watering systems – changing pumping mechanisms, replacing watering troughs, replacing fish screens, etc.
- Transfer of properties to non-Federal operators.

b. Canal Feature Types, Description and Function

- **Baffle Stand** are devices placed within a canal in order to slow the flow of water.
- **Canals and ditches** are open channels built to convey water through a system by gravity.
- **Canal Reach** is identified by the water contained between structures including, checks, wasteways, diversion dams, etc., where the structures may be used to control or limit the amount of water to be lost in the event of a failure
- **Culvert** is a pipe or other structure used to carry drainage under an existing ditch or road.
- **Diversion dams** are structures placed in a river to divert all or portions of the water flow into a canal or ditch.
- **Drains** are water conveyance structures (either open channels or buried pipes) that carry excess water away from irrigated agricultural fields to prevent rising water tables.
- **Drainage systems** convey excess surface water to an outlet, normally a river or stream, or a conveyance channel leading the outlet. Areas where on-farm gravity irrigation methods are used will generally have wastewater drains at the end of the fields which flow into collector drains.
- **Drop box** is a structure placed into a canal in an area of high gradient in order to reduce water velocity and help alleviate erosion of the canal bottom.
- **Flow Meter** is a device used to measure and record the flow rate of water, often commercially available.
- **Flume** is an artificial channel for conducting water, often engineered specifically to measure water flow in open ditches and canals or to carry water across ravines or depressions.
- **Gates** are devices for controlling the flow of water into, along, or out of a canal or ditch. Includes headgates which are at the beginning of a canal or ditch.
- **Headworks** are a structure or series of structures at the beginning of the canal to regulate flow from a diversion into a canal. These may contain fish ladders, silt excluders, and other components to filter water.
- **Intake structures** channel water from the water source (reservoir or river) to the canal headworks.
- **Laterals and sub-laterals** are smaller ditches which divert water from the main canal or ditch into local areas for irrigation.

- **Outlets and turnouts** divert water from a supply channel to a smaller channel. Energy dissipaters may be needed to prevent erosion to downstream features.
- **Overchutes** are a pipe or structure used to carry drainage water over a ditch channel.
- **Penstock** is a sluice, or gate or intake structure that controls water flow.
- **Sand traps** are a drop structure built to remove sediment from canal flows.
- **Siphon** is a tube or pipe used to lift water up over rise using pressure.
- **Sub-lateral and canal spills** normally flow into an open drain or natural waterway. Many drainage systems are integrated with the existing natural drainage system.
- **Tappon** is a wooden plug or metal sheet fitted into a lateral field ditch to dam up water so as to overflow and irrigate a field.
- **Trash Screen or Gate** is a device used to collect debris from a flowing ditch or canal for removal.
- **Turnouts or lateral headgates** are simple to complex devices which control water flow from main ditches or canals into lateral canals and farm ditches.
- **Wasteways** drain excess irrigation water away from the canal system and from lands within this area of the district. Wasteways empty the canal for inspection, operations, or emergencies. A terminal wasteway provides controlled discharge of unused water to a channel or a reservoir.
- **Water control structures** are devices which control the direction and rate of flow to maintain a desired water surface and measures flow.
- **Weirs** are overflow structures built across open channels to measure the rate of flow of water.