

IRRIGATION STORAGE RESERVOIR

Design Survey

The following information shall be obtained and recorded in the field notes:

- a. Profile along centerline of dam and emergency spillway.
- b. Profile and alignment of conduits and principal spillway (100 feet upstream and 300 feet downstream).
- c. Cross-sections on dam and emergency spillway centerline.
- d. Basin topography to the extent needed for design.
- e. Foundation and soils investigation ties.
- f. Drainage area.
- g. Possible borrow areas.

Design Data

The following shall be considered minimum in the design of all embankments. The information shall be recorded in the design notes. Appropriate data shall be transferred to the construction drawings.

- a. Log of soil investigations and any lab test results along with stability design.
- b. Hydrologic computations.
- c. Hydraulic computations for principal spillway and conduits.
- d. Stage-storage data.
- e. Structural design for non-standard plans.
- f. Quantity computations.
- g. Records indicating NRCS obligations regarding State and Federal regulations have been met, including NEPA requirements.
- h. Record of determination of hazard classification. (see NEM, 520.23)

Drawing and Specifications

The construction drawings shall include but will not be limited to the following:

- a. Plan, profile and maximum cross-section of embankment and emergency spillway.
- b. Profile along centerline of principal spillway and drawdown conduit. (May combine with "a." above.)
- c. Stage storage data, drainage area.
- d. Location map.
- e. Spillway hydraulics.
- f. Structural layout and details.
- g. Table of quantities.
- h. Borrow area.
- i. Fill material and compaction requirements.

Practice specifications along with applicable "Items of Work and Construction Details" shall be provided for each item of phase of construction.

Layout and Survey Notes

The following information shall be recorded in the field notes. For smaller embankment ponds, this phase may be combined with the design survey.

- a. Centerline and slope stakes for the embankment pond and emergency spillway.
- b. Grade and alignment stakes for conduits and principal spillway.
- c. Slope stakes for cutoff trench and drains.

Compliance Checks

The complexity of the structure will dictate the need for compliance checks during construction. All compliance checks shall be recorded in the field notes. Narratives of construction checks shall be recorded in the job diary or on a sheet in the field notes. Compliance checks shall include but will not be limited to the following.

- a. Profile and cross-section of cutoff trench (accomplished during construction for other than minimum trenches).
- b. Dimensions, number and materials used for anti-seep collars (accomplished during construction).
- c. Profile along centerline of completed embankment and emergency spillway (100' maximum interval).
- d. Cross-section of embankment and spillway (1 minimum).
- e. Dimensions, elevations, materials of principal spillway and drawdown conduits.
- f. Size, type and model of all valves, gates, hoists, and other appurtenances.
- g. Material test results (recorded on applicable form).
- h. Statement of compliance.

As-Built Plans

As-built plans shall be prepared for all structures. These drawings shall reflect all significant changes in linear measurements, quantities, alignment or design changes. If there were no significant changes, the original drawings shall be marked "As-Built".