

Juvenile Fish Screen Design Summary

Project Designer:

Date:

Contact information:

I. Description of site including name of diverted stream, type of diversion, type of headgate, metering device, site name. Include the expected time frame for construction.

II. Water Surface Elevation (WSE) Data. Generally indicate method used to estimate river and diversion flows, and describe how elevations relate to a locally established benchmark or whether they represent actual elevations. The flow period of record should be limited to the downstream juvenile migration season only, as verified with a local fisheries biologist.

1. Stream WSE and streamflow near site of bypass return (open channel diversions only)

a. 5% exceedence flow = CFS, WSE =

b. 95% exceedence flow = CFS, WSE =

2. Stream WSE and streamflow at point of diversion

a. 5% exceedence flow = CFS, WSE =

b. 95% exceedence flow = CFS, WSE =

3. Diverted flow and associated canal WSE at screen site (open channel diversions only)

a. Maximum diversion = CFS, WSE =

b. Normal diversion = CFS, WSE =

c. Minimum diversion = CFS, WSE =

4. Generally describe how the diversion is operated. For example, describe when maximum and minimum rates of diversion occur; any constraints on water diversion and when they might occur; frequency of headgate or diversion rate adjustments; other pertinent information.

III. Screen structure. Provide this information on site sketch, per Section VI below.

1. Type of screen (rotary drum, fixed vertical, etc.):

2. Angle of screen relative to flow:

3. Screen cleaning mechanism (drum rotation, backspray, brushes etc.):

4. Screen cleaner powered by (electric motor, paddlewheel, hydraulic motor etc.):

5. Minimum submerged screen area:

6. Length of screen:

7. Bottom and top elevation of screen (square or rectangular screens):

8. Screen diameter (drum or cylindrical screens):

9. For pump intake screens, list brand, model, cleaning mechanism:

10. Describe inspection, operations and maintenance program.

IV. Bypass return pipe (if applicable). Provide this information on site sketch, per Section VI below.

1. Pipe diameter =

2. Length required (to preferred outfall site) =

3. Pipe slope (rise/run) =
4. Bypass flow and flow control device (weir length or orifice size):
5. Outfall type (submerged, free-fall, open channel):
6. Approximate river velocity at outfall =
7. Minimum outfall depth =
8. Ditch invert elevation =

V. Other site information (examples: access problems, stream characteristics at bypass outfall site, construction site problems, excessive cut/fill, land owner problems, irrigation season, river flow, construction window, ice jam problems, sedimentation potential, winter operation required for stock water, power availability, screen site inspection frequency, diversion consolidation potential, irrigation methods that impact water surface elevations such as check dams, screen location constraints, road/bridge construction required, excessive debris load etc.). Indicate method of coping with constraints.

VI. Site sketch. Include a screen and bypass plan view showing river alignment near screen, bypass and diversion site. Indicate any physical site constraints that affect design. Include an elevation view of the screen structure, including design components, high and low water surface elevations, stream or ditch invert elevation, all relative to benchmark elevation used. Include a flow channel cross-section at the screen site.

VII. Hydrology data. Describe how the 5% and 95% exceedence flow (Section II) estimates were developed (eg. stream data, ungaged basin methodology used).