

channel ends at the existing stock pond upstream of Sterling Ranch Road. Flows accumulate in the stock pond until they reach the static water surface and then overtop the orifice of the outlet structure and then outfall directly into Pond W-3. An Agridrain system controls flows below the static water surface. In the event of flow above the 100-year storm, an emergency spillway conveys flows into Pond W-3. With development currently happening on both sides of the channel, especially on the west side, retaining walls are used extensively to grade in the maintenance trail along this reach. The channel through Pond W-3 is not the 4 stage section used through the rest of the reach, but rather a 2 stage section with a 17 foot wide, 0.71 feet deep bankfull with a 1% flood terrace extending out to the extents of the pond bottom.

Reach 3 of the channel is approximately 2,807 feet long. In the amended MDDP hydrology, the peak 100-year flow at DP 71, located at the northern boundary of Sterling Ranch, is 1,644 cfs. There are 19 riffle sections with slopes ranging from 1.47% to 3.04%, while the slope through the eddy pools is flat. There is two grouted boulder drops structure along this reach, one 6 feet and the other 4.3 feet tall. The flood terrace varies in width along this reach from approximately 180 feet up to 260 feet wide. The larger of the two existing stock ponds on this reach will remain in place, approximately 900 feet upstream of the Briargate Parkway culvert. It functions similarly to the one just north of Sterling Ranch Road. Flows enter the pond directly, and an orifice structure maintains a static water surface in the pond. An Agridrain control structure maintains flows below the static water surface. During larger events, flows overtop the orifice structure and outfall downstream of the pond. In the event of flows above the 100-year event, an emergency spillway conveys flows downstream. A second stretch of channel approximately 550 feet long connects the pond outfall with the proposed drop structure associated with the Bridgecor steel box, Type 58S (designed by others) culvert at Briargate Parkway. Bank stabilization will be required along the Homestead North development from Wheatland Drive to Poco Road. This will be addressed in the construction plans for Homestead North Filing 1 rather than the Sand Creek Channel Improvements. Bank stabilization along Filing 3 will be completed with as part of the erosion control measures with the Sand Creek Channel improvements. Along the west bank the grading will be revised with Sterling Ranch Filing 2 and any necessary bank stabilization will completed with that phase.

SUMMARY

Move to Reach 1
paragraph? 

3? 

The proposed development remains consistent with pre-development drainage conditions with the construction of the recommended drainage improvements, including ditches, culverts, detention ponds and drainage channel improvements. The proposed development will not adversely affect the offsite major drainageways or surrounding development. This report meets the latest El Paso County Drainage Criteria requirements for this site.