MANAGEMENT REVIEW COMMITTEE
KIF DREDGE CELL FAILURE - 2006

The 2003 blow out was heavily investigated in 2004/2005. Numerous piezometers were installed, lab and filed testing was performed. Two "dueling" consultants were used in the analysis phase as well as both "in-house" (FES, RSO&E, and MacTec) resources to analysis and derive a fix. The fix was implemented in 2005. Dredging was successfully performed for a significant period (9 months) with complete success.

The 2006 blow out occurred in the *same* location as the 2003 blow out. The 2006 blow out occurred shortly after dredging switched from cell 2 to cell 1. Similar situation to the 2003 blow out.

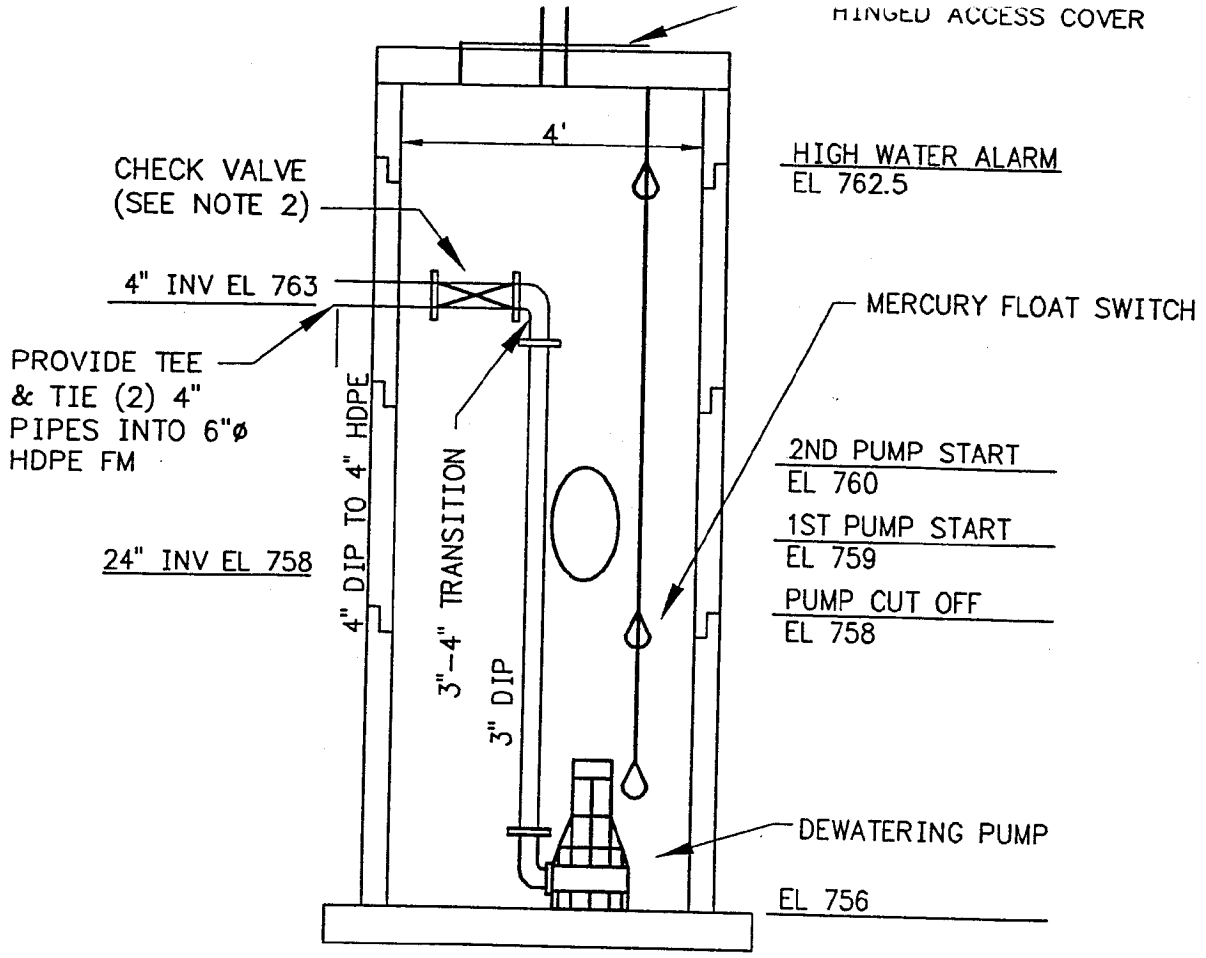
The analysis indicated a "Global" problem around the whole face of the dredge cell. The analytical modeling performed actually predicted the location (elevation) of the 2003 blow out. The fix implemented addressed the global problem.

Indications are we ***also*** have a local problem that was masked by the global problem. (2003 the entire slope was saturated - 2006 only two local areas were saturated)

The global problem had to be addressed first.

Short piezometers are being installed today to confirm/deny that the local p0rblem.

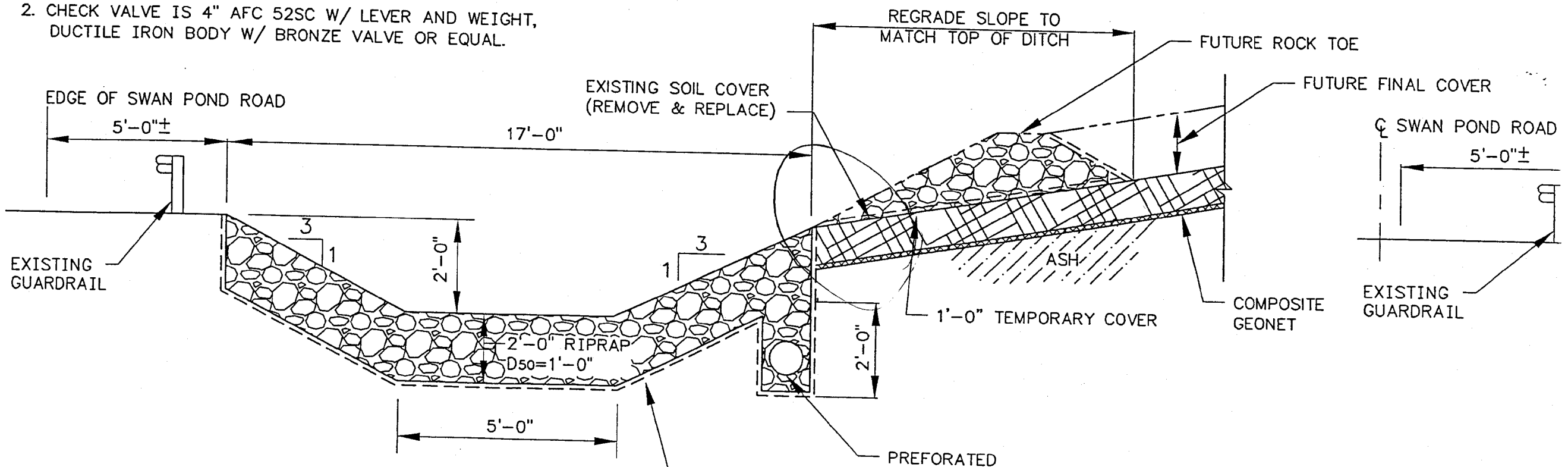
Adaptive Design. Pending confirmation of the local seeps we will adapt the fix to address the local piping to handle the problem.



SECTION A91

NOTE:

1. ELEVATIONS ARE FOR PERMANENT POND OPERATION.
2. CHECK VALVE IS 4" AFC 52SC W/ LEVER AND WEIGHT, DUCTILE IRON BODY W/ BRONZE VALVE OR EQUAL.



DETAIL G91

DETAIL B91
TEMPORARY SILT FENCE
N.T.S.

NOTES:

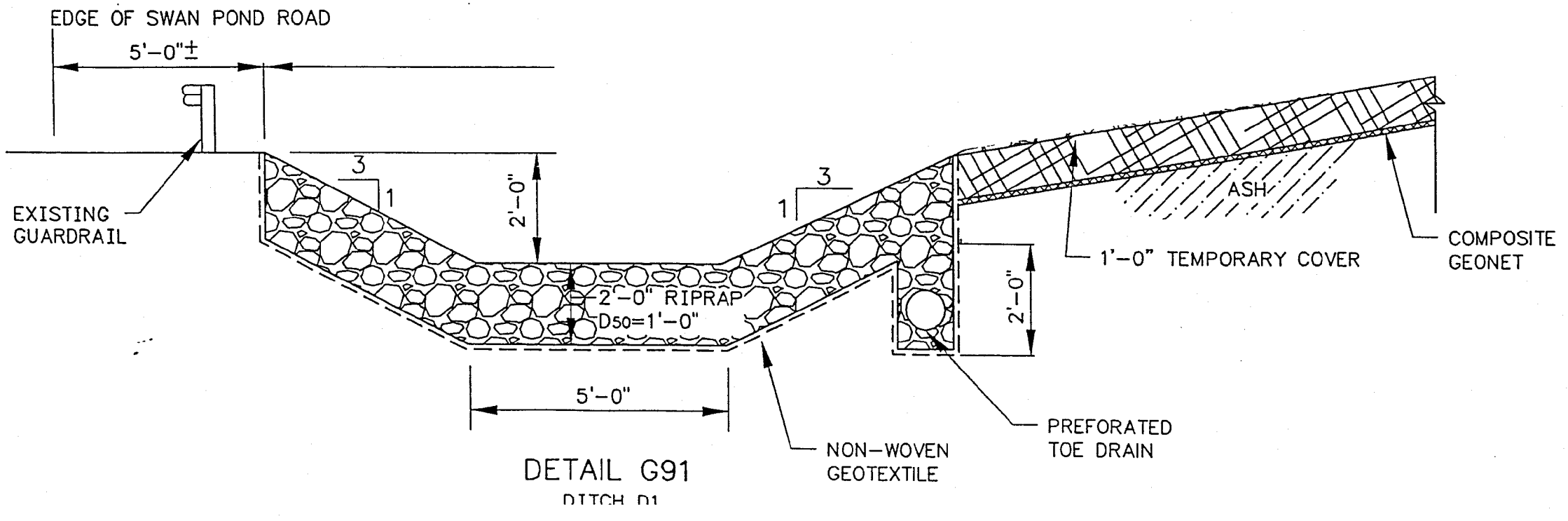
1. FILTER FABRIC FENCE TO BE PLACED PRIOR TO THE START OF ROUGH GRADING.
2. STEEL POSTS SHALL BE METAL "T" POSTS – 6'-0" LONG.
3. POSTS SHALL BE PLACED AT 4' INTERVALS MAX.
4. WIRE FABRIC AND FILTER FABRIC SHALL BE SECURELY BOUND TO POSTS WITH EITHER STAPLES OR WIRE TIES.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING CONDITION OF FILTER FABRIC FENCE IN A CONDITION THAT IS SATISFACTORY TO TVA UNTIL FINAL ACCEPTANCE OF WORK. REMOVE SEDIMENT WHEN SEDIMENT HEIGHT IS ONE-HALF THE HEIGHT OF THE FENCE.
6. FILTER FABRIC SHALL BE A CLASS A FABRIC IN ACCORDANCE WITH TVA SPECIFICATION T-1, SECTION 571.

DESIRED
SETTLED
TOP

ACTUAL
DWG

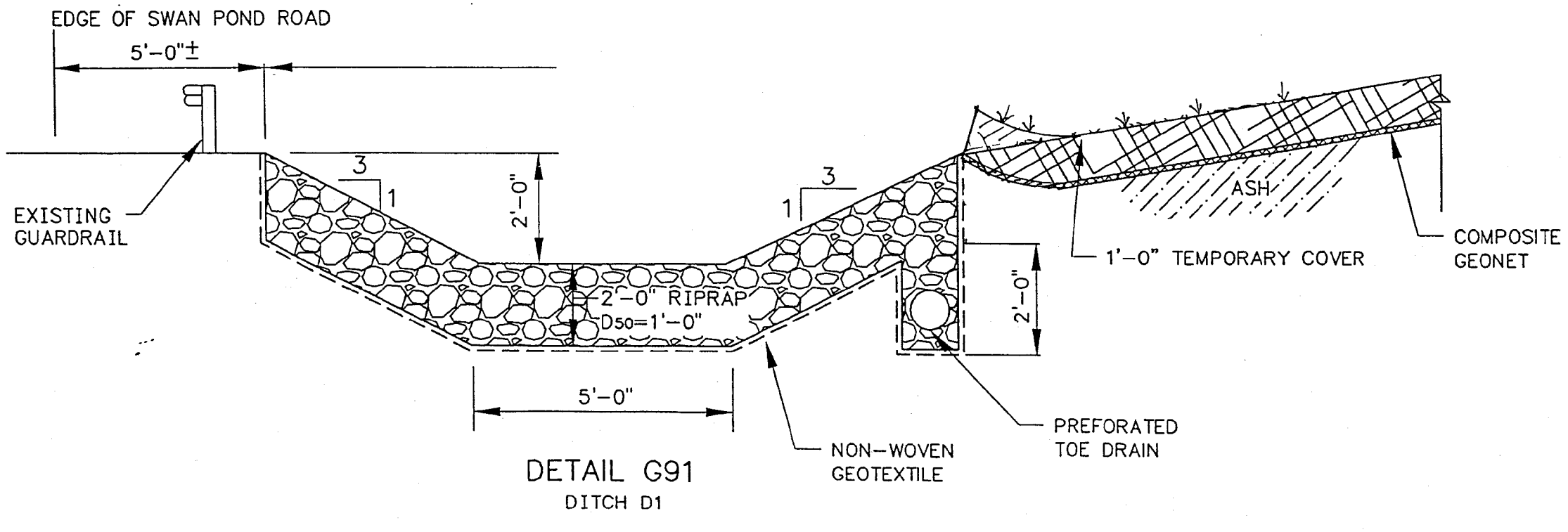
NO
1. F

WHAT
SHOULD
HAVE
EXPECTED



DETAIL G91
DITCH D1

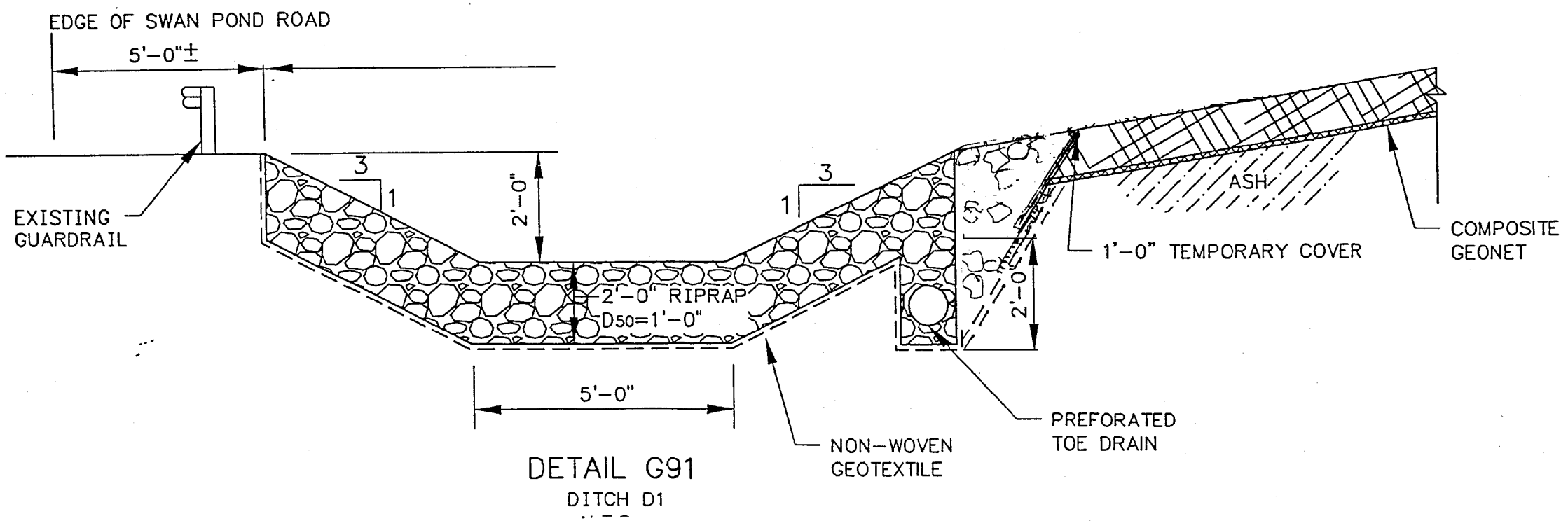
WHAT ACTUALLY GOT BUILT



DETAIL G91
DITCH D1

MAY HAVE BEEN BETTER

LAPPED AND LAYERED GEONET WITH FILTER FABRIC AT THE TOE WOULD HAVE BEEN A SUPERIOR DETAIL. BECAUSE THESE WERE PERMIT AND CONSTRUCTION DRAWINGS WE HAD TO COVER CURRENT AND FUTURE CONDITIONS. (AMBITIOUS TO DO IN ONE DETAIL) ALSO WOULD HAVE EXPECTED A STRONG FIELD ENGINEERING SERVICE TO PICK THIS UP. TWO "HOWEVERS" THOUGH. 1. THIS DONE DIFFERENTLY WOULD NOT BE SUFFICIENT TO HAVE CORRECTED FOR THIS MAGNITUDE OF LOCAL FAILURE. 2. HAD THIS BEEN DONE WE MAY NOT HAVE HAD AS EARLY AN INDICATION OF THE LOCAL PIPING UNTIL THE PROBLEM WAS MUCH BIGGER.



DETAIL G91
DITCH D1