2-20-09

GT PLAINS - POND ON LOT 5

POND NWS 180.5
MAX WS 184.0
VOLUME 127 404 CU. FT. OR 2.92 AC. FT.

DA TO POND 12.26 AC

SOIL TYPE Fb GROUP B
"C" FACTOR EXISTING 0.22 EXISTING 5YR
0.41 " 100YR

"C" FACTOR HEAVY INDUSTRIAL
0.76 5YR
0.84 100YR

USE 15 MIN. Tc FOR ALL CALCULATIONS

POND (DEVELOPED CONDITION FLOWS 12.26 AC)
Q_{100} IN = 77.58 cfs Q_5 IN = 43.44 cfs
Q_{100} OUT = 2.88 cfs Q_5 OUT = 0.95 cfs
DWS = 182.36 DWS = 181.55

(90' - 12" RCP CONTROL STRUCTURE)
FL IN 180.5 OUT 180.0

UNDEVELOPED CONDITION

TRY DA BELOW POND 12.74 + 12.26 TOTAL 25 AC

Q_{100} = 77.22 cfs Q_5 = 25.64 cfs

TRY DA BELOW POND 11.74 + 12.26 TOTAL 24 AC

Q_{100} = 74.13 cfs Q_5 = 24.62 cfs

NEW HOTEL CONDITION

COMBINE POND OUTFLOW WITH TOTAL D.A. DEVELOPED

DA = 25AC

Q_{100} = 81.44 cfs Q_5 = 45.56 cfs

DA = 24 Ac

Q_{100} = 74.97 cfs Q_5 = 15.11 cfs

AN ADDITIONAL 2.54 ACRES CAN BE ADDED TO THE 21.46 AC D.A. WHICH WILL MATCH THE UNDEVELOPED FLOW FOR THE 100 YEAR STORM. 74.97 vs 74.13

TRY AND [illegible] TO 15.26 AC FOR 5YR STORM

EXIST. = 17.[illegible] cfs
DEVELOPED [illegible] 18.08 cfs

APPROX 17.2 ACRES CAN BE DEVELOPED
BEFORE THE 5 YR RUNOFF IS EXCEEDED.
([illegible] 4 OR LOT 5)

THEN POND 2 CAN BE BUILT DOWNSTREAM
TO REDUCE THE 5YR FLOWS FOR THE
ENTIRE 24 ACRES. THIS WILL ALLOW FOR
DEVELOPMENT OF LOTS 1, 2, 4 AND 5, BLOCK 1.