BERISFORD SUBDIVISION
CHANNEL CALCULATIONS

CHANNELS - EXISTING FLOWS

CHANNEL	DESIGN POINT	SLOPE (FT/FT)	BOTTOM WIDTH (B, FT)	SIDE SLOPE (Z)	CHANNEL DEPTH (FT)	FRICTION FACTOR (n)	DP/ BASIN	Q100 FLOW (CFS)	CHANNEL FLOW % OF BASIN	CHANNEL FLOW (CFS)	Q100 DEPTH (FT)	Q100 VELOCITY (FT/S)	TOP WIDTH (FT)	FROUDE NUMBER	EASEMENT WIDTH (FT)	CHANNEL LINING
CHANNEL C1.1	DP3	0.048	10	4:1	2.0	0.030	DP3	32.9	40	13.2	0.3	4.3	12.2	1.51	30.0	GRASS
CHANNEL C1.2	DP3	0.054	4	4:1	2.0	0.030	C	30.0	15	4.5	0.2	3.9	5.9	1.54	30.0	GRASS
CHANNEL C1.3	DP3	0.047	20	10:1	2.0	0.030	DP3	32.9	100	32.9	0.3	4.5	26.3	1.53	50.0	GRASS
CHANNEL C1.4	DP3	0.050	24	7.5	2.0	0.030	DP3	32.9	100	32.9	0.3	4.5	28.2	1.56	50.0	GRASS

CHANNELS - DEVELOPED FLOWS

CHANNEL	DESIGN POINT	SLOPE (FT/FT)	BOTTOM WIDTH (B, FT)	SIDE SLOPE (Z)	CHANNEL DEPTH (FT)	FRICTION FACTOR (n)	DP/ BASIN	Q100 FLOW (CFS)	CHANNEL FLOW % OF BASIN	CHANNEL FLOW (CFS)	Q100 DEPTH (FT)	Q100 VELOCITY (FT/S)	TOP WIDTH (FT)	FROUDE NUMBER	EASEMENT WIDTH (FT)	CHANNEL LINING
CHANNEL C1.1	DP3	0.048	10	4:1	2.0	0.030	DP3	36.2	40	14.5	0.3	4.5	12.3	1.53	30.0	GRASS
CHANNEL C1.2	DP3	0.054	4	4:1	2.0	0.030	C	34.3	15	5.1	0.3	4.0	6.0	1.55	30.0	GRASS
CHANNEL C1.3	DP3	0.047	20	10:1	2.0	0.030	DP3	36.2	100	36.2	0.3	4.7	26.6	1.54	50.0	GRASS
CHANNEL C1.4	DP3	0.050	24	7.5	2.0	0.030	DP3	36.2	100	36.2	0.3	4.7	28.4	1.57	50.0	GRASS

1) Channel flow calculations based on Manning's Equation
2) n = 0.03 for grass-lined non-irrigated channels (minimum)
3) Vmax = 5.0 fps for 100-year flows w/ grass-lined channels

Control Blankets / Turf Reinforcement Mats (Eronet SC150 or equal)

JPS Response:
Per 10/30/24 phone conference with Daniel Torres, this comment was addressed by adding the Froude Number column to demonstrate no significant increase between existing and developed flow conditions; text at top of page 7 of report provides discussion regarding the negligible drainage impact, and additional discussion has been provided to address the high froude #'s.

Unresolved:
These values show supercritical flow rates. Please address how impacts will be mitigated in these swales. At a minimum address within report high froude #'s.