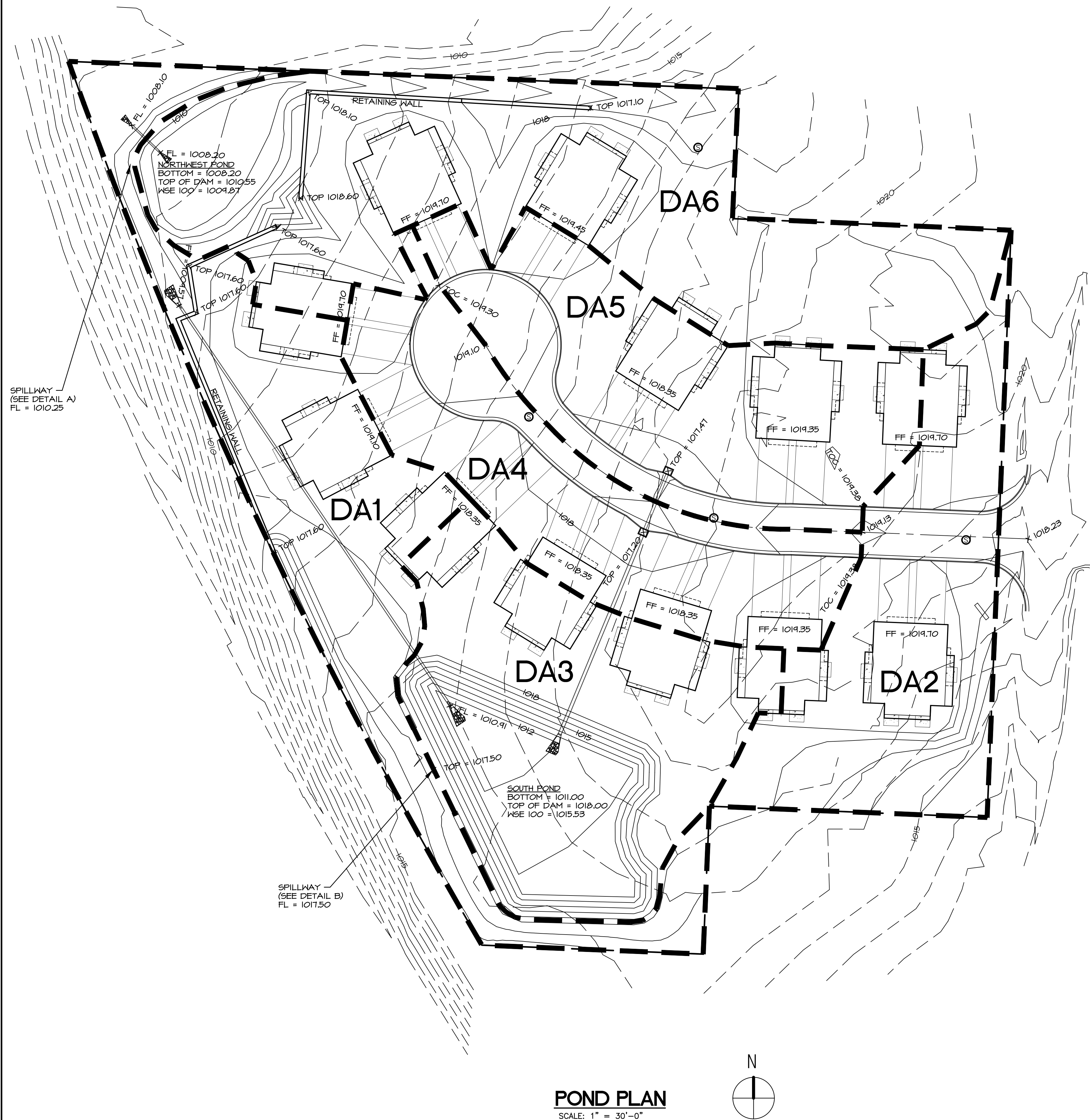




POND PLAN
SCALE: 1" = 30'-0"

AREA DESC.	AREA FT^2	AREA AC	DRAIN TO	TOTAL AREA FT^2	TOTAL AREA AC
DA1	28,150	0.646	UNCAPTURED	28,150	0.646
DA2	22,454	0.516	UNCAPTURED	22,454	0.516
DA3	27,876	0.640	SOUTH POND	72,933	1.674
DA4	20,552	0.472	SOUTH POND		
DA5	24,505	0.563	SOUTH POND		
DA6	41,227	0.946	NORTHWEST POND	41,227	0.946

Pond Design Calculations

Northwest Pond

Runoff Calculations
A = 0.946 Acres
Tc = 8.874 min.
CN = 90

Q2 = 3.07 cfs
Q10 = 4.22
Q100 = 7.45

Stage Storage:

100-yr WSE = 1010.40'

Emergency Spillway Design:

Weir Length = 40 ft
Weir Elevation = 1010.25'
Side Slope = 3:1
Flow Depth = 0.15 ft

Spillway Erosion Protection (APWA 5605.5, E.1):

Flow Area = 6.02 ft^2
Flow WP = 40.42 ft
R = 0.149 ft
S = 0.22 ft/ft
Y = 62.4 x 0.149 x 0.22 = 2.045 psf

Spillway to be lined with well maintained turf grass.
No additional erosion protection required.

NW Pond 100-yr Spillway Performance (100% Clogged)

Trapezoidal Weir
Crest = Broad
Bottom Length (ft) = 40
Total Depth (ft) = 0.30

Calculations
Weir Coeff. Cw = 3.09
Compute By - Known Q
Known Q (cfs) = 7.45

Highlighted
Depth (ft) = 0.15
Q (cfs) = 7.45
Area (sq ft) = 6.02
Velocity (fps) = 1.24
Top Width (ft) = 40.3
Energy (ft) = 0.16

Pond Design Calculations

South Pond

Runoff Calculations
A = 1.674 Acres
Tc = 8.731 min.
CN = 90

Q2 = 5.462
Q10 = 7.51
Q100 = 13.25

Stage Storage:

100-yr WSE = 1017.70'

Emergency Spillway Design:

Weir Length = 50 ft
Weir Elevation = 1017.50'
Side Slope = 3:1
Flow Depth = 0.20 ft

Spillway Erosion Protection (APWA 5605.5, E.1):

Flow Area = 10.04 ft^2
Flow WP = 50.57 ft
R = 0.199 ft
S = 0.065 ft/ft
Y = 62.4 x 0.199 x 0.065 = 0.805 psf

Spillway to be lined with well maintained turf grass.
No additional erosion protection required.

S Pond 100-yr Spillway Performance (100% Clogged)

Trapezoidal Weir
Crest = Broad
Bottom Length (ft) = 50
Total Depth (ft) = 0.50

Calculations
Weir Coeff. Cw = 3.09
Compute By - Known Q
Known Q (cfs) = 13.25

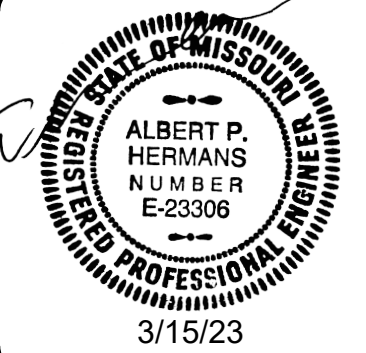
Highlighted
Depth (ft) = 0.20
Q (cfs) = 13.25
Area (sq ft) = 10.04
Velocity (fps) = 1.32
Top Width (ft) = 50.4
Energy (ft) = 0.22

REFERENCE PLANS PREPARED BY RENAISSANCE
INFRASTRUCTURE CONSULTING DATED 6/11/20 FOR
ADDITIONAL INFORMATION. SPECIFICALLY
REFERENCE SHEET C04 - POND PLAN FOR
ORIGINAL LAYOUT.

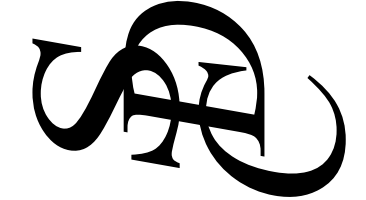
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DATE:	3/15/23
REVISION	
1	
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C09