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To determine the volume of runoff, 1) Determine the area in each treatment, AA, AB, AC, AD

		zone 1		zone 2			ratios
		ex. prop.		ex. prop.		total proposed	
	Α	7788	0	7555	1000	1000	7%
	В		0		0	0	
	С		4927		2890	7817	50%
	D		2861		3665	6526	43%
total (sf)		7788		7555		15343	

2) Compute the weighted excess precipitation, E EAAA + EBAB + ECAC + EDAD

Weighted E =(a-5) AA + AB + AC + AD

	zo	ne 1	zone 2		
	ex.	prop.	ex.	prop.	
A x 0.66	5141		4986	660	
B x 0.92					
C x 1.29		6356		3728	
D x 2.36		6752		8649	
total (inxsf)	5141	13108	4986	13027	
E (in)	.66	1.68	.66	1.72	

3) Multiply the weighted E by the watershed area.
V 360 (as volume) = weighted E* (AA + AB + AC + AD) (a−6)

	zoi	ne 1	2	zone 2
	ex.	prop.	ех.	prop.
/ 360 (CF)	428	1090	416	1083

For ponds which hold water for longer than 6 hours, longer duration storms are required to establish runoff volumes. Since the additional precipitation is assumed to occur over a long period, the additional volume is based on the runoff from the impervious areas only. For 24-hour storms:

V 1440 = V360 + AD * (P1440 - P360) / 12 in/ft

V 1440 = V360 + AD * (0.4 in) / 12 in/ft

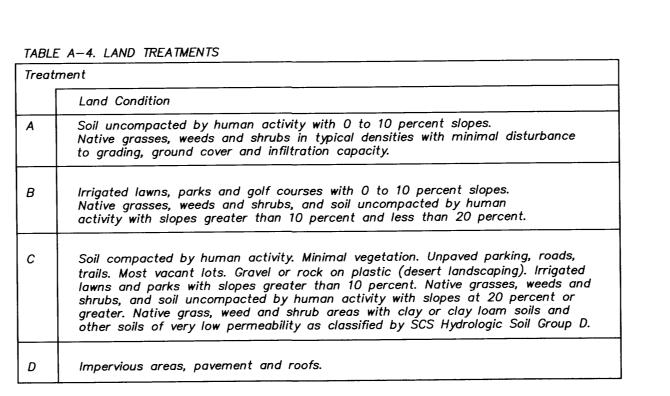
		zoi	ne 1		proposed totals	
		ex.	prop.	ex.	prop.	
	D		2861		3665	
V 360	(CF)	428	1090	416	1083	
AL	DED		95		122	
V 1440	(CF)	428	1185	416	1205	2390
Adde	d	-	757		789	1546

PONDING (CF)

500 500 TOTAL NET ADDED: 500 CF

METHODOLOGY: ASSUMPTION FOR EXISTING SITE IS 100 PERCENT VACANT (UNDISTURBED). SITE HAS EXISTING GRADES OF 0% TO 10%. ZONE 2 DRAINAGE SHALL BE COLLECTED AND PARTIALLY PONDED ON SITE IN RETENTION POND. POND INDICATED ON SITE PLAN SHALL BE GRADED TO 18" BELOW TOP OF RETAINING WALL AT THE WESTERN PROPERTY LINE. OUTFLOW SHALL BE GRADED TO 12" BELOW TOP OF RETAINING AT HIGHEST POINT. PONDING AREAS ARE TREATED AS TYPE 'A' — FLAT AND UNCOMPACTED

CONCLUSIONS: OUR PROPOSED PONDING CAPACITY OF 500 CF WILL RETAIN 60% THE TOTAL RUNOFF FOR ZONE 2. THE REMAINING 300 CF FOR ZONE 2 WILL BE DIRECTED TO THE STREET. RUNOFF AT THE WESTERN PROPERTY LINE WILL BE DIRECTED AWAY FROM THE RETAINING WALL.



The principal design storm is the 100-year 6-hour event defined by the NOAA Atlas 2, Precipitation-Frequency Atlas of the Western United States, Vol. IV — New Mexico. Assume an AMC II condition (a normally dry watershed). For design of retention or detention ponds, storms of 24-hour or longer duration many be required. The 24-hour event is defined by the NOAA Atlas 2. The 4-day and 10-day events can be obtained using the procedures in S.C.S. TSC Technical Note—Hydrology, PO-6 (Rev. 2) The 100—year 60—minute depth is computed by the following formula from Table 11 of NOAA Atlas 2:

P 60 = 0.494 + 0.755* (P360 * P360 / P1440)

Project is located in Zone 3:

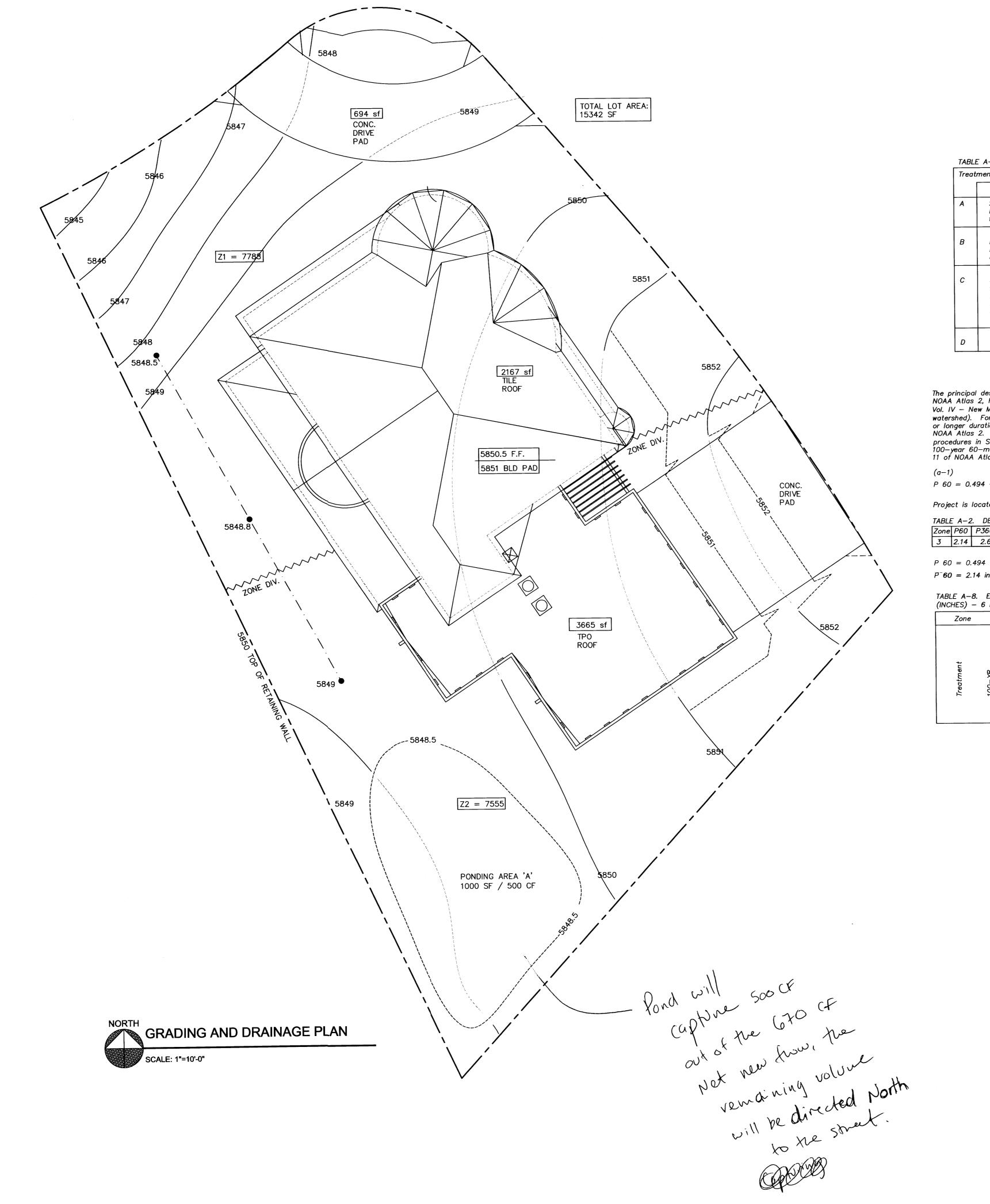
TABLE A-2. DEPTH (INCHES) AT 100-YEAR STORM
 Zone
 P60
 P360
 P1440
 P4days
 P10days

 3
 2.14
 2.60
 3.10
 3.95
 4.90

P 60 = 0.494 + 0.755* (2.60 * 2.60 / 3.10) $P^{-}60 = 2.14 \text{ inches}$

TABLE A-8. EXCESS PRECIPITATION, E

(INCHES) - 6 HOUR STORM						
Zone		3				
	100– YR. [2– YR., 10– YR.]	Α	0.66 [0.00, 0.19]			
ent R		В	0.92 [0.06, 0.36]			
Treatment 100– YR.		С	1.29 [0.20, 0.62]			
		D	2.36 [0.89, 1.50]			



SCALE: 1"=10'-0"