Step 2b Worksheet

Define Characteristics of Water Resource and its Watershed

Name: Answers

Site: _____

Date: _____

Water Resource Name / ID: _____

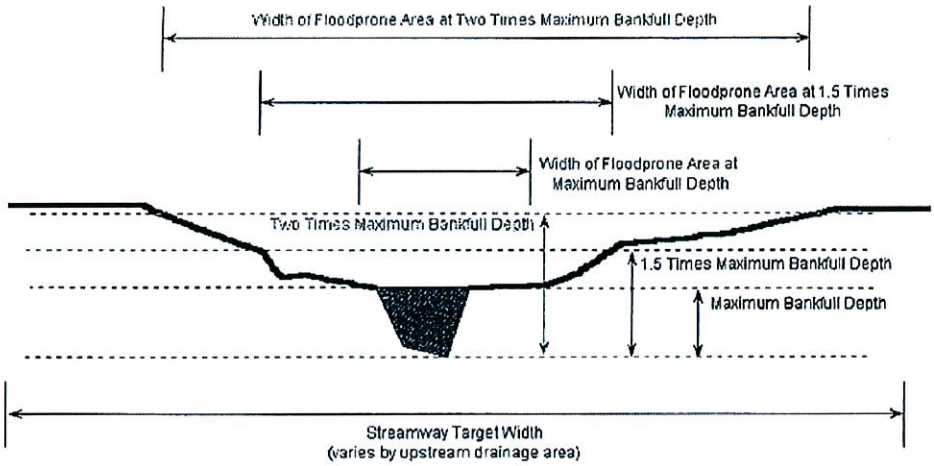
Type of Water Resource: ✓ Stream ___ Lake ___ Wetland ___ Other: _____

Water Resource Characteristics

	Upstream End	Along Water Resource	Downstream End
Drainage Area, acres (A_R)	814		990
Bottom Elevation, feet	681.87		668.72
Length, feet (L)		2,192	
Slope, % (S)		0.6%	
Ratio Streamway Width to Stream Width (C_{SW})	✓ 10, if S≤2%,		___ 3, if S>2%
Bankfull Depth, feet (D_{BF})	1.62		1.71
Top Width			
- @ Bankfull Depth, feet (W_{BF})	19.6		21.0
- @1.5 * Bankfull Depth, feet ($W_{1.5BF}$)	29.4		31.5
- @ 2.0 * Bankfull Depth, feet (W_{2BF})	39.2		42.0
- Streamway, feet ($W_{SW} = C_{SW}*1.26*A_R^{0.38}$)	160.8		173.3
Streamway Area, acres ($A_{SW} = L*0.5*(W_{SW-U} + W_{SW-D})$)		8.4ac.	

Step 2b Worksheet (continued)

Define Characteristics of Water Resource and its Watershed



Stream Condition	Floodprone Area, ft^2 ($A_{_} = L*0.5*(W_{_U} + W_{_D})$)	Incremental Area, ft^2
- @ Bankfull Depth	A_{BF} = 44,498	$I_{BF} = A_{BF}$ = 44,498
- @1.5 * Bankfull Depth	$A_{1.5BF}$ = 66,746	$I_{1.5BF} = A_{1.5BF} - A_{BF}$ = 22,248
- @ 2.0 * Bankfull Depth	A_{2BF} = 88,995	$I_{2BF} = A_{2BF} - A_{1.5BF}$ = 22,249
- Streamway	A_{SW} = 366,064	$I_{SW} = A_{SW} - A_{2BF}$ = 277,069 (min.=0)

Stream Condition	Entrenchment Ratios ($E_{_} = I_{_} / A_{SW}$)	Floodprone Area Weighting Factors ($C_{_} = 0.6/2^{E_{_}} + 0.7$)
- @ Bankfull Depth	E_{BF} = 0.12	C_{BF} = 1.25
- @1.5 * Bankfull Depth	$E_{1.5BF}$ = 0.06	$C_{1.5BF}$ = 1.28
- @ 2.0 * Bankfull Depth	E_{2BF} = 0.06	C_{2BF} = 1.28

Adjusted Floodprone Area, ft^2

44,498 x 1.25 + 0.8 x 22,246 x 1.28 + 0.4 x 22,249 x 1.28

- For $S \leq 2\%$, $A_{FP} = (I_{BF} * C_{BF}) + (0.8 * I_{1.5BF} * C_{1.5BF}) + (0.4 * I_{2BF} * C_{2BF})$= 87,291
- For $S > 2\%$, $A_{FP} = (1.1 * I_{2BF}) + (0.5 * I_{SW})$ = _____

Avg width, floodprone area
$= A_{FP} / L = 87,291 / 2,192 = 39.8$ ft

Figure 2 - Development and Conservation Areas

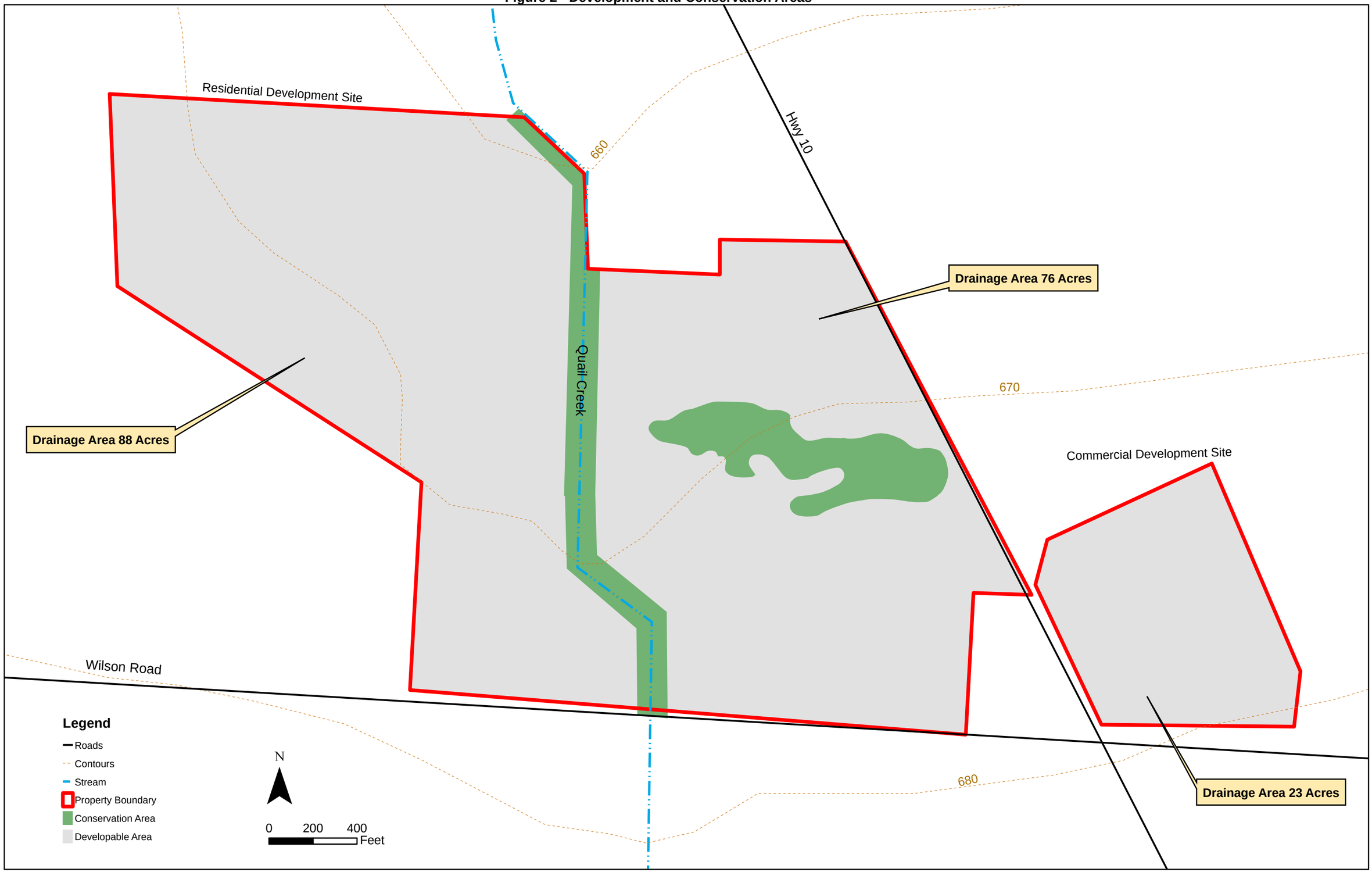
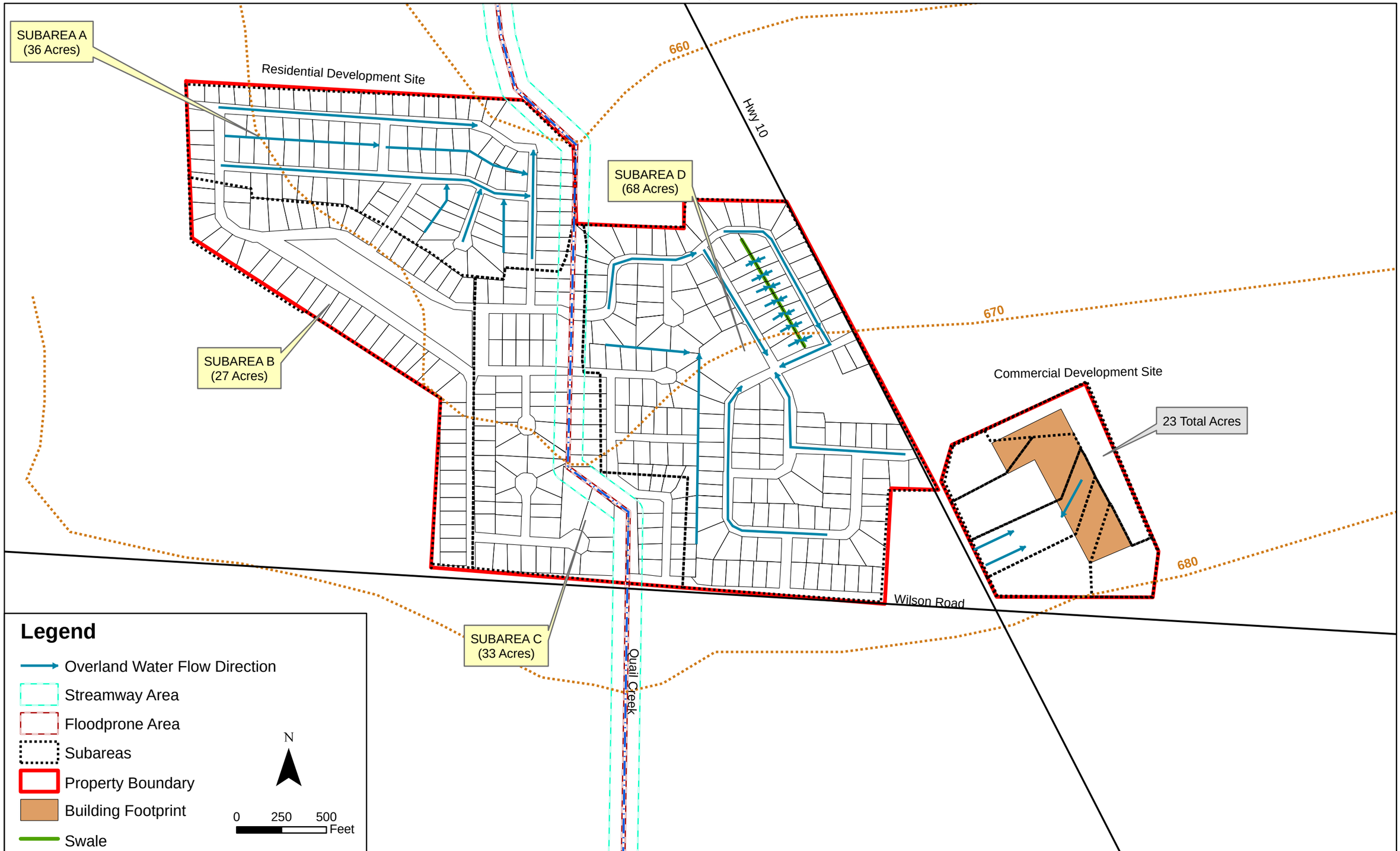



Figure 3 Full Site Plan (Work Plan)