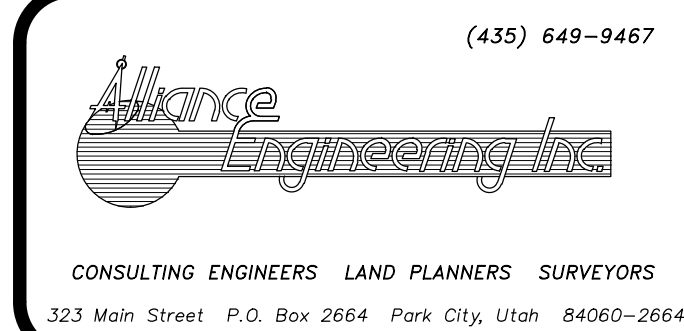
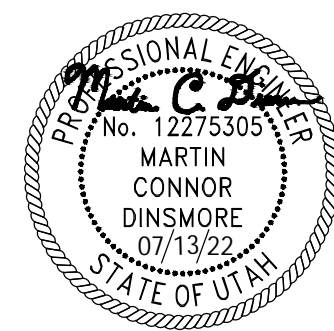
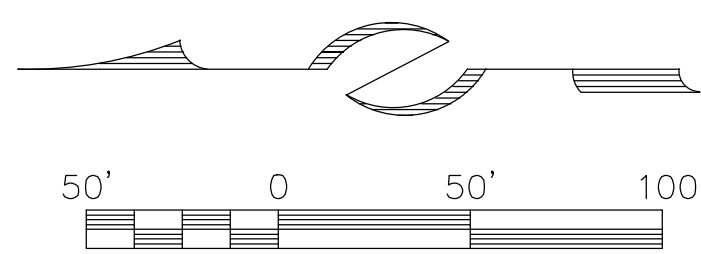


WATER QUALITY VOLUME CALCULATIONS							
ASSUMPTIONS		PRE-DEVELOPMENT WATER QUALITY VOLUME				GROUNDWATER RECHARGE VOLUME	
METHOD OF ANALYSIS: WQ <sub>v</sub> =CITA DESIGN STORM: 90TH PERCENTILE EVENT  NOTE: INTENSITY = 0.60 IN/HR PER SUMMIT COUNTY MSA.		AREAS FOR WEIGHT AVERAGE "C":				ΔWQ <sub>v</sub> = 376,831 CU FT	
VARIABLES		SLOPE		HYDROLOGIC SOIL GROUP			
Q = RUNOFF FLOWRATE [CUBIC FEET/SEC]  C = RUNOFF COEFFICIENT (WEIGHT AVERAGE BY SOIL GROUP AND AREA TYPE)  RUNOFF COEFFICIENTS "C":				A	B	C	D
		FLAT (0-2%)					
		AVERAGE (2-6%)					
		STEEP (>6%)			294,689		
		SURFACING		PERVIOUS		IMPERVIOUS	
		HARDSCAPE				6,168	
				A= 300,858 FT <sup>2</sup>  C= 0.22  I= 0.26 FT/HR  t= 24.00 HR		ΔWQ <sub>v</sub> = 423,117 CU FT	
POST-DEVELOPMENT WATER QUALITY VOLUME							
		SLOPE		HYDROLOGIC SOIL GROUP			
i = STORM INTENSITY [FT/HR] T = STORM DURATION (HR)  NOTE: T= 1 HR PER SUMMIT COUNTY ORDINANCE 381-A.  A = AREA [FT <sup>2</sup> ]				A	B	C	D
		FLAT (0-2%)					
		AVERAGE (2-6%)					
		STEEP (>6%)			210,498		
		SURFACING		PERVIOUS		IMPERVIOUS	
		HARDSCAPE				90,360	
				A= 300,858 FT <sup>2</sup>  C= 0.42  I= 0.26 FT/HR  t= 24.00 HR		ΔWQ <sub>v</sub> = 799,948 CU FT	

PEAK RUNOFF CALCULATIONS																																																																								
ASSUMPTIONS		PRE-DEVELOPMENT PEAK DISCHARGE			EXCESS RUNOFF STORAGE VOLUME																																																																			
METHOD OF ANALYSIS: RATIONAL METHOD Q=CIA STORM RETURN PERIOD: 100 YEARS  NOTE: FOR THE 100 YR RECURRENTIAL INTERVAL, THE COMPOSITE "C" VALUE IS ADJUSTED BY A FACTOR OF 1.25 BEFORE COMPUTING Q.  STORM DURATION: 24 Hour. SOURCE: NOAA ATLAS 14 - PARK CITY RADIO STATION 42-6648		AREAS FOR WEIGHT AVERAGE "C": <table><tr><th rowspan="2">SLOPE</th><th colspan="4">HYDROLOGIC SOIL GROUP</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr><tr><td>FLAT (0-2%)</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>AVERAGE (2-6%)</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>STEEP (&gt;6%)</td><td>-</td><td>-</td><td>6.77</td><td>-</td></tr><tr><td>SURFACING</td><td colspan="2">PERVIOUS</td><td colspan="2">IMPERVIOUS</td></tr><tr><td>HARDSCAPE</td><td colspan="2"></td><td colspan="2">0.14</td></tr></table> A= 6.91 ACRES C= 0.22 C <sub>Adj</sub> = 0.28 I= 0.13 IN/HR Q= 0.25 CFS			SLOPE	HYDROLOGIC SOIL GROUP				A	B	C	D	FLAT (0-2%)	-	-	-	-	AVERAGE (2-6%)	-	-	-	-	STEEP (>6%)	-	-	6.77	-	SURFACING	PERVIOUS		IMPERVIOUS		HARDSCAPE			0.14		ΔQ= 0.23 CFS t= 86,400 SEC. V= 19,551 CU FT																																	
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THE EXISTING DETENTION POND IN EMPIRE CANYON, SOUTH OF DALY AVENUE, WAS DESIGNED TO ACCOMODATE INCREASE IN STORMWATER FOR THE ENTIRE EMPIRE PASS DEVELOPMENT. THE DETENTION POND WAS CONSTRUCTED IN THE MID 2000'S. THE POND RECEIVES STORMWATER RUNOFF FROM THE ROCK-LINED STREAM CHANNEL SOUTH OF THE DETENTION POND AS WELL AS A PIPING SYSTEM ALONG THE EXISTING DIRT ROAD FROM EMPIRE CANYON TO THE ONTARIO MINE.

THE EMPIRE PASS MASTER DETENTION POND HAS OUTLET CONTROL STRUCTURES DESIGNED TO RETAIN THE 2 YEAR 24 HOUR STORM FOR WATER QUALITY REQUIREMENTS AND TO DETAIN THE 50 AND 100 YEAR STORM EVENTS WITH OUTFLOW AT PRE-DEVELOPMENT RATES. THE 19,551 CU FT OF EXCESS RUNOFF PRODUCED BY THE SOMMET BLANC DEVELOPMENT WILL BE FULL DETAINED IN THE EMPIRE CANYON DETENTION POND.



STAFF:  
MICHAEL DEMKOWICZ  
CONNOR DINSMORE

BUILDING PERMIT SET  
STORMWATER CALCULATIONS  
SOMMET BLANC DEVELOPMENT  
FOR: SOMMET BLANC RESIDENCES I, LLC  
JOB NO.: 1-11-18  
FILE: X:\Empire\dwg\B2 East Design\B2 East-Civil.dwg

DATE: 07/13/2022

SHEET  
C.15