

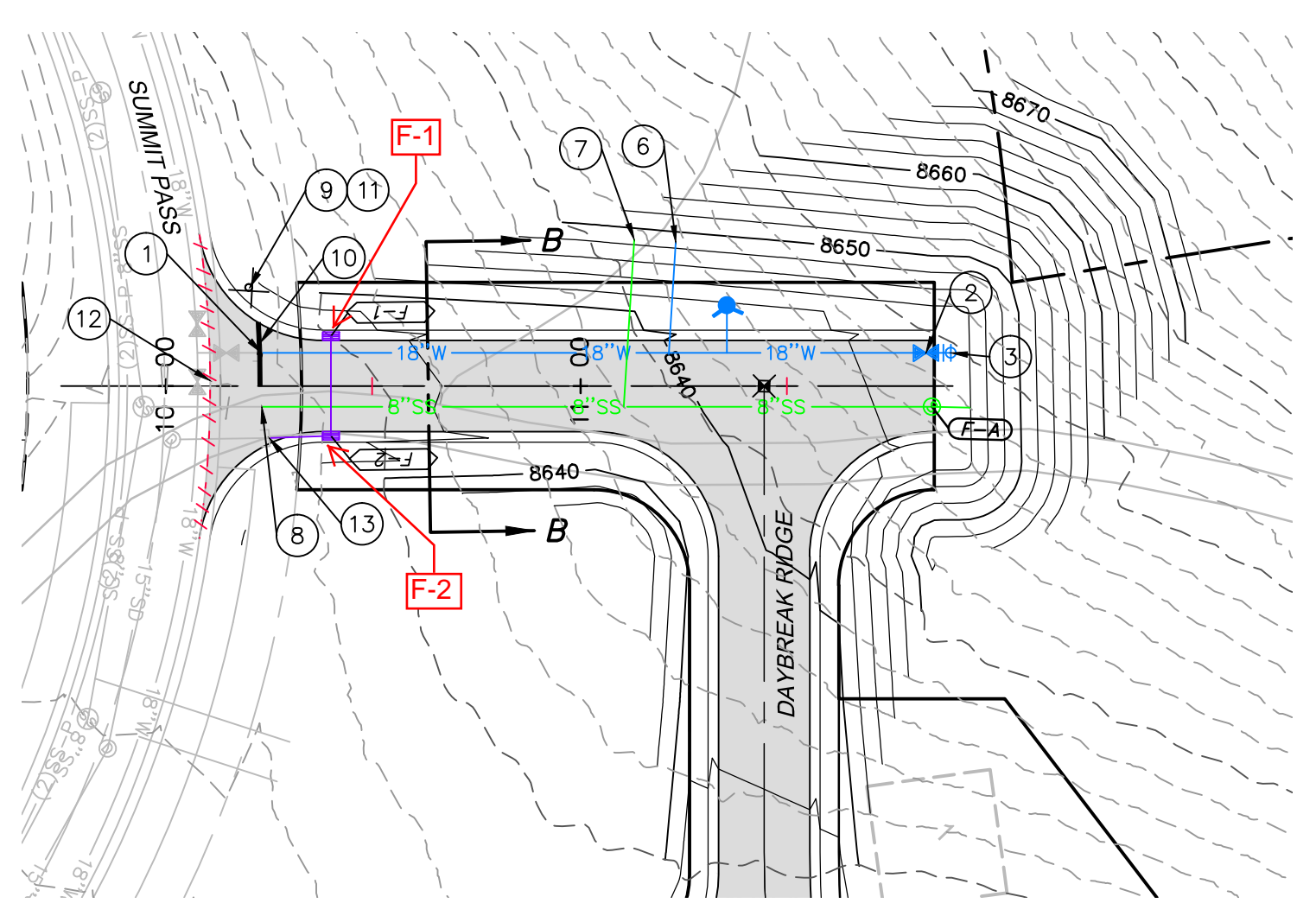
# POWDER MOUNTAIN: SUMMIT PASS & SPRING PARK ROADWAYS

Village Storm Drain Tributary Areas

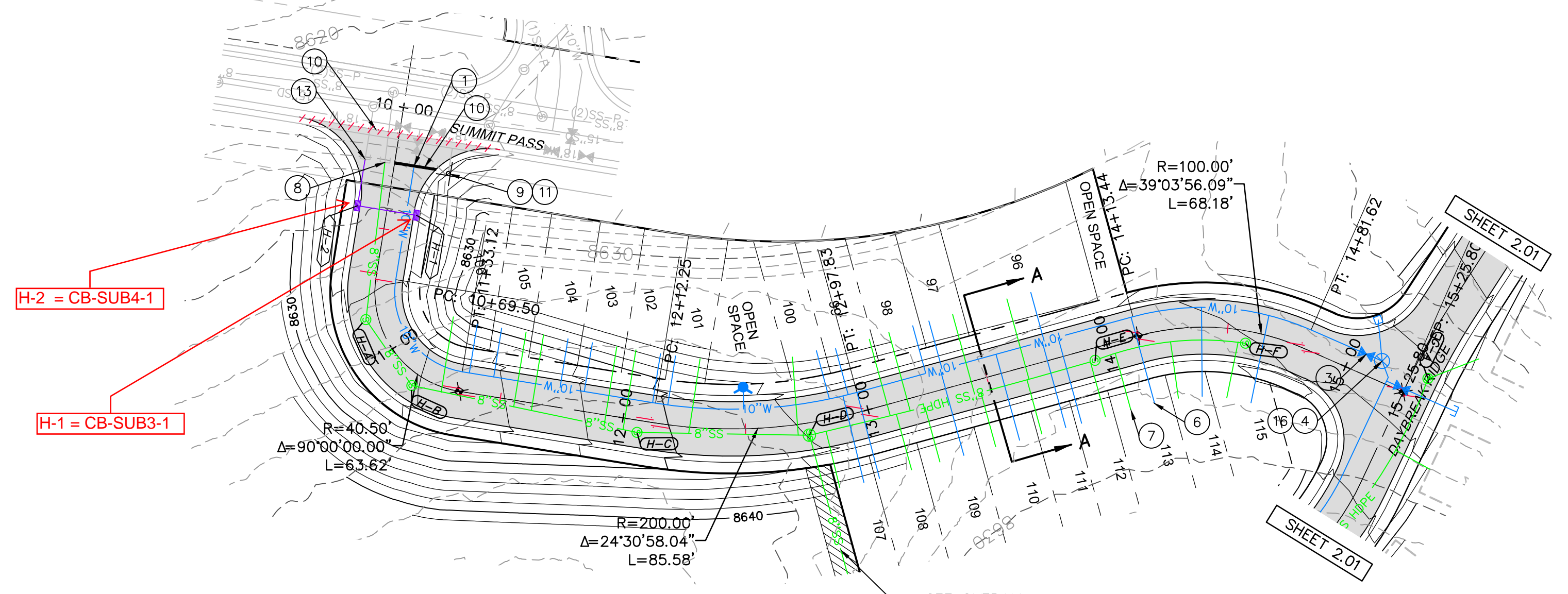
APRIL 2013

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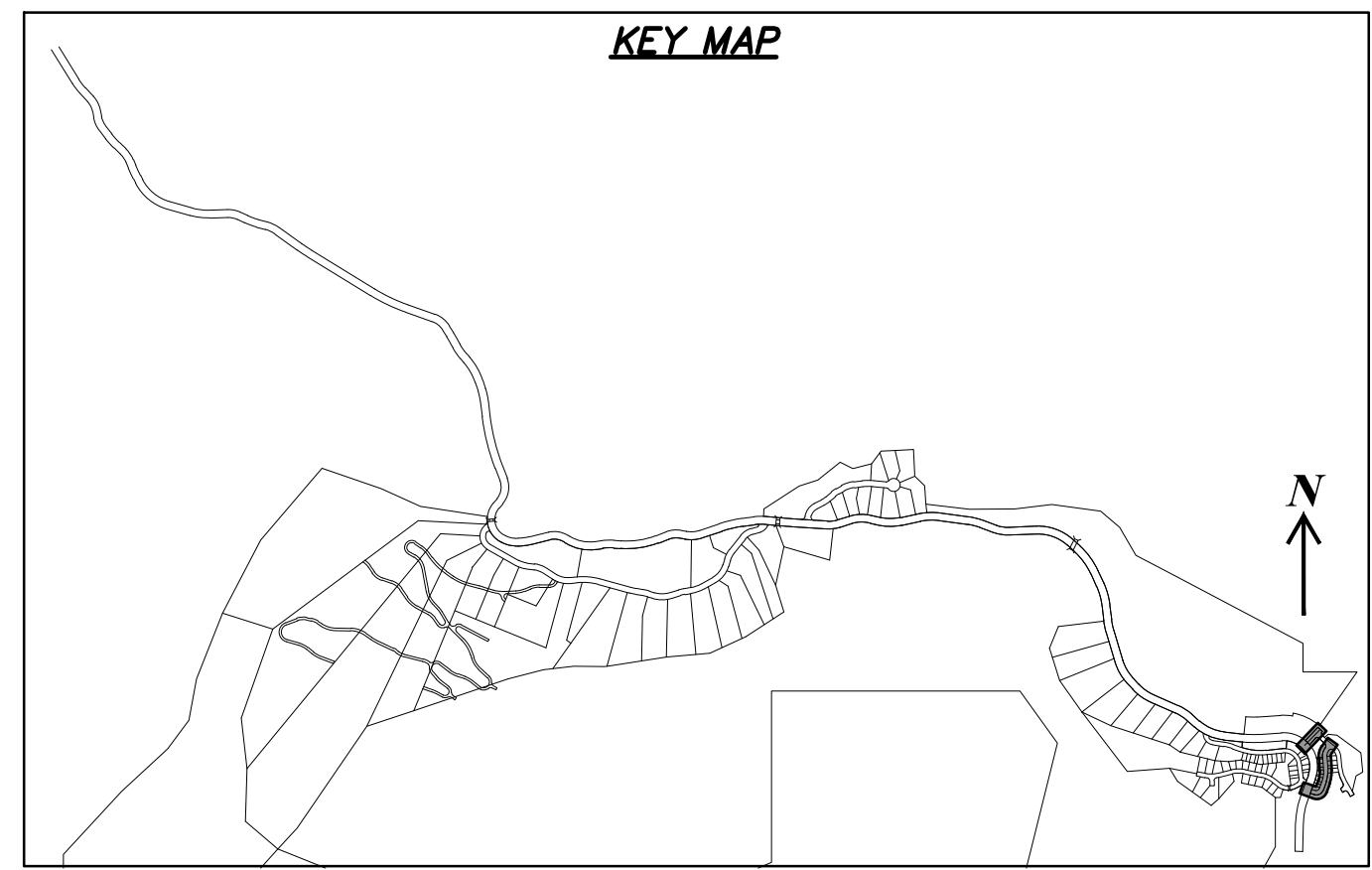




SHEET 2.01



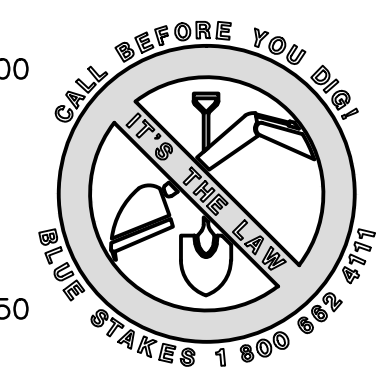
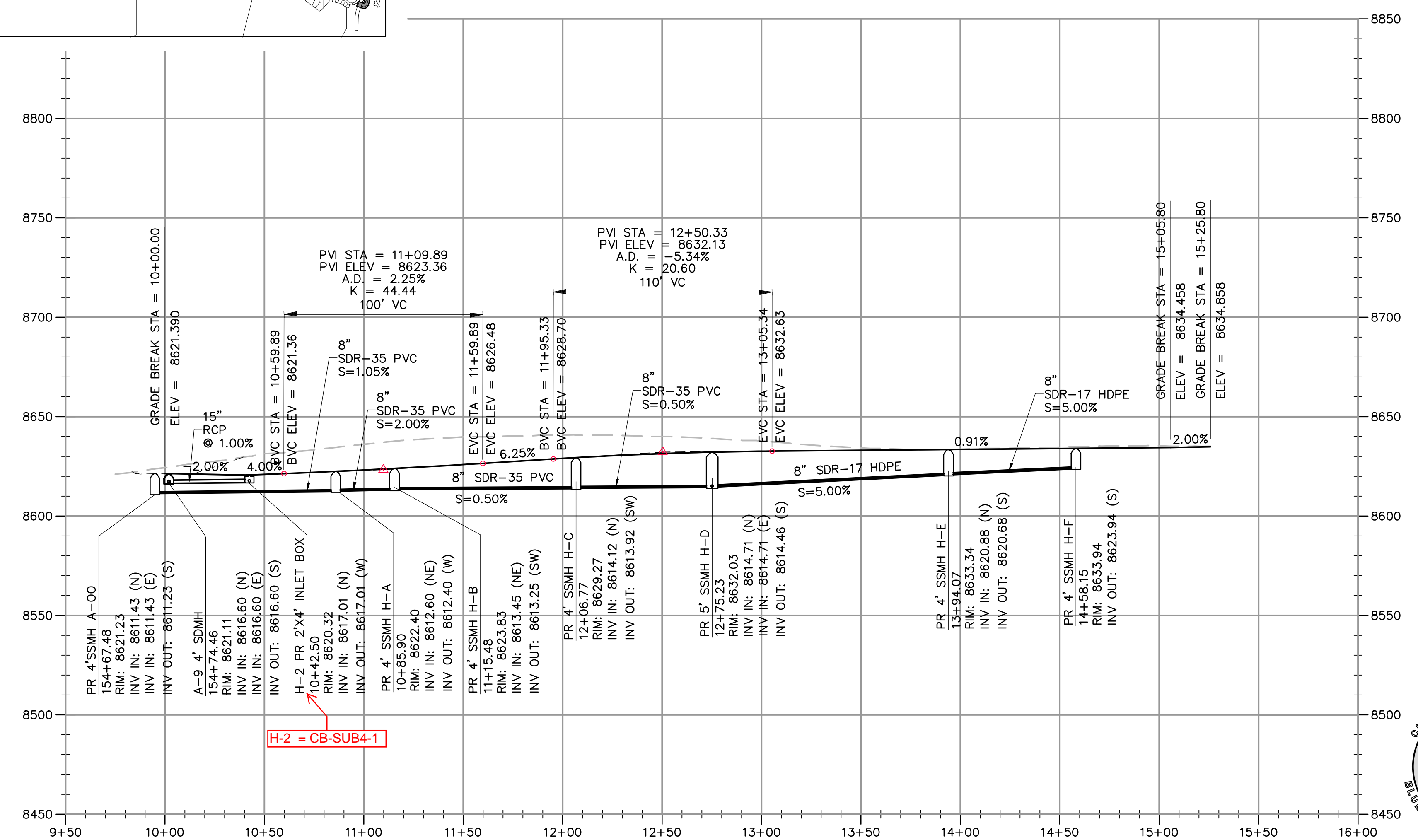
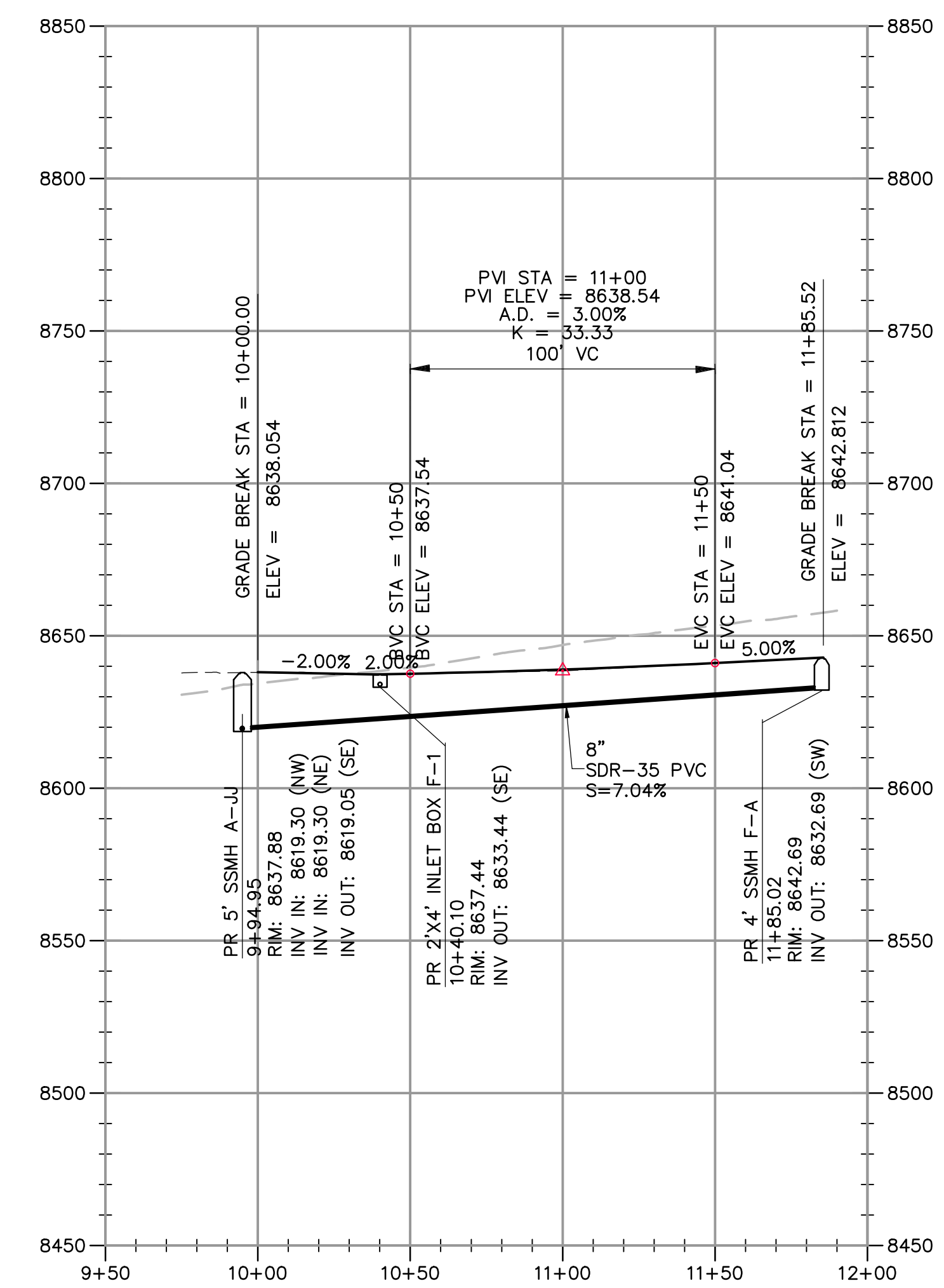
SEE OVERALL UTILITY SHEET 1.03 FOR CONTINUATION



KEY MAP

**MERIDIAN AVE**  
 STA: 10+00.00 TO 11+85.52

**ROLLING DRIVE**  
 STA: 10+00.00 TO 15+25.80



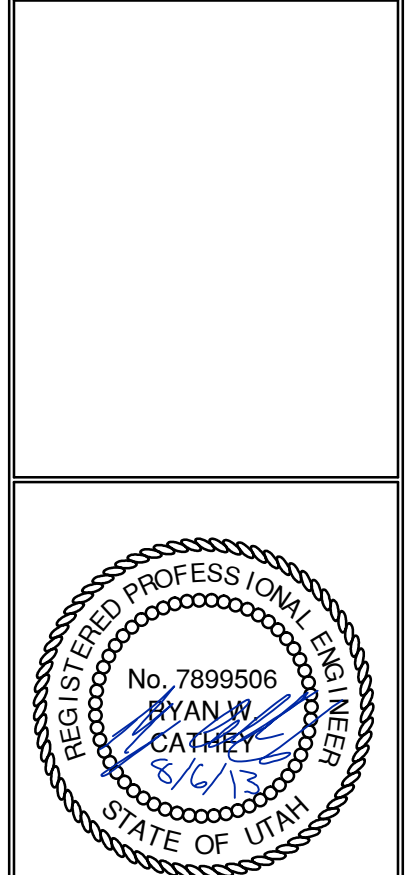
NO.	BY	DATE	REVISIONS

**PHASE 1D CONSTRUCTION**  
**PLAN AND PROFILE**  
**MERIDIAN AVE, ROLLING DRIVE**

DATE SUBMITTED: 7/12/2013

PREPARED FOR: SUMMIT, LLC

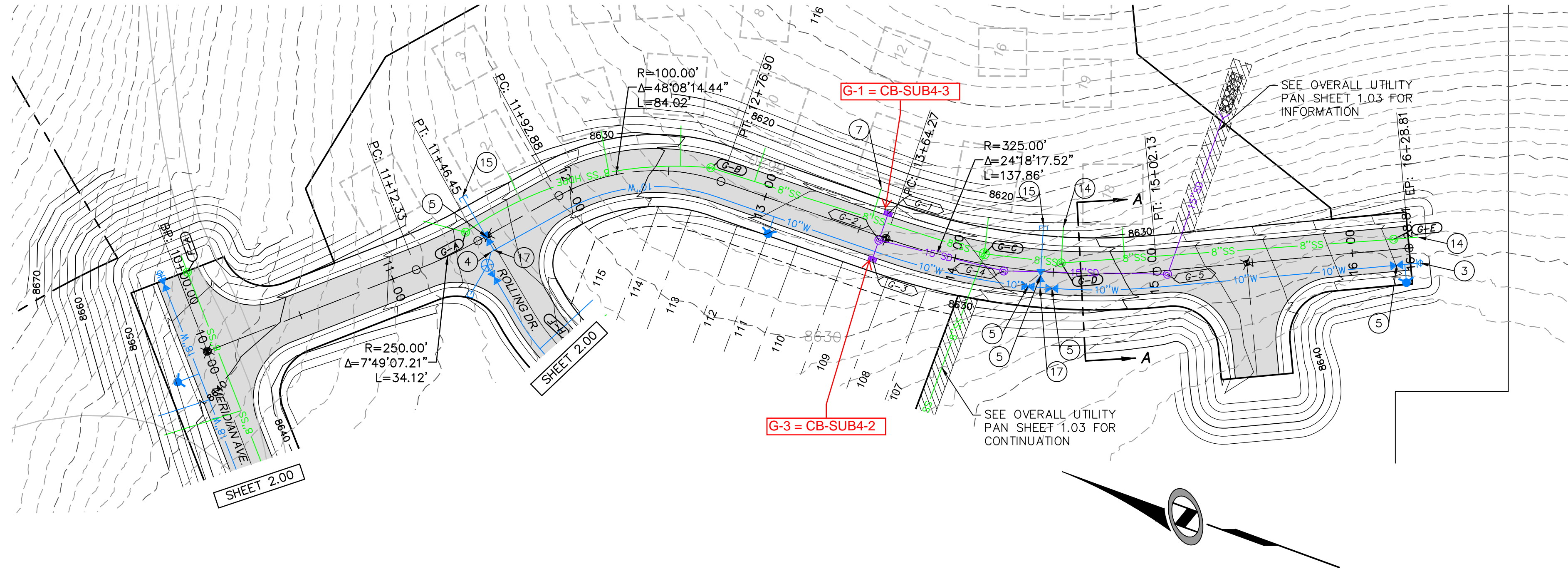
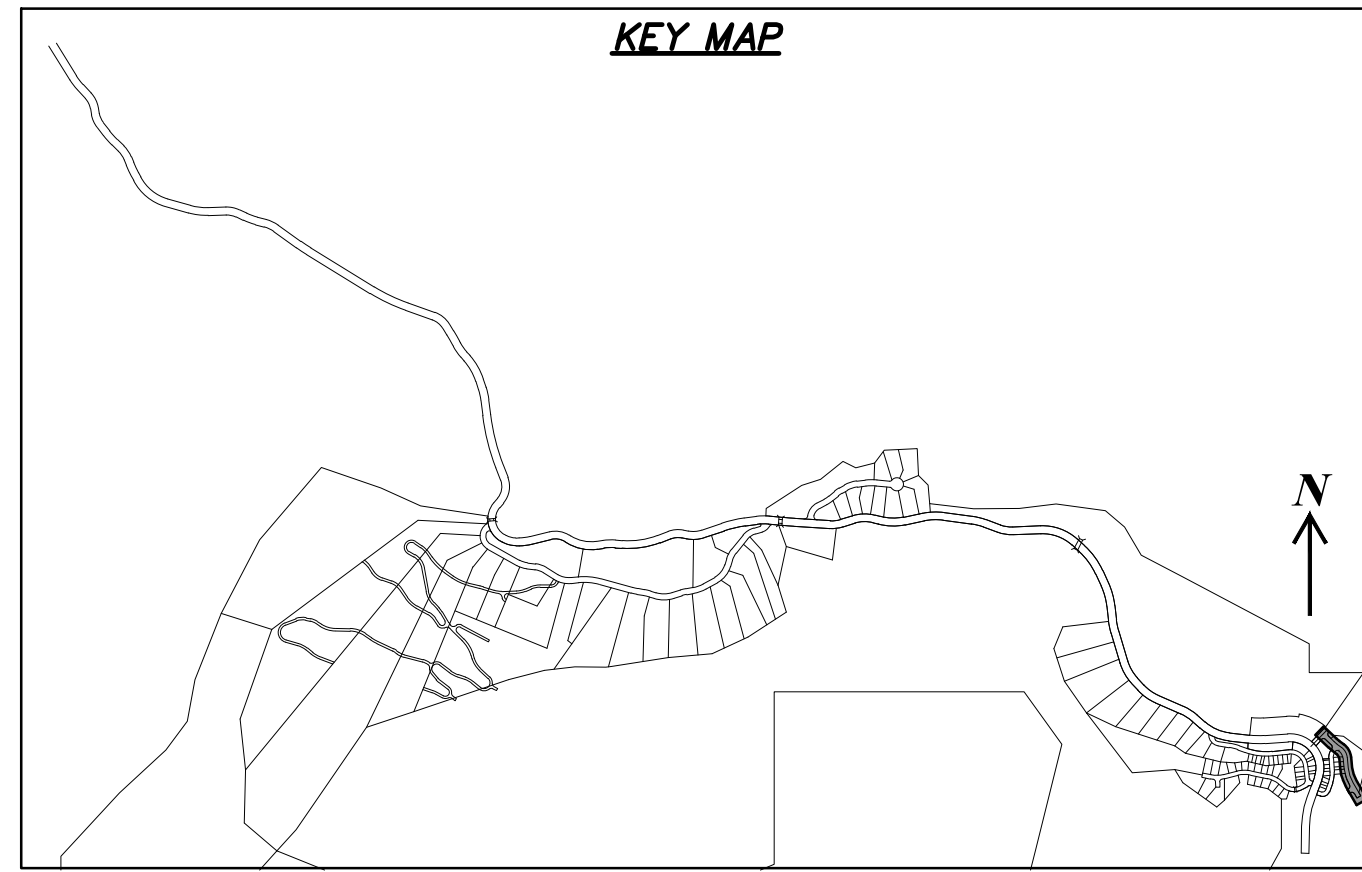
**NV5**  
 BEYOND ENGINEERING  
 527 SOUTH STATE STREET, SUITE 200  
 801743.000 TEL 801743.000 FAX  
 MURRAY, UT 84107  
 WWW.NV5.COM



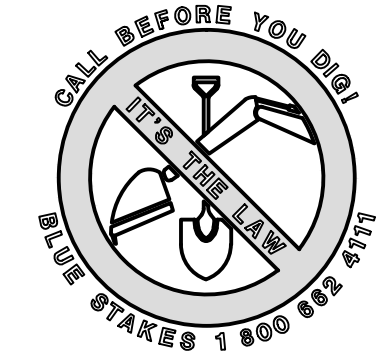
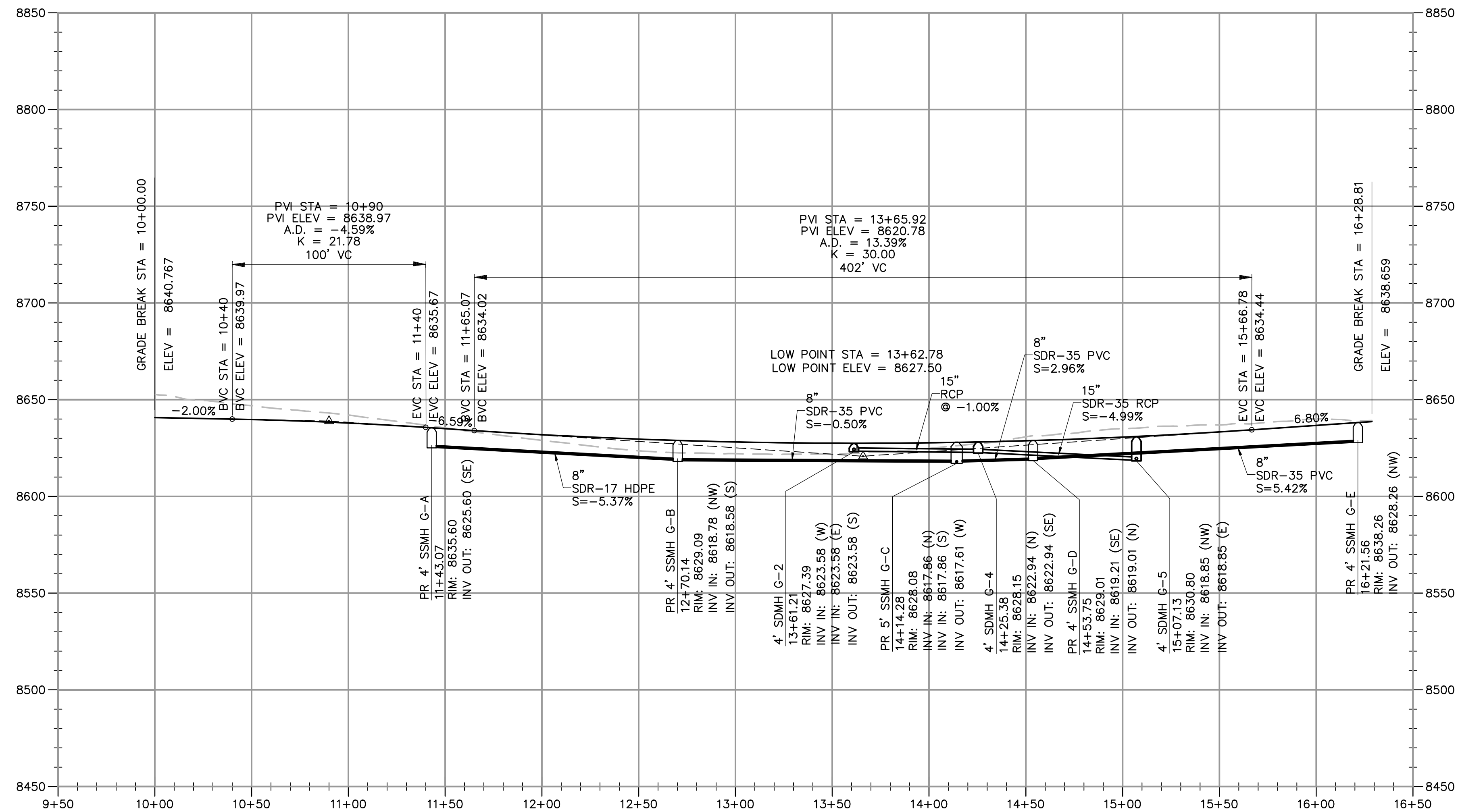
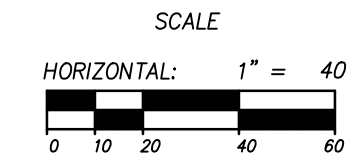
SHEET NUMBER  
**2.00**

SCALE  
 VERTICAL: 1" = 40'  
 HORIZONTAL: 1" = 40'

JOB NUMBER  
**SLB079306**



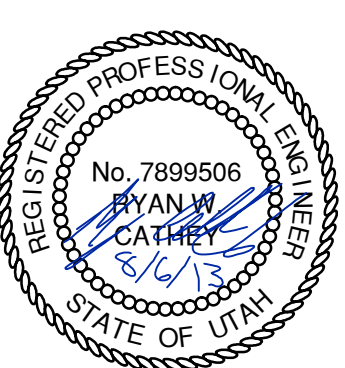
**DAYBREAK RIDGE**  
 STA: 10+00.00 TO 16+28.81



NO.	BY	DATE	REVISIONS

PHASE 1D CONSTRUCTION  
 PLAN AND PROFILE  
 DAYBREAK RIDGE

PREPARED FOR: SUMMIT, LLC  
 DATE SUBMITTED: 7/12/2013



SHEET NUMBER  
**2.01**  
 SCALE  
 VERTICAL: 1" = 40'  
 HORIZONTAL: 1" = 40'  
 JOB NUMBER  
**SLB079306**

CAUTION  
 The engineer preparing these plans will not be responsible for, or liable for, unauthorized changes to or uses of these plans. Any such changes or uses must be approved by the preparer of these plans.

# Scenario Summary Report

## Scenario: Base

Scenario Summary			
ID	1		
Label	Base		
Notes			
Active Topology	Base Active Topology		
User Data Extensions	Base User Data Extensions		
Physical	Base Physical		
Boundary Condition	Base Boundary Condition		
Initial Settings	Base Initial Settings		
Hydrology	Base Hydrologic		
Output	Base Output		
Infiltration and Inflow	Base Infiltration and Inflow		
Rainfall Runoff	Base Rainfall Runoff		
Water Quality	Base Water Quality		
Sanitary Loading	Base Sanitary Loading		
Headloss	Base Headloss		
Operational	Base Operational		
Design	Base Design		
System Flows	Base System Flows		
Solver Calculation Options	Base Calculation Options		
Calculation Options			
Calculation Type	Analysis	Minimum Time of Concentration	5.000 min
Gravity Hydraulics			
Maximum Network Traversals	5	Governing Upstream Pipe Selection Method	Pipe with Maximum QV
Flow Convergence Test	0.001	Structure Loss Mode	Hydraulic Grade
Flow Profile Method	Backwater Analysis	Save Detailed Headloss Data?	False
Number of Flow Profile Steps	5	Gravity Friction Method	Manning's
Hydraulic Grade Convergence Test	0.00 ft	Use Explicit Depth and Slope Equations?	False
Average Velocity Method	Actual Uniform Flow Velocity	Ignore Travel Time in Carrier Pipes?	False
Minimum Structure Headloss	0.00 ft	Correct for Partial Area Effects?	False
Inlets			
Active Components for Combination Inlets on Grade	Grate and Curb	Neglect Gutter Cross Slope For Side Flow?	False
Active Components for Combination Inlets In Sag	Grate and Curb	Neglect Side Flow?	False
Pressure Hydraulics			

## Scenario Summary Report

### Scenario: Base

Pressure Hydraulics			
Liquid Label	Water at 20C (68F)	Pressure Friction Method	Hazen-Williams
<b>Headloss (AASHTO)</b>			
Expansion, Ke	0.350	Shaping Adjustment, Cs	0.500
Contraction, Kc	0.250	Non-Piped Flow Adjustment, Cn	1.300

#### Bend Angle vs. Bend Loss Curve

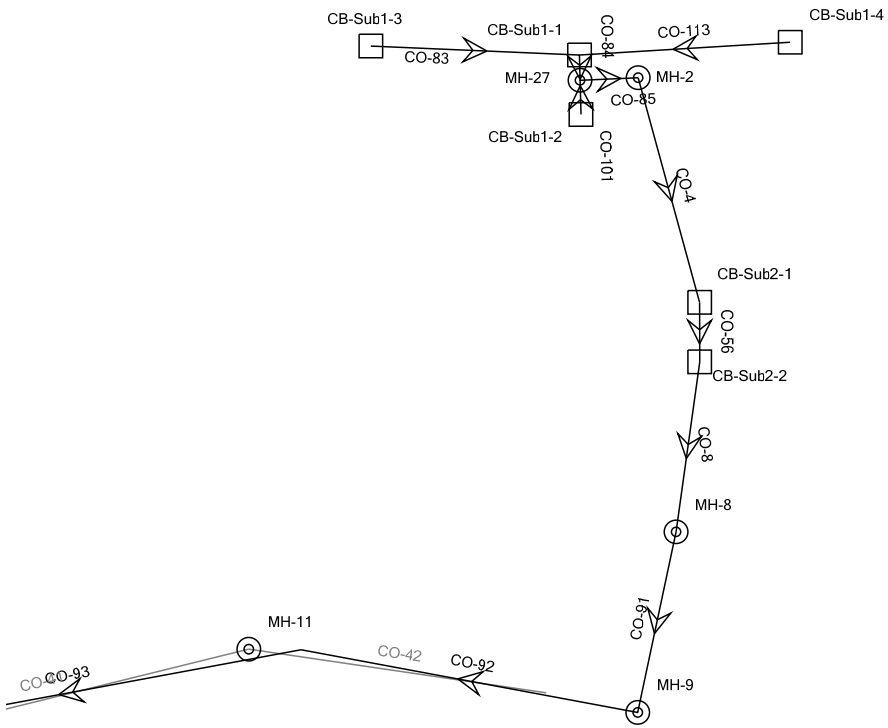
Bend Angle (degrees)	Bend Loss Coefficient, Kb
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HEC-22 Energy Losses			
Elevations Considered Equal Within	0.50 ft	Consider Non-Piped Plunging Flow?	False

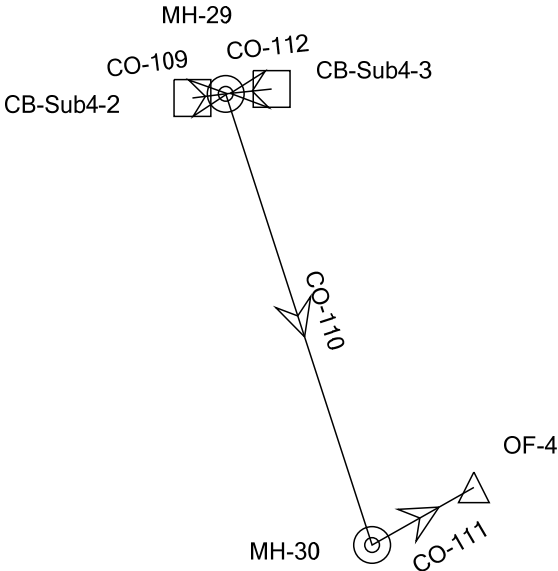
HEC-22 Energy Losses (Second Edition)			
Flat Unsubmerged Factor	1.000	Half Bench Submerged Factor	0.950
Flat Submerged Factor	1.000	Full Bench Unsubmerged Factor	0.070
Depressed Unsubmerged Factor	1.000	Full Bench Submerged Factor	0.750
Depressed Submerged Factor	1.000	Improved Bench Unsubmerged Factor	0.035
Half Bench Unsubmerged Factor	0.150	Improved Bench Submerged Factor	0.375

HEC-22 Energy Losses (Third Edition)			
Flat Submerged Coefficient	-0.050	Half Bench Unsubmerged Coefficient	-0.850
Flat Unsubmerged Coefficient	-0.050	Full Bench Submerged Coefficient	-0.250
Depressed Submerged Coefficient	0.000	Full Bench Unsubmerged Coefficient	-0.930
Depressed Unsubmerged Coefficient	0.000	Improved Submerged Coefficient	-0.600
Half Bench Submerged Coefficient	-0.050	Improved Unsubmerged Coefficient	-0.980

# Scenario: Base

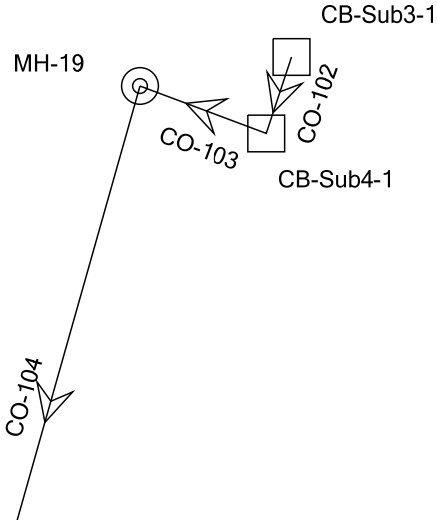


Scenario: Base





Scenario: Base



### FlexTable: Catch Basin Table

ID	Label	Elevation (Ground) (ft)	Elevation (Rim) (ft)	Elevation (Invert) (ft)	Capture Efficiency (%)	Flow (Additional Subsurface) (ft <sup>3</sup> /s)	Flow (Total Out) (ft <sup>3</sup> /s)	Hydraulic Grade Line (In) (ft)
18	CB-Sub1-2	8,631.61	8,631.61	8,628.36	100.0	0.37	0.37	8,629.31
30	CB-Sub2-2	8,607.80	8,607.80	8,604.35	100.0	2.42	10.36	8,605.54
48	CB-Sub6-1	8,548.62	8,548.62	8,545.54	100.0	0.24	0.24	8,545.73
50	CB-Sub6-2	8,545.69	8,545.69	8,542.44	100.0	0.96	0.96	8,542.83
75	CB-Sub5-1	8,608.00	8,608.00	8,604.20	100.0	0.91	0.91	8,604.82
79	CB-Sub5-2	8,608.00	8,608.00	8,604.20	100.0	0.10	0.10	8,604.83
81	CB-Sub4-1	8,620.76	8,620.76	8,616.88	100.0	1.86	3.14	8,617.59
83	CB-Sub3-1	8,620.32	8,620.32	8,617.07	100.0	1.28	1.28	8,617.56
87	CB-Sub2-1	8,608.02	8,608.02	8,604.77	100.0	0.61	7.94	8,605.88
88	CB-Sub1-1	8,631.62	8,631.62	8,628.53	100.0	3.31	6.96	8,629.59
136	CB-Sub6-4	8,543.75	8,543.75	8,540.50	100.0	2.25	2.25	8,543.75
137	CB-Sub6-3	8,544.19	8,544.19	8,540.31	100.0	0.56	2.81	8,544.19
140	CB-Sub1-3	8,632.53	8,632.53	8,629.28	100.0	1.84	1.84	8,629.82
142	CB-Sub1-4	8,632.74	8,632.74	8,629.49	100.0	1.81	1.81	8,630.02
144	CB-Sub4-2	8,626.62	8,626.62	8,623.37	100.0	0.23	0.23	8,623.56
152	CB-Sub4-3	8,627.06	8,627.06	8,623.81	100.0	0.23	0.23	8,624.00

## FlexTable: Conduit Table

ID	Label	Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Diameter (in)	Flow (ft <sup>3</sup> /s)	Velocity (ft/s)	Depth (Out) (ft)	Capacity (Full Flow) (ft <sup>3</sup> /s)	Flow / Capacity (Design) (%)	Depth (Normal) / Rise (%)
23	CO-4	MH-2	8,627.50	CB-Sub2-1	8,604.77	111.5	0.203	15.0	7.33	19.75	1.11	29.10	25.2	34.2
32	CO-8	CB-Sub2-2	8,604.35	MH-8	8,571.60	82.2	0.399	15.0	10.36	27.77	0.43	40.82	25.4	34.3
90	CO-35	CB-Sub6-1	8,545.54	MH-23	8,538.30	11.9	0.603	15.0	(N/A)	(N/A)	(N/A)	50.17	(N/A)	(N/A)
91	CO-36	MH-23	8,538.30	CB-Sub6-2	8,542.44	12.3	-0.345	15.0	(N/A)	(N/A)	(N/A)	37.94	(N/A)	(N/A)
93	CO-37	MH-23	8,538.30	OF-1	8,537.80	40.1	0.013	15.0	(N/A)	(N/A)	(N/A)	7.22	(N/A)	(N/A)
98	CO-41	MH-13	8,539.71	MH-11	8,556.79	199.3	-0.086	15.0	(N/A)	(N/A)	(N/A)	18.92	(N/A)	(N/A)
99	CO-42	MH-11	8,556.79	MH-9	8,565.83	143.6	-0.063	15.0	(N/A)	(N/A)	(N/A)	16.18	(N/A)	(N/A)
100	CO-43	MH-23	8,538.30	MH-13	8,539.71	141.6	-0.010	15.0	(N/A)	(N/A)	(N/A)	6.44	(N/A)	(N/A)
115	CO-56	CB-Sub2-1	8,604.77	CB-Sub2-2	8,604.35	28.5	0.014	15.0	7.94	7.21	1.19	7.77	102.1	84.0
154	CO-83	CB-Sub1-3	8,629.28	CB-Sub1-1	8,628.53	99.8	0.008	15.0	1.84	4.09	1.06	5.59	32.9	39.5
155	CO-84	CB-Sub1-1	8,628.53	MH-27	8,628.23	12.1	0.025	15.0	6.96	8.95	1.08	10.21	68.1	60.6
156	CO-85	MH-27	8,628.23	MH-2	8,627.50	27.8	0.026	15.0	7.33	9.20	0.82	10.43	70.3	61.8
162	CO-91	MH-8	8,571.60	MH-9	8,565.83	88.4	0.066	15.0	10.36	14.23	0.72	16.54	62.6	57.4
163	CO-92	MH-9	8,565.83	MH-11	8,556.79	163.7	0.055	15.0	10.36	13.30	0.76	15.17	68.3	60.7
164	CO-93	MH-11	8,556.79	MH-13	8,539.71	224.2	0.076	15.0	10.36	15.08	4.41	17.84	58.1	54.7
165	CO-94	MH-13	8,539.71	MH-23	8,538.30	113.0	0.012	18.0	13.17	7.45	4.04	11.73	112.2	(N/A)
166	CO-95	MH-23	8,538.30	OF-1	8,537.80	164.8	0.003	18.0	14.37	8.13	1.39	5.78	248.5	(N/A)
167	CO-96	CB-Sub6-1	8,545.54	MH-23	8,538.30	26.0	0.278	15.0	0.24	8.05	4.04	34.09	0.7	6.0
168	CO-97	CB-Sub6-2	8,542.44	MH-23	8,538.30	42.1	0.099	15.0	0.96	8.47	4.04	20.28	4.7	14.8
169	CO-98	CB-Sub6-4	8,540.50	CB-Sub6-3	8,540.31	24.2	0.008	15.0	2.25	1.83	3.88	5.75	39.1	43.5

### FlexTable: Conduit Table

ID	Label	Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Diameter (in)	Flow (ft <sup>3</sup> /s)	Velocity (ft/s)	Depth (Out) (ft)	Capacity (Full Flow) (ft <sup>3</sup> /s)	Flow / Capacity (Design) (%)	Depth (Normal) / Rise (%)
170	CO-99	CB-Sub6-3	8,540.31	MH-13	8,539.71	80.2	0.008	15.0	2.81	2.29	4.41	5.59	50.2	50.1
172	CO-101	CB-Sub1-2	8,628.36	MH-27	8,628.23	16.4	0.008	15.0	0.37	2.66	1.08	5.82	6.4	17.1
173	CO-102	CB-Sub3-1	8,617.07	CB-Sub4-1	8,616.88	24.7	0.008	15.0	1.28	3.71	0.71	5.63	22.7	32.4
174	CO-103	CB-Sub4-1	8,616.88	MH-19	8,616.58	41.3	0.007	15.0	3.14	4.65	0.67	5.53	56.8	54.0
175	CO-104	MH-19	8,616.58	MH-22	8,615.06	203.0	0.007	15.0	3.14	4.69	0.67	5.59	56.2	53.6
176	CO-105	MH-22	8,615.06	MH-25	8,604.00	308.0	0.036	15.0	3.14	8.35	0.82	12.24	25.7	34.5
177	CO-106	MH-25	8,604.00	OF-2	8,602.50	38.1	0.039	15.0	4.15	9.33	0.51	12.83	32.3	39.1
178	CO-107	CB-Sub5-1	8,604.20	MH-25	8,604.00	16.9	0.012	15.0	0.91	3.94	0.82	7.01	13.0	24.3
179	CO-108	CB-Sub5-2	8,604.20	MH-25	8,604.00	9.7	0.020	15.0	0.10	2.46	0.82	9.14	1.1	7.4
180	CO-109	CB-Sub4-2	8,623.37	MH-29	8,623.29	10.2	0.008	15.0	0.23	2.29	0.26	5.78	4.0	13.6
181	CO-110	MH-29	8,623.29	MH-30	8,621.80	145.3	0.010	15.0	0.46	3.08	0.22	6.55	7.0	17.9
182	CO-111	MH-30	8,621.80	OF-4	8,618.00	35.8	0.106	15.0	0.46	6.96	0.13	20.99	2.2	10.2
183	CO-112	CB-Sub4-3	8,623.81	MH-29	8,623.29	14.2	0.037	15.0	0.23	3.93	0.26	12.45	1.8	9.4
184	CO-113	CB-Sub1-4	8,629.49	CB-Sub1-1	8,628.53	100.9	0.010	15.0	1.81	4.43	1.06	6.30	28.7	36.7

### FlexTable: Manhole Table

ID	Label	Elevation (Ground) (ft)	Elevation (Rim) (ft)	Elevation (Invert in 1) (ft)	Flow (Total Out) (ft <sup>3</sup> /s)	Depth (Out) (ft)	Hydraulic Grade Line (Out) (ft)	Hydraulic Grade Line (In) (ft)
20	MH-2	8,632.01	8,632.01	8,627.50	7.33	1.08	8,628.58	8,628.58
34	MH-8	8,575.76	8,575.76	8,571.60	10.36	1.19	8,572.79	8,572.79
38	MH-9	8,575.68	8,575.68	8,565.83	10.36	1.19	8,567.02	8,567.02
42	MH-11	8,561.78	8,561.78	8,556.79	10.36	1.19	8,557.98	8,557.98
46	MH-13	8,548.30	8,548.30	8,539.71	13.17	4.41	8,544.12	8,544.12
67	MH-19	8,621.21	8,621.21	8,616.58	3.14	0.71	8,617.29	8,617.29
73	MH-22	8,618.86	8,618.86	8,615.06	3.14	0.71	8,615.77	8,615.77
89	MH-23	8,546.07	8,546.07	8,538.30	14.37	4.04	8,542.34	8,542.34
105	MH-25	8,608.00	8,608.00	8,604.00	4.15	0.82	8,604.83	8,604.83
120	MH-27	8,631.95	8,631.95	8,628.23	7.33	1.08	8,629.31	8,629.31
145	MH-29	8,626.92	8,626.92	8,623.29	0.46	0.26	8,623.55	8,623.55
147	MH-30	8,630.72	8,630.72	8,621.80	0.46	0.26	8,622.06	8,622.06

















