



located north of the site and west of Liverpool Road. The proposed Walnut Lane Road will cross Pine Creek approximately 180 m north of Highway 401. A 36 m span bridge is proposed at this new watercourse crossing. The location of the proposed Walnut Lane Road development is shown in **Figure 1**.

3 TECHNICAL MEETING WITH TRCA AND TRCA COMMENTS IN AUGUST 2024

To fully understand the requirements of the TRCA and collect the available background information, WSP further held a technical meeting with the TRCA on October 10, 2023.

During the meeting, the TRCA indicated that they were aware that WSP had revised the TRCA existing HEC-RAS hydraulic model to the proposed Walnut Lane development conditions. TRCA agreed that the WSP revised HEC-RAS model could be used for the floodplain study of the site. Furthermore, TRCA required three scenarios be simulated for the purpose of this study, as listed below:

- Scenario 1: Updated existing conditions.
- Scenario 2: Proposed site development conditions.
- Scenario 3: Proposed site development plus proposed Walnut Lane development conditions.

In addition, WSP received the TRCA comments regarding Official Plan and Rezoning Application of the subject site on August 14, 2024. The comment states that *“In order to identify the appropriate development limits for the property, please use the updated TRCA 2024 Frenchman’s Bay hydraulic model to prepare the updated existing conditions, proposed development conditions and proposed development plus proposed Walnut Lane development conditions”*. As such, WSP used the updated TRCA 2024 Frenchman’s Bay HEC-RAS as the base model to simulate three scenarios listed above.

4 SCENARIO 1 – UPDATED EXISTING CONDITIONS

The Pine Creek and cross-sections of the updated TRCA 2024 Frenchman’s Bay HEC-RAS hydraulic model as well as the current TRCA Regulatory floodlines are illustrated in **Figure 1**. As shown in **Figure 1**, a small portion of the proposed site development would encroach into the current TRCA Regulatory floodplain at the northeast corner with an area of approximately 12 m².



To examine the potential hydraulic impacts of the proposed site development, a cross-section at the north edge of the subject site was added at RS1303 in the updated TRCA 2024 Frenchman's Bay HEC-RAS model. No other changes to the model were made. The model was simulated under the 2 – 100 year and Regional (Hazel) flood event.

5 SCENARIO 2 - PROPOSED SITE DEVELOPMENT

To simulate the proposed site development conditions, an “obstruction” was used at the right (west) side of RS1303 to represent the blocked flow area, as shown in **Exhibit 1** (located at the end of the technical memorandum). The model was simulated under the 2 – 100 year and Regional (Hazel) flood event. The comparison of the Regional (Hazel) water surface profiles between Scenario 1 and Scenario 2 was made and is presented in **Exhibit 2**. The model results show that the water levels will remain unchanged under the proposed site development. As such, the proposed site development will have no negative impacts on the current floodplain. The TRCA current Regulatory floodlines were modified at the northeast corner to reflect the proposed site development, as shown in **Figure 2**. The development limit with 10 m setback is also illustrated in **Figure 2**. The HEC-RAS model results are provided in **Appendix**.

6 SCENARIO 3 - PROPOSED SITE DEVELOPMENT PLUS PROPOSED WALNUT LANE DEVELOPMENT

Scenario 3 includes the proposed site development plus a new bridge at the proposed Walnut Lane development. As stated above, the TRCA agreed that the WSP revised HEC-RAS model for the proposed Walnut Lane development could be used for this floodplain study. A new 36 m span bridge (RS 1305.759) at the proposed Walnut Lane and 4 cross sections (2 cross sections at upstream of the new bridge: RS 1345.9 and RS 1329.94; and 2 cross sections at downstream of the of the new bridge: RS 1297.3 and RS 1255.21) were added and one cross section at RS 1302 was removed in the WSP revised TRCA 2024 Frenchman's Bay HEC-RAS model for the proposed Walnut Lane development.

Same as Scenario 2, one cross section (RS 1303) that represents the proposed site development was added in the WSP revised HEC-RAS model for the proposed Walnut Lane development as the model for Scenario 3. This Scenario 3 HEC-RAS model was simulated for the 2 – 100 year and Regional (Hazel) flood event.

The comparison of the Regional (Hazel) water surface profiles for the updated existing conditions (Scenario 1), proposed site development (Scenario 2) and proposed site



development plus proposed Walnut Lane development (Scenario 3) was made as shown in **Exhibit 3**. The model results show that minor localized water level increases (generally 0.02 m) would occur due to the proposed site development and Walnut Lane development. Since the water level increases are minimal, the proposed site development will have negligible impacts on the current floodplain. The HEC-RAS model results are provided in **Appendix**.

7 CONCLUSION

WSP has been retained by Tribute (Brookdale) Limited to perform a floodplain study in support of the Re-Zoning Application for the proposed development located at 1101, 1105 and 1163 Kingston Road, City of Pickering. The updated TRCA 2024 Frenchman's Bay HEC-RAS model was revised to simulate three scenarios as listed below:

- Scenario 1: Updated existing conditions.
- Scenario 2: Proposed site development conditions.
- Scenario 3: Proposed site development plus proposed Walnut Lane development conditions.

The model results show that the water level increases will be minor (generally 0.02 m for all flow events) due to the proposed site development and Walnut Lane development. As such, the proposed site development will have negligible impacts on the current floodplain.

Prepared by:

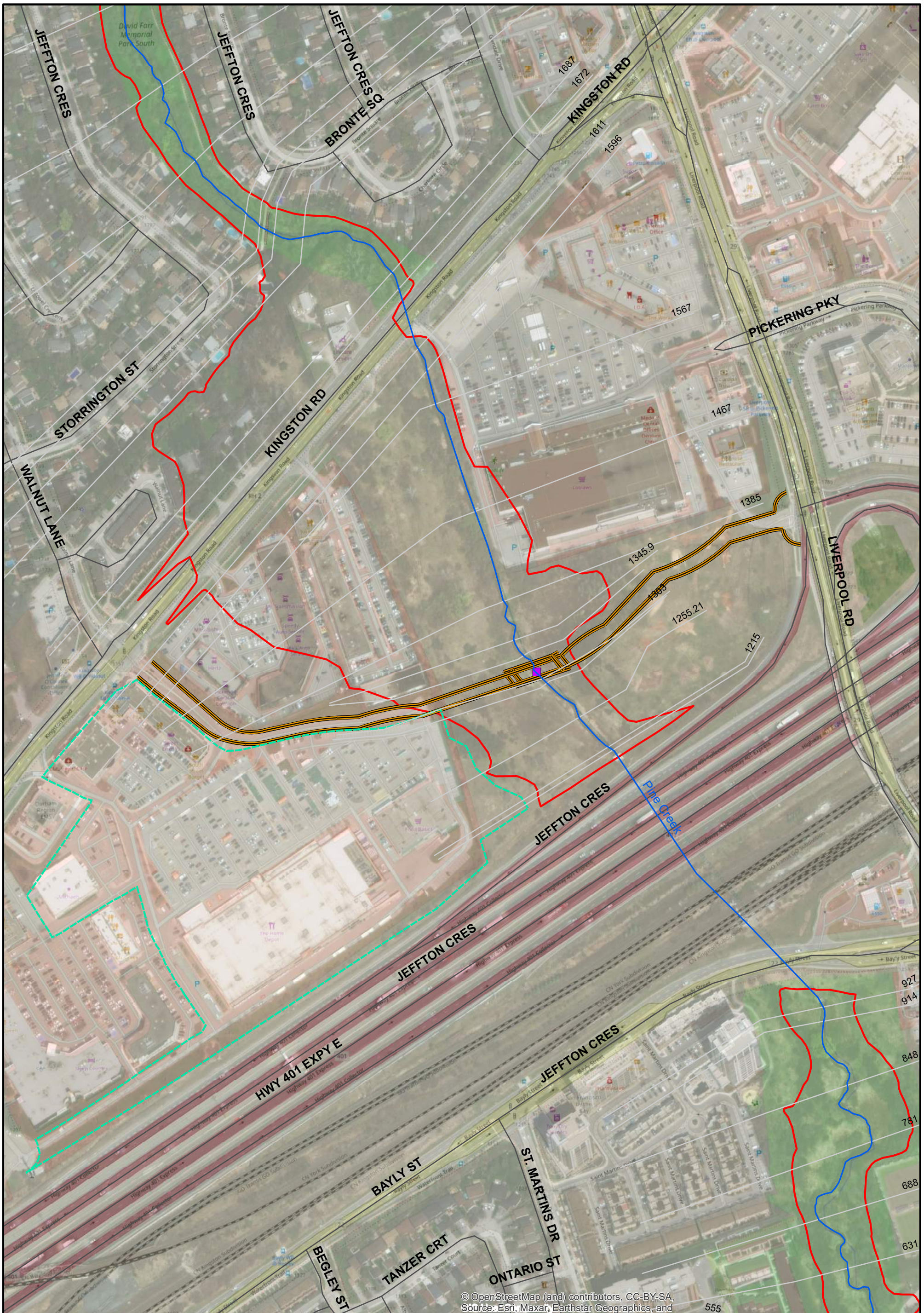
Xiaoxu (Iris) Qu, P.Eng.
Senior Project Engineer
Water Resources

Reviewed by:

Albert Zhuge, P.Eng., PMP
Senior Project Manager
Water Resources



Figures and Exhibits



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 Source: Esri, Maxar, Earthstar Geographics, and

Legend

- Pine Creek_TRCA Model
- Model Cross Section
- TRCA Regulatory Floodline_Current_2022
- Proposed Site Boundary
- Proposed Walnut Lane Development
- New Bridge at Proposed Walnut Lane



CLIENT
 TRIBUTE (BROOKDALE) LIMITED (76588)

TITLE
 1101, 1105 and 1163 Kingston Road

Site Location



Checked	A.ZH	Drawn	I.Q.
Date	August 2024	Proj. No.	221-12931-00
Scale	1:3,000	Figure No.	1



Exhibit 1: Cross-Section RS1303 under Proposed Site Conditions

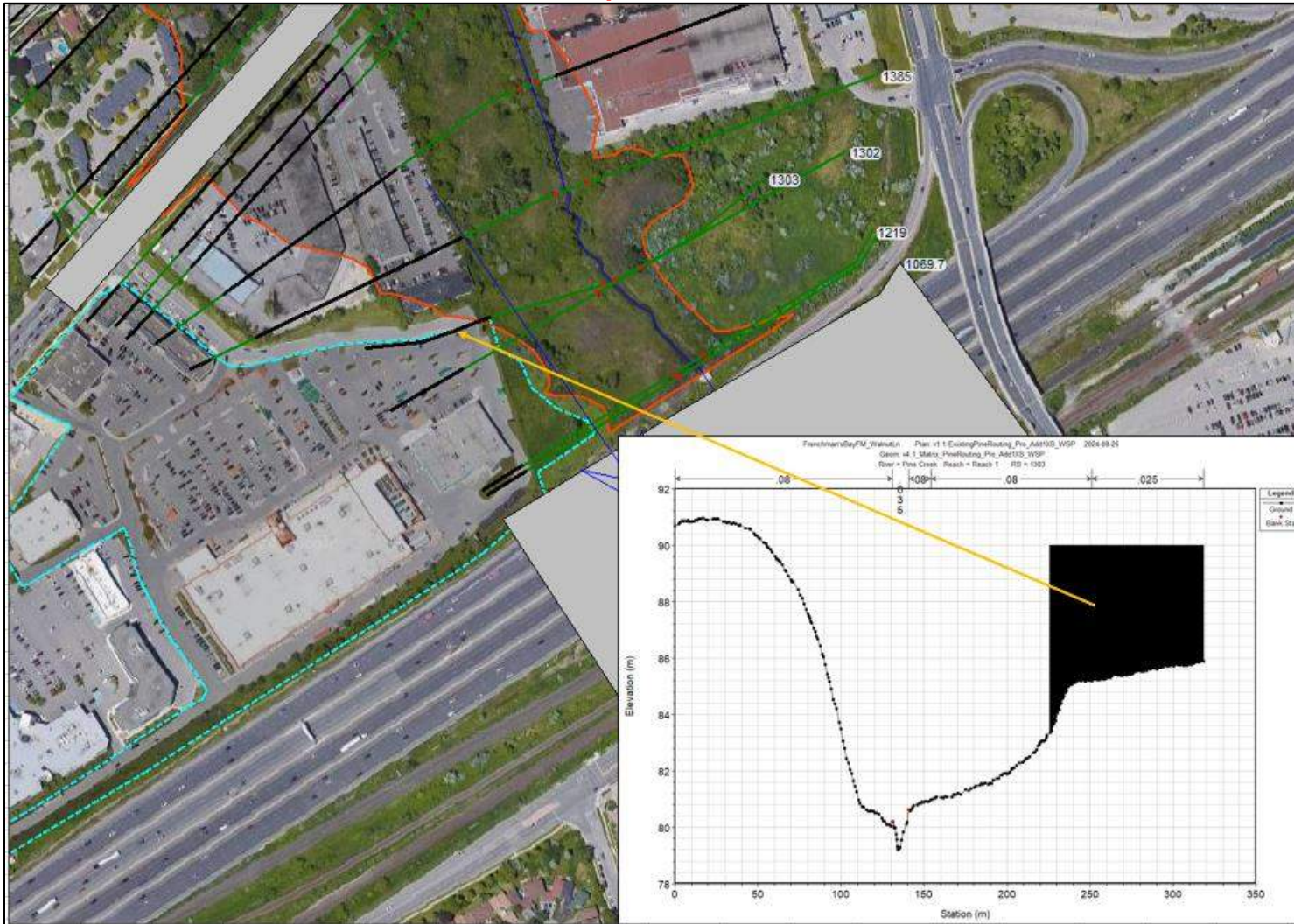
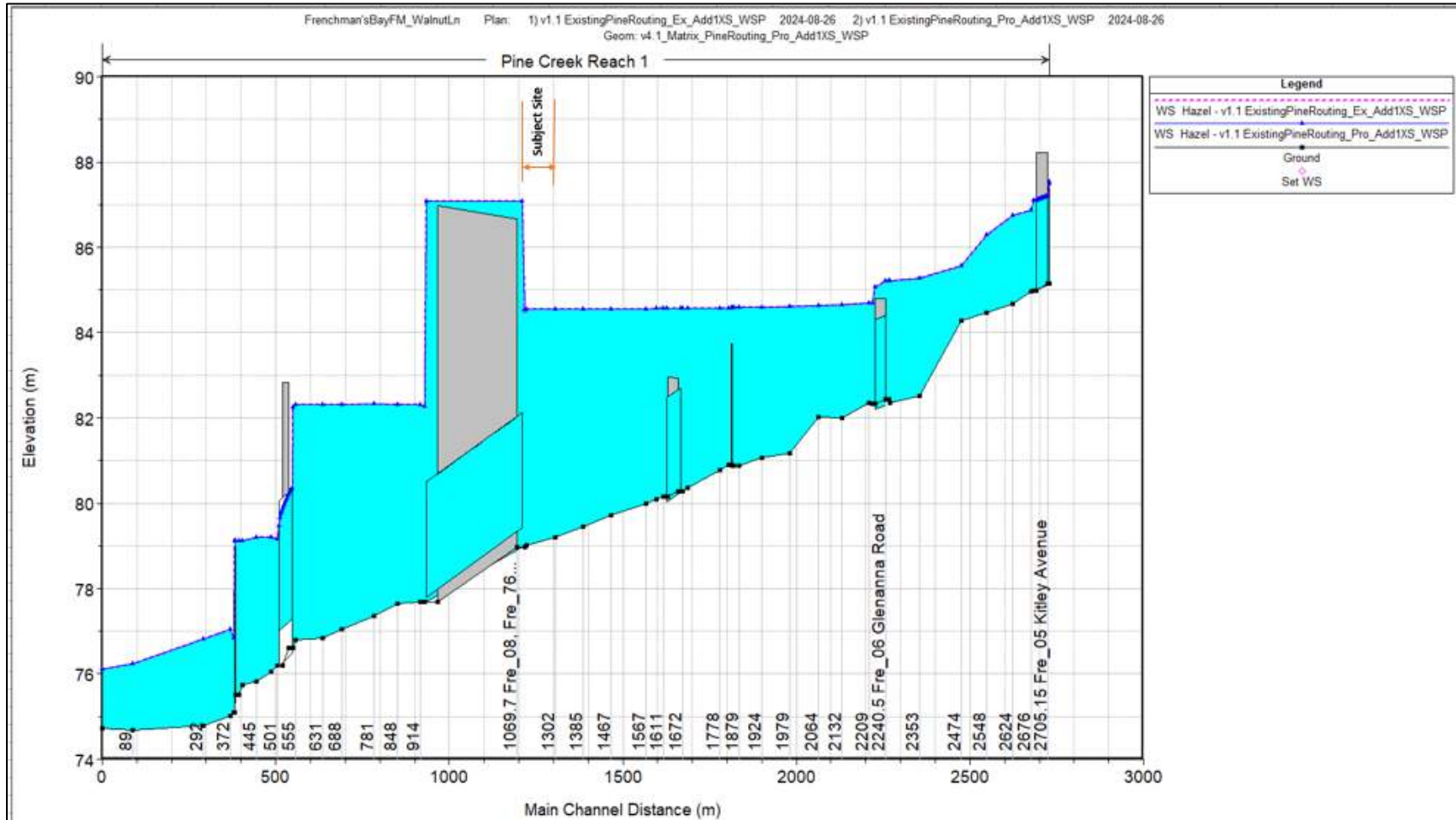
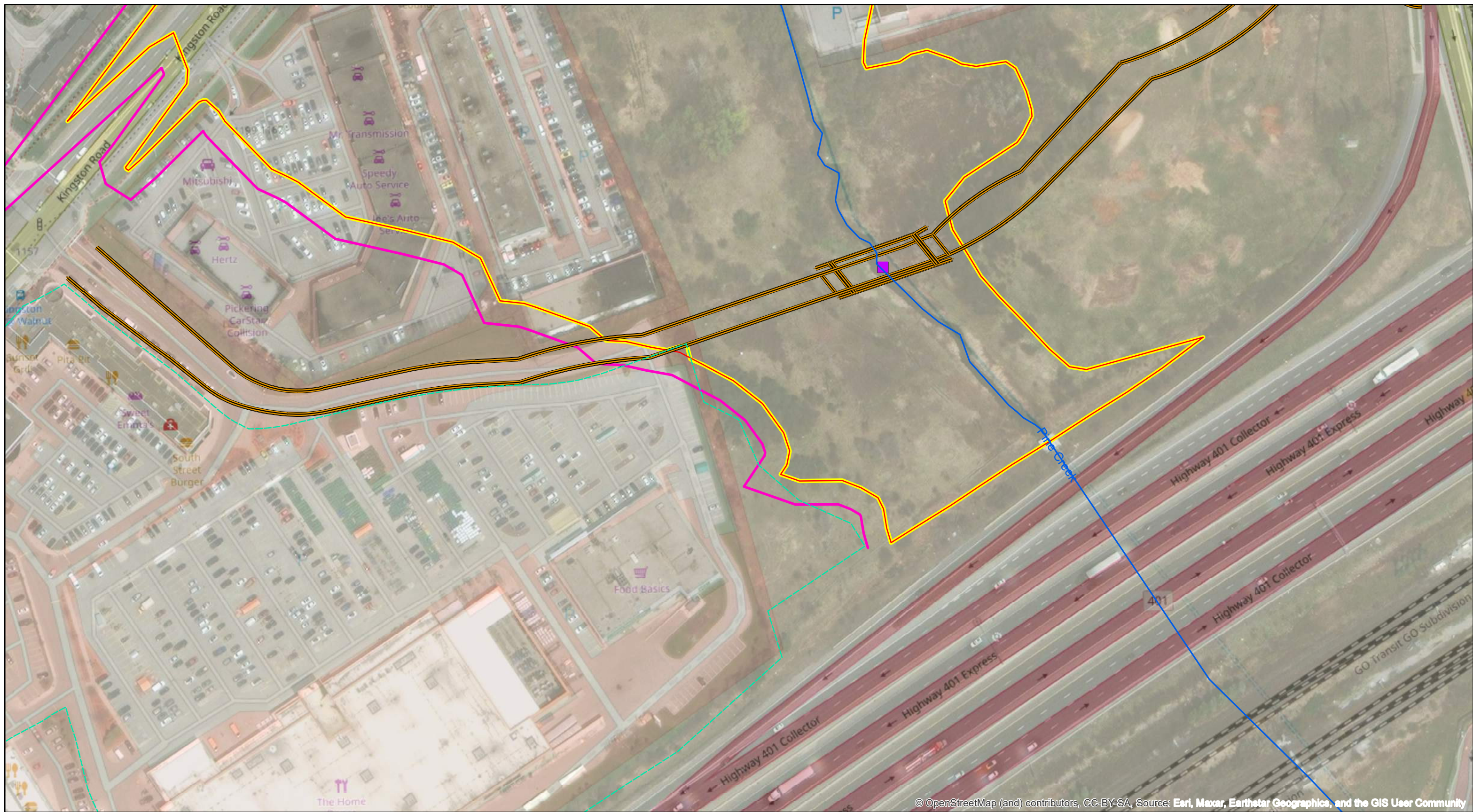




Exhibit 2: Regional (Hazel) Water Surface Comparison – Scenario 1 vs Scenario 2

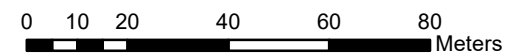
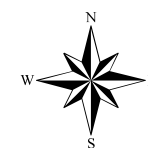




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Legend

- Pine Creek_TRCA Model
- TRCA Regulatory Floodline_Current_2022
- WSP Proposed Regulatory Floodline_2024
- Proposed Site Boundary
- Site Development Limit with 10 m Setback
- Proposed Walnut Lane Development
- New Bridge at Proposed Walnut Lane

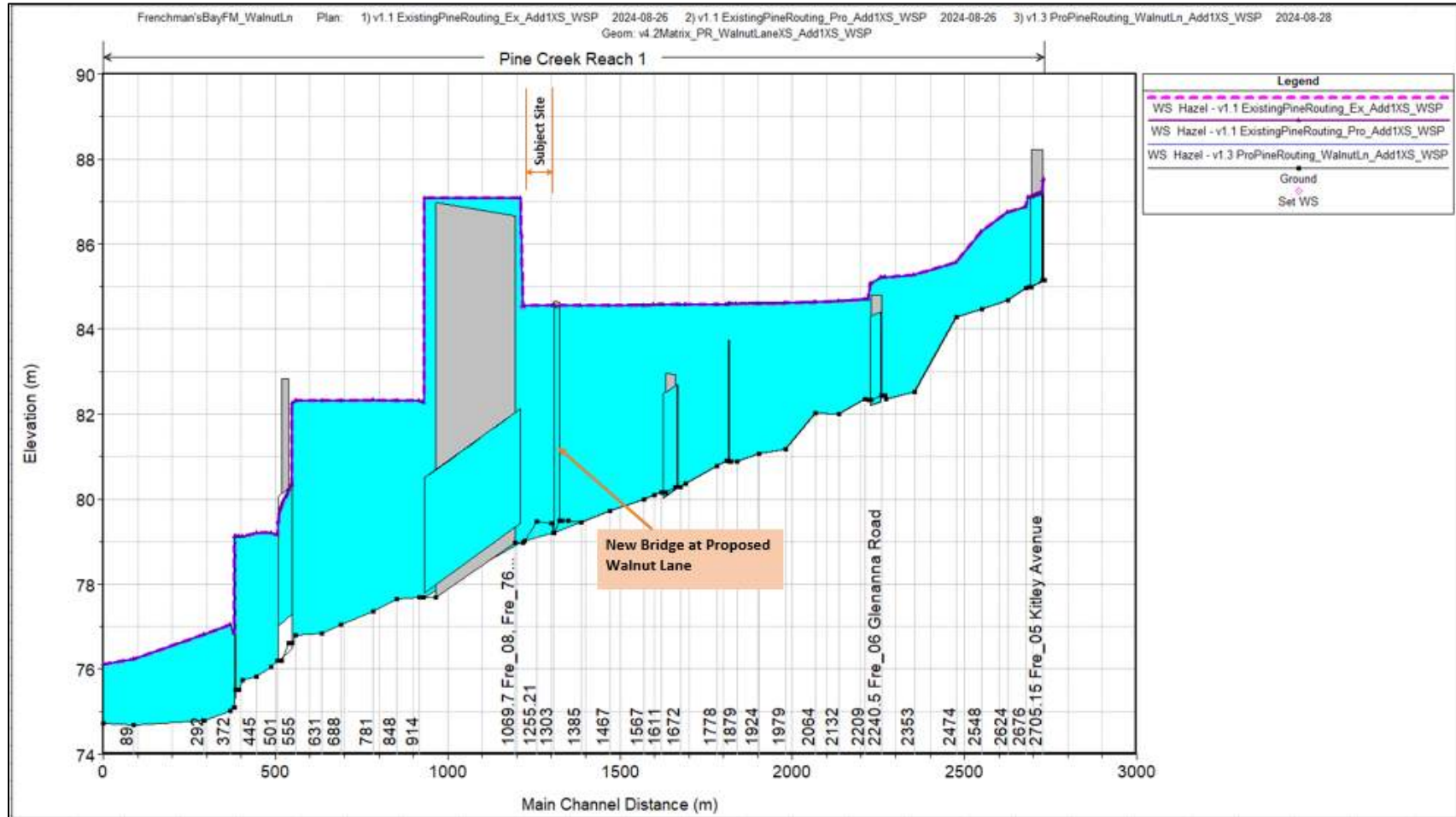


CLIENT	TRIBUTE (BROOKDALE) LIMITED (76588)
TITLE	1101, 1105 and 1163 Kingston Road
Regulatory Floodlines	

<small>Checked</small> A.ZH.	<small>Drawn</small> I.Q.
<small>Date</small> August 2024	<small>Proj. No.</small> 221-12931-00
<small>Scale</small> 1:1,500	<small>Figure No.</small> 2



Exhibit 3: Regional (Hazel) Water Surface Comparison – Scenario 1, Scenario 2 and Scenario 3





Appendix

HEC-RAS Model Output

Reach	River Sta	Profile	Plan	Q Total (m ³ /s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m ²)	Top Width (m)	Froude # Chl
Reach 1	2730	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	4.98	85.15	86.06		86.10	0.002827	0.89	5.60	12.28	0.42
Reach 1	2730	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	4.98	85.15	86.06		86.10	0.002827	0.89	5.60	12.28	0.42
Reach 1	2730	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	4.98	85.15	86.06		86.10	0.002827	0.89	5.60	12.28	0.42
Reach 1	2730	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.39	85.15	86.36		86.39	0.001259	0.78	9.53	13.89	0.30
Reach 1	2730	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.39	85.15	86.36		86.39	0.001259	0.78	9.53	13.89	0.30
Reach 1	2730	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.39	85.15	86.36		86.39	0.001259	0.78	9.53	13.89	0.30
Reach 1	2730	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	9.27	85.15	86.46		86.50	0.001277	0.84	11.02	14.32	0.31
Reach 1	2730	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	9.27	85.15	86.46		86.50	0.001277	0.84	11.02	14.32	0.31
Reach 1	2730	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	9.27	85.15	86.46		86.50	0.001277	0.84	11.02	14.32	0.31
Reach 1	2730	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	11.56	85.15	86.59		86.63	0.001224	0.90	12.91	14.77	0.31
Reach 1	2730	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	11.56	85.15	86.59		86.63	0.001224	0.90	12.91	14.77	0.31
Reach 1	2730	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	11.56	85.15	86.59		86.63	0.001224	0.90	12.91	14.77	0.31
Reach 1	2730	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	13.40	85.15	86.69		86.74	0.001180	0.93	14.42	15.12	0.30
Reach 1	2730	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	13.40	85.15	86.69		86.74	0.001180	0.93	14.42	15.12	0.30
Reach 1	2730	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	13.40	85.15	86.69		86.74	0.001180	0.93	14.42	15.12	0.30
Reach 1	2730	100y	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	15.25	85.15	86.79		86.84	0.001135	0.96	15.93	15.47	0.30
Reach 1	2730	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	15.25	85.15	86.79		86.84	0.001135	0.96	15.93	15.47	0.30
Reach 1	2730	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	15.25	85.15	86.79		86.84	0.001135	0.96	15.93	15.47	0.30
Reach 1	2730	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	19.90	85.15	87.03		87.08	0.001051	1.01	19.76	16.79	0.30
Reach 1	2730	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	19.90	85.15	87.03		87.08	0.001051	1.01	19.76	16.79	0.30
Reach 1	2730	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	19.90	85.15	87.03		87.08	0.001051	1.01	19.76	16.79	0.30
Reach 1	2730	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	27.47	85.15	87.53		87.58	0.000614	0.97	29.24	23.02	0.24
Reach 1	2730	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	27.47	85.15	87.53		87.58	0.000614	0.97	29.24	23.02	0.24
Reach 1	2730	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	27.47	85.15	87.53		87.58	0.000614	0.97	29.24	23.02	0.24
Reach 1	2730	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	27.97	85.15	87.72		87.76	0.000440	0.89	33.91	26.04	0.21
Reach 1	2730	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	27.97	85.15	87.72		87.76	0.000440	0.89	33.90	26.04	0.21
Reach 1	2730	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	27.97	85.15	87.72		87.76	0.000438	0.88	33.98	26.08	0.21
Reach 1	2730	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	36.83	85.15	88.32		88.35	0.000275	0.84	54.14	44.25	0.17
Reach 1	2730	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	36.83	85.15	88.32		88.35	0.000275	0.84	54.14	44.25	0.17
Reach 1	2730	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	36.83	85.15	88.32		88.35	0.000275	0.84	54.21	44.30	0.17
Reach 1	2727	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	4.98	85.14	86.06	85.73	86.09	0.001719	0.80	6.20	12.60	0.34
Reach 1	2727	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	4.98	85.14	86.06	85.73	86.09	0.001719	0.80	6.20	12.60	0.34
Reach 1	2727	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	4.98	85.14	86.06	85.73	86.09	0.001719	0.80	6.20	12.60	0.34
Reach 1	2727	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.39	85.14	86.35	85.82	86.38	0.000985	0.77	9.57	14.08	0.27
Reach 1	2727	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.39	85.14	86.35	85.82	86.38	0.000985	0.77	9.57	14.08	0.27
Reach 1	2727	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.39	85.14	86.35	85.82	86.38	0.000985	0.77	9.57	14.08	0.27
Reach 1	2727	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	9.27	85.14	86.46	85.89	86.49	0.001074	0.86	10.79	14.55	0.29
Reach 1	2727	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	9.27	85.14	86.46	85.89	86.49	0.001074	0.86	10.79	14.55	0.29
Reach 1	2727	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	9.27	85.14	86.46	85.89	86.49	0.001074	0.86	10.79	14.55	0.29
Reach 1	2727	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	11.56	85.14	86.58	85.96	86.63	0.001079	0.94	12.33	15.17	0.30
Reach 1	2727	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	11.56	85.14	86.58	85.96	86.63	0.001079	0.94	12.33	15.17	0.30
Reach 1	2727	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	11.56	85.14	86.58	85.96	86.63	0.001079	0.94	12.33	15.17	0.30
Reach 1	2727	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	13.40	85.14	86.68	86.02	86.73	0.001068	0.99	13.52	15.55	0.30
Reach 1	2727	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	13.40	85.14	86.68	86.02	86.73	0.001068	0.99	13.52	15.55	0.30
Reach 1	2727	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	13.40	85.14	86.68	86.02	86.73	0.001068	0.99	13.52	15.55	0.30
Reach 1	2727	100y	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	15.25	85.14	86.78	86.07	86.83	0.001050	1.04	14.69	15.95	0.30
Reach 1	2727	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	15.25	85.14	86.78	86.07	86.83	0.001050	1.04	14.69	15.95	0.30
Reach 1	2727	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	15.25	85.14	86.78	86.07	86.83	0.001050	1.04	14.69	15.95	0.30
Reach 1	2727	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	19.90	85.14	87.01	86.19	87.07	0.001004	1.14	17.46	17.01	0.30
Reach 1	2727	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	19.90	85.14	87.01	86.19	87.07	0.001004	1.14	17.46	17.01	0.30
Reach 1	2727	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	19.90	85.14	87.01	86.19	87.07	0.001004	1.14	17.46	17.01	0.30
Reach 1	2727	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	27.47	85.14	87.50	86.36	87.57	0.000724	1.18	23.37	21.54	0.27
Reach 1	2727	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	27.47	85.14	87.50	86.36	87.57	0.000724	1.18	23.37	21.54	0.27
Reach 1	2727	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	27.47	85.14	87.50	86.36	87.57	0.000724	1.18	23.37	21.54	0.27
Reach 1	2727	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	27.97	85.14	87.69	86.37	87.75	0.000548	1.09	25.68	25.09	0.24
Reach 1	2727	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	27.97	85.14	87.69	86.37	87.75	0.000548	1.09	25.68	25.08	0.24
Reach 1	2727	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	27.97	85.14	87.69	86.37	87.75	0.000546	1.09	25.72	25.17	0.24
Reach 1	2727	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	36.83	85.14	88.32	86.55	88.35	0.000244	0.81	54.16	40.30	0.16
Reach 1	2727	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	36.83	85.14	88.32	86.55	88.35	0.000244	0.81	54.16	40.30	0.16
Reach 1	2727	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	36.83	85.14	88.32	86.55	88.35	0.000244	0.81	54.22	40.33	0.16
Reach 1	2705.15												
Reach 1				Culvert									
Reach 1	2684	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	4.98	84.99	86.00	85.47	86.03	0.001150	0.77	6.50	8.73	0.28
Reach 1	2684	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	4.98	84.99	86.00	85.47	86.03	0.001150	0.77	6.50	8.73	0.28
Reach 1	2684	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	4.98	84.99	86.00	85.47	86.03	0.001150	0.77	6.50	8.73	0.28
Reach 1	2684	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.39	84.99	86.28	85.59	86.31	0.001012	0.79	9.33	14.90	0.27
Reach 1	2684	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.39	84.99	86.28	85.59	86.31	0.001012	0.79	9.33	14.90	0.27
Reach 1	2684	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.39	84.99	86.28	85.59	86.31	0.001012	0.79	9.33	14.90	0.27
Reach 1	2684	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	9.27	84.99	86.35	85.68	86.39	0.001343	0.91	10.14	16.24	0.32
Reach 1	2684	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	9.27	84.99	86.35	85.68	86.39	0.001343	0.91	10.14	16.24	0.32
Reach 1	2684	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	9.27	84.99	86.35	85.68	86.39	0.001343	0.91	10.14	16.24	0.32
Reach 1	2684	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	11.56	84.99	86.44	85.77	86.49	0.001582	1.03	11.22	17.13	0.35
Reach 1	2684	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	11.56	84.99	86.44	85.77	86.49	0.001582	1.03	11.22	17.13	0.35
Reach 1	2684	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	11.56	84.99	86.44	85.77	86.49	0.001582	1.03	11.22	17.13	0.35
Reach 1	2684	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	13.40	84.99	86.51	85.84	86.57	0.001724	1.11	12.03	17.60	0.36
Reach 1	2684	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	13.40	84.99	86.51	85.84	86.57	0.001724	1.11	12.03	17.60	0.36
Reach 1	2684	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	13.40	84.99	86.51	85.84	86.57	0.001724	1.11	12.03	17.60	0.36
Reach 1	2684	100y	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	15.25	84.99	86.57	85.91	86.64	0.001846	1.19	12.82	18.04	0.38
Reach 1	2684	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	15.25	84.99	86.57	85.91	86.64	0.001846	1.19	12.82	18.04	0.38
Reach 1	2684	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	15.25	84.99	86.57	85.91	86.64	0.001846	1.19	12.82	18.04	0.38
Reach 1	2684	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	19.90	84.99	86.71	86.11	86.80	0.002046	1.36	14.61	19.06	0.41
Reach 1	2684	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	19.90	84.99	86.71	86.11	86.80	0.002046	1.36	14.61	19.06	0.41
Reach 1	2684	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	19.90	84.99	86.71	86.11	86.80	0.002046	1.36	14.61	19.06	0.41

HEC-RAS River: Pine Creek Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Plan	Q Total (m ³ /s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m ²)	Top Width (m)	Froude # Chl
Reach 1	2676	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	6.42	84.97	85.76		85.96	0.01106	1.97	3.26	5.86	0.84
Reach 1	2676	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	10.20	84.97	85.94	85.90	86.22	0.012772	2.32	4.40	6.86	0.92
Reach 1	2676	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	10.20	84.97	85.94	85.90	86.22	0.012772	2.32	4.40	6.86	0.92
Reach 1	2676	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	10.20	84.97	85.94	85.90	86.22	0.012772	2.32	4.40	6.86	0.92
Reach 1	2676	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	12.86	84.97	86.13	86.10	86.32	0.014081	1.94	6.63	14.92	0.93
Reach 1	2676	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	12.86	84.97	86.13	86.10	86.32	0.014081	1.94	6.63	14.92	0.93
Reach 1	2676	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	12.86	84.97	86.13	86.10	86.32	0.014081	1.94	6.63	14.92	0.93
Reach 1	2676	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	15.90	84.97	86.25		86.43	0.010531	1.87	8.50	16.22	0.83
Reach 1	2676	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	15.90	84.97	86.25		86.43	0.010531	1.87	8.50	16.22	0.83
Reach 1	2676	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	15.90	84.97	86.25		86.43	0.010531	1.87	8.50	16.22	0.83
Reach 1	2676	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	18.26	84.97	86.33		86.51	0.009209	1.86	9.82	17.10	0.78
Reach 1	2676	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	18.26	84.97	86.33		86.51	0.009209	1.86	9.82	17.10	0.78
Reach 1	2676	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	18.26	84.97	86.33		86.51	0.009209	1.86	9.82	17.10	0.78
Reach 1	2676	100y	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	20.69	84.97	86.40		86.58	0.008462	1.88	11.02	17.79	0.76
Reach 1	2676	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.69	84.97	86.40		86.58	0.008462	1.88	11.02	17.79	0.76
Reach 1	2676	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.69	84.97	86.40		86.58	0.008462	1.88	11.02	17.79	0.76
Reach 1	2676	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	26.86	84.97	86.54		86.74	0.007501	1.96	13.70	18.93	0.74
Reach 1	2676	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	26.86	84.97	86.54		86.74	0.007501	1.96	13.70	18.93	0.74
Reach 1	2676	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	26.86	84.97	86.54		86.74	0.007501	1.96	13.70	18.93	0.74
Reach 1	2676	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	45.49	84.97	86.87		87.13	0.006238	2.26	20.34	21.65	0.71
Reach 1	2676	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	45.49	84.97	86.87		87.13	0.006238	2.26	20.34	21.65	0.71
Reach 1	2676	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	45.49	84.97	86.87		87.13	0.006238	2.26	20.34	21.65	0.71
Reach 1	2676	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	40.52	84.97	87.22		87.33	0.001838	1.49	28.28	23.84	0.41
Reach 1	2676	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	40.52	84.97	87.22		87.33	0.001838	1.49	28.28	23.84	0.41
Reach 1	2676	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	40.52	84.97	87.22		87.34	0.001823	1.49	28.37	23.87	0.40
Reach 1	2676	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	62.18	84.97	87.42		87.62	0.002749	1.99	33.14	25.75	0.51
Reach 1	2676	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	62.18	84.97	87.42		87.62	0.002749	1.99	33.14	25.75	0.51
Reach 1	2676	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	62.18	84.97	87.42		87.62	0.002727	1.99	33.23	25.77	0.51
Reach 1	2624	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	6.42	84.68	85.71		85.74	0.001534	0.81	7.91	12.47	0.33
Reach 1	2624	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	6.42	84.68	85.71		85.74	0.001534	0.81	7.91	12.47	0.33
Reach 1	2624	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	6.42	84.68	85.71		85.74	0.001534	0.81	7.91	12.47	0.33
Reach 1	2624	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	10.20	84.68	85.90		85.95	0.001803	0.96	10.57	14.53	0.36
Reach 1	2624	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	10.20	84.68	85.90		85.95	0.001803	0.96	10.57	14.53	0.36
Reach 1	2624	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	10.20	84.68	85.90		85.95	0.001803	0.96	10.57	14.53	0.36
Reach 1	2624	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	12.86	84.68	86.01		86.06	0.001958	1.06	12.14	15.42	0.38
Reach 1	2624	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	12.86	84.68	86.01		86.06	0.001958	1.06	12.14	15.42	0.38
Reach 1	2624	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	12.86	84.68	86.01		86.06	0.001958	1.06	12.14	15.42	0.38
Reach 1	2624	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	15.90	84.68	86.12		86.18	0.002153	1.15	13.86	16.79	0.40
Reach 1	2624	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	15.90	84.68	86.12		86.18	0.002153	1.15	13.86	16.79	0.40
Reach 1	2624	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	15.90	84.68	86.12		86.18	0.002153	1.15	13.86	16.79	0.40
Reach 1	2624	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	18.26	84.68	86.19		86.26	0.002278	1.21	15.13	17.75	0.42
Reach 1	2624	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	18.26	84.68	86.19		86.26	0.002278	1.21	15.13	17.75	0.42
Reach 1	2624	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	18.26	84.68	86.19		86.26	0.002278	1.21	15.13	17.75	0.42
Reach 1	2624	100y	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	20.69	84.68	86.26		86.34	0.002371	1.27	16.34	18.34	0.43
Reach 1	2624	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.69	84.68	86.26		86.34	0.002371	1.27	16.34	18.34	0.43
Reach 1	2624	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.69	84.68	86.26		86.34	0.002371	1.27	16.34	18.34	0.43
Reach 1	2624	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	26.86	84.68	86.40		86.50	0.002554	1.41	19.04	19.79	0.45
Reach 1	2624	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	26.86	84.68	86.40		86.50	0.002554	1.41	19.04	19.79	0.45
Reach 1	2624	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	26.86	84.68	86.40		86.50	0.002554	1.41	19.04	19.79	0.45
Reach 1	2624	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	45.49	84.68	86.74		86.90	0.002733	1.78	26.30	23.11	0.49
Reach 1	2624	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	45.49	84.68	86.74		86.90	0.002733	1.78	26.30	23.11	0.49
Reach 1	2624	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	45.49	84.68	86.74		86.90	0.002733	1.78	26.30	23.11	0.49
Reach 1	2624	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	40.52	84.68	87.19		87.26	0.000784	1.16	38.13	29.19	0.28
Reach 1	2624	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	40.52	84.68	87.19		87.26	0.000784	1.16	38.12	29.18	0.28
Reach 1	2624	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	40.52	84.68	87.20		87.26	0.000778	1.16	38.23	29.24	0.28
Reach 1	2624	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	62.18	84.68	87.37		87.50	0.001315	1.60	43.58	31.88	0.36
Reach 1	2624	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	62.18	84.68	87.37		87.50	0.001314	1.60	43.58	31.88	0.36
Reach 1	2624	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	62.18	84.68	87.38		87.50	0.001305	1.59	43.71	31.94	0.36
Reach 1	2548	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	6.42	84.47	85.53	85.16	85.58	0.003211	0.99	6.46	13.10	0.45
Reach 1	2548	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	6.42	84.47	85.53	85.16	85.58	0.003211	0.99	6.46	13.10	0.45
Reach 1	2548	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	6.42	84.47	85.53	85.16	85.58	0.003211	0.99	6.46	13.10	0.45
Reach 1	2548	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	10.20	84.47	85.70	85.40	85.77	0.003339	1.15	8.87	14.89	0.48
Reach 1	2548	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	10.20	84.47	85.70	85.40	85.77	0.003339	1.15	8.87	14.89	0.48
Reach 1	2548	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	10.20	84.47	85.70	85.40	85.77	0.003339	1.15	8.87	14.89	0.48
Reach 1	2548	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	12.86	84.47	85.78	85.49	85.86	0.003695	1.27	10.13	15.82	0.51
Reach 1	2548	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	12.86	84.47	85.78	85.49	85.86	0.003695	1.27	10.13	15.82	0.51
Reach 1	2548	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	12.86	84.47	85.78	85.49	85.86	0.003695	1.27	10.13	15.82	0.51
Reach 1	2548	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	15.90	84.47	85.86	85.57	85.96	0.004066	1.39	11.45	16.81	0.54
Reach 1	2548	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	15.90	84.47	85.86	85.57	85.96	0.004066	1.39	11.45	16.81	0.54
Reach 1	2548	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	15.90	84.47	85.86	85.57	85.96	0.004066	1.39	11.45	16.81	0.54
Reach 1	2548	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	18.26	84.47	85.92	85.63	86.03	0.004324	1.48	12.37	17.37	0.56
Reach 1	2548	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	18.26	84.47	85.92	85.63	86.03	0.004324	1.48	12.37	17.37	0.56
Reach 1	2548	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	18.26	84.47	85.92	85.63	86.03	0.004324	1.48	12.37	17.37	0.56
Reach 1	2548	100y	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	20.69	84.47	85.96	85.68	86.09	0.004624	1.57	13.22	17.85	0.58
Reach 1	2548	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.69	84.47	85.96	85.68	86.09	0.004624	1.57	13.22	17.85	0.58
Reach 1	2548	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.69	84.47	85.96	85.68	86.09	0.004624	1.57	13.22	17.85	0.58
Reach 1	2548	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	26.86	84.47	86.07	85.81	86.23	0.005105	1.79	15.08	19.12	0.62
Reach 1	2548	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	26.86	84.47	86.07	85.81	86.23	0.005105	1.79	15.08	19.12	0.62
Reach 1	2548	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	26.86	84.47	86.07	85.81	86.23	0.005105	1.79	15.08	19.12	0.62
Reach 1	2548	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	45.49	84.47	86.29	86.10	86.58	0.006593	2.38	19.64	21.48	0.74
Reach 1	2548	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	45.49	84.47	86.29	86.10	86.58	0.006593	2.38	19.64	21.48	0.74
Reach 1	2548	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	45.49	84.47	86.29	86.10	86.58	0.006593	2.38	19.64	21.48	0.74
Reach 1	2548	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	40.52	84.47	87.14	86.03	87.20	0.000669	1.12	41.48	2	

HEC-RAS River: Pine Creek Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m ³ /s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m ²)	(m)	
Reach 1	2474	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	12.86	84.28	85.19	85.19	85.33	0.018163	1.69	7.59	25.65	1.00
Reach 1	2474	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	12.86	84.28	85.19	85.19	85.33	0.018163	1.69	7.59	25.65	1.00
Reach 1	2474	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	12.86	84.28	85.19	85.19	85.33	0.018163	1.69	7.59	25.65	1.00
Reach 1	2474	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	15.90	84.28	85.24	85.24	85.40	0.017676	1.79	8.88	27.11	1.00
Reach 1	2474	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	15.90	84.28	85.24	85.24	85.40	0.017676	1.79	8.88	27.11	1.00
Reach 1	2474	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	15.90	84.28	85.24	85.24	85.40	0.017676	1.79	8.88	27.11	1.00
Reach 1	2474	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	18.26	84.28	85.27	85.27	85.45	0.017254	1.87	9.78	27.50	1.00
Reach 1	2474	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	18.26	84.28	85.27	85.27	85.45	0.017254	1.87	9.78	27.50	1.00
Reach 1	2474	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	18.26	84.28	85.27	85.27	85.45	0.017254	1.87	9.78	27.50	1.00
Reach 1	2474	100yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	20.69	84.28	85.30	85.30	85.49	0.016459	1.93	10.74	27.85	0.99
Reach 1	2474	100yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.69	84.28	85.30	85.30	85.49	0.016459	1.93	10.74	27.85	0.99
Reach 1	2474	100yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.69	84.28	85.30	85.30	85.49	0.016459	1.93	10.74	27.85	0.99
Reach 1	2474	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	26.86	84.28	85.38	85.38	85.60	0.015905	2.10	12.80	28.40	1.00
Reach 1	2474	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	26.86	84.28	85.38	85.38	85.60	0.015905	2.10	12.80	28.40	1.00
Reach 1	2474	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	26.86	84.28	85.38	85.38	85.60	0.015905	2.10	12.80	28.40	1.00
Reach 1	2474	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	45.49	84.28	85.57	85.57	85.88	0.014018	2.48	18.43	30.21	0.99
Reach 1	2474	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	45.49	84.28	85.57	85.57	85.88	0.014018	2.48	18.43	30.21	0.99
Reach 1	2474	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	45.49	84.28	85.57	85.57	85.88	0.014018	2.48	18.43	30.21	0.99
Reach 1	2474	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	40.52	84.28	87.15	85.52	87.17	0.000146	0.58	80.35	48.38	0.12
Reach 1	2474	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	40.52	84.28	87.15	85.52	87.17	0.000146	0.58	80.33	48.37	0.12
Reach 1	2474	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	40.52	84.28	87.16	85.52	87.17	0.000145	0.58	80.54	48.44	0.12
Reach 1	2474	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	62.18	84.28	87.30	85.72	87.34	0.000273	0.83	87.81	51.62	0.17
Reach 1	2474	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	62.18	84.28	87.30	85.72	87.34	0.000273	0.83	87.81	51.62	0.17
Reach 1	2474	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	62.18	84.28	87.31	85.72	87.34	0.000271	0.83	88.06	51.73	0.17
Reach 1	2353	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	6.42	82.51	83.63		83.67	0.005519	0.90	7.16	25.55	0.54
Reach 1	2353	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	6.42	82.51	83.63		83.67	0.005519	0.90	7.16	25.55	0.54
Reach 1	2353	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	6.42	82.51	83.63		83.67	0.005519	0.90	7.16	25.55	0.54
Reach 1	2353	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	10.20	82.51	83.80		83.83	0.003108	0.86	11.92	29.75	0.43
Reach 1	2353	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	10.20	82.51	83.80		83.83	0.003108	0.86	11.92	29.75	0.43
Reach 1	2353	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	10.20	82.51	83.80		83.83	0.003108	0.86	11.92	29.75	0.43
Reach 1	2353	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	12.86	82.51	83.92		83.95	0.002280	0.81	15.92	34.38	0.38
Reach 1	2353	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	12.86	82.51	83.92		83.95	0.002280	0.81	15.92	34.38	0.38
Reach 1	2353	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	12.86	82.51	83.92		83.95	0.002280	0.81	15.92	34.38	0.38
Reach 1	2353	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	15.90	82.51	84.08		84.11	0.001633	0.73	21.88	43.21	0.33
Reach 1	2353	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	15.90	82.51	84.08		84.11	0.001633	0.73	21.88	43.21	0.33
Reach 1	2353	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	15.90	82.51	84.08		84.11	0.001633	0.73	21.88	43.21	0.33
Reach 1	2353	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	18.26	82.51	84.19		84.22	0.001139	0.68	26.92	45.01	0.28
Reach 1	2353	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	18.26	82.51	84.19		84.22	0.001139	0.68	26.92	45.01	0.28
Reach 1	2353	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	18.26	82.51	84.19		84.22	0.001139	0.68	26.92	45.01	0.28
Reach 1	2353	100y	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	20.69	82.51	84.31		84.33	0.000846	0.64	32.24	46.83	0.25
Reach 1	2353	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.69	82.51	84.31		84.33	0.000846	0.64	32.24	46.83	0.25
Reach 1	2353	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.69	82.51	84.31		84.33	0.000845	0.64	32.24	46.83	0.25
Reach 1	2353	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	26.86	82.51	84.57		84.59	0.000482	0.60	45.16	50.57	0.20
Reach 1	2353	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	26.86	82.51	84.57		84.59	0.000482	0.60	45.16	50.57	0.20
Reach 1	2353	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	26.86	82.51	84.57		84.59	0.000482	0.60	45.16	50.57	0.20
Reach 1	2353	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	45.49	82.51	85.28		85.30	0.000204	0.57	85.50	62.94	0.14
Reach 1	2353	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	45.49	82.51	85.28		85.29	0.000206	0.57	85.25	62.88	0.14
Reach 1	2353	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	45.49	82.51	85.28		85.30	0.000203	0.56	85.72	62.99	0.14
Reach 1	2353	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	40.52	82.51	87.16		87.16	0.000010	0.21	239.33	146.49	0.04
Reach 1	2353	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	40.52	82.51	87.16		87.16	0.000010	0.21	239.30	146.45	0.04
Reach 1	2353	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	40.52	82.51	87.16		87.17	0.000010	0.21	239.75	147.12	0.04
Reach 1	2353	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	62.18	82.51	87.32		87.32	0.000021	0.31	256.53	167.49	0.05
Reach 1	2353	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	62.18	82.51	87.32		87.32	0.000021	0.31	256.54	167.49	0.05
Reach 1	2353	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	62.18	82.51	87.32		87.33	0.000020	0.31	257.09	167.86	0.05
Reach 1	2270	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	6.42	82.36	83.44		83.46	0.001340	0.71	9.08	16.05	0.30
Reach 1	2270	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	6.42	82.36	83.44		83.46	0.001340	0.71	9.08	16.05	0.30
Reach 1	2270	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	6.42	82.36	83.44		83.46	0.001340	0.71	9.08	16.05	0.30
Reach 1	2270	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	10.20	82.36	83.63		83.67	0.001343	0.82	12.38	17.38	0.31
Reach 1	2270	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	10.20	82.36	83.63		83.67	0.001343	0.82	12.38	17.38	0.31
Reach 1	2270	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	10.20	82.36	83.63		83.67	0.001343	0.82	12.38	17.38	0.31
Reach 1	2270	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	12.86	82.36	83.78		83.82	0.001202	0.86	15.03	18.33	0.30
Reach 1	2270	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	12.86	82.36	83.78		83.82	0.001202	0.86	15.03	18.33	0.30
Reach 1	2270	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	12.86	82.36	83.78		83.82	0.001202	0.86	15.03	18.33	0.30
Reach 1	2270	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	15.90	82.36	83.96		84.00	0.001020	0.86	18.40	19.51	0.28
Reach 1	2270	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	15.90	82.36	83.96		84.00	0.001020	0.86	18.40	19.51	0.28
Reach 1	2270	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	15.90	82.36	83.96		84.00	0.001020	0.86	18.40	19.51	0.28
Reach 1	2270	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	18.26	82.36	84.09		84.13	0.000919	0.87	20.99	20.38	0.27
Reach 1	2270	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	18.26	82.36	84.09		84.13	0.000919	0.87	20.99	20.38	0.27
Reach 1	2270	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	18.26	82.36	84.09		84.13	0.000919	0.87	21.00	20.38	0.27
Reach 1	2270	100y	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	20.69	82.36	84.22		84.26	0.000833	0.88	23.64	21.11	0.26
Reach 1	2270	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.69	82.36	84.22		84.26	0.000833	0.88	23.64	21.11	0.26
Reach 1	2270	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.69	82.36	84.22		84.26	0.000833	0.88	23.65	21.11	0.26
Reach 1	2270	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	26.86	82.36	84.50		84.54	0.000686	0.90	29.83	22.88	0.25
Reach 1	2270	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	26.86	82.36	84.50		84.54	0.000686	0.90	29.83	22.88	0.25
Reach 1	2270	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	26.86	82.36	84.50		84.54	0.000686	0.90	29.83	22.88	0.25
Reach 1	2270	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	45.49	82.36	85.22		85.27	0.000461	0.98	53.31	70.20	0.22
Reach 1	2270	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	45.49	82.36	85.21		85.26	0.000464	0.98	53.01	69.82	0.22
Reach 1	2270	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	45.49	82.36	85.22		85.27	0.000457	0.98	53.59	70.55	0.22
Reach 1	2270	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	40.52	82.36	87.16		87.16	0.000012	0.24	365.66	297.15	0.04
Reach 1	2270	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	40.52	82.36	87.16		87.16	0.000012	0.24	365.59	297.14	0.04
Reach 1	2270	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	40.52	82.36	87.16		87.17	0.000011	0.24	366.72	297.41	0.04
Reach 1	2270	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	62.18	82.36	87.32		87.32	0.000021	0.33	408.44	307.20	0.05
Reach 1	2270	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP										

Reach	River Sta	Profile	Plan	Q Total (m³/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m²)	Top Width (m)	Froude # Chl
Reach 1	2266	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	15.90	82.44	83.96	83.28	83.99	0.000995	0.87	18.32	18.99	0.28
Reach 1	2266	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	15.90	82.44	83.96	83.28	83.99	0.000995	0.87	18.32	18.99	0.28
Reach 1	2266	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	18.26	82.44	84.09	83.34	84.13	0.000903	0.88	20.84	19.80	0.27
Reach 1	2266	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	18.26	82.44	84.09	83.34	84.13	0.000903	0.88	20.84	19.80	0.27
Reach 1	2266	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	18.26	82.44	84.09	83.34	84.13	0.000903	0.88	20.84	19.80	0.27
Reach 1	2266	100yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	20.69	82.44	84.21	83.39	84.25	0.000828	0.88	23.42	20.54	0.26
Reach 1	2266	100yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.69	82.44	84.21	83.39	84.25	0.000828	0.88	23.42	20.54	0.26
Reach 1	2266	100yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.69	82.44	84.21	83.39	84.25	0.000827	0.88	23.42	20.54	0.26
Reach 1	2266	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	26.86	82.44	84.50	83.51	84.54	0.000674	0.92	29.44	22.22	0.25
Reach 1	2266	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	26.86	82.44	84.50	83.51	84.54	0.000674	0.92	29.44	22.22	0.25
Reach 1	2266	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	26.86	82.44	84.50	83.51	84.54	0.000674	0.92	29.44	22.22	0.25
Reach 1	2266	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	45.49	82.44	85.21	83.81	85.26	0.000472	1.01	51.16	57.80	0.22
Reach 1	2266	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	45.49	82.44	85.21	83.81	85.26	0.000476	1.01	50.92	57.46	0.22
Reach 1	2266	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	45.49	82.44	85.22	83.81	85.27	0.000469	1.01	51.40	58.09	0.22
Reach 1	2266	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	40.52	82.44	87.16	83.74	87.16	0.000010	0.23	399.75	310.03	0.04
Reach 1	2266	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	40.52	82.44	87.16	83.74	87.16	0.000010	0.23	399.66	310.01	0.04
Reach 1	2266	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	40.52	82.44	87.16	83.74	87.17	0.000010	0.23	400.98	310.31	0.04
Reach 1	2266	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	62.18	82.44	87.32	84.03	87.32	0.000018	0.31	449.60	324.91	0.05
Reach 1	2266	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	62.18	82.44	87.32	84.03	87.32	0.000018	0.31	449.61	324.92	0.05
Reach 1	2266	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	62.18	82.44	87.32	84.03	87.32	0.000018	0.31	451.19	325.31	0.05
Reach 1	2240.5		Culvert										
Reach 1	2218	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	6.42	82.34	83.34	83.13	83.40	0.004060	1.07	6.01	15.93	0.50
Reach 1	2218	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	6.42	82.34	83.34	83.13	83.40	0.004060	1.07	6.01	15.93	0.50
Reach 1	2218	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	6.42	82.34	83.34	83.13	83.40	0.004060	1.07	6.01	15.93	0.50
Reach 1	2218	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	10.20	82.34	83.47	83.27	83.56	0.004570	1.33	7.66	17.11	0.56
Reach 1	2218	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	10.20	82.34	83.47	83.27	83.56	0.004570	1.33	7.66	17.11	0.56
Reach 1	2218	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	10.20	82.34	83.47	83.27	83.56	0.004570	1.33	7.66	17.11	0.56
Reach 1	2218	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	12.86	82.34	83.56	83.35	83.66	0.004560	1.46	8.81	17.80	0.57
Reach 1	2218	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	12.86	82.34	83.56	83.35	83.66	0.004560	1.46	8.81	17.80	0.57
Reach 1	2218	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	12.86	82.34	83.56	83.35	83.66	0.004560	1.46	8.81	17.80	0.57
Reach 1	2218	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	15.90	82.34	83.67	83.42	83.79	0.004158	1.55	10.29	18.67	0.56
Reach 1	2218	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	15.90	82.34	83.67	83.42	83.79	0.004158	1.55	10.29	18.67	0.56
Reach 1	2218	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	15.90	82.34	83.67	83.42	83.79	0.004158	1.55	10.29	18.67	0.56
Reach 1	2218	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	18.26	82.34	83.74	83.47	83.88	0.004004	1.61	11.31	19.27	0.56
Reach 1	2218	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	18.26	82.34	83.74	83.47	83.88	0.004004	1.61	11.31	19.27	0.56
Reach 1	2218	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	18.26	82.34	83.74	83.47	83.88	0.004004	1.61	11.31	19.27	0.56
Reach 1	2218	100yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	20.69	82.34	83.82	83.52	83.96	0.003933	1.69	12.25	19.91	0.56
Reach 1	2218	100yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.69	82.34	83.82	83.52	83.96	0.003933	1.69	12.25	19.91	0.56
Reach 1	2218	100yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.69	82.34	83.82	83.52	83.96	0.003933	1.69	12.26	19.91	0.56
Reach 1	2218	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	26.86	82.34	83.90	83.64	84.11	0.004990	2.01	13.34	20.67	0.64
Reach 1	2218	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	26.86	82.34	83.90	83.64	84.11	0.004990	2.01	13.34	20.67	0.64
Reach 1	2218	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	26.86	82.34	83.90	83.64	84.11	0.004989	2.01	13.34	20.67	0.64
Reach 1	2218	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	45.49	82.34	84.70	83.95	84.79	0.001174	1.29	37.69	35.19	0.33
Reach 1	2218	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	45.49	82.34	84.70	83.95	84.79	0.001176	1.29	37.65	35.17	0.33
Reach 1	2218	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	45.49	82.34	84.72	83.95	84.81	0.001120	1.27	38.41	36.56	0.33
Reach 1	2218	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	40.52	82.34	87.16	83.87	87.16	0.000023	0.34	162.03	143.15	0.05
Reach 1	2218	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	40.52	82.34	87.16	83.87	87.16	0.000023	0.34	162.03	143.15	0.05
Reach 1	2218	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	40.52	82.34	87.16	83.87	87.17	0.000023	0.34	162.29	143.15	0.05
Reach 1	2218	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	62.18	82.34	87.31	84.20	87.32	0.000047	0.50	170.45	154.21	0.08
Reach 1	2218	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	62.18	82.34	87.31	84.20	87.32	0.000047	0.50	170.45	154.24	0.08
Reach 1	2218	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	62.18	82.34	87.31	84.20	87.32	0.000047	0.50	170.75	157.08	0.08
Reach 1	2209	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.76	82.36	83.25	83.18	83.34	0.008578	1.27	6.09	17.98	0.70
Reach 1	2209	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.76	82.36	83.25	83.18	83.34	0.008578	1.27	6.09	17.98	0.70
Reach 1	2209	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.76	82.36	83.25	83.18	83.34	0.008578	1.27	6.09	17.98	0.70
Reach 1	2209	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	12.31	82.36	83.41	83.28	83.50	0.006747	1.37	8.98	19.86	0.65
Reach 1	2209	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	12.31	82.36	83.41	83.28	83.50	0.006747	1.37	8.98	19.86	0.65
Reach 1	2209	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	12.31	82.36	83.41	83.28	83.50	0.006747	1.37	8.98	19.86	0.65
Reach 1	2209	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	15.84	82.36	83.51	83.35	83.61	0.006243	1.44	10.98	21.19	0.64
Reach 1	2209	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	15.84	82.36	83.51	83.35	83.61	0.006243	1.44	10.98	21.19	0.64
Reach 1	2209	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	15.84	82.36	83.51	83.35	83.61	0.006243	1.44	10.98	21.19	0.64
Reach 1	2209	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	20.65	82.36	83.62	83.44	83.74	0.005717	1.53	13.53	22.46	0.63
Reach 1	2209	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.65	82.36	83.62	83.44	83.74	0.005717	1.53	13.53	22.46	0.63
Reach 1	2209	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.65	82.36	83.62	83.44	83.74	0.005717	1.53	13.53	22.46	0.63
Reach 1	2209	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	24.27	82.36	83.70	83.50	83.83	0.005402	1.58	15.37	23.25	0.62
Reach 1	2209	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	24.27	82.36	83.70	83.50	83.83	0.005402	1.58	15.37	23.25	0.62
Reach 1	2209	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	24.27	82.36	83.70	83.50	83.83	0.005402	1.58	15.37	23.25	0.62
Reach 1	2209	100yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	27.68	82.36	83.78	83.55	83.91	0.005079	1.61	17.20	24.13	0.61
Reach 1	2209	100yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	27.68	82.36	83.78	83.55	83.91	0.005079	1.61	17.20	24.13	0.61
Reach 1	2209	100yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	27.68	82.36	83.78	83.55	83.91	0.005075	1.61	17.20	24.13	0.61
Reach 1	2209	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	33.01	82.36	83.88	83.62	84.03	0.004840	1.67	19.79	25.38	0.60
Reach 1	2209	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	33.01	82.36	83.88	83.62	84.03	0.004840	1.67	19.79	25.38	0.60
Reach 1	2209	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	33.01	82.36	83.88	83.62	84.03	0.004840	1.67	19.79	25.38	0.60
Reach 1	2209	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	52.55	82.36	84.70	83.86	84.77	0.001092	1.22	45.22	39.28	0.32
Reach 1	2209	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	52.55	82.36	84.70	83.86	84.77	0.001095	1.22	45.18	39.26	0.32
Reach 1	2209	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	52.55	82.36	84.72	83.86	84.79	0.001041	1.20	46.04	39.60	0.31
Reach 1	2209	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	50.11	82.36	87.15	83.83	87.16	0.000027	0.37	171.57	146.48	0.06
Reach 1	2209	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	50.11	82.36	87.15	83.83	87.16	0.000027	0.37	171.57	146.48	0.06
Reach 1	2209	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	50.11	82.36	87.16	83.83	87.16	0.000027	0.37	171.83	147.25	0.06
Reach 1	2209	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	71.88	82.36	87.30	84.05	87.31	0.000048	0.50	180.08	172.71	0.08
Reach 1	2209	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	71.88	82.36	87.30	84.05	87.31	0.000048	0.50	180.08	172.72	0.08
Reach 1	2209	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	71.88	82.36	87.31	84.05	87.32	0.000048	0.50	180.39	174.27	0.08

HEC-RAS River: Pine Creek Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Plan	Q Total (m ³ /s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m ²)	Top Width (m)	Froude # Chl
Reach 1	2132	50yr	v1.1 ExistingPineRouting_Ext_Add1XS_WSP	24.27	81.99	83.43	83.05	83.52	0.002932	1.34	18.17	22.26	0.47
Reach 1	2132	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	24.27	81.99	83.43	83.05	83.52	0.002932	1.34	18.17	22.26	0.47
Reach 1	2132	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	24.27	81.99	83.43	83.05	83.52	0.002931	1.34	18.18	22.26	0.47
Reach 1	2132	100y	v1.1 ExistingPineRouting_Ext_Add1XS_WSP	27.68	81.99	83.53	83.11	83.62	0.002747	1.36	20.38	23.17	0.46
Reach 1	2132	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	27.68	81.99	83.53	83.11	83.62	0.002747	1.36	20.38	23.17	0.46
Reach 1	2132	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	27.68	81.99	83.53	83.11	83.62	0.002742	1.36	20.39	23.17	0.46
Reach 1	2132	100yr-NC	v1.1 ExistingPineRouting_Ext_Add1XS_WSP	33.01	81.99	83.63	83.19	83.73	0.002849	1.45	22.80	24.22	0.48
Reach 1	2132	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	33.01	81.99	83.63	83.19	83.73	0.002849	1.45	22.80	24.22	0.48
Reach 1	2132	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	33.01	81.99	83.63	83.19	83.74	0.002849	1.45	22.80	24.22	0.48
Reach 1	2132	Hazel	v1.1 ExistingPineRouting_Ext_Add1XS_WSP	52.55	81.99	84.65	83.44	84.70	0.000624	0.98	55.01	40.68	0.24
Reach 1	2132	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	52.55	81.99	84.65	83.44	84.70	0.000626	0.98	54.97	40.67	0.25
Reach 1	2132	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	52.55	81.99	84.68	83.44	84.72	0.000595	0.97	55.95	40.84	0.24
Reach 1	2132	350yr-NC	v1.1 ExistingPineRouting_Ext_Add1XS_WSP	50.11	81.99	87.15	83.41	87.16	0.000016	0.29	231.26	179.48	0.05
Reach 1	2132	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	50.11	81.99	87.15	83.41	87.16	0.000016	0.29	231.27	179.48	0.05
Reach 1	2132	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	50.11	81.99	87.16	83.41	87.16	0.000016	0.29	231.64	179.93	0.05
Reach 1	2132	Hazel CC	v1.1 ExistingPineRouting_Ext_Add1XS_WSP	71.88	81.99	87.30	83.66	87.31	0.000028	0.39	243.35	209.96	0.06
Reach 1	2132	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	71.88	81.99	87.30	83.66	87.31	0.000028	0.39	243.36	209.97	0.06
Reach 1	2132	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	71.88	81.99	87.31	83.66	87.32	0.000028	0.39	243.78	211.37	0.06
Reach 1	2064	2yr	v1.1 ExistingPineRouting_Ext_Add1XS_WSP	7.76	82.03	82.65	82.57	82.74	0.008497	1.29	6.01	17.26	0.70
Reach 1	2064	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.76	82.03	82.65	82.57	82.74	0.008497	1.29	6.01	17.26	0.70
Reach 1	2064	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.76	82.03	82.65	82.57	82.74	0.008497	1.29	6.01	17.26	0.70
Reach 1	2064	5yr	v1.1 ExistingPineRouting_Ext_Add1XS_WSP	12.31	82.03	82.80	82.68	82.90	0.007105	1.42	8.68	18.90	0.67
Reach 1	2064	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	12.31	82.03	82.80	82.68	82.90	0.007105	1.42	8.68	18.90	0.67
Reach 1	2064	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	12.31	82.03	82.80	82.68	82.90	0.007105	1.42	8.68	18.90	0.67
Reach 1	2064	10yr	v1.1 ExistingPineRouting_Ext_Add1XS_WSP	15.84	82.03	82.90	82.75	83.01	0.006448	1.49	10.64	20.04	0.65
Reach 1	2064	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	15.84	82.03	82.90	82.75	83.01	0.006448	1.49	10.64	20.04	0.65
Reach 1	2064	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	15.84	82.03	82.90	82.75	83.01	0.006448	1.49	10.64	20.04	0.65
Reach 1	2064	25yr	v1.1 ExistingPineRouting_Ext_Add1XS_WSP	20.65	82.03	83.04	82.84	83.16	0.005384	1.52	13.55	21.55	0.61
Reach 1	2064	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.65	82.03	83.04	82.84	83.16	0.005384	1.52	13.55	21.55	0.61
Reach 1	2064	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.65	82.03	83.04	82.84	83.16	0.005379	1.52	13.56	21.55	0.61
Reach 1	2064	50yr	v1.1 ExistingPineRouting_Ext_Add1XS_WSP	24.27	82.03	83.17	82.90	83.28	0.004303	1.48	16.37	22.93	0.56
Reach 1	2064	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	24.27	82.03	83.17	82.90	83.28	0.004303	1.48	16.37	22.93	0.56
Reach 1	2064	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	24.27	82.03	83.17	82.90	83.28	0.004292	1.48	16.39	22.93	0.56
Reach 1	2064	100y	v1.1 ExistingPineRouting_Ext_Add1XS_WSP	27.68	82.03	83.32	82.95	83.42	0.003144	1.37	20.14	24.98	0.49
Reach 1	2064	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	27.68	82.03	83.32	82.95	83.42	0.003144	1.37	20.14	24.98	0.49
Reach 1	2064	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	27.68	82.03	83.33	82.95	83.42	0.003124	1.37	20.19	25.00	0.49
Reach 1	2064	100yr-NC	v1.1 ExistingPineRouting_Ext_Add1XS_WSP	33.01	82.03	83.42	83.03	83.53	0.003206	1.46	22.63	26.03	0.50
Reach 1	2064	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	33.01	82.03	83.42	83.03	83.53	0.003206	1.46	22.63	26.03	0.50
Reach 1	2064	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	33.01	82.03	83.42	83.03	83.53	0.003205	1.46	22.63	26.03	0.50
Reach 1	2064	Hazel	v1.1 ExistingPineRouting_Ext_Add1XS_WSP	52.55	82.03	84.63	83.28	84.67	0.000415	0.88	62.65	74.53	0.20
Reach 1	2064	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	52.55	82.03	84.63	83.28	84.66	0.000416	0.88	62.59	74.31	0.20
Reach 1	2064	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	52.55	82.03	84.65	83.28	84.69	0.000399	0.87	63.90	79.77	0.20
Reach 1	2064	350yr-NC	v1.1 ExistingPineRouting_Ext_Add1XS_WSP	50.11	82.03	87.15	83.25	87.16	0.000011	0.26	265.72	322.12	0.04
Reach 1	2064	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	50.11	82.03	87.15	83.25	87.16	0.000011	0.26	265.73	322.13	0.04
Reach 1	2064	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	50.11	82.03	87.16	83.25	87.16	0.000011	0.26	266.14	322.52	0.04
Reach 1	2064	Hazel CC	v1.1 ExistingPineRouting_Ext_Add1XS_WSP	71.88	82.03	87.30	83.48	87.31	0.000020	0.35	279.06	326.26	0.05
Reach 1	2064	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	71.88	82.03	87.30	83.48	87.31	0.000020	0.35	279.06	326.27	0.05
Reach 1	2064	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	71.88	82.03	87.31	83.48	87.31	0.000020	0.35	279.53	326.29	0.05
Reach 1	1979	2yr	v1.1 ExistingPineRouting_Ext_Add1XS_WSP	7.76	81.17	82.33	82.06	82.37	0.002502	0.87	8.88	18.23	0.40
Reach 1	1979	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.76	81.17	82.33	82.06	82.37	0.002502	0.87	8.88	18.23	0.40
Reach 1	1979	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.76	81.17	82.33	82.06	82.37	0.002502	0.87	8.88	18.23	0.40
Reach 1	1979	5yr	v1.1 ExistingPineRouting_Ext_Add1XS_WSP	12.31	81.17	82.52	82.18	82.57	0.002335	0.98	12.58	20.73	0.40
Reach 1	1979	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	12.31	81.17	82.52	82.18	82.57	0.002335	0.98	12.58	20.73	0.40
Reach 1	1979	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	12.31	81.17	82.52	82.18	82.57	0.002335	0.98	12.58	20.73	0.40
Reach 1	1979	10yr	v1.1 ExistingPineRouting_Ext_Add1XS_WSP	15.84	81.17	82.65	82.26	82.70	0.002124	1.02	15.46	22.13	0.39
Reach 1	1979	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	15.84	81.17	82.65	82.26	82.70	0.002124	1.02	15.46	22.13	0.39
Reach 1	1979	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	15.84	81.17	82.65	82.26	82.70	0.002123	1.02	15.46	22.13	0.39
Reach 1	1979	25yr	v1.1 ExistingPineRouting_Ext_Add1XS_WSP	20.65	81.17	82.85	82.35	82.90	0.001707	1.03	20.00	24.01	0.36
Reach 1	1979	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.65	81.17	82.85	82.35	82.90	0.001707	1.03	20.00	24.01	0.36
Reach 1	1979	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.65	81.17	82.85	82.35	82.90	0.001703	1.03	20.02	24.02	0.36
Reach 1	1979	50yr	v1.1 ExistingPineRouting_Ext_Add1XS_WSP	24.27	81.17	83.02	82.42	83.07	0.001350	1.00	24.32	25.78	0.33
Reach 1	1979	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	24.27	81.17	83.02	82.42	83.07	0.001350	1.00	24.32	25.78	0.33
Reach 1	1979	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	24.27	81.17	83.02	82.42	83.07	0.001345	1.00	24.35	25.79	0.33
Reach 1	1979	100y	v1.1 ExistingPineRouting_Ext_Add1XS_WSP	27.68	81.17	83.22	82.47	83.27	0.001000	0.93	29.69	27.81	0.29
Reach 1	1979	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	27.68	81.17	83.22	82.47	83.27	0.001000	0.93	29.69	27.81	0.29
Reach 1	1979	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	27.68	81.17	83.22	82.47	83.27	0.000993	0.93	29.76	27.84	0.29
Reach 1	1979	100yr-NC	v1.1 ExistingPineRouting_Ext_Add1XS_WSP	33.01	81.17	83.31	82.55	83.36	0.001149	1.03	32.11	28.83	0.31
Reach 1	1979	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	33.01	81.17	83.31	82.55	83.36	0.001149	1.03	32.11	28.83	0.31
Reach 1	1979	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	33.01	81.17	83.31	82.55	83.36	0.001149	1.03	32.11	28.84	0.31
Reach 1	1979	Hazel	v1.1 ExistingPineRouting_Ext_Add1XS_WSP	52.55	81.17	84.61	82.80	84.64	0.000194	0.68	86.16	79.44	0.14
Reach 1	1979	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	52.55	81.17	84.61	82.80	84.64	0.000194	0.68	86.09	79.39	0.14
Reach 1	1979	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	52.55	81.17	84.64	82.80	84.66	0.000186	0.67	87.55	80.44	0.14
Reach 1	1979	350yr-NC	v1.1 ExistingPineRouting_Ext_Add1XS_WSP	50.11	81.17	87.15	82.77	87.16	0.000008	0.23	288.70	334.71	0.03
Reach 1	1979	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	50.11	81.17	87.15	82.77	87.16	0.000008	0.23	288.70	334.71	0.03
Reach 1	1979	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	50.11	81.17	87.16	82.77	87.16	0.000008	0.23	289.10	334.71	0.03
Reach 1	1979	Hazel CC	v1.1 ExistingPineRouting_Ext_Add1XS_WSP	71.88	81.17	87.30	83.00	87.31	0.000015	0.32	301.47	336.87	0.05
Reach 1	1979	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	71.88	81.17	87.30	83.00	87.31	0.000015	0.32	301.47	336.88	0.05
Reach 1	1979	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	71.88	81.17	87.31	83.00	87.31	0.000015	0.32	301.92	337.77	0.05
Reach 1	1924	2yr	v1.1 ExistingPineRouting_Ext_Add1XS_WSP	7.76	81.06	82.15	81.82	82.19	0.001982	0.84	9.28	17.11	0.36
Reach 1	1924	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.76	81.06	82.15	81.82	82.19	0.001982	0.84	9.28	17.11	0.36
Reach 1	1924	2yr	v1.3 ProPineRouting_WalnutLn										

HEC-RAS River: Pine Creek Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m ³ /s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m ²)	(m)	
Reach 1	1924	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	27.68	81.06	83.15	82.27	83.19	0.000805	0.89	31.07	26.47	0.26
Reach 1	1924	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	27.68	81.06	83.16	82.27	83.20	0.000800	0.89	31.16	26.50	0.26
Reach 1	1924	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	33.01	81.06	83.23	82.35	83.28	0.000975	1.00	33.01	27.29	0.29
Reach 1	1924	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	33.01	81.06	83.23	82.35	83.28	0.000975	1.00	33.01	27.29	0.29
Reach 1	1924	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	33.01	81.06	83.23	82.35	83.28	0.000975	1.00	33.02	27.29	0.29
Reach 1	1924	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	52.55	81.06	84.60	82.62	84.62	0.000179	0.70	84.77	75.94	0.14
Reach 1	1924	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	52.55	81.06	84.60	82.62	84.62	0.000179	0.70	84.71	75.88	0.14
Reach 1	1924	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	52.55	81.06	84.62	82.62	84.65	0.000172	0.69	86.07	77.44	0.14
Reach 1	1924	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	50.11	81.06	87.15	82.59	87.15	0.000010	0.27	242.41	283.10	0.04
Reach 1	1924	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	50.11	81.06	87.15	82.59	87.15	0.000010	0.27	242.41	283.10	0.04
Reach 1	1924	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	50.11	81.06	87.16	82.59	87.16	0.000010	0.27	242.70	283.10	0.04
Reach 1	1924	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	71.88	81.06	87.30	82.84	87.31	0.000019	0.37	251.74	290.99	0.05
Reach 1	1924	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	71.88	81.06	87.30	82.84	87.31	0.000019	0.37	251.74	290.99	0.05
Reach 1	1924	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	71.88	81.06	87.31	82.84	87.31	0.000019	0.37	252.07	291.08	0.05
Reach 1	1879	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.76	80.88	82.05	81.67	82.08	0.001394	0.73	10.63	18.44	0.31
Reach 1	1879	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.76	80.88	82.05	81.67	82.08	0.001394	0.73	10.63	18.44	0.31
Reach 1	1879	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.76	80.88	82.05	81.67	82.08	0.001394	0.73	10.63	18.44	0.31
Reach 1	1879	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	12.31	80.88	82.25	81.80	82.29	0.001465	0.85	14.48	20.78	0.33
Reach 1	1879	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	12.31	80.88	82.25	81.80	82.29	0.001465	0.85	14.48	20.78	0.33
Reach 1	1879	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	12.31	80.88	82.25	81.80	82.29	0.001466	0.85	14.48	20.78	0.33
Reach 1	1879	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	15.84	80.88	82.41	81.87	82.45	0.001316	0.89	17.89	22.27	0.32
Reach 1	1879	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	15.84	80.88	82.41	81.87	82.45	0.001316	0.89	17.89	22.27	0.32
Reach 1	1879	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	15.84	80.88	82.41	81.87	82.45	0.001315	0.89	17.90	22.27	0.32
Reach 1	1879	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	20.65	80.88	82.66	81.97	82.70	0.000991	0.87	23.83	24.75	0.28
Reach 1	1879	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.65	80.88	82.66	81.97	82.70	0.000991	0.87	23.83	24.75	0.28
Reach 1	1879	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.65	80.88	82.66	81.97	82.70	0.000988	0.87	23.86	24.76	0.28
Reach 1	1879	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	24.27	80.88	82.88	82.04	82.92	0.000713	0.83	29.44	26.37	0.25
Reach 1	1879	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	24.27	80.88	82.88	82.04	82.92	0.000713	0.83	29.44	26.37	0.25
Reach 1	1879	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	24.27	80.88	82.88	82.04	82.92	0.000709	0.82	29.49	26.39	0.25
Reach 1	1879	100y	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	27.68	80.88	83.12	82.09	83.15	0.000491	0.78	36.00	28.48	0.21
Reach 1	1879	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	27.68	80.88	83.12	82.09	83.15	0.000491	0.78	36.00	28.48	0.21
Reach 1	1879	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	27.68	80.88	83.12	82.09	83.15	0.000487	0.78	36.10	28.52	0.21
Reach 1	1879	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	33.01	80.88	83.19	82.18	83.23	0.000599	0.89	37.86	29.28	0.23
Reach 1	1879	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	33.01	80.88	83.19	82.18	83.23	0.000599	0.89	37.86	29.28	0.23
Reach 1	1879	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	33.01	80.88	83.19	82.18	83.23	0.000599	0.89	37.87	29.29	0.23
Reach 1	1879	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	52.55	80.88	84.59	82.44	84.61	0.000139	0.67	93.61	95.83	0.13
Reach 1	1879	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	52.55	80.88	84.59	82.44	84.61	0.000140	0.67	93.55	95.76	0.13
Reach 1	1879	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	52.55	80.88	84.62	82.44	84.64	0.000135	0.66	95.01	98.39	0.12
Reach 1	1879	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	50.11	80.88	87.15	82.41	87.15	0.000010	0.28	234.27	207.48	0.04
Reach 1	1879	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	50.11	80.88	87.15	82.41	87.15	0.000010	0.28	234.27	207.48	0.04
Reach 1	1879	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	50.11	80.88	87.16	82.41	87.16	0.000010	0.28	234.52	207.51	0.04
Reach 1	1879	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	71.88	80.88	87.30	82.65	87.30	0.000019	0.38	242.36	208.51	0.05
Reach 1	1879	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	71.88	80.88	87.30	82.65	87.30	0.000019	0.38	242.36	208.51	0.05
Reach 1	1879	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	71.88	80.88	87.30	82.65	87.31	0.000019	0.38	242.65	208.56	0.05
Reach 1	1820	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.76	80.88	82.02	81.67	82.05	0.001884	0.80	9.68	18.29	0.35
Reach 1	1820	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.76	80.88	82.02	81.67	82.05	0.001884	0.80	9.68	18.29	0.35
Reach 1	1820	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.76	80.88	82.02	81.67	82.05	0.001884	0.80	9.68	18.29	0.35
Reach 1	1820	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	12.31	80.88	82.22	81.82	82.26	0.001798	0.92	13.43	20.04	0.36
Reach 1	1820	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	12.31	80.88	82.22	81.82	82.26	0.001798	0.92	13.43	20.04	0.36
Reach 1	1820	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	12.31	80.88	82.22	81.82	82.26	0.001798	0.92	13.43	20.04	0.36
Reach 1	1820	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	15.84	80.88	82.38	81.90	82.42	0.001543	0.94	16.79	21.39	0.34
Reach 1	1820	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	15.84	80.88	82.38	81.90	82.42	0.001543	0.94	16.79	21.39	0.34
Reach 1	1820	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	15.84	80.88	82.38	81.90	82.42	0.001542	0.94	16.79	21.39	0.34
Reach 1	1820	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	20.65	80.88	82.64	81.99	82.68	0.001100	0.91	22.64	23.52	0.30
Reach 1	1820	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.65	80.88	82.64	81.99	82.68	0.001100	0.91	22.64	23.52	0.30
Reach 1	1820	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.65	80.88	82.64	81.99	82.68	0.001096	0.91	22.67	23.53	0.30
Reach 1	1820	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	24.27	80.88	82.86	82.06	82.90	0.000814	0.86	28.14	25.36	0.26
Reach 1	1820	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	24.27	80.88	82.86	82.06	82.90	0.000814	0.86	28.14	25.36	0.26
Reach 1	1820	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	24.27	80.88	82.87	82.06	82.90	0.000810	0.86	28.19	25.38	0.26
Reach 1	1820	100y	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	27.68	80.88	83.11	82.11	83.14	0.000547	0.80	34.63	27.55	0.22
Reach 1	1820	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	27.68	80.88	83.11	82.11	83.14	0.000547	0.80	34.63	27.55	0.22
Reach 1	1820	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	27.68	80.88	83.11	82.11	83.15	0.000542	0.80	34.72	27.58	0.22
Reach 1	1820	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	33.01	80.88	83.17	82.19	83.21	0.000669	0.92	36.34	28.10	0.25
Reach 1	1820	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	33.01	80.88	83.17	82.19	83.21	0.000669	0.92	36.34	28.10	0.25
Reach 1	1820	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	33.01	80.88	83.17	82.19	83.21	0.000669	0.92	36.35	28.10	0.25
Reach 1	1820	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	52.55	80.88	84.59	82.45	84.61	0.000135	0.66	99.07	102.97	0.12
Reach 1	1820	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	52.55	80.88	84.59	82.45	84.61	0.000135	0.66	99.00	102.91	0.12
Reach 1	1820	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	52.55	80.88	84.61	82.45	84.63	0.000130	0.65	100.52	105.08	0.12
Reach 1	1820	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	50.11	80.88	87.15	82.42	87.15	0.000009	0.27	244.90	176.48	0.04
Reach 1	1820	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	50.11	80.88	87.15	82.42	87.15	0.000009	0.27	244.90	176.48	0.04
Reach 1	1820	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	50.11	80.88	87.16	82.42	87.16	0.000009	0.27	245.16	176.48	0.04
Reach 1	1820	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	71.88	80.88	87.30	82.67	87.30	0.000018	0.37	253.28	176.48	0.05
Reach 1	1820	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	71.88	80.88	87.30	82.67	87.30	0.000018	0.37	253.28	176.48	0.05
Reach 1	1820	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	71.88	80.88	87.30	82.67	87.31	0.000017	0.37	253.59	176.48	0.05
Reach 1	1812		Bridge										
Reach 1	1805	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.76	80.90	81.89	81.59	81.92	0.002041	0.78	9.98	20.98	0.36
Reach 1	1805	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.76	80.90	81.89	81.59	81.92	0.002041	0.78	9.98	20.98	0.36
Reach 1	1805	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.76	80.90	81.89	81.59	81.92	0.002041	0.78	9.98	20.98	0.36
Reach 1	1805	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	12.31	80.90	82.07	81.72	82.11	0.001872	0.89	13.84	22.26	0.36
Reach 1	1805	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	12.31	80.90	82.07	81.72	82.11	0.001872	0.89	13.84	22.26	0.36
Reach 1	1805	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	12.31	80.90	82.07	81						

HEC-RAS River: Pine Creek Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Plan	Q Total (m ³ /s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m ²)	Top Width (m)	Froude # Chl
Reach 1	1805	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	33.01	80.90	82.99	82.05	83.03	0.000651	0.90	36.98	28.89	0.24
Reach 1	1805	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	33.01	80.90	82.99	82.05	83.03	0.000651	0.90	36.98	28.89	0.24
Reach 1	1805	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	33.01	80.90	82.99	82.05	83.03	0.000650	0.90	36.98	28.90	0.24
Reach 1	1805	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	52.55	80.90	84.57	82.28	84.58	0.000101	0.58	112.48	89.13	0.11
Reach 1	1805	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	52.55	80.90	84.56	82.28	84.58	0.000101	0.58	112.41	89.13	0.11
Reach 1	1805	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	52.55	80.90	84.59	82.28	84.61	0.000097	0.58	113.96	89.32	0.11
Reach 1	1805	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	50.11	80.90	87.15	82.26	87.15	0.000007	0.24	277.47	141.47	0.03
Reach 1	1805	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	50.11	80.90	87.15	82.26	87.15	0.000007	0.24	277.47	141.48	0.03
Reach 1	1805	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	50.11	80.90	87.16	82.26	87.16	0.000007	0.24	277.77	142.68	0.03
Reach 1	1805	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	71.88	80.90	87.30	82.48	87.30	0.000014	0.34	286.90	158.40	0.04
Reach 1	1805	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	71.88	80.90	87.30	82.48	87.30	0.000014	0.34	286.91	158.40	0.04
Reach 1	1805	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	71.88	80.90	87.30	82.48	87.31	0.000014	0.34	287.25	158.48	0.04
Reach 1	1778	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.76	80.78	81.78	81.56	81.84	0.004008	1.07	7.27	15.68	0.50
Reach 1	1778	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.76	80.78	81.78	81.56	81.84	0.004008	1.07	7.27	15.68	0.50
Reach 1	1778	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.76	80.78	81.78	81.56	81.84	0.004008	1.07	7.27	15.68	0.50
Reach 1	1778	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	12.31	80.78	81.95	81.71	82.03	0.003787	1.22	10.11	17.17	0.51
Reach 1	1778	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	12.31	80.78	81.95	81.71	82.03	0.003787	1.22	10.11	17.17	0.51
Reach 1	1778	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	12.31	80.78	81.95	81.71	82.03	0.003789	1.22	10.11	17.17	0.51
Reach 1	1778	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	15.84	80.78	82.13	81.79	82.20	0.002876	1.20	13.21	18.67	0.46
Reach 1	1778	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	15.84	80.78	82.13	81.79	82.20	0.002876	1.20	13.21	18.67	0.46
Reach 1	1778	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	15.84	80.78	82.13	81.79	82.20	0.002872	1.20	13.22	18.67	0.45
Reach 1	1778	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	20.65	80.78	82.41	81.89	82.47	0.001755	1.09	18.93	22.08	0.37
Reach 1	1778	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.65	80.78	82.41	81.89	82.47	0.001755	1.09	18.93	22.08	0.37
Reach 1	1778	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.65	80.78	82.41	81.89	82.47	0.001745	1.09	18.96	22.11	0.37
Reach 1	1778	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	24.27	80.78	82.65	81.96	82.70	0.001091	1.01	24.92	36.51	0.30
Reach 1	1778	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	24.27	80.78	82.65	81.96	82.70	0.001091	1.01	24.92	36.51	0.30
Reach 1	1778	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	24.27	80.78	82.65	81.96	82.70	0.001083	1.01	25.01	36.93	0.30
Reach 1	1778	100y	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	27.68	80.78	82.91	82.01	82.95	0.000630	0.88	37.91	53.94	0.24
Reach 1	1778	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	27.68	80.78	82.91	82.01	82.95	0.000630	0.88	37.91	53.94	0.24
Reach 1	1778	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	27.68	80.78	82.91	82.01	82.95	0.000623	0.88	38.12	53.98	0.24
Reach 1	1778	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	33.01	80.78	82.96	82.10	83.01	0.000765	1.00	40.79	54.60	0.26
Reach 1	1778	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	33.01	80.78	82.96	82.10	83.01	0.000765	1.00	40.79	54.60	0.26
Reach 1	1778	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	33.01	80.78	82.96	82.10	83.01	0.000765	0.99	40.80	54.60	0.26
Reach 1	1778	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	52.55	80.78	84.57	82.37	84.58	0.000077	0.52	141.50	85.93	0.09
Reach 1	1778	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	52.55	80.78	84.56	82.37	84.57	0.000077	0.52	141.42	85.91	0.09
Reach 1	1778	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	52.55	80.78	84.59	82.37	84.60	0.000074	0.51	143.16	86.23	0.09
Reach 1	1778	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	50.11	80.78	87.15	82.35	87.15	0.000006	0.21	339.08	204.24	0.03
Reach 1	1778	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	50.11	80.78	87.15	82.35	87.15	0.000006	0.21	339.08	204.25	0.03
Reach 1	1778	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	50.11	80.78	87.16	82.35	87.16	0.000006	0.21	339.45	204.41	0.03
Reach 1	1778	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	71.88	80.78	87.30	82.58	87.30	0.000011	0.30	350.72	218.78	0.04
Reach 1	1778	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	71.88	80.78	87.30	82.58	87.30	0.000011	0.30	350.72	218.79	0.04
Reach 1	1778	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	71.88	80.78	87.30	82.58	87.31	0.000011	0.30	351.14	219.47	0.04
Reach 1	1687	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.76	80.37	81.54	81.25	81.57	0.002048	0.72	10.77	25.48	0.35
Reach 1	1687	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.76	80.37	81.54	81.25	81.57	0.002048	0.72	10.77	25.48	0.35
Reach 1	1687	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.76	80.37	81.54	81.25	81.57	0.002052	0.72	10.76	25.47	0.35
Reach 1	1687	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	12.31	80.37	81.83	81.38	81.86	0.000959	0.66	18.73	28.77	0.26
Reach 1	1687	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	12.31	80.37	81.83	81.38	81.86	0.000959	0.66	18.73	28.77	0.26
Reach 1	1687	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	12.31	80.37	81.83	81.38	81.86	0.000960	0.66	18.72	28.77	0.26
Reach 1	1687	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	15.84	80.37	82.05	81.45	82.07	0.000653	0.62	25.43	33.41	0.22
Reach 1	1687	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	15.84	80.37	82.05	81.45	82.07	0.000653	0.62	25.43	33.41	0.22
Reach 1	1687	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	15.84	80.37	82.05	81.45	82.07	0.000652	0.62	25.44	33.43	0.22
Reach 1	1687	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	20.65	80.37	82.38	81.52	82.40	0.000346	0.57	39.59	51.76	0.17
Reach 1	1687	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.65	80.37	82.38	81.52	82.40	0.000346	0.57	39.59	51.76	0.17
Reach 1	1687	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.65	80.37	82.38	81.52	82.40	0.000344	0.57	39.68	51.79	0.17
Reach 1	1687	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	24.27	80.37	82.63	81.58	82.65	0.000228	0.53	53.16	55.13	0.14
Reach 1	1687	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	24.27	80.37	82.63	81.58	82.65	0.000228	0.53	53.16	55.13	0.14
Reach 1	1687	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	24.27	80.37	82.64	81.58	82.65	0.000227	0.53	53.29	55.15	0.14
Reach 1	1687	100y	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	27.68	80.37	82.90	81.62	82.91	0.000154	0.49	68.16	56.52	0.12
Reach 1	1687	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	27.68	80.37	82.90	81.62	82.91	0.000154	0.49	68.16	56.52	0.12
Reach 1	1687	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	27.68	80.37	82.91	81.62	82.92	0.000152	0.49	68.38	56.53	0.12
Reach 1	1687	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	33.01	80.37	82.95	81.69	82.97	0.000195	0.56	71.05	56.68	0.14
Reach 1	1687	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	33.01	80.37	82.95	81.69	82.97	0.000195	0.56	71.05	56.68	0.14
Reach 1	1687	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	33.01	80.37	82.95	81.69	82.97	0.000195	0.56	71.06	56.68	0.14
Reach 1	1687	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	52.55	80.37	84.57	81.89	84.57	0.000018	0.27	301.27	125.10	0.05
Reach 1	1687	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	52.55	80.37	84.57	81.89	84.57	0.000018	0.27	301.12	125.10	0.05
Reach 1	1687	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	52.55	80.37	84.59	81.89	84.60	0.000018	0.27	304.40	125.16	0.05
Reach 1	1687	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	50.11	80.37	87.15	81.86	87.15	0.000002	0.12	666.14	155.39	0.02
Reach 1	1687	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	50.11	80.37	87.15	81.86	87.15	0.000002	0.12	666.14	155.39	0.02
Reach 1	1687	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	50.11	80.37	87.16	81.86	87.16	0.000002	0.12	666.87	155.39	0.02
Reach 1	1687	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	71.88	80.37	87.30	82.06	87.30	0.000003	0.16	689.12	155.39	0.02
Reach 1	1687	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	71.88	80.37	87.30	82.06	87.30	0.000003	0.16	689.13	155.39	0.02
Reach 1	1687	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	71.88	80.37	87.30	82.06	87.31	0.000003	0.16	689.95	155.39	0.02
Reach 1	1672	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.76	80.28	81.51	81.03	81.54	0.001338	0.80	9.72	14.70	0.31
Reach 1	1672	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.76	80.28	81.51	81.03	81.54	0.001338	0.80	9.72	14.70	0.31
Reach 1	1672	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.76	80.28	81.51	81.03	81.54	0.001340	0.80	9.71	14.69	0.31
Reach 1	1672	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	12.31	80.28	81.79	81.19	81.83	0.001112	0.89	13.91	24.92	0.30
Reach 1	1672	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	12.31	80.28	81.79	81.19	81.83	0.001112	0.89	13.91	24.92	0.30
Reach 1	1672	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	12.31	80.28	81.79	81.19	81.83	0.001113	0.89	13.90	24.90	0.30
Reach 1	1672	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	15.84	80.28	82.01	81.29	82.05	0.000941	0.92	17.29	33.06	0.28
Reach 1	1672	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	15.84	80.28	82.01	81.29	82.05	0.000941	0.92	17.29	33.06	0.28
Reach 1	1672	10yr	v1										

HEC-RAS River: Pine Creek Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Plan	Q Total (m ³ /s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m ²)	Top Width (m)	Froude # Chl
Reach 1	1672	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	52.55	80.28	84.57	81.96	84.57	0.000009	0.18	540.23	290.91	0.03
Reach 1	1672	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	52.55	80.28	84.59	81.96	84.59	0.000008	0.18	547.86	290.96	0.03
Reach 1	1672	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	50.11	80.28	87.15	81.92	87.15	0.000000	0.06	1355.79	336.66	0.01
Reach 1	1672	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	50.11	80.28	87.15	81.92	87.15	0.000000	0.06	1355.80	336.66	0.01
Reach 1	1672	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	50.11	80.28	87.16	81.92	87.16	0.000000	0.06	1357.37	336.66	0.01
Reach 1	1672	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	71.88	80.28	87.30	82.21	87.30	0.000001	0.09	1405.63	336.66	0.01
Reach 1	1672	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	71.88	80.28	87.30	82.21	87.30	0.000001	0.09	1405.64	336.66	0.01
Reach 1	1672	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	71.88	80.28	87.30	82.21	87.31	0.000001	0.09	1407.42	336.66	0.01
Reach 1	1643.25		Culvert										
Reach 1	1611	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.76	80.15	81.43	80.98	81.48	0.002119	0.95	8.21	14.88	0.38
Reach 1	1611	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.76	80.15	81.43	80.98	81.48	0.002119	0.95	8.21	14.88	0.38
Reach 1	1611	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.76	80.15	81.43	80.98	81.48	0.002123	0.95	8.20	14.87	0.38
Reach 1	1611	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	12.31	80.15	81.65	81.19	81.71	0.002132	1.09	11.28	18.09	0.40
Reach 1	1611	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	12.31	80.15	81.65	81.19	81.71	0.002132	1.09	11.28	18.09	0.40
Reach 1	1611	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	12.31	80.15	81.65	81.19	81.71	0.002135	1.09	11.28	18.09	0.40
Reach 1	1611	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	15.84	80.15	81.81	81.31	81.88	0.001849	1.16	13.70	20.79	0.38
Reach 1	1611	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	15.84	80.15	81.81	81.31	81.88	0.001849	1.16	13.70	20.79	0.38
Reach 1	1611	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	15.84	80.15	81.81	81.31	81.88	0.001845	1.16	13.71	20.80	0.38
Reach 1	1611	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	20.65	80.15	82.09	81.44	82.16	0.001320	1.16	17.77	24.71	0.34
Reach 1	1611	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.65	80.15	82.09	81.44	82.16	0.001320	1.16	17.77	24.71	0.34
Reach 1	1611	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.65	80.15	82.09	81.44	82.16	0.001311	1.16	17.81	24.73	0.34
Reach 1	1611	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	24.27	80.15	82.32	81.53	82.39	0.001018	1.15	21.17	29.78	0.31
Reach 1	1611	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	24.27	80.15	82.32	81.53	82.39	0.001018	1.15	21.17	29.78	0.31
Reach 1	1611	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	24.27	80.15	82.32	81.53	82.39	0.001010	1.14	21.22	30.01	0.30
Reach 1	1611	100y	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	27.68	80.15	82.56	81.59	82.62	0.000799	1.12	24.63	48.69	0.28
Reach 1	1611	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	27.68	80.15	82.56	81.59	82.62	0.000799	1.12	24.63	48.69	0.28
Reach 1	1611	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	27.68	80.15	82.56	81.59	82.62	0.000793	1.12	24.69	48.76	0.28
Reach 1	1611	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	33.01	80.15	82.44	81.68	82.55	0.001434	1.44	22.97	45.64	0.37
Reach 1	1611	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	33.01	80.15	82.44	81.68	82.55	0.001434	1.44	22.97	45.64	0.37
Reach 1	1611	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	33.01	80.15	82.44	81.68	82.55	0.001433	1.44	22.98	45.72	0.37
Reach 1	1611	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	52.55	80.15	84.57	81.97	84.57	0.000014	0.25	374.83	178.71	0.04
Reach 1	1611	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	52.55	80.15	84.57	81.97	84.57	0.000014	0.25	374.83	178.71	0.04
Reach 1	1611	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	52.55	80.15	84.59	81.97	84.59	0.000014	0.24	379.01	179.00	0.04
Reach 1	1611	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	50.11	80.15	87.15	81.94	87.15	0.000001	0.08	1028.95	375.62	0.01
Reach 1	1611	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	50.11	80.15	87.15	81.94	87.15	0.000001	0.08	1028.96	375.62	0.01
Reach 1	1611	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	50.11	80.15	87.16	81.94	87.16	0.000001	0.08	1030.51	375.98	0.01
Reach 1	1611	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	71.88	80.15	87.30	82.23	87.30	0.000001	0.11	1085.76	396.39	0.01
Reach 1	1611	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	71.88	80.15	87.30	82.23	87.30	0.000001	0.11	1085.77	396.39	0.01
Reach 1	1611	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	71.88	80.15	87.30	82.23	87.30	0.000001	0.11	1088.38	396.50	0.01
Reach 1	1596	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.72	80.10	81.40	80.94	81.44	0.001517	0.79	9.71	15.74	0.32
Reach 1	1596	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.72	80.10	81.40	80.94	81.44	0.001517	0.79	9.71	15.74	0.32
Reach 1	1596	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.72	80.10	81.40	80.94	81.44	0.001520	0.80	9.71	15.73	0.32
Reach 1	1596	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	12.29	80.10	81.62	81.16	81.66	0.001500	0.93	13.26	17.01	0.33
Reach 1	1596	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	12.29	80.10	81.62	81.16	81.66	0.001500	0.93	13.26	17.01	0.33
Reach 1	1596	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	12.29	80.10	81.62	81.16	81.66	0.001502	0.93	13.25	17.01	0.33
Reach 1	1596	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	15.79	80.10	81.79	81.24	81.84	0.001301	0.98	16.28	18.39	0.32
Reach 1	1596	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	15.79	80.10	81.79	81.24	81.84	0.001301	0.98	16.28	18.39	0.32
Reach 1	1596	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	15.79	80.10	81.79	81.24	81.84	0.001298	0.98	16.28	18.40	0.32
Reach 1	1596	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	20.25	80.10	82.08	81.33	82.12	0.000872	0.95	21.96	20.98	0.27
Reach 1	1596	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.25	80.10	82.08	81.33	82.12	0.000872	0.95	21.96	20.98	0.27
Reach 1	1596	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.25	80.10	82.08	81.33	82.13	0.000865	0.95	22.02	21.00	0.27
Reach 1	1596	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	23.57	80.10	82.32	81.40	82.36	0.000648	0.92	27.15	22.81	0.24
Reach 1	1596	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	23.57	80.10	82.32	81.40	82.36	0.000648	0.92	27.15	22.81	0.24
Reach 1	1596	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	23.57	80.10	82.32	81.40	82.36	0.000642	0.92	27.23	22.84	0.24
Reach 1	1596	100y	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	26.59	80.10	82.56	81.45	82.60	0.000489	0.89	32.93	25.37	0.22
Reach 1	1596	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	26.59	80.10	82.56	81.45	82.60	0.000489	0.89	32.93	25.37	0.22
Reach 1	1596	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	26.59	80.10	82.56	81.45	82.60	0.000485	0.89	33.03	25.40	0.22
Reach 1	1596	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	41.66	80.10	82.39	81.69	82.51	0.001705	1.55	28.88	23.39	0.40
Reach 1	1596	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	41.66	80.10	82.39	81.69	82.51	0.001705	1.55	28.88	23.39	0.40
Reach 1	1596	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	41.66	80.10	82.39	81.69	82.51	0.001703	1.55	28.90	23.39	0.40
Reach 1	1596	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	61.67	80.10	84.56	81.95	84.57	0.000037	0.41	286.40	165.12	0.07
Reach 1	1596	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	61.67	80.10	84.56	81.95	84.57	0.000037	0.41	286.40	165.12	0.07
Reach 1	1596	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	61.67	80.10	84.58	81.95	84.59	0.000035	0.40	290.29	165.51	0.07
Reach 1	1596	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	60.70	80.10	87.15	81.94	87.15	0.000001	0.11	944.38	327.11	0.01
Reach 1	1596	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	60.70	80.10	87.15	81.94	87.15	0.000001	0.11	944.39	327.11	0.01
Reach 1	1596	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	60.70	80.10	87.16	81.94	87.16	0.000001	0.11	945.74	327.13	0.01
Reach 1	1596	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	83.11	80.10	87.30	82.20	87.30	0.000002	0.14	992.48	328.42	0.02
Reach 1	1596	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	83.11	80.10	87.30	82.20	87.30	0.000002	0.14	992.49	328.42	0.02
Reach 1	1596	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	83.11	80.10	87.30	82.20	87.30	0.000002	0.14	994.66	328.44	0.02
Reach 1	1567	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.72	79.99	81.34	80.92	81.38	0.002149	0.94	8.23	13.48	0.38
Reach 1	1567	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.72	79.99	81.34	80.92	81.38	0.002149	0.94	8.23	13.48	0.38
Reach 1	1567	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.72	79.99	81.34	80.92	81.38	0.002156	0.94	8.22	13.48	0.38
Reach 1	1567	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	12.29	79.99	81.55	81.13	81.61	0.002224	1.09	11.25	15.12	0.40
Reach 1	1567	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	12.29	79.99	81.55	81.13	81.61	0.002224	1.09	11.25	15.12	0.40
Reach 1	1567	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	12.29	79.99	81.55	81.13	81.61	0.002229	1.09	11.24	15.12	0.40
Reach 1	1567	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	15.79	79.99	81.73	81.23	81.79	0.001867	1.13	14.09	16.49	0.38
Reach 1	1567	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	15.79	79.99	81.73	81.23	81.79	0.001867	1.13	14.09	16.49	0.38
Reach 1	1567	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	15.79	79.99	81.73	81.23	81.79	0.001860	1.12	14.11	16.50	0.38
Reach 1	1567	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	20.25	79.99	82.04	81.34	82.09	0.001129	1.07	19.51	18.66	0.31
Reach 1	1567	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.25	79.99	82.04	81.34	82.09	0.001129	1.07	19.51	18.66	0.31
Reach 1	1567	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.25	79.99	82.04	81.34	82.10	0.001119	1.06	19		

HEC-RAS River: Pine Creek Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Plan	Q Total (m ³ /s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m ²)	Top Width (m)	Froude # Chl
Reach 1	1567	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	60.70	79.99	87.15	81.99	87.15	0.000002	0.15	719.90	222.59	0.02
Reach 1	1567	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	60.70	79.99	87.15	81.99	87.15	0.000002	0.15	719.91	222.59	0.02
Reach 1	1567	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	60.70	79.99	87.15	81.99	87.16	0.000002	0.15	720.83	222.59	0.02
Reach 1	1567	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	83.11	79.99	87.30	82.27	87.30	0.000004	0.20	752.52	222.59	0.02
Reach 1	1567	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	83.11	79.99	87.30	82.27	87.30	0.000004	0.20	752.52	222.59	0.02
Reach 1	1567	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	83.11	79.99	87.30	82.27	87.30	0.000004	0.20	753.99	222.59	0.02
Reach 1	1467	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.72	79.72	81.08		81.14	0.002800	1.02	7.58	13.21	0.43
Reach 1	1467	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.72	79.72	81.08		81.14	0.002800	1.02	7.58	13.21	0.43
Reach 1	1467	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.72	79.72	81.08		81.13	0.002887	1.03	7.50	13.19	0.44
Reach 1	1467	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	12.29	79.72	81.29		81.36	0.002708	1.18	10.46	14.26	0.44
Reach 1	1467	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	12.29	79.72	81.29		81.36	0.002708	1.18	10.46	14.26	0.44
Reach 1	1467	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	12.29	79.72	81.29		81.36	0.002736	1.18	10.42	14.25	0.44
Reach 1	1467	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	15.79	79.72	81.55		81.62	0.001616	1.11	14.35	15.45	0.36
Reach 1	1467	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	15.79	79.72	81.55		81.62	0.001616	1.11	14.35	15.45	0.36
Reach 1	1467	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	15.79	79.72	81.56		81.62	0.001605	1.11	14.38	15.46	0.35
Reach 1	1467	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	20.25	79.72	81.94		81.99	0.000870	1.02	21.21	21.08	0.28
Reach 1	1467	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.25	79.72	81.94		81.99	0.000870	1.02	21.21	21.08	0.28
Reach 1	1467	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.25	79.72	81.95		82.00	0.000861	1.01	21.30	21.12	0.27
Reach 1	1467	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	23.57	79.72	82.22		82.26	0.000622	0.97	28.04	32.55	0.24
Reach 1	1467	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	23.57	79.72	82.22		82.26	0.000622	0.97	28.04	32.55	0.24
Reach 1	1467	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	23.57	79.72	82.22		82.27	0.000616	0.97	28.19	32.59	0.24
Reach 1	1467	100y	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	26.59	79.72	82.49		82.53	0.000441	0.90	38.55	56.34	0.21
Reach 1	1467	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	26.59	79.72	82.49		82.53	0.000441	0.90	38.55	56.34	0.21
Reach 1	1467	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	26.59	79.72	82.49		82.53	0.000437	0.90	38.81	56.87	0.21
Reach 1	1467	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	41.66	79.72	81.81		82.08	0.005223	2.32	18.57	18.36	0.66
Reach 1	1467	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	41.66	79.72	81.81		82.08	0.005223	2.32	18.57	18.36	0.66
Reach 1	1467	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	41.66	79.72	81.82		82.09	0.005114	2.31	18.71	18.54	0.66
Reach 1	1467	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	61.67	79.72	84.56		84.56	0.000043	0.46	270.03	135.86	0.07
Reach 1	1467	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	61.67	79.72	84.55		84.56	0.000043	0.46	270.03	135.86	0.07
Reach 1	1467	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	61.67	79.72	84.58		84.58	0.000042	0.45	273.26	135.86	0.07
Reach 1	1467	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	60.70	79.72	87.15		87.15	0.000003	0.16	680.88	189.60	0.02
Reach 1	1467	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	60.70	79.72	87.15		87.15	0.000003	0.16	680.89	189.60	0.02
Reach 1	1467	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	60.70	79.72	87.15		87.16	0.000003	0.16	681.67	189.63	0.02
Reach 1	1467	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	83.11	79.72	87.30		87.30	0.000004	0.21	708.79	196.53	0.03
Reach 1	1467	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	83.11	79.72	87.30		87.30	0.000004	0.21	708.80	196.54	0.03
Reach 1	1467	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	83.11	79.72	87.30		87.30	0.000004	0.21	710.10	198.88	0.03
Reach 1	1385	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.77	79.45	80.85		80.89	0.003082	0.86	8.99	21.94	0.43
Reach 1	1385	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.77	79.45	80.85		80.89	0.003082	0.86	8.99	21.94	0.43
Reach 1	1385	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.77	79.45	80.83		80.87	0.003417	0.91	8.50	20.57	0.45
Reach 1	1385	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	12.16	79.45	81.19		81.22	0.001036	0.72	16.91	24.30	0.27
Reach 1	1385	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	12.16	79.45	81.19		81.22	0.001036	0.72	16.91	24.30	0.27
Reach 1	1385	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	12.16	79.45	81.19		81.22	0.001060	0.72	16.79	24.27	0.28
Reach 1	1385	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	15.23	79.45	81.52		81.54	0.000446	0.61	27.29	46.99	0.19
Reach 1	1385	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	15.23	79.45	81.52		81.54	0.000446	0.61	27.29	46.99	0.19
Reach 1	1385	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	15.23	79.45	81.52		81.54	0.000443	0.61	27.39	47.12	0.19
Reach 1	1385	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	18.72	79.45	81.94		81.95	0.000184	0.49	51.66	63.43	0.13
Reach 1	1385	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	18.72	79.45	81.94		81.95	0.000184	0.49	51.66	63.43	0.13
Reach 1	1385	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	18.72	79.45	81.95		81.96	0.000182	0.49	51.93	63.79	0.13
Reach 1	1385	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	20.89	79.45	82.23		82.23	0.000113	0.43	74.19	116.31	0.10
Reach 1	1385	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.89	79.45	82.23		82.23	0.000113	0.43	74.19	116.31	0.10
Reach 1	1385	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.89	79.45	82.23		82.24	0.000111	0.43	74.71	117.78	0.10
Reach 1	1385	100y	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	22.60	79.45	82.50		82.50	0.000068	0.37	109.06	133.02	0.08
Reach 1	1385	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	22.60	79.45	82.50		82.50	0.000068	0.37	109.06	133.02	0.08
Reach 1	1385	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	22.60	79.45	82.50		82.51	0.000067	0.37	109.66	133.13	0.08
Reach 1	1385	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	42.80	79.45	81.66		81.77	0.002226	1.48	34.74	58.00	0.44
Reach 1	1385	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	42.80	79.45	81.66		81.77	0.002226	1.48	34.74	58.00	0.44
Reach 1	1385	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	42.80	79.45	81.68		81.79	0.002070	1.44	36.05	58.42	0.42
Reach 1	1385	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	63.16	79.45	84.55		84.56	0.000019	0.32	442.52	174.96	0.05
Reach 1	1385	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	63.16	79.45	84.55		84.56	0.000019	0.32	442.52	174.96	0.05
Reach 1	1385	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	63.16	79.45	84.58		84.58	0.000019	0.31	446.64	175.04	0.05
Reach 1	1385	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	62.40	79.45	87.15		87.15	0.000002	0.15	969.96	255.07	0.02
Reach 1	1385	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	62.40	79.45	87.15		87.15	0.000002	0.15	969.97	255.07	0.02
Reach 1	1385	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	62.40	79.45	87.15		87.15	0.000002	0.15	971.01	255.16	0.02
Reach 1	1385	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	83.95	79.45	87.30		87.30	0.000004	0.20	1007.49	258.26	0.02
Reach 1	1385	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	83.95	79.45	87.30		87.30	0.000004	0.20	1007.50	258.26	0.02
Reach 1	1385	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	83.95	79.45	87.30		87.30	0.000004	0.20	1009.20	258.41	0.02
Reach 1	1345.9	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.77	79.50	80.79		80.81	0.000779	0.68	13.58	29.30	0.24
Reach 1	1345.9	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	12.16	79.50	81.17		81.19	0.000420	0.64	28.91	47.93	0.19
Reach 1	1345.9	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	15.23	79.50	81.52		81.53	0.000237	0.57	48.42	71.51	0.15
Reach 1	1345.9	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	18.72	79.50	81.94		81.95	0.000116	0.47	83.31	93.87	0.11
Reach 1	1345.9	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.89	79.50	82.23		82.23	0.000075	0.41	114.17	121.04	0.09
Reach 1	1345.9	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	22.60	79.50	82.50		82.50	0.000049	0.36	150.36	154.06	0.07
Reach 1	1345.9	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	42.80	79.50	81.64		81.71	0.001305	1.41	57.23	74.17	0.35
Reach 1	1345.9	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	63.16	79.50	84.58		84.58	0.000017	0.31	514.16	188.59	0.05
Reach 1	1345.9	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	62.40	79.50	87.15		87.15	0.000002	0.15	1047.32	224.97	0.02
Reach 1	1345.9	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	83.95	79.50	87.30		87.30	0.000004	0.20	1080.78	225.00	0.02
Reach 1	1329.94	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.77	79.50	80.77	80.26	80.80	0.000834	0.72	14.84	30.39	0.25
Reach 1	1329.94	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	12.16	79.50	81.16	80.41	81.18	0.000457	0.68	27.11	32.63	0.20
Reach 1	1329.94	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	15.23	79.50	81.51	80.47	81.53	0.000274	0.62	38.81	38.89	0.16
Reach 1	1329.94	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	18.72	79.50	81.94	80.60	81.95	0.000164	0.57	53.89	36.45	0.13
Reach 1	1329.94	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.89	79.50	82.22	80.65	82.23	0.000123	0.53	64.10	36.83	0.11
Reach 1	1329.94	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	22.60	79.50	82.49	80.70	82.50	0.000094	0.50	73.91	56.51	0.10
Reach 1	1329.94	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP										

HEC-RAS River: Pine Creek Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Plan	Q Total (m ³ /s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m ²)	Top Width (m)	Froude # Chl
Reach 1	1303	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	15.23	79.20	81.50		81.52	0.000204	0.57	56.81	75.25	0.14
Reach 1	1303	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	15.23	79.20	81.50		81.52	0.000204	0.57	56.81	75.25	0.14
Reach 1	1303	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	15.23	79.20	81.50	80.41	81.52	0.000243	0.62	42.11	75.22	0.15
Reach 1	1303	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	18.72	79.20	81.93		81.94	0.000102	0.47	93.84	95.19	0.10
Reach 1	1303	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	18.72	79.20	81.93		81.94	0.000102	0.47	93.84	95.19	0.10
Reach 1	1303	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	18.72	79.20	81.93	80.47	81.94	0.000148	0.56	57.54	95.14	0.12
Reach 1	1303	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	20.89	79.20	82.22		82.23	0.000068	0.41	121.98	101.69	0.08
Reach 1	1303	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.89	79.20	82.22		82.23	0.000068	0.41	121.98	101.69	0.08
Reach 1	1303	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.89	79.20	82.22	80.57	82.23	0.000113	0.53	67.85	101.64	0.11
Reach 1	1303	100y	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	22.60	79.20	82.49		82.50	0.000047	0.37	150.98	110.13	0.07
Reach 1	1303	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	22.60	79.20	82.49		82.50	0.000047	0.37	150.98	110.13	0.07
Reach 1	1303	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	22.60	79.20	82.49	80.55	82.50	0.000087	0.50	77.69	110.07	0.10
Reach 1	1303	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	42.80	79.20	81.54		81.62	0.001456	1.54	59.48	78.01	0.37
Reach 1	1303	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	42.80	79.20	81.54		81.62	0.001456	1.54	59.48	78.01	0.37
Reach 1	1303	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	42.80	79.20	81.53	80.98	81.63	0.001799	1.70	43.06	75.91	0.41
Reach 1	1303	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	63.16	79.20	84.55		84.56	0.000024	0.39	410.52	138.23	0.06
Reach 1	1303	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	63.16	79.20	84.55		84.56	0.000024	0.38	405.26	130.37	0.06
Reach 1	1303	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	63.16	79.20	84.56	81.21	84.56	0.000024	0.39	411.15	136.79	0.06
Reach 1	1303	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	62.40	79.20	87.15		87.15	0.000002	0.16	927.36	235.30	0.02
Reach 1	1303	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	62.40	79.20	87.15		87.15	0.000004	0.20	757.84	142.70	0.02
Reach 1	1303	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	62.40	79.20	87.15	81.20	87.15	0.000004	0.20	779.64	149.11	0.02
Reach 1	1303	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	83.95	79.20	87.30		87.30	0.000004	0.21	961.84	236.40	0.02
Reach 1	1303	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	83.95	79.20	87.30		87.30	0.000006	0.26	778.75	143.80	0.03
Reach 1	1303	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	83.95	79.20	87.30	81.40	87.30	0.000006	0.26	801.55	150.21	0.03
Reach 1	1302	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.77	79.20	80.77		80.78	0.000737	0.49	15.71	30.40	0.22
Reach 1	1302	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.77	79.20	80.77		80.78	0.000737	0.49	15.71	30.40	0.22
Reach 1	1302	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	12.16	79.20	81.16		81.17	0.000278	0.41	32.25	58.34	0.15
Reach 1	1302	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	12.16	79.20	81.16		81.17	0.000278	0.41	32.25	58.34	0.15
Reach 1	1302	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	15.23	79.20	81.51		81.51	0.000119	0.34	54.43	68.25	0.10
Reach 1	1302	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	15.23	79.20	81.51		81.51	0.000119	0.34	54.43	68.25	0.10
Reach 1	1302	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	18.72	79.20	81.94		81.94	0.000056	0.29	87.94	85.97	0.07
Reach 1	1302	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	18.72	79.20	81.94		81.94	0.000056	0.29	87.94	85.97	0.07
Reach 1	1302	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	20.89	79.20	82.22		82.23	0.000037	0.26	114.56	96.29	0.06
Reach 1	1302	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.89	79.20	82.22		82.23	0.000037	0.26	114.56	96.29	0.06
Reach 1	1302	100y	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	22.60	79.20	82.50		82.50	0.000026	0.24	141.65	102.29	0.05
Reach 1	1302	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	22.60	79.20	82.50		82.50	0.000026	0.24	141.65	102.29	0.05
Reach 1	1302	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	42.80	79.20	81.56		81.60	0.000792	0.91	58.40	70.95	0.26
Reach 1	1302	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	42.80	79.20	81.56		81.60	0.000792	0.91	58.40	70.95	0.26
Reach 1	1302	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	63.16	79.20	84.55		84.56	0.000015	0.28	379.27	129.10	0.04
Reach 1	1302	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	63.16	79.20	84.55		84.56	0.000015	0.28	379.27	129.10	0.04
Reach 1	1302	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	62.40	79.20	87.15		87.15	0.000002	0.14	802.70	175.34	0.02
Reach 1	1302	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	62.40	79.20	87.15		87.15	0.000002	0.14	802.70	175.34	0.02
Reach 1	1302	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	83.95	79.20	87.30		87.30	0.000003	0.18	828.36	176.20	0.02
Reach 1	1302	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	83.95	79.20	87.30		87.30	0.000003	0.18	828.36	176.20	0.02
Reach 1	1297.3	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.77	79.43	80.75	80.15	80.77	0.000556	0.55	15.72	26.95	0.20
Reach 1	1297.3	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	12.16	79.43	81.15	80.32	81.17	0.000310	0.55	26.85	28.85	0.16
Reach 1	1297.3	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	15.23	79.43	81.50	80.40	81.52	0.000192	0.51	37.29	30.52	0.13
Reach 1	1297.3	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	18.72	79.43	81.93	80.47	81.94	0.000120	0.48	50.80	32.56	0.11
Reach 1	1297.3	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.89	79.43	82.22	80.50	82.23	0.000092	0.46	60.32	33.92	0.10
Reach 1	1297.3	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	22.60	79.43	82.49	80.54	82.50	0.000072	0.44	69.74	35.22	0.09
Reach 1	1297.3	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	42.80	79.43	81.53	80.83	81.62	0.001435	1.41	38.00	30.63	0.36
Reach 1	1297.3	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	63.16	79.43	84.55	81.06	84.56	0.000054	0.56	229.43	112.16	0.08
Reach 1	1297.3	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	62.40	79.43	87.15	81.05	87.15	0.000006	0.25	582.61	149.69	0.03
Reach 1	1297.3	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	83.95	79.43	87.29	81.26	87.30	0.000009	0.32	604.48	150.95	0.04
Reach 1	1255.21	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.77	79.47	80.74		80.75	0.000326	0.49	18.47	35.21	0.16
Reach 1	1255.21	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	12.16	79.47	81.14		81.15	0.000192	0.48	39.54	65.73	0.13
Reach 1	1255.21	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	15.23	79.47	81.50		81.51	0.000108	0.42	65.98	82.96	0.10
Reach 1	1255.21	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	18.72	79.47	81.93		81.94	0.000057	0.35	103.48	90.85	0.08
Reach 1	1255.21	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.89	79.47	82.22		82.22	0.000040	0.32	130.29	95.70	0.07
Reach 1	1255.21	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	22.60	79.47	82.49		82.50	0.000029	0.30	157.08	100.12	0.06
Reach 1	1255.21	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	42.80	79.47	81.51		81.56	0.000836	1.17	66.53	83.09	0.29
Reach 1	1255.21	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	63.16	79.47	84.55		84.56	0.000020	0.36	398.33	136.76	0.05
Reach 1	1255.21	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	62.40	79.47	87.15		87.15	0.000003	0.18	797.05	159.02	0.02
Reach 1	1255.21	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	83.95	79.47	87.30		87.30	0.000005	0.24	820.29	159.64	0.03
Reach 1	1219	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.77	79.01	80.72		80.74	0.000402	0.46	16.82	22.74	0.17
Reach 1	1219	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.77	79.01	80.72		80.74	0.000402	0.46	16.82	22.74	0.17
Reach 1	1219	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.77	79.01	80.72		80.74	0.000402	0.46	16.82	22.74	0.17
Reach 1	1219	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	12.16	79.01	81.14		81.15	0.000220	0.44	31.27	44.40	0.13
Reach 1	1219	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	12.16	79.01	81.14		81.15	0.000220	0.44	31.27	44.40	0.13
Reach 1	1219	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	12.16	79.01	81.14		81.15	0.000220	0.44	31.27	44.40	0.13
Reach 1	1219	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	15.23	79.01	81.50		81.50	0.000119	0.39	49.92	59.00	0.10
Reach 1	1219	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	15.23	79.01	81.50		81.50	0.000119	0.39	49.92	59.00	0.10
Reach 1	1219	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	15.23	79.01	81.50		81.50	0.000119	0.39	49.92	59.00	0.10
Reach 1	1219	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	18.72	79.01	81.93		81.93	0.000065	0.34	78.77	77.10	0.08
Reach 1	1219	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	18.72	79.01	81.93		81.93	0.000065	0.34	78.77	77.10	0.08
Reach 1	1219	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	18.72	79.01	81.93		81.93	0.000065	0.34	78.77	77.10	0.08
Reach 1	1219	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	20.89	79.01	82.22		82.22	0.000046	0.32	103.71	93.22	0.07
Reach 1	1219	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.89	79.01	82.22		82.22	0.000046	0.32	103.71	93.22	0.07
Reach 1	1219	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.89	79.01	82.22		82.22	0.000046	0.32	103.71	93.22	0.07
Reach 1	1219	100y	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	22.60	79.01	82.49		82.50	0.000033	0.29	130.22	99.61	0.06
Reach 1	1219	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	22.60	79.01	82.49		82.50	0.000033	0.29	130.22	99.61	0.06
Reach 1	1219	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	22.60	79.01	82.49		82.50	0.000033	0.29	130.22	99.61	0.06
Reach 1	1219	100yr-NC	v1.1 ExistingPineRouting_Ex										

HEC-RAS River: Pine Creek Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Plan	Q Total (m ³ /s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m ²)	Top Width (m)	Froude # Chl
Reach 1	1219	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	83.95	79.01	87.30		87.30	0.000004	0.22	955.33	261.81	0.03
Reach 1	1215	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.77	78.98	80.72	79.84	80.73	0.000307	0.48	16.36	23.86	0.16
Reach 1	1215	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.77	78.98	80.72	79.84	80.73	0.000307	0.48	16.36	23.86	0.16
Reach 1	1215	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.77	78.98	80.72	79.84	80.73	0.000307	0.48	16.36	23.86	0.16
Reach 1	1215	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	12.16	78.98	81.13	79.99	81.14	0.000224	0.52	24.29	58.17	0.14
Reach 1	1215	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	12.16	78.98	81.13	79.99	81.14	0.000224	0.52	24.29	58.17	0.14
Reach 1	1215	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	12.16	78.98	81.13	79.99	81.14	0.000224	0.52	24.29	58.17	0.14
Reach 1	1215	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	15.23	78.98	81.49	80.08	81.50	0.000159	0.51	31.30	71.06	0.12
Reach 1	1215	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	15.23	78.98	81.49	80.08	81.50	0.000159	0.51	31.30	71.06	0.12
Reach 1	1215	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	15.23	78.98	81.49	80.08	81.50	0.000159	0.51	31.30	71.06	0.12
Reach 1	1215	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	18.72	78.98	81.92	80.17	81.93	0.000112	0.49	39.76	85.15	0.11
Reach 1	1215	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	18.72	78.98	81.92	80.17	81.93	0.000112	0.49	39.76	85.15	0.11
Reach 1	1215	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	18.72	78.98	81.92	80.17	81.93	0.000112	0.49	39.76	85.15	0.11
Reach 1	1215	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	20.89	78.98	82.21	80.23	82.22	0.000091	0.49	45.40	96.72	0.10
Reach 1	1215	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.89	78.98	82.21	80.23	82.22	0.000091	0.49	45.40	96.72	0.10
Reach 1	1215	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.89	78.98	82.21	80.23	82.22	0.000091	0.49	45.40	96.72	0.10
Reach 1	1215	100y	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	22.60	78.98	82.48	80.27	82.49	0.000074	0.47	50.77	105.25	0.09
Reach 1	1215	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	22.60	78.98	82.48	80.27	82.49	0.000074	0.47	50.77	105.25	0.09
Reach 1	1215	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	22.60	78.98	82.48	80.27	82.49	0.000074	0.47	50.77	105.25	0.09
Reach 1	1215	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	42.80	78.98	81.39	81.51	0.001535	1.52	29.37	67.50	0.38	
Reach 1	1215	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	42.80	78.98	81.39	81.51	0.001535	1.52	29.37	67.50	0.38	
Reach 1	1215	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	42.80	78.98	81.39	81.51	0.001535	1.52	29.37	67.50	0.38	
Reach 1	1215	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	63.16	78.98	84.52		84.55	0.000087	0.74	90.75	160.25	0.11
Reach 1	1215	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	63.16	78.98	84.52		84.55	0.000087	0.74	90.75	160.25	0.11
Reach 1	1215	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	63.16	78.98	84.52		84.55	0.000087	0.74	90.75	160.25	0.11
Reach 1	1215	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	62.40	78.98	87.15	80.88	87.15	0.000002	0.16	995.51	270.67	0.02
Reach 1	1215	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	62.40	78.98	87.15	80.88	87.15	0.000002	0.16	995.51	270.67	0.02
Reach 1	1215	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	62.40	78.98	87.15	80.88	87.15	0.000002	0.16	995.51	270.67	0.02
Reach 1	1215	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	83.95	78.98	87.30	81.13	87.30	0.000004	0.20	1035.08	271.95	0.02
Reach 1	1215	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	83.95	78.98	87.30	81.13	87.30	0.000004	0.20	1035.08	271.95	0.02
Reach 1	1215	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	83.95	78.98	87.30	81.13	87.30	0.000004	0.20	1035.08	271.95	0.02
Reach 1	1069.7												
				Culvert									
Reach 1	927	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.77	77.68	78.86	78.41	78.92	0.003038	1.16	6.71	12.62	0.46
Reach 1	927	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.77	77.68	78.86	78.41	78.92	0.003038	1.16	6.71	12.62	0.46
Reach 1	927	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.77	77.68	78.86	78.41	78.92	0.003038	1.16	6.71	12.62	0.46
Reach 1	927	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	12.16	77.68	78.93	78.62	79.07	0.005148	1.62	7.49	15.45	0.60
Reach 1	927	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	12.16	77.68	78.93	78.62	79.07	0.005148	1.62	7.49	15.45	0.60
Reach 1	927	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	12.16	77.68	78.93	78.62	79.07	0.005148	1.62	7.49	15.45	0.60
Reach 1	927	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	15.23	77.68	78.98	78.77	79.17	0.006615	1.91	7.96	16.89	0.69
Reach 1	927	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	15.23	77.68	78.98	78.77	79.17	0.006615	1.91	7.96	16.89	0.69
Reach 1	927	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	15.23	77.68	78.98	78.77	79.17	0.006615	1.91	7.96	16.89	0.69
Reach 1	927	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	18.72	77.68	79.10	78.90	79.31	0.006255	2.04	9.16	21.51	0.69
Reach 1	927	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	18.72	77.68	79.10	78.90	79.31	0.006255	2.04	9.16	21.51	0.69
Reach 1	927	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	18.72	77.68	79.10	78.90	79.31	0.006255	2.04	9.16	21.51	0.69
Reach 1	927	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	20.89	77.68	79.20	78.95	79.41	0.005412	2.05	10.21	29.87	0.65
Reach 1	927	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.89	77.68	79.20	78.95	79.41	0.005412	2.05	10.21	29.87	0.65
Reach 1	927	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.89	77.68	79.20	78.95	79.41	0.005412	2.05	10.21	29.87	0.65
Reach 1	927	100y	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	22.60	77.68	79.30	78.99	79.51	0.004638	2.02	11.22	37.11	0.61
Reach 1	927	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	22.60	77.68	79.30	78.99	79.51	0.004638	2.02	11.22	37.11	0.61
Reach 1	927	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	22.60	77.68	79.30	78.99	79.51	0.004638	2.02	11.22	37.11	0.61
Reach 1	927	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	42.80	77.68	80.01	79.42	80.28	0.003188	2.32	18.41	44.06	0.55
Reach 1	927	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	42.80	77.68	80.01	79.42	80.28	0.003188	2.32	18.41	44.06	0.55
Reach 1	927	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	42.80	77.68	80.01	79.42	80.28	0.003188	2.32	18.41	44.06	0.55
Reach 1	927	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	63.16	77.68	82.27	79.78	82.38	0.000465	1.52	41.42	60.95	0.24
Reach 1	927	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	63.16	77.68	82.27	79.78	82.38	0.000465	1.52	41.42	60.95	0.24
Reach 1	927	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	63.16	77.68	82.27	79.78	82.38	0.000465	1.52	41.42	60.95	0.24
Reach 1	927	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	62.40	77.68	81.44	79.76	81.63	0.000963	1.89	33.06	54.97	0.33
Reach 1	927	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	62.40	77.68	81.44	79.76	81.63	0.000963	1.89	33.06	54.97	0.33
Reach 1	927	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	62.40	77.68	81.44	79.76	81.63	0.000963	1.89	33.06	54.97	0.33
Reach 1	927	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	83.95	77.68	83.35	80.10	83.48	0.000374	1.60	52.47	64.43	0.23
Reach 1	927	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	83.95	77.68	83.35	80.10	83.48	0.000374	1.60	52.47	64.43	0.23
Reach 1	927	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	83.95	77.68	83.35	80.10	83.48	0.000374	1.60	52.47	64.43	0.23
Reach 1	914	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.46	77.69	78.84		78.88	0.002247	0.88	8.85	24.85	0.38
Reach 1	914	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.46	77.69	78.84		78.88	0.002247	0.88	8.85	24.85	0.38
Reach 1	914	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.46	77.69	78.84		78.88	0.002247	0.88	8.85	24.85	0.38
Reach 1	914	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	11.48	77.69	78.91	78.64	78.98	0.003373	1.17	11.01	30.10	0.48
Reach 1	914	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	11.48	77.69	78.91	78.64	78.98	0.003373	1.17	11.01	30.10	0.48
Reach 1	914	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	11.48	77.69	78.91	78.64	78.98	0.003373	1.17	11.01	30.10	0.48
Reach 1	914	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	14.40	77.69	78.96		79.05	0.004011	1.34	12.52	30.93	0.53
Reach 1	914	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	14.40	77.69	78.96		79.05	0.004011	1.34	12.52	30.93	0.53
Reach 1	914	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	14.40	77.69	78.96		79.05	0.004011	1.34	12.52	30.93	0.53
Reach 1	914	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	17.77	77.69	79.11		79.19	0.002843	1.29	17.28	32.95	0.46
Reach 1	914	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	17.77	77.69	79.11		79.19	0.002843	1.29	17.28	32.95	0.46
Reach 1	914	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	17.77	77.69	79.11		79.19	0.002843	1.29			

HEC-RAS River: Pine Creek Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Plan	Q Total (m ³ /s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m ²)	Top Width (m)	Froude # Chl
Reach 1	848	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.46	77.64	78.42	78.42	78.54	0.002005	1.50	4.99	22.07	1.00
Reach 1	848	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.46	77.64	78.42	78.42	78.54	0.002005	1.50	4.99	22.07	1.00
Reach 1	848	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.46	77.64	78.42	78.42	78.54	0.002005	1.50	4.99	22.07	1.00
Reach 1	848	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	11.48	77.64	78.62		78.68	0.006600	1.07	10.78	34.48	0.61
Reach 1	848	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	11.48	77.64	78.62		78.68	0.006600	1.07	10.78	34.48	0.61
Reach 1	848	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	11.48	77.64	78.62		78.68	0.006600	1.07	10.78	34.48	0.61
Reach 1	848	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	14.40	77.64	78.83		78.86	0.001824	0.77	18.97	39.73	0.35
Reach 1	848	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	14.40	77.64	78.83		78.86	0.001824	0.77	18.97	39.73	0.35
Reach 1	848	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	14.40	77.64	78.83		78.86	0.001824	0.77	18.97	39.73	0.35
Reach 1	848	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	17.77	77.64	79.06		79.09	0.000772	0.64	28.90	44.34	0.24
Reach 1	848	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	17.77	77.64	79.06		79.09	0.000772	0.64	28.90	44.34	0.24
Reach 1	848	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	17.77	77.64	79.06		79.09	0.000772	0.64	28.90	44.34	0.24
Reach 1	848	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	19.89	77.64	79.21		79.22	0.000532	0.60	35.22	45.10	0.20
Reach 1	848	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	19.89	77.64	79.21		79.22	0.000532	0.60	35.22	45.10	0.20
Reach 1	848	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	19.89	77.64	79.21		79.22	0.000532	0.60	35.22	45.10	0.20
Reach 1	848	100y	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	21.70	77.64	79.32		79.34	0.000414	0.58	40.49	45.62	0.18
Reach 1	848	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	21.70	77.64	79.32		79.34	0.000414	0.58	40.49	45.62	0.18
Reach 1	848	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	21.70	77.64	79.32		79.34	0.000414	0.58	40.49	45.62	0.18
Reach 1	848	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	34.90	77.64	80.11		80.12	0.000144	0.50	78.17	49.60	0.12
Reach 1	848	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	34.90	77.64	80.11		80.12	0.000144	0.50	78.17	49.60	0.12
Reach 1	848	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	34.90	77.64	80.11		80.12	0.000144	0.50	78.17	49.60	0.12
Reach 1	848	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	64.73	77.64	82.32		82.33	0.000031	0.40	204.69	67.87	0.06
Reach 1	848	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	64.73	77.64	82.32		82.33	0.000031	0.40	204.69	67.87	0.06
Reach 1	848	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	64.73	77.64	82.32		82.33	0.000031	0.40	204.69	67.87	0.06
Reach 1	848	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	56.64	77.64	81.52		81.53	0.000052	0.44	153.54	61.00	0.08
Reach 1	848	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	56.64	77.64	81.52		81.53	0.000052	0.44	153.54	61.00	0.08
Reach 1	848	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	56.64	77.64	81.52		81.53	0.000052	0.44	153.54	61.00	0.08
Reach 1	848	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	86.06	77.64	83.41		83.42	0.000023	0.41	291.50	89.97	0.06
Reach 1	848	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	86.06	77.64	83.41		83.42	0.000023	0.41	291.50	89.97	0.06
Reach 1	848	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	86.06	77.64	83.41		83.42	0.000023	0.41	291.50	89.97	0.06
Reach 1	781	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.46	77.35	78.34		78.34	0.000749	0.33	22.90	84.67	0.20
Reach 1	781	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.46	77.35	78.34		78.34	0.000749	0.33	22.90	84.67	0.20
Reach 1	781	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.46	77.35	78.34		78.34	0.000749	0.33	22.90	84.67	0.20
Reach 1	781	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	11.48	77.35	78.62		78.63	0.000159	0.24	48.35	90.58	0.10
Reach 1	781	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	11.48	77.35	78.62		78.63	0.000159	0.24	48.35	90.58	0.10
Reach 1	781	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	11.48	77.35	78.62		78.63	0.000159	0.24	48.35	90.58	0.10
Reach 1	781	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	14.40	77.35	78.84		78.84	0.000082	0.21	67.74	91.63	0.08
Reach 1	781	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	14.40	77.35	78.84		78.84	0.000082	0.21	67.74	91.63	0.08
Reach 1	781	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	14.40	77.35	78.84		78.84	0.000082	0.21	67.74	91.63	0.08
Reach 1	781	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	17.77	77.35	79.07		79.07	0.000051	0.20	89.19	92.82	0.06
Reach 1	781	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	17.77	77.35	79.07		79.07	0.000051	0.20	89.19	92.82	0.06
Reach 1	781	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	17.77	77.35	79.07		79.07	0.000051	0.20	89.19	92.82	0.06
Reach 1	781	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	19.89	77.35	79.21		79.21	0.000041	0.20	102.33	93.54	0.06
Reach 1	781	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	19.89	77.35	79.21		79.21	0.000041	0.20	102.33	93.54	0.06
Reach 1	781	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	19.89	77.35	79.21		79.21	0.000041	0.20	102.33	93.54	0.06
Reach 1	781	100y	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	21.70	77.35	79.33		79.33	0.000035	0.19	113.23	94.15	0.06
Reach 1	781	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	21.70	77.35	79.33		79.33	0.000035	0.19	113.23	94.15	0.06
Reach 1	781	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	21.70	77.35	79.33		79.33	0.000035	0.19	113.23	94.15	0.06
Reach 1	781	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	34.90	77.35	80.12		80.12	0.000017	0.19	189.01	97.63	0.04
Reach 1	781	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	34.90	77.35	80.12		80.12	0.000017	0.19	189.01	97.63	0.04
Reach 1	781	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	34.90	77.35	80.12		80.12	0.000017	0.19	189.01	97.63	0.04
Reach 1	781	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	64.73	77.35	82.32		82.32	0.000005	0.17	412.95	105.10	0.03
Reach 1	781	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	64.73	77.35	82.32		82.32	0.000005	0.17	412.95	105.10	0.03
Reach 1	781	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	64.73	77.35	82.32		82.32	0.000005	0.17	412.95	105.10	0.03
Reach 1	781	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	56.64	77.35	81.53		81.53	0.000008	0.18	330.48	102.59	0.03
Reach 1	781	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	56.64	77.35	81.53		81.53	0.000008	0.18	330.48	102.59	0.03
Reach 1	781	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	56.64	77.35	81.53		81.53	0.000008	0.18	330.48	102.59	0.03
Reach 1	781	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	86.06	77.35	83.41		83.42	0.000004	0.18	529.92	109.21	0.02
Reach 1	781	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	86.06	77.35	83.41		83.42	0.000004	0.18	529.92	109.21	0.02
Reach 1	781	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	86.06	77.35	83.41		83.42	0.000004	0.18	529.92	109.21	0.02
Reach 1	688	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.46	77.05	78.26		78.28	0.000675	0.46	16.21	32.92	0.21
Reach 1	688	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.46	77.05	78.26		78.28	0.000675	0.46	16.21	32.92	0.21
Reach 1	688	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.46	77.05	78.26		78.28	0.000675	0.46	16.21	32.92	0.21
Reach 1	688	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	11.48	77.05	78.60		78.61	0.000289	0.42	27.41	34.41	0.15
Reach 1	688	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	11.48	77.05	78.60		78.61	0.000289	0.42	27.41	34.41	0.15
Reach 1	688	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	11.48	77.05	78.60		78.61	0.000289	0.42	27.41	34.41	0.15
Reach 1	688	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	14.40	77.05	78.82		78.83	0.000206	0.42	35.09	35.29	0.13
Reach 1	688	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	14.40	77.05	78.82		78.83	0.000206	0.42	35.09	35.29	0.13
Reach 1	688	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	14.40	77.05	78.82		78.83	0.000206	0.42	35.09	35.29	0.13
Reach 1	688	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	17.77	77.05	79.05		79.06	0.000159	0.42	43.53	36.29	0.12
Reach 1	688	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	17.77	77.05	79.05		79.06	0.000159	0.42	43.53	36.29	0.12
Reach 1	688	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	17.77	77.05	79.05		79.06	0.000159	0.42	43.53	36.29	0.12
Reach 1	688	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	19.89	77.05	79.20		79.21	0.000139	0.42	48.75	37.06	0.11
Reach 1	688	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	19.89	77.05	79.20		79.21	0.000139	0.42	48.75	37.06	0.11
Reach 1	688	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	19.89	77.05	79.20		79.21	0.000139	0.42	48.75	37.06	0.11
Reach 1	688	100y	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	21.70	77.05	79.31		79.32	0.000127	0.43	53.12	37.71	0.11
Reach 1	688	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	21.70	77.05	79.31		79.32	0.000127	0.43	53.12	37.71	0.11
Reach 1	688	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	21.70	77.05	79.31		79.32	0.000127	0.43	53.12	37.71	0.11
Reach 1	688	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	34.90	77.05	80.10		80.11	0.000081	0.45	84.19	40.97	0.09
Reach 1	688	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	34.90	77.05	80.10		80.11	0.000081	0.45	84.19	40.97	0.09
Reach 1	688	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	34.90	77.05	80.10		80.11	0.000081	0.45	84.19	40.97	0.09
Reach 1	688	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	64.73	77.05	82.31		82.32	0.000028	0.41	184.69	50.74	0.06
Reach 1	688	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	64.73	77.05	82.31		82.32	0.000028	0.41	184.69	50.74	0.06
Reach 1	688	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	64.73	77.05	82.31		82.32	0.000028	0.41	184.69	50.74	0.06
Reach 1													

HEC-RAS River: Pine Creek Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Plan	Q Total (m ³ /s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m ²)	Top Width (m)	Froude # Chl
Reach 1	631	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	11.48	76.84	78.58		78.59	0.000204	0.40	29.61	32.25	0.13
Reach 1	631	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	11.48	76.84	78.58		78.59	0.000204	0.40	29.61	32.25	0.13
Reach 1	631	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	14.40	76.84	78.81		78.82	0.000159	0.40	36.91	33.02	0.12
Reach 1	631	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	14.40	76.84	78.81		78.82	0.000159	0.40	36.91	33.02	0.12
Reach 1	631	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	14.40	76.84	78.81		78.82	0.000159	0.40	36.91	33.02	0.12
Reach 1	631	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	17.77	76.84	79.05		79.05	0.000131	0.41	44.86	33.84	0.11
Reach 1	631	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	17.77	76.84	79.05		79.05	0.000131	0.41	44.86	33.84	0.11
Reach 1	631	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	17.77	76.84	79.05		79.05	0.000131	0.41	44.86	33.84	0.11
Reach 1	631	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	19.89	76.84	79.19		79.20	0.000119	0.42	49.73	34.31	0.11
Reach 1	631	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	19.89	76.84	79.19		79.20	0.000119	0.42	49.73	34.31	0.11
Reach 1	631	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	19.89	76.84	79.19		79.20	0.000119	0.42	49.73	34.31	0.11
Reach 1	631	100y	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	21.70	76.84	79.31		79.32	0.000111	0.42	53.78	34.67	0.10
Reach 1	631	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	21.70	76.84	79.31		79.32	0.000111	0.42	53.78	34.67	0.10
Reach 1	631	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	21.70	76.84	79.31		79.32	0.000111	0.42	53.78	34.67	0.10
Reach 1	631	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	34.90	76.84	80.10		80.11	0.000078	0.46	82.20	37.07	0.09
Reach 1	631	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	34.90	76.84	80.10		80.11	0.000078	0.46	82.20	37.07	0.09
Reach 1	631	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	34.90	76.84	80.10		80.11	0.000078	0.46	82.20	37.07	0.09
Reach 1	631	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	64.73	76.84	82.31		82.32	0.000030	0.44	173.07	46.03	0.06
Reach 1	631	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	64.73	76.84	82.31		82.32	0.000030	0.44	173.07	46.03	0.06
Reach 1	631	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	64.73	76.84	82.31		82.32	0.000030	0.44	173.07	46.03	0.06
Reach 1	631	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	56.64	76.84	81.51		81.52	0.000044	0.47	138.07	42.20	0.08
Reach 1	631	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	56.64	76.84	81.51		81.52	0.000044	0.47	138.07	42.20	0.08
Reach 1	631	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	56.64	76.84	81.51		81.52	0.000044	0.47	138.07	42.20	0.08
Reach 1	631	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	86.06	76.84	83.40		83.41	0.000026	0.46	225.74	50.68	0.06
Reach 1	631	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	86.06	76.84	83.40		83.41	0.000026	0.46	225.74	50.68	0.06
Reach 1	631	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	86.06	76.84	83.40		83.41	0.000026	0.46	225.74	50.68	0.06
Reach 1	555	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.46	76.79	78.19		78.21	0.000689	0.56	13.51	24.95	0.22
Reach 1	555	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.46	76.79	78.19		78.21	0.000689	0.56	13.51	24.95	0.22
Reach 1	555	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.46	76.79	78.19		78.21	0.000689	0.56	13.51	24.95	0.22
Reach 1	555	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	11.48	76.79	78.56		78.57	0.000346	0.54	25.49	38.88	0.17
Reach 1	555	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	11.48	76.79	78.56		78.57	0.000346	0.54	25.49	38.88	0.17
Reach 1	555	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	11.48	76.79	78.56		78.57	0.000346	0.54	25.49	38.88	0.17
Reach 1	555	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	14.40	76.79	78.79		78.80	0.000257	0.53	34.65	40.85	0.15
Reach 1	555	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	14.40	76.79	78.79		78.80	0.000257	0.53	34.65	40.85	0.15
Reach 1	555	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	14.40	76.79	78.79		78.80	0.000257	0.53	34.65	40.85	0.15
Reach 1	555	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	17.77	76.79	79.03		79.04	0.000202	0.53	44.71	42.29	0.14
Reach 1	555	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	17.77	76.79	79.03		79.04	0.000202	0.53	44.71	42.29	0.14
Reach 1	555	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	17.77	76.79	79.03		79.04	0.000202	0.53	44.71	42.29	0.14
Reach 1	555	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	19.89	76.79	79.17		79.19	0.000179	0.53	50.88	43.01	0.13
Reach 1	555	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	19.89	76.79	79.17		79.19	0.000179	0.53	50.88	43.01	0.13
Reach 1	555	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	19.89	76.79	79.17		79.19	0.000179	0.53	50.88	43.01	0.13
Reach 1	555	100y	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	21.70	76.79	79.29		79.30	0.000165	0.53	56.01	43.59	0.13
Reach 1	555	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	21.70	76.79	79.29		79.30	0.000165	0.53	56.01	43.59	0.13
Reach 1	555	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	21.70	76.79	79.29		79.30	0.000165	0.53	56.01	43.59	0.13
Reach 1	555	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	34.90	76.79	80.09		80.10	0.000107	0.55	92.11	47.04	0.11
Reach 1	555	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	34.90	76.79	80.09		80.10	0.000107	0.55	92.11	47.04	0.11
Reach 1	555	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	34.90	76.79	80.09		80.10	0.000107	0.55	92.11	47.04	0.11
Reach 1	555	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	64.73	76.79	82.31		82.32	0.000037	0.49	210.28	58.61	0.07
Reach 1	555	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	64.73	76.79	82.31		82.32	0.000037	0.49	210.28	58.61	0.07
Reach 1	555	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	64.73	76.79	82.31		82.32	0.000037	0.49	210.28	58.61	0.07
Reach 1	555	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	56.64	76.79	81.51		81.52	0.000056	0.53	164.82	55.24	0.09
Reach 1	555	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	56.64	76.79	81.51		81.52	0.000056	0.53	164.82	55.24	0.09
Reach 1	555	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	56.64	76.79	81.51		81.52	0.000056	0.53	164.82	55.24	0.09
Reach 1	555	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	86.06	76.79	83.40		83.41	0.000030	0.50	282.59	72.86	0.07
Reach 1	555	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	86.06	76.79	83.40		83.41	0.000030	0.50	282.59	72.86	0.07
Reach 1	555	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	86.06	76.79	83.40		83.41	0.000030	0.50	282.59	72.86	0.07
Reach 1	546	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.46	76.62	78.17	77.47	78.20	0.000837	0.69	10.80	17.48	0.25
Reach 1	546	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.46	76.62	78.17	77.47	78.20	0.000837	0.69	10.80	17.48	0.25
Reach 1	546	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.46	76.62	78.17	77.47	78.20	0.000837	0.69	10.80	17.48	0.25
Reach 1	546	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	11.48	76.62	78.54	77.68	78.56	0.000566	0.73	15.72	21.94	0.22
Reach 1	546	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	11.48	76.62	78.54	77.68	78.56	0.000566	0.73	15.72	21.94	0.22
Reach 1	546	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	11.48	76.62	78.54	77.68	78.56	0.000566	0.73	15.72	21.94	0.22
Reach 1	546	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	14.40	76.62	78.76	77.80	78.79	0.000492	0.77	18.78	25.02	0.21
Reach 1	546	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	14.40	76.62	78.76	77.80	78.79	0.000492	0.77	18.78	25.02	0.21
Reach 1	546	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	14.40	76.62	78.76	77.80	78.79	0.000492	0.77	18.78	25.02	0.21
Reach 1	546	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	17.77	76.62	79.00	77.94	79.03	0.000442	0.81	22.01	29.77	0.20
Reach 1	546	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	17.77	76.62	79.00	77.94	79.03	0.000442	0.81	22.01	29.77	0.20
Reach 1	546	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	17.77	76.62	79.00	77.94	79.03	0.000442	0.81	22.01	29.77	0.20
Reach 1	546	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	19.89	76.62	79.14	77.98	79.18	0.000419	0.83	23.94	31.47	0.20
Reach 1	546	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	19.89	76.62	79.14	77.98	79.18	0.000419	0.83	23.94	31.47	0.20
Reach 1	546	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	19.89	76.62	79.14	77.98	79.18	0.000419	0.83	23.94	31.47	0.20
Reach 1	546	100y	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	21.70	76.62	79.26	78.02	79.30	0.000403	0.85	25.52	33.40	0.20
Reach 1	546	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	21.70	76.62	79.26	78.02	79.30	0.000403	0.85	25.52	33.40	0.20
Reach 1	546	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	21.70	76.62	79.26	78.02	79.30	0.000403	0.85	25.52	33.40	0.20
Reach 1	546	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	34.90	76.62	80.04	78.26	80.09	0.000325	0.96	36.17	42.68	0.19
Reach 1	546	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	34.90	76.62	80.04	78.26	80.09	0.000325	0.96	36.17	42.68	0.19
Reach 1	546	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	34.90	76.62	80.04	78.26	80.09	0.000325	0.96	36.17	42.68	0.19
Reach 1	546	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	64.73	76.62	82.26	78.70	82.30	0.000149	0.98	66.23	56.15	0.14
Reach 1	546	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	64.73	76.62	82.26	78.70	82.30	0.000149	0.98	66.23	56.15	0.14
Reach 1	546	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	64.73	76.62	82.26	78.70	82.30	0.000149	0.98	66.23	56.15	0.14
Reach 1	546	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	56.64	76.62	81.45	78.59	81.51	0.000208	1.02	55.33	50.85	0.16
Reach 1	546	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	56.64	76.62	81.45	78.59	81.51	0.000208	1.02	55.33	50.85	0.16
Reach 1	546	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	56.64	76.62	81.45	78.59	81.51	0.000208	1.02	55.33	50.85	0.16
Reach 1	546	Hazel CC	v1.1 ExistingPineRouting										

HEC-RAS River: Pine Creek Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Plan	Q Total (m ³ /s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m ²)	Top Width (m)	Froude # Chl
Reach 1	501	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	14.40	76.19	77.30	77.23	77.61	0.013046	2.47	5.84	8.85	0.95
Reach 1	501	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	14.40	76.19	77.30	77.23	77.61	0.013046	2.47	5.84	8.85	0.95
Reach 1	501	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	14.40	76.19	77.30	77.23	77.61	0.013046	2.47	5.84	8.85	0.95
Reach 1	501	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	17.77	76.19	77.46	77.46	77.74	0.015389	2.32	7.67	14.63	1.00
Reach 1	501	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	17.77	76.19	77.46	77.46	77.74	0.015389	2.32	7.67	14.63	1.00
Reach 1	501	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	17.77	76.19	77.46	77.46	77.74	0.015389	2.32	7.67	14.63	1.00
Reach 1	501	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	19.89	76.19	77.54	77.54	77.80	0.015404	2.26	8.81	17.65	1.00
Reach 1	501	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	19.89	76.19	77.54	77.54	77.80	0.015404	2.26	8.81	17.65	1.00
Reach 1	501	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	19.89	76.19	77.54	77.54	77.80	0.015404	2.26	8.81	17.65	1.00
Reach 1	501	100yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	21.70	76.19	77.57	77.57	77.84	0.015143	2.32	9.37	17.94	1.00
Reach 1	501	100yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	21.70	76.19	77.57	77.57	77.84	0.015143	2.32	9.37	17.94	1.00
Reach 1	501	100yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	21.70	76.19	77.57	77.57	77.84	0.015143	2.32	9.37	17.94	1.00
Reach 1	501	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	34.90	76.19	77.78	77.78	78.14	0.013688	2.66	13.14	24.56	0.99
Reach 1	501	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	34.90	76.19	77.78	77.78	78.14	0.013688	2.66	13.14	24.56	0.99
Reach 1	501	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	34.90	76.19	77.78	77.78	78.14	0.013688	2.66	13.14	24.56	0.99
Reach 1	501	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	64.73	76.19	79.15	78.15	79.30	0.001379	1.71	37.89	41.26	0.38
Reach 1	501	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	64.73	76.19	79.15	78.15	79.30	0.001379	1.71	37.89	41.26	0.38
Reach 1	501	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	64.73	76.19	79.15	78.15	79.30	0.001379	1.71	37.89	41.26	0.38
Reach 1	501	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	56.64	76.19	78.75	78.05	78.92	0.002148	1.85	30.62	39.33	0.45
Reach 1	501	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	56.64	76.19	78.75	78.05	78.92	0.002148	1.85	30.62	39.33	0.45
Reach 1	501	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	56.64	76.19	78.75	78.05	78.92	0.002148	1.85	30.62	39.33	0.45
Reach 1	501	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	86.06	76.19	79.53	78.38	79.72	0.001399	1.92	44.76	43.06	0.39
Reach 1	501	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	86.06	76.19	79.53	78.38	79.72	0.001399	1.92	44.76	43.06	0.39
Reach 1	501	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	86.06	76.19	79.53	78.38	79.72	0.001399	1.92	44.76	43.06	0.39
Reach 1	485	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.54	76.05	77.17		77.19	0.002046	0.64	11.79	33.31	0.34
Reach 1	485	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.54	76.05	77.17		77.19	0.002046	0.64	11.79	33.31	0.34
Reach 1	485	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.54	76.05	77.17		77.19	0.002046	0.64	11.79	33.31	0.34
Reach 1	485	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	11.66	76.05	77.28		77.31	0.002208	0.75	15.63	37.16	0.37
Reach 1	485	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	11.66	76.05	77.28		77.31	0.002208	0.75	15.63	37.16	0.37
Reach 1	485	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	11.66	76.05	77.28		77.31	0.002208	0.75	15.63	37.16	0.37
Reach 1	485	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	14.63	76.05	77.37		77.40	0.001825	0.76	19.13	37.92	0.34
Reach 1	485	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	14.63	76.05	77.37		77.40	0.001825	0.76	19.13	37.92	0.34
Reach 1	485	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	14.63	76.05	77.37		77.40	0.001825	0.76	19.13	37.92	0.34
Reach 1	485	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	17.99	76.05	77.47		77.50	0.001592	0.79	22.76	38.79	0.33
Reach 1	485	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	17.99	76.05	77.47		77.50	0.001592	0.79	22.76	38.79	0.33
Reach 1	485	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	17.99	76.05	77.47		77.50	0.001592	0.79	22.76	38.79	0.33
Reach 1	485	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	20.10	76.05	77.52		77.56	0.001491	0.81	24.94	39.30	0.32
Reach 1	485	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.10	76.05	77.52		77.56	0.001491	0.81	24.94	39.30	0.32
Reach 1	485	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.10	76.05	77.52		77.56	0.001491	0.81	24.94	39.30	0.32
Reach 1	485	100yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	21.88	76.05	77.57		77.60	0.001418	0.82	26.76	39.72	0.32
Reach 1	485	100yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	21.88	76.05	77.57		77.60	0.001418	0.82	26.76	39.72	0.32
Reach 1	485	100yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	21.88	76.05	77.57		77.60	0.001418	0.82	26.76	39.72	0.32
Reach 1	485	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	35.62	76.05	77.88		77.92	0.001073	0.91	39.37	41.78	0.29
Reach 1	485	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	35.62	76.05	77.88		77.92	0.001073	0.91	39.37	41.78	0.29
Reach 1	485	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	35.62	76.05	77.88		77.92	0.001073	0.91	39.37	41.78	0.29
Reach 1	485	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	65.80	76.05	79.21		79.23	0.000203	0.70	98.59	47.28	0.15
Reach 1	485	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	65.80	76.05	79.21		79.23	0.000203	0.70	98.59	47.28	0.15
Reach 1	485	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	65.80	76.05	79.21		79.23	0.000203	0.70	98.59	47.28	0.15
Reach 1	485	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	57.58	76.05	78.81		78.84	0.000293	0.74	80.28	45.60	0.17
Reach 1	485	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	57.58	76.05	78.81		78.84	0.000293	0.74	80.28	45.60	0.17
Reach 1	485	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	57.58	76.05	78.81		78.84	0.000293	0.74	80.28	45.60	0.17
Reach 1	485	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	87.18	76.05	79.60		79.63	0.000208	0.79	117.75	49.23	0.15
Reach 1	485	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	87.18	76.05	79.60		79.63	0.000208	0.79	117.75	49.23	0.15
Reach 1	485	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	87.18	76.05	79.60		79.63	0.000208	0.79	117.75	49.23	0.15
Reach 1	445	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.54	75.82	77.04		77.06	0.004572	0.74	10.23	42.88	0.48
Reach 1	445	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.54	75.82	77.04		77.06	0.004572	0.74	10.23	42.88	0.48
Reach 1	445	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.54	75.82	77.04		77.06	0.004572	0.74	10.23	42.88	0.48
Reach 1	445	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	11.66	75.82	77.19		77.21	0.002165	0.69	16.79	43.87	0.36
Reach 1	445	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	11.66	75.82	77.19		77.21	0.002165	0.69	16.79	43.87	0.36
Reach 1	445	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	11.66	75.82	77.19		77.21	0.002165	0.69	16.79	43.87	0.36
Reach 1	445	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	14.63	75.82	77.31		77.33	0.001365	0.66	22.21	44.36	0.30
Reach 1	445	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	14.63	75.82	77.31		77.33	0.001365	0.66	22.21	44.36	0.30
Reach 1	445	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	14.63	75.82	77.31		77.33	0.001365	0.66	22.21	44.36	0.30
Reach 1	445	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	17.99	75.82	77.42		77.44	0.001090	0.67	26.99	44.71	0.27
Reach 1	445	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	17.99	75.82	77.42		77.44	0.001090	0.67	26.99	44.71	0.27
Reach 1	445	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	17.99	75.82	77.42		77.44	0.001090	0.67	26.99	44.71	0.27
Reach 1	445	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	20.10	75.82	77.48		77.50	0.000993	0.68	29.71	44.94	0.27
Reach 1	445	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.10	75.82	77.48		77.50	0.000993	0.68	29.71	44.94	0.27
Reach 1	445	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.10	75.82	77.48		77.50	0.000993	0.68	29.71	44.94	0.27
Reach 1	445	100yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	21.88	75.82	77.53		77.55	0.000926	0.69	31.93	45.16	0.26
Reach 1	445	100yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	21.88	75.82	77.53		77.55	0.000926	0.69	31.93	45.16	0.26
Reach 1	445	100yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	21.88	75.82	77.53		77.55	0.000926	0.69	31.93	45.16	0.26
Reach 1	445	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	35.62	75.82	77.85		77.88	0.000706	0.77	46.69	46.52	0.24
Reach 1	445	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	35.62	75.82	77.85		77.88	0.000706	0.77	46.69	46.52	0.24
Reach 1	445	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	35.62	75.82	77.85		77.88	0.000706	0.77	46.69	46.52	0.24
Reach 1	445	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	65.80	75.82	79.20		79.22	0.000145	0.61	112.97	51.24	0.13
Reach 1	445	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	65.80	75.82	79.20		79.22	0.000145	0.61	112.97	51.24	0.13
Reach 1	445	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	65.80	75.82	79.20		79.22	0.000145	0.61	112.97	51.24	0.13
Reach 1	445	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	57.58	75.82	78.81		78.83	0.000205	0.64	92.85	50.06	0.14
Reach 1	445	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	57.58	75.82	78.81		78.83	0.000205	0.64	92.85	50.06	0.14
Reach 1	445	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	57.58	75.82	78.81		78.83	0.000205	0.64	92.85	50.06	0.14
Reach 1	445	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	87.18	75.82	79.60		79.62	0.000151	0.69	133.58	52.41	0.13
Reach 1	445	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	87.18	75.82	79.60		79.62	0.000151	0.69	133.58	52.41	0.13
Reach 1	445	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	87.1									

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m ³ /s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m ²)	(m)	
Reach 1	403	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	17.99	75.75	77.01	77.01	77.32	0.010451	2.50	8.73	19.65	0.85
Reach 1	403	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	17.99	75.75	77.01	77.01	77.32	0.010451	2.50	8.73	19.65	0.85
Reach 1	403	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	20.10	75.75	77.07	77.07	77.38	0.010287	2.55	10.01	21.70	0.85
Reach 1	403	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.10	75.75	77.07	77.07	77.38	0.010287	2.55	10.01	21.70	0.85
Reach 1	403	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.10	75.75	77.07	77.07	77.38	0.010287	2.55	10.01	21.70	0.85
Reach 1	403	100yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	21.88	75.75	77.11	77.11	77.44	0.010379	2.63	10.84	22.30	0.86
Reach 1	403	100yr	v1.3 ProPineRouting_Pro_Add1XS_WSP	21.88	75.75	77.11	77.11	77.44	0.010379	2.63	10.84	22.30	0.86
Reach 1	403	100yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	21.88	75.75	77.11	77.11	77.44	0.010379	2.63	10.84	22.30	0.86
Reach 1	403	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	35.62	75.75	77.53	77.40	77.80	0.005982	2.55	22.41	30.61	0.70
Reach 1	403	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	35.62	75.75	77.53	77.40	77.80	0.005982	2.55	22.41	30.61	0.70
Reach 1	403	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	35.62	75.75	77.53	77.40	77.80	0.005982	2.55	22.41	30.61	0.70
Reach 1	403	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	65.80	75.75	79.13		79.21	0.000789	1.55	81.22	42.74	0.29
Reach 1	403	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	65.80	75.75	79.13		79.21	0.000789	1.55	81.22	42.74	0.29
Reach 1	403	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	65.80	75.75	79.13		79.21	0.000789	1.55	81.22	42.74	0.29
Reach 1	403	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	57.58	75.75	78.71		78.80	0.001150	1.69	63.68	40.50	0.34
Reach 1	403	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	57.58	75.75	78.71		78.80	0.001150	1.69	63.68	40.50	0.34
Reach 1	403	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	57.58	75.75	78.71		78.80	0.001150	1.69	63.68	40.50	0.34
Reach 1	403	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	87.18	75.75	79.51		79.61	0.000838	1.74	98.14	45.18	0.30
Reach 1	403	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	87.18	75.75	79.51		79.61	0.000838	1.74	98.14	45.18	0.30
Reach 1	403	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	87.18	75.75	79.51		79.61	0.000838	1.74	98.14	45.18	0.30
Reach 1	392	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.54	75.52	76.26	76.26	76.54	0.015763	2.33	3.23	5.74	0.99
Reach 1	392	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.54	75.52	76.26	76.26	76.54	0.015763	2.33	3.23	5.74	0.99
Reach 1	392	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.54	75.52	76.26	76.26	76.54	0.015763	2.33	3.23	5.74	0.99
Reach 1	392	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	11.66	75.52	76.47	76.47	76.82	0.015009	2.61	4.46	6.37	1.00
Reach 1	392	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	11.66	75.52	76.47	76.47	76.82	0.015009	2.61	4.46	6.37	1.00
Reach 1	392	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	11.66	75.52	76.47	76.47	76.82	0.015009	2.61	4.46	6.37	1.00
Reach 1	392	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	14.63	75.52	76.60	76.60	76.98	0.014630	2.74	5.34	6.99	1.00
Reach 1	392	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	14.63	75.52	76.60	76.60	76.98	0.014630	2.74	5.34	6.99	1.00
Reach 1	392	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	14.63	75.52	76.60	76.60	76.98	0.014630	2.74	5.34	6.99	1.00
Reach 1	392	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	17.99	75.52	76.76	76.76	77.14	0.012690	2.72	7.00	12.62	0.95
Reach 1	392	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	17.99	75.52	76.76	76.76	77.14	0.012690	2.72	7.00	12.62	0.95
Reach 1	392	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	17.99	75.52	76.76	76.76	77.14	0.012690	2.72	7.00	12.62	0.95
Reach 1	392	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	20.10	75.52	76.86	76.86	77.22	0.011832	2.68	8.32	14.29	0.92
Reach 1	392	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.10	75.52	76.86	76.86	77.22	0.011832	2.68	8.32	14.29	0.92
Reach 1	392	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.10	75.52	76.86	76.86	77.22	0.011832	2.68	8.32	14.29	0.92
Reach 1	392	100yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	21.88	75.52	76.93	76.93	77.28	0.012040	2.68	9.30	15.82	0.93
Reach 1	392	100yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	21.88	75.52	76.93	76.93	77.28	0.012040	2.68	9.30	15.82	0.93
Reach 1	392	100yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	21.88	75.52	76.93	76.93	77.28	0.012040	2.68	9.30	15.82	0.93
Reach 1	392	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	35.62	75.52	77.22	77.22	77.66	0.010632	3.06	14.87	21.29	0.92
Reach 1	392	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	35.62	75.52	77.22	77.22	77.66	0.010632	3.06	14.87	21.29	0.92
Reach 1	392	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	35.62	75.52	77.22	77.22	77.66	0.010632	3.06	14.87	21.29	0.92
Reach 1	392	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	65.80	75.52	79.12	77.71	79.20	0.000680	1.49	81.16	42.31	0.27
Reach 1	392	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	65.80	75.52	79.12	77.71	79.20	0.000680	1.49	81.16	42.31	0.27
Reach 1	392	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	65.80	75.52	79.12	77.71	79.20	0.000680	1.49	81.16	42.31	0.27
Reach 1	392	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	57.58	75.52	78.69	77.61	78.79	0.001036	1.66	54.78	39.93	0.33
Reach 1	392	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	57.58	75.52	78.69	77.61	78.79	0.001036	1.66	54.78	39.93	0.33
Reach 1	392	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	57.58	75.52	78.69	77.61	78.79	0.001036	1.66	54.78	39.93	0.33
Reach 1	392	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	87.18	75.52	79.50	77.95	79.60	0.000733	1.67	97.83	44.57	0.29
Reach 1	392	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	87.18	75.52	79.50	77.95	79.60	0.000733	1.67	97.83	44.57	0.29
Reach 1	392	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	87.18	75.52	79.50	77.95	79.60	0.000733	1.67	97.83	44.57	0.29
Reach 1	383.2												
				Culvert									
Reach 1	382	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.54	75.09	76.16	75.63	76.20	0.001060	0.80	9.42	11.75	0.28
Reach 1	382	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.54	75.09	76.16	75.63	76.20	0.001060	0.80	9.42	11.75	0.28
Reach 1	382	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.54	75.09	76.16	75.63	76.20	0.001060	0.80	9.42	11.75	0.28
Reach 1	382	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	11.66	75.09	76.22	75.77	76.29	0.002085	1.16	10.03	11.94	0.40
Reach 1	382	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	11.66	75.09	76.22	75.77	76.29	0.002085	1.16	10.03	11.94	0.40
Reach 1	382	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	11.66	75.09	76.22	75.77	76.29	0.002085	1.16	10.03	11.94	0.40
Reach 1	382	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	14.63	75.09	76.26	75.86	76.36	0.002802	1.39	10.55	12.10	0.47
Reach 1	382	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	14.63	75.09	76.26	75.86	76.36	0.002802	1.39	10.55	12.10	0.47
Reach 1	382	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	14.63	75.09	76.26	75.86	76.36	0.002802	1.39	10.55	12.10	0.47
Reach 1	382	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	17.99	75.09	76.31	75.96	76.45	0.003543	1.61	11.17	12.29	0.53
Reach 1	382	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	17.99	75.09	76.31	75.96	76.45	0.003543	1.61	11.17	12.29	0.53
Reach 1	382	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	17.99	75.09	76.31	75.96	76.45	0.003543	1.61	11.17	12.29	0.53
Reach 1	382	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	20.10	75.09	76.35	76.01	76.50	0.003972	1.74	11.56	12.41	0.56
Reach 1	382	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.10	75.09	76.35	76.01	76.50	0.003972	1.74	11.56	12.41	0.56
Reach 1	382	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.10	75.09	76.35	76.01	76.50	0.003972	1.74	11.56	12.41	0.56
Reach 1	382	100yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	21.88	75.09	76.37	76.06	76.55	0.004315	1.84	11.88	12.52	0.59
Reach 1	382	100yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	21.88	75.09	76.37	76.06	76.55	0.004315	1.84	11.88	12.52	0.59
Reach 1	382	100yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	21.88	75.09	76.37	76.06	76.55	0.004315	1.84	11.88	12.52	0.59
Reach 1	382	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	35.62	75.09	76.56	76.34	76.89	0.006529	2.53	14.06	13.35	0.74
Reach 1	382	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	35.62	75.09	76.56	76.34	76.89	0.006529	2.53	14.06	13.35	0.74
Reach 1	382	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	35.62	75.09	76.56	76.34	76.89	0.006529	2.53	14.06	13.35	0.74
Reach 1	382	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	65.80	75.09	76.84	76.84	77.57	0.010966	3.78	17.39	14.89	1.00
Reach 1	382	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	65.80	75.09	76.84	76.84	77.57	0.010966	3.78	17.39	14.89	1.00
Reach 1	382	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	65.80	75.09	76.84	76.84	77.57	0.010966	3.78	17.39	14.89	1.00
Reach 1	382	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	57.58	75.09	76.72	76.71	77.38	0.011202	3.61	15.95	14.18	0.99
Reach 1	382	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	57.58	75.09	76.72	76.71	77.38	0.011202	3.61	15.95	14.18	0.99
Reach 1	382	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	57.58	75.09	76.72	76.71	77.38	0.011202	3.61	15.95	14.18	0.99
Reach 1	382	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	87.18	75.09	77.14	77.14	78.02	0.010362	4.16	20.94	16.41	1.00
Reach 1	382	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	87.18	75.09	77.14	77.14	78.02	0.010362	4.16	20.94	16.41	1.00
Reach 1	382	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	87.18	75.09	77.14	77.14	78.02	0.010362	4.16	20.94	16.41	1.00
Reach 1	372	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.54									

HEC-RAS River: Pine Creek Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Plan	Q Total (m ³ /s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m ²)	Top Width (m)	Froude # Chl
Reach 1	372	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	20.10	75.01	76.39		76.43	0.000854	0.85	23.61	23.01	0.26
Reach 1	372	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.10	75.01	76.39		76.43	0.000854	0.85	23.61	23.01	0.26
Reach 1	372	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.10	75.01	76.39		76.43	0.000854	0.85	23.61	23.01	0.26
Reach 1	372	100y	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	21.88	75.01	76.42		76.47	0.000911	0.90	24.40	23.27	0.27
Reach 1	372	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	21.88	75.01	76.42		76.47	0.000911	0.90	24.40	23.27	0.27
Reach 1	372	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	21.88	75.01	76.42		76.47	0.000911	0.90	24.40	23.27	0.27
Reach 1	372	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	35.62	75.01	76.66		76.74	0.001244	1.20	30.17	25.13	0.33
Reach 1	372	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	35.62	75.01	76.66		76.74	0.001244	1.20	30.17	25.13	0.33
Reach 1	372	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	35.62	75.01	76.66		76.74	0.001244	1.20	30.17	25.13	0.33
Reach 1	372	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	65.80	75.01	77.04		77.19	0.001806	1.71	40.39	28.35	0.42
Reach 1	372	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	65.80	75.01	77.04		77.19	0.001806	1.71	40.39	28.35	0.42
Reach 1	372	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	65.80	75.01	77.04		77.19	0.001806	1.71	40.39	28.35	0.42
Reach 1	372	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	57.58	75.01	76.95		77.08	0.001665	1.58	37.85	27.73	0.40
Reach 1	372	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	57.58	75.01	76.95		77.08	0.001665	1.58	37.85	27.73	0.40
Reach 1	372	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	57.58	75.01	76.95		77.08	0.001665	1.58	37.85	27.73	0.40
Reach 1	372	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	87.18	75.01	77.25		77.45	0.002144	2.01	46.37	29.63	0.46
Reach 1	372	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	87.18	75.01	77.25		77.45	0.002144	2.01	46.37	29.63	0.46
Reach 1	372	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	87.18	75.01	77.25		77.45	0.002144	2.01	46.37	29.63	0.46
Reach 1	292	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.54	74.78	76.13		76.15	0.000496	0.65	19.41	48.09	0.20
Reach 1	292	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.54	74.78	76.13		76.15	0.000496	0.65	19.41	48.09	0.20
Reach 1	292	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.54	74.78	76.13		76.15	0.000496	0.65	19.41	48.09	0.20
Reach 1	292	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	11.66	74.78	76.15		76.19	0.001088	0.97	20.35	48.18	0.29
Reach 1	292	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	11.66	74.78	76.15		76.19	0.001088	0.97	20.35	48.18	0.29
Reach 1	292	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	11.66	74.78	76.15		76.19	0.001088	0.97	20.35	48.18	0.29
Reach 1	292	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	14.63	74.78	76.17		76.23	0.001570	1.18	21.32	48.27	0.35
Reach 1	292	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	14.63	74.78	76.17		76.23	0.001570	1.18	21.32	48.27	0.35
Reach 1	292	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	14.63	74.78	76.17		76.23	0.001570	1.18	21.32	48.27	0.35
Reach 1	292	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	17.99	74.78	76.20		76.28	0.002100	1.39	22.70	48.39	0.41
Reach 1	292	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	17.99	74.78	76.20		76.28	0.002100	1.39	22.70	48.39	0.41
Reach 1	292	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	17.99	74.78	76.20		76.28	0.002100	1.39	22.70	48.39	0.41
Reach 1	292	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	20.10	74.78	76.22		76.32	0.002401	1.50	23.71	48.61	0.44
Reach 1	292	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.10	74.78	76.22		76.32	0.002401	1.50	23.71	48.61	0.44
Reach 1	292	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.10	74.78	76.22		76.32	0.002401	1.50	23.71	48.61	0.44
Reach 1	292	100y	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	21.88	74.78	76.24		76.35	0.002625	1.59	24.67	49.50	0.46
Reach 1	292	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	21.88	74.78	76.24		76.35	0.002625	1.59	24.67	49.50	0.46
Reach 1	292	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	21.88	74.78	76.24		76.35	0.002625	1.59	24.67	49.50	0.46
Reach 1	292	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	35.62	74.78	76.42		76.57	0.003510	2.01	33.95	55.54	0.55
Reach 1	292	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	35.62	74.78	76.42		76.57	0.003510	2.01	33.95	55.54	0.55
Reach 1	292	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	35.62	74.78	76.42		76.57	0.003510	2.01	33.95	55.54	0.55
Reach 1	292	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	65.80	74.78	76.81		76.99	0.003565	2.39	56.63	59.31	0.57
Reach 1	292	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	65.80	74.78	76.81		76.99	0.003565	2.39	56.63	59.31	0.57
Reach 1	292	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	65.80	74.78	76.81		76.99	0.003565	2.39	56.63	59.31	0.57
Reach 1	292	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	57.58	74.78	76.71		76.89	0.003584	2.31	50.87	58.79	0.57
Reach 1	292	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	57.58	74.78	76.71		76.89	0.003584	2.31	50.87	58.79	0.57
Reach 1	292	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	57.58	74.78	76.71		76.89	0.003584	2.31	50.87	58.79	0.57
Reach 1	292	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	87.18	74.78	77.04		77.24	0.003551	2.59	70.26	60.59	0.58
Reach 1	292	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	87.18	74.78	77.04		77.24	0.003551	2.59	70.26	60.59	0.58
Reach 1	292	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	87.18	74.78	77.04		77.24	0.003551	2.59	70.26	60.59	0.58
Reach 1	89	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.54	74.69	76.12		76.12	0.000051	0.23	46.65	50.44	0.07
Reach 1	89	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.54	74.69	76.12		76.12	0.000051	0.23	46.65	50.44	0.07
Reach 1	89	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.54	74.69	76.12		76.12	0.000051	0.23	46.65	50.44	0.07
Reach 1	89	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	11.66	74.69	76.12		76.13	0.000122	0.35	46.76	50.46	0.10
Reach 1	89	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	11.66	74.69	76.12		76.13	0.000122	0.35	46.76	50.46	0.10
Reach 1	89	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	11.66	74.69	76.12		76.13	0.000122	0.35	46.76	50.46	0.10
Reach 1	89	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	14.63	74.69	76.13		76.13	0.000191	0.44	46.88	50.48	0.13
Reach 1	89	10yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	14.63	74.69	76.13		76.13	0.000191	0.44	46.88	50.48	0.13
Reach 1	89	10yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	14.63	74.69	76.13		76.13	0.000191	0.44	46.88	50.48	0.13
Reach 1	89	25yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	17.99	74.69	76.13		76.14	0.000285	0.54	47.04	50.50	0.16
Reach 1	89	25yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	17.99	74.69	76.13		76.14	0.000285	0.54	47.04	50.50	0.16
Reach 1	89	25yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	17.99	74.69	76.13		76.14	0.000285	0.54	47.04	50.50	0.16
Reach 1	89	50yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	20.10	74.69	76.13		76.15	0.000354	0.61	47.16	50.52	0.18
Reach 1	89	50yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	20.10	74.69	76.13		76.15	0.000354	0.61	47.16	50.52	0.18
Reach 1	89	50yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	20.10	74.69	76.13		76.15	0.000354	0.61	47.16	50.52	0.18
Reach 1	89	100y	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	21.88	74.69	76.13		76.15	0.000416	0.66	47.28	50.54	0.19
Reach 1	89	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	21.88	74.69	76.13		76.15	0.000416	0.66	47.28	50.54	0.19
Reach 1	89	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	21.88	74.69	76.13		76.15	0.000416	0.66	47.28	50.54	0.19
Reach 1	89	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	35.62	74.69	76.16		76.20	0.001029	1.05	48.45	50.71	0.30
Reach 1	89	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	35.62	74.69	76.16		76.20	0.001029	1.05	48.45	50.71	0.30
Reach 1	89	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	35.62	74.69	76.16		76.20	0.001029	1.05	48.45	50.71	0.30
Reach 1	89	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	65.80	74.69	76.24		76.38	0.002734	1.79	52.87	51.37	0.50
Reach 1	89	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	65.80	74.69	76.24		76.38	0.002734	1.79	52.87	51.37	0.50
Reach 1	89	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	65.80	74.69	76.24		76.38	0.002734	1.79	52.87	51.37	0.50
Reach 1	89	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	57.58	74.69	76.22		76.32	0.002266	1.60	51.44	51.16	0.45
Reach 1	89	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	57.58	74.69	76.22		76.32	0.002266	1.60	51.44	51.16	0.45
Reach 1	89	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	57.58	74.69	76.22		76.32	0.002266	1.60	51.44	51.16	0.45
Reach 1	89	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	87.18	74.69	76.33		76.53	0.003818	2.20	57.29	52.11	0.59
Reach 1	89	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	87.18	74.69	76.33		76.53	0.003818	2.20	57.29	52.11	0.59
Reach 1	89	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	87.18	74.69	76.33		76.53	0.003818	2.20	57.29	52.11	0.59
Reach 1	0	2yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	7.54	74.72	76.12	75.08	76.12	0.000023	0.16	99.98	136.40	0.05
Reach 1	0	2yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	7.54	74.72	76.12	75.08	76.12	0.000023	0.16	99.98	136.40	0.05
Reach 1	0	2yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	7.54	74.72	76.12	75.08	76.12	0.000023	0.16	99.98	136.40	0.05
Reach 1	0	5yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	11.66	74.72	76.12	75.21	76.12	0.000056	0.25	99.98	136.40	0.07
Reach 1	0	5yr	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	11.66	74.72	76.12	75.21	76.12	0.000056	0.25	99.98	136.40	0.07
Reach 1	0	5yr	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	11.66	74.72	76.12	75.21	76.12	0.000056	0.25	99.98	136.40	0.07
Reach 1	0	10yr	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	14.63									

HEC-RAS River: Pine Creek Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Plan	Q Total (m ³ /s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m ²)	Top Width (m)	Froude # Chl
Reach 1	0	100y	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	21.88	74.72	76.12	75.35	76.13	0.000197	0.47	99.98	136.40	0.13
Reach 1	0	100y	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	21.88	74.72	76.12	75.35	76.13	0.000197	0.47	99.98	136.40	0.13
Reach 1	0	100yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	35.62	74.72	76.12	75.47	76.14	0.000523	0.77	99.98	136.40	0.22
Reach 1	0	100yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	35.62	74.72	76.12	75.47	76.14	0.000523	0.77	99.98	136.40	0.22
Reach 1	0	100yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	35.62	74.72	76.12	75.47	76.14	0.000523	0.77	99.98	136.40	0.22
Reach 1	0	Hazel	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	65.80	74.72	76.12	75.69	76.18	0.001784	1.42	99.98	136.40	0.40
Reach 1	0	Hazel	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	65.80	74.72	76.12	75.69	76.18	0.001784	1.42	99.98	136.40	0.40
Reach 1	0	Hazel	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	65.80	74.72	76.12	75.69	76.18	0.001784	1.42	99.98	136.40	0.40
Reach 1	0	350yr-NC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	57.58	74.72	76.12	75.64	76.16	0.001366	1.24	99.98	136.40	0.35
Reach 1	0	350yr-NC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	57.58	74.72	76.12	75.64	76.16	0.001366	1.24	99.98	136.40	0.35
Reach 1	0	350yr-NC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	57.58	74.72	76.12	75.64	76.16	0.001366	1.24	99.98	136.40	0.35
Reach 1	0	Hazel CC	v1.1 ExistingPineRouting_Ex_Add1XS_WSP	87.18	74.72	76.12	75.69	76.22	0.003132	1.88	99.98	136.40	0.53
Reach 1	0	Hazel CC	v1.1 ExistingPineRouting_Pro_Add1XS_WSP	87.18	74.72	76.12	75.69	76.22	0.003132	1.88	99.98	136.40	0.53
Reach 1	0	Hazel CC	v1.3 ProPineRouting_WalnutLn_Add1XS_WSP	87.18	74.72	76.12	75.69	76.22	0.003132	1.88	99.98	136.40	0.53